

***MD Helicopters, LLC***

***MD500/600 Series***  
***Service Bulletins Package***

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This package is a complete set of all  
Service Bulletins issued through:

17 January 2024

The documents are presented in the order shown in the  
CSP-500/600-INDEX.



## MODEL 369D, 369E, 369F/FF, 500N, 600N HELICOPTERS (500D, 500E, 530F, 520N, 600N) SERVICE BULLETIN PACKAGE TABLE OF CONTENTS

### Service Bulletins

Service Bulletins (SB) are Service Information Notices (SIN) which are mandatory and have necessary performance of maintenance and/or alteration for compliance.

### Model Effectivity

This table is a cross reference of the various helicopter designations and service document prefixes:

DESIGNATION			
MODEL		SERVICE DOCUMENT	
FAA	Marketing	New SB	Old SIN
369D	500D	SB369D–	DN–
369E	500E	SB369E–	EN–
369F	530F	SB369F–	FN–
369FF	530F Plus	SB369F–	FN–
500N	520N	SB500N–	NN–
600N	600N	SB600N–	N/A

### NOTE:

As Service Information Notices are re-issued, they will be identified as Service Bulletins and use the helicopter model designation as the prefix.

## SERVICE BULLETINS

369D (SB369D– or DN–)	369E (SB369E– or EN–)	369F (SB369F– or FN–)	500N (SB500N– or NN–)	600N (SB600N–)	SUBJECT	DATE ISSUED
<a href="#">1</a>					Inspection of Tail Rotor Output Shaft: Installation of Protective Dust Boots (Ref. FAA AD 77–05–03)	23 Mar 1977
<a href="#">3</a>						Cancelled
<a href="#">6</a>						Cancelled
<a href="#">8</a>						Cancelled
<a href="#">9.2</a>					Overrunning Clutch Assembly, PN 369A5350–603 Rework and Inspection of PN 369A5350–11 Clutch Subassembly and PN 369A5361 Ball Bearing; Periodic Inspection of PN 369A5350–21 Clutch Subassembly (Ref. FAA AD 77–21–04)	27 Oct 1978
<a href="#">11</a>					Modification of PN 369A4516–3 N <sub>1</sub> Tach Indicator	03 Oct 1977
<a href="#">13</a>					Inspection — PN 369H90085 Litter Door Installation	30 Nov 1977
<a href="#">14</a>					Modification Kit — Main Transmission Lubrication Pump, PN 369D25167	15 Dec 1977
<a href="#">19</a>					Engine Compressor Water Wash Kit Installation, PN 369H92537 — Inspection and Replacement of Rivets	14 Apr 1978

## SERVICE BULLETINS (Cont.)

<b>369D</b> (SB369D– or DN–)	<b>369E</b> (SB369E– or EN–)	<b>369F</b> (SB369F– or FN–)	<b>500N</b> (SB500N– or NN–)	<b>600N</b> (SB600N–)	<b>SUBJECT</b>	<b>DATE ISSUED</b>
<a href="#">21</a>					Rework of Standard Landing Gear Skid Assembly, PN 369D26100–101; Rework of Extended Landing Gear Skid Assembly, PN 369D292114–101	06 Jun 1978
<a href="#">22</a>					Sealing — Vertical Stabilizer Assembly, PN 369D23600 and 369D23600–501	26 Jun 1978
<a href="#">23.2</a>						Cancelled
<a href="#">25.1</a>					Rework of Fuselage Structure; Forward Section	07 Mar 1980
<a href="#">26</a>					Inspection and Possible Replacement — Seat Belt Assemblies PN 369H6541–5 and 369H6541–21	15 Jul 1978
<a href="#">27.1</a>					Inspection and Rework of Tail Rotor Hub, PN 369A1725–5 and 369A1725–501; Inspection of Tail Rotor Blade Attachment Bolts, PN MS21250–06040 (Ref. FAA AD 78–26–04)	08 Dec 1978
<a href="#">31</a>						Cancelled
<a href="#">34</a>					Replacement — PN 369D28309 Hose Assembly, Engine Oil Cooler to Engine Oil Tank	17 Oct 1978
<a href="#">37</a>					PN 369D21800 Tail Rotor Pitch Control Assembly – Seating of Dual Bearings Inner Races: Torque Increase for PN 369D21803–3 Locknut (Ref. FAA AD 79–10–09)	01 Dec 1978
<a href="#">42</a>					PN 369H7825 Droop Control Bellcrank Assembly (Station 68.0) — Relocation of Locknut and Installation of Spacer	15 Feb 1979
<a href="#">44.1</a>					PN 369D23601 Horizontal Stabilizer Assembly — Adjustment or Replacement of PN 369D23678–3 Trailing Edge Tabs; Relocation of PN 369H6610–5 Static Pressure Tube	22 Jun 1979
<a href="#">45.2</a>					PN 369D21400–501 Main Rotor Lead–Lag Elastomeric Damper Assembly — Internal Modification and Re–identification	22 Oct 1979
<a href="#">47</a>						Cancelled
<a href="#">49</a>					Inspection and Repair — Station 142 Tail Rotor Control Bellcrank Supports, PN 369A3035–11 and 369A3035–15	11 Jun 1979
<a href="#">51.8</a>	42.6	31.6			Inspection of Main Rotor Blade Root Fitting Assemblies; Inspection of Main Rotor Hub Lead–Lag Link Assemblies (Ref. FAA AD 95–03–13 and AMOC 120L–12–88)	03 Jan 2000
<a href="#">52.2</a>					Kit Installation, PN 369D290140–501 — Auxiliary Fairings and Seals, Engine Air Filter (Particle Separator)	15 Sep 1980
<a href="#">54.1</a>					Inspection — Collective Torque Tube Support Bracket (PN 369A7304 Magnesium, PN 369N2608 Aluminum) and Collective Bungee Support Bracket (PN 369A7339 Magnesium, PN 369N2650 Aluminum)	07 Mar 1980



## SERVICE BULLETINS (Cont.)

369D (SB369D- or DN-)	369E (SB369E- -or EN-)	369F (SB369F- or FN-)	500N (SB500N- or NN-)	600N (SB600N-)	SUBJECT	DATE ISSUED
<a href="#">58.2</a>					Inspection and Repair of Aft Fuselage Skin Cracks; Installation of Doublers on Boom Fairing Lower Longerons	11 May 1981
<a href="#">60</a>					Filter Gasket — Engine Air Inlet (Particle Separator) Filter Kit Installation, PN 369H90148-503, -505 and -507	03 Mar 1980
<a href="#">62</a>					Inspection and Rework of Tail Rotor Transmission Housing Assembly, PN 369D25401	03 Mar 1980
<a href="#">63</a>					Horizontal Stabilizer Assembly — Adding Drain Holes and Sealing Doubler Edges	03 Mar 1980
<a href="#">65.1</a>					Rework of Cooling Blower Mounting Bracket	19 Dec 1980
<a href="#">66</a>					Rework of PN 369D290125-21 Mist Eliminator Assembly — Engine Air Inlet Filter (Particle Separator) Assembly, PN 369H90148-507 and 369H90148-509	16 May 1980
<a href="#">68.1</a>					Relocation of Tail Rotor Bungee Spring Forward Attachment; Tail Rotor Force Adjustment	08 Dec 1980
<a href="#">69</a>					Polarity Check of Diode Assemblies	30 Jun 1980
<a href="#">70</a>					Identification and Possible Rework of Seat Belt and Shoulder Harness Assemblies	11 Jul 1980
<a href="#">71</a>					Wiring Modification — Utility Light Circuit and Transmission Oil Pressure and Temperature Warning Light Circuit	30 Sep 1980
<a href="#">73</a>						Cancelled
<a href="#">78.1</a>					Inspection of PN 369A7003-3 Swashplate Bearing	28 Jul 1981
<a href="#">79</a>					Sealing of Interfaces of Abrasion Strip and Main Rotor Blade Skin	30 Jan 1981
<a href="#">80</a>					Replacement of TAVCO PN 23111369 Solenoid Valve, Float Inflation System — Emergency Float Assemblies, Hughes PN 369D290121-501 and 369D290121-505	20 Mar 1981
<a href="#">81.1</a>					Inspection of Overrunning Clutch Sprag Assembly	10 May 1983
<a href="#">82</a>						Cancelled
<a href="#">86</a>					Shimming Procedure for Gas Producer Interconnecting Torque Tube Assembly	06 May 1981
<a href="#">87</a>					Replacement of PN 369A7706-3 RPM Governor Lever Control Rod (Ref. FAA AD 82-01-08)	15 May 1981
<a href="#">88</a>					Elimination of Possible Interference of Safety Wire with Oil Cooler Blower Drive Belt	19 May 1981
<a href="#">91.1</a>					Inspection of Main Rotor Hub Strap Pack Retention Bolts and Replacement of Bushings	22 Jul 1981

## SERVICE BULLETINS (Cont.)

<b>369D</b> (SB369D– or DN–)	<b>369E</b> (SB369E– or EN–)	<b>369F</b> (SB369F– or FN–)	<b>500N</b> (SB500N– or NN–)	<b>600N</b> (SB600N–)	<b>SUBJECT</b>	<b>DATE ISSUED</b>
<a href="#">92</a>					Corrosion Inspection/Treatment of — One-Way Lock Support Assembly, P/N 369A7314 and 369N2648	04 Jun 1981
<a href="#">93</a>					Inspection/Modification of Breeze Corporation Inc. Hoist, PN BL–16600–12	18 Jun 1981
<a href="#">94</a>					Deactivation of Main Rotor Brake System (If Installed); Periodic Inspection of Tail Rotor Drive Shaft Forward Flexible Coupling, PN 369A5501 or PN 369H92564	25 Jun 1981
<a href="#">95</a>					Installation of Failsafe Device at Tail Rotor Drive Shaft Forward Flexible Coupling, PN 369A5501 or 369H92564; Check of Flexible Couplings	07 Aug 1981
<a href="#">96</a>					One-Time Inspection — Attachment Hardware for Sta–Strap Securing Electric Wiring to Boom Fairing at Sta 138.50	21 Aug 1981
<a href="#">97</a>					Main Rotor Brake System, PN 369H90123 Series Installation of Master Cylinder Stop, PN 369D292585	05 Oct 1981
<a href="#">99</a>					Periodic Inspection of Main Rotor Drive Shaft, PN 369D25510 (Ref. FAA AD 81–26–01R1)	30 Nov 1981
<a href="#">102</a>					Inspection of PN 369A7006–5 Tail Rotor Control Rod; Rework of PN 369D290128–11 Particle Separator Fairing Assembly and PN 369D290128–31 Cover Assembly	01 Feb 1982
<a href="#">104</a>					Instrument Cluster 3–Pack Conversion — AC to Rochester	05 Mar 1982
<a href="#">107</a>					Installation of Fuselage Attach Points (PN 369H90070–211/212 Subassemblies) for Accessory Kit Attach Fittings	01 Jul 1982
<a href="#">108</a>					Replacement of Intercom (ICS) Switch and Jack Assembly	01 Jul 1982
<a href="#">110.1</a>	56	42			Inspection and Modification of PN 369D292028, Aft Passenger Step Assemblies, on Extended Landing Gear Assemblies, and Inspection and Modification of Aft Landing Gear Foot Assemblies	27 Oct 1989
<a href="#">111</a>						Cancelled
<a href="#">112</a>					Inspection — Landing Gear Struts and Feet	19 Nov 1982
<a href="#">113</a>					Relocation of Engine Air Inlet Filter Bypass Door Aft Pulley (PN 369A8448) and Bracket (PN 369A8447), and Particle Separator Filter (PN 369H90152–3 or 369D290125–11) Gasket Inspection	10 Jan 1983
<a href="#">114</a>					Main Rotor Transmission Drain Line Bracketry Modification	15 Feb 1983
	<a href="#">4</a>				Periodic Inspection of Main Rotor Drive Shaft, PN 369D25510	29 Apr 1983
<a href="#">115</a>	<a href="#">5</a>				Pilot's Compartment, Center Passenger Seat Lap Belt Installation Check; Preflight Check of Passenger Lap Belt and Shoulder Strap Adjustment	15 Feb 1983

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369D (SB369D- or DN-)	369E (SB369E- -or EN-)	369F (SB369F- or FN-)	500N (SB500N- or NN-)	600N (SB600N-)	SUBJECT	DATE ISSUED
<a href="#">117</a>					Installation of 510 Ohm Resistor in PN 369D296303, 369D296303-701 and 369A4245 Fuel Quantity Sending Units	20 Mar 1983
<a href="#">118</a>	<a href="#">7</a>				Fuel Vent System Hose (PN 369A8131-19) Inspection	02 May 1983
	<a href="#">3</a>				Inspection of Overrunning Clutch Sprag Assembly	29 Apr 1983
		<a href="#">3</a>			Inspection of Overrunning Clutch Sprag Assembly	29 Jul 1983
<a href="#">119.1</a>					Installation of Collective Stick Support Bracket Reinforcement Strap (also ref. EN-11)	23 Nov 1983
<a href="#">121</a>					Button Plug Installation – Mast Support Structure, Aft Channel	27 Jun 1983
<a href="#">122</a>	<a href="#">9</a>				Inspection and Overhaul of Fuel Shutoff Valve (PN 369A8104-5)	29 Jul 1983
		<a href="#">4</a>			Periodic Inspection of Main Rotor Drive Shaft, PN 369D25510	29 Jul 1983
<a href="#">123</a>					Battery Case and Main DC Power Wiring Inspection	28 Oct 1983
<a href="#">124</a>	<a href="#">10</a>				Main Transmission Oil Line (PN 369D25709 and 369D25710) Inspection; and Replacement of Main Transmission Oil Line (PN 369D25709 and 369D25710) and Bracketry with New PN 369D25709-11 and 369D25710-11 Lines and Bracketry	10 Nov 1983
	<a href="#">11</a>				Installation of Collective Stick Support Bracket Reinforcement Strap (also ref. DN-119.1)	23 Nov 1983
		<a href="#">5</a>			Disarming N <sub>2</sub> Electronic Overspeed Control System	09 Dec 1983
<a href="#">125</a>	<a href="#">12</a>				Main Rotor Swashplate Bearing, PN 369A7003-3, Inspection and Possible Replacement (Ref. FAA AD 84-01-02R1)	23 Dec 1983
	<a href="#">13.1</a>				Inspection, PN 3697011 Longitudinal Mixer Control Rod; Replacement of PN 369D22509-51 Doubler with 369DSK169-3 Repair Doubler (Ref. FAA AD 84-11-02)	01 Jun 1984
<a href="#">126</a>	14				Fuel Shut-Off Valve Control Cable (PN 369A8137-503 and -603) Pull Test	10 Apr 1984
<a href="#">127</a>	15				Removal of Gray Coating from PN 369D21700 and 369D21700-3 Tail Rotor Hubs	12 Jun 1984
	<a href="#">16</a>	6			Alteration of Crew Compartment Seat Back Assemblies	13 Jun 1984
<a href="#">129</a>	18				Riveting Tip-Cap to Tail Rotor Blade (Ref. FAA AD 86-01-04)	27 Aug 1984
<a href="#">130.2</a>	19.2	17.1			Inspection of Tail Rotor Blade Leading Edge Abrasion Strip Bonding (Ref. FAA AD 94-18-08)	23 Mar 1987
<a href="#">131.1</a>	20.1	8.1			Corrosion Removal and Magnetic Rubber Inspection of Main Rotor Drive Shaft I.D.	30 Oct 1987
<a href="#">132.1</a>	21.1	9.1			Riveting Tip-Cap to Tail Rotor Blade (Ref. FAA AD 86-01-04)	01 May 1985

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<b>369D</b> (SB369D– or DN–)	<b>369E</b> (SB369E– or EN–)	<b>369F</b> (SB369F– or FN–)	<b>500N</b> (SB500N– or NN–)	<b>600N</b> (SB600N–)	<b>SUBJECT</b>	<b>DATE ISSUED</b>
<a href="#">133</a>	22	10			Cancellation of Warranty	18 Mar 1985
<a href="#">134</a>	23	11			Non–Airworthy Clutch Assemblies	18 Mar 1985
<a href="#">135</a>					Exit Warning Decal P/N 369D24043	07 Aug 1985
<a href="#">136</a>	24	12			Main Rotor Transmission Cooling Installation Bracket Replacement	07 Aug 1985
<a href="#">137</a>	25	13			Tail Rotor Bellcrank Inspection — P/N 369D27514 & 369D27515	20 Dec 1985
<a href="#">138</a>	26	14			Fargo Auxiliary Fuel Tanks P/N — A1066–1082	10 Jan 1986
<a href="#">139.1</a>	27.1	15.1			Cooling Fan Pulleys P/N 369D25620, 369D25622, 369D25622–3 and 369D25624 Inspection	18 Mar 1986
<a href="#">130.2</a>	19.2	17.1			Inspection of Tail Rotor Blade Leading Edge Abrasion Strip Bonding (Ref. FAA AD 94–18–08)	23 Mar 1987
<a href="#">141</a>	29	18			Removal of Seat Belt Assemblies Manufactured by the Eon Corporation	15 May 1986
<a href="#">142</a>	30	19			United Instruments, Inc. Altimeter (MDHC Part No. 369D24174, 369H4505 and 369H90124)	20 May 1986
<a href="#">143.1</a>	31.1				Installation of Failsafe Device at Tail Rotor Drive Shaft Aft Flexible Coupling, P/N 369A5501 or 369H2564: and Inspection of Flexible Couplings (Ref. FAA AD 86–20–07)	28 Nov 1986
<a href="#">145</a>	33	22			Fabrication and Installation of 369D25704 Oil Flex–Line Hose Assemblies in the Main Transmission Oil Cooling Installation (F/N 369D25700)	09 Apr 1987
<a href="#">147.1</a>	35.1	24.1			One–Time Inspection of Main Transmission Tail Rotor Output Drive Pinion Shaft (P/N 369D25125–BSC and –11) (Ref. FAA AD 87–18–11)	30 Oct 1987
<a href="#">148.1</a>	36.1	25.1			Inspection of Main Transmission Output Shaft Assembly Ring Gear Carrier (P/N 369D25132–BSC or –5) (Ref. FAA AD 82–17–01 and 87–18–12R1)	30 Oct 1987
<a href="#">149</a>	37	26			369A8010 Engine Oil Pressure and Torque Tubing Pull Test	15 Sep 1987
<a href="#">150</a>	38	27			Start Pump Wire Routing and Fuel Quantity Sender Inspection	15 Sep 1987
<a href="#">151</a>	39	28			Inspection of Tail Rotor Transmission Mounting Studs (Ref. FAA AD 88–17–09R1)	10 Oct 1987
	<a href="#">40.1</a>	29.1			Rework of Horizontal Stabilizer Assembly (P/N 421–087–503 and –505)	07 Apr 1989
<a href="#">152</a>	41	30			Replacement of 369A8442–Basic Latch Assembly on the Particle Separator Bypass Door	18 Dec 1987
<a href="#">153.2</a>	43.2	32.2			One–Time Inspection and Replacement of Tail Rotor Fork Bolt (369A1602)	21 Apr 1989
<a href="#">154</a>	44	33			Main Rotor Hub Strap Pack Lamination Inspection and Tri–Flow Wash Procedure of the Main Rotor Hub Assembly and Strap Pack Laminates (Ref. FAA AD 89–02–01R1)	15 Jan 1988

## SERVICE BULLETINS (Cont.)

<b>369D</b> (SB369D– or DN–)	<b>369E</b> (SB369E– –or EN–)	<b>369F</b> (SB369F– or FN–)	<b>500N</b> (SB500N– or NN–)	<b>600N</b> (SB600N–)	<b>SUBJECT</b>	<b>DATE ISSUED</b>
<a href="#">155</a>	45				Main Rotor Blade Upper and Lower Trailing Edge Weight Rework	15 Jan 1988
<a href="#">156.2</a>	46.2	34.2	10		Overrunning Clutch Outer Race Inspection (Ref. FAA AD 98–09–02)	11 Apr 1997
<a href="#">157</a>	47	35			One–Time Inspection of Engine–to–Transmission Driveshaft Couplings — 369H5660 (Ref. FAA AD 90–01–08)	05 Apr 1989
<a href="#">158.1</a>	48.1	36.1			Inspection and Rework of Main and Tail Rotor Control Tubes (PNs 369A7007, 369A7009, 369A7011 and 369A7012) (Ref. FAA AD 89–23–14)	21 Jul 1989
<a href="#">159</a>	49	37			One–Time Inspection of Aeroquip Hoses (P/Ns 369A8352, 369H8306, 369H8025, 369H8024–5 and 369D28651)	12 Jun 1989
<a href="#">160</a>	50				One–Time Inspection of Four–Bladed Tail Rotor Hubs (Ref. FAA AD 89–20–02)	19 Jun 1989
<a href="#">161</a>	51	38			One–Time Inspection of Tail Rotor Transmission Output Shaft Duplex Bearings (P/N 369D25420)	10 Jul 1989
		<a href="#">39</a>			One–Time Rework of 250–C30 Lower Aft Engine Mount Installation	20 Jun 1989
<a href="#">162</a>	52	40			One–Time Inspection of Emergency and Utility Float Skid Tube Extension Assemblies	30 Jun 1989
<a href="#">163</a>	53	41			One–Time Inspection of 369A5358 Lockwasher in the Overrunning Clutch Assembly and Inspection of Engine Output Drive Splines	27 Oct 1989
<a href="#">110.1</a>	56	42			Inspection and Modification of PN 369D292028, Aft Passenger Step Assemblies, on Extended Landing Gear Assemblies, and Inspection and Modification of Aft Landing Gear Foot Assemblies	27 Oct 1989
<a href="#">164.1</a>	54.1	44.1			Conversion to 369A5350–41 Overrunning Clutch Sub–Assemblies (Ref. FAA AD 90–19–02)	04 May 1990
<a href="#">165</a>	55	43			Installation of Oil Flow Restricting Devices into the Engine Oil and Torque Pressure Sensing Systems	27 Oct 1989
<a href="#">110.1</a>	56	42			Inspection and Modification of PN 369D292028, Aft Passenger Step Assemblies, on Extended Landing Gear Assemblies, and Inspection and Modification of Aft Landing Gear Foot Assemblies	27 Oct 1989
<a href="#">166.1</a>	57.1	45.1			One–Time Inspection and Replacement of Air Industries MS21250–04036 Bolts and Verification of Proper Installation of All MS21250–04036 Bolts in Main Transmission (Ref. FAA AD 90–24–07)	14 Mar 1990
<a href="#">167</a>	58	46			One–Time Check/Periodic Inspection/Replacement of Tail Rotor Swashplate Bearing Set (Ref. FAA AD 90–12–03)	14 Mar 1990
<a href="#">168</a>	59	47			One–Time Replacement of Polycarbonate Cover Assemblies (PN 369A9817)	15 Jun 1990
<a href="#">169</a>	60	48			One–Time Replacement of Tail Rotor Blade Pitch Arm Bolt Attaching Nuts	15 Jun 1990

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<b>369D</b> (SB369D– or DN–)	<b>369E</b> (SB369E– or EN–)	<b>369F</b> (SB369F– or FN–)	<b>500N</b> (SB500N– or NN–)	<b>600N</b> (SB600N–)	<b>SUBJECT</b>	<b>DATE ISSUED</b>
<a href="#">170.1</a>	61.1	49.1			One-Time Torque Check and Inspection of Main Rotor Blades	15 May 1991
<a href="#">171.1</a>	62.1	50.1			One-Time Inspection of 369D25623 Oil Cooler Blower Belt	21 Nov 1990
<a href="#">172.1</a>	63.1	51.1			One-Time Installation of 369D24054–3 Warning Decals in the Engine Compartment Area	04 Sep 1990
<a href="#">173.1</a>	64.1	52.1	042	051	Inspection of Lead–Lag Link Attach Nuts	06 Jul 2009
<a href="#">174</a>	65	53			Inspection of Tail Rotor Input Gearshaft (PN 369D25434) in the Tail Rotor Gearbox	21 Nov 1990
<a href="#">175</a>	66				One-Time Inspection of 369H8407 Engine Bleed Air Tube Flexible Area	21 Nov 1990
<a href="#">176</a>	67	54			One-Time Reinstallation of the 369A1602–3 Tail Rotor Fork Bolt	21 Nov 1990
<a href="#">177.1</a>	68.1	55.1			Pre-Flight Check and One-Time Inspection of Tail Rotor Blades (Ref. FAA AD 91–08–02)	01 Mar 1991
<a href="#">178</a>	69	56			One-Time Rework of Main Transmission Oil Cooling Fan Mounting Bracket	01 Feb 1991
<a href="#">179</a>	70	57			One-Time Addition of Rivets to Tail Rotor Abrasion Strip (Ref. FAA AD 94–18–08)	27 Sep 1991
	<a href="#">71</a>	58			One-Time Replacement of Diodes with Transzorbs	19 Dec 1991
<a href="#">180</a>	72	59			Inspection of Overrunning Clutch Outer Race	17 Jan 1992
<a href="#">181.1</a>	73.1	60.1			Inspection/Rework of Fuel Vent System (Ref. FAA AD 93–18–05)	10 Sep 1992
<a href="#">182</a>	74	61			One-Time Inspection/Rework of Engine Inlet Area	20 Mar 1992
<a href="#">183.2</a>	75.2	62.2			Main Rotor Blade Replacement	27 Jan 1993
	<a href="#">76</a>				Fuel Pressure Switch Inspection (P/N 369D28144–1)	20 May 1992
<a href="#">146.1</a>	34.1	23.1	002			Cancelled
			<a href="#">003</a>		Rate Gyro Inspection and Replacement	25 Jan 1993
			<a href="#">004</a>		Pilot Preflight Check of YSAS Actuator and Replacement of SAS Actuator	28 May 1993
<a href="#">184</a>	77	63	005		Four-Way Trim Switch Replacement Program	10 Mar 1994
			<a href="#">006</a>		Tailboom Decal Installation	10 Apr 1994
<a href="#">185</a>	78	64			Lockwasher Inspection (Ref. FAA AD 94–24–04)	23 Sep 1994
<a href="#">186</a>	79	65	007		Firewall Fuel Fitting Modification	26 Sep 1994
<a href="#">187</a>	80	66			Tail Rotor Blade Abrasion Strip Modification (Ref. FAA AD 95–03–11)	26 Oct 1994
<a href="#">188</a>	81	67	008		Main Rotor Blade Root End Inspection (Ref. FAA ADs 96–10–09 and 98–15–26 and MDHI Letter 14–SE–049)	27 Oct 1995

## SERVICE BULLETINS (Cont.)

369D (SB369D- or DN-)	369E (SB369E- or EN-)	369F (SB369F- or FN-)	500N (SB500N- or NN-)	600N (SB600N-)	SUBJECT	DATE ISSUED
		<a href="#">68</a>			Tail Rotor Control Rod Replacement (Ref. FAA AD 98-07-19)	22 Nov 1996
<a href="#">189</a>	82	69	009		Main Rotor Transmission Component Inspection (369D25127-11) (Ref. FAA AD 97-15-08)	10 Jan 1997
<a href="#">156.2</a>	46.2	34.2	010		Overrunning Clutch Outer Race Inspection (Ref. FAA AD 98-09-02)	11 Apr 1997
<a href="#">190</a>	83	70	011		Overrunning Clutch Inspection (Ref. FAA AD 98-21-12)	25 Jul 1997
				<a href="#">001</a>	Engine Cooling Improvement	12 Sep 1997
<a href="#">191</a>	084	071	012	002	Main Rotor Transmission Accessory Drive Inspection	26 Sep 1997
<a href="#">192</a>	085	072	013	003	Input Shaft Coupling Assembly Inspection (Ref. FAA AD 99-04-12)	26 Sep 1997
<a href="#">193R1</a>	086R1	073R1			Tail Rotor Blade, Leading Edge Inspection for Cracks	03 May 1999
				<a href="#">004</a>	Cabin Seat Restraint Assembly Replacement	12 Feb 1998
				<a href="#">005</a>	Installation of Revised V <sub>NE</sub> Cards	04 Mar 1998
				<a href="#">006</a>	Thruster Tip Cap Removal	08 Dec 1997
<a href="#">195R3</a>	088R3	075R3	015R3	007R2	Main Rotor Blade Root End Inspection and Termination Action for Suspect Main Rotor Blades (Ref. FAA AD 98-15-26)	13 Jul 1998
				<a href="#">008</a>	Generator Control Unit (GCU) Replacement	19 Feb 1998
				<a href="#">009</a>	Collective Controls Life Reduction and Serialization (Ref. FAA AD 99-17-18)	24 Feb 1998
				<a href="#">010</a>	Landing Gear Fairing Modification	28 Apr 1998
				<a href="#">011</a>	Cyclic Controls Mixer Links Replacement (Eight Degree Phase Shift Recovery)	05 May 1998
<a href="#">196</a>	089	076	016	012	Oil Cooler Blower Bracket Replacement (Ref. FAA AD 99-20-12)	28 Apr 1998
				<a href="#">013R1</a>	Low Fuel Level Warning Light	15 Apr 1999
	<a href="#">090R1</a>	077R1	017R1	014R1	Socket Contact Assembly Inspection (Ref. FAA AD 99-08-07)	25 Sep 1998
				<a href="#">015</a>	Engine Fuel Control Box Attachment Bolt Replacement	23 Apr 1999
				<a href="#">016R1</a>	Audio Warning System Replacement	18 Sep 2000
				<a href="#">017</a>	FADEC Manual Switch Guard Modification	06 Oct 1998
<a href="#">197</a>	091		018		Engine Fuel Pressure Switch Replacement	23 Feb 1999
				<a href="#">018R1</a>	Torque Pressure Transducer High Intensity Radiated Fields (HIRF) Protection Modification	07 Feb 2000
				<a href="#">019</a>	FADEC Wire Harness Stand-Off Installation Inspection and Modification	23 Apr 1999
				<a href="#">020R2</a>	Electromagnetic Compatibility Test (EMC) for Optional Equipment Effects on the FADEC Control	14 Apr 2003

## SERVICE BULLETINS (Cont.)

<b>369D</b> (SB369D– or DN–)	<b>369E</b> (SB369E– or EN–)	<b>369F</b> (SB369F– or FN–)	<b>500N</b> (SB500N– or NN–)	<b>600N</b> (SB600N–)	<b>SUBJECT</b>	<b>DATE ISSUED</b>
<a href="#">198</a>	092				Tail Rotor Fork Inspection, Four-Bladed (Ref. FAA AD 99–13–09)	10 May 1999
				<a href="#">021R1</a>	Inspection/Reidentification/Serialization of Cyclic Control Stick Sockets and Left Hand Command (Co-Pilot) Cyclic Tube	11 Mar 1999
				<a href="#">022</a>	Improved Engine Torque Transducer Replacement	23 Apr 1999
				<a href="#">023R1</a>	Cyclic Stick Replacement	30 Jul 1999
				<a href="#">024R1</a>	Longitudinal Mixer Output Link Assembly Replacement	06 Apr 1999
				<a href="#">025</a>	Fuel System Inspection (Ref. FAA AD 2000–04–021)	02 Jul 1999
<a href="#">199</a>	093		019	026	Turbine Outlet Temperature (TOT) Wire Harness, One Time Inspection (Ref. FAA AD 2000–08–22)	11 Jan 2000
			<a href="#">020R2</a>	027R2	Forward and Center Thruster Control Cables, Conduit Cap Relief Area, Inspection (Ref. FAA AD 99–25–08 and AMOC)	24 Apr 2000
			<a href="#">021</a>	028	Forward and Center Thruster Control Cables, Conduit Cap at Telescopic Swivel End, Inspection (Ref. FAA AD 99–25–08)	19 Nov 1999
<a href="#">200</a>	094	078	022		Landing Gear Strut Inspection and Fairing Modification (Ref. FAA AD 2007–12–23)	07 Apr 2000
				<a href="#">029</a>	Motive Flow Restrictor Removal	10 Jan 2001
				<a href="#">030R1</a>	Inspection of Vertical Stabilizer and Torque Tube and Replacement of Attaching Hardware	25 May 2001
<a href="#">201R2</a>	095R2	079R2	023R2	031R2	Main Rotor Blade Assembly Torque Event Inspection (Ref. FAA AD 2005–21–02 and MDHI Letter 14–SE–049)	04 Feb 2004
				<a href="#">032</a>	Turbine Outlet Temperature (TOT) Indicator Replacement	13 Dec 2001
				<a href="#">033</a>	Main Rotor Drive Shaft Life Reduction (Ref. FAA AD 2003–16–11)	13 Dec 2001
				<a href="#">034</a>	Torque Transducer Electrical Connector One Time Inspection	13 Dec 2001
			<a href="#">024</a>	035	Fan Pitch Control Aft Tube Assembly One Time Inspection	23 Oct 2001
				<a href="#">036</a>	Tailboom Assembly Attach Fitting One Time Inspection and Repair (Ref. FAA AD 2006–08–12)	02 Nov 2001
<a href="#">202</a>	096	080	025	037	Main Transmission Bonding Jumper Inspection and Rework	14 Aug 2002
				<a href="#">038</a>	Exhaust Duct Inspection	06 May 2003
		<a href="#">081</a>			Minimum N1 Starting Speed Decal/Placard Installation	22 Jul 2003
				<a href="#">039</a>	Tailboom Attach Fittings and Upper Longerons Inspection	09 Dec 2003



## SERVICE BULLETINS (Cont.)

369D (SB369D– or DN–)	369E (SB369E– –or EN–)	369F (SB369F– or FN–)	500N (SB500N– or NN–)	600N (SB600N–)	SUBJECT	DATE ISSUED
				<a href="#">040</a>	Control Support Bracket Assembly Life Reduction with YSAS Installed (Ref. FAA AD 2004–12–12 and AMOC)	19 Dec 2003
			<a href="#">026</a>	041	Tailboom Assembly Overlap Inspection and Rework	26 Nov 2003
			<a href="#">027</a>	042	Forward and Center Thruster Control Cable Assemblies Connector One Time Inspection (Ref. FAA AD 2004–20–08)	03 May 2004
<a href="#">203R1</a>	097R1	082R1			Tail Rotor Blade Abrasion Strip Tap Test and Modification	23 Jan 2006
				<a href="#">043</a>	Tailboom Assembly Attach Fitting One Time Inspection, Attach Fitting And Nutplate Replacement (Ref. FAA AD 2008–20–05)	13 Apr 2006
				<a href="#">044</a>	Lateral Mixer Output Link Assembly, One Time Inspection (Ref. FAA AD 2007–05–51 and AMOC)	16 Feb 2007
	<a href="#">098</a>	083	028	045	One Time Inspection of the Oil Cooler Blower, Drive Pulley Installation	28 Mar 2007
<a href="#">204</a>	099	084			Tail Rotor Blade Assembly, One Time Inspection (Ref. FAA AD 2007–09–51)	26 Apr 2007
			<a href="#">029R3</a>	046R3	NOTAR® Fan Tension–Torsion (TT) Strap Replacement (Ref. FAA AD 2013–03–03 and AMOC)	09 Jul 2008
<a href="#">205R1</a>	100R1	085R1	039R1		Oil Cooler Belt, One Time Inspection	13 Mar 2009
			<a href="#">040R1</a>	047R1	De–Energize YSAS System and Replace YSAS Adapter (Ref. FAA AD 2008–22–52)	27 Aug 2008
206	101	086	041	048	Bellcrank One Time Inspection and Possible Replacement	03 Apr 2009
				<a href="#">050R1</a>	Governor Electronic Control Unit (ECU) Replacement	03 Mar 2010
<a href="#">173R2</a>	064R2	052R2	042R1	051R1	Inspection of Lead–Lag Link Attach Nuts	17 Jan 2020
			<a href="#">043R2</a>		Inspection of P/N 369D292028, Aft Passenger Step Assemblies, on Extended Landing Gear Assemblies	11 Oct 2017
<a href="#">207</a>	102	087			Inspection of Short Edge Margin Condition on 369D23500 Tailboom Assembly	20 Jul 2010
<a href="#">208</a>	103	088	044	052		Cancelled
		<a href="#">089</a>			One–Time Inspection of the Generator Control Unit and 200–Amp Starter/Generator Wiring	14 Feb 2011
<a href="#">209</a>	104	090	045	053	Replacement of Mobil SHC 626 with Mobil AGL	20 Jul 2011
<a href="#">210</a>	105	091			Tail Rotor Blade Assembly Inspection (Ref. FAA AD 2013–19–24)	21 Nov 2011
			<a href="#">046</a>	054	Rotating Cone Assembly Inspection	09 Jul 2012
				<a href="#">055</a>	One–Time Inspection of the Horizontal Stabilizer Torque Tubes and the Landing Gear Struts	31 Dec 2012
<a href="#">211R2</a>	106R2	092R2	048R2	056R2	Upper Main Rotor Pitch Control Rod End, PN 369A1011 Inspection and Replacement	16 Apr 2013

## SERVICE BULLETINS (Cont.)

<b>369D</b> (SB369D– or DN–)	<b>369E</b> (SB369E– or EN–)	<b>369F</b> (SB369F– or FN–)	<b>500N</b> (SB500N– or NN–)	<b>600N</b> (SB600N–)	<b>SUBJECT</b>	<b>DATE ISSUED</b>
<a href="#">212R1</a>	107R1	093R1	047R1	057R1	Main Rotor Hub Lead Lag Link Assembly Inspection And Daily Pre-Flight Check	09 Apr 2015
	<a href="#">108R1</a>	094R1			Aft Position and Anti-Collision Light Mounting Inspection, Replacement and Repair	05 May 2015
	<a href="#">109</a>	095			Removable (Copilot) Gas Producer Control Collective Stick Tube Assembly Torsion Bar, PN 369H7841–5 Replacement	04 Oct 2013
				<a href="#">058R1</a>	One-Time Inspection of the Pilot Gas Producer Control Gear Shaft Assembly	12 Aug 2014
		<a href="#">097</a>		059	Engine Oil Hose Inspection and Replacement	04 Apr 2014
<a href="#">213R1</a>	111R1	098R1	049R1		One-Time Inspection of Fuel Pump Harness Routing and Decal Installation	30 Apr 2014
<a href="#">214R2</a>	110R2	096R2	050R2	060R2	One-Time Inspection of the Copilot Gas Producer Control Gear Shaft Assembly	30 Mar 2015
		<a href="#">099</a>			Installation of the Tail Rotor Drive Shaft and Secondary Dampener Bushings	07 Jan 2015
			<a href="#">051R1</a>	062R1	Remove and Replace the YSAS Adapter	14 Jan 2016
<a href="#">215R1</a>	112R1	100R1	052R1	063R1	Exchange of Engine Bay Door Latch Assemblies with Missing Lockwire Hole	29 Jan 2016
	<a href="#">113</a>	101	053	064	Drill Drain Holes for Antenna Installations	04 Mar 2016
<a href="#">216</a>	114	102	054	065	RA–4500 Radar Altimeter Inspection	05 Oct 2016
<a href="#">218</a>	116	103	055	067	Inspection of the Main Rotor Blade Abrasion Strips	16 Feb 2017
<a href="#">219R2</a>	117R2	104R2	056R2	068R2	One-Time Inspection for Transmission Cracks	14 Jun 2019
<a href="#">220</a>	118	105			Inspection of PN 369D292028, Aft Passenger Step Assemblies, on Extended Landing Gear Assemblies	11 Oct 2017
<a href="#">221</a>	119	106	057	069	Inspection for the Main Rotor Blades for Cracks	02 Apr 2018
				<a href="#">070</a>	Remove and Replace Collective Link Assemblies, Part No. 600N7617–1 (Ref. FAA AD 2020–06–11)	15 Oct 2019
<a href="#">222R1</a>	121R1	108R1	059R1	071R1	Additional Inspection of the Main Rotor Blade Root Fittings	15 Oct 2019
				<a href="#">072</a>	GTN 650 Software Configuration for 600N Glass Cockpits	27 May 2020
<a href="#">223</a>	122	110	060	073	Inspection of the Main Rotor Hub Lead–Lag Bolts, Part No. 369D21220–BSC	19 Apr 2019
<a href="#">224</a>	123	111	061	074	Replace the MHS5861–2R Interior Right–Hand Open and Lock Decal	20 Nov 2019
		<a href="#">112</a>			Replace the High Torque WARNING Decal	05 Jun 2019
<a href="#">225</a>	124	113			Inspection of the Position Light Mounting Bracket Assembly	04 May 2020
<a href="#">226</a>	126	115	063	076	One-Time Inspection of the Drive System Installation with Kamatic Couplings	14 Jun 2019
<a href="#">227</a>	127	117	064	078	Install Cotter Pins in the Seat–Belt Installations	20 Nov 2019

## SERVICE BULLETINS (Cont.)

<b>369D</b> <b>(SB369D–</b> <b>or DN–)</b>	<b>369E</b> <b>(SB369E–</b> <b>–or EN–)</b>	<b>369F</b> <b>(SB369F–</b> <b>or FN–)</b>	<b>500N</b> <b>(SB500N–</b> <b>or NN–)</b>	<b>600N</b> <b>(SB600N–)</b>	<b>SUBJECT</b>	<b>DATE</b> <b>ISSUED</b>
<a href="#">229R2</a>	129R2	119R2	066R2	080R2	Inspection of the Pilot-to-Copilot Tail Rotor Torque Tube	24 Mar 2021
		<a href="#">120</a>			Software Upgrade for the Display Unit	02 Sep 2020
<a href="#">230R1</a>	130R1	121R1	067R1		Inspection of the Main Transmission Drive Shaft Couplings	26 May 2023
<a href="#">231R2</a>	131R2	122R2	068R2	082R2	369A7505–7/–8/–14/–15 Tail Rotor Pedals Support Bracket Inspection	01 Nov 2023
<a href="#">232R1</a>	132R1	123R1	070R1	081	Inspection of Main Rotor Hub Assemblies for Pitch Housing Bolt Installation	08 Aug 2023
<a href="#">233R1</a>	133R1	124R1			Inspection of the Tail Rotor Drive Fork Bolts, PN 369A1602–3	30 Jun 2023
	<a href="#">134</a>	126	071		Inspection of the Generator Feeder Wire	01 Sep 2023
<a href="#">234</a>	135	125			Inspection of the Horizontal Stabilizer Attach Lug Fittings	17 Jan 2024

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## INSPECTION OF TAIL ROTOR OUTPUT SHAFT: INSTALLATION OF PROTECTIVE DUST BOOTS

### 1. PLANNING INFORMATION:

#### A. Models Affected:

500D Model 369D Helicopter Serial No. 0003 thru 0039

#### B. Preface:

The Model 369D helicopters with Serial Numbers listed above are not presently equipped with protective dust boots between the tail rotor gearbox and nonrotating swashplate, and between the rotating swashplate and drive fork. The output shaft is thus exposed to dirt, moisture and other contaminants which, if not removed, can cause scoring of the shaft or binding of the tail rotor control system.

Part I of this Notice lists a preflight inspection procedure to check for build-up of dirt, grit, moisture and other contaminants; and to clean and relubricate the exposed part of the tail rotor output shaft.

Part II of this Notice lists a procedure for installing protective dust boots, PN 369D21806 and 369D21807. Compliance with Part II removes the requirement for the Part I preflight inspection.

A return coupon to record compliance with Part II of this Notice is attached. Owners and operators of the above affected helicopters are to fill out and return the coupon following installation of the protective dust boots. The dust boots, and required tang washer, will be provided without cost.

#### C. Time of Compliance:

Part I - Shall be accomplished at each Preflight Inspection until compliance with Part II of this Notice.

Part II - Shall be accomplished as soon as possible.

#### D. FAA Approval:

FAA APPROVED

#### E. Weight and Balance:

Weight and balance not affected.

#### F. Reference:

369D Series - Basic HMI, Volume 1, Issued 15 September 1976

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## G. Materials:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Boot, nonrotating	369D21807	1	HH
Boot, rotating	369D21806	1	HH
Washer, tang	HS1551S238	1	HH

## MATERIALS

MATERIAL	
Nomenclature	Source
Grease, Aeroshell 14 (MIL-G-25537) or TG-4831	Shell Oil Co. Texaco Inc.
Solvent, cleaning (P-D-680)	Commercial

## PART I - Preflight Inspection

### 2. PART I – PREFLIGHT INSPECTION:

- Check exposed part of tail rotor output shaft, between tail rotor gearbox and nonrotating swashplate, and between rotating swashplate and drive fork, for any evidence of dirt, grit moisture and other contaminants.
- Remove all evidence of any contaminants, using a soft clean cloth and cleaning solvent. Operate tail rotor control through full cycle to ensure that all exposed areas of the output shaft have been cleaned.
- Relubricate exposed areas of shaft with grease.
- Record compliance with Part I of this Notice in Compliance Record of helicopter Log Book.

### 3. PART II – INSTALLATION OF PROTECTIVE DUST BOOTS

- Remove tail rotor assembly, per Basic HMI.
- Inspect, clean and relubricate output shaft, per Part I above.
- Reinstall tail rotor assembly, with 369D21806 rotating boot and 369D21807 stationary boot, per Basic HMI.
- Inspect installed tail rotor assembly, per Basic HMI.
- Record compliance with Part II of this Notice in Compliance Record of helicopter Log Book.

**NOTE:** Fill out and return attached coupon to HH Customer Service Department.

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TO:

Hughes Helicopters

Centinela and Teale St.

Culver City, CA 90230

Attn: Customer Service Department Bldg. 15, T206

This is to certify that dust boots have been installed; one between the tail rotor gearbox and nonrotating swashplate and one between the rotating swashplate and fork.

The modification was accomplished on Hughes Model 369D Helicopter /s on the date/s noted.

Serial Number

Date

Serial Number

Date

Serial Number

Date

Serial Number

Date

Serial Number

Date

Serial Number

Date

Signature

Company/Organization

Title

Complete Address

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\* Supersedes Service Information Notice No. DN-9.1 dated 1 May 1978

## OVERRUNNING CLUTCH ASSEMBLY, PN 369A5350-603 REWORK AND INSPECTION OF PN 369A5350-11 CLUTCH SUBASSEMBLY AND PN 369A5361 BALL BEARING; PERIODIC INSPECTION OF PN 369A5350-21 CLUTCH SUBASSEMBLY

### 1. PLANNING INFORMATION:

#### A. Models Affected:

All Model 369D and 369MD Helicopters

All new and overhauled PN 369A5350-603 Overrunning Clutch Assemblies and PN 369A5350-11 Clutch Subassemblies in Spares Inventory

#### B. Time of Compliance:

PART I - Shall be accomplished within next 10 hours of helicopter operation.

Shall be accomplished prior to installation of Spares clutch assembly or subassembly on helicopter.

PART II - Shall be accomplished at each 300-Hour Periodic Inspection interval.

#### C. Preface:

PART I of this Service Information Notice lists a procedure for purging the existing grease used on the PN 369A5361 ball bearing in the PN 369A5350-11 clutch subassembly, and repacking the bearing with Aeroshell 22 or Mobil 28 grease to ensure that proper grease is used in the bearing. Upon completion of initial regreasing of the PN 369A5361 ball bearing per Part I of this Notice, the suffix letter "G" is to be added to the Serial Number on the ID plate of the clutch subassembly. A conditional engine-to-transmission alignment check is also included.

Instructions are also provided for replacement of the PN 369A5368 clutch retainer seal with a new 369A5368-3 seal. With the -3 seal installed, the PN 369A5350-11 clutch subassembly is reidentified as the PN 369A5350-21 configuration.

Part II of this Notice lists a procedure for periodic inspection and regreasing of the PN 369A5350-21 overrunning clutch assembly, to be accomplished at each 300-Hour Periodic Inspection Interval.

#### D. FAA Approval:

FAA APPROVED

#### E. Weight and Balance:

Weight and balance not affected

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## F. Reference Publications:

500D Series-Model 369D Basic HMI-Vol I, Issued 15 Sep 1976; Rev No. 1, 15 Nov 1977  
 500D Series-Model 369D Basic HMI-Vol II, Issued 15 Sep 1976; Rev No. 1, 14 Jan 1977  
 500D Series-Model 369D Component Overhaul Manual (369D-COM), Issued 15 Sep 1976  
 500D Series-Model 369D Structural Repair Manual (369D-SRM), Issued 15 Sep 1976

FAA Airworthiness Directive, Telex dated 31 August 1977 FAA Airworthiness Directive  
 77-21-04, dated 11 Oct 1977; Amendment 39-3057, effective 23 Nov 1977

MATERIAL	
Nomenclature	Source
Grease (Aeroshell 22 or Mobile 28)	Shell Oil Co. and Mobil Oil Co.

## 2. PART I- INITIAL REWORK

**NOTE:** Rework and inspection per Part I of this Notice is NOT applicable to PN 369A5350-21 clutch subassembly.

- (1). Remove clutch subassembly PN 369A5350-11 per Basic HMI-Vol I.
- (2). Check serial number on ID plate on retainer of clutch subassembly

**NOTE:** The clutch subassembly serial number consists of six or seven digits. The first two or three digits indicate date of manufacture (i.e., 77 indicates July 1977; 116 indicates November 1976). The last four digits indicate sequence of manufacture and are to be considered as the basic serial number of the clutch subassembly.

1. If the basic serial number (last four digits) of the clutch subassembly is 4836 or lower and does not have both suffix letter "G" and suffix letter "S" following the serial number, rework the subassembly per steps 3 thru 18 below.

2. If the basic serial number (last four digits) of the clutch subassembly is 4837 or higher, or if a lower serial number has both suffix letters "G" and "S", perform the following:

- (a). As applicable, reidentify 369A5350-11 clutch subassembly to -21 configuration on ID plate on forward side of retainer.
- (b). Perform Part II of this Notice only.
- (3). Temporarily install coupling bolt, to maintain internal fluid.
- (4). Remove clutch retainer to expose 369A5361 ball bearing (see Figure 1).
- (5). Check 369A5361 ball bearing for excessive loss of grease.
- (6). If ball bearing is dry or grease is caked, inspect bearing as follows:
  - (a). Inspect ball bearing for roughness, pitting, scoring, or discoloration from overhearing. Replace bearing, if any of the above is noted.
  - (b). Check for bearing preload. If no discernible radial play is noted in the bearing, remove bearing per Component Overhaul Manual (369D-Corn) and measure journal OD. If OD of journal exceeds 1.2505 inches return clutch subassembly to HH for rework.

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- (7). Using solvent and brush, thoroughly remove existing grease from both bearing and retainer. Do NOT use compressed air to remove grease from ball bearing. Inspect bearing for condition; if roughness, pitting or scoring is noted, replace bearing.

**NOTE:** New 369A5368 seals in spares may be upgraded to 369A5368-3 configuration by removal of garter spring from seal.

Used 369A5368 seals may NOT be reworked to the 369A5368- 3 configuration.

Installation of 369A5368-3 seal upgrades 369A5350-11 clutch subassembly to -21 configuration.

- (8). Remove existing 369A5368 seal and install new 369A5368-3 seal in retainer. Indicate new -3 seal installed by reidentifying 369A5350-11 clutch subassembly to -21 configuration on ID plate on forward side of retainer. (See Note above. )
- (9). Repack bearing 50 percent of capacity with Aeroshell 22 or Mobil 28 grease by packing open side of bearing level without forcing grease through bearing cage.
- (10). Fill void in retainer 75 percent full with grease; reinstall retainer. Flat side of retainer faces unit; bevel side is out.

**NOTE:** Some clutch subassemblies may also have suffix letter "T" following Serial Number.

- (11). Add suffix letter "G" to Serial Number on ID plate of subassembly (after suffix letter "T" as applicable).
- (12). Coat clutch splines with Aeroshell 22 or Mobil 28 grease; carefully insert clutch subassembly into housing and secure with retaining ring.
- (13). Remove coupling bolt, as applicable.
- (14). Check oil level, per Basic HMI-Vol I.
- (15). Reinstall clutch coupling; torque coupling bolt to no less than 250-300 inch-pounds

**NOTE:** If excessive loss of grease was noted in ball bearing in step e-, perform engine-to-transmission alignment check per Structural Repair Manual (369D-SRM). Remedy cause of misalignment, where noted.

- (16). Reinstall main transmission drive shaft and other removed components, per Basic HMI-Vol I.
- (17). Record upgrade of 369A5350-11 clutch subassembly to -21 configuration in Component Record of helicopter Log Book.
- (18). Record compliance with Part I of this Service Information Notice in Compliance Record of helicopter Log Book.

### 3. PART II – PERIODIC INSPECTION

- (1). Remove clutch subassembly PN 369A5350-21, per Basic HMI-Vol I.
- (2). Temporarily install coupling bolt, to maintain internal fluid.
- (3). Remove clutch retainer to expose 369A5361 ball bearing (see Figure 1).
- (4). Check 369A5361 ball bearing for excessive loss of grease.

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- (5). If ball bearing is dry or grease is caked, inspect bearing as follows:
- (a). Inspect ball bearing for roughness, pitting or scoring; or discoloration from overheating. Replace bearing if any of the above is noted.
  - (b). Check for bearing preload. If no discernible radial play is noted in the bearing, remove bearing per Component Overhaul Manual (369D)-Com and measure journal OD. If OD of journal exceeds 1.2505 inches, return clutch subassembly to HH for rework.
- (6). Using solvent and brush, thoroughly remove existing grease from both the bearing and retainer. Do NOT use compressed air to remove grease from ball bearing. Inspect bearing for condition; if roughness, pitting or scoring is noted, replace bearing. Inspect 369A5368-3 seal in retainer; replace seal if cracked, broken, worn, or shows evidence of excessive heating.
- (7). Repack bearing 50 percent to capacity with Aeroshell 22 or Mobil 28 grease by packing open side of bearing level without forcing grease through bearing cage.
- (8). Fill void in retainer 75 percent full with grease; reinstall retainer. Flat side of retainer faces unit; bevel side is out.
- (9). Coat clutch splines with Aeroshell 22 or Mobil 28 grease; carefully insert clutch subassembly into housing and secure with retaining ring.
- (10). Remove coupling bolt; check oil level per Basic HMI-Vol I.
- (11). Reinstall clutch coupling; torque coupling bolt to no less than 250-300 inch-pounds.

**NOTE:** If excessive loss of grease was noted in ball bearing in step d, perform engine-to-transmission alignment check, per Structural Repair Manual (369D-SRM). Remedy cause of misalignment where noted.

- (12). Reinstall main transmission drive shaft and other removed components, per Basic HMI-Vol I.
- (13). Record compliance with Part II of this Service Information Notice in Compliance Record of helicopter Log Book.

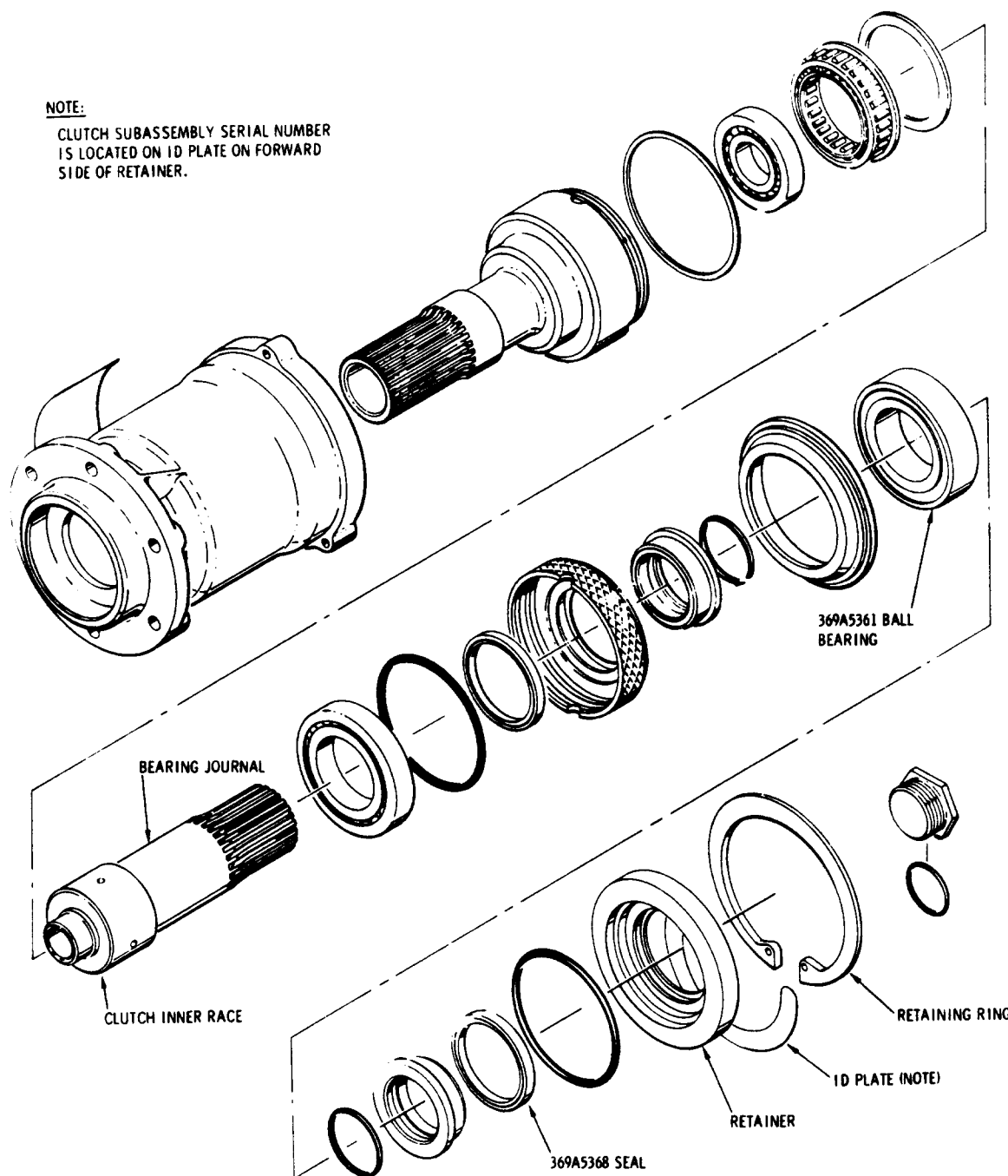
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**Figure 1. Overrunning clutch assembly**

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## MODIFICATION OF PN 369A4516-3 N1 TACH INDICATOR

### 1. PLANNING INFORMATION:

#### A. Models Affected:

500D Model 369D Helicopter Serial No. 0001D thru 0049D equipped with 369A4516-3 N1 Tach Indicator. All PN 369A4516-3 N1 Tach Indicators in Spares Inventory

#### B. Preface:

The information given in this Service Information Notice lists instructions for remarking the glass window of the subject N1 tachometer indicator to provide maximum/minimum operating limits (red lines) and normal operating range (green arc) as specified in the below referenced FAA Approved Rotorcraft Flight Manual.

It is to be noted that above affected helicopters presently equipped with PN 369A4516-7 N1 Tach Indicator are not affected by this Notice.

#### C. Time of Compliance:

Shall be accomplished within next 100 hours of helicopter operation

#### D. FAA Approval:

FAA APPROVED

#### E. Weight and Balance:

Weight and balance not affected.

#### F. Reference Publications:

500D Model 369D Basic HMI - Volume I, Issued 15 September 1976

FAA Approved 369D Rotorcraft Flight Manual, Revised 18 May 1977

MATERIAL	
Nomenclature	Source
Paint, green (FED-STD-595) No. 14260 or equivalent	Commercial
Paint, red (FED-STD-595) No. 11136 or equivalent	Commercial
Paint, white (FED-STD-595) No. 17875 or equivalent	Commercial

### 2. PROCEDURE

**NOTE:** Do not disassemble N1 Tach Indicator; instrument is hermetically sealed.

- (1). Clean window glass of N1 tachometer indicator so that it is free of dirt, grit, etc; air dry.
- (2). Using green paint, apply green arc (0. 100 inch wide) at circumference of indicator glass from 64 percent to 105 percent increments on dial.

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- (3). Using red paint apply red lines (0.160 inch long and 0.020 inch wide) extending inward from circumference of indicator glass at 59 percent increment and 105 percent increment on dial.
- (4). Using white paint, apply slippage mark on glass face of gauge and gauge housing.
- (5). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

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## INSPECTION – PN 369H90085 LITTER DOOR INSTALLATION

### 1. PLANNING INFORMATION:

#### A. Models Affected:

All Model 369D Series Helicopters equipped with PN 369H9001 Rotorcraft Litter Kit

#### B. Preface:

The information given in this Service Information Notice lists a procedure for a visual inspection of the subject litter door installation to ensure proper condition and security of the quick-release fastener assemblies, and the rubber seal (gasket) installed between the window glass and door frame. The visual inspection is applicable to the PN 369H92733-1/-2 bubble window assemblies (or PN 369H92731-1/-2 flat window assemblies, if installed) in the PN 369H90085 litter door installation.

#### C. Time of Compliance:

Shall be accomplished prior to next flight, and at each subsequent 50 hours of helicopter operation thereafter

#### D. FAA Approval:

FAA APPROVED

#### E. Weight and Balance:

Weight and balance not affected.

#### F. Reference Publications:

500D Basic HMI - Volume 1, 15 November 1977

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Fastener, quick release: Stud	2600-10S 2600-12S 2600-13S 2600-14S	A/R	Camloc Division Rex Chainbelt Inc. Paramus, NJ
Receptacle Lockwasher	26R6-1BB 2600-LW		
Rivet	MS20426AD3	A/R	Commercial
Seal	NE-71A (0.125 x 2.00 x 120.00)	A/R	Armstrong Cork Co. Lancaster, PA
Adhesive	EC1300L	A/R	3M Co., St. Paul, MN

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## 2. INSPECTION PROCEDURE

- (1). Remove quick-release fasteners securing bubble (or flat) windows to litter doors.
- (2). Visually inspect each fastener for condition, and each anchor receptacle in door structure for condition and security of attachment. Replace fastener if stud is loose or worn. Replace anchor receptacle and/or rivets as required.
- (3). Visually inspect rubber seal (gasket) on window assemblies for condition. Seal must be fully intact; rebond seal to door structure, as required. Replace seal if worn, cracked, or hard.
- (4). Reinstall window assemblies to litter doors using quick-release fasteners. Check for gaps between window glass, rubber seal, and door structure. Replace seal and/or use shorter length studs if any gap is noted. If seal is extruded, use longer length studs; replace seal if extrusion still exists.
- (5). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book,

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## MODIFICATION KIT – MAIN TRANSMISSION LUBRICATION PUMP, PN 369D25167

### 1. PLANNING INFORMATION:

#### A. Models Affected:

Model 369D Helicopter Serial No. 0003D thru 0136D; 0138D thru 0146D; 0148D thru 0153D; 0156D; 0157D; 0159D thru 0162D; 0164D 0166D; 0169D; 00175D; 0182D; 0189D; 0195D; 0201D; 0207D; 0211D;

All PN 369D25167 Lubrication Pumps, separate or installed on PN 369D25100 Main Transmission Assembly, in Spares Inventory at date of this Notice

#### B. Preface:

The information given in this Service Information Notice lists a procedure for field modification of the subject main transmission lubrication pump. The rework consists primarily of replacing the existing geroter assembly and pump shaft, and the pump input shaft, to improve the reliability of the lube pump.

It is to be noted that the modification is applicable only to early type pumps, Pneu Devices Part No. 2161 and 2161-1. Pneu Devices Part No. 2161-2 lubrication pumps are not affected by this Notice.

Modification kits will be furnished at no charge to customer; contact your authorized HH Service Center or Distributor.

#### C. Time of Compliance:

Shall be accomplished within next 50 hours of helicopter operation

Shall be accomplished prior to installation of Spares Lubrication Pump or Main Transmission Assembly on helicopter

#### D. FAA Approval:

FAA APPROVED

#### E. Weight and Balance:

Weight and balance not affected

#### F. Reference Publications:

500D Basic HMI - Vol 1, Issued 15 September 1976; Revision No. 1, 15 November 1977

500D Component Overhaul Manual (369D - COM), Issued 15 September 1976

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Kit modification (consisting of the following listed parts)	KPL-2161-2	1	Pneu Devices Inc., Santa Barbara, CA
Rotor/Shaft Mod Assy	12638	1	

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REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Stator	11099-3	1	
Input Shaft	10807-2	1	Preinstalled on rotorshaft assy
Retaining ring	10464	1	Preinstalled on rotorshaft assy
Screw	NAS1352C08LE6	3	
O-ring	NAS1593-011	1	
O-ring	NAS1593-030	1	
O-ring (procure separate from kit if pump is removed from transmission)	MS29561-022	1	Commercial
O-ring (procure separate from kit if pump is removed from transmission)	MS29561-013	2	Commercial
O-ring (procure separate from kit if pump is removed from transmission)	NAS617-8	2	Commercial

MATERIAL	
Nomenclature	Source
Petrolatum (petroleum jelly, VV-P-236)	Commercial

## 2. MODIFICATION PROCEDURE

**NOTE:** For Spares Lubrication pumps not installed on main transmission assembly, perform steps 2, 6, and 13 only.

- (1). As applicable, remove sound insulation and transmission access doors (Section 7, Basic HMI- Vol 1 ).
- (2). Identify manufacturer's Part No. on identification plate on lube pump (see Figure 1 ).
  - (a). Rework lube pump if Pneu Devices Part Number is 2161 or 2161-1.
  - (b). Pneu Devices Part No. 2161-2 lube pump is not affected by this Notice. If lube pump 2161-2 is installed on helicopter, perform step m of this Notice.
- (3). Drain oil from main transmission (Section 2, Basic HMI - Vol 1 ).
- (4). Disconnect transmission oil cooler hoses.
- (5). Remove hardware securing pump housing to transmission mounting pad. (Section 9, Basic HMI - Vol 1 ); remove pump and discard O-rings.

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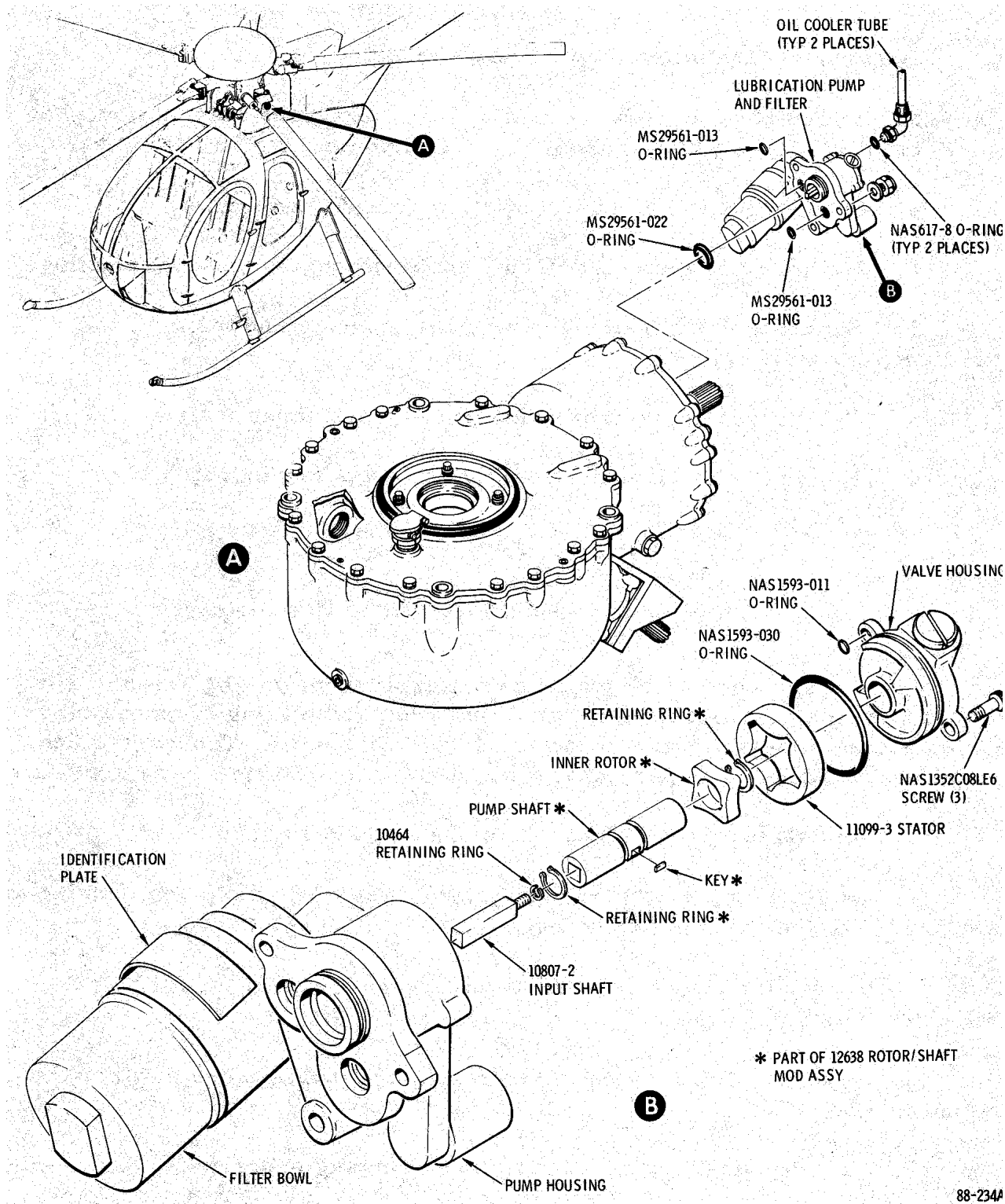
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**Figure 1. Field Modification - Main Transmission Lubrication Pump PN 369D25167**

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- (6). Rework lubrication pump as follows: (see Figure 1 ).
- (a). Remove three screws securing valve housing to pump housing.
  - (b). Separate valve housing from pump housing and remove and discard existing O-rings.
  - (c). Remove pump shaft with inner rotor and input shaft in place.
  - (d). Remove outer rotor (stator) from pump housing.

**NOTE:** Return removed components to Hughes Helicopters.

- (e). Scrape any paint! or foreign material from mating faces of pump housing and valve housing; wipe internal surfaces and mating surfaces clean, assuring that no foreign material is introduced into pump. Thorough cleaning of all components is important for satisfactory operation after modification.
- (f). Install outer rotor (stator) into pump housing.
- (g). Place pump shaft and inner rotor assembly into pump housing and rotate to assure free running operation.
- (h). Apply light coat of petrolatum to new O-rings; install new O-rings onto valve housing.
- (i). Install valve housing to pump housing, using three new screws provided in kit.
- (j). Rotate pump shaft to assure free running operation.

**NOTE:** Torque required should be less than 10-inch pounds over several revolutions of pump. If pump exhibits excessive torque or binding, loosen three screws and rotate valve housing until free running operation is obtained. Tighten three screws and repeat step 10.

- (k). Reidentify manufacturer's Part Number on identification plate as 2161-2.
- (7). Install new O-rings in ports and in groove of pump sleeve. Apply light coat of petrolatum to both O-rings and mating bores in transmission.
  - (8). Carefully align square drive of pump with drive shaft in transmission; carefully insert pump in place.
  - (9). Install three attach nuts and washers; tighten nuts to torque of 50 to 70-inch pounds.
  - (10). Connect-transmission oil cooler hoses; use new O-rings.
  - (11). Check pump installation; perform the following:
    - (a). Ground run helicopter according to 369D Owners Flight Manual and check pump interface for leaks. (Refer to Fluid Leak Analysis, Section 2 of Basic HMI - Vol 1. ) Verify that pump pressure warning light is not ON at 55% N2.
    - (b). Install access covers and sound insulation.
  - (12). Record rework of PN 369D25167 lubrication pump to Pneu Devices Part No. 2161-2 configuration in Components Record of helicopter Log Book.
  - (13). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

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## ENGINE COMPRESSOR WATER WASH KIT INSTALLATION, PN 369H92537 – INSPECTION AND REPLACEMENT OF RIVETS

### 1. PLANNING INFORMATION:

#### A. Models Affected:

500D Model 369D Helicopter Serial No. 0003D thru 0129D with subject water wash kit installed

#### B. Preface:

The information given in this Service Information Notice lists a procedure for a one-time inspection of the non-monel solid rivets or pull-type rivets used to secure the PN 369H3042 spray assembly to the inner side of the plenum chamber forward wall, to ensure that these rivets are intact prior to removal and replacement with new NAS1738M4-2 rivets.

It is to be noted that Model 369D Helicopter Serial No. 0003D thru 0089D with subject water wash kit field installed as optional equipment per Hughes Service Information Notice No. DN-17 are NOT affected by this Notice.

#### C. Time of Compliance:

Shall be accomplished within next 100 hours of helicopter operation

#### D. FAA Approval:

FAA APPROVED

#### E. Weight and Balance:

Weight and balance not affected

#### F. Reference Publications:

369D Basic HMI – Vol I, Issued 15 September 1976; Revision No. 1, 15 November 1977  
Hughes Service Information Notice No. DN-17, dated 6 February 1978  
Detroit Diesel Allison Engine Operation and Maintenance Manual 10W2

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REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Rivet	NAS1738M4-2 or MS20615-3M5	8	Commercial

TOOLS AND EQUIPMENT	
Nomenclature	Source
Gun, rivet	Commercial
Motor, drill	Commercial
Drill bit – No. 30	Commercial

MATERIAL	
Nomenclature	Source
Primer, zinc chromate	Commercial

## 2. PROCEDURE

- (1). Open plenum chamber access door.



Install a protective cardboard cover or suitable material over engine air intake.

- (2). Visually inspect NAS1398B4-2 non-monel solid or pull-type rivets securing PN 369H3042 spray assembly to inner side of plenum chamber forward wall.



If any NAS1398B4-2 rivets or removable stems are missing, perform inspection of engine compressor, per DDA Engine Operation and Maintenance Manual, prior to removal of existing rivets and installation of new rivets.

- (3). Remove existing NAS1398B4-2 non-monel solid or pull-type rivets and install new NAS1738M4-2 or MS20615-3M5 rivets, eight (8) places.
- (4). Check rivet installation for discrepancies; clean and check plenum chamber for foreign objects.
- (5). Remove temporary cover over engine air intake; close plenum chamber access door.
- (6). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

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## REWORK OF STANDARD LANDING GEAR SKID ASSEMBLY, PN 369D26100-101; REWORK OF EXTENDED LANDING GEAR SKID ASSEMBLY, PN 369D292114-101

### 1. PLANNING INFORMATION:

#### A. Models Affected:

500D Model 369D Helicopter Serial No. 0050D thru 0270D equipped with Standard Landing Gear Assembly, PN 369D26000-101/-102

500D Model 369D Helicopter Serial No. 0070D thru 0270D equipped with Extended Landing Gear Assembly, PN 369D90006-101/-102

All subject landing gear skid assemblies in Spares Inventory at date of this Notice

#### B. Preface:

The subject landing gear skid assemblies are predrilled with additional attachment holes for the forward foot assemblies, to provide for LH and RH skid interchangeability. The information given in this Service Information Notice lists a procedure for sealing the open attachment holes at the forward foot location on each skid assembly, to prevent water seepage and entrapment and possible corrosion damage to the skid assembly.

#### C. Time of Compliance:

Shall be accomplished at next 100-Hour Periodic Inspection interval

Shall be accomplished at installation of Spares skid assembly, separate or part of Spares landing gear assembly

#### D. FAA Approval:

FAA APPROVED

#### E. Weight and Balance:

Weight and balance not affected

#### F. Reference Publications:

500D Basic HMI-Vol I, Issued 15 September 1976; Revision No. 1, 15 November 1977  
500D Optional Equipment Manual No. CSP-001, Extended Landing Gear Installation, PN 369D290007

MATERIAL	
Nomenclature	Source
Sealing Compound (MIL-S-7502)	Product Research (PR1221) Burbank, CA or Coast ProSeal (EP711 or ProSeal 247) Compton, CA
Primer, Zinc Chromate (MIL-P-8585)	Fuller and O'Brien Co. San Francisco, CA

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## 2. PROCEDURE

- (1). Locate the two open attachment holes between the forward foot assembly and abrasion strip on LH and RH skid assemblies. (See Figure 1. )
- (2). Clean open hole areas of dirt, debris, etc.; seal open attachment holes in each skid with sealing compound.
- (3). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

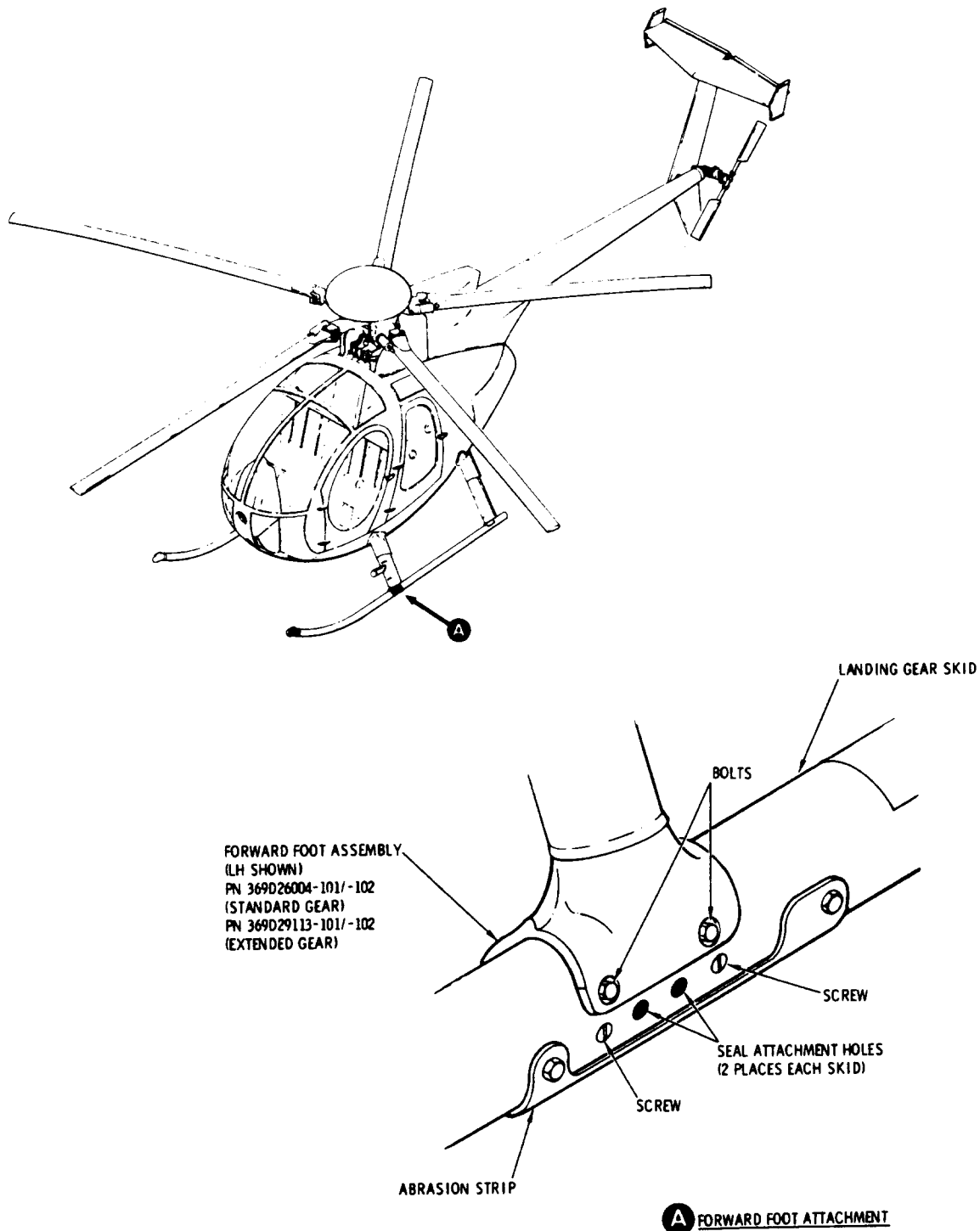
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**Figure 1. Rework of Landing Gear Skid Assemblies**

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## SEALING – VERTICAL STABILIZER ASSEMBLY, PN 369D23600 369D23600 – 501

### 1. PLANNING INFORMATION:

#### A. Models Affected:

500D Model 369D Helicopter Serial No. 0003D thru 0286D.

#### B. Preface:

The information given in this Service Information Notice lists a procedure for sealing the top rib assemblies of the vertical stabilizer, to prevent water from collecting internally and freezing during cold weather operation.

#### C. Time of Compliance:

Shall be accomplished at next 100-hour Inspection Interval, or at next removal of horizontal stabilizer, whichever is sooner.

#### D. FAA Approval:

FAA APPROVED

#### E. Weight and Balance:

Weight and balance not affected.

#### F. Reference Publications:

500D Basic HMI-Vol I, Issued 15 September 1976; Revision No. 1, 15 November 1977

MATERIAL	
Nomenclature	Source
Sealing Compound (MIL-S-7502)	Product Research (PR1221B2) Burbank, CA or Coast Pro Seal (EP711) Compton, CA

### 2. PROCEDURE

- (1). Remove horizontal stabilizer, per Basic HMI - Vol I; inspect top of vertical stabilizer for water accumulation.
- (2). Apply 0.030/0.040-inch bead of sealant around outer perimeter of top rib assemblies and at attach fitting, as shown in Figure 1. Also apply sealant around electrical conduit and seal over tooling holes. Do not seal drain holes.
- (3). Reinstall horizontal stabilizer, per Basic HMI - Vol I.

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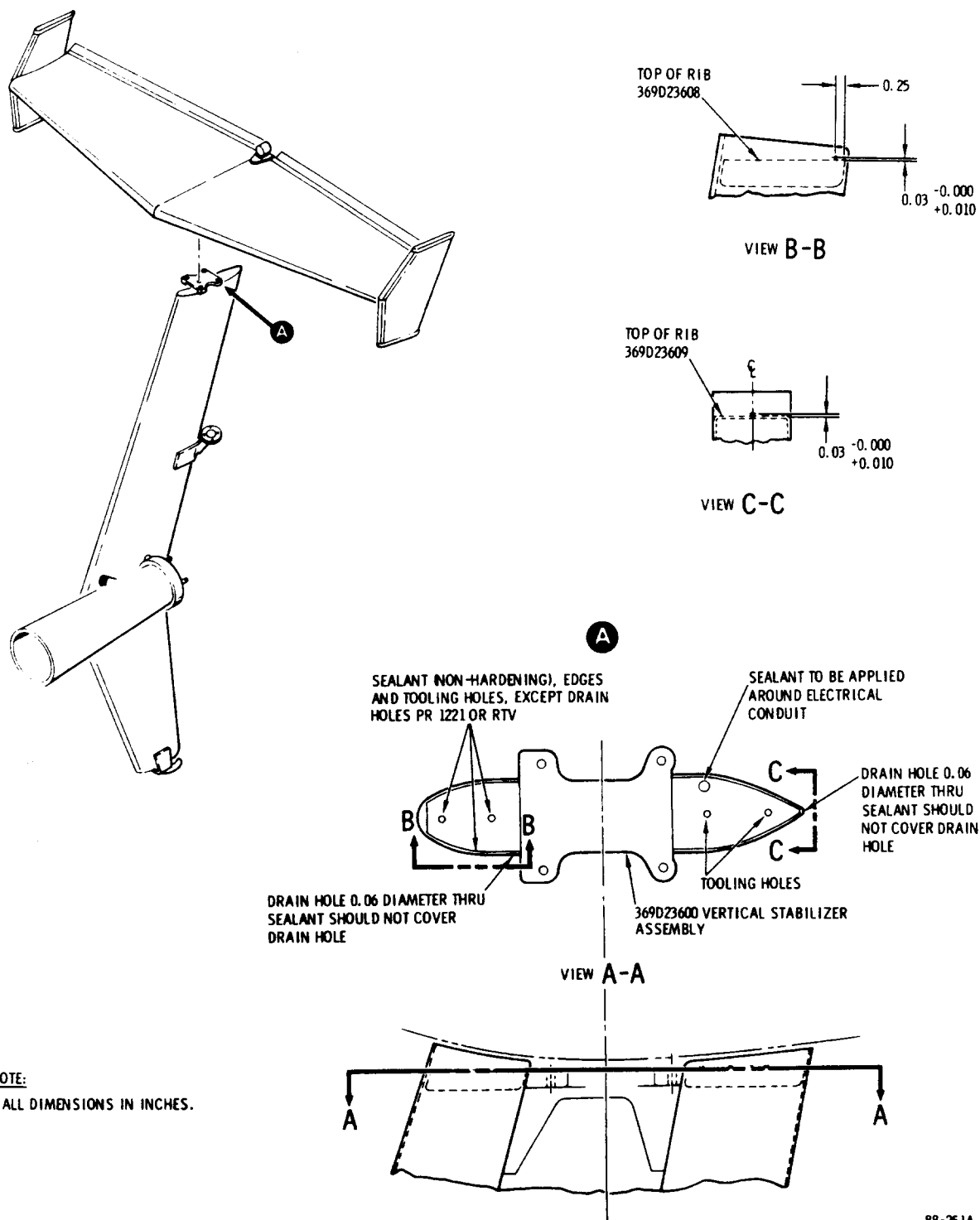
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**Figure 1. Sealing - Stabilizer Assembly**

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\* Supersedes Service Information Notice No. DN-25, Dated 15 July 1978

## REWORK OF FUSELAGE STRUCTURE; FORWARD SECTION

### 1. Models Affected:

500D Model 369D Helicopter Serial No. 0003D through 0339D; 0341D through 0385D; 0387D through 0401D; 0403D through 0406D; 0408D through 0417D; 0419D through 0429D; 0431D through 0434D; 0436D through 0442D; 0444D through 0491D; 0493D through 0503D; 0505D through 0507D; 0509D; 0510D; 0512D through 0519D; 0521D through 0552D; 0554D through 0568D; 0572D through 0590D; 0594D through 0596D; 0599D through 0620D; 0622D through 0625D; 0627D through 0633D; 0635D; 0636D; 0638D through 0645D; 0647D; 0649D

### A. Preface:

The information given in this Service Information Notice lists a procedure for installing support assemblies to the fuselage frame structure, to provide reinforcement at the forward attach points for the engine inlet fairing assemblies. Field reports indicate that cracking and/or damage has occurred in the area of the forwardmost attach nutplate assembly, for both left-hand and right-hand sides of the fairing assemblies. Instructions are also provided for field fabrication and installation of doublers and repair angles, if cracking or damage to the upper fuselage skin or frame structure is noted.

The fuselage support assemblies may be obtained without charge from your authorized HH Service Center or Distributor.

### B. Time of Compliance:

Shall be accomplished at next 100 hour periodic inspection after receipt of parts.

### C. FAA Approval:

FAA APPROVED

### D. Weight and Balance:

Weight and balance not affected

### E. Reference Publications:

500D Model 369D Basic HMI-Volume 1, Issued 15 September 1976; Revision No. 3, 15 March 1979

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REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Support	80-369D22400-3	1	HH
Support	80-369D22400-4	1	HH
Nutplate	NAS697A3	2	Commercial
Rivet	MS20470AD3	A/R	Commercial

MATERIAL	
Nomenclature	Source
Doubler – 0.030 in. (as required) 2024-T3 Al Aly Sh	Field Fabricate
Angle – 0.020 in. (as required) 2024-T3 Al Aly Sh	Field Fabricate
Primer, Zinc chromate	Commercial

TOOLS AND EQUIPMENT	
Nomenclature	Source
Gun, rivet	Commercial
Drill motor, portable	Commercial
Drill bit – 0.198/0.204 in. dia.	Commercial
Drill bit – 0.096 in. dia.	Commercial

## 2. REWORK PROCEDURE

- (1). Remove engine inlet forward fairing assemblies from helicopter. (Ref Basic HMI-Vol 1.)
- (2). Remove interior trim panels, and wire harnesses as applicable, to gain access to work area at forward attach nutplate assembly for LH and RH engine inlet forward fairings. (Refer to Basic HMI/-Vol 1. )
- (3). Remove existing forward nutplate (for both LH and RH fairing assemblies) from fuselage frame structure.
- (4). Inspect upper fuselage skin for cracks or damage at area of forward nutplate attachment holes. Also inspect repair doublets if previously installed on upper fuselage skin.

**NOTE:** If cracking or damage to fuselage skin or repair doublers is noted, perform the following:

1. Stop drill all cracks or remove damaged skin area or damaged repair doublets prior to rework. Perform all work in accordance with FAA AC 43.13-1A Aircraft Inspection and Repair.

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2. Field fabricate and install doublers on outer fuselage skin, as shown in Figure 1, View A. Drill 0.196/0.204 inch diameter hole in each doubler to match existing hole in fuselage skin for fairing attach screw. Use existing rivet pattern as shown; install rivets with zinc chromate primer.

3. Prime and paint doubler to match finish color of helicopter. Ref Basic HMI-Vol I.

- (5). Inspect fuselage frame structure (channel) for cracks or damage at forward nutplate attach areas.

**NOTE:** If no cracking or damage to fuselage frame is noted, install 80-369D22400-3 and -4 support assemblies at FORWARD side of frame structure, using rivets as shown in Figure 1, View C. Drill holes in support assemblies for nutplates and for conduit clearances as required. Install nutplate rivets through support, frame, upper skin and doubler, if installed.

If cracking or damage to fuselage frame is noted, perform the following:

1. Stop drill all cracks or remove damaged area prior to installation of repair angles and support assemblies. Perform all work in accordance with FAA AC 43.13-1A Aircraft Inspection and Repair,

2. Field fabricate and install repair angles at AFT side of fuselage frame structure (channel); and install 80-369D22400-3 and -4 support assemblies at FORWARD side of frame structure, using rivets as shown in Figure. 1, View B, Drill 0.096 inch diameter rivet holes in angles to match support assemblies.

3. Drill holes in support assemblies and repair angles for nut plates and for conduit clearances as required. Install nutplate rivets through support, frame, angle, upper skin and doubler if installed.

- (6). Reinstall removed components.
- (7). Check installation of 80-369D22400-3 and -4 assemblies, and repair angles and doublers if installed, for discrepancies.
- (8). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

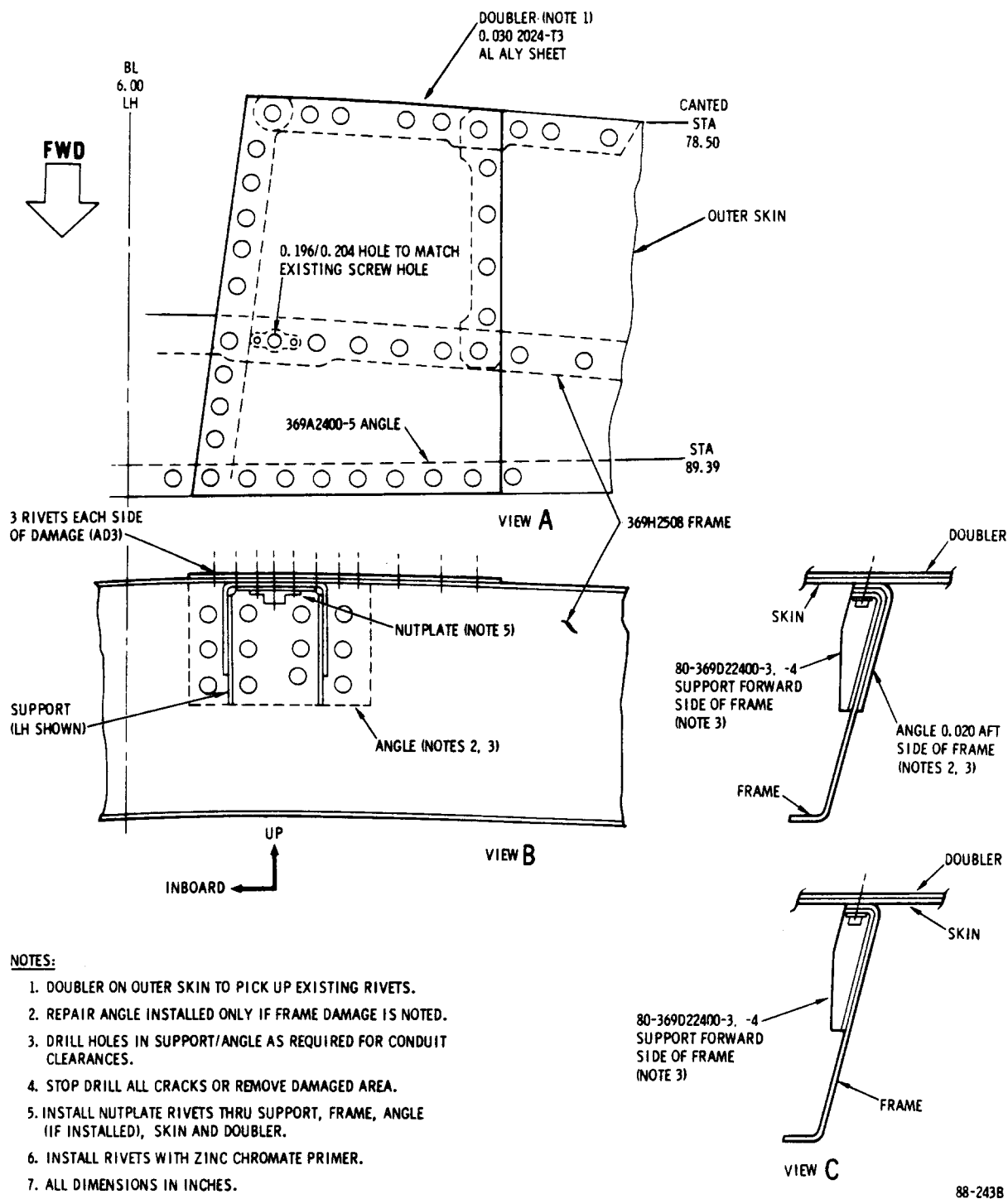
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**Figure 1. Rework of Fuselage Structure - Forward Section**

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## INSPECTION AND POSSIBLE REPLACEMENT -- SEAT BELT ASSEMBLIES PN 369H6541-5 AND 369H6541-21

### 1. PLANNING INFORMATION:

#### A. Models Affected:

All 500D Model 369D helicopters delivered prior to 1 June 1977.

All subject seat belt assemblies in Spares Inventory.

#### B. Preface:

American Safety Flight Systems, Inc., has modified the Sam Browne seat belt inertia reel retractor mechanism to improve its operation.

This Notice provides instructions for inspection of the seat belt assemblies on the above affected helicopters and in Spares Inventory to determine if ASFSI seat belt assemblies are installed; and for replacement of these assemblies with the improved seat belt assemblies to be provided without cost by ASFSI.

A return reply coupon is provided as part of this Notice to expedite replacement of seat belt assemblies where applicable.

#### C. Time of Compliance:

Part I -- INSPECTION OF SEAT BELT ASSEMBLIES shall be accomplished prior to next flight.

Part. II -- REPLACEMENT OF SEAT BELT ASSEMBLIES shall be accomplished within next 25 hours after receipt of replacement belts.

#### D. FAA Approval:

FAA APPROVED

#### E. Weight and Balance:

Weight and balance not affected.

#### F. Reference Publications:

500D Series -- 369D Basic HMI Volume 1, Issued 15 September 1976 Revision No. 1, 15 November 1977

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## 2. PART I -- INSPECTION OF SEAT BELT ASSEMBLIES

- (1). Visually inspect labels on PN 369H6541-5 (passenger compartment, 2 places) and 369H6541-21 (crew compartment, 2 or 3 places) seat belt assemblies to determine belt assembly manufacturer and date of manufacture.

**NOTE:** If label indicates that manufacturer is American Safety Flight Systems, Inc., and date of manufacture or rework is prior to May 1977, notify your authorized HH Service Center or Distributor immediately for replacement seat belt assembly. Also, fill out and return attached reply coupon to HH Service Center of Distributor.

- (2). Record compliance with Part I of this Notice in Compliance Record of helicopter Log Book.

## 3. PART II- REPLACEMENT OF SEAT BELT ASSEMBLIES

- (1). As applicable, remove PN 369H6541-5 and 369H6541-21 seat belt assemblies (American Safety Flight Systems, Inc. ). Refer to Basic HMI Volume 1.

**NOTE:** Return the seat belt assemblies to Hughes Helicopters. Charges will be applied by Hughes Helicopters for the replacement seat belt assemblies sent to customer. An offsetting credit will be applied to customer account when the original seat belt assemblies are received by Hughes

- (2). Install improved PN 369H6541-23 and 369H7541-25 seat belt assemblies provided by Hughes Helicopters (units manufactured May 1977 or later, or reworked and identified with "RW" May 1977 or later).
- (3). Record compliance with Part II of this Notice in Compliance Record of helicopter Log Book.

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In accordance with Hughes Service Information Notice No. DN-26, inspection of PN 369H6541-5 and 369H6541-21 seat belt assemblies has determined that American Safety Flight Systems, Inc., seat belt assemblies (PN 500878-403 and 500879-401) manufactured prior to May 1977 are presently installed on the following helicopter(s) or in Spares Inventory:

Number of Seat Belt

Assemblies Installed

Model 369D Helicopter Serial No. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Spares Inventory (indicate quantity) \_\_\_\_\_

Signature \_\_\_\_\_ TITLE \_\_\_\_\_

Company / Organization \_\_\_\_\_

Complete Address \_\_\_\_\_

Title \_\_\_\_\_

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\* Supersedes Service Information Notice No. DN-27, dated 1 September 1978

## INSPECTION AND REWORK OF TAIL ROTOR HUB, PN 369A1725-5 AND 369A1725-501; INSPECTION OF TAIL ROTOR BLADE ATTACHMENT BOLTS; PN MS21250-06040

### 1. PLANNING INFORMATION

#### A. Models Affected:

**Part I and Part II** 500D Model 369D Helicopter Serial No. 0003D through 0355D  
The following Tail Rotor Hub Assemblies (separate or installed as component of PN 369D21600 Serial Tail Rotor Assembly) in Spares Inventory at date of this Notice:

PN 369A1725-5 Tail Rotor Hub Assembly having Serial Numbers 001 through 862.

All PN 369A1725-501 Tail Rotor Hub Assemblies.

**Part III** All 500D Model 369D Series Helicopters

#### B. Time of Compliance

Shall be accomplished at next 100-Hour Periodic Inspection; or prior to installation of Spares assembly on helicopter; or within six months after date of this Notice, whichever is soonest.

#### C. Preface

Part I and Part II of this Service Information Notice provides instructions for inspection of the subject tail rotor hub assemblies, and application of a corrosion resistant coating at the radius area between the spindles and center portion of the hub.

Part III of this Notice provides instructions for inspection of the PN MS21250-06060 tail rotor blade attachment bolts to determine that the bolt heads are seated properly against the PN 369H5308 bushings.

#### D. Reference

500D Basic HMI-Vol I, Issued 15 September 1976; Revision No. 2, 27 November 1978

500D Component Overhaul Manual COM-369D, Issued 15 September 1976.

#### E. Weight and Balance

Weight and Balance not affected.

#### F. FAA Approved

(I) Denotes portion of text added or revised.

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TOOLS AND EQUIPMENT	
Nomenclature	Source
Magnetic Particle Inspection Kit, MIL-I-6868	
Magnifying Glass – 10X	
Oven, Baking or Heat Lamp	
Brush, Paint– 1/16"	
Torque Wrench – 0 to 1000 inch-pounds	

MATERIALS		
Nomenclature	Part Number/Specification	Source
Coating, Aluminum	Alumazite Z (4 oz. can)	HH
Methylethylketone (MEK)	TT-M261	Commercial
Emery Cloth, Medium		Commercial
Emery Cloth, Fine		Commercial
or		
Crocus Cloth, Fine	P-C-458	Commercial
Primer, Zinc Chromate		Commercial

**NOTE:** Authorized HH Service Centers may obtain one 4 oz. can of Alumazite Z without cost, if ordered prior to 30 November 1978. Owners/operators may purchase Alumazite Z through HH Service Centers.

## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Part I - Hub Identification

- (1). Identify tail rotor hub as follows:
  - (a). PN 369A1725-501 hub is identified by Part Number and Serial Number on one of two data plates on hub (see Figure 1) and is to be reworked per Part II of this Notice, unless identified with letter "Z" or letters "SP" following hub serial number.
  - (b). PN 369A1725-5 hub is identified by Part Number and Serial Number on one of two data plates on hub (see Figure 1) and is to be inspected and reworked per Part II of this Notice, except as noted below.

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## NOTE:

- PN 369A172S-5 Tail Rotor Hubs having Serial No. 001 through 862 and identified with either Letter “Z” or letters “SP” following hub serial number do NOT require rework per Part II of this Notice.
- PN 369A1725-5 Tail Rotor Hubs having Serial No. 863 and subsequent do NOT require rework per Part II of this Notice.
- (2). Record compliance with Part I of this Service Information Notice in Compliance Record of helicopter Log Book or tag Spares hub assembly and record compliance when assembly is installed on helicopter.

## **B. Part II - Hub Inspection and Rework**

- (1). As applicable, remove tail rotor assembly from helicopter and remove tail rotor blade assemblies, per Basic HMI-Vol I. Disassemble hub and drive fork assembly, per Component Overhaul Manual (COM-369D).
- (2). Clean hub with MEK.
- (3). Using 10X glass, inspect hub for cracks and corrosion or other damage. Pay particular attention to area of 0.13 radii between the spindles and center portion of the hub. (See Figure 1.)
  - (a). Indications of cracking are cause for hub rejection, except as noted below.
    - 1). Minor surface imperfections or discontinuities in the unmachined center of the hub may appear to indicate cracking. This area may be dressed with medium grade emery cloth for minimum material removal to remove the imperfections.
  - (b). If corrosion or pitting is noted, clean hub surface with fine emery cloth or crocus cloth.
  - (c). If surface repair was performed in a. or b. above, clean hub with MEK and reinspect hub with 10X glass. Pay particular attention to 0.13 radius areas on both sides of the hub.
  - (d). If hub is rejected, contact HH Customer Service Department for disposition.
- (4). Magnetic particle inspect hub for cracks, per MIL-I-6868. Pay particular attention to 0.13 radius areas on both sides of the hub. If hub is rejected, contact HH Customer Service Department for disposition.
- (5). Rework hub as follows using Alumazite Z:
  - (a). Shake contents of container thoroughly.
  - (b). Brush a thin (0.0002 to 0.0005 inch) even coat onto cleaned surface of 0.13 radius areas on both sides of the hub. (See Figure 1.) Limit width of aluminum coating to 0.25 inch, to prevent contact with feathering bearings.
  - (c). Allow a flash-off (drying) time of 8 to 10 minutes.
  - (d). Bake hub for 1 hour at 375° to 425° F in oven or use heat lamp.
  - (e). Air cool hub.
- (6). Add letter “Z” following serial number on hub data plate, to denote rework of 369A1725-5 or 369A1725-501 hub. (See Figure 1.)

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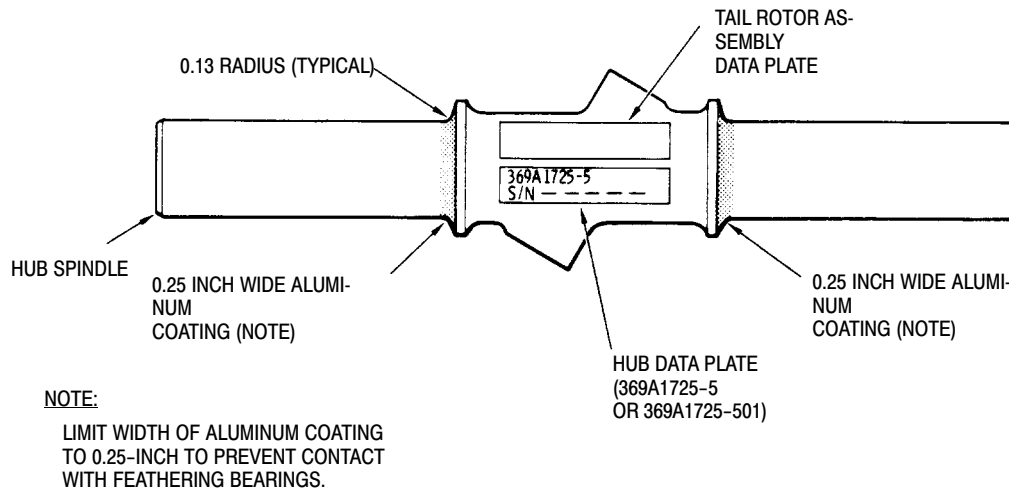
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- (7). Reassemble tail rotor hub and drive fork assembly, per Component Overhaul Manual (COM-369D). Reinstall tail rotor blade assemblies, per Basic HMI-Vol I.
- (8). Perform Part III of this Notice.
- (9). As applicable, reinstall tail rotor assembly on helicopter, per Basic HMI-Vol I.
- (10). Record compliance with Part II and Part III of this Service Information Notice in Compliance Record of helicopter Log Book; or tag Spares assembly and record compliance when assembly is installed on helicopter.



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**Figure 1. Rework of Tail Rotor Hub Assembly**

## C. Part III - Inspection of Tail Rotor Blade Attachment Bolt

- (1). Inspect the two PN MS21250-06040 tail rotor blade attachment bolts for gap between bolt head and bushing. No gap is permitted; bolt head must sit flush against PN 369H5308 bushing.

**NOTE:** If gap is noted between bolt head and bushing, replace with serviceable PN MS21250-06040 bolt and PN 369H5308 bushing, per Section 8 of basic HMI-Vol I. Coat bolt, bushing and washers with unthinned zinc chromate primer at installation. Install nut and torque to 600 to 650 inch-pounds while zinc chromate primer is wet.

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## REPLACEMENT – PN 369D28309 HOSE ASSEMBLY, ENGINE OIL COOLER TO ENGINE OIL TANK

### 1. PLANNING INFORMATION

#### A. Models Affected

500D Model 369D Helicopter Serial No. 0003D through 0374D

#### B. Time of Compliance

Shall be accomplished within next 100 hours of helicopter operation after receipt of parts.

#### C. Preface

The information given in this Service Information Notice lists a procedure for replacement of the subject oil tank return hose assembly with a longer hose assembly, to reduce possibility of vibration induced damage to the engine oil tank or oil cooler assemblies.

It is to be noted that installation of the new PN 369D28311-3 hose assembly requires no additional fittings at either the engine oil tank or engine oil cooler.

#### D. Reference

500D Basic HMI-Vol I, Issued 15 September 1976; Revision No.1, 15 November 1977

#### E. Weight and Balance

Weight and balance not affected

#### F. FAA Approval

The technical design aspects of this Bulletin are FAA Approved.

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## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Parts List

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
*Return Hose Assembly, Engine Oil Tank	369D28311-3	1	HH

\*Incorporates male hose fittings, both ends

### B. Procedure

- (1). Remove trim and aft RH bulkhead access panel.
- (2). Remove existing PN 369D28309 oil tank return hose from elbow at oil cooler assembly; use receptacle to drain oil from disconnected hose assembly. (Refer to Basic HMI-Vol I and Figure 13-1.)
- (3). Remove existing AN837-8D elbow from oil cooler assembly.
- (4). Remove oil tank return hose assembly from union on oil tank; remove AN832-8D union from oil tank.
- (5). Install straight male fitting of new PN 369D28311-3 hose assembly to oil tank; install 45° male fitting of new hose assembly to oil cooler.
- (6). Check installation of new PN 369D28311-3 oil tank return hose assembly for discrepancies.
- (7). Reinstall bulkhead access panel and trim.
- (8). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

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**SUBJECT:** PN 369D21800 TAIL ROTOR PITCH CONTROL ASSEMBLY -  
SEATING OF DUAL BEARING INNER RACES: TORQUE  
INCREASE FOR PN 369D21803-3 LOCKNUT

**MODELS AFFECTED:** 500D Model 369D Helicopter Serial No. 0003D through 0409D

All subject PN 369D21800 Basic and -501 Pitch Control Assemblies, separate or component of Tail Rotor Assembly, in Spares Inventory at date of this Notice

**TIME OF COMPLIANCE:** Shall be accomplished within next 100 hours helicopter operation

**PREFACE:** The information given in this Service Information Notice lists a procedure for seating the dual bearings of the tail rotor pitch control assembly, to ensure that the bearing inner races are firmly in contact with the shoulder of the swashplate. At reassembly of the pitch control assembly, the locknut is torqued to 550 to 600 inch-pounds. Reseating of the dual bearings and increasing the torque for the locknut is designed to prevent loosening of the locknut and premature wear of the bearings during tail rotor operations.

It is to be noted that PN 369D21800 Basic and -501 Pitch Control Assemblies identified with a white dot on the locknut (See Figure 1) are not affected by this Notice.

**REFERENCE PUBLICATIONS:** 500D Basic HMI - Vol I, Issued 15 September 1976;  
Revision No. 1, 15 November 1977 500D Component Overhaul Manual (369D - COM), Issued 15 September 1976

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## PARTS LIST

Nomenclature	Part No,	Qty	Mfr
Washer, tang	MS172209	1	Commercial
Washer, tang	HS1551S238	1	HH

## MATERIALS

Paint, white lacquer

Commercial

## TOOLS AND EQUIPMENT

Adapter, Wrench	369D29822-5	HH
Wrench, torque	369D29823	HH
Block, holding	369D29822-3	HH
Press, arbor		Commercial

## PROCEDURE

- a. As applicable, remove tai rotor assembly from helicopter. (Refer to Basic HMI - Vol I. )

### NOTE

Tail rotor pitch control assemblies identified with white dot on locknut are not affected by this Notice (see Figure 1). Perform steps j and k only.

- b. Remove and inspect tail rotor pitch control assembly, per Basic HMI - Vol I.

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- c. Remove locknut and tang washer from threaded end of swashplate. Use PN 369D29822-5 wrench adapter, PN 369D2982 torque wrench, and PN 369D29822-3 holding block to remove locknut. Discard tang washer. Do not remove swashplate from housing.
- d. Place housing and swashplate assembly on arbor press bed with swashplate end down. Apply 2000 pounds of pressure to press inner races of dual bearings firmly in contact with shoulder of swashplate. Use suitable tube or sleeve to press INNER races of bearings only. Remove assembly from arbor press.
- e. Install new MS172209 tang washer; reinstall locknut and torque locknut to 550 to 600 inch-pounds. Use wrench adapter and torque wrench, while assembly is held in holding block, to tighten locknut,
- f. Check for sufficient clearance (0.015 inch minimum) between swashplate and housing (see Figure 1).
- g. Check for smooth, easy and free rotation without binding.
- h. Bend a tang of the tang washer into bottom of any aligned slot on locknut.
- i. Paint a 0.12 to 0.18 inch white dot on locknut, as shown in Figure 1, to denote reseating of dual bearings and locknut torqued to 550 to 600 inch-pounds.
- j. As applicable, reinstall pitch control and tail rotor assembly, per Basic HMI - Vol I. Use new HS1551S238 tang washer; or tag spares assembly to denote compliance with this notice.
- k. Following installation of pitch control/tail rotor assembly, record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

**WEIGHT AND BALANCE:** Weight and balance not affected.

FAA APPROVED

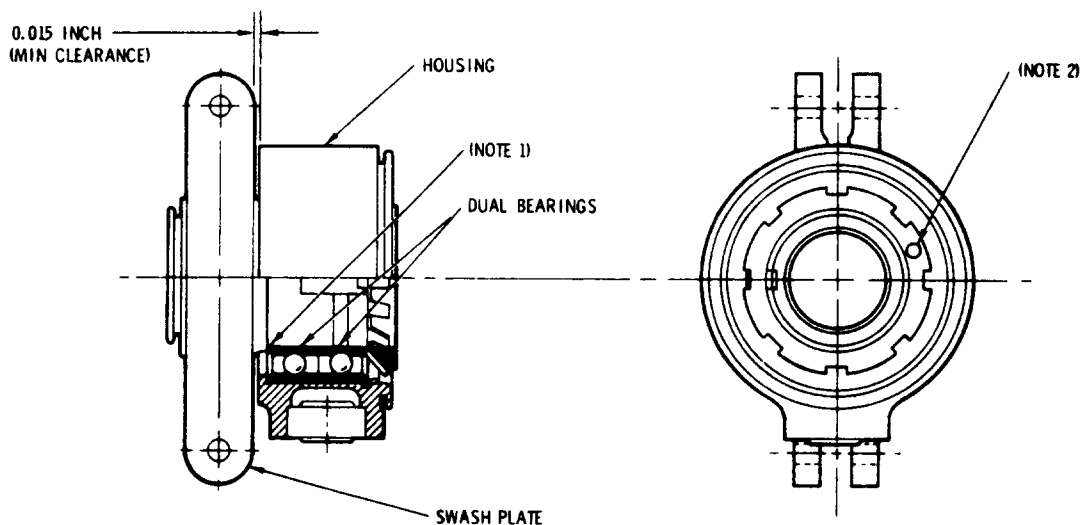
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## NOTES:

1. INNER RACE FIRMLY SEATED AGAINST SHOULDER OF SWASH PLATE
2. AFTER TORQUE, COLOR CODE WITH WHITE DOT (0.12 - 0.18 IN. DIA)

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Figure 1. Tail Rotor Pitch Control Assembly – Seating of Dual Bearings and Increased Torque for Locknut

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**SUBJECT:** PN 369H7825 DROOP CONTROL BELLCRANK ASSEMBLY (STATION 68.0) - RELOCATION OF LOCKNUT AND INSTALLATION OF SPACER\*

**MODELS AFFECTED:** 500D Model 369D Helicopter Serial No. 0003D thru 0529D

**TIME OF COMPLIANCE:** Shall be accomplished within next 300 hours of helicopter operation or at next Annual Inspection, whichever is sooner.

**PREFACE:** The information given in this Service Information Notice lists instructions for installing the existing droop compensation adjustment locknut on the PN 369A7717-3 extension at a new location above the PN 369A7716 (magnesium) or PN 369N2606 (aluminum) arm assembly. Relocation of the locknut precludes loosening and/or loss of the locknut during helicopter operation.

Instructions are also provided for rework of the arm assembly to provide a fiat interface with a new spacer installed between the locknut and arm assembly.

\*It is to be noted that PN 369H7825-11 droop control bellcrank assemblies are NOT affected by this Notice.

**REFERENCE PUBLICATIONS:**

500D Basic HMI – Volume I, Issued 15 September 1976; Revision No. 2, 27 November 1978

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PARTS LIST			
Nomenclature	Part No.	Qty.	Source
Spacer	NAS42DD10-10	1	Commercial

## TOOLS & EQUIPMENT

Spotface tool - 0.687 in. dia with 0.030 corner radius and threaded (5/16-24 UNF-3A)  
stud and female pilot

## MATERIALS

Surface treatment	MIL-M-3171, Type III	Dow 7 (anodize)	Dow Corning
	or		
	MIL-M-45202, Type III	Dow 17 (dichromate treat)	
Primer, zinc chromate	MIL-P8585		Commercial

## PROCEDURE

- Remove pilots floor access panels (Section 2, Basic HMI - Vol I) and control covers (Section 4, Basic HMI - Vol I) to gain access to underseat linkage for power turbine governor controls.
- Remove PN 369A7717-3 extension from droop control override link and Station 68.0 bellcrank. (Section 11, Basic HMI - Vol I).

## NOTE

Spotface thru radius of arm only. DO NOT spotface below flat surface of arm around circumference of insert in arm.

- Spotface PN 369A7716 or 369N2606 arm assembly, as shown in figure 1.

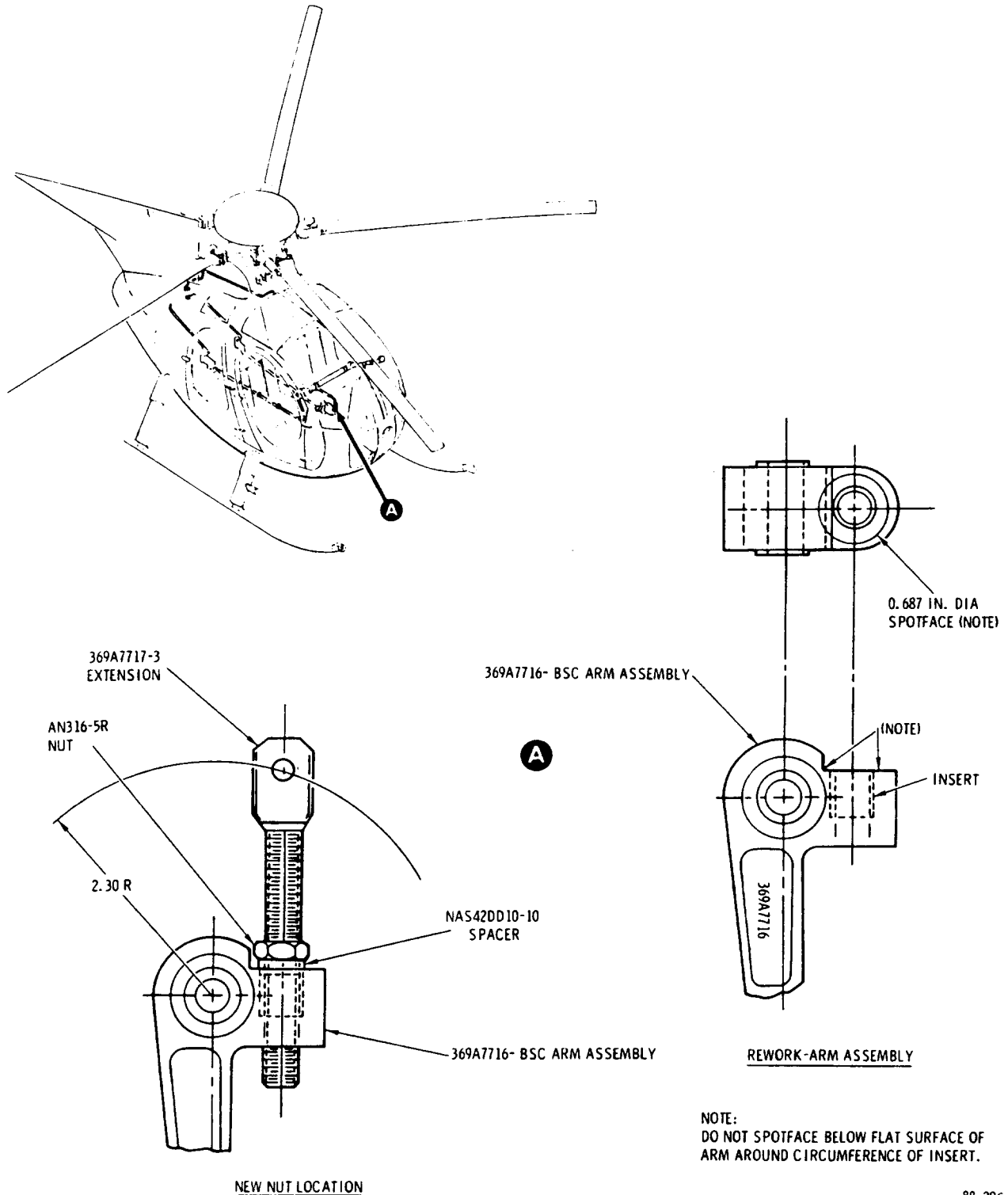
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Figure 1. Relocation of Locknut - Station 68.0 Bellcrank Assembly

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- d. Touch up reworked surface of arm with Dow 7 or Dow 17 chemical treatment. Apply zinc chromate primer to reworked area.
- e. Install existing locknut and new NAS42DD10-10 spacer on -3 extension; reinstall extension. (See Figure 1. )
- f. Perform rigging of power turbine governor controls, per Basic HMI - Vol I.
- g. Reinstall control covers and floor access panels.
- h. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

**WEIGHT AND BALANCE:** Weight and balance not affected.

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## REFERENCE SHEET

### SERVICE INFORMATION NOTICES AND LETTERS

#### Action Reference:

When performing maintenance or replacement of power turbine governor controls, refer to Service Information Notice No. DN-42.

#### HMI Reference:

Insert this sheet in 369D Series, Basic HMI -Volume I, Section 11, Page 11 - 11.

This reference sheet shall be kept as a part of the manual until data is incorporated at the next revision of the HMI - Volume I. (See Service Information Summary, HMI - Volume I, Page i.)



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\* Supersedes Service Information Notice No. DN-44 Dated 18 May 1979

**SUBJECT:** PN 369D23601 HORIZONTAL STABILIZER ASSEMBLY - ADJUSTMENT OR REPLACEMENT OF PN 369D23678-3 TRAILING EDGE TABS; RELOCATION OF PN 369H6610-5 STATIC PRESSURE TUBE

**MODELS AFFECTED:** 500D Model 369D Helicopter Serial No. 0001D thru 0534D\*

\*Not applicable if helicopter equipped with PN 429-4537 External (Military) Stores

\*May not be accomplished on helicopters equipped with PN 369D290086 Utility Floats, PN 369D290121-501 (or subsequent dash No. ) Emergency Floats, PN 369D290170. Litter Kit, or PN 369H90085 Litter Kit unless PN M50452 main rotor dampers have been installed per Hughes Notice No. DN-45.

All PN 369D23601 Horizontal Stabilizer Assemblies in Spares Inventory\*\*

\* \*\*Horizontal Stabilizer s identified by PN 369D23601-503 and/or letter "M" following Serial Number are NOT affected by this Notice.

**TIME OF COMPLIANCE:** Shall be accomplished within 100 hours of helicopter operation following receipt of required parts.

Shall be accomplished prior to installation of PN 369D23601 Horizontal Stabilizer Assembly in Spares Inventory.

**PREFACE:** Part I of this Service Information Notice lists instructions for revising the angle of the horizontal stabilizer trailing edge tabs by installing new 369D23678-5 tabs or reworking existing 369D23678-3 tabs to the new -5 tab configuration. The new tab angle provides a reduction in forward stick travel at high speed flight in order to reduce main rotor hub strap feathering loads. Instructions for installing a reinforcement doubler the upper trailing edge surface of stabilizer are also included.

It is to be noted that the service life of the PN 369D23601 Horizontal Stabilizer modified to the 369D23601-503 configuration per this Notice is not to exceed 3800 hours total time in service, which is the current life of the stabilizer.

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## PREFACE: (CONT)

Modification of the horizontal stabilizer per this Notice upgrades the PN 369D23601 Stabilizer Assembly to the -503 configuration. The -503 configuration is to be added to the stabilizer Part Number recorded in the Component Record of the helicopter Log Book. Also, the letter "M" is to be added to the stabilizer Serial Number recorded in the Log Book. In addition, phasing of the main rotor blades is to be accomplished as specified in the below referenced HMI—Volume I, Revision No. 2, dated 27 November 1978, if not already accomplished. Unusable fuel is increased to 12.5 pounds when the -503 stabilizer is installed. This data is reflected in the below referenced Rotorcraft Flight Manual, revised 6 July 1979, which must be incorporated in RFM when operating helicopter equipped with 369D23601-503 Stabilizer Assembly.

Part II of this Notice provides instructions for relocating the static pressure tube port in the aft engine air inlet fairing; the static port relocation is to be accomplished in conjunction with Part I of this Notice.

## REFERENCE PUBLICATIONS:

500D Basic HMI—Volume I, Issued 15 September 1976; Revision No. 2, 27 November 1978.

500D Basic HMI—Volume II, Issued 15 September 1976; Revision No. 2, 1 November 1978.

Hughes Service Information Notice No. DN-22, dated 26 June 1978.

Hughes Service Information Notice No. DN-45, dated 22 June 1979.

FAA Approved Rotorcraft Flight Manual for Model 369D Helicopter, Revised 6 July 1979.

## PART I - ADJUSTMENT/INSTALLATION OF HORIZONTAL STABILIZER TRAILING EDGE TABS

### PARTS LIST

Nomenclature	Part No.	Qty	Mfg
* ♣ Tab, Trailing edge - horizontal stabilizer	369D23678-5	2	HH
* Doubler	369D23688- 3	1	HH
Screw	NAS601 - 7	1	Commercial
Rivet	MS20470AD2	A/R	Commercial
	or		
Rivet	MS20470AD3	A/R	Commercial

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- ♣ Existing 369D23678-3 tabs may be reworked in field to new 369D23678-5 tab configuration.

\*Provided without cost; contact Hughes Service Center or Distributor. Service Centers and Distributors process order through HH Warranty and Repair Department.

Nomenclature	Part No.	Qty	Mfg
Rivet, blind	NAS1919B04-01	A/R	Commercial
Rivet, blind	NAS1738B4-1	A/R	Commercial
Rivet, blind	NAS1919B04-02	A/R	Commercial
Rivet, blind	NAS1738B4-2	A/R	Commercial
Rivet, blind	NAS1919B04-03	A/R	Commercial
Rivet, blind	NAS1738B4-3	A/R	Commercial

## TOOLS AND EQUIPMENT

Drill motor, portable

Drill bit - 0.176/0.182 inch diameter

Drill bit - No. 41

Drill bit - No. 52

Drill bit - No. 54

Protractor

Fasteners, Cleco or equivalent

C - clamps

Brake, sheet metal (or use wooden blocks)

## MATERIALS

Wood blocks (3) - 2.0 x 4.0 x 31.0 inches (or use sheet metal brake) Wood block - 1.75 x 0.75 x 18.0 inches

Wood block - 1.0 x 2.0 x 18.0 inches

Wood rod - 1.0 inch diameter x 18.0 inches length

Sealant MIL-S-8802 Coast ProSeal 890

Naphtha, aliphatic TT-N-95 Commercial

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****PROCEDURE**

- a. Remove horizontal stabilizer and tip plates. (Refer to HMI-Vol I. )

**NOTE**

If existing 369D23678-3 tabs are to be reworked to the -5 configuration, be sure to identify each tab upon removal from stabilizer to denote top surface of LH tab and top surface of RH tab. Reworked tabs are to be adjusted (bent) downward 15° and reinstalled at original LH or RH position on stabilizer.

- b. Remove all rivets along trailing edge of stabilizer; remove tabs, (See Figure 1. )
- c. Remove screw, washer and nut (fastener/ground lug) for position light bracket; retain nut and washer for reuse.
- d. Remove six blind center rivets securing existing 369D23637 upper skin splice doubler and 369D23662 position light bracket to upper surface of stabilizer; remove light bracket. (See Figure 1. )
- e. Wipe upper surface of stabilizer clean, using aliphatic naphtha.
- f. Position 369D23688-3 doubler on stabilizer and drill rivet holes 8 places (for field rivet locations) through doubler and stabilizer skin, using rivet locating dimensions shown in Figure 1. Also, mark and drill rivet holes (and 0.176/0.182 inch diameter hole for light bracket ground lug) in new doubler to match existing holes in stabilizer.

**NOTE**

Existing 369D23678-3 tabs removed from stabilizer stabilizer may be reworked to -5 configuration, using sheet metal brake to bend tabs downward 15 degrees as shown in Figure 2, Detail C. Do NOT bend tabs installed on stabilizer.

- g. Position 369D23678-5 trailing edge tabs on stabilizer; for new -5 tabs, mark and drill rivet holes in tabs to match existing rivet pattern along trailing edge of stabilizer.

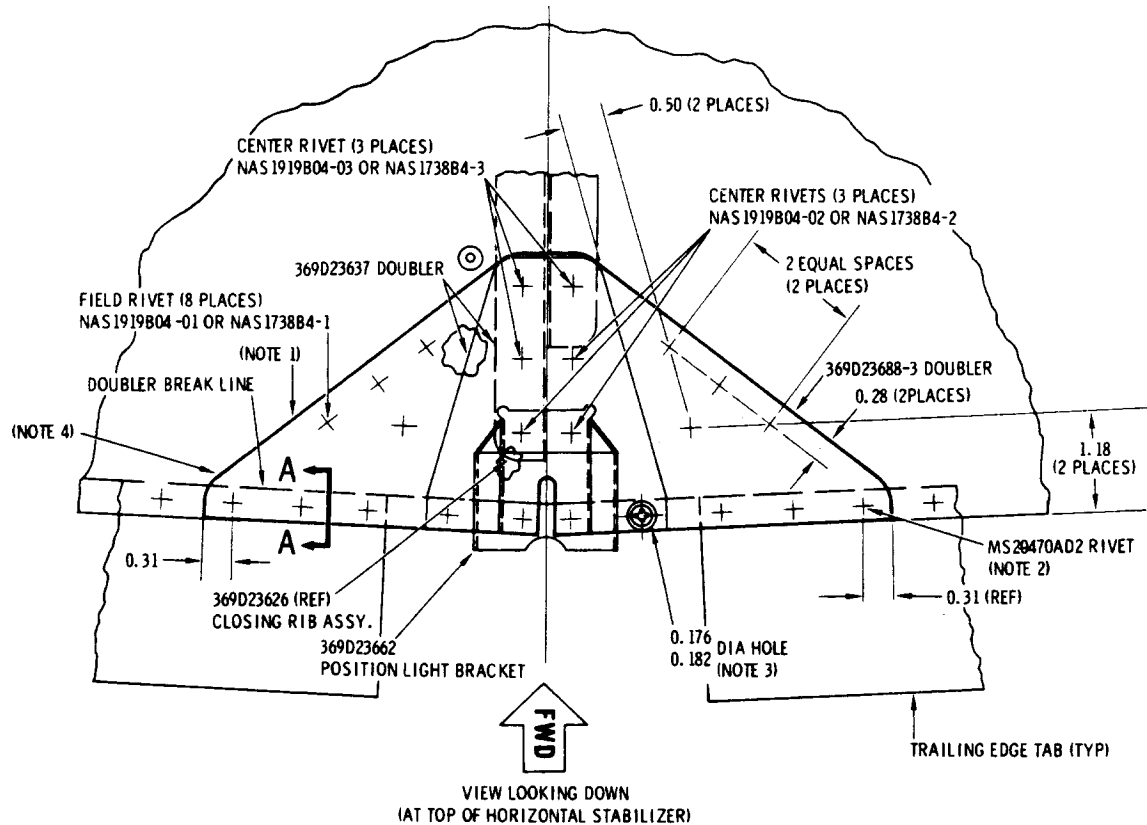
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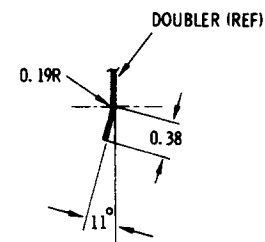
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**NOTES:**

1. SEAL EDGE AROUND PERIMETER OF NEW DOUBLER.
2. MS20470AD3 RIVET MAY BE USED IF HOLES ALONG TRAILING EDGE ARE ENLARGED.
3. REPLACE ORIGINAL SCREW WITH NAS601-7 SCREW AFTER DOUBLER INSTALLATION IS COMPLETE. (ORIGINAL WASHERS AND NUT MAY BE RE-USED)
4. ADDED DOUBLER IS LOCATED ON TOP OF 369D23637 UPPER SPLICE DOUBLER AND BENEATH 369D23662 POSITION LIGHT BRACKET.



**A-A**  
(TYPICAL ALONG BACK EDGE OF DOUBLER)

88-312

Figure 1. Horizontal Stabilizer - Installation of Doubler and Trailing Edge Tabs

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h. Temporarily install doubler and stabilizer tabs and secure with Cleco fasteners. Using straight edge or beam, check for tab deflection as shown in Figure 2. Upper surface of tabs shall be coincident (+0.12 inch upward/-0.03 inch downward) with straight edge or beam. As required, remove and deflect tabs as noted below, to maintain this angle.

**NOTE**

Perform the following if deflection of tab(s) is required. Apply uniform pressure across entire length of tab when deflecting tab.

1. Use sheet metal brake to deflect tabs as required; or modify trailing edge tabs as follows:

a. Secure forward end of stabilizer tab between two wood blocks and clamp blocks securely with C-clamps or vise.

To fabricate bending tool, sawcut 0.05/0.06-inch slot, 2.0 inches deep and 31.0 inches long, in center of 2.0-inch thickness of wood block.

b. Slide bending tool onto one tab and apply uniform pressure across entire length of tab to deflect tab as required.

2. Repeat step h above to check for proper tab deflection. Upper surface of tabs coincident (+0.12 inch upward/ 0.03 inch downward) with straight edge or beam.

i. Install doubler, existing position light bracket, and stabilizer tabs on horizontal stabilizer as follows: (See Figure 1. )

**NOTE**

When in correct position on stabilizer, new doubler lies on top of existing 369D23637 splice doubler, and the 369D23662 position light bracket lies on top of new 369D23688-3 doubler. All parts are installed simultaneously.

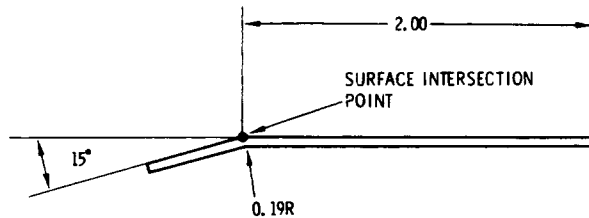
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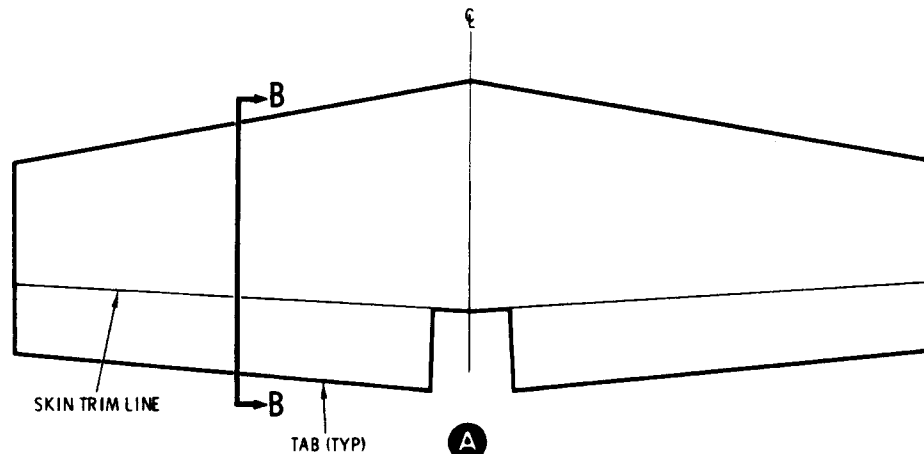
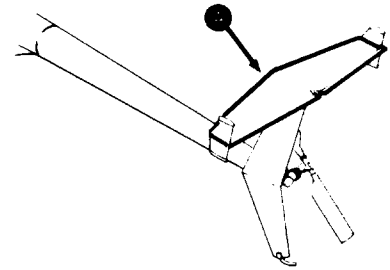
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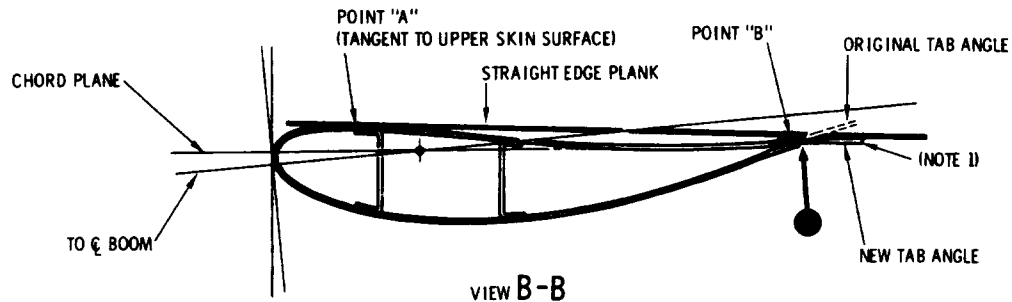


TAB ADJUSTMENT - 369D23678-5 TAB CONFIGURATION

**C**



**A**



VIEW B-B

TAB DEFLECTION CHECK

**NOTES:**

1. TAB UPPER SURFACE COINCIDENT 0.12 (UP)/0.03 (DOWN) WITH STRAIGHT EDGE OR BEAM.
2. ALL DIMENSIONS IN INCHES.

88-299-1A

Figure 2. Horizontal Stabilizer - Adjustment of Trailing Edge Tabs (Sheet 1 of 2)

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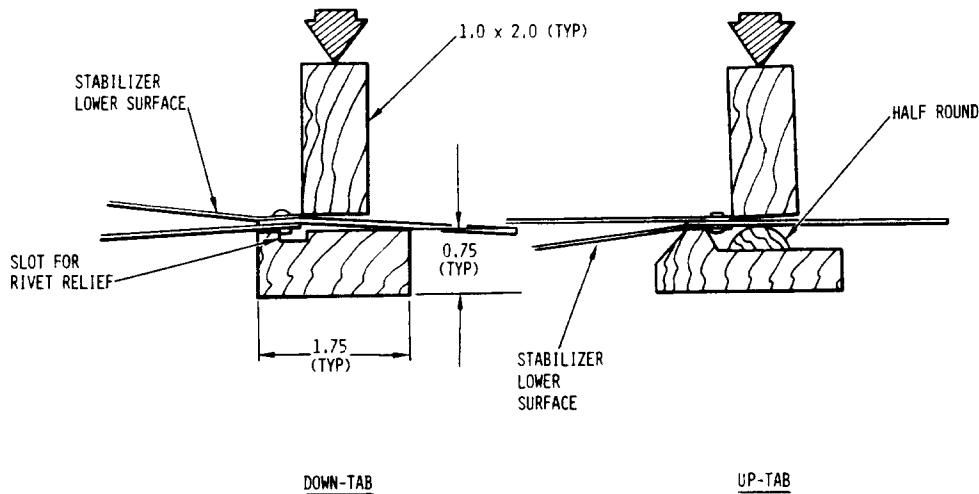
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FINAL TRIM TAB ADJUSTMENT-TAB RIVETED TO STABILIZER

88-299-2

Figure 2. Horizontal Stabilizer - Adjustment of Trailing Edge Tabs (Sheet 2 of 2)

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## NOTE

1. Use NAS1919B04-03 (or NAS1738B4-3) blind rivets, 3 places, to attach light bracket, new doubler, splice doubler and stabilizer skin together.
2. Use NAS1919B04-03 (or NAS1738B4-2) blind rivets, 1 places, to attach light bracket (only one of the three rivets go through light bracket), new doubler splice doubler and stabilizer skin together.
3. Use NAS1919B04-01 (or NAS1738B4-1) blind rivets, 8 places (field rivets), to attach new doubler to stabilizer skin.

## NOTE

Solid or pull rivets may be used to attach trailing edge tabs. If solid rivets are used, use hand bucking tool only, to prevent damage or deformation of stabilizer skin. If pull rivets are used, maintain edge distance per AC 32-13.

4. Use MS20470AD2 solid rivets, or NAS1738134-2 or NAS1919804-02 pull rivets, to attach both trailing edge tabs, aft edge of new doubler, and aft edge of position light bracket (1 place only) to stabilizer. Use MS20470AD3 rivets if holes are enlarged and require next size diameter solid rivet.
5. Check installed tabs with straight edge or beam for proper deflection as shown in Figure 2. As required, deflect tab(s) as follows to obtain proper tab angle. (See Figure 2. )
  - a. To deflect tab downward, position wood block (slotted for rivet relief) on upper surface of tab and stabilizer skin; press down with second block on lower tab surface at location shown.
  - b. To deflect tab upward, position wood block (with half of round wood tube) on lower surface of tab and stabilizer skin; press down with second block on upper tab surface at location shown.

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- j. Apply bead of ProSeal 890 sealant around perimeter edge of new doublet to seal laying surfaces.
- k. Add "-503" configuration to Part Number on stabilizer ID plate; also add suffix letter "M" to Serial Number on ID plate to denote modification per this Notice.
- l. Reinstall fastener/ground lug for position light bracket; use NAS601-7 screw and existing nut and washer.
- m. Apply primer and surface coat to doubler and reworked area of stabilizer to match helicopter exterior finish.

**NOTE**

Prior to installation of horizontal stabilizer, check that compliance with Hughes Notice No. DN-22 has been accomplished. As applicable, seal top rib assembly of vertical stabilizer as specified in Notice, to prevent water accumulation.

- n. Reinstall horizontal stabilizer and tip plates, per HMI-Vol I.
- o. Record stabilizer Part Number 369D23601-503 and stabilizer Serial Number with suffix letter "M" in Components Record of helicopter Log Book.

**NOTE**

Note current time in service for PN 369D23601. Horizontal Stabilizer installation. The service life for stabilizer modified to new 369D23601-503 configuration per this notice is not to exceed 3800 hours total time in service.

- p. Perform Part II of this Notice.
- q. Phase main rotor blades per instructions given in HMI-Vol I, Revision No. 2, dated 27 November 1978, if not already accomplished.
- r. Record compliance with this Part I and Part II of this Service Information Notice in Compliance Record of helicopter Log Book.

**WEIGHT AND BALANCE:** Weight and balance not affected.

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## PART II - RELOCATION OF STATIC PRESSURE PORT

Nomenclature	Part No.	Qty	Mfg
*Screen, protective	D3738	1	HH
*Decal, static port	369H6615-27	1	HH

\*Provided without cost; contact Hughes Service Center or Distributor. Service Centers and Distributors process orders through HH warranty and repair department.

### TOOLS AND EQUIPMENT

Drill motor, portable

Drill bit - 0.270 inch diameter

### MATERIALS

Adhesive, silicone MIL-S-8660B RTV732 Dow Corning  
or Silastic 140

Adhesive, epoxy MIL-A-52194 ScotchWeld 3M Company  
EC1838  
(Parts A and B)

Emery cloth or paper 180 Grit

Solvent M114

Cup, unwaxed

Spatula, wood

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****PROCEDURE**

- a. Remove plenum access door and cover to gain access to static pressure port location inside aft engine air inlet fairing. (HMI-Vol 1, Section 2. )
- b. Cut static pressure tube as close as possible to static pressure port inside aft fairing.

**NOTE**

Remove bug screen, if installed, from end of static tube left in fairing.

- c. Drill 0.270 inch diameter hole [n fairing 3.19 inches above existing port at centerline of fairing as shown in Figure 3. New port location is at WL 70.0; existing port is located at WL 66.81.
- d. Using 180 grit emery, lightly abrade faying surface of static pressure tube and fairing; clean with solvent.
- e. Insert static pressure tube in new port; outer end of tube must be flush with outer skin of fairing.
- f. Mix EC1838 epoxy adhesive per manufacturer's instructions; apply adhesive around tube and against fairing as shown.
- g. Plug former static port in fairing (at WL 66.81) with EC1838 adhesive.
- h. Check new static tube aft port for foreign matter; clear and clean port as necessary.
- i. Clean laying surface of bug screen and coat with silicone adhesive; insert and seat bug screen [n aft end of static pressure tube.
- j. Install new 369H6615-27 decal on aft fairing at new static port location.
- k. Reinstall plenum access door and cover.

**NOTE**

Relocation of static port converts 369H6610-501 static pressure tube installation to new 369H6610-503 configuration. Record update to new -503 configuration per this Notice in Components Record of helicopter Log Book.

**WEIGHT AND BALANCE:** Weight and balance not affected.

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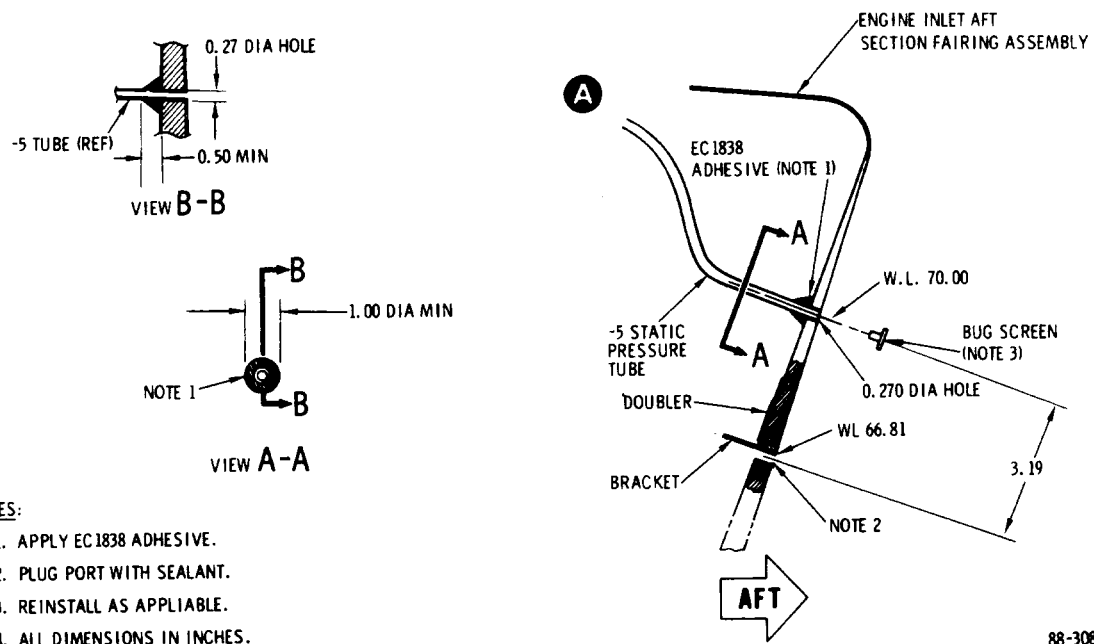
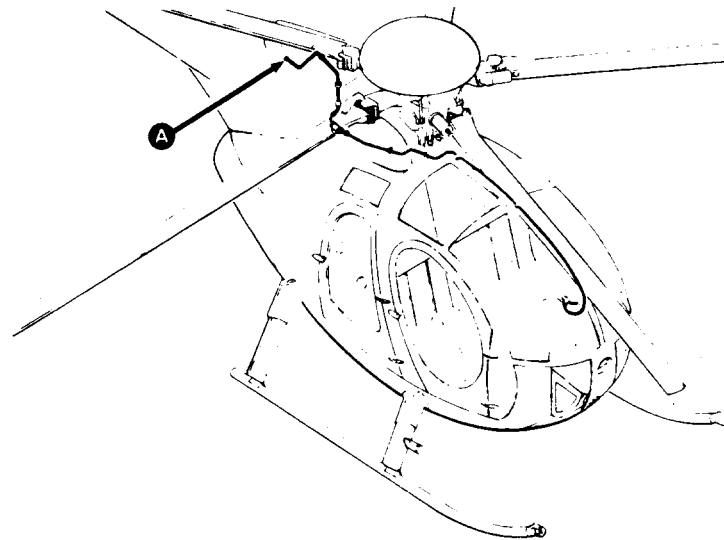
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Figure 3. Relocation of Static Pressure Port

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\* Supersedes Service Information Notice No. DN-45.1 Dated 20 July 1979

**SUBJECT:** PN 369D21400-501 MAIN ROTOR LEAD-LAG ELASTOMERIC DAMPER ASSEMBLY- INTERNAL MODIFICATION AND REIDENTIFICATION

**MODELS AFFECTED:** 500 D Model 369D Series Helicopter Serial No. 0003D thru 0555D equipped with PN 369D21400-501 Elastomeric Dampers

\*All PN 369D21400-501 Elastomeric Dampers in Spares Inventory

\*PN 369D21400-501 Dampers installed on helicopters equipped with PN 429-4537 external (military) stores kit are not affected by this Notice.

Dampers identified with PN M50452 and/or With suffix letter "M" following vendor Part Number are not affected by this Notice.

**TIME OF COMPLIANCE:** Shall be accomplished within next 100 hours of helicopter operation after receipt of required parts.

Shall be accomplished in conjunction with installation of PN 369D23601-503 Horizontal Stabilizer Assembly, per Hughes Service Notice No. DN-44 or DN-44.1.

Shall be accomplished prior to installation of subject damper assemblies in Spares Inventory.

**PREFACE:** The information given in this Service Information Notice provides instructions for reworking the PN 369D21400-501 Elastomeric Main Rotor Damper Assemblies in order to reduce operating stresses in the main rotor blade retention straps. The damper stiffness is reduced by removing one of the elastomeric components inside the damper and replacing it with an aluminum spacer.

Modification of the damper assemblies is to be accomplished in ship sets of five (5). Intermixing of M50452 (modified) and 369D21400-501 (standard) dampers is not permissible.

The life of the M50452 Damper is the same as the 369D21400-501 Damper which is 6060 hours. The time in service prior to modification of the damper per this Notice must be included as part of the total life on the M50452 Damper.

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****REFERENCE PUBLICATIONS:**

500D Basic HMI – Vol I, Issued 15 September 1976; Revision No. 3,  
15 March 1979

500D Basic HMI – Vol II, Issued 15 September 1976; Revision No. 2,  
1 November 1978

Hughes Service Information Notice No. DN-44.1, dated 22 June 1979

**PARTS LIST**

When ordering, specify one Damper Modification Kit PN M50452 for each of the five main rotor dampers in ship set.

\*\*HH will provide M50452-3 spacer without cost. Contact Hughes Service Center or Distributor. Service Centers and Distributors process order through HH Warranty and Repair Department.

Nomenclature	Part No.	Qty	Mfr
**Spacer	M50452-3	1	HH
Washer	AN960PD616L	1	Commercial
Lockwire	MS20995C32	AR	Commercial

**MATERIALS**

Primer, zinc chromate      Commercial

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## TOOLS AND EQUIPMENT

Torque wrench - 0 to 2000 inch-pounds      Commercial

Ink stamp      Commercial

Hot Air Blower or Heat Gun      Commercial

Adapter, torque wrench      Field Fabricate

Tool, holding      Field Fabricate

## PROCEDURE



Support main rotor blade parallel to ground when removing damper assembly from helicopter.

a. Remove, as applicable, and inspect main rotor damper attachments, per Basic HMI-Vol. I.

### NOTE

1. Field fabricate special holding tool (see Figure 2); use holding tool when securing damper in vise, to preclude damage to damper housing.
  2. Field fabricate torque wrench adapter (see Figure 2); use adapter when removing and torquing damper cap, to preclude damage to damper cap ears. Insert bolt to secure tool between damper ears; secure bolt with nut.
- b. Secure damper in vise with special holding tool and remove damper -clevis. Use close-fitting open-end wrench to avoid rounding hex nut corners. Use special torque wrench adapter to remove damper cap.

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1. If damper cap does not break loose in torque range of 840 to 1700 inch-pounds, use hot air blower or heat gun with hot air directed against periphery of damper case, to provide differential expansion between case and cap. Do not exceed case temperature of 165° F.
2. If force is required to remove damper buns. do not exceed axial deflection of 0.20 inch on the elastomer. If buns do not slip out within this limit, direct hot air against periphery of case concurrent with application of axial force. Do not exceed case temperature of 165° F.

c. Remove two damper buns from case.

d. Reinstall threaded damper bun, then install new M50452-3 spacer as shown in Figure 1. Install damper bun, -3 spacer and damper end cap with wet zinc chromate primer.

e. Using special torque wrench adapter, install and torque damper cap to 800 to 840 inch-pounds and safetywire as shown. Safetywire to clear slot in cap.

**NOTE**

Add a white paint slip-mark. Upon accumulation of 25 hours flight time, inspect for movement of cap.

f. Ink stamp Part No. M50452 on damper as shown, and add suffix letter "M" to vendor part number on name plate. Also paint damper housing with 0.75-inch band of white paint to identify modified damper assembly.

g. Install AN960PD616L washer and damper clevis as shown. Preset main rotor damper length (center-to-center dimension between mounting holes in damper ears and clevis) to 8.25 ±0.03 inches and locate turnbuckle approximately half-way between the washer and clevis. Leave jam nuts fingertight.

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h. With damper ear containing bushing up, attach damper ears to pitch bearing lug with bolt (head up), washer and nut. · Torque nut to 30 to 60 inch-pounds, and install cotter pin.

i. Adjust main rotor blade for blade phasing, per referenced HMI-Vol I, Revision No. 3, dated 15 March 1979. Remaining installation and turnbuckle adjustment steps are provided in blade phasing procedure.

j. Remove main rotor blade support.

k. Record new PN M50452 with respective Serial Number in Components Record of helicopter Log Book. Total time in service for installed PN369D21400-501 Damper applies when damper is modified to M50452 configuration and re-installed on helicopter. The total life of the M50452 Damper is the same as the 369D21400-501 Damper, which is 6060 hours.

l. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

## WEIGHT AND BALANCE:

	Weight	Longitudinal Arm (Inches)	Longitudinal Moment (Inch-Pounds)
Added:	+2.1	100.0	+210
Removed:	-2.6	100.0	-260
Changed:	-0.5	100.0	-50

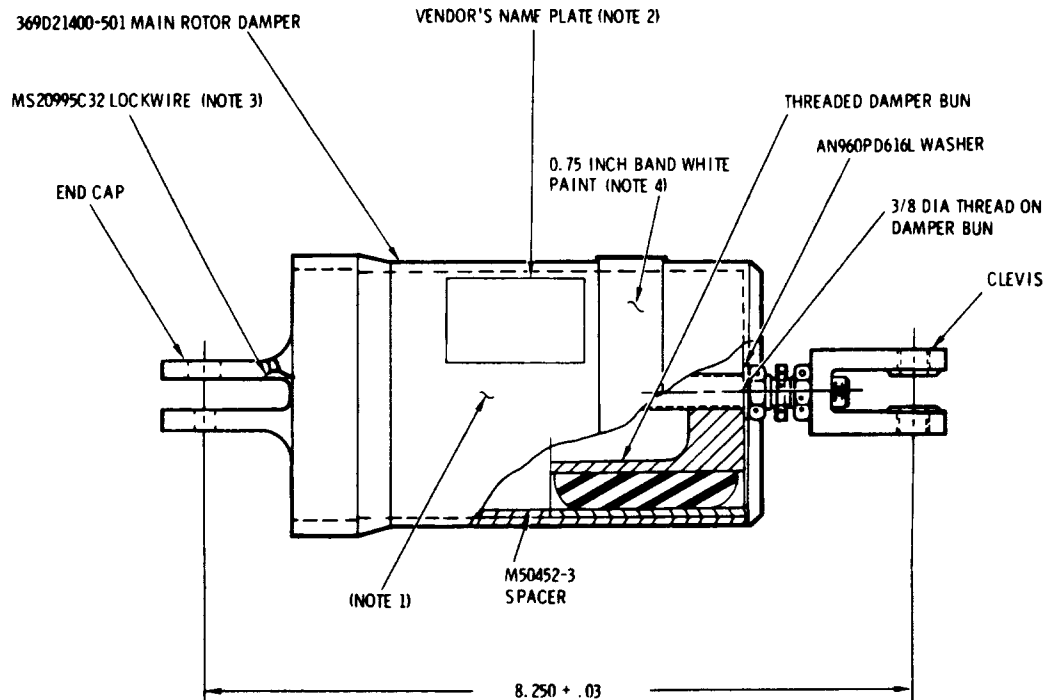
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## NOTES:

1. INK STAMP PART NO. M50452 ON DAMPER HOUSING.
2. ADD LETTER "M" TO VENDOR NUMBER ON NAME PLATE.
3. SAFETY WIRE TO CLEAR SLOT IN CAP.
4. PAINT 0.75 INCH DIAMETER WHITE BAND AROUND CIRCUMFERENCE OF DAMPER HOUSING.
5. ALL DIMENSIONS IN INCHES.

88-303

Figure 1. Main Rotor Damper - Internal Modification and Reidentification, M50452

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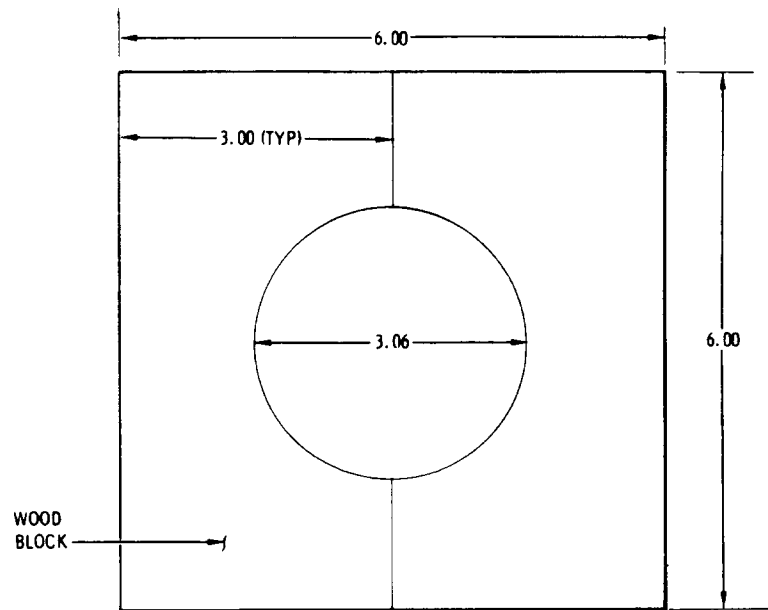
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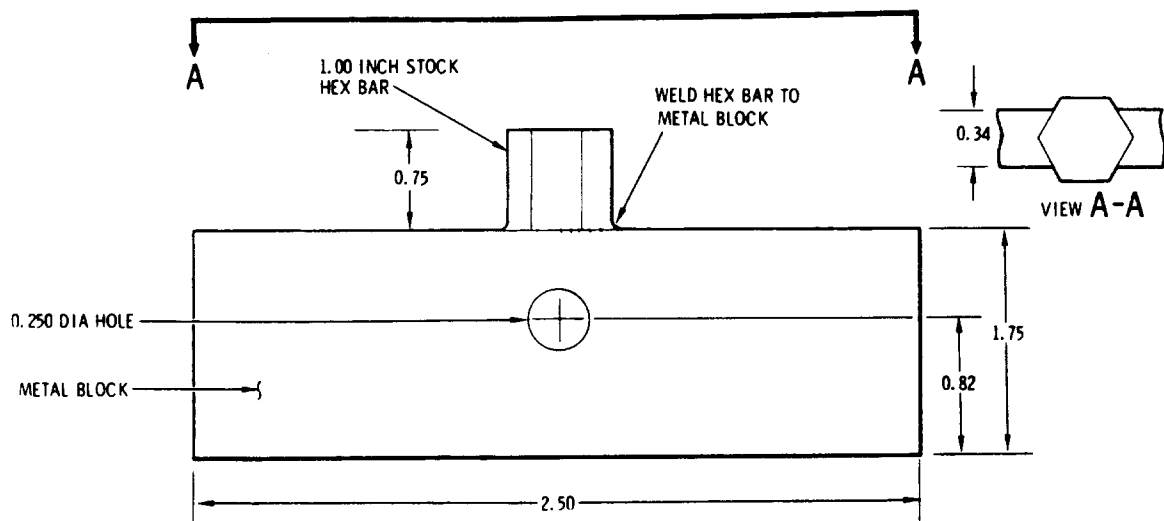
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FIELD FABRICATION-DAMPER HOLDING TOOL



NOTE:

ALL DIMENSIONS IN INCHES

FIELD FABRICATION - TORQUE WRENCH ADAPTER

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Figure 2. Field Fabrication - Torque Wrench Adapter and Damper Holding Tool

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## INSPECTION AND REPAIR – STATION 142 TAIL ROTOR CONTROL BELLCRANK SUPPORTS, PN 369A3035–11 AND 369A3035–15

### 1. PLANNING INFORMATION

#### A. Models Affected:

500D Model 369D Helicopter Serial Nos. 0003D through 0531D; 0533D, 0535D and 0537D

#### B. Time of Compliance

Part I Inspection--Shall be accomplished within next 25 hours of helicopter operation; and at each 100-Hour Inspection Interval until compliance with Part II of this Notice is accomplished.

Part II Repair --Shall be accomplished prior to next flight if cracking of support is noted.

#### C. Preface:

Part I of this Notice lists a procedure for a periodic inspection of the subject Station 142 tail rotor control bellcrank supports for evidence of cracking at the bellcrank attach area.

Part II of this Notice provides instructions for field repair of the supports if cracking is noted, by installing larger doublers on the supports to provide additional reinforcement at the bellcrank attach area. Rework per Part II of this Notice lifts the requirement for periodic inspection of the bellcrank supports.

It is to be noted that, if no damage to bellcrank supports is noted, rework of the supports per Part II of this Notice may be performed at owner or operator discretion to lift the periodic inspection requirement.

#### D. Reference Publications:

500D Basic HMI-Volume I, Issued 15 September 1976; Revision No. 2, 27 November 1978

500D Basic HMI - Volume II, Issued 15 September 1976; Revision No.2, 1 November 1978

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## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. PART I - 100-HOUR PERIODIC INSPECTION

**NOTE:** Periodic inspection not required if bellcrank supports have been reworked per Part II of this Notice.

- (1). Remove Station 142- tail rotor control bellcrank assembly, per Section 8 of HMI-Vol-ume I.
- (2). Using bright light and mirror, visually inspect PN 369A3035-9 doublers on bellcrank supports for cracking or damage. (See Figure 1. ) Pay particular attention to the four spot weld spots attaching doublers to supports.

**NOTE:** Perform Part II of this Notice prior to next flight, if cracking or damage to doublets at ellcrank attach area is noted.

- (3). Reinstall Station 142 bellcrank per Basic HMI-Volume I.
- (4). Record compliance with Part I of this Notice in Compliance Record of helicopter Log Book.

### B. PART II - REPAIR OF STATION 142 BELLCRANK SUPPORTS

#### PARTS LIST

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Doubler*	M50455-7	1	MDHS
Doubler*	M50455- 5	1	MDHS
Spacer*	M50455-3	2	MDHS

\* May be field fabricated per Figure 2.

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**MANDATORY**

TOOLS AND EQUIPMENT	
Nomenclature	Source
Drill motor, portable	
Drill bit- No. 30 through No. E as required	
Pin, alignment- NAS1304 bolt or equivalent, 0.25-inch diameter pin	

MATERIAL	
Nomenclature	Source
Adhesive – EA9314 or EC9309	Hysol Div of Dexter Corp
Primer, adhesive – EA9210	Hysol Div
Solvent – M-114M or Trichloroethane O-T-620	Commercial
Paper, abrasive – 180 grit	Commercial
Paper, waxed	Commercial
Bond releasing agent	Commercial
Wood block – 0.83 x 4.50 x 2.00 inches	Commercial

## C. REPAIR PROCEDURE

- (1). As required, remove Station 142 Station tail rotor control bellcrank assembly, per Section 8 of HMI-Volume I.
- (2). Remove existing 369A3035-9 doubler from outboard 369A3035-11 bellcrank support, by drilling out doublet spotwelds, 4 places, as shown in Figure 1.

### NOTE:

- Removal of 369A3035-9 doubler from inboard side of 369A3035-15 bellcrank support is not required.
  - Stop drill any crack or cracks found in 369A3035-11 and -15 bellcrank supports.
- (3). Lightly abrade laying surfaces of 369A3035-11 and -15 bellcrank supports; it is not necessary to abrade through paint to secure good bonding. If abrading removes paint and primer from supports, doublers and spacers must be bonded immediately after abrading.

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- (4). Wipe laying surfaces of M50455-3 spacers, and M50455-5 and M-50455-7 doublers, with solvent; apply adhesive to laying surfaces.

**NOTE:** M50455-3 spacers and M50455-7 doubler may be bonded on bench beforehand to facilitate handling.

- (5). Install spacers and doublers as shown in Figure 1. Use NAS1304 bolt or equivalent as alignment pin to align holes while bonding. Coat bolt or pin with bond releasing agent to prevent possible adhesion to structure.
- (6). Insert wood block, and metal shims as required, between bellcrank supports to press doublers against structure and prevent excessive adhesive build up. Slot wood block to provide relief for alignment pin. Wrap wood block and shims in waxed paper to prevent possible adhesion to structure.
- (7). Cure adhesive for 24 hours; remove wood block and shims from supports.
- (8). Reinstall Station 142 bellcrank per HMI-Volume I.
- (9). Record compliance with Part II of this Notice in Compliance Record of helicopter Log Book.

**NOTE:** Compliance with Part II of this Notice lifts periodic inspection requirements per Part I of this Notice.**D. Weight and balance;**

N/A

FAA APPROVED

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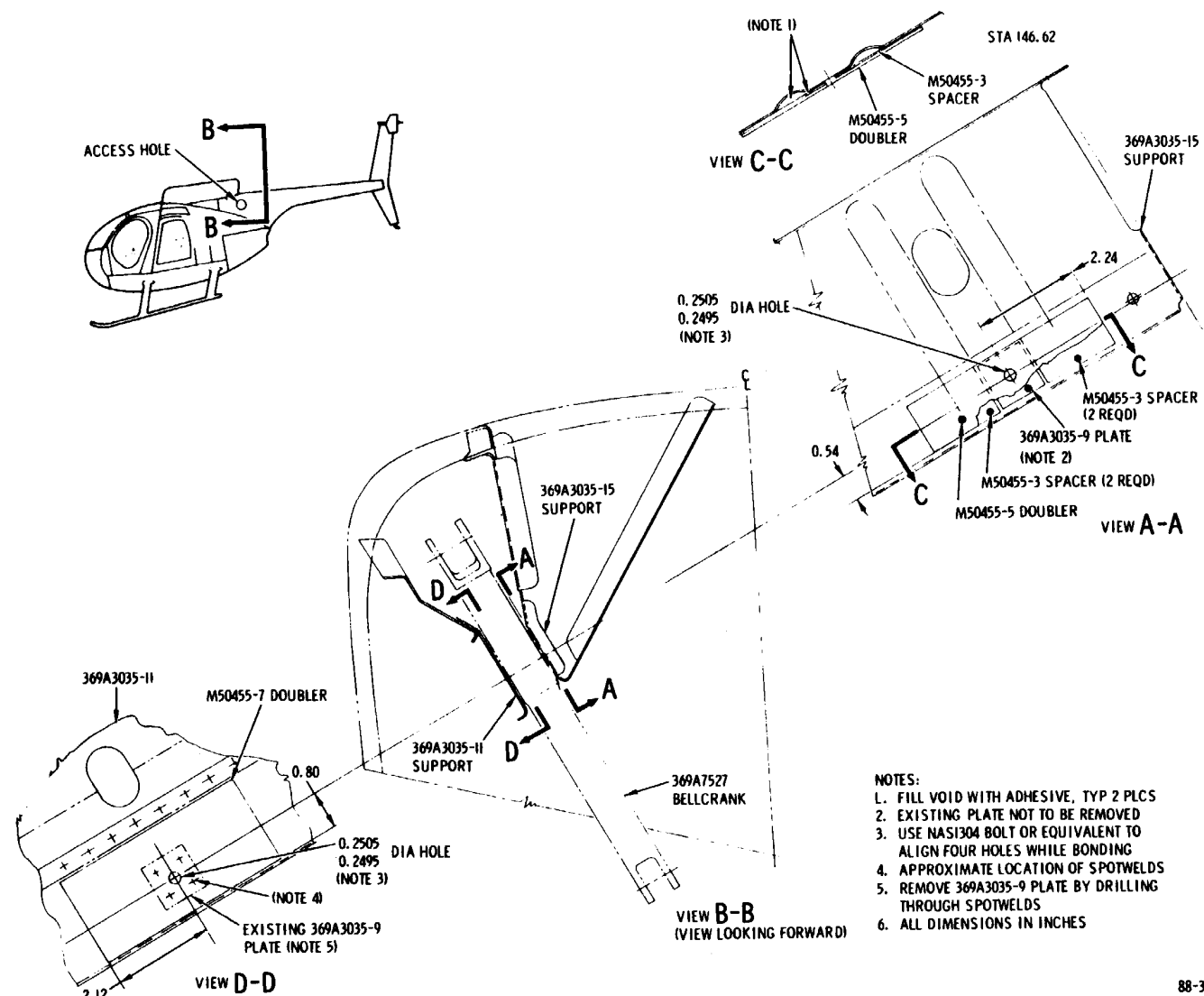


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**Figure 1. Installation of Doublers - Tail Rotor Control Bellcrank Supports**

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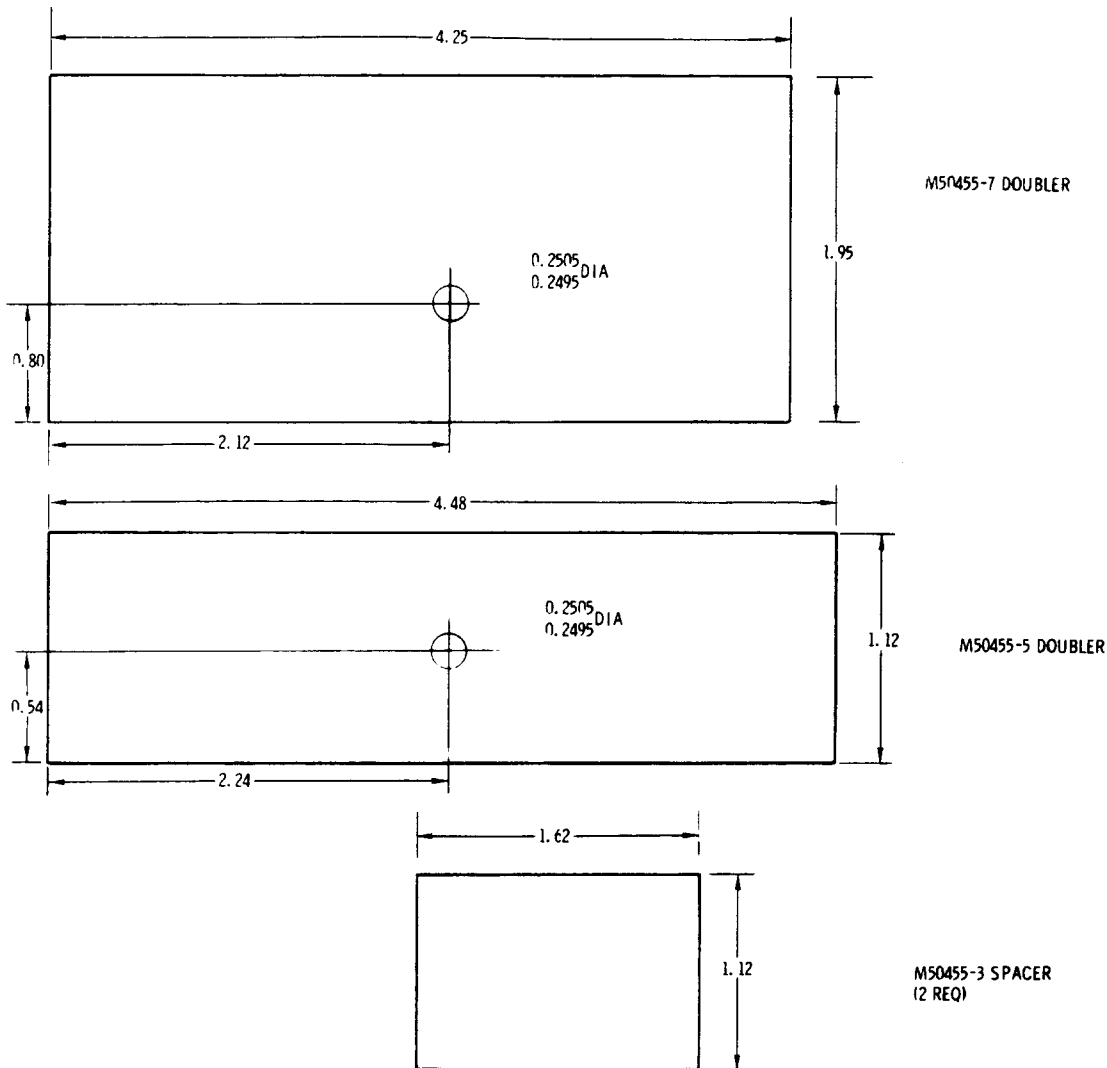
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## NOTES:

1. FABRICATE FROM ALALY SH 2024-T3. QQ-A-250/5 TEMP T3.
2. ALL DIMENSIONS IN INCHES.
3. COAT AND PRIME FAYING SURFACES AS FOLLOWS:  
 LIGHTLY ABRASE FAYING SURFACES WITH 180 GRIT PAPER  
 AND WIPE CLEAN WITH M-114M SOLVENT. IMMEDIATELY APPLY  
 CHEMICAL CONVERSION COATING (CHROMICAT L-25 OR MIL-C-5541,  
 CLASS 2) TO PRECLUDE OXIDE BUILD UP ON ABRASED SURFACES.  
 BRUSH COAT LIQUID PRIMER (HYSOL EA9210) ON FAYING  
 SURFACES ONE OR TWO HOURS AFTER CONVERSION COATING;  
 AIR DRY FOR 30 MINUTES AT ROOM TEMPERATURE; OVEN CURE  
 PRIMER FOR 60-65 MINUTES AT 250°F to 260°F.

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**Figure 2. Field Fabrication of Bellcrank Support Doublers and Spacers**

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## INSPECTION OF MAIN ROTOR BLADE ROOT FITTING ASSEMBLIES; INSPECTION OF MAIN ROTOR HUB LEAD-LAG LINK ASSEMBLIES.

\* Supercedes Service Information Notices HN-211.5, DN-51.7, EN-42.5 and FN-31.5, dated 8 September 1999 and the mandatory blade removal and inspection requirements of PART I of DN-183.1, EN-75.1 and FN-62.1, dated 26 August 1992. This Notice also cancels Service Information Letters HL-114.1, DL-89.1, EL-40.1 and FL-33.1, dated 01 March 1991.

Compliance with the requirements of this Notice allows cancelling the requirements of PART I DN-183.1, EN-75.1 and FN-62.1 (removal of 369D21100-515 and 369D21102-501 main rotor blades every 25 hour to perform a visual inspection of those blades). Operators are still required to rework their 369D21100-515 and 369D21102-501 blades per the requirements of PART II of DN-183.1, EN-75.1 and FN-62.1.

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 369 Series helicopters, including the 369A (OH-6A) Series helicopter, equipped with any of the following:

#### B. Assembly/Components Affected By This Bulletin:

All 369A1100-BSC thru -505, -601 and -603, 369D21100-BSC thru -515 and 369D21102-BSC and -501 main rotor blades.

All 369A1234, 369A1203-BSC, -3, -11, and 369H1203-BSC, -21 and -31 lead-lag link assemblies.

**NOTE:** All 369D21100 main rotor blades, including those blades with an "M" after the serial number, and lead-lag link assemblies listed above must be inspected.

#### C. Reason:

Operators of 369 Series helicopters have experienced cracks in the lug area of the main rotor blade root fittings and lead-lag links.

Failure to follow this Service Bulletin could result in loss of main rotor blade. Movement of the bushings within the lug could lead to cracking of the root fitting. Therefore, all of the above listed main rotor blades shall be inspected for cracks in the area of the root fittings and lead-lag links and for movement of the bushings in the root fittings.



Cracked main rotor blade root fittings or lead-lag links may produce a sudden change or increase in helicopter vibration. If operators experience a sudden onset of unusual or excessive vibration, a precautionary landing must be made. No further flights shall be attempted until the cause of the vibration has been identified and corrected.

#### D. Description:

This revision reduces the time of compliance for PART II from 25 hours to 15 hours for the 369A1234, 369A1203-BSC, -3 and -7, and 369H1203-BSC and -21 lead-lag links with greater than 500 hours. The previous revision added procedures to apply a slippage mark to root fitting bushings and lug surfaces and to periodically inspect those slippage marks to aid operators in accurately detecting bushing movement. Movement of the bushings may cause or be caused by root fitting cracking.

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PART I of this notice lists a procedure for the removal of the main rotor blades to inspect for cracks in the root fitting attach lugs or the main rotor hub lead-lag link attach lugs, and/or bushing movement. In addition, a procedure is also provided to apply a protective coating to seal the junctions between the stainless steel bushings and attach lugs. Finally, if a slippage mark has not already been applied, this notice provides a procedure for applying a slippage mark across all four bushings and root fitting lugs. DO NOT remove bushings.

PART II of this Notice provides instructions for periodic visual inspections of the root fitting attach lugs and lead-lag link attach lugs to check for cracked or broken lugs and for movement of the bushings. It also emphasizes the importance of corrosion prevention in the area of the main rotor hub.

## **E. FAA Approval:**

The design engineering aspects of this notice have been shown to comply with the applicable Federal Aviation Regulations, and are FAA approved.

## **F. Manpower:**

N/A

## **G. Time of Compliance:**

PART I - Shall be accomplished within the next 25 hours of helicopter operation and/or prior to installation of main rotor blades and main rotor hub assemblies in spares inventories and every 100 hours thereafter.

PART II - Shall be accomplished at each 25 hour interval of operation for aircraft equipped with 369A1100-BSC thru -505, -601 and -603, 369D21100-BSC thru -515 and 369D21102-BSC and -501 main rotor blades and/or 369H1203-31 lead-lag link assemblies.

For aircraft equipped with 369A1234, 369A1203-BSC, -3 and -7, and 369H1203-BSC and -21 lead-lag links, accomplished at each 25 hour interval of operation up to 500 hours and every 15 hours thereafter until retirement of lead-lag links.

**(I)** Denotes portion of text added or revised.

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## **H. Material/Part Availability:**

Contact MDHI Warranty and Repair Dept.

PARTS			
Nomenclature	Part No.	Qty.	Source
Link, lead-lag	369H1203-51	A/R	MDHI
Main Rotor Blade	369A1100-511	A/R	MDHI
Main Rotor Blade	369D21100-523	A/R	MDHI
Main Rotor Blade	369D21102-523	A/R	MDHI

MATERIAL	
Nomenclature	Source
Epoxy paint (white, florescent yellow or orange) DO NOT use torque seal.	Commercial
Sealer, corrosion inhibiting (MIL-S-81733, Type II-2) (RM007361) P/N PR1436-G	Product Research 2919 Empire Avenue Burbank, CA 91504 or Coast ProSeal 19451 Susan Rd. Compton, CA 90221
Primer (MIL-P-8585) (RM009222) or	Commercial
(Alternate) Sealer, (MIL-P-23377, Type 2, Class 2)	Commercial

## **I. Tools and Equipment:**

TOOLS AND EQUIPMENT	
Nomenclature	Source
Magnifying glass - 5X	Commercial
Kit, dye penetrant (MIL-I-25135)	Commercial

## **J. Weight and Balance Data:**

Weight and balance not affected.

## **K. Reference:**

369H Basic HMI (CSP-H-2) Revised 23 August 1996, or latest revision

369D/E/FF - 500/600N HMI (CSP-HMI-2) Revised 1 June 1999, or latest revision

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## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. PART I - 100-HOUR BLADE REMOVAL/INSPECTION

- (1). Remove affected main rotor blades per applicable HMI.
- (2). Using a bright light and 5X magnifying glass, visually inspect the attach lugs of all affected main rotor blade upper and lower root fittings and main rotor lead-lag links for broken or cracked lugs, corrosion or other damage to the lug areas (Ref. Figure 1). Pay particular attention to area around attach pin hole bushings in the lugs. Pay particular attention to the cross-hatch areas shown in Figure 2. If slippage marks have already been applied, inspect the root fitting for any indication of movement of the bushings. No movement is allowed. Return main rotor blades that have root fitting bushing movement to MDHI for possible rework. If slippage mark is degraded, reapply per steps (5). and (6). (Ref. Figure 2).

**NOTE:** Do not remove bushings or corrosion inhibiting sealer.

#### **CAUTION**

- If a cracked or broken lug is noted in main rotor blade upper or lower root fittings, replace main rotor blade **before further flight**.
  - If a cracked or broken lug is noted in main rotor lead-lag links, replace or repair main rotor hub per the applicable HMI **before further flight** (see note below).
  - If a crack is suspected in either the main rotor blade or lead-lag link attach lug, perform dye penetrant inspection per MIL-I-25135 of the lug. If a crack is noted, replace main rotor blade or replace or repair main rotor hub per applicable HMI **before further flight** (see note below).
- (3). Inspect lead-lag link blade attach pin hole bushings for any indications of movement of the bushings in the links. If any of the bushings have movement, replace the link.

**NOTE:** Lead-lag link assemblies may only be replaced by MDHI authorized personnel or under MDHI supervision. Contact your local MDHI Field Service Representative for further information.

#### **CAUTION**

- If required, apply a light but thorough coat of sealer or zinc-chromate primer around the bushings. Note that excessive amounts of sealant or zinc-chromate primer around the bushings are not desirable and can unbalance the main rotor system.
- (4). If corrosion inhibiting sealer (per MIL-S-81733, Type II-2) has become loose, clean and then seal all junctions between all the steel bushings and the main rotor blade root fitting attach lugs with a film of corrosion inhibiting sealer or zinc-chromate primer without removing the bushings.
  - (5). For the main rotor blade root fitting attach lugs, carefully remove sufficient amount of sealant and paint from only the bushing in the area where the slippage mark is to be applied, if not already done, (Ref. Figure 2). Using isopropyl alcohol, clean the area where the slippage mark is going to be applied to allow adequate adherence of epoxy paint.

**NOTE:**

- Locate slippage mark in a position that can be viewed at subsequent inspections with main rotor blade installed in the hub.
- Ensure that slippage mark is applied to bushing and upper and lower root fitting inside surfaces as shown in Figure 2.

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(6). Apply epoxy paint slippage marks to four locations as shown in Figure 2.

## NOTE:

- DO NOT use torque seal.
  - Ensure that slippage mark can be observed for inspection when the blades are installed. Slippage marks should not be applied to cross-hatch areas shown in Figure 2 to preclude masking possible cracks.
- (7). Install main rotor blades per applicable HMI.
- (8). Record compliance with PART I of this Notice in the Compliance Record section of the helicopter Log Book.

## **B. Part II - 15/25-Hour Inspection:**

**NOTE:** Main rotor blades and hub assemblies installed on helicopters operating in a salt water or corrosive environment should be cleaned and washed on a daily basis as a preventative measure to arrest corrosion. Refer to applicable HMI (Tri-Flow wash procedure) or HN-214, DN-154, EN-44 or FN-33, Service Information Notices.

- (1). Visually inspect exposed portion of all installed main rotor blade upper and lower root fitting attach lugs, and main rotor hub lead-lag link attach lugs, for broken or cracked lugs, corrosion or other damage to the lug areas. Using a bright light, inspect slippage marks on the root fitting bushings to ensure there has been no movement of the bushings. If bushings have moved, replace main rotor blade ***before further flight*** (Ref. Figure 2). Return those main rotor blades where bushing movement has occurred to MDHC for possible rework.

**NOTE:** If movement is suspected but cannot be verified with the blades installed, remove those blades and inspect bushings for movement.

## **CAUTION**

- If a cracked or broken lug is noted in main rotor blade upper or lower root fittings, replace main rotor blade ***before further flight***.
- If a cracked or broken lug is noted in main rotor lead-lag links, replace or repair main rotor hub per the applicable HMI ***before further flight*** (see note below).
- If a crack is suspected in either the rotor blade or lead-lag link attach lug, perform dye penetrant inspection per MIL-I-25135 of the lug. If cracking is noted, replace main rotor blade or replace or repair the main rotor hub per the applicable HMI ***before further flight*** (see note below).

**NOTE:** Lead-lag link assemblies may only be replaced by MDHI Authorized personnel or under MDHI supervision. Refer to your local MDHI Field Service Representative for further information.

- (2). Record compliance with PART II of this Notice in the Compliance Record Section of the helicopter Log Book.

## **3. POINTS OF CONTACT**

For further information, contact your local MDHI Field Service Representative (refer to the latest revision of the Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone: 1-800-388-6342 or (480) 891-6342.

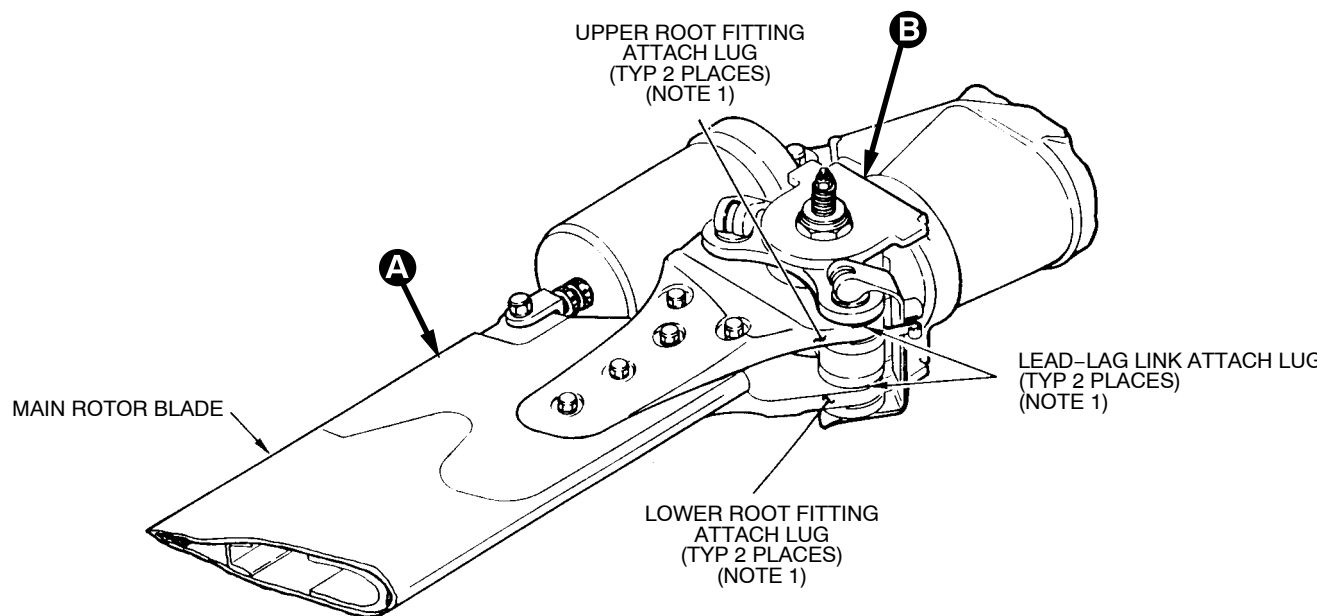
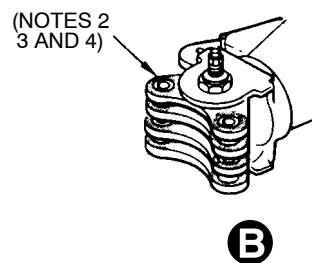
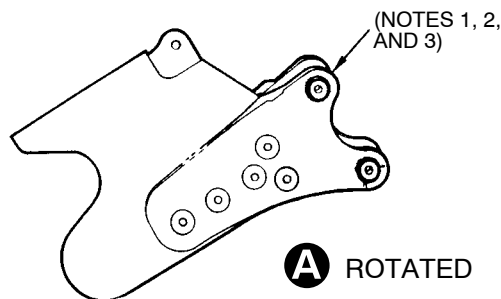
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## NOTES:

1. VISUALLY INSPECT AREAS OF ALL ROOT FITTINGS AND LEAD-LAG ATTACH LUGS FOR CRACKS OR BREAKS. INSPECT BLADE ATTACH BUSHINGS FOR LOOSENESS. IF LOOSE, REPLACE LEAD-LAG LINKS (REFER TO TEXT).
2. PAY PARTICULAR ATTENTION TO AREA AROUND ATTACH PIN HOLES IN LUGS.
3. SEAL ALL JUNCTIONS BETWEEN BUSHINGS AND ATTACH LUGS WITH SEALER OR PRIMER (REFER TO MATERIALS TABLE).
4. LEAD-LAG LINK ASSEMBLIES ARE SUBASSEMBLIES OF THE MAIN ROTOR HUB ASSEMBLY.

88-347C

**Figure 1. Inspection of Main Rotor Blade Root Fitting Attach Lugs and Main Rotor Hub Lead-Lag Link Assemblies**

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HN-211.6\*

DN-51.8\*

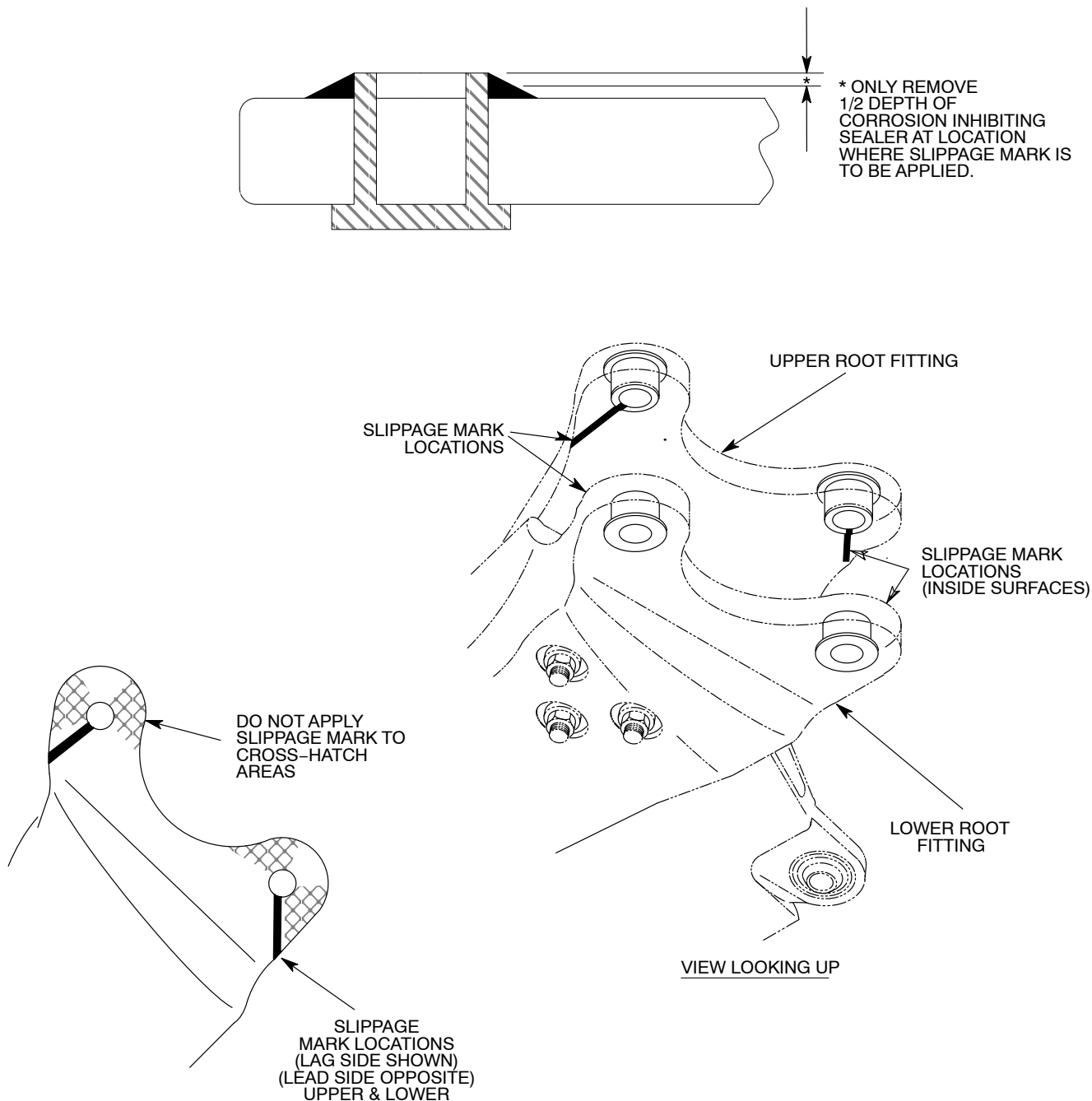
EN-42.6\*

FN-31.6\*

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**Figure 2. Application of Slippage Mark to M/R Blade Bushings and Root Fittings**

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# SERVICE BULLETIN

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\* Supersedes Service Information No. DN-52. 1 Dated 15 October 1979

**SUBJECT:** KIT INSTALLATION, PN 369D290140-501 - AUXILIARY FAIRINGS AND SEALS, ENGINE AIR FILTER (PARTICLE SEPARATOR)

**MODELS AFFECTED:** 500D Model 369D Helicopters equipped with PN 369H90148-503 or PN 369H90148-505 Particle Separator kit.

## NOTE

A 369H90148-503 and -505 Particle Separator kit installation may be identified by the scavenge air ejection purr located at the rear of the engine inlet fairing on the left side of the aircraft.

**TIME OF COMPLIANCE:** Shall be accomplished within 100 hours of helicopter operation after receipt of parts.

**PREFACE:** The information given in this Service Information Notice lists a procedure for installing auxiliary fairings and seals, to preclude possible entry of foreign materials or objects through gaps between the particle separator filter assembly and the fuselage structure.

Instructions and material specifications are provided for field fabrication of auxiliary fairings, supports and seals required for the kit installation. Optionally, complete kits are available through your authorized HH Service Center or distributor.

It is to be noted that the 369A8402-7 pressure switch is required for the kit installation. A procedure for optional retrofit of the existing pressure switch to the new -7 configuration is provided.

## REFERENCE PUBLICATIONS:

500D Basic HMI-Volume I, Issued 15 September 1976; Revision No. 3, 15 March 1979

Intallation and Maintenance Instructions for Engine Air Inlet Filter, PN 369H90148-503 and -505; CSP-004, Issued 15 May 1976

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## PARTS LIST

The following components are included in Particle Separator Auxiliary Fairing Kit, PN 369D290140-501:

Nomenclature	Part No.	Qty	Mfr
Fairing Assembly	369D290140-11		
Fairing	369D290140-3	1	HH*
Plate	369D290140-9	1	HH*
Fairing Assembly	369D290140-12		
Fairing	369D290140-4	1	HH*
Plate	369D290140-9	1	HH*
Support	369D290140-5	1	HH*
Support	369D290140-7	1	HH*
Seal	369D290140-13	2	HH*
Seal	369D290140-15	1	HH*
Seal	369D290140-17	2	HH*
Seal	369D290140-19	1	HH*
Seal	369D290140-23	1	HH*
Seal	369D290140-25	1	HH*
Grommet	MS35489-19	2	Commercial
Rivet	NAS1738B4-2	5	Commercial
Rivet	MS20470AD2	4	Commercial
Switch, Pressure**	369A8402-7	1	HH
or			
Kit, Modification**	800-174 (Jensen)	1	HH

\*May be field fabricated per materials and specifications listed below. Also see Figure 2.

\*\*Rework of existing 369A8402-3 pressure switch to 369A8402-7 configuration with mod kit is optional.

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## MATERIALS

Aluminum alloy sheet	2024-T3; QQ-A-250/4	Commercial
- for 369D290140-3 fairing (0.032 x 6.00 x 4.00)		
- for 369D290140-4 fairing (0.032 x 6.00 x 4.00)		
- for 369D290140-5 support (0.020 x 2.50 x 2.75)		
- for 369D290140-7 support (0.020 x 2.50 x 2.75)		
- for 369D290140-9 plate (0.032 x 0.75 x 2.03)		
Pressure sensitive tape	No. 4504 0.250 in. Thick Foam Tape	3M Co. St. Paul Minn
- for 369D290140-13 seal (0.88 x 0.75 x 3.00)		
- for 369D290140-15 seal (0.88 x 0.75 x 4.00)		
- for 369D290140-17 seal (0.13 x 1.00 x 2.50)		
- for 369D290140-19 seal (0.13 x 2.00 x 10.00)		
- for 369D290140-23 seal (0.13 x 2.00 x 11.00)		
- for 369D290140-25 seal (0.50 x 0.75 x 1.75)		
Sealant Primer	Silastic RTV No. 732	Dow Corning
Primer	Std 595 No. 20371	Commercial

## TOOLS AND EQUIPMENT

Rivet gun/nose assembly  
Drill motor, portable  
Drill bit - 0.250 inch diameter (No. E)  
Drill bit - 0.1285 inch diameter (No.30)  
Drill bit - 0.067 inch diameter (No.51)

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## KIT INSTALLATION, PN 369D290140 - AUXILIARY FAIRINGS, PARTICLE SEPARATOR

- a. Remove engine air inlet forward fairings. (Refer to Basic HMI-Vol. I. )
- b. Remove, clean and inspect particle separator filter assembly. (Refer to Installation and Maintenance Instructions, CSP-004.)

### NOTE

1. The 369D290140-5 and -7 supports, and -11 and -12 rafting assemblies may be field fabricated per dimensions shown in Figure 2. Apply coat of primer to parts.
2. Refer to Materials listing for dimensions for all seals (pressure sensitive tape).

- c. Install auxiliary fairings and seals to LH side of helicopter as follows:

1. Position -5 support forward of filter mounting frame on LH aft engine air inlet fairing, per dimensions shown in Figure 1, Detail A and Section B-B. Install -5 support to fairing with two NAS1738B4-2 rivets. Apply -13 seal to support as shown in Detail A.
2. Apply -25 seal to aft inlet fairing, with -25 seal forward of and in line with -13 seal as shown in Detail A.
3. Position -11 fairing with flanges in mast support structure fitting and on forward side of mounting frame of aft inlet fairing. Mark and drill 0.250 inch diameter hole in -11 fairing to match existing nutplate location on aft engine air inlet rafting.
4. Split grommet and install grommet on wiring/controls bundle; insert grommet into - 11 fairing as shown.
5. Temporarily install -11 fairing with grommet to aft engine air inlet fairing with existing hardware.
6. Install -17 seal on underside of 369H90151-31 fairing; locate -17 seal on aft outboard side of fairing as shown.
7. Install -19 seal on underside of 369H90151-31 rafting; locate -19 seal at forward edge of rafting as shown. Trim -19 seal to match contour of rafting.
8. Seal gaps between flanges of -11 fairing and mast support structure fitting. Also seal all openings and gaps in areas shown in Detail A.

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d. Install auxiliary fairings and seals to RH side of helicopter as

1. Position -7 support forward of filter mounting frame on RH aft engine air inlet fairing, per dimensions shown in Figure 1, View A-A and Section C-C. Install support to fairing with three NAS1738B4-2 rivets. Apply -15 seal to support as shown.
2. Position -12 fairing with flanges in mast support structure fitting on forward side of mounting frame of aft inlet fairing. Mark and drill 0.250 inch diameter hole in -11 fairing to match existing nutplate location on aft engine inlet fairing.
3. Split grommet and install grommet on wiring/controls bundle; insert grommet into -12 fairing as shown.
4. Temporarily install -12 fairing with grommet to aft engine inlet fairing with existing hardware.
5. Install -17 seal on underside of 369H90151-41 fairing; locate -17 seal on aft outboard side of fairing as shown.
6. Install -23 seal on underside of 369H90151-41 fairing; locate -23 seal at forward edge of fairing as shown. Trim -23 seal to match contour of fairing.
7. Seal gaps between flanges of -12 fairing and mast support structure fitting. Also seal all openings and gaps in areas shown in Detail A.

e. Check installation of auxiliary fairings and seals for discrepancies.

f. Replace existing 369A8402-3 pressure switch with new 369A8402-7 pressure switch (Refer to CSP-004); or rework existing switch to 369A8402-7 configuration as follows:

1. Disconnect and remove pressure switch from angle inside plenum chamber. (Refer to CSP-004. )
2. Remove lockwire and three retaining screws; carefully separate switch body halves; remove switch diaphragm-magnet assembly and diaphragm return spring. (See Figure 3. )
3. Clean both body halves of any dust or debris.
4. Install new diaphragm-magnet assembly in cavity of switch body with threaded port. The diaphragm-magnet assembly should be placed in the cavity with magnet facing up as shown.
5. Install new diaphragm return spring on spring centering boss of diaphragm-magnet assembly.
6. Carefully lower remaining half of switch body onto the partial assembly; check that magnet and diaphragm return spring are centered in their proper bores.
7. Before bringing the two switch body halves completely together, carefully rotate either body half to-align the three retaining screw holes. After proper alignment, check the diaphragm to ensure that it has remained centered in the body cavity, and that it has not folded or twisted.
8. Install the three retaining screws until snug and install lockwire.
9. Install new nameplate over existing nameplate on switch body.

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g. As applicable, perform function test of reworked pressure switch as follows:

1. Fabricate test set-up per Figure 4 and install reworked switch as shown.
2. Apply suction source to cycle switch "closed" and "opened" several times. Watch ohm meter or continuity tester for indication of switch actuation. Suction may be produced orally or by use of suction bulb.
3. After cycling switch, apply suction slowly and note the differential in water height, from the static height, on both legs of the U-tube when the ohm meter or continuity tester indicates switch actuation.

## NOTE

The total of the differential heights of both legs of the U-tube is equal to the switch actuation pressure. Switch actuation (closing) pressure should be 10.25 to 10.75 inches H<sub>2</sub>O.

- h. Reinstall particle separator filter assembly, per CSP-004.
- i. Remove hardware that is temporarily holding the -11 and -12 fairings to the aft engine inlet fairing.
- j. Reinstall forward engine air inlet fairing assemblies, per HMI-Vol. I; ensure that hole in -11 and -12 fairings align with nutplate on aft engine inlet fairing.
- k. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

**WEIGHT AND BALANCE:** Weight and balance not affected.

FAA/DER APPROVED 3 September 1980

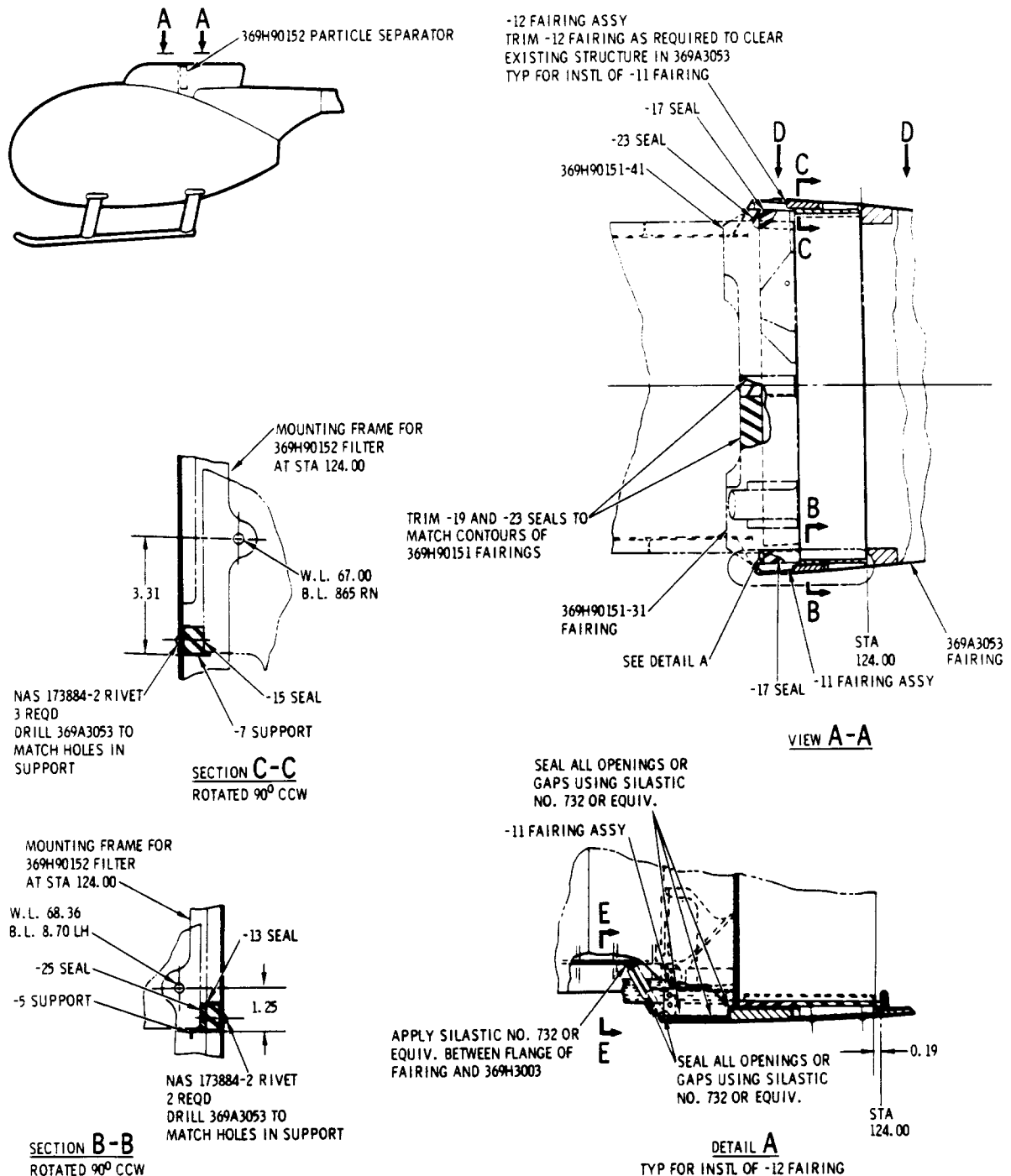
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88-287-1A

Figure 1. Installation of Auxilliary Fairings and Seals, Particle Separator (Sheet 1 of 2)

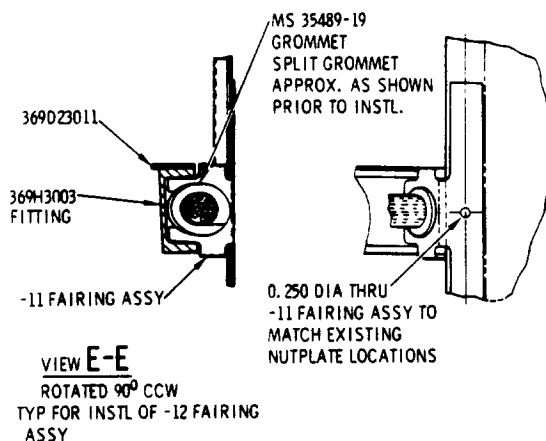
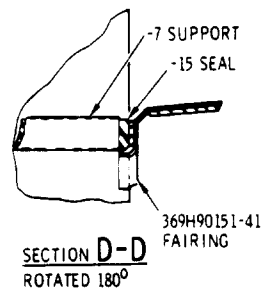
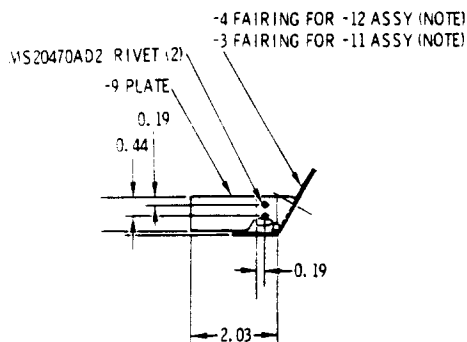
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**NOTE:**

DRILL 0.063 DIA HOLES IN -3 AND -4 FAIRINGS TO MATCH HOLES IN -9 PLATE. 2 PLCS.

88-287-2A

Figure 1. Installation of Auxilliary Fairings and Seals, Particle Separator (Sheet 2 of 2)

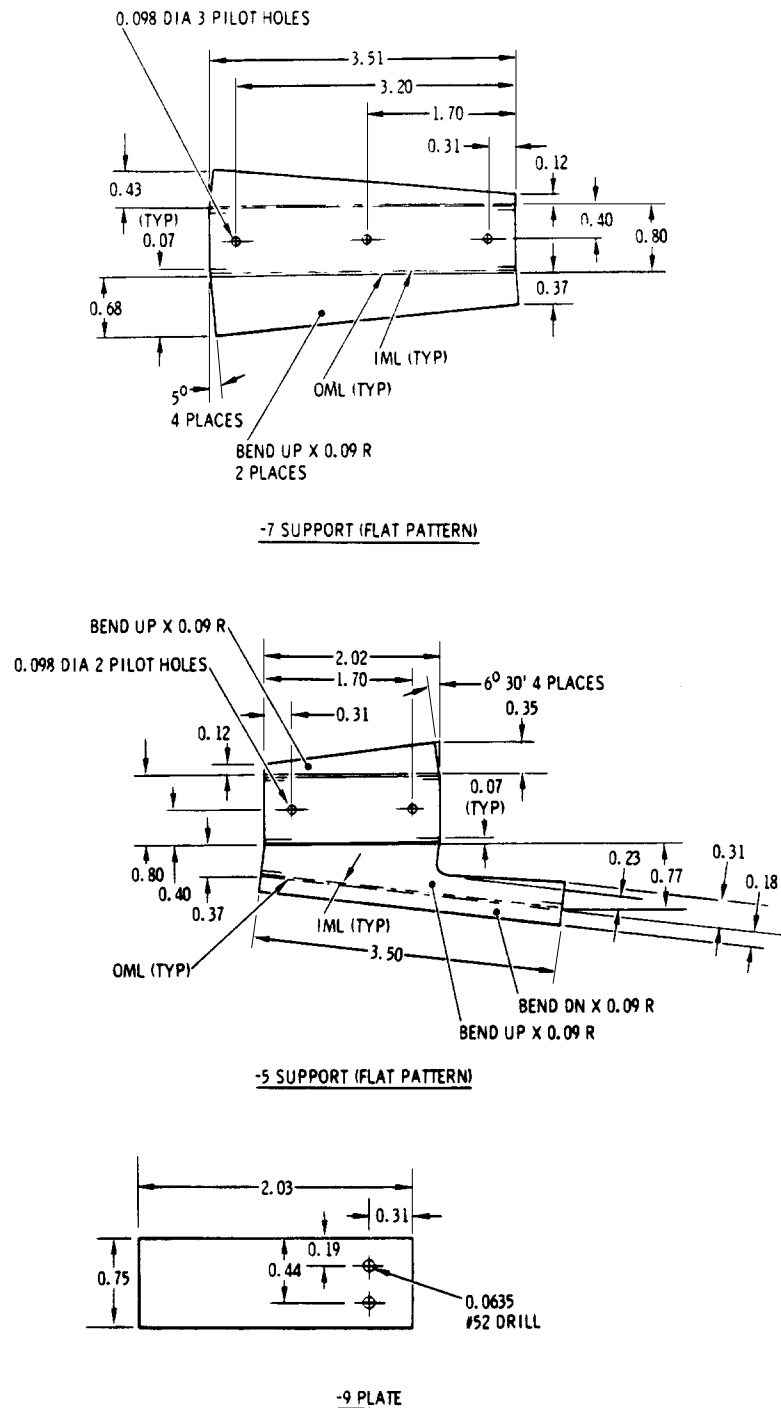
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88-285-1A

Figure 2. Field Fabrication - Auxiliary Fairings and Supports (Sheet 1 of 2)

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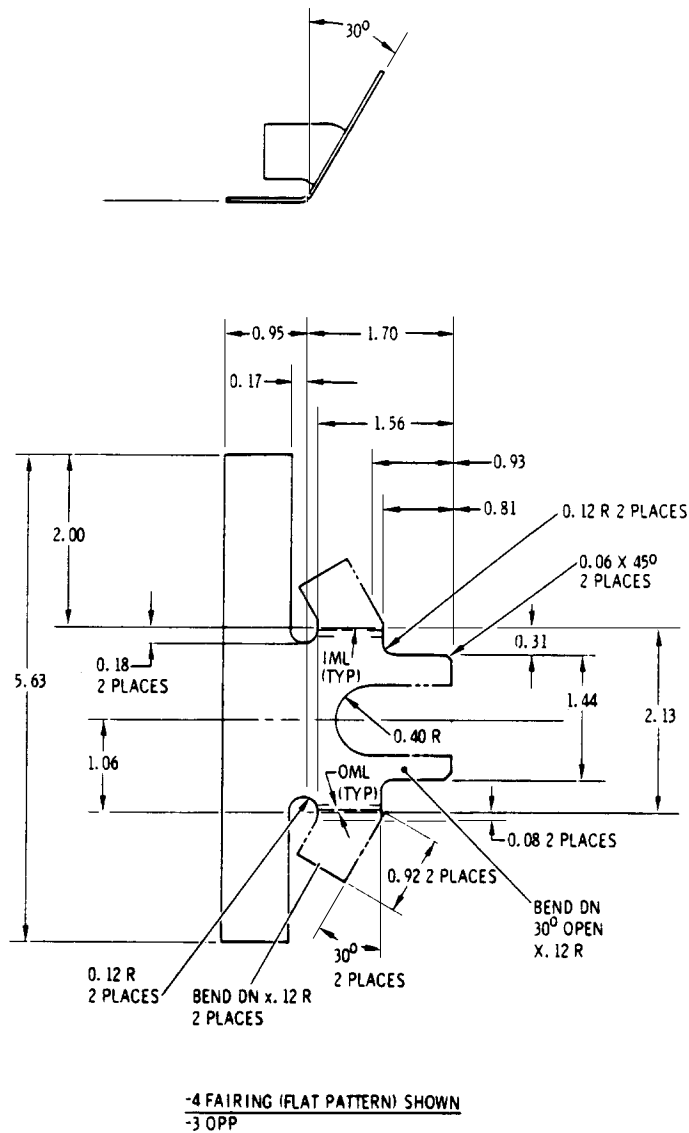


Figure 2. Field Fabrication - Auxiliary Fairings and Supports (Sheet 1 of 2)

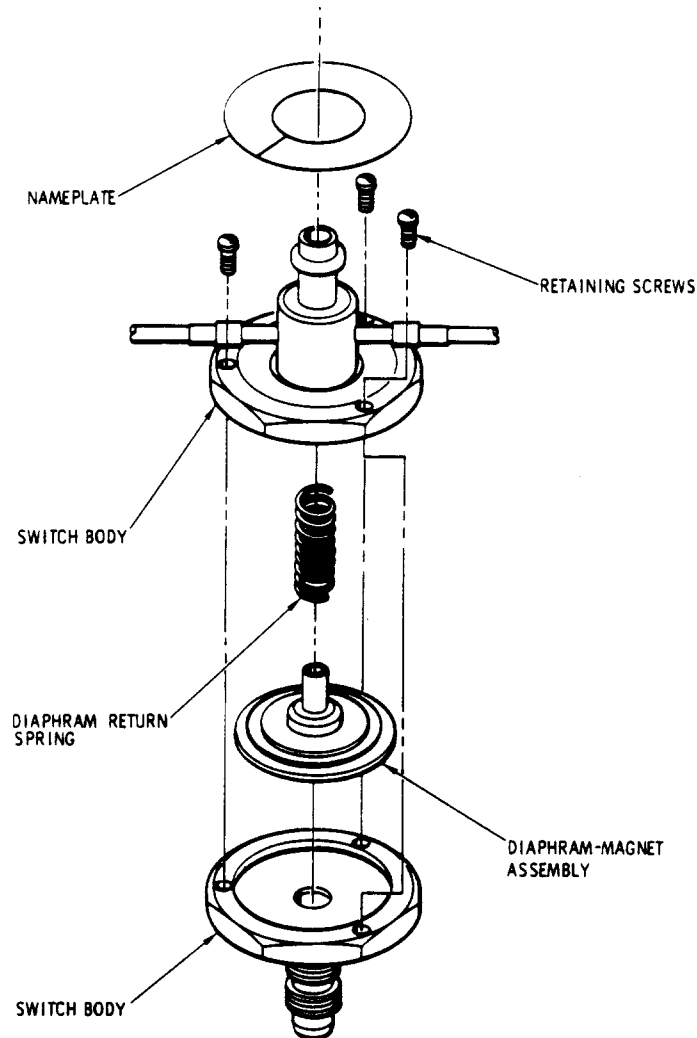
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Figure 3. Field Fabrication - Auxiliary Fairings and Supports (Sheet 1 of 2)

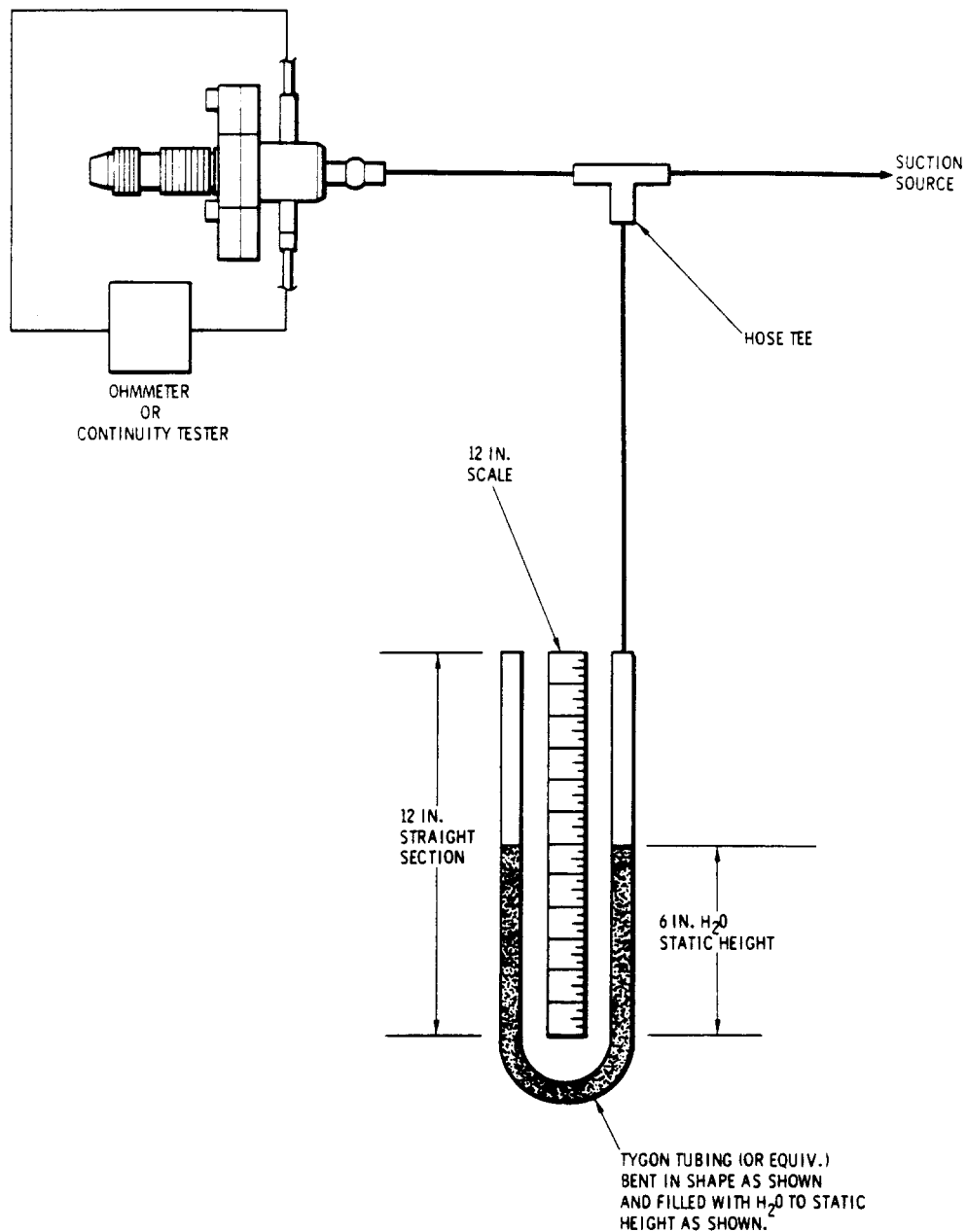
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88-340

Figure 4. Function Test - Switch Reworked to 369A8402-7 Configuration.

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# SERVICE BULLETIN

DATE: 7 MARCH 1980

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\* Supersedes Service Information Notice No. DN-54 dated 1 August 1979

**SUBJECT:** INSPECTION - COLLECTIVE TORQUE TUBE SUPPORT BRACKET (PN 369A7304 MAGNESIUM, PN 369N2608 ALUMINUM AND COLLECTIVE BUNGEE SUPPORT BRACKET (PN 369A7339 MAGNESIUM, PN 369N2650 ALUMINUM)

**MODELS AFFECTED:** 500D Model 369D Helicopter Serial No. 0003D thru 0642D; 0646D thru 0654D; 0656D; 0663D thru 0671D; 0684D thru 0687D; 0692D thru 0701D.

**TIME OF COMPLIANCE:** Shall be accomplished at next 100-Hour Periodic Inspection interval.

**PREFACE:** The information given in this Service Information Notice lists a procedure for a one-time inspection of the subject support brackets for evidence of cracks, gouges or other visible damage in the attach lug areas; and for gaps between the bracket and cradle cap of the collective torque tube support bracket. Also included is an inspection of the collective bungee Support bracket to ensure that thickness of the machine web surface in the aft lug area of the bracket is 0.065 inch or more.

**REFERENCE PUBLICATIONS:**

500D Basic HMI—Volume I, Issued 15 September 1976; Revision No. 3, 15 March 1979.

DATE: 7 MARCH 1980

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****MATERIALS**

Primer, zinc chromate      MIL-P-8585      Commercial

**TOOLS AND EQUIPMENT**

Gage, feeler – 0.001 – 0.002 inch thickness or

Probe, thin blade edge

Mirror, dental or equivalent

Drill motor, portable

Drill bit – No. F (0.257 inch diameter)

Bolt, square ends – 0.250 inch diameter; rain length 1.25 inches

Micrometer, depth

**INSPECTION PROCEDURE**

- a. Remove collective control cover or center seat panel to gain access to collective bungee.
- b. Using mirror and bright light, visually inspect aft lug areas of collective bungee support bracket, and collective torque tube support bracket and cradle cap for cracks, gouges, nicks or other surface damage. Replace bracket if any cracking is noted. Smooth and blend minor gouges, nicks, etc. Gouges deeper than 0.060 inch require replacement of support bracket. (See Figures 1 and 2. ) Gouges deeper than machine cut in web areas of bungee support bracket require replacement of bracket. (See Figure 2. )
- c. Using feeler gage or thin blade as probe, check for gaps between torque tube support bracket and cradle cap. Pay particular attention for gaps at mating area of bracket and cap next to OD of torque tube bearing. (See Figure 1.)

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## NOTE

If gap(s) exist, loosen or remove cradle cap and remove all zinc chromate residue from ID of cradle cap and support bracket, and torque tube OD mating surface. Apply new coat of zinc chromate primer on OD of torque tube bearing and ID of support bracket and cradle cap. Reinstall cradle cap while primer is wet. Check that cap-to-cradle index grooves are matched. Reinspect for gaps between cradle cap and support bracket mating surfaces.

d. Using depth micrometer, measure depth of machine cut between the aft lugs of bungee support bracket. (See Figure 2. )

## NOTE

1. If depth of machine cut is 0.035 inch or less, no further. action is required; perform steps j and k.

2. If depth of machine cut is more than 0.035 inch, determine thickness of machined web surface as follows.

e. Drill 0.257 inch diameter hole in bracket on side opposite machined web surface, and 0.50 - 0.63 inch forward from centerline of lug bolt hole, as shown.

f. Fabricate measuring pin from 0.250 inch diameter bolt with squared ends; minimum length of bolt is 1.25 inches.

g. Measure length of pin; record as dimension "A".

h. Insert and seat pin in 0.257 inch diameter hole in bungee support bracket; measure distance between machined web exterior surface and outer end of pin; record as dimension "B".

i. Subtract dimension "A" from dimension "B" to obtain thickness of machined web surface.

## NOTE

If thickness of machined web is less than 0.065 inch, replace bungee support bracket. Prior to installation of replacement bracket, measure depth of machine cut between bracket lugs, per step d above.

j. Reinstall center seat panel or controls cover.

k. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

**WEIGHT AND BALANCE:** Weight and balance not affected.

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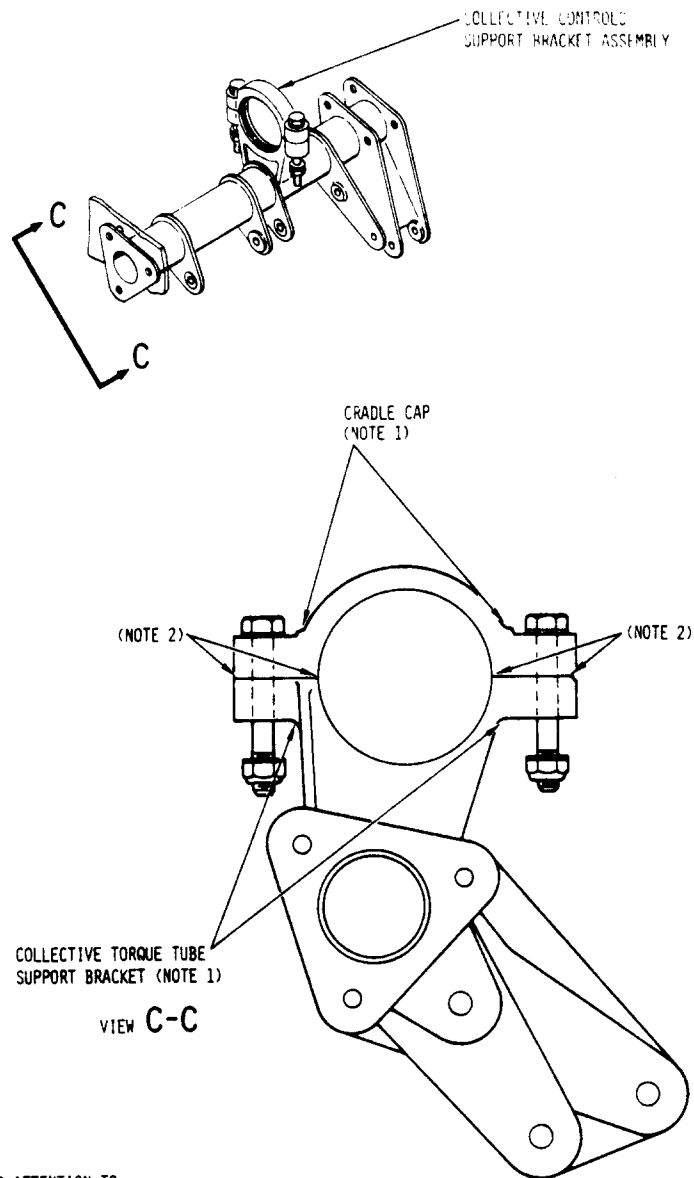
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**NOTES:**

1. PAY PARTICULAR ATTENTION TO ATTACH LUG AREAS FOR CRACKS.
2. CHECK FOR GAPS BETWEEN CRADLE CAP AND BRACKET; PAY PARTICULAR ATTENTION TO MATING AREA NEXT TO TORQUE TUBE O.D. FOR GAPS.

88-345

Figure 1. Inspection - Collective Torque Tube Support Bracket and Cradle Cap

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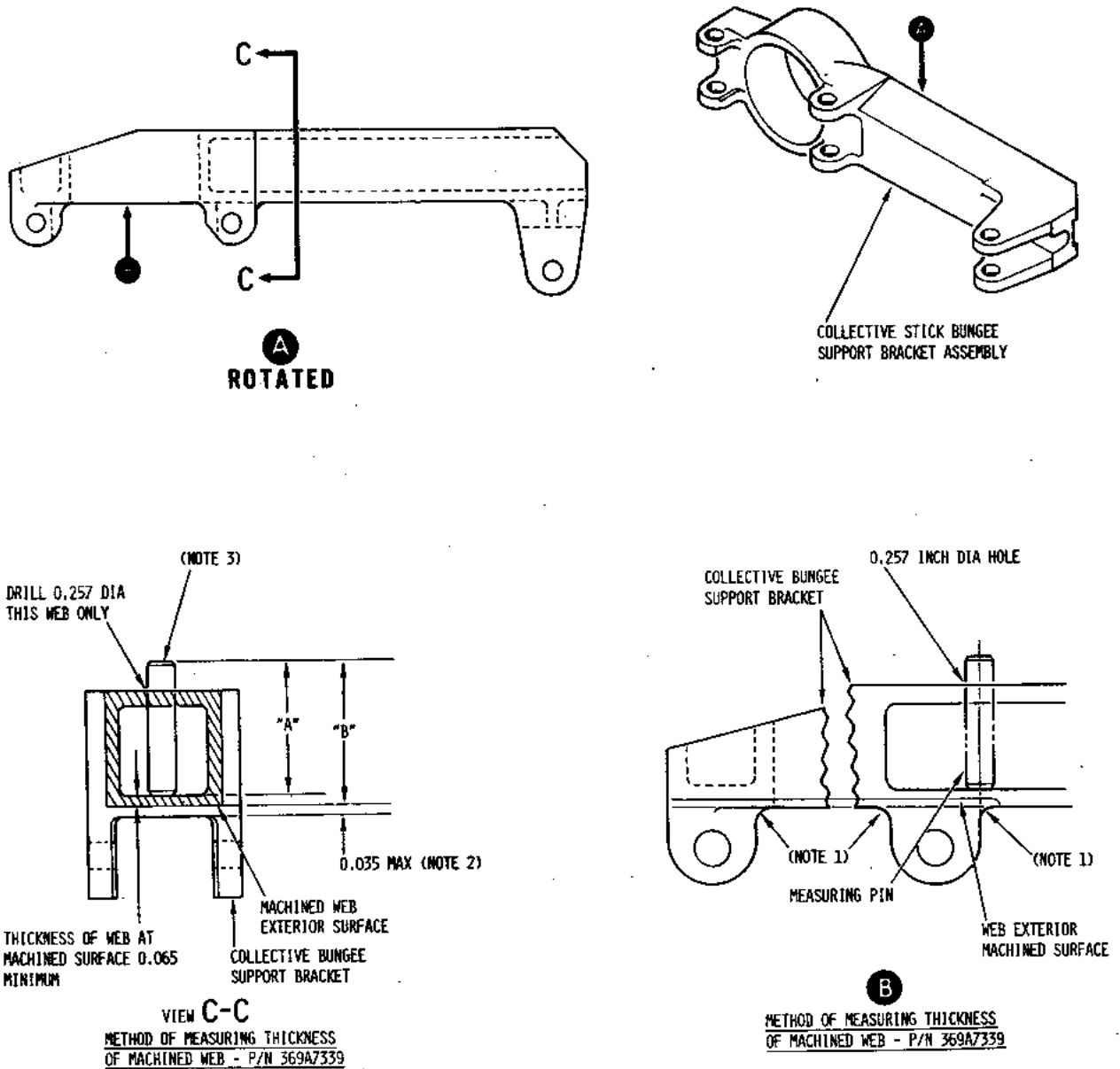
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**NOTES:**

1. CHECK LUG AREAS FOR CRACKS, NICKS, GOUGES, SURFACE DAMAGE.
2. IF DEPTH IS GREATER THAN 0.035, CHECK THICKNESS REMAINING AS SHOWN.
3. MAKE PIN FROM 0.250 BOLT, SQUARE ENDS, MINIMUM LENGTH 1.25.
4. ALL DIMENSIONS IN INCHES.

88-343A --

Figure 2. Inspection of Collective Bungee Support Bracket

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# SERVICE BULLETIN

DATE: 11 MAY 1981

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**SUBJECT:** INSPECTION AND REPAIR OF AFT FUSELAGE SKIN CRACKS;  
INSTALLATION OF DOUBLERS ON BOOM FAIRING LOWER  
LONGERONS

**MODELS AFFECTED:** 500D Model 369D Helicopter Serial No. 0003D thru 0529D

**TIME OF COMPLIANCE:**

Part I – Visual Inspection – Shall be accomplished within next 50 hours of helicopter operation, and at each 50–hour inspection interval until compliance with Part II of this Notice is accomplished.

Part II – Field Modification – Shall be accomplished as required per Part I, or at next removal of engine, or within next 600 hours of helicopter operation, whichever occurs first.

**PREFACE:** Field reports indicate that incidents of cracking of the aft fuselage skin has occurred in the area—adjacent to the boom fairing lower longerons. This area is noncritical for either static or fatigue loads.

Part I of this Notice lists a procedure for a periodic visual inspection of the aft fuselage skin for evidence of skin cracking at the boom fairing and aft engine air inlet fairing attach areas.

Part II of this Notice provides instructions for repair of skin cracks in the aft fuselage skin, as applicable; and for installation of support doublers on the boom fairing lower longerons to preclude skin cracking.

Performance of Part II is to be accomplished if cracking is noted during the Part I inspection, or at next removal of engine, or within the next 600 hours of helicopter operation, whichever occurs first.

Compliance with Part II lifts the periodic inspection requirement specified in Part I of this Notice

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## REFERENCE PUBLICATIONS:

500D Basic HMI– Volume I, Issued 15 September 1976; Revision No. 3, 15 March 1979.

500D Basic HMI– Volume II, Issued 15 September 1976; Revision No. 2, 1 November 1978.

500D HMI Structural Repair Manual (369D–SRM) CSP–D–6, Issued 15 September 1976.

## PARTS LIST

<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Mfr.</u>
Doubler	369D23018-136812-3	1	HH
Doubler	369D23018-136812-4	1	HH
Shim	369D23018-136812-5	2	HH
Shim	369D23018-136812-7	2	HH
Rivet	NAS1738B4-2	A/R	Commercial
Rivet	NAS1738B4-3	A/R	Commercial
**Rivet	NAS1738B5-2	A/R	Commercial
**Rivet	NAS1738B5-3	A/R	Commercial
***Fastener	295097	A/R	HH

\*\*Oversize rivet.

\*\*\*Not required unless damaged during removal of firewall/heat blanket.

## MATERIALS

Primer, zinc chromate (TT-P-1757)	908-L-02110	Glidden-Durkee Div., SCM Corp 900 Union Commerce Bldg. Cleveland, Ohio 44115
	1063-166	E.I. DuPont de Nemours & Co. 3500 Grays Ferry Ave. Philadelphia, PA 19146
Tape, aluminum foil	No. 425	3M Co

## TOOLS AND EQUIPMENT

Drill motor, portable

Drill bit -- No. 30

Drill bit - - No. 31

Cleco fasteners

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## PART I - PERIODIC INSPECTION (50 HOUR INTERVALS)

a. Visually inspect upper aft fuselage exterior skin for evidence of cracking at junction of skin with boom fairing and aft engine air inlet fairing. Use bright light and mirror. Remove inspection panel in boom fairing.

### NOTE

1. If cracking is noted, perform Part II of this Notice.
2. If no cracking is noted, install inspection panel and perform step b below.

b. Record compliance with Part I of this Notice in Compliance Record of helicopter Log Book.

## PART II - FIELD MODIFICATION

### NOTE

Removal of engine is recommended to facilitate field modification. (Refer to HMI Vol I. )

a. Remove fasteners securing aft fuselage heat blanket/firewall; displace heat blanket to gain access to work area at boom fairing lower longerons, LH and RH sides.

### NOTE

If cracks were noted in aft fuselage skin during inspection per Part I of this Notice, repair cracks by stop drilling and/or patching per FAA AC 43.13-1A, Aircraft Inspection and repair.

b. Drill out existing rivets securing 369D23018-1 and -2 boom fairing lower longerons to fuselage structure and skin, between Station 129.00 and Station 149.00, as shown in Figure 1.

c. Position and nest -3 and -4 doublers in place in longerons; mark and drill rivet holes in doublets to match rivet pattern in longerons.

### NOTE

If rivets are in radius of -3 or -4 doublers, relocate rivet adjacent to problem hole (approximately 3.5 x rivet diameter spacing) and maintain a minimum of 1.5 x rivet diameter edge distance on 369D23018 longeron.

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## **NOTE**

For Model 369MD (Military) Helicopters equipped with Black Hole Ocarina (BHO) Infrared Suppressor System, trim up to 3.00 inches (maximum) on No. 136812-7 shim on installation (See Figure 1.)

- d. Install doublets temporarily on longerons with Cleco fasteners or equivalent. Position -5 and -7 shims in place on each doublet as shown. Mark and drill rivet holes in doublets and shims. Install shims to doublets with NAS1738B4 rivets; install rivets with wet zinc chromate primer.
- e. Remove Cleco fasteners and install doublers with NAS1738B4 rivets. Rivets may be installed from inside or outside engine compartment; install rivets with wet zinc chromate primer.
- f. Remove all debris from work area; inspect modification of longerons for discrepancies.
- g. Reinstall heat blanket/firewall with existing fasteners.
- h. Record compliance with Part II of this Notice in Compliance Record of helicopter Log Book.

## **NOTE**

Compliance with Part II of this Notice lifts inspection requirements per Part I of this Notice.

**WEIGHT AND BALANCE:** ADD: 0.9 at 138.7 inch-arm

FAA/DER APPROVED 14 May 1981

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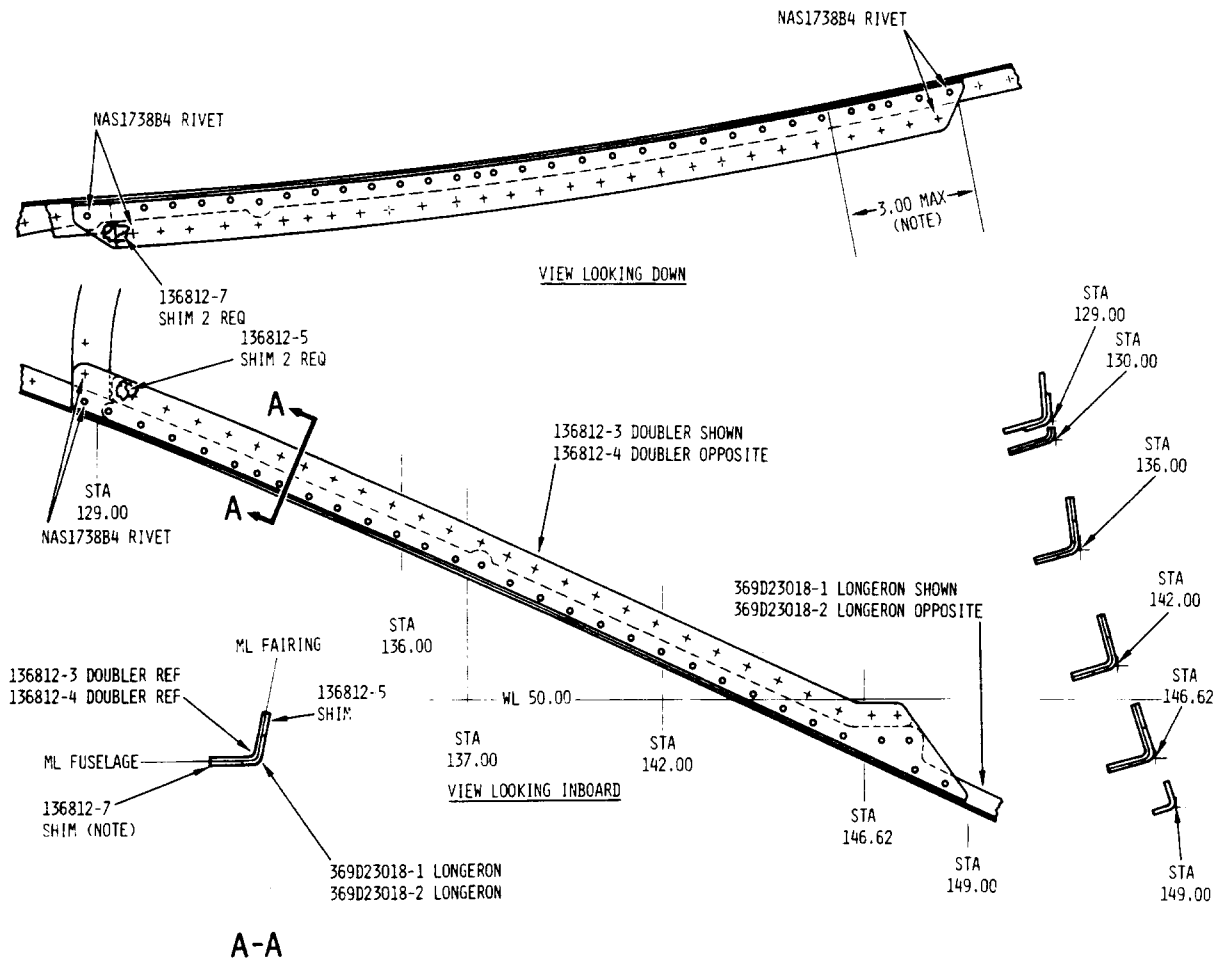


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**NOTE:**

TRIM UP TO 3.00 INCHES MAXIMUM AS SHOWN  
ON SHIM NO. 136812-7, FOR 369MD HELICOPTER  
EQUIPPED WITH INFRARED SUPPRESSOR SYSTEM.

ADN582-1

Figure 1. Figure 1. Field Modification - 369D23018-1 and -2 Boom Fairing Longerons

**MANDATORY**



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## **FILTER GASKET --ENGINE AIR INLET (PARTICLE SEPARATOR) FILTER KIT INSTALLATION, PN 369H90148-503, -505 AND -507**

### **1. PLANNING INFORMATION**

#### **A. MODELS AFFECTED:**

All 500D Model 369D Helicopters equipped with PN 369H90148-503 or -505 Air Inlet (Particle Separator) Filter Kit Installations

500D Model 369D Helicopter Serial No. 0003D through 0626D equipped with PN 369H90148-507 Air Inlet (Particle Separator) Filter Kit Installation

All PN 369H90148-503, -505 and -507 Particle Separator Kits, PN 369H90152--3 Filter Assemblies, and PN 369D290125-11 Particle Separator Assemblies in Spares Inventory at date of this Notice

#### **B. PREFACE:**

The information given in this Service Information Notice lists a procedure for removal of gasket material bonded to the aft side of the PN 369H90152-3 particle separator filter assembly in the area where the gasket does not contact the helicopter mounting structure. The PN 369H90152-3 filter is a component of the PN 369H90148-503 and -505 particle separator kit installations.

Instructions are also provided for installing a new filter gasket to the aft side of the PN 369D29012S-11 particle separator assembly, a component of the PN 369H90148-507 particle separator kit installation. The new gasket will be provided without cost by your Hughes Helicopters Service Center

#### **C. TIME OF COMPLIANCE:**

Shall be accomplished within next 50 hours of helicopter operation

Shall be accomplished prior to installation of Spares filter kit or filter assembly on helicopter.

#### **D. FAA APPROVAL:**

FAA APPROVED

#### **E. WEIGHT AND BALANCE DATA:**

Weight and balance not affected.

#### **F. REFERENCE:**

500D HMI-Vol I, Issued 15 September 1976; Revision No. 3, 15 March 1979

500D HMI-Vol II, Issued 15 September 1976; Revision No. 2, 1 November 1978

369D Optional Equipment Installation Instructions, Engine Air Inlet (Particle Separator)

PN 369H901148- 503, 505, 507 and - 509; CSP- 004, Issued 15 November 1979

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****G. MATERIALS:**

MATERIALS	
Nomenclature	Source
* Gasket	Pressure sensitive tape 0.125 thick x 0.380 width

\*Applicable PN 369D290125-11 particle separator assembly (369H90148-507 kit configuration) only. Provided without cost by your Hughes Helicopters Service Center.

**2. REWORK / INSTALLATION OF FILTER GASKET**

- (1). Remove particle separator filter assembly. (Refer to referenced CSP-004).
- (2). (For 369H90148-503 and -505 kit installation only) Trim and cut off gasket seal bonded to aft side of 369H90152-3 filter assembly at lower area of filter not in contact with helicopter mounting structure. (See Figure 1. )
- (3). (For 369H90148-507 kit installation only) Install new gasket on aft side of 369D290125-11 particle separator filter assembly, as shown in Figure 2.
- (4). Reinstall particle separator filter assembly.
- (5). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

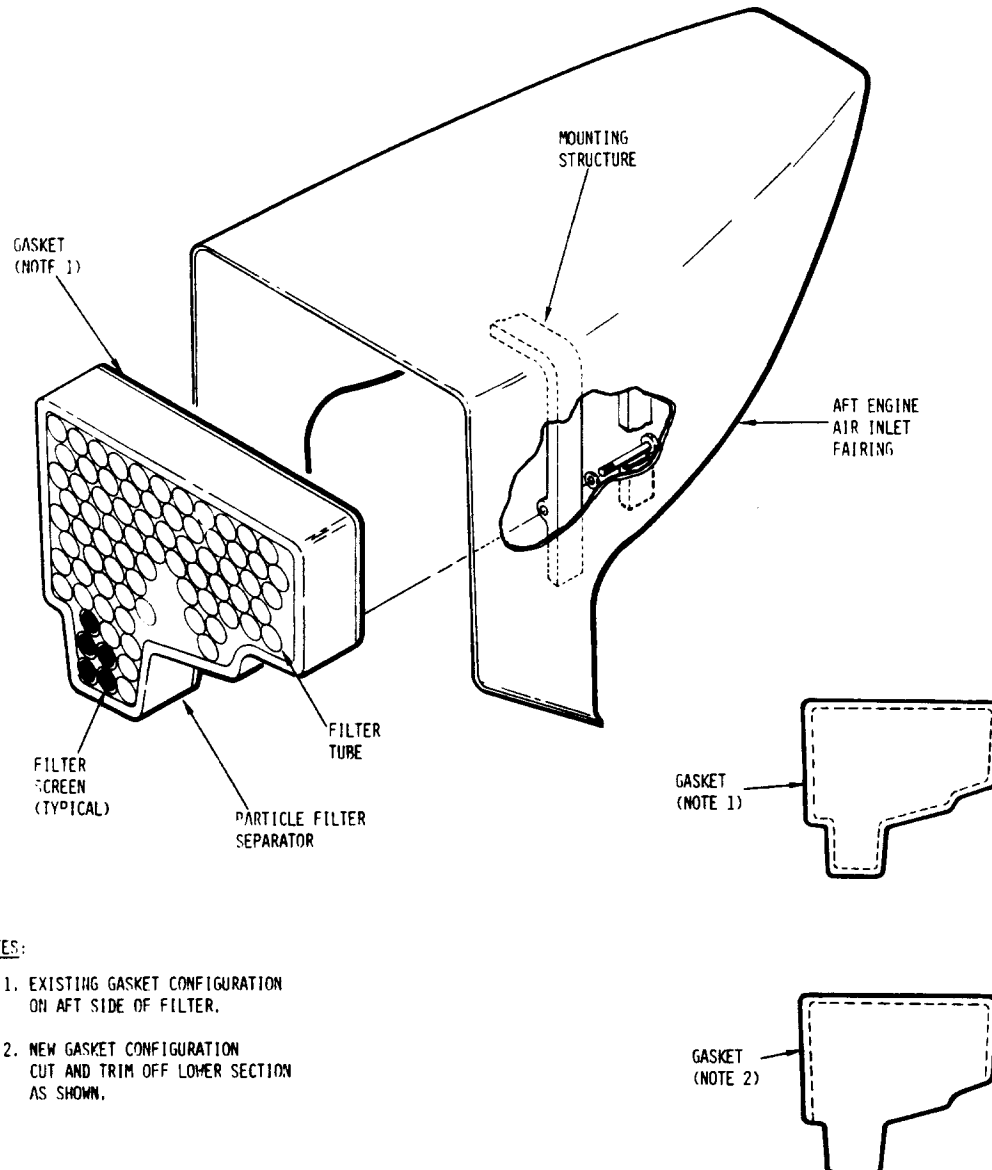
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**NOTES:**

1. EXISTING GASKET CONFIGURATION ON AFT SIDE OF FILTER.
2. NEW GASKET CONFIGURATION CUT AND TRIM OFF LOWER SECTION AS SHOWN.

88-367

**Figure 1. Removal of Filter Gasket - 369H90148-503 and -505 Filter Installation**

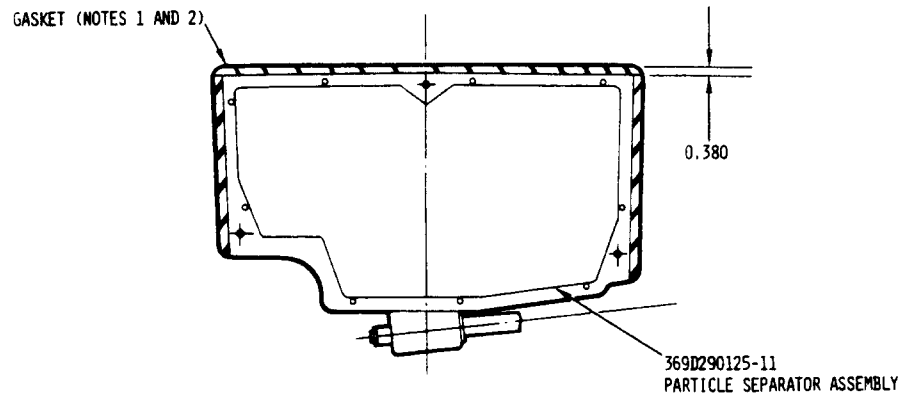
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1. INSTALL AS SHOWN ON AFT MOUNTING SURFACE OF 369D290125-11 PARTICLE SEPARATOR FILTER PRIOR TO INSTALLATION.
2. PRESSURE SENSITIVE TAPE
3. ALL DIMENSIONS IN INCHES.

88-372

**Figure 2. Installation of Filter Gasket - 369H90148-507**  
**Filter Installation**

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## INSPECTION AND REWORK OF TAIL ROTOR TRANSMISSION HOUSING ASSEMBLY, PN 369D25401

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All 500D Model 369D Series Helicopters

#### B. PREFACE:

The information given in this Service Information Notice lists a procedure for a one-time inspection to check for adequate clearance between the tail rotor transmission housing and the tail rotor control bellcrank at extreme right pedal travel. Instructions are provided for rework of the housing if interference with the bellcrank is noted.

#### C. TIME OF COMPLIANCE:

Shall be accomplished at next scheduled Annual or 300-Hour Inspection

500D HMI-Volume II, Issued 15 September 1976; Revision No. 2, 1 November 1978

#### D. FAA APPROVAL:

FAA APPROVED

#### E. WEIGHT AND BALANCE DATA:

Weight and balance not affected

#### F. REFERENCE:

500D HMI-Volume I, Issued 15 September 1976; Revision No. 3, 15 March 1979

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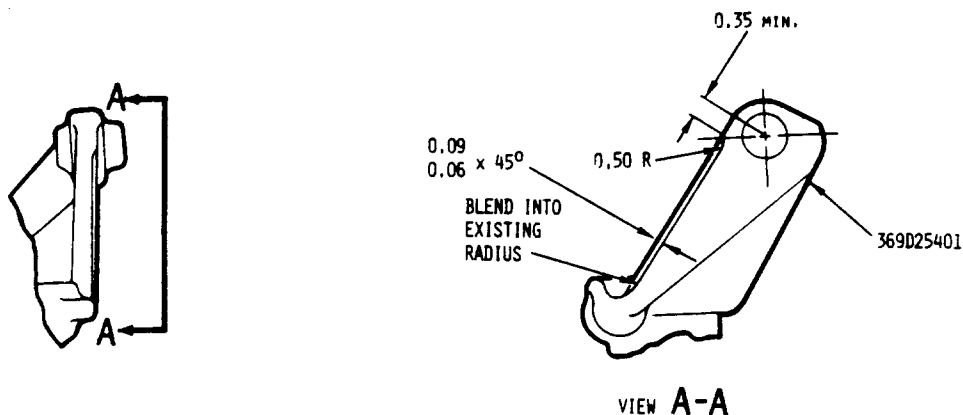
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## 2. ACCOMPLISHMENT INSTRUCTIONS

- (1). Check for contact between tail rotor bellcrank and tail rotor transmission housing, at extreme right pedal travel.

**NOTE:** If contact and interference between bellcrank and housing is noted, perform the following:

1. Chamfer the web on transmission housing, per dimensions shown in Figure 1 below.
  2. Blend chamfer into existing radius at the bottom and radius it at the top. Do not remove excess material; width of chamfer is 0.06 to 0.09 inch.
  3. Apply surface touchup treatment, per Section 2. of HMI-Vol I.
- (2). Record compliance with this Notice in Compliance Record of helicopter Log Book.



ADN62-1

**Figure 1. Field Rework of Tail Rotor Transmission Housing Assembly**

/// MANDATORY ///



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## HORIZONTAL STABILIZER ASSEMBLY --ADDING DRAIN HOLES AND SEALING DOUBLER EDGES

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

500D Model 369D Helicopter Serial No. 0003D through 0534D All PN 369D23601 and PN 421-087 Horizontal Stabilizer Assemblies in Spares Inventory at Date of this Notice

#### B. PREFACE:

The information given in this Service Information Notice lists a procedure for incorporating drain holes in the lower surface of the horizontal stabilizer assembly, to provide drainage for possible water seepage. Instructions are also provided for sealing the upper and lower doubler edges, and any gaps between the doublers and stabilizer skin, to prevent water from collecting and freezing during cold weather operation.

It is to be noted, that the stabilizer tip plates have an infinite life. When replacing the stabilizer, the tip plates may be reinstalled as condition warrants.

#### C. TIME OF COMPLIANCE:

Shall be accomplished at next Annual or 300-Hour Inspection Shall be accomplished prior to installation of above affected Spares. Horizontal Stabilizer Assembly on Helicopter

#### D. FAA APPROVAL:

FAA APPROVED

#### E. WEIGHT AND BALANCE DATA:

Weight and balance not affected

#### F. REFERENCE:

500D Basic HMI-Volume I, Issued 15 September 1976; Revision No. 3, 15 March 1979  
500D Basic HMI-Volume II, Issued 15 September 1976; Revision No. 2, 1 November 197

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## G. TOOLS AND EQUIPMENT

TOOLS AND EQUIPMENT	
Nomenclature	
Drill motor, portable	
Drill bit – #10	

## H. MATERIALS:

MATERIALS	
Nomenclature	Source
Sealant PR1221B2 or equivalent	Product Research, Burbank, CA
Naphtha, aliphatic TT-N-95	Commercial

## 2. PROCEDURE

- a. Remove horizontal stabilizer assembly, per HMI-Vol I.
- b. Support horizontal stabilizer with lower surface facing upwards.
- c. Mark and drill three No. 10 drain holes in lower surface of stabilizer, at dimensions shown in Figure 1.
- d. Seal all edges of lower doubler and any gaps between doubler and stabilizer skin, as shown in Figure 2. Leave drain holes open. Remove excess sealant With cloth and naphtha.
- e. Reposition stabilizer assembly with upper surface facing upwards.
- f. Seal all edges of both upper doublers as shown. Remove excess sealant with cloth and naphtha.
- g. Seal holes at leading and trailing edges of horizontal stabilizer adjacent to tip plates, LH and RH sides, as shown in Figure 1. Also seal holes in trailing edge of stabilizer at each side of light bracket, as shown in Figure 2.
- h. Repaint sealed areas; check that drain holes are open.
- i. Reinstall horizontal stabilizer assembly, per HMI-Vol I.
- j. Record compliance with this Service Notice in Compliance Record of helicopter Log Book.

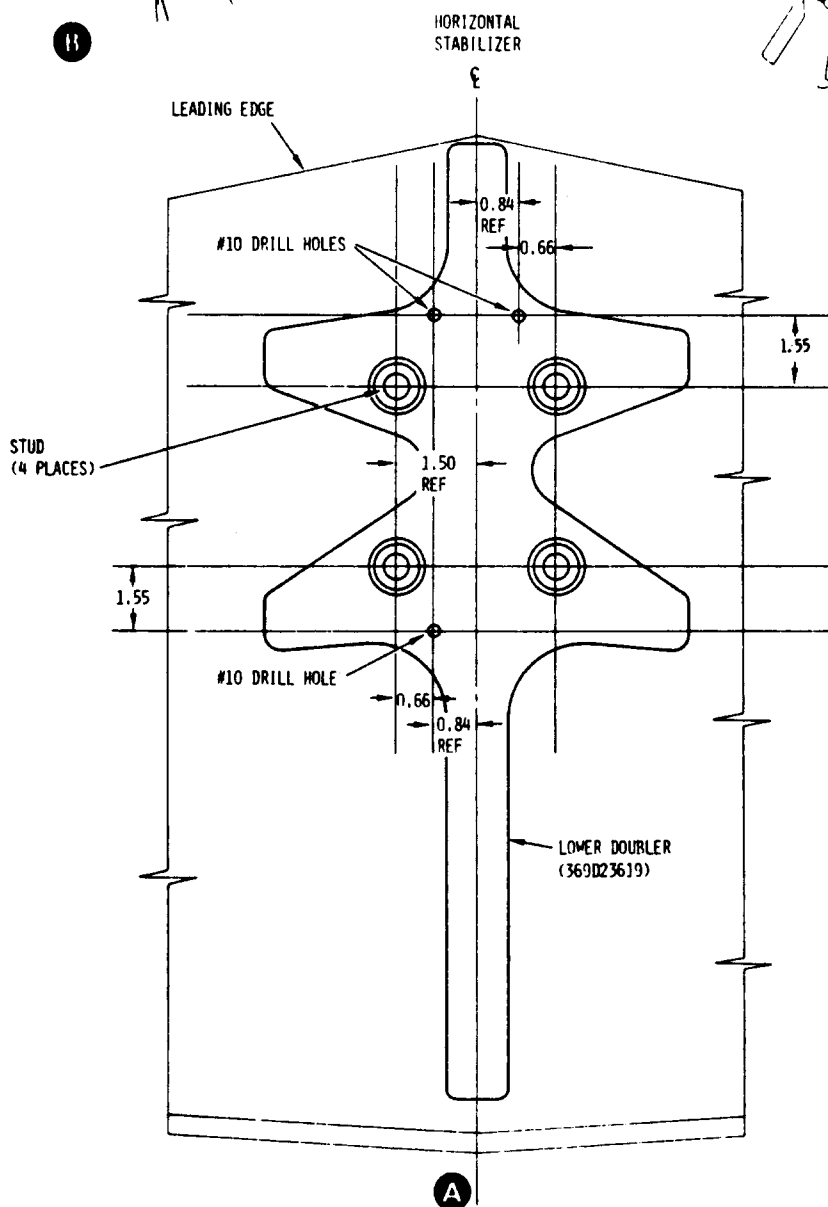
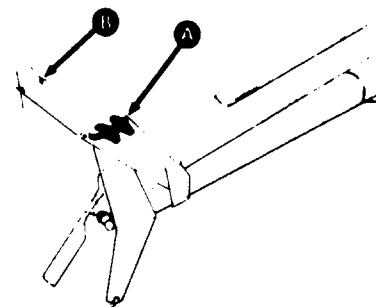
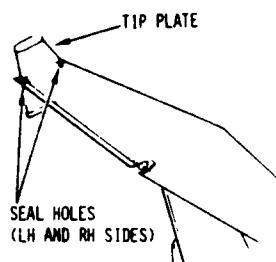
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**Figure 1. Drilling of Drain Holes, Horizontal Stabilizer Lower Surface**

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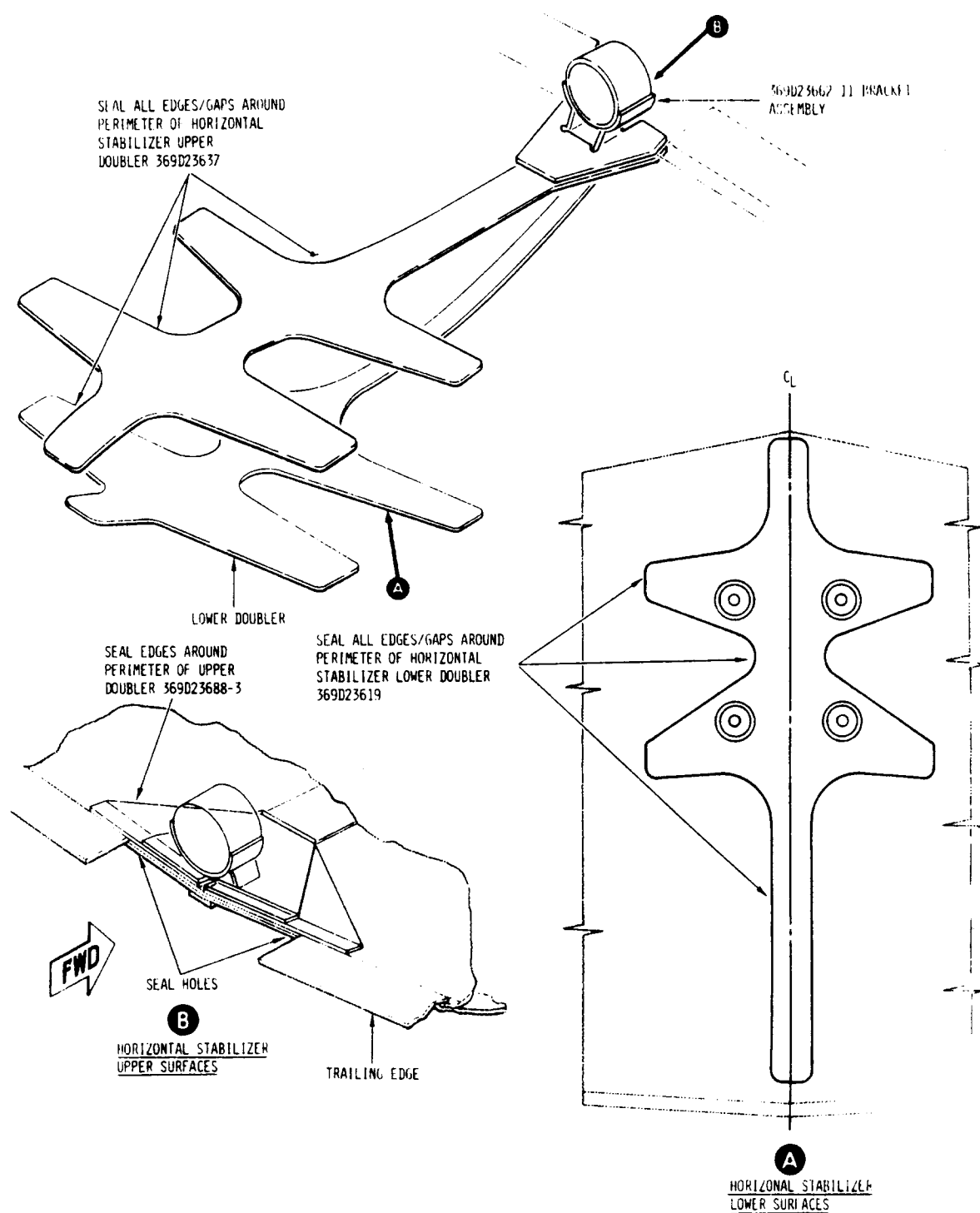
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ADN63-1

**Figure 2. Horizontal Stabilizer - Sealing of Doubler Edges**

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\* Supersedes Service Information Notice DN-65, Dated 16 May 1980

## REWORK OF COOLING BLOWER MOUNTING BRACKET

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

500D Model 369D Helicopter Serial No. 0003D through 0509D

#### B. PREFACE:

The information given in this Service Information Notice lists a procedure for reworking the cooling blower mounting bracket P/N 369D25626, to provide increased clearance for the blower drive belt and preclude interference between bracket and belt. This revision is issued to clarify the dimensions of the spotface as shown in Figure 1.

#### C. TIME OF COMPLIANCE:

Shall be accomplished within next 300 hours of helicopter operation.

#### D. FAA APPROVAL:

FAA/DER APPROVED 5 December 1980

#### E. WEIGHT AND BALANCE DATA:

Weight and balance not affected.

#### F. REFERENCE:

500D Model 369D Basic HMI-Volume 1, Issued 15 September 1976; Revision No. 3, 15 March 1979.

PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Screw	NAS1164- 2L	2	Commercial
Washer	MS21206C6	2	Commercial

MATERIAL	
Nomenclature	Source
Primer, zinc chromate	Commercial

TOOLS AND EQUIPMENT	
Nomenclature	Source
Drill moter, portable	
Spotface tool - 0.750 inch diameter, 0.267/0.260 inch diameter pilot	
Countersink tool - 100 degrees x 0.330 inch diameter	

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****2. REWORK PROCEDURE**

- a. Remove transmission cover. (Refer to Section 2 of Basic HMI-Vol 1. )
- b. Remove cooling blower. (Refer to Section 9 of Basic HMI-Vol 1. )
- c. Remove four bolts and four washers attaching mounting bracket to cooling blower. Retain two bolts and two washers.
- d. Rework mounting bracket as follows: (See Figure 1 )
  - 1. Increase spotface of two lower holes to 0.750-inch diameter and to 0.125-inch material thickness.
  - 2. Countersink two spotfaced holes, using 100 degree countersink to 0.330 inch diameter. Remove any burrs as required.
- e. Install reworked mounting bracket as shown in Figure 2. Install two bolts and two washers retained above in upper holes of bracket and safety wire with MS20995-C32 wire. Install two NAS1164-2L screws and two MS2106C6 washers in reworked holes.
- f. Reinstall cooling blower and adjust cooling blower belt tension. (Refer to Section 9 of Basic HMI-Vol 1. )
- g. Reinstall transmission cover. (Refer to Section 2 of Basic HMI-Vol 1. )
- h. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

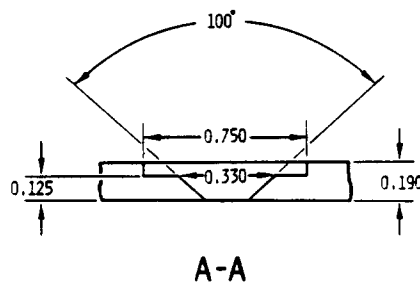
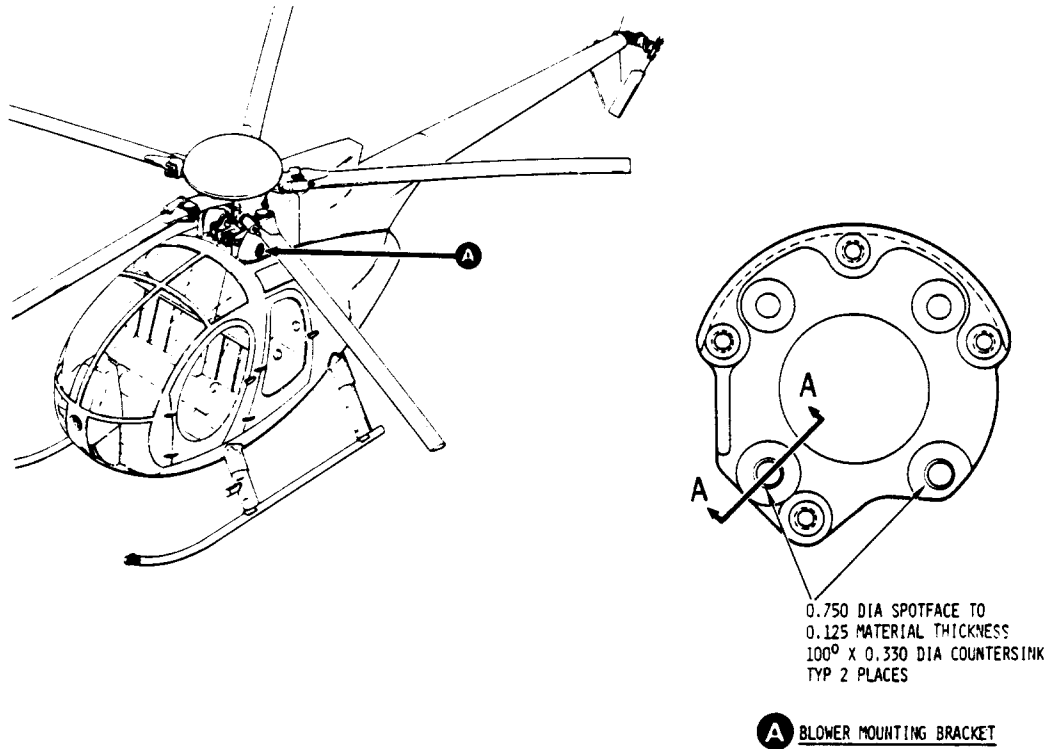
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**Figure 1. Rework of Cooling Blower Mounting Bracket**

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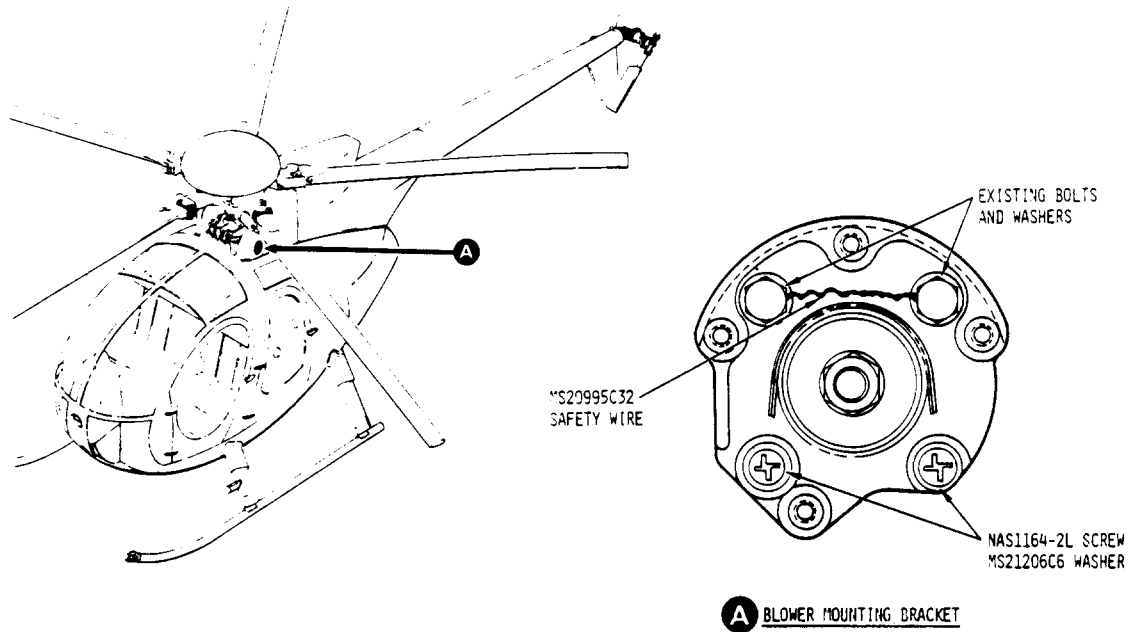
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NOTE:  
AFTER INSTALLATION OF SAFETY  
WIRE, INSURE THAT THE BELT  
DOES NOT INTERFERE WITH WIRE

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**Figure 2. Installation of Reworked Cooling Blower Mounting Bracket**

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## REWORK OF PN 369D290125-21 MIST ELIMINATOR ASSEMBLY – ENGINE AIR INLET FILTER (PARTICLE SEPARATOR) ASSEMBLY, PN 369H90148-507 AND 369H90148-509

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All Model 500D Helicopters equipped with subject PN 369H90148-507 and -509 Particle Separator Assemblies at date of this Notice.

All PN 369D290125-21 (APM PN AE-A224-1D2) Mist Eliminator Assemblies in Spares Inventory at date of this Notice.

#### B. PREFACE:

The information given in this Service Information Notice lists a procedure for removal of wire staples from the subject mist eliminator assemblies, to preclude the possibility of dislodged or damaged staples being ingested by the helicopter engine.

The attached Aircraft Porous Media Inc Service Bulletin provides detailed instructions for staple removal.

#### C. TIME OF COMPLIANCE:

Shall be accomplished within next 50 hours of helicopter operation.

Shall be accomplished prior to installation of subject Mist Eliminator Assembly in Spares Inventory.

#### D. FAA APPROVAL:

FAA APPROVED

#### E. WEIGHT AND BALANCE DATA:

Weight and balance not affected

#### F. REFERENCE:

Model 500D Basic HMI – Volume I, Issued 15 September 1976; Revision No. 3, 15 March 1979

IPL and Maintenance Instruction Publication No. CSP-004 for Engine Air Inlet Filter (Particle Separator) PN 369H90148-503, -505, -507 and -509, Issued 15 March 1979  
Aircraft Porous Media Inc Service Bulletin No. APM-TM-79-14, dated 15 March 1980

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## 2. PROCEDURE

a. As applicable, remove mist eliminator assembly from helicopter. (Refer to Publication No. CSP-004).

b. Check Aircraft Porous Media (APM) Serial Number on mist eliminator assembly,

**NOTE:** If APM Serial Number is 005 through 069, perform steps c, d and e below; otherwise perform steps d and e only,

c. Remove wire staples from mist eliminator assembly per attached APM Service Bulletin No. APM-TM-79-14.

d. Reinstall mist eliminator assembly on helicopter, as applicable.

e. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book; or tag Spares mist eliminator assembly and record compliance with this Notice in helicopter Log Book at installation of tagged unit.

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# SERVICE BULLETIN

Airframe - Engine Air Mist Eliminator - Removal of Wire Staples  
from Mist Eliminator Assembly.

## 1. PLANNING INFORMATION

### A. Effectivity

Mist Eliminator Assembly, Serial Nos. 005 to 069, Part No. AE-A224-1D2 (Hughes Part No. 369D290125-21) installed on Hughes Model 500D Helicopters or stocked as spare parts are affected by this Service Bulletin.

### B. Reason

To eliminate the possibility of dislodged or damaged wire staples attached to the Mist Eliminator Pad and/or Screen being ingested by the engine.

As the staples are not required for the safe physical or functional operation of the Mist Eliminator, removal will preclude engine damage from this source.

### C. Description

This Service Bulletin provides removal instructions of all staples from the Mist Eliminator Assembly.

### D. Compliance

It is recommended that this Service Bulletin be accomplished within the next 50 hours.

### E. Approval

None

### F. Manpower

With the Mist Eliminator readily accessible on a bench, approximately 0.5 manhours will be required to accomplish this Service Bulletin.

# SERVICE BULLETIN

Airframe - Engine Air Mist Eliminator - Removal of Wire Staples  
from Mist Eliminator Assembly.

G. Material

No new materials are required to accomplish this Service Bulletin.

H. Tooling

No special tools are required to accomplish this Service Bulletin.

Common tools consisting of a needle nose pliers and possibly a wire cutter will be required to accomplish this Service Bulletin.

I. Weight and Balance

Not affected.

J. References

None

K. Previous Modifications

There are no previous modifications.



# SERVICE BULLETIN

Airframe - Engine Air Mist Eliminator - Removal of Wire Staples  
from Mist Eliminator Assembly.

## 2. ACCOMPLISHMENT INSTRUCTIONS

With the Mist Eliminator Assembly removed from the helicopter,  
accomplish the following:

WARNING: IT IS MANDATORY THAT EVERY PIECE OF A REMOVED STAPLE BE  
ACCOUNTED FOR AND PROPERLY DISPOSED OF. FAILURE TO DO SO  
CAN CAUSE A REMAINING PIECE TO BE INGESTED BY THE ENGINE.

CAUTION: THE INSTALLED WIRE STAPLES DO NOT NECESSARILY CONFORM TO  
ONE SPECIFIC SHAPE. CARE MUST BE EXERCISED NOT TO DAMAGE  
THE MIST ELIMINATOR PAD DURING THE REMOVAL PROCESS. REFER  
TO FIGURE 1.

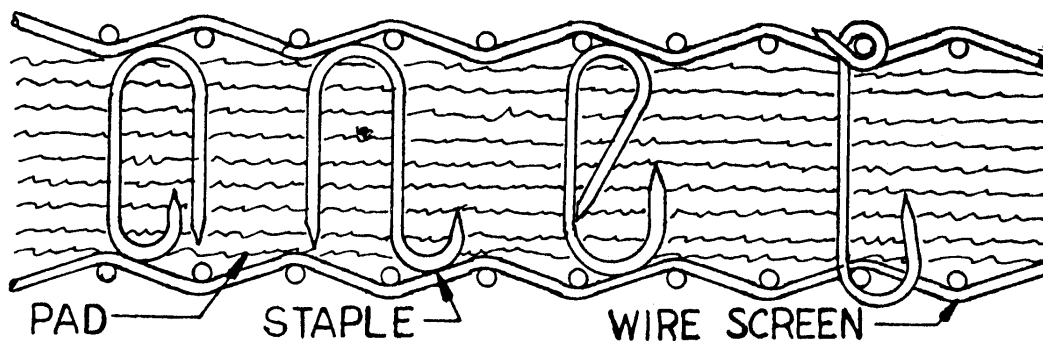


Figure 1. Sample Staple Installations

- A. Place Mist Eliminator on a clean bench that is free of all materials that can snag and damage the Mist Eliminator Pad or the wire screening, or become entrapped therein.

# SERVICE BULLETIN

Airframe - Engine Air Mist Eliminator - Removal of Wire Staples  
from Mist Eliminator Assembly.

NOTE: If difficulty is experienced in straightening the staple legs described in Step B, below, suspend all efforts and proceed to Step C.

- B. Using a needle nose pliers straighten one or both legs of the installed staple. Carefully pull the staple through the pad material and the wire screen. Refer to the above "WARNING" note. Repeat until all staples are removed.
- C. Should Step B, above, prove unsuccessful, perform the following operations:
  - (1) Without damaging the pad material or wire screening, cut the staple in the bend area(s) using an appropriate wire cutter.
  - (2) Remove all pieces of the staple without damaging the pad or screening.
  - (3) Match all pieces from sharpened end to sharpened end to ensure that the complete staple has been removed (approximately 5 inches long). Refer to the above "WARNING" note.
  - (4) Repeat steps C (1) through C (3) until all staples are removed.

### 3. MATERIAL INFORMATION

#### A. Material Requirements

No new materials are required to accomplish the intent of this Service Bulletin.

#### B. Bill of Materials

None

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\* Supersedes Service Information Notice No. DN-68, Dated 30 June 1980

## RELOCATION OF TAIL ROTOR BUNGEE SPRING FORWARD ATTACHMENT; TAIL ROTOR FORCE ADJUSTMENT

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

500D Model 369D Helicopter Serial No. 003D through 0467D

#### B. PREFACE:

The information given in this Service Information Notice lists a procedure to relocate the tail rotor bungee spring forward attachment to allow installation of washers for bungee adjustment, to adjust for minimum pedal loads in cruise. This revision corrects existing dimensions for the new bungee spring attachment hole location shown in Figure 1.

#### C. TIME OF COMPLIANCE:

Shall be accomplished within next-100 hours of helicopter operation.

#### D. FAA APPROVAL:

FAA/DER APPROVED: 2 December 1980

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. REFERENCE:

500D Model 369D Basic HMI-Volume I, Issued 15 September 1976;  
Revision No. 3, 15 March 1979.

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## G. PARTS LIST:

PARTS LIST			
Nomenclature	Part No.	Qty.	Source
Eyebolt	AN42B-C10A	1	Commercial
Washer	AN970-3		Commercial

## H. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Drillmotor, portable	
No. 10 drill	
Torque wrench – 0 to 100 in.lbs	

## I. MATERIALS:

MATERIAL	
Nomenclature	Source
Scotchweld ECC1838	3M Company

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## 2. REWORK PROCEDURE

### REWORK PROCEDURE

- a. Remove access cover between pilot's seats and/or passenger's footwell on aft side of canted bulkhead. (Refer to Section 2 of Basic HMI-Vol I. )
- b. Block left tail rotor control pedal at full forward position to relieve tension on bungee spring.
- c. Disconnect bungee spring from eyebolt and remove and retain nut and washer attaching eyebolt to bracket at Station 63. Discard eyebolt.
- d. Locate position and drill new hole using No. 10 drill. Remove any burrs as required. (See Figure 1. )
- e. Seal old eyebolt hole with Scotchweld EC1838 and dry per manufacturer's instructions.
- f. Treat edge of new hole per exterior touchup treatment- magnesium alloy per Section 2 of Basic HMI-Vol I.
- g. Install eight AN970-3 washers on one AN42B-C10A eyebolt and hook forward end of 369D27521 bungee spring to eyebolt. Insert eyebolt in new hole in 369A2541 bracket and secure with washer and nut retained above. Torque nut to 20- 25 in. lbs.

**NOTE:** If tail rotor pedal forces are not zero during level flight at 130 to 140 knots, tail rotor force adjustment may be accomplished by removing a desired number of AN970-3 washers.

- h. Remove block from left tail rotor control pedal.
- i. Reinstall access cover between pilot's seats and/or passenger's footwell. (Refer to Section 2 of Basic HMI-Vol I. )
- j. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

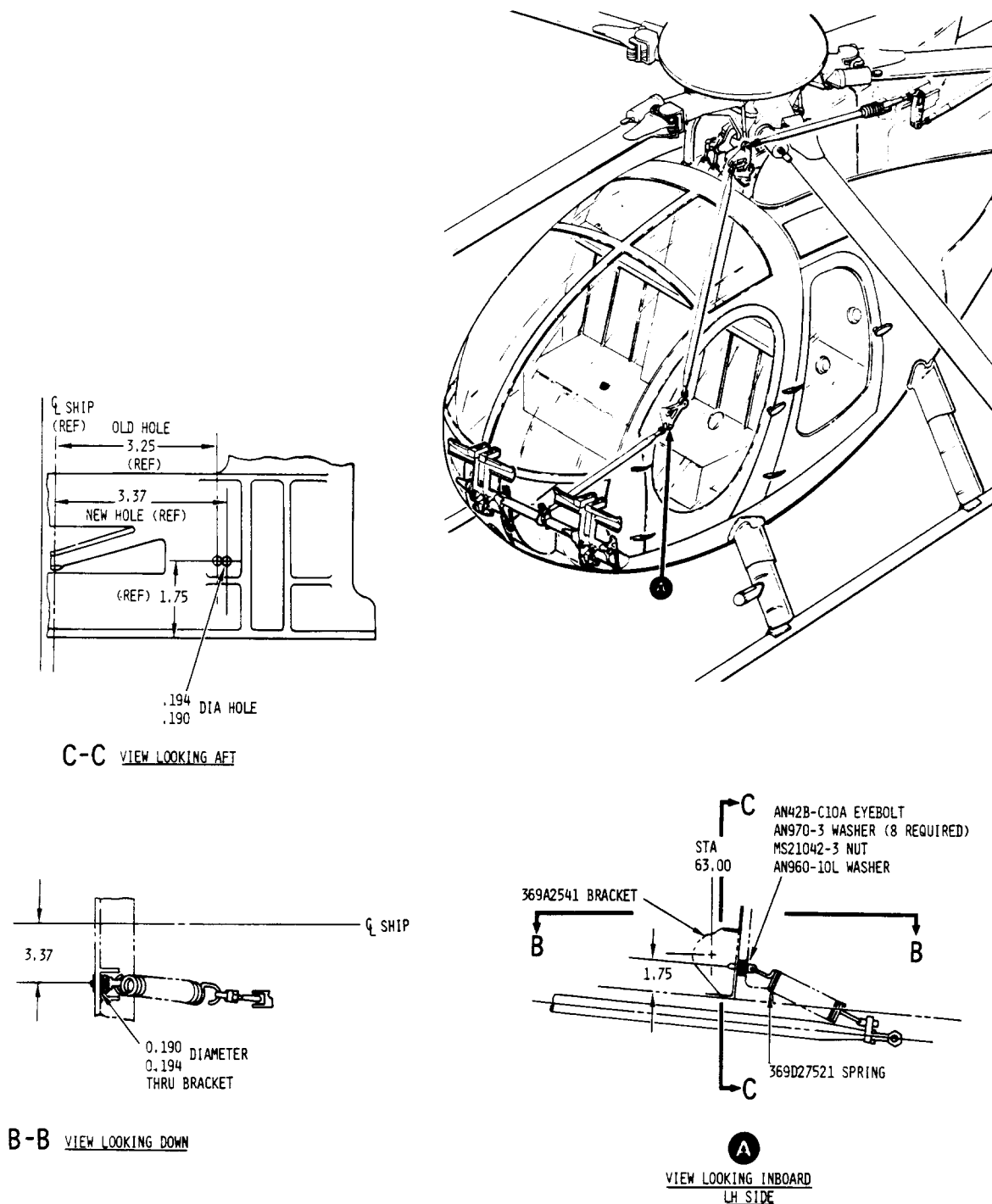
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**Figure 1. Relocation of Tail Rotor Bungee Spring Forward Attachment**

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## POLARITY CHECK OF DIODE ASSEMBLIES

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All Model 500D Series Helicopters equipped with PN 369H90118 Series Auto Reignition Kit and/or PN 369H90022 Series Anti-Ice Fuel Filter Kit delivered and installed on helicopter during 1979

All PN 369H90118 Series Auto Reignition Kits and PN 369H90022 Series Anti-Ice Fuel Filter Kits delivered and in Spares Inventory during 1979

#### B. PREFACE:

The information given in this Service Information Notice lists a procedure for a one-time check of the subject 1N3210 diode assemblies incorporated in PN 369H90118 Series Auto Reignition Kits and PN 369H90022 Series Anti-Ice Fuel Filter Kits delivered and installed on Model 500D Series helicopters or in Spares Inventory during 1979.

Field reports indicate that a small number of the above affected kits delivered during 1979 inadvertently incorporated diodes with reversed polarity (1N3210R). The two above kit installations are the only places the reverse polarity diodes would be installed on 500D helicopters. Installation of diodes with improper polarity can result in inability to start the engine or in malfunction of the automatic reignition system.

#### C. TIME OF COMPLIANCE:

Shall be accomplished within next 50 hours of helicopter operation shall be accomplished prior to installation of above affected Spares kits on helicopter

#### D. FAA APPROVAL:

FAA/DER APPROVED 30 June 1980

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. PARTS LIST:

PARTS LIST			
Nomenclature	Part No.	Qty.	Source
*Diode Assembly	1N3210	A/R	Commercial

\*Provided without cost, if required, by HH Service Center or Distributor. HH Service Centers and Distributors order from HH Warranty and Repair Department.

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## G. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Ohmmeter (with forward polarity)	

**NOTE:** Check ohmmeter as follows to determine forward polarity:

1. Set ohmmeter to ohms position.
2. Connect leads to a second voltmeter to determine which lead of the ohmmeter is positive.
3. Use meter as noted in body of notice.

## H. REFERENCE:

500D Basic HMI – Volume I, Issued 15 September 1976; Revision No. 3, 15 March 1979.  
 IPL and Maintenance Manual Publication No. CSP-003 for Engine Automatic Reignition Kit Installation, Issued 1 February 1978.  
 IPL and Maintenance Manual Publication No. CSP-035 for Anti-Ice Fuel Filter Kit Installation, Issued 1 March 1979.

## 2. PROCEDURE

### A. PART I - PN 369H90118 SERIES AUTO REIGNITION KITS INSTALLED ON HELICOPTER OR IN SPARES INVENTORY

- a. As applicable, open RH engine access door.
- b. Locate diode assemblies (CR1 and CR2) installed on helicopter right oleo support fitting. (See Figure 1. )
- c. Check Part Number on diode assemblies.

### **NOTE:**

1. If PN of diodes is 1N3210, perform steps f and g only.
2. If PN of diodes is 1N3210R, replace diodes with new PN 1N3210 diodes; perform steps e, f and g below.
3. If PN of diodes cannot be determined, perform steps d, -e, -f and g below.
- d. Test diodes, using ohmmeter (with forward polarity) at electrical connector pins. Check for low forward resistance with positive lead applied to terminal end and negative lead applied to stud end. Reverse leads and check for very high back resistance.

**NOTE:** If polarity of diode is reversed, replace existing diodes with new 1N3210 diodes.

- e. Perform function check of auto reignition system.
- f. Close engine access door;
- g. Record compliance with this Part I of this Service Notice in Compliance Record of helicopter Log Book; or tag Spares isolator diode assembly and 'record compliance with this Notice at installation of assembly on helicopter.

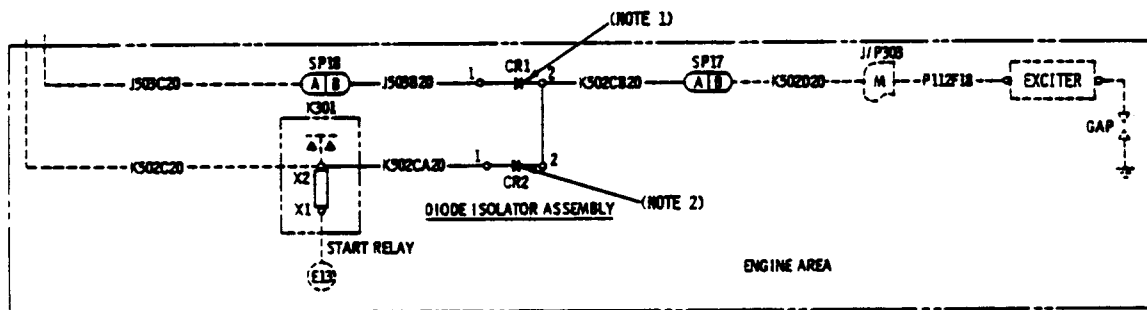
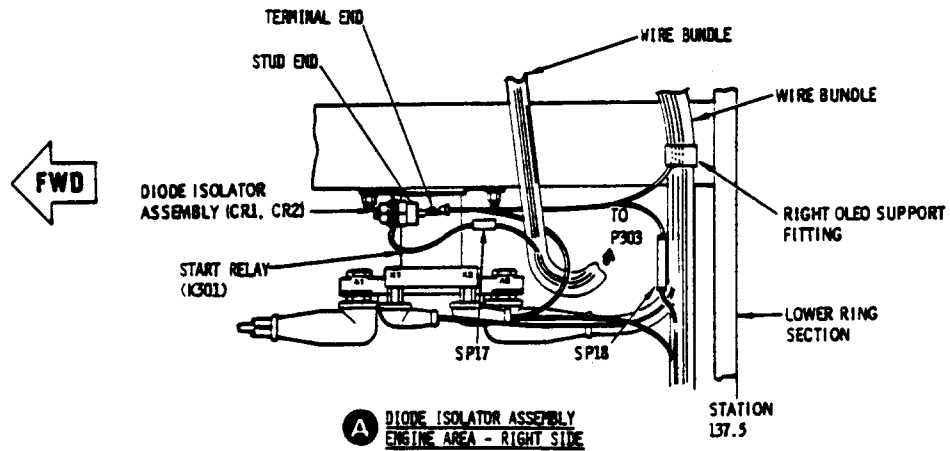
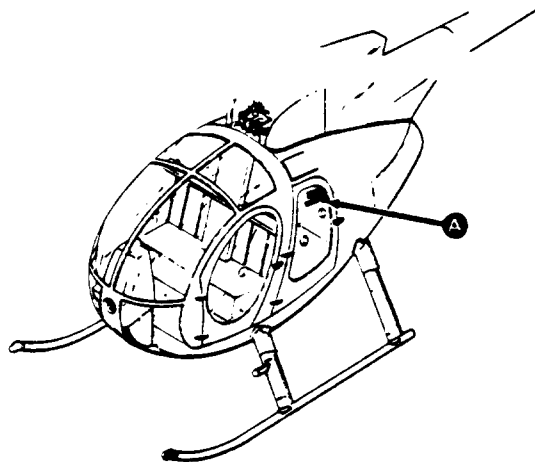
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WIRING DIAGRAM

**NOTES:**

1. IF CR1 REVERSED, AUTOMATIC REIGNITION SYSTEM INOPERATIVE.
2. IF CR2 REVERSED, ENGINE START NOT POSSIBLE.

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**Figure 1. Diode check - engine automatic reignition kit installation**

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**B. PART II - PN 369H90022 SERIES ANTI-ICE FUEL FILTER KITS INSTALLED ON HELICOPTER OR IN SPARES INVENTORY**

- a. Remove cover from PN 369H4735 anti-ice fuel filter panel assembly. ( See Figure 2. )
- b. Check Part Number of diode CR26 in panel assembly.

**NOTE:**

- 1. If PN of diode is 1N3210, perform steps e and f only.
  - 2. If PN of diode is 1N3210R, replace diode with new PN1N3210 diode; perform steps d, e- and f below.
  - 3. If PN of diode cannot be determined, perform steps c, d, e and f- below.
- c. Test diode, using ohmmeter (with forward polarity) at electrical connector pins. Check for low forward resistance with positive lead applied to terminal end and negative lead applied to stud end. Reverse leads and check for very high back resistance.

**NOTE:** If polarity of diode is reversed, replace diode with new 1N3210 diode.

- d. Perform function check of anti-ice fuel filter system
- e. Reinstall panel cover.
- f. Record compliance with Part II of this Service Notice in Compliance Record of helicopter Log Book; or tag panel assembly and record compliance with this Notice at installation of panel assembly on helicopter.

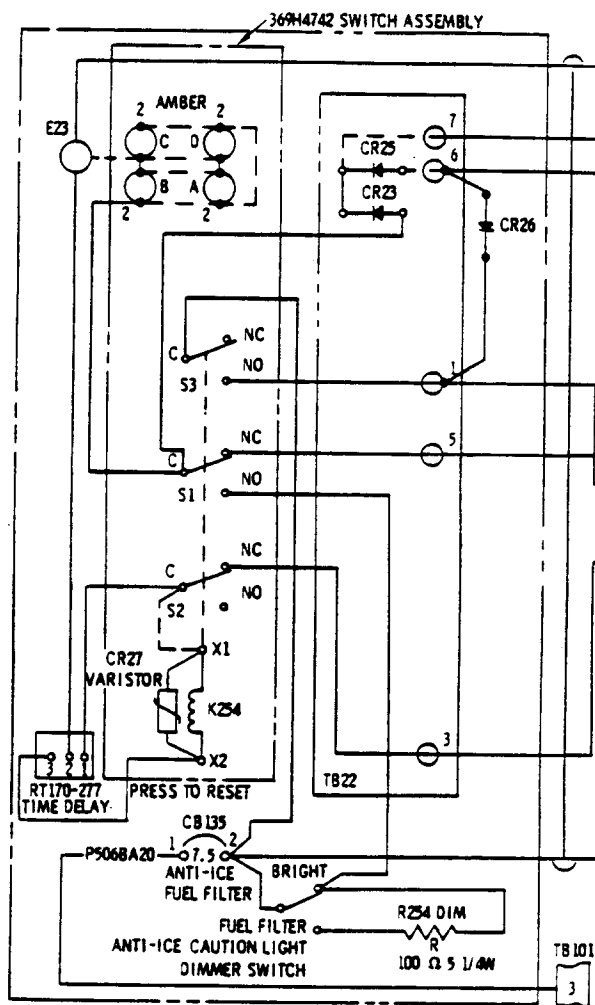
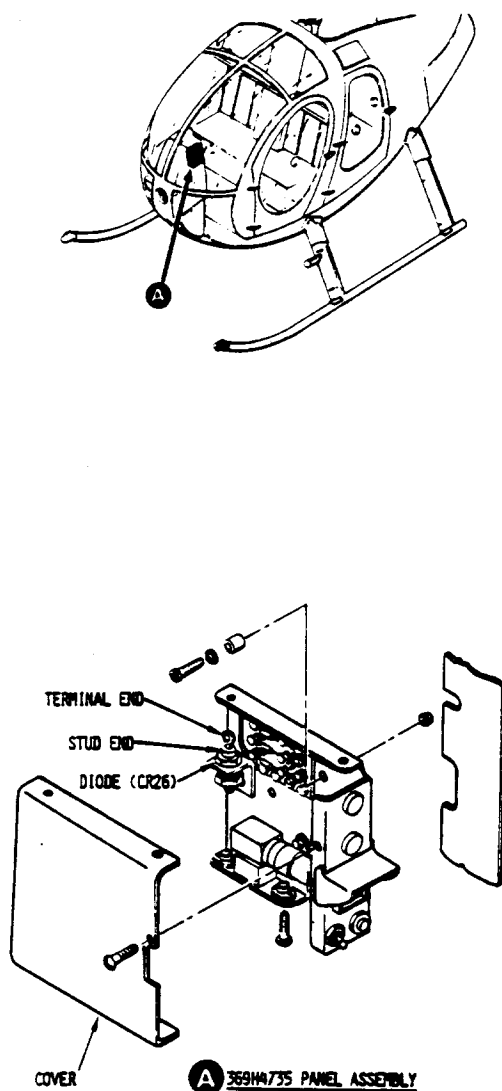
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WIRING DIAGRAM

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**Figure 2. Diode Check - Anti-Ice Fuel Filter Kit Installation**

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## IDENTIFICATION AND POSSIBLE REWORK OF SEAT BELT AND SHOULDER HARNESS ASSEMBLIES

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All 500D Model 369D Series Helicopters delivered prior to 19 May 1980

All Seat Belt and Shoulder Harness Assemblies in Spares Inventory at date of this Notice

#### B. PREFACE:

The information given in this Service Information Notice lists a procedure for identification of seat belt and shoulder harness assemblies installed on the helicopter and in Spares Inventory, and for rework of the up belt assemblies, if applicable, per the attached American Safety Equipment Service Bulletin No. CP-1002.

#### C. TIME OF COMPLIANCE:

Shall be accomplished within next 50 hours of helicopter operation

Shall be accomplished prior to installation of affected Spares Seat Belt and Shoulder Harness Assemblies on helicopter

#### D. FAA APPROVAL:

FAA/DER APPROVED 2 July 1980

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. PARTS LIST:

None

#### G. MATERIALS:

MATERIAL	
Nomenclature	Source
Paint, green or Permanent Ink Felt Tip Marker, green	Commercial

#### H. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Punch, flat ended	Commercial

#### I. REFERENCE:

500D Series - Basic HMI, Vol. I, Issued 15 September 1976; Revision No. 3, 15 March 1979  
American Safety Equipment Corporation Service Bulletin No. CP-1002, dated 19 May 1980

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## 2. PROCEDURE

**NOTE:** Removal of seat belt and shoulder harness assemblies not required.

- a. Visually determine whether seat belt and shoulder harness assemblies are manufactured by American Safety Equipment Corporation. See Figure I and refer to attached ASEC Service Bulletin No. CP-1002 for product identification data and parts/assemblies affected.

**NOTE:**

If seat belt assemblies are not manufactured by American Safety Equipment Corporation, perform step d only.

If seat belt assemblies are manufactured by American Safety Equipment Corporation, and seat belt tag (See Figure 1) has green hex-shaped stamp, perform step d only.

- b. As required, rework American Safety lap belt assemblies per attached Service Bulletin No. CP- 1002.
- c. Apply 3/8-inch green dot on tag at location shown in Figure 1.
- d. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

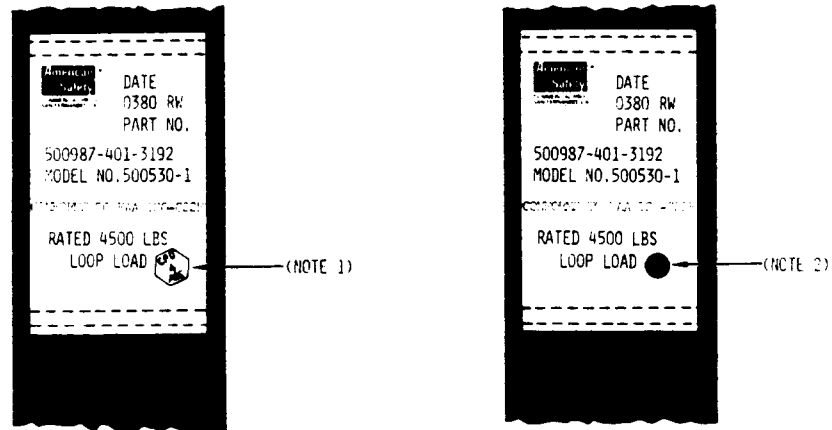
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NOTES:

1. GREEN HEX-SHAPED STAMP DENOTES LAP BELT ASSEMBLY REWORKED BY AMERICAN SAFETY EQUIPMENT CORPORATION (NO FIELD REWORK REQUIRED).
2. GREEN DOT DENOTES LAP BELT ASSEMBLY REWORK ACCOMPLISHED PER THIS NOTICE.

38-402

**Figure 1. Identification of Reworked Seat Belt Assemblies**

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AMERICAN SAFETY EQUIPMENT CORPORATION

COMMERCIAL PRODUCTS DIVISION  
650 JESSIE STREET  
SAN FERNANDO, CALIFORNIA 91340  
PHONE 213/365-4681

**SERVICE BULLETIN NO.** CP-1002

SUBJECT: Connector/Buckle Interference on Lap Belt Assemblies which have Adjustable Connector 500950.

PARTS/ASSEMBLIES AFFECTED: 1. Connector numbers 500950, 500950-401, 500950-403 or 500950-405 only when used in combination with buckle models 5000B2, 5000B3 or 6000.

2. Seat belt part numbers 449105-403, 500869-403 & -405, 500870-403 & -405, 500872-403, 500878-401, -403 & -405, 500879-401 & -403, 500987-401 & -403, 501423-401 and 501429-401.

PRODUCT IDENTIFICATION: 1. All buckles and connectors are identified by their respective model or part numbers. The model number of the buckle is on the underside of the base. The location of the connector part number is shown on Figure 1.

2. All seat belt assemblies are identified by their respective part numbers. A white cloth label is sewn or a metal label is attached to each buckle and connector portion of the assembly. The labels identify part number, model number, manufacturing date code and manufacturer.

EFFECTIVITY: All assemblies delivered between April 1975 and April 1980.

EXPLANATION: There is a possibility that some lap belt assemblies due to the thickness of the connector may have interference. See Section B-B of Figure 1. This condition makes it possible for the connector to be pushed in and retained in the buckle without being locked. See Section A-A of Figure 1.

ACCOMPLISHMENT: At the next periodic inspection or sooner.

REWORK INSTRUCTIONS:

Rework of lap belt assembly can be accomplished without removing the assembly from its anchorage

Follow steps exactly as described below:

Step 1: Remove connector from buckle.

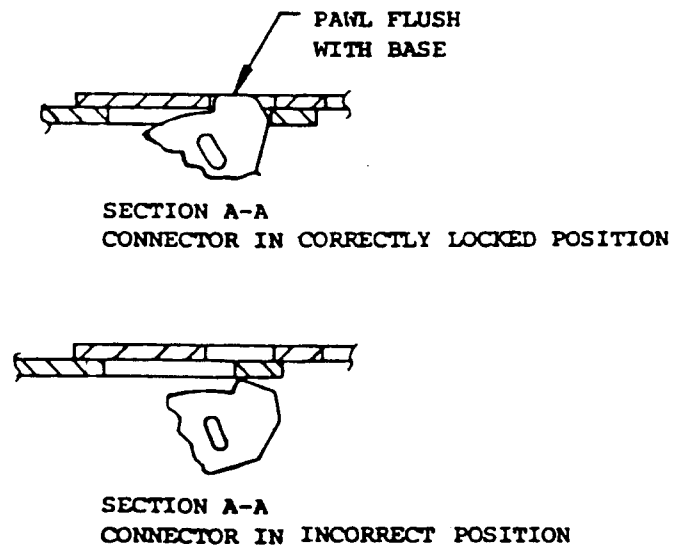
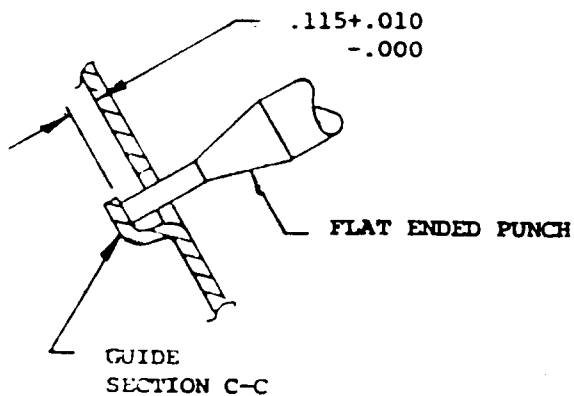
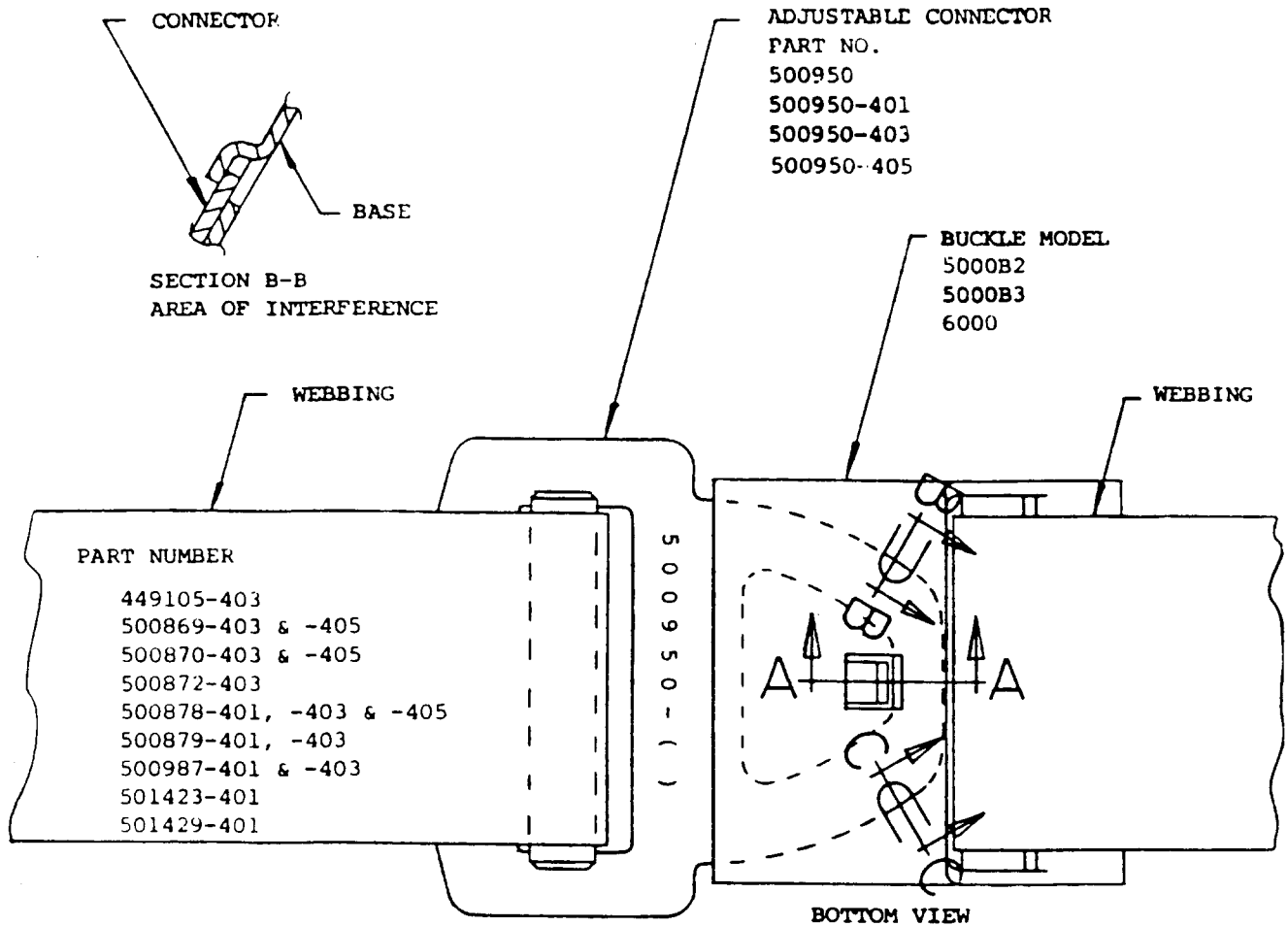
Step 2: Using a flat punch, strike each of the two guide of Figure 1 until the guide dimensions meet .115/.125 inches as shown in Section C-C of Figure 1.

Step 3: Verify dimension with thickness (feeler) gauge.

5/19/80

COMMERCIAL PRODUCTS DIVISION

650 JESSIE STREET  
SAN FERNANDO CALIFORNIA 91340  
PHONE 213/365-4681



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## WIRING MODIFICATION – UTILITY LIGHT CIRCUIT AND TRANSMISSION OIL PRESSURE AND TEMPERATURE WARNING LIGHT CIRCUIT

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

500D Model 369D Helicopter Serial No. 0003D thru 0162D

#### B. PREFACE:

The information given in this Service Information Notice lists a procedure for rewiring the utility light circuit and the transmission oil pressure and temperature warning light circuit. The purpose of the wiring modification is to eliminate deactivation of the utility light and transmission warning light circuits in the event the engine power out (EPO) unit is deactivated by tripping the EPO circuit breaker.

#### C. TIME OF COMPLIANCE:

Shall be accomplished within next 100 hours of helicopter operation

#### D. FAA APPROVAL:

FAA/DER APPROVED 15 SEPTEMBER 1980

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. PARTS LIST:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Lig, terminal	MS25036-149	1	Commercial

#### G. REFERENCE:

Model 500D Basic HMI-Volume I, Issued 15 September 1976; Revision No. 3, 15 March 1979

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****2. PROCEDURE**

- a. Check that all electrical power is OFF.
- b. Remove instrument panel hood and side fairings. (refer to Section 17 of HMI-Volume I.)
- c. Remove circuit breaker panel from instrument console. (See Figure 1.)
- d. Disconnect electrical wiring harness connector from EPO warning unit plug (P19). (Refer to Section 19, HMI-Vol I. )
- e. Disconnect existing transmission warning light circuit wire No. E518A22 from pin K of P19 wiring harness connector plug.
- f. Connect wire No. E518A22 to PANEL LT circuit breaker CB104-2, using terminal lug MS25036-149.

**NOTE:** Performance of step g below is applicable to 369D helicopter Serial No. 0003D thru 0129D only.

- g. Remove existing UTIL LT circuit wire No. L531A22 from ENG OUT circuit breaker CB106-2 on panel; connect wire No. L531A22 to N<sub>2</sub>GOV circuit breaker CB103-2 on panel.
- h. Check wiring modification for discrepancies.
- i. Reinstall circuit breaker panel; reconnect EPO wiring harness connector; reinstall instrument panel fairings and hood.
- j. Make wiring changes in respective wiring diagrams, Section 20 of Basic HMI.
- k. Record compliance with this Service Information in Compliance Record of helicopter Log Book.

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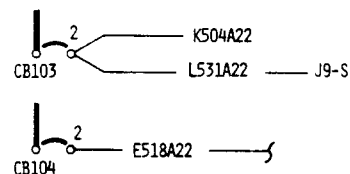
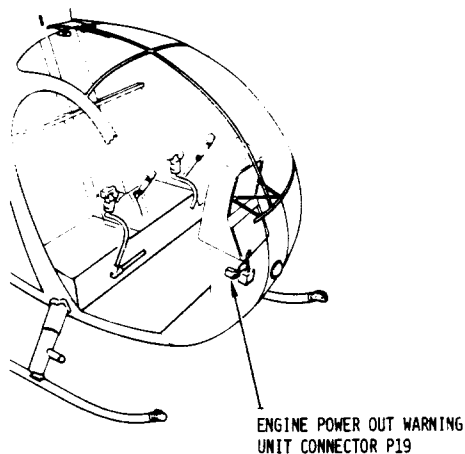


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L531A22	CB103-2	MS25036-149
E518A22	CB104-2	MS25036-149

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**Figure 1. Wiring Modification - Utility Light and Transmission Warning Light**

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\* Supersedes Service Information Notice No. DN-78, dated 14 January 1981

## INSPECTION OF PN 369A7003-3 SWASHPLATE BEARING

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

500D Model 369D helicopter Serial No. 0003D through 0830D

#### B. PREFACE:

The information given in this Service Information Notice lists a procedure for inspection of PN 369A7003-3 bearing assembly for cracks around mounting holes in the bearing sleeve.

#### C. TIME OF COMPLIANCE:

Shall be accomplished within next 300 hours of helicopter operation or at next annual inspection, whichever occurs first.

#### D. FAA APPROVAL:

FAA/DER APPROVED 29 July 1981

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. REFERENCE:

500D Model 369D Basic HMI-Vol I, Issued 15 September 1976, Revision No.  
15 May 1981 500D Model 369D Component Overhaul Manual, Issued 15 September 1976

#### G. PARTS LIST:

PARTS LIST			
Nomenclature	Part No.	Qty.	Source
Bearing Assembly*	369A7003-3	1	HH
Washer	369A1605-5	4	HH
Washer**	AN960PD416L	AR	Commercial

\* If required

\*\* Required only when using alternate method of installing bearing attach bolts.

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## H. MATERIALS:

MATERIALS	
Nomenclature	Source
Primer, zinc chromate 908-L-02110 TT-P-1757	Glidden-Durkee Div., SCM Corp. 900 Union Commerce Bldg. Cleveland, Ohio 44115
1063-166	E.I. DuPont de Nemours Co. Marshall Laboratory 3500 Grays Ferry Ave. Philadelphia, PA 19146

## 2. INSPECTION PROCEDURE

- a. Remove swashplate assembly from helicopter (refer to Basic HMI-Vol 1, Section 7 ).
- b. Remove PN 369A7003-3 bearing assembly from swashplate assembly and clean (refer to 369D-COM, Part V, Sections 2 and 3).
- c. Inspect subject bearing assembly for cracks using the dye penetrate method, with special attention to area of bearing sleeve around four mounting holes where bearing assembly bolts to stationary swashplate.



Ensure that solution does not permeate either ball or teflon bearing.

- d. If cracks are found in bearing assembly, it must be replaced with a new bearing assembly and installed per steps f. and g. below.
- e. If no cracks are found in bearing assembly, it may be reinstalled per steps f. and g. below.

**NOTE:** If suspect indications are discovered by dye penetrate inspection, which cannot be definitely confirmed, the subject bearing assembly is to be reinspected using the magnetic particle method. After magnetic particle inspection, perform step d. or e. above.



Ensure that solution does not permeate' either ball or teflon bearing.

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f. Install original (or new) bearing assembly in swashplate assembly per 369D-COM, Part V, Section 6, except install bearing attach bolts as follows:

**NOTE:** Some bearing assemblies may have sharp edges around the mounting holes. If sharp edges have nicks, dress out using hand file or emery cloth and apply zinc chromate primer.

1. Bolts may be installed with heads facing inward by installing one PN 369A1605-5 washer under head of each bolt.

2. Bolts may be installed with heads facing outward by installing PN AN960PD416L washers as required (two maximum) under bolt head to maintain 1.5 to 2 exposed threads of bolt and a minimum of 0.100-inch distance between ball and bolt

g. Reinstall swashplate assembly on helicopter (refer to Basic HMI-Vol 1, Section 7).



If PN NAS1304-15 and NAS1304-16 bolts are used to attach bearing assembly to swashplate assembly and bolts were installed with heads facing outward (step f2 above), position controls full collective down and full forward cyclic left and full forward cyclic right. Observe if forward bolts interfere with mast. If interference occurs, repeat step a., replace PN NAS1304-15 bolt with PN NAS1104-15 bolt and PN NAS1304-16 with PN NAS1104-16 bolt and repeat step g.

h. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

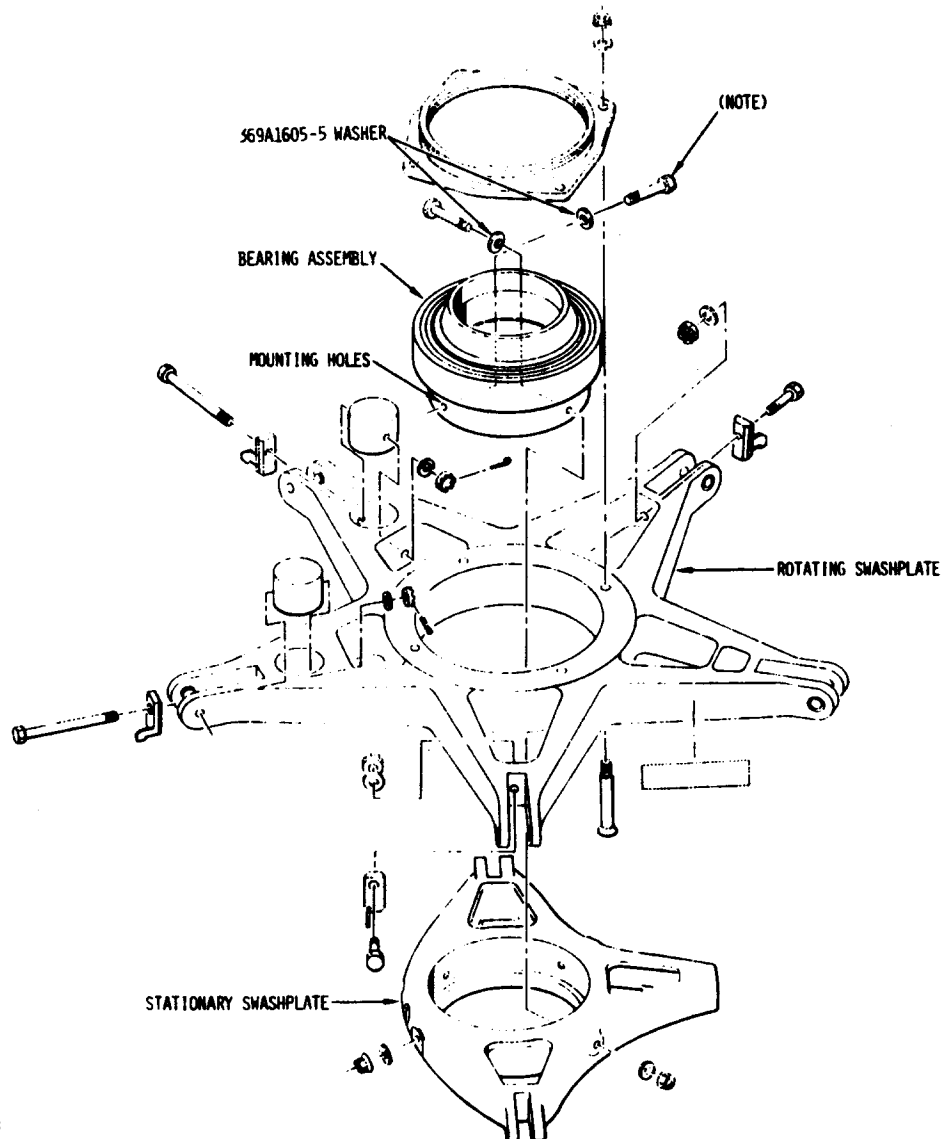
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**NOTE:**

BOLTS MAY BE INSTALLED WITH HEADS FACING INWARD AS AN ALTERNATE METHOD. REFER TO TEXT FOR INSTRUCTIONS.

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**Figure 1. Inspection of Swashplate Bearing**

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## SEALING OF INTERFACES OF ABRASION STRIP AND MAIN ROTOR BLADE SKIN

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

500D Model 369D Helicopters equipped with PN 369D21100 Rotor Blade Assemblies with Serial Nos. below 6551. 500MD Model 369MD Helicopters equipped with PN 421-086 Main Rotor Blade Assemblies with Serial Nos. below 0377.

#### B. PREFACE:

The information given in this Service Information Notice lists a procedure for sealing of interfaces of abrasion strip and main rotor blade skin to inhibit corrosion and/or adhesive erosion.

#### C. TIME OF COMPLIANCE:

When main rotor blade(s) show visual signs of adhesive erosion at interface with abrasion strip.

#### D. FAA APPROVAL:

FAA/DER APPROVED 2 February 1981

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. MATERIALS:

MATERIALS	
Nomenclature	Source
Solvent – M-114M, or Methyl Ethyl Ketone (MEK), TT-M-261	J.B. Moore Company, 1 605 Ventura Blvd., Encino, CA 91436
Adhesive – EC2216 B/A,	3M Company, 6411 Randolph, Los Angeles, CA 90045
Sealant – PR1436G, Class B-2 or PR1422G, Class B	Products Research and Chemical Corporation, 2919 Empire Avenue, Burbank, CA 91504
Release agent – TC7-527, or 225,	EPD Industries, 2055 E. 223 Street, Long Beach, CA 90810 Ram Chemical Company, Gardena, CA
Printer, zinc chromate	

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## G. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Sealant applicator gun or spatula	

## 2. PROCEDURE

- a. Remove screw and tip cap from main rotor blade.
- b. Remove any loose or cracked sealant or adhesive from areas of main rotor blade shown in Figure 1.

**WARNING**

**MEK is flammable. Use in well ventilated area and away from smoke and flame,**

- c. Clean areas to be sealed with clean cloth moistened with M-114M solvent. For hard to clean problem areas MEK solvent may be used. Wipe surface dry before solvent evaporates.
- d. Prepare EC2216 B/A adhesive per manufacturer's instructions.
- e. Apply bead of adhesive to interface of abrasion strip and blade skin as shown in Figure 1. Ensure that there are no gaps or bridges in bead. Cure adhesive Net manufacturer's instructions.
- f. Seal tip cap as follows: (See Figure 1)
  1. Apply release agent to inside of tip cap per manufacturer's instructions.
  2. Prepare and apply a 0.010 to 0.020 inch coating of PR1436G Class B-2 or PR1422G Class B sealant to laying surfaces per manufacturer's instructions.
  3. Attach tip cap to blade and install screw with zinc chromate primer.
  4. Wipe off squeezed out sealant flush with surface.

**NOTE:** To inhibit moisture entering bond joint of abrasion strip · after initial application, reapply sealant, when sealant is worn away or becomes cracked.

- g. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

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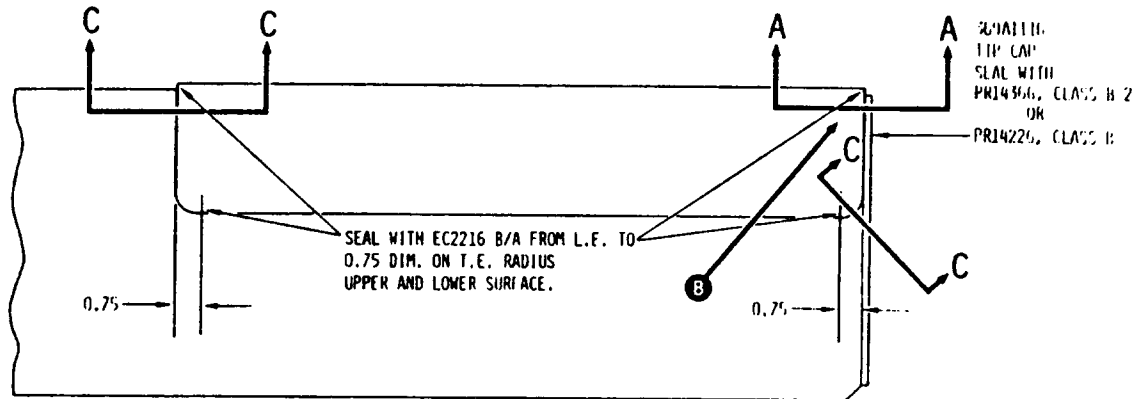


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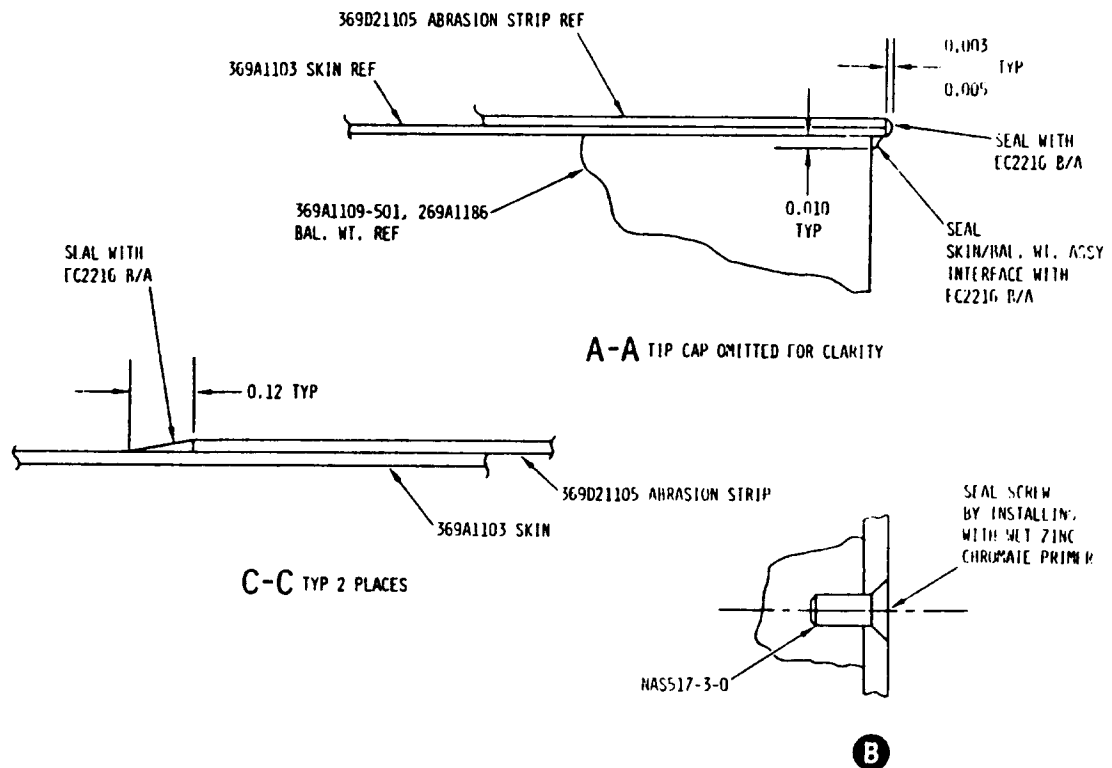
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369D21100 MAIN ROTOR BLADE ASSEMBLY



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**Figure 1. Sealing of Abrasion Strip and Tip Cap**

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## REPLACEMENT OF TAVCO PN 23111369 SOLENOID VALVE, FLOAT INFLATION SYSTEM – EMERGENCY FLOAT ASSEMBLIES, HUGHES PN 369D290121–501 AND 369D290121–505.

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All subject float assemblies, incorporating subject solenoid valve, installed on 500D Model 169D helicopters or in Spares Inventory.

#### B. PREFACE:

The information given in Part I of this Service Information Notice lists a procedure for replacement of the TAVCO so valve, in the emergency float system, with a TAVCO squib valve assembly. The subject solenoid valve is no longer available from the manufacturer. Therefore, when replacement becomes necessary, it must be replaced with a TAVCO squib valve assembly (in sets only). This Notice also provide for rewiring of the emergency float system to actuate the new squib valve. Installation of squib valves removes the 32° F temperature limit. Accomplishment of Part I reidentifies float inflation system to PN 369D290121–519. Part H lists procedures for replacement of PN 232626–1 squib valve after each activation of squib valve assembly.

#### C. TIME OF COMPLIANCE:

Part I: Shall be accomplished at next replacement of subject solenoid valve.

Part II: Shall be accomplished after each activation of squib valve assembly.

#### D. FAA APPROVAL:

FAA/DER APPROVED 16 April 1981

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. REFERENCE:

500D Model 369D Basic HMI–Vol I, Issued 15 September 1976; Revision No. 3, 15 March 1979

IPL and Maintenance Instructions for Emergency Float Kit – Extended Landing Gear, Publication No. CSP–02S, Issued 15 August 1977

#### G. PARTS LIST:

PARTS LIST			
When ordering, specify Kit No. M50458 (Commercial or M50458–5 (Military) consisting of:			
<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Source</u>
Valve, squib (LH)	23111 380– 3	1	TAVCO

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PARTS LIST (Cont)			
<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Source</u>
Valve, squib (RH)	23111 380-4	1	TAVCO
Kit – squib valve replacement (for valves with sealed cover)	50014114	2	TAVCO
Kit – squib valve replacement (for valves with button type cover)	50014115	2	TAVCO
Fitting	60056163	2	TAVCO
Packing	MS28778-12	2	Commercial
Packing	MSZ8778- 6	4	Commercial
Card, VNE	369D292574-49	1	HH
Card, VNE	369D292574-51	1	HH
Card, VNE	369D292574-53	1	HH
Card, VNE	369D292573-19	1	HH
Electrical Instl Kit (Comm)	369H9Z557-511	1	HH
	or		
Electrical Instl Kit (Mil)	369H92557-513	1	HH
consisting of:			
Switch assy	369H92557-61	1	HH
Disconnect	3Z445	Z	Amp Inc.
Disconnect*	32445	8	Amp Inc.
Sleeve	D 121#	8	Raychem
Sleeve**	D 1 Z 1#	2	Raychem
Sleeving	RNF 100X 1 /4	AR	Raychem
Cap**	3/16 PD	4	
Contact	MPC MZ0MH2	3	Burndy Corp.
Terminal	MS25036-103	2	Commercial
Terminal**	MS25036-103	3	Commercial
Terminal	MS25036-149	1	Commercial
Terminal*	MS25036-149	1	Commercial

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PARTS LIST (Cont)			
<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Source</u>
Steering	RNF100X1-8	AR	Raychem
Splice	MS25181-1	4	Commercial
Connector	PT06P8-4S	2	Bendix Plug

# Alternate PN NAS1745-3

\*Component of 369H92557-513

\*\*Component of 369H9255 7- 511

## H. MATERIALS:

MATERIAL	
<u>Nomenclature</u>	<u>Source</u>
Wire, MIL-W-5086, Type II, ZZ GA, one conductor	
Cable, MIL-C-7078, CL A, Type 2, two conductor shielded (red and black)	
Wire, MIL-C-7078, CL A, Type 2, 20 GA, one conductor shielded	
Wire, MIL-W-5086, Type II, AWG Z0, one conductor	
Sleeving, MIL-I-631, Type F, No. 20	
Grease - MIL-G-4343 or equivalent	
Alcohol	

## I. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT	
<u>Nomenclature</u>	<u>Source</u>
X-Acto knife	
Torque wrench	
Blow dryer or equivalent source of hot flowing air	
Volt-ohmmeter (VOM), Simpson Z60 or equivalent	
Allen Wrench - 3/16 inch	

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**SERVICE BULLETIN****/// MANDATORY ///****2. PART I – REWORK PROCEDURE**

- a. Turn off electrical power.
- b. Unpack emergency floats. (Refer to CSP-025)
- c. Remove valve protector and unlace cylinder sling lacing cords. (See Figure 1)
- d. Disconnect solenoid valve electrical wiring knife splice at (SP4, SP5, SPA, and SP10)solenoid.
- e. Loosen nut at outlet port of solenoid valve. Disconnect valve assembly from union by unscrewing cylinder and valve assembly in counterclockwise direction. Remove cylinder and valve assembly. (See Figure 1)
- f. If cylinder is not empty, discharge as follows:

**WARNING****Exercise care when discharging cylinder. Personnel can be injured by high pressure air or flying debris.**

1. Secure cylinder in chain vise or equivalent. Point filler valve outlet in safe direction.
  2. Use two open end wrenches, one on filler valve body and one on nut. Turn nut slowly counterclockwise 2-1/4 turns and allow all pressure to escape. Check gage to verify that no pressure remains in cylinder.
- g. Remove solenoid valve from cylinder. Discard solenoid valve and packing. (See Figure 1)
  - h. Install new squib valve (PN 23111380-3 LH float, PN 23111380-4 RH float) with PN MS28778-12 packing on cylinder. Torque to 360-504 inch pounds. (See Figure 2)
  - i. Install fitting with PN MS28778-6 packing on existing union. (See Figure 2)
  - j. Recharge cylinder and test for air leaks. (Refer to CSP-025)
  - k. Install charge cylinder and squib valve assembly with PN MS28778-6 packing on fitting. (See Figure 2)
  - l. Revise emergency float electrical system as follows:
    1. Remove access panels and/or covers as necessary to expose emergency float wiring. (Refer to Basic HMI - Vol I)
    2. Remove all emergency float wiring except as noted in Figure 3.
    3. Remove and discard relay installation, doubter and attaching hardware located on pilot's floor support, left bulkhead.
    4. Remove emergency float switch tight assembly and install new switch tight assembly.
    5. Install wiring as shown in Figure 3. Do not plug in electrical connectors (P 101 and P102) until after electrical system check.
    6. Reinstall access panels and/or covers. (Refer to Basic HMI - Vol I)
  - m. Turn on electrical power.

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n Perform inflation system electrical control equipment operational check as follows:

1. Test light check.

- (a) Check ship voltage with VOM. Voltage should be 27.5 VDC.
- (b) Open emergency float circuit breaker (CB121).
- (c) Install one lead of 0.5 ohm  $\pm 5\%$ , 10W resistor in pin A of. lefthand connector: (P101). Connect one test lead of ammeter (VOM) to other lead of resistor. Connect other test lead of ammeter (VOM) to pin D of connector (P101).
- (d) Close emergency float circuit breaker (CB121).
- (e) Press "PRESS TO TEST" switch and observe current reading on meter and brilliance of lamps. Current should be 75 MA minimum and brilliancy of lamps should be fairly bright.
- (f) Open emergency float circuit breaker (CB121).
- (g) Remove meter and resistor from connector (P101).
- (h) Repeat steps (c) through (g) for righthand connector (P102).

2. System check.

- (a) Ensure that circuit breaker (CB121) is open and connectors (P101 and P102) are disconnected.
- (b) Install one lead of 40 ohm  $\pm 1\%$ , 20W resistor in pin A of lefthand connector (P101) and install other lead of resistor in pin D of connector (P 101).
- (c) Connect test leads of volt meter (VOM) across resistor.
- (d) Close emergency float circuit breaker (CB121).
- (e) Press firing switch on pilot's grip and observe voltage on Voltage should be 25.5 VDC minimum,
- (f) Open circuit breaker (CB121).
- (g) Remove meter and resistor from connector (P101).
- (h) Repeat steps (b) through (g) for righthand connector (P102).

3. Connect connectors (P101 and P102) to squib valves.

4. Close emergency float circuit breaker (CB121).

5. Press "PRESS TO TEST" switch and observe that lamps light.

6. Open circuit breaker (CB121).

o. Ensure that cylinder is positioned so that pressure gage is visible through inspection window when floats are stowed (pressure gage axis inclined outboard approximately  $40^\circ$  ).

p. Repack emergency floats. (Refer to CSP-025)

q. Remove existing VNE cards (solenoid valve, floats stowed (3) and solenoid valve, floats inflated (1)).

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r. Install PN 369D9-92574-49, -51 and -53 VNE cards (squib valve, floats stowed and PN 369D292573-19 VNE card (squib valve, floats inflated).

s. Record compliance with Part I of this Service Information Notice in Compliance Record of helicopter Log Book.

### 3. PART II REPLACEMENT OF PN 232626-1 SQUIB VALVE

a. Replace squib valves with sealed covers as follows: (See Figure 4)

1. Removal of actuated valve.

(a) MANDATORY: Open manifold charge valve to verify that there is no pressure in the pressure vessel.

(b) Note orientation of squib with respect to pressure gauge.

(c) Using X-Acto knife, cut through black plastic cover all around valve-body to manifold joint and to uncover four screw heads near outlet port (See Figure 4).

(d) Using Allen Wrench, remove the four screws near the outlet port. Retain screws to use with new valve.

(e) Pull 232626 valve straight off manifold until separated.

(f) Discard actuated valve.

2. Installation of Replacement Valve.

(a) Lightly lubricate O-ring on new valve with MIL-G-4343 or equivalent pneumatic grease.

(b) Maintaining squib orientation noted in step 1 (b) above, install 232626 valve onto manifold. Valve must bottom metal-to-metal on the face of the manifold. Minor trimming of the plastic cover may be required. Remove minimum material.

(c) Install the four screws hand-tight (Note: helicoil insert in manifold has locking thread).

(d) Using Allen Wrench, tighten the four screws evenly until bottomed. Using a Torque Wrench, apply 38 to 43 lb-in. torque to the screws.

(e) To reseal the black plastic cover clean the surface with alcohol and apply a thin coat of the black fluid supplied with the 50014114 kit to the valve body and manifold joint. Cure with hot air until it turns shiny, then remove heat source.

To reseal the screw holes, preheat the screw heads with hot air. Fill the cavities with the black fluid and cure with hot air Until shiny, then remove heat source.

**NOTE:** Multiple coats may be required to seal the joints completely. Resealing is recommended for maximum protection from corrosion in a humid environment. If is not mandatory for valve operation.

b. Replace squib valves with button type covers as follows:

1. Removal of actuated valve:

(a) MANDATORY: Open manifold charge valve to verify that there is no pressure in the pressure vessel.

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- (b) Note orientation of squib with respect to pressure gauge.
- (c) Spread plastic cover at its parting line until the small round end of the white plastic buttons pull through the black plastic and over the squib connector, allowing access to the four screws that retain the valve body.
- (d) Using Allen Wrench, remove the four screws near the outlet port. Retain screws to use with new valve.
- (e) Pull 232626-1 valve straight off manifold until separated.
- (f) Discard actuated valve.

## 2. Installation of Replacement Valve:

- (a) Lightly lubricate o-ring on new valve 'with MIL-G-4343 or equivalent pneumatic grease.
- (b) Maintaining squib orientation noted in step 1 (b) above, install 232626-1 valve onto manifold. Valve must bottom metal-to-metal on the face of the manifold.
- (c) Install the four screws hand-tight (Note: helicoil insert in manifold has locking thread).
- (d) Using Allen Wrench, tighten the four screws evenly until bottomed. Using a Torque Wrench, apply 38 to 43 lb-in. torque to the screws.
- (e) Remove plug from squib connector, notice the plug only fits one way. Realign the black plastic cover and pull it back over the squib connector. Replace the squib connector plug. Snap the white plastic buttons back through the holes in the black plastic cover as they were before. Check the plug in squib connector to insure that it is bottomed.

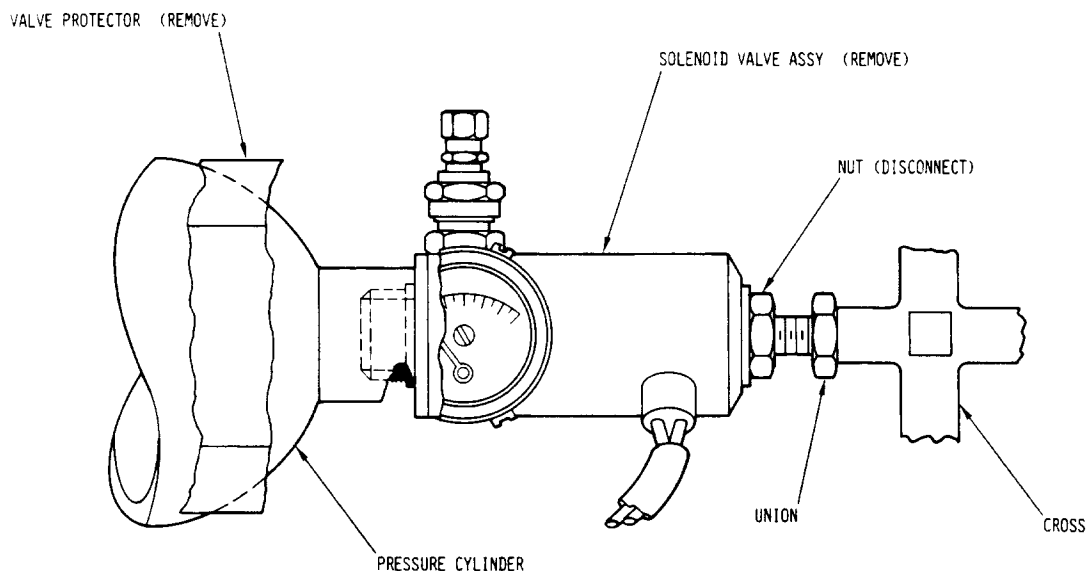
c. Record Compliance with Part II of this Service Information Notice in Compliance Record of helicopter Log Book.

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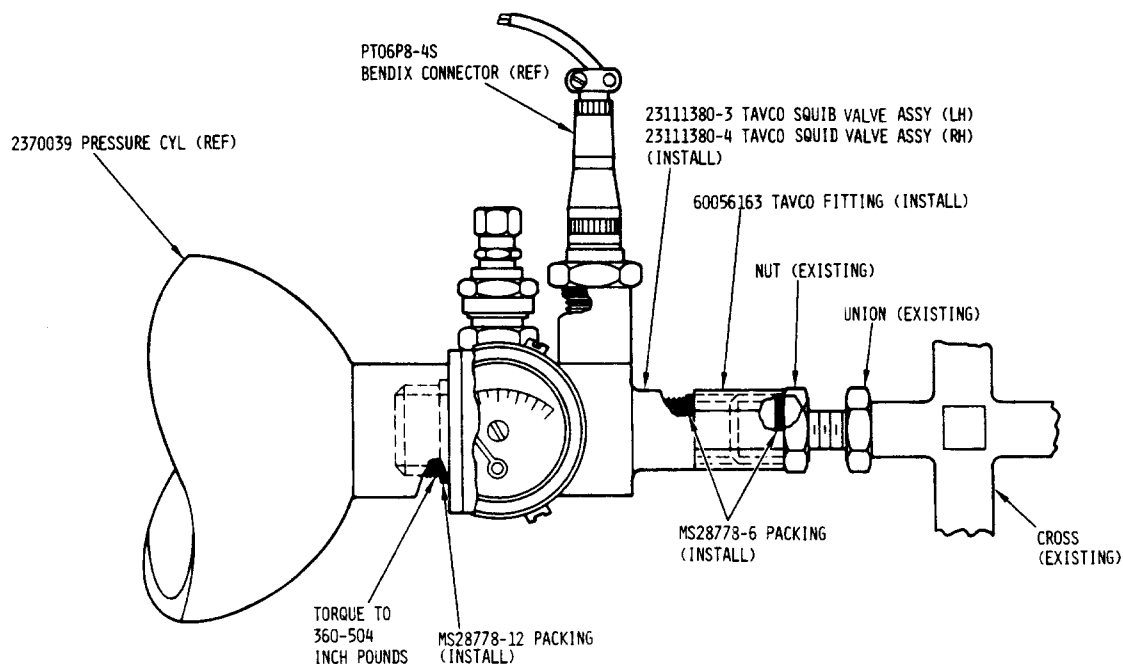
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**Figure 1. Removal of Solenoid Valve Assembly**


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**Figure 2. Installation of Squib Valve Assembly**

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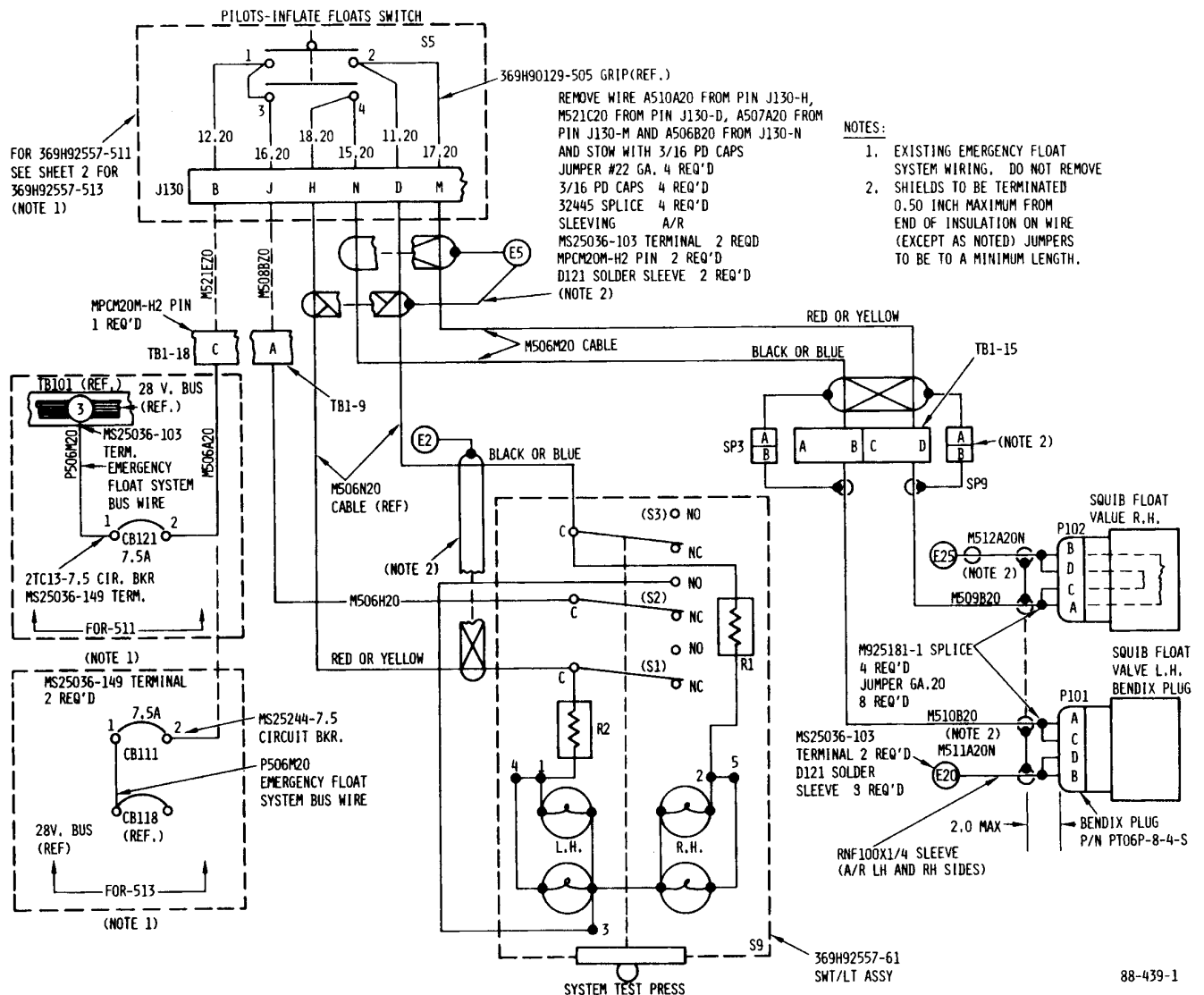
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**Figure 3. Emergency Float System Wiring Diagram (Sheet 1 of 2)**

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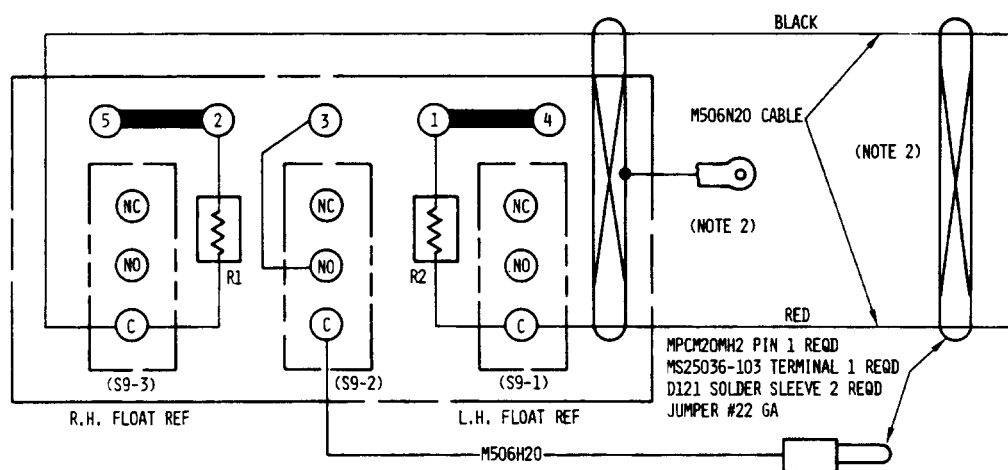
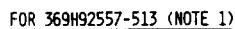
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369H92557-61 SWITCH LIGHT ASSY

88-439-2

**Figure 3. Emergency Float System Wiring Diagram (Sheet 2 of 2)**

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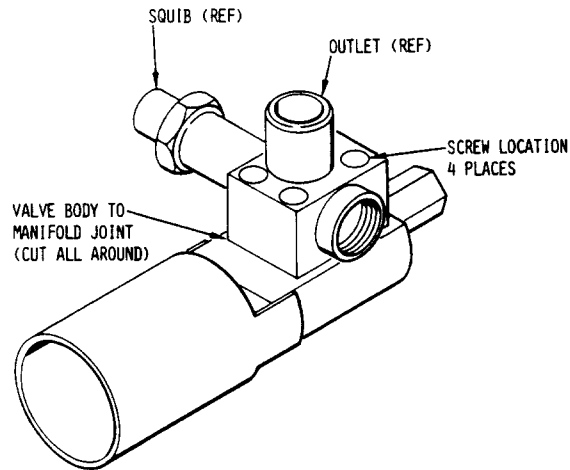
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**Figure 4. Replacement of Squib Valve with Sealed Cover**

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\* Supersedes Service Information Notice DN-81, dated 13 March 1981

## INSPECTION OF OVERRUNNING CLUTCH SPRAG ASSEMBLY

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All 500D Model 369D Series Helicopters equipped with any Cargo Hook

#### B. PREFACE:

This Service Information Notice lists a procedure for inspection of PN 369A5364 Sprag Assembly, 369A5352 Outer Race and 369A5353 Inner Race of PN 369A5350-603 Overrunning Clutch Assembly for wear in the cages and sprags of the sprag assembly, inner race and outer race. Excessive wear can lead to breakage and malfunction of the sprag assembly. The sprag assembly must be replaced where specified limits are exceeded.

\*\* To establish TIME OF COMPLIANCE, either clutch total time with hook attached may be used, or a separate and permanent log of external load operating mission time (take-off to landing on a flight which involves external load operations) may be used. The log must meet requirements of FAR 91.173.

#### C. TIME OF COMPLIANCE:

\*\* Shall be accomplished for helicopters with sprag assembly exceeding 600 hours in service, within next 50 hours and there after each 300 hours, for helicopters with less than 600 hours in service, at next 300-hour inspection and thereafter each 300 hours. The sprag assembly shall be replaced at 1800 hours total service time.

#### D. FAA APPROVAL:

The resultant alteration to the affected helicopters described by the inspection procedure in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### E. WEIGHT AND BALANCE:

Weight and balance are not affected.

#### F. REFERENCE:

369D HMI -Vol 1 (CSP-D-2), Reissued 15 January 1982; Revision No. 2, 15 August 1982.  
369D HMI - Component Overhaul Manual (CSP-D-5),  
Part II, Reissued 15 September 1981.  
FAA Airworthiness Directive No. 81-07-10R1, Dated 30 November 1981.

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## G. PARTS LIST:

PARTS LIST			
Nomenclature	Part No.	Qty.	Source
Sprag Assembly	369A5364	1	HHI
Outer Race	369A5352	1	HHI
Inner Race	369A5353	1	HHI

## H. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Magnifying Lens, 4x	
Outside Micrometer, 1.0000 to 1.5000 inches	
Inside Micrometer, 2.0000 to 2.2500 inches	
Calipers	

## 2. INSPECTION PROCEDURE

- a. Remove-overrunning clutch assembly from helicopter in accordance with Section 9 of HMI -Vol 1.
- b. Disassemble overrunning clutch in accordance with Section 9 of HMI - Vol 1 and Part II of Component Overhaul Manual.
- c. Visually inspect sprag assembly for broken drag clips, broken drag strips, cracked cages, broken or distorted ribbon spring, or cracked, broken or missing sprags. Disclosure of any of these discrepancies requires replacement of the sprag assembly.



Do not remove sprags and clips from sprag assembly. Removal requires replacement of sprag assembly.

- d. Inspect cages for peening or wear; maximum permissible width across inner cage and outer cage windows is 0.208 inch. (See Figure 1 and Figure 2. ) If maximum is exceeded, replacement of sprag assembly is required. Note in Figure 2 that the most pronounced inner and outer cage wear occurs in the outside diameter corners of the crossbars. Wear should be measured at the worst point. Inspect for any wear on inner cage face opposite the flange end.
- e. Using 4x magnifying lens, inspect sprag load surfaces. If any flats, scoring, heavy pitting or heavy scratches are found on sprag inner or outer surfaces, the sprag assembly must be replaced. (See Figure 3.)
- f. Measure distance from edge of sprags to load pattern. Should the inner surface measurement be less than 0.050 inch minimum or the outer surface measurement be less than 0.070 inch minimum, the sprag assembly must be replaced. (See Figure 3.) On the sprag inner contact surface of all the sprags in a sprag assembly the variation in distance from edge of sprag to load pattern should not exceed 0.030 inch. If this figure is exceeded, replace sprag assembly.

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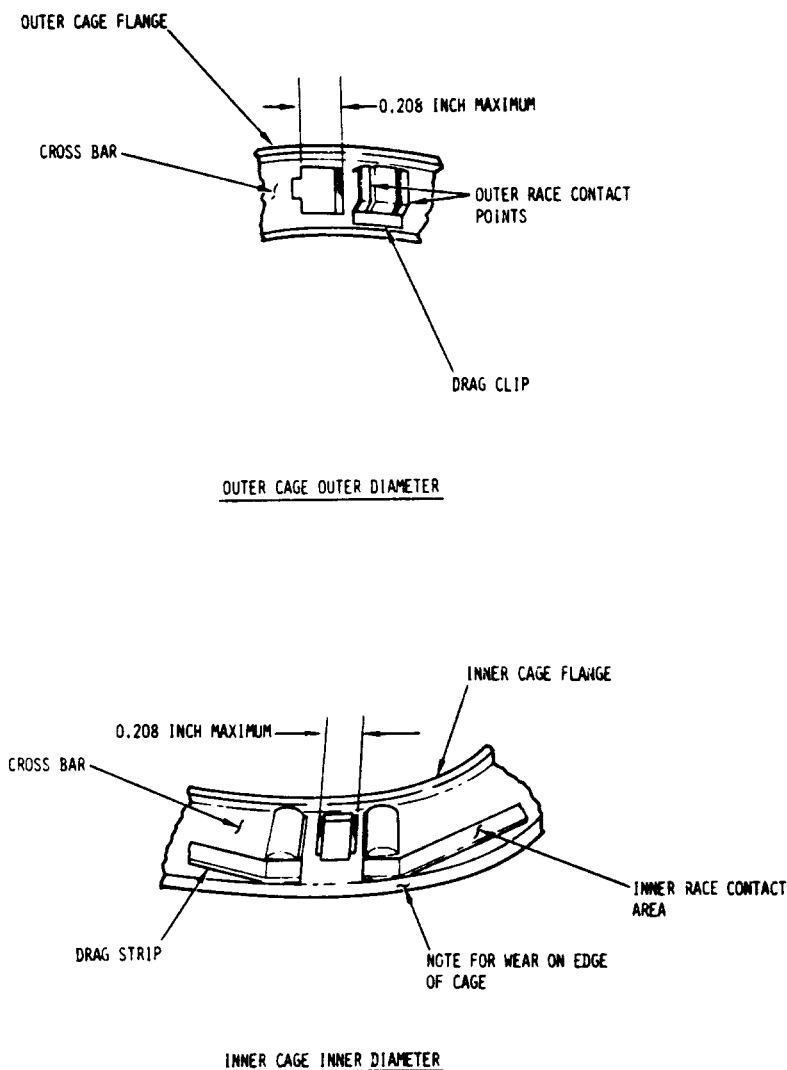
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- g. Check dimensions of inner race (369A5353) spragway outer diameter using outside micrometer and outer race (369A5352) spragway inner diameter using inside micrometer. Dimensional minimum limit for the inner race spragway is 1.4990 inches. Dimensional maximum limit for the outer race spragway is 2.1565 inches. (Refer to Part II, Section 2 of Component Overhaul Manual.)
- h. Using 4x magnifying lens visually inspect inner race and outer race for brinelling, scoring or pitting. On the inner race pay particular attention to area around oil drain holes for cracks. No defects are allowed. If any are found, replace inner race or outer race as applicable. (Refer to Part II, Section 2 of Component Overhaul Manual. )
- i. If the 369A5364 sprag assembly is replaced for any reason other than broken drag clips or drag strips of distorted ribbon springs, magnaflux inner race and outer race per Part II, Table 3-2 of HMI Component Overhaul Manual. Disclosure of any defect requires replacement of inner race or outer race as applicable.
- j. Reassemble overrunning clutch assembly in accordance with Section 9 of HMI - Vol 1.
- k. Reinstall clutch assembly into helicopter in accordance with Section 9 of HMI - Vol 1.
- l. Record compliance with this Service Information Notice in Compliance Record of helicopter log book.

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**Figure 1. Cage Wear Limits**

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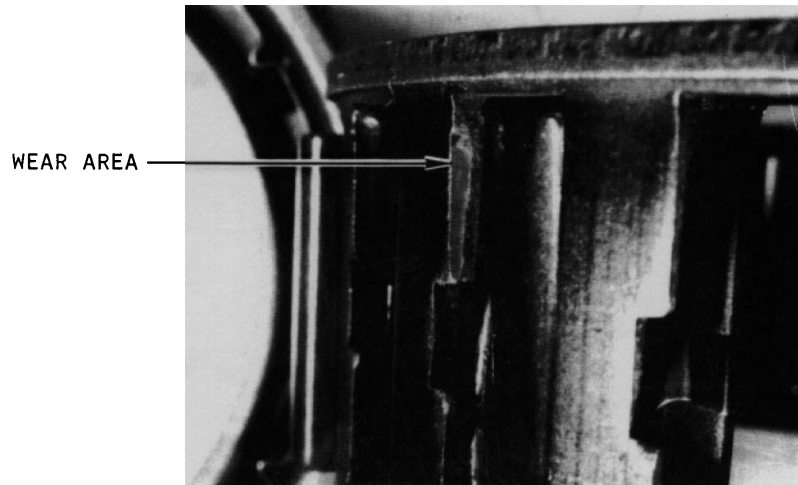
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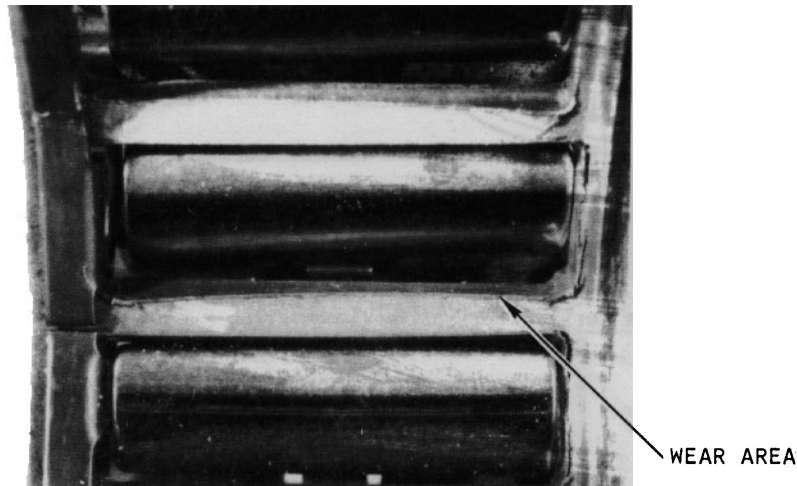
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OUTER CAGE WEAR AREA



INNER CAGE WEAR AREA

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## Figure 2. Excessive Cage Wear

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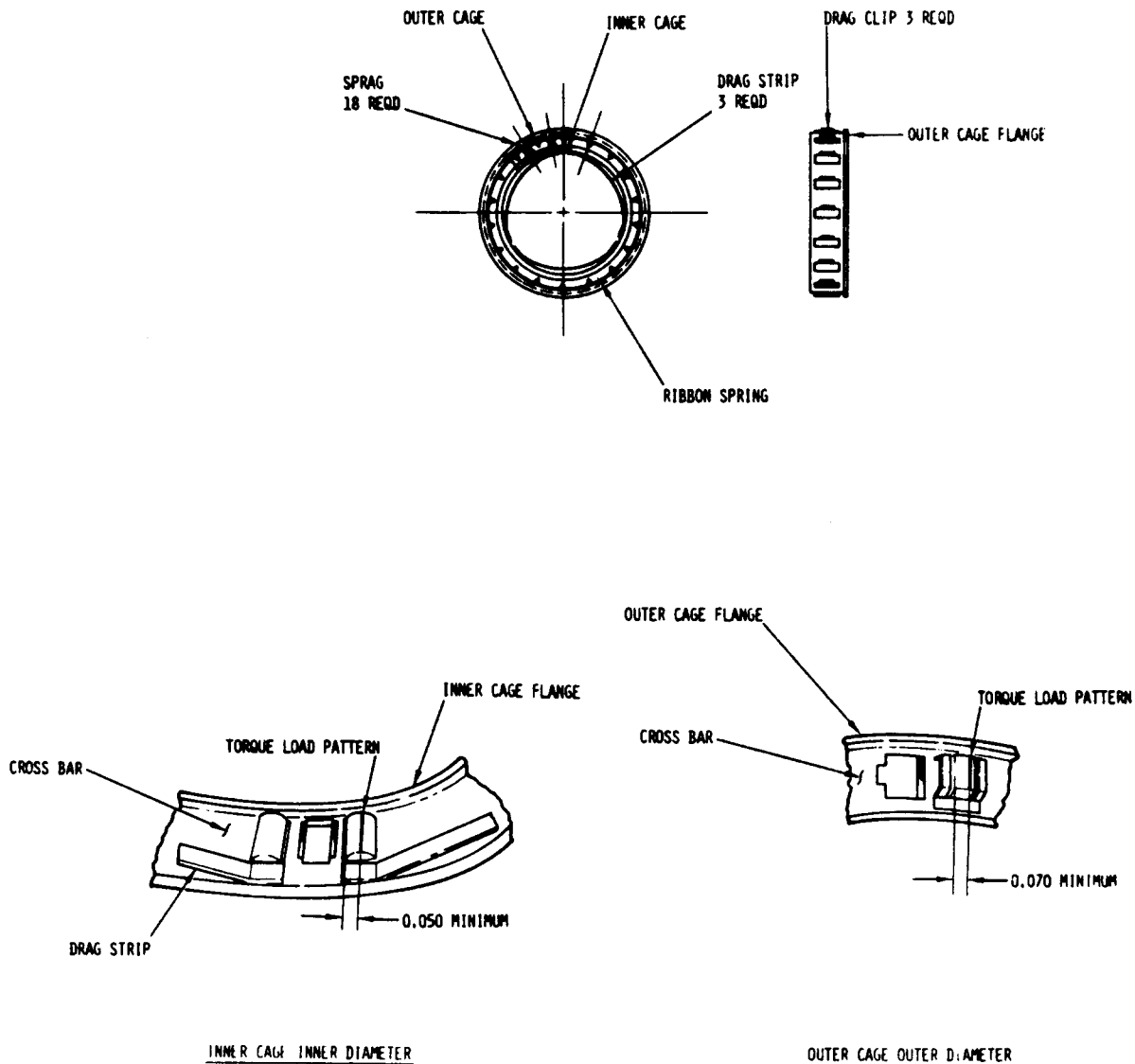
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**Figure 3. Sprag Torque Load Pattern**

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## SHIMMING PROCEDURE FOR GAS PRODUCER INTERCONNECTING TORQUE TUBE ASSEMBLY

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

500D Model 369D Helicopter Serial No. 0003D through 0929D

#### B. PREFACE:

The information given in this Service Information Notice lists a procedure for inspecting the gas producer interconnecting torque tube clearance to ensure proper rigging fit and for shimming to achieve proper clearance.

#### C. TIME OF COMPLIANCE:

Shall be accomplished within 100 hours of helicopter operation.

#### D. FAA APPROVAL:

FAA/DER APPROVED 12 May 1981

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. REFERENCE:

500 Model 369D Basic HMI-Volume 1, Issued 15 September 1976; Revision No. 4, 1 December 1980

#### G. PARTS LIST:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Washer*	AN960C816	AR	Commercial

\*Equivalent washers in varying thicknesses may be made from material listed below.

#### H. MATERIALS:

MATERIAL	
Nomenclature	Source
Corrosion resistant steel sheet -301, cond 1 / 2 hard. per 304, 347, QQ-S- 766.	

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## 2. PROCEDURE

- (1). Remove pilot's seat cover and controls access door. (Refer to Basic HMI- Volume 1, Section 2. )
- (2). Make an index mark on end of collective torque tube fitting flush with inboard end of pilot's collective stick assembly housing. (See Figure 1.) Use felt pen or pencil. Do not scribe index mark on fitting.
- (3). Remove four bolts securing pilot's collective stick assembly to end collective torque tube fitting.
- (4). Loosen pipe plug in end of gas producer interconnecting torque tube which secures it to gas producer gearshaft in pilot's collective stick assembly.
- (5). Remove pilot's collective stick assembly per paragraph 7-87 of Basic HMI- Volume 1.
- (6). Using rubber mallet or equivalent soft tool, tap gas producer inter-connecting torque tube assembly toward copilot's collective socket assembly. Avoid damage to gas producer interconnecting torque tube hex end or pipe plug threads.
- (7). Measure distance between index mark on end collective torque tube fitting and hex end of gas producer interconnecting torque tube. (See Figure 1, Gas Producer Interconnecting Torque Tube Measurement.)
- (8). Measure distance between inboard end of pilot's collective stick assembly housing and inboard face of gas producer gearshaft in pilot's collective stick assembly. (See Figure 1, Gear Shaft Recession Measurement. )
- (9). Subtract measurement taken. in step h. from measurement taken in step (7). Remainder is engagement of gas producer interconnecting torque tube with gearshaft in pilot's collective stick assembly.
- (10). Subtract engagement (remainder) from 0.750 inch. In addition to thickness of external snap ring, add PN AN960C816 washers to end of gas producer interconnecting torque tube to a total thickness equal to the remainder from 0.750 inch less engagement. (See Figure 1. ) Equivalent washers in varying thicknesses may be made from corrosion resistant steel sheet and used in combination with PN AN960C816 washers.
- (11). Reinstall pilot's collective stick assembly per paragraph 7-92 of Basic HMI- Volume 1.
- (12). Tighten pipe plug of gas producer interconnecting torque tube to obtain zero backlash between torque tube and gearshaft in pilot's collective stick assembly.
- (13). Reinstall pilot's seat cover and controls access door. (Refer to Basic HMI-Volume 1, Section 2.)
- (14). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

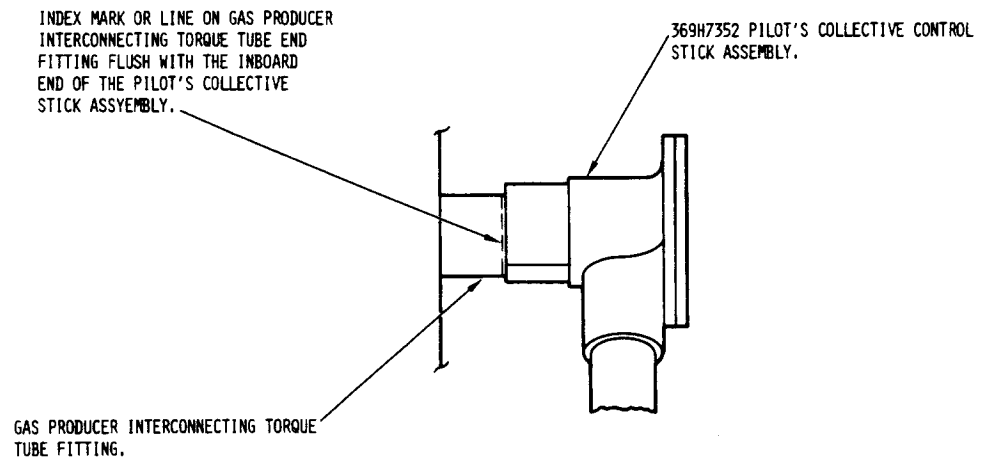
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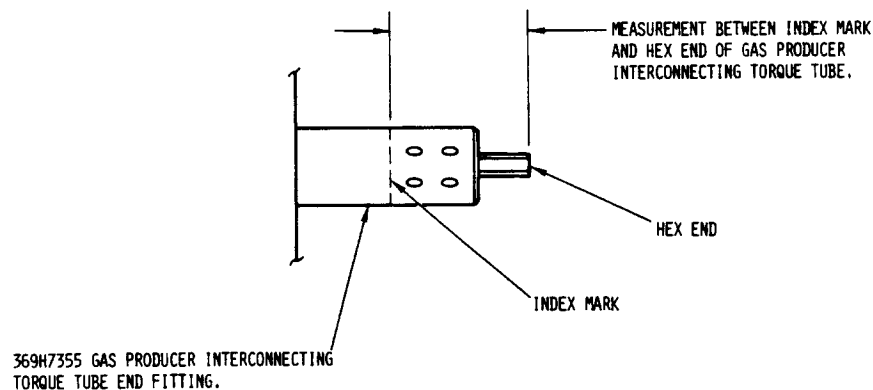
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INDEX MARKING



GAS PRODUCER INTERCONNECTING TORQUE TUBE MEASUREMENT

88-484-1

**Figure 1. Shimming of Gas Producer Interconnecting Torque Tube Assembly (Sheet 1 of 2)**

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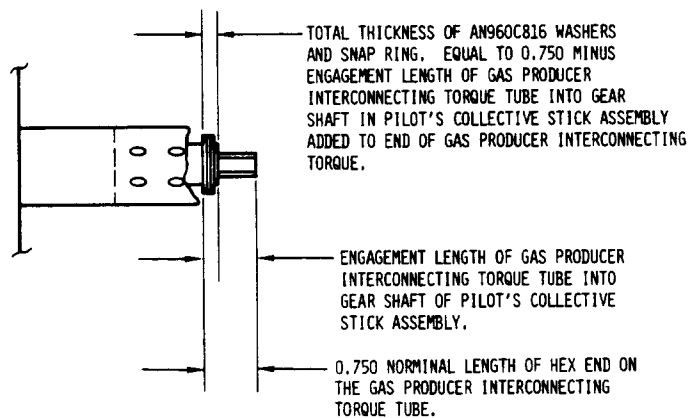
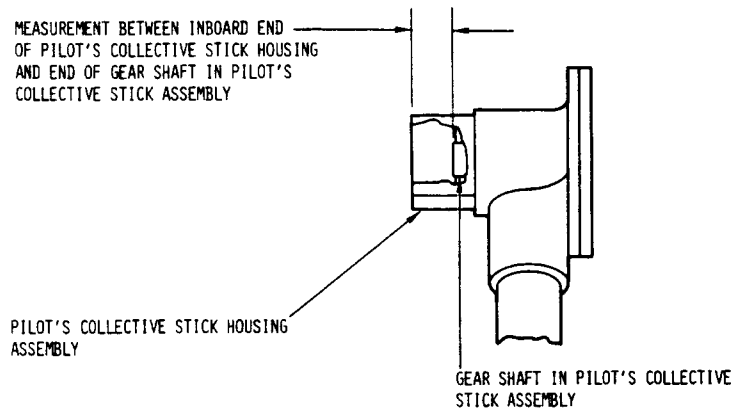
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**Figure 1. Shimming of Gas Producer Interconnecting Torque Tube Assembly (Sheet 2 of 2)**

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**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****REPLACEMENT OF PN 369A7706-3 RPM GOVERNOR LEVER  
CONTROL ROD****1. PLANNING INFORMATION****A. MODELS AFFECTED:**

500D Model 369D Helicopter Serial No. 0003D through 0899D

**B. PREFACE:**

The information given in this Service Information Notice lists a procedure for replacing PN 369A7706-3 control rod. Field reports indicate malfunctions of the RPM governor control linkage have occurred due to engine vibration during helicopter operation, therefore, the subject aluminum rod will be replaced by a new steel control rod.

**C. TIME OF COMPLIANCE:**

Order parts immediately on receipt of this Notice and accomplish no later than 30 days after receipt of same.

**D. FAA APPROVAL:**

FAA/DER APPROVED 18 May 1981

**E. WEIGHT AND BALANCE:**

Weight and balance not affected

**F. REFERENCE:**

500D Model 369D Basic HMI-Vol 1, Issued 15 September 1976; Revision No. 4, 1 December 1980.

**G. PARTS LIST:**

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Rod	369A7706-5	1	HH

**2. PROCEDURE**

- (1). Open left engine access door to gain access to upper linkage of RPM governor controls. (Refer to Section 2 of Basic HMI - Vol 1. )
- (2). Remove RPM governor lever control rod assembly per para 11-20 of Basic HMI - Vol 1.
- (3). Loosen jam nuts on control rod assembly. Remove rod end bearings and jam nuts from rod. Discard rod. (See Figure 1. )
- (4). Install jam nuts and rod end bearings on new steel rod. (See Figure 1. )

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- (5). Reinstall RPM governor lever control rod assembly per para 11-20 of Basic HMI- Vol 1.
- (6). Rig RPM governor lever controls per para 11-8 of Basic HMI - Vol 1.
- (7). Perform final check and adjustment of power controls per para 11-9 of Basic HMI-Vol 1.
- (8). Close left engine access door.
- (9). Perform deceleration check as follows:

**NOTE:** Perform deceleration check during engine shutdown.

- (a). Deceleration check (Bendix fuel control system)
  - 1). Set Generator (GEN) switch to OFF position.
  - 2). Set THROTTLE OPEN grip to FULL OPEN.
  - 3). Set pilot's collective control stick FULL DOWN, FRICTION ON.
  - 4). Stabilize N2 at exactly 103 percent (beep as required).
  - 5). Set THROTTLE OPEN grip to IDLE.
  - 6). Begin time check with stop watch. Stop time as N2 passes through 65%~  
Observe elapsed time. Minimum allowable lapsed time is two seconds.

**NOTE:** Practice or retakes may be required before proficiency can be obtained in deceleration timing.

- 7). If deceleration time is less than two seconds, make two more checks to confirm time. If confirmed deceleration time is less than the allowable minimum, refer to the applicable Allison Operation and Maintenance Manual.

- (b). Deceleration check (CECO fuel control system)

- 1). Set generator (GEN) switch to OFF.
- 2). Set THROTTLE OPEN grip to FULL OPEN.
- 3). Set pilot's collective control stick FULL DOWN, FRICTION ON.
- 4). Stabilize N2 at exactly 103% (beep as required).
- 5). Set THROTTLE OPEN grip to IDLE.
- 6). Begin time check with stop watch. Stop time as N2 passes through 65%. Observe elapsed time. Minimum allowable lapsed time is two seconds.

**NOTE:** Practice or retakes may be required before proficiency can be obtained in deceleration timing.

- 7). If deceleration time is less than two seconds, make two more checks to confirm time. If confirmed deceleration time is less than the allowable minimum, refer to the applicable Allison Operation and Maintenance Manual.

- (10). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

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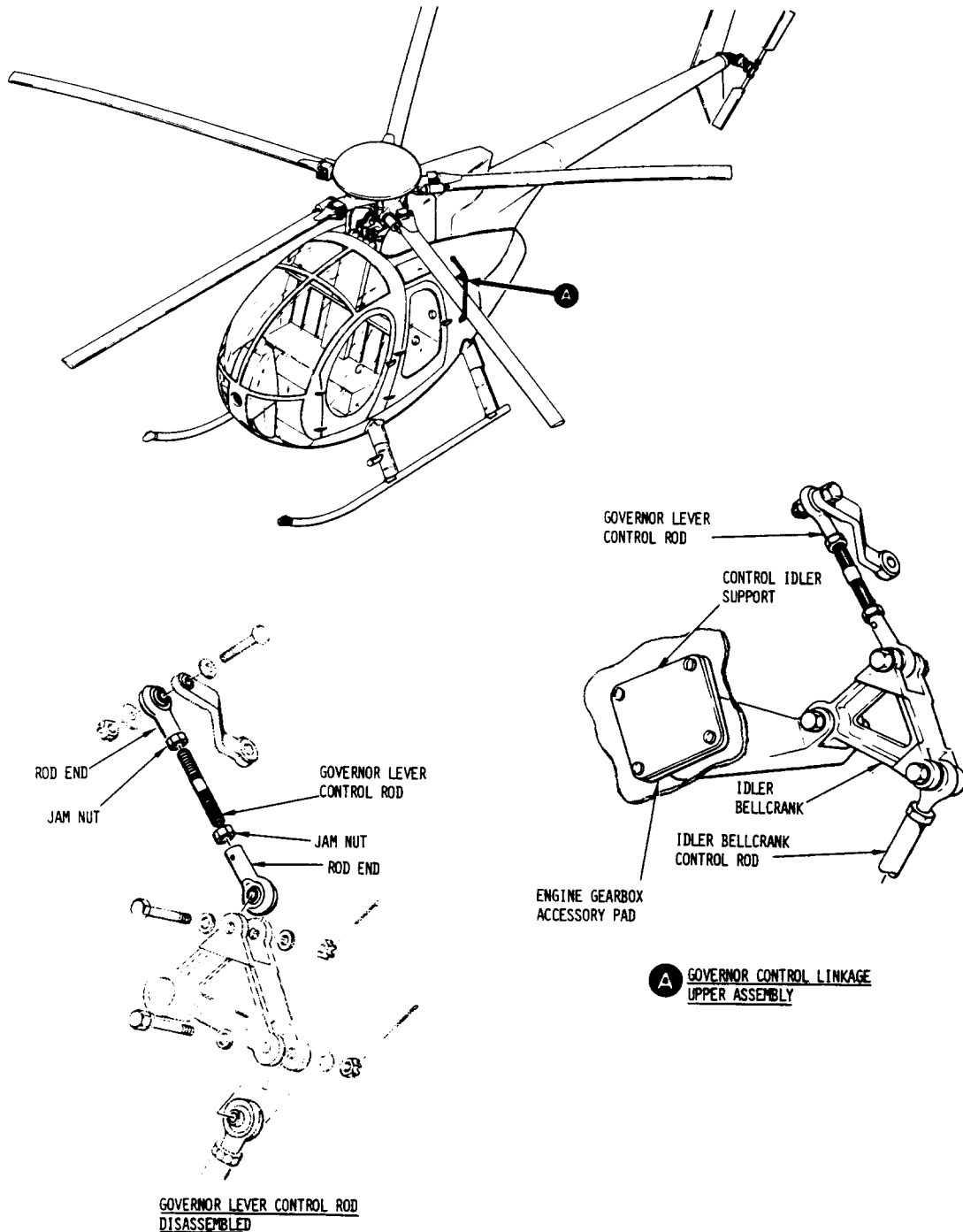
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**Figure 1. Installation of Governor Lever Control Rod**

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## ELIMINATION OF POSSIBLE INTERFERENCE OF SAFETY WIRE WITH OIL COOLER BLOWER DRIVE BELT

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All 500D Model 369D Helicopters

#### B. PREFACE:

The information given in this Service Information Notice lists a procedure for removing the safety wire and replacing the bolts that attach the mounting bracket to the cooling blower assembly with self locking bolts.

#### C. TIME OF COMPLIANCE:

At next 100-hour inspection or within 30 days after receipt of parts. Order parts upon receipt of Notice.

#### D. FAA APPROVAL:

FAA/DER APPROVED 4 June

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. REFERENCE:

500D Model 369D Basic HMI-Volume 1; Issued 15 September 1976, Revision No. 4, 1 December 1980

#### G. PARTS LIST:

PARTS LISTS			
Nomenclature	Part No.	Qty.	Source
Bolt	NAS1224-1L	2	HH/Commercial

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DATE: 19 MAY 1981

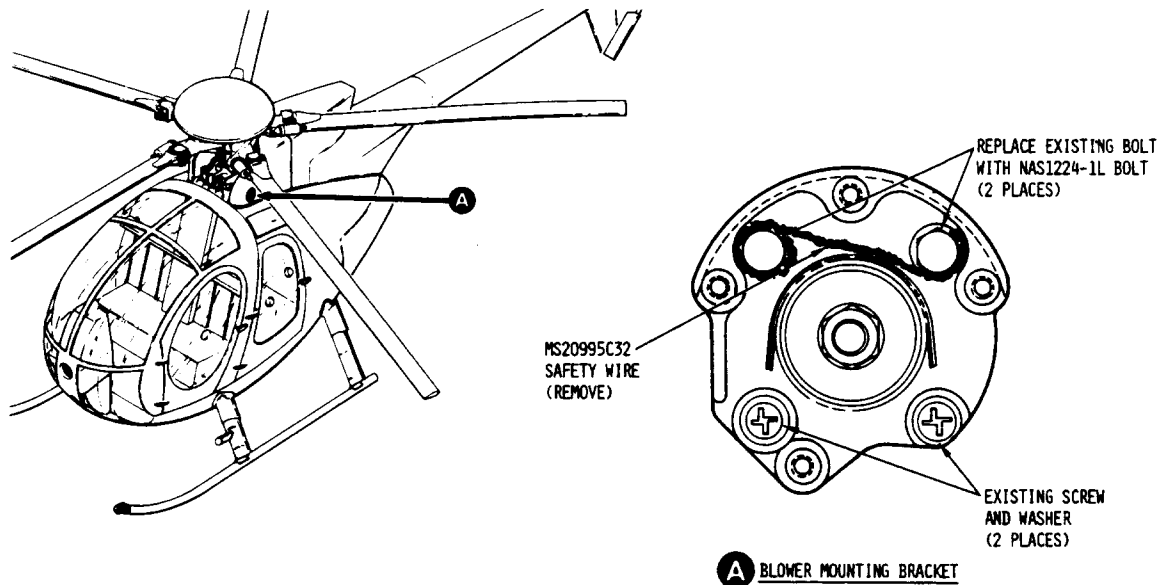
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## 2. PROCEDURE

- a. Remove transmission cover. (Refer to Section 2, Basic HMI-Volume 1.)
- b. Remove cooling blower. (Refer to Section 9, Basic HMI-Volume 1.)
- c. Remove and discard safety wire and two bolts attaching mounting bracket to cooling blower assembly. (See Figure 1.)
- d. Install two self locking bolts in place of discarded bolts. (See Figure 1.)
- e. Reinstall cooling blower assembly and adjust cooling blower drive belt tension. (Refer to Section 9, Basic HHI-Volume 1.)
- f. Reinstall transmission cover. (Refer to Section 2, Basic HMI-Volume 1.)
- g. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.



88-491

**Figure 1. Replacement of Blower Mounting Bracket Bolts**

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\* Supersedes Service Information Notice No. DN-91 Dated 26 May 1981

## INSPECTION OF MAIN ROTOR HUB STRAP PACK RETENTION BOLTS AND REPLACEMENT OF BUSHINGS

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

500D Model 369D Helicopter Serial No. 0003D thru 1019D

#### B. PREFACE:

The information given in this Service Information Notice lists procedures for inspection of the main rotor hub strap pack retention bolts for general condition and possible corrosion and replacement of the associated bushings.

#### C. TIME OF COMPLIANCE:

Shall be accomplished within next 100 hours or 30 days after receipt of parts. Order parts from Hughes Parts Sales upon receipt of Notice.

#### D. FAA APPROVAL:

FAA/DER APPROVED

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. REFERENCE:

500D Model 369D Basic HMI-Volume II Issued 15 September 1972, Revision No. 4,  
1 December 1980

#### G. PARTS LIST:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Bolt*	HS440-08-32	5	HHI
Nut*	HS4143-6	5	HHI
Bushing	369D21273-3	5	HHI

\*If required

#### H. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Torque wrench, 0 to 150 foot pounds	
Socket, wrench, 3/4 inch (minimum 3-inches deep)	
Micrometer, 3 to 4 inch (with ball caps)	

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## I. MATERIALS:

MATERIALS	
Nomenclature	Source
Tool, threaded bar stock or bolt, 1/2-inch diameter x 6-inches long, 3-inches of thread minimum	
Locknut, 1/2-inch Thread	
Nut, 1/2-inch thread Jam nut, 1/2-inch thread (not required if locknut secured with tack weld or locking compound)	
Washer, steel, 1/2-inch ID	
Tube, Steel, 1-inch OD, 0.090/0.150-inch wall x 2,000 inches long. (Ends parallel within 0.002 inch)	
Locking compound, Loctite, Loctite Corp,	
Sealing compound, MIL-S-81733, Type II-2, PR1436-G, Class B-2,	Products Research and Chemical Corp., Glendale, CA 91209
Paint, acrylic lacquer –	Sherwin Williams Company, City of Commerce, CA Sterling Lacquer Mfg. Co., St. Louis, 140
Naptha., aliphatic, TT-N-95 or equivalent	
Primer, wet zinc chromate, TT-P-1757 or equivalent	

## 2. PROCEDURE

- (1). Remove main rotor blades per Section 7 of Basic HMI-Volume 1.
- (2). Remove hub fairing and fairing support assemblies. (See Figure 1)
- (3). Remove scissors crank assembly per Section 7 of Basic HMI-Volume 1.



Ensure that all main rotor blades are removed before loosening any bolts. Loosen, replace and torque only one bolt and bushing at a time to retain clamping force on the remainder of the strap pack assemblies. Use care when removing bolt to ensure that bushing does not come out with bolt.

- (4). Loosen and remove one nut, one PN 369D21270-5 spacer, one bolt and one PN 369D21270-3 spacer.
- (5). Assemble locknut on threaded tool, as shown, using tack weld, jam nut or locking compound. Insert tool through strap pack assembly as shown. (See Figure 2)
- (6). Slide new bushing on tool.

**NOTE:** Identification notch on bushing must be on top side.

- (7). Install steel washer after bushing and install nut on lower end.

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- (8). Tighten lower nut, holding top locknut to prevent tool from turning, until new bushing is completely seated in hub and previous bushing has been pressed out. Use 3-inch deep socket to accomplish this operation.
- (9). Visually inspect removed bolt for corrosion and general condition. Magnetic or dye penetrant inspect removed bolt for cracks. Replace bolt if corroded, cracked or if cad plate is scraped or worn away.
- (10). Clean ends of bushing (inside hub assembly) and inside diameter of bushing holes in hub shoes with naptha or equivalent.
- (11). Measure free length of new or inspected bolt PN HS4440-08-32.
- (12). Prepare and apply sealing compound per manufacturer's instructions to interior areas shown, while installing bolt in hub with .spacers and nut. (See Figure 3) Install bolt with vet zinc chromate primer.
- (13). Retorque nut so that bolt is elongated 0.0075/0.0065 inch, from free length (step (11). above). Use a torque of 70 ft-lbs as a starting point for bolt stretch.

**NOTE:** If bolt is inadvertently elongated more than 0.0075 inch, but not more than 0.0090 inch, hack off nut completely, remeasure free length of bolt and retorque. If bolt elongation exceeds 0.0090 inch, discard bolt and use new bolt.

- (14). Apply sealing compound to faying surfaces of bolt head, hushing, hub shoe and nut as shown, (See Figure 3)
- (15). Repeat steps (4). through (14). for remaining bolts and bushings.
- (16). Apply a torque stripe with contrasting color acrylic lacquer paint to head of bolts, spacers and nuts.

**NOTE:** Torque stripe should be applied such that it can be viewed during daily walkaround/pre-flight inspection.

- (17). Reinstall scissors crank assembly, fairing support and hub fairing.
- (18). Reinstall main rotor blades.
- (19). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

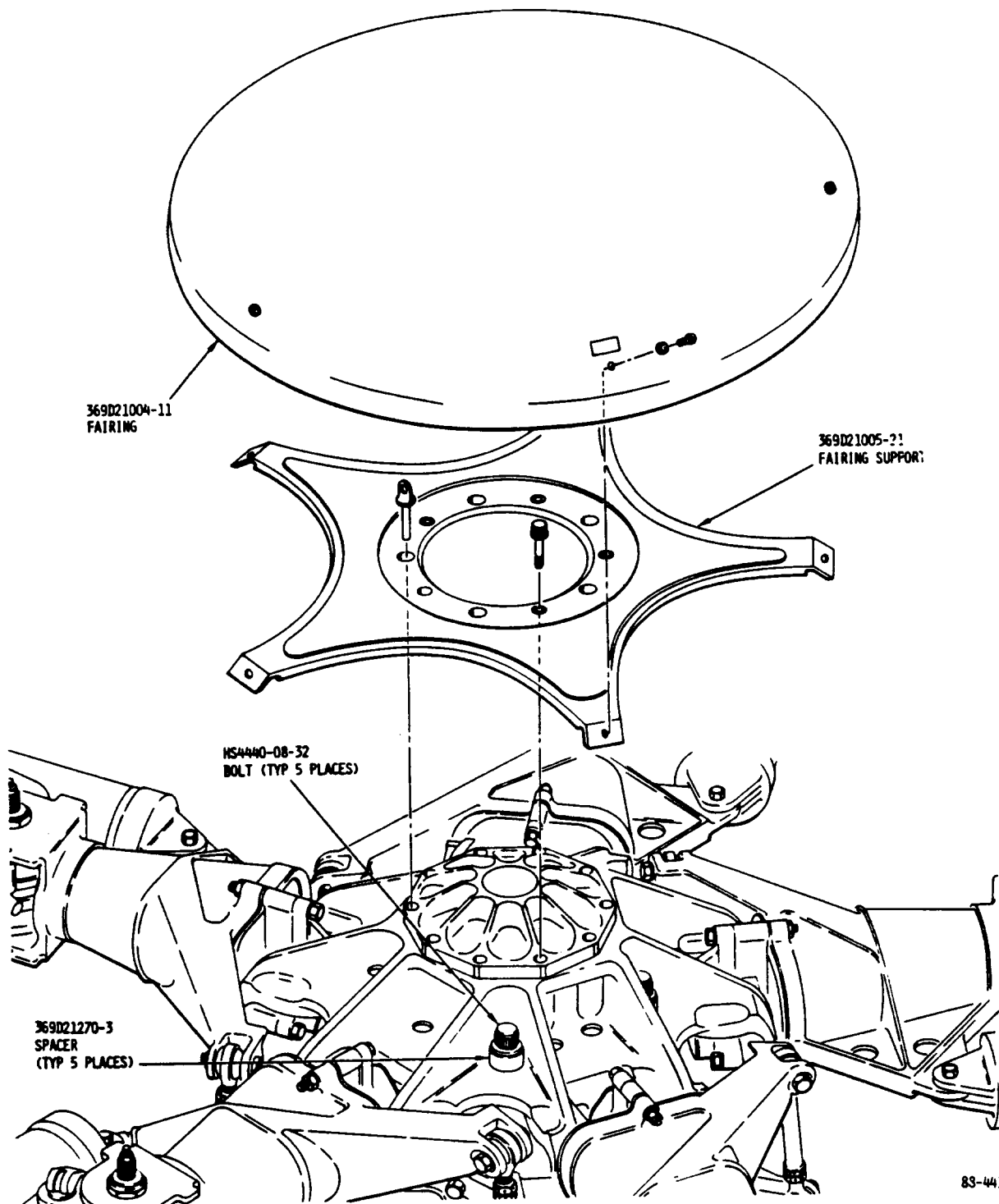
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83-441

**Figure 1. Removal and Inspection of Main Rotor Hub Strap Pack Retention Bolts and Bushings**

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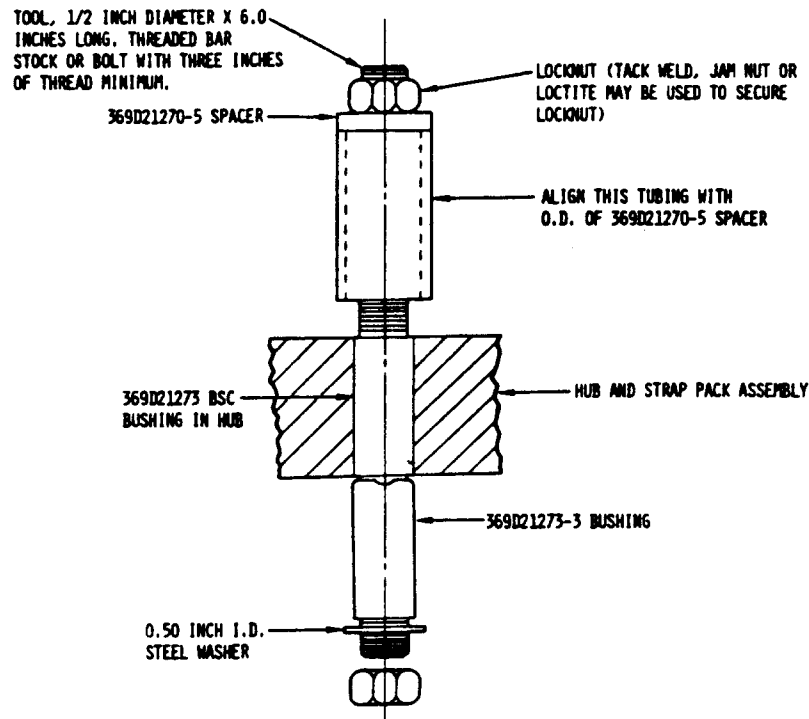
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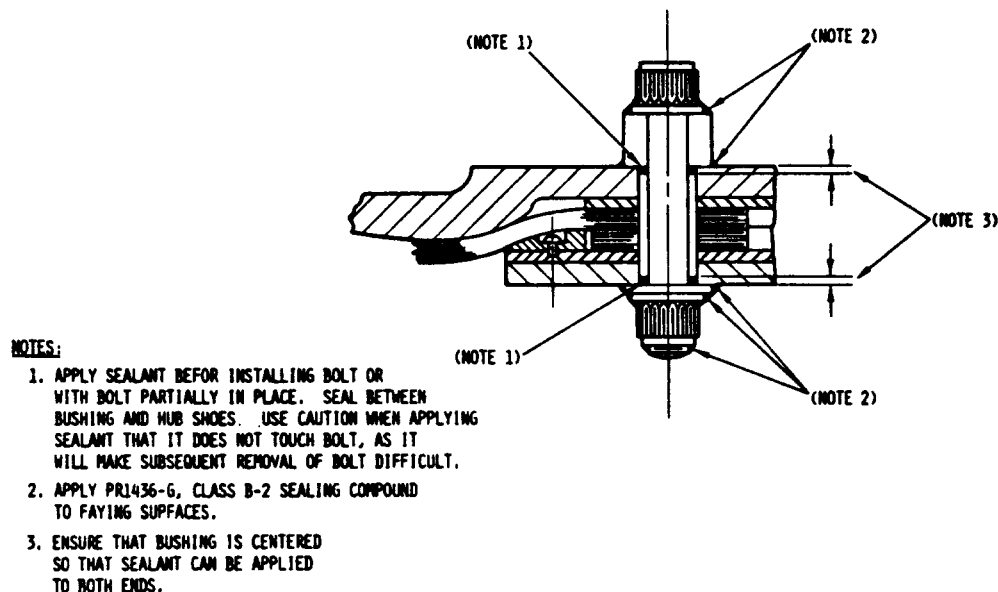
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Figure 2. Removal Tool for Bushing Extraction



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Figure 3. Application of Sealing Compound

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## CORROSION INSPECTION/TREATMENT-ONE-WAY LOCK SUPPORT ASSEMBLY, P/N 369A7314 AND 369N2648

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All 500D Model 369D Helicopters, Serial Nos. 0003D through 1049D

#### B. PREFACE:

The information given in this Service Information Notice lists a procedure to be used to inspect the magnesium alloy support link, P/N 369A7314, for galvanic corrosion resulting from contact with dissimilar metals (steel and brass). Subsequent corrosion prevention is included herein.

It is to be noted that galvanic corrosion has occurred at the aft (lower) ends of the magnesium alloy support links where the brass- pivot bushing (P/N NAS77A8-21P) and steel washer contact the link. However, the possibility for corrosion also exists at the forward (upper) end of each link where it contacts the brass flange bushing (P/N NAS77A6-23P) and a steel washer. Each of the support links is to be inspected, treated if necessary, and sealed with a corrosion inhibiting sealing and coating compound. Procedures are also included for the interchangeable aluminum support assembly PN 369N2648.

#### C. TIME OF COMPLIANCE:

Shall be accomplished at the next 100 hour inspection.

#### D. FAA APPROVAL:

FAA/DER APPROVED 18 June 1981

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. REFERENCE:

500D Model 369D Basic HMI-Vol 1, Issued 15 September 1976; Revision No. 4,  
1 December 1980.

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## G. MATERIALS:

MATERIALS			
Nomenclature	Part No.		Source
Sealing compound	MIL-S-81733A	PR 1436-G Class B2	Product Research Glendale, CA
Chromic acid solution (Ph 2.6–3.4) magnesium touchup		Dow #19 equivalent	Dow Chemical Co.
Thinner, acrylic–nitrocellulose lacquer	MIL-T-19544	Prepsol, Dupont 3919	I.E. Dupont Co. Los Angeles, CA
Aluminum oxide cloth			
Abrasive paper, silicone carbide, 400 grit (or equivalent aluminum oxide paper)	P-P-101		

## 2. PROCEDURE

### a. Remove support links as follows:

1. Remove pilot's seat cover or inboard collective pitch stick cover and controls access door from the station 78.5 canted bulkhead.
2. Remove large (central) cyclic stick guard.
3. Position pilot's cyclic stick to align holes in uni-loc support links with bolt that attaches forward end of uni-loc to cyclic torque tube; tighten longitudinal friction.

**NOTE:** Do not disconnect uni-loc from torque tube arm or from longitudinal idler bellcrank. Allow uni-loc to remain suspended at both ends.

4. Disconnect forward (upper) end of each support link from the seat structure flanges by removing a cotter pin, nut, steel washer, sleeve bushing, bolt and brass flange bushing.
5. Disconnect the aft (lower) end of each support link from its uni-loc trunnion by removing a cotter pin, steel washer, and brass pivot bushing.

### b. Inspect support links as follows:

1. Inspect magnesium alloy or aluminum support links for abrasion, corrosion, pitting, etc.
2. If no abrasion, corrosion, or pitting is evident, seal all contacting surfaces of the dissimilar metals in accordance with step e, and reassemble the one-way lock assembly.
3. If the corrosive effects of galvanic action are evident, proceed through the next steps.

**NOTE:** Magnesium alloy must be insulated from contact with dissimilar metals to prevent galvanic corrosion. All contacting surfaces must be corrosion treated and coated with a layer of sealing compound.

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c. Remove corrosion from magnesium alloy support links as follows:



Do not use wire brush, emery cloth or steel wool on magnesium surfaces.

1. Wash affected area with a solution of mild soap and clean fresh water. Rinse area with clear water and wipe dry; use a clean soft lintfree cloth.
2. Use thinner on corroded area to remove any grease. Lightly abrade the surface with aluminum oxide cloth to remove the corrosion and its by-products.
3. Swab the exposed area for 10 to 30 minutes with chromic acid solution.



Do not rinse with hot water.

4. Use a clean cloth soaked in clean cold water; thoroughly rinse area where chromic acid solution was applied. Allow area to air dry.

d. Remove corrosion from aluminum support links as follows:



Do not use steel wool or emery cloth on aluminum surfaces.

1. Remove paint from affected area. (Refer to Basic HMI-Vol. 1, para 2-67)
2. Using abrasive paper, remove corrosion and polish affected area.
3. Wash affected area with solution of mild soap and water. Rinse area with clean water and wipe dry with clean, soft lintless cloth.

e. Use sealing compound to fill seams and joints that might trap water. Seal all contacting surfaces of dissimilar metals as follows:

1. Check that seam or joint is clean and free of foreign matter and moisture.
2. Apply sealant with putty knife or similar tool.
3. Force sealant well down into seam or joint to eliminate any air pockets.
4. Fillet sealant to give joint or seam a smooth appearance.

f. Reassemble support link assemblies and the one-way lock assembly into the cyclic control system, as follows:

1. Assemble aft end (farthest from center hole) as follows:

- (a) Insert the brass pivot bushing.
- (b) Place the assembled bushing and support link on a uni-loc trunnion, with the bushing flange next to the uni-loc.
- (c) Place steel washer on protruding trunnion and secure with cotter pin.
- (d) Ensure that all contacting surfaces between the magnesium alloy or aluminum support link and all dissimilar metals are coated with sealant.

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2. Assemble forward end (closest to center hole), as follows:

- (a) Place the steel sleeve bushing on the bolt..
- (b) Place the brass flange bushing on the assembled bolt and sleeve. Ensure that the bushing flange is next to the bolt head.
- (c) Align the hole in the forward end of the support link with the hole in the seat structure flange.
- (d) Insert the assembled bolt and bushings through the support link and through the seat structure flange.
- (e) On the threaded end of the protruding bolt. place steel washer and nut. Secure with cotter pin.
- (f) Ensure that all contacting surfaces between the magnesium alloy or aluminum support link and all dissimilar metals are coated with sealant.

f. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

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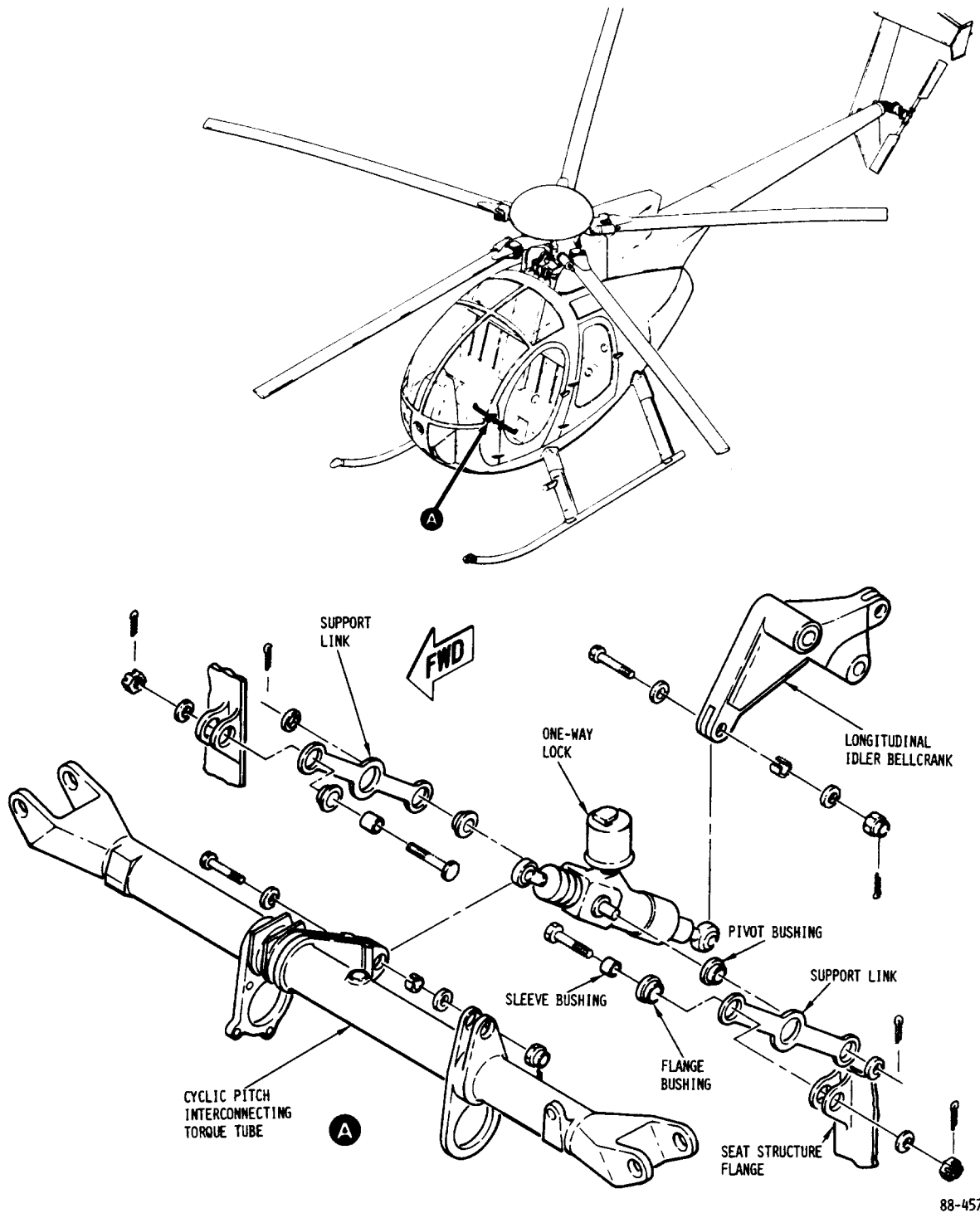


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**Figure 1. One-Way Lock Control System**

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## INSPECTION/MODIFICATION OF BREEZE CORPORATION INC. HOIST, PN BL-16600-12

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

500D Model 369D Helicopter equipped with rotorcraft hoist system.

#### B. PREFACE:

The information given in this Service Information Notice lists procedures for inspection and modification of Breeze Corporation Inc. hoist, PN BL-16600-12, which is a component of the rotorcraft hoist system. This inspection/modification is to be accomplished in accordance with the instructions given in the attached Breeze Corporation Inc. Engineering Bulletin BEB-162-8.

#### C. TIME OF COMPLIANCE:

Shall be accomplished before next operation of rotorcraft hoist system.

#### D. FAA APPROVAL:

FAA/DER APPROVED 18 June 1981

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. REFERENCE:

Breeze Corporation Inc. Engineering Bulletin BEB-162-8.

### 2. PROCEDURE

- a. Perform inspection/modification of Breeze Corporation Inc. hoist, PN BL- 16600-12, in accordance with instructions given in attached Breeze Engineering Bulletin BEB- 162-8.
- b. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

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COMPILED			BREEZE CORPORATION, INC.	BEB-162-8 Page 1 of 7
TYPED	D.B.	5/21/80	UNION, NJ USA	
CHECKED			TITLE: BL-16600-12 Rescue Hoist	
PROJ ENGR	Felber		Safety Inspection and Modification	
ENGRG APP	St. Felber	5/21/80		

CODE NO. 08484

The purpose of this bulletin is to instruct users of the BL-16600-12 Rescue Hoist in inspection procedures and modifications intended to minimize the possibility of malfunction in certain hoist components.

#### CABLE

1. Reel Cable completely out.

#### CAUTION

Handle cable carefully. Do not allow cable to kink. Cable must be kept clean during handling. Do not allow cable to drag over dirty or abrasive surfaces.

2. Remove four nuts securing top cover to hoist. Remove cover.
3. Hold full out limit switch actuating roller up and slightly away from cable drum. Actuate hoist until inactive turns are unwound from drum.
4. Disconnect all power to hoist.
5. Remove socket head screw securing cable end to cable drum flange.
6. Carefully pull cable through cable guide assembly and full in limit switch.
7. Vapor degrease approximately the last 15 feet of cable measured from the drum anchor end.
8. Paint this area red using Dykim Lacquer (color No. DNC) obtainable from Dykim Co., St. Louis, MO.

NOTE: This area of red cable is to alert the operator that maximum cable extension is approaching.

9. Apply power to hoist.
10. Reel in until the cable guide assembly moves to the extreme right position (motor end) and then reverses and moves left one indexing position of the shaft (This operation is not required if the hoist has not been operated with the cable removed).

CHANGES-SEE CHANGE NOTICE	DATE	BY				
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BEB-162-8

SHEET NO. 1

11. Disconnect power to hoist.
12. Thread cable end through full-in limit switch, bellmouth and cable guide assy.
13. Insert cable end into cable drum anchor hole. Replace socket head set screw and torque to 9 in. lb.
14. Connect electrical power to hoist.
15. Carefully wind approximately 3 complete wraps onto the cable drum.
16. Disconnect power to hoist.

#### FULL-OUT LIMIT SWITCH

(Hoist Serial Numbers up to 117)

Readjust and modify the full-out limit switch as follows:

1. Switch assembly must be positioned on cross bar so as to allow switch roller to contact grooved surface of drum immediately adjacent to inactive cable wraps (2 1/2 to 3 1/2 wraps). This may be accomplished by loosening both sets of socket head screws (A and B, Fig. 1) in both collar assemblies. The switch assembly may then be slid across the bar to the desired position. Tighten the socket head screws to 4 in. lb. End clearance in the assembly must be maintained at .002 to .005 to allow proper movement of roller arm. (C, Fig. 1)
2. With roller resting on grooved portion of drum adjacent to the proper number of inactive turns (2 1/2 to 3 1/2) loosen socket head screws (A, Fig. 1) and rotate switch until it can be heard to actuate. Tighten socket head screws to 4 in. lb. Again, end clearance must be .002 to .005 for proper operation.
3. Bend end of spring per Fig. 1.
4. Check hoist for satisfactory operation.

#### CAUTION

If after replacing top cover the two 1/2" locknuts securing the front of the cover are tightened excessively, the full-out limit switch adjustment may be affected. Check switch operation after cover is replaced.

FULL-OUT LIMIT SWITCH  
(Hoist Serial Numbers 118 and up)

Re-adjust and modify the full-out limit switch as follows:

1. Switch assembly must be positioned on cross bar so as to allow switch roller to contact grooved surface of drum immediately adjacent to inactive cable wraps (2 1/2 to 3 1/2 wraps). This may be accomplished by loosening both socket head screws (A and B, Fig. 2) in the switch bracket and collar assemblies. The switch assembly may then be slid across the bar to the desired position. Tighten socket head screw in switch bracket (A, Fig. 2) to 9 in. lb. Torsion spring must be wound 90° to 120° from the free position and then tighten the socket head screw (B, Fig. 2) to 9 in. lb. The spring is wound by rotating the collar (C, Fig. 2) in a clockwise direction when viewed from the motor end of the hoist. .002 to .005 end clearance must be maintained to permit proper movement for actuator arm.
2. With roller resting on grooved portion of drum adjacent to the proper number of inactive turns (2 1/2 to 3 1/2) loosen socket head screw (A, Fig. 2) and rotate switch bracket until switch can be heard to actuate. Tighten socket head screw to a torque of 9 in. lb. End clearance must be .002 to .005 for proper operation.
3. Bend end of spring per Fig. 2.
4. Check hoist for satisfactory operation.

CAUTION

If after replacing top cover the two 1/2" locknuts securing the front of the cover are tightened excessively, the full-out limit switch adjustment may be affected. Check switch operation after cover is replaced.

CABLE CUTTER

1. Inspect cable cutter to be sure that the shunt wire across the terminals is cut before the hoist is placed in service. Failure to cut this wire will prevent the operation of the cutter.

HOIST BUMPER

1. Measure thickness of the hoist bumper. If measurement is less than that shown in Fig. 3, replace bumper.

POST FLIGHT INSPECTION

Perform post flight inspection after each hoist use. If hoist has not been used, perform at least every 15 days. (30 days if hoist is removed from aircraft for storage).



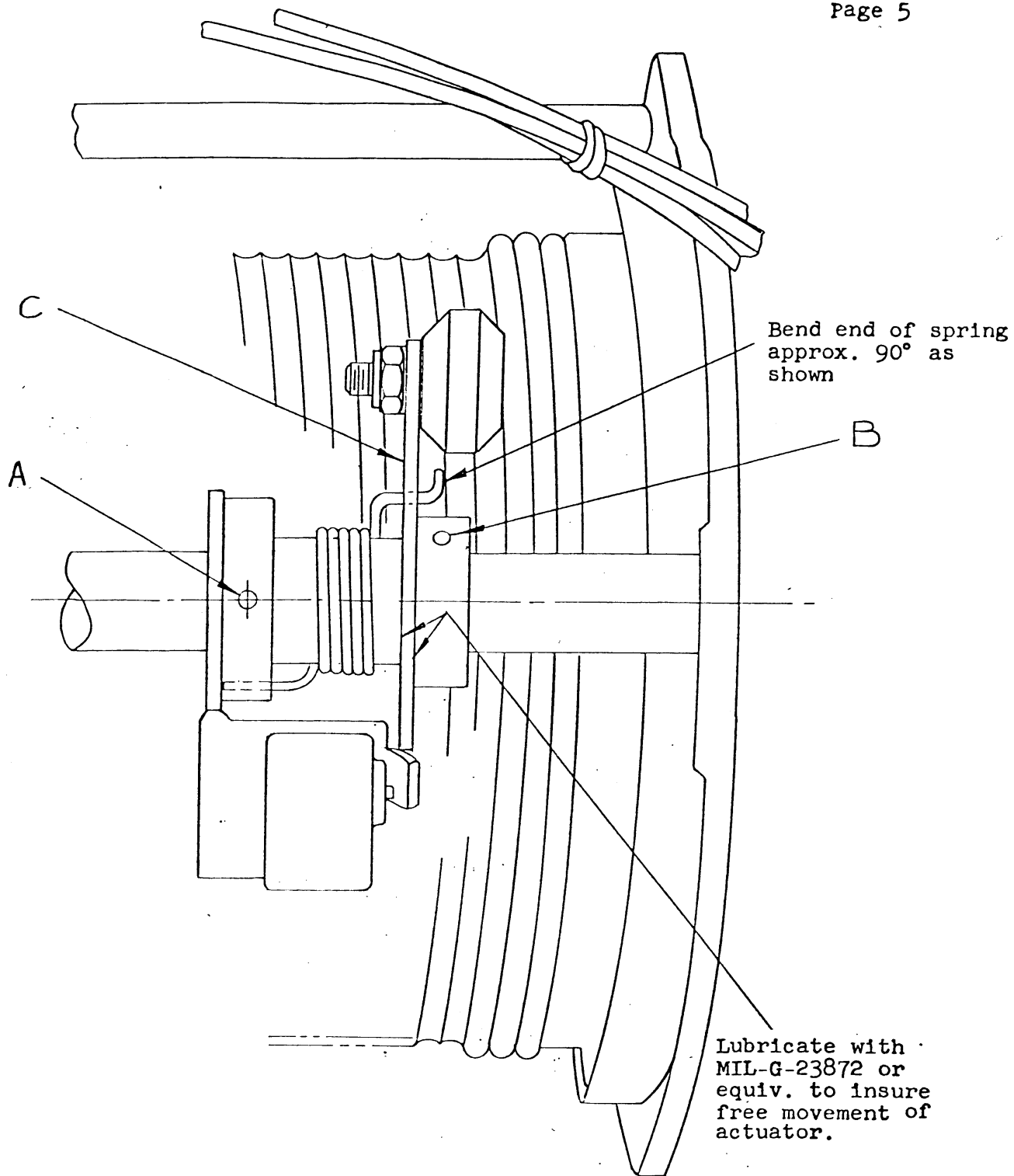


FIGURE 1

Equivalent:  
ESSO-BEACON 325  
AMOCO - SUPER-MIL

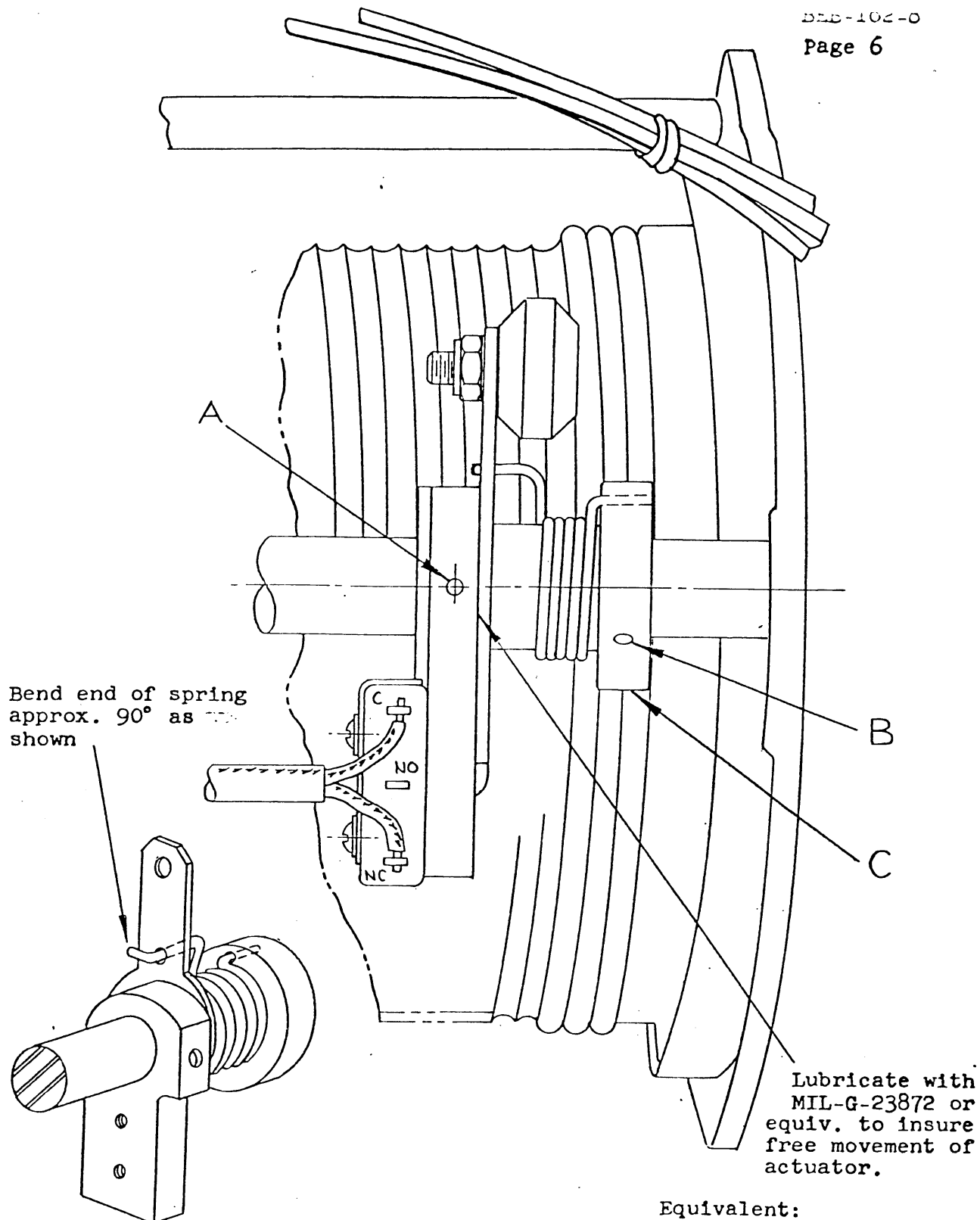


Figure 2

Equivalent:  
 ESSO-BEACON 325  
 AMOCO - SUPER-MIL

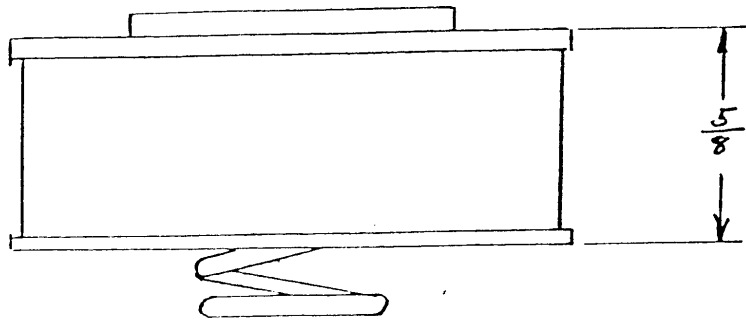


Fig. 3<sup>2</sup>



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## DEACTIVATION OF MAIN ROTOR BRAKE SYSTEM (IF INSTALLED); PERIODIC INSPECTION OF TAIL ROTOR DRIVE SHAFT FORWARD FLEXIBLE COUPLING, PN 369A5501 OR PN 369H92564

### 1. PLANNING INFORMATION

#### A. Models Affected:

All 500D Model 369D Helicopters

#### B. Preface:

Part I of this Service Information Notice lists a procedure for deactivating the main rotor brake, if the system is installed on the helicopter.

Part II of this Notice provides instructions for a periodic visual inspection of the subject tail rotor drive shaft forward flexible coupling, to ensure proper condition and operation of the coupling.

#### C. Time of Compliance:

PART I - Shall be accomplished within next 25 hours of helicopter operation following receipt of this Notice if PN 369H90123 Rotor Brake System is installed

PART II - Shall be accomplished at each 100-hour interval of helicopter operation following receipt of this Notice.

#### D. FAA Approval

FAA Approved.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. Reference:

500D Model 369D Basic HMI-Vol I (CSP-D-2) Issued 15 September 1976; Revision No. 4, 1 December 1980

500D Model 369D Basic HMI-Vol II (CSP-D-3) Issued 15 September 1976; Revision No. 2, 1 November 1978

500D Optional Equipment Instructions for PN 369H90123 Series Rotor Brake (CSP-006) Issued 1 August 1976; Revised 30 July 1980

### 2. PART I – DEACTIVATION OF ROTOR BRAKE SYSTEM

- (1). Position rotor brake handle at UP position in retainer; secure handle to retainer with lockwire to prevent brake application (refer to CSP-006).
- (2). Perform 100-hour inspection of forward flexible coupling, per Part II of this Notice.

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**MANDATORY**

- (3). Record compliance with Part I and Part II of this Notice in Compliance Record of helicopter Log Book.

### 3. PART II – 100-HOUR INSPECTION OF FORWARD FLEXIBLE COUPLING

- (1). Open tail rotor drive shaft access door (Section 2, Basic HMI-Vol I).
- (2). Inspect tail rotor drive shaft forward flexible coupling as follows:
- (a). Using mirror and bright light, visually inspect flexible coupling for any indication of cracks, corrosion, deformation or other physical damage. If any of the above deficiencies are noted or suspected, remove tail rotor drive shaft from helicopter and perform closer inspection (Section 9, Basic HMI-Vol I).

#### **CAUTION**

- Do not disassemble flexible coupling
  - Do not immerse flexible coupling in fluids or cleaners such as magnetic particle, fluorescent penetrant, visible dye, etc.
  - Do not apply corrosion protection fluids unless coupling has been cleaned with solvent or detergent. Apply any corrosion protection fluid very sparingly to outside only.
- (3). Close tail rotor drive shaft access door.
- (4). Record compliance with Part II of this Notice in Compliance Record of helicopter Log Book.

**MANDATORY**

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## INSTALLATION OF FAILSAFE DEVICE AT TAIL ROTOR DRIVE SHAFT FORWARD FLEXIBLE COUPLING, PN 369A5501 OR PN 369H92564; CHECK OF FLEXIBLE COUPLINGS

### 1. PLANNING INFORMATION

#### A. Models Affected:

PART I-Model 369D Helicopter Serial No. 0003D thru 0870D; 0872D thru 0875D; 0878D thru 0884D; 0886D thru 0892D; 0894D thru 0902D; 0904D; 0905D; 0907D; 0908D; 0910D thru 0916D; 0918D; 0919D; 0921D thru 0925D; 0928D thru 0935D; 0938D; 0940D thru 0943D; 0947D; 0948D; 0950D thru 0952D; 0955D; 0956D; 0958D; 0960D; 0962D; 0964D; 0965D; 0970D; 0974D; 0977D; 0979D; 0985D thru 0987D; 0989D; 0990D; 1000D; 1001D; 1003D; 1005D

PART II-All Model 369D Helicopters equipped with Failsafe Device (PN 369D25530 Coupling Bolt and 369D25531 Socket)

#### B. Preface:

Part I of this Notice provides instructions for installing a failsafe device to provide an additional drive connection between the main transmission output shaft and the tail rotor drive shaft at the forward flexible coupling. The failsafe device consists primarily of a new 369D25530 coupling bolt to secure the forward flexible coupling to the main transmission output shaft; and a new 369D25531 socket installed between the connecting flanges of the forward coupling and the tail rotor drive shaft. The new coupling bolt incorporates a key which engages a corresponding keyway in the socket, this providing an alternate drive link if coupling failure should occur.

Part II of this Notice prescribes checks of the forward flexible coupling, for all helicopters equipped with the failsafe device.

It is to be noted that helicopters equipped with the failsafe device (installed at factory or per this Notice) are NOT subject to special inspections or requirements of below referenced Hughes Notice No. DN-94.

#### C. Time of Compliance:

PART I - If PN 369H90123 Series Rotor Brake is installed on helicopter:  
Installation of failsafe device shall be accomplished within 25 hours of helicopter operation following receipt of parts, or within 180 days after date of this Notice, whichever is sooner. Procure required parts from your authorized HHI Service Center or Distributor upon receipt of this Notice.

If PN 369H90123 Series Rotor Brake is NOT installed on helicopter:

Installation of failsafe device shall be accomplished within 100 hours of helicopter operation following receipt of parts, or within 180 days after date of this Notice, whichever is sooner. Procure required parts from your authorized HHI Service Center or Distributor upon receipt of this Notice.

PART II - Shall be accomplished at intervals specified.

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**D. FAA Approval:**

FAA Approved.

**E. Weight and Balance Data:**

Weight and balance not affected.

**F. Reference:**

500D - Model 369D Basic HMI-Vol I (CSP-D-2) Issued 15 September 1976; Revision No. 4, 1 December 1980

500D - Model 369D Basic HMI-Vol II (CSP-D-3) Issued 15 September 1976; Revision No. 2, 1 November 1978

500D - Rotorcraft Flight Manual, Issued 8 December 1976; Revised 11 May 1981

500D - Optional Equipment Instructions for PN 369H90123 Series Rotor Brake (CSP-006) Issued 1 August 1976; Revised 30 July 1980

Hughes Service Information Notice No. DN-94, dated 25 June 1981

**G. Parts/Supplies:**

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Bolt, coupling	369D25530*	1	MDHS
Socket	369D25531*	1	MDHS
Shim	369A5516-9	AR	MDHS
Washer	NAS620C416L	3	Commercial
Washer	HS306-326	4**	MDHS
Procure parts required from your authorized HH Service Center or Distributor upon receipt of this Notice.			
*A special price of \$105.70 for the PN369D25530 coupling bolt, and \$109.30 for the PN 369D25531 socket has been established. This pricing will remain in effect through 31 December 1981.			
**As required			

**H. Materials:**

MATERIAL	
Nomenclature	Source
Grease MIL-G-81122 Mobil Grease 28	Mobil Oil
Aeroshell 22	Shell Oil
or	

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MATERIAL (Cont.)	
Nomenclature	Source
Grease Lubriplate 930-AA	Fiske Bros Toledo, OH
Anti-seize compound MIL-A-907	Commercial
Lockwire MS20995C	Commercial
Primer, zinc chromate TT-P-1757	Commercial

## I. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Torque wrench – 0 to 500 inch-pounds	Commercial
Feeler gage	Commercial

## 2. PART I – INSTALLATION OF FAILSAFE DEVICE

- (1). Remove and inspect tail rotor drive shaft (Section 9, HMI-Vol I).
- (2). Remove and inspect flexible couplings (and disc brake components if rotor brake is installed) on main and tail rotor transmission gearshafts. (Refer to Section 9, HMI-Vol I, and CSP-006 Rotor Brake Instructions if applicable. )

**NOTE:** Retain 369A5516-9 shims for reinstallation.

- (3). Install one 0.010-inch shim forward of flexible coupling on main transmission output shaft as shown in Figure 1. Coat coupling splines with grease and new 369D25530 coupling bolt threads with anti-seize compound before assembly. Install existing flexible coupling (and brake disc components as applicable) and tighten new coupling bolt to 250 to 300 inch-pounds.
- (4). Install one 0.010-inch shim aft of flexible coupling on tail rotor transmission input shaft. Coat coupling splines with grease and coupling bolt threads with anti-seize compound before assembly. Install coupling and tighten coupling bolt to 250 to 300 inch-pounds.
- (5). Position new 369D25531 socket on aft face of forward coupling so that three of the nine holes are indexed to the three nutplates of the coupling in such a way that maximum clearance is obtained between the bolt key and socket as shown in View B-B. Visually verify proper clearance before installing tail rotor drive shaft.
- (6). Reinstall tail rotor drive shaft per HMI-Vol-I, except tighten attach bolts fingertight only at forward coupling and socket. Replace existing NAS620C416 washers with NAS20C416L washers, 3 places.
- (7). Obtain 0.010 to 0.020-inch gap between forward flange of tail rotor drive shaft and aft end of socket, using the following procedure:

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- (a). Back off three attach bolts on forward flange of tail rotor drive shaft assembly 0.050 to 0.100 inch.
- (b). Push and hold tail rotor output shaft of main rotor transmission forward (into transmission) to remove end play. If rotor brake is installed, make certain that brake pucks do not restrict axial travel of tail rotor output shaft.
- (c). Remove end play in tail rotor transmission by applying force to tail rotor blades in opposite direction of operational rotation (while still holding tail rotor transmission output shaft to prevent rotation). Do not push tail rotor drive shaft fore or aft.
- (d). Measure gap between socket and flange of tail rotor drive shaft (socket flange must be in full contact with flange of flexible coupling ).
- (e). Add required number of shims behind flexible coupling at main transmission end of tail rotor drive shaft, to obtain specified gap of 0.010 to 0.020 inch.

**NOTE:**

- Shim (0.010 inch) may be removed from aft coupling if necessary.
  - If less than specified gap (0.010 to 0.020 inch) exists under minimum shim requirements, install maximum of one HS306-326 washer on each of the four tail rotor transmission mounting studs, between gearbox housing and boom fitting. Apply zinc chromate primer to both sides of washer installation.
  - After washer installation, repeat steps (7).(a). thru (7).(e). above.
- (8). Complete installation of tail rotor drive shaft assembly, and rotor disc brake components as applicable. (Refer to HMI-Vol I and CSP-006 as applicable.)

**NOTE:**

- If rotor brake system was deactivated per Hughes Notice No. DN-94, remove lockwire securing rotor brake handle to retainer. Perform operational check of rotor brake system per CSP-006.
  - Installation of failsafe device (369A25530 coupling bolt and 369D25531 socket) lifts the requirements of Hughes Notice No. DN-94.
- (9). Record Compliance with Part I of this Notice in Compliance Record of helicopter Log Book.

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## 3. PART II – CHECK OF FLEXIBLE COUPLINGS

**NOTE:** For all 500D helicopters with failsafe device installed, the tail rotor drive shaft forward flexible coupling shall be checked periodically as follows:

- At Each Pilot Preflight Check:

Rock tail rotor back and forth in plane of rotation. If blade can move in excess of 0.75 inch (1.93 cm) at the blade tip without rotation of main rotor blades, check for proper condition of tail rotor drive shaft forward coupling. (Section 9, Basic HMI-Vol I.) Replace coupling as required.

- At Each Aircraft/Engine Shutdown:

If thumping or rapping is heard from drive train during final revolutions of tail rotor blades, check tail rotor drive shaft forward flexible coupling for proper condition. (Section 9, Basic HMI-VOL I.) Replace coupling as required.

- At Each Annual or 300-Hour Inspection:

With tail rotor drive shaft removed, inspect flexible couplings per HMI-Vol I. Also visually inspect forward coupling bolt and socket for indications of contact. Do not loosen or remove bolt. If signs of contact are noted, remove and reinstall socket and/or coupling bolt per Part I of this Notice. Reposition socket and/or bolt so that the maximum clearance is obtained between bolt key and socket. (See View B-B, Figure 1.) Visually verify proper clearance before reinstalling tail rotor drive shaft.

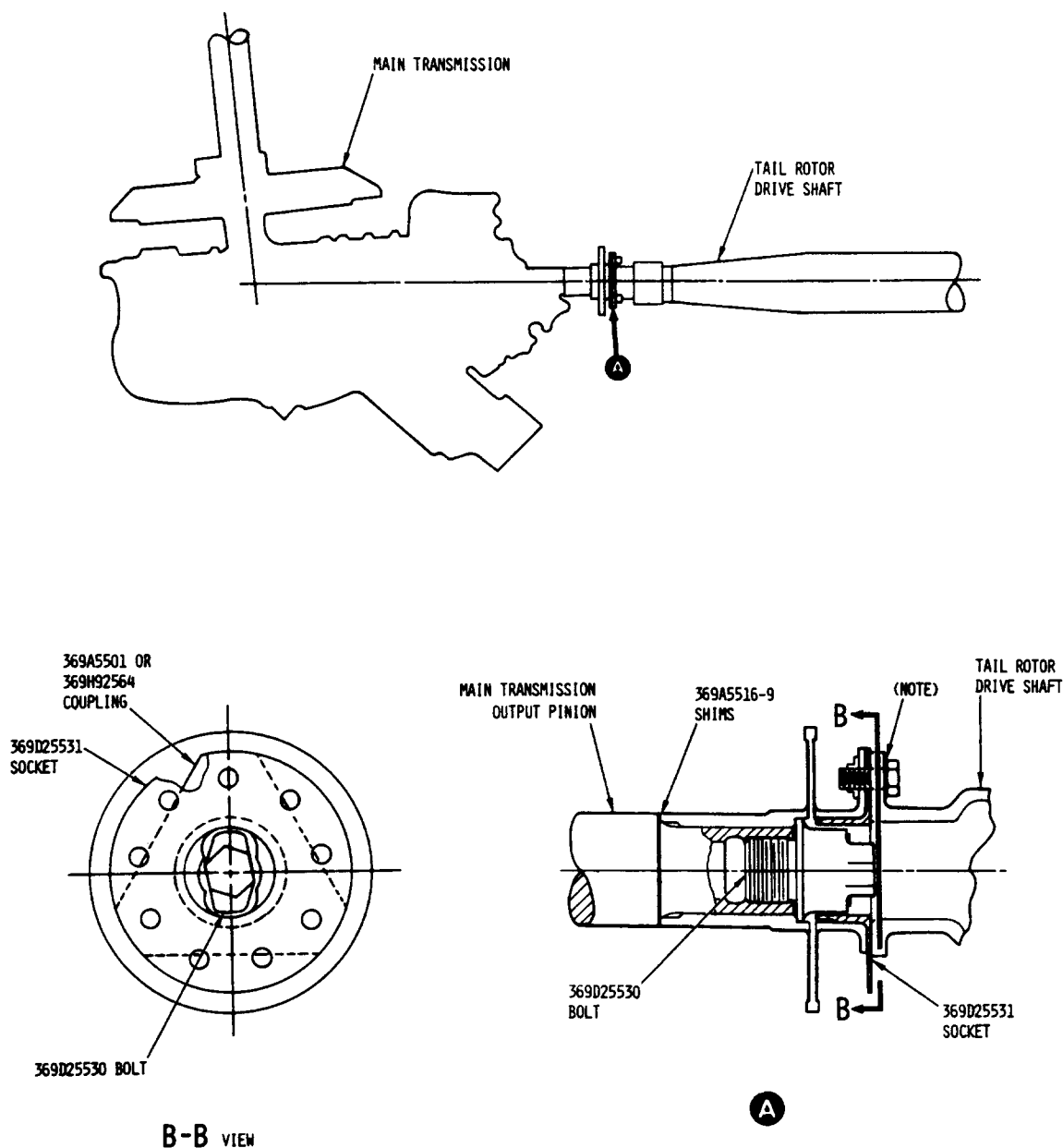
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**NOTE:**

NAS620C416L WASHER REPLACES EXISTING  
 NAS620C416 WASHER, 3 PLACES.

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**Figure 1. Installation of Failsafe Device, Tail Rotor Drive Shaft Forward Coupling**

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## ONE-TIME INSPECTION – ATTACHMENT HARDWARE FOR STA-STRAP SECURING ELECTRIC WIRING TO BOOM FAIRING AT STA 138.50

### 1. PLANNING INFORMATION

#### A. Models Affected:

Model 369D Helicopter Serial No. 0003D through 0950D

#### B. Preface:

The information given in this Service Information Notice lists a procedure for checking the rivet and washer used to attach the subject sta-strap assembly at Station 138.50 on the boom fairing assembly, for proper condition, security of attachment, and for evidence of corrosion.

Field reports indicate that a steel washer may have been installed inadvertently under the aluminum rivet which can result in dissimilar metal corrosion, rivet separation, and possible entry of rivet into the engine air intake.

#### C. Time of Compliance:

Shall be accomplished within next 100 hours of helicopter operation.

#### D. FAA Approval:

FAA/DER APPROVED 14 August 1981

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. References:

500D Basic HMI-Vol I, Issued 15 September 1976; Revision No. 5, 15 May 1981.

#### G. Parts/Supplies:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Blind rivet, aluminum	NAS1919B04-02	AR	Commercial
or	NAS1738B4-2		
or	NAS1398B4-2		
Washer, aluminum	AN960PD4L	AR	Commercial
Strap	SSC- 2	AR	Panduit Corp
	or equivalent	AR	or equivalent

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## 2. INSPECTION PROCEDURE

- (1). Open plenum chamber access door on engine air inlet aft fairing. (Section 2, Basic HMI - Vol I).
- (2). Install temporary cover of cardboard or suitable material over engine air intake bell to prevent entry of foreign objects into engine air intake.
- (3). Locate rivet and washer used to attach SSC-2 strap to boom fairing upper surface at Station 138.50 and 1.20 inches to right of helicopter center-line. Strap secures electric wiring routed through engine air inlet aft fairing.
- (4). Using flashlight and mirror, closely check rivet for condition, security of attachment and for any evidence of corrosion around rivet head.

### NOTE:

- If rivet is missing or loose, or any corrosion is noted, replace existing rivet and washer with new aluminum blind rivet and new aluminum washer. Do not use existing washer.
  - If rivet is missing, inspect engine compressor for damage.
- (5). Using metal tool with sharp edge or sharp point, perform hardness check of existing washer under rivet, to determine whether an aluminum washer or steel washer is installed.

### NOTE:

- Aluminum washer is softer and can be easily scored or scratched by metal tool. If aluminum washer is installed, coat scoring or scratches with zinc chromate primer. No further action is required.
  - Stainless steel washer can not be scored or scratched easily by metal tool. Remove rivet and steel washer, if installed, and replace with new aluminum blind rivet and new aluminum washer.
  - If washer material cannot be determined positively, remove existing rivet and washer and replace with new aluminum blind rivet and new aluminum washer.
- (6). Check plenum area for any foreign objects or debris; remove temporary cover from engine air inlet bell.
  - (7). Close plenum chamber access doors.
  - (8). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

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## MAIN ROTOR BRAKE SYSTEM, PN 369H90123 SERIES INSTALLATION OF MASTER CYLINDER STOP, PN 369D292585

### 1. PLANNING INFORMATION

#### A. Models Affected:

All Model 369D Helicopters equipped with subject Main Rotor Brake System incorporating 369H92584-501 or -502 Master Cylinder Linkage Assembly

#### B. Preface:

The information given in this Service Information Notice lists a procedure for fabricating and installing a stop device on the rotor brake master cylinder and the actuating lever, to limit the stroke of the cylinder plunger spring, and prevent possible dislocation of a rubber cup inside the cylinder. Field reports indicate that constant bottoming of the spring can dislocate rubber cup causing blockage of the hydraulic fluid feed holes and preventing brake pucks from disengaging from the brake disc. The resultant friction can in turn create heat build up and possible damage to the brake disc caliper assembly.

Dimensions and specifications are provided for field fabrication of the 369D292585 Rotor Brake Lever Stop.

#### C. Time of Compliance:

Shall be accomplished within next 100 hours of helicopter operation, or within 180 days after receipt of this notice, whichever is sooner. Order parts from your authorized HHI Service Center or Distributor upon receipt of this Note.

#### D. FAA Approval:

FAA/DER Approved 5 October 1981.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. Reference:

Model 500 Basic HMI, Issued 15 September 1976; Revision No. 5, 15 May 1981.

Model 369D Optional Equipment Instruction for 369H90143 Rotor Brake, CSP-006, Issued 1 August 1976; Revised 30 July 1980.

#### G. Patrs/Supplies:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Stop	369D292585	1	Field Fabricate*
Washer	AN960-516L	6	Commercial

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REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Nut	MS21042-3	1	Commercial
Pin, cotter	MS24665-170	1	Commercial
Spacer	NAS1057T3-075	1	Commercial
Bolt	NAS1303-16	1	Commercial
*See Figure 2 for dimensions and specifications.			

## H. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Drill motor, portable	
Drill bit – No. 10 (0.190/0.194 in. dia)	

## I. Materials:

MATERIAL	
Nomenclature	Source
Primer, zinc chromate	Commerce

## 2. MODIFICATION PROCEDURE

- (1). Remove linkage cover (Refer to CSP-006).
- (2). Remove master cylinder assembly and 369H92829 actuating lever (Refer to CSP-006).
- (3). Rework actuating lever by drilling 0.190/0.194 inch diameter hole in lever at dimensions shown in Figure 1. Apply zinc chromate primer to reworked area of lever.
- (4). Reinstall master cylinder assembly, with new 369D292585 stop, using new AN960-516L washers and existing nuts and bolts as shown.
- (5). Install NAS1057T3-075 spacer on actuating lever as shown, using NAS1303-16 bolt and MS21042-3 nut.
- (6). Reinstall lever assembly on pin, using existing spring, washer and nut. Secure with new cotter pin.
- (7). Position rotor brake handle at down position; check for contact between new stop and spacer; also check for proper engagement of brake pucks and brake disc.
- (8). Perform inspection and operational check of main rotor brake system per CSP-006.
- (9). Reinstall linkage cover.

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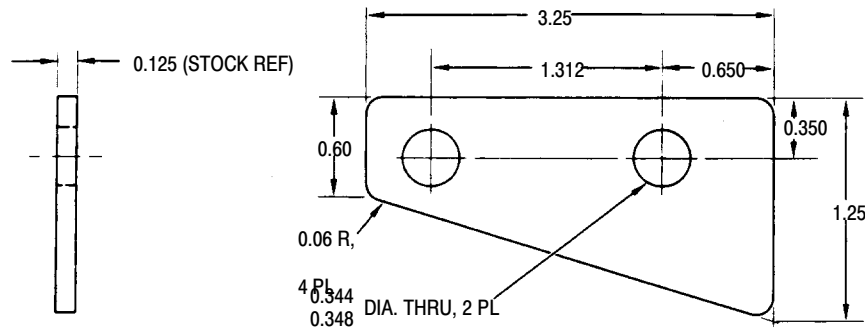
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- (10). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.



**NOTES:**

1. MATERIAL 0.125 THICK 7075-T6 OR T651 AL ALLOY SHEET PER QQ-A-250/12.
2. ALTERNATE MATERIAL: 0.125 THICK 2024-T6, T4 OR T3 AL ALLOY SHEET PER QQ-A-250/4.
3. ALL DIMENSIONS IN INCHES.

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**Figure 1. Installation of Rotor Brake Master Cylinder Stop Mechanism**

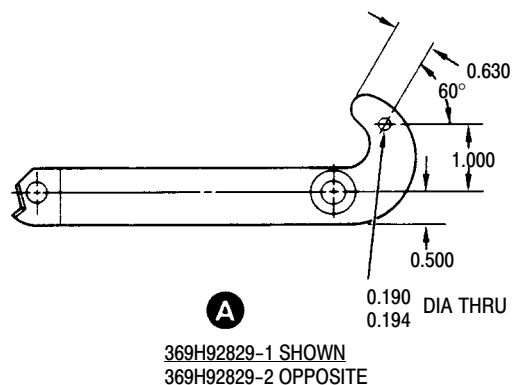
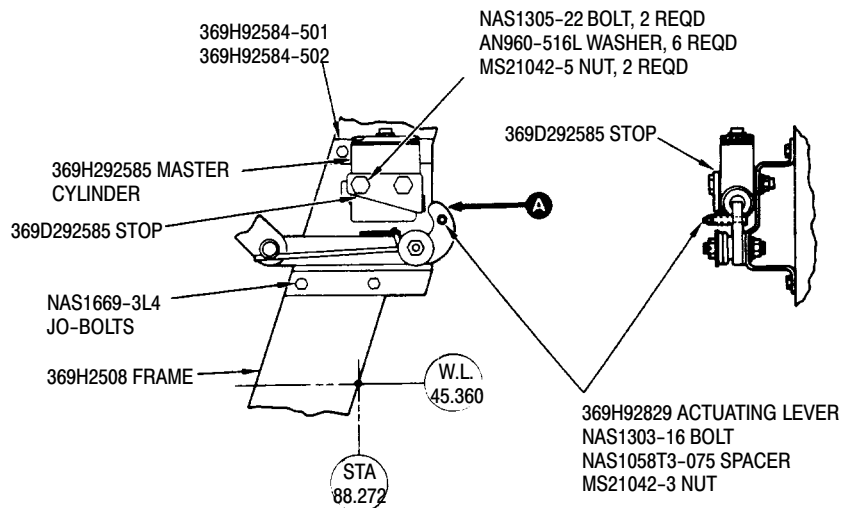
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**NOTES:**

1. ALL DIMENSIONS IN INCHES.
2. COAT REWORKED AREA WITH ZINC CHOMATE PRIMER.

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**Figure 2. Field Fabrication - 369D292585 Rotor Brake Lever Stop**

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## PERIODIC INSPECTION OF MAIN ROTOR DRIVE SHAFT, PN 369D25510

### 1. PLANNING INFORMATION

#### A. Models Affected:

All 500D Model 369D Series Helicopters

#### B. Preface:

Field reports indicate that cracking has been detected in the spline teeth at the main transmission end of the main rotor drive shaft. The information given in this Service Information Notice lists a procedure for a periodic removal and inspection of the main rotor drive shaft, including a close visual inspection of the shaft spherical spline teeth for possible cracks and damage.

The service life of the PN 369D25510 main rotor drive shaft is 3410 hours.

#### C. Time of Compliance:

Shall be accomplished within next 25 hours of operation for helicopters with 300 or more hours time in service.

Shall be accomplished at each and every 300-Hour Periodic Inspection interval.

#### D. FAA Approval:

FAA APPROVED

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. Reference:

500D Basic HMI-Volume I, Issued 15 September 1976; Revision No. 5, 15 May 1981

500D Basic HMI-Volume II, Issued 15 September 1976; Revision No. 2, 1 November 1978

#### G. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Magnifying Glass – 5X to 10X	
Magnetic Particle Inspection Kit – MIL-I-6868	

#### H. Materials:

MATERIAL	
Nomenclature	Source
Solvent, Cleaning P-D-680	

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## 2. PERIODIC INSPECTION OF MAIN ROTOR DRIVE SHAFT



Anytime main rotor drive shaft is removed, cover opening at top of main rotor hub to prevent entry of any foreign material into hub, mast and transmission.

- (1). Remove main rotor drive shaft (refer to Section 9 of HMI-Vol I).
- (2). Perform a visual inspection of the shaft spline as follows:
  - (a). Thoroughly clean with cleaning solvent to remove oil, dirt, etc.
  - (b). Use 5X to 10X magnifying glass and bright side light (45° or less; downward lighting may not define cracks).
  - (c). Pay particular attention to side of (each) tooth with larger wear pattern. Hairline cracks appear crescent-shaped and at the center and bottom of tooth in the root area (see Figure 1). Also, inspect neck (shaded area) of spline for cracks.

### NOTE:

- If cracking is suspected, perform magnetic particle inspection of shaft spline and teeth.
- If cracking or damage is found, the shaft is no longer airworthy. Discard drive shaft and return it to HHI Customer Service Department.
- Inspect replacement drive shaft per steps (2). and (3). of this Notice, prior to installation of shaft on helicopter.

- (3). Inspect all other surfaces of the drive shaft, per Section 9 of HMI Vol I.

**NOTE:** If surface corrosion or pitting of the shaft surface is noted, perform field repair of drive shaft per HMI-Vol I.

- (4). Remove protective cover and install main rotor drive shaft.
- (5). Record compliance with this Service Notice in Compliance Record of helicopter Log Book.

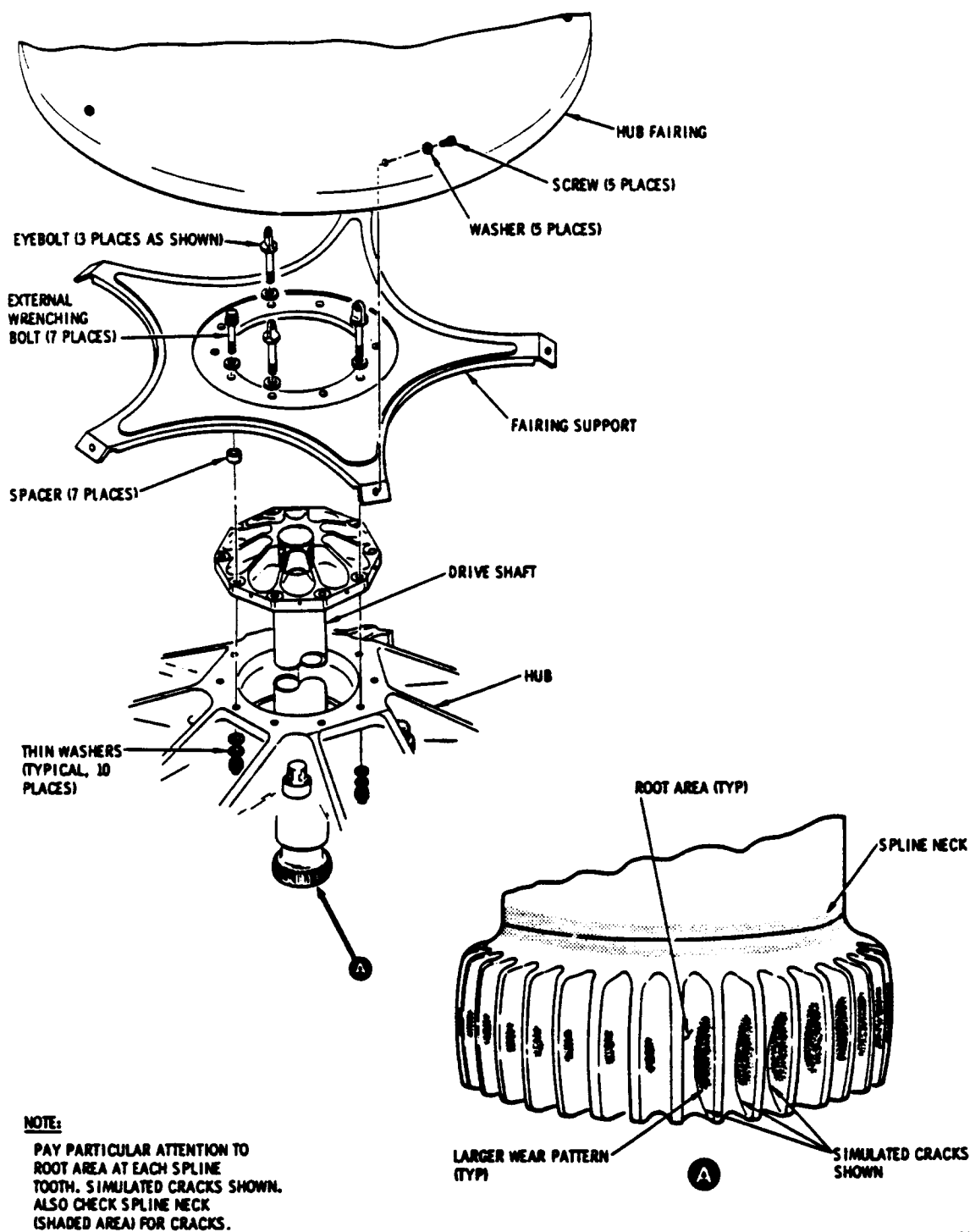
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**Figure 1. Inspection of Main Rotor Drive Shaft Spherical Spline**

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## INSPECTION OF PN 369A7006-5 TAIL ROTOR CONTROL ROD; REWORK OF PN 369D290128-11 PARTICLE SEPARATOR FAIRING ASSEMBLY AND PN 369D290128-31 COVER ASSEMBLY

### 1. PLANNING INFORMATION

#### A. Models Affected:

500D Model 369D Helicopters equipped with PN 369H90148-507, -509, -515 or -517 Engine Air Particle Separator Filter Installation (with APM Filter)

#### B. Preface:

Operators in the field have reported interference between the Station 100.0 tail rotor control rod assembly and the nutplate installed on the PN 369D290128-11 particle separator left fairing assembly. The interference has been noted only on helicopters equipped with engine particle separator kit installations which incorporate the APM filter assembly.

Part I of this Notice lists a procedure for a one-time inspection of the Station 100.0 tail rotor control rod for evidence of chafing and/or interference with the nutplate installed on the -11 fairing assembly.

Part II of this notice provides instructions for removal of the nutplate if interference is noted, and for rework to provide for attachment of the subject -31 cover assembly. Performance of Part II is recommended, if no interference is noted between the control rod and fairing nutplate. It is to be noted that a new PN 369D290128-51 cover assembly is available, which may be installed in lieu of reworking the existing -31 cover.

#### C. Time of Compliance:

Shall be accomplished within next 100 hours of helicopter operation, or at next removal of particle separator filter assembly, whichever is sooner.

#### D. Reference:

500 Model 369D Basic HMI-Vol 1 (CSP-D-2), Reissued 15 September 1976; Revision No. 5, 15 May 1981

500 Model 369D HMI Structural Repair Manual, 369D-SRM (CSP-D-6) Issued 15 September 1976

500D Model 369D Particle Separator Filter Installation, Maintenance Instruction with Parts List (CSP-004) Issued 4 April 1980

#### E. Weight and Balance Data:

Weight and balance not affected

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## F. Parts/Supplies:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Cover Assembly*	369D290128-51	1	HHI
Seal**	369D290128-55	1	HHI
Seal ***	369D290128-57	1	HHI
*Not required if existing PN 369D290128-31 cover assembly is reworked per this Notice.			
**PN 369D290128-55 seal may be field fabricated from 3M Go. No. 9132-B or No. 4508 pressure sensitive tape, 0.13 in. thick x 1.25 in. width x 1.50 in.			
***PN 369D290128-57 seal may be field fabricated from 3M Go. No. 9132-B or No. 4508 pressure sensitive tape, 0.13 in. thick x 1.25 in. width x 2.25 in.			

## G. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Drill motor, portable	
Drill bit – No. 1/4 (0.250 in. diameter)	
Drill bit – No. 3/32 (0.0937 in. diameter)	

## H. Materials:

MATERIAL	
Nomenclature	Source
Abrasive paper, silicon carbide; P-P-101	Commercial
Methyl-ethyl-ketone (MEK); TT-M-261	Commercial
Cloth, glass, finished (#181); MIL-C-9084, Type VIII, (HMS16-1091)	U.S. Polymeric Chem Inc.; Ferro Corp., Cordo Div.; Coast Mfg. & Supply Co.
Polyester resin with catalyst, low pressure laminating; MIL-R-7575, GRADE B, CLASS 0	Commercial

## 2. PART I- ONE-TIME INSPECTION OF STATION 100.0 TAIL ROTOR CONTROL ROD

- (1). Remove engine air inlet forward fairings. (Refer to Section 2 of HMI-Vol I.)
- (2). Open plenum chamber access door.

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Install protective cover in plenum chamber to prevent foreign materials or objects from entering engine air inlet.

- (3). Remove PN 369D290128-31 fairing. (Refer to CSP-004)
- (4). In plenum chamber, remove hardware securing particle separator PN 369290128-11 left fairing assembly to tail rotor access door and to forward side of particle separator. (Refer to CSP-004)
- (5). Remove -11 left fairing.
- (6). Check tail rotor control rod for evidence of chafing and/or interference with nutplate installed on inner wall of -11 fairing assembly.

## NOTE:

- If evidence of chafing or interference is noted, perform Part It of this Notice
  - If no evidence of interference or chafing is noted, removal of nutplate and rework of -31 fairing per Part II of this Notice is recommended.
- (7). Reinstall PN 369D290128-11 and -31 fairings.
  - (8). Remove protective cover from plenum chamber.
  - (9). Close plenum chamber access door.
  - (10). Install engine air inlet forward fairings.
  - (11). Record compliance with Part I (and Part II as applicable) of this Notice in Compliance Record of helicopter Log Book.

### **3. PART II – REWORK OF PN 369D290128-11 FAIRING AND PN 369D290128-31 COVER ASSEMBLIES**

- (1). Drill out rivets and remove nutplate from 369D290128-11 left fairing assembly.
- (2). Using #181 fiberglass and resin, apply one layer of fiberglass on each side of -11 fairing to patch over nutplate holes. (Refer to Section 2 of HMI Structural Repair Catalog for fiberglass repair.)

**NOTE:** The new 369D290128-51 cover assembly may be installed in lieu of field rework and buildup of the existing 369D290128-31 cover assembly.

- (3). Remove existing -39 seals from -31 cover assembly.
- (4). Using #181 fiberglass and resin, rework and buildup 369D290128-31 cover assembly per dimensions shown in Figure 1. Apply one layer of fiber-glass to top surface of cover and two layers of fiberglass to bottom surface as shown.
- (5). Drill two 0.250 inch diameter holes in reworked -31 cover to match holes in - 11 left fairing.
- (6). Install new -55 and -57 seals on reworked -31 cover assembly.
- (7). Reinstall reworked 369D290128-11 left fairing assembly and reworked 369D29012S-31 cover assembly (or new -51 cover assembly).

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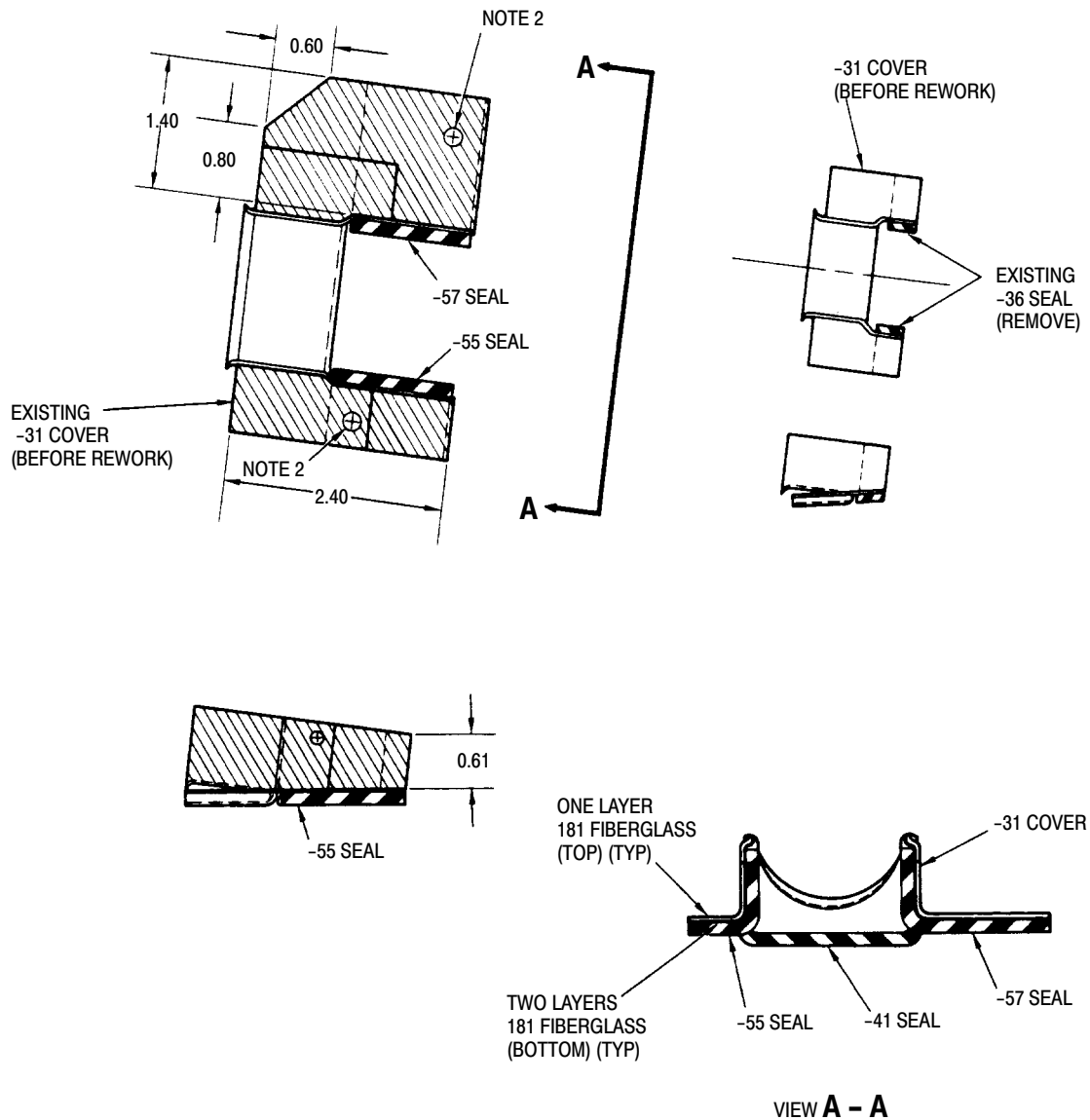
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**NOTES:**

1. ALL DIMENSIONS IN INCHES.
2. DRILL 0.250 INCH DIAMETER HOLES IN COVER TO MATCH -11 FAIRING.
3. SHADED AREA DENOTES FIBERGLASS BUILDUP.

88-540

**Figure 1. Rework of 369D290128-31 Cover Assembly**

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## INSTRUMENT CLUSTER 3-PACK CONVERSION – AC TO ROCHESTER

### 1. PLANNING INFORMATION

#### A. Models Affected:

500D Model 369D Helicopter Serial No. 0003 0018D through 0025D, 0027D through 0045D, 0047D through 0055D, 0057D through 0059D, 0061D through 0064D, 0066D through 0069D, 0071D through 0078D, 0080D through 0091D, 0093D through 0097D, 0099D through 0109D, 0111D through 0115D, 0117D through 0122D, 0124D through 0128D, 0130D through 0133D, 0135D through 0139D, 0141D through 0145D, 0147D through 0151D, 0153D through 0156D, 0158D through 0163D, 0165D through 0168D, 0171D through 0174D, 0176D through 0181D, 0183D through 0185D, 0188D, 0190D through 0193D, 0196D through 0200D, 0203D through 0206D, 0208D, 0209D, 0212D through 0215D, 0217D through 0221D, 0226D, 0228D through 0237D, 0243D through 0262D, 0268D through 0277D, 0287D through 0306D, 0312D through 0321D, 0331D through 0339D, 0341D through 0350, 0356D through 0365D, 0375D through 0394D, 0400D, 0401D, 0403D through 0406D, 0412D through 0417D, 0419D through 0424D, 0429D, 0431D through 0434D, 0436D through 0442D, 0444D through 0452D, 0455D through 0464D, 0471D through 0500D, 0500D, 0505D through 0507D, 0509D, 0510D, 0512D through 0522D, 0530D through 0549D, 0552D through 0568D, 0577D through 0596D, 0605D through 0607D, 0609D through 0614D, 0619D, 0621D through 0637D, 0646D through 0655D, 0670D through 0681D, 0683D, 0688D through 0711D, 0714D through 0721D, 0724D through 0727D, 0732D through 0739D, 0742D through 0748D, 0751D through 0759D, and 0762D through 0765D.

#### B. Preface:

The information given in this Service Information Notice lists a procedure for conversion from AC to Rochester instrument cluster 3-pack assembly. The AC instrument cluster 3-pack assembly is no longer available from the manufacturer. Therefore, when replacement becomes necessary, it must be replaced with a Rochester instrument cluster 3-pack assembly.

#### C. Time of Compliance:

Shall be accomplished at next replacement of instrument cluster 3-pack assembly.

#### D. Reference:

500 Model 369D Basic HMI- Volume 1, issued 15 September 1976, Revision No. 5, 15 May 1981

#### E. Weight and Balance Data:

Weight and balance not affected

#### F. FAA Approval:

The resultant alteration to the affected Model 369D helicopters described by the kit installation instructions in this Notice, has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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## G. Parts/Supplies:

When ordering, specify Kit No. M30304-507 consisting of the following:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Instrument cluster 3-pack assembly	369D296305-21	1	Rochester
Resistor, R500 (1/8 W, 12.1 ohm, 1%)	RN55C12R1F	1	Commercial
Strap	MS3367-1	AR	Commercial
*If required, refer to text			

## H. Materials:

MATERIAL	
Nomenclature	Source
Sleeving, fiberglass, No. 4, MIL-I-3190, Class HA-I, 0.214 inch ID X 4.0 inch.	
Solder, QQ-S-571.	
Trichloroethane 1-1-1, O-T-620C	

## 2. PROCEDURE

- (1). Turn off electrical power.
- (2). Open pilot's compartment floor access doors. (Refer to Section 2, Basic HMI - Vol 1.)
- (3). Locate existing resistor R500 attached to PN 369H4140 wire harness. (See Figure 1.)
- (4). Unsolder wire D501B20 and D501C20 from resistor R500 and discard resistor. (See Figure 2.)

### NOTE: NOTE

- Perform step (5). below for helicopter serial No. 0671D through 0681D, 0683D, 0688D through 0711D, 0714D through 0721D, 0724D through 0727D, 0732D through 0739D, 0742D through 0748D, 0751D through 0759D and 0762D through 0765D only.
- Perform step (6). below for all other affected helicopter serial numbers.

- (5). Butt splice wires D501B20 and D501C20 together.

**NOTE:** Prior to soldering, thoroughly clean surfaces to be soldered with trichloroethane 1-1-1.

### **WARNING**

**Provide for adequate ventilation when using trichloroethane 1-1-1.**

- (6). Install new resistor R500. Lap solder wires to resistor cover with sleeving and tie.

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- (7). Close pilot's compartment floor access doors.
- (8). Replace instrument cluster 3-pack assembly as follows:
  - (a). Remove instrument panel right side fairing. (Refer to Section 17, Basic HMI - Vol 1.)
  - (b). Unplug connector J4.
  - (c). Remove and retain hardware attaching instrument cluster 3-pack assembly to instrument panel. Remove instrument cluster 3-pack assembly from instrument panel.
  - (d). Install new instrument cluster 3-pack assembly in instrument panel with hardware retained above.
  - (e). Reconnect connector J4.
  - (f). Reinstall instrument panel right side fairing.
- (9). Turn on electrical power and check all instruments for proper operation.
- (10). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

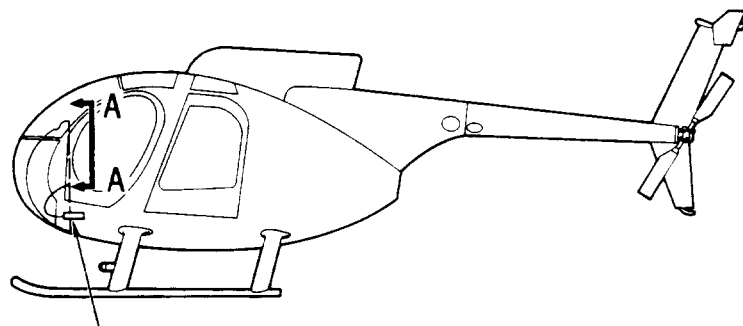
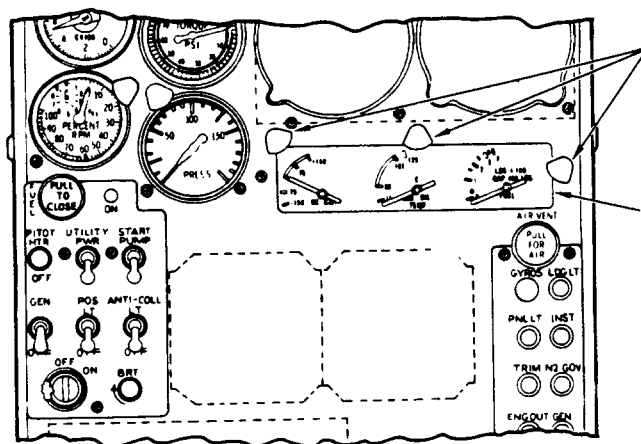
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 EXISTING (R500) CP-5-0.25 RESISTOR  
 ATTACHED TO 369H4140 HARNESS


POST LTS. (REF)

 REPLACE 369H6417  
 CLUSTER WITH  
 369D296305-21 CLUSTER  
 ELECTRICAL BOND PER  
 BASIC HMI, VOL 1,  
 SECTION 19

88-516

**Figure 1. Instrument Cluster 3-Pack Conversion**

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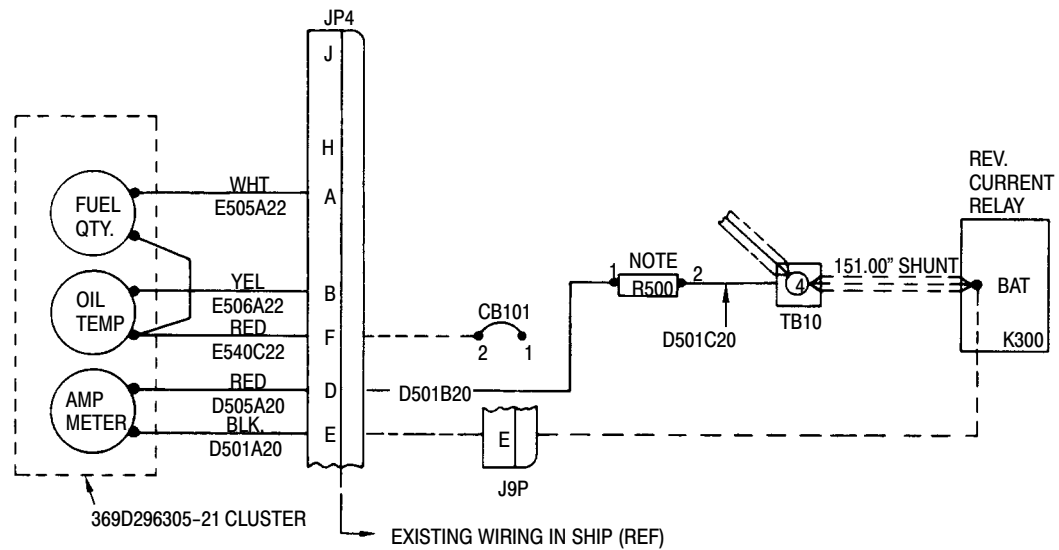
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**NOTE:**

REMOVE RESISTOR R500 AND INSTALL  
NEW RESISTOR OR BUTT SPLICE WIRES  
D501B20 AND D501C20 TOGETHER  
(REFER TO TEXT)

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### Figure 2. Wiring Diagram

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## INSTALLATION OF FUSELAGE ATTACH POINTS (PN 369H90070-211/212 SUBASSEMBLIES) FOR ACCESSORY KIT ATTACH FITTINGS

### 1. PLANNING INFORMATION

#### A. Models Affected:

500D Model 369D Helicopter Serial No. 1127D and subsequent

#### B. Preface:

The information given in this Service Information Notice lists a procedure for installing three fuselage hard points for installation of accessory kit attach fittings on left hand and/or right hand side of helicopter.

It is to be noted that the subject PN 369H90070-211/212 subassemblies are applicable only to helicopters which do NOT have the hard points currently installed on the ship.

#### C. Time of Compliance:

Shall be accomplished in conjunction with installation of accessory kit requiring fuselage attach points.

#### D. Reference:

Model 500D Basic HMI - Volume 1, Issued 15 January 1982; Revision No. 1, 15 March 1982

Model 500D Structural Repair Manual (369D-SRM), Issued 15 September 1981

#### E. Weight and Balance Data:

Weight and balance not affected

#### F. FAA Approval:

The resultant alteration to the affected helicopters described by the attach points installation procedure in this Notice has been shown to comply with the applicable Federal Aviation Regulations and is FAA Approved.

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## G. Parts/Supplies:

The fuselage attach points, PN 369H90070-211 and -212, consist of the items listed below. The -211 and -212 subassemblies are for left hand and right hand attach fitting installations, respectively.

REPLACEMENT PARTS/SUPPLIES				
Nomenclature	Part No.	Quantity		Mfg.
		-211 LH	-212 RH	
Doubler	369H2401 - 67	1	1	HHI
Clip	369H3014 -47	1	1	HHI
Clip	369H3014-46		1	HHI
Clip	369H3014-45	1		HHI
Clip	369H3014-43	1	1	HHI
Cover plate	369H90070-71	1	1	HHI
Nutplate	NAS697A3	1	1	Commercial
Nutplate	NAS696A3	6	6	Commercial
Nut plate	NAS680A3	3	3	Commercial
Rivet	MS20615M4-3		10	Commercial
Rivet	MS20470AD4-5	20	20	Commercial
Rivet	MS20427M4-4	10		Commercial
Rivet	MS20427M4-3		10	Commercial
Rivet	MS20427M3		6	Commercial
Rivet	MS20426AD4-5	30	20	Commercial
Rivet	MS20426AD3-5		5	Commercial
Rivet	MS20426A3-5	15	15	Commercial
Rivet	NAS1738B4-4	20	20	Commercial
Rivet, blind	CR3212-4-2	1	1	Cherry Rivet
Screw, nylon	1030-1032-0104	7	7	Commercial
or				
Screw	NAS623-3-1	7	7	Commercial

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## H. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Drill motor, portable	
Drill bit – No. 9 (0.197 – 0.193 in. dia)	
– No. 10 (0.194 – 0.190 in. dia)	
– No. 30 (0.1285 in. dia)	
– No. 41 (0.0960 in. dia)	
– No. 52 (0.0635 in. dia)	
Shears, metal cutting	

## I. Materials:

MATERIAL	
Nomenclature	Source
Primer, zinc chromate TT-P-1757	Commercial
Paint, acrylic lacquer MIL-L-81352	Advance Coating and Chemical

## 2. PROCEDURE

- (1). Remove interior trim panels in crew and passenger compartments to gain access to work areas inside helicopter (Refer to Section 4, HMI Vol I).
- (2). Install attach hardware for lower forward accessory attach fitting as follows:
  - (a). Locate and carefully remove existing rivet on helicopter skin at STA 84.86 and WL 45.87, and existing rivets inside perimeter of 369H2401-67 doubler (see Figure 1).
  - (b). Mark and drill rivet holes in 369H2401-67 doubler to match existing rivet hole pattern on helicopter.
  - (c). Cut 369H2508-225 (LH) or -226 (RH) plate, two places, in order to provide access to buck rivets and install nutplates. Blend radius on all four corners.
  - (d). Position -67 doubler on exterior skin of helicopter at location shown. Mark and drill three (3) 0.194 – 0.190 inch diameter holes through -67 doubler, helicopter skin and frame structure at dimensions shown to match lower forward accessory attach fitting, or to match holes locations shown in Figure 4. Use accessory attach fitting as template, if available.

**NOTE:** When installing all rivets, coat ID of rivet holes and entire OD of rivets with zinc chromate primer.

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- (e). Mark and drill six rivet holes through -67 doubler, helicopter skin and frame structure for nutplates as shown; install three (3) nutplates.

**NOTE:** If-fitting is available, install fitting to nutplates to check for proper hole alignment; remove fitting.

- (f). Mark and drill holes through 369H90070-71 cover plate and 369H2508-225 (LH) or -226 (RH) plate as shown; install -71 cover plate with six (6) rivets as shown.

- (g). Install three (3) nylon screws as plugs in nutplate attach holes.

- (h). Prime and paint doubler to match helicopter exterior color scheme.

- (3). Install attach hardware for top center accessory attach fitting as (See Figure 2.)

- (a). Locate and carefully remove 369H2508-245 (LH) or -246 (RH) bracket from helicopter frame structure, to provide access to install nutplates.

**NOTE:** Displace and/or protect wiring harnesses when removing rivets and drilling through 369H2508-237 or -238 bracket and helicopter skin.

- (b). Locate and carefully remove existing four (4) rivets in helicopter skin and 369H2508-237 (LH) or -238 (RH) bracket.

- (c). Enlarge holes through skin and bracket to 0.197 - 0.193 inch diameter; ensure that holes match holes in top center accessory attach fitting, if available; or match hole locations shown in Figure 4. Use fitting as template, if available.

- (d). Mark and drill eight (8) rivet holes through skin and -237 or -238 bracket for nutplates, as shown.

**NOTE:**

- When installing all rivets, coat ID of rivet holes and entire OD of rivets with zinc chromate primer.
- Displace and/or protect wiring harnesses when installing rivets in 369H2508-237 or -238 bracket and helicopter skin.

- (e). Install nutplates to interior side of 369H2508-237 or -238 bracket with rivets as shown.

- (f). If accessory attach fitting is available, install fitting to nutplates to check for proper hole alignment; remove fitting.

- (g). Reinstall 369H2508-245 or 246 bracket to frame structure with rivets as shown.

- (h). Install four (4) nylon screws as plugs in nutplate attach holes.

- (i). Prime and touch up rivets and rework area to match helicopter exterior color scheme.

- (4). Install attach hardware for lower aft accessory attach fitting as

- (a). Mark fitting attach hole at STA 118.29 and WL 49.51 (see Figure 3). Carefully drill 0.063 inch diameter pilot hole through helicopter skin and 369H3014-41 doubler.

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- (b). Mark and drill 0.063 inch diameter pilot holes for remaining two fitting attach holes. Use lower aft accessory attach fitting as template, if available, or drill per hole locations shown in Figure 4. Ensure that holes match fitting or hole locations shown in Figure 4.

## NOTE:

- When installing all rivets, coat ID of rivet holes and entire OD of rivets with zinc chromate primer.
  - Remove and replace existing rivets on helicopter frame structure, as required, when installing 369H3014-43, -45 or -46, and -47 clips.
    - (c). Install three clips to frame structure with rivets as shown. Enlarge three (3) pilot holes to 0.194 - 0.190 inch diameter.
    - (d). Drill through helicopter skin, 369H3014-41 doublet and clips.
    - (e). Mark and drill six (6) rivet holes through helicopter skin, 369H3014-41 doubler and clips for nutplates as shown.
    - (f). Install nutplates to helicopter with rivets as shown.
    - (g). If accessory attach fitting is available, install fitting to nut-plates to check for proper hole alignment; remove fitting.
    - (h). Install three (3) nylon plugs as screws in nutplate attach holes.
    - (i). Prime and touch up rivets and rework area to match helicopter exterior color scheme.
- (5). Reinstall interior trim panels in crew and passenger compartments.

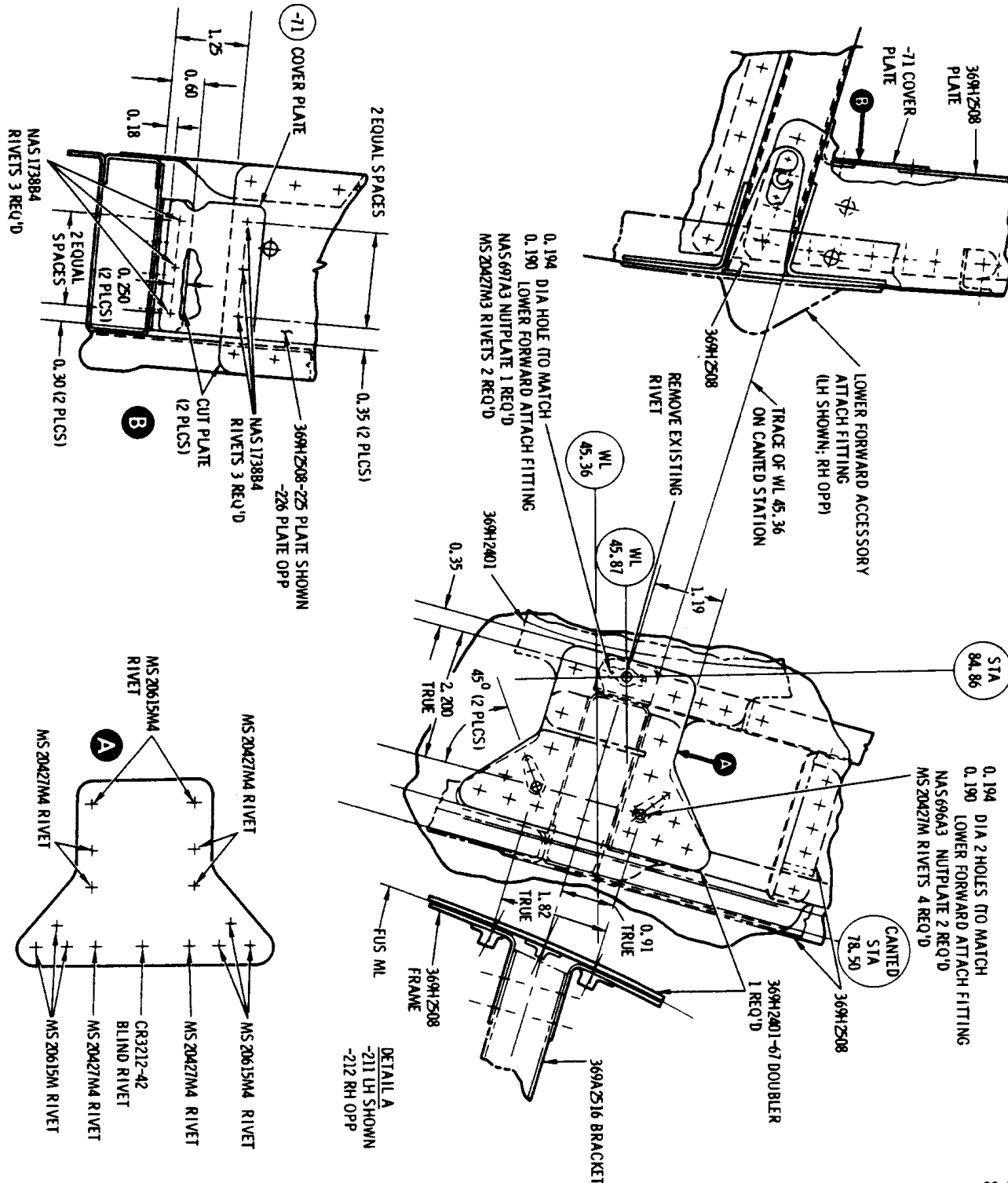
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**Figure 1. Installation of Attach Hardware for Lower Forward Accessory Attach Fitting (LH Shown; RH Opposite)**

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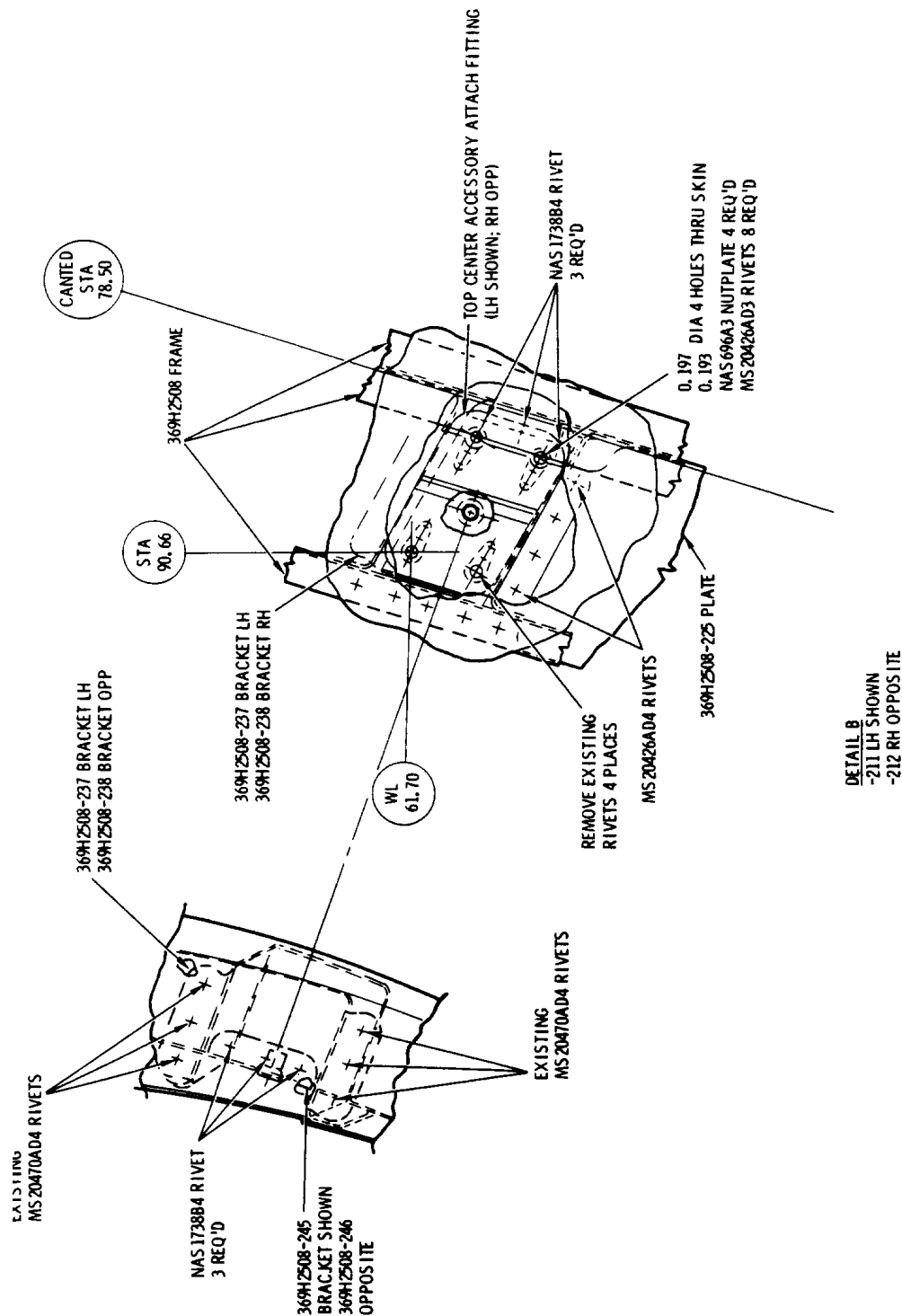
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**Figure 2. Installation of Attach Hardware for Top Center Accessory Attach Fitting (LH Shown; RH Opposite)**

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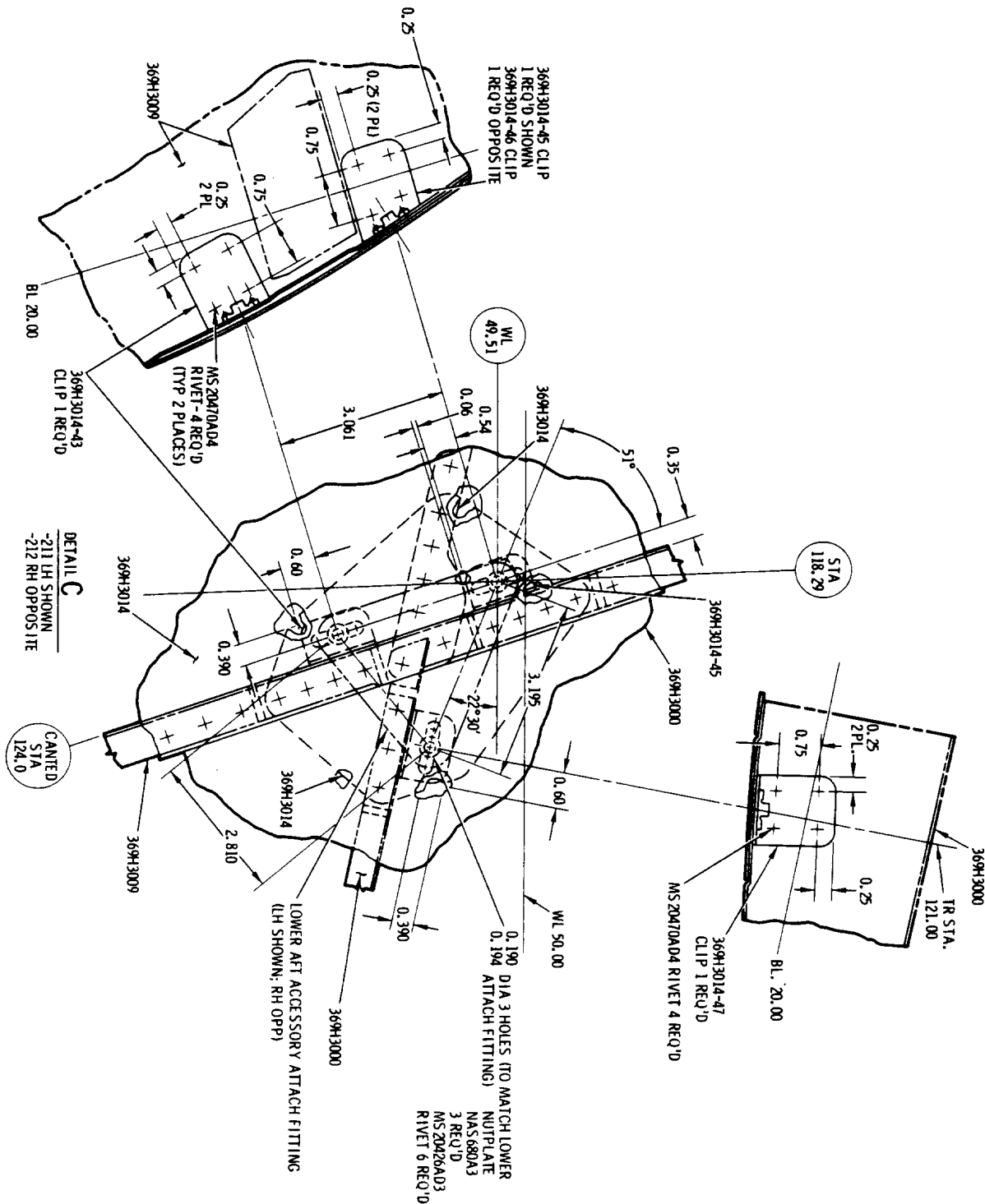
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**Figure 3. Installation of Attach Hardware for Lower Aft Accessory Attach Fitting (LH Shown; RH Opposite)**

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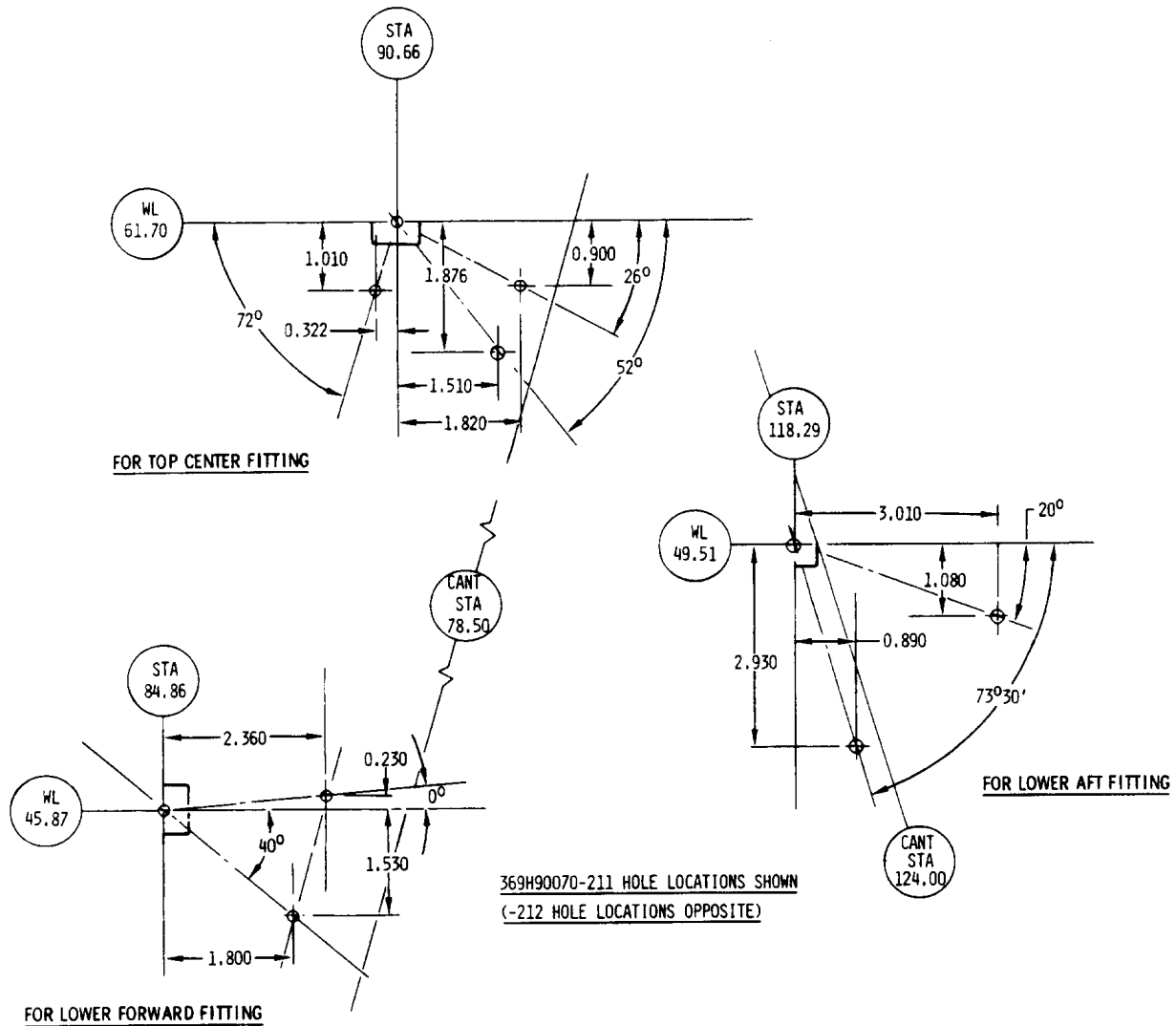


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**Figure 4. Hole Locations for Fuselage Attach Points 369H90070-211 (LH) or -212 (RH)**

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## REPLACEMENT OF INTERCOM (ICS) SWITCH AND JACK ASSEMBLY

### 1. PLANNING INFORMATION

#### A. Models Affected:

500 Model 369D Helicopters, Serial No. 0003D through 0959D.

#### B. Preface:

The information given in this Service Information Notice lists a procedure replacement of PN 369H92492 Basic or 369H92492-11 switch and jack assembly with PN 369H92492-21 switch and jack assembly. The Basic and -11 switch jack assemblies are no longer available as replacement items. Instructions are given to rework the Basic or -11 switch and jack assembly into an adapter-cable which will accommodate the new -21 switch and jack assembly.

#### C. Time of Compliance:

Shall be accomplished at next replacement of PN 369H92492 or 369H92492-11 switch and jack assembly.

#### D. Reference:

IPL and Maintenance Instructions for Integrated Interphone System (ICS) Installation, Part No. 369H90068-11, Publication No. CSP-017, Issued 15 August 1976

#### E. Weight and Balance Data:

Weight and balance not affected

#### F. FAA Approval:

The resultant alteration to the affected Model 369D Helicopters, described by the replacement procedure in this Notice, has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### G. Parts/Supplies:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Switch and jack assembly (ICS)	369H92492-21	1	HHI
Jack	U-92A/U	1	Commercial

### 2. REPLACEMENT PROCEDURE

- (1). Disconnect headphone from switch and jack assembly.
- (2). Disconnect switch and jack assembly from bulkhead connector and remove from helicopter.

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- (3). Rework switch and jack assembly into adapter cable as follows (see Figure 1):
  - (a). Cut cable of switch and jack assembly to desired length and discard switch.
  - (b). Remove insulation from wires in cable and solder wires to new jack. (Refer to appropriate wiring diagram in Figure 1.)
- (4). Connect adapter cable to bulkhead connector in helicopter.
- (5). Connect new switch and jack assembly to adapter cable.
- (6). Connect headphone to new switch and jack assembly.
- (7). Check intercom system (ICS) for proper operation. (Refer to CSP-017.)
- (8). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

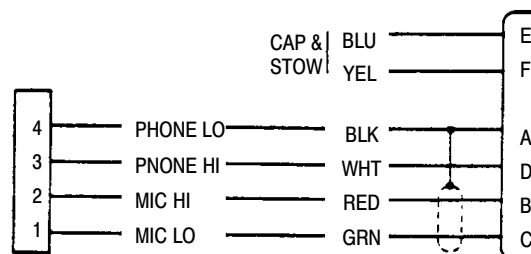
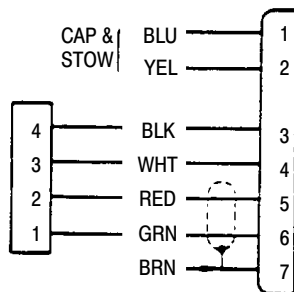
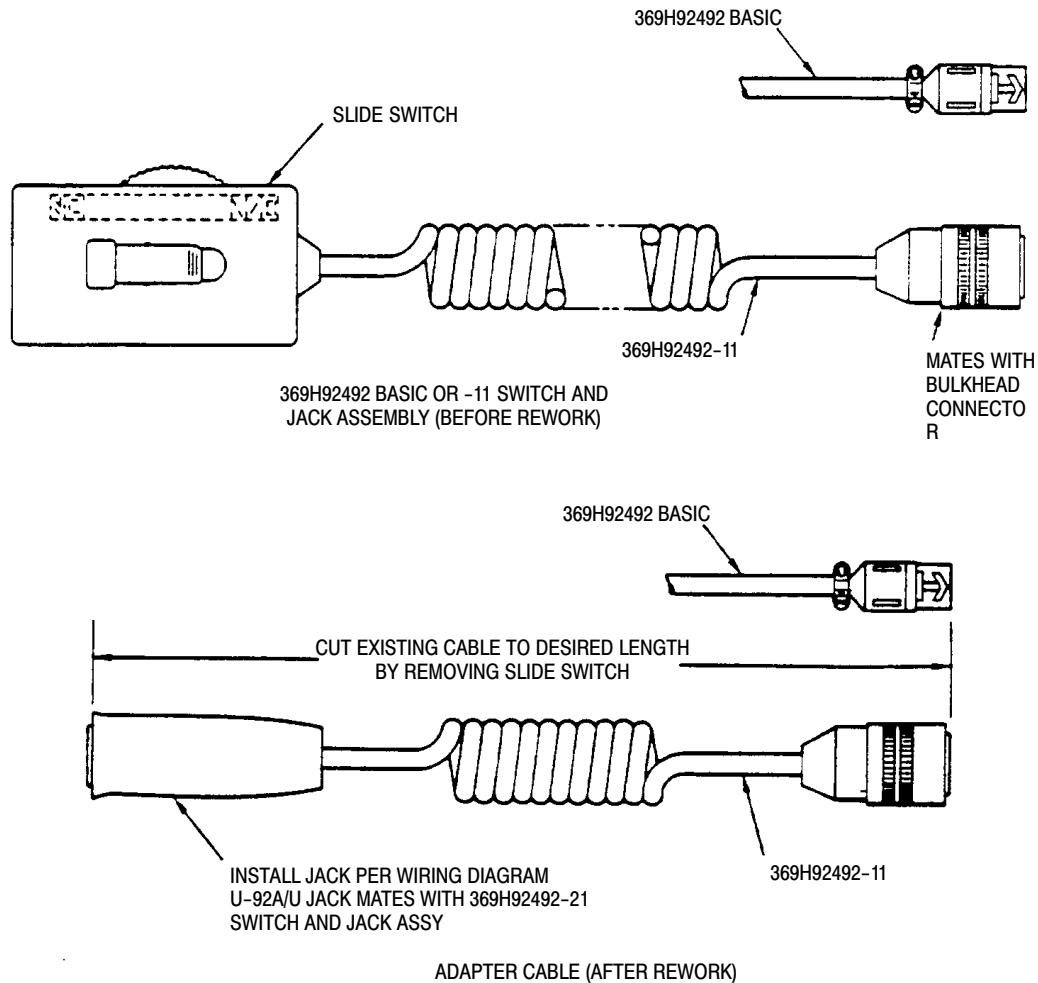
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**Figure 1. Rework of Intercom (ICS) Switch and Jack Assembly into an Adapter Cable**

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\* Supersedes Service Information Notice DN-110, dated 24 September 1982.

## INSPECTION AND MODIFICATION OF PN 369D292028, AFT PASSENGER STEP ASSEMBLIES, ON EXTENDED LANDING GEAR ASSEMBLIES; AND INSPECTION AND MODIFICATION OF AFT LANDING GEAR FOOT ASSEMBLIES

### 1. PLANNING INFORMATION

#### A. Models Affected:

All McDonnell Douglas Helicopter Company (MDHC) 369D, 369E (Serial No. 0001E thru 0374E) and 369F/FF (Serial No. 0001F thru 0069F) Series helicopters equipped with PN 369D290006 extended landing gear assemblies.

**NOTE:** Helicopters equipped with 369D292028-5 step assemblies which are installed with Hi-Shear BNB1100-12-3-5 hardware are not affected by the requirements of this Notice.

#### B. Preface:

Part I of this Service Information Notice lists a procedure for a pilot preflight check of passenger step assemblies for proper stability and security of attachment. The pilot check includes a visual examination of the step for obvious cracking, drooping or deformation, plus a load test by stepping on the step to check for deflection, sponginess or noise when weight is applied. The landing gear step assemblies are to be inspected per Part II of this Notice or modified per Part III, if any foot or step discrepancies are noted.

Part II of this Notice provides instructions for a visual or dye penetrant inspection of the step assembly weld area and foot assembly to ensure proper security of attachment of the step assembly to the foot assembly. Part II of this Notice does not have to be performed if the landing gear feet and step assemblies have been modified per the requirements of Part III.

Part III of this Notice provides a procedure to modify the aft landing gear feet and step assemblies.

#### C. Time of Compliance:

Part I - Shall be accomplished at each Pilot's Preflight Check until Part III has been accomplished.

Part II - Shall be accomplished at the next 100-hour inspection unless Part III has been accomplished.

Part III - Shall be accomplished anytime discrepancies are noted while performing Parts I and II or at the next 300-hour/annual inspection, whichever occurs first.

### **NOTE:**

- Compliance to Part III of this Notice releases the requirement to further perform Part I and II of this Notice.
- 369D292028-5 passenger step assemblies along with Hi-Shear BNB1100-12-3-5 attaching hardware do not have to be modified per the requirements of this Notice.

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## D. Reference:

369D/E HMI Vol. I (CSP-D-2) Revised 01 August 1989

369F/FF HMI Vol. I (CSP-F-2) Revised 01 June 1989

## E. Weight and Balance Data:

Weight and balance data not affected.

## F. FAA Approval:

The resultant alteration to affected models as prescribed by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

## 2. PART I – PILOT PREFLIGHT CHECK OF PASSENGER STEP ASSEMBLY

**NOTE:** Part I of this Notice is only required to be performed if Part III has not been accomplished.

### WARNING

**Extreme care shall be taken when applying weight to the subject step assembly while performing the following.**

- (1). Visually check passenger step assemblies, on aft extended landing gear assemblies for obvious deformation, droop or deflection. Also apply weight with foot on step assembly to check for any downward deflection, sponginess or noise when weight is applied.

**NOTE:** If any of the above step discrepancies are noted, perform modification of step assembly per Part III below.

## 3. PART II – 100-HOUR INSPECTION OF AFT PASSENGER STEP ASSEMBLY AND AFT FOOT ASSEMBLY

### A. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Magnifying Glass, 10x minimum	Commercial
Dye penetrant inspection kit	Commercial

**NOTE:** The 100-hour inspection is not required if modification of the passenger step and foot assembly has been accomplished per Part III of this Notice or if 369D292028-5 step assemblies along with Hi-Shear BNB1100-12-3-5 attaching hardware are installed.

- (1). Remove screws and washers securing cover assembly to lower fairing on aft extended landing gear assemblies; remove cover. (See Figure 1.)
- (2). Apply a 400 pound proof load on step, approximately one inch from outboard end during inspection.
- (3). Using 10X magnifying glass or dye penetrant inspection, inspect top area of weld where step is attached to mounting plate for possible cracking or damage (View A-A). Removal of paint is not required.

**NOTE:** If cracking is noted, modify step, inspect foot and install per Part III of this Notice or procure a new (369D292028-5) passenger step assembly, inspect foot and install per Part III of this Notice.

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- (4). Remove aft passenger step assemblies and landing gear fairings to perform the following steps.
- (5). Remove all Scotchweld adhesive (green in color) from the landing gear foot assembly and the passenger step assembly per Vol. I of the applicable HMI.
- (6). Using a 10X magnifying glass and bright light, inspect passenger step bolt holes, hole inside diameters and step mounting area for cracks. Inspect remainder of foot for cracks. Replace parts which are cracked.
- (7). If light surface corrosion is found, remove, clean and paint/retreat the affected area per Vol. I of applicable HMI.
- (8). If no cracking is found, reinstall step assembly. Torque the step assembly mounting bolts 60 – 85 in. lbs.



DO NOT over torque the mounting bolts as damage can occur to the strut assembly.

- (9). Reinstall cover assembly.
- (10). Record compliance with Part II of this Notice in the Compliance Record section of the helicopter Log Book.

## 4. PART III – MODIFICATION OF AFT PASSENGER STEP AND FOOT ASSEMBLIES

### A. Parts/Supplies:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Bushing, plain*	Field fabricate	4	Field fabricate
Bolt, HI-Shear**	BNB 1100-12-3-5	4	Commercial or MDHC
Washer**	AN960KD416	4	Commercial or MDHC
Cap	369H6538-7	A/R	MDHC

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## B. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Welding equipment	Commercial
Welding Rod, (aluminum 4043)	Commercial
Aluminum Alloy, 6061-0 (0.090 thickness)	Commercial
Aluminum Alloy Stock, 2024-T4 or T-3 (0.4500/0.4600 diameter) (12 in. raw stock)	Commercial
Primer, zinc chromate, TT-P-1757	Commercial, MDHC RM#009222
Top coat, HMS 15-1100, type 2 (flat black)	Commercial, MDHC RM#009136
**Hi-Shear Tool (BH220-428-M2)	MDHC or Commercial
Safety tape, Pressure sensitive (Type B, black) (16 in. in length req'd.)	3M Co. or Commercial
Adhesive, scotch weld, EC 1838 (MIL-A-52194)	Commercial, MDHC RM#002214
Chemical film (MIL-C-5541)	Commercial, Iridite 14-2
Sealant (PR-1436)	Commercial
* Method A only	
** Method B only	

- (1). Remove hardware securing cover assembly to affected landing gear fairing assembly. (See Figure 1.) Remove cover assembly.
- (2). Remove hardware securing passenger step to landing gear; remove step assembly.
- (3). Inspect landing gear foot assemblies per steps (6). & (7). of PART II of this Notice. Replace cracked foot assemblies.
- (4). Remove paint, primer, non-slip safety walk tape and chemical surface treatment (Iridite) from step assembly area to be welded. (Refer to HMI Vol. I.)
- (5). Heat step assembly to 200 degrees F to break bond on end cap. Remove end cap from step assembly.
- (6). Fabricate two gussets (per step assembly) to dimensions shown in Figure 2. Weld gussets to step and mounting plate as shown. Re-heat treat step assembly to T-62 condition per MIL-H-6088.
- (7). Reinstall end cap by bonding with scotch weld EC 1838 or equivalent.
- (8). Apply exterior surface treatment (iridite) to step assembly; apply primer and paint finish. Apply non-slip safety tape to step assembly. (Refer to applicable HMI.)

**NOTE:** Operators have a choice of two different methods to modify the landing gear foot assemblies.

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## C. METHOD A- INSTALLATION OF PLAIN BUSHING

- (1). Ream 0.322/0.329 inch diameter hole through foot assembly at step attachment bolt hole locations to 0.4062/0.4082 inch diameter.
- (2). Fabricate bushing (two per step assembly) per the following instructions and Figure 3:
  - (a). Machine stock material to a dimension that will provide 0.0000/0.0005 interference with 0.4062/0.4082 inch diameter holes
  - (b). Ream inside stock material. Inside diameter to be 0.322/0.329 inches in diameter concentric to O.D. ( $\pm 0.002$ ).
  - (c). Cut material to a length equal to the outside diameter of foot assembly at the bolt holes.
  - (d). Contour outer face of bushing to match the contour of the foot assembly (fwd side only,  $+0.000/-0.001$ ).
  - (e). Surface finish of bushing and holes to be 125 RMS or better. Deburr bushing a maximum of 0.015 inches.
  - (f). Chemical treat bushing and hole inside diameters per MIL-C-5541.
- (3). Install bushing with wet zinc-chromate primer.
- (4). Install step assemblies, bolts, washers and nuts. Torque bolts 60 - 85 in. lbs.
- (5). Proceed to step D.(5).

## D. METHOD B- INSTALLATION OF HI-SHEAR BLIND NUT

- (1). Ream 0.322/0.329 inch diameter holes through foot assembly (2 places) to 0.391/0.397. inch diameter (forward side only).
- (2). Countersink hole 100 degrees and minimum depth for flush installation of Hi-Shear blind nut BNB1100-12-3-5. Apply chemical. film per MIL-C-5541 to inside diameter of holes.
- (3). Ream 0.322/0.329 inch diameter hole (2 places) in step assembly to 0.375/0.377 inch diameter. Apply chemical film to hole per MIL-C-5541. Install NAS75-4-003 bushing with wet zinc chromate primer (TT-P-1757).
- (4). Install step assembly using (2) each, NB1100 bolts and AN960KD416 washers (Hi-Shear BNB1100-12-3-5 includes NB1100 bolt) as shown in Figure 3. Torque bolts 60 - 85 inch lbs.



DO NOT over torque the step assembly mounting bolts as damage can occur to the strut assembly.

- (5). Seal the nut head on forward side and bolt on aft side of foot assembly. Completely seal facing surfaces of step assemblies with PR 1436 sealant.
- (6). Reinstall cover assembly on affected fairing assembly with existing hardware. Trim cover assembly, as required, to clear gussets.
- (7). Record compliance with Part III of this Notice in the Compliance Record section of the helicopter Log Book.

**NOTE:** Modification and repair of the passenger step and foot assemblies per Part III lifts the requirements to further perform the Part II inspection requirements of this Notice.

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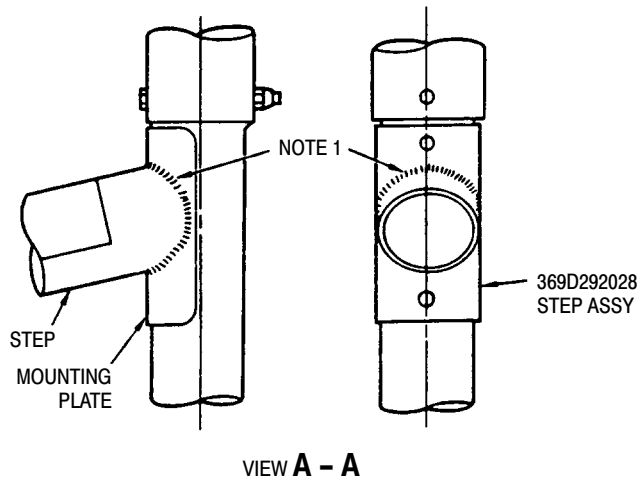
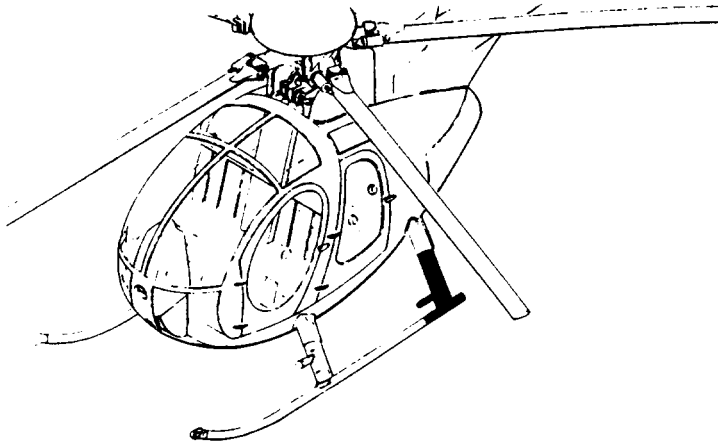
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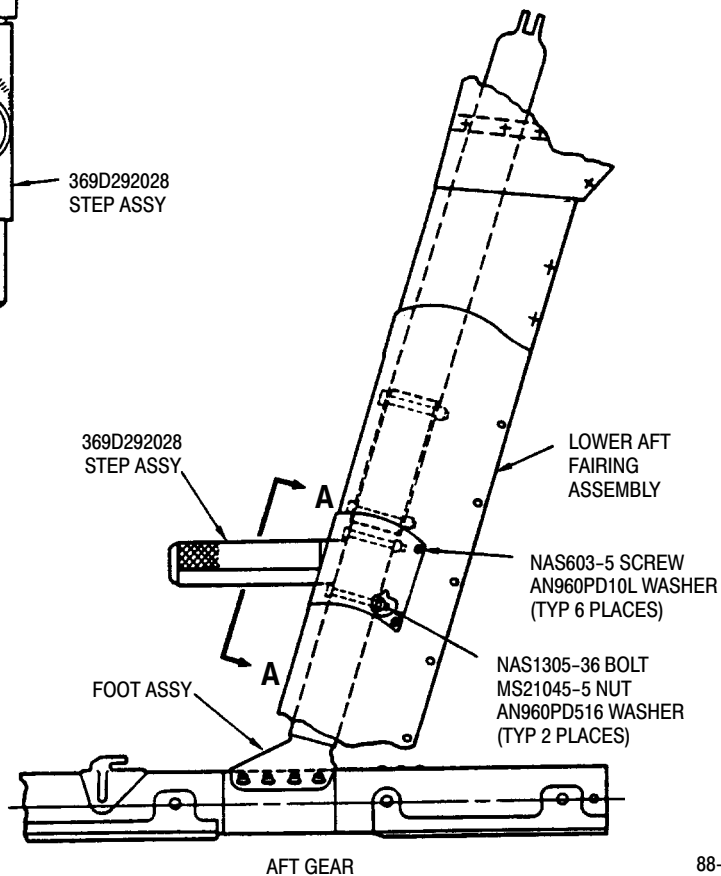
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**NOTES:**

1. CHECK TOP AREA OF WELD WHERE STEP ATTACHES TO MOUNTING PLATE. USE 10X MAGNIFYING GLASS.
2. TO OBTAIN ACCESS TO INSPECT WELD AREA, REMOVE (6) SCREWS AND WASHERS SECURING COVER TO LOWER FAIRING.



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**Figure 1. Inspection of Aft Extended Landing Gear Step and Strut Assemblies**

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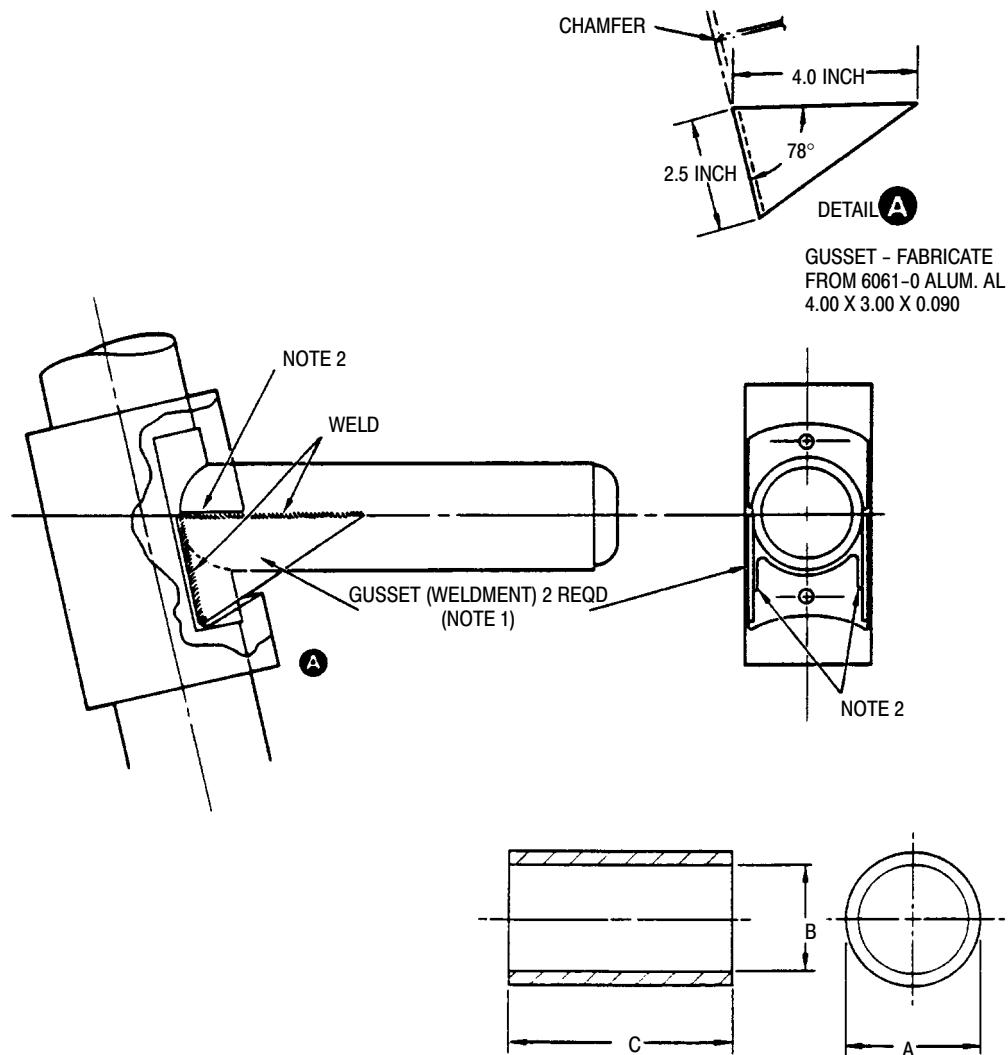
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## NOTES:

1. FABRICATE GUSSETS FROM 6061-0 ALUM AL PER DIMENSION SHOWN.
2. TRIM FAIRING COVER AS REQUIRED TO CLEAR GUSSETS.
3. FABRICATE WITH 2024-T4 ALUMINUM ALLOY.
4. CONTOUR OUTER FACE OF BUSHING TO MATCH STRUT ASSEMBLY FWD SIDE ONLY (+0.000/-0.001).
5. SURFACE FINISH OF BUSHING AND HOLES TO BE 125 RPM.
6. CHEMICAL FILM TREAT BUSHING AND HOLE I.D.'S PER MIL-C-5541.

SEE NOTES 3 THRU 6

## DIMENSIONS: (SEE NOTES 3 THRU 6)

- A. OUTSIDE DIAMETER TO PROVIDE 0.0000/0.0005 INTERFERENCE WITH 0.4062/0.4082 DIAMETER HOLES IN LANDING GEAR STRUTS.
- B. INSIDE DIAMETER TO BE 0.322/0.329 DIAMETER CONCENTRIC TO O.D. WITHIN 0.002.
- C. LENGTH TO BE EQUAL TO STRUT ASSEMBLY OUTSIDE DIAMETER.

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**Figure 2. Rework of Aft Landing Gear Assemblies**

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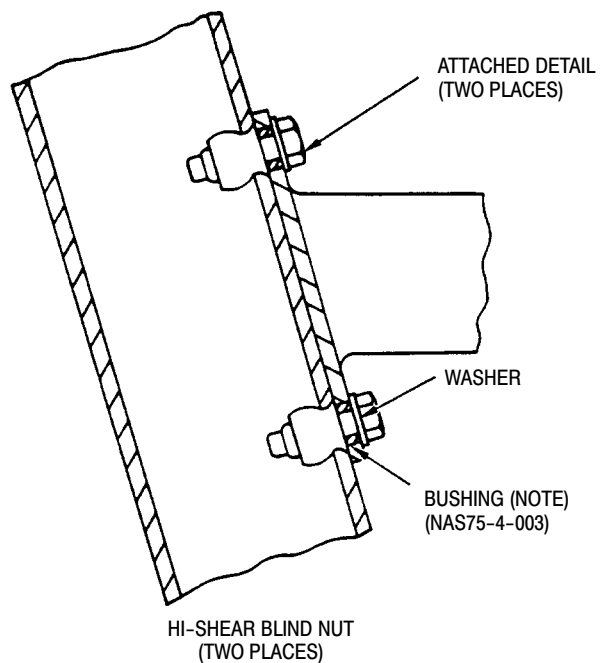
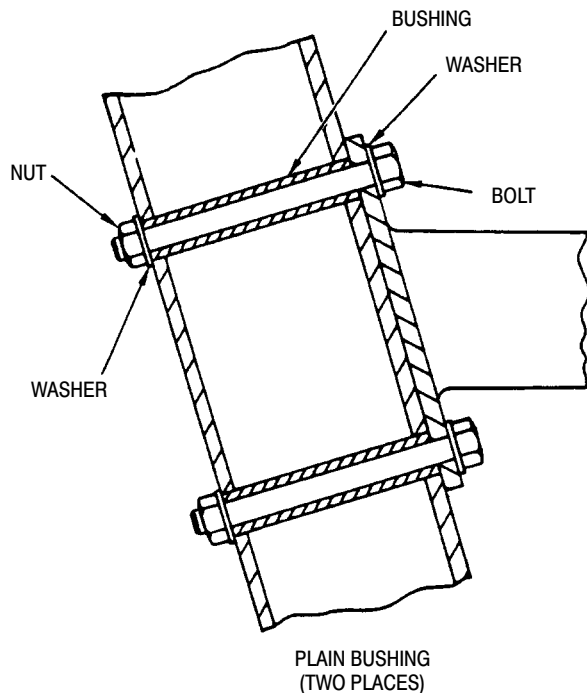
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**NOTE:**  
NOT REQUIRED IF 369D292028-5  
STEP IS BEING INSTALLED.

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**Figure 3. Plain Bushing/Hi-Shear Blind Nut Rework**

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## INSPECTION – LANDING GEAR STRUTS AND FEET

### 1. PLANNING INFORMATION

#### A. Models Affected:

All 500D Model 369D Helicopters

#### B. Preface:

The information given in this Service Information Notice lists a procedure for a one time inspection of landing gear (P/N 369D26000 and P/N 369D290006) struts and feet for cracks. Additionally, new torque values for ABC5244 bolts attaching landing gear feet to struts and procedures for sealing bolts to prevent corrosion are included.

#### C. Time of Compliance:

Shall be accomplished at or prior to next 300-hour inspection.

#### D. Reference:

500D Model 369D HMI - Vol. 1 (CSP-D-2), Reissued 15 January 1982; Revision No. 1, 15 March 1982.

Corrosion Control Manual (CSP-A-3), Issued 9 February 1981.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. FAA Approval:

The resultant alteration to the affected helicopters described by the one time inspection in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### G. Materials:

MATERIAL	
Nomenclature	Source
Primer, zinc chromate, color Y TT-P-1757	Commercial
Sealing compound MIL-S-81733A PR1436-G (Type II-2)  OR Pro-Seal 870	Product Research Glendale, CA  Essex Chemical Corp. Specialty Chemicals Compton, CA
Duct tape	Commercial

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## H. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Magnifying glass, 10x	Commercial

## 2. PROCEDURE

- (1). Remove skid, with feet attached, from struts.
  - (a). Jack up helicopter until landing gear dampers are fully extended (Section 2, HMI - Vol. 1).
  - (b). Remove lower landing gear fairings (Section 6, HMI - Vol. 1).



Support skid when removing ABC bolts attaching feet to struts. Skid and feet may drop from strut when ABC bolts are removed. Damage to skid and/or position light wiring could occur if skid is not supported.

- (c). Remove nuts and ABC bolts connecting feet to forward and aft struts.
  - (d). Carefully lower the skid until the feet are fully disengaged from the struts.

**NOTE:** For 369D290006 landing gear, the wire splice adjacent to the forward cabin entry step should be disconnected if necessary to lower the skid. Attach fish string to wires remaining in strut. For 369D26000 landing gear, sufficient wire slack should be present to lower the skid and foot assembly without disconnecting wires.

- (2). Using 10X glass and bright light, visually check bolt holes in feet and struts for cracks or corrosion.
  - (a). Remove light surface corrosion and treat affected area according to Section 2, HMI - Volume 1. If more severe corrosion (ref. Corrosion Control Manual) is present, replace affected part.
  - (b). Cracks are not permitted in landing gear struts or feet. If any cracks are noted, replace affected part (Section 6, HMI - Volume 1).
- (3). Using 10X glass and bright light, visually check struts and feet for cracks around and between the foot to strut bolt holes. Replace cracked parts per Section 6, HMI - Volume 1.
- (4). Remove each 369H6006 brace and check bolt holes in strut where brace attaches for cracks or corrosion. See Figure 1.
  - (a). Pull strut fairing fillet downward against spring tension. Secure in place with duct tape.

**NOTE:** For access to forward brace-to-strut attachment, remove foot support fairings in passenger/cargo compartment. For access to aft brace-to-strut attachment, open engine access doors.

- (b). Remove cotter pin, nut, two washers and bolt attaching 369H6006 brace to strut.
  - (c). Remove cotter pin, nut, bolt, washer and busing attaching inboard end of 369H6006 brace to 369H2526 fitting. Carefully remove 369H6006 brace.

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- (5). Using flashlight and mirror, inspect bolt holes where 369H6006 brace attaches to strut, and area of strut covered by clevis of brace for cracks and/or corrosion.
  - (a). If cracks are noted, replace strut (Section 6, HMI - Volume 1).
  - (b). Remove light surface corrosion and treat affected area according to Section 2, HMI - Volume 1. If more severe corrosion (ref. Corrosion Control Manual) is present, replace strut (Section 6, HMI - Volume 1).
- (6). Inspect entire strut for chipped or scratched paint. Check unpainted areas for loss of corrosion protection. Repaint or seal damaged areas per Section 2, HMI - Volume 1.
- (7). Reinstall 369H6006 brace.
  - (a). Carefully position outboard clevis of 369H6006 brace over strut at brace-strut attach holes. Lower inboard clevis of brace over frame fitting and align holes. Apply zinc chromate primer to holes and attaching hardware. Install attaching hardware while primer is wet. Use new cotter pin.
  - (b). Align outboard end of 369H6006 brace with mating holes in strut. Apply zinc chromate primer to holes and attaching hardware. Install attaching hardware while primer is wet. Torque nut 2 to 5 inch-pounds. Install new cotter pin.
  - (c). Remove tape holding fairing fillet down and allow fillet to gently move upward into position.
- (8). Reinstall assembled skid and feet on helicopter.
  - (a). Re-splice wiring as necessary and remove fish strings. Slide wiring slack into strut or foot as required while sliding upper portion of feet into struts.
  - (b). Apply zinc chromate primer to bolt holes, ABC bolts, and nuts. Install hardware while primer is wet. Torque bolts to 40 to 60 inch-pounds.
  - (c). Seal bolts and nuts with sealant mixed according to manufacturers instructions.
  - (d). Reinstall lower landing gear fairings (Section 6, HMI - Vol. 1).
  - (e). Remove supports, lower helicopter, and remove jacks ( Section 2, HMI - Vol. 1).

**NOTE:** Visual inspection using 10X glass and bright light, of area not covered by sealant at, around, and between foot to strut attach bolts for cracks and corrosion is required at each subsequent 300-hour or annual inspection. Removal of feet from struts is not required unless damage is suspected.

- (9). Record compliance with this Notice in Compliance Record of helicopter Log Book.

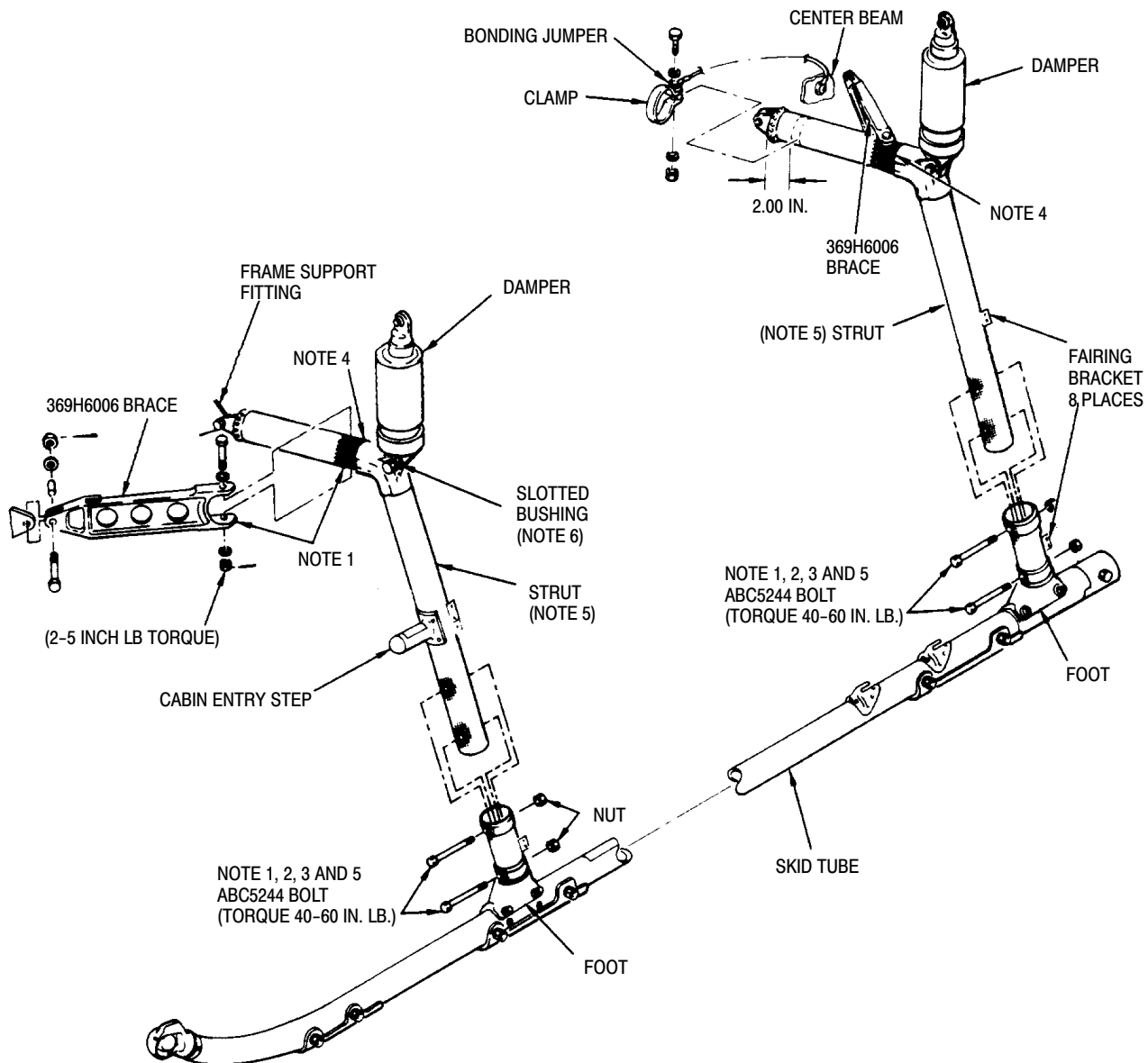
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## NOTES:

1. APPLY ZINC CHROMATE PRIMER, COLOR Y TO MATING HOLES ALL ATTACHING HARDWARE. REASSEMBLY WHILE WET.
2. SEAL AROUND BOLT HEAD AND NUT WITH PR1436-G SEALANT.
3. NUT IS PROVIDED WITH ABC5244 BOLT.
4. INSPECT ALL BOLT HOLES IN SHADED AREAS FOR CRACKS.
5. INSPECT FOR CRACKS, CHIPPED PAINT OR LOSS OF CORROSION PROTECTION.
6. EDGE OF BUSHING MUST PROTRUDE 0.010-0.060 INCH BEYOND OUTSIDE SURFACE OF PART AFTER NUT IS TIGHTENED.

88-575

**Figure 1. Landing Gear Feet and Strut Inspection**

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## RELOCATION OF ENGINE AIR INLET FILTER BYPASS DOOR AFT PULLEY (PN 369A8448) AND BRACKET (PN 369A8447), AND PARTICLE SEPARATOR FILTER (PN 369H90152-3 OR 369D290125-11) GASKET INSPECTION

### 1. PLANNING INFORMATION

#### A. Models Affected:

**MODELS AFFECTED:** All 500D Model 369D Series helicopters equipped with 369H90148-503, -505, -507 or -509 Engine Air Particle Separator Filter Installation.

#### B. Preface:

Information given in this Service Information Notice lists procedures for relocating the Engine Air Inlet Particle Separator Filter bypass door aft pulley (PN 369A8448) and bracket (PN 369A8447), to improve pulley alignment. Investigation has shown that realignment of the 369A8448 pulley will reduce the possibility of cable assembly (PN 369H90150-41) fraying, caused by the swaged end of the cable being pulled at an angle during opening of the filter bypass door.

Requirements to check the gasket seal on the aft face of the particle separator filter (PN 369H90152-3 or 369D290125-11) for condition and proper installation, and to check the nine bolts securing the 369D290125-21 mist eliminator assembly to the aft face of the 369D290125-11 particle separator filter on 369H90148-507 and -509 installations are included.

#### C. Time of Compliance:

Shall be accomplished when new 369H90150-41 cable assembly is installed or at next annual inspection, whichever is sooner.

#### D. Reference:

500D Model 369D Optional Equipment Manual CSP-004, Re-issued 4 April 1980.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. FAA Approval:

The resultant alteration to the affected helicopters by the procedure in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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## G. Materials:

MATERIAL	
Nomenclature	Source
Adhesive, Epoxy (EA 9314 or equivalent)	Hysol Division Dexter Corp. Pittsburg, CA
Naphtha, Aliphatic	Commercial
Tape, single coated, pressure sensitive vinyl, 1/8" thick (4508 or equivalent), length and width as required.	3M Company

## H. tools and equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Drill motor, portable	Commercial
Drill, No. 2	Commercial
Countersink, 100°	Commercial
Spatula or wooden tongue depressor	Commercial
Protractor	Commercial
Die, No. 10-32	Commercial

## 2. PROCEDURE



Use care to prevent entry of foreign objects (FOD) into engine air and engine cooling air inlets. Tape covers of cardboard or other suitable material over engine inlet and engine cooling air screens. Do not remove covers until work is completed and any debris is thoroughly cleaned out of area. After removing covers, verify that area around base of mast, inlet plenum and entire plenum chamber is free from foreign material.

- (1). Pull filter bypass control handle to open filter bypass door (Section 2, CSP-004).
- (2). Remove four screws, nuts and washers attaching filter bypass door hinges to aft engine inlet fairing. (See Figure 1.)
- (3). Remove cotter pin, nut, bolt and washers attaching cable assembly to filter bypass door. Remove door.

**NOTE:** Step (4). applies to 169H90148-503 and -505 installations only. For 369H90148-507 and -509 installations, continue with step e.

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- (4). For 369H90148-503 and -505 installations, visually check the exposed aft side of 369H90152-3 particle separator filter, using flashlight, to ensure the 0.50-inch wide, soft rubber gasket is in place, undamaged and that deterioration or flaking of the rubber is not evident. (See Figure 2.) If gasket is not in place, is damaged or deterioration is evident, replace gasket as follows:
  - (a). Remove and clean particle separator filter (Section 2, CSP-004).
  - (b). Remove damaged seal from aft face of filter. Remove any adhesive and/or seal remnants from filter aft face using aliphatic naphtha.
  - (c). Cut 0.50-inch wide pressure sensitive foam tape to length required to cover area shown in Figure 2. Apply tape to aft face of filter as shown.
  - (d). Reinstall particle separator filter (Section 2, CSP-004).
- (5). For mist eliminator to 369D 290125-369H90148-507 and -509 assemblies, remove and clean 369D290125-21 (Section 2, CSP-004). Inspect nine bolts attaching mist eliminator 11 particle separator assembly.
  - (a). Loosen nine bolts attaching mist eliminator assembly to aft side of particle separator and remove mist eliminator. Bolts should not bind while being loosened. If binding is noted, use No. 10-32 die to clean threads. Bolts are self retaining and should not come out of mist eliminator.
  - (b). Check each bolt to ensure that threads adjacent to the un-threaded shank of the bolts are crimped, or otherwise flattened, as shown in Figure 3. This thread deformation retains the bolts in the mist eliminator. Crimp or flatten threads as shown, when necessary. Use care not to exceed maximum allowable thread deformation.
  - (c). Using a flashlight, check the exposed aft portion of the particle separator filter assembly to ensure the pressure sensitive tape seal is in place and undamaged (Figure 4). If seal is not in place, or if seal is damaged, remove particle separator filter assembly (Section 2, CSP-004). Remove damaged seal if applicable and clean area covered by seal with aliphatic naphtha. Apply a strip of 0.38-inch wide pressure sensitive foam tape as shown in Figure 2. Reinstall particle separator assembly (Section 2, CSP-004).
  - (d). Reinstall 369D290125-21 mist eliminator assembly and attach to aft face of particle separator with nine bolts.
- (6). Remove nut, bolt, and washers connecting upper pulley (PN 369A8448) to bracket (PN 369A8447). Remove pulley from bracket. Do not allow bushing to drop out of pulley.
- (7). Remove two screws, nut, and washers attaching 169A8447 bracket to top of aft engine air inlet fairing and remove bracket.
- (8). Determine location for new 369A8447 bracket attach holes, as shown in Figure 1, and mark location with soft lead pencil.
- (9). Drill 0.217 - 0.229-inch diameter holes at locations marked. Countersink 100° to 0.43-inch diameter.
- (10). Using EA9314 epoxy adhesive, or equivalent, mixed according to manufacturers instructions, fill holes where 369A8447 bracket was removed. Apply adhesive using spatula or wooden tongue depressor:

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- (11). Attach bracket to fairing using screws, washers, and nuts.
- (12). With cable seated on top of pulley, install pulley in bracket with bolt, two washers, nut and new cotter pin. Ensure bushing in pulley is in place.



A serviceable door gasket, in good condition, is necessary at all times. Gasket must be replaced before deterioration occurs. (Flaking or disintegration of the gasket can result in foreign material entering the engine and cause engine damage.)

- (13). Check door gasket (Section 2, CSP-004), then position door inside fairing and attach cable to door center crank with bolt, two washers, nut and new cotter pin.
- (14). Attach door hinges to fairing with four screws, washers, and nuts.
- (15). Re-rig door and check door operation and latching (Section 2, CSP-004). Door latching mechanism should operate smoothly, without binding.
- (16). Verify that no gaps exist between door gasket and inlet fairing when hand pressure is applied to door. If gaps are noted, replace door gasket (Section 2, CSP-004).
- (17). Verify that area around base of mast, inlet plenum and entire plenum chamber is free of debris and other foreign materials. Remove covers taped over engine inlet and engine cooling air screens.
- (18). Record compliance with this Notice in compliance section of helicopter Log Book.

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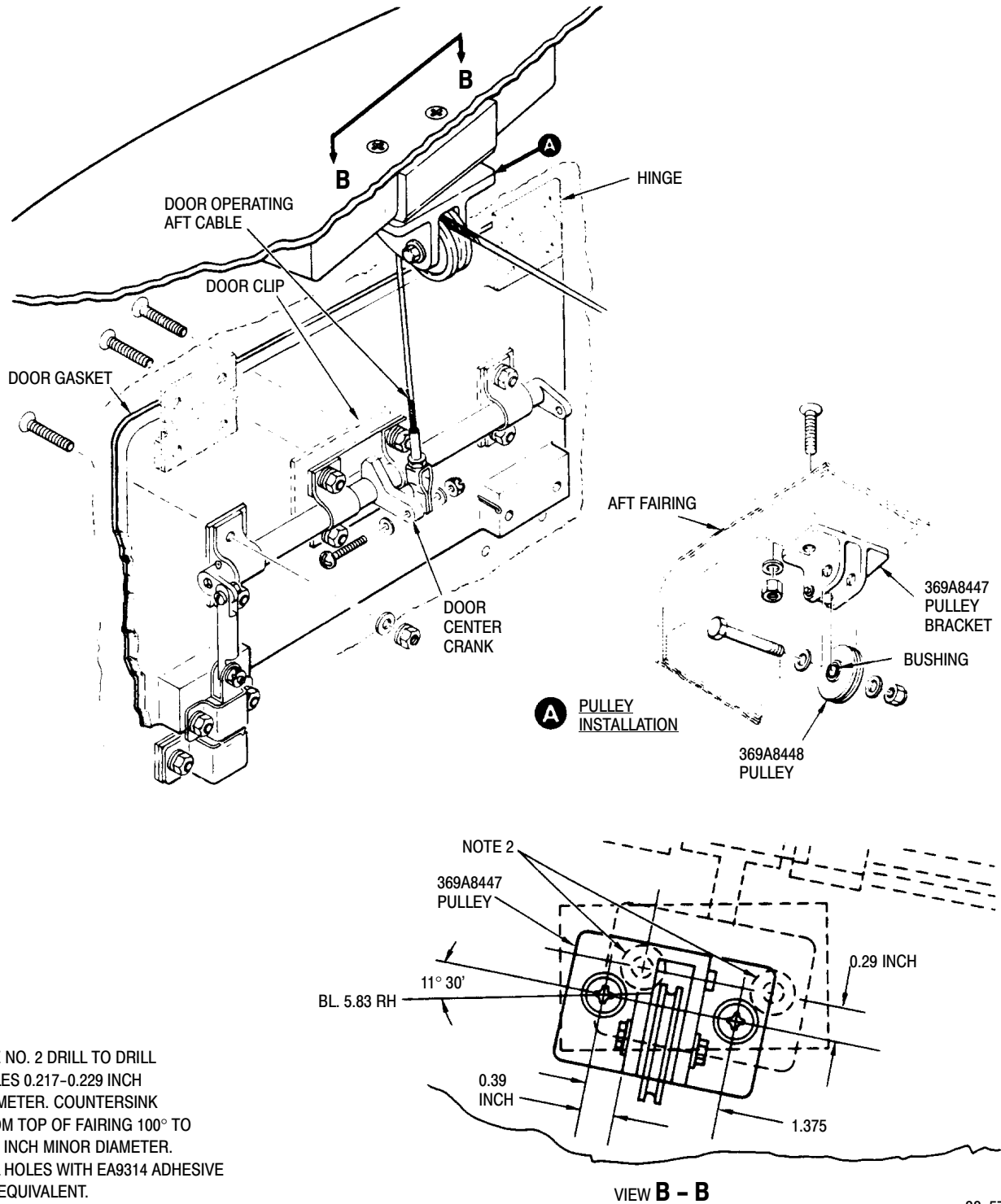
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**Figure 1. Bracket (PN 369A8447) and Pulley (PN 369A8448) Relocation**

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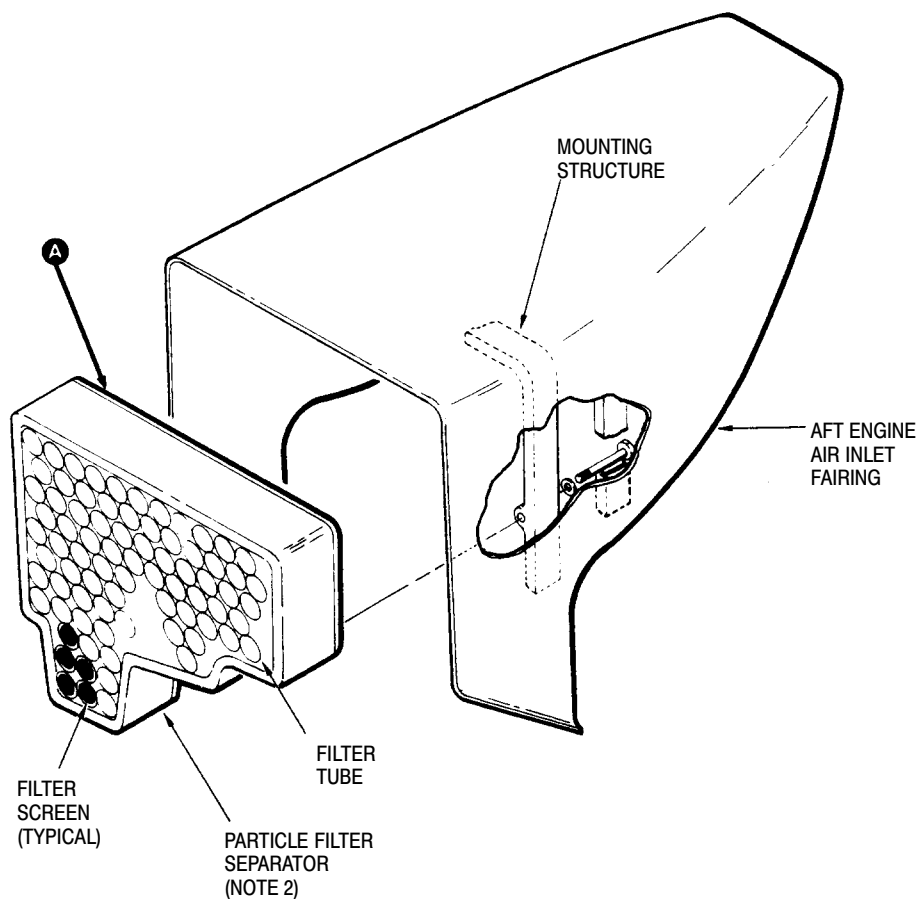


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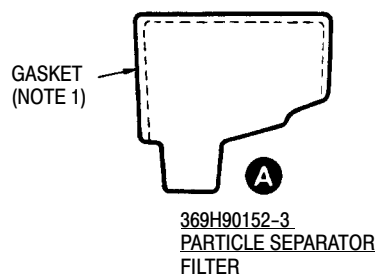
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**NOTES:**

1. INSTALL GASKET AS SHOWN ON AFT FACE OF 369H90152-3 PARTICLE SEPARATOR FILTER.
2. CLEAN WHEN REMOVED (SECTION 2, CSP-004).



88-367B

**Figure 2. Particle Separator Filter (PN 369H90152-3) Gasket. Used with 369H90148-503 and -505 Installations**

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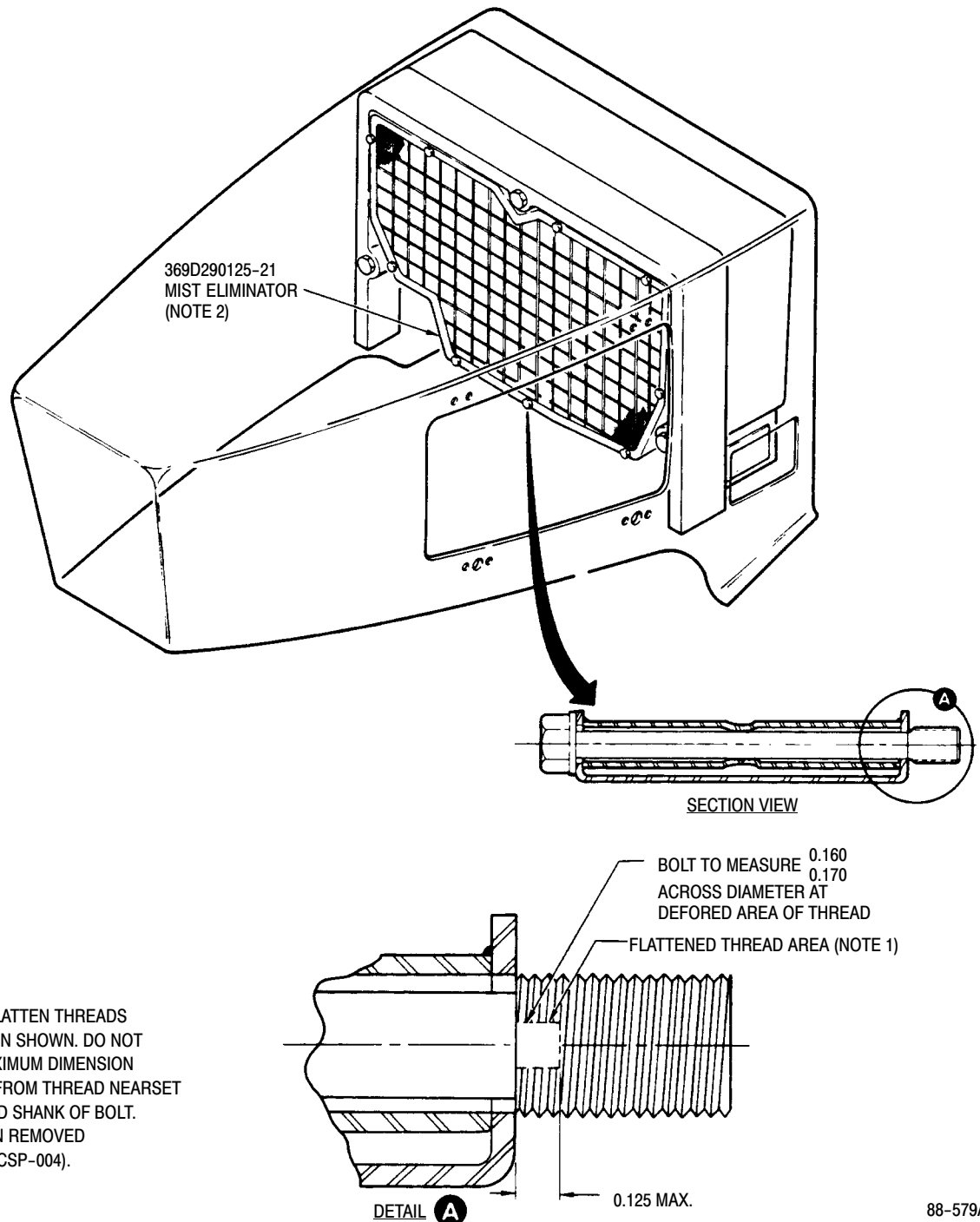


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**Figure 3. Mist Eliminator (PN369D290125-21) Bolt Check**

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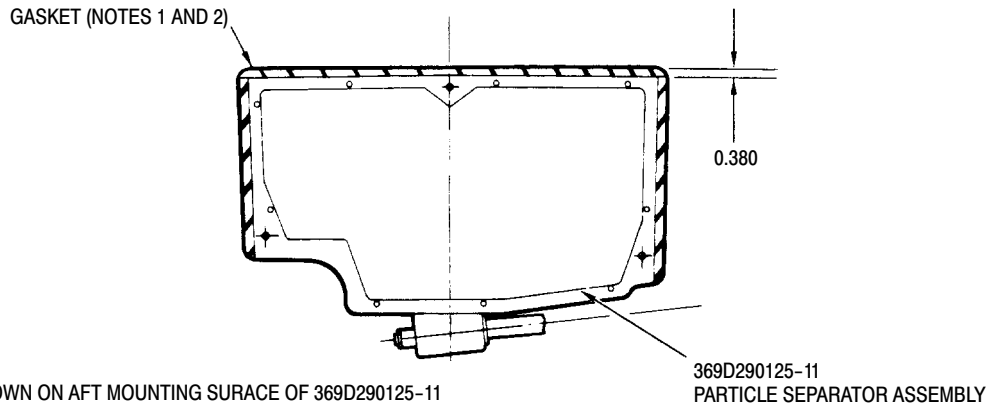
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**NOTES:**

1. INSTALL AS SHOWN ON AFT MOUNTING SURFACE OF 369D290125-11 PARTICLE SEPARATOR FILTER PRIOR TO INSTALLATION.
2. PRESSURE SENSITIVE TAPE.
3. ALL DIMENSIONS IN INCHES.

88-372

**Figure 4. Particle Separator Assembly (PN369D290125-11) Seal. Used With 369H90148-507 and -509 Installations.**

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## MAIN ROTOR TRANSMISSION DRAIN LINE BRACKETRY MODIFICATION

### 1. PLANNING INFORMATION

#### A. Models Affected:

500D Model 369D Series helicopters serial Nos. 3 through 1204.

#### B. Preface:

Information given in this Service Information Notice includes instructions for the fabrication and installation of a new main rotor transmission oil drain line support bracket (PN 369D25202-3), and modification of the Fan Bearing Retainer Mount Assembly (PN 369D25108) to accommodate the new bracket. This modification to the oil drain line support bracketry will reduce the possibility of the bracket contacting the oil cooler blower belt, which can cause the belt to fray.

#### C. Time of Compliance:

Shall be accomplished at next 300-hour or annual inspection.

#### D. Reference:

369D HMI Volume 1 (CSP-D-2), Reissued 15 January 1982; Revision 2, 15 August 1982.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. FAA Approval:

The resultant alteration to the affected helicopters described by the procedure in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### G. Parts/Supplies:

PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Screw	NAS-1096-3-12	1	Commercial
Washer	AN 960PD 10	2	Commercial
Nut	NAS21042-3	1	Commercial

#### H. Materials:

MATERIAL	
Nomenclature	Source
Primer, zinc chromate TT-P-1757	Commercial

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## I. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Motor, portable drill	
Drill No. 7	
Drill 7/32	

## 2. PROCEDURE

- (1). Remove blower cooler access door (Section 2, HMI -Vol 1).
- (2). Remove and retain screw, nut and washer attaching MS25281-6 clamp to 369D25202 bracket. Retain clamp.
- (3). Remove and retain screw, nut and two washers attaching 369D25202 bracket to 369D25108-5 transmission fan mount. Discard bracket.
- (4). Using 0.06-inch thick aluminum alloy sheet, 0.50 x 3.50-inches, fabricate new drain line bracket (PN 369D25202-3) as shown in Figure 1.
- (5). Position fabricated bracket on 169D25108-5 mount as shown in Figure 1. Mark location for new hole inboard of existing hole on mount.
- (6). Using No. 7 drill, drill hole at position marked on 169D25108-5 in step (5). Drill only through wall of mount marked. Deburr and apply zinc chromate primer to hole.
- (7). Install 369D25202-3 bracket on 369D25108-5 mount with 2 screws, 4 washers, and 2 nuts. Hardware removed in step (3). may be reused. Two washers must be installed on each screw, between bracket and mount.
- (8). Reinstall clamp on drain line and attach clamp to bracket with hardware removed in step (2). Adjust clamp position to ensure that there are no traps in drain line.
- (9). Reinstall blower cooler access door (Section 2, HMI -Vol 1).

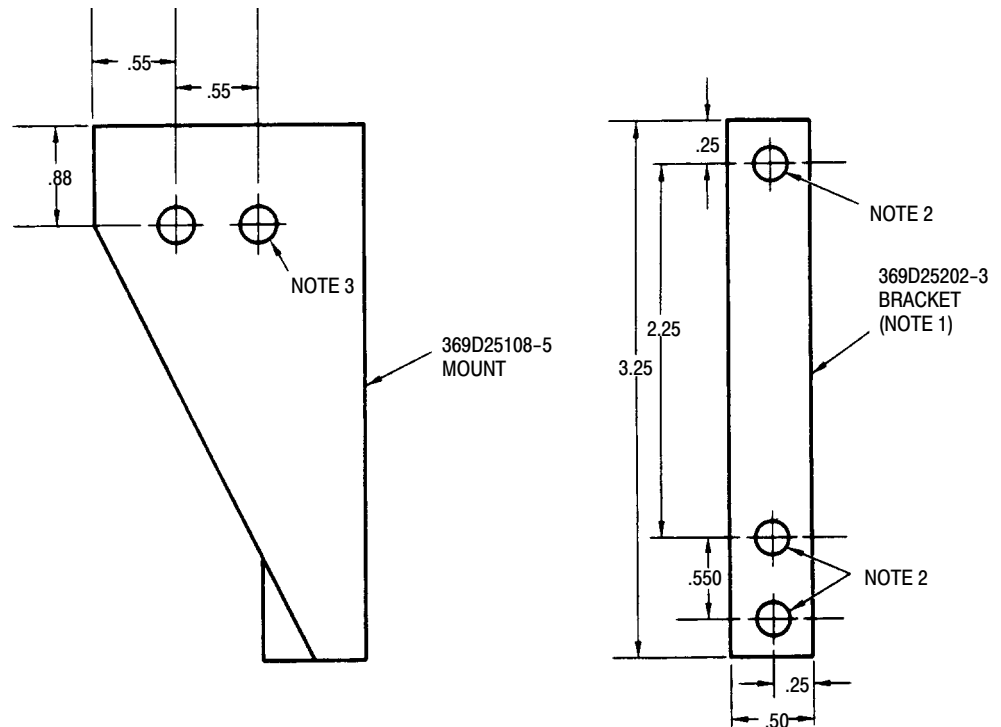
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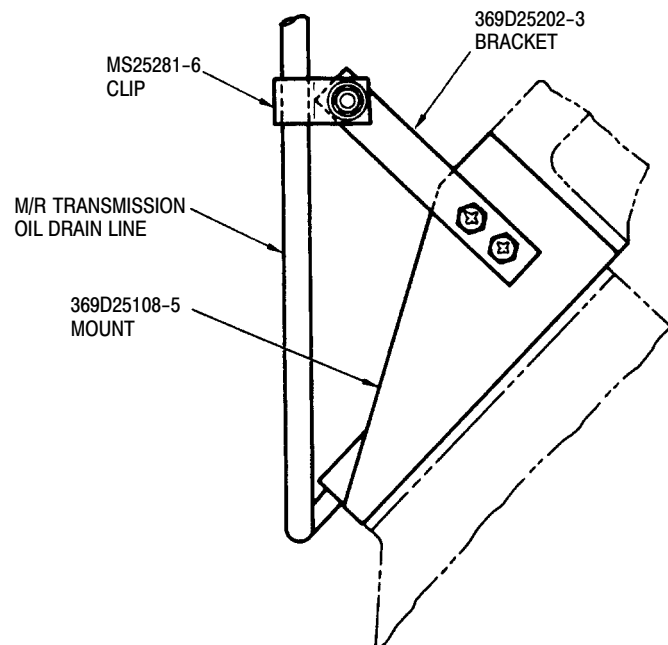
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**NOTES:**

1. TRIM 0.06-INCH THICK 0.50 X 3.50-INCH QQ-A-250/5 ALLOY SHEET TO DIMENSIONS SHOWN. APPLY ZINC CHROMATE PRIMER TO TRIMMED ENDS.
2. DRILL HOLES AT LOCATIONS INDICATED USING 7/32-INCH DRILL; DEBURR AND APPLY ZINC CHROMATE PRIMER TO HOLES.
3. MARK HOLE LOCATION USING FABRICATED 369D25202-3 BRACKET. USE NO. 7 DRILL TO MAKE HOLE; DEBURR AND APPLY ZINC CHROMATE PRIMER. DRILL THROUGH ONE WALL OF MOUNT ONLY.



DN114-1

### Figure 1. Main Rotor Transmission Oil Drain Line Bracket Modification



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## PILOT'S COMPARTMENT, CENTER PASSENGER SEAT LAP BELT INSTALLATION CHECK; PREFLIGHT CHECK OF PASSENGER LAP BELT AND SHOULDER STRAP ADJUSTMENT

### 1. PLANNING INFORMATION

#### A. Models Affected:

All 500D Model 369D Series Helicopters

#### B. Preface:

Information given in Part I of this Notice provides for a one time inspection of the pilot's compartment, center passenger lap belt assembly for proper installation. If improperly installed, quick release of the lap belt and shoulder strap may be impaired.

Part II of this Notice lists a preflight check of each passenger's lap belt and shoulder strap (non-inertia reel type) to ensure they are properly adjusted so that the shoulder strap diagonally crosses the passenger's torso.

#### C. Time of Compliance:

Part I shall be accomplished at next daily inspection after receipt of this Notice.

Part II shall be accomplished at each preflight inspection when passengers are to be carried.

#### D. Reference:

500D Model 369D HMI - Vol 1 (CSP-D-2), Reissued 15 January 1982; Revision No. 2, 15 August 1982.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. FAA Approval:

The inspection procedure and resultant alteration to affected helicopters described by this Notice has been found to comply with Federal Aviation Regulations and is FAA Approved.

### 2. PART I – PILOT COMPARTMENT, CENTER PASSENGER SEAT LAP BELT INSTALLATION CHECK

- (1). Check center passenger lap belt to see that tongue portion is installed to the right of the seat and that the buckle portion is installed to the left. If the tongue and buckle portions are reversed, remove and reinstall in correct positions (Section 4, HMI- Vol 1).
- (2). Record compliance with Part I of this Notice in Compliance Record of helicopter Log Book.

### 3. PART II – PREFLIGHT CHECK OF PASSENGER SEAT BELT (NON-INERTIA REEL TYPE) FIT AND ADJUSTMENT

- (1). Check all but left rear passenger to see that shoulder strap diagonally crosses the torso and that the buckle, tongue and harness adaptor of the seat belt assembly are to the passenger's left, approximately over the left hip.

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- (2). Check left rear passenger to see that the shoulder strap diagonally crosses the torso and that the buckle, tongue and harness adaptor of the seat belt assembly are to the passenger's right, approximately over the right hip.

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## INSTALLATION OF 510 OHM RESISTOR IN PN 369D296303, 369D296303-701 AND 369A4245 SERIES FUEL QUANTITY SENDING UNITS

### 1. PLANNING INFORMATION

#### A. Models Affected:

500D Model 369D Series Helicopters Serial No. 0001D through 1116D with PN 369D296303, 369D296303-701 or 369A4245 Series Fuel Quantity Sending Units installed, and all affected parts in spares.

#### B. Preface:

The information given in this Service Information Notice provides procedures for adding a 510 ohm resistor (PN RC07GF511J) to the affected fuel quantity transmitting units. The resistor will prevent transistor leakage current from causing the FUEL LOW warning light to glow dimly when the fuel quantity is above the low level warning point (35 or 70 pounds of fuel as appropriate). Part I provides procedures for installing the resistor in 369D296303 and 369D296303-701 Fuel Quantity Sending Units. Part II provides procedures for installing the resistor in 369A4245 Series Fuel Quantity Sending Units.

The information given in this Service Information Notice is considered to be part of the HMI and will be incorporated at the next scheduled revision of the below referenced manual.

#### C. Time of Compliance:

Shall be accomplished if fuel low level warning light glows dimly when known fuel quantity exceeds low level warning limit, or when affected parts are installed from spares.

#### D. Reference:

500D Model 369D HMI Vol. 1 (CSP-D-2), Reissued 15 January 1982; Revision No. 2, 15 August 1982.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. FAA Approval:

The resultant alteration to the affected helicopters described by the installation procedure in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

### 2. PART I – RESISTOR INSTALLATION, 369D296303 AND 369D296303-701 FUEL QUANTITY SENDING UNITS

#### A. Parts/Supplies:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Resistor, 510 ohm	RC07GF511J		Commercial

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## B. Materials:

MATERIAL	
Nomenclature	Source
Solder, tin alloy QQ-S-571 (Composition SN 60WRP2)	Commercial
Sealing compound, silicone RTV11	General Electric

## C. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Solder gun	Commercial

## D. Procedure:

### WARNING

Ensure all electrical power is off and helicopter is electrically grounded while installing resistor.

- (1). Set helicopter MASTER switch to OFF and remove any external power
- (2). Remove left fuel cell access door (Section 2, HMI Vol. 1).
- (3). Disconnect tank unit wire harness at fuel shutoff cable support bracket.
- (4). Carefully cut and peel enough potting compound from top of tank unit to expose electrical terminals and circuit board.
- (5). Using tin alloy solder, solder leads of resistor (PN RC07GF511J) to tank unit as shown in Figure 1.
- (6). Fill area where potting compound was removed, ensuring that resistor installation is covered, using RTV11 sealing compound.

**NOTE:** Allow sealing compound to cure approximately two hours prior to completing procedure. The compound will fully cure in 48 hours.

- (7). Reconnect tank unit wire harness.
- (8). Check fuel quantity indicator for correct reading with a known quantity
- (9). Perform operational check of FUEL LOW warning light (Section 17, HMI Vol. 1).
- (10). Reinstall left fuel cell access door (Section 2, HMI Vol. 1).

## 3. PART II – RESISTOR INSTALLATION, 369A4245 SERIES FUEL QUANTITY SENDING UNITS

### A. Parts/Supplies:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Resistor, 510 ohm	RC07GF511J		Commercial

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## B. Materials:

MATERIAL	
Nomenclature	Source
Wire, 6-inch length (2) MS22759/34-22-9	Commercial
Sleeve, 0.125-inch diameter RNF-100	Commercial
Solder, tin alloy, rosin core QQS-571	Commercial
Solder, tin alloy, acid core QQS-571	Commercial
Sealing compound MIL-S-8802 PR1221	Product Research
alternate RTV730	Dow Corning
Distilled water	Commercial
Sodium bicarbonate (baking soda)	Commercial

## C. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Motor, drill	Commercial
Drill, No. 25	Commercial
Solder gun	Commercial

## D. PROCEDURE

### **WARNING**

Comply with all fuel safety precautions when working in or around fuel cells. If replacement fuel quantity sending unit is not available for immediate installation, do not remove installed unit.

- (1). Remove fuel quantity sending unit (Section 17, HMI Vol. 1).
- (2). Using rosin core solder, solder six-inch length of MS22759/34-22-9 wire to each terminal of RC07GF511J resistor; shrink 0.125-inch diameter RNF-100 sleeve over resistor.
- (3). Remove strain relief and detach backshell from connector on sending unit wire harness.
- (4). Cut wire harness vinyl sleeve near sending unit as shown in Figure 2; pass one lead and resistor through cut in vinyl sleeve until lead can be mated with connector.
- (5). Drill 0.146 - 0.152-inch diameter hole in base at approximate position shown in Figure 2; deburr hole and remove all drill cuttings.

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- (6). Pass resistor lead nearest base through hole; solder lead to bracket (PN 369A4245-3), using acid core solder. Clean connection thoroughly by flushing with distilled water with sodium bicarbonate (baking soda) added.



Ensure all areas covered by, and in contact with acid core solder are thoroughly flushed to neutralize acid.

- (7). Using rosin core solder, attach opposite lead of resistor to pin D of sending unit wire harness connector with existing red wire.
- (8). Reassemble wire harness connector.
- (9). Seal around installed wire on both sides of base, and interface of bare wire to insulation using PR1221 sealing compound. If RTV type sealant was originally used, RTV730 sealant may be used as alternate. Allow sealing compound to cure for two hours prior to installing unit in helicopter.
- (10). Remove temporarily installed sending unit if applicable and reinstall modified sending unit in helicopter (Section 17, HMI Vol. 1).
- (11). Check fuel quantity indicator for correct reading with a known quantity of fuel.
- (12). Perform operational check of FUEL LOW warning light (Section 17, HMI Vol. 1).

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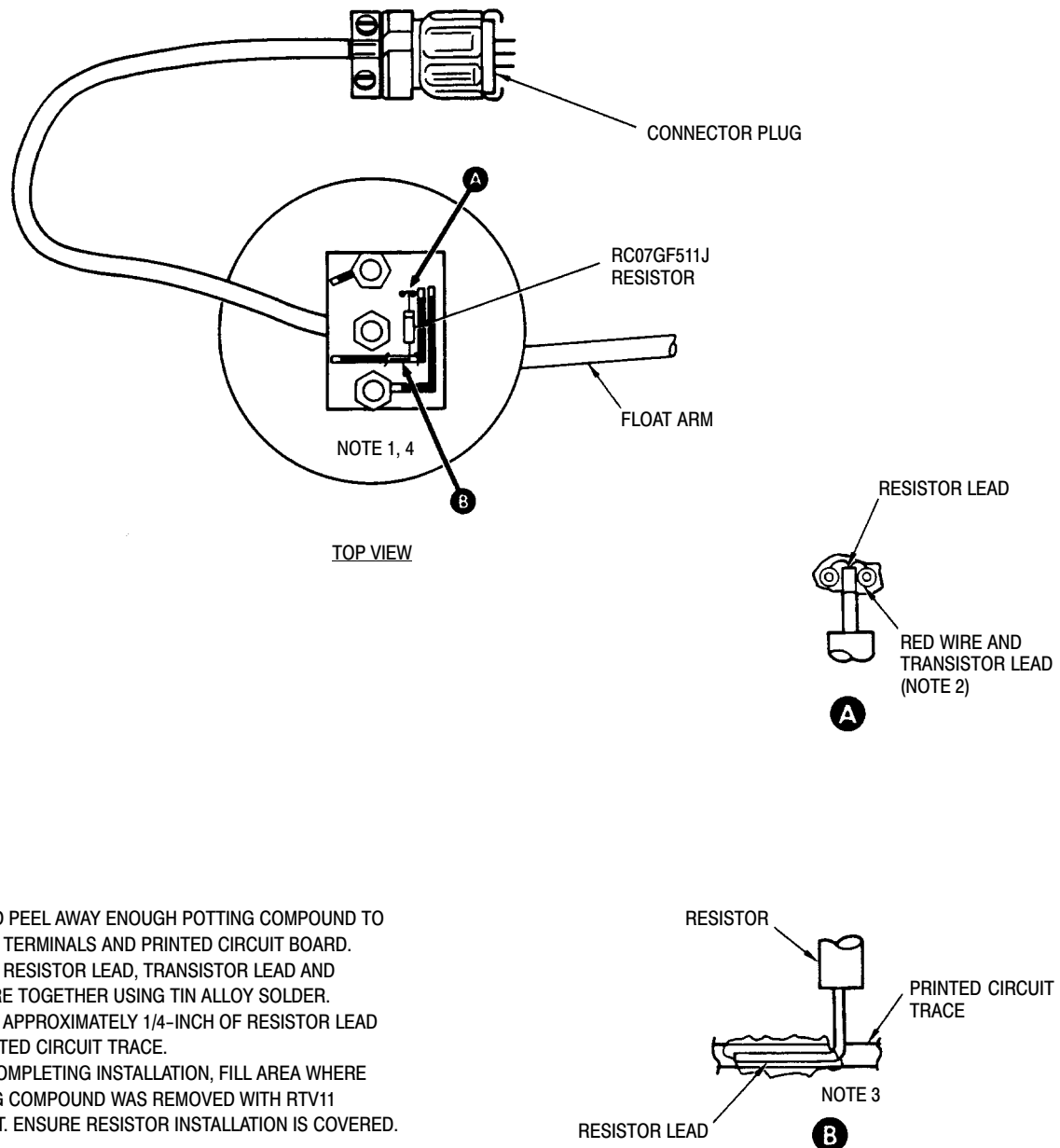
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## NOTES:

1. CUT AND PEEL AWAY ENOUGH POTTING COMPOUND TO EXPOSE TERMINALS AND PRINTED CIRCUIT BOARD.
2. SOLDER RESISTOR LEAD, TRANSISTOR LEAD AND RED WIRE TOGETHER USING TIN ALLOY SOLDER.
3. SOLDER APPROXIMATELY 1/4-INCH OF RESISTOR LEAD TO PRINTED CIRCUIT TRACE.
4. UPON COMPLETING INSTALLATION, FILL AREA WHERE POTTING COMPOUND WAS REMOVED WITH RTV11 SEALANT. ENSURE RESISTOR INSTALLATION IS COVERED.

88-584

**Figure 1. Resistor Installation 369D296303-BSC and -701 Fuel Quantity Sender**

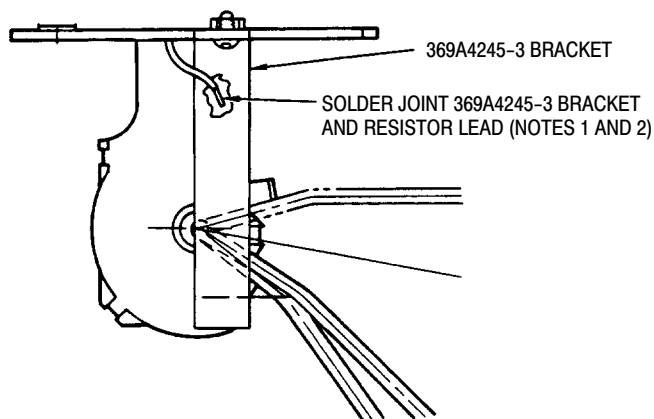
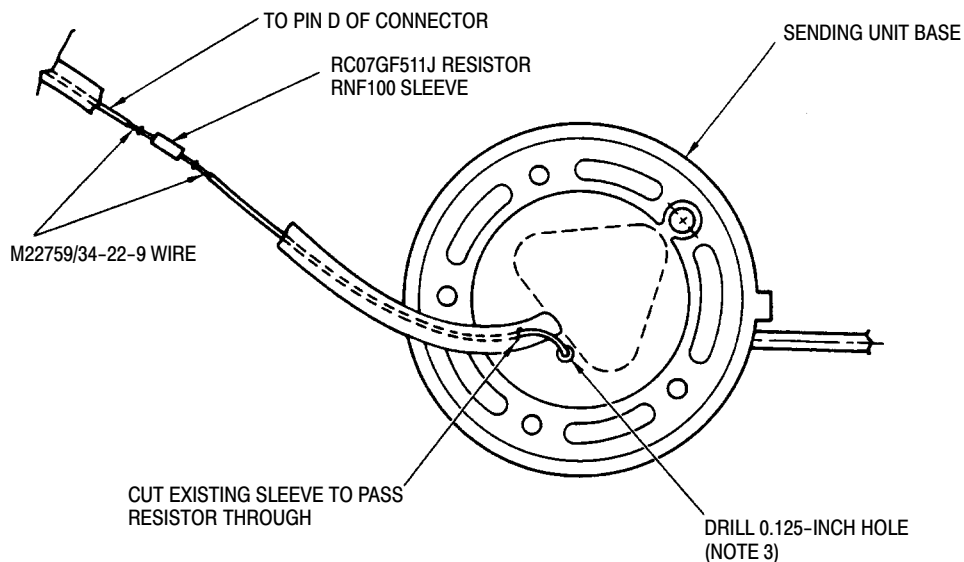
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## NOTES:

1. USE ACID CORE SOLDER. WASH THOROUGHLY WITH BICARBONATE OF SODA AND DISTILLED WATER AFTER SOLDERING.
2. SEAL INTERFACE OF BARE WIRE TO INSULATION WITH PR1221 SEALANT.
3. SEAL HOLE AT BOTH SIDES OF BASE USING PR1221 SEALANT AFTER RESISTOR LEADS ARE SOLDERED TO BRACKET AND PIN D OF CONNECTOR.

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**Figure 2. Resistor Installation 369A4245 Series Fuel Quantity Senders**

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## FUEL VENT SYSTEM HOSE (PN 369A8131-19) INSPECTION

### 1. PLANNING INFORMATION

#### A. Models Affected:

All 500D Model 369D Series Helicopters

#### B. Preface:

The information given in this Service Information Notice provides for a visual inspection of fuel vent system hose (PN 369A8131-19) for deterioration, and replacement of hoses found to be defective with fuel vent system hose (PN 369A8131-35) made of improved materials.

The information given in this Service Information Notice is considered to be part of the HMI and will be incorporated at the next scheduled revision of the below referenced manuals.

#### C. Time of Compliance:

Shall be accomplished at the next 300-hour inspection interval, or six months from date of this Notice, whichever is sooner and at each subsequent 300-hour inspection interval until affected hose is replaced with the new PN 369A8131-35 hose.\*

\* The 300-hour fuel vent system inspection given in HMI - Vol II is required regardless of hose installed.

#### D. Reference:

369D HMI - Vol I (CSP-D-2), Reissued 15 January 1982; Revision 2, 15 August 1982.

369D HMI - Vol II (CSP-D-3), Reissued 1 November 1981; Revision 3, 15 September 1982.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. FAA Approval:

The resultant alteration to the affected helicopters described by the installation procedure in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### G. Parts/Supplies:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Hose, fuel vent system	369A8131-35	1	HHI

#### H. Materials:

MATERIAL	
Nomenclature	Source
Lockwire MS20995H32	Commercial

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## 2. PROCEDURE

- (1). Remove right foot support fairing, controls access door and fuel vent cover (Section 2, HMI - Vol I).
- (2). Inspect 369A8131-19 fuel vent system hose for signs of deterioration by pinching or bending hose and looking for surface cracks, visible where hose is pinched or bent. If any cracks are noted, replace hose with new 369A8131-35 fuel vent system hose (Section 12, HMI - Vol I).

**NOTE:** Replacement of fuel vent system hose PN 369A8131-19 with new PN 369A8131-35 hose deletes the above inspection requirement.

- (3). Replace fuel vent cover, controls access door and right foot support fairing (Section 2, HMI - Vol I).
- (4). Record compliance with this Notice in Compliance Record of helicopter Log Book.

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\*Supersedes Service Information Notice DN-119, dated 15 May 1983

## INSTALLATION OF COLLECTIVE STICK SUPPORT BRACKET REINFORCEMENT STRAP

### 1. PLANNING INFORMATION

#### A. Models Affected:

All 500D Model 369D Series Helicopters.

#### B. Preface:

The information given in this Service Information Notice lists a procedure for installing a collective stick support bracket reinforcement strap to strengthen the support bracket in the area of attachment by providing a secondary load path.

#### C. Time of Compliance:

Shall be accomplished within next 100 hours of helicopter operation, after receipt of parts.

#### D. Reference:

500D Model 369D HMI - Vol. 1, Reissued 15 January 1982, Revision 3, 15 August 1983.

#### E. Weight and Balance Data:

Weight and balance not affected

#### F. FAA Approval:

The resultant alteration to the affected helicopters described by the installation procedure of this Notice has been shown to comply with the applicable Federal Aviation Regulations and is FAA Approved.

#### G. Part/Supplies:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Strap Assy	369ASK806-3	1	HHI
Spacer	369ASK806-9	2	HHI
Washer	NAS1197 -416L	AR	Commercial
Washer	NAS1197 -416	AR	Commercial
Bolt	NAS1304-28	2	Commercial
Nut	MS2 1042 -4	2	Commercial

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## H. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Tool, collective bungee installation 369A9936	HHI

## 2. INSTALLATION PROCEDURE

- (1). Remove pilot's seat cover and controls access door. (Refer to Basic HMI - Vol I, Section 2.)
- (2). Install collective bungee installation tool on collective bungee spring. (Refer to Basic HMI - Vol I, Section 7.) Use over-center action of collective stick to load tool.
- (3). Remove nuts, washers and bolts installed through bungee support bracket and controls support bracket assembly. Retain washers and discard bolts and nuts.

**NOTE:** Insulation on some production strap assemblies, PN 369ASK806-3, covers the entire strap. The insulation material must be removed from each end of the strap to one inch inboard prior to installing the strap. To remove this material, cut the unwanted portion from the strap using a plastic knife or similar instrument. Use care when cutting the insulating material. If the strap is scratched or nicked, it must be replaced.

- (4). Install strap with new bolts, washers, spacers, nuts, and retained washers as shown in Figure 1.
- (5). Ensure that strap is tight with bolts torqued by shimming with new washers as required. (See Figure 1.)
- (6). Use over-center action of collective stick to remove load from bungee tool and remove tool from bungee spring. (Refer to basic HMI - Vol I, Section 7.)
- (7). Reinstall pilot's seat cover and controls access door. (Refer to Basic HMI - Vol I, Section 2.)
- (8). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

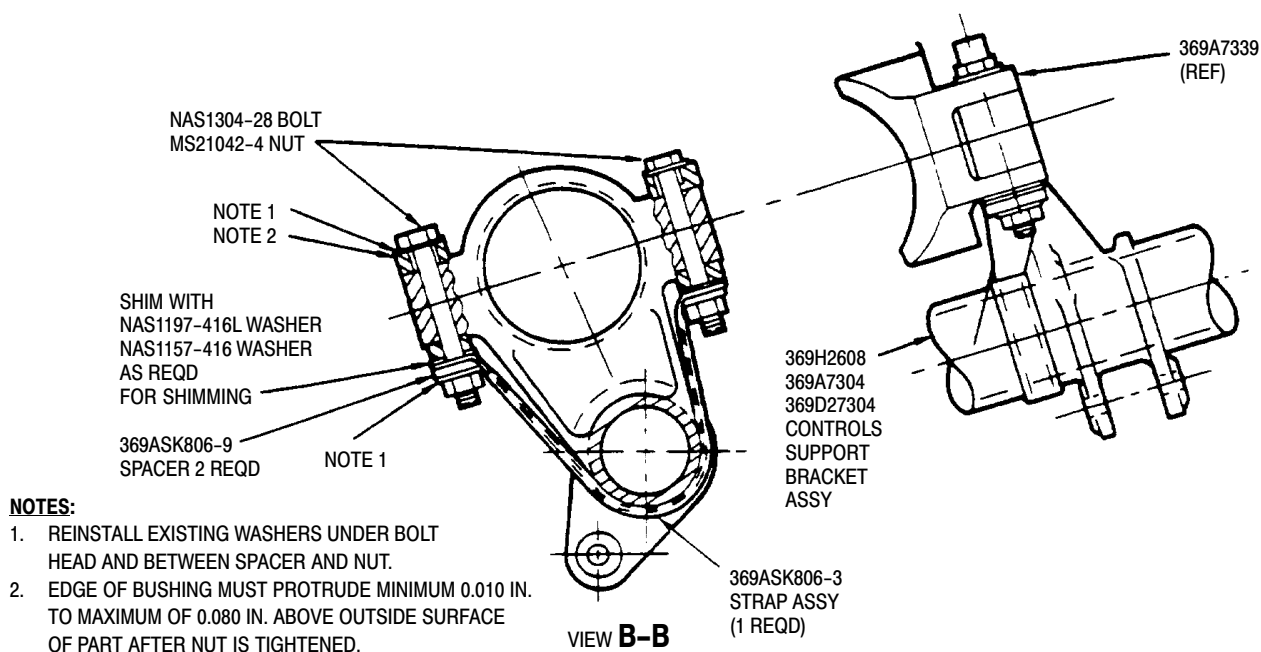
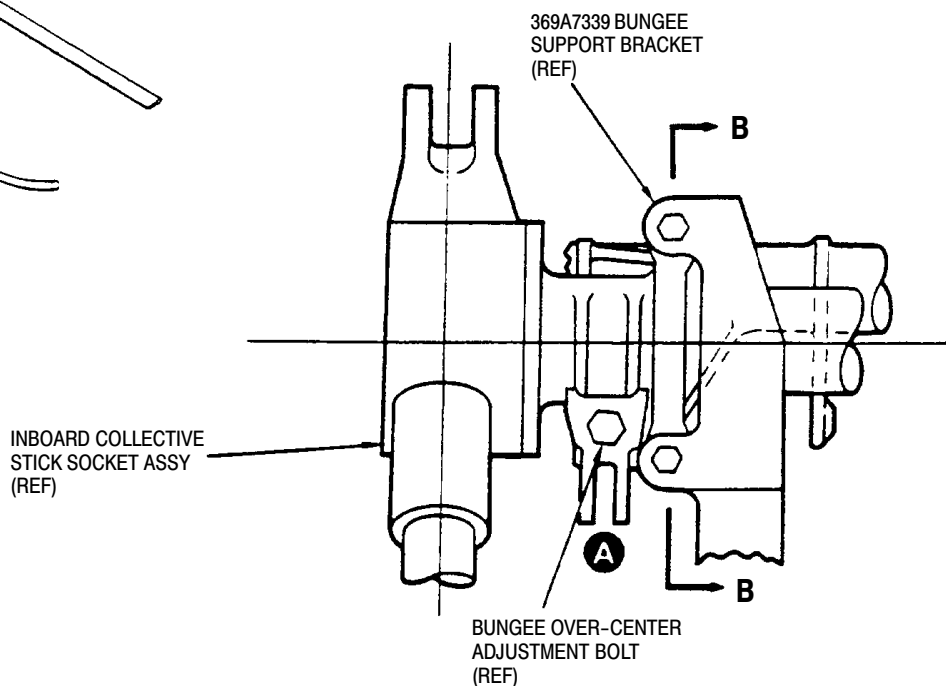
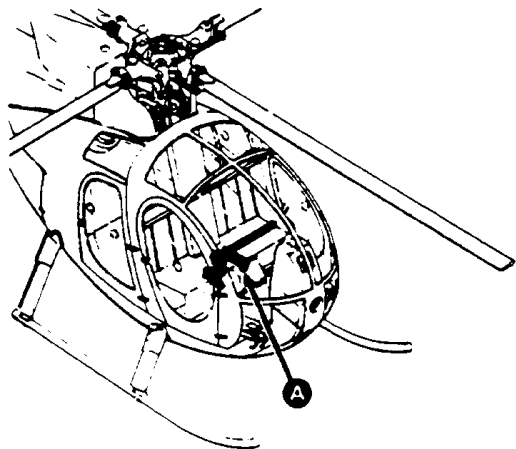
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**Figure 1. Installation of Collective Stick Support Bracket Reinforcement Strap**

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## BUTTON PLUG INSTALLATION – MAST SUPPORT STRUCTURE, AFT CHANNEL

### 1. PLANNING INFORMATION

#### A. Models Affected:

500D Model 369D Helicopters Serial No. 1150D and 1185D through 1204D.

#### B. Preface:

Information given in this Service Information Notice provides a procedure for checking the mast support structure aft channel (PN 369H3011-17) for an unplugged hole, and plugging such holes when found. When open, the hole allows unfiltered air to enter the plenum chamber.

#### C. Time of Compliance:

Shall be accomplished at next 300-hour inspection interval or at next removal of forward engine air inlet fairing assembly, whichever is sooner.

#### D. Reference:

369D HMI Vol 1 (CSP-D-2), Reissued 15 January 1982; Revision 2, 15 August 1982.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. FAA Approval:

The resultant alteration to affected models by the procedure given in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### G. Parts/Supplies:

PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Plug, Button	SS-48155-K1110	1	HHI

#### H. Materials:

MATERIAL	
Nomenclature	Source
Sealant, SilasticMIL-S-8660B RTV-732	Dow Corning

### 2. PROCEDURE

- (1). Remove left side, forward engine air inlet fairing (Section 2, HMI Vol 1).

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- (2). Visually check mast support structure aft channel (PN 369H3011-17) for presence of 0.88-inch diameter hole on left side of channel. If hole has been plugged, continue with step (5).



Do not allow any foreign objects (FOD) to enter the cooling air or engine air inlets. Tape covers of cardboard or other suitable material over inlets before beginning work. Do not remove covers until area has been thoroughly cleaned and all foreign objects removed.

- (3). If hole is open, install SS-48155-K1110 button plug on forward side of channel to close hole. Cover plug with sealant (RTV-732 or equivalent) according to manufacturers instructions.
- (4). Thoroughly clean any debris and other objects from work area; remove temporarily installed covers.
- (5). Reinstall left side, forward engine air inlet fairing (Section 2, HMI Vol 1).
- (6). Record compliance with this Notice in Compliance Record of helicopter log book.

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## INSPECTION AND OVERHAUL OF FUEL SHUTOFF VALVE (PN 369A8104-5)

### 1. PLANNING INFORMATION

#### A. Models Affected:

All 500D Model 369D Series helicopters.

#### B. Preface:

The activation groove in the fuel shutoff valve ball can become worn from high seal drag in the valve. Information given in Part I of this Notice requires a one-time inspection of the shutoff valve for proper operation, and placarding of the fuel shutoff control to leave the shutoff valve open except in emergency until Part II of this Notice is accomplished.

Part II lists procedures for overhaul of fuel shutoff valves (PN 369A8104-5). Compliance with Part II of this Notice removes the restrictions for using the fuel shutoff control imposed by Part I of this Notice.

For 6 months from date of this Notice, fuel shutoff valve overhaul kit, PN 1595-1000, regularly priced \$214.52 may be obtained from your Hughes Service Center or Distributor for \$165.34.

#### C. Time of Compliance:

Part I of this Notice shall be accomplished within the next 25 hours of helicopter operation, from the date of this Notice.

Part II of this Notice shall be accomplished if the fuel shutoff valve does not open and close properly during the inspection required by Part I of this Notice, or within 6 months from the date of this Notice.

#### D. Reference:

369D HMI Volume I (CSP-D-2), Reissued 15 January 1982; Revision 2, 15 August 1982.

Hughes Service Information Notice DN-116, Dated 15 March 1983.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. FAA Approval:

The resultant alteration to affected models as described by procedures given in Parts I and II of this Notice have been shown to comply with Federal Aviation Regulations and is FAA Approved.

### 2. PART I – FUEL SHUTOFF VALVE (PN 369A8104-5) INSPECTION

#### A. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Mirror	Commercial

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- (1). Ensure all electrical power is off, battery is disconnected, and helicopter is electrically grounded.
- (2). Remove left fuel cell access door (Section 2, HMI Vol I).

**WARNING**

**Follow all fuel handling safety precautions. Fuel vapors are highly flammable and can result in fire or explosion if exposed to sparks or open flame.**

- (3). Disconnect powerplant fuel supply tube from fuel shutoff valve (Section 12, HMI Vol I).
- (4). Ensure fuel shutoff valve control is pushed in. Using mirror, check ball in fuel shutoff valve to see that valve is fully open.
- (5). Pull fuel shutoff control on instrument panel full out. Use mirror to check that valve is completely closed.
- (6). Push fuel shutoff control in; check valve using mirror to see that valve is open and unobstructed.

**WARNING**

**If fuel shutoff valve does not open and close fully during the above checks, the valve must be overhauled per Part II of this Notice, or replaced prior to further flight.**

- (7). Reattach powerplant fuel supply tube to fuel shutoff valve (Section 12, HMI Vol I).
- (8). Reinstall left fuel cell access door (Section 2, HMI Vol I).
- (9). Purge air from low pressure fuel filter housing (Hughes Notice DN-116).
- (10). Fabricate placard which reads, USE FUEL SHUTOFF VALVE IN EMERGENCY ONLY; attach placard to instrument panel where it can be easily seen by the pilot.
- (11). Record compliance with Part I of this Notice in Compliance Record of helicopter Log Book.

## 3. PART II – OVERHAUL OF FUEL SHUTOFF VALVE (PN 369A8104-5)

### A. Parts/Supplies:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Overhaul kit, Fuel shutoff valve	1595-1000	1	HHI

### B. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Electric Pencil or equivalent	Commercial

### C. PROCEDURE

- (1). Ensure all electrical power is off.

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## **WARNING**

**When defueling helicopter, follow all fuel handling safety precautions. Ensure all electrical power is off; disconnect battery; and electrically ground helicopter. Open flames and sparks can cause fire or explosions.**

- (2). Defuel helicopter (Section 2, HMI Vol I).
- (3). Remove fuel shutoff valve from helicopter (Section 12, HMI Vol I).
- (4). Overhaul fuel shutoff valve according to instructions in PN 1595-1000 Fuel Shutoff Valve Overhaul Kit.
- (5). Using an electric pencil or equivalent, add the letter "M" at the end of the Hughes Part No. on the valve body.
- (6). Reinstall overhauled valve in helicopter (Section 12, HMI Vol I).

## **CAUTION**

Purge air from fuel system prior to next flight. Failure to purge air from fuel system can result in engine flameout. (Refer to Hughes Service Information Notice DN-116.)

- (7). Refuel helicopter (Section 2, HMI Vol I).
- (8). Check fuel shutoff valve for leaks; check rigging and operation of fuel shutoff control. (Refer to Section 12, HMI Vol I.)
- (9). Record compliance with Part II of this Notice in Compliance Record of helicopter Log Book.

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## BATTERY CASE AND MAIN DC POWER WIRING INSPECTION

### 1. PLANNING INFORMATION

#### A. Models Affected:

All 500D Model 369D Series helicopters equipped with Saft STC SH95850 nickel cadmium batteries and battery cases.

#### B. Preface:

Information given in this Notice requires a one-time visual inspection of the battery case on affected models for cracks in the support flanges. An improved flange has been incorporated on the battery case of all current production Saft 16156 and 16156-1 batteries. The improved battery case design can be identified by a vertical stiffener that has been added to the flanges on both ends of the battery case.

Additionally, inspection of the main dc power wiring for chafing damage caused by the wiring rubbing against the battery case is required. These requirements are in addition to the battery inspection required for all 369D Series helicopters at each 100-hour inspection interval, as specified in Section 2, HMI Volume 2.

#### C. Time of Compliance:

Shall be accomplished at or prior to the next 100 hour periodic inspection interval.

#### D. Reference:

500D Model 369D HMI Volume 1 (CSP-D-2), Reissued 15 January 1982; Revision 3, 15 August 1983.

500D Model 369D HMI Volume 2 (CSP-D-3), Reissued 1 November 1982; Revision 3, 15 September 1982.

Acceptable Methods, Techniques, and Practices - Aircraft Inspection and Repair

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. FAA Approval:

The resultant alterations to affected models as described by procedures given in this Notice have been shown to comply with Federal Aviation Regulations and are FAA Approved.

#### G. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Magnifying glass (5x- 10x)	Commercial

### 2. PROCEDURE

- (1). Ensure all electrical power is off.

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- (2). Remove battery compartment access door (Section 2, HMI Volume 1).
- (3). Visually inspect battery case support flanges, using 5x – 10x magnification. for cracks. Pay particular attention to the flange at the connector end of the battery. Batteries found with cracked flanges are to be corrected by replacing the battery case with the improved current product battery case.

**NOTE:**

- Saft America Inc. will replace damaged battery cases that are under warranty. Call Saft America's warranty administrator for specific instructions (Telephone: (912) 247-2331).
  - Replacement parts for batteries not under warranty can be obtained from any authorized Saft Distributor. Order PN 1723-11, case replacement for PN 16156 batteries, and PN 18112- 3, case replacement for PN 16156-1 batteries.
  - Inspection per steps (4). and (5). below is not required for 369D Series helicopters S/N 1185D and subsequent. Main dc power wiring has been rerouted in these helicopters.
- (4). Visually inspect main dc power wiring from battery connector (P108) to opposite end terminals for chafing damage or wear. If evidence of damage or wear is noted, replace wiring (Section 19, HMI Volume 1).
  - (5). Check routing of main dc power wiring to ensure that wiring cannot rub against battery case or other structure components during helicopter operation. Reroute and clamp and/or tie wiring as necessary per FAA AC 43.13-1A-to prevent wiring from rubbing against battery case or other structure components.
  - (6). Reinstall battery compartment access door (Section 2, HMI Volume 1).
  - (7). Record compliance with this Notice in Compliance Record of helicopter Log Book.

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## MAIN TRANSMISSION OIL LINE (PN 369D25709 AND 369D25710) INSPECTION; AND REPLACEMENT OF MAIN TRANSMISSION OIL LINES (PN 369D25709 AND 369D25710) AND BRACKETRY WITH NEW PN 369D25709-11 AND 369D25710-11 LINES AND BRACKETRY.

### 1. PLANNING INFORMATION

A. **MODELS AFFECTED:** 500 Model 369D Series Helicopters Serial No. 0003D through 1288D.

B. **TIME OF COMPLIANCE:**

Part I - Shall be accomplished at the next 100-hour inspection and each subsequent 100-hour inspection until Part II of this Notice is accomplished.

Part II - Shall be accomplished at owner/operator discretion, or at next replacement of main transmission oil lines, whichever occurs first. Compliance with Part II of this Notice eliminates Part I 100 hour inspection requirement.

C. **PREFACE:**

PART I - The information given in Part I of this Notice provides a required inspection of the main transmission oil lines (PN 369D25709 and 369D25710) for chafing damage, which could cause the lines to leak.

PART II - The information given in Part II of this Notice provides procedures for replacing main transmission oil lines (PN 369D25709 and 369D25710) and bracketry with new oil lines (PN 369D25709-11 and 369D25710-11) and bracketry. The new installation will reduce the possibility of oil line chafing damage during operation.

Information given in this Service Information Notice is considered to be part of the HMI and will be incorporated in the below referenced manuals at the next scheduled revision.

D. **FAA APPROVAL:** The resultant alteration to the affected helicopters described by Part II of this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

E. **WEIGHT AND BALANCE:** Weight and balance not affected.

F. **REFERENCE PUBLICATIONS:** 369D HMI Volume 1 (CSP-D-2), Reissued 15 January 1982; Revision No. 3, 15 August 1983.

369D HMI Volume 2 (CSP-D-3), Reissued 1 November 1981; Revision No. 3, 15 September 1982.

### 2. ACCOMPLISHMENT INSTRUCTIONS

A. **PART I: INSPECTION OF MAIN TRANSMISSION OIL LINES (PN 369D25709 AND 369D25710)**

(1). Remove sound insulation and main transmission access cover (Section 2, HMI Vol 1).

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- (2). Visually check entire length of 369D25709 and 369D25710 oil lines for chafing damage; if noted, perform Part II of this Notice.

**NOTE:** Black powdery deposits on the aluminum tubes indicate chafing damage.

- (3). Visually check each clamp attached to oil lines for evidence of cushion wear or deterioration; if noted, remove clamp and inspect tube under clamp for chafing damage. If tube is chafed, accomplish Part II of this Notice. If tube is undamaged install new clamp.

**NOTE:** Any rubber particles around or on clamp indicates possible clamp cushion wear or deterioration.

- (4). Replace sound insulation and transmission access cover (Section 2, HMI - Vol 1).  
 (5). Record compliance with Part I of this Notice in Compliance Record of helicopter Log Book.

**B. PART II: REPLACEMENT OF MAIN TRANSMISSION OIL LINES (PN 369D25709 AND 369D25710) AND BRACKETRY WITH NEW LINES (PN 369D25709-11 AND 369D25710-11) AND BRACKETRY**

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Tube Assembly	369D25709-11	1	Hughes
Tube Assembly	369D25710-11	1	Hughes
Bracket	369D25701-3	1	Hughes
Bracket	369D25701-5	1	Hughes
Bracket	367D25701-7	1	Hughes
Washer	AN960KD4	1	Commercial
Elbow	AN833-8D	2	Commercial
Nut	AN924-8D	2	Commercial
Clamp	NAS1713D-8N	2	Commercial
Clamp	NAS4181A-8N	2	Hughes
Screw	NAS1096-3-8	4	Commercial
Screw	NAS1096-3-7	2	Commercial
Washer	AN960KD10L	8	Commercial
Washer	AN960D1216	4	Commercial
Nut	MS21042-3	2	Commercial
Rivet	MS20426AD4	6	Commercial

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REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Rivet	MS 20470AD4	11	Commercial
Rivet	MS 20470AD3	2	Commercial

TOOLS AND EQUIPMENT	
Nomenclature	Source
Drill Motor Portable	Commercial
Drill, No. 30	Commercial
Protractor	Commercial

MATERIAL	
Nomenclature	Source
Primer, Zinc Chromate, TT-P-1757	Commercial

- (1). Remove sound insulation and transmission access cover (Section 2, HMI - Vol 1).
- (2). Drain main transmission lubrication system (Section 2, HMI - Vol 1).
- (3). Remove screws, nuts and washers attaching all clamps holding 369D25709 and 369D25710 tube assemblies. (See Figure 1.)
- (4). Disconnect 369D25705-11 hose from AN821-8D elbow connected to 369D25709 tube assembly.
- (5). Disconnect 369D25705-21 hose from AN821-8D elbow connected to 369D25710 tube assembly.
- (6). Disconnect 369D25710 tube assembly from union at oil temperature sender housing. Remove tube assembly from helicopter.
- (7). Disconnect 369D25709 tube assembly from union at 369D23020-5 web. Remove tube assembly from helicopter.
- (8). Drill out rivets attaching brackets (Figure 1) to structure and remove brackets. Apply zinc chromate primer to holes. Fill holes with MS20426AD4 rivets.
- (9). Remove clamp securing 369D292490 heating hose to HS4194-6 standoff on canted station 124 channel. Remove and relocate standoff as shown in Figure 1 (View A) using MS20470AD3 rivets. Relocate clamp on heater hose and reattach clamp to standoff.
- (10). Install 369D25701-3 bracket on 369H3011-17 bracket as shown in Figure 2, View A.
- (11). Install 369D25701-5 bracket on 369H3010-73 panel.
  - (a). Position bracket on panel as shown in Figure 2. Mark lower portion of panel to match holes in lower portion of bracket, remove bracket.

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- (b). Use No. 30 drill to drill holes in panel at locations marked. Clean drill cuttings from area and apply zinc chromate primer to holes.
- (c). Attach bracket to panel using four MS20470AD4 rivets.
- (12). Install 369D25701-7 bracket on 369H3010-9 panel.
  - (a). Mark position for two bracket attach holes on outboard side of 369H3010-9 panel as shown in Figure 2.
  - (b). Use No. 30 drill to drill holes in panel at locations marked. Clean drill cuttings from area, particularly in plenum; apply zinc chromate primer to holes.
  - (c). Attach 369D25701-7 bracket to panel using two MS20470AD4 rivets.
- (13). Install AN833-8D elbow in upper and lower holes of 369D25701-3 bracket, with outboard end of elbow down. Attach each elbow to bracket with two AN960D1216 washers and one AN924-8D nut.
- (14). Connect 369D25705-21 hose assembly to upper AN833-8D elbow outboard (downward) leg.
- (15). Connect 369D25705-11 hose assembly to lower AN833-8D elbow outboard (downward) leg.
- (16). Install 369D25709-11 tube assembly.
  - (a). Position tube assembly so that upper end mates with inboard end of lower elbow in 369D25701-3 bracket, and lower end mates with open end of union at 369D23020-5 web. Tube must be centered between two inboard holes of 369D25701-5 bracket.
  - (b). Fit upper end of tube over lower elbow, secure to elbow with nut on tube assembly.
  - (c). Fit lower end of tube over open end of union at 369D23020-5 web, secure tube to union with nut on tube assembly.
  - (d). Place HS4181A8N clamp around tube at 369D25701-5 bracket. Attach clamp to inboard holes of bracket with two AN960KD10L washers and two NAS1096-3-8 screws.
  - (e). Place NAS1713D8N clamp on tube at 369D25701-7 bracket. Secure clamp to forward side of bracket aft leg with NAS1096-3-7 screw, two AN960KD10L washers and MS21042-3 nut.
- (17). Install 369D25710-11 tube assembly.
  - (a). Position tube so upper end mates with upper elbow through 369D25701-3 bracket, and lower end mates with open end of temperature sender housing. At 369D25701-5 bracket, tube must be centered between two outboard holes.
  - (b). Connect tube ends to elbow and union and secure with nuts on tube ends.
  - (c). Place HS4181A8N clamp around tube at 369D25701-5 bracket. Attach clamp to bracket with two AN960KD10L washers and two NAS1096-3-8 screws.
  - (d). Place NAS1713D8N clamp over tube at 369D25701-7 bracket. Attach clamp to forward side of bracket with NAS1096-3-7 screw, two AN960KD10L washers, and MS21042-3 nut.

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- (18). Check to see that minimum of 0.25 inch clearance exists between tubes and 369H3011-17 bracket as shown in Figure 2, adjust as required for minimum clearance.
- (19). Fill transmission with approved lubricant (Section 2, HMI - Vol 1).
- (20). Start and operate helicopter until lubricant is circulated through system (369D Pilot's Flight Manual).
- (21). Check installation for leaks and security.
- (22). Reinstall sound insulation and transmission access cover (Section 2, HMI - Vol 1).
- (23). Check main transmission oil level at sight gage (Section 2, HMI - Vol 1).
- (24). Record compliance with Part II of this Notice in Compliance Record of helicopter Log Book.

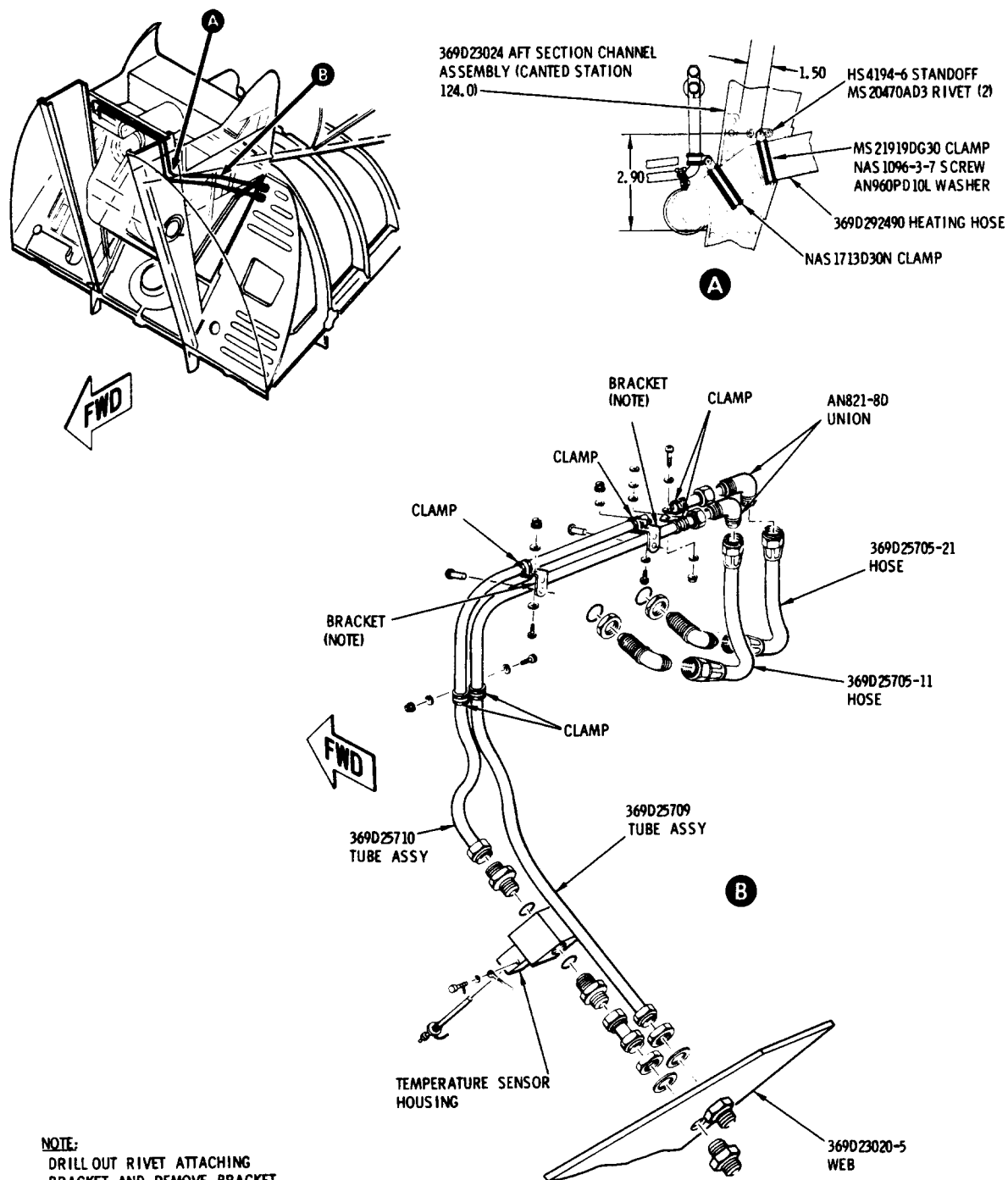
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**Figure 1. Existing Hardware Removal and Relocation**

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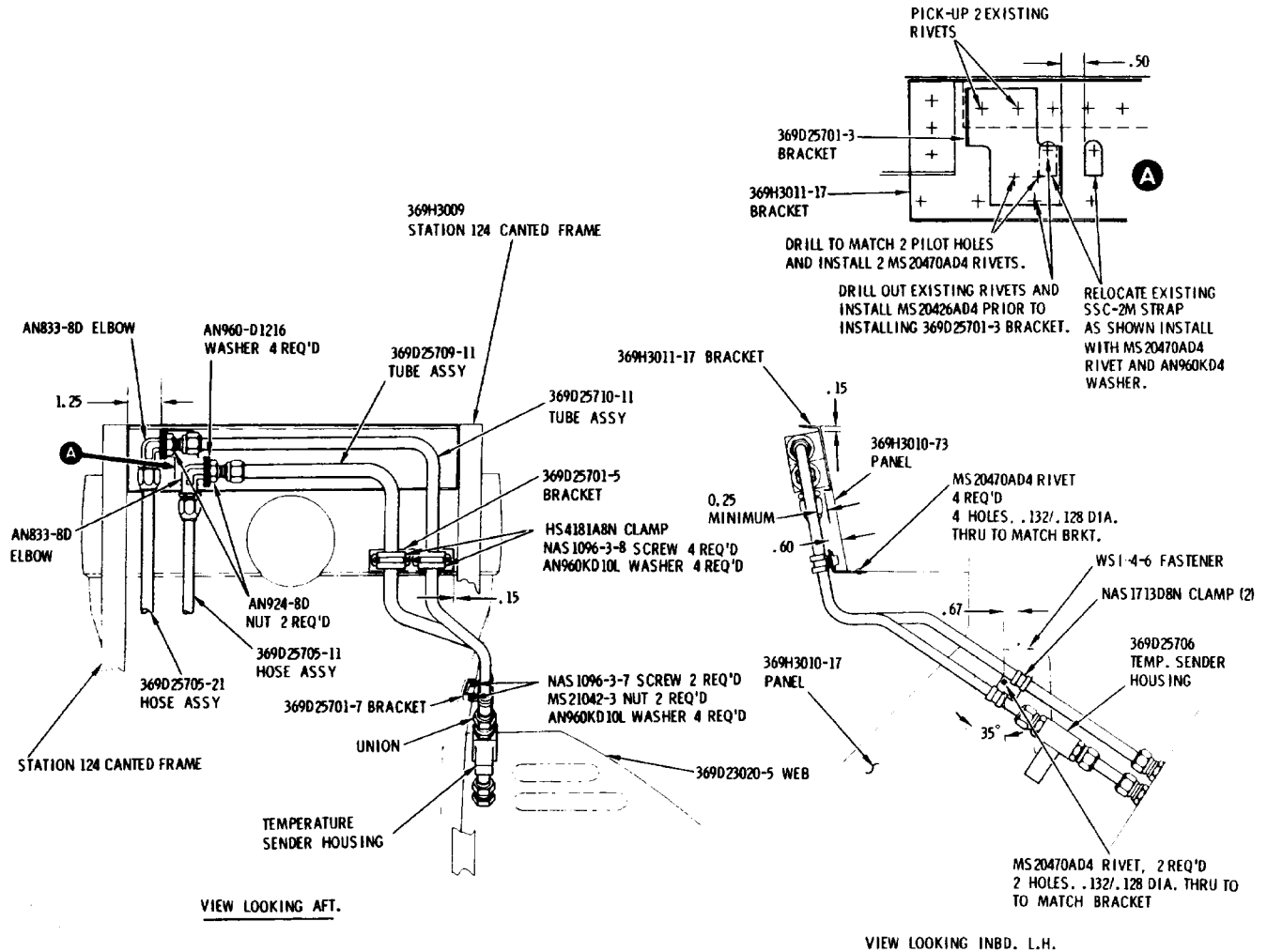
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**Figure 2. Installation of 369D25709-11 and 369D25710-11 Main Transmission Oil Lines**

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## MAIN ROTOR SWASHPLATE BEARING, PN 369A7003-3, INSPECTION AND POSSIBLE REPLACEMENT

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All 500D Model 369D Series helicopters containing any of the following listed assemblies, plus any spare assemblies uninstalled on helicopters. Assemblies affected are: 369A7003-3 Swashplate Bearing Assembly, 369D21000 Main Rotor Installation, and 369D27609-501 Main Rotor Swashplate Installations received between June 1, 1983 and December 20, 1983.

Swashplate Bearing Assemblies PN 369A7003-3 with 9XXX series serial numbers, or with the blue dot identifier per step (7). of the following procedure, do not require reinspection per this Notice.

#### B. TIME OF COMPLIANCE:

Must be accomplished prior to further flight, following receipt of this Notice, for affected parts in service.

Shall be accomplished prior to installing affected parts from spares.

Shall be accomplished on all spares inventory.

#### C. PREFACE:

A recent field report indicated that a 369A7003-3 Main Rotor Swashplate Bearing Assembly was found without the ball bearing cages installed. Information given in this Notice provides procedures for a one-time inspection of all affected 369A7003-3 bearings for missing cages. Subject bearings found with cages missing shall be removed from service or spares immediately and returned to Hughes Helicopters. Replacement 369A7003-3 bearings will be provided by Hughes through authorized Service Centers and Distributors.

#### D. FAA APPROVAL:

The resultant alteration to affected models from the inspection procedure in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### E. WEIGHT AND BALANCE:

Not affected.

#### F. REFERENCE PUBLICATIONS:

500D Model 369D HMI Vol. 1 (CPS-D-2), Reissued 15 January 1982; Revision 3, 15 August 1983

500D Model 369D COM (CSP-D-5), Reissued 15 September 1981.

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## 2. ACCOMPLISHMENT INSTRUCTIONS

MATERIAL	
Nomenclature	Source
Lacquer, Blue Acrylic, Fed-Std-15102	Commercial
Isopropyl Alcohol, TT-I-735	Commercial

- (1). Remove main rotor swashplate from helicopter (Section 7, HMI Vol. 1).

**NOTE:** It is not necessary to remove bearing assembly from swashplate or separate stationary and rotating swashplates to perform the required inspection.

- (2). Remove four nuts and washers attaching retainer to rotating swashplate. It may be necessary to move arms of rotating swashplate for access to bolts (See Figure 1).



Do not allow dirt, grit, or any foreign material to enter bearing assembly.

- (3). While holding swashplate assembly with bearing inverted, carefully clean exposed bearing assembly surface, snap ring and seal with a clean lint-free cloth dampened with isopropyl alcohol. Do not allow alcohol to enter bearing.
- (4). Carefully remove upper snap ring and seal from swashplate bearing assembly as shown in Figure 2. Note seal orientation so seal can be reinstalled in same position.
- (5). Visually check areas under seal to ensure that bearing cage is in place as shown in Figure 2. If cage is not in place, bearing balls will be visible.



If bearing cage is not present, replace bearing assembly with inspected bearing assembly from spares, or with a bearing assembly not affected by this Notice. (Refer to Part V, 369D-COM for removal and installation of bearing assembly).

- (6). If bearing cage is in place as shown in Figure 2, carefully clean seal, snap ring and snap ring groove, and reinstall seal and snap ring on bearing assembly.



Ensure that seal is flat and smooth after installation, with seal lip inner diameter contacting inner race of bearing.

- (7). Using blue acrylic lacquer, place a blue dot, approximately 1/8 inch diameter, on outer surface of snap ring as shown in Figure 2.
- (8). Reinstall retainer on rotating swashplate with bolts, washers, and nuts. Torque nuts to 50-70 inch-pounds (See Figure 1).
- (9). Reinstall swashplate assembly on helicopter (Section 7, HMI, Vol. 1).
- (10). Record compliance with this Notice in Compliance Record of helicopter Log Book.

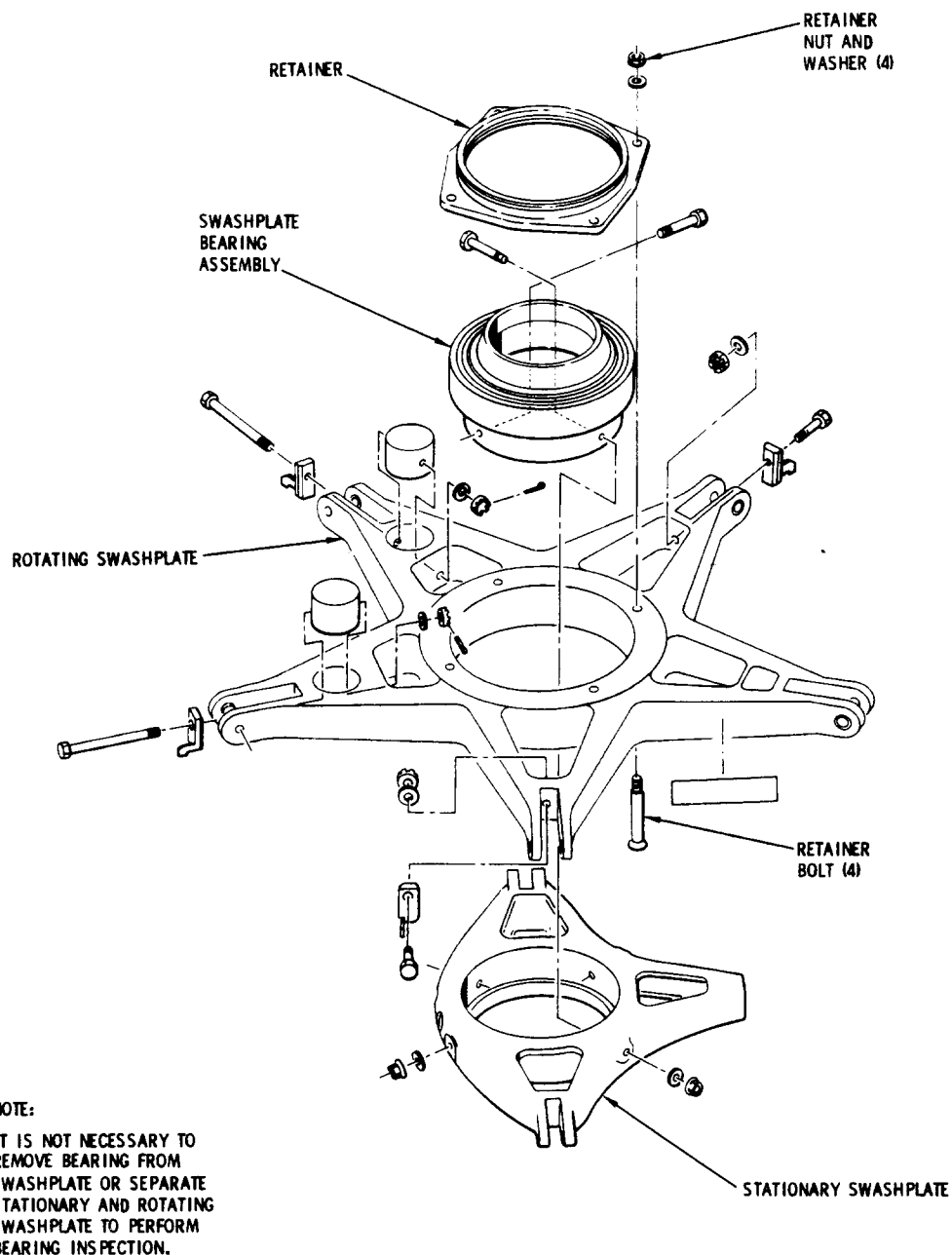
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**Figure 1. Main Rotor Swashplate Assembly (Exploded View)**

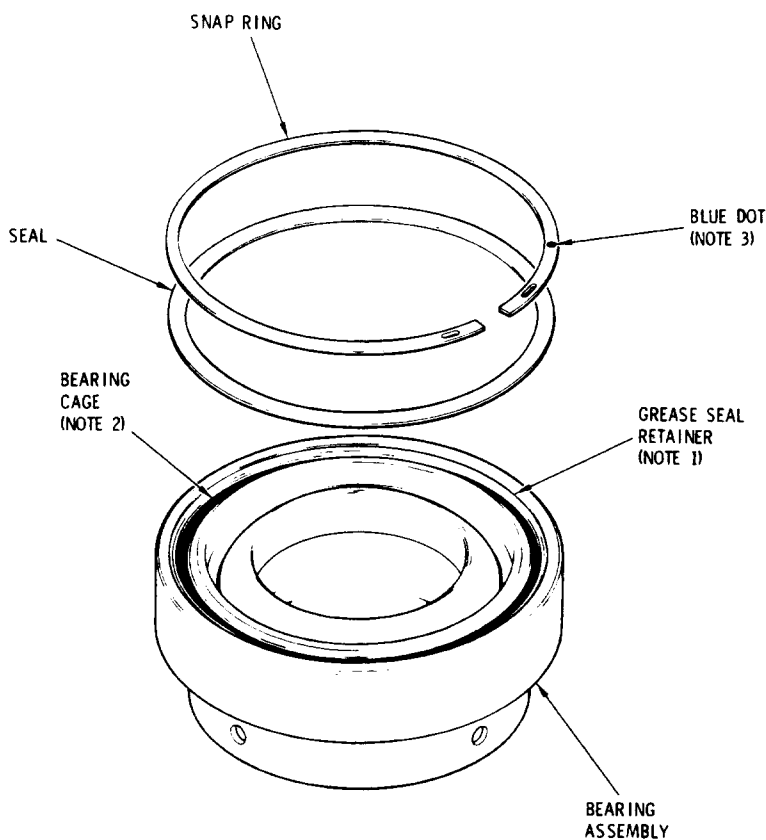
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**SERVICE BULLETIN****/// MANDATORY ///****NOTES:**

1. PART NO. AND SERIAL NO. ARE INK STAMPED ON GREASE SEAL RETAINER.
2. IF BEARING CAGE IS MISSING BALLS WILL BE VISIBLE.
3. AFTER INSPECTION, PLACE BLUE ACRYLIC LACQUER DOT, 1/8 INCH DIAMETER, ON SNAP RING AS SHOWN.

88-595

**Figure 2. Main Rotor Swashplate Bearing Inspection***Copyright 1999-2022 by MD Helicopters, LLC**This document may be reproduced and distributed provided no fee is charged, the text is not modified, and this copyright notice is included.***/// MANDATORY ///**



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\*Include a copy of this Notice in the Notice file for each affected model.  
(NOTE: This Service Bulletin includes the 10 April 1998 Errata sheet)

## FUEL SHUT-OFF VALVE CONTROL CABLE (PN 369A8137-503 AND -603) PULL TEST

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All 369D, 369E, 369H, 369HE, 369HM and 369HS Series Helicopters as follows:

1. Having subject cable installed, marked, "Jairen Inc. 16722 PN 110262-15N", with date of "5/81" or later, if the swage is less than 0.50 inch in length.
2. Cables marked as described in 1. above, in spares inventory.

**NOTE:** Affected cables having the swaged end of the cable housing painted green have been inspected and do not require reinspection per this Notice.

#### B. PREFACE:

This Service Information Notice gives procedures for a one time design load pull test of affected PN 369A8137-503 and -603 Fuel Shut-Off Control Cable assemblies.

Part I gives procedures for testing PN 369A8137-503 assemblies used on 500D versions of the Model 369D helicopter, 369E, 369H, 369HE and 369HS Series helicopters.

Part II gives procedures for testing PN 369A8137-603 assemblies used on 500MD versions of the model 369D helicopter and 369HM Series helicopters.

#### C. TIME OF COMPLIANCE:

Shall be accomplished within the next 100 hours of helicopter operation from the date of this Notice for all installed affected parts. Shall be accomplished prior to installing any affected parts from spares inventory.

#### D. FAA APPROVAL:

The resultant test of the fuel shut-off valve control cable as described by the procedures given in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. REFERENCE:

369D HMI Vol. 1 (CSP-D-2), Reissued 15 January 1982; Revision No. 3, 15 August 1983.  
369E Supplement to HMI Vol. 1 (CSP-E-2), Issued 30 November 1983.  
Model 500 Basic HMI (CSP-H-2), Reissued 15 September 1981.  
Basic HMI Configuration Supplement HM (CSP-H-2B), Reissued 15 March 1975  
Hughes Service Information Notice No. DN-122, dated 29 July 1983.  
Hughes Service Information Notice No. EN-9, dated 29 July 1983.  
Hughes Service Information Notice No. HN-189, dated 29 July 1983.

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## PART I. PULL TEST PN369A8137-503 FUEL SHUT-OFF VALVE CONTROL CABLE

TOOLS AND EQUIPMENT	
Nomenclature	Source
**Fish Scale (75 pounds capacity or greater)	Commercial

\*\*Since space in aircraft is limited, use scale which achieves a 50 Pound load with minimum travel.

MATERIAL	
Nomenclature	Source
Duct tape (2 inches wide X 12 inches long)	Commercial
Safety wire (0.032 inch diameter X 14 inches long)	Commercial
Paint, Green lacquer	Commercial
***Washer, Steel (0.265 inch inner diameter X 0.063 inch thick)	Commercial

\*\*\*Washer, may be standard or locally fabricated from 0.063 inch steel stock (any type).

### PROCEDURE

- Remove left instrument panel fairing (section 17, HMI Vol 1 or Basic HMI).
- Remove clamp attaching fuel shut-off cable to bracket on canopy, or to back of instrument panel support structure (369E only). (See Figure 1.)
- Back retaining nut completely off threaded portion of control cable at back of instrument panel (Figure 1).
- Wrap approximately 12 inches of two inch wide duct tape around cable casing, approximately 0.05 inch behind instrument panel or swage, whichever is further from front of instrument panel, as shown in Figure 1.
- Attach one end of safety wire (0.032 inch diameter x 12 inches long) just behind control cable flange, at front of instrument panel.
- Attach free end of safety wire to fish scale.
- Notch 0.265 inch inner diameter x 0.063 inch thick washer as shown in Figure 1; place washer over cable between duct tape and rear of instrument panel as shown.

### WARNING

**Cable may separate suddenly during pull test. Personal injury can occur should the cable separate if person applying pull test is not securely braced.**

- While securely braced in the left helicopter seat, slowly apply 50 pound pull on the safety wire and cable assembly. Do not exceed 50 pound test load.

**NOTE:** If cable casing pulls out of swage, replace cable assembly (Section 12, HMI Vol 1 or Basic HMI); return failed cable to HHI, Attn: Warranty and Repair Administration, with a completed warranty form.

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i. Visually inspect swage joint for evidence of partial separation. If partial separation is evident, replace cable assembly (Section 12, HMI Vol 1 or Basic HMI); return damaged cable to HHI. (Refer to above Note.)

j. If cable shows no evidence of separation at swage, paint swaged end of cable housing using green lacquer.

k. Remove safety wire and scale from cable assembly.

l. Remove washer and duct tape from cable at rear of instrument panel.

m. Reinstall retaining nut on threaded portion of control cable at back of instrument panel.

n. Reinstall clamp which attaches fuel shut-off valve cable to bracket on canopy or instrument panel support structure.

o. Reinstall left instrument panel fairing (Section 17, HMI Vol 1 or Basic HMI).

**NOTE:** Part I of Hughes Service Notice DN-122, EN-9 or HN-189 must be reaccomplished if the fuel shut-off valve has not been overhauled per Part II of the applicable Notice.

p. Inspect fuel shut-off valve per Part I of Hughes Notice No. DN-122, EN-9 or HN-189, if required.

q. Record compliance with Part I of this Notice in Compliance Record of helicopter Log Book.

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## PART II. PULL TEST FOR PN 369A8137-603 FUEL SHUT-OFF VALVE CONTROL CABLE

TOOLS AND EQUIPMENT	
Nomenclature	Source
+Fish Scale (75 pounds capacity or greater)	Commercial

+Since space in aircraft is limited, use scale which achieves a 50 pound load with minimum travel.

MATERIAL	
Nomenclature	Source
Duct tape (2 inches wide X 12 inches long)	Commercial
Safety wire (0.032 inch diameter X 14 inches long)	Commercial
Steel sheet (0.188 inch or equivalent)	Commercial
Paint, Green lacquer	Commercial

### PROCEDURE

- Fabricate retaining tool from 0.188 inch thick or equivalent steel sheet as shown in Figure 2.
- Remove cover from right side of horizontal console (Section 17, HMI Vol 1 or Basic HMI Configuration Supplement HM).
- Back securing nut completely off threaded portion of cable (Figure 2).
- Wrap 12 inch strip of two inch wide duct tape around cable housing, with top of tape two inches above helicopter floor as shown in Figure 2.
- Secure one end of safety wire just behind flange of control cable assembly on horizontal console (Figure 2).
- Secure free end of safety wire to fish scale.
- Place slotted end of retaining tool, fabricated in Step a., on cable at top of duct tape: stand on tool to secure tool against helicopter floor. (See Figure 2. )

### WARNING

**Cable may separate suddenly during pull test. Personal injury can occur if person conducting test is not well balanced and prepared for the possible separation.**

- While stably positioned over horizontal console, slowly apply 50 pound load to cable. Do not exceed 50 pound test load.

**NOTE:** If cable casing pulls out of swage, install new cable assembly (Section 12, Basic HMI Configuration Supplement HM or HMI Vol 1); return failed cable to HHI, Attn: Warranty and Repair Administration, with a completed warranty form.

- Visually inspect swage joint for evidence of partial separation. If partial separation is evident, replace with new cable assembly (Section 12, HMI Vol 1 or Basic HMI Configuration Supplement HM); return damaged cable assembly to HHI. (Refer to the above Note. )

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j. If cable shows no evidence of separation, paint swaged end of cable housing with green lacquer.

k. Remove safety wire and scale.

l. Remove retaining tool and duct tape.

m. Reinstall retaining nut on threaded portion of control cable at underside of horizontal console.

n. Reinstall right side horizontal console cover (Section 17, HMI Vol 1 or Basic HMI Configuration Supplement HM).

**NOTE:** Part I of Hughes Service Notice DN-122, EN-9 or HN-189 must be reaccomplished if the fuel shut-off valve has not been overhauled per Part II of the applicable Notice.

o. Inspect fuel shut-off valve per Part I of Hughes Notice No. DN-122, EN-9 or HN-189, if required.

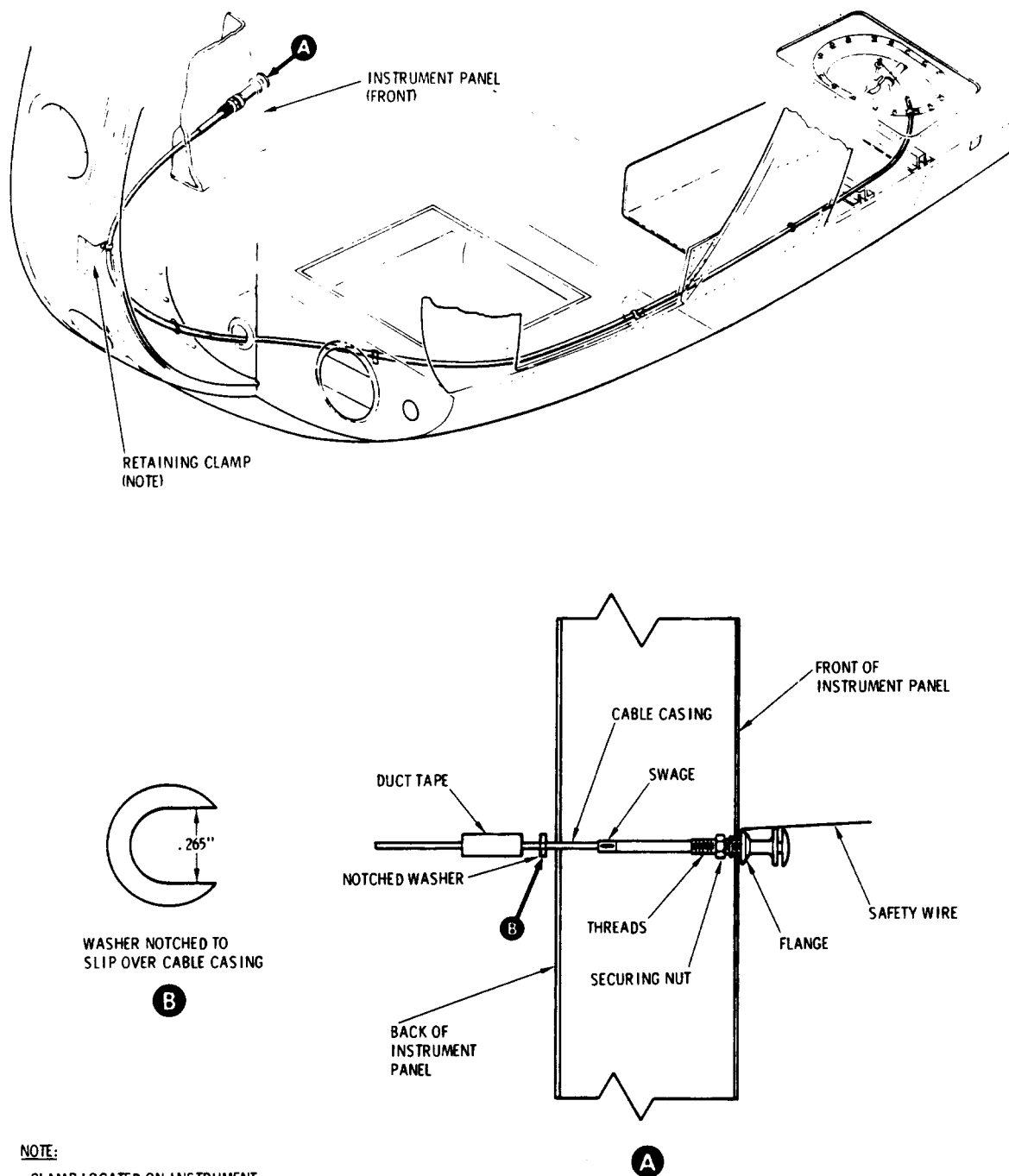
p. Record compliance with Part II of this Notice in Compliance Record of helicopter Log Book.

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**Figure 1. Pull Test PN 369A8137-503 Fuel Shut-Off Control Cable**

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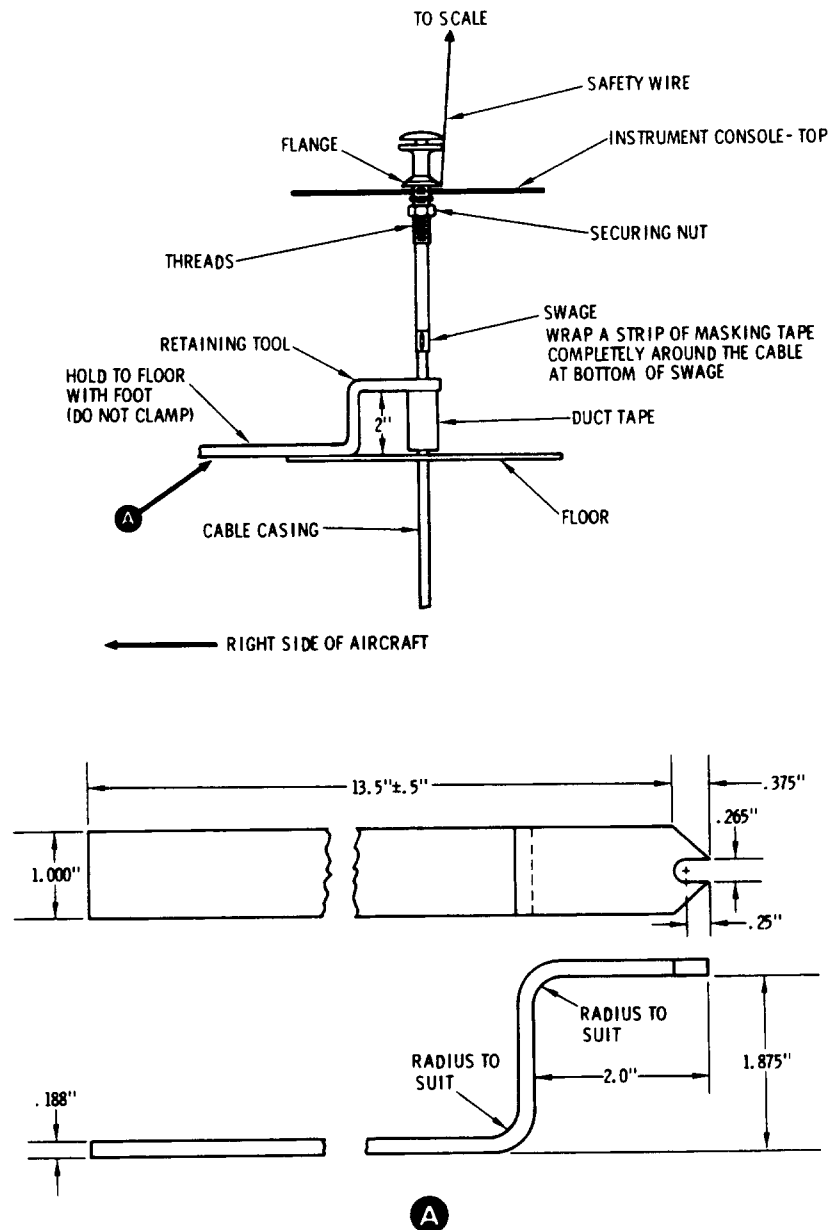
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**NOTE:**

FABRICATE FROM .188" STEEL SHEET  
OR EQUIVALENT.

ADN126-1

**Figure 2. Pull Test PN 369A8137-603 Fuel Shut-Off Valve Control Cable**

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## REMOVAL OF GRAY COATING FROM PN 369D21700 AND 369D21700-3 TAIL ROTOR HUBS

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All 500D Model 369D and all 500E Model 369E Series Helicopters equipped with 369D292500 Series Four Bladed Tail Rotor Drive System.

PN 369D21700 and 369D21700-3 Tail Rotor Hubs in spares inventory including those installed in spare 369D292500 Series Four Bladed Tail Rotor Drive Systems.

#### B. PREFACE:

Information given in this Notice provides procedures for removal of gray coating from bearing lands of PN 369D21700-BSC and 369D21700-3 tail rotor hubs. If not removed, the material can enter the pitch bearings causing the bearing action to be stiff.

#### C. TIME OF COMPLIANCE:

Shall be accomplished at next 100 hour inspection interval, or at next removal of blades from affected assemblies, whichever is sooner.

Shall be accomplished for all affected parts in spares inventory prior to installation on helicopter.

#### D. FAA APPROVAL:

The resultant alteration to affected models as described by the procedure in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. REFERENCE:

Illustrated Parts List and Maintenance Instructions for Four-Bladed Tail Rotor Drive System (CSP-088), Issued 15 September 1981.  
Model 369D COM (CSP-D-5), Reissued 15 September 1981.

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PARTS LIST			
Nomenclature	Part No.	Qty.	Source
O-ring	2-025 C873-70	4	HHI

## MATERIALS

**WARNING** Observe decal on idler bellcrank, located at tail rotor transmission (CAUTION: SPRING-LOADED, DO NOT PUSH) referring to the inline bungee assembly. Spring action in linkage can cause personal injury and/or parts damage.

**CAUTION** Do not allow blade pitch to exceed 30 degrees from neutral pitch position (blade pitch control arm movement of approximately one inch) in either direction, whenever pitch control links are disconnected. Unrestricted pitch changes can stretch or bend strap-pack excessively and cause undetected strap-pack damage.

**NOTE:** Mark exact number, location and position of all items before removal, to prevent balance problems at reassembly.

- Remove hardware attaching pitch control links to outboard and inboard blades (Section 2, CSP-088).

**CAUTION** Ensure crush washers and bushings are tagged so they can be reinstalled in exact location from which they were removed.

- Remove inboard and outboard blades by removing nut, bolt, bushings and crush washers attaching each blade to hub; remove packing from hub; discard packing.
- Cover exposed ends of strap-packs with clean lint free Cloth; press ends of cloth into hub, to prevent debris from entering strap-pack.

**CAUTION** Protect strap assembly, hub ID and tail rotor assembly from wool fiber contamination while removing gray material. Position hub so debris from removal does not enter tail rotor assembly. Do not remove any black protective coating under gray coating. Ensure all wool fibers are removed from all components before reassembly.

- Using 0000 steel wool, remove all gray colored coating from bearing lands (blade attachment area) on each end of each hub. Wipe area clean using clean lint free cloth dampened with dry cleaning solvent. Do not allow cleaning solvent to contact strap-pack.
- Using clean lint free cloth, wipe inside of each blade root fitting clean, including bushing hole.
- Inspect blade attachment bushings for nicks, scratches or other damage; replace bushings if damaged. Clean serviceable bushings using clean cloth dampened with cleaning solvent.
- Inspect pitch bearings in each blade per Section 3, Part IX, 369D-COM; replace damaged pitch bearings (Section 4, Part IX, 369D-COM).

**CAUTION** Crush washers and bushings must be reinstalled in exact location from which they were removed to ensure proper blade attachment.

- Install new O-rings on inboard hub, and install inboard blades with bolts, crush washers, bushings and nuts; torque nuts to 600-650 inch-pounds. Ensure that crush washers and other hardware reused is reinstalled in same location from which it was removed.

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- i. Connect pitch link assemblies to inboard blades using hardware removed at disassembly (Section 2, CSP-088).



Crush washers and bushings must be reinstalled in exact location from which they were removed to ensure proper blade attachment.

- j. Install new O-rings on outboard hub and install outboard blades with bolts, crush washers, bushings and nuts; torque nuts to 600 - 650 inch-pounds. Ensure that crush washers and other hardware reused is reinstalled in same location from which it was removed.
- k. Reconnect pitch links to outboard blades using hardware removed at disassembly (Section 2, CSP-088).
- l. Check tail rotor control rigging (Section 2, CSP-088).
- m. Check balance of tail rotor blades using short method (Section 2, CSP-088).
- n. Record compliance with this Notice in Compliance Record of helicopter Log Book.

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## RIVETING TIP-CAP TO TAIL ROTOR BLADE

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All 369H, 369HS, 369HE, 369HM, 369D, 369E and OH-6 Series helicopters having any PN 369A1613-7, 369A1613-503, 369D21613-11, 369D21613-41, 369D21613-51 or 369D21615 Tail Rotor Blade installed which has any of the following serial numbers, and any of the affected parts in spares inventory, as individual blades or as part of spare tailrotor assemblies.

<u>Part Number</u>	<u>Serial Number</u>	<u>Part Number</u>	<u>Serial Number</u>
369A1613-503	4148		0233
	4842		0368
369A1613-7	3636	369D21613-11, 41, -51	1379
			1766
369D21615	0081		1767
	0083		1905
	0084		1957
	0088		1958
	0101		1968
	0141		1975
	0142		1976
	0143		1982
	0144		2021
	0145		2022
	0146		2027
	0147		2038
	0148		2039
	0149		2040
	0150		2042
	0151		2043
	0152		2054
	0153		2055
	0154		2064
	0155		2075
	0156		2104
	0157		2108
	0158		2218
	0159		2219
	0160		2226

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<u>Part Number</u>	<u>Serial Number</u>	<u>Part Number</u>	<u>Serial Number</u>
369D21613-11, 41, -51 (continued)	2244		3350
	2251		3351
	2252		3352
	2298		3353
	2299		3354
	2303		3355
	2321		3356
	2351		3386
	2352		3407
	2361		3408
	2362		3437
	2399		3438
	2400		3439
	2939		3440
	2943		3441
	2944		3442
	2967		3443
	2978		3444
	2982		3445
	2983		3446
	2995		3447
	3008		3448
	3095		3449
	3129		3450
	3144		3451
	3179		3452
	3184		3453
	3205		3454
	3237		3455
	3271		3456
	3337		3476
	3338		3543
	3339		3548
	3341		3636
	3342		3642
	3343		3657
	3344		3658
	3345		3659
	3346		3660
	3347		3661
	3348		3662
	3349		

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<u>Part Number</u>	<u>Serial Number</u>	<u>Part Number</u>	<u>Serial Number</u>
369D21613-11, 41, -51 (continued)	3663		3855
	3664		3856
	3665		3857
	3666		3858
	3667		3859
	3668		3860
	3697		3861
	3698		3862
	3701		3863
	3702		3864
	3705		3875
	3706		3876
	3746		3877
	3793		3878
	3795		3881
	3804		3882
	3805		3883
	3806		3884
	3807		3885
	3808		3886
	3809		3887
	3810		3888
	3811		3890
	3812		3896
	3813		4066
	3837		4107
	3838		4108
	3839		4113
	3840		4114
	3841		4115
	3842		4116
	3843		4117
	3844		4118
	3845		4129
	3846		4134
	3847		4135
	3848		4136
	3849		4137
	3850		4138
	3851		4141
	3852		4142
	3853		4159
	3854		4187

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<u>Part Number</u>	<u>Serial Number</u>	<u>Part Number</u>	<u>Serial Number</u>
369D21613-11, 41, -51 (continued)	4188 4189 4190 4191 4192 4193 4194 4195 4196 4197 4198 4199 4200 4201 4202 4203 4204		4205 4206 4213 4214 4215 4216 4217 4218 4219 4220 4221 4222 4223 4224 4226 4288 4488

## B. PREFACE:

This Service Notice gives procedures for riveting tip cap assemblies to the affected tail rotor blades. Debonding of the tip cap from the blade could occur, causing loss of the tip cap during operation of the helicopter.

## C. TIME OF COMPLIANCE:

Shall be accomplished prior to further flight for all installed affected blades having more than 100 hours total time in service. Shall be accomplished within the next 25 hours of operation for all affected blades having less than 100 hours total time in service. Shall be accomplished prior to installation of any affected blade from spares.

## D. FAA APPROVAL:

The resultant alteration to affected models as described by the procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

## E. WEIGHT AND BALANCE:

Weight and balance not affected

## F. REFERENCE:

Basic Handbook of Maintenance Instructions (CSP-H-2), Reissued 15 September 1981.  
369D HMI Volume 1 (CSP-D-2), Reissued 15 January 1982; Revision 3, 15 August 1983.

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## G. MATERIALS:

MATERIALS		
Nomenclature	Spec	Source
Rivet, Blind	NAS1739B4-2	Commercial
Primer, Zinc Chromate	TT-P-1757	Commercial
Epoxy, Clear		Commercial

## H. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Drill Motor, Portable	Commercial
Drill, No. 27	Commercial
Countersink, 100° ±1°, with No. 30 pilot	Commercial
Rivet Tool, Pneumatic, G-784 or G689	Cherry Rivet Division 1224 E. Warner Ave. Santa Ana, CA 92707 Phone: (714) 545-5511
Pulling Head, H681-4C	Cherry Rivet Division
Hand Riveter, G-36	Cherry Rivet Division
Pulling Head, H615-46	Cherry Rivet Division

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## 2. PROCEDURE

- a. Remove blade from helicopter (Section 8, appropriate ref HMI).
- b. Visually inspect tip cap-to-blade bonding for failure. If any evidence of debonding is noted, replace blade (Section 8, appropriate ref HMI).



Handle blade carefully. Dents, nicks or scratches may cause balance problems at reinstallation, or make blade unserviceable.

- c. With blade on a clean hard surface, measure and mark locations for rivet holes as shown in Figure 1.
- d. Using No. 27 drill, carefully drill holes at locations marked on outboard and inboard surfaces of blade.
- e. Using  $100 \pm 1^\circ$  countersink with No. 30 pilot, countersink holes to 0.035 inch maximum depth.
- f. Apply zinc chromate primer to holes and install NAS1739B4-2 blind rivets while primer is wet.
- g. Coat installed rivets with clear epoxy.
- h. Reinstall blade on helicopter (Section 8, appropriate ref HMI).
- i. Check and adjust tail rotor blade balance (Section 8, appropriate ref HMI).
- j. Record compliance with this Notice in Compliance Record of helicopter Log Book.

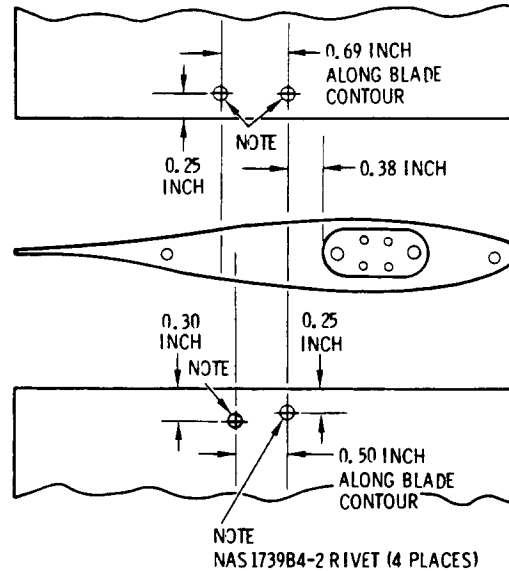
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NOTE:  
USE NO. 27 DRILL AND 100° COUNTERSINK  
WITH NO. 30 PILOT. COUNTERSINK TO  
MAXIMUM 0.035 INCH DEPTH. INSTALL  
NAS 1739B4-2 RIVET. SEAL RIVET WITH  
CLEAR EPOXY.

**Figure 1. Installation - Tip Cap-To-Tail Rotor Blade**

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\* Supersedes Service Information Notices HN-197.1, DN-150.1, EN-19.1 and FN-17 dated 15 April 1986.

## INSPECTION OF TAIL ROTOR BLADE LEADING EDGE ABRASION STRIP BONDING.

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

PART I and PART II - All MD Helicopters, Inc. 369 Series helicopters including the 369A (OH-6A) which have the following tail rotor blades installed 369D21606, 369D21613-11, -41, -51, 369D21615, 369A1613-7, 369A1613-503 and 421-088.

#### B. PREFACE:

PART I of this Notice describes procedures for a dye penetrant and tap test inspection of all tail rotor blades for evidence of abrasion strip to blade bond separation. This procedure may also be used to confirm suspected abrasion strip separation while performing PART II of this Notice.

PART II describes a visual pilot preflight check of the tail rotor blade leading edge abrasion strip for evidence of possible separation between epoxy bond and abrasion strip, particularly along the abrasion strip to blade bond line at the blade tip. It is to be noted that a closer check with a 10X magnifying shall be performed if any evidence of bond separation is suspected.

#### C. TIME OF COMPLIANCE:

PART I of this Notice shall be accomplished on all helicopters within the next 100 hours of helicopter operation or three months, whichever comes first. PART I shall be accomplished on all tail rotor blades and tail rotor assemblies in spares inventory prior to installation on any helicopter. PART II shall be accomplished at each preflight check (Pilot's walkaround check).

#### D. FAA APPROVAL:

The resultant alteration to the affected models described by the one-time inspection and preflight procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. REFERENCE:

369D HMI Vol. I (CSP-D-2) Revised 15 June 1985  
369F HMI Vol. I (CSP-P-2) Revised 15 April 1986  
369H HMI Basic (CSP-H-2) Revised 15 June 1985  
Applicable FAA Approved Pilot's Flight Manual

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## G. MATERIALS:

MATERIALS	
Nomenclature	Source
Masking Tape	Commercial
Abrasive paper, silicon carbide (220 grit)	Commercial
Dye Penetrant Kit (Visible dye, Solvent removable)	Commercial

## H. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Magnifying glass (5X and 10X)	Commercial
Drill bit, 1/8 inch	Commercial

## PART I - Dye Penetrant and Tap Test Inspection

A. Using a standard 1/8 inch drill bit and a pencil, fabricate a tapping hammer by taping drill bit to pencil as shown in Figure 1. Drill bit should be minimum of six inches from end of pencil that is to be held while tapping.

B. Using the fabricated tapping hammer, tap test the entire abrasion strip. Hold end of pencil opposite drill bit and tap with shank (rounded) end of drill bit. If void indications are noted, remove blade from service.

**NOTE:** Voids are indicated by a dull, dead tone. Slight tone changes will occur near the tip cap and along the length of the strip. These should not be mistaken for voids.

C. Mask area of blade around abrasion strip with masking tape.

**CAUTION** Do not use chemical paint remover to remove paint from abrasion strip. Chemicals can attack the abrasion strip to blade bonding agent.

D. Using 220 grit abrasive paper, sand dry, removing all paint from abrasion strip. Ensure abrasion to airfoil bondline is exposed. Clean paint dust from blade.

**NOTE:** Do not remove masking tape from blade until completion of dye penetrant inspection.

E. Visually check abrasion strip to blade bonding using a 10X magnifying glass. If bond failure is obvious, remove blade from service.

F. Dye penetrant inspect, according to manufacturer's instructions and this Notice, entire abrasion strip to blade bond line, including abrasion strip bond in blade tip cap area. Apply penetrant using a small brush or swab to prevent damage to blade paint, and to minimize clean-up. Allow penetrant to remain on surface of abrasion strip bondline for five minutes minimum. Use dry lint free cloth or paper towel to remove excess penetrant. Apply remover to cloth or lint free towel to remove remaining surface penetrant. Never spray or flush area of inspection with cleaner. Ensure thorough penetrant removal from surface before applying developer.

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G. Apply a light film of developer on the area of examination.

H. Using a 5X magnifying glass, examine bond line to determine if penetrant dye is indicating a bond separation (refer to NOTE which follows). If any bond separation is noted, remove blade from service.

**NOTE:** The epoxy adhesive used to bond abrasion strip to blade may have porosity voids. The penetrant will form a circular pattern around voids resulting from porosity. These circular patterns do not indicate bond failure. Bond failure is indicated by penetrant bleedout from under the abrasion strip, and will appear as a line along the edge of the strip. The 5X magnifying glass will aid distinguishing between porosity voids and bleedout from under the abrasion strip. It may be necessary to wipe off then reapply the developer to distinguish between porosity voids and bond separations. The most positive indication of bond failure will normally appear during the first one to seven minutes following developer application.

I. Remove masking tape from blade.

J. Inspect blade for cleanliness and paint damage. Clean and repair paint damage as necessary (Section 2, HMI Vol. I and Basic HMI).

**NOTE:** Do not repaint abrasion strip or abrasion strip to bond line.

K Check tail rotor balance (Section 8, HMI Vol. I and Basic HMI).

L. Record compliance with Part I of this Notice in Compliance Record section of the helicopter Log Book.

M. If blade is removed from service because of separation or voids, notify an Approved MDHC Service Center or Distributor for disposition. Those blades in which voids are found shall be sent to an Approved repair station for abrasion strip replacement.

## PART II - Pilot's Preflight Check Procedure

A. Visually check each tail rotor blade abrasion strip for any evidence of bond failure along the abrasion strip/airfoil bond line. (See Figure 1.)

**NOTE:** Step B is to be performed only if evidence separation along the abrasion strip/airfoil bond line is suspected.

B. Using a 10X magnifying glass, closely check along abrasion strip/airfoil bond line and at blade tip for any separation between epoxy adhesive and abrasion strip. Any separation between bonding adhesive and abrasion strip is cause for removal of blade from service. (See Figure 1.) If separation is suspected, but not confirmed, inspect per PART I of this Notice.

**NOTE:** The epoxy adhesive used to bond the abrasion strip to the blade may have porosity voids. Small porosity voids should not be mistaken for separation.

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HN-197.2\*  
DN-130.2\*  
EN-19.2\*  
FN-17.1\*

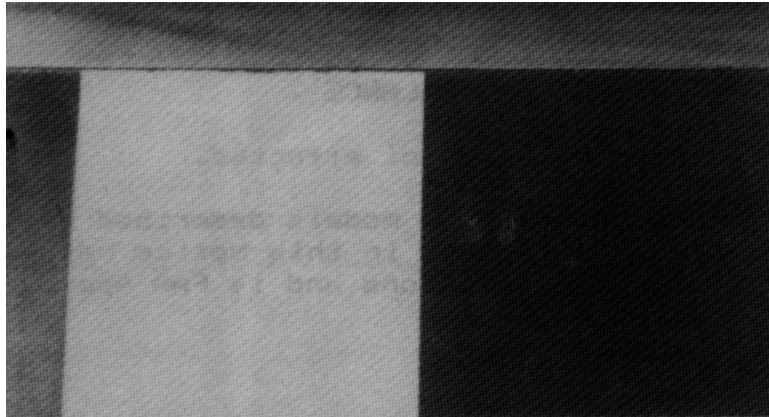


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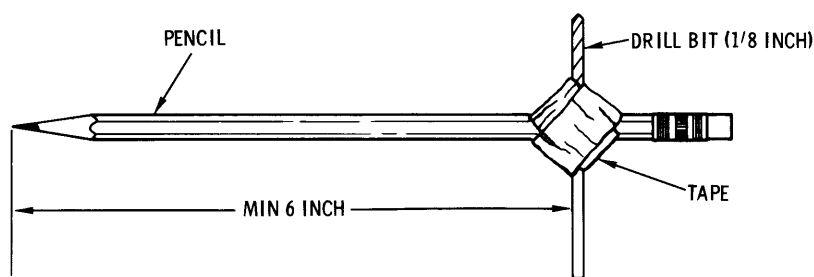
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SHOWN ABOVE: UNBONDING OF EPOXY ADHESIVE AND ABRASION STRIP WITH SEPARATION BETWEEN ABRASION STRIP AND AIRFOIL SURFACE, BLADE UNACCEPTABLE FOR SERVICE.

SHOWN RIGHT: UNBONDED AND DISPLACED ABRASION STRIP AT BLADE TIP; SEPARATION BETWEEN ABRASION STRIP/AIRFOIL SURFACE ALONG BOND LINE, BLADE UNACCEPTABLE FOR SERVICE.



TAPPING TOOL FOR FABICATION

88-570-2A

**Figure 1. Inspection of Tail Rotor Blade Abrasion Strip.**

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\* Supersedes Service Information Notices HN-198, DN-131, EN-20, FN-8 Dated 14 November 1984.

## CORROSION REMOVAL AND MAGNETIC RUBBER INSPECTION OF MAIN ROTOR DRIVE SHAFT I.D.

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All MD Helicopters, Inc. (MDHI) 369 Series helicopters, including the 369A (OH-6A) Series helicopters.

#### B. PREFACE:

The information in this Notice provides procedures for removal of corrosion on the inner surfaces of 369A5500 and 369D25510 series main rotor drive shafts and restoring the protective coating on the I.D. This Notice also provides procedures for performing a magnetic rubber inspection of the main rotor drive shaft I.D.

**NOTE:** DYNAMOLD magnetic rubber contains ferromagnetic particles (colored black for contrast) which accumulate at any surface cracks by magnetic attraction, thereby permitting the cracks to be discerned.

The information given is to be considered as part of the HMI and will be incorporated at the next scheduled revision to the below referenced manuals.

#### C. TIME OF COMPLIANCE:

This Service Information Notice shall be complied with whenever corrosion is found or cracks are suspected on inside diameter surfaces of main rotor drive shaft or if corrosion pits were previously found and an inspection for cracks was not accomplished at that time.

#### D. FAA APPROVAL:

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### E. WEIGHT AND BALANCE:

Weight and balance not affected

#### F. REFERENCE:

369D/E HMI VoI. I (CSP-D-2), Revised 15 June 1985  
369F/FF HMI VoI. I (CSP-F-2), Revised 15 April 1986  
369H Basic HMI (CSP-H-2), Revised 15 June 1985

#### G. PARTS LIST:

PARTS LIST			
Nomenclature	Part No.	Qty.	Source
Cork Plug	23420-515-24	1	MDHI

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HN-198.1\*  
DN-131.1\*  
EN-020.1\*  
FN-008.1\*



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## H. MATERIALS:

MATERIAL	
Nomenclature	Source
Sealing compound (MIL-S-7502)	Commercial
Epoxy primer Base (1-1G-69) Catalyst (1-1 H-75)	Advance Coating and Chemicals 4343 Temple Blvd Temple City, CA 91780
Epoxy enamel White #37875 MIL-C-22750	Advance Coating and
Surface cleaner (TT-C-490) P/N WO-1	Turco Products, Inc. Wilmington, CA.
1,1,1 Trichloroethane, technical inhibited 0-T-620	Commercial
Cement, polysulfide P/N's 247, 890 or PR1221B-2	Product Research Burbank, CA.
Wash, primer MIL-C-8514	Commercial
Adhesive tape	Commercial
Dynamold magnetic rubber, kit P/N MR-502K (1 quart) Note: shelf-life is 10 months after date received	See list below

### Domestic and International suppliers of Dynamold magnetic rubber:

Dynamold, Inc. 2905 Shamrock Ave. Fort Worth, TX 76107 817 -335 -0862 telex: 379-1940 DYNAM	Quality Concepts 7825 Hillmont Houston, TX 77040
Norwest Company 5729 Lakeview Dr. NE Seattle, WA 206-827-9562	Sofratest 39 Bis rue, du D Maurer 78630 Orgeval, France (3) 975-99.09

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	Citicorp Air Singapore
Hannah International Hongik Bldg. Kwanhoon Dong Chongro-Ku, Seoul, Korea 733-8234-5	Matcon Singel 386 1016 AJ Amsterdam, Holland 020-238278
Citicorp Air Tel Aviv, Israel 248801	Staveley NDT Technologies Inspection Instruments Division 712 Banbury Ave. Slough Berks SL14LH, England Slough 0753-76216
Citicorp Air Moreno 970 of 13 1091 Buenos Aires, Argentina 32-2809, 34-4097	NDT Italiana SAS viale Monza, 190 20128 Milano, Italy 2576089
Citicorp Air Aerospace Dept. Okura & Co. Okura Annex 3F 4-1 Ginza 3-Chrome chui-ku, Tokyo, Japan 03-535-3550	Aviation and Industrial Distributors 39 Church Street Onehunga, Auckland, New Zealand  Citicorp Air Melborne, Australia
Candet 18 Canso Road Rexdale, Ontario, Canada M9W 4L8 416-243-3456	Labratory Supply 2057 Princes Hwy. Clayton, Victoria, Australia 03-543-1155

## I. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Brush, wire or rotary	Commercial
Inspection unit, magnetic particle*	Commercial
Cord, 1/8 inch x 36 inch (qty.3)	Commercial
Mixing cup, graduated	Commercial

\*Capable of holding the 369D25510 and 369A5500 main rotor drive shaft securely in a level (horizontal) position during the inspection and curing period. The magnetic particle inspection unit must have a coil capacity of 2500 ampere turns (longitudinal field).

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## 2. PROCEDURE

- a. Remove main rotor drive shaft (Section 9, applicable HMI).



Care shall be taken not to damage inner bore of drive shaft when removing cork plug.

- b. Using suitable scribe or penknife, carefully remove cork plug from end of drive shaft. Lightly abrade inner surfaces of shaft using crocus cloth to remove any cork remnants.

- c. Degrease entire drive shaft inner diameter (ID), using 1,1,1 trichloroethane.

- d. Inspect interior of drive shaft for corrosion with suitable light or borescope.

**NOTE:** Corrosion will appear as flaking or raised surface areas of drive shaft ID.

- e. Using a fine wire rotary brush or wire brush, remove corrosion and contaminants from the drive shaft ID.



**Turco WO-1 will irritate the skin; always use rubber gloves when handling this material. Wash skin exposed to Turco WO-1 thoroughly with water.**

- f. Using swab and extension rod, swab ID of drive shaft with Turco WO-1, diluted one part to four parts water.

- g. Thoroughly rinse drive shaft ID with distilled water and dry with clean compressed air.

- h. Using suitable light or borescope, inspect shaft ID for additional corrosion and pitting.

- i. If required, locally hone drive shaft ID to remove corrosion using wire or rotary brush. Blend honed area with existing surrounding area.

- j. Verify drive shaft ID does not exceed 1.655 inches. If corrosion removal causes or would cause shaft ID to exceed 1.655 inches, replace shaft. If any cracks are noted, replace drive shaft.

- k. Perform Dynamold magnetic rubber inspection per the following steps:

**NOTE:** If corrosion is localized to one area of the shaft ID (120 degrees or less of ID circumference), only one replicant has to be made.

1. Set up magnetic particle inspection unit to hold driveshaft secure during the inspection and curing period. Set up coil shot (longitudinal field) at 2500 ampere turns DC.

2. Place cord through the ID bore and leave ends hanging out and plug ID of drive shaft by taping gear end closed with cord hanging out.

3. Per Dynamold manufacturer's instructions, thoroughly mix MR-502K with stirring stick mixing all sediment (magnetic particles) into the rubber liquid. Make sure all lumps are mixed into a smooth consistent streak free condition.

4. Pour 10.5 fluid ounces (300ML) into mixing container and add catalyst per manufacturer's instructions. Stir this mixture for approximately 30 seconds.

5. Quickly pour the entire 10.5 ounces (300ML) into the ID bore. Plug the hub end using tape, leaving the cord hanging outside. This amount of magnetic rubber will cover 120 degrees of circumference over the entire length of the drive shaft ID.

6. Immediately place the drive shaft in the magnetic particle inspection unit with the shaft positioned horizontally and secure.

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7. Begin magnetizing the drive shaft using the coil (longitudinal field) moving along the entire length of the drive shaft in approximately four (4) inch increments, between each pulse (1/2 second shot). This should take 35 to 40 seconds.

8. Remove drive shaft from magnetic particle inspection unit and place in a safe area after mixture has set up. Ensure drive shaft is not rotated and in same position as it was magnetized and continue curing process for approximately 30 minutes or longer if curing is not completed.



Dynamold rubber material, when cured, will feel soft and pliable to the touch and will tear easily if not handled carefully during removal.

9. When mold has cured, remove tape from both ends of drive shaft. The exposed ends will be indicators of the cure rate. Using the cord to lift each end, continue removing the mold.

l. If additional replicas are required, repeat steps K-1 through K-9.

## NOTE:

- Questionable replicant indications shall be carefully packaged and sent to MDHI for evaluation. If considerable corrosion is noted, the drive shaft can be sent to MDHI Warranty and Repair Department for inspection and interpretation.
- If any cracks are noted, scrap and replace shaft (see Figure 1.)
- See Figure 2 for location of acceptable machining indications.

m. Clean shaft ID.

n. Apply one coat of wash primer to drive shaft ID according to manufacturer's instructions.



Do not allow epoxy primer or epoxy enamel to contact drive shaft splines or mounting surfaces.

o. Fill shaft with epoxy primer mixed according to manufacturer's instructions to slosh-coat the shaft ID. Drain primer from shaft. Ensure that shaft ID is completely coated. Allow primer to dry one hour at room temperature.

p. Apply two coats of white epoxy enamel to drive shaft by filling and draining shaft. Allow enamel to dry 48 hours at room temperature or let dry 30 minutes at room temperature, then cure for three hours in oven at 250-275 degrees F.

q. Install cork plug to rotor end of drive shaft by applying a thin coat of adhesive to ID of shaft end in which cork is to be installed and all cork plug surfaces. Press cork into shaft until top of cork is flush with top of drive shaft. Allow adhesive to cure according to manufacturer's instructions. Apply a second coat of adhesive to all exposed surfaces of cork; allow to dry.

r. Reinstall drive shaft in helicopter per applicable HMI, Section 9.

s. Record compliance to this Service Information Notice in the compliance record section of the helicopter Log Book.

**MANDATORY**



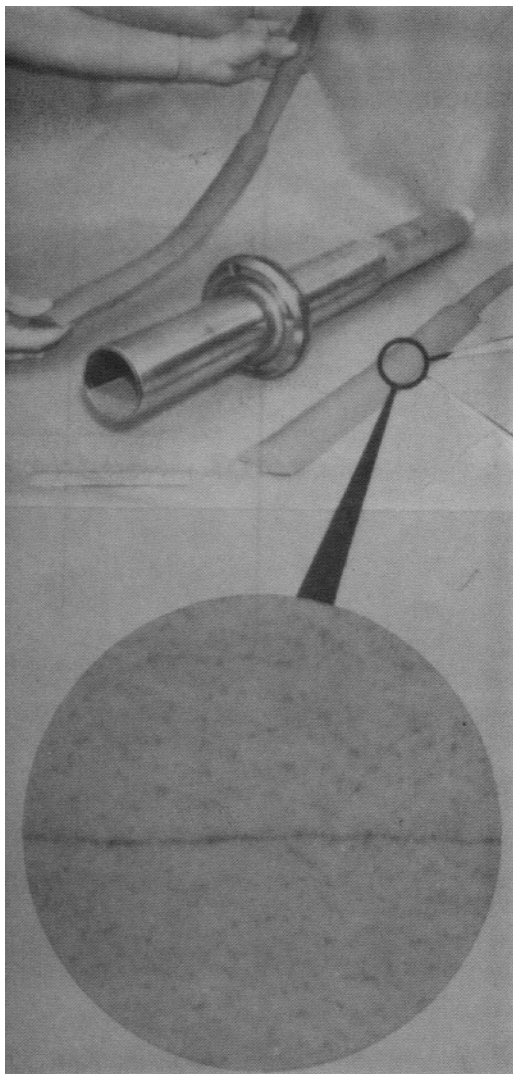
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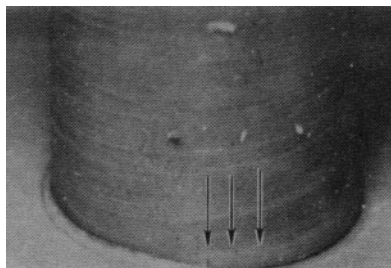
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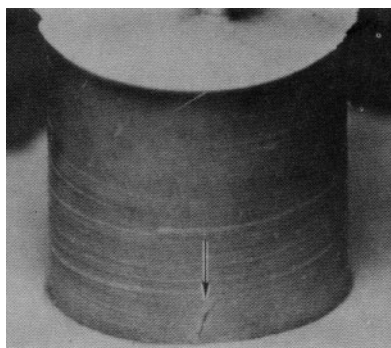
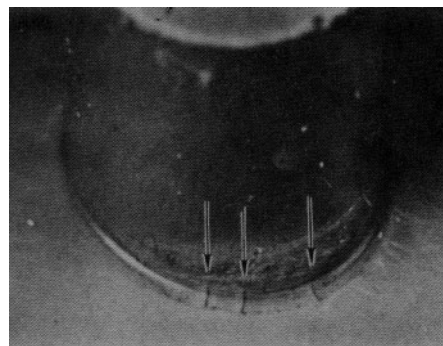


INDICATIONS OF CRACKING  
WHEN VIEWED WITH A  
10X MAGNIFYING GLASS  
(UNACCEPTABLE DRIVE SHAFT)



A. EDGE CRACKS IN THE .002"  
TO .015" SIZE RANGE

B. .020" TO .030" EDGE CRACKS



C. INTERNAL CRACK IN HOLE IS .050'  
IN LENGTH

SMALL CRACKS EASILY SEEN UNDER 10X MAGNIFICATION

AHN198-1

**Figure 1. Inspection of Main Rotor Drive Shaft Inside Diameter.**

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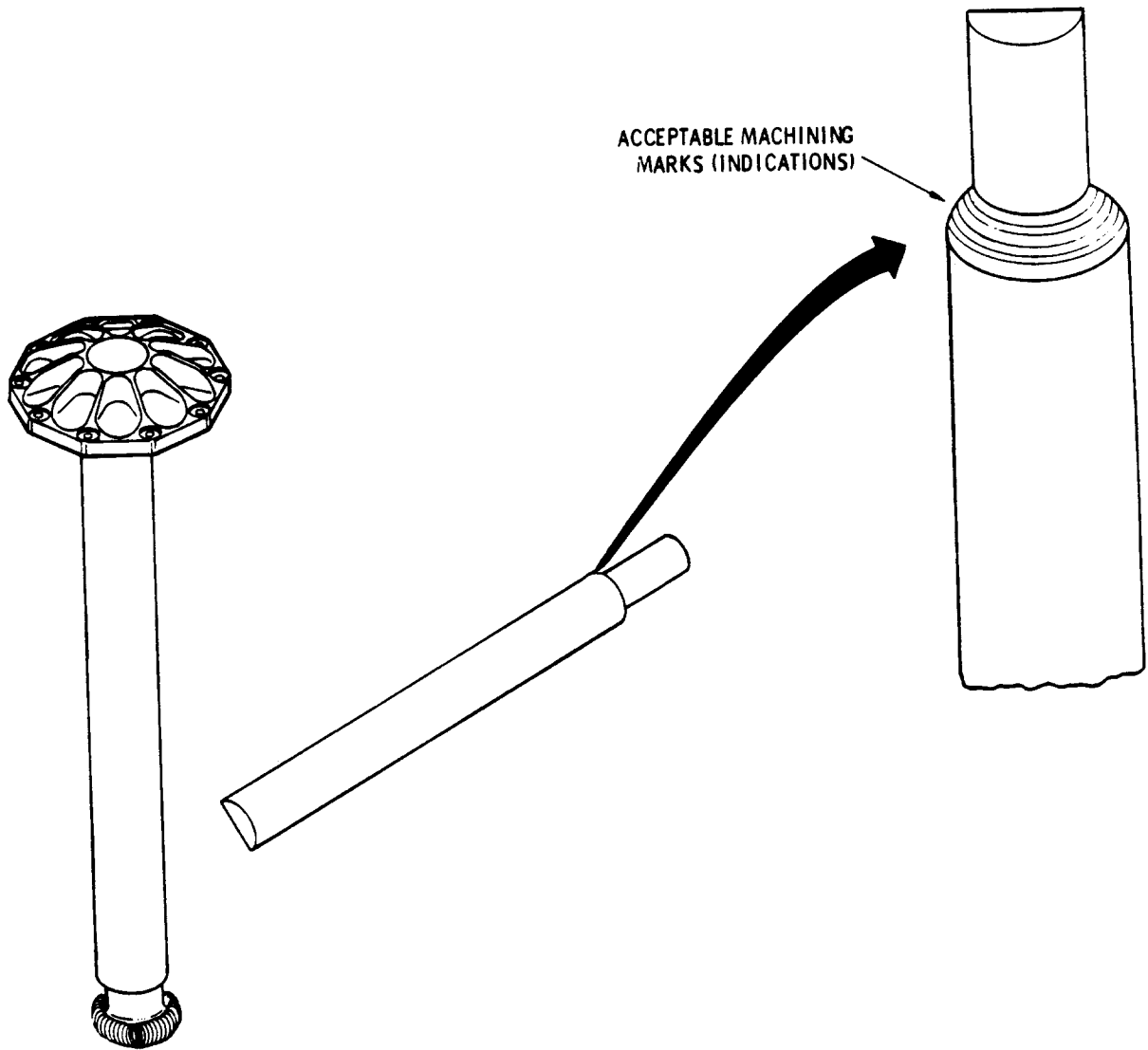
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AHN198-2

**Figure 2. Location of Acceptable Machining Indications**

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\* Supersedes Service Information Notices HN-199, DN-132, EN-21 and FN-9 dated 6 December 1984.

## RIVETING TIP-CAP TO TAIL ROTOR BLADE

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

Part I - All 369A (OH-6A), 369D, 369E, 369F, 369H, 369HE, 369HM, and 369HS Series Helicopters having any of the following part number tail rotor blades installed, with serial numbers not listed in MDHI Service Information Notices DN-129, EN-18 and HN-195, dated 27 August 1984, and all such blades in spares inventory.

#### AFFECTED BLADE PART NOS.

369A1613-3, -7, -501 and -503  
369D21613-BSC  
369D21613-11, -41 and -51  
369D21606  
369D21615  
421-088-BSC and -3

Part II - All 369A, 369D, 369E, 369F, 369H, 369HE, 369HM and 369HS Series Helicopters on which procedures in Part I of this Notice or MDHI Service Information Notices No. DN-129, EN-18 and HN-195 are performed, and all spare tail rotor blades on which the procedures are performed.

#### B. PREFACE:

Part I of this Notice gives procedures for riveting tip-cap assemblies to the affected tail rotor blades. Debonding of the tip-cap from the blade could occur, causing loss of the tip-cap during operation of the helicopter.

Part II gives procedures for removing FOD from the blade interior, should removal of the rivets holding the tip-cap be required.

All tail rotor blade assemblies manufactured by Hughes after 21 December 1984, will have the tip-cap riveted to the blade at the factory.

#### C. TIME OF COMPLIANCE:

Part I shall be accomplished within the next 100 hours of operation for all affected blades in service.

Shall be accomplished prior to installation of any affected blade from spares.

Part II shall be performed as required, while performing Part I of this Notice, or while performing procedures in Hughes Service Information notices No. DN-129, EN-18 and HN-195.

#### D. FAA APPROVAL:

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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EN-21.1\*  
FN-9.1\*



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## E. WEIGHT AND BALANCE:

Weight and balance not affected

## F. REFERENCE:

Basic Handbook of Maintenance Instructions (CSP-H-2), Reissued 15 September 1981.  
369D HMI Volume I (CSP-D-2), Reissued 15 January 1982; Revision 3, 15 August 1982.  
369F HMI Volume I (CSP-F-2), issued i March 1984.  
Hughes Service Information Notice No. DN-129, EN-18 and HN-195, Issued 20 November 1984.

## PART I - Riveting Tip-Cap To Blade

MATERIALS	
Nomenclature	Source
Rivet, Blind NAS1739B4-2	Commercial
Primer, Zinc Chromate TT-P-1757	Commercial
Epoxy, Clear	Commercial

TOOLS AND EQUIPMENT	
Nomenclature	Source
Drill motor, Portable	Commercial
Drill, No. 27	Commercial
Drill, No. 30	Commercial
Countersink, 100°±1°, with No. 30 Pilot	Commercial
Rivet Tool, Pneumatic G700, G784 or G689	Cherry Rivet Division 1224 Warner Ave. Santa Ana, CA 92707 Phone: (714) 545-5511
AND	
Pulling Head, H681-4C	Cherry Rivet Division
OR	
Hand Riveter, G-36	Cherry Rivet Division
AND	
Pulling Head, H615-4C	Cherry Rivet Division

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## PROCEDURE

- a. Remove blade from helicopter (Section 8, appropriate Ref. HMI).
- b. Visually inspect tip-cap to blade bonding for failure. If any evidence of debonding is noted, replace blade (Section 8, appropriate Ref. HMI).



Handle blade carefully. Dents, nicks or scratches may cause balance problems at reinstallation, or make blade unserviceable.

- c. With blade on a clean hard surface, measure and mark locations for rivet holes as shown in Figure 1.



Ensure that locations for rivet holes are correctly marked.

- d. Using No. 30 drill, carefully drill holes at locations marked on outboard and inboard surfaces of blade.
- e. Using  $100 \pm 1^\circ$  countersink with No. 30 pilot, countersink holes to 0.035 inch maximum depth; carefully open holes to 0.144 inch diameter using No. 27 drill.
- f. Apply zinc chromate primer to holes and install NAS1739B4-2 rivets while primer is wet.

**NOTE:** If it is necessary to remove installed rivet for any reason, perform Part II of this Notice to remove FOD from blade.

- g. Coat installed rivets with clear epoxy.
- h. Touch-up paint as necessary (Section 2, appropriate Ref. HMI).



Do not use paint strippers when performing paint touch-up. Bond joints can be damaged.

- i. Reinstall blade on helicopter (Section 2, appropriate Ref. HMI).
- j. Check and adjust tail rotor blade balance (Section 8, appropriate Ref. HMI ).
- k. Record compliance with Part I of this Notice in Compliance Record of Helicopter Log Book.

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## PART II- Removal of FOD from Blade Interior

MATERIAL		
Nomenclature		Source
Fiberglass Cloth, No. 120		Commercial
Resin, Epoxy	Spec. 3135A and B	Crest Products Corp. 2000-T S. Susan St. Santa Ana, CA 92704 Phone: (714) 540-9087
OR		
Any 2 part (1:1) Clear epoxy resin		
1,1,1-Trichloroethane	Spec. 0-T-620	Commercial
Emery Cloth		Commercial

TOOLS AND EQUIPMENT	
Nomenclature	Source
Drill Motor, Portable	Commercial
Drill, 1/4-inch	Commercial

## PROCEDURE

a. Drill 0.250 inch diameter hole through tip-cap as shown in Figure 1. Tip-cap is 0.070 inch thick at the point to be drilled.

b. Remove FOD from blade interior through hole.



Trichloroethane may damage blade paint finish.

c. Abrade surface surrounding hole using emery cloth; wipe clean using clean cloth dampened with trichloroethane.

d. Bond two plies of 120 fiberglass cloth over hole with 3135A and B epoxy resin, or equivalent. Allow epoxy to cure according to manufacturers instructions.



Do not allow resin to build-up in hole.

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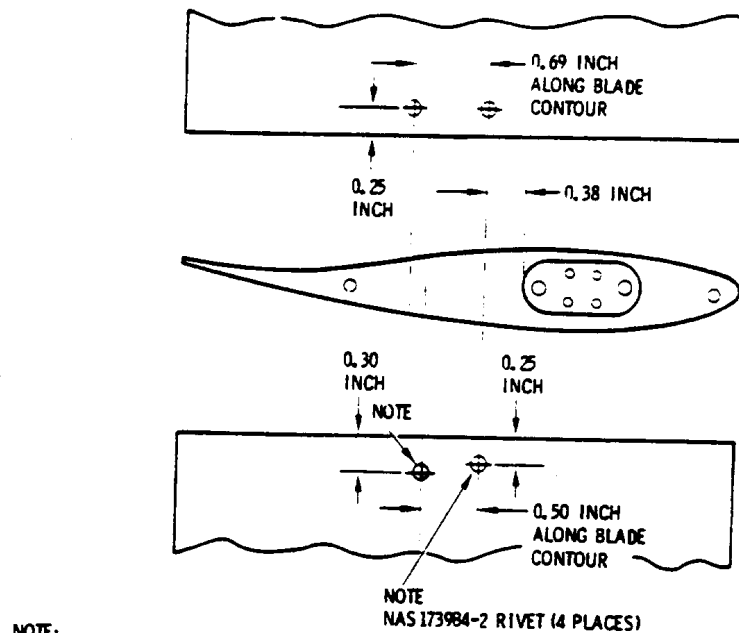
# SERVICE BULLETIN

HN-199.1\*  
DN-132.1\*  
EN-21.1\*  
FN-9.1\*

DATE: 01 MAY 1985

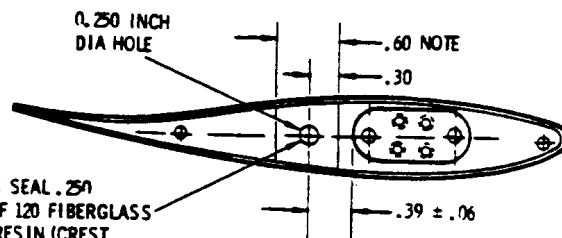
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NOTE:  
USE NO. 30 DRILL AND 1000 COUNTERSINK  
WITH NO. 30 PILOT. COUNTERSINK TO  
MAXIMUM 0.035 INCH DEPTH. REDRILL HOLE  
WITH NO. 27 DRILL. APPLY ZINC CHROMATE  
PRIMER TO HOLE. INSTALL NAS 173984-2  
RIVET WHILE PRIMER IS WET. SEAL RIVET  
WITH CLEAR EPOXY

## RIVET INSTALLATION



AFTER REMOVAL OF DEBRIS SEAL .250  
DIA. HOLE WITH 2 PLYS OF 120 FIBERGLASS  
CLOTH & 3135 A&B EPOXY RESIN (CREST  
PRODUCTS OR EQUIV) AS SHOWN.  
SURFACE PREPARATION: ABRASE SURFACE  
WITH EMERY CLOTH AND WIPE WITH  
1,1,1-TRICHLOROETHANE SOLVENT.  
DO NOT ALLOW RESIN TO BUILD UP IN  
.250 DIA HOLE.

## HOLE LOCATION

NOTE:  
FIBERGLASS THIS AREA.  
DO NOT PLACE FIBERGLASS CLOTH  
OVER OPENING FOR BALANCE WEIGHTS.

88-606

**Figure 1. Riveting Tip-Cap to Blade; FOD Removal from Blade Interior**

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# SERVICE BULLETIN

DATE: 18 MARCH 1985

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**TO:** All Licensees, Service Centers, Distributors, Owners and Operators of Hughes Helicopters

**SUBJECT:** Cancellation of Warranty

**MODELS AFFECTED:** 500D, 500E, 530F

The attached listing identifies serial numbers of aircraft and spare parts that are suspected of having reached an unauthorized destination. -

## **EFFECTIVE IMMEDIATELY:**

1. Hughes Helicopters warranty is VOID on aircraft and components listed in the attachment.
2. Components are not eligible for overhaul or repair.
3. Notify Hughes Helicopters Product Support, Tel: (213) 305-3656, if any of the listed components are received for overhaul, repair, inspection or service.

NOTE: Hughes standard warranty will be reinstated on any aircraft and components listed if utilized in an authorized location.



Edward Koch, Manager  
Product Support Technical  
Hughes Helicopters, Inc.

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# SERVICE BULLETIN

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## SERIAL NUMBER LIST

### Helicopter Serial Number

0010F	0044E	0063E	0087E	1119D
0003E	0045E	0064E	0088E	1126D
0017E	0046E	0065E	0089E	1132D
0023E	0047E	0066E	0090E	1133D
0024E	0048E	0067E	0091E	1134D
0026E	0049E	0068E	0092E	1139D
0027E	0050E	0069E	0093E	1140D
0030E	0051E	0070E	0096E	1141D
0031E	0053E	0071E	0097E	1178D
0032E	0054E	0072E	0098E	1179D
0034E	0055E	0073E	0099E	1180D
0035E	0056E	0074E	0100E	1195D
0036E	0057E	0075E	0101E	1196D
0038E	0058E	0076E	010BE	1197D
0040E	0059E	0077E	0116E	1199D
0041E	0060E	0078E	1046D	1202D
0042E	0061E	0079E	1080D	1203D
0043E	0062E	0080E	1085D	1204D

### Main Rotor Blade P/N 369D21100

#### (500D and 500E)

A001	A141	A250	A340	A394
A002	A144	A262	A342	A395
A007	A145	A266	A345	A399
A015	A147	A268	A347	A412
A020	A149	A271	A351	A425
A023	A150	A273	A355	A433
A030	A153	A276	A358	A452
A032	A158	A284	A359	A454
A045	A174	A287	A361	A482
A049	A176	A291	A364	A490
A050	A180	A295	A366	A506
A056	A182	A296	A367	A516
A059	A184	A303	A368	A520
A064	N188	A304	A370	A523
A068	A189	A306	A373	A525
A070	A191	A309	A374	A536
A082	A196	A310	A377	A543
A097	A199	A313	A382	A548

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**MANDATORY**

## SERIAL NUMBER LIST (CONT)

### Main Rotor Blade P/N 369D21100 (500D and 500E) (Cont)

A104	A201	A321	A386	A551
A107	A213	A322	A388	A556
A108	A215	A326	A389	A563
A132	A231	A327	A390	A566
A138	A238	A333	A391	A567
A140	A240	A336	A393	A571
A572	A695	A780	A885	A970
A574	A697	A781	A886	A973
A577	A698	A782	A891	A977
A578	A700	A784	A893	A979
A580	A701	A786	A898	A984
A581	A703	A787	A900	A985
A588	A704	A791	A902	A987
A590	A706	A793	A903	A988
A591	A707	A795	A905	A995
A604	A708	A797	A906	A997
A605	A712	A798	A907	A998
A606	A714	AS00	A908	5544
A607	A715	AS01	A909	7139
A608	A716	A803	A910	7220
A609	A719	A808	A911	7331
A611	A720	A811	A912	7476
A613	A723	A818	A913	7530
A617	A724	A820	A914	7533
A619	A725	A821	A919	7563
A622	A727	A823	A922	7568
A627	A729	A826	A927	7625
A628	A730	A827	A931	7634
A632	A731	A828	A932	7718
A633	A733	A829	A933	7720
A635	A735	A830	A937	7722
A638	A737	A835	A938	7767
A642	A738	A837	A940	7874
A645	A739	A839	A942	7884
A647	A740	A840	A943	7885
A649	A741	A842	A944	7919
A656	A744	A844	A945	7925
A661	A746	A845	A946	7929

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## SERIAL NUMBER LIST (CONT)

### Main Rotor Blade P/N 369D21100 (500D and 500E) (Cont)

A662	A750	A853	A948	7930
A666	A754	A854	A951	7932
A673	A755	A857	A952	7948
A676	A756	A860	A953	7959
A677	A757	A861	A958	7990
A678	A758	A870	A960	7992
A681	A760	A872	A962	8002
A689	A761	A873	A963	8004
A690	A764	A874	A964	8007
A691	A765	A878	A965	8018
A693	A769	A882	A967	8031
A694	A778	A884	A969	8037
8038	8247	8482	B104	B228
8039	8259	8488	B121	B230
8045	8260	8500	B125	B232
8046	8268	8599	B127	B234
8075	8273	8610	B131	B235
8077	8274	8629	B133	B238
8078	8280	8711	B137	B240
8083	8286	8757	B140	B241
8091	8287	8772	B141	B243
8099	8288	B005	B144	B244
8102	8292	B006	B145	B245
8119	8293	B009	B152	B249
8133	8297	B011	B153	B254
8142	8299	B014	B159	B255
8148	8302	B015	B168	B256
8150	8305	B017	B169	B258
8153	8307	B018	B171	B259
8170	8312	B020	B172	B260
8171	8333	B022	B176	B261
8178	8334	B024	B180	B263
8179	8339	B025	B182	B269
8182	8348	B027	B183	B270
8185	8352	B030	B184	B273
8189	8361	B036	B185	B277
8195	8363	B037	B188	B282
8201	8373	B042	B193	B286
8202	8394	B055	B200	B288

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## SERIAL NUMBER LIST (CONT)

### Main Rotor Blade P/N 369D21100

#### (500D and 500E) (Cont)

8216	8395	B061	B204	B289
8217	8398	B064	B206	B293
8221	8402	B066	B208	B297
8227	8405	B072	B211	B298
8233	8410	B073	B216	B301
8234	8416	B086	B217	B310
8239	8417	B087	B218	B314
8243	8437	B088	B225	B317
8245	8453	B089	B227	B407

### Main Rotor Blade P/N 369D21102

#### (530F Only)

0036  
0053  
0057  
0058  
0059

### Main Rotor Hub Assembly P/N 369D21200

1210	1433	1570	1614	1650
1224	1435	1571	1616	1651
1234	1436	1572	1618	1652
1235	1439	1578	1620	1653
1262	1494	1579	1621	1655
1317	1496	1586	1622	1656
1322	1521	1588	1623	1657
1328	1535	1590	1626	1658
1329	1538	1600	1627	1666
1330	1539	1602	1628	1667
1365	1541	1603	1634	1668
1371	1543	1604	1635	1669
1389	1545	1605	1636	1674
1390	1546	1609	1637	1676
1391	1547	1610	1641	1678
1426	1567	1611	1642	1684
1428	1568	1612	1643	1761
1429	1569	1613	1649	1780
1430				

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DATE: 18 MARCH 1985  
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## SERIAL NUMBER LIST (CONT)

### Main Rotor Hub Subassembly P/N 369D21201

1073	1510	1721	1767	1809
1148	1534	1724	1770	1811
1153	1547	1726	1~77	1813
1340	1557	1727	1778	1815
1378	1559	1744	1779	1904
1389	1560	1750	1781	1905
1391	1563	1752	1782	1907
1420	1615	1754	1783	1909
1421	1619	1755	1786	1910
1428	1672	1756	1788	1937
1438	1674	1757	1790	1938
1441	1696	1759	1792	1939
1442	1697	1760	1793	1940
1443	1698	1762	1794	1941
1454	1699	1763	1797	1942
1456	1706	1764	1803	1943
1463	1707	1765	1804	1945
1507	1710	1766	1808	2016

### Main Rotor Transmission P/N 369D25100

0871	1340	1498	1895	1925
0898	1348	1500	1896	1930
0916	1356	1502	1897	1931
0920	1371	1503	1899	1932
0922	1372	1509	1900	1936
0932	1379	1510	1901	1939
0934	1391	1524	1902	1940
0973	1393	1546	1903	1941
0993	1395	1549	1905	1942
1067	1404	1552	1906	1947
1088	1415	1557	1907	1949
1103	1417	1558	1908	1953
1119	1419	1560	1909	1954
1316	1421	1562	1910	1962
1320	1422	1564	1911	1965
1321	1429	1890	1912	1969
1324	1464	1892	1922	1977
1328	1476	1893	1924	2201
1337	1480	1894		

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## SERIAL NUMBER LIST (CONT)

### Engine Assembly

CAE833565	CAE834529	CAE835153	CAE835243	CAE835433
CAE833629	CAE834842	CAE835154	CAE835244	CAE835435
CAE833630	CAE834844	CAE835159	CAE835245	CAE835436
CAE833979	CAE834846	CAE835160	CAE835246	CAE835443
CAE834013	CAE834852	CAE835161	CAE835248	CAE835444
CAE834028	CAE834946	CAE835167	CAE835402	CAE835445
CAE834197	CAE834964	CAE835169	CAE835403	CAE835447
CAE834286	CAE834967	CAE835172	CAE835406	CAE835448
CAE834294	CAE835037	CAE835173	CAE835410	CAE835449
CAE834296	CAE835107	CAE835191	CAE835411	CAE835459
CAE834297	CAE835110	CAE835192	CAE835412	CAE835460
CAE834301	CAE835114	CAE835193	CAE835420	CAE835463
CAE834371	CAE835127	CAE835194	CAE835421	CAE835482
CAE834507	CAE835128	CAE835200	CAE835425	CAE835484
CAE834509	CAE835129	CAE835211	CAE835426	CAE835486
CAE834510	CAE835130	CAE835240	CAE835430	CAE835523
CAE834518	CAE835142	CAE835241	CAE835431	CAE836446
CAE834527	CAE835145	CAE835242	CAE835432	CAE890668

### Tail Rotor Transmission P/N 369D25300

0063	1430	1566	1921	1944
0889	1473	1567	1922	1945
1055	1478	1569	1923	1946
1183	1481	1570	1924	1947
1200	1488	1571	1925	1949
1287	1517	1889	1926	1951
1293	1518	1893	1928	1956
1300	1527	1897	1931	1957
1345	1528	1899	1934	1959
1353	1530	1904	1935	1963
1367	1534	1908	1936	1964
1385	1541	1910	1937	1966
1402	1544	1912	1938	1971
1406	1545	1913	1939	1972
1409	1546	1916	1940	1973
1410	1547	1917	1941	1977
1425	1550	1918	1942	1982
1426	1559	1919	1943	1989

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HN-200  
DN-134  
EN-23  
FN-11

# SERVICE BULLETIN

DATE: 18 MARCH 1985

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**TO:** All Owners and Operators of MDHI Helicopters

**SUBJECT:** Non-Airworthy Clutch Assemblies

**MODELS AFFECTED:** All 500HS, 500HE, 500HM, 500D, 500E, 530F Model Hughes Helicopters.

MDHI Manufacturing and Inspection Departments have determined that two (2) clutch assemblies P/N 369A5350-21 Clutch Assemblies, serial numbers 6674 and 6678 may have been illegally introduced into service. As a consequence of this possibility, it is requested that owners and operators of Hughes Model 500 Helicopters examine any of the subject assemblies received since 11 December 1984 to look for serial numbers 6674 and 6678. These assemblies must be considered as not airworthy and should be immediately returned to MDHI.

Edward Koch, Manager  
Product Support Technical  
Hughes Helicopters, Inc.

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# SERVICE BULLETIN

DATE: 7 AUGUST 1985

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**SUBJECT:** EXIT WARNING DECAL P/N 369D24043

**MODELS AFFECTED:** All Model 369H, 369HE, 369HM, 369HS, 369A (0H-6) and 369D (Serial No. 0604D and prior).

**TIME OF COMPLIANCE:** This Service Information Notice shall be complied with at or prior to the next 300 hour or annual inspection after receipt of decals.

**PREFACE:** Pilots and operators of MDHI helicopters are reminded of the importance of properly briefing passengers on how to avoid undue hazards while they're around helicopters. It is recommended that the precautions given by the FAA in Advisory Circular AC-91-32, SAFETY IN AND AROUND HELICOPTERS {attached}, should be read and conveyed to all flight and nonflight personnel and passengers as applicable.

In keeping with this awareness of passenger safety, Hughes Helicopters has produced a warning placard to be applied on the inside of each front door and on the interior panel visible to passengers in the back seat. These warnings will act as a reminder of the pilot's briefing about movement around the helicopter. These placards will be made available at a special price of \$5.00 for four (4) decals until 8 November 1985.

## PARTS LIST

Decal, Exit Warning	369D24043	4 required	Manufacturer, Hughes
---------------------	-----------	------------	----------------------

## PROCEDURE

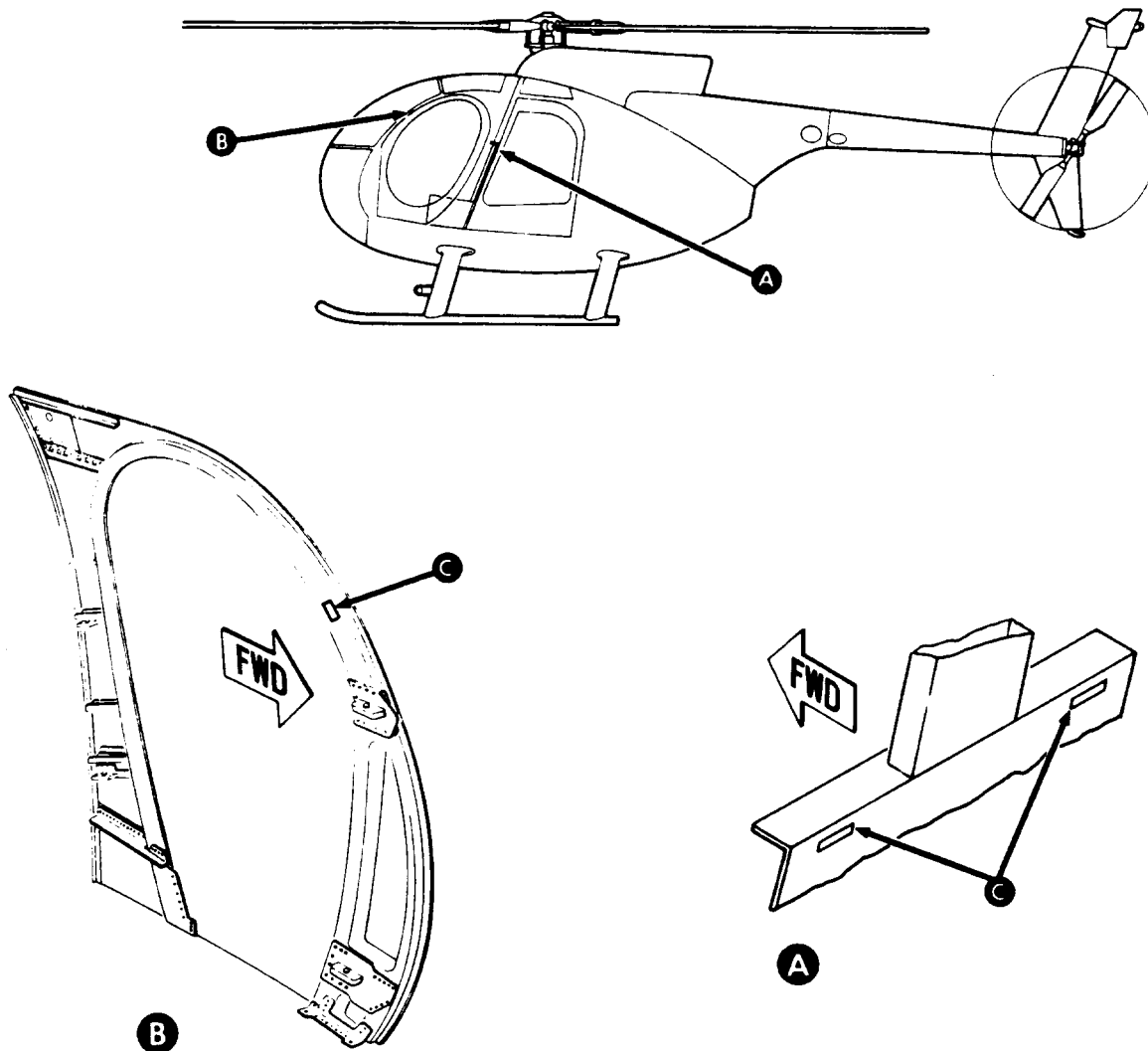
Per manufacturer's instructions, apply exit warning decals at four (4) locations shown on Figure 1.

DATE: 7 AUGUST 1985

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# SERVICE BULLETIN

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**DANGER**  
WHEN EXITING, WALK AWAY FROM THE  
HELICOPTER, KEEP HANDS AND HEAD LOW.  
DO NOT WALK TO THE REAR.

ADN135-1

Figure 1. Exit Warning Decal Locations

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AC NO: 91-32

DATE: 7 May 71

# ADVISORY CIRCULAR

## DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

**SUBJECT:** SAFETY IN AND AROUND HELICOPTERS

1. PURPOSE. This advisory circular provides suggestions to improve helicopter safety by means of acquainting non-flight crew personnel and passengers with the precautions and procedures necessary to avoid undue hazards.
2. GENERAL. People have been injured, some fatally in helicopter accidents which would not have occurred had they been informed of the proper method of boarding or deplaning. A properly briefed passenger should never be endangered by a spinning tail rotor, yet some have lost their lives because they were not told the proper way to approach or depart the aircraft. The simplest method of avoiding accidents of this sort is to have the rotors stopped before passengers are boarded or allowed to depart. Because this action is not always practicable, and to realize the vast and unique capabilities of the helicopter, it is often necessary to take on passengers or to deplane them while the engine and rotors are at, or close to, operational settings. Therefore, if accidents are to be avoided, it is essential that all persons associated with helicopter operations including passengers, be made aware of all possible hazards, and instructed as to how they can be avoided.
3. NON-FLIGHT CREW PERSONNEL. Persons directly involved with enplaning or deplaning passengers, aircraft servicing, rigging or hooking up of external loads, etc., should be instructed as to their duties. It would be difficult if not impossible to cover each and every type of operation or non-flight crew training matter related to helicopters. A few of the more obvious and common are covered below:
  - a. Ramp attendants and aircraft servicing personnel. These personnel should be instructed as to their specific duties, and the proper method of fulfilling them. In addition, the ramp attendant should be taught to:
    - (1) Keep passengers and unauthorized persons out of the helicopter landing and takeoff area.

---

Initiated by: FS-442

- (2) Brief passengers on the best way to approach and board a helicopter with its rotors turning. (see 4a)
- b. External load riggers. Rigger training is possibly one of the most difficult and continually changing problems of the helicopter external load operator. A poorly rigged cargo net, light standard, or load pallet could result in a serious and costly accident. It is imperative that all riggers be thoroughly trained to meet the needs of each individual external load operation. Since rigging requirements may vary several times in a single day, proper training is of the utmost importance to safe operations.
- c. External load hook-up men.
  - (1) Know the lifting capability of the helicopters involved. Since some operators have models of helicopters that have almost identical physical characteristics but with different lifting capabilities, this knowledge is essential. For example, a hook-up man may be working with a turbo-supercharged helicopter on a high altitude project and without any warning a non-supercharged helicopter, which looks exactly the same to the ground crew, comes to a hover to pick up a load. It does not take a vivid imagination to see what could happen if the hook-up man connects a load far too heavy for the non-supercharged helicopter to lift.
  - (2) Know the pilots. The safest plan would be to standardize all pilots insofar as the manner in which sling loads are picked up and released. Without pilot standardization, the hook-up man should learn the technique used by each pilot. Does he come in fast or slow, high or low? Does he try to lift the load off with a combination of collective and cyclic? The hook-up man should specifically demand standardization on the pilot technique for any sort of emergency occurring while he is beneath the helicopter.
  - (3) Know the cargo. Many items carried via sling are very fragile, others can take a beating. The hook-up man should always know when a hazardous article is involved, and the nature of the hazard; such as explosives, radio active materials, toxic chemicals. In addition to knowing this, he should be familiar with the types of protective gear or clothing or actions that are necessary for his and the operations safety.
4. PASSENGERS. The term passenger used throughout this circular refers to all non-flight crew personnel that ride in helicopters, and is not limited to the fare-paying customer. All persons that board a helicopter while its rotors are spinning should be instructed as to the safest means of doing so. Naturally, if the pilot is at the controls, he could not possibly conduct a boarding briefing. Therefore, the individual who

arranged for the passenger flight or assigned as the ramp attendant should accomplish this task. The exact procedures may vary slightly from one helicopter model to another, but in general the following should suffice:

a. Boarding.

- (1) Stay away from the rear of the helicopter.
- (2) Crouch low before getting under the main rotor.
- (3) Approach from the side or front, but never out of the pilot's line of vision.
- (4) Hold firmly to hats and loose articles.
- (5) Never reach up or dart after a hat or other object that might be blown off or away.
- (6) Protect eyes by shielding with a hand or by squinting.
- (7) If suddenly blinded by dust or a blowing object STOP - CROUCH LOWER OR BETTER YET SIT DOWN AND AWAIT HELP.
- (8) NEVER GROPE OR FEEL YOUR WAY TOWARD OR AWAY FROM THE HELICOPTER.

b. Pre-takeoff briefing. Since few helicopters carry cabin attendants, this briefing must be made by the pilot. The type of operation will dictate what sort of briefing is necessary. Passengers should always be briefed on:

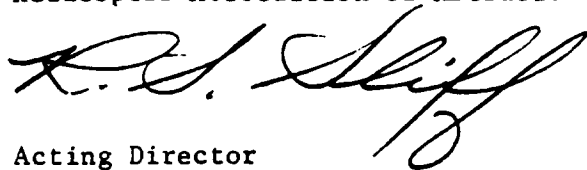
- (1) Overwater flights. The location and use of flotation gear and other survival equipment that might be on board. How and when to abandon ship should a ditching be necessary.
- (2) Flights over rough or isolated terrain. All occupants should be told where maps and survival gear are located.
- (3) Emergency instructions. In the event of an emergency each passenger should be instructed as to what actions and precautions to take. Such as the body position for best spinal protection against a high vertical impact landing (erect with back firmly against the seat back). When and how to exit after landing.

c. Pre-landing briefing. The nature of the landing area will determine what the passengers need to be told. A few items to consider are;

- (1) If on a hill, depart downhill. If this involves walking around the helicopter to avoid the area of lowest rotor clearance, always go around the front, NEVER THE REAR.
- (2) Repetition of the basic instructions shown in 4a.

7 May 71

5. SAFETY AROUND HELICOPTERS. The material appearing in Appendix 1 was taken from the June 1970 issue of ROTORNEWS, a publication of the Helicopter Association of America.

A handwritten signature in cursive script, appearing to read "R. S. Skiff". The signature is written in dark ink and is positioned above the typed name and title.

Acting Director  
Flight Standards Service

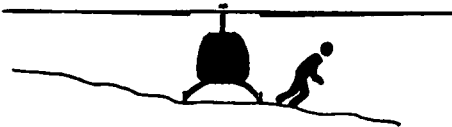
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AC 91-32  
Appendix 1  
Page 1

## SAFETY AROUND HELICOPTERS



1. Approach or leave machine in a crouching manner (for extra clearance from main rotor).



2. Approach or leave on the down slope side (to avoid main rotor).



3. Approach or leave in pilot's field of vision (to avoid tail rotor).



4. Carry tools horizontally, below waist level (never upright or over shoulder).



5. Hold onto hard hat when approaching or leaving machine, unless chin straps are used.



6. Fasten seat belt on entering helicopter and leave it buckled until pilot signals you to get out.



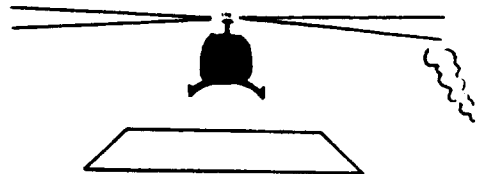
7. If leaving machine at the hover, get out and off in one smooth, unhurried motion.



8. Do not touch bubble or any of the moving parts (tail rotor linkage, etc.).



9. Keep helispot clear of loose articles — water bags, groundsheets, empty cans, etc.



10. Keep cooking fires well clear of helispot.



11. Loading assistants should always be supplied with plastic eye shields.



12. After hooking up cargo sling, move forward and to side to signal pilot (to avoid entanglement and getting struck, with loaded sling).



13. When directing machine for landing, stand with back to wind with arms outstretched toward landing pad.



14. When directing pilot by radio, give no landing instructions that require acknowledgement as pilot will have both hands busy.



15. When moving larger crews:

- Brief them on safety as above.
- Keep them together and well back at side of landing zone (this gives the pilot a chance in the event he has to land suddenly either during landing or take-off).
- Have them face away from machine during landing and take-off.
- Have each man look after his own personal gear.
- Have men paired off and ready to get aboard, as soon as pilot gives the signal.





# SERVICE BULLETIN

DATE: 7 AUGUST 1985

PAGE 1 OF 5

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**SUBJECT:** Replacement of Main Rotor Cooling Installation Bracket from 369D25701-3 to 369D25701-11.

**MODELS AFFECTED:** 530F Model 369F Serial No. 0001F through 0014F.  
Model 369E Serial No. 0001E through 0024E, 0026E through 0109E, 0112E through 0114E, 0116E, 0124E, 0125E, 0130E through 0134E.  
Model 369D Serial No. 0003D through 1308E.

**TIME OF COMPLIANCE:** This Service Notice shall be complied with during the next 300 hours of operation or at the next annual inspection.

**PREFACE:** This Service Information Notice containing all required information for owners/operators of Hughes Helicopters to fabricate and install the 369D25701-11 Cooling Installation Bracket which replaces the 369D25701-3 bracket.

## REFERENCE PUBLICATIONS:

369D HMI Volume I (CSP-D-2) Rev. 4, 15 January 1985.  
369D PFM (CSP-D-1) Rev. 20 January 1984.  
369E HMI Volume I (CSP-E-2), Issued 30 November 1983.  
369E Pilot's Flight Manual (CSP-E-1), Issued 23 November 1982.  
369F HMI Volume I (CSP-F-2), Issued 01 March 1984.  
369F Pilot's Flight Manual (CSP-F-1), Issued 29 July 1983.

## PARTS LIST

<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Source</u>
Bracket	369D25701-11	1	Hughes
Rivet	MS20426AD 4 or	4	Commercial
Rivet, Cherry-Max	*CR3213-4-2	4	Commercial

\*Option/Equivalent

# SERVICE BULLETIN

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## TOOLS AND EQUIPMENT

### Nomenclature

Drill Motor, Portable  
Drill, No. 30

### Source

Commercial  
Commercial

## MATERIALS

Lubricant (12 U.S. Pts)                      MIL-L-7808                      Commercial

Primer, zinc chromate                      TT-P-1757                      Commercial

\*Steel, 301 sheet condition A  
Size - 0.040 thick x 2.50 x 3.75                      MIL-S-5059                      Commercial

\*Only required when field fabricating the -11 bracket.

## PROCEDURE

- A. Remove sound insulation and transmission access cover (Section 2, HMI - Vol 1).
- B. Drain main transmission lubrication system (Section 2, HMI - Vol 1).
- C. Disconnect 369D25705-11 hose from AN833-8D elbow connected to 369D25709 tube assembly.
- D. Disconnect 369D25705-2l hose from AN833-8D elbow connected to 369D25710 tube assembly.
- E. Disconnect 369D25709-11 tube assembly from the 369D25701-3 bracket.
- F. Disconnect 369D25710-11 tube assembly from the 369D25701-3 bracket and loosen HS4181A8N clamp attaching tube assembly to 369D25701-5 bracket.
- G. Remove AN924-8D nuts from 369D25701-3 bracket.
- H. Drill out rivets attaching the 369D25701-3 bracket to structure and remove bracket. Apply zinc chromate to holes.
- I. Fabricate 369D25701-11 bracket per figure 1. (Optional)
- J. Install 369025701-11 bracket on 369H3011-17 bracket as shown in Figure 2, view A.

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# SERVICE BULLETIN

DATE: 7 AUGUST 1985

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## PROCEDURE (CONT)

- K. Install AN833-8D elbow in upper and lower holes of 369D25701-11 bracket, with outboard end of elbow down. Attach each elbow to bracket with two AN 960-D1216 washers and one AN924-8D nut.
- L. Connect 369D25705-21 hose assembly to upper AN833-8D elbow outboard (downward) leg.
- M. Connect 369D25705-11 hose assembly to lower AN833-8D elbow outboard (downward) Leg.
- N. Attach 369D25709-11 tube assembly, as follows:
  - 1. Position tube assembly so that upper end mates with inboard end of lower elbow in 369D25701-11 bracket.
  - 2. Fit upper end of tube over lower elbow; secure to elbow with nut on tube assembly.
- O. Attach 369D25710-11 tube assembly, as follows:
  - 1. Position tube assembly so upper end mates with upper elbow through 369D25701-11 bracket.
  - 2. Connect tube ends to elbow and union and secure with nuts on tube ends.
  - 3. Tighten clamp attaching tube assembly to 369D25701-5 bracket.
- P. Fill transmission with approved lubricant (Section 2, HMI - Vol 1).
- Q. Start and operate helicopter until lubricant is circulated through the system. Check installation for leaks and security.
- R. Reinstall sound insulation and transmission access cover (Section 2, HMI - Vol 1).
- S. Check main transmission oil level at sight gage (Section 2, HMI - Vol 1). Add oil, if required.
- T. Record compliance with this notice in Compliance Record of helicopter log book.

**WEIGHT AND BALANCE:** Weight and balance not affected.

The resultant alteration to the affected helicopters described in this Service Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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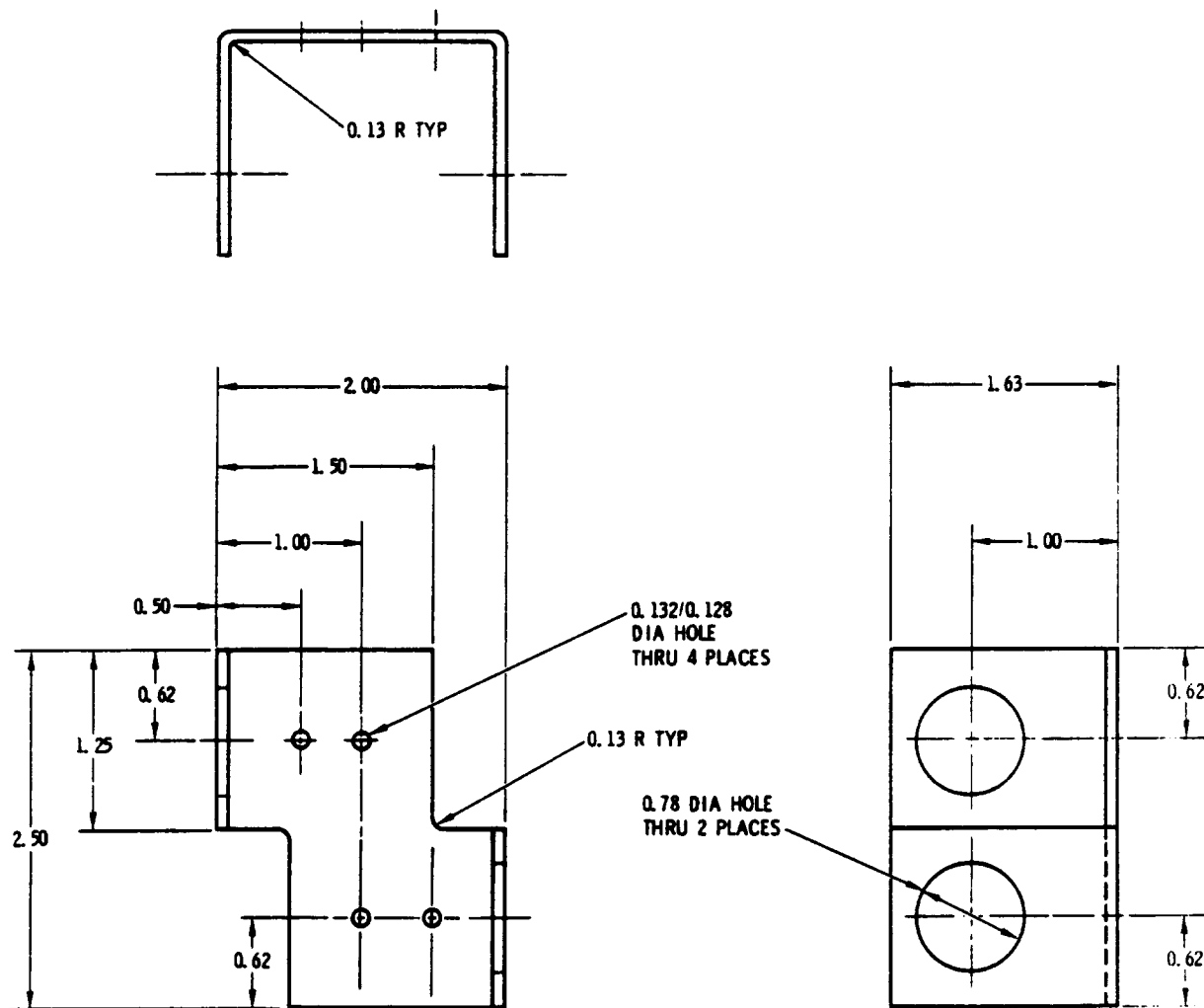
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DATE: 7 AUGUST 1985

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# SERVICE BULLETIN

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-11 BRACKET

88-613

(TO BE MADE OUT OF 301 SHEET STEEL CONDITION A PER MIL-S-5059)

Figure 1. 369D25701-11 Fabrication Diagram

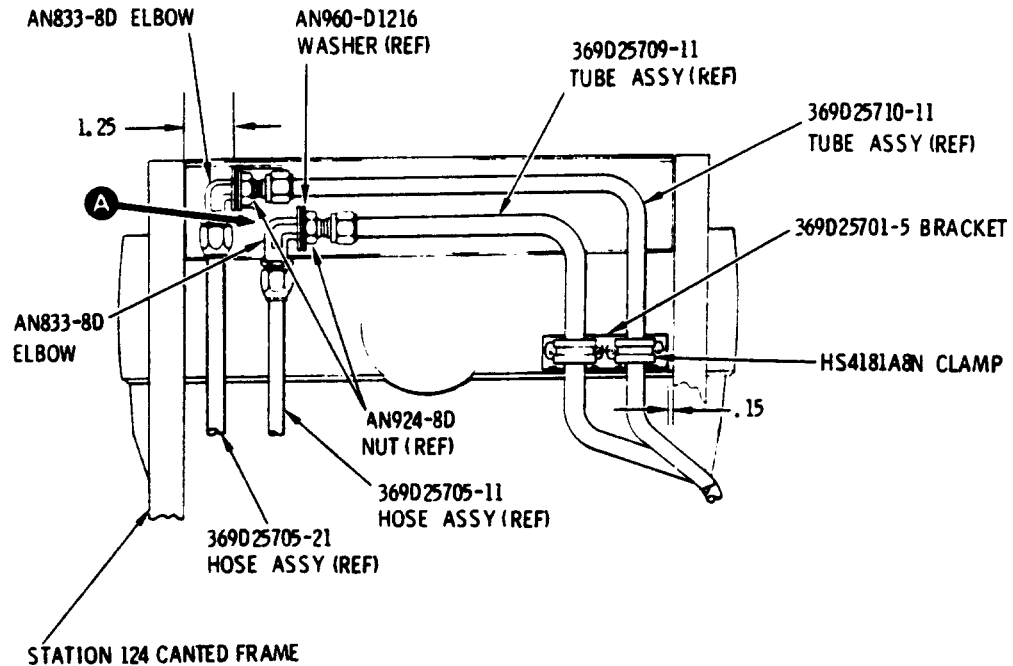
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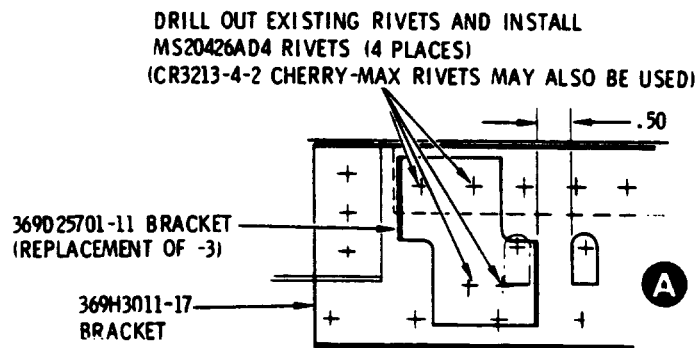
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VIEW LOOKING AFT



88-612

Figure 2. 369D25701-11 Bracket Installation Drawing

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# SERVICE BULLETIN

DATE: 20 DECEMBER 1985

PAGE 1 OF 2

/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///

**SUBJECT:** TAIL ROTOR BELLCRANK INSPECTION - P/N 369D27514 & 369D27515

**MODELS AFFECTED:** All Model 369D, 369E, 369F and 369FF helicopters with bellcrank 369D27514 (two-bladed) or 369D27515 (four-bladed) parts installed and all spares in stock.

**TIME OF COMPLIANCE:** All owners and operators shall comply with this Service Information Notice within the next 100 hours of operation or three months, whichever occurs first.

**PREFACE:** This Service Information Notice gives procedures for inspecting the thickness of the ear at the clevis end of the tail rotor bellcrank. Improper thickness may, cause failure and loss of control of the tail rotor during helicopter operation.

**REFERENCE PUBLICATIONS:**

369D/E Basic HMI (CSP-D-2) Reissued 15 Jan 1982; Revised 15 June 1985  
369F Basic HMI (CSP-F-2) Issued 01 March 1984; Revised 15 August 1985  
CSP-088 (Four-bladed Tail Rotor Opt. Eqpt. Man.) Reissued 15 Jan 1985

**WEIGHT AND BALANCE:** Weight and balance not affected.

**FAA APPROVAL:**

The resultant alteration to the affected helicopters described in this Service Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

## Tools and Equipment

Nomenclature  
Caliper

Source  
Commercial

## Procedure

- A. Remove tail rotor push rod from bellcrank per Section 8, HMI Vol 1.
- B. Using caliper, measure thickness of the ears at the clevis end of tail rotor bellcrank as shown in figure 1.
- C. Minimum thickness shall be 0.065 inches. If minimum thickness is not found at points shown in Figure 1, replace bellcrank.
- D. Reinstall tail rotor push rod and bolt per Section 8 of Vol. 1 in HMI.
- E. Record compliance to this Service Information Notice in the appropriate section of the Helicopter Log Book.

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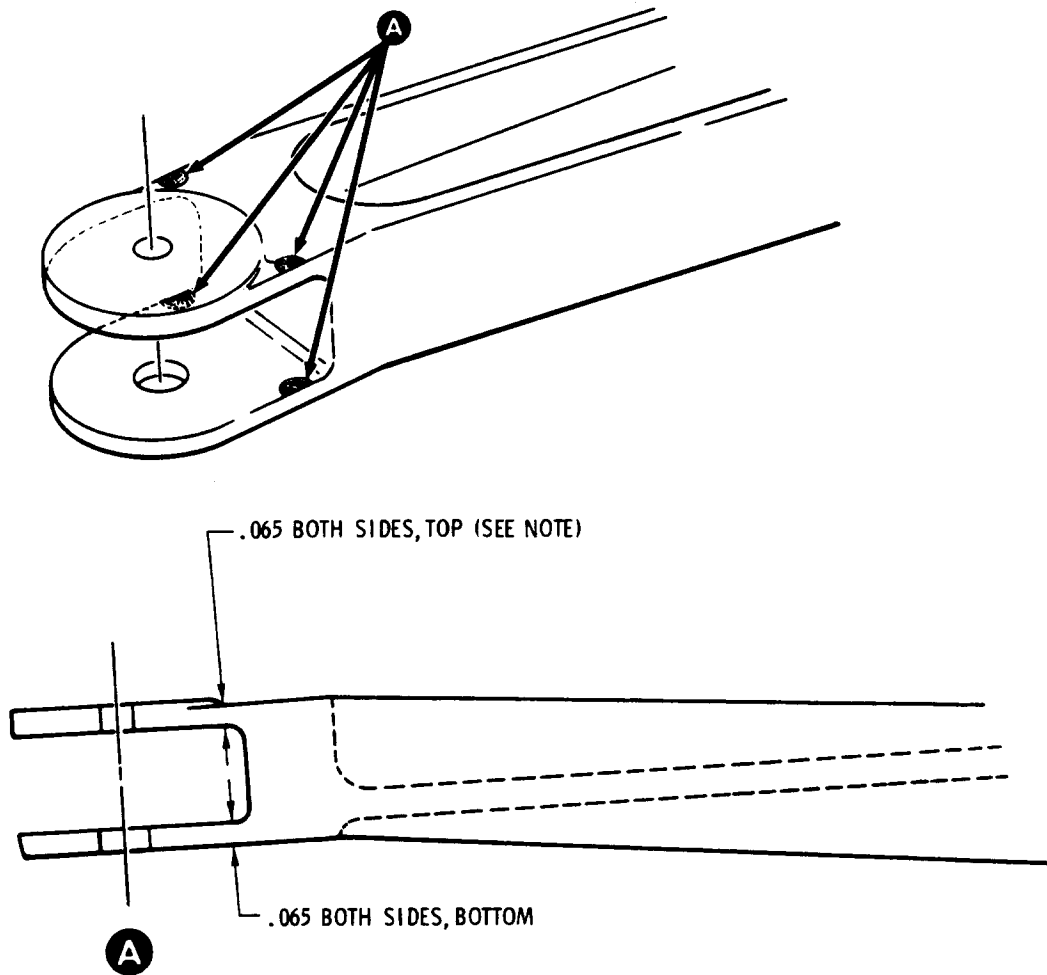
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DATE: 20 DECEMBER 1985

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NOTES:

1. MINIMUM THICKNESS SHALL BE .065. WHEN MEASURING THE AREAS SHOWN, AVOID PLACING CALIPER ON INSIDE AND OUTSIDE RADIUS OF BELLCRANK TO ENSURE PROPER READING.
2. ALL DIMENSIONS SHOWN IN INCHES.

88-619

Figure 1. Tail Rotor Bellcrank Inspection

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# SERVICE BULLETIN

DATE: 10 JANUARY 1986

PAGE 1 OF 1

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**SUBJECT:** FARGO AUXILIARY FUEL TANKS P/N - A1066-1082

**MODELS AFFECTED:** All Model 369D, 369E and 369FF Helicopters with Fargo Auxiliary Fuel Tank ( P/N A1066-1082, serial numbers 101 through 220 ) installed and all spares in stock

**TIME OF COMPLIANCE:** Per attached Service Information Notice.

**PREFACE:** The information given in this Service Information Notice lists procedures for inspection and repair of Fargo Manufacturing Company auxiliary fuel tank, P/N AW1066-1082. The inspection, repair and owner compliance is to be accomplished in accordance with the instructions given in the attached Fargo Service Notice No. 2

**REFERENCE PUBLICATIONS:** Fargo Manufacturing Co. Service Notice No. 2 ,  
Revision No. 1, Dated 30 December 1985.

## Procedure

- A. Perform inspection/repair of Fargo auxiliary fuel tank, P/N AW1066-1082, in accordance with instructions given in attached Fargo Service Notice No. 2.
- B. Record compliance with this Service Information Notice in the Compliance Record section of the helicopter log book.





DESIGNERS & FABRICATORS OF PRECISION METAL PRODUCTS

2750 ELSTON AVENUE

CHICAGO, ILLINOIS 60647

TELEPHONE 489-2200

FARGO SERVICE NOTICE NUMBER 2 ; Revision No.1  
30 December 1985

DATE: 25 October 1985

SUBJECT: Leaks in Fargo Auxiliary Fuel Tanks

BACKGROUND: Leaks have been reported in Fargo Auxiliary Fuel Tanks. An investigation of those leaks reported indicates that insufficient contact of the tank bottom with the cabin floor can cause these leaks to develop. Specifically, if the spacer blocks located on the underside of the tank do not rest firmly on the lateral upright (hat-section stiffener) of the cabin floor, leaks can develop with continued service.

If there is a gap between the right and/or left stainless steel mounting plates and the tank security strap and this gap is closed by torquing the attaching bolts and nuts without the use of shims, the tank can be deformed such that leaks may develop during service.

FAA APPROVAL: The technical aspects of this notice are FAA approved.

MODELS

AFFECTED: All Fargo Auxiliary Fuel Tanks, Model Number AW1066-1082

SERIAL NUMBERS

AFFECTED : Serial Numbers 101 through 220

COMPLIANCE

DATE: February 28, 1986

PREFACE:

This notice is in two parts. Part I gives procedures for inspection and repair (if required). Part II requests owner acknowledgement of completion of Part I, and feedback regarding the evidence of: (1) fuel tank leaks and (2) proper spacer block-to-floor support contact.



## PART I

## INSPECTION AND REPAIR

- A. Remove the auxiliary fuel tank from the helicopter.
- B. With tank filled with fuel, visually inspect the tank for any evidence of a fuel leak.

If a fuel leak is found:

- (1) Remove all fuel from the tank and field repair per AC 43.13-1A or return to Fargo for repair.

NOTE: Refer to Part II, Step C.  
for further instructions  
for returning tanks for repair

- (2) Install the repaired tank in accordance with Fargo Installation Manual 102, revised (Incorporating the remainder of Part I of this notice).

If no leak is found, proceed to step C.

- C. Visually inspect the fuel tank spacer blocks for evidence of wear, surface rubbing or chaffing.
- D. Visually inspect the lateral upright floor stiffener (hat-section) for any evidence of surface wear. At the points where the spacer blocks bear upon the lateral upright, there should be some indication of surface contact.
- E. Cut a 3/4" wide inspection slot in the front of the tank cleat at each of the two spacer blocks. These slots must be deep enough to expose the bottom of the two spacer blocks. See Figure 1, Detail 1, page 6 of 6.
- F. Reinstall tank in the aircraft.
- G. Inspect at the newly cut inspection slots to ensure that the two spacer blocks are resting firmly on the floor stiffeners.
- H. 1. If there is no space between the blocks and the floor stiffener, record compliance with Part I of this notice in the Helicopter Log Book, and proceed to Part II.



2. If there is any space between the bottom of a spacer block and the floor stiffener, repair steps I through M must be performed. See Figure 1, Detail 2, Page 6 of 6.

- I. Machine two (2) separate spacers from aluminum that will:
  - (1) Fill the space between the bottom of the spacer blocks and the floor stiffener, and,
  - (2) Provide a .020" to .032" vertical clearance between each tank mounting bracket (P/N A-1080, item 2) and its mating mounting plate (P/N A-1081, items 19 and 20). See Details on Page 6 of this notice.
- J. Remove the paint from the bottom of the spacer blocks under the auxiliary fuel tank.
- K. With a two (2) part epoxy glue suitable for metal-to-metal bonding, glue the new spacers to the bottom of the old spacer blocks.
- L. After the glue has cured, install the tank in the aircraft.
- M. If there are gaps between the right and/or left stainless steel mounting plates and tank security strap, these gaps must be shimmed so no preloading or stressing of the tank occurs.
- N. All plastic upholstery must be returned to its proper place before placing tank in position.
- O. Refer to the Fargo Auxiliary Jet Fuel System Installation Manual 102 for installation procedures.
- P. When installing the Fargo Auxiliary Fuel System, all work performed must be in accordance with the Federal Aviation Administration AC 43.13-2A, Acceptable Methods, Techniques, and Practices Aircraft Alterations.
- Q. Record compliance with Part I of this notice in the Helicopter Log Book.

Note: Weight and balance are not affected by this repair.



PART II

OWNER COMPLIANCE

Owners are requested to reply directly to Fargo providing the following information on these sheets. Reply to be sent to:

Fargo Manufacturing  
2750 N. Elston Avenue  
Chicago, Illinois, 60647

A. Please enter Tank Serial Number: \_\_\_\_\_

B. Was Part I of this notice complied with?

Please Check One: \_\_\_\_\_ YES

\_\_\_\_\_ NO

C. Was there any evidence of a fuel leak in the auxiliary fuel tank?

Please Check One: \_\_\_\_\_ YES

\_\_\_\_\_ NO

NOTE: Owners are advised that any Fargo Auxiliary Fuel Tank found to have a leak as a result of compliance with this notice, will be repaired by Fargo. The expense for this repair will be borne by Fargo provided:

- (1) Owner agrees to pay freight to and from Fargo
- (2) This notice is complied with by February 28, 1986 and
- (3) If it is necessary to send the tank to Fargo, please remove the bottom red frangible fitting, Fargo Kit Part #A-1040 and the aluminum assembled fuel cell cover, Fargo Kit Part #AW-1062. Cover tank openings before shipping.

D. Did the inspection specified by Part I, Step G reveal a space between the spacer block(s) and the floor stiffener?

Please Check One: \_\_\_\_\_ YES

\_\_\_\_\_ NO

Please Check One: \_\_\_\_\_ BOTH

\_\_\_\_\_ LEFT ONLY

\_\_\_\_\_ RIGHT ONLY



E.

Did the inspection specified by Part I, Steps C and D reveal any evidence of surface-to-surface contact such as rubbing, chaffing or wear marks?

Please Check One ☐ YES

☐ NO

If YES, which one(s)?

Please Check as Appropriate:

☐ Both Spacer Blocks

☐ Left Spacer Block

☐ Right Spacer Block

☐ Floor Stiffener @ Both Spacers

☐ Floor Stiffener @ Left Spacer

☐ Floor Stiffener @ Right Spacer

Name

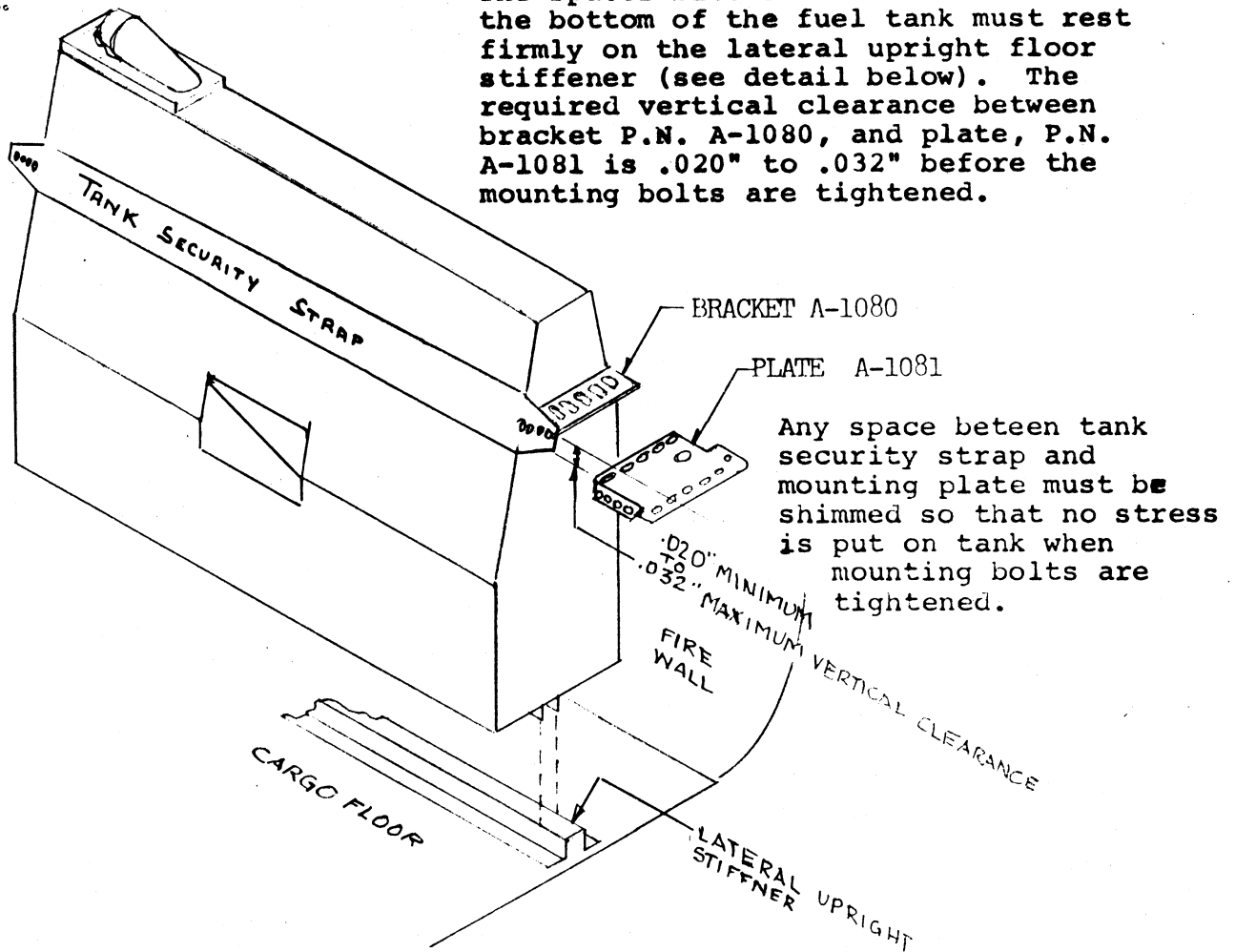
Address

City  State  Zip Code

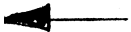


# NOTE:

The spacer blocks in the "U" channel on the bottom of the fuel tank must rest firmly on the lateral upright floor stiffener (see detail below). The required vertical clearance between bracket P.N. A-1080, and plate, P.N. A-1081 is .020" to .032" before the mounting bolts are tightened.



FWD



FUEL TANK, FRONT VIEW

Cut 3/4" wide slots at each spacer block location.

DETAIL 1

Fuel Tank  
End View

Firewall

Tank cleat with spacer

Cargo Floor

Lateral upright

DETAIL 2

If airspace exists when tank is placed in position, use additional spacer shims to insure that tank rests firmly on the upright floor stiffener.

FIGURE 1





DN-139.1\*  
EN-27.1\*  
FN-15.1\*

# SERVICE BULLETIN

DATE: 18 MARCH 1986

PAGE 1 OF 5

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\* Supersedes Service Information Notices DN-139, EN-27 and FN-15 dated 10 February 1986.

**SUBJECT:** COOLING FAN PULLEYS P/N 369D25620, 369D25622, 369D25622-3 and 369D25624 INSPECTION.

**MODELS AFFECTED:**

**Part I** – All 369E, 369F and 369FF Helicopters with serial numbers listed below:

0040E thru 0156E

0009F thru 0044F

0158E thru 0177E

0183E thru 0186E

All 369D, 369E, 369F and 369FF Helicopters that have had pulleys installed which were received from spares on or after January 1, 1984 and before January 1, 1986.

**Part II** – All affected helicopters and spares listed in Part I. All pulleys in spares with marked dates of January 1, 1984 to December 31, 1985.

All pulleys marked January 1, 1986 or later and/or marked with a blue dot or stripe are not subject to this Notice.

**TIME OF COMPLIANCE:**

Part I shall be accomplished within the next 25 hours of operation.

Part II shall be accomplished within the next 100 hours of operation.

Shall be accomplished prior to installation of any affected pulley assemblies from spares.

**PREFACE:** McDonnell Douglas Helicopter Company (MDHC) has established that a quantity of non-conforming cooling fan pulleys have been introduced into service. These suspect pulleys do not mesh properly with the cooling fan belt which can cause excessive belt wear and premature belt replacement. Some pulleys were also found to have extremely sharp tooth edges further causing excessive belt wear. Affected pulleys shall be inspected using a new fan belt. If found to not properly mesh with the new fan belt, the pulleys and the old fan belt shall be replaced.

Part I of this Notice describes procedures for visually inspecting affected helicopters and those helicopters with affected spares installed for excessive cooling fan belt wear.

Part II of this Notice provides procedures for a more thorough inspection of affected helicopters and spare pulleys. Also, procedures for returning non-complying parts to approved MDHC Service Centers and Distributors are explained.

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## REFERENCE PUBLICATIONS:

369D and 369E HMI Vol. 1 (CSP-D-2) Revised 15 June 1985.  
369F/FF HMI Vol. 1 (CSP-F-2) Revised 15 August 1985.

## PARTS LIST

<u>Part No.</u>	<u>Nomenclature</u>	<u>Qty.</u>	<u>Source</u>
369D25623	Belt, drive	1	MDHC
*369D25620	Pulley Assy	1	MDHC
*369D25622	Pulley Assy	1	MDHC
*369D25622-3	Pulley Assy	1	MDHC
*369D25624	Pulley Assy	1	MDHC

\* If required

## REPAIR MATERIALS

<u>Material</u>	<u>Specification</u>	<u>Source</u>
*Abrasive paper, silicon carbide, grade 320 (grit), wet or dry	P-P-101	Commercial
*Primer, catalyzed epoxy (yellow)	MIL-P-23377B	Commercial

\* If required.

## PART I PROCEDURE

- A. Gain access to the cooling blower assembly and visually inspect fan belt for excessive wear per Section 9 of applicable HMI Vol. 1.

### NOTE

Signs of excessive wear include frayed belts showing white fibers, extremely worn belt teeth and heavy amounts of debris in the area of the smaller pulley.

- B. If there are no signs of excessive wear to the fan belt then proceed to Part II of this Notice within the next 75 hours of operation.
- C. If there are signs of excessive belt wear then proceed to Part II of this Notice immediately or before further helicopter operation.

/// MANDATORY /// MANDATORY /// MANDATORY ///

# SERVICE BULLETIN

DATE: 18 MARCH 1986

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**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///**

## PART II PROCEDURE

- A. Disassemble cooling blower assembly as required to gain access to pulley drive assemblies per Section 9 of applicable HMI Vol. I. Remove pulley assemblies.
- B. Using a new fan belt, perform inspection of pulleys by loosely wrapping drive belt around the pulley assemblies as shown in Figure 1.
- C. Figure 1 depicts acceptable and unacceptable meshing between the drive belt and pulley assemblies. Those smaller pulleys which are found to be acceptable shall be further inspected for having too sharp of teeth edges. The teeth on the smaller pulleys shall have edges which feel smooth when touched.
- D. All pulleys found to be UNACCEPTABLE shall be returned to an approved MDHC Service Center or Distributor for replacement.
- E. Those small pulleys found to mesh properly with the fan belt and yet have unacceptable teeth edges shall be further inspected and reworked per the following steps:

- 1) Measure O.D. of pulley from the tops of the pulley teeth as shown in figure 1.  
Dimension #1 = \_\_\_\_\_ .
- 2) Measure O.D. from the bottoms of the pulley teeth grooves as shown in figure 1.  
Dimension #2 = \_\_\_\_\_ .
- 3) Subtract "Dimension 2" from "Dimension 1".  
Dimension #3 = \_\_\_\_\_ .
- 4) Divide "Dimension 3" by 2.  
Dimension #4 =  $\#3 / 2 =$  \_\_\_\_\_ .

Note - Dimension #4 shall not be less than 0.078; If Dimension #4 is less than 0.078, return pulley to an Approved MDHC Service Center or Distributor for a replacement part. If Dimension #4 is 0.078 or greater, rework pulley per the following steps:

- a) Mark retaining ring for proper placement during reinstallation.
- b) Adequately support retaining ring and carefully press pulley out of ring.
- c) Using abrasive paper, smooth edges of the teeth to obtain a corner radius of 0.020 to 0.030.

Note - Surface smoothness shall be that which is obtained using silicon carbide 320 grit paper. However, 120 grit abrasive paper may be used initially as long as the final finish has been obtained using 320 grit abrasive paper.

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# SERVICE BULLETIN

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## PART II PROCEDURE CONT.

- d) Smooth old stake point on pulley (4 places).
  - e) With same side facing pulley teeth, reinstall retaining ring and stake at four places half way in between old stake points.
  - f) Using yellow primer paint, mark pulley as shown in Figure 1.
- F. Those larger pulleys found to mesh properly with fan belt shall be marked using yellow primer paint as shown in Figure 1.
- G. Using a new fan belt and acceptable pulley assemblies, reassemble cooling blower assembly per Section 9 of applicable HMI Vol. I except as noted below.

### NOTE

The torque value currently called out in paragraph 9-45, step w of the 369F HMI Vol. I of 95-110 inch-pounds is incorrect. When installing pulley in blower assembly, tighten pulley nut to 160-190 inch-pounds plus drag torque.

- H. Record compliance of this Service Information Notice in the Compliance Record of helicopter Log Book.

**WEIGHT AND BALANCE:** Weight and balance not affected.

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

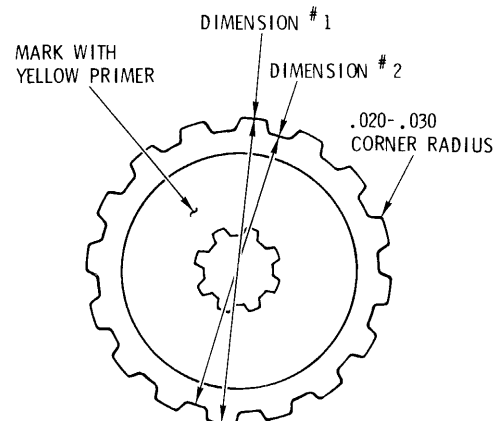
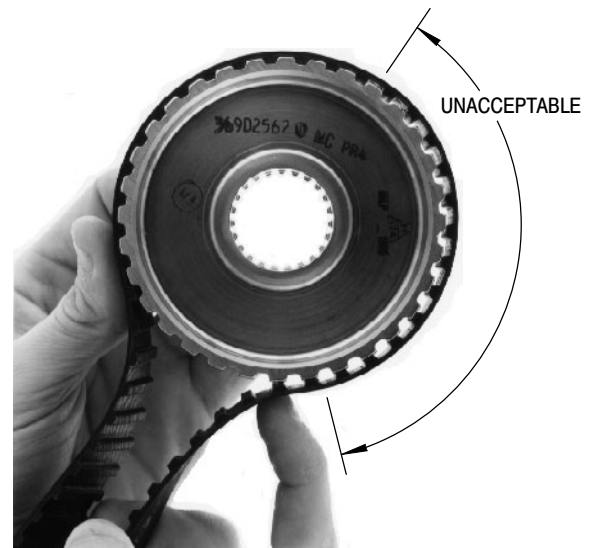
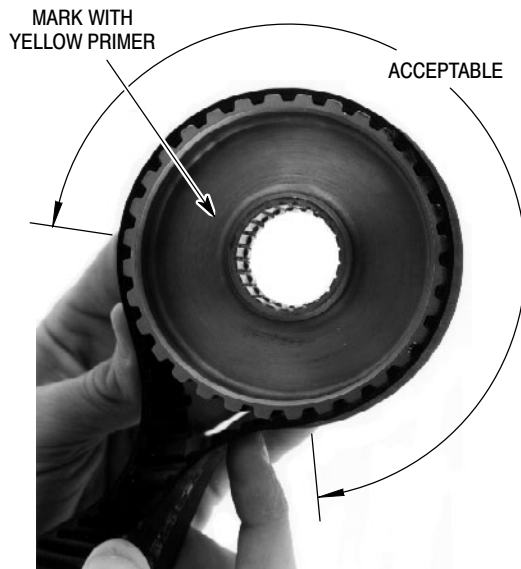
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88-621

Figure 1. Cooling Fan Assembly Pulley Inspection/Rework

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HN-202  
DN-141  
EN-29  
FN-18

# SERVICE BULLETIN

DATE: 15 MAY 1986

PAGE 1 OF 3

/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///

**SUBJECT:** REMOVAL OF SEAT BELT ASSEMBLIES MANUFACTURED BY THE EON CORPORATION

**MODELS AFFECTED:** All 369 Series Helicopters equipped with seat belt assemblies and all Spares Inventories manufactured by the Eon Corporation.

**TIME OF COMPLIANCE:** This Service Information Notice shall be accomplished PRIOR to the next flight.

**PREFACE:** MD Helicopters, Inc. (MDHI) has determined that the buckle assembly used on various seat belt assemblies manufactured by Eon Corporation may inadvertently open. As a result, those operators with helicopters equipped with Eon Corp. seat belts that are listed in the attached table shall replace those seat belts with the appropriate acceptable replacement/alternate. The problem component of the belt assemblies is the Eon Corp. "high lift latch" buckle assembly. It is distinguishable from other Eon Corp. buckle assemblies in that it requires the releasing lever to be raised to approximately the 90 degree (vertical) position before the latching tongue normally releases. Other Eon Corp. buckle assemblies have not been found to have disengaged inadvertently.

## REFERENCE PUBLICATIONS:

369H Basic HMI Vol.I (CSP-H-2) Revised 15 June 1985  
369D/E Basic HMI Vol. I (CSP-D-2) revised 15 June 1985  
369F Basic HMI Vol. I (CSP-F-2) Revised 15 April 1986

## PROCEDURE

A. Remove Seat belt assemblies manufactured by Eon Corporation as listed in the attached table and replace with listed acceptable alternate per Section 4 of applicable HMI Vol. I.

## NOTE

Seat belt assembly part numbers are found on cloth labels sewn to webbing.

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DATE: 15 MAY 1986  
PAGE 2 OF 3

# SERVICE BULLETIN

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## PROCEDURE (CONT.)

B. Seat belt assemblies removed in accordance with this Notice will be replaced free of charge until 31 August 1986. Seat belt assemblies will be made available at list price after 31 August 1986 for those helicopters or belt assemblies not covered by the standard MDHI Warranty. Operator/owners shall order replacement seat belt assemblies from the nearest Approved MDHI Service Center/Distributor. Service Centers/ Distributors will obtain replacement seat belt assemblies from Warranty and Repair at MDHI, Culver City, CA. All discrepant seat belts will be returned to the Service Center/Distributor upon receipt of the replacement belts.

C. Record compliance to this Notice in the Compliance Record section of the helicopter Log Book.

**WEIGHT AND BALANCE:** Weight and balance not affected.

The resultant alteration to affected models described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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# SERVICE BULLETIN

DATE: 15 MAY 1986

PAGE 3 OF 3

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TABLE

SEAT POSITION	TYPE	REMOVE (See Note 3)	REPLACEMENT	ACCEPTABLE ALTERNATE (See Note 1)
Pilot & Co-Pilot	Lap Belt with Dual Shoulder Harness	369H6512-503	369H6512-19 or 369H6512-501	369H6541-29 or 369H6541-503 (See Note 2)
	Lap Belt Having Single Shoulder Strap with Inertia Reel	369H6541-503	369H6541-29 or 369H6541-503 (See Note 2)	369H6512-19 or 369H6512-501 when used with 369H6514-9 or 369H6514-11
Rear Passenger	Lap Belt Having Single Shoulder Strap with Inertia Reel	369H6541-501	369H6541-501 (See Note 2) or 369H6541-27	369H6511-3
	Lap Belt Having Single Shoulder Strap	369H6511-501	369H6511-3	369H6541-501 (See Note 2) or 369H6541-27
Front Center	Lap Belt Having Single Shoulder Strap	369H6511-503	369H6511-31	369H6541-29 or 369H6541-503 (See Note 2)
	Lap Belt Having Single Shoulder Strap with Inertia Reel	369H6541-503	369H6541-29 or 369H6541-503 (See Note 2)	369H6511-31

Note 1 - Interchanging from one type seat belt to another alternate installation shown for the seat position above (seat belt vs seat belt and shoulder strap/harness) is approved as long as the entire seat belt restraint system including hardware is interchanged (Per MDHC IPC).

Note 2 - Manufactured by other than Eon Corporation (369H6541-501 & 369H6541-503).

Note 3 - Belt assemblies manufactured by the Eon Corporation Only.





HN-205  
DN-142  
EN-30  
FN-19

# SERVICE BULLETIN

DATE: 20 MAY 1986

PAGE 1 OF 1

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**SUBJECT:** UNITED INSTRUMENTS, INC. ALTIMETERS (MDHC Part No. 369D24174, 369H4505 and 369H90124)

**MODELS AFFECTED:** All Model 369H, 369HE, 369HM, 369HS, 369A (OH-6A), 369D, 369E, 369F and 369FF helicopters with United Instruments, Inc. Series 5934 altimeters per attached Service Bulletin installed.

**TIME OF COMPLIANCE:** Per attached United Instruments, Inc. Service Bulletin No.2.

**PREFACE:** MD Helicopters, Inc. (MDHI) has learned from United Instruments, Inc. that numerous 5934 Series altimeters manufactured from approximately February 1985 through February 1986 are subject to an inspection and possible modification per the attached Service Bulletin.

**REFERENCE PUBLICATIONS:**

United Instruments, Inc. Service Bulletin No. 2, February 24, 1986

## PROCEDURE

A. Owners and/or Users of United Instruments, Inc. 5934 Series Altimeters shall perform inspection/modification to affected altimeters per the attached Service Bulletin.

B. Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

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UNITED INSTRUMENTS, INC.



TELEX NO. 417-491  
CABLE CODE: UNITEDINST

3625 Comotara Avenue, Wichita, Kansas 67226 Phone: (316) 685-8203

Service Bulletin No. 2  
February 24, 1986

## SERVICE BULLETIN

TO: Owner and/or User of United Instruments, Inc. 5934 Series Altimeters.

TITLE: Setting knob locking mechanism - Inspection/Modification

PURPOSE: Check for possible disengagement of setting knob locking mechanism during barometric adjustment.

EFFECTIVITY: Part number 5934 series altimeters with serial numbers listed below that were manufactured from approximately February 1985 through February 1986.

### S/N

6C461 through 6C999  
7C000 through 7C999  
8C000 through 8C999  
9C000 through 9C999  
0D000 through 0D999  
1D000 through 1D999  
2D000 through 2D869

GENERAL: The normal operation of the barometric setting knob mechanism is to drive both the barometric dial and the mechanism assembly (altitude pointers) simultaneously when entering barometric pressure settings.

DESCRIPTION: Improper function of the locking stud (P/N 34-1-27) may allow the adjustment stem (P/N 34-1-5) to slide outward by more than its normal end-play of approximately 0.01 inch, causing a disengagement of the barometric gears which would allow the barometric dial to turn independently from the mechanism assembly (altitude pointers) as the barometric knob is turned.

CORRECTIVE ACTION: Replace with new corrected locking stud (P/N 34-1-27).

IDENTIFICATION: Instruments modified will be identified with a yellow dot, approximately 0.25 inch diameter in the lower half area on the rear side of

the case and letter "M" approximately one-eighth inch high will be metal stamped on the nameplate preceding the name "Altimeter".

COMPLIANCE AND HANDLING INSTRUCTION:

1. Instruments Currently Installed in Aircraft:

Prior to next flight check to see if the barometric gear disengages from the mechanism assembly by gently pulling the barometric knob outward and rotate the barometric knob. If the altitude pointers do not move simultaneously with the barometric dial, remove the instrument from the aircraft for modification by the manufacturer.

If the barometric setting knob functions satisfactorily, use of the instrument may continue until the next regular scheduled inspection not to exceed 120 days from the issue date of this service bulletin at which time the instrument should be removed from service and sent to the altimeter manufacturer for warranty modification.

2. Instruments Other Than Currently Installed in Aircraft:

Return all affected instruments to the altimeter manufacturer for warranty modification no later than July 1, 1986.

3. When returning the instruments to the altimeter manufacturer, each instrument should be adequately wrapped and packaged in a container no smaller than 8" x 8" x 8" to protect from damage, and sent by United Parcel Service (UPS).

CREDIT INFORMATION:

1. Removal and Installation: For an instrument already installed in an aircraft falling within the affected serial numbers, the actual charges incurred for removal and reinstallation (to include required check for Static System leaks) will be reimbursed in the amount of a maximum of \$40.00 for a single engine aircraft and \$65.00 for a twin engine aircraft. A completed claim form must be submitted to be eligible for reimbursement.

2. Freight: Ship by United Parcel Service (UPS) freight collect to:

United Instruments, Inc.  
3625 Comotara Avenue  
Wichita, Kansas 67226

UNITED INSTRUMENTS, INC.



TELEX NO. 417-491  
CABLE CODE: UNITEDINST

3625 Comotera Avenue, Wichita, Kansas 67226 Phone: (316) 685-9203

Service Bulletin No. 2  
February 24, 1986

### CLAIM FORM

OWNER NAME \_\_\_\_\_ ADDRESS \_\_\_\_\_

ACFT MAKE \_\_\_\_\_ MODEL \_\_\_\_\_ SERIAL # \_\_\_\_\_

ALT P/N \_\_\_\_\_; ALT S/N \_\_\_\_\_ REMOVED; S/N \_\_\_\_\_ INSTALLED

DATE COMPLETED \_\_\_\_\_, CERTIFIED MECH. \_\_\_\_\_

FBO NAME \_\_\_\_\_ CERT. NO. \_\_\_\_\_

FBO ADDRESS \_\_\_\_\_

DO NOT WRITE BELOW THIS LINE





# SERVICE BULLETIN

DATE: 28 NOVEMBER 1986

PAGE 1 OF 7

/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///

**SUBJECT:** INSTALLATION OF FAILSAFE DEVICE AT TAIL ROTOR DRIVE SHAFT AFT FLEXIBLE COUPLING, P/N 369A5501 or 369H2564: AND INSPECTION OF FLEXIBLE COUPLINGS.

**MODELS AFFECTED:**

**PART I** – All Model 369H, 369HE, 369HM, 369HS, 369A (OH-6A), 369D and 369E (S/N 0001E thru 0134E) Series helicopters with Bendix couplings installed in the tail rotor drive system.

**PART II** – All Model 369H, 369HE, 369HM, 369HS, 369A (OH-6A), 369D and 369E Series helicopters with failsafe couplings installed (P/N 369D25530 Coupling and 369D25531 Socket).

**TIME OF COMPLIANCE:**

**PART I** – Installation of failsafe device shall be accomplished within 100 hours of operation or within 60 days of the effective date of this notice, whichever is sooner. Procure required parts from an Approved MDHI Service Center or Distributor. MDHI advises prompt adherence to the time of compliance defined by this Notice.

**PART II** – Shall be accomplished at intervals specified. All 369H/HE/HM/HS and 369A (OH-6A) model helicopters should accomplish this notice in conjunction with Service Information Notice HN-173.1 if the forward tail rotor coupling failsafe device has not been installed.

**PREFACE:** Part I of this Notice provides instructions for installing a failsafe device to provide an additional drive connection between the tail rotor drive shaft and the tail rotor transmission at the aft flexible coupling. The failsafe device consists primarily of a new 369D25530 coupling bolt to secure the aft flexible coupling to the tail rotor drive shaft and a new 369D25531 socket installed between the connecting flanges of the aft coupling and the tail rotor transmission. The new coupling bolt incorporates a key which engages a corresponding keyway in the locket, thus providing an alternate drive link if coupling failure should occur.

Part II of this Notice prescribes checks of the aft flexible coupling for all helicopters with the failsafe device installed.

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DATE: 28 NOVEMBER 1986  
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# SERVICE BULLETIN

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## REFERENCE PUBLICATIONS:

369D Basic HMI—Vol I (CSP—D—2) Revised 15 June 1985  
369D Basic HMI—Vol II (CSP—D—3) Revised 15 May 1985  
369E Supplement to HMI (CSP—E—2) Issued 30 Nov 1983  
369E Basic HMI—Vol I (CSP—D—2) Revised 15 June 1985  
369E Basic HMI—Vol II (CSP—E—3) Issued 15 Feb 1984  
369H Basic HMI (CSP—H—2) Revised 15 June 1985  
369H HMI Appendix B (CSP—H—4) Revised 15 Jan 1982  
369D/E/F SRM (CSP—DEF—6) Reissued 15 November 1984

## PARTS LIST

Procure parts required from your authorized MDHI Service Center or Distributor upon receipt of this notice.

<u>Nomenclature</u>	<u>Part Number</u>	<u>QTY</u>	<u>Mfr</u>
Bolt, Coupling	369D25530*	1	MDHI
Socket	369D25531*	1	MDHI
Shim	369A5516-9	AR	MDHI
Washer	NAS620C416L	3	Commercial
Washer	HS306-326	4**	MDHI
Stud	MS51992A803-14	4	Commercial
Lockring	MS51997103	4	Commercial
Bolt	NAS1104-6	3	Commercial

\*A special price of \$131.52 for the 369D25530 coupling bolt, and \$179.49 for the 369D25531 socket has been established. This pricing will remain in effect through 31 January 1987.

\*\*As required/HS306-326H (ALTERNATE)

/// MANDATORY /// MANDATORY /// MANDATORY ///

# SERVICE BULLETIN

DATE: 28 NOVEMBER 1986

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**MANDATORY**

		<b>MATERIAL</b>	
Grease	MIL-G-81322	Mobil Grease 28	Mobil Oil
		Aeroshell 22	Shell Oil
or			
Grease		Lubriplate	Fiske Bros
		930-AA	Toledo, OH
Anti-seize	MIL-A-907		Commercial
compound			
Lockwire	MS20995C		Commercial
Primer, zinc	TT-P-1757		Commercial
chromate			

## Tools and Equipment

Torque wrench - 0 to 500 inch-pounds	Commercial
Feeler gage	Commercial
Wrench P/N R1105W	MDHI Spares or Rosan*
Adapter P/N SM101-18	

\*Rosan Products  
P.O. Box 25225  
Santa Ana, CA 92799  
(213) 628-6191  
(714) 250-8800

## PART I PROCEDURE - INSTALLATION OF FAILSAFE DEVICE ON AFT COUPLING

- A. Remove tail rotor gearbox and drive shaft per Section 9, Para. 9-67, of HMI Vol. I. Remove tail rotor gearbox from drive shaft.
- B. Remove and inspect for corrosion and damage the tail rotor gearbox coupling per Section 9, Para. 9-77, of HMI Vol. I.
- C. Lubricate tail rotor gearbox input shaft splines with Lubriplate 930AA or MIL-G-81322 grease.

**MANDATORY**

DATE: 28 NOVEMBER 1986

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# SERVICE BULLETIN

**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///**

D. Install coupling onto gearbox input shaft.

E. Coat threads of coupling bolt (P/N 369D25530) and gearbox input shaft with anti-seize compound and install bolt. Torque bolt to 250 to 300 inch pounds.

F. Install aft socket (P/N 369D25531) between tail rotor gearbox and tail rotor drive shaft as shown in Figure 1. Torque aft coupling tail rotor bolts to 80 to 100 inch pounds.

G. Shim forward coupling to minimum shim requirements per Section 9, Para 9-70 of HMI Vol 1 (369D/E). Shim per HN-181 (369H Series and 369A (OH-6A)).

H. Install forward socket (P/N 369D25531) per Section 9, Para. 9-70 of HMI Vol. I.

## CAUTION

When reinstalling the tail rotor gearbox and driveshaft do not compress the forward coupling as damage to the coupling could result.

## NOTE

If the tail rotor gearbox does not bottom on the tailboom flange and there is no gap on the forward coupling, then install one washer (P/N HS306-326 or HS306-326H) on each mounting stud prior to installation of t/r gearbox.

I. Install tail rotor gearbox and drive shaft per Section 9, Para. 9-70 of HMI Vol. 1. Check for clearance (0.010 to 0.020 inch) between tail rotor drive shaft coupling and tail rotor output shaft of main transmission. If clearance is not obtained, install or subtract additional shims per Para. 9-70.

## NOTE

If gap is less than 0.010 inch, remove tail rotor gearbox and driveshaft and install (1) each washer (P/N HS306-326 or HS306-326H) on each tailboom mounting stud.

J. Repeat Step J.

K. Verify that a minimum of (1) one thread protrudes from each of the four tail rotor gearbox mounting studs. If less than one thread is showing, replace mounting studs per the following steps:

1) Remove tail rotor gearbox and driveshaft per Section 9, Para. 9-67 of HMI Vol. I.

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# SERVICE BULLETIN

DATE: 28 NOVEMBER 1986

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**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///**

- 2) Using Rosan wrench (P/N R1105W) and removal tool (P/N SM101-18) remove existing studs as shown in Figure 2.
- 3) Install MS51992A803 -14 studs.
- 4) Repeat Step J.

L. Record compliance with Part I of this Notice in the Compliance Record section of the helicopter Log Book.

## PART II - INSPECTION OF FLEXIBLE COUPLINGS

### NOTE

For all helicopters with failsafe device installed, the tail rotor drive shaft forward and aft flexible couplings shall be checked periodically as follows:

#### At Each Pilot Preflight Check:

Rock tail rotor back and forth in plane of rotation. If blade can move in excess of 0.75 inch (1.93 cm) at the blade tip without rotation of main rotor blades, check for proper condition of tail rotor drive shaft forward and aft flexible couplings. (Section 9, Basic HMI, Vol. I). Replace coupling as required before further flight.

#### At each Aircraft/Engine Shutdown:

If thumping or rapping is heard from drive train during final revolutions of tail rotor blades, check tail rotor drive shaft forward and aft flexible couplings for proper condition. (Section 9, Basic HMI Vol. I). Replace coupling as required before further flight.

#### At each Annual or 300-Hour Inspection:

With tail rotor drive shaft removed, inspect flexible couplings per Section 9 HMI Vol. I. Also visually inspect forward and aft coupling bolts and sockets for indications of contact. Do not loosen or remove bolt. If signs of contact are noted, remove and reinstall socket and/or coupling bolt so that maximum clearance is obtained between bolt key and socket. (See View B-B, Figure 1.) Visually verify proper clearance before reinstalling tail rotor drive shaft.

**WEIGHT AND BALANCE:** Weight and balance not affected.

The resultant alteration to affected models described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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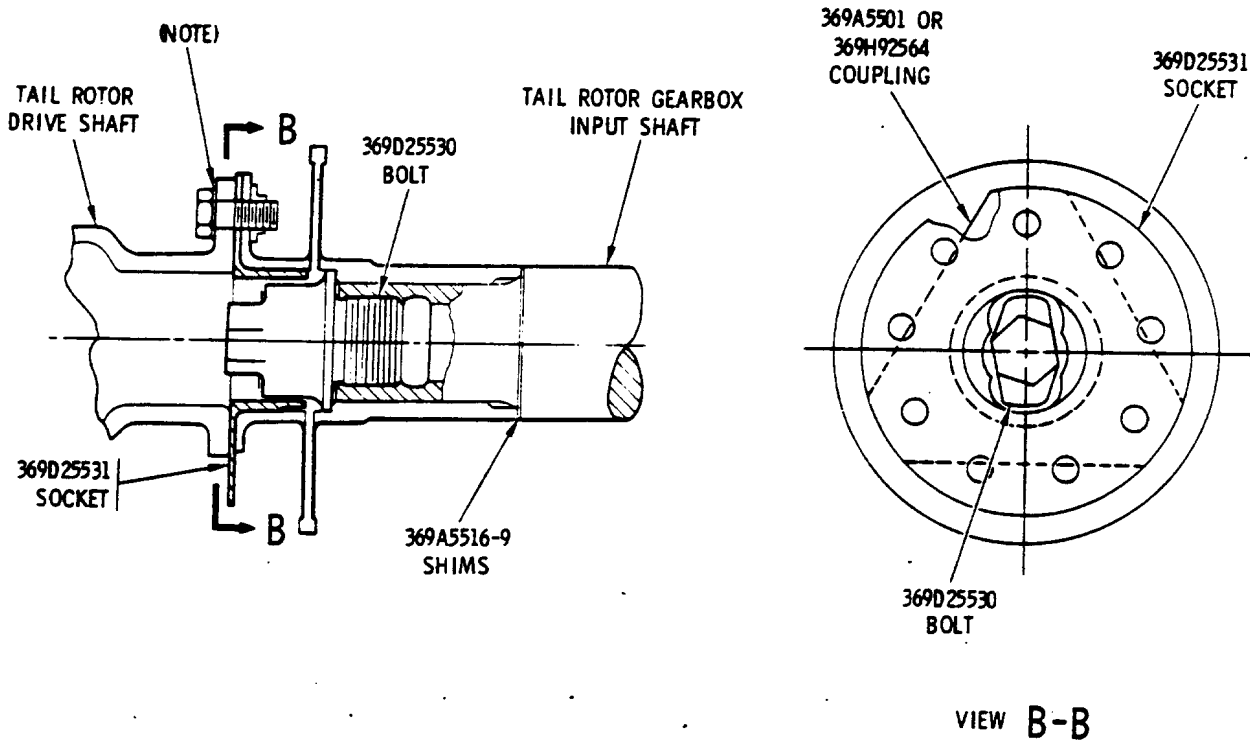
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# SERVICE BULLETIN

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**NOTE:**

NAS620C416L WASHER REPLACES EXISTING  
NAS620C416 WASHER, 3 PLACES

88-518A

Figure 1. Installation of Failsafe Device, Aft Tail Rotor Coupling

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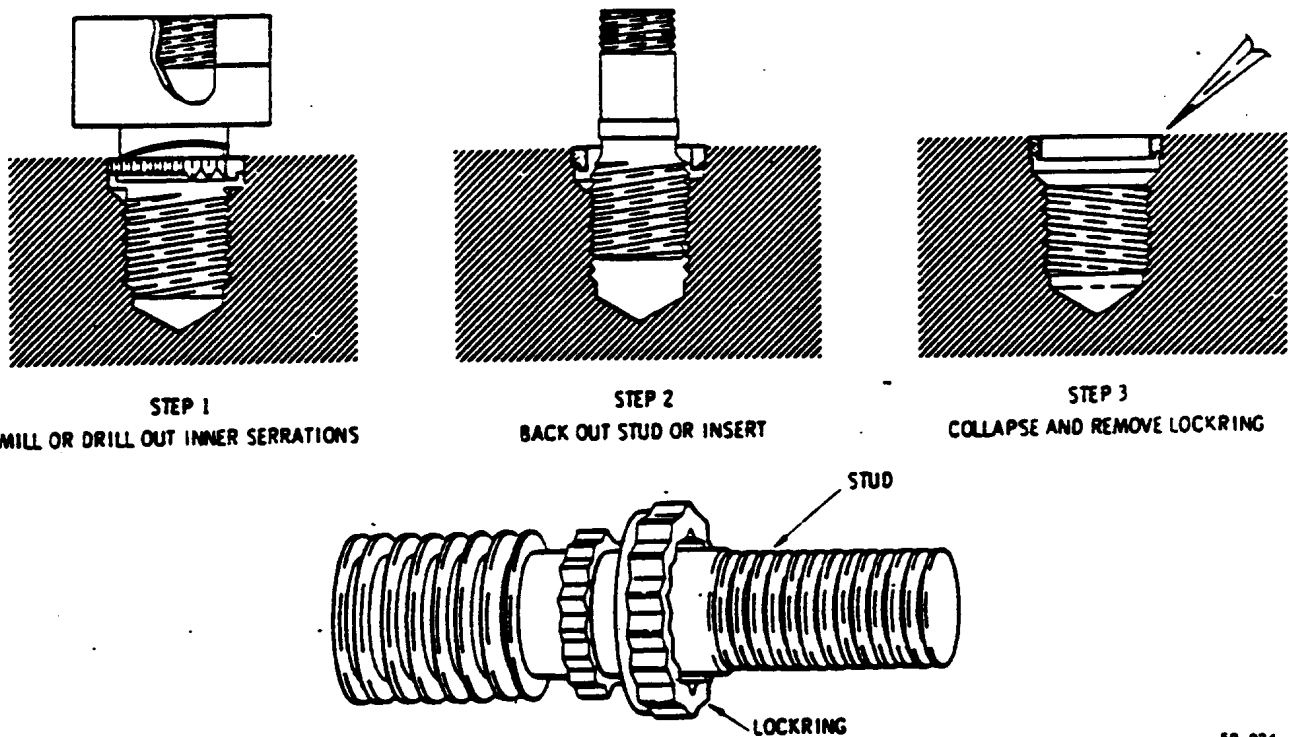
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50-034

Figure 2. Stud and Insert - Typical Replacement

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DN-145  
EN-33  
FN-22

# SERVICE BULLETIN

DATE: 09 APRIL 1987

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**SUBJECT:** FABRICATION AND INSTALLATION OF 369D25704 OIL FLEX-LINE HOSE ASSEMBLIES IN THE MAIN TRANSMISSION COOLING INSTALLATION (F/N 369D25700).

**MODELS AFFECTED:** All 369D, 369E, 369F and 369FF helicopters that have rigid oil lines installed in the main transmission oil cooling system.

**TIME OF COMPLIANCE:** This Service Information Notice shall be accomplished within the next 100 hours of helicopter operation or when the 369D25709 or 369D25710 tube assemblies need replacing, whichever occurs first. Compliance to this Service Information Notice will satisfy the requirements and compliance to EN-10 dated 10 November 1983, DN-124 date 10 November 1985 and DN-136/EN-24/FN-12 dated 7 August 1985.

**PREFACE:** This Service Information Notice contains all required information for owners/operators of McDonnell Douglas Helicopter Company (MDHC) Model 500 helicopters to fabricate and install 369D25704-11 or 369D25704-21 flex-line oil hoses which replace the 369D25709 and 369D25710 tube assemblies and 369D25705 hose assemblies.

## REFERENCE PUBLICATIONS:

369D HMI Vol. I (CSP-D-2) Revised 15 June 1985  
369E HMI Vol. I (CSP-E-2) Revised 30 Nov 1983  
369F HMI Vol. I (CSP-F-2) Revised 15 Apr 1986  
369D PFM (CSP-D-1) Revised 20 Jan 1984  
369E PFM (CSP-E-1) Revised 11 July 1984  
369F PFM (CSP-FF-1) Issued 25 Oct 1985  
EN-10/DN-124 Dated 10 November 1983  
DN-136/EN-24/FN-12 Dated 07 August 1985

**WEIGHT AND BALANCE:** Changed Weight

WEIGHT (LBS)	ARM (INCH)	MOMENT (INCH LBS.)
+1.22	Station 126.2	+154

## FAA APPROVAL:

The resultant alteration to affected models as described by procedures in this notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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## PARTS LIST

<u>Part No.</u>	<u>Nomenclature</u>	<u>Qty.</u>	<u>Source</u>
369D25704-21	Hose Assembly	1*	MDHC**
369D25704-11	Hose Assembly	1 or 2*	MDHC**
MS21266-2N	Grommet	A/R	Commercial
AN743-12	Bracket	1	Commercial
AN960KD10L	Washer	9	Commercial
MS21919WDF12	Clamp	3	Commercial
NAS1713D30N	Clamp	1	Commercial
MS21919WDF11	Clamp	4	Commercial
NAS1303-3	Bolt	1	Commercial
MS2142-3	Nut	5	Commercial
NAS1096-3-7	Screw	2	Commercial
MS20470AD4	Rivet	4	Commercial
NAS1303-4	Bolt	2	Commercial

## PARTS LIST (Hose Fabrication)\*\*

AE701-8	Hose	A/R	Aeroquip Corp. Jackson, MI
AE138-16	Abrasion Sleeve	A/R	(same)
816-8D	Fitting	4	Commercial
	I.D. Tag	2	Commercial

## OR (Alternate)

156-8	Hose	A/R	Stratoflex Inc. Fort Worth, TX.
2645-22	Chafe Guard	A/R	(Same)
676-8D	Fitting	4	(Same)
	ID. Tag	2	Commercial

\*369F/FF Series helicopters require (2) -11 hose assemblies; 369D/E Series helicopters require (1) 11 and (1) -21 hose assembly.

\*\*369D25704-11 and -21 hose assemblies can be procured from MDHC or fabricated per Step A and Figure 1.

## MATERIALS

Primer, zinc chromate	TT-P-1757	Commercial
Lubricant (12 U.S. Pts)	MIL-L-7808	Commercial
Epoxylite 202 or equivalent	N/A/	Commercial or Epoxylite Corp., El Monte, CA.

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## PROCEDURE

A. Procure required hose assemblies from an Approved MDHC Service Center, Distributor or fabricate required hose assemblies per the following steps and Figure 1:

### NOTE

Hose, abrasion sleeve and end fittings are to be from the same manufacturer.  
Do not interchange parts.

- 1) Cut hose material to required length allowing for installation end fittings.
  - 2) Cut abrasion sleeves to required length.
  - 3) Install and position abrasion sleeves on hose assemblies.
  - 4) Install end fittings per manufacturer's instructions.
  - 5) Proof pressure test each hose assembly to 200 P.S.I.G. for two minutes minimum, five minutes maximum as shown in Figure 1A.
  - 6) Identify each hose assembly with complete part number and date assembly using metal identification tag or equivalent.
- B. Remove sound insulation and transmission access cover (Section 2~ HMI - Vol. 1).
- C. Drain main transmission and oil cooler lubrication system (Section 2, HMI Vol. 1).
- D. Disconnect and remove 369D25705-11 and -21 hose assemblies, 369D25709-11 (-13 on 369F/FF models) and 369D25710-11 tube assemblies and all associated hardware as shown in Figure 2.
- E. Remove 369D25701-3 or -11 bracket and install MS20470AD4 rivets in holes or cutoff bracket and deburr all sharp edges to prevent possible damage to flex-hose installation and surrounding area (See Figure 2).
- F. Remove 369D25701-5 and -7 brackets and fill holes with epoxy compound or cutoff brackets and deburr all sharp edges to prevent possible damage to flex-line installation and surrounding area.
- G. Using #6 drill, drill 0.204 inch diameter holes in two places as shown in Figure 3. Apply zinc chromate primer to holes and surrounding area.
- H. Install MS21266-2N grommet and position MS21919WDF11 clamps loosely around applicable hose assemblies as shown in Figure 3.
- I. Attach 369D25704 hose assemblies to AN 837-8D elbows.
- J. Attach 369D25704-11 (369D, E, F/FF) hose assembly to 369D25706 valve housing.

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K. Attach 369D25704-11 (369F/FF) to 369D25706 valve housing or 369D25704-21 (369D, E) to connector port located on 369D23020-5 web.

L. Position abrasion sleeves so that no unshielded hose contacts bulkheads using NAS1713D30N and MS21919WDF12 clamps.

M. Complete installation and tighten all clamps as shown in Figure 3.

N. Fill transmission with approved lubricant (Section 2, HMI Vol. 1)

O. Start engine and operate until lubricant has circulated through the entire oil cooling system (refer to applicable Pilot's Flight Manual). Check installation for leaks and security.

P. Reinstall sound installation and transmission access covers (Section 2 of applicable HMI Vol. 1).

Q. Check main transmission oil level at sight gage (Section 2, HMI Vol. 1). Add approved oil, if required.

R. Record compliance with this Notice in the applicable section of the helicopter Log Book.

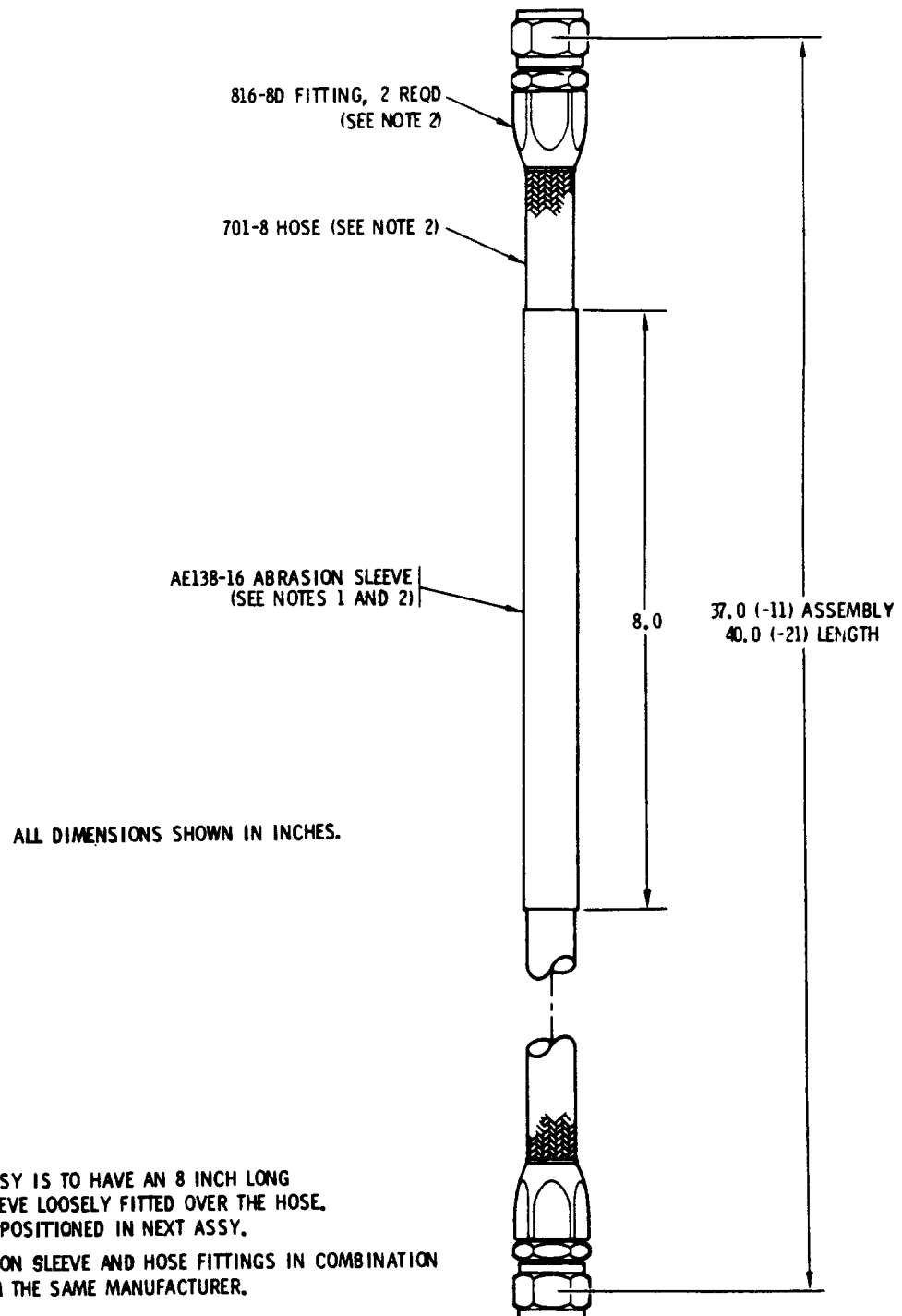
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**NOTES:**

1. EACH HOSE ASSY IS TO HAVE AN 8 INCH LONG ABRASION SLEEVE LOOSELY FITTED OVER THE HOSE. THIS WILL BE POSITIONED IN NEXT ASSY.
2. HOSE, ABRASION SLEEVE AND HOSE FITTINGS IN COMBINATION MUST BE FROM THE SAME MANUFACTURER.

88-630 A

Figure 1. Oil Flex Line Fabrication

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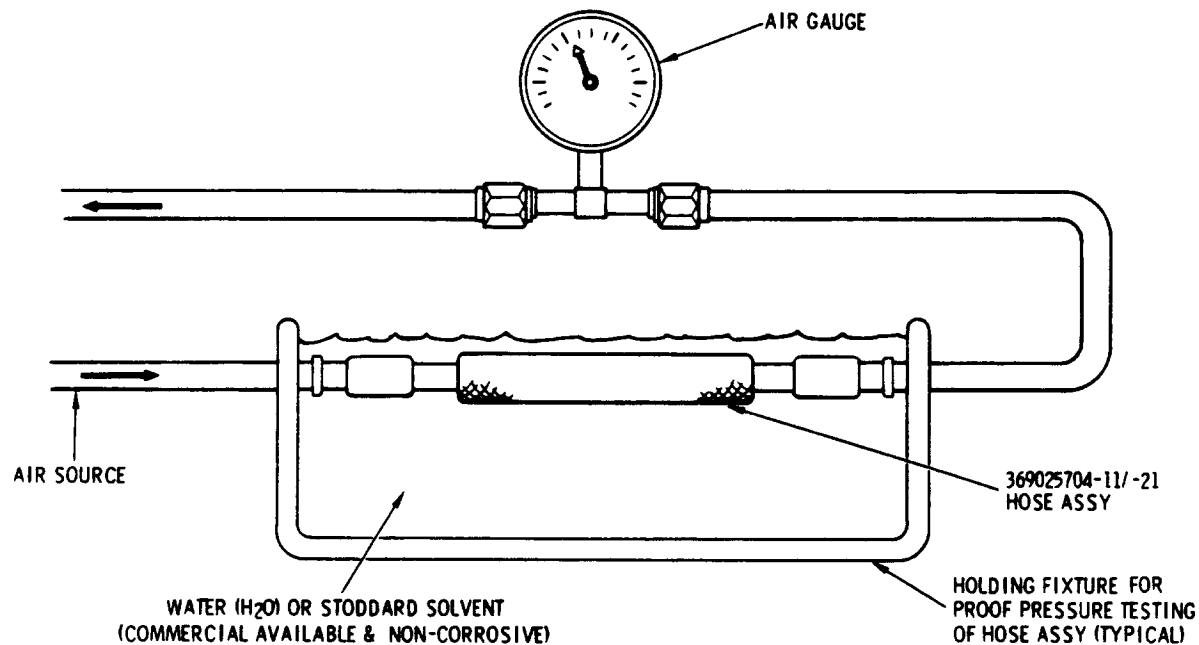
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Figure 2. Hose Assembly Proof Pressure Set-Up

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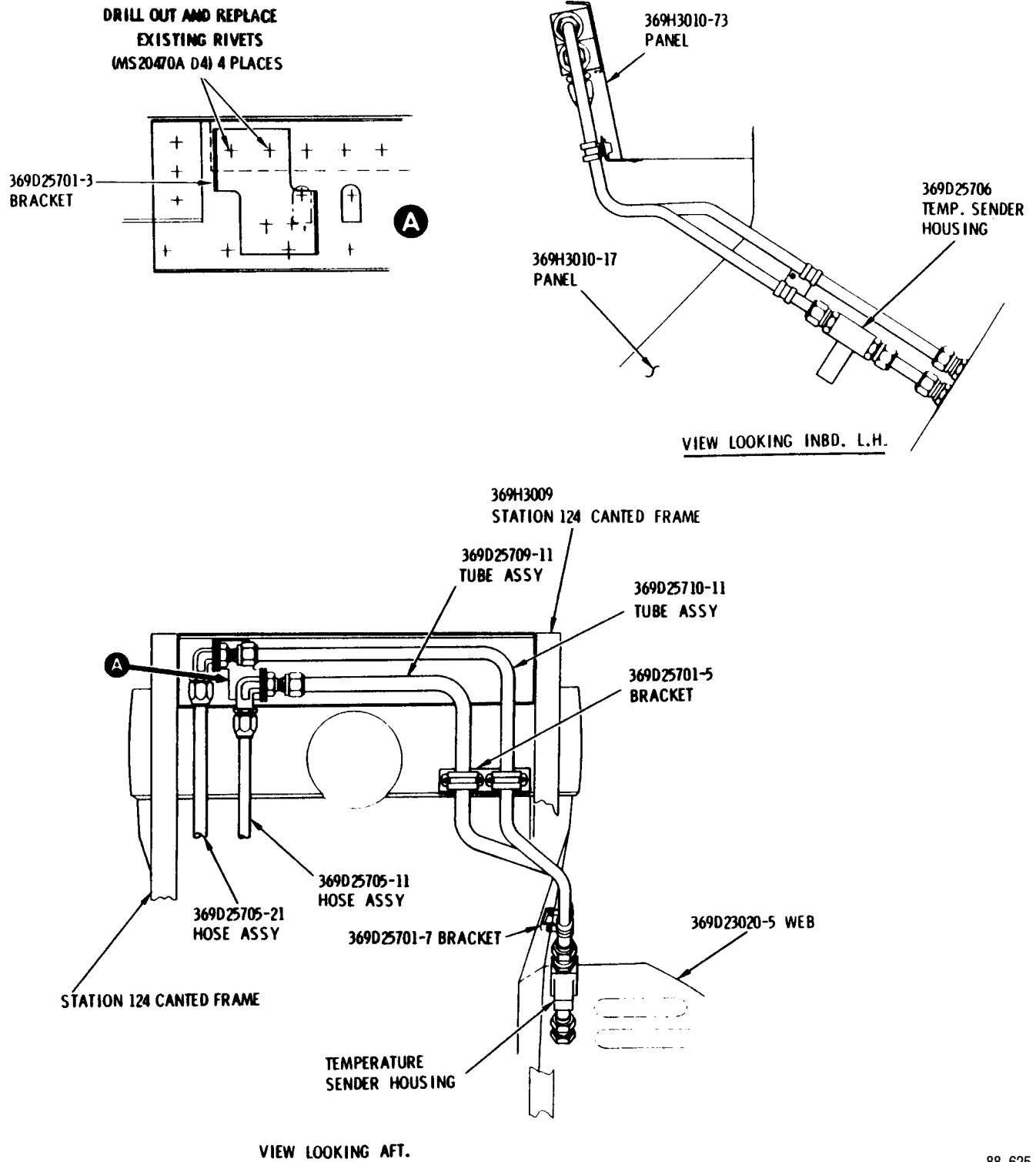
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Figure 3. Main Rotor Oil Cooling Installation Bracket Removal

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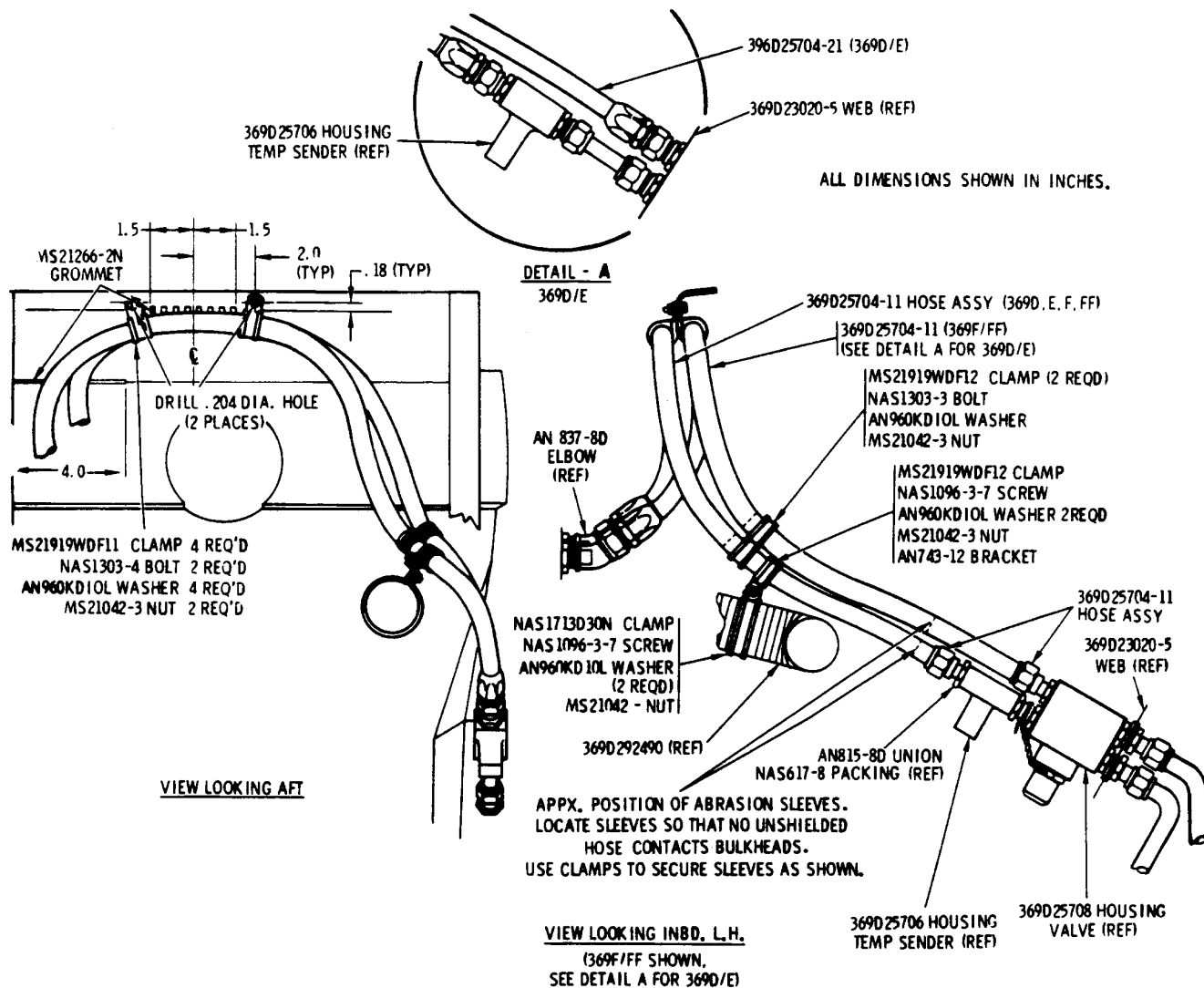
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Figure 4. Main Rotor Cooling Flex Line Installation

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\* Supersedes Service Information Notice DN-147, EN-35 and FN-24, dated 23 April 1987.

**SUBJECT:** ONE-TIME INSPECTION OF MAIN TRANSMISSION TAIL ROTOR  
OUTPUT DRIVE PINION SHAFT (P/N 369D25125-BSC and  
369D25125-11).

**MODELS AFFECTED:** All McDonnell Douglas Helicopter Company (MDHC) 369D, 369E  
and 369F/FF Series helicopters with 369D25100-BSC or-501 main  
transmission assemblies installed.

**TIME OF COMPLIANCE:** Those helicopters with the following listed main rotor  
transmission assemblies shall accomplish this Notice within the next 25 hours  
of helicopter operation:

Main Transmission Serial Numbers:

1989  
1992 and 1993  
1998 thru 2000  
2002 thru 2082  
2084 and 2085

All other helicopters shall accomplish this Notice within the next 100 hours  
of operation or at the next annual inspection, whichever occurs first.

All subject main transmission tail rotor output drive pinion shafts in Spares  
inventories shall comply with this Notice before installation.

## NOTE

- 369D25125-11 pinions with the letter "T" after the serial number and  
those pinions with serial number B790 and subsequent (B790 through Z999)  
do not have to comply with this Notice.
- It is recommended that compliance with Notice DN-148.1/EN-36.1/FN-25.1  
be accomplished in conjunction with this Notice, if not previously accomplished.

**PREFACE:** Recently there have been reported instances of the 369D25125 output drive  
pinion shafts fracturing. As a result, MDHC is requiring the following inspec-  
tion of the output pinion shaft. Parts which do not have the undercut and  
shotpeening shown in Figure 1 may be returned to MDHC for rework if a  
magnetic particle inspection of the part shows no indications of cracking.

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## REFERENCE PUBLICATIONS:

369D/E HMI Vol. I (CSP-D-2) Revised 15 June 1985  
369F/FF HMI Vol. I (CSP-F-2) Revised 15 April 1986  
369DEF COM (CSP-DEF-5) Revised 15 March 1985

## PARTS LIST

<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Source</u>
O-Ring	MS29561-014	2	MDHC
O-Ring	MS29561-264	1	MDHC
O-Ring	MS29561-013	2	MDHC
O-Ring	MS29561-022	1	MDHC
O-Ring	MS29561-235	1	MDHC
O-Ring	MS29561-437	1	MDHC
Lockwasher	SL61W-11F	1	MDHC
Speedi sleeve	99187	AR	MDHC
Seal, oil	369D25182-3	1	MDHC
Filter	ACA388F90	AR	MDHC

## MATERIAL

<u>Nomenclature</u>	<u>Source</u>
Emery Cloth, fine	Commercial
Carborundum Stone or Arkansas, extra fine	Commercial
Primer, Epoxy (MIL-P-23377, Type 1)	Commercial

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## Procedure

- a. Remove main rotor transmission per applicable HMI, Vol. I, Section 9.
- b. Disassemble main rotor transmission per Part I, Section 2 of COM.
- c. Visually inspect the output pinion gearshaft for the following inspection criteria/discrepancies:
  1. Identify and record shaft serial number. If shaft serial number is contained in the list below, return shaft to MDHC for disposition:

T/R Output Drive Pinion Shaft Serial Numbers:  
1474 thru 1502  
1504 thru 1547  
1549 thru 1561  
1563 and 1564  
1566.
  2. Verify pinion has an undercut style fillet radius as shown in Figure 1.
  3. Perform magnetic particle inspection, per MIL-I-6868, or dye penetrant inspection, per MIL-I-25135, grade 4 or better, to verify fillet radius area and I.D. of shaft do not show indications of cracking.

### NOTE

Parts which do not have the undercut shown in Figure I may be returned to MDHC for rework if a magnetic particle or dye penetrant inspection of the part does not show any crack indications. Parts which show indications of cracking during magnetic particle inspection shall be returned to MDHC for disposition.

4. Scratches, tooling marks, corrosion or other surface defects in the fillet radius (inboard bearing journal). The fillet radius surface finish shall not exceed RMS 63. Verify area specified in Figure 1 is shot peened.

### NOTE

- RMS is a standard used by machine shops for measuring machined metal surfaces. RMS comparators can be obtained at machine shop supply facilities.
  - A shot peened surface exhibits an orange peel appearance when viewed with a 10X magnifying glass.
5. Indications of corrosion or rough surface finish on the I.D. of the shaft and/or lack of cadmium plating. The surface finish of the shaft I.D. shall not exceed RMS 125.
  6. Scratches, tooling marks, corrosion or other surface defects which exceed the serviceable dimensions shown in Figure 1.

### NOTE

Those shafts which do not meet the criteria listed above, may be returned to MDHC for disposition or reworked per the following instructions:

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d. Rework those parts which have scratches, tooling marks, corrosion or other minor surface defects in the fillet radius per the following steps if a magnetic particle inspection of the part shows no indications of cracks:

1. Position pinion on a lathe or equivalent rotating fixture.
2. Polish out defects in the pinion fillet radius as it is turned by hand on the rotating fixture.



Fine emery cloth and extra fine hand stone are the only approved method for the above procedure. I.D. finish requirements and serviceable dimensions shall comply to this Notice and to Figure 1 of this Notice and to Part I, Section 3 of the COM. Parts which do not comply can be returned to MDHC for evaluation or warranty consideration if applicable.

## NOTE

- Use fine Emery cloth wrapped around a tongue depressor for polishing. Extra-fine Arkansas or carborundum stone may be used provided the diameter matches radius.
- Surface corrosion and/or corrosion pits, which can be removed without excessive honing (not greater than 0.005 inch), on the I.D. may be removed and blended out. The I.D. of the shaft should be coated with epoxy primer (MIL-I-23377, Type 1) following rework or if the I.D. is not cadmium plated and no corrosion is found. The magnetic particle inspection of the part for crack indications should be performed prior to the application of the primer coat.

- e. Magnetic particle inspect pinion, per MIL-I-6868, if not already performed.
- f. Reidentify acceptable output pinions with a "T" after the pinion serial number, via the vibroscribe process, and by etching ink stamp the serial number and the letter "T" as shown in Figure 1.
- g. Reassemble main transmission per Part I, Section 6 of COM.
- h. Reinstall main transmission into helicopter per Section 9 of applicable HMI Vol. I.
- i. Record compliance to this Service Information Notice in the Compliance Record Section of the helicopter Log Book.

**WEIGHT AND BALANCE:** Weight and Balance Data not affected.

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

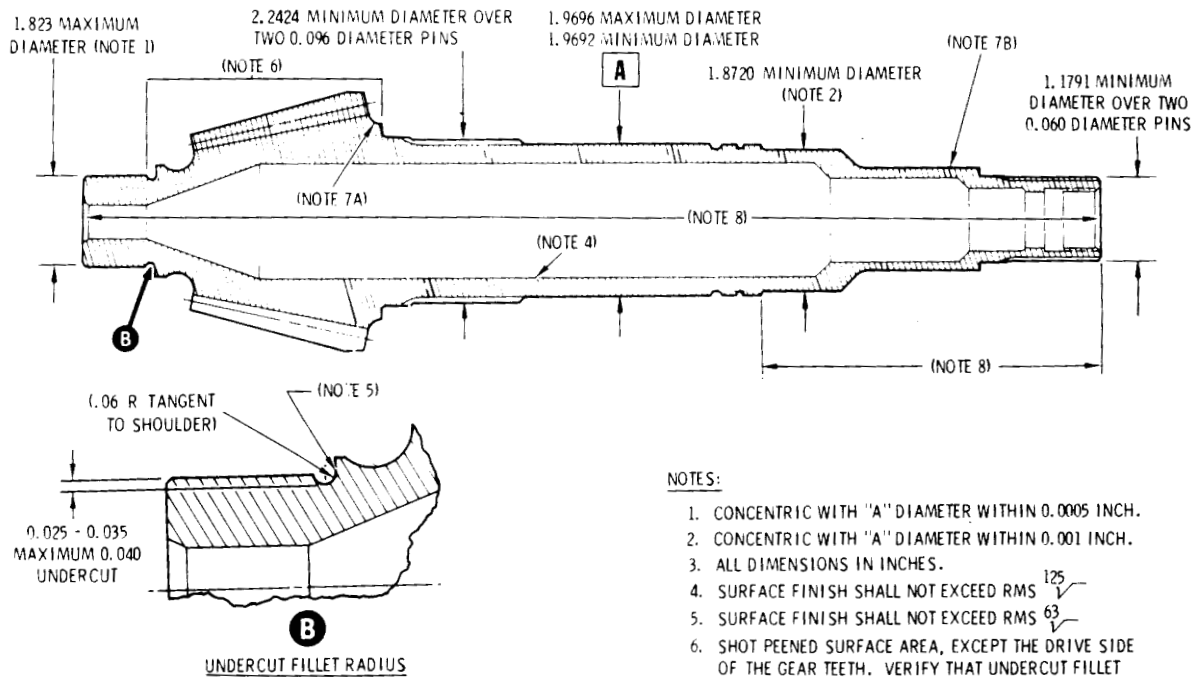
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## NOTES:

1. CONCENTRIC WITH "A" DIAMETER WITHIN 0.0005 INCH.
2. CONCENTRIC WITH "A" DIAMETER WITHIN 0.001 INCH.
3. ALL DIMENSIONS IN INCHES.
4. SURFACE FINISH SHALL NOT EXCEED RMS 125
5. SURFACE FINISH SHALL NOT EXCEED RMS 63
6. SHOT PEENED SURFACE AREA, EXCEPT THE DRIVE SIDE OF THE GEAR TEETH. VERIFY THAT UNDERCUT FILLET RADIUS SHOWN IN DETAIL "B" IS SHOT PEENED.
- 7A. VIBROSCRIBE THE LETTER "T" FOLLOWING THE EXISTING SERIAL NUMBER.
- 7B. ETCHING INK STAMP THE SERIAL NUMBER FROM 7A FOLLOWED BY THE LETTER "T" ON THIS DIAMETER.
8. CAD PLATING SHOULD BE EVIDENT OVER THIS AREA.

49-056C

Figure 1. Output Drive Pinion Gearshaft Inspection

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\*This Notice supercedes Service Information Notices DN-148, EN-36 and FN-25, dated 23 April 1987 and DN-105, dated 26 May 1982.

**SUBJECT:** INSPECTION OF MAIN TRANSMISSION OUTPUT SHAFT ASSEMBLY RING GEAR CARRIER (P/N 369D25132-BSC or -5).

**MODELS AFFECTED:** All McDonnell Douglas Helicopter Company (MDHC) 369D, 369E and 369F/FF Series helicopters equipped with 369D25100-BSC, -501 or -503 main transmission assemblies. All Spares 369D25100-BSC, -501 or -503 main transmission assemblies. All Spares 369D25132-BSC or -5 main transmission output shaft assemblies.

## NOTE

- Main transmission assemblies (369D25100-505) are not affected by this Notice. All 369D25132-3 Spares main transmission output shafts are not affected by this Notice.
- Owners/Operators are advised to replace all 369D25132-BSC and -5 output shafts at the earliest convenient date with the 369D25132-3 output shaft which will eliminate the necessity to perform the following periodic inspection. Those 369D25100-BSC, -501 and -503 transmissions will be reidentified as a -505 when the 369D25132-3 output shaft assembly is installed and the output pinion nozzle and input gear nozzle are reworked per COM, Part I, Section 5.

## **TIME OF COMPLIANCE:**

## NOTE

- If the periodic visual inspection per DN-148, EN-36 and FN-25 has already been complied with, the following periodic visual inspection does not have to be complied with again at 100 hours.
- It is recommended that compliance with Notice DN-147.1/EN-35.1/FN-24.1 be accomplished in conjunction with this Notice if not previously accomplished.

**Periodic Visual Inspection** - Shall be accomplished within the next 100 hours of helicopter operation and at each subsequent 300 hours of helicopter operation or if any of the following conditions exist:

- 1) metal particles found in the transmission;
- 2) excessive noise or vibration in the main transmission;
- 3) vibration in the aircraft that can not be reduced or eliminated by ordinary main rotor blade tracking and balancing procedures.

Helicopters that have transmission assemblies installed with less than 200 hours total time on the output shaft do not have to comply with this Notice until the next 300 hour or annual inspection, whichever occurs first.

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**PREFACE:** This Notice lists a procedure for a periodic visual inspection of the main transmission output shaft assembly to check for possible cracks in the lower welded disk, particularly in the area of the electron beam weld which attaches the lower disk to the output shaft; and in the upper disk, in the area of potential electron beam impingement directly in line with the welded area. The visual inspection is to be performed by disassembly of the transmission, and repeated at the interval specified until the 369D25132-3 output shaft is installed into the transmission.

It is to be noted that the time between overhaul (TBO) interval for the 369D25100-BSC, -501, -503 and -505 transmission assemblies are 3000 hours.

## REFERENCE PUBLICATIONS:

369D/E HMI Vol. I (CSP-D-2) Revised 15 June 1985

369F/FF HMI Vol. I (CSP-F-2) Revised 15 April 1986

369DEF COM, Part I (CSP-DEF-5) Revised 15 March 1985

PARTS			
Nomenclature	Part No.	Qty.	Source
O - Ring	5-488-047-071	1	MDHC
O - Ring	MS29561-014	2	MDHC
O - Ring	MS29561-016	2	MDHC
O - Ring	MS29561 - 264	1	MDHC
O - Ring	MS29561-013	2	MDHC
O - Ring	MS29561-022	2	MDHC
O - Ring	MS29561-437	1	MDHC
Washer	SL61W-15F	AR	MDHC
Filter	ACA388F90	AR	MDHC

## TOOLS AND EQUIPMENT

Nomenclature	Source
10X Magnifying Glass	Commercial
Dye Penetrant Kit (MIL-I-25135)	Commercial

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## PERIODIC VISUAL INSPECTION

- a. Remove main transmission assembly (1, Fig. 1) from helicopter (Section 9, HMI Vol. I).
- b. Remove lubrication pump assembly (2, Fig. 1), tail rotor drive assembly (3, Fig. 1) and main rotor drive assembly (5, Fig. 1) from main transmission (COM, Part I, Section 2).
- c. Inspect output drive shaft per the following:

1. Inspect the upper surface of shaft for bulging or raised surfaces in the area noted in Figure 2.

### NOTE

- Any shafts with bulging or raised surfaces in this area shall be rejected for service and returned to MDHC.
- If any indication of cracking is noted in step 2 or 3 below (see Figure 3), discard shaft and install 369D25132-3 shaft.
- Those shafts which have questionable indications shall be sent to MDHC Warranty and Repair for interpretation.

2. Using a 10X magnifying glass, visually inspect upper surface of shaft for indications of cracks in the area noted in Figure 3.

3. Perform dye penetrant inspection, per MIL-I-25135, on upper and lower disk surfaces allowing dye penetrant to remain on disk surfaces for a minimum of five minutes. Using a 10X magnifying glass, visually inspect both surfaces for indications of cracks.

- d. Operators with 369D25100-BSC transmission assemblies shall rework the 369D25164-13 output pinion nozzle and the 369D25165 input gear nozzle per COM, Part 1, Section 5.

- e. Reassemble main transmission (COM, Part I, Section 6) and reinstall transmission in helicopter (HMI Vol. I, Section 9).

- f. If a 369D25132-3 output shaft has been installed in the transmission assembly, then, using a vibro-pencil, reidentify main transmission assembly as 369D25100-505 on the transmission ID plate.

- g. Record compliance with this Notice in the Compliance Record Section of the helicopter Log Book.

**WEIGHT AND BALANCE:** Weight and balance not affected.

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

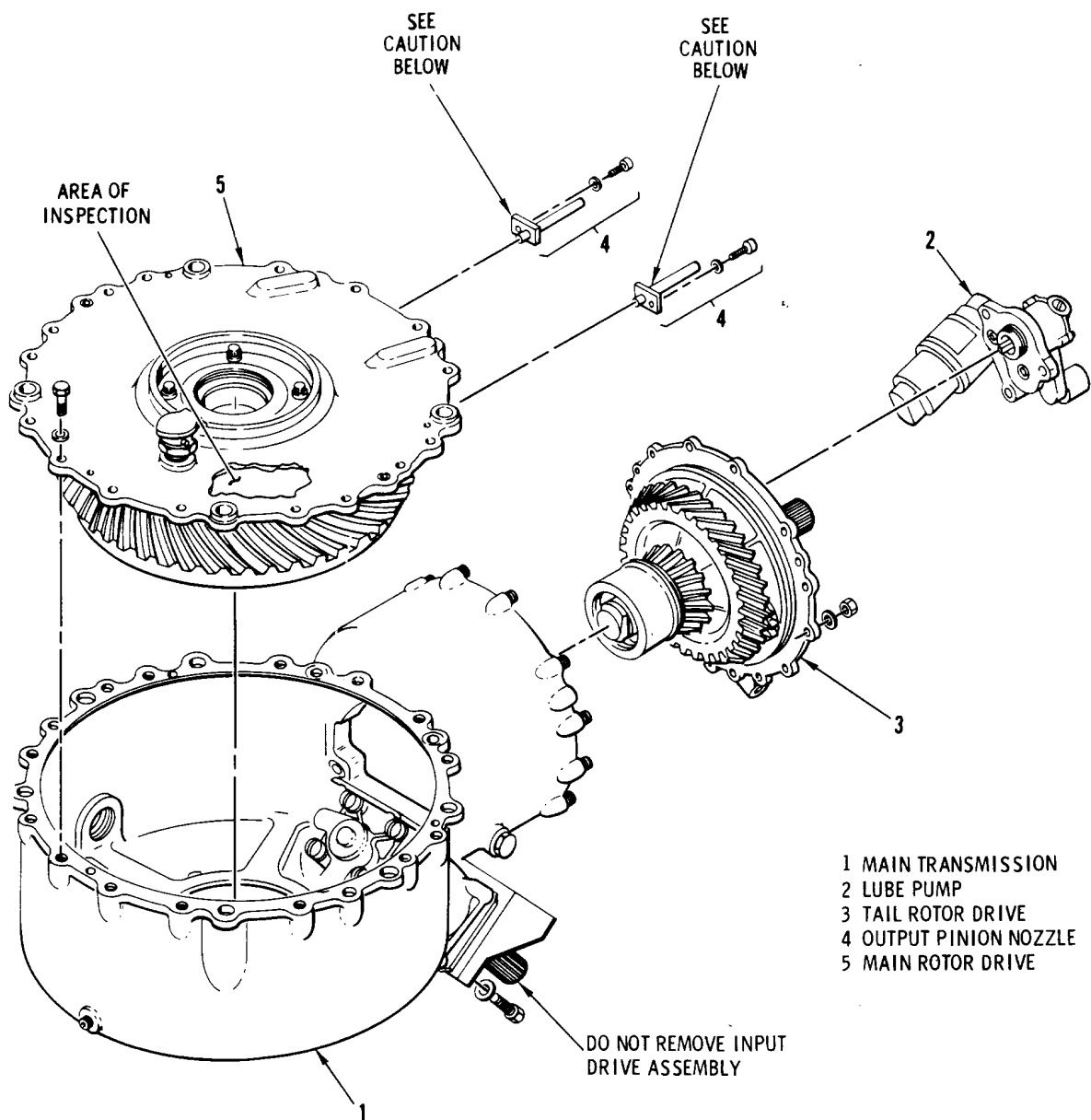
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CAUTION: OUTPUT PINION NOZZLE ASSEMBLIES (4) MUST BE REMOVED BEFORE REMOVING MAIN ROTOR DRIVE ASSEMBLY (5). IDENTIFY NOZZLE ASSEMBLIES (4) TO REINSTALL EACH NOZZLE IN SAME LOCATION

88-633

Figure 1. Main Transmission - Major Components

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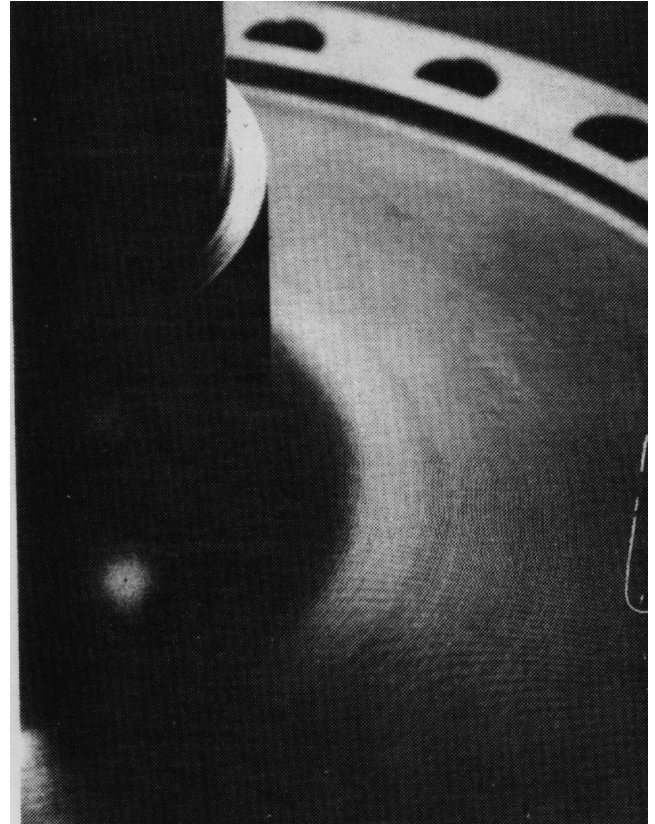
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**UNACCEPTABLE**



**ACCEPTABLE**

ANY BULGING OR RAISED  
SURFACE IN THIS AREA  
IS NOT ALLOWED ON THE  
UPPER DISK SURFACE  
(INSPECT TOTAL  
CIRCUMFERENCE)

88-696

**Figure 2. Inspection of Upper Web of Output Shaft**

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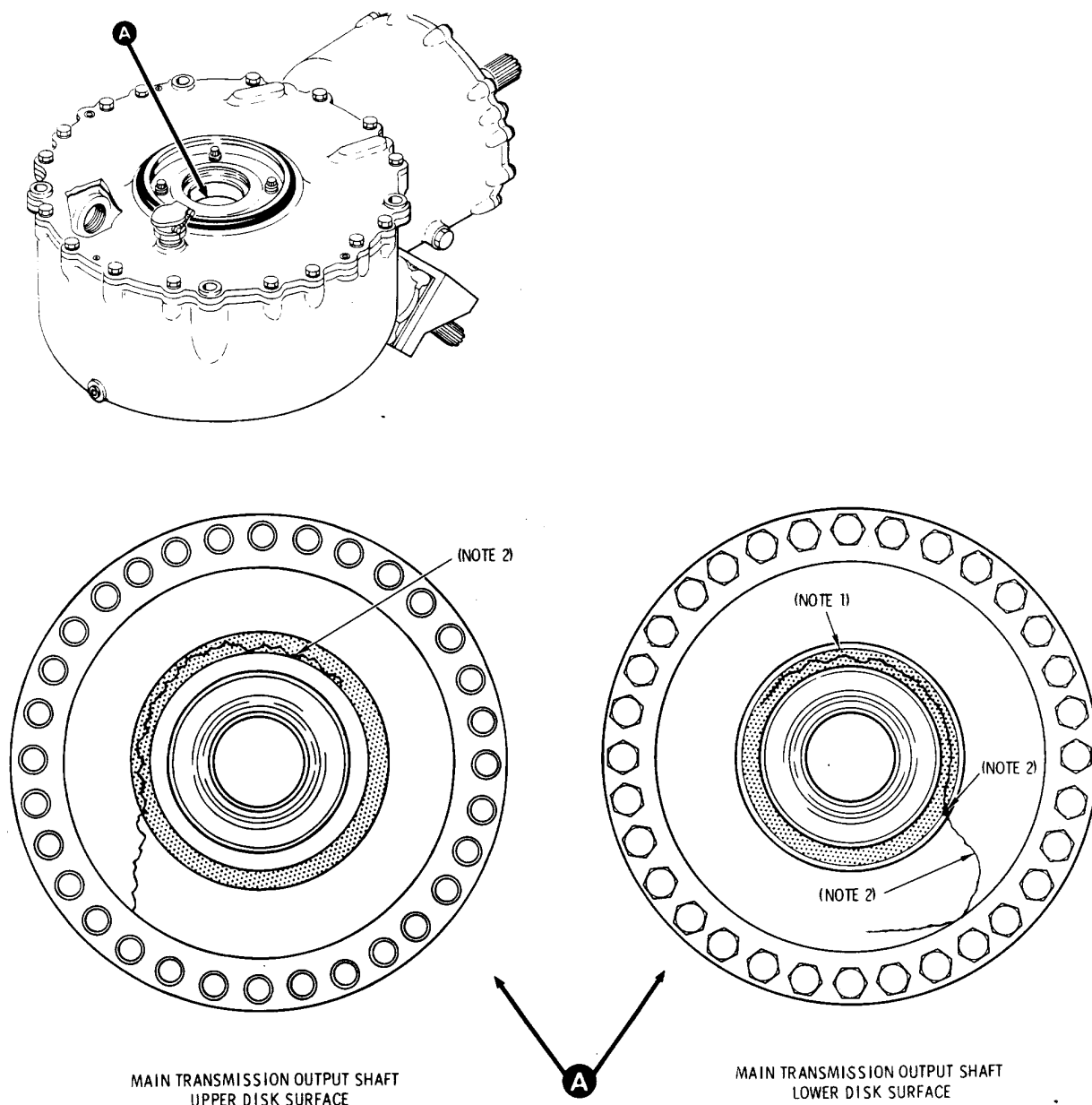
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**NOTES:**

1. PAY PARTICULAR ATTENTION FOR CRACKS IN AREA OF ELECTRON BEAM WELD WHICH ATTACHES LOWER DISK TO OUTPUT SHAFT (SHADED AREA 360°).
2. PAY PARTICULAR ATTENTION FOR CRACKING OR CHIPPING IN FLAT SURFACE OF DISKS. SIMULATED CRACK PROPAGATION AND CHIPPING IS SHOWN.

88-562A

**Figure 3. Periodic Inspection of Transmission Output Shaft**

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**MANDATORY**

\* Supersedes Service Information Notices HN-194 & DN128, Dated 09 July 1984.

**SUBJECT:** 369A8010 ENGINE OIL PRESSURE AND TORQUE TUBING PULL TEST.

**MODELS AFFECTED:** All McDonnell Douglas Helicopter Company (MDHC) 369 Series helicopters including the 369A (OH-6A) Series helicopter.

**TIME OF COMPLIANCE:** The requirements of this Notice shall be accomplished within the next 100 hours of helicopter operation, if it has not already been complied with, and any time the 369A8010 oil lines and related firewall fittings are removed and reinstalled or replaced.



In addition, this Notice shall be complied with anytime there are indications of oil leaks around the 369A8010 oil tubing at the firewall fittings.

**PREFACE:** Procedures in this Notice describe an inspection of two nylon tubes used as oil pressure and torque pressure lines for proper swaging of the tube assemblies connected to the firewall fittings. If not properly swaged, the tubes can pull out of the fittings, causing loss of engine oil which may result in damage to the engine and surrounding components.

**REFERENCE PUBLICATIONS:**

369H Basic HMI (CSP-H-2) Revised 15 June 1985  
368D/E HMI Vol. I (CSP-D-2) Revised 15 June 1985  
368F/FF HMI Vol. I (CSP-F-2) Revised 15 April 1986  
Applicable Pilot's Flight Manual (for helicopter operation)

TOOLS AND EQUIPMENT	
Nomenclature	Source
Duct tape (2 inch wide)	Commercial
Cord (30 lb. test min.) two to three feet long	Commercial
Spring scale, short body (0-25 lb. min)	Commercial

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## PROCEDURE

- a. Release and prop open filter bypass door or plenum chamber access door.

### CAUTION

Use care to prevent entry of foreign objects (FOD) into engine air inlet. Install cover over engine air inlet. Do not remove cover until work is completed and any debris or other materials are thoroughly cleaned out of the area. After removing the cover, verify that area around base of mast, inlet plenum and entire plenum chamber is free from foreign material.

- b. Wrap duct tape around oil pressure tube, approximately one inch in front of bulkhead fittings. (See Figure 1.)

### NOTE

Before performing the following step, it may be necessary to practice tying the rolling hitch, as shown in Figure 1, using one hand. The rolling hitch is used to attach the cord to the tube assemblies while performing the pull tests.

- c. Tie a small loop in one end of a two to three foot length of cord. Tie opposite end of cord around oil pressure tube using a rolling hitch; slide rolling hitch down tube until it rests on duct tape; tighten hitch, (See Figure 1.)

- d. Using a short body length spring scale (capacity - 0-25 lb.), attach hook on scale to loop in free end of cord. Apply 15-20 lbs. straight pull, using cord, on oil pressure tube for approximately 15 seconds. If tube pulls partially or completely out of fitting, replace fitting. Remove scale and cord from tube assembly.

- e. Repeat steps B through D for torque pressure tube assembly.

- f. Remove FOD cover installed over engine air inlet. Verify that area around base of mast, inlet plenum and entire plenum chamber is free of debris and other foreign materials.

- g. Start and operate helicopter at ground idle for two minutes minimum.

- h. Shutdown helicopter. After rotor blades have stopped turning, check oil pressure and torque pressure tubing at the firewall fittings for any indications of leakage. Replace fitting(s) if any leakage is noted. (Section 17 of applicable HMI).

- i. Close filter bypass door and chamber access door.

- j. Record compliance to this Service Information Notice in the Compliance Record Section of the helicopter Log Book.

**WEIGHT AND BALANCE:** Weight and balance not affected.

The resultant alteration to effected models as described by procedures in this notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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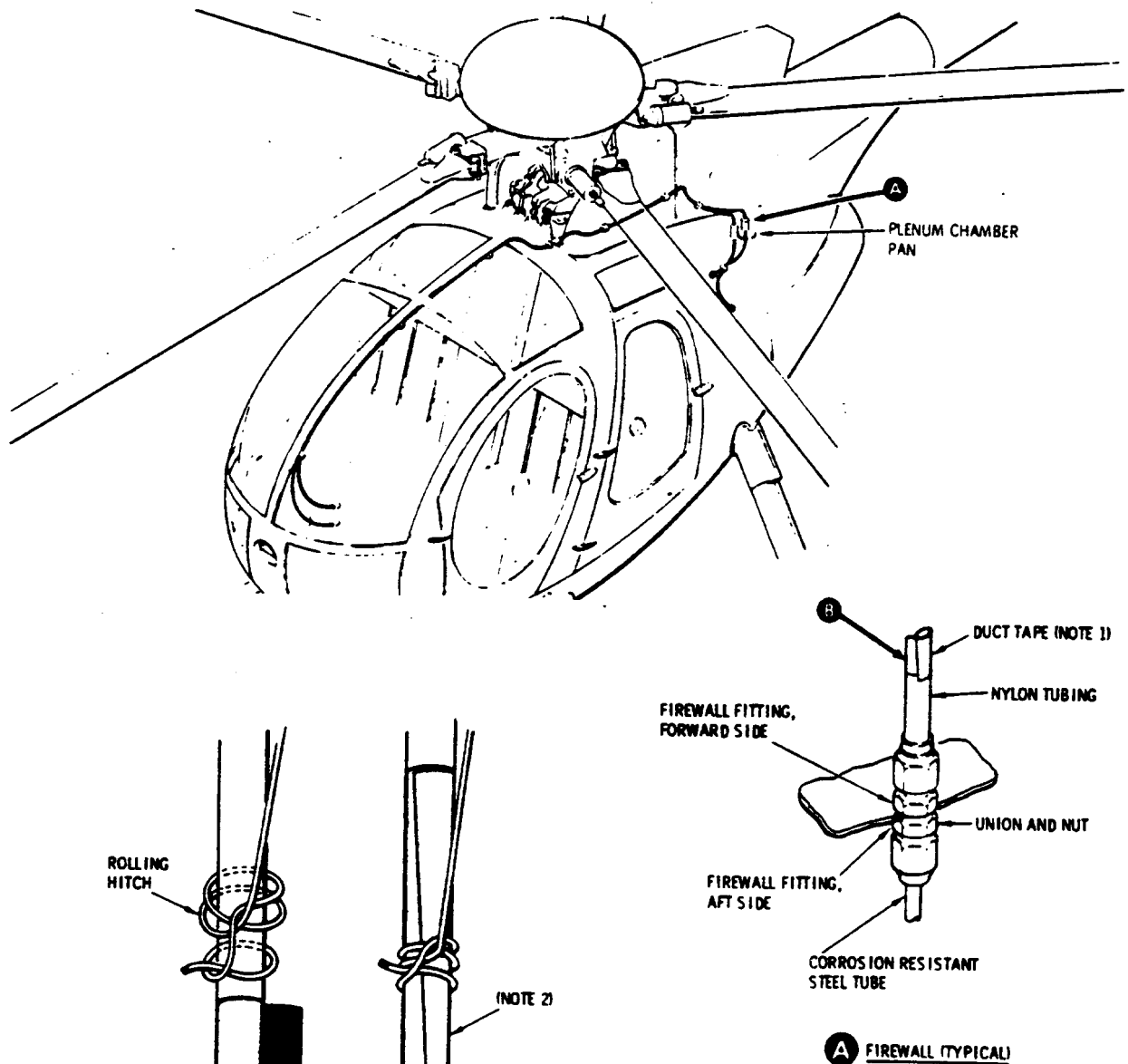
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# SERVICE BULLETIN

DATE: 15 SEPTEMBER 1987

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**NOTES:**

1. WRAP TUBE AT LEAST ONCE WITH TWO INCH WIDE DUCT TAPE APPROXIMATELY ONE INCH FROM FITTING.
2. SLIDE HITCH DOWN TUBE UNTIL IT RESTS ON DUCT TAPE.

88-605

Figure 1. Oil and Torque Pressure Tubing Pull Test Inspection

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HN-210  
DN-150  
EN-38  
FN-27

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\*This Notice supercedes Service Information Letters, HL-92, DL-60 and EL-11, dated 15 July 1985.

**SUBJECT:** START PUMP WIRE ROUTING AND FUEL QUANTITY SENDER INSPECTION.

**MODELS AFFECTED:** All MD Helicopters, Inc. (MDHI) 369A (OH-6A), 369H, 369HE, 369HM, 369HS, 369D and 369E Series helicopters. In addition, all 369F/FF Series helicopters equipped with internal start pumps.

**TIME OF COMPLIANCE:** This Service Information Notice shall be accomplished within the next 25 hours of helicopter operation or at the next removal of the fuel start pump or fuel quantity sender unit, whichever occurs first and at each subsequent removal of the start pump from the fuel cell.

**PREFACE:** There have been recent incidents where the fuel tank start pump wiring interfered with the 369A4245 fuel float after the start pump and fuel quantity sending unit had been replaced in the field. This interference can result in erroneous fuel quantity indications. To prevent this situation, the fuel pump wiring shall be wrapped around or tie-wrapped to the fuel inlet hose per the HMI. This Notice provides for an inspection to be performed to ensure proper start pump wire routing and fuel quantity sender unit operation.

**REFERENCE PUBLICATIONS:**

369D/E HMI Vol. I (CSP-D-2) Revised 15 June 1985

369H Basic HMI (CSP-H-2) Revised 15 June 1985

369F/FF HMI Vol. I (CSP-F-2) Revised 15 April 1986

**WEIGHT AND BALANCE:** Weight and balance data not affected.

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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## PROCEDURE

### WARNING

Use all necessary precautions consistent with safe practice when working in or around fuel cells.

### CAUTION

Care shall be taken not to damage fuel float arm or low fuel level warning contact spring while accomplishing this Notice.

- a. Ensure all electric power is off.
- b. Remove left fuel cell access cover per applicable HMI, Section 12.
- c. Disconnect start pump electrical harness from access cover. (See Figure 1.)
- d. Ensure that electrical harness is wrapped around fuel inlet hose preventing any interference with the fuel quantity float arm as shown in Figure 1.
- e. Inspect fuel float arm and low level warning contact spring for damage. Replace any damaged parts as necessary.

### CAUTION

Do not reinstall any current configuration float assembly that shows indications that attempts have been made to adjust fuel level indications by bending fuel float arm. (See Figure 2.)

- f. Connect start pump electrical harness to access cover.
- g. Install left fuel cell access cover per Section 12 of applicable HMI. Turn access cover clockwise and slide as far aft as possible.
- h. Bleed fuel system as necessary per HN-185 for 369H Series helicopters and Section 12 of HMI for 369D and 369E Series helicopters.
- i. Perform an operational check of the fuel quantity transmitter and indicator per the following instructions:

## NOTE

This operational check is not for accuracy of the fuel quantity indicating system but rather for proper functioning of the fuel float arm.

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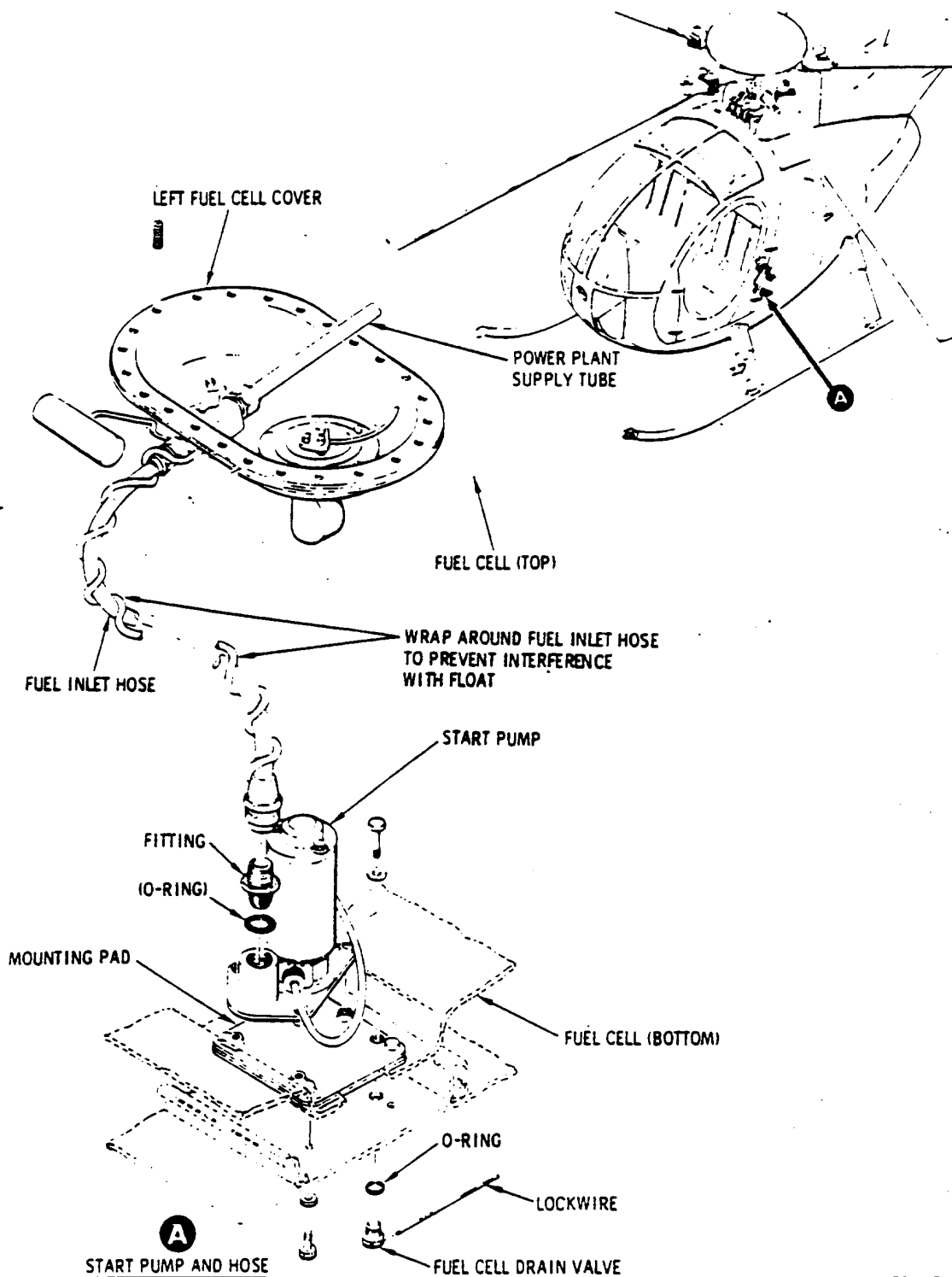
1. With fuel cell fuel, set main power switch to EXT PWR (24 to 28.5 VDC). Fuel gage should read FULL.
2. Begin defueling fuel cell per Section 2 of applicable HMI. Observe movement of fuel gage.
3. Continue draining fuel cell until empty. Note point at which, if any, indicator ceases to show decreasing fuel quantity. Verify proper operation of FUEL LOW warning light. If gages and warning lights function properly until fuel cell is empty, proceed to Step j.
4. If fuel float interference is experienced, loosen (5) sensor attach bolts and rotate sensor clockwise as far as possible and tighten. If float is still interfered with, loosen fuel cell access cover and slide access cover aft as far as possible and turn clockwise. One or both of these actions should free the float arm. If float arm is still interfered with, disconnect electrical power, remove sensor unit and verify start pump wiring does not interfere with fuel float arm.
5. When fuel float arm is free from any interference, tighten all bolts and recheck operation of fuel quantity sending unit per Step i, (1) through (3).
- j. Ensure fuel system is properly serviced per HN-185 for 369H Series helicopters and Section 2 of HMI, Vol. I for 369D, 369E and 369F/FF Series helicopters.
- k. Record compliance to this Service Information Notice in the Compliance Record Section of the helicopter Log Book.

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Figure 1. Fuel Start Pump Wire Routing Inspection

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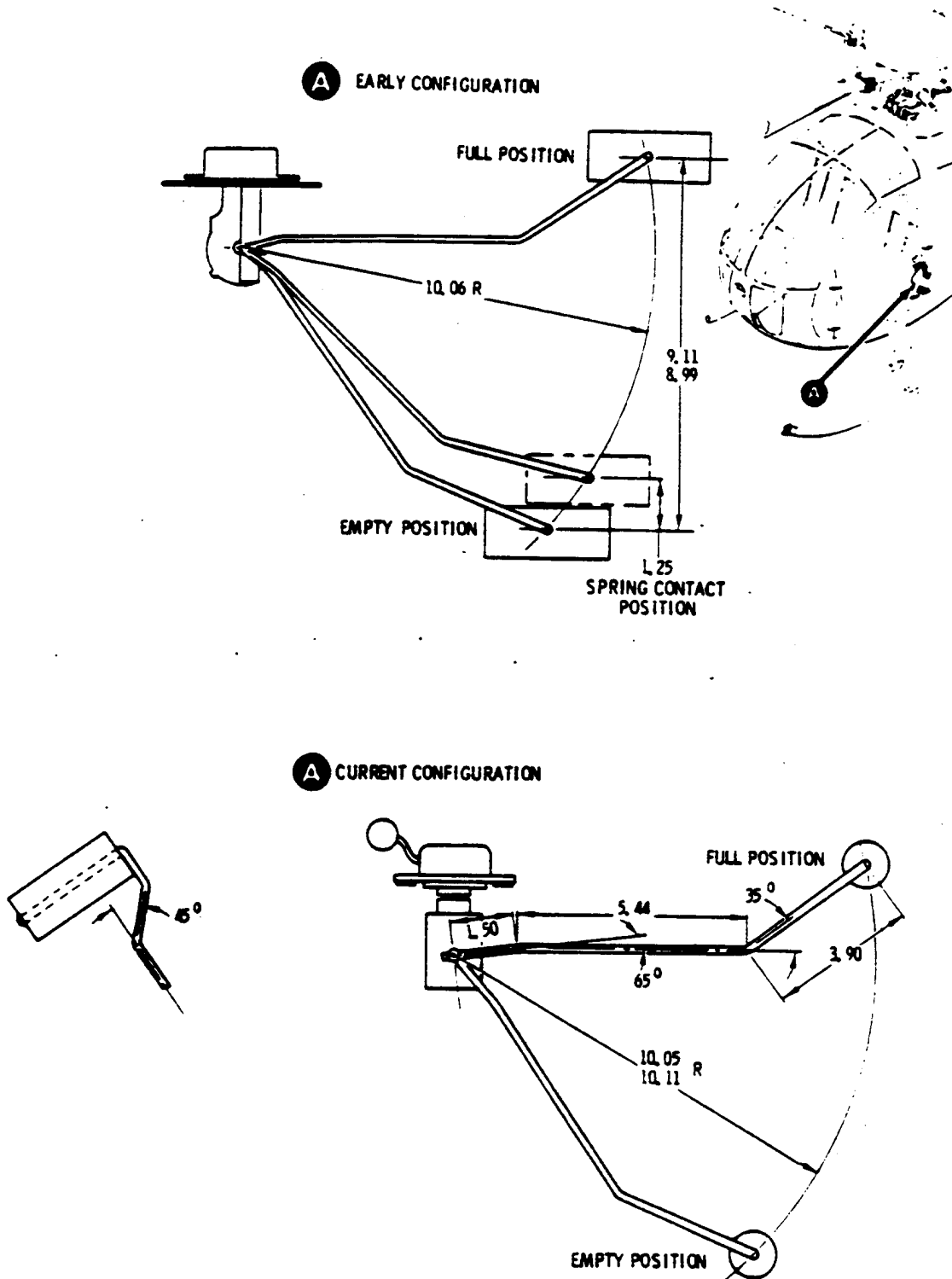
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Figure 2. Fuel Float Arm Assembly Inspection

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# SERVICE BULLETIN

DATE: 10 OCTOBER 1987

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**SUBJECT:** INSPECTION OF TAIL ROTOR TRANSMISSION MOUNTING STUDS.

**MODELS AFFECTED:** All McDonnell Douglas Helicopter Company (MDHC) 369D, 369E and 369F/FF Series Helicopters.

**TIME OF COMPLIANCE:**

**PART I** -- Shall be accomplished prior to next flight.

**PART II** -- Shall be accomplished during each pilot's preflight check of the helicopter.

**PART III** -- Shall be accomplished within the next 25 hours of helicopter operation.

**PART IV** -- At each subsequent 100 hours of helicopter operation following compliance to PART III of this Notice.

**PREFACE:** There have been several reported instances where some or all tail rotor transmission mounting studs have failed due to indications of bending fatigue. In some cases, a considerable loss of the mounting studs clamping force has occurred which allows prohibitive amounts of vibrating motion of the tail rotor transmission relative to the tail boom casting. As a result, the following four-part service information notice has been developed to ensure the proper integrity of the tail rotor transmission mounting studs.

**REFERENCE PUBLICATIONS:**

369D/E HMI Vol. I (CSP-D-2) Revised 15 June 1985

369F/FF HMI Vol. I (CSP-F-2) Revised 15 April 1986

369D/E/F/FF SRM (CSP-DEF-6) Revised 15 Nov 1984

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# SERVICE BULLETIN

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## PART I. -- INITIAL INSPECTION

### WARNING

If there are any indications of movement, wear or fretting while performing steps a. and b. of Part I of this Notice, perform Part III of this Notice before the next flight.

a. On 369D/E helicopters, visually examine the security of the tail rotor transmission attachment to the tailboom fitting for any indications of relative motion or fretting products between the transmission and tailboom casting.

On 369F/FF helicopters, visually examine the security of the tailboom extension to tailboom attachment for any indications of relative motion or fretting products between these attachments.

b. Inspect each mounting stud and attaching hardware for movement, wear or fretting.

### NOTE

If the attach joint is visually secure, a one-time flight, not to exceed three hours in duration, is allowed to enable operator to move affected helicopters to a facility where the following torque check can be performed.

c. On 369D/E helicopters, verify the torque of the tail rotor transmission to tailboom mounting studs is **75-95** inch-pounds on each of the four nuts.

On 369F/FF helicopters, verify the torque of the tailboom extension to the tailboom mounting studs is **75-95** inch-pounds on each of the four mounting nuts.

d. If it can safely be established that the tail rotor transmission or tailboom extension is securely attached to the tailboom mounting studs and faying surface, apply torque stripe paint line across the faying surfaces of each nut and transmission flange or tailboom extension flange and also across the tailboom casting pad and the adjacent transmission case or tailboom extension.

e. Record compliance with Part I of this Notice in the Compliance Record Section of the helicopter Logbook.

## PART II. -- PILOT'S PREFLIGHT CHECK

### CAUTION

If any indications of cracks appear on torque paint stripping, perform PART III before further flight.

a. Examine tail rotor transmission installation for security by checking the torque stripes for movement of the transmission (cracks in the torque paint), fretting products, gapping between the faying surfaces and/or rotation of the nuts and studs.

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## PART III. -- REMOVAL AND REINSTALLATION OF TAIL ROTOR TRANSMISSION.

- a. Remove tail rotor transmission from helicopter, Section 9, HMI Vol.I.
- b. On 369F/FF Series helicopters, remove tailboom extension, Section 5, HMI Vol. I.
- c. Remove all paint and sealant from mating surfaces.

### NOTE

Remove excessive sealant, as required, from transmission to gain dean mounting surfaces. Ensure that no gap in sealant coverage exists around the transmission bearing cover assembly.



Use care not to remove the anodize coatings.

- d. Visually examine the mounting studs for damage or deformation. Replace damaged or deformed stud per Section 3 of the Structural Repair Manual (CSP-DEF-6).
- e. Apply zinc chromate primer in holes, on faying surfaces and on the grip area of the mounting studs and install tail rotor transmission (Section 9, HMI Vol. I ) or tailboom extension (Section 5, HMI Vol. I ) while primer is still wet.

### NOTE

- Note the drag torque for each nut and' its location on the transmission in the helicopter for later use.
- Torque nuts **75-95** inch-pounds while zinc chromate is still wet.

- f. Torque nuts **75-95** inch-pounds plus drag torque.
- g. Apply torque stripe paint per Part I of this Notice.
- h. Between two (2) and ten (10) hours of helicopter operation (to allow parts to seat), check the torque of each mounting nut as follows:
  - 1. Using the drag torque previously measured and noted in the Logbook, apply a torque load of **95 +/- 3** inch-pounds plus the noted drag torque (noted for each individual nut) to each mounting nut of the transmission.
- i. Reapply torque strip paint per step d., Part I, of this Notice.
- j. Record compliance with Part III of this Notice in the Compliance Record Section of the helicopter Logbook.

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## PART IV - REPETITIVE INSPECTION (100 hour)

a. Check the torque of each tail rotor transmission mounting nut and tailboom extension mounting nut (369F/FF only) as follows:

1. Using drag torque previously measured and noted in Logbook, apply a torque load of **95 +/-3** inch-pounds plus the noted drag torque (noted for each individual nut) to each mounting nut on the transmission.

b. Reapply torque stripe paint per step d., Part I, of this Notice.

c. Record compliance to Part IV of this Notice in the Compliance Record section of the helicopter Logbook.

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HN-213  
DN-152  
EN-41  
FN-30

# SERVICE BULLETIN

DATE: 18 DECEMBER 1987

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**SUBJECT:** REPLACEMENT OF 369A8442-BASIC LATCH ASSEMBLY ON THE PARTICLE SEPARATOR BYPASS DOOR.

**MODELS AFFECTED:** All McDonnell Douglas Helicopter Company (MDHC) 369 Series helicopters including the 369A (OH-6A) Series helicopter.

**TIME OF COMPLIANCE:** The requirements of this Notice shall be accomplished at the next annual inspection or the next time the particle separator filter by pass door is removed, whichever occurs first.

**PREFACE:** MDHC has received reports of the latches on the engine inlets filter bypass door fracturing and allowing the latch portion of the assembly to fall into the plenum chamber which in turn could result in damage to the engine. A new and improved latch assembly has been introduced to prevent future occurrences of this problem. MDHC is requiring operators to replace the existing latch assembly with the improved design per the instructions given in this Notice.

## REFERENCE PUBLICATIONS:

Optional Equipment Manual (CSP-004) Re-issued 15 Jan. 1985

Illustrated Optional; Accessories (CSP-H-8) Re-issued 01 Sept. 1978

PARTS			
Nomenclature	Part No.	Qty.	Source
Latch Assembly	369A8442-3	2	MDHC
Screw	MS24693C279*	4	Commercial
Nut	MS210423-3	4	Commercial
Washer	AN960KD10L	4	Commercial

\* MS24693C277, MS24693C280 & MS24693C281 may be used as alternates.

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## PROCEDURE



Use care to prevent entry of foreign objects (FOD) into engine air inlet. Install FOD cover over engine air inlet. Do not remove cover until work is completed and any debris is thoroughly cleaned out of the area. After removing cover, verify that area around base of mast, inlet plenum and entire plenum chamber is free from foreign material.

- a. Disconnect 369A8439 link assemblies from 369A8442-BSC latch assemblies. (See Figure 1)
- b. Remove 369A8442-BSC latch assembly. (two places)
- c. Install 369A8442-3 latch assembly in two places on bypass door.
- d. Attach 369A8439 link assemblies to 369A8442-3 latch assemblies.
- e. Remove FOD cover installed over engine air inlet. Verify that area around base of mast, inlet plenum and entire plenum chamber is free of debris and other foreign objects.
- f. Record compliance to this Notice in the compliance record section of the helicopter log book.

**WEIGHT AND BALANCE:** Weight and balance not affected.

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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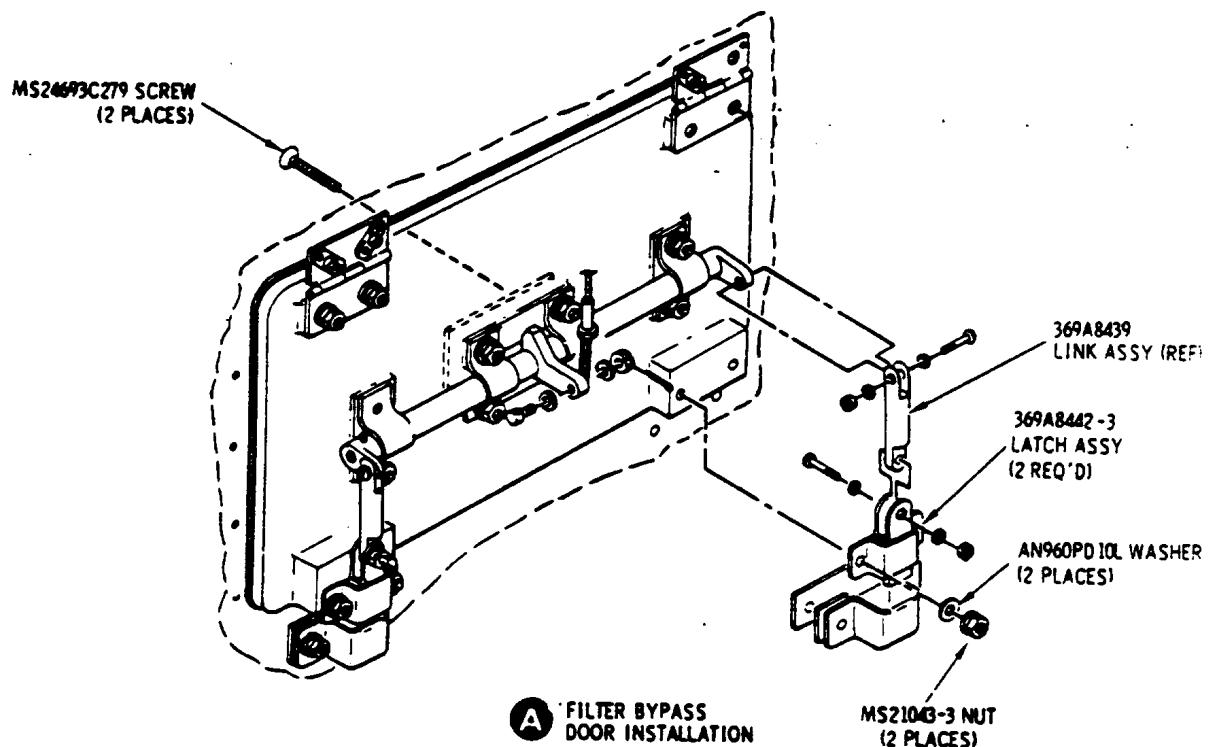
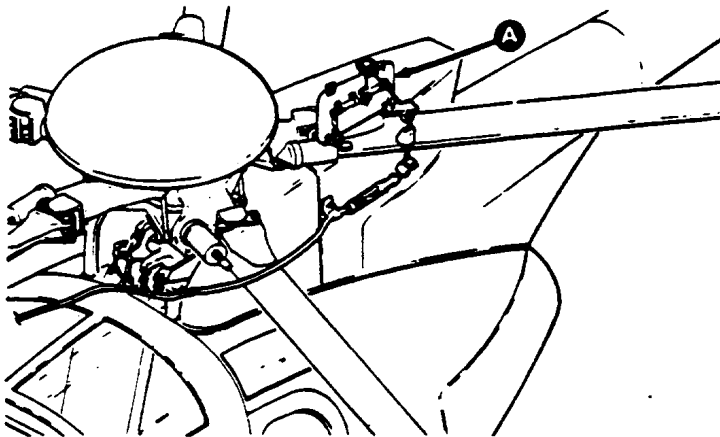
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Figure 1. Installation of 369A8442-3 Latch Assemblies

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# SERVICE BULLETIN

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\* Supersedes Service Information Notices HN-212, DN-153, EN-43 and FN-32, dated 13 November 1987; and HN-212.1, DN-153.1, EN-43.1 and FN-32.1, dated 03 March 1989. HN-212.1, DN-153.1, EN-43.1 and FN-32.1 were canceled prior to publication and distribution to Owners, Operators and Service Centers.

**SUBJECT:** ONE-TIME INSPECTION AND REPLACEMENT OF TAIL ROTOR FORK BOLT (369A1602).

**MODELS AFFECTED:** All MD Helicopters, Inc. (MDHS) 369H Series helicopters, including 369A (OH-6A), 369D, 369E and 369F/FF Series helicopters equipped with uninscribed or 369A1602-BSC tail rotor fork bolts. All tail rotor fork bolts and tail rotor assemblies in Spares inventories.

**NOTE:** Helicopters equipped with 369A1602-3 tail rotor fork bolts **and** a MS21206C4 washer and all Spares Inventories that have been purged of uninscribed bolts are not affected by the requirements of this Notice.

**TIME OF COMPLIANCE:** **Part I** of this Service Information Notice shall be accomplished within the next 25 hours of operation. In addition, Part 1 of this Notice shall be accomplished on all tail rotor fork bolts and tail rotor assemblies in Spares inventories prior to being installed onto helicopters. Compliance to Part I is essential to ensure the continued airworthiness of all 369 Series helicopters.

**Part II** shall be accomplished at the next 300 hour or annual inspection or at the next disassembly of the tail rotor assembly, whichever occurs first.

**PREFACE:** **Part I** – The possibility exists that some 369A1602 tail rotor fork bolts, manufactured between April 8, 1986 and August 28, 1986, did not receive proper processing at the manufacturer. Inadequate processing of these bolts can result in cracking and eventual bolt failure. This Notice provides instructions to identify and replace those uninscribed bolts with properly inscribed bolts.

**Part II** – MDHI has developed an improved tail rotor fork bolt (369A1602-3). MDHI requires that all operators replace the 369A1602-(BSC) with the improved 369A1602-3 bolt to provide greater resistance to corrosion and a MS21206C4 to provide proper seating of the bolt head shank radius.

## REFERENCE PUBLICATIONS:

369H Basic HMI (CSP-H-2) Revised 15 January 1989  
369D/E HMI Vol. I (CSP-D-2) Revised 01 March 1989  
369F/FF HMI Vol. I (CSP-F-2) Revised 15 April 1986  
369H Comp. Overhaul Man (CSP-H-5) Revised 15 March 1982  
369DEF Comp. Overhaul Man (CSP-DEF-5) Revised 06 March 1989

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## PARTS LIST

<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Source</u>
Bolt, T/R Fork	369A1602-3	1*	MDHI
Washer	MS21206C4	1*	MDHI or Commercial

\* Two required on a four-bladed tail rotor assembly.

## TOOLS AND EQUIPMENT

<u>Nomenclature</u>	<u>Source</u>
Socket, 12 point spline drive (#10 bolt size)	Commercial

## PART I INSPECTION PROCEDURE

- Visually inspect all Spares inventories and tail rotor fork bolts installed on helicopters and tail rotor assemblies for proper inscription on the head of the bolt (see Figure 1 ).

### NOTE

- Uninscribed tail rotor fork bolts on helicopters shall be replaced, proceed to **Part II**.
- Remove all uninscribed tail rotor fork bolts from Spares inventories and scrap those fork bolts.

Record compliance to **Part I** of this Service Information Notice in the Compliance Record section of the helicopter Log Book.

## PART II - TAIL ROTOR FORK BOLT REPLACEMENT

- Remove tail rotor fork bolts from affected helicopters as follows:



- When the blade and hub assembly is removed from the helicopter, and at all times when the pitch control links are disconnected, **DO NOT** allow blade pitch to exceed 30 degrees from neutral position (see Figure 1). This is equal to blade pitch control movement of approximately one inch in either direction. Unrestricted rotation of blades on hub can excessively bend or stretch strap pack assembly and cause undetected damage to tail rotor assembly when reassembled.
- Do not remove hub-to-drive fork hinge bolt to remove tail rotor assembly. Damage to strap pack may occur.

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## NOTE

To prevent tail rotor balance problems, at reassembly of pans and hardware, mark exact number, locations and positions of all items before removal for correct reinstallation.

1. Remove tail rotor assembly (Basic HMI and HMI Vol. I, Section 8). Removal of pitch control assembly is not required.
2. Disassemble tail rotor assembly into major assemblies (HMI Appendix C and Component Overhaul Manual, Part VII).
3. Remove fork bolt and NAS620C-416L washer (if installed) (HMI Appendix C and Component Overhaul Manual, Part VII).

## NOTE

Contact an Approved MDHI Service Center or Distributor for disposition of removed bolt.



- A MS21206C4 washer must be installed with a 369A1602-3 tail rotor fork bolt.
4. Install a 369A1602-3 fork bolt along with a MS21206C4 washer with the countersunk side towards the bolt head and reassemble hub and fork unit (HMI Appendix C and Component Overhaul Manual, Part VII).
  5. Perform testing and balancing procedures (HMI Appendix C, Part VIII and Component Overhaul Manual, Part VII).
- b. Record compliance with Part II of this Notice in the Compliance Record section of the helicopter Log Book.

**WEIGHT AND BALANCE:** Weight and balance not affected.

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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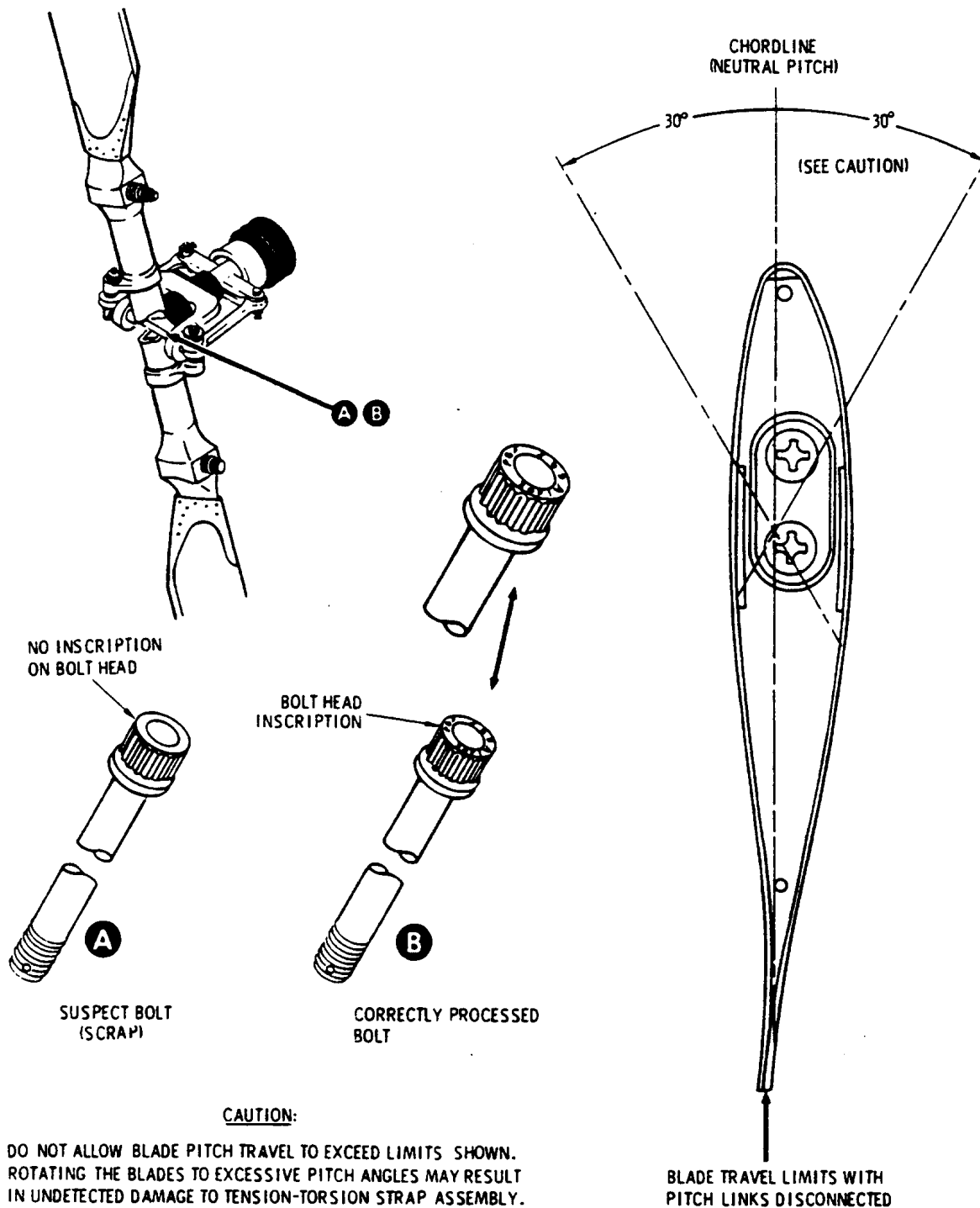
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88-628A

Figure 1. Inspection of Tail Rotor Fork Bolt.

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\*This Notice supercedes Service Information Notices: DN-2.3, dated 3 February 1981; DN-77.1, dated 1 February 1982 and HN-204, dated 20 May 1986.

**SUBJECT:** MAIN ROTOR HUB ASSEMBLY STRAP PACK LAMINATION  
INSPECTION AND TRI-FLOW WASH PROCEDURE OF THE MAIN  
ROTOR HUB ASSEMBLY AND STRAP PACK LAMINATES.

**MODELS AFFECTED:**

**PART I** – All MD Helicopters, Inc. (MDHI) 369 Series helicopters, including the 369A (OH-6A) Series helicopter.

**PART II** – All helicopters contained in Part I which operate over or around marine and other corrosive environments.

**TIME OF COMPLIANCE:**

**PART I** shall be accomplished within the next 100 hours of operation or 90 days, whichever occurs first, and at each subsequent 100 hours of operation for all 369D, 369E and 369F/FF series helicopters; and 300 hours of operation or nine months, whichever occurs first, and at each subsequent annual inspection for all 369H and 369A (OH-6A) series helicopters. In addition, if two laminates have failed in any one leg or tongue area of any strap assembly, the inspection shall be performed at 25 hours of operation or 30 days, whichever occurs first, and at each subsequent 25 hours of operation for 369D, 369E and 369F/FF series helicopters and 100 hours of operation or 90 days, whichever occurs first, and at each subsequent 100 hours of operation for all 369H and 369A (OH-6A) series helicopters.

**NOTE**

PART I shall be considered as part of the HMI and will be incorporated into the applicable section of that manual at the next scheduled revision to the HMI.

**PART II** shall be accomplished daily, prior to engine shut down following the last flight of the day, whenever helicopter operation has taken place over or around salt water environments and other environments found to be corrosive to components of the main rotor hub assembly.

**PREFACE:** The information given in Part I of this Notice provides an inspection of the main rotor strap pack assemblies and adjacent shims. Previously issued Service Information Notices concerning the inspection of main rotor strap packs have been incorporated into this Notice.

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## PREFACE CONT.

If a hub assembly or strap assembly (other than new parts in storage) are subjected to extended periods of non-use, whether installed on the helicopter or not, the strap assembly should be inspected critically for corrosion and pitting due to corrosion before being returned to service. If corrosion is found on the strap pack assemblies, contact MDHI for disposition.

It is acceptable to operate a helicopter with a hub assembly having a strap pack with up to two failed laminates in any one leg of the strap assembly (see Figure 1 ). When a laminate in the strap assembly fails, the remaining laminates pick up and carry the load. This increased load causes slightly more elongation in the remaining laminates of that leg thus shifting the mass of the rotor system. Anytime a vibration develops or there is an increase in vibration level over a short period of time, the main rotor strap pack assembly should be inspected for cracked or failed laminates per Part I of this Notice.

Part II of this Notice provides a wash/rinse procedure to help prevent main rotor hub component corrosion on helicopters operating in marine and other environments found corrosive to helicopter components.

**REFERENCE PUBLICATIONS:** 369H Basic HMI (CSP-H-2) Revised 15 June 1985  
369D/E HMI Vol. I (CSP-D-2) Revised 15 June 1985  
369F/FF HMI Vol. I (CSP-F-2) Revised 15 April 1986

TOOLS AND EQUIPMENT	
Nomenclature	Source
10X Magnifying Glass	Commercial

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MATERIAL	
Nomenclature	Source
Tri-Flow Lubricant  or Break Free	Commercial or Costa Mesa Lubricant P.O. Box 125 Olive Branch, MI 38654  Break Free Corp. 10359 Lynwood Ave. Santa Anna, CA 92705
Zip Wax	Commercial or Turtle Wax, Inc. 5655 West 73rd Street, Chicago, IL 60638

## PART I - INSPECTION PROCEDURE

### NOTE

- Conduct inspection indoors, if possible, or in a shaded area to eliminate glare of sun or bright outdoor light. To facilitate inspection, field fabricate and use plastic tool as shown in Figure 1.
- Used main rotor hub assemblies in storage shall be inspected per the requirements of PART I of this Notice.



Figures 1 thru 3 depict the main rotor hub and strap pack assembly disassembled for clarity of location and area to be inspected for cracks. Under no circumstances should the strap pack or main rotor hub assembly ever be disassembled in the field. MDHI and MDHI Approved Licensees are the only approved repair stations for main rotor hub assembly overhaul.

- Remove main rotor blades per Section 7 of applicable Basic or Vol. I HMI.
- Trim teflon from edges of laminates as shown in Figure 2.
- Field fabricate plastic tool per Figure 1. Run plastic tool in both directions along each laminate, feeling for a "catch" from a crack on a single laminate.

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## PART I PROCEDURE CONT.

- d. Using a light and mirror, visually inspect each of the four (369H, 369A/OH-6A) or five (369D,E,F/FF) main rotor strap pack assemblies for evidence of cracks or breaks in strap pack laminates in the areas of the outboard shoes and pitch housing assemblies. Each strap pack assembly consists of 15 (369H, 369A/OH6A) or 16 (369D,E,F/FF) corrosion resistant steel strap laminates. (See Figure 1.)
- e. Using a 10X magnifying glass, visually inspect the edge of strap pack laminates on both sides at outboard end of blade pitch housing (area between outboard shoes). (See Figure 1, Item 6.)



- A **laminate** has failed: a) If a crack is found in tongue area of the laminate or b) if a crack is found in both legs (lead and lag) of the same laminate.
- A **strap pack** is to be rejected (hub must be returned for overhaul): a) if three or more laminates in a single strap pack have failed, as defined above or b) if three or more laminates in a single strap pack are cracked in the same lag (lead or lag) or c) if one laminate is cracked at the outboard end (area between outboard shoes, see Figure 1, Item 6). A single gap in any one strap pack assembly is allowed. Two or more gaps in the same strap pack requires main rotor hub replacement, (See Figure 2).

### NOTE

- Do not pry at strap pack assemblies with sharp or hard edged tools. If edges become nicked or laminates get scratched, additional cracking can occur thus causing hub replacement.
  - Where accessible, ends of acceptable cracked or broken laminates should be taped to prevent scratching and damaging of adjacent laminates. (Refer to applicable HMI, Vol. I.)
- f. Visually inspect strap pack assemblies for evidence of corrosion. If corrosion is found on strap pack laminates contact MDHC service department for disposition.
  - g. Using a blunt-nosed wooden or phenolic pin (pencil size with 1/16 inch radius point), probe at the upper and lower strap laminations at the outboard ends of the blade pitch housings for evidence of laminate failure. A failed laminate, either at the lead or lag end of the strap pack, will move away from the other laminates. If the adjacent upper and lower laminates remain in tension under the probing operation, no laminate failures have occurred. Refer to Step E Caution for gap limitations.

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## PART I PROCEDURE CONT.

### NOTE

Laminate failures are defined in Step E, refer to the CAUTION.

- h. Inspect upper (369D21271-5), lower (369D21271-7) and center (369D21271-3) laminates for cracks and breaks. (See Figure 3.)

### NOTE

Cracks, breaks or other noticeable damage to the laminate/shims require main rotor hub overhaul/replacement.

- i. Install main rotor blades per Section 7 of applicable HMI.
- j. Perform tracking of main rotor blades per Section 7 of applicable HMI, VoI.I.



The maximum allowable balance weight per pitch case housing on the main rotor hub assembly is 150 grams.

- k. Record location of all cracked/broken laminates in helicopter Log Book including strap serial number, blade color, leg (lead or lag) and laminate position, if possible numbering from the top down.
- l. Record compliance to Part I of this Notice in the Compliance Record section of the helicopter Log Book.

## PART II - TRI-FLOW WASH PROCEDURE

### NOTE

Perform Step A below prior to engine shutdown, following the last flight of the day if possible. When the rotor system stops turning, the laminates of the strap pack assembly spread apart slightly. Contaminates collected on the edges of the strap pack assembly can enter the area between the laminates as they spread apart. If the rotor continues turning until the contaminants are washed away, centrifugal force will keep the laminates compressed and not allow the corrosive substances to enter the area between the laminates.

- a. Bring engine to ground idle (64-65 percent N1 ); set SCAV AIR to ON. (Refer to applicable Pilot's Flight Manual.)



Use extreme caution when working around turning rotor blades. Stay low and remain on right side of helicopter to avoid the tail rotor blades.

- b. Spray fine fresh water mist on main rotor blades.

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## PART II PROCEDURE CONT.

- c. Direct a strong stream of clean and fresh water into main rotor hub and control system surrounding the main rotor hub assembly.
- d. Spray entire main rotor hub assembly with Tri-Flow (or Break Free as an alternate) Lubricant.
- e. Shutdown engine. (Refer to applicable Pilot's Right Manual.) When main rotor blades stop turning, spray strap packs with additional Tri-Row Lubricant.

### NOTE

Lift main rotor blades to separate strap pack laminates and spray Tri-Flow Lubricant directly in between the individual laminates.

- f. Perform engine water wash. (Refer to Section 2 of applicable HMI).
- g. Wash main rotor blades with Zip Wax or equivalent, mixed per manufacturer's instructions.
- h. Record compliance to Part II of this Notice in the Compliance Record section of the helicopter Log Book.

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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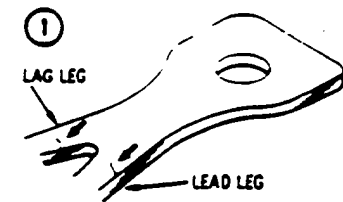


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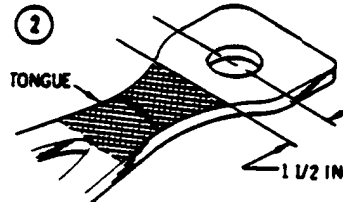
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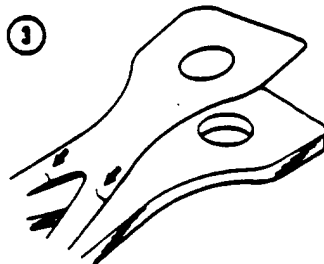
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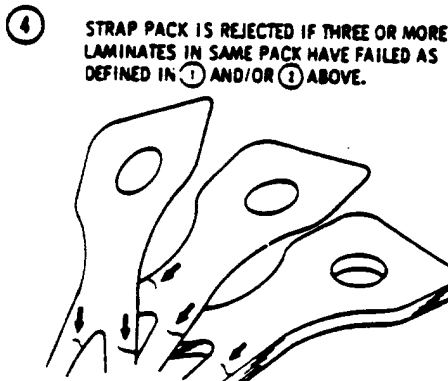
LAMINATE HAS FAILED IF CRACKS OCCUR ON BOTH LEAD AND LAG LEGS OF SAME LAMINATE.



LAMINATE HAS FAILED IF CRACK OCCURS IN TONGUE OF LAMINATE (SHADED AREA SHOWN BEYOND JOINT OF STRAP PACK LEGS).



TWO LAMINATE FAILURES AS DEFINED IN ① AND/OR ② ARE ALLOWED IN EACH STRAP PACK ASSEMBLY. (TOTAL OF TEN LAMINATE FAILURES PER HUB ASSEMBLY.)



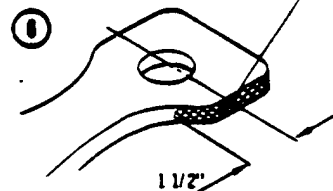
STRAP PACK IS REJECTED IF THREE OR MORE LAMINATES IN SAME PACK HAVE FAILED AS DEFINED IN ① AND/OR ② ABOVE.



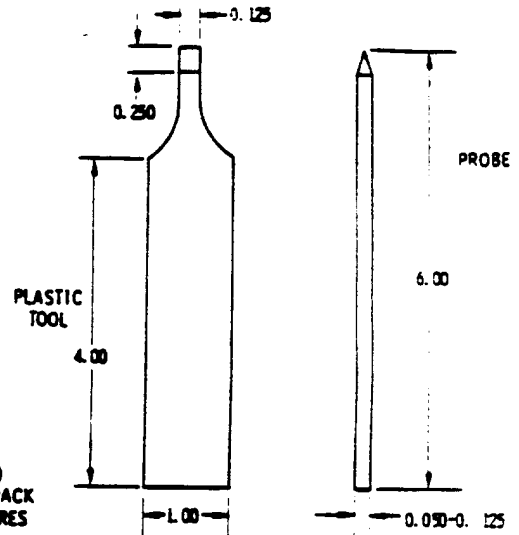
STRAP PACK IS REJECTED IF THREE OR MORE LAMINATES IN SAME PACK ARE CRACKED IN THE LEG (LEAD OR LAG).

**CAUTION:**  
DO NOT DISASSEMBLE STRAP PACK ASSEMBLY- LAMINATIONS ARE SHOWN SEPARATED ONLY TO DEPICT POSSIBLE CRACK LOCATIONS.

**NOTE:**  
ANY CRACK IN LAMINATE IS CONSIDERED A BREAK. THE LAMINATE HAS NOT FAILED HOWEVER, UNLESS BOTH LEAD AND LAG LEGS ARE CRACKED, CRACK IS LOCATED IN TONGUE AREA OF LAMINATE, OR IS UNDER SHOES (SEE DETAIL 6).



FAILED LAMINATE IF CRACK IS FOUND ON EITHER EDGE OF LAMINATE. IF ONE LAMINATE IS FAILED, REMOVE HUB.



FEILD FABRICATION INSPECTION TOOLS

**NOTE:**  
ALL DIMENSIONS IN INCHES.

44-760-20

Figure 1. Main Rotor Hub Strap Assembly Inspection

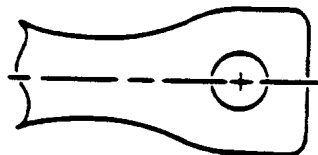
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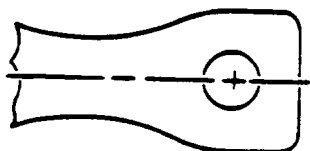
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**DETAIL 1 ACCEPTABLE**



ALL LAMINATES STRAIGHT.  
NO GAPS.



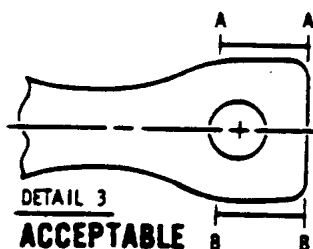
**DETAIL 2 ACCEPTABLE**



ALL LAMINATES STRAIGHT. SINGLE GAP  
EXISTING ADJACENT TO EITHER SHOE.

**NOTE:**

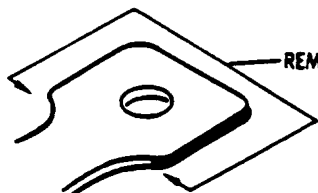
WHITE TEFLON MAY APPEAR WRINKLED AND EXTEND PAST END OF LAMINATES PREVENTING CLEAR VIEW OF LAMINATES. WHEN THIS OCCURS, LOOK ALONG EITHER SIDE IN AREA A-A OR B-B (DETAIL 3).



**DETAIL 3 ACCEPTABLE**



ALL LAMINATES STRAIGHT. SINGLE GAP  
EXISTING ANYPLACE WITHIN LAMINATES.



REMOVE EXCESS TEFLON THIS AREA.

88-692

Figure 2. Strap Pack Inspection and Preparation

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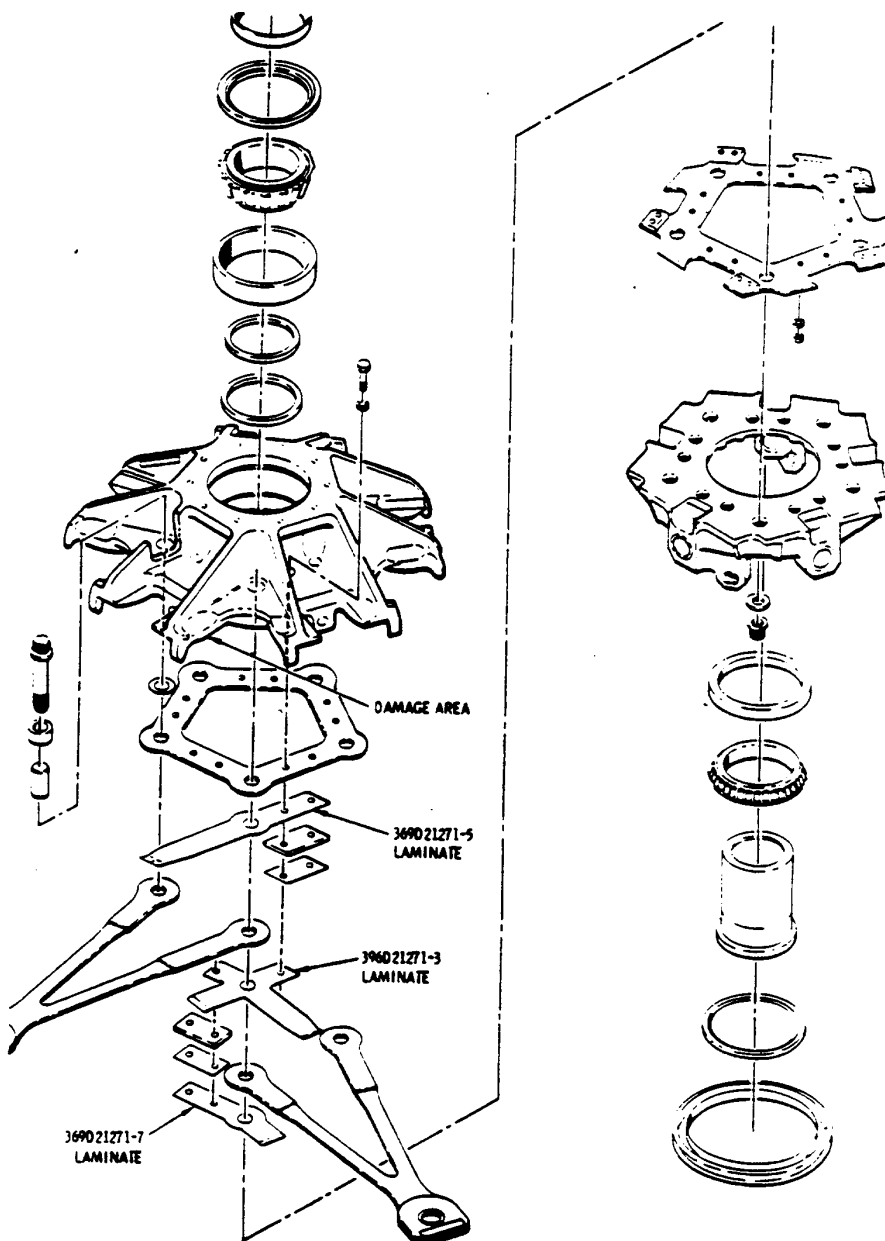
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## CAUTION

Do not disassemble strap pack or hub assembly. Hub assembly is shown separated only for clarification of location of possible cracks and damage.

NOTE: Model 369D,E,F/FF shown; Model 369H, 369A/OH-6A is similar.

88-693

Figure 3. Main Rotor Hub Laminate Inspection

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**SUBJECT:** MAIN ROTOR BLADE UPPER AND LOWER TRAILING EDGE WEIGHT REWORK.

**MODELS AFFECTED:** All McDonnell Douglas Helicopter Company (MDHC) 369D and 369E Series helicopters with 369D21100-505, -509, -511, -513 or 421-086 main rotor blades that have upper and lower external trailing edge weights installed.

**TIME OF COMPLIANCE:** The requirements of this Notice shall be accomplished within the next 100 hours of helicopter operation or 90 days, whichever occurs first.

**PREFACE:** An incident was reported of an operator finding the main rotor blade upper external trailing edge weight, PN 369D21106, partially debonded. When this situation occurs, these main rotor blades may be reworked in the field by re-bonding and the applying two rivets to both the upper and lower trailing edge external weights.

**REFERENCE PUBLICATIONS:** 369D/E HMI Vol. I (CSP-D-2) Revised 15 June 1985

**WEIGHT AND BALANCE:** Weight and balance is not affected.

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

## PARTS LIST

<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Source</u>
Rivet	MS20470AD3	A/R	MDHC or Commercial

## MATERIALS

<u>Nomenclature</u>	<u>Source</u>
*Naptha, Aliphatic (TT-N-95, Type II)	Commercial
Emery Cloth, Fine (No. 200-300 grit)	Commercial
Adhesive, two-part epoxy (EA9330-3)	Commercial Dexter Corp., Hysol Division Pittsburg, CA 91745
Primer, Zinc-chromate (TT-P-1757)	Commercial

\* Use best comparable grade material when conformity of available materials of same type with listed Specification No. cannot be determined.

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## TOOLS AND EQUIPMENT

### Nomenclature

Drill, 1/4 inch drive

Drill Bit, #40

### Source

Commercial

Commercial

## PROCEDURE

- a. Inspect upper and lower main rotor blade external trailing edge weights for proper bonding.

### NOTE

- If all upper and lower external trailing edge weights are properly bonded, proceed to Step C. If there are any indications of looseness or debonding, perform Step B.
- Perform Steps C, D and E before applying adhesive to bonding surfaces.

- b. Bond upper and lower external trailing edge weight as required, per the following:

1. Carefully remove loose or partially debonded weight from affected main rotor blades.
2. Abrade bonding surfaces using #200-300 grit emery cloth and clean bonding surfaces with clean cloth and naphtha solution.
3. Mix epoxy adhesive, per manufacturer's instructions, and apply to bonding surfaces.
4. Properly position weight onto affected blades by aligning holes in weights to existing rivets on blade, (see figure 1), and apply light pressure to weights until epoxy has set.
5. Let epoxy adhesive cure per manufacturer's instructions.

- c. Per Figure 1, mark locations of rivets to be installed.

- d. Using drill and #40 bit, carefully drill holes at marked locations.

- e. Debur and clean debris from holes.

- f. Coat all exposed surfaces with zinc-chromate primer.

- g. Install rivets.

- h. Record compliance to this Notice in the Compliance Record section of the helicopter log book.

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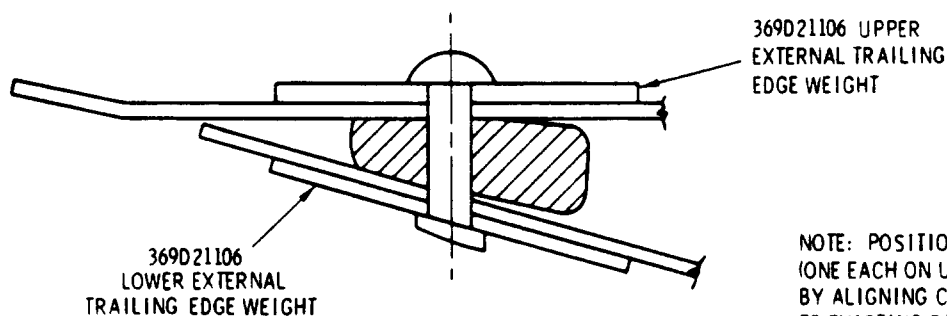
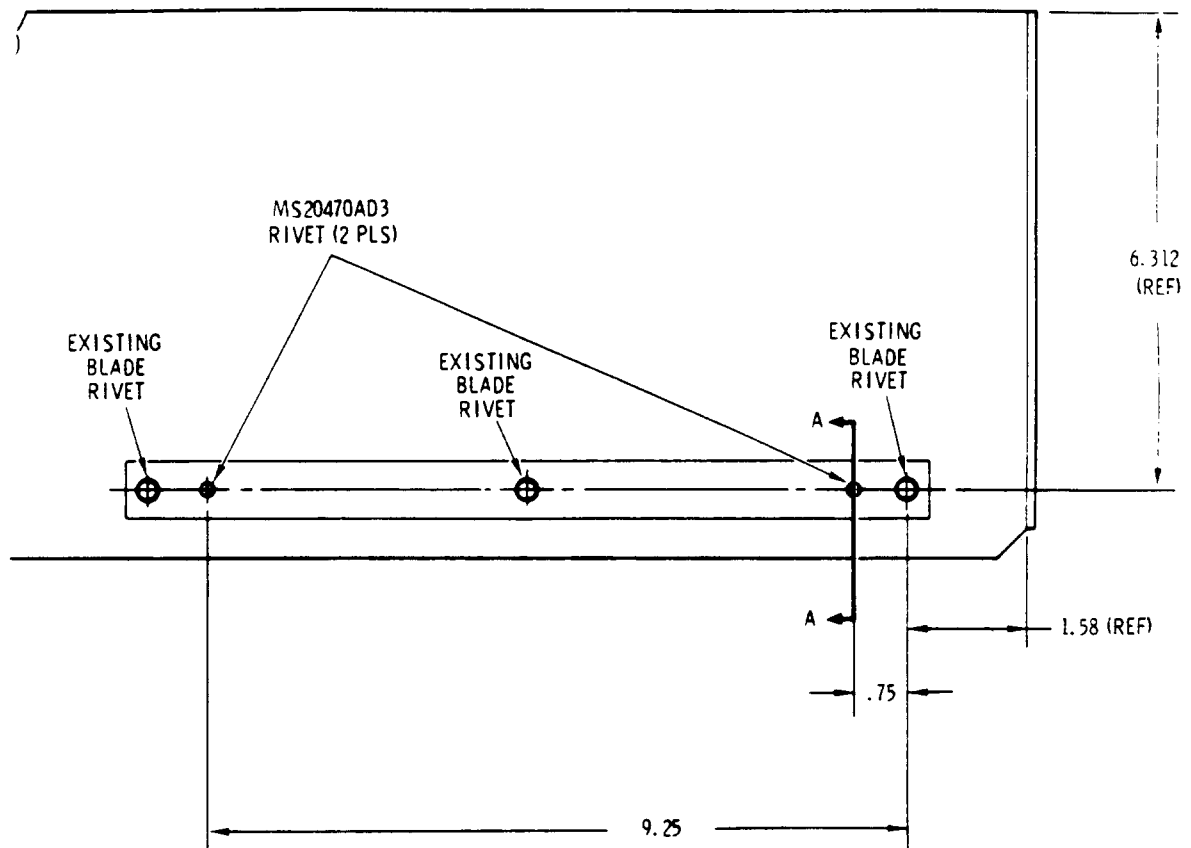
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NOTE: POSITION WEIGHT ONTO BLADE  
(ONE EACH ON UPPER AND LOWER SURFACE  
BY ALIGNING CENTER OF HOLES IN WEIGHT  
TO EXISTING RIVETS ON BLADE

VIEW A - A  
(ROTATED 90°)

98-639

Figure 1. Main Rotor Blade Trailing Edge Rework.

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# SERVICE BULLETIN

HN-215.2\*  
DN-156.2\*  
EN-46.2\*  
FN-34.2\*  
NN-010

DATE: 11 APRIL 1997

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\* Supersedes Service Information Notices HN-215.1, DN-156.1, EN-46.1 and FN-34.1, dated 14 October 1988.

## OVERRUNNING CLUTCH OUTER RACE INSPECTION

### 1. PLANNING INFORMATION:

- A. Aircraft Affected: All MD Helicopters, Inc. (MDHI) 369A (OH-6A), 369H, 369D, 369E, 369FF and 500N Series Helicopters. All spares inventories of 369A5350-11, -21, -31 and -41 Overrunning Clutch Sub-Assemblies.
- B. Assembly/Components Affected by this Notice: Overrunning Clutch Assemblies (P/N 369A5350-603) and Overrunning Clutch sub-assemblies (P/N 369A5350-11, -21, -31 and -41) which contain Overrunning Clutch Outer Race, P/N 369A5352-BSC, serial numbers 0692 thru 0927.
- C. Reason: MDHI has determined that some outer races may have been improperly processed during manufacturing. Therefore, all clutch assemblies with 369A5352-BSC, serial numbers 0692 thru 0927 outer races will have to be replaced and removed from service. Failure to comply with the requirements of this Notice may result in loss of engine drive to the rotor system which may result in an engine overspeed condition and/or a forced landing situation.
- D. Description: Procedures in this Notice provide owners and operators with information to inspect and, if necessary, replace the outer race of the 369A5350 overrunning clutch assembly.
- E. FAA Approval: The technical design aspects of this Service Bulletin are FAA Approved.
- F. Manpower: One half manhour to inspect aircraft records. Two manhours to inspect overrunning clutch subassembly, plus two manhours to remove and replace outer race, if required.
- G. Time of Compliance: The requirements of this Notice shall be accomplished within the next 50 hours of helicopter operation or by 31 July 1997, whichever occurs first. All spares inventories shall comply with the inspection requirements of this Notice prior to installation into a helicopter or within 30 days of the date of this Notice, whichever occurs first.

### NOTE

Outer races with serial numbers 0692 thru 0927 should be removed from service regardless of heat treat number. 369A5352-BSC outer race assemblies with these serial numbers that have been inspected and returned to service as a result of HN-215.1, DN-156.1, EN-46.1 and FN-34.1 are affected by the requirements of this Notice and must be removed.

369A5352-5 overrunning clutch outer race assemblies are not affected by this Notice.

- H. Interchangeability: The 369A5352-5 outer race, together with the W1593-018 wave washer, replaces the 369A5352-BSC outer race.

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NN-010



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I. Material/Part Availability: Contact MDHI Warranty and Repair Department.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Outer Race	369A5352-5	A/R	MDHI
Wave Washer	W1593-018	A/R	MDHI

J. Parts Policy: If during the inspection portion of this Notice, operators find an outer race (369A5352-BSC) with an affected serial number, remove the part and notify MDHS Warranty and Repair Department. MDHI Warranty and Repair will exchange the affected part for a new outer race and an overrunning clutch assembly overhaul kit (99-369A5350-603) at no cost to the operator or customer. This offer expires 31 July 1997. This parts exchange policy is for the purpose of complying with this Service Information Notice and in no way affects any other MDHI parts exchange policy, either past or future.

K. Tooling: Pliers, Snap-ring (TRUARC) #7 Tip and a torque wrench (0-500 In. lbs.). These tools are commercially available.

L. Weight and Balance: N/A

M. Electrical Load Data: N/A

N. Other Publications Affected: N/A

## 2. ACCOMPLISHMENT INSTRUCTIONS:

### NOTE

It is not necessary to remove coupling from overrunning clutch to perform this inspection.

A. Inspect aircraft records to determine what serial number outer race (369A5352-BSC) is installed in the overrunning clutch assembly.

B. If 369A5352-BSC outer race serial number cannot be determined through aircraft records, remove overrunning clutch sub-assembly per instructions contained in the Handbook of Maintenance Instructions (CSP-HMI-2, Section 63-10-00 for 369D/E/FF/500N) or (CSP-H-2, Section 9 for 369H).

C. Inspect outer race and record serial number of outer race in Log Book.

### NOTE

Serial numbers are clearly vibroscribed on outer surface of the outer race on affected parts. (See Figure 1.)

D. If the outer race serial number is not 0692 thru 0927, proceed to step F. If the outer race serial number is 0692 thru 0927, proceed to step E.

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**E.** Replace outer race of overrunning clutch assembly per Part CSP-COM-5 (369D/E/F/500N) or Basic HMI, Appendix C (369H).

**F.** Reinstall clutch sub-assembly into clutch housing per CSP-HMI-2, Section 63-10-00 (369D/E/FF/500N) or Section 9 of HMI (369H).



Ensure that clutch sub-assembly retaining ring is installed **WITH BEVELED SIDE OUTWARD**.

**G.** Check clutch oil level per the applicable HMI.

**3. DISPOSITION OF PARTS REMOVED:** RETURN TO MDHI.

**4. COMPLIANCE RECORD:**

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

**POINTS OF CONTACT:** For further assistance, contact your local MDHI Field Service Representative (refer to the Business Development and Customer Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602) 891-6782.

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HN-215.2\*  
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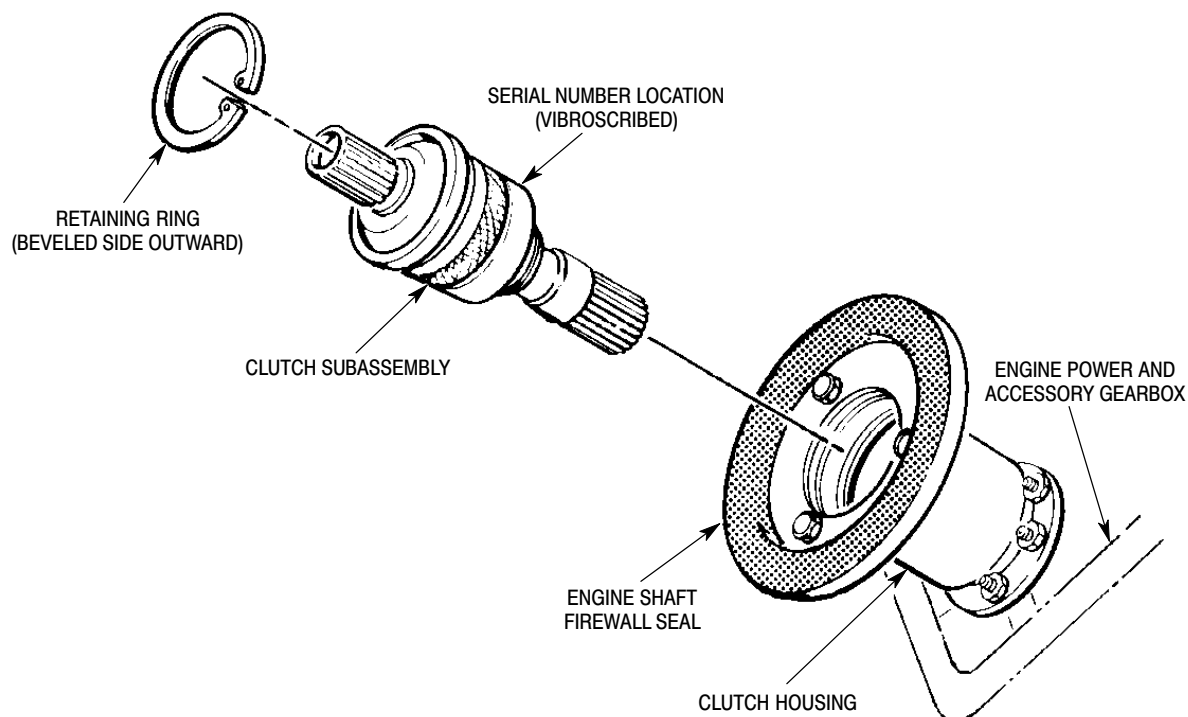
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Figure 1. Inspection of Overrunning Clutch Assembly Outer Race.

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# SERVICE BULLETIN

DATE: 05 APRIL 1989

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**SUBJECT:** ONE-TIME INSPECTION OF THE ENGINE TO TRANSMISSION DRIVESHAFT COUPLINGS - 369H5660.

**MODELS AFFECTED:** All MD Helicopters, Inc. (MDHI) 369H Series helicopters, including the 369A (OH-6A) Series helicopter, 369D, 369E and 369F/FF Series helicopters and all 369H5660 couplings in Spares inventories.

**TIME OF COMPLIANCE:** The requirements of this Service Information Notice shall be accomplished within the next 100 hours of helicopter operation or the next time the main rotor transmission access panel is removed, whichever occurs first. Spares inventories shall be inspected within the next 30 days or prior to installation into a helicopter, whichever occurs first.

**PREFACE:** MDHI inspection personnel have detected small cracks in the spline of the 369H5660 engine to transmission driveshaft couplings which could lead to part failure. As some of these parts were introduced into service before MDHI became aware of the problem, operators are required to perform the following one-time inspection to verify that none of the couplings listed below remain in service or are contained in Spares inventories.

**REFERENCE PUBLICATIONS:**

Basic HMI (CSP-H-2) Revised 14 March 1988  
369D/E HMI Vol. I (CSP-D-2) Revised 01 March 1989  
369F/FF HMI Vol. I (CSP-F-2) Revised 15 April 1986

## PROCEDURE

- a. Remove main rotor transmission access panel per the applicable HMI.
- b. If any of the serial numbered couplings listed below are installed, remove and install a serviceable coupling per the applicable HMI. Verify that all Spares inventories do not contain any of the following engine to transmission driveshaft couplings.

Coupling Serial Numbers:  
5200 thru 5309

## NOTE

Return all engine to transmission couplings listed above to MDHI Warranty and Repair Department for a replacement coupling.

- c. Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

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# SERVICE BULLETIN

DATE: 21 JULY 1989

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**SUBJECT:** INSPECTION AND REWORK OF MAIN AND TAIL ROTOR CONTROL TUBES (PNS 369A7007, 389A7009, 369A7011 AND 369A7012).

**MODELS AFFECTED:** All MD Helicopters, Inc. (MDHI) 369 Series helicopters, including the 369A (OH-6A) Series helicopters.

**TIME OF COMPLIANCE:** **PART I** of this NOTICE, the inspection of the control tube, shall be accomplished within the next 25 hours of helicopter operation and at each subsequent 100 hours of helicopter operation until the requirements of **PART II** are accomplished.

**PART II** of this NOTICE, the rework procedure to install the sleeve, shall be accomplished within the next 600 hours of helicopter operation or at the next annual inspection performed after 30 October 1989, whichever occurs first.

All spares inventories shall comply with **PART I** and **PART II** of this Notice prior to installation into a helicopter or within 180 days from the date of this Notice whichever occurs first.

**PREFACE:** MDHI inspections have revealed internal and external cracks in the vertical Tunnel-Routed main and tail rotor control tubes. Therefore, MDHI is requiring all operators of affected helicopters to perform the following inspection and install reinforcing sleeves to each end of the control tubes. There have been no reported failures of the control tubes.

## REFERENCE PUBLICATIONS:

369H Basic HMI (CSP-H-2) Revised 15 January 1989  
369D/E HMI Vol. I (CSP-D-2) Revised 01 March 1989  
369F/FF HMI Vol. I (CSP-F-2) Revised 01 June 1989

**REPLACEMENT POLICY:** The following policy is applicable for replacement of subject control tubes found to be defective.

- A. Aircraft Under Warranty (within two years of aircraft delivery):
  - 1. MDHI will provide, Free Of Charge, Control Tube Rework Sleeves and Epoxy Adhesive.
  - 2. For tubes that are rejected per PART I of this Notice, MDHI will provide, on exchange (free of charge), a serviceable control tube with sleeve modification applied. A completed Service and Operations Report (SOR, form 853A) must accompany the control tube specifying the serial number of the aircraft from which the control tube was removed. Control tubes damaged by obvious misuse, negligence, or accident will not be replaced free of charge.
  - 3. MDHI will pay shipping charges one-way.
- B. Aircraft Beyond Warranty (more than two years since aircraft delivery):
  - 1. MDHI will provide, Free Of Charge, Control Tube Rework Sleeves and Epoxy Adhesive.
  - 2. For tubes that are rejected per PART I of this Notice, MDHI will sell, on exchange, a serviceable control tube with sleeve modification applied at a cost of \$ 300.00 USD. A completed Service and Operations Report (SOR, form 853A) must accompany the control tube specifying the serial number of the aircraft from which the control tube was removed.
  - 3. MDHI will pay shipping charges one-way.

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HN-217.1  
DN-158.1  
EN-48.1  
FN-36.1



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## PARTS LIST

Nomenclature	Part No.	Qty.	Source
Sleeve (for 369A7007)	369D27013-1 or 369D27013-2	2 2	MDHI No Charge or Field Fabricate
Sleeve (for 369A7009)	369D27013-1 or 369D27013-2	2 2	
Sleeve (for 369A7011)	369D27013-3 or 369D27013-4	2 2	
Sleeve (for 369A7012)	369D27013-5	2	
Rivet	MS20470AD3-15	4	

MATERIAL			
Nomenclature		Source	
Primer, zinc chromate (TT-P-1757)	(RM009222) (MIL-P-8585)	MDHI COMMERCIAL	(Refer to HMI)
Paint (top coat - Flat Black)	(RM006851)	MDHI Commercial	(Refer to HMI)
M.E.K. or equivalent (TT-M-261)	(RM008922)	MDHI Commercial	(Refer to HMI)
Cloth, Oil and Lint free	(RM003505)	MDHI Commercial	(Refer to HMI)
Epoxy Adhesive	(RMI012080)  EA9330.3	MDHI  Dexter Corporation Hysol Division Pittsburg, CA 94565	- No Charge
Isopropyl Alcohol (TT-I-735)	(RM010721)	MDHI Commercial	(Refer to HMI)
Contact Cement (Alternate material, GRIP)	(RM000685) EC1300L	MDHI Commercial	(Refer to HMI)
Chemical Film  (Iridite or Al-coat) (Required if sleeve is field Fabricated)	(RM012007)  (MIL-C-5541)	MDHI  Allied-Kelite Products Division 2400 E. Devon Des Plaines, IL	

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## TOOLS AND EQUIPMENT

Nomenclature	Source
Kit, dye penetrant (MIL-I-25135)	Commercial (ZA43) Zyglo Test Kit
Drift Punch 3/32 inch diameter	Commercial
Caliper (0-1 inch)	Commercial
Drill Motor, portable	Commercial
#40 Drill	Commercial

## PART I - INSPECTION PROCEDURE

a. Remove 369A7007, 369A7009, 369A7011 and 369A7012 control tubes as follows: (refer to figure 1)

1. Align blue blade to right side of aircraft.
  2. Remove bolts from top of tubes.
  3. Remove double boot from the 11 and 09 tubes (ref. view A). All tubes will be removed through the double hole.
  4. Move blue blade pitch housing down as far as it will go. This will allow the tubes to go past the housing.
  5. Remove bolts from bottom of 11 and 09 tubes.
  6. Move cyclic controls so that the 12 tube moves to its highest point (ref. view B). Place 09 tube to the far right and lower out of the way. Lower 11 tube to the left side of center beam. This will allow 11 tube to angle up through the double hole.
  7. Remove bolt from bottom of 12 tube and lower to belly of aircraft and angle up through the double hole (ref. view C).
  8. Remove bolts from bottom of 07 tube and lower to the belly of aircraft, then angle up through the double hole (ref. view D).
  9. Move 09 tube to the other side of center beam and angle up through the double hole. To install tubes just reverse sequence (ref. view E).
- b. Using paint stripper (refer to HMI), remove paint approximately six inches back from end of each tube (tapered area of tube).
- c. Dye penetrant inspect external surface of stripped area for cracks. Cracks are indicated by heavy bleed out. It may be necessary to wipe off and reapply the developer to distinguish between surface defects caused during swaging operation. Light penetrant indications are not cause for rejection. Control tubes that are cracked must be removed from service.

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- d. If no cracks are found and Part II will not be accomplished at this time, inspected control tubes can be painted and reinstalled.
- e. Record compliance to PART I of this Service Information Notice in the Compliance Record section of the helicopter Log Book.

## PART II - REWORK PROCEDURE

- a. Perform Part I prior to installing sleeve. If control tube was reinstalled after performing PART I, reinspection per PART I is required. All four control tubes are to be reworked during this procedure.



If control tube is not accurately measured, flight controls will require rerigging.

- b. Measure and record length of control tubes for reinstalling rod ends and to prevent rerigging after control tube reinstallation.
- c. Remove rod ends (MS20470AD3 Rivet must be removed from fixed end). When removing rivet, drill out rivet head and punch out the remainder of the rivet with a drift punch.



Drilled out rivet may damage threads upon rod end removal. Visually Inspect control tube threads for damage from rivet and rod end removal. Replace damaged control tubes. Drilled rod ends are match drilled to each control tube and must be rein-stalled into control tube end from which it is removed.

- d. Measure outside diameter of control tube end and select sleeve per table in figure 2.
- e. Temporarily install sleeve onto control tubes per figure 2. Align sleeve and control tube witness hole. If sleeve protrudes past end of control tube, trim end of sleeve flush (0.000 inch) or back (0.080 inch) from end of tube.
- f. Thoroughly clean end of control tube and interior surfaces of sleeve with lint free cloth and MEK, or equivalent.
- g. Mix epoxy adhesive per manufacturer's instructions.
- h. Plug end of control tube to prevent adhesive from entering threads.



Bond integrity is dependent on clean surfaces.

- i. Bond sleeve to control tube per figure 2. Apply adhesive to both surfaces and install sleeve. Align witness/rivet hole in sleeve and tube.

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- j. Remove excessive adhesive with lint free cloth moistened with MEK, or equivalent. Do not saturate the cleaning cloth. Remove adhesive from witness holes.
- k. Repeat procedure for ends of each control tube.
- l. Allow to cure for 24 hours at minimum ambient temperature of 68 degrees F (alternate cure 4 hours at 115 - 140 degrees F).



Do not use Heat Gun. Use of heat lamp is acceptable.

- m. Install rod ends into end from which it was removed.
- n. On fixed rod end, align witness/rivet hole in sleeve and tube with rivet hole in rod end. Drill (#40) thru opposite end of sleeve.
- o. Rivet fixed end with MS20470AD3-15 rivet.
- p. Adjust each control tube to its previously measured length.
- q. Paint control tube ends with primer. Paint adjustable end of control tube flat black.



Do not vibrato-mark or impression stamp the control tubes.

- r. Reidentify/, with permanent ink, the control tubes that have been reworked as indicated below;

Old Part Number	New Rework Part Number
369A7007	369A7007-5
369A7009	369A7009-5
369A7011	369A7011-5
369A7012	369A7012-5

- s. Rework control tube boots per Figure 1, View F.
- t. Reinstall control tubes and boots in reverse order listed in Part I. Reinstall trimmed boots with vertical seam facing aft. If control tubes have not been accurately measured, flight controls will require rerigging.
- u. Check flight controls for interference or binding.
- v. Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

**WEIGHT AND BALANCE:** Weight and Balance not affected.

The resultant alteration to affected models as prescribed by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

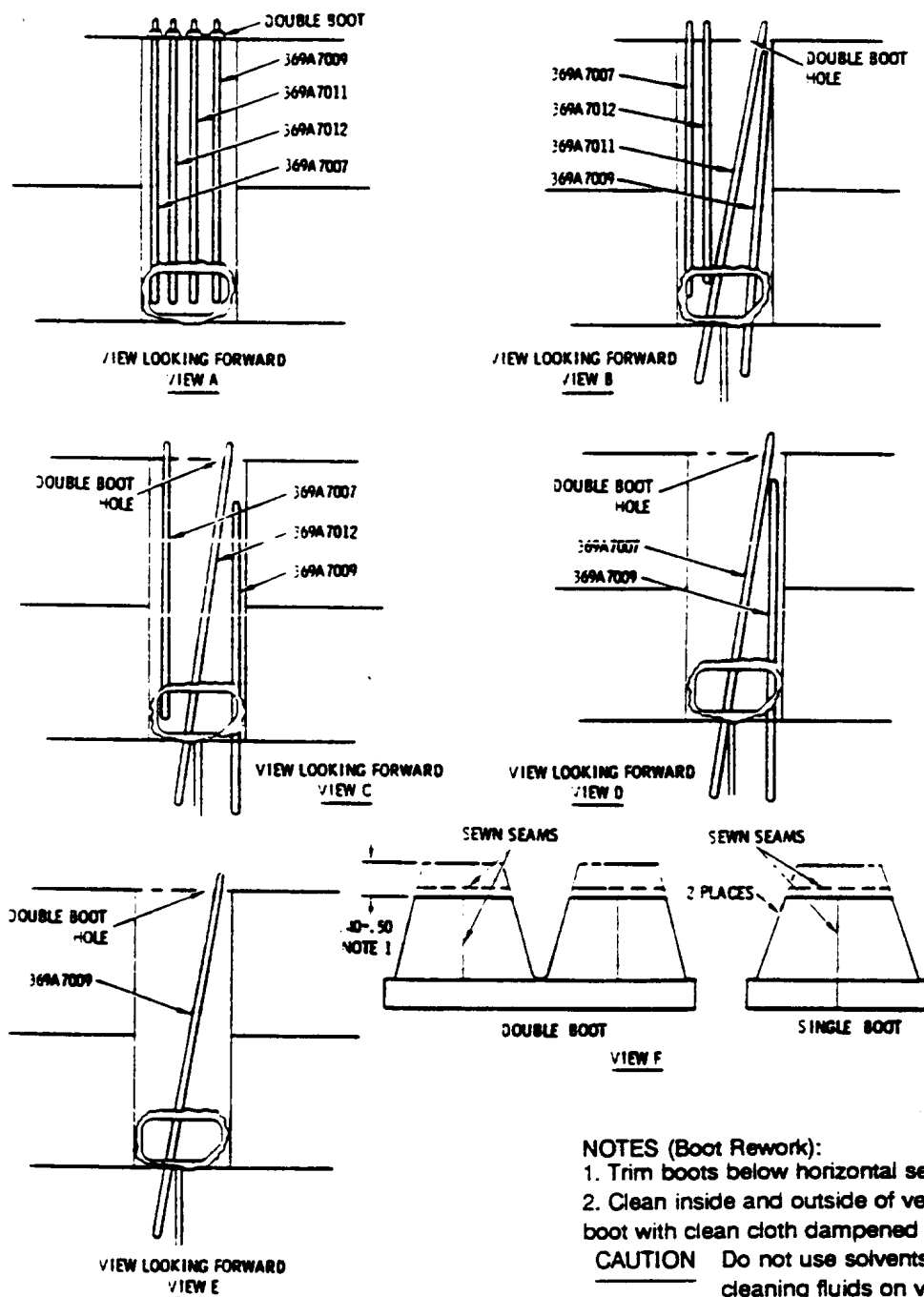
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## NOTES (Boot Rework):

1. Trim boots below horizontal seam
2. Clean inside and outside of vertical seam and top of boot with clean cloth dampened with isopropyl alcohol.  
**CAUTION** Do not use solvents or petroleum based cleaning fluids on vinyl boots.
3. Coat both sides of vertical seam with contact cement.
4. Apply thin coat of contact cement along trimmed edge and 1/8 to 1/4 inch down inside and outside surfaces of boots to prevent fraying.

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Figure 1. Control Tube Removal and Boot Rework

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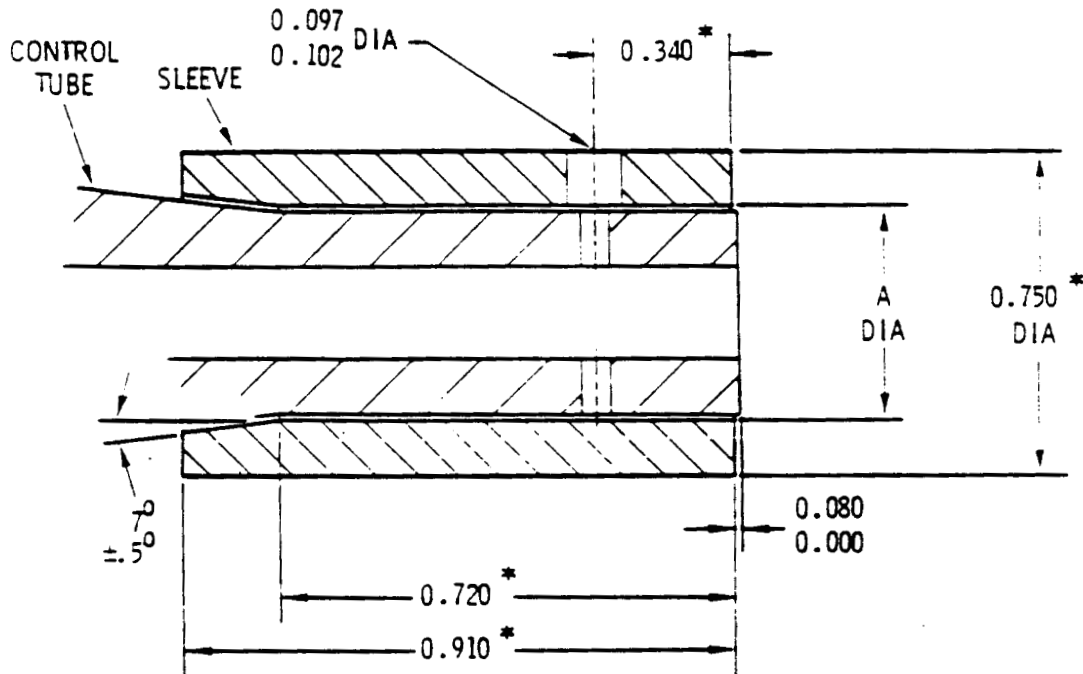
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DIMENSION TABLE

ROD NO.	SLEEVE NO. 369D27013	DIM A	TUBE O.D.
369A7007 369A7009	-1	.540 - .545	.501 - .530
	-2	.510 - .515	.470 - .500
369A7011	-3	.590 - .595	.551 - .580
	-4	.560 - .565	.520 - .550
369A7012	-5	.570 - .575	.530 - .560

## NOTES:

1. Material  
2024-T351 or -T4  
(QQA 225/6) Bar  
or Round Stock
2. Break sharp edges  
0.005 - 0.015 inch
3. Surface finish  
125 RMS
4. Chemical Film  
per MIL-C-5541
5. Tolerance \*  
±0.010 inch

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Figure 2. Sleeve Fabrication and Installation

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# SERVICE BULLETIN

DATE: 12 JUNE 1989

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**SUBJECT:** ONE-TIME INSPECTION OF AEROQUIP HOSES (P/N's 369A8352, 369H8306, 369H8025, 369H8024-5 and 369D28651).

**MODELS AFFECTED:** All MD Helicopters, Inc. (MDHI) 369 Series helicopters, including the 369A (OH-6A), except as noted below, and all Aeroquip hoses in Spares Inventories.

## NOTE

369E, Serial Number 0280E and subsequent; and 369F/FF, Serial Number 0056F and subsequent helicopters are not affected by the requirements of this Notice.

**TIME OF COMPLIANCE:** All affected helicopters shall be inspected per the requirements of this Notice at the next 100 hour inspection. All Spares inventories shall be inspected per the requirements of this Notice before installation onto a helicopter or no later than 60 days from the date of this Notice.

**PREFACE:** Aeroquip Corporation has advised MDHI of problems on certain hoses manufactured by Aeroquip. Aeroquip has traced the problem to a particular group of hoses and hose material identified with "cure dates" 2Q84 thru 3Q87. These hoses have had a problem with leaking, seepage and failure.

Although no incidences have been reported by operators of MDHI helicopters, all operators are required to inspect their aircraft to verify that hoses identified with cure dates 2Q84 thru 3Q87 are not installed. Those operators who find any discrepant hoses will have those hoses replaced at no charge.

## **REFERENCE PUBLICATIONS:**

369H Basic HMI (CSP-H-2) Revised 14 March 1988  
369D/E HMI Vol. I (CSP-D-2) Revised 01 March 1989  
369F/FF HMI Vol. I (CSP-F-2) Revised 15 April 1986

## **PROCEDURE**

On 369H, D and affected 369E Series aircraft, gain access to the engine compartment and inspect the 369A8352 and 369H8306 oil hoses for the proper cure date number. Refer to sample identification tag information shown at the end of this Notice.

On affected aircraft equipped with an airframe mounted anti-ice fuel filter, inspect the 369H8024-5 and 369H8025 fuel hoses for proper cure date number.

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## PROCEDURE CONT.

### NOTE

All hoses identified with cure dates 2Q84 thru 3Q87 shall be removed from service and returned to MDHI for replacement hoses which will be provided free of charge.

- c. On 369F/FF Series aircraft, gain access to the engine compartment and inspect the 369D28651 oil hose for proper cure date number. Refer to sample identification tag information at the end of this Notice.

### NOTE

All hose identified with cure dates of 2Q84 thru 3Q87 shall be removed from service and returned to MDHI for replacement hoses which will be provided free of charge.

- d. Inspect and purge all Spares Inventories of Aeroquip hose assemblies identified with cure dates 2Q84 thru 3Q87.
- e. Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

## SAMPLE IDENTIFICATION TAG INFORMATION:

The affected hose assemblies have CRES I.D. band that is etched with identification information including, but not limited to:

Manufacturer's Name - Location  
Aeroquip Part Number  
Customer Part Number  
Assembly Date  
**Cure Date**  
Proof Test Date  
Hose Manufacturer's Federal Code  
Operating Pressure (Optional)

A typical I.D. band would look like:

Aeroquip - ACM  
AE707050-1  
369D28651  
A4Q85  
**2Q84 or CD2Q84**  
PT 10-84  
50556  
60 psi

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# SERVICE BULLETIN

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**SUBJECT:** ONE-TIME INSPECTION OF FOUR-BLADED TAIL ROTOR HUBS (PN 369D21700-3).

**MODELS AFFECTED:** All McDonnell Douglas Helicopter Company (MDHC) 369D and 369E Series helicopters equipped with four-bladed tail rotor assemblies.

**TIME OF COMPLIANCE:** Helicopters equipped with four-bladed tail rotor assemblies that contain hub serial numbers 196 thru 251 shall accomplish the requirements of this Notice within the next 10 hours of helicopter operation or at the next disassembly of the tail rotor assembly, whichever occurs first.

All other helicopters equipped with four-bladed tail rotor assemblies shall accomplish the requirements of this Notice within the next 100 hours of helicopter operation or at the next disassembly of the tail rotor assembly, whichever occurs first.

Spares Inventories shall be inspected per the requirements of this Notice prior to installation onto a helicopter or 90 days from date of Notice.

**PREFACE:** MDHC had one four-bladed tail rotor hub returned from service which had fatigue cracks. MDHC has determined that the cracks are a result of electrical arcing caused by poor anode contact during the Tiodize coating process during manufacture. Therefore, MDHC is requiring the following inspection of the tail rotor hub assembly.

**REFERENCE PUBLICATIONS:**

369D/E HMI Vol. I (CSP-D-2) Revised 01 March 1989  
OPT. EQUIPMENT MANUAL (CSP-088) Revised 19 June 1989

**HUB REPLACEMENT POLICY:** MDHC will replace free of charge any hub that is found unserviceable due to the conditions described in this Notice. Return parts to the MDHC Warranty and Repair Department along with a completed Service and Operations Report (SOR, form 853A).

## PROCEDURE

a. Remove blades from the four-bladed tail rotor assembly per the applicable HMI/CSP-088.

### NOTE

- Record the exact location, number and type of existing hardware for use in reinstallation. Hardware must be reinstalled in the exact same location when reassembling the tail rotor blade assembly.
- Avoid bending or damaging strap pack. Scratches or nicks on strap laminates may make strap pack unserviceable.

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b. Visually inspect inside and outside diameter of hub from each end inboard 0.50 inch for indications of a foreign material on the surfaces (having the appearance of corrosion or corrosion products), pitting of the surface and/or small pock-type spots where melting and puddling of the surface metal has occurred.

### NOTE

- Any of these conditions are subject for rejection of the hub unless the foreign material and pitting can be removed per Step d.
- The area where the outboard bearing contacts the O.D. surface of the hub may have small dimples which have the appearance of a pit. This is where softer material has worn away and is not to be misconstrued as pitting and is not cause for rejection. Pitting, if existing, will be associated with foreign material on the surface and will be isolated to the end face surface (as shown in Figure 1) or inside surface (normally within 0.25 inch from the outboard end) of the hub.

c. Perform a dye penetrant visual inspection of the outer surfaces of the hub for cracks from the tip inboard 1.00 inch. Apply the dye penetrant per the manufacturer's instructions with a clean dry QTIP or equivalent.

### NOTE

Protect the exposed strap pack ends by placing a plastic bag over the strap assy which extends at least 1.00 inch inside the end of the hub. Secure the bag with a rubber band, wire tie or plastic tie wrap and work it down inside the end of the hub opening. Stuff each end of the hub with a clean rag to prevent the cleaner, penetrant or developer solution from getting on the strap assembly.

d. If the contaminant is only on the O.D. remove foreign material or minor pitting from the O.D. of hub using a 400 grit or finer abrasive paper or cloth.



Do not remove Tiodize coating in the bearing area.

e. If there are indications of pitting not corrected by Step d. or indications of cracking, replace hub with a serviceable hub per the HMI/CSP-088.

f. Reinstall tail rotor blades onto helicopter per the applicable HMI/CSP-088.

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Reinstall blades, bushings, crushwashers and other attaching hardware in the exact same location it was removed. This will aid in dynamic balancing of the tail rotor assembly.

- g. Perform tail rotor balancing per instructions contained in the HMI.
- h. Record compliance of this Service Information Notice in the Compliance Record section of the helicopter Log Book.

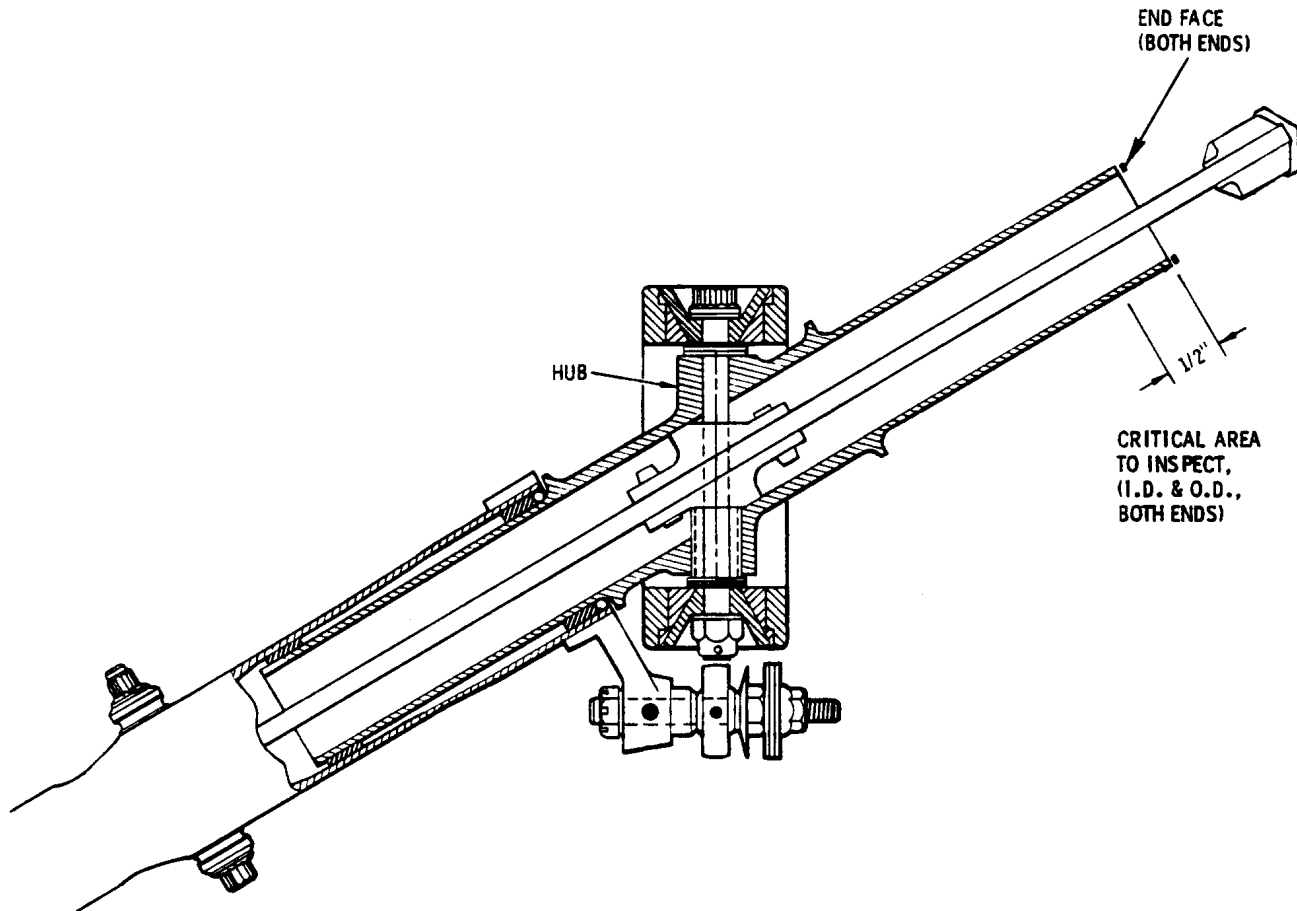
The resultant alteration to the affected models as described by the procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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**CAUTION:** SHOES NOT TO BE REMOVED FROM STRAP PACK. AVOID DAMAGING STRAP PACK. SCRATCHES OR NICKS ON STRAP LAMINATES MAY MAKE STRAP PACK UNSERVICEABLE.

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Figure 1. Inspection of Four-Bladed Tail Rotor Hubs

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**SUBJECT:** ONE-TIME INSPECTION OF TAIL ROTOR TRANSMISSION OUTPUT SHAFT DUPLEX BEARINGS (P/N 369D25420).

**MODELS AFFECTED:** All McDonnell Douglas Helicopter Company (MDHC) 369D, 369E and 369F/FF series helicopters with 369D25400 tail rotor assemblies installed.

## NOTE

Only those helicopters equipped with 369D25400 tail rotor transmissions (two-bladed) are affected by the requirements of this Notice.

**SPARES INVENTORIES AFFECTED:** All 369D25400 tail rotor transmissions placed into Spares Inventories prior to 01 March 1989.

All 369D25420 bearings manufactured by the Fafnir Bearing Company and placed into Spares Inventories prior to 01 March 1989.

## NOTE

Fafnir bearings are sold in a box which contains an inspection/approval date. Fafnir bearings dated 01 March, 1989 or later are not affected by the requirements of this Notice.

**TIME OF COMPLIANCE: Aircraft** – The requirements of this Service Information Notice shall be accomplished within the next 300 hours of helicopter operation or at the next annual inspection, whichever occurs first. Operators whose helicopters are experiencing excessive tail rotor vibration shall accomplish this Notice immediately.

**Spares Inventories** – All affected parts and assemblies in Spares Inventories shall be inspected per the requirements of this Notice before assembly/installation and in no case later than 60 days from the date of this Notice.

**PREFACE:** MDHC recently found 369D25420 bearings manufactured by the Fafnir Bearing Company allowed axial play in the output shaft of the tail rotor transmission due to the bearing being out of tolerance. The possibility exists that some out of tolerance bearings may have been installed onto helicopters presently in service. Therefore, operators have to perform the following one-time inspection to check the tail rotor transmission for axial play in the output shaft.

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## REFERENCE PUBLICATIONS:

369D/E HMI Vol. I (CSP-D-2) Revised 01 March 1989  
369FF HMI Vol. I (CSP-F-2) Revised 01 June 1989  
Component Overhaul Man. (CSP-DEF-5) Revised 06 March 1989

TOOLS AND EQUIPMENT	
Nomenclature	Source
Dial Indicator	Commercial

## PROCEDURE

### NOTE

Operators can either remove the tail rotor transmission per the HMI and inspect for axial play per the COM or they can attach a dial indicator to the tail rotor transmission to inspect for axial play similar to the configuration shown in Figure 1.

- a. Attach a dial indicator to the tail rotor transmission with the probe of the dial indicator contacting the fork inboard vertical face as shown in Figure 1 or remove tail rotor assembly from the output shaft of the tail rotor transmission per Section 8 of the HMI.



Do not clamp-up to the body of the tail rotor breather assembly as damage to the breather assembly could occur. Clamp-up should only be made to the hex base of the breather assembly.

- b. Disconnect tail rotor pitch control links at the pitch control end.



Do not allow blade pitch travel to exceed 30 degrees travel in either direction. Rotating the blades to excessive pitch angles when pitch links are disconnected may result in undetected damage to the strap pack.

### NOTE

Improper clamp-up can result in excessive axial play in the output shaft.

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c. Verify the tail rotor transmission output shaft has no axial play.

## NOTE

- If output shaft has axial play, ensure the tail rotor transmission output shaft has proper clamp-up (shimming of 0.001–0.003 inch) per Part III, Section 6 of the Component Overhaul Manual
- Remove and replace those 369D25420 duplex bearings which are found to be out of tolerance causing axial play in the tail rotor transmission output shaft and return to MDHC Warranty and Repair Department for replacement.

d. If removed, install tail rotor assembly onto helicopter per Section 8 of HMI.

e. If the tail rotor assembly has been removed, perform tail rotor balancing per Section 8 of the HMI.

f. Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

g. Verify all tail rotor transmission assemblies in Spares Inventories have no output shaft axial play per Component Overhaul Manual.

h. Return all 369D25420 bearings dated prior to 01 March 1989 manufactured by Fafnir Bearing Company to MDHC Warranty and Repair Department for a replacement.

## NOTE

369D25420 bearings with a date of March 01, 1989 or later are approved for service.

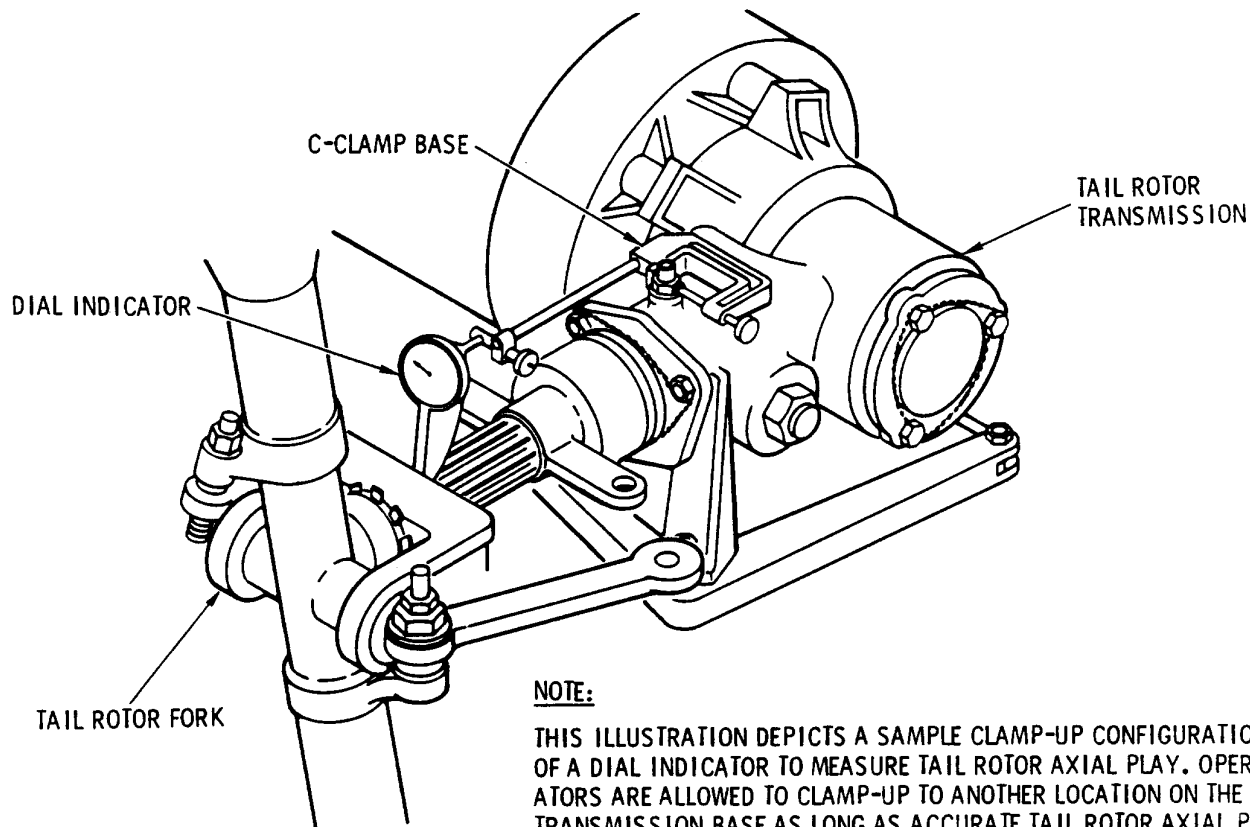
The resultant alteration to affected models as described by procedures in this notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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**NOTE:**

THIS ILLUSTRATION DEPICTS A SAMPLE CLAMP-UP CONFIGURATION OF A DIAL INDICATOR TO MEASURE TAIL ROTOR AXIAL PLAY. OPERATORS ARE ALLOWED TO CLAMP-UP TO ANOTHER LOCATION ON THE TRANSMISSION BASE AS LONG AS ACCURATE TAIL ROTOR AXIAL PLAY CAN BE MEASURED. CLAMP-UP SHOULD BE MADE TO HEX PORTION ONLY OF BREATHING CAP ASSEMBLY.

88-647

Figure 1. Tail Rotor Transmission Output Shaft Inspection

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# SERVICE BULLETIN

DATE: 30 JUNE 1989

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**SUBJECT:** ONE-TIME INSPECTION OF EMERGENCY AND UTILITY FLOAT SKID TUBE EXTENSION ASSEMBLIES.

**MODELS AFFECTED:** All McDonnell Douglas Helicopter Company (MDHC) 369D, 369E AND 369F/FF Series helicopters with emergency or utility floats installed.

## NOTE

Utility floats are only approved for use on the 369D and 369E Series helicopters.

**TIME OF COMPLIANCE:** The requirements of this Notice shall be accomplished within the next 100 hours of helicopter operation.

**PREFACE:** MDHC has received reports of fractures in the float skid tube extensions as a result of corrosion and/or wear on the skid tube extensions. Operators who find their skid extensions damaged are required to rework skid tube extensions per modification instructions in CSP-002 (utility floats) and CSP-025 (emergency floats). Copies of CSP-002 and CSP-025 will be provided with this Notice. It should be noted that utility floats are only certified on the 369D and 369E series helicopters.

## **REFERENCE PUBLICATIONS:**

Utility Floats Manual (CSP-002) Revised 12 June 1989

Emergency Floats Manual (CSP-025) Reissued 12 June 1989

## **PROCEDURE**

- a. Gain access to emergency and utility float skid tube extension assemblies.
- b. Remove the skid tube extension tubes and inspect for internal corrosion. The area to be inspected is from the attach point aft to the bend in the tube.

## NOTE

- Light surface corrosion can be removed and touched up per instructions in the HMI.
  - Wear should not exceed 20% of the wall thickness of the tube.
- c. Inspect emergency and utility float skid tube extensions for any signs of cracking, corrosion and/or wear. Remove light corrosion per instructions in the HMI.

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## NOTE

- Replace those skid tube extension assemblies found to have cracks, excessive corrosion or excessive wear per INSTALLATION OF SKID TUBE EXTENSIONS instructions found in CSP-002 (utility) and CSP-025 (emergency) optional equipment installation instructions.
- Refer to CSP-002 and CSP-025 Illustrated Parts List for current configuration emergency and utility float skid tube extension assemblies.

d. Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

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DATE: 27 OCTOBER 1989

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**SUBJECT:** ONE-TIME INSPECTION OF 369A5358 LOCKWASHER IN THE OVERRUNNING CLUTCH ASSEMBLY AND INSPECTION OF ENGINE OUTPUT DRIVE SPLINES.

**MODELS AFFECTED:** All MD Helicopters, Inc. (MDHI) 369A (OH-6A), 369H series, 369D, 369E, serial No. 0001E thru 0368E and 369F/FF, serial No. 0001F thru 0067FF, series helicopters.

**TIME OF COMPLIANCE:** The requirements of this Service Information Notice shall be accomplished within the next 300 hours of helicopter operation or the next time the overrunning clutch sub-assembly is removed from the helicopter, whichever occurs first.

**PREFACE:** Several 369A5358 overrunning clutch lockwashers have been found cracked in service. As cracking may occur during the crimping operation at installation, MDHI is requiring operators to perform the following inspection to ensure the subject lockwasher is not cracked.

Additionally, excessive wear has been detected on the Allison engine output drive splines on some helicopters. Therefore, anytime the overrunning clutch sub-assembly is removed from the helicopter, the splines on the overrunning clutch and the output spline in the engine should be inspected for wear. Wear in the engine output splines can be detected by feeling for a "step" inside the splines. Operators are required to contact Allison for a disposition if any "step" in the area is felt/observed.

## REFERENCE PUBLICATIONS:

369H Basic HMI (CSP-H-2) Revised 15 January 1989  
369H COM (CSP-H-5) Revised 15 July 1989  
369D/E HMI Vol. I (CSP-D-2) Revised 01 August 1989  
369F/FF HMI Vol. I (CSP-F-2) Revised 01 June 1989  
369D/E/FF COM (CSP-DEF-5) Revised 29 September 1989

## PROCEDURE

a. Remove overrunning clutch subassembly per HMI to gain access to 369A5358 lockwasher.

### NOTE

DO NOT remove lockwasher unless cracks are observed when performing the following step.

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- b. Using a suitable light and a 10X magnifying glass, inspect lockwasher crimped area as shown in Figure 1 for any indications of cracking. Replace cracked lockwashers per the applicable COM.

## NOTE

Pay particular attention to the crimped portions of the lock-washer.

- c. Check the splines of the overrunning clutch for wear per the COM.
- d. Check the engine output drive splines using a sharp point scribe, lightly feel for a "step" in the spline length (see Figure 1 ) where the clutch input drive splines mesh with the engine output drive splines.

## NOTE

If a "step" is observed or felt using a sharp point scribe, contact Allison Gas Turbine Division of General Motors Corporation for disposition at (317) 230-2720.

- e. If a "step" is not felt/observed install overrunning clutch sub-assembly per applicable HMI.

## NOTE

- Verify overrunning clutch assembly has been properly serviced.
  - Verify clutch input and output drive splines have been properly lubricated before installation.
- f. Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

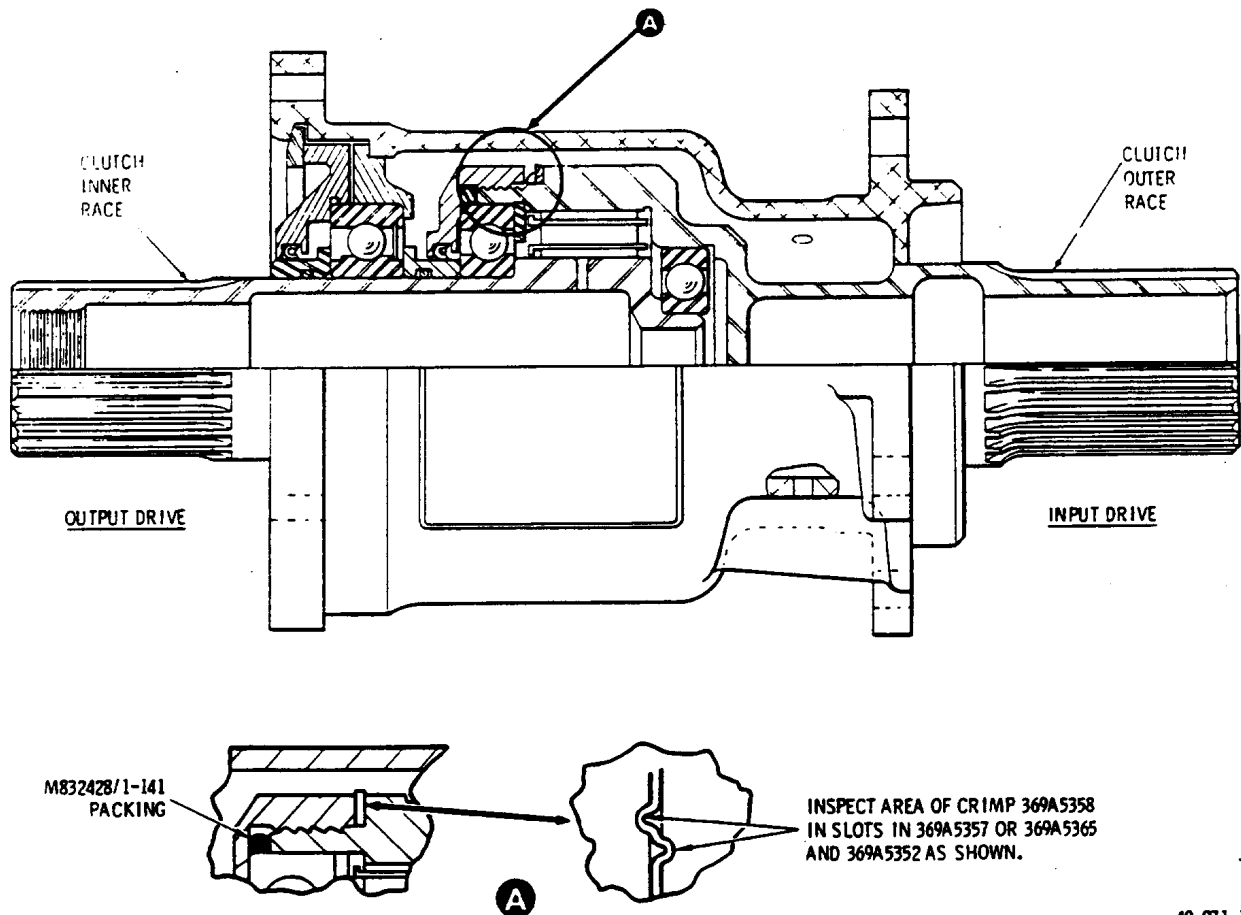
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Figure 1. Inspection of Overrunning Clutch Assembly and Engine Output Drive Splines.

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\* Supercedes Service Information Notices ON-164, EN-54 and FN-44, dated 27 October 1989.

**SUBJECT:** CONVERSION TO 369A5350-41 OVERRUNNING CLUTCH SUB-ASSEMBLIES.

**MODELS AFFECTED:** All MD Helicopters, Inc. (MDHI) 369H Series, 369D, 369E (0001 E thru 0324E) and 369F/FF (0001F thru 0065FF) Series helicopters equipped with cargo hooks, including the 369A (OH-6A) Series helicopter that do not have a 369A5350-41 overrunning clutch sub-assembly or 369A5350-605 clutch assembly installed.

## NOTE

The primary reason for re-issuing this Notice is to include the 369H and 369A Series helicopters and to make a change to the time of compliance section of this Notice. This revision also splits the Notice into two parts: PART I contains a procedure to modify the clutch sub-assembly and PART II reidentifies the clutch housing to indicate 369A5350-605.

**TIME OF COMPLIANCE: PART I** – Operators of 369 Series helicopters equipped with cargo hook assemblies shall comply with PART I of this Notice within the next 300 hours\*\* of helicopter cargo hook operation.

\*\* To establish TIME OF COMPLIANCE, either clutch total time with hook installed may be used, or a separate and permanent log of external load (cargo hook) operating time (take-off to landing which involves external load operations) may be used. The log must meet requirements of FAR 91.173.

**PART II** – Shall be accomplished at the next removal of the engine.

**PREFACE:** Field reports indicate that some operators utilizing cargo hooks are experiencing chipping of the sprag elements in 369A5350-31 overrunning clutch sub-assemblies. Increased frequency of full power lifts causing component deflections are believed to be the cause this chipping of the sprag elements. The applicable Component Overhaul Manuals contain instructions for upgrading existing overrunning clutch sub-assemblies to the 369A5350-41 configuration which is adapted to handle increased loads.

## **REFERENCE PUBLICATIONS:**

369H Basic HMI (CSP-H-2) Revised 15 January 1989  
369D/E HMI Vol. I (CSP-D-2) Revised 01 August 1989  
369F/FF HMI Vol. I (CSP-F-2) Revised 01 June 1989  
369H COM (CSP-H-5) Revised 15 July 1989  
369D/E/F COM (CSP-DEF-5) Revised 29 September 1989

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## PART I - MODIFICATION OF OVERRUNNING CLUTCH SUB-ASSEMBLY PARTS LIST

Nomenclature	Part No.	Qty.	Source
Inner race	369A5353-3	1	MDHI
Nut, bearing retainer	369A5365-3	1	MDHI
Sprag	369D25351	1 *	MDHI
Seal kit	99-369A5350-603	1	MDHI

\* Not required if converting from a 369A5350-31 to 369A5350-41 overrunning clutch sub-assembly and the sprag assembly meets the inspection criteria called out in the Component Overhaul Manual.

### PROCEDURE

- Remove overrunning clutch sub-assembly per Section 9 of applicable HMI.
- Rework overrunning clutch sub-assembly to convert it to the 369A5350-41 configuration per instructions contained in the applicable Component Overhaul Manuals.

#### NOTE

The various items needed to convert to a -41 clutch from the various configurations are shown in the applicable Component Overhaul Manual and parts list contained in this Notice.

- Ensure that the overrunning clutch sub-assembly has been properly serviced and the output and input splines have been coated with grease per the applicable HMI.

#### NOTE

Add 30cc of lubricating oil (MIL-L-23699) to 369A5350-41 overrunning clutch sub-assemblies as existing HMIs give instructions to add 45cc of lubricating oil to the earlier configuration clutch sub-assemblies during assembly.

- Re-identify the overrunning clutch sub-assembly to the 369A5350-41 configuration by vibro-scribing or impression stamping on the existing sub-assembly data plate.
- Install the overrunning clutch sub-assembly which has been upgraded to the 369A5350-41 configuration.
- After installation, verify oil level is acceptable per the applicable HMI.
- Record compliance to PART I of this Service Information Notice in the Compliance Record section of the helicopter Log Book.

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HN-222  
DN-164.1\*  
EN-54.1\*  
FN-44.1\*

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## PART II - RE-IDENTIFICATION OF CLUTCH ASSEMBLY

Verify that PART I of this Service Information Notice has been accomplished.

Re-identify the overrunning clutch to a 369A5350-605 configuration by vibro-scribing or impression stamping on the existing clutch assembly data plate at the next removal of the engine.

### NOTE

The clutch assembly data plate is located on the outside of the 369A5351-5 housing and is accessible only with the engine removed. The 369A5350-41 clutch sub-assembly is a component of the 369A5350-605 clutch assembly. The 369A5350-11, -21 and -31 clutch sub-assemblies are components of the 369A5351-603 clutch assembly.

Record compliance to PART II of this Service Information Notice in the Compliance Record and Component Log sections of the helicopter Log Book.

**WEIGHT AND BALANCE:** Weight and balance data not affected.

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**SUBJECT:** INSTALLATION OF OIL FLOW RESTRICTING DEVICES INTO THE ENGINE OIL AND TORQUE PRESSURE SENSING SYSTEMS.

**MODELS AFFECTED:** All MD Helicopters, Inc. (MDHI) 369A (OH-6A), 369H Series, 369D, 369E (Serial No. 0001E thru 0304E) and 369FF (Serial No. 0001F thru 0059F) helicopters not equipped with oil flow restricting devices in the engine oil and torque pressure sensing lines.

## NOTE

Only those 369 Series helicopters equipped with direct sensing torque and oil pressure line systems are affected by the requirements of this Notice.

**TIME OF COMPLIANCE:** The requirements of this Notice shall be accomplished within the next 100 hours of helicopter operation or 90 days, whichever occurs first.

**PREFACE:** Federal Aviation Administration rules CAR 6.606(b) and 6.613 require the installation of a restriction device at the pressure source of engine oil and torque sensing systems to restrict oil flow in the event of a system failure. Due to this requirement, operators are required to install restricting devices (snubbers) in those engine oil and torque pressure sensing systems which do not already contain restricting devices. Parts required to comply with this Notice can be obtained, free of charge, from the MDHI Warranty and Repair Department.

## **REFERENCE PUBLICATIONS:**

Applicable Pilot's Flight Manual (for helicopter operation)  
369H Basic HMI (CSP-H-2) Revised 15 January 1989  
369D/E HMI Vol. I (CSP-D-2) Revised 01 August 1989  
369F/FF HMI Vol. I (CSP-F-2) Revised 01 June 1989

**WEIGHT AND BALANCE:** Weight and balance data not affected.

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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## PARTS LIST

Nomenclature	Part No.	Qty.	Source
Reducer	369D28410	1	MDHI
Packing O-ring	NAS617-4	2	MDHI or Commercial
Snubber	39S-003	1	MDHI or Commercial
Reducer	AN919-0J	1	MDHI or Commercial
Packing, O-ring	NAS617-3	2	MDHI or Commercial
Snubber	57D2-001	1	MDHI or Commercial

## PROCEDURE

- Open and secure engine access doors.
- Disconnect the 369A8010 engine oil pressure and torque pressure sensing lines from the connecting ports located on the engine and remove existing hardware.
- Install NAS617-4 packing, 39S-003 snubber, NAS617-4 packing and 369D28410 reducer into oil pressure sensing port. Reconnect oil pressure sensing line to reducer.
- Install NAS617-3 packing, 57D2-001 snubber, NAS617-3 packing and AN919-0J reducer on torque pressure sensing port on engine. Reconnect torque pressure sensing line to reducer.
- Start and operate helicopter at ground idle for two minutes minimum per applicable PFM.
- Bleed air from engine oil pressure and torque pressure sensing lines per Section 13, Vol. I of the HMI.
- Shutdown helicopter per applicable PFM. After rotor blades have stopped turning, check oil and torque pressure sensing lines and associated connection ports for security and any evidence of leakage. If any leakage is noted, repeat steps a thru f.
- Close and secure engine compartment access doors.
- Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

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\* Supersedes Service Information Notices DN-166, EN-57 and FN-45, dated 12 December 1989.

**SUBJECT:** One-time Inspection and Replacement of **Air Industries** MS21250-04036 Bolts **AND** Verification of Proper Installation of All MS21250-04036 Bolts in Main Transmission.

**MODELS AFFECTED:** All McDonnell Douglas Helicopter Company (MDHC) 369D, 369E (Serial No. 0001E thru 0352E) and 369F/FF (Serial No. 0001F thru 0067FF) Series helicopters.

**SPARES INVENTORIES AFFECTED:** All spare MS21250-04036 Bolts delivered from MDHC or purchased direct from Air Industries since August 1988. All spare main transmissions delivered prior to September 1989 shall be inspected per the requirements of this Notice.



If it cannot be determined when the MS21250-04036 **Air Industries** bolts were purchased, those Air Industries bolts shall be replaced.

## NOTE

To identify a -04038 bolt, the length is 2.887 +/- .010 inch. (See Figure 1.)

**TIME OF COMPLIANCE:** The requirements of this Notice shall be accomplished within the next 300 hours of helicopter operation, the next annual inspection, or the next time the transmission is removed, whichever occurs first.

**PREFACE:** MDHC has determined that some bolts manufactured by **Air Industries** and delivered since August 1988 may not meet industry standards. Therefore, MDHC is requiring operators to perform the following one-time inspection and/or replacement of these suspect bolts.

In addition to replacing bolts manufactured by **Air Industries**, all 369D, 369E and 369F/FF operators are required to inspect main rotor output drive-shaft bearing assembly bolt installations for proper thread protrusion through the nut end of the bolt.

Failure to comply with the requirements of this Notice could result in severe damage to the main transmission.

## NOTE

- After installation, bolts shall protrude through the nut for a length equivalent to two full threads (0.071 inch minimum), including the
- If necessary, replace bolts with MS21250-04038 bolts. The maximum bolt protrusion from the nut end is four (4) threads.
- • Bolts manufactured by Air Industries that have drilled (safety-wire holes) heads are acceptable.

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## REFERENCE PUBLICATIONS:

369D/E HMI Vol. I (CSP-D-2) Revised 01 August 1989  
369F/FF HMI Vol. I (CSP-F-2) Revised 01 June 1989  
Component Overhaul Manual, (CSP-DEF-5) Revised 29 September 1989

**SPECIAL WARRANTY POLICY:** The following listed aircraft and transmissions are eligible for these special warranty considerations:

- a. MDHC will provide, free of charge, replacement o-rings, bolts and nuts.
- b. MDHC will provide 15 hours of labor credit to remove, disassemble, inspect, reassemble and reinstall the main transmission. This work must be performed at an MDHC Approved Service Center or International Distributor.

## NOTE

For further warranty information contact the MDHC Warranty and Repair Department Administrator.

## AIRCRAFT ELIGIBLE FOR SPECIAL WARRANTY CONSIDERATION

Xmsn Ser. #	A/C Ser. #		Xmsn Ser. #	A/C Ser. #		Xmsn Ser. #	A/C Ser. #
1744	0237E		1087	0319E		1329	0341E
1714	0281E		2104	0320E		2222-0011	0343E
2094	0282E		1811	0321E		2222-0036	0344E
1759	0293E		1802	0322E		2222-0035	0346E
1628	0298E		1686	0323E		2222-0016	0347E
2113	0301E		1818	0324E		1607	0349E
1814	0303E		1663	0325E		1667	0350E
1676	0304E		1671	0326E		2222-0015	0351E
3659	0305E		1813	0326E		2222-0028	0352E
1797	0306E		1826	0328E		1809	0057FF
2109	0307E		2222-0009	0329E		1807	0058FF
1657E	0308E		1328	0330E		1812	0059FF
1661	0309E		1820	0331E		1658	0060FF
1787	0310E		2222-0029	0332E		1804	0061FF
2117	0311E		2222-0012	0333E		1794	0062FF
1819	0312E		2222-0013	0334E		2222-0022	0063FF
1646	0313E		2222-0019	0335E		2222-0027	0064FF
1709	0314E		1704	0336E		1716	0065FF
2132	0315E		2222-0010	0337E		1652	0066FF
1810	0316E		2222-0026	0338E		1709	0067FF
1776	0317E		2222-0025	0339E			
1815	0318E		2222-0014	0340E			

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## ADDITIONAL TRANSMISSIONS ELIGIBLE FOR SPECIAL WARRANTY CONSIDERATION

Xmsn Ser . #	Xmsn Ser . #	Xmsn Ser . #	Xmsn Ser . #	Xmsn Ser . #	Xmsn Ser . #	Xmsn Ser . #	Xmsn Ser . #
U0712	0376	0737W	1313	1567	1756	1994	78-0095
U1261	0384	0738	1317	1575	1757	2000	78-0099
U1468	0409	0776	1330	1592	1770	2003	106-0030
0142	0445	0793	1335	1611	1793	2004	127-0075
0165	0447	0843	1347	1620	1799	2008	2222-0002
0169	0450	0849	1364	1637	1800	2009	2222-0003
0171	0451	0868	1385	1641	1801	2048	2222-0004
0194	0455	0893	1387	1662	1803	2059	2222-0005
0201	0535	0906	1401	1677	1816	2063	2222-0006
0202	0541	0939	1424	1687	1817	2067	2222-0007
0207	0556	0992	1425	1689	1821	2077	2222-0008
0216	0607	1024	1427	1698	1822	2121	2222-0021
0260	0610	1027	1438	1701	1823	2124	2222-0023
0276	0660	1030	1458	1707	1824	2125	2222-0030
0294	0662	1058	1460	1715	1825	2129	2222-0032
0307	0668	1065	1477	1717	1933	3662	2222-0033
0321	0686	1082	1514	1718	1934	3674	2222-0033
0326	0713W	1106	1528	1727	1943	460005	2222-0039
0343	0719	1240	1530	1733	1969	470058	2222-0042
0360	0733	1292	1555	1715	1991	18-0079	2222-0043
							2222-0044
							2222-0045
							2222-0055
							2222-0079

## SPARE PARTS REQUIREMENT:

Nomenclature	Part No.	Qty.	Source
O-Ring	5-488-047-071	1	MDHC
O-Ring	MS29561-014	2	MDHC or Commercial
O-Ring	MS29561-016	2	MDHC or Commercial
O-Ring	MS29561-264	1	MDHC or Commercial
O-Ring	MS29561-437	1	MDHC or Commercial
Filter	ACA388F90	A/R	MDHC
Bolt	MS21250-04038	4	MDHC
Nut	MS21042L4 or H14-4	A/R	MDHC or Commercial
Washer	NAS620C416L or NAS620C416 AN960C416L or AN960C416	A/R	MDHC or Commercial

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## PROCEDURE

- a. Remove main rotor transmission per HMI - Vol I.
- b. Disassemble tail rotor drive assembly, two nozzles and main rotor drive assembly (Ref. CSP-DEF-5).
- c. Inspect MS21250-04036 bolt head inscriptions for unacceptable bolt head markings (refer to Figure 2). Replace unacceptable bolts with MS21250-04038. Deform and scrap unacceptable bolts to prevent bolts from re-entering service.

### NOTE

To identify a -04038 bolt, the length is 2.887 +/- .010 inch. (Refer to Figure 1.)

### WARNING

**The following bolt protrusion inspection must be accomplished on all main transmissions.**

- d. Inspect bolts for proper thread protrusion through the H14-4 nuts. If proper thread protrusion cannot be obtained, replace bolts with MS21250-04038 bolts.

### NOTE

- Bolts must protrude through the nut for a length equivalent to two full threads (0.071 inch minimum), including the chamfer. Thread protrusion must not exceed four (4) threads. The H14-4 nut may be installed without a washer.
- To prevent possible dislocation of clamp-up shims on main rotor output drive assembly, remove unacceptable bolts individually.

- e. Install acceptable MS21250-04038 bolts, washers and nuts (Ref. CSP-DEF-5). Torque bolts **50-70 inch-pounds**. Verify that bolts protrude through the nut for a length equivalent to two full threads (0.071 inch minimum), including the chamfer. If more than 4 threads protrude through the nut, add NAS620C416L or NAS620C416 (or acceptable alternate per Parts List) washer(s) under the nut as required.

### NOTE

If any washers other than those called out in Step E have been installed, replace those washers at the next disassembly of the main transmission.

- f. Reassemble main rotor drive assembly, two nozzles and tail rotor drive assembly (Ref. CSP-DEF-5).
- g. Apply a white dot to the main transmission data plate to indicate the transmission has been inspected and reworked per the requirements of this Notice.
- h. Install main rotor transmission (Ref. applicable HMI).
- i. Record compliance to this Notice in the Compliance Record Section of the helicopter Log Book.

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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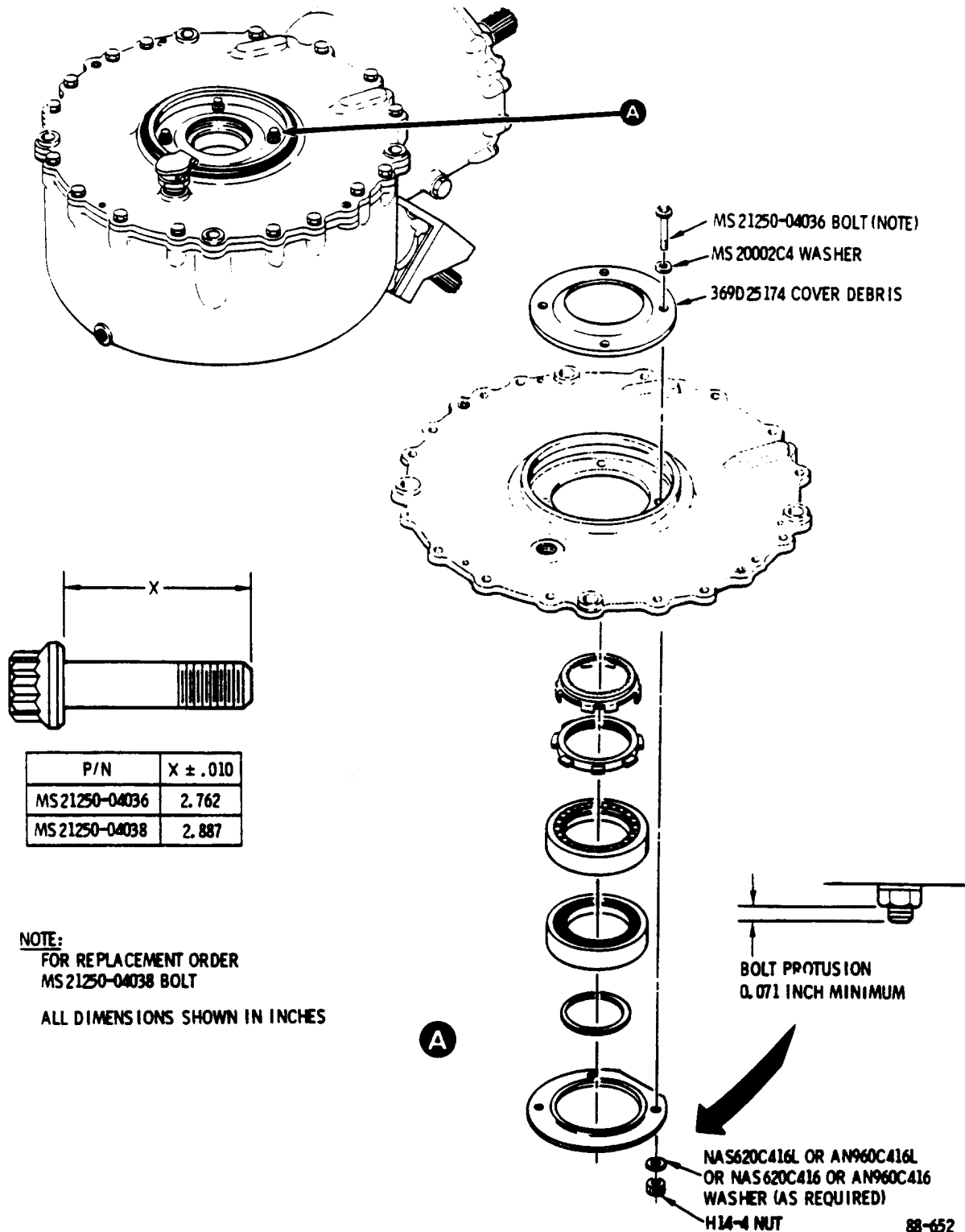


Figure 1. Inspection/Replacement of Main Transmission Output Driveshaft Bearing Assembly Bolts

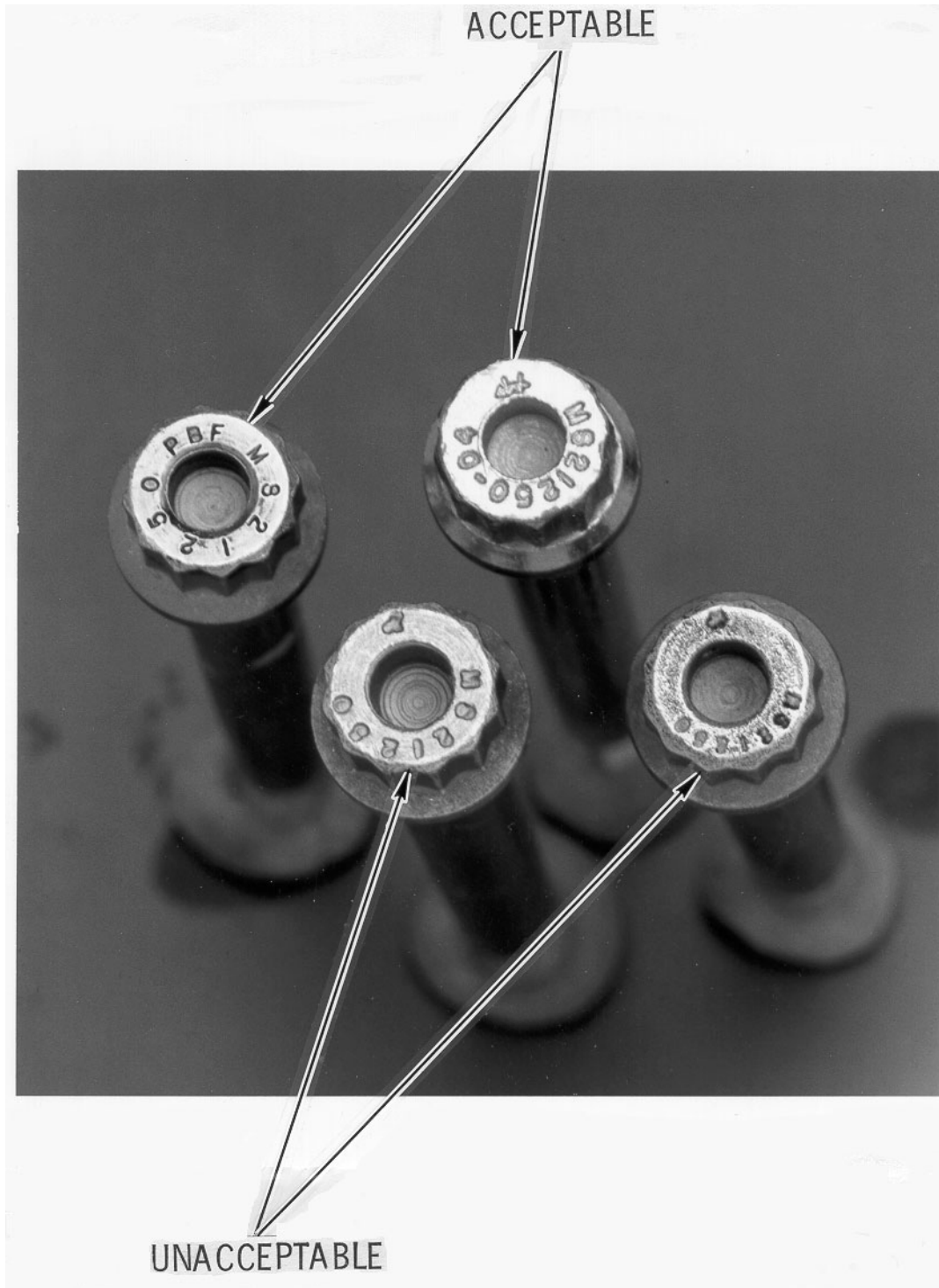
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SBDN166-2

Figure 2. Inspection/Definition of Bolt Heads

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**SUBJECT:** ONE-TIME CHECK/PERIODIC INSPECTION/REPLACEMENT OF TAIL ROTOR SWASHPLATE BEARING SET

**SUMMARY:** MRC Corporation has determined that all tail rotor swashplate bearing sets (P/N 369D21832) with black seals (except those bearings shipped from MDHC after March 1, 1990) shall be inspected periodically for indications of roughness (similar to a ratchet feeling when the tail rotor assembly is rotated).

**PURPOSE:** The purpose of this Notice is to perform a one-time check to verify what bearings are installed by the color of the tail rotor swashplate bearing seals and further inspect those bearing sets with black seals for roughness.

**TIME OF COMPLIANCE:**

**PART I – ONE-TIME CHECK–** The requirements of PART I shall be accomplished prior to the next flight. (May be performed by a pilot.)

**PART II - PERIODIC INSPECTION - AIRCRAFT WITH BLACK SEALS** - The requirements of PART II of this Notice shall be accomplished within the next ten (10) hours of helicopter operation and each subsequent ten (10) hours of operation until the tail rotor swashplate bearing sets have been replaced with acceptable bearing sets provided by MDHC. In no case, shall bearings with black seals (within the unacceptable serial number range) remain in service more than 300 hours since installation or after July 1, 1990, whichever occurs first.

**SPARES INVENTORIES** - All 369D21832 tail rotor swashplate bearings that have black seals with a serial number in the identified range of unacceptable serial numbers and pitch control assemblies (P/N 369D21800 and 369D21820) that have bearings with black seals installed shall be returned to MDHC Warranty and Repair Department for replacement bearings.

The following 369D21832 tail rotor swashplate bearing serial numbers shall be removed from Spares inventories and returned to MDHC Warranty and Repair Dept.:

059150-0001 thru 059150-0692 and 059150-0734 thru 059150-0742

MDHC will be issuing a limited number of tail rotor swashplate bearings that have black seals. These bearings are acceptable and will be marked and tagged verifying they are acceptable. Operators who receive these bearings and who receive bearings from MDHC after March 1, 1990 should make an entry in the Component Historical Record section and the Compliance Record section of the helicopter Log Book to record the serial number of the tail rotor swashplate bearing. Helicopters with these bearings installed do not have to further comply with the requirements of this Notice. Later bearings will have yellow and green seals and are acceptable. Bearings with yellow or green seals do not have to be inspected per PART II of this Notice.

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# SERVICE BULLETIN

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**MODELS AFFECTED:** All MDHC 369D, 369E and 369F/FF Series helicopters.

**ASSEMBLY/COMPONENTS TO BE INSPECTED AND CORRECTED:** All 369D21600 and 369D21610 Series tail rotor assemblies and all 369D21800 and 369D21820 Series pitch control assemblies. (Tail rotor swashplate bearing serial number is not visible when installed in swashplate housing.) Tail rotor assemblies, pitch control assemblies and tail rotor swashplate bearings shipped after September 14, 1989 and prior to February 28, 1990, are suspect and subject to the inspection requirements of this Notice.

**REFERENCE PUBLICATIONS:** (Use the manuals listed below or any later revisions.)

369D/E/F COM (CSP-DEF-5) Revised 29 September 1989

369D/E HMI Vol. I (CSP-D-2) Revised 01 August 1989

369F/FF HMI Vol. I (CSP-F-2) Revised 01 June 1989

## SUPPLY/PARTS AND WARRANTY DISPOSITION:

### PARTS LIST

Nomenclature	Part No.	Qty.	Source
Bearing set, tail rotor swashplate	369D21832	1 (A/R)	MDHC (no charge)
Swage ring	369D21805	1 (A/R)	MDHC (no charge)
Lockwasher	MS172209	1 (A/R)	MDHC (no charge)
Lockwasher	HS1551S238	1 (A/R)	MDHC (no charge)

**LABOR ALLOWANCE:** MDHC will reimburse operators a labor allowance of two (2) hours for replacement of the bearing if the work is performed at a MDHC Approved Service Center or Distributor.

**SPECIAL TOOLS/JIGS AND FIXTURES REQUIRED.** Refer to the Component Overhaul Manual for required tooling to remove and install the tail rotor pitch control bearing set.

### PART I - ONE-TIME CHECK

a. Check tail rotor swash plate bearing assembly to determine which color bearing seal is installed. (Refer to Figure 1 )

#### NOTE

- Bearing seal can be observed by looking into the outboard end of the T/R swashplate bearing assembly.
- If necessary, clean the face of the bearing seal with a dry cotton swab (Q-Tip) so that bearing seal color can be determined.

b. If the bearings installed have green or yellow seals, no further inspection is required. Proceed to the Recording and Compliance section of this Notice.

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c. If the bearings installed have black seals, immediately contact MDHC Field Service Dept. and provide A/C serial number and time since tail rotor swashplate bearing was installed. Bearings with black seals shall be inspected per the requirements of PART II.

## **PART II - PERIODIC INSPECTION/REPLACEMENT OF TAIL ROTOR SWASHPLATE BEARING ASSEMBLIES**

a. Disconnect outboard end of bellcrank (refer to Figure 2).

b. Disconnect dust boot from inboard end of pitch control assembly. (This will allow rotation of tail rotor swash plate housing.)

c. While applying a down load on top of the housing by hand, slowly rotate pitch control housing to verify smoothness of operation. Bearing must rotate smoothly and without roughness to be acceptable.

### **NOTE**

A slight feeling of grit in the grease, with smooth areas in between, is considered acceptable for continuing an additional ten hours of operation. If the gritty feeling is continuous, replace the bearings.

d. If roughness occurs, replace tail rotor swashplate bearing before further flight with an acceptable bearing set provided by MDHC per the Component Overhaul Manual. If an acceptable black seal bearing has been installed apply a white dot (approximately 1/8 inch dia.) on the outside face of the housing as shown in Figure 1 per the applicable Handbook of Maintenance Instructions.

e. Install and lockwire dust boot on inboard end of pitch control housing.

f. Service the tail rotor swashplate pivot bearing assembly with acceptable grease per the Handbook of Maintenance Instructions.

g. Reconnect bellcrank to outboard end of pitch control assembly per the Handbook of Maintenance Instructions.

**WEIGHT AND BALANCE:** N/A.

**RECORDING AND COMPLIANCE:** Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

**POINTS OF CONTACT:** For further information contact your local MDHC Field Service Representative (refer to the latest revision of the Marketing and Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHC, Mesa, Arizona. Telephone: 1-800-445-1516 or (602) 891-6342.

This Service Information Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

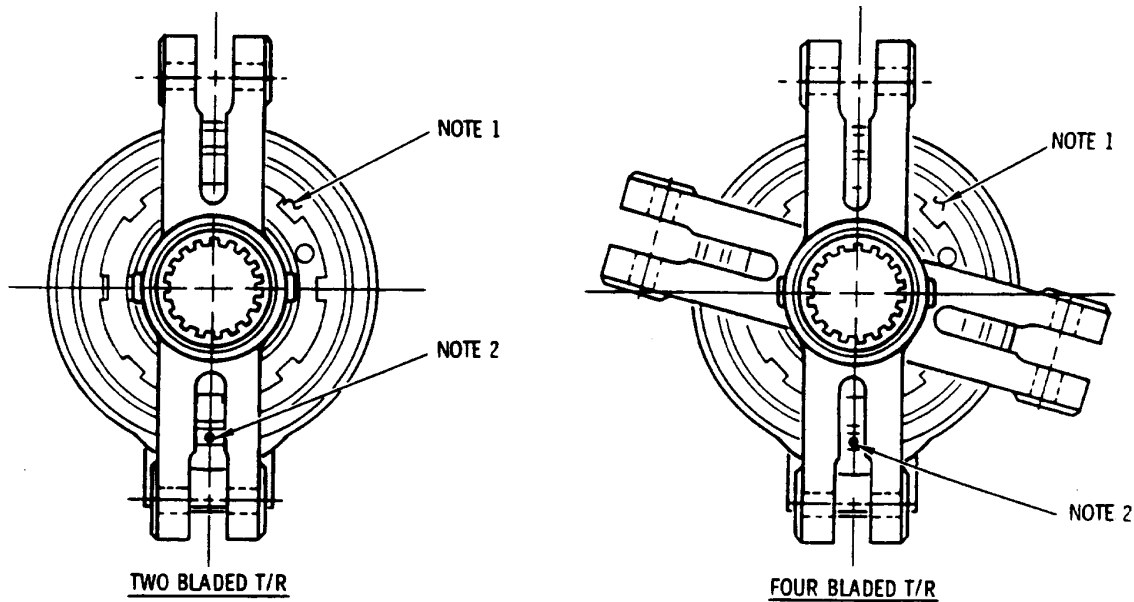
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**NOTES:**

1. VERIFY BEARING SEAL IS GREEN OR YELLOW. BEARINGS WITH BLACK SEALS SHALL BE REMOVED AND REPLACED OR SUBJECTED TO THE 10-HOUR RECURRING INSPECTION.
2. APPLY A WHITE DOT TO PITCH CONTROL HOUSINGS WITH ACCEPTABLE BEARING WITH BLACK SEALS AS SHOWN.

N88-656-1

Figure 1. Inspection of Tail Rotor Assembly.

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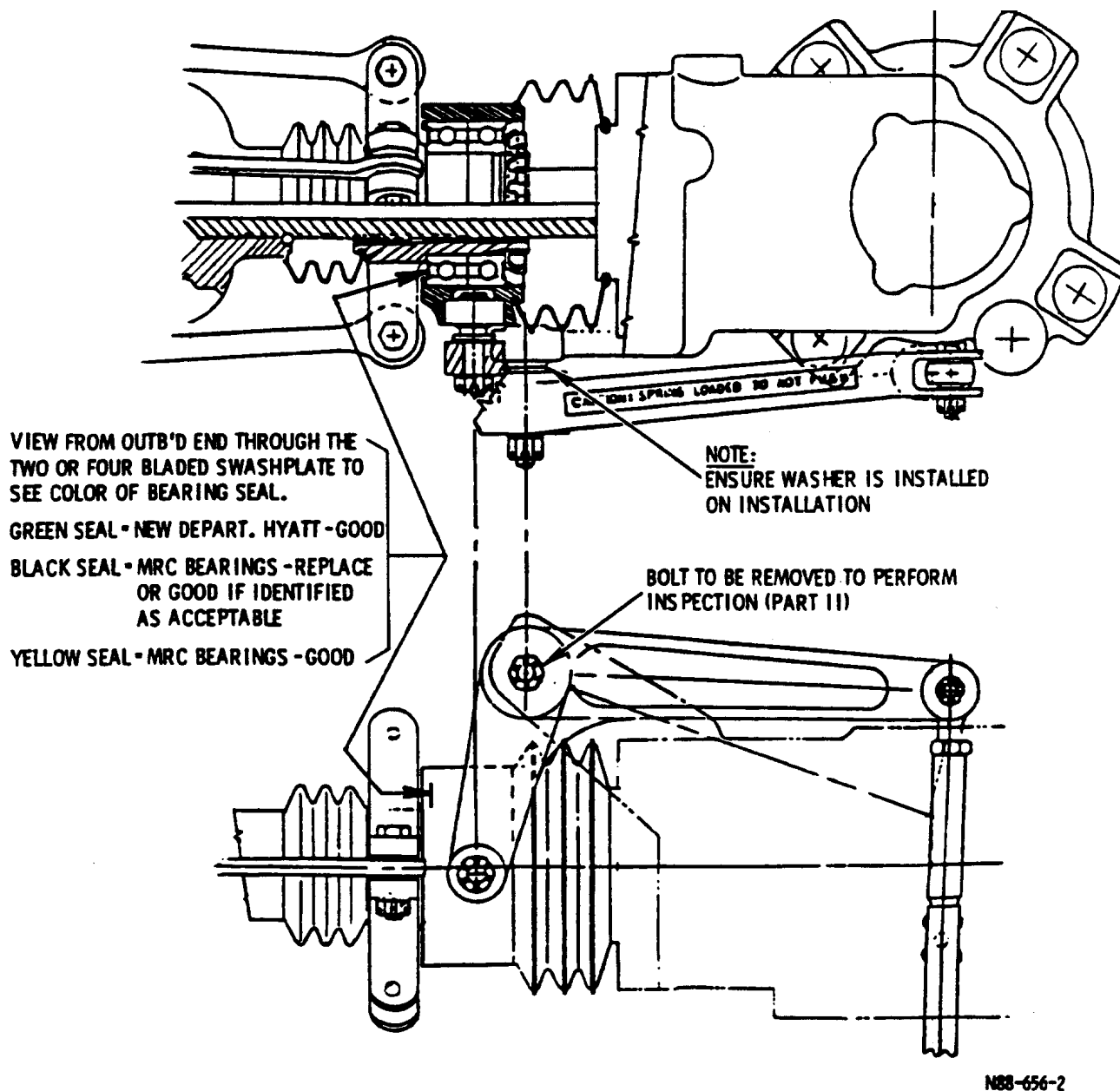


Figure 2. Inspection of Tail Rotor Assembly.

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# SERVICE BULLETIN

DATE: 15 JUNE 1990

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**SUBJECT:** ONE-TIME REPLACEMENT OF POLYCARBONATE COVER ASSEMBLES (369A9817)

**SUMMARY:** MD Helicopters, Inc. (MDHI) has received reports that some 369A9817 polycarbonate cover assemblies were found cracked by visual inspection.



Complete failure of the cover assembly could result in severe FOD damage to the engine.

**PURPOSE:** It is the purpose of this Notice to replace all polycarbonate cover assemblies with aluminum cover assemblies.

**MODELS AFFECTED:** All (MDHI) 369 Series helicopter equipped with 369A9817(BSC) polycarbonate engine air filter overboard cover assemblies.

**TIME OF COMPLIANCE:** The requirements of this Notice shall be accomplished within 90 days after receiving or fabricating parts. If needed, parts should be ordered immediately after receiving this Notice.

**ASSEMBLY/COMPONENTS TO BE INSPECTED AND CORRECTED:** 369A9817, cover assembly, engine air filter overboard cover assembly; Qty. per helicopter - (1).

**REFERENCE PUBLICATIONS:** (Use the manuals listed below or any later revisions.)

369H IPC (CSP-H-7) Revised 17 March 1989

369D IPC (CSP-D-4) Revised 17 February 1989

369E/FF IPC (CSP-E/F-4) Revised 16 June 1989

**WEIGHT AND BALANCE:** N/A

**RECORDING AND COMPLIANCE:** Record compliance to this Service Information Notice in the Compliance Record Section of the helicopter Log Book.

**POINTS OF CONTACT:** For further information contact your local MDHI Field Service Representative (refer to the latest revision to the Marketing and Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone: 1-(800)-445-1516 or (602) 891-6342.

**SPECIAL TOOLS/JIGS AND FIXTURES REQUIRED.** N/A.

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## SUPPLY/PARTS AND WARRANTY DISPOSITION:

PARTS LIST			
<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Source</u>
1. Cover assembly, engine	369A9871-11	1	MDHI (Warranty and air filter overboard vent Repair Department) or field fabricate using items 2 thru 4 listed below.
2. Cover	369A9817-5	1	Field fabricate per Figure 1.
3. Nutplate	MS21076-L3	8	Commercial or MDHI (Nut-plate from polycarbonate covers can be used on aluminum cover assemblies.)
4. Rivet	MS20426A3	A/R	Commercial or MDHI

## AIRCRAFT INSPECTION AND CORRECTION PROCEDURES:



Use care to avoid dropping screws, washers or other foreign material into the engine air intake when performing the following steps. Severe FOD could occur.

- Cover engine air inlet with a suitable cover to prevent foreign objects from entering the engine.
- Remove the 369A9817 cover assembly from the engine air inlet Pairing (See Figure 1 for location).
- Verify which type of cover assembly is installed.

### NOTE

369A9817(BSC) cover assemblies are polycarbonate and 369A9817-11 cover assemblies are aluminum.

- Discard polycarbonate cover assemblies and procure a 369A981 7-11 cover assembly from MDHC Warranty and Repair Dept. or field fabricate a 369A981 7-11 cover assembly per instructions in Figure 1.

### NOTE

Nutplates may be removed from polycarbonate cover assemblies and reused for fabricating an aluminum cover assembly.

- Prime and paint cover assembly accordingly.
- Install aluminum cover assembly using existing screws and washers.

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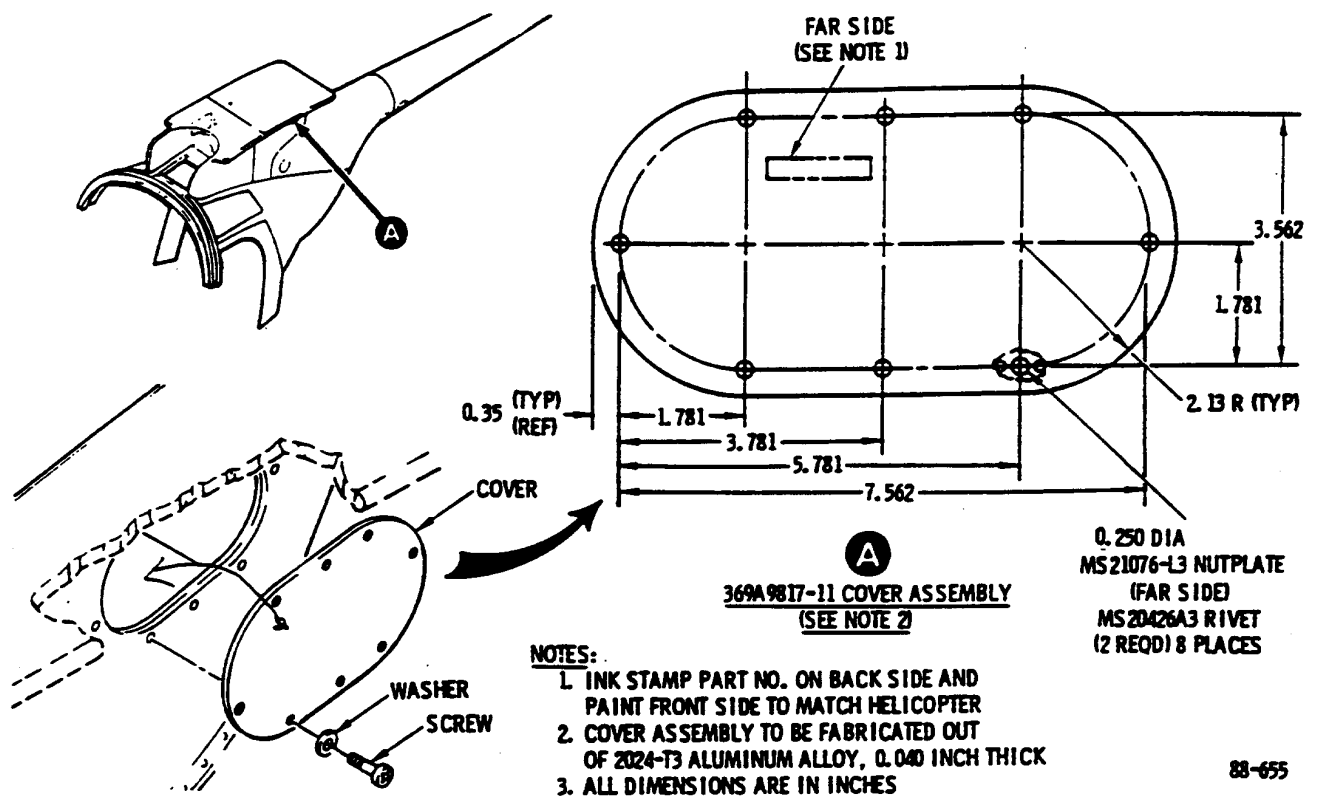
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Figure 1. Fabrication of 369A9817-11 Cover Assembly.

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HN-224  
DN-169  
EN-60  
FN-48

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DATE: 15 JUNE 1990

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**SUBJECT:** ONE-TIME REPLACEMENT OF TAIL ROTOR BLADE PITCH ARM BOLT ATTACHING NUTS.

**MODELS AFFECTED:** All MD Helicopters, Inc. (MDHI) 369 Series helicopters, equipped with metal tail rotor blades.

**TIME OF COMPLIANCE:** The requirements of this Notice shall be accomplished within the next 300 hours of helicopter operation or at the next annual inspection, whichever occurs first.

**PREFACE:** MDHI installation requirements were recently revised to lower the installation torque of the tail rotor pitch link nuts. Therefore, MDHI is requiring operators to replace the subject MS17826-4 nuts. MDHI will provide operators with replacement nuts, free of charge. Contact a MDHI Approved Service Center or Distributor for replacement nuts.

<u>Nomenclature</u>	<u>PARTS LIST</u> <u>Part No.</u>	<u>Qty.</u>	<u>Source</u>
Nut	MS17826-4	A/R	MDHI

## REFERENCE PUBLICATIONS:

369H Basic HMI (CSP-H-2) Revised 15 January 1989  
369D/E HMI Vol. I (CSP-D-2) Revised 01 August 1989  
369F/FF HMI Vol. I (CSP-F-2) Revised 01 June 1989  
369DEF COM (CSP-DEF-5) Revised 29 September 1989

**WEIGHT AND BALANCE:** Weight and balance are not affected.

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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## PROCEDURE



Carefully secure the hex portion of the pitch arm bolt while removing and installing nut.

- a. Remove nuts at pitch control assembly and nuts at tail rotor blade pitch arm attachments. (Refer to Figure 1 .)
- b. Install new MS17826-4 nuts. Torque tail rotor blade nuts to **50 - 60 inch-pounds**. Torque nuts at pitch control assembly to **30 - 40 inch-pounds**.



DO NOT exceed 60 inch-pounds torque on the tail rotor blade nuts or 40 inch-pounds on the pitch control assembly nuts.

- c. Without exceeding torque limits, align cotter pin hole at the outboard and inboard ends of the pitch arm and install cotter pin.

## NOTE

Apply MIL-P-8585 zinc chromate primer to cotter pin during installation.

Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

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DATE: 15 JUNE 1990

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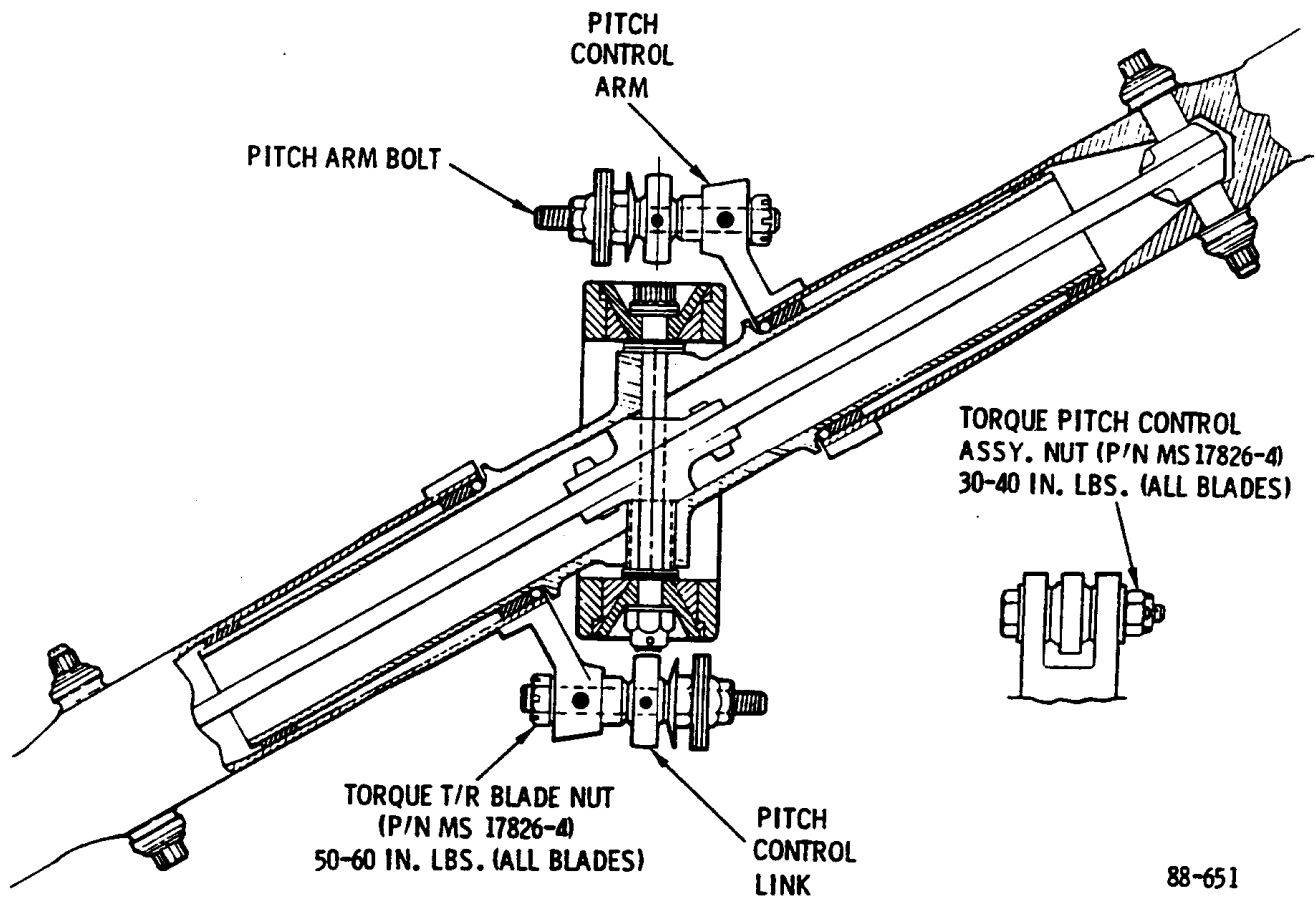


Figure 1. Replacement of Tail Rotor Pitch Link Nuts.

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# SERVICE BULLETIN

DATE: 15 MAY 1991

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\* Supersedes Service Information Notices HN-225, DN-1 70, EN-61 and FN-49, dated 25 July 1990.

**SUBJECT:** ONE-TIME TORQUE CHECK AND INSPECTION OF MAIN ROTOR BLADES

**SUMMARY:** MD Helicopters, Inc. (MDHI) has determined that the torque on some main rotor blade root fitting bolts do not meet MDHI manufacturing specifications. These bolts provide an additional degree of safety due to the clamping load of the bolts providing additional friction in the bolted joint. The reason for reissuing this notice is that some of the part numbers were added or revised and the time of compliance had a minor change.

**PURPOSE:** It is the purpose of this Service Information Notice to verify/check the torque of the main rotor blade root fitting bolts and to inspect the root fitting bond lines for integrity.

**MODELS AFFECTED:** All MDHC 369 Series helicopters with any of the following main rotor blades installed:

369A1100-505 and -601  
369D21100-513 and -515  
369D21102(BSC) and -501

## NOTE

Helicopters that have previously accomplished the inspection requirements of this Notice are not affected.

**TIME OF COMPLIANCE:** The requirements of this Notice shall be accomplished within the next 100 hours of helicopter operation, the next time the main rotor blades are removed or no later than June 30, 1991, whichever occurs first.

**ASSEMBLY/COMPONENTS TO BE INSPECTED AND CORRECTED:** 369A1100-505, 369A1100-601, 369D21100-513, 369D21100-515, 369D21102(BSC) and 369D21102-501.

**REFERENCE PUBLICATIONS:** (Use the manuals listed below or any later revisions.)  
369H Basic HMI (CSP-H-2) Revised 15 June 1990  
369D/E/F/FF HMI (CSP-HMI-2) Issued 31 October 1990

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## AIRCRAFT INSPECTION AND CORRECTION PROCEDURES:

a. Visually examine the root fitting bond lines for integrity. All M/R blades that exhibit bond line separation shall be removed from service.

### NOTE

Contact a MDHI Field Service Representative for disposition of any M/R blade that appears to have separation in the area of the root fitting bond lines.

b. If no separation is observed, apply a torque of 60–65 inch pounds to each root fitting attach bolt on all main rotor blades.

### NOTE

The 60–65 inch pound torque requirement includes a nominal value to account for run-on torque.

c. Apply a white dot to the underneath side of acceptable main rotor blades in the area of the root fitting bolts/nuts.

**WEIGHT AND BALANCE:** N/A

**RECORDING AND COMPLIANCE:** Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

## POINTS OF CONTACT:

For further information contact your local MDHI Field Service Representative (refer to the latest revision of the Marketing and Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone: 1-800-445-1516 or (602) 891-6342.

The inspection procedures in this Notice have been shown to comply with Federal Aviation Regulations and is FAA Approved.

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# SERVICE BULLETIN

DATE: 21 NOVEMBER 1990

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**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///**

\* Supersedes Service Information Notices DN-171, EN-62 and FN-50, dated 25 July 1990.

**SUBJECT:** ONE-TIME INSPECTION OF 369D25623 OIL COOLER BLOWER BELT

**SUMMARY:** The Gates Rubber Company, which bought out Uniroyal and is currently the sole source manufacturer of the 369D25623 oil cooling blower fan belt, has indicated to McDonnell Douglas Helicopter Company that blower assembly belts found in service out in the field with green labels were not manufactured by Gates. These belts are not authorized for use on MDHC 369 Series helicopters.

**PURPOSE:** The purpose of this revision to the original Service Information Notice is to provide operators with additional information which will aid operators in identifying acceptable and non-acceptable blower belts.



Unacceptable belts can track improperly and damage other components of the cooling fan assembly.

**MODELS AFFECTED:** All MDHC 369D, 369E and 369F/FF Series helicopters.

**TIME OF COMPLIANCE:** The requirements of this Notice shall be accomplished within the next 100 hours of helicopter operation, the next time the main transmission cover assembly is removed or no later than June 30, 1991 whichever occurs first.

**ASSEMBLY/COMPONENTS TO BE INSPECTED AND CORRECTED:** 369D25623 oil cooler blower belts.

**REFERENCE PUBLICATIONS:** (Use the manuals listed below or any later revisions.)

369D/E HMI Vol. I (CSP-D-2) Revised 01 August 1989

369F/FF HMI Vol. I (CSP-F-2) Revised 01 June 1989

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## SUPPLY/PARTS:

### PARTS LIST

<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Source</u>
Blower belt	369D25623	A/R	MDHC

## AIRCRAFT INSPECTION AND CORRECTION PROCEDURES:

### NOTE

The main transmission oil cooler blower belt identification markings can be inspected by removing the inspection plug on the main transmission cover and viewing the identification markings using a flashlight.

- a. Gain access to the oil cooling blower assembly.
- b. Inspect oil cooler blower belt as follows:
  1. Acceptable blower belts are identified by white PN 369D25623 followed by a three-digit code (see sample shown in Figure 1) with 3/16 to 1/4 inch high lettering along with some other numbering. In order to be acceptable the three digit code must be present.
  2. Blower belts identified with green part numbers and letters (refer to Figure 1) or belts without three-digit codes immediately after the part number must be replaced with acceptable belts per instructions contained in the appropriate Maintenance Manuals.
  3. Remove unacceptable blower belts from Spares Inventories. Return unacceptable belts to MDHC Warranty and Repair Department for warranty consideration/replacement.

**WEIGHT AND BALANCE:** N/A

### RECORDING AND COMPLIANCE:

Record compliance to this Service Information Notice in the Compliance  
Record section of the helicopter Log Book.

### POINTS OF CONTACT:

For further information contact your local MDHC Field Service Representative (refer to the latest revision of the Product Support handbook for address and telephone I numbers) or contact the Field Service Department at MDHC, Mesa, Arizona. Telephone: 1-800-445-1516 or (602) 891-6342.

The requirements of this notice have been shown to comply with Federal Aviation Regulations and am FAA Approved.

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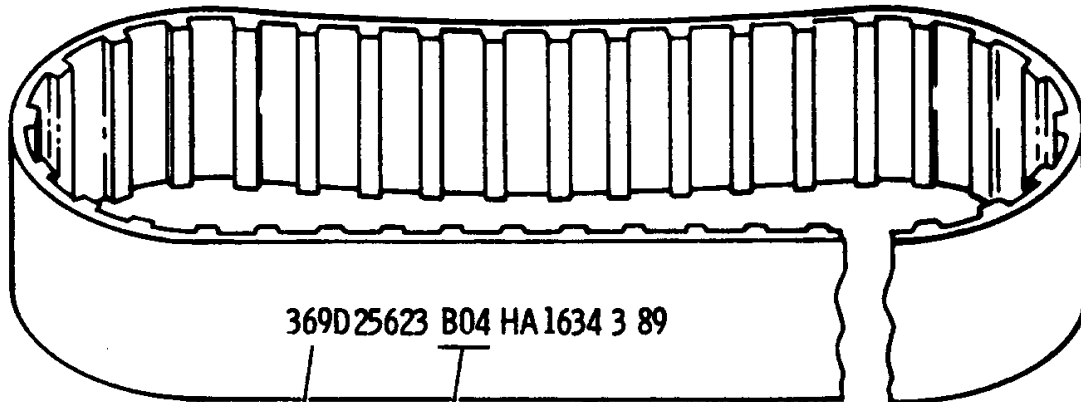
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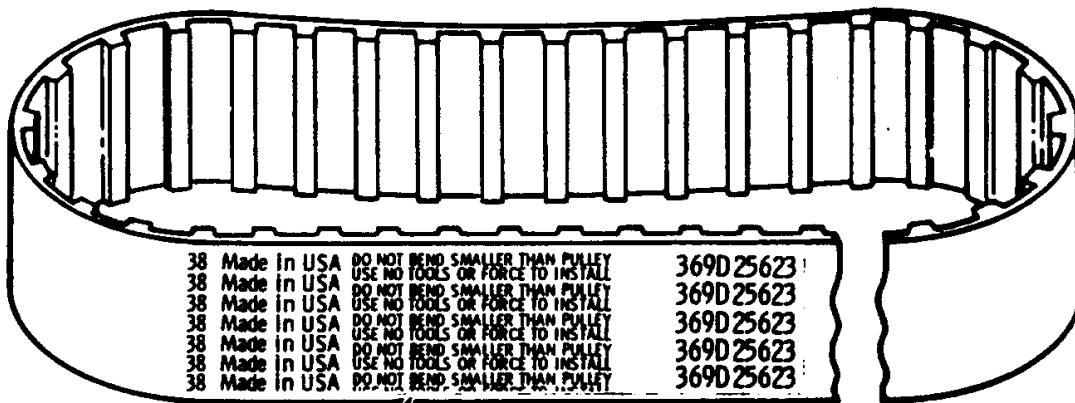
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369D25623 B04 HA1634 3 89

THREE-DIGIT MANUFACTURER'S CODE MUST BE PRESENT  
WHITE MARKINGS ACCEPTABLE



38 Made in USA DO NOT BEND SMALLER THAN PULLEY  
38 Made in USA DO NOT BEND SMALLER THAN PULLEY  
38 Made in USA DO NOT BEND SMALLER THAN PULLEY  
38 Made in USA DO NOT BEND SMALLER THAN PULLEY  
38 Made in USA DO NOT BEND SMALLER THAN PULLEY  
38 Made in USA DO NOT BEND SMALLER THAN PULLEY  
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369D25623  
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GREEN MARKINGS UNACCEPTABLE

88-662

Figure 1. Inspection of Oil Cooler Blower Belt.

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# SERVICE BULLETIN

DATE: 4 SEPTEMBER 1990

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**SUBJECT:** ONE-TIME INSTALLATION OF 369D24054-3 WARNING DECALS IN THE ENGINE COMPARTMENT AREA

**SUMMARY:** Proper and safe maintenance in the engine bay area is critical. The applicable maintenance manuals should be used at all times.

## WARNING

Failure to properly install, align and torque fuel, oil and air tubes/lines and fittings could result in engine damage/failure.

**PURPOSE:** The purpose of this Notice is to install 369D24054-3 warning decals in the engine compartment which will help alert maintenance personnel of the importance to properly reinstall any fuel, oil or air tubes that have been removed or disconnected.

**MODELS AFFECTED:** All MD Helicopters, Inc. (MDHI) 369, including the 369A (OH-6A) Series helicopters not equipped with 369D24054-3 warning decals.

**TIME OF COMPLIANCE:** The requirements of this Notice shall be accomplished within the next 100 hours of helicopter operation after receipt of parts or no later than June 30, 1991, whichever occurs first. Order parts immediately after receipt of this Notice.

**ASSEMBLY/COMPONENTS TO BE INSPECTED AND CORRECTED:** 369D24054-3 engine bay area warning decals.

**REFERENCE PUBLICATIONS:** (Use the manuals listed below or any later revisions.)  
369H Basic HMI (CSP-H-2) Revised 15 January 1989  
369D/E HMI Vol. I (CSP-D-2) Revised 01 August 1989  
369F/FF HMI Vol. I (CSP-F-2) Revised 01 June 1989

### SUPPLY/PARTS:

### PARTS LIST

<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Source</u>
Decal, warning	369D24054-3	A/R	,MDHI

**SPECIAL TOOLS/JIGS AND FIXTURES REQUIRED. N/A.**

DATE: 4 SEPTEMBER 1990

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# SERVICE BULLETIN

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## AIRCRAFT INSPECTION AND CORRECTION PROCEDURES:

- a. Gain access to inside of the engine compartment.
- b. Verify that 369D24054-3 warning decals are installed as shown in Figure 1. If warning decals are installed, no further action is required.
- c. Ensure surface where decals are going to be installed is clean and free of oil prior to installation. Install warning decals at locations shown in Figure 1.
- d. Secure engine access door.

**WEIGHT AND BALANCE:** N/A.

## RECORDING AND COMPLIANCE:

Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

## POINTS OF CONTACT:

For further information contact your local MDHI Field Service Representative (refer to the latest revision of the Product Support handbook for address and telephone numbers) or contact the Field Service Department. at MDHI, Mesa, Arizona. Telephone: 1-800-445-1516 or (602) 891-6342.

The resultant alteration to affected models as prescribed by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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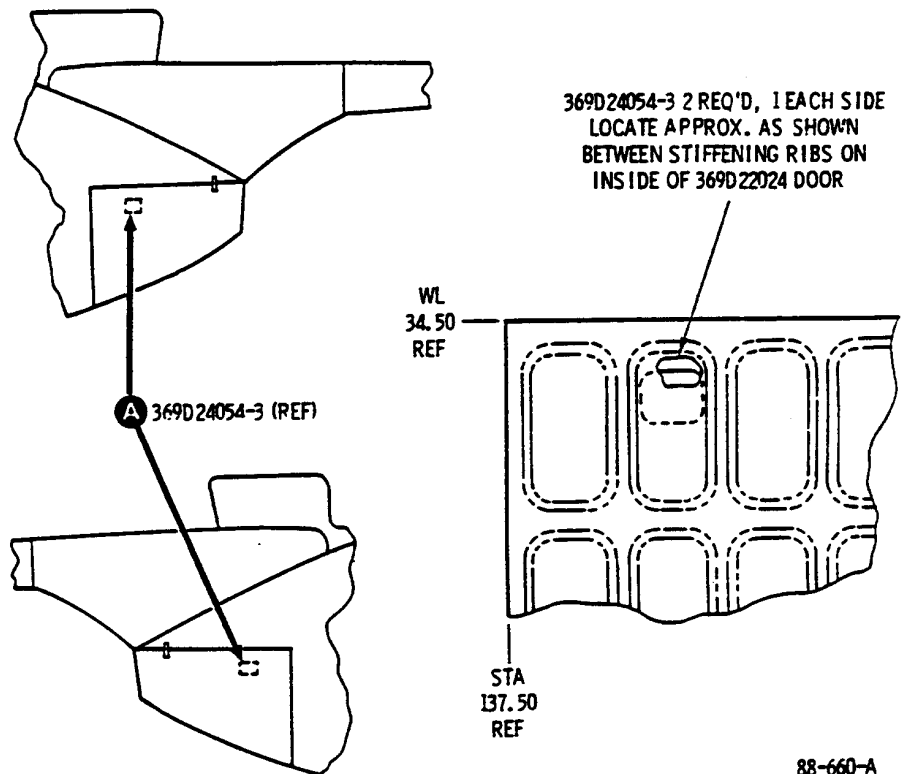
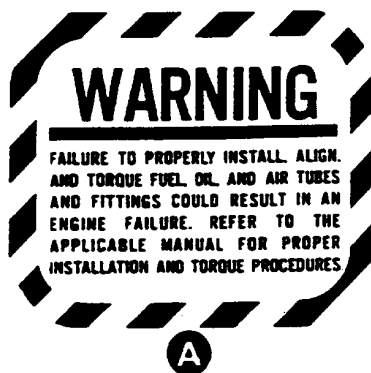


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88-660-A

Figure 1. Engine Compartment Warning Decal Installation.

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/// MANDATORY ///



# SERVICE BULLETIN

DATE: 17 JANUARY 2020

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## INSPECTION OF LEAD-LAG LINK ATTACH NUTS

\* Supersedes service bulletin SB369H-227R1, SB369D-173R1, SB369E-64R1, SB369F-52R1, SB500N-042, and SB600N-051 dated 09 July 2009. Revised to delete Daily Preflight Check as part of Section 1., Planning Information, Step F., Part B. and Section 2., Accomplishment Instructions, Step B. The required Daily Preflight Check from this Bulletin was added to all applicable Rotorcraft Flight Manuals. Added 500N and 600N model aircraft to NOTE in Section 2.

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All MDHI 369A (OH-6A), 369H series, 369D, 369E, 369FF, 500N and 600N series helicopters.

#### B. Assembly/Components Affected By This Bulletin:

369A1219 Lead-lag link attach nuts.

#### C. Reason:

A field report indicated that cracking of the 369A1219 nut, attaching the lead-lag links, has occurred due to stress corrosion. Main rotor hub assemblies found to have cracked nuts at the lead-lag link attach bolts must be removed from service and replaced before further flight.

#### D. Description:

The procedures in this bulletin give instructions to check all main rotor lead-lag link attachment nuts for integrity.

#### E. FAA Approval:

The technical design aspects of this bulletin are FAA approved.

#### F. Time of Compliance:

Part A. must be completed before the next flight.

Part B. Deleted.

#### G. Manpower:

N/A

#### H. Interchangeability:

None

#### I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

#### J. Material/Part Availability:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Lead-lag link attach nut	369A1219	As Required	MDHS

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**K. Warranty Policy:**

N/A

**L. Disposition of Parts Removed:**

Scrap.

**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

CSP-HMI-2 Handbook of Maintenance Instruction, Servicing and Maintenance Manual.

CSP-H-2 Basic Handbook of Maintenance Instructions (Basic HMI).

## 2. ACCOMPLISHMENT INSTRUCTIONS



Main rotor hub assemblies found to have cracked nuts at the lead-lag link attach bolts must be removed from service and replaced before further flight. Main rotor hub assemblies that have cracked lead-lag link attach nuts must be returned to MDHI Warranty and Repair for repair.

**A. One Time Initial Inspection**

■ **NOTE:** On models 369A (OH-6A), 369H, 369D, 369E, 369FF, 500N, and 600N. If this service bulletin has been completed before, do not do step (1) thru step (3).

- (1). Before the next flight, visually check all lead-lag link attach nuts (P/N 369A1219) for cracks.
- (2). Make a record in the Compliance Record section of the Rotorcraft Log Book that this service bulletin has been completed.
- (3). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.

**B. Deleted**

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SB369H-227R2 SB369D-173R2  
SB369E-64R2 SB369F-52R2  
SB500N-042R1 SB600N-051R1

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## Bulletin Completed Record

### Inspection of Lead-Lag Link Attach Nuts

MD Helicopters, Inc.  
Field Service  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact.html>  
Or email or speak to your Field Service Representative.

Owner/- Operator: _____	Helicopter Serial No: _____
Address: _____ _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____  Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete:

\_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
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SB369H-227R2    SB369D-173R2  
SB369E-64R2    SB369F-52R2  
SB500N-042R1    SB600N-051R1



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DATE: 21 NOVEMBER 1990

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**MANDATORY**

**SUBJECT:** INSPECTION OF T/R INPUT GEARSHAFT (P/N 369D25434) IN THE T/R GEARBOX

**SUMMARY:** A field report indicated that the 369D25434 T/R input gearshaft was found to have chipped gear teeth. As a result, MDHC investigation has revealed that some of the subject gears may not meet minimum hardness requirements. Suspect gears have been found to have come from the same lot of 65 serialized gears which are listed below (see assembly/components to be inspected and corrected).

**PURPOSE:** The purpose of this Notice is to verify the serial number of the T/R input gear installed in all aircraft and remove from service those suspect serial number T/R input gears.

**MODELS AFFECTED:** All McDonnell Douglas Helicopter Company (MDHC) 369D/E/F/FF Series helicopters.

**TIME OF COMPLIANCE:** The requirements of this Notice shall be accomplished within the next 300 hours of helicopter operation (See the following note).

## NOTE

If the serial number of the gearshaft is unknown, then the tail rotor gearbox must be disassembled within 300 hours of helicopter operation for verification of serial number.

**ASSEMBLY/COMPONENTS TO BE INSPECTED AND CORRECTED:** 369D25434 T/R Input Gearshaft, serial numbers 0569 thru 0633.

**REFERENCE PUBLICATIONS:** (Use the manuals listed below or any later revisions.)  
369D/E/FF COM (CSP-DEF-5) Revised 29 September 1989

**SUPPLY/PARTS:**

## PARTS LIST

Nomenclature	Part No.	Qty.	Source
T/R Input Gearshaft Assembly, T/R Gearbox	369D25434	A/R	MDHC Warranty and Repair Dept.
Packing	2-152-47-071 2-032-474371 (option)	A/R	MDHC Warranty and Repair Dept.
Shim	369D25414	A/R	MDHC Warranty and Repair Dept.
Shim	369D25416	A/R	MDHC Warranty and Repair Dept.
Shim	369D25436	A/R	MDHC Warranty and Repair Dept.

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**WARRANTY DISPOSITION:** MDHC will provide a labor allowance of 2.8 hours to remove and reinstall the tail rotor transmission. A labor allowance of 4 hours will be provided for the removal and replacement of the 369D25434 gearshaft

All labor shall be performed at a MDHC Approved Service Center at that Service Center's standard labor rate.

**SPECIAL TOOLS/JIGS AND FIXTURES REQUIRED.** N/A.

### AIRCRAFT INSPECTION AND CORRECTION PROCEDURES:

- a. Research helicopter/aircraft records (log book or component overhaul log card) to determine if any of the following serial number T/R gearshaft assemblies are installed. If it cannot be determined what serial number gearshaft is installed, remove the T/R gearbox assembly per CSP-HMI-2 and disassemble per the COM for the T/R gearbox as required to gain access to the gearshaft serial number.
- b. Remove the following serial number gearshaft from service and return to MDHC Warranty and Repair Department for an acceptable replacement gearshaft.

Serial Number Gearshafts: 0569 thru 0633.

#### **NOTE**

Gearshafts should be returned to MDHC Warranty and Repair Department accompanied by a SOR requesting labor.

**WEIGHT AND BALANCE:** N/A.

### RECORDING AND COMPLIANCE:

Record T/R gearshaft serial number and record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

### POINTS OF CONTACT:

For further information contact your local MDHC Field Service Representative (refer to the latest revision of the MD500 Customer Support handbook for address and telephone numbers) or contact the Field Service Department at MDHC, Mesa, Arizona. Telephone: 1-800-445-1516 or (602) 891-6342. For Warranty issues, contact the MDHC Warranty and Repair Department at (602) 891-8565.

The resultant alteration to affected models as described by procedures in this Notice have been shown to comply with Federal Aviation Regulations and is FAA Approved.

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**MANDATORY**

**SUBJECT:** ONE-TIME INSPECTION OF 369H8407 ENGINE BLEED AIR TUBE FLEXIBLE AREA

**SUMMARY:** MD Helicopters, Inc. (MDHI) has received field reports indicating that some 369H8407 bleed air tubes have developed a leak in the flexible section of the tube assembly. The effect of a leak in this tube will give operators high temperature indications (TOT) and low power indications.

**PURPOSE:** The purpose of this Notice is to inspect all helicopters for possible leaks in the flexible portion of the engine bleed air tube.

**MODELS AFFECTED:** All (MDHI) 369H Series helicopters, including the 369A (OH-6A) Series helicopter, 369D and 369E Series helicopters.

**TIME OF COMPLIANCE:** The requirements of this Notice shall be accomplished within the next 300 hours of helicopter operation from the date of this Notice or at the next annual inspection, whichever occurs first.

## NOTE

The requirements of this Notice should be accomplished whenever low power or high TOT is suspected.

**ASSEMBLY/COMPONENTS TO BE INSPECTED:** 369H8407 tube assembly, compressor air bleed.

**REFERENCE PUBLICATIONS:** (Use the manuals listed below or any later revisions.)

369H Basic HMI (CSP-H-2) Revised 15 January 1989

369H Opt. Equip. (CSP-H-3) Issued 15 October 1982

369D/E HMI Vol. I (CSP-D-2) Revised 01 August 1989

**SUPPLY/PARTS:** Normal warranty policy applies when obtaining parts to accomplish this Notice.

## PARTS LIST

Nomenclature	Part No.	Qty.	Source
Tube assembly, Compressor air bleed	369H8407	*A/R	MDHC

\* A quantity of (1) is required per helicopter, if necessary.

MATERIAL	
Nomenclature	Source
Soap/water solution (Snoop or equivalent)	Commercial

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**SPECIAL TOOLS/JIGS AND FIXTURES REQUIRED. N/A.**

### AIRCRAFT INSPECTION AND CORRECTION PROCEDURES:

#### **WARNING**

Failure to properly install, align, and torque fuel, oil and air tubes and fittings could result in an engine failure. Refer to the applicable manual for installation and torque procedures.

- a. Gain access to the engine compartment.
- b. Using the applicable Pilot's Right Manual, operate engine at ground idle.

#### **WARNING**

Avoid contact with engine exhaust and engine bleed air as engine operating temperatures could cause severe burning. Use suitable ear protection when performing maintenance around operating engines.

- c. Apply Snoop (or equivalent soap/water solution) over the flexible portion of the 369H8407 bleed air tube assembly.
- d. Replace those tube assemblies which exhibit leaking per applicable maintenance manual.

#### **NOTE**

Any leaks in the compressor air bleed tube assembly flexible area should become apparent when the soap/water solution or Snoop is applied to the compressor air bleed tube assembly.

**WEIGHT AND BALANCE: N/A**

### RECORDING AND COMPLIANCE:

Record compliance to this Service information Notice in the Compliance Record section of the helicopter Log Book.

### POINTS OF CONTACT:

For further information contact your local MDHI Field Service Representative (refer to the later revision of the Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone: 1-800-445-1516 or (602) 891-6342.

Alterations to affected models as described by procedures in this Notice have been shown to comply with Federal Aviation Regulations and is FAA Approved.

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**SUBJECT:** ONE-TIME REINSTALLATION OF THE 369A1602-3 TAIL ROTOR FORK BOLT

**SUMMARY:** To ensure proper clamp-up of the tail rotor hub and fork, the 369A1602(BSC) and -3 fork bolt should be installed using the **elongation** method only.

**NOTE**

HN-212.2, DN-153.2, EN-43.2 and FN-32.2, dated 21 April 1989, required operators to replace the 369A1602(BSC) bolt with a 369A1602-3 tail rotor fork bolt.

**PURPOSE:** The purpose of this Service Information Notice is to require operators to install the tail rotor fork bolt using the elongation method rather than the previously used torque method.

**MODELS AFFECTED:** All MD Helicopters, Inc. (MDHI) 369 Series helicopters, including the 369A (OH-6A) Series helicopter that have had the tail rotor fork bolt retorqued using the alternate torque method (140-160 in.lbs.).

**NOTE**

If it can be verified that the 369A1602-3 tail rotor fork bolt was last installed using the elongation method, those helicopters do not have to accomplish the requirements of this Notice.

**TIME OF COMPLIANCE:** The requirements of this Notice shall be accomplished within the next 300 hours of helicopter operation from the date of this Notice, at the next annual inspection, or at the next disassembly of the tail rotor fork assembly, whichever occurs first.

**ASSEMBLY/COMPONENTS TO BE INSPECTED AND CORRECTED:** 369A1602-3 tail rotor fork bolt.

**REFERENCE PUBLICATIONS:** (Use the manuals listed below or any later revisions.)  
369H COM (CSP-H-5) Revised 15 July 1989  
369D/E/F COM (CSP-DEF-5) Revised 17 September 1990

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## SUPPLY/PARTS AND WARRANTY DISPOSITION:

PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Fork bolt, tail rotor	*369A1602-3	A/R	MDHI Warranty and Repair Department

\* Bolts exceeding 0.012 inch elongation will be replaced through MDHI Warranty and Repair Department.

TOOLS AND EQUIPMENT	
Nomenclature	Source
Micrometer (4-inch)	Commercial

## AIRCRAFT INSPECTION AND CORRECTION PROCEDURES:

- Remove cotter pin from nut end of fork bolt.
- Loosen nut far enough to become free of the chamfered washer.
- Using a micrometer, measure length of fork bolt with zero torque applied.
- Torque nut to elongate bolt 0.008 to 0.011 inch, and install cotter pin.



If fork bolt elongation exceeds 0.012 inch, replacement of fork bolt is required.

**WEIGHT AND BALANCE:** N/A

## RECORDING AND COMPLIANCE:

Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

## POINTS OF CONTACT:

For further information contact your local MDHI Field Service Representative (refer to the latest revision of the Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone: 1-800-445-1516 or (602) 891-6342.

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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HN-230.1\*  
DN-177.1\*  
EN-68.1\*  
FN-55.1\*

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\* Supersedes HN-230, DN-177, EN-68 and FN-55, dated 21 November 1990.

**SUBJECT:** PRE-FLIGHT CHECK AND ONE-TIME INSPECTION OF TAIL ROTOR BLADES

**SUMMARY:** Due to a failure of a tail rotor blade root fitting, MD Helicopters, Inc. (MDHI) is requiring operators to perform an inspection of all aluminum tail rotor blades to ensure that no crack exists in the tail rotor blade root fitting and that the tail rotor blade root fitting has proper wall thickness. Thin wall thickness in the tail rotor blade root fitting can lead to tail rotor blade failure.

**PURPOSE:** The purpose of this Notice is to provide operators with procedures on how to perform a daily pre-flight check of the tail rotor blades and instructions on how to use the MDHI provided tools to inspect the tail rotor blade root fitting area for proper wall thickness. This revision to this notice is being issued to allow operators additional time to comply with the requirements of this notice.

**MODELS AFFECTED:** All MDHI 369 Series helicopters equipped with affected tail rotor blades. All tail rotor blades and tail rotor assemblies in Spares Inventories. All affected tail rotor blades are listed in the following table.

## AFFECTED TAIL ROTOR BLADE ASSEMBLIES

Part Number	Blade Serial Numbers
369A1613 (all dash numbers)	Prior to 7959
369D21613 (all dash numbers)	Prior to 6482
369D21615 (all dash numbers)	Prior to 1358
369D21606 (all dash numbers)	Prior to 0538
421-088 (all dash numbers)	Prior to 0218

New 369 Series helicopters delivered on 01 September 1990 and thereafter and all tail rotor assemblies or tail rotor blades delivered thereafter were factory inspected and meet MDHI specifications.

Tail rotor blades with yellow dots applied to the aft edge of the root fitting and those above the affected serial number range have been inspected for proper root fitting wall thickness and do not have to comply with the requirements of this Notice.

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## TIME OF COMPLIANCE:

**PART I – Daily Pre–Flight Check** – Shall be accomplished at the initial pre–flight check before the first flight of each day after receipt of this Notice until the requirements of **PART II** have been accomplished.

**PART II – One–Time Inspection of Tail Rotor Blade** – Shall be accomplished within the next 100 hours of helicopter operation after receipt of tools but no later than 01 June 1991. The tools will become available approximately February 1991. Tools to perform **PART II** can be loaned from a MDHI Field Service Representative, an Approved MDHI Service Center or the MDHI Warranty and Repair Department.

**REFERENCE PUBLICATIONS:** (Use the manuals listed below or any later revisions.)  
369H Basic HMI (CSP–H–2) Revised 15 June 1990  
369D/E/F/FF HMI (CSP–HMI–2) Issued 31 October 1990

## SUPPLY/PARTS:

### PARTS LIST

<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Source</u>
Inspection tool	369D21633-1-40201(Part 1)	1	MDHI
Inspection tool	369D21633-1-40201(Part 2)	1	MDHI
Crush washer	369H5309	A/R	MDHI Warranty andRepair Dept.
O-ring	2-122C873-70	A/R	MDHI Warranty andRepair Dept.

## AIRCRAFT CHECK/INSPECTION AND CORRECTION PROCEDURES:

### PART I - DAILY PRE-FLIGHT CHECK OF TAIL ROTOR BLADE

- Visually check both sides of each tail rotor blade in the area detailed in Figure 1, Detail A, for any indications of cracking.
- Tail rotor blades having indications of cracking shall be removed from service and returned to MDHI for further inspection and warranty consideration.
- As required, install acceptable tail rotor blades per the applicable maintenance manual.

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## PART II - ONE-TIME INSPECTION OF TAIL ROTOR BLADE ROOT FITTING

- a. Procure inspection tooling from an Approved MDHI Service Center, a MDHI Field Service Representative or the MDHI Warranty and Repair Department.

### NOTE

Ensure tail rotor blades, crush washers and bushings are marked so they can be reinstalled in the exact location and orientation from which they were removed.

- b. Remove tail rotor blades per the applicable maintenance manual.



**DO NOT attempt to force the inspection tool to install the retention bolt.**

- c. With HS610C6244R375X375 bushing (Qty. 1) (369A1624-BSC root fitting) or 369H5308 bushings (Qty. 2) and 369H5309 crush washers (369A1624-3 root fitting) installed, ensure, there are no foreign objects inside the bore of the tail rotor blade root fitting. With root fitting vertical, inboard end up, insert the 369D21633-1-40201 Part I inspection tool into the I.D. of the root fitting. Align root fitting strap retention holes with tool hole. (See Figure 1, Detail B.) Attempt to install the retention bolt through the root fitting and tool holes.

### NOTE

Tail rotor blade is **acceptable** if tail rotor blade retention bolt **cannot** be inserted thru root fitting and inspection tool (Part 1 ) holes. Unacceptable tail rotor blades shall be removed from service and returned to MDHI Warranty and Repair Department for further inspection and warranty consideration.

- d. With HS610C6244R375X375 bushing (Qty. 1) (369A1624-BSC root fitting) or 369H5308 bushings (Qty.2) and 369H5309 crush washers (369A1624-3 root fitting) installed, position the 369D21633-1-40201 Part 2 inspection tool (tab end outboard) over one side of the root fitting. Align the holes in the inspection tool with the blade attach holes in the root fitting. For the 369A1624-BSC root fitting, use washers on each side of the root fitting (equal amounts) to center the inspection tool on the root fitting (See Figure 1, Detail C.). Attempt to install the retention bolt through the tool and the root fitting. (See the following CAUTION.)



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DO NOT attempt to bend or force the inspection tool to install the **retention bolt**.

## NOTE

Tail rotor blade is **acceptable** when the tail rotor blade attachment bolt **cannot** be inserted thru the root fitting holes and both sides of the inspection tool (Part 2). Unacceptable tail rotor blades shall be removed from service and returned to MDHI Warranty and Repair Department for further inspection and warranty consideration.

e. Repeat step d. with the inspection tool positioned on opposite side of blade.



Tail rotor blades, crush washers and bushings must be reinstalled in the exact location and orientation from which they were removed to ensure proper blade attachment.

f. Apply a yellow dot to acceptable tail rotor blades on the trailing edge of the root fitting approximately 1/2 inch outboard from the bushing. (See Figure 1, Detail A.)

g. Install acceptable tail rotor blades per the applicable maintenance manual.

h. Verify the tail rotor assembly is correctly balanced per the applicable maintenance manual.

**WEIGHT AND BALANCE:** N/A.

## RECORDING AND COMPLIANCE:

Record compliance to **PART II** of this Service Information Notice in the Compliance Record section of the helicopter Log Book.

## POINTS OF CONTACT:

For further information or loan of inspection tools contact your local MDHI Field Service Representative (refer to the latest revision of the Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone: 1-800-445-1516 or (602) 891-6342.

The resultant inspection/check to affected models as described by the procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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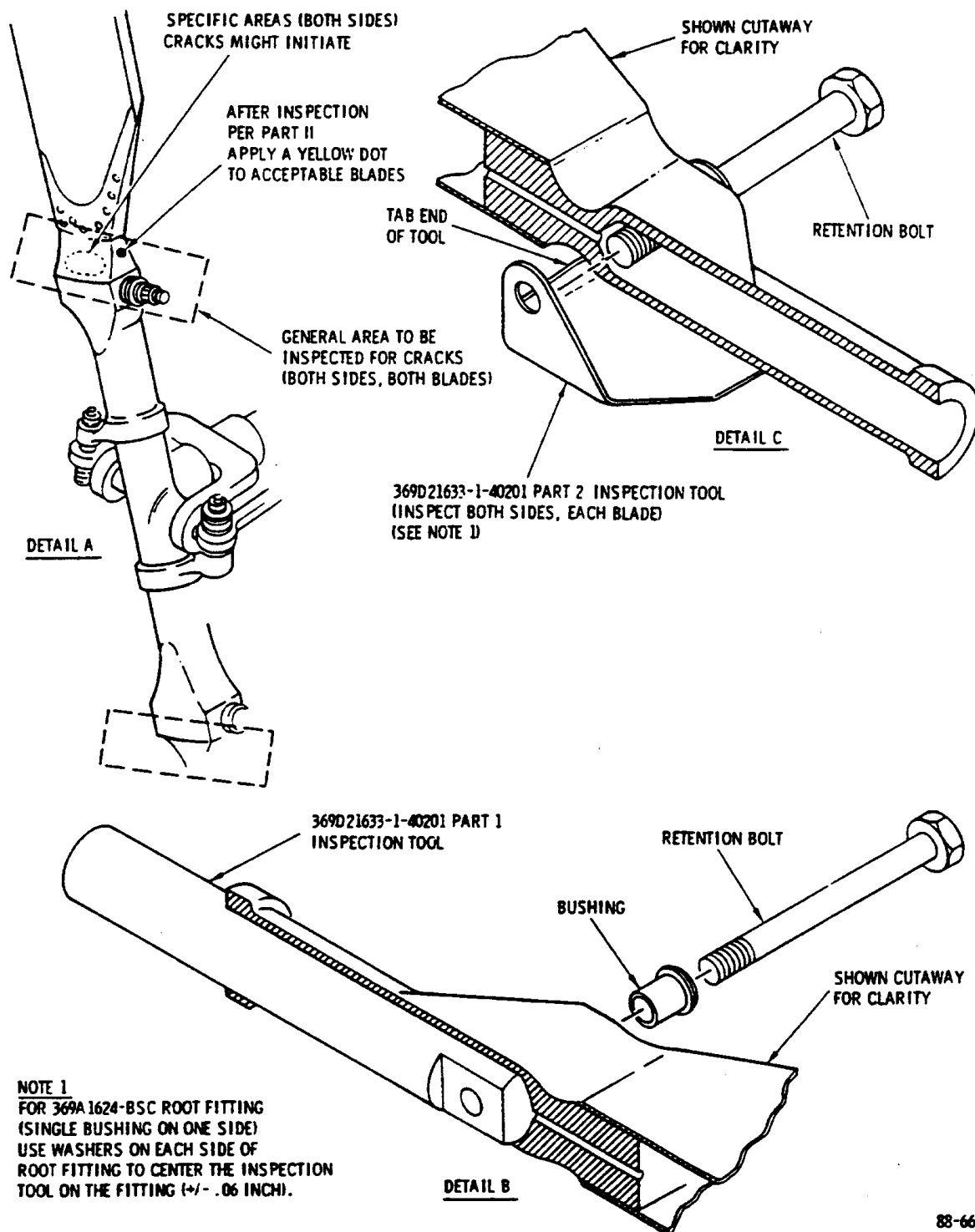
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Figure 1. Inspection of Tail Rotor Blade Root Fitting.

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HN-231  
DN-178  
EN-69  
FN-56

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**SUBJECT:** ONE-TIME REWORK OF MAIN ROTOR TRANSMISSION OIL COOLING FAN MOUNTING BRACKET

**SUMMARY:** The oil cooling fan mounting bracket is subject to galvanic corrosion. The following measures can be taken to help prevent the occurrence of galvanic corrosion.

**PURPOSE:** It is the purpose of this Service Information Notice to provide operators with a procedure to rework 369D25627(BSC) and 369H5613(BSC), -11 or -21 oil cooling fan mounting brackets by adding a drain hole at the bottom of the bracket, replacing steel washers with aluminum washers, adding a 0.12 inch radius fillet and applying sealant around bolt heads and open insert holes in the bracket.

**MODELS AFFECTED:** All MD Helicopters, Inc. (MDHI) 369 Series helicopters equipped with belt driven oil cooling fan assemblies that are not equipped with 369D25627-3 (369D/E/F/FF) or 369H5613-31 (369H series) oil cooling fan mounting brackets.

**TIME OF COMPLIANCE:** The requirements of this Notice shall be accomplished within the next 300 hours of helicopter operation.

**ASSEMBLY/COMPONENTS TO BE REWORKED:** 369D25627(BSC) (369D/E/F/FF) or 369H5613(BSC, -11 or -21) (369H Series), oil cooling fan bracket.

**REFERENCE PUBLICATIONS:** (Use the manuals listed below or any later revisions.)  
369H Basic HMI (CSP-H-2) Revised 15 January 1989  
369D/E HMI Vol. I (CSP-D-2) Revised 01 August 1989  
369F/FF HMI Vol. I (CSP-F-2) Revised 01 June 1989

## SUPPLY/PARTS AND WARRANTY DISPOSITION:

### PARTS LIST

<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Source</u>
Washer, aluminum	AN960KD416L	4	Commercial or MDHI
Sealant (PR1221)	MIL-8-8802	A/R	Product Research 5454 San Fernando Rd. Glendale, CA 91209

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**SPECIAL TOOLS/JIGS AND FIXTURES REQUIRED. N/A.**

## **AIRCRAFT INSPECTION AND CORRECTION PROCEDURES:**

- a. Gain access to oil cooling blower assembly using the applicable maintenance manual.
- b. Disassemble blower assembly and remove applicable 369D25627 or 369H5613 brackets. Drill a 0.250 dia. hole in bracket at location shown in Figure 1, view A.

### **NOTE**

Note the difference in hole location between the 369D25627 (369D/E/FF) and the 369H5613 (369H Series) brackets.

- c. Add 0.12 inch radius to locations shown in Figure 1, view C-C.
- d. Treat exposed magnesium with chromic acid solution per the applicable maintenance manual.
- e. Touch-up paint with zinc chromate primer.
- f. Reinstall 369D25627 or 369H5613 bracket using aluminum washers in place of steel washers. Apply PR1221 sealant across joint faying surfaces after assembly.
- g. Apply sealant around bolt holes and the open insert holes in the fan bracket shown in Figure 1, view B-B.
- h. Complete installation of the cooling fan assembly per the applicable maintenance manual.

**WEIGHT AND BALANCE: N/A.**

## **RECORDING AND COMPLIANCE:**

Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

## **POINTS OF CONTACT:**

For further information contact your local MDHI Field Service Representative (refer to the latest revision of the Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone: 1-800-445-1516 or (602) 891-6342.

The resultant alteration to affected models as described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

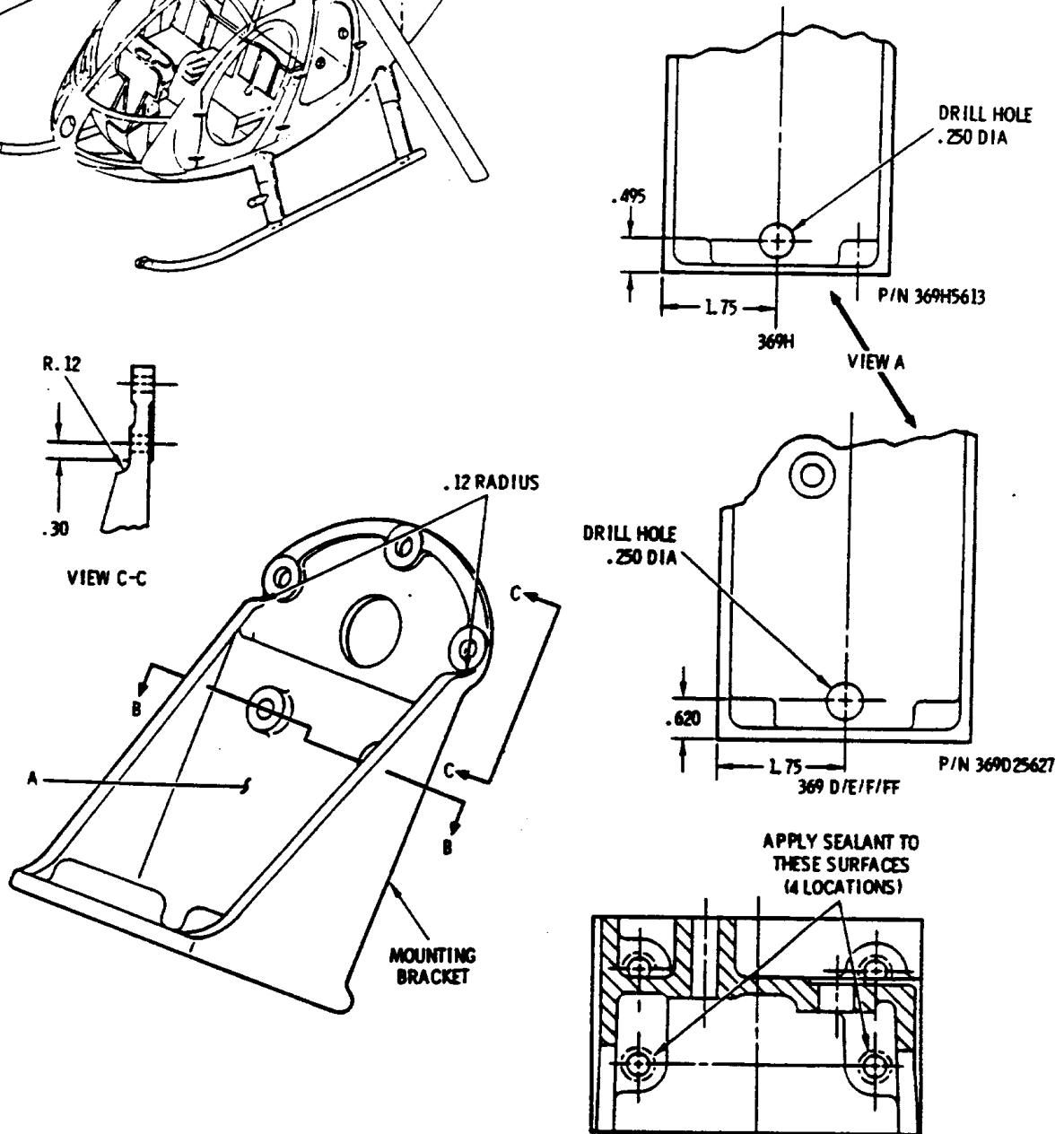
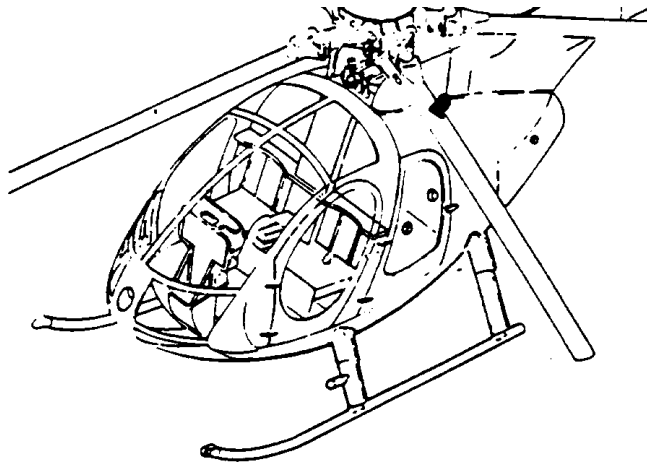
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NOTE: DIMENSION SHOWN IN INCHES

SECTION B-B

88-643A

Figure 1. Rework of Oil Cooling Fan Mounting Bracket.

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## ONE-TIME ADDITION OF RIVETS TO TAIL ROTOR ABRASION STRIP

**SUMMARY:** MD Helicopters, Inc. (MDHI) has developed and approved a procedure to rivet abrasion strips to the tail rotor blade which provides a secondary failsafe method of attachment of the abrasion strip. Helicopters that are equipped with tail rotor blades that have abrasions strips riveted are no longer subject to HN-197.2, DN-130.2, EN-19.2 or FN-17.1 dated MARCH 23, 1987. Tail rotor blade abrasion strips should still be inspected for security at the normal inspection intervals (pilot's preflight daily check and the 100/300 hour annual inspection) per the applicable HMI.

**PURPOSE:** To provide a secondary failsafe method of attachment of the tail rotor blade abrasion strip.

**MODELS AFFECTED:** All 369 Series helicopters equipped with 421-088, 369A1613-7, 369A1613-503, 369A1613-505, 369D21606, 369D21613-11, 369D21613-31, 369D21613-41, 369D21613-51, 369D21615 and 369D21615-21 tail rotor blades. Tail rotor blades that do not have abrasion strips are not affected by the requirements of this Notice.

**TIME OF COMPLIANCE:** **PART I** of this Service Information Notice shall be accomplished within the next 25 hours of helicopter operation after receipt of this Notice and every subsequent 100 hours not to exceed 300 hours until the requirements of **PART II** have been accomplished.

**PART II** shall be accomplished within the next 300 hours of helicopter operation.

**REFERENCE PUBLICATIONS:** (Use the manuals listed below or any later revisions.)

369H Basic HMI (CSP-H-2) Revised 15 June 1990

369D/E/F/FF HMI (CSP-HMI-2) Revised 10 May 1991

### AIRCRAFT INSPECTION AND/OR REWORK PROCEDURE:

#### PART I - TAIL ROTOR BLADE ABRASION STRIP INSPECTION

- a. Use a 10X magnifying glass to inspect abrasion strip/airfoil bond line for debonding. If abrasion strip debonding is suspected but cannot be confirmed by visual inspection, remove blades and perform dye penetrant and tap test inspection per the applicable maintenance manual to assure abrasion strip is secure. If debonding has occurred remove blade from service.
- b. Record compliance to **PART I** of this Notice in the Compliance Record section of the helicopter Log Book.

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## PART II - TAIL ROTOR BLADE ABRASION STRIP RIVETING

PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Rivet	CR2545-4-1, Bulbed Cherrylock Unisink Head or CR3555-4-1, Cherrymax Unisink Head Rivets,	2 (per blade)	Cherry Textron 1224 E. Warner Ave. Santa Anna, CA 92707 (714) 545-5511 or Commercial
Drill bit	Cobalt No. 27	1	Commercial
Riveter, Pulling Head	For Bulbed Cherrylock use Unisink Head (preferred) or CTSK Head For Cherrymax Rivets use Cherrymax Head (Refer to current Cherry Rivet catalog)	1	Cherry Textron 1224 E. Warner Ave. Santa Anna, CA 92707 (714) 545-5511 or Commercial
Fiberglass cloth, No. 120 Resin, Epoxy	Spec. 3135A and B or any 2 part (1:1) Clear epoxy resin	A/R A/R	Commercial Commercial or Crest Products Corp. 2000-T S. Susan St. Santa Ana, CA 92704 (714) 540-9087
1,1,1 Trichloroethane	Spec. 0-T-620	A/R	Commercial
Emery Cloth		A/R	Commercial



DO NOT ATTEMPT TO PERFORM THIS PROCEDURE WITH THE TAIL ROTOR BLADES INSTALLED ON THE HELICOPTER. FAILURE TO COMPLY WITH THIS CAUTION MAY RESULT IN DEFECTIVE RIVET INSTALLATION AND POSSIBLE BLADE DAMAGE.



It is important to locate rivet holes exactly as specified in the following steps. Failure to do so may affect structural integrity of the tail rotor blades.



When performing the following step, drill bits should be equipped with drill stops to prevent them from going through both sides of the blade.

- Remove the tail rotor blades from helicopter per the applicable maintenance manual.
- Carefully secure the tail rotor blade in a suitable holding fixture.
- Using a No. 27 Cobalt drill, drill holes (DIA. .143/.146) at the locations shown on Figure 1. (Light center punch prior to drilling is allowed.)

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**MANDATORY****CAUTION**

DO NOT exceed countersink depth of .011 inch when performing the following step as damage to the abrasion strip will result.

- d. Hand deburr holes using 100 degree countersink.

**NOTE**

It is recommended that a practice rivet installation be made (using an equivalent thickness sheet stock, .046 inch) to check rivet gun for proper adjustment.

- e. Apply zinc chromate primer to holes and install CR2545-4-1 or CR3555-4-1 rivets in locations shown in Figure 1 while the zinc chromate primer is still wet.

**CAUTION**

Installed rivet stems may be deburred using a file. Do not remove material from locking collar.

- f. Inspect installed rivets in accordance with Cherry rivet catalog. (If rivet installation is satisfactory, proceed to step j. below.)

**CAUTION**

During removal of defective rivet observe the following:

- Do not damage or enlarge rivet hole.
  - Do not drive or force rivet stem from hole.
  - Do not remove rivets common to tip cap.
- g. Remove defective rivets as follows:
- 1). Carefully grind off locking collar and upper portion of rivet head.
  - 2). Carefully push center stem through rivet sleeve.
  - 3). Using a drill stop, drill through rivet sleeve using care to prevent hole enlargement.
  - 4). Push remaining rivet sleeve through hole.
  - 5). Inspect hole in abrasion strip. If defective, consult MDHI Field Service Department.
- h. Remove FOD from interior of tail rotor blade as follows:
- 1). Drill 0.250 inch diameter hole through tip-cap as shown in Figure 1.
  - 2). Remove FOD from blade interior through hole (there is space at tip cap end for debris to pass aft of spar).
  - 3). Return to step e. above and install new rivet(s).

**CAUTION**

Excessive use of trichloroethane may damage blade paint finish.

- 4). Abrade surface surrounding .250 inch diameter hole using emery cloth; wipe clean using clean cloth dampened with trichloroethane.
- 5). Bond two plies of 120 fiberglass cloth over hole with 3135A and B epoxy resin, or equivalent. Allow epoxy resin to cure according to manufacturers instructions.

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Do not allow resin to build up in hole.

- i. Repeat inspection of abrasion strip.
- j. Install tail rotor blades per the applicable maintenance manual.
- k. Perform tail rotor balancing per the applicable maintenance manual.
- l. Record compliance to **PART II** of this Notice in the Compliance Record section of the helicopter Log Book.

**WEIGHT AND BALANCE:** N/A.

## POINTS OF CONTACT:

For further information, contact your local MDHI Field Service Representative (refer to the latest revision of the Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa Arizona. Telephone: 1-800-445-1516 or (602) 891-6342.

The resultant alterations to affected models as described by the procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

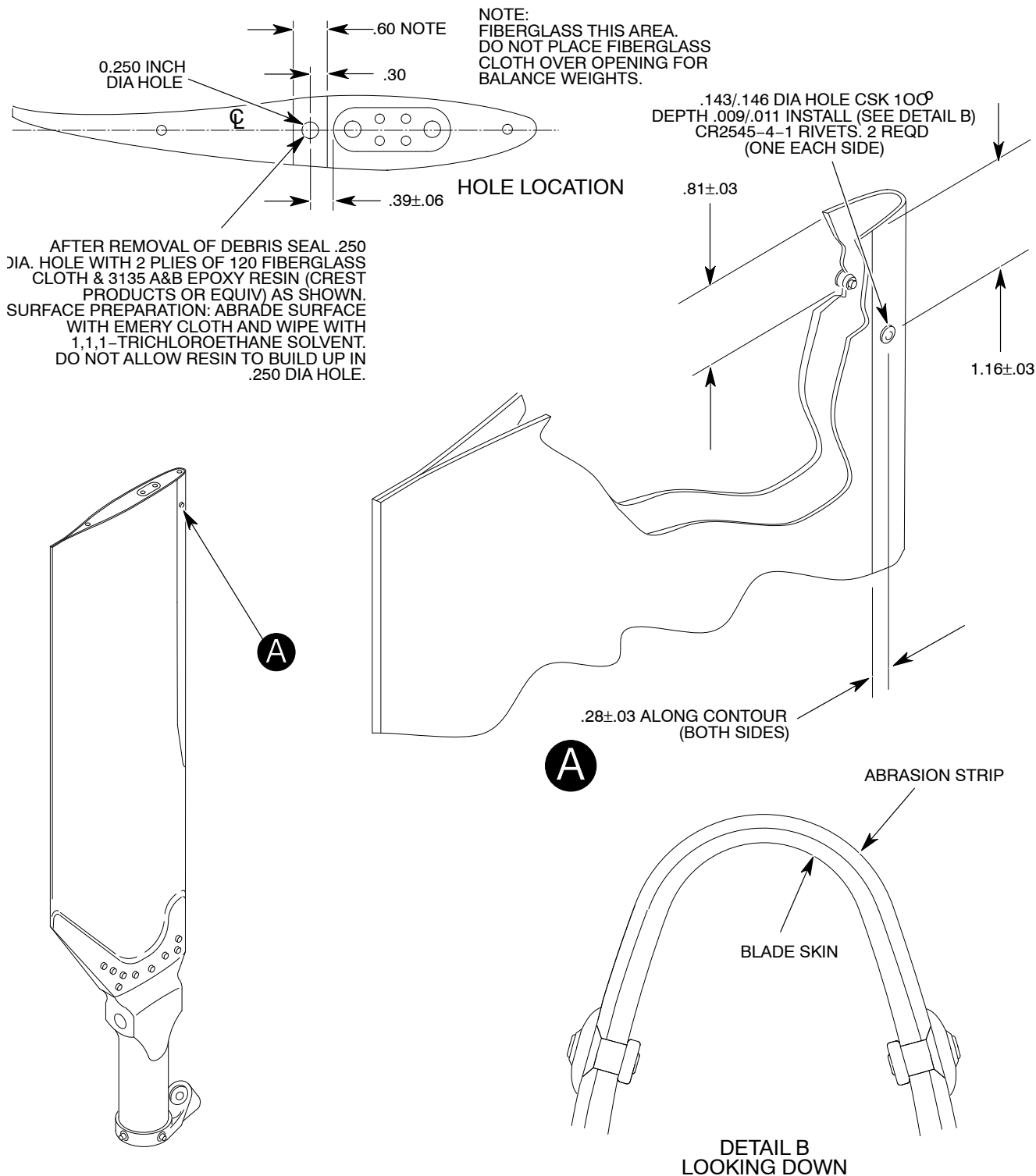
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Figure 1. Addition of Rivets to Tail Rotor Abrasion Strip, FOD Removal from Blade Interior.

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# SERVICE BULLETIN

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## INSPECTION OF OVERRUNNING CLUTCH OUTER RACE

**SUMMARY:** At a 300-hour inspection, an operator detected cracks in the root of eight splines on the 369A5352 overrunning clutch outer race. The part had a total of 2219 hours in service. MDHI is requiring all operators to inspect all overrunning clutch outer races that were processed in the same lot as that of the cracked part.

**PURPOSE:** To ensure that all of the below listed serial number overrunning clutch outer races (369A5352) are inspected for cracks.

**MODELS AFFECTED:** All MDHI 369 Series helicopters, including the 369A (OH-6A), equipped with overrunning clutch assemblies that have any serial number 2840 through 2976 outer races installed.

**TIME OF COMPLIANCE:** Affected helicopters shall accomplish the requirements of this notice within the next 300 hours of helicopter operation or the next time the overrunning clutch is disassembled, whichever occurs first. Helicopters equipped with cargo hooks must accomplish repetitive inspections at intervals not to exceed 300 hours of helicopter operation. All affected overrunning clutch outer races are to be retired at next overhaul.

**ASSEMBLY/COMPONENTS AFFECTED BY THIS NOTICE:** 369A5352 overrunning clutch assembly outer race: serial numbers 2840 through 2976.

### REFERENCE PUBLICATIONS:

369H Basic HMI (CSP-H-2) Revised 15 June 1990  
369D/E/F/FF HMI (CSP-HMI-2) Revised 09 September 1991  
369H COM (CSP-H-5) Revised 01 April 1990  
369D/E/F/FF COM (CSP-COM-5) Issued 17 August 1991

### AIRCRAFT INSPECTION AND/OR REWORK PROCEDURE:

- a. Remove overrunning clutch assembly per applicable HMI.
- b. Disassemble overrunning clutch assembly per the applicable COM.

#### NOTE

Serial number of outer race is vibroscribed on outer diameter surface near the part number.

- c. Magnetic particle inspect 369A5352 outer race serial numbers 2840 through 2976 per MIL-STD-1949. Check for cracks in the root of the splines.
- d. If cracking is detected, replace outer race.
- e. Assemble overrunning clutch assembly with servicable components per the applicable COM.
- f. Install overrunning clutch assembly per the applicable HMI.

### RECORDING AND COMPLIANCE:

Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

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HN-233  
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**WEIGHT AND BALANCE: N/A.**

## POINTS OF CONTACT:

For further information, contact your local MDHI Field Service Representative (refer to the latest revision of the Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa Arizona. Telephone: 1-800-445-1516 or (602) 891-6342.

The resultant inspection to affected models as described by the procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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\* Supersedes \* Supersedes Service Information Notices HN-234, DN-181, EN-73 and FN-60, dated 17 January 1992.

## INSPECTION/REWORK OF FUEL VENT SYSTEM

**SUMMARY:** A MD Helicopters, Inc. (MDHI) investigation has revealed that an internal component of the 369H8108 fuel vent line emergency shutoff valve (rollover valve) is subject to possible degradation over time. As a result, it is possible for the aircraft fuel vent system to become obstructed resulting in potential erroneous fuel level indications on the cockpit fuel gauge. This possible obstruction occurs when the weight component of the valve assembly slides down the shaft that it is mounted on and becomes lodged in the vent tube opening, subsequently closing the valve (see Figure 1). Therefore, MDHI is requiring operators to perform an inspection of the fuel vent system and eventual replacement of the fuel vent emergency shutoff valve assembly with an acceptable configuration.

**PURPOSE:** To ensure the proper operation of the fuel vent line emergency shutoff valve.

**MODELS AFFECTED:** All MDHI 369H Series, 369D, 369E (Serial No. 0001E thru 0508E) and 369F or 369FF (Serial No. 0003 thru 0091) Series Helicopters equipped with 369H8108, 369H8108-501 or 369H8108-503 fuel vent line emergency shutoff valves are affected by the requirements of this Notice.

**TIME OF COMPLIANCE: CONDITION I** – Helicopters with less than 2400 hours are not affected by the requirements of **PART I** of this Service Information Notice unless experiencing one of the conditions listed below (items 1 thru 3). Helicopters with more than 2400 hours shall accomplish the requirements of **PART I** within the next 100 hours of operation after receipt of Notice and at each subsequent 100 hours not to exceed 600 hours until the requirements of **PART II** have been accomplished.

**PART I** shall also be accomplished on any aircraft if any of the following conditions exist:

1. Erroneous fuel indications are suspected.

**(I)** Denotes portion of text added or revised.

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## NOTE

It is the responsibility of the pilot to have an accurate understanding of the actual fuel level and fuel consumption rate during operation of their individual aircraft. Never use the FUEL LOW light as a working indication of fuel quantity.

2. Rapid air displacement occurs when the fuel cap is removed within five minutes after operation of the aircraft.
3. Fuel quantity indication does not decrease at normal rate below 250 lbs.

**NOTE** – The 100/300 hour fuel vent inspection requirements in the maintenance manual remain in effect.

**CONDITION II** – Helicopters with less than 2400 hours shall accomplish the requirements of **PART II** at 3000 hours of operation. Helicopters with more than 2400 hours of operation shall accomplish **PART II** within the next 600 hours of operation.

**ASSEMBLY/COMPONENTS AFFECTED BY THIS NOTICE:** 369H8108, 369H8108–501 and 369H8108–503 fuel vent line emergency shutoff valves.

## REFERENCE PUBLICATIONS:

369H Basic HMI (CSP-H-2) Revised 15 June 1990  
369D/E/F/FF HMI (CSP-HMI-2) Revised 24 August 1992

PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Fuel vent line emergency shutoff valve	369H8108-505	1	MDHI
Reworked fuel vent line emergency shutoff valve	369H8108M, 369H8108-501M or 369H8108-503M	1	Approved rework facilities, contact MDHI for approved sources

## AIRCRAFT INSPECTION AND/OR REWORK PROCEDURE:

### PART I - FUEL VENT LINE EMERGENCY SHUTOFF VALVE INSPECTION

- a. Remove the vent tube emergency valve assembly per the applicable maintenance manual.
- b. Inspect vent tube emergency shutoff valve for condition. Valve should be open when held vertical. Valve should be closed when held in the 45 deg. from vertical position. While held in the 45 deg. position blow in the valve assembly and check that valve is closed. Valve shall open when returned to the 25 deg. position from the 45 deg. position. Replace obstructed assemblies with a 369H8108-505 assembly or reworked 369H8108M, 369H8108-501M or 369H8108-503M.

**NOTE -Do not** use compressed air to blow into vent tube.

- c. Holding the vent tube in an upright position (0 deg. vertical), inspect tube opening shown in Figure 1 using a pen-light. Ensure tube is not obstructed. Replace any obstructed vent/tube assemblies with a 369H8108-505, 369H8108M, 369H8108-501M or 369H8108-503M vent/tube assembly.

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## NOTE

369H8108-505 fuel vent line emergency shutoff valves have an improved valve weight attachment design which will not allow the weight assembly to slide down the shaft that it is mounted on thus preventing the valve weight from obstructing the fuel vent system (see Figure 1). The 369H8108M, 369H8108-501M and 369H8108-503M have been modified to incorporate the improved weight attachment design.

- d. Install fuel vent emergency shutoff valve assembly per the applicable maintenance manual.
- e. Record compliance to **PART I** of this Notice in the compliance record section of the helicopter Log Book.

### **PART II - FUEL VENT LINE EMERGENCY SHUTOFF VALVE REPLACEMENT**

- a. Remove 369H8108, 369H8108-501 or 369H8108-503 fuel vent line emergency shutoff valve from affected helicopters per the applicable maintenance manual.
- b. Install a 369H8108-505, 369H8108M, 369H8108-501M or 369H8108-503M fuel vent line emergency shutoff valve per the applicable maintenance manual.
- c. Record compliance to **PART II** in the compliance record section of the helicopter Log Book.

**WEIGHT AND BALANCE:** N/A.

### **POINTS OF CONTACT:**

For further information, contact your local MDHI Field Service Representative (refer to the latest revision of the Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone: 1-800-445-1516 or (602) 891-6342.

FAA Approval: The design engineering aspects of this notice have been shown to comply with the applicable Federal Aviation Regulations, and are FAA approved.

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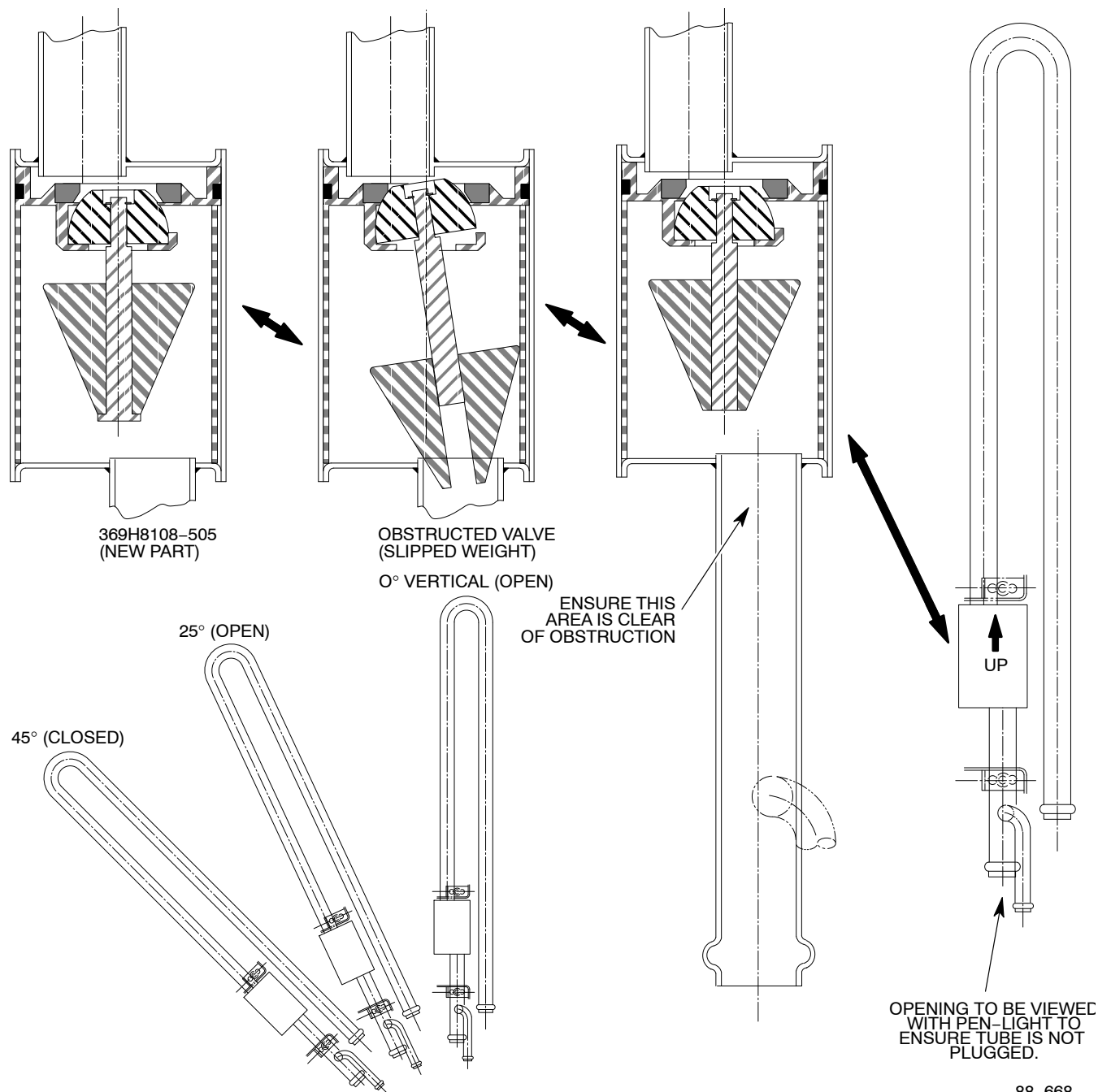
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Figure 1. Inspection/Rework of Fuel Vent System.

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## ONE-TIME INSPECTION/REWORK OF ENGINE AIR INLET AREA

### 1. PLANNING INFORMATION:

#### A. Summary:

MD Helicopters, Inc. (MDHI) investigation has revealed that it is possible for unsecured or worn hardware in the engine plenum area to fall into the engine inlet causing engine compressor damage. As a result, MDHI is requiring all operators to check the cable, latches, hinges, hardware, etc., and to inspect the entire inlet plenum area for serviceability and security. In addition to this special inspection, MDHI would also like to stress the importance of conducting a thorough check of this area during the required daily/preflight.

MDHI is also requiring operators to replace the mist eliminator access door attaching hardware and to inspect and replace the particle separator bypass door latch hardware or replace the plenum chamber door access receptacles to prevent foreign object damage (FOD) from entering the engine inlet and possibly damaging the engine compressor or other engine components.

#### B. Purpose:

To prevent possible FOD to the engine compressor.

#### C. Models Affected:

All MDHI 369 series helicopters.

#### D. Time of Compliance:

The requirements of this Notice shall be accomplished within the next 300 hours of helicopter operation. Subsequent/repetitive inspections of the engine inlet area will be covered by the applicable HMI's.

#### E. Assembly/Components Affected by this Notice:

All of the components and assemblies located in the engine air inlet plenum area.

#### F. Reference Publications:

(Use the manuals listed below or any later revisions.)

369H Basic HMI (CSP-H-2) Revised 15 June 1990

369D/E/F/FF HMI (CSP-HMI-2) Revised 20 January 1992

369D/E/F/FF IPC (CSP-IPC-4) Revised 09 September 1991

PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Cotter Pin	MS24665-151	1	Commercial or MDHI
.032 2024-T3 AL Alloy Stock Per QQ-A-250/4	RM 000560 (raw material code)	See Fig. 2	Commercial or MDHI
Nutplate	MS21060L3	2	Commercial or MDHI

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PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Rivet	MS20426AD3-4	4	Commercial or MDHI
Rivet	MS20426AD3-5	8	Commercial or MDHI
Screw	MS24693-C273	2	Commercial or MDHI
Washer	NAS1169-10C	2	Commercial or MDHI
Receptacle	212-12A	2	Camloc Fasteners 601 Route 46 West Hasbrouck Heights, NJ 07604 (201)288-8300 or MDHI

## 2. AIRCRAFT INSPECTION AND/OR REWORK INSTRUCTIONS:

### NOTE

Inspection and/or rework procedures are dependent on the helicopter configuration. Only comply with those requirements applicable to the helicopter being inspected/reworked.



**AVOID FOD.** Cover engine compressor inlet prior to working in plenum chamber. Vacuum all FOD debris out of plenum chamber before removing protective cover from engine inlet bell. Severe damage to engine may result from entry of foreign objects.

### FOR HELICOPTERS EQUIPPED WITH PARTICLE SEPARATOR BYPASS DOOR (FIG.1) P/N 369A2099 & 369D290134

- Remove particle separator bypass door per the applicable maintenance manual.
- Inspect all latches, hinges, hardware, etc., for serviceability and security. Remove and replace any un-serviceable components.
- Remove and inspect the bypass door latch and replace the latch retention cotter pin located inside the attach cable "U" clamp (see Figure 1).
- Replace the 369A8442-3 latch assembly if any of the following limits are exceeded:
  - If cotter pin hole in the stem of the latch is elongated more than .080 inch in length.
  - If cotter pin has worn into the surface of the cable attach "U" clip more than 1/2 the thickness of the clip (.025 inch deep).
  - If the latch engagement faying surface is worn more than .050 inch below the original surface.
- Complete installation of particle separator bypass door.

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## **FOR HELICOPTERS EQUIPPED WITH PLENUM CHAMBER ACCESS DOOR (FIG.2) P/N 369H2080**

- a. Remove two 26R16-1 encapsulated receptacles and replace with 212-12A receptacles. (Refer to Figure 2.)

### **NOTE**

Some doors may already have the 212-12A receptacles installed.

- b. Inspect fixed-wing fastener stud for serviceability and security paying particular attention to cross pin on stud and associated lockwasher (see Figure 2). Remove and replace any unserviceable components.

## **FOR HELICOPTERS EQUIPPED WITH MIST ELIMINATOR ACCESS DOOR (FIG.3) P/N 369D290270**

### **NOTE**

MDHI 369E (Serial No. 0445E and subsequent) and 369F/FF (Serial No. 0084FF and subsequent) Series helicopters have the nutplates installed and are not affected by the following procedure.

- a. Remove mist eliminator door per the maintenance manual.
- b. Remove the two 2700-7 studs, 2600-LW lockwashers and 26R16-1 receptacles (Ref. CSP-IPC-4, Section 71-10-10).
- c. Field fabricate two nutplate assemblies as shown in Figure 3.
- d. Install nutplate assemblies onto bottom side of 369D290272 frame assembly making sure to center nutplate assembly over existing hole in frame assembly as shown in Figure 3.
- e. Complete installation of mist eliminator access door using MS24693-C273 screw and NAS1169-10C washer (two each required).

## **FOR ALL HELICOPTERS (FIG. 4)**

- a. Remove any unused clamps, clips, brackets or other hardware from the engine inlet plenum area.
- b. Remove three clips shown in Figure 4 (clips are bonded and covered with (1) layer of glass cloth). Carefully cut glass cloth around edges of clip and then remove clips. Trim cut edges of glass cloth.
- c. Inspect entire inlet plenum area hardware, hinges, cables, latches, etc., for serviceability and security. Remove and replace any unserviceable components.

### **RECORDING AND COMPLIANCE:**

Record compliance to this Service Information Notice in the Compliance  
Record section of the helicopter Log Book.

**WEIGHT AND BALANCE:** N/A.

### **POINTS OF CONTACT:**

For further information, contact your local MDHI Field Service  
Representative (refer to the latest revision of the Product Support handbook

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DN-182  
EN-74  
FN-61



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for address and telephone numbers) or contact the Field Service  
Department at MDHI, Mesa, Arizona. Telephone: 1-800-445-1516 or (602)  
891-6342.

The resultant inspections/alterations to affected models as described by the  
procedures in this Notice have been shown to comply with Federal Aviation  
Regulations and are FAA Approved.

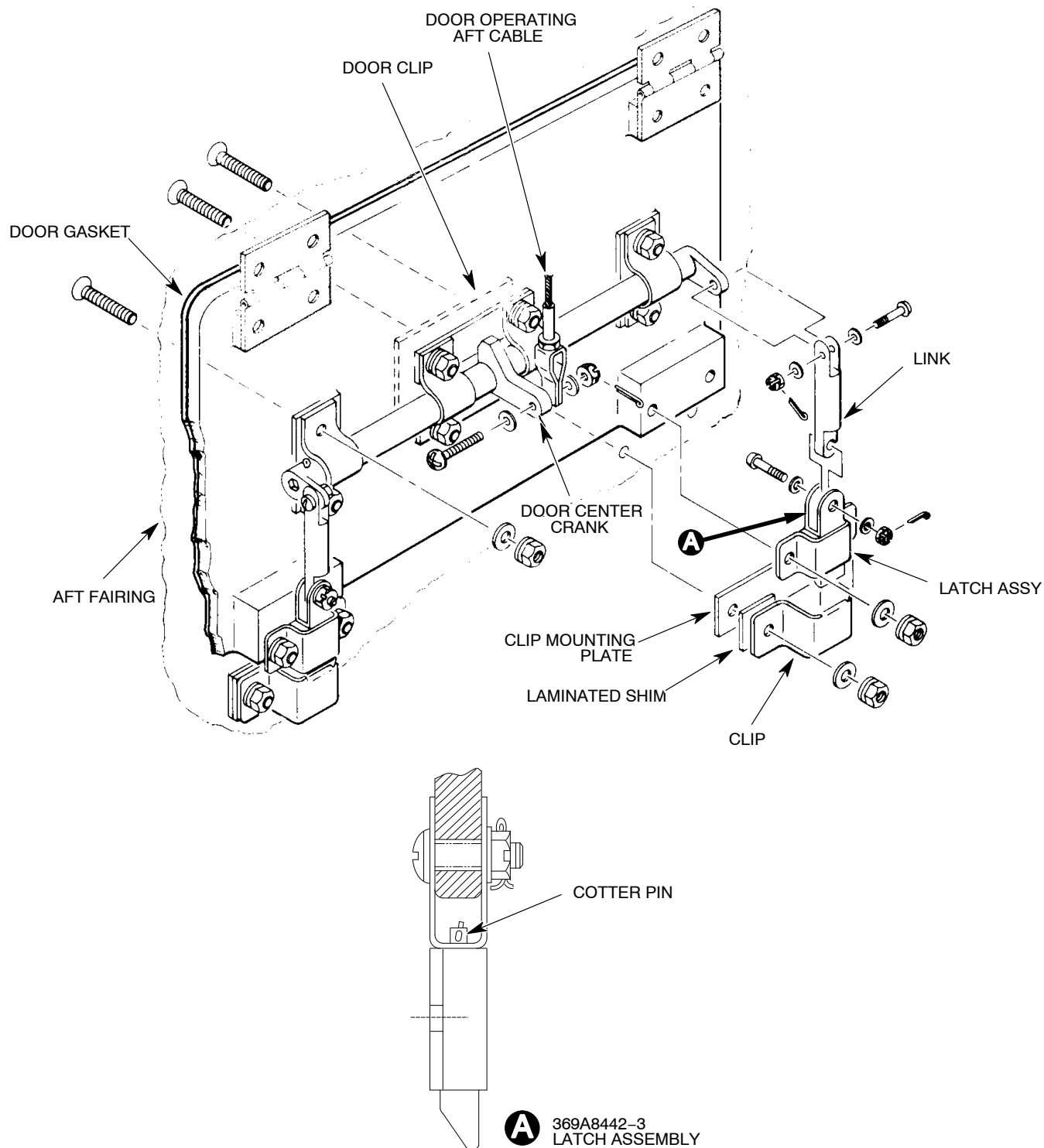
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Figure 1. Particle Separator Bypass Door Latch Cotter Pin Installation.

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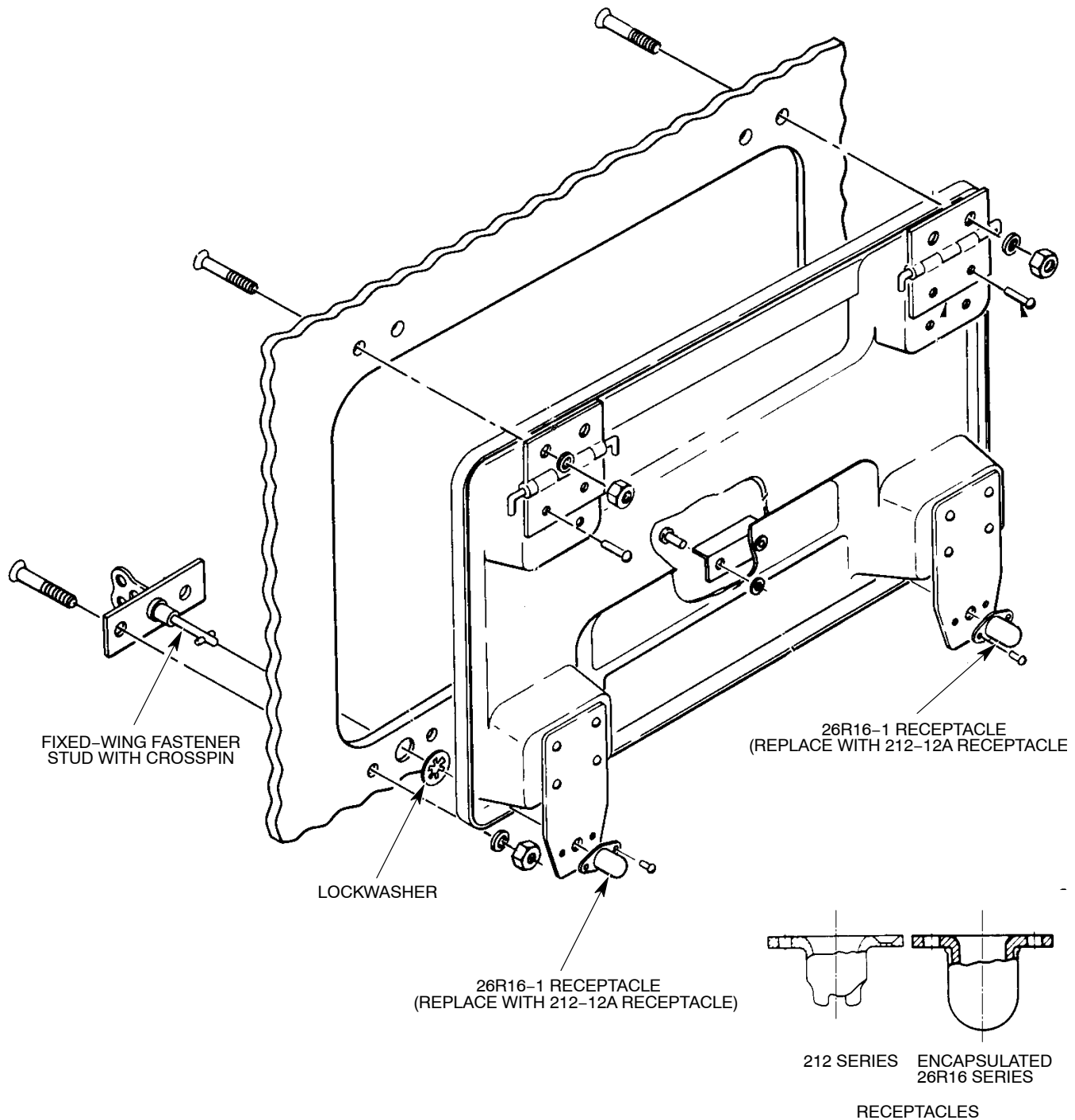
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Figure 2. Plenum Chamber Access Door Inspection/Rework.

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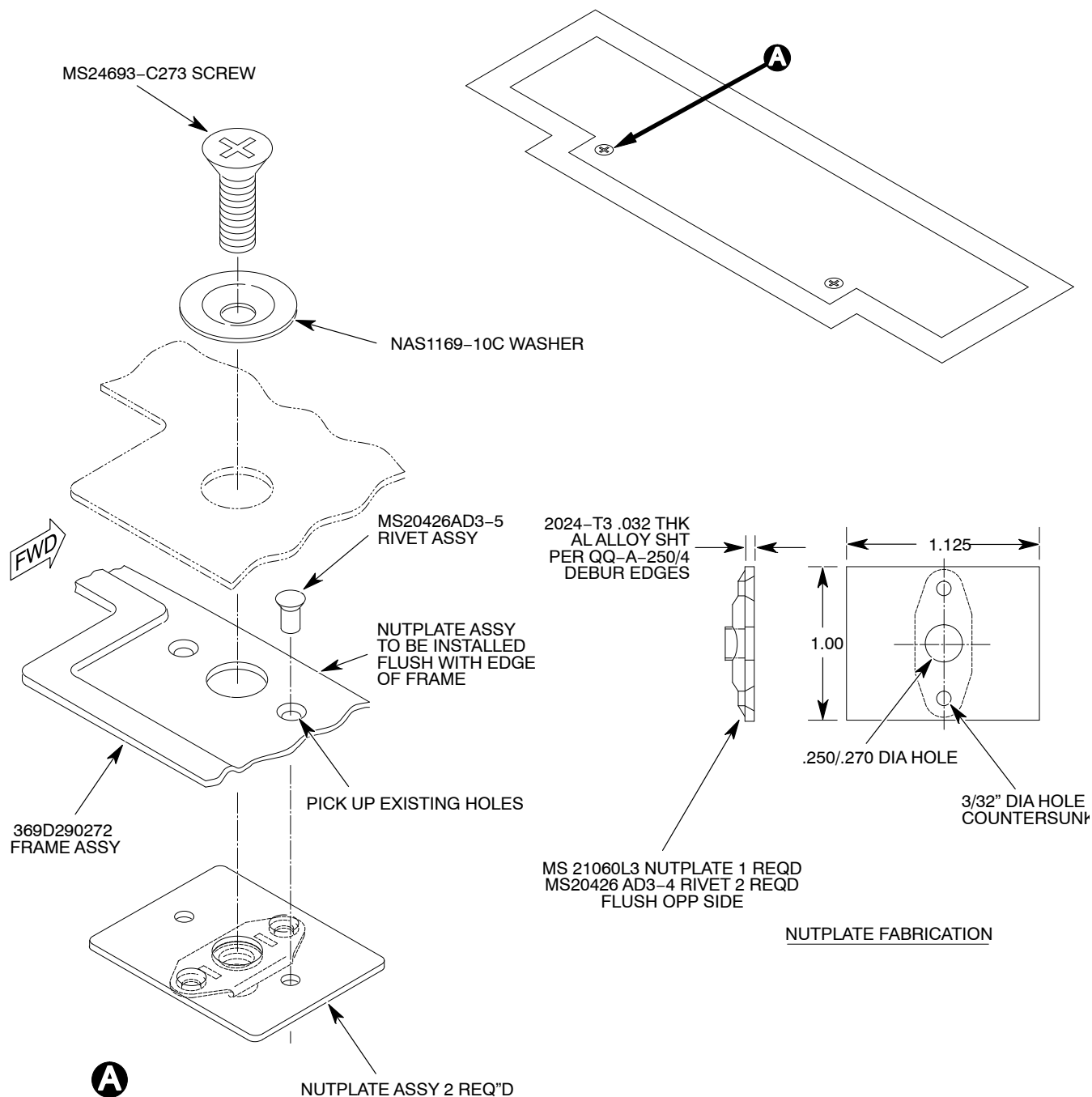


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NOTE: DIMENSIONS SHOWN IN INCHES

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Figure 3. Replacement of Mist Eliminator Door Attaching Hardware.

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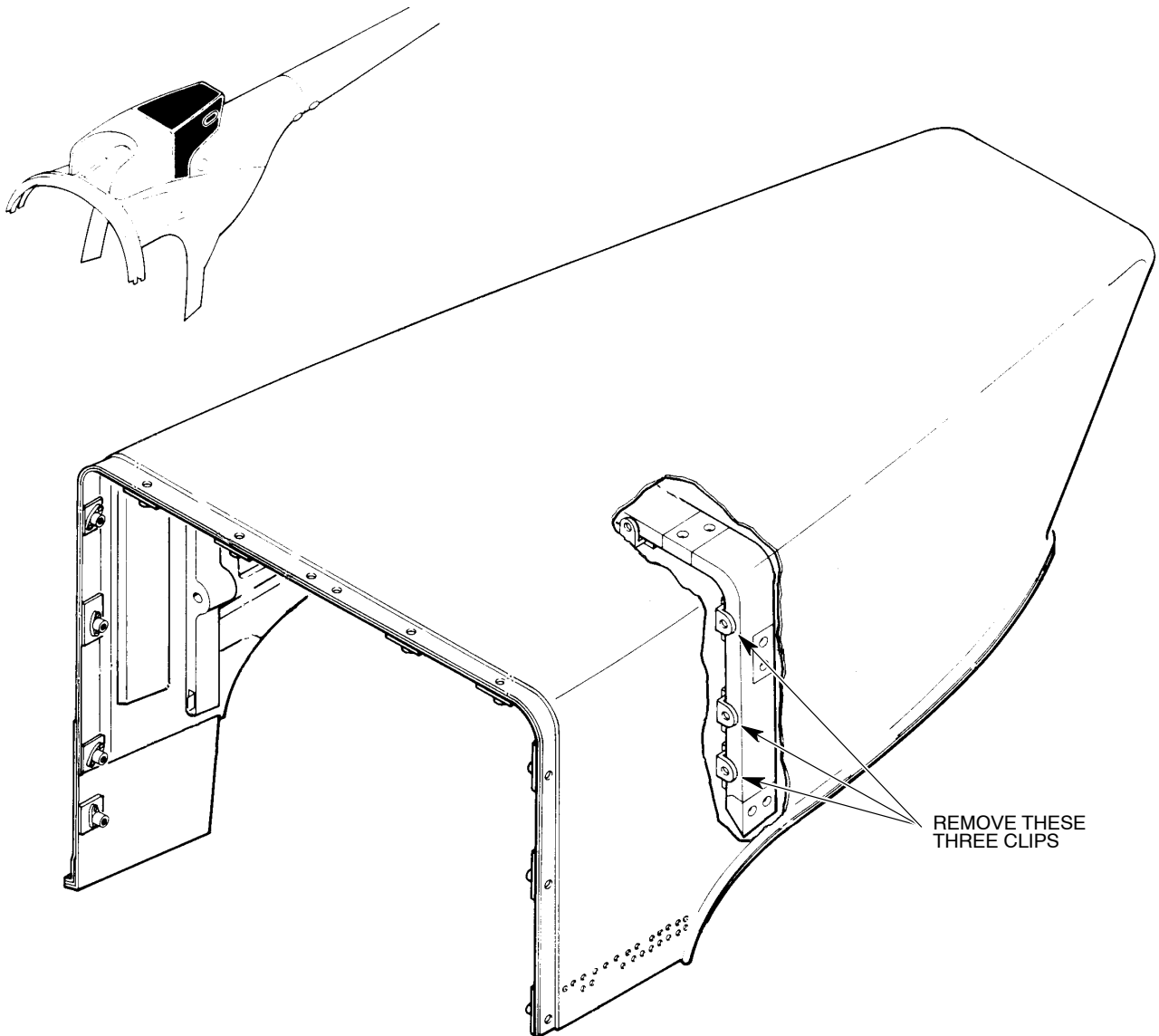
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Figure 4. Removal of Clips and Other Hardware From Plenum Chamber.

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\* Supersedes Service Information Notices DN-183.1, EN-75.1 and FN-62.1, dated 26 August 1992.

The revision deletes the blade removal and inspection requirements of PART I. The 369D21100-515 and 369D21102-501 main rotor blades must be inspected per the requirements of DN-51.6, EN-42.4 and FN-31.4, dated 27 January 1993.

## MAIN ROTOR BLADE REPLACEMENT

### 1. PLANNING INFORMATION:

#### A. Summary:

The requirements of PART I have been deleted.

PART II of this notice provides instructions to remove the 369D21100-515 and 369D21102-501 main rotor blades and send them to MDHC for rework to 369D21100-516A and 369D21102-503A and/or replace them with 369D21100-516, 369D21100-516A or 369D21100-517 (if available) and 369D21102-503, 369D21102-503A or 369D21102-517 (if available) main rotor blades, as applicable.

#### B. Purpose:

To prevent the possibility of a main rotor blade root fitting crack.

#### **WARNING**

**If sudden, unusual or excessive vibrations should occur during flight, a precautionary landing must be made. No further flights shall be attempted until the cause of the vibration has been identified and corrected.**

#### C. Models Affected:

All 369D, 369E and 369F/FF series helicopters equipped with 369D21100-515 or 369D21102-501 series main rotor blades.

#### D. Time of Compliance:

PART I has been deleted.

PART II shall be accomplished within 600 hours of main rotor blade operation from the original issue date of this notice (20 May 1992) or no later than June 30, 1993.

#### E. FAA Approval:

The design engineering aspects of this Notice have been shown to comply with the applicable Federal Aviation Regulations, and are FAA Approved.

#### F. Assembly/Components Affected by this Notice:

All 369D21100-515 and 369D21102-501 main rotor blades.

(I) Denotes portion of text added or revised.

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## G. Weight and Balance:

N/A

## H. Reference Publications:

369D/E/F/FF HMI (CSP-HMI-2) Revised 20 January 1992

REPLACEMENT PARTS			
Nomenclature	Part No.	Qty.	Source
Main Rotor Blade	369D21100-516 or 369D21100-516A	A/R	MDHC
Main Rotor Blade	369D21102-503 or 369D21102-503A	A/R	MDHC

## 2. AIRCRAFT INSPECTION AND/OR REWORK REQUIREMENTS:

### A. PART I - The requirements of PART I have been deleted.

### B. PART II - Rework/Replacement of Main Rotor Blades

- (1). Remove all 369D21100-515 (369D/E) and 369D21102-501 (369F/FF) main rotor blades per the HMI.
- (2). Install 369D21100-516A, 369D21100-516, 369D21100-517 (if available) (369D/E) or 369D21102-503A, 369D21102-503, 369D21102-517 (if available) (369F/FF) main rotor blades per the HMI.
- (3). Send removed M/R blades to MDHC for rework to the 369D21100-516A or 369D21102-503A configuration, as applicable, following the procedures outlined below:
  - (a). Inspect M/R blades for serviceability per the HMI (section 62-10-00, pages 601-610 and 801-810 and all applicable Service Information Notices.

**NOTE:** MDHC WILL NOT REWORK ANY UNSERVICEABLE M/R BLADES OR BLADES WITH NON-STANDARD REPAIRS OR ALTERATIONS WITHOUT THE PROPER APPROVAL DOCUMENTS. ALL HISTORICAL RECORDS MUST BE SENT WITH EACH BLADE FOR MDHC TO PERFORM THE REWORK.

- (b). Send affected M/R blades to be reworked to MDHC, Mesa. The proper address is 5000 E. McDowell Road, Mesa, AZ 85205. Attention: Mr. Richard Head, Warranty and Repair Department.
- (c). Upon receiving M/R blades, MDHC will perform a receiving inspection of each blade. On blades that do not pass the inspection, the customer will be contacted for disposition of the blade.

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- (4). MDHC is offering operators two options for rework. There will be no charge to the operator for the main rotor blade rework.

**NOTE: OPTION #1:** Send M/R blades to MDHC, Mesa, Arizona, for rework. The operator will pay shipping charges to Mesa per MDHC standard warranty policy. MDHC will rework blades and ship them back to the operator. MDHC will pay shipping charges from Mesa back to the operator, the same way they were shipped to Mesa. MDHC will credit 4.0 hours labor to remove, install and track the main rotor blades. This work must be performed by an authorized MDHC Service Center.

**OPTION #2:** Send M/R blades to MDHC, Mesa, Arizona, for rework. The operator will pay shipping charges to Mesa per MDHC standard warranty policy. While the blades are being reworked in Mesa, MDHC will schedule loaner blades until the reworked blades are returned to the operator. MDHC will pay for shipping the loaner blades and the operators will not be charged for the flight time. MDHC will credit 4.0 hours labor to remove, install and track the loaner main rotor blades. MDHC will pay shipping charges for the reworked blades from Mesa back to the operator (same way) and 4.0 hours labor to install and track the reworked main rotor blades. This work must be performed by an authorized MDHC Service Center.

**NOTE:** Blades will be reidentified to 369D21100 -516A and 369D21102-503A respectively.

### **3. COMPLIANCE RECORD:**

Record compliance with **PART II** of this Notice in the compliance record section of the helicopter Log Book.

### **4. POINTS OF CONTACT:**

For further information, contact your local MDHC Field Service Representative (refer to the latest revision of the Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHC, Mesa, Arizona. Telephone: 1-800-388-6342 or (602) 891-6342.

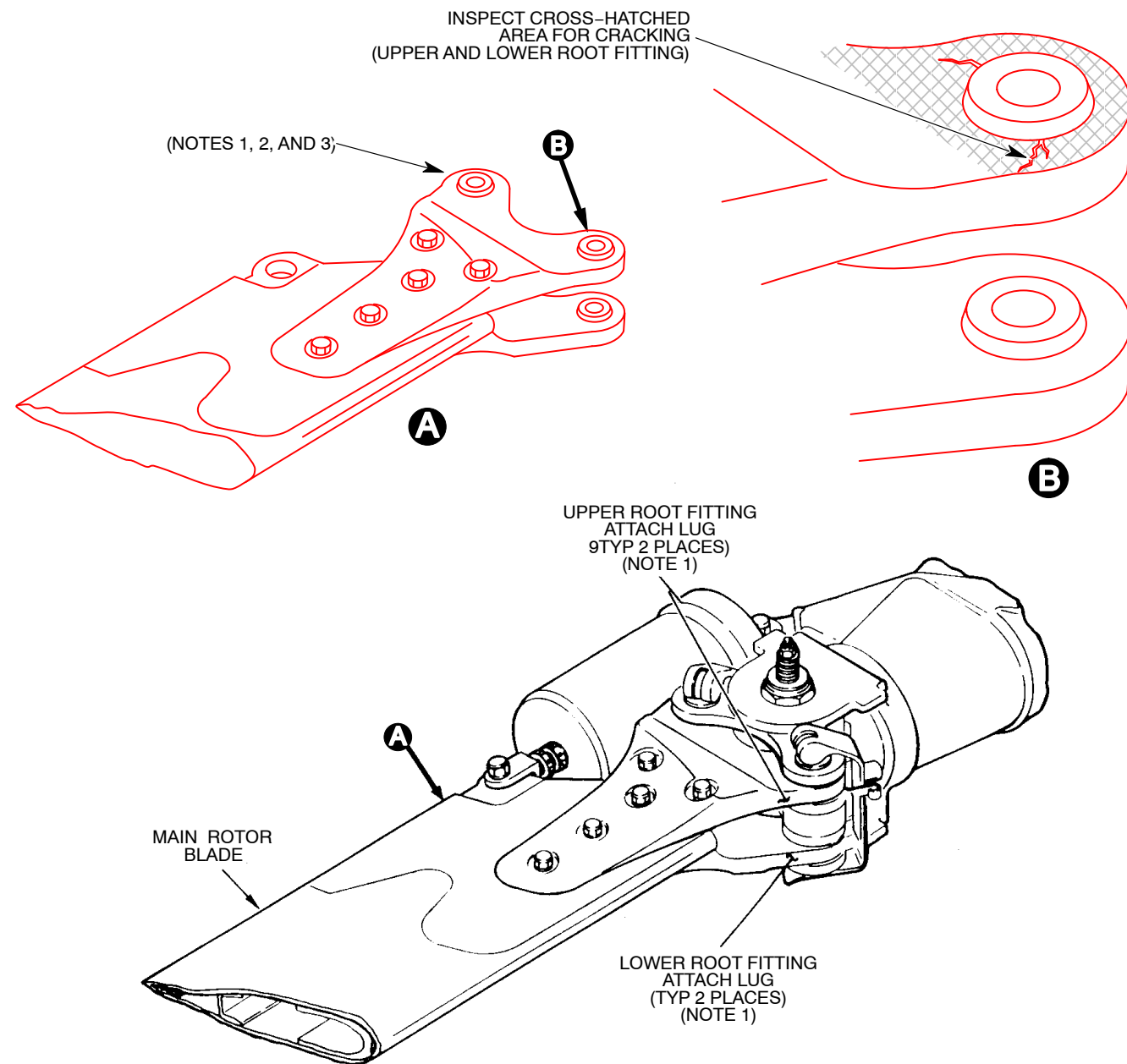
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## NOTES

1. VISUALLY INSPECT AREAS OF ALL ROOT FITTINGS FOR CRACKS OR BREAKS. INSPECT BLADE ATTACH BUSHINGS FOR LOOSENESS.
2. PAY PARTICULAR ATTENTION TO AREA AROUND ATTACH PIN HOLES IN LUGS.
3. SEAL ALL JUNCTIONS BETWEEN BUSHINGS AND ATTACH LUGS WITH ZINC CHROMATE PRIMER, REFER TO MATERIALS TABLE.

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**Figure 1. Inspection of main rotor blade root fitting attach lugs.**

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## FOUR-WAY TRIM SWITCH REPLACEMENT PROGRAM

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) 369/500 Series helicopters with Guardian Electric A218-100646-03 four-way trim switches installed in the cyclic grip.

#### B. Assembly/Components Affected by this Notice:

A218-100646-03 prior to Rev. "D", four-way trim switches and A218-966714-02 and 369D27133-501 grip assemblies.

#### C. Reason:

MDHI has received and investigated reports from operators in the field that some four-way cyclic trim switches were sticking during operation. This condition could cause an uncommanded directional travel in the cyclic control system which can be overcome by the pilot. The forces will increase by approximately 30 pounds in this direction, therefore creating an increase in pilot workload. However, the helicopter will still respond normally to all inputs by the pilot. Therefore, MDHI is requiring operators to replace those affected switches with switches that have been upgraded to a Rev. "D" configuration.

#### D. Description:

Procedures in this notice require operators to replace affected four-way trim switches with switches that have been upgraded by Guardian to a Rev. "D" configuration. Upgraded A218-100646-03 switches can be readily identified by the green colored epoxy added to the four tabs at the bottom of the switch and Rev. "D" stamped on the bottom of the mounting bracket of the switch (see Figure 1).



Procedures described in this Notice are the only approved means of compliance to the requirements of this Notice. Operators who elect to make their own modifications of the trim switch, should assure that they comply with FAA requirements regarding parts and aircraft modifications. Any unapproved means of compliance to the requirements of this Notice will result in the voiding of any helicopter warranties by MDHS.

#### E. Approval:

The design engineering aspects of this notice have been shown to comply with the applicable Federal Aviation Regulations and are FAA approved.

#### F. Manpower:

One and a half man-hours will be required to remove and replace each cyclic trim switch.

#### G. Time of Compliance:

The requirements of this notice shall be complied within the the next 100 hours of helicopter operation or one year, whichever occurs first.

#### H. Interchangeability:

See Compliance Record section of this notice.

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## I. Material/Part Availability:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Four-way Trim Switch	A218-100646-03 (Rev. "D")	1	MDHI Warranty and Repair (No Charge)

MATERIAL	
Nomenclature/Specification	Source
Sealing compound (MIL-S-7502)	Product Research 5454 San Fernando Rd. Glendale, CA 91209
Solder, tin alloy, rosin core (QQ-S-571) (Composition SN60WPR2)	Commercial
Strap, tie (MS3367-*~*) (size optional)	Thomas Betts Los Angeles, CA

## J. Warranty Policy:

MDHI will provide, free of charge, A218-100646-03 Rev. "D" switches to replace A218-100646-03 switches (previous to Rev. "D"). If the work is performed at a MDHI Approved Service Center, MDHI will allow 1.5 hours labor per each switch that has to be replaced. This policy is contingent upon MDHI receiving the affected switches within 30 days of receipt of the new -03 Rev. "D" switch. Failure to return the affected switch will result in a billing at full list price and no labor allowance.

Affected switches shall be returned to MDHI Warranty and Repair Department.

## K. Tooling:

Soldering iron or gun.

## L. Weight and Balance:

N/A

## M. Electrical Load Data:

N/A

## N. Other Publications Affected:

N/A

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## 2. ACCOMPLISHMENT INSTRUCTIONS:

- (1). Remove affected A218-100646-03 switches per instructions contained in the Handbook of Maintenance Instructions (CSP-HMI-2).
- (2). Install an A218-100646-03, marked with Rev. "D" on its mounting bracket, per instructions contained in the Handbook of Maintenance Instructions (CSP-HMI-2). **NOTE:** A218-100646-03 switches marked with Rev. "D" will also have green epoxy over the four tabs at the base of the switch (see Figure 1).

## 3. IDENTIFICATION:

N/A

## 4. DISPOSITION OF PARTS REMOVED:

Operators must return all affected switches to MDHI in order to receive credit for replacement switches and labor allowance credit. Return all affected parts to MDHI Warranty and Repair Department. **NOTE:** Affected operators can receive replacement switches prior to returning the affected switches.

## 5. COMPLIANCE RECORD:

Record compliance of this Service Information Notice in the compliance record section of the helicopter Log Book.

**NOTE:** If cyclic controls are subsequently removed from the aircraft they should be identified as complying with the requirements of this notice. When installing new/different controls, verify that those cyclic controls have complied with the requirements of this notice or are not affected by the requirements of this notice.

## 6. POINTS OF CONTACT:

For further assistance, contact your local MDHI Field Service Representative (refer to the latest revision of the MD500 Customer Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone: 1-800-388-3378 or (602) 891-6343. For Commercial Warranty and Repair issues, contact the MDHI Warranty and Repair Department at (602) 891-8565.

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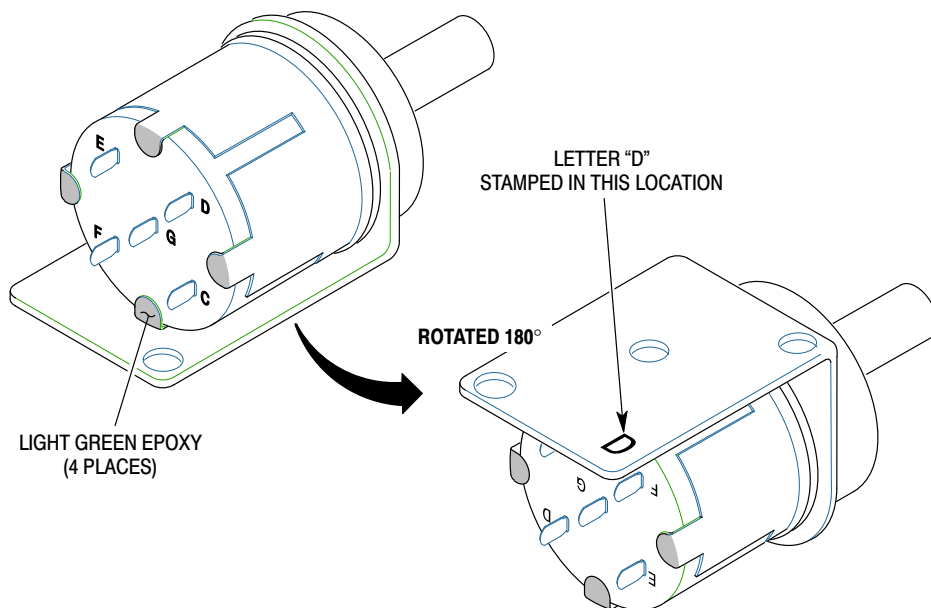
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**Figure 1.**

**Figure 1. Four-way Trim Switch.**

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## LOCKWASHER INSPECTION

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems 369D, 369E and 369F/FF series helicopters.

#### B. Assembly/Components Affected by this Notice:

369D21800 and 369D21820 Pitch Control assemblies and all MS172209 Lockwashers.

#### C. Reason:

MDHS received a report that a MS172209 lockwashers failed in service. MDHS investigation revealed that some washers appear to have a flaw at the inner tang inside radius. Failure of this tang could allow the nut to back off, losing clamp up and thereby causing eventual disengagement of the assembly resulting in virtual loss of tail rotor control.

#### D. Description:

Procedures in this Notice require operators to inspect all MS172209 lockwashers in spares inventories and to apply a torque stripe to installed tail rotor swashplate and locknut to periodically inspect those assemblies for possible locknut rotation.

#### E. FAA Approval:

The design engineering aspects of this Notice have been shown to comply with the applicable Federal Aviation Regulations, and are FAA Approved.

#### F. Time of Compliance:

Lockwashers in spares inventories must be inspected per the requirements of this Notice before being installed onto a helicopter. Operators in the field must perform a torque check of installed lockwashers and apply slippage marks to tail rotor swashplate and locknut per the requirements Part II of this Notice within the next 25 hours of helicopter operation and they must be inspected per Part III of this notice for locknut rotation at each subsequent 100 hours of operation.

#### G. Material/Part Availability:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Lockwasher	MS172209	A/R	Commercial or MDHS

MATERIAL	
Nomenclature/Specification	Source
Torque Seal	Commercial

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## **H. Warranty Policy:**

Same as normal MDHS airframe and spares warranties.

## **I. Tooling:**

No special tooling required.

## **J. Weight and Balance:**

N/A.

## **K. Electrical Load Data:**

N/A.

## **L. Other Publications Affected:**

None.

## **2. ACCOMPLISHMENT INSTRUCTIONS:**

### **A. PART I - Inspection of Lockwashers in Spares Inventories:**

- (1). Using a 5X or 10X magnifying glass, inspect all MS172209 lockwashers in spares inventories for an unacceptable condition as shown in Figure 1. Scrap unacceptable lockwashers.

### **B. PART II - Inspection of Lockwasher and Application of Torque Strip:**

- (1). Remove tail rotor assembly and pitch control assembly from tail rotor gear box. Using holding fixture, (item 4, table 501, CSP-COM-5, 64-30-00) and without bending lock tab of lockwasher away from nut, check torque of locknut (use minimum value of 550 inch pounds) to ensure that torque on nut is within specific limits. If nut does not move after applying torque, continue with step B. If locknut moves during application of torque, remove locknut and discard lockwasher. Install new lockwasher and torque nut to 550-600 inch pounds per CSP-COM-5, Section 64-30-00.
- (2). Clean surface of locknut and swashplate (fig. 1) with an alcohol dampened cloth to remove any excess grease from surface. Avoid getting alcohol in bearing.
- (3). Apply 0.125 inch wide torque stripe, using Torque Seal or equivalent product to the surface as shown in Figure 1. Do not allow Torque Seal to get into swashplate splines.
- (4). Reassemble parts and install on tail rotor gear box per CSP-HMI-2, Section 64-30-00.

### **C. PART III - Periodic 100 Hour Inspection of Torque Stripe:**

- (1). Inspect torque stripe for any sign of slippage at each 100-hour interval of helicopter operation. If necessary, reassemble the tail rotor swashplate assembly using a new/acceptable tang washer.

## **3. DISPOSITION OF PARTS REMOVED:**

Scrap all unacceptable lockwashers.

## **4. COMPLIANCE RECORD:**

Record compliance to the requirements of this Service Information Notice in the Compliance Record section of the helicopter Log Book.

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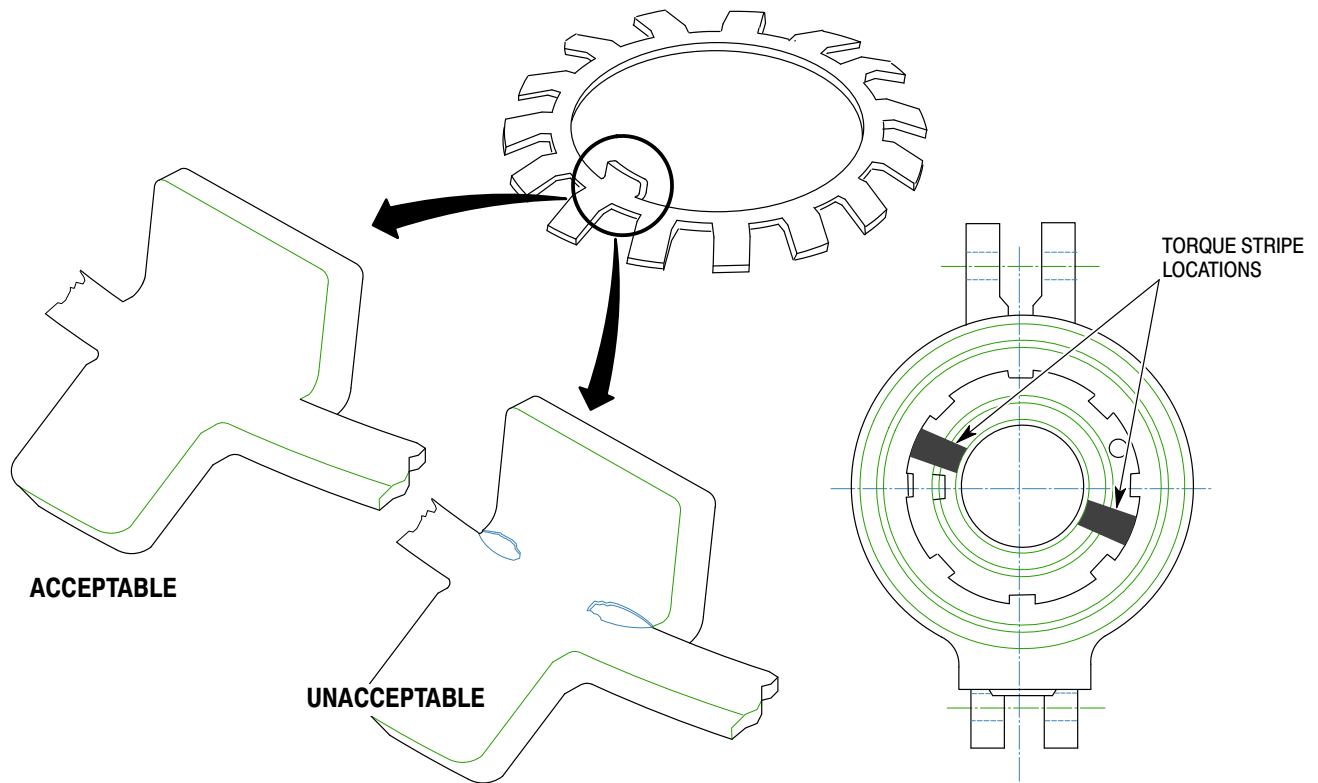
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## 5. POINTS OF CONTACT:

For further assistance, contact your local MDHS Field Service Representative (refer to the latest revision of the Business Development and Customer Support handbook for address and telephone numbers) or contact the Field Service Department at MDHS, Mesa Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602)891-6782.



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**Figure 1. Tang Washer Inspection and Application of Torque Stripe.**



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## FIREWALL FUEL FITTING MODIFICATION

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) 369 and 500N Series helicopters equipped with 369A8100-503, -505, -507, -509, -511, -703 and -705 fuel system installations are affected by the requirements of this Notice.

#### B. Assemblies/Components Affected by this Notice:

Any of the above 369A8100 fuel system installations which are not configured as shown in Figure 1.

#### C. Reason:

MDHI has received reports from the field of the station 124 firewall fuel fitting interfering with the landing gear brace. As a result, there is a possibility of the fuel fitting becoming damaged, thus creating a potential for fuel leakage. Therefore, MDHI is requiring all operators to modify their aircraft according to procedures contained in this Notice.

#### D. Description:

Operators are required to install an AN837-8D elbow at station 124.00 and remove the drain valve from the engine fuel pump filter housing.

#### E. Approval:

The design engineering aspects of this notice have been shown to comply with the applicable Federal Aviation Regulations, and are FAA Approved.

#### F. Manpower:

Approximately 2.5 man-hours are required to perform this notice if it is accomplished in conjunction with the next 300 hour/annual inspection.

#### G. Time of Compliance:

The requirements of this notice shall be accomplished within the next 300 hours of operation or at the next annual inspection of the helicopter, whichever occurs first.

#### H. Interchangeability:

N/A.

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## I. Material/Part Availability:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Nut	AN924-8D	1	Commercial
Laminated Washer	HS5079-4346	1	Commercial
Washer	AN960KD1216	2	Commercial
Elbow	AN837-8D	1	Commercial
Plug	AN814-4DL	1	Commercial
Packing	MS29512-04	1	Commercial
Lockwire (0.032" dia.)	MS20995N32 (RM000571)	A/R	Commercial

## J. Warranty Policy:

None.

## K. Tooling:

No special tooling required.

## L. Weight and Balance:

Not affected.

## M. Electrical Load Data:

Not affected.

## N. Other Publications Affected:

The CSP-IPC-4 and CSP-H-7 (IPC's) will be revised at a future date to reflect the revised configuration of the firewall fuel fitting described in this notice.



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## 2. ACCOMPLISHMENT INSTRUCTIONS:

**NOTE:** The helicopter must be de-fueled before performing the requirements of this notice.

### **WARNING**

**Ensure that the aircraft is adequately grounded when purging the fuel system.**

**Failure to properly install, align and torque fuel, oil and air fittings and tubes could result in engine power surges, flameout, or leakage.**

**Air entering the airframe fuel supply lines may cause a power reduction or flameout. Fuel system vacuum leak check and fuel air bleed procedures must be performed after opening the fuel system for any reason, prior to releasing the helicopter for flight.**

- (1). Refer to HMI Vol. I, Section 28-00-00 for access to fittings. This will require loosening the lacing supporting the fuel cell.
- (2). **If installed**, remove the following parts from the 369A8100-503, -505, -507, -509, -511, -703 and -705 fuel system installations: (see Figure 2)

MS24393D8	union, qty. 1
AN924-8	nut, qty.3
MS29512-08	packing, qty.2
369H8103	fitting, qty. 1
369D28099	drain valve, qty. 1 or 2
CAV-170-H4	drain valve, qty. 1 or 2
369A8010-85	tygon tubing
MS29512-04	packing, qty. 1 or 2
TY-25M	ty-rap
369A8100-3	tygon tubing
369A8100-5	tygon tubing
369A8100-7	tygon tubing
AN837-8D	elbow, qty. 1
MS24394D8	elbow, qty. 1
AN814-4DL	plug, qty. 1
AN939-8D	elbow, qty. 1
6151-0250	tee, qty. 1

- (3). Install AN924-8D (nut), (2) AN960KD1216 (washers), HS5079-4346 (laminated washer) and AN837-8D (elbow) as shown in Figure 1.
- (4). Ensure that AN837-8D is clocked 12° to 16° (25° to 29° for fuel systems equipped with anti-ice fuel filter installations) inboard as shown in Figure 1.

**NOTE:** HS5079-4346 shim thickness may be adjusted to obtain proper elbow orientation.

- (5). Reassemble fuel cell lacing per the HMI Vol. I, Section 28-00-00.
- (6). Re-install hoses to the AN837-8D fitting (see Figure 1). Torque hoses per the HMI-CSP-2, Vol. I, Section 28-00-00.

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- (7). Install AN814-4DL plug, MS29512-04 packing and MS20995N32 lockwire to engine fuel pump housing 369A8100-507 configurations only at location shown in Figure 1.
- (8). Re-fuel aircraft per servicing instructions contained in the Handbook of Maintenance Instructions (HMI).

## **WARNING**

**Fuel/vapor discharged during bleeding is a fire hazard. Prevent fuel vapor accumulation, ignition and fire. Perform work in an open, well ventilated area away from all potential ignition sources. Attach helicopter to an approved electrical ground. Wear approved eye protection.**

- (9). Perform a vacuum check of the fuel system line and components to ensure no engine or airframe fuel system leaks are present.
- (10). Bleed air from fuel system per instructions contained in the HMI.

### **3. IDENTIFICATION:**

Not affected.

### **4. DISPOSITION OF PARTS REMOVED:**

Scrap.

### **5. COMPLIANCE RECORD:**

Record compliance to this Service Information Notice in the compliance record section of the helicopter Log Book.

### **6. POINTS OF CONTACT:**

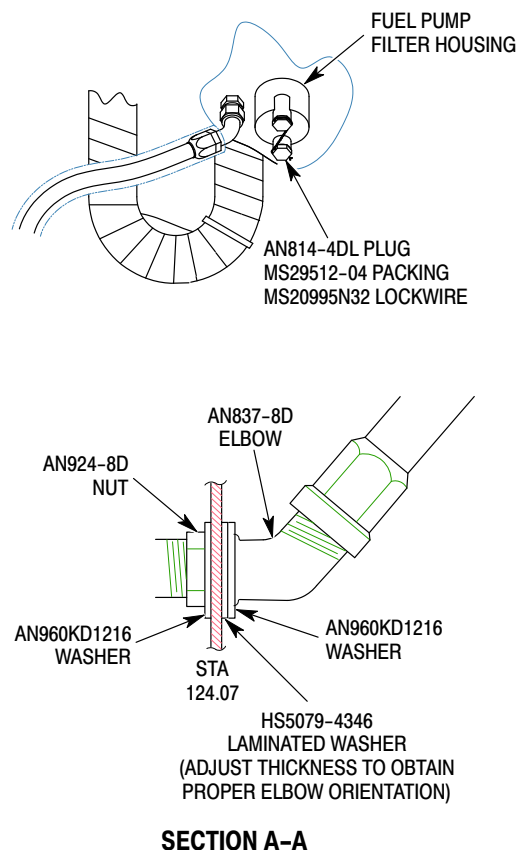
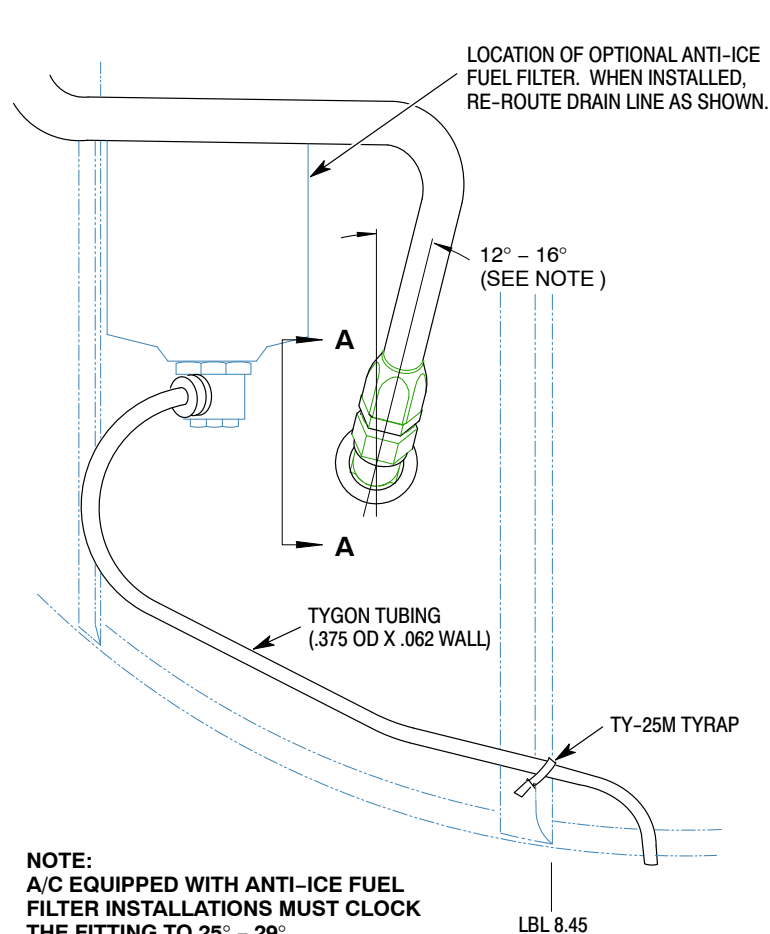
For further assistance, contact your local MDHI Field Service Representative (refer to the latest revision of the MD500 Customer Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. For Commercial Warranty issues, contact the MDHI Warranty and Repair Department at (602) 891-8565.

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**Figure 1. Firewall Fuel Fitting Modification (Installation).**

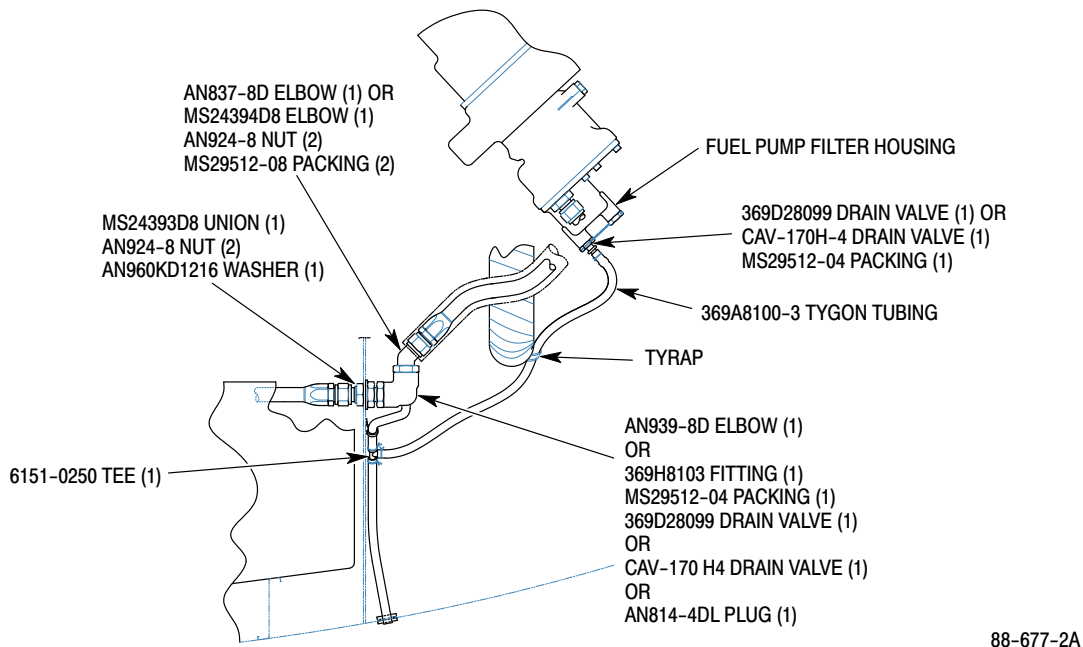
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**Figure 2. Firewall Fuel Fitting Modification (Removal).**

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## TAIL ROTOR BLADE ABRASION STRIP MODIFICATION

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) 369 series helicopters that are equipped with tail rotor blades (two or four bladed) listed in Paragraph B. All tail rotor blades listed in Paragraph B in spares inventories.

#### B. Assemblies Affected by this Notice:

369A1613-7, 369A1613-503, 369A1613-505, 369A1613-509, 369D21606, 369D21606-509, 369D21613-11, 369D21613-31, 369D21613-41, 369D21613-51, 369D21613-71, 369D21615, 369D21615-21, 369D21615-41 and 421-088 tail rotor blade assemblies.

#### C. Reason:

MDHS has received reports of tail rotor blade abrasion strips debonding during operation. Separation of an abrasion strip could cause loss of the tail rotor gear box due to an out-of-balance condition. Therefore operators are required to comply with the requirements of this notice to ensure safe helicopter operation.

#### D. Description:

This notice requires operators to modify the tail rotor blades by applying 304 stainless steel tape (.0027 inch thick) over the inboard end of the abrasion strips. This notice also requires that existing tail rotor blades be replaced with tail rotor blades equipped with the new design abrasion strips within a required amount of time.

#### E. FAA Approval:

The design engineering aspects of this Notice have been shown to comply with the applicable Federal Aviation Regulations, and are FAA Approved.

#### F. Time of Compliance:

NOTE: The requirements of HN-232, DN-179, EN-70 and FN-57 (applying rivets to the tail rotor blade) must be accomplished before performing this notice.

**PART I:** The requirements of this notice shall be accomplished within the next 25 hours of helicopter operation and at each subsequent 100 hours of helicopter operation until PART II of the Notice has been accomplished. **NOTE:** It may be necessary to replace the tape more frequently depending on the environment in which the helicopter is being operated.

**PART II:** The requirements of PART II shall be accomplished within 1000 hours of tail rotor blade operation upon receipt of this Notice.

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## G. Material/Part Availability:

MATERIAL	
Nomenclature/Specification	Source
304 Stainless Steel Tape (.0027 inch thickness) 87-369D21104 30ft.	MDHI or Teledyne Rodney Metals (800-325-1455)
Abrasive Paper (400 grit)	Commercial
Naphtha, alphabetic	Commercial

## H. Warranty Policy:

MDHI will provide tape free of charge through our Service Center/Distributor network for the initial installation. Additionally, MDHI will provide 1/2 hour labor per blade for the initial installation of the tape, provided the work is performed by an Approved MDHI Service Center.

## I. Tooling:

No special tooling required.

## J. Weight and Balance:

N/A

## 2. ACCOMPLISHMENT INSTRUCTIONS:

### A. PART I: Abrasion Strip Inspection and Modification

- (1). Inspect the tail rotor blade leading edge abrasion strip per PART I of HN-197.2, DN-130.2, EN-19.2 and FN-19.2. If blade is removed from service because of separation or voids, notify an Approved MDHI Service Center or Distributor for disposition. Those blades in which voids are found shall be sent to an Approved repair station for abrasion strip replacement. If one blade is removed due to voids in the abrasion strip, the corresponding blade(s) will also have to be replaced. Proceed to PART II. If blades are equipped with the new and improved abrasion strips they must be installed in ship sets.
- (2). Lightly abrade faying surface of tail rotor blade in the area where the tape is to be installed with 400 grit abrasive paper (see Figure 1).
- (3). Wipe faying surface of blade with solvent to eliminate grease and dirt film.
- (4). Use heat gun or equivalent to warm blade faying surface. Temperature must not exceed 120 deg. F.
- (5). Remove backing and apply stainless steel abrasion tape to leading edge of tail rotor blade as shown in Figure 1. Apply tape so it overlaps each side of blade equally. Tape should overlap the inboard end of abrasion strip .5 in. +/- .03 at the leading edge of the blade.

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- (6). Smooth and press tape into place by hand.
- (7). Re-apply pressure by hand following initial installation to ensure proper bonding. Abrasion tape must be free of surface wrinkles or air bubbles.
- (8). Check tail rotor balance per the requirements of the HMI after installation of tape.

## **B. PART II: Replacement of Tail Rotor Blade or Tail Rotor Blade Abrasion Strip**

- (1). Contact MDHI or an authorized MDHI blade repair facility for installation of new style abrasion strip.

**NOTE:** The requirements of this Notice are not required on tail rotor blades with new design abrasion strip (see Figure 1).

- (2). Install tail rotor blade equipped with a new design abrasion strip per the requirements of the HMI.

**NOTE:** New tail rotor blades must be installed in shipsets.

- (3). Check tail rotor balance per the requirements of the HMI after installation of tail rotor blades.

## **3. COMPLIANCE RECORD:**

Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

## **4. POINTS OF CONTACT:**

For further assistance, contact your local MDHI Field Service Representative (refer to the latest revision of the Business Development and Customer Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602)891-6782.

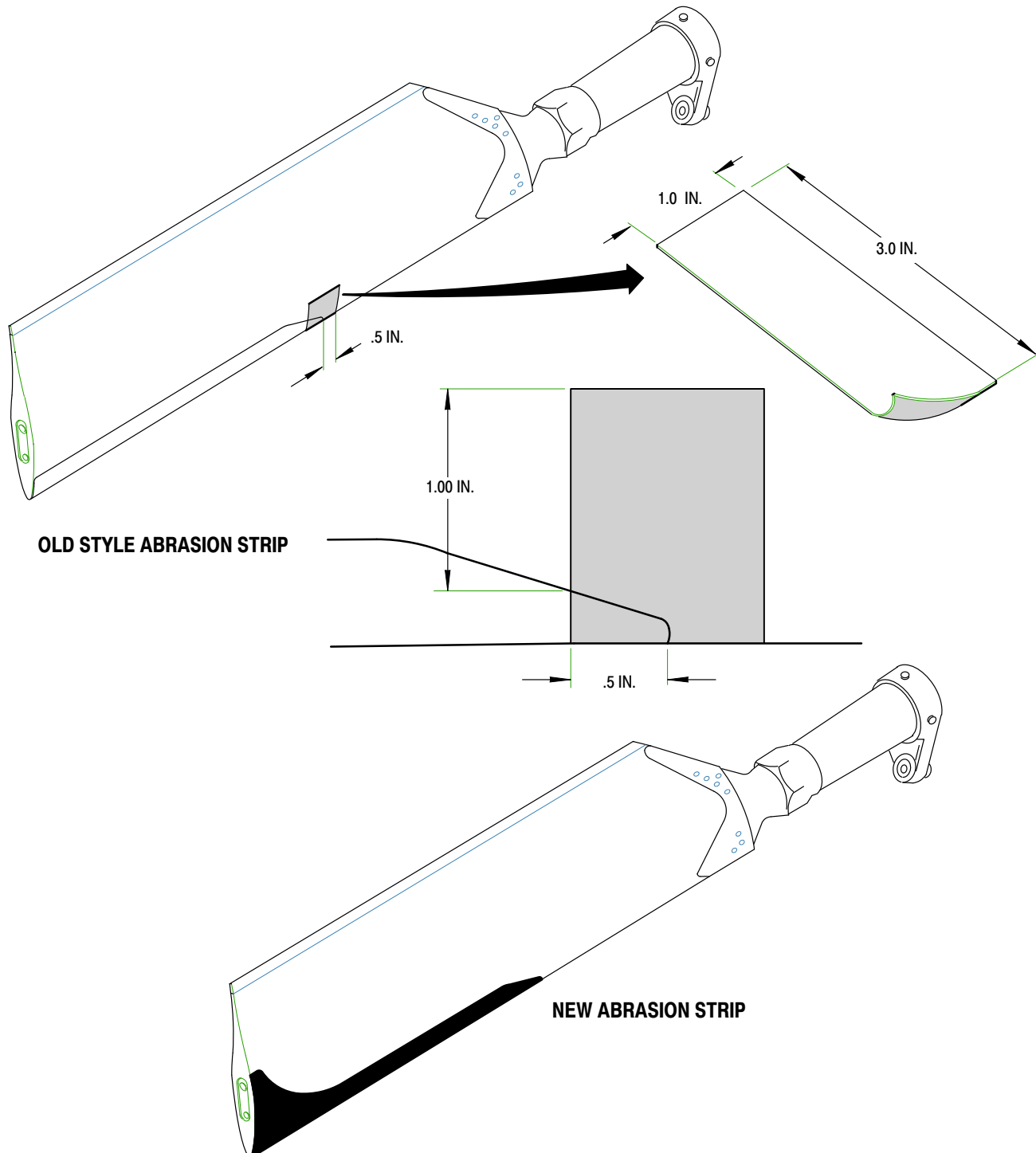
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NOTES:

1. 304 STAINLESS STEEL TAPE SHALL BE APPLIED; 1/2-INCH TO ABRASION STRIP AND 1/2-INCH TO TAIL ROTOR BLADE.
2. APPLY TAPE EQUALLY TO BOTH SIDES OF BLADE.

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**Figure 1. Application of Steel Tape to Tail Rotor Blade.**

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## MAIN ROTOR BLADE ROOT END INSPECTION

### **WARNING**

Failure to comply with the requirement of this Notice may result in separation of the main rotor blade from the helicopter during operation.

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) 369 and 500N series helicopters.

#### B. Assembly/Components Affected by this Notice:

All 369A1100- BSC thru 369A1100-507, 369A1100-601, 369A1100-603, 369D21100-BSC thru 369D21100-517 and 369D21102-BSC thru 369D21102-517 main rotor blades.

#### C. Reason:

Due to reports that MDHI has received from sling load operators in the field, MDHI is requiring all operators to inspect all main rotor blades for cracking and bonding separation between the lower surface root fitting and the doubler at the inboard end. Specifically, the inspections contained in this Notice, concentrate on the most outboard root fitting attachment bolt. The inspections required by this Notice are to be accomplished in conjunction with main rotor blade inspections already required as referenced in paragraph D. below.

#### D. Reference Inspections:

- (1). Handbook of Maintenance Instructions daily inspection of all main rotor blades for cracks.
- (2). Pilot Flight Manual daily preflight check of main rotor blade root end fitting for chordwise cracks.
- (3). Handbook of Maintenance Instructions 100 hour inspection using a 5X to 10X magnifying glass inspecting root fittings for cracks.
- (4). FAA Airworthiness Directive 95-03-13 100 hour inspection of main rotor blade root fitting lug and doublers adjacent to root fitting.

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## E. Description:

### **PART I - ONE-TIME INSPECTION:**

**PART I** of this Notice contains a one-time visual inspection of the main rotor blade root end for chordwise cracks and paint/sealant cracking between the lower root end fitting and the doubler. **PART I** is to be performed with the main rotor blade installed and raised off of the droop stop.

### **PART II - REPETITIVE 100-HOUR INSPECTION:**

**PART II** of this Notice is a repetitive 100 hour inspection of main rotor blades for chordwise cracks and separation between the lower root end fitting and doubler. **PART II** of this Notice is to be performed with the main rotor blades removed.

## F. FAA Approval:

The design engineering aspects of this Notice have been shown to comply with the applicable Federal Aviation Regulations, and are FAA Approved.

## G. Time of Compliance:

**PART I** of this Notice shall be accomplished within the next 10 hours of helicopter operation. **Note:** the requirements of **PART I** only have to be accomplished once.

**PART II** of this Notice shall be accomplished at the next scheduled 100 hour inspection and at each subsequent 100 hours of helicopter operation.

## H. Warranty Policy:

N/A.

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## 2. ACCOMPLISHMENT INSTRUCTIONS:

### A. PART I - ONE-TIME INSPECTION

- (1). With the main rotor blade lifted off of the droop stop, observe the area shown in Figure 1 for any indications of chordwise cracking emitting from the root fitting edge on the blade doubler and skin. Cracking can travel toward both the leading and trailing edges of the blade. **NOTE:** Based on field reports, chordwise cracking is most likely to be found in line with the outermost bolt. If any chordwise cracking is noted, the blade is unserviceable. Operators should contact their local Field Service Representative for disposition of unserviceable blades. If no cracking is noted, proceed to Step A.(2).
- (2). With the main rotor blade lifted off the droop stop, inspect for missing or cracked adhesive/paint at the root end to doubler bonding line in the area shown in Figure 1. If there is any missing or cracked adhesive/paint in the root end fitting to doubler bond line, proceed to Step B. If no cracking is evident, further operation is allowed.

### B. PART II - REPETITIVE INSPECTION

- (1). Remove main rotor blade.
- (2). Using a 10X magnifying glass, inspect the area shown in Figure 1 for any indications of chordwise cracking emitting from the root fitting edge on the blade doubler and skin. Cracking can travel toward both the leading and trailing edges of the blade. **NOTE:** Based on field reports, chordwise cracking is most likely to be found in line with the outermost bolt. If any chordwise cracking is noted, the blade is unserviceable. Operators should contact their local Field Service Representative for disposition of unserviceable blade. If no cracking is noted, proceed to Step B.(3).
- (3). Inspect blade for missing or cracked adhesive/paint at the root end fitting to doubler bonding line in the area shown in Figure 1. If there is any missing or cracked adhesive/paint, proceed to step B.(4). If no cracking is evident, skip step B.(4). thru B.(6).

**CAUTION** DO NOT use any feeler gauges, knives, plastic wedges, etc., when performing the following step.

- (4). Loosen but **DO NOT remove** the root end fitting outboard bolt and nut.
- (5). Using a .004 inch thick piece of Mylar/viewfoil (stapled to this Notice), attempt to insert the corner of the Mylar in between the lower root fitting and the doubler surface in the area shown in Figure 1. If Mylar can be inserted, contact a MDHS Field Service Representative for disposition of the blade. If the Mylar can be inserted .10 inch or greater, remove the blade from service. **NOTE:** Measurement of insertion is from the edge of the root fitting. If the Mylar cannot be inserted, the blade is serviceable, proceed to step B.(6).

**CAUTION** Correct torque application to the outboard root fitting attach bolt is important to maintaining continued blade serviceability.

- (6). Ensure that a minimum run-on drag torque of 3.5 inch pounds can be achieved when re-torquing the outboard nut. If the minimum drag torque cannot be achieved, the self-locking nut must be replaced with a serviceable nut. Apply a torque of 60-65 inch pounds to the outboard nut.

## 3. DISPOSITION OF PARTS REMOVED:

Contact a MDHI Field Service Representative for disposition of unserviceable blades.

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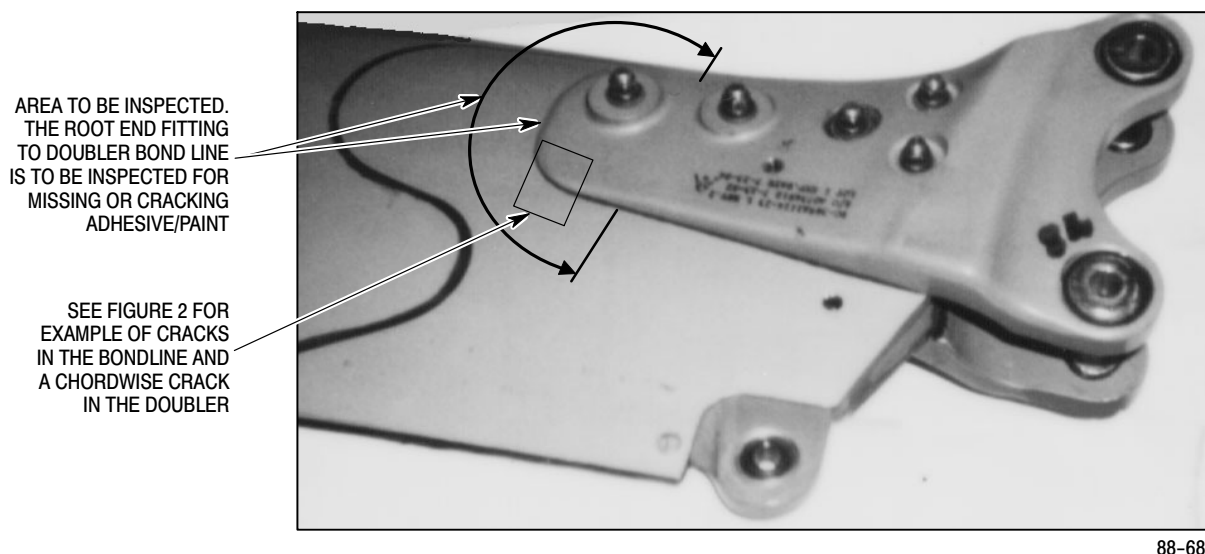
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## 4. COMPLIANCE RECORD:

Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

## 5. POINTS OF CONTACT:

For further assistance, contact your local MDHI Field Service Representative (refer to the latest revision of the Business Development and Customer Support handbook for address and telephone numbers) or contact the Commercial Field Service Department at MDHI, Mesa Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602)891-6782.



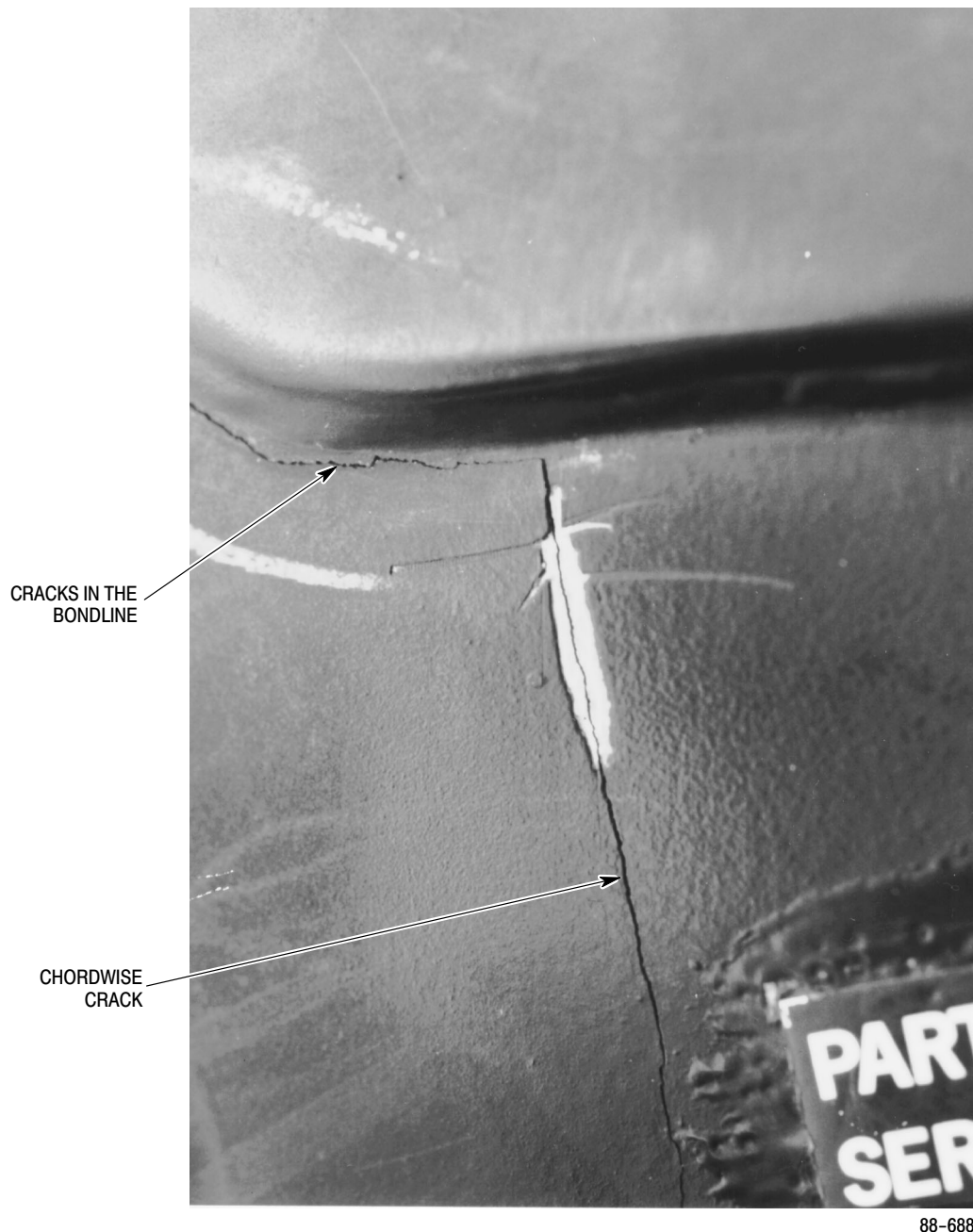
**Figure 1. Main Rotor Blade Root Fitting Inspection.**

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**Figure 2. Example of Main Rotor Blade Root End Cracking.**



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## MAIN ROTOR TRANSMISSION COMPONENT INSPECTION (369D25127-11)

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) 369D, 369E, 369FF and 500N Series Helicopters that have 369D25100 Main Rotor Transmissions installed.

#### B. Assembly/Components Affected by this Notice:

369D25100 Main Rotor Transmissions that contain 369D25127-11 Output Drive Gears with the following serial numbers:

**S/N 005570-0646 thru and including S/N 005570-0765**

**S/N 005570-0876 thru and including S/N 005570-0998**

#### C. Reason:

An initial MDHS investigation of a commercial cargo hook operator's 369D25127-11 output drive gear which experienced a premature gear tooth fracture while operating during "sling-load" operations.

Based on the results of this investigation, MDHS is requiring operators of aircraft described in 1.A. to determine what serial number 369D25127-11 output drive gear is currently installed in their 369D25100 main rotor transmission. If the operator's aircraft records do not indicate what serial number output drive gear is installed, then the operator must either: (1) contact MDHS Field Service Department and be prepared to provide the installed 369D25100 main transmission serial number, or (2) remove the S51HL liquid level plug for viewing access in order to determine output drive gear serial number.

Failure to perform the requirements of this Notice may result in gear tooth spalling or tooth fracture of the 369D25127-11 output drive gear. This could eventually lead to transmission "chip light" illumination which requires operators to perform a landing as soon as possible.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information to inspect their main rotor transmissions and, if required, replace the 369D25127-11 output drive gear.

#### E. FAA Approval:

The technical design aspects of this Service Bulletin are FAA Approved.

#### F. Manpower:

Refer to Warranty Policy.

#### G. Time of Compliance for 369D25127-11 Output Gear replacement:

- (1). For helicopters equipped with cargo hook assemblies that maintain a separate permanent log of actual hook time: Within the next 25 hours of logged hook time or 400 hours of helicopter operation after receipt of this Notice, whichever comes first.

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- (2). For helicopters equipped with cargo hook assemblies that do not maintain a separate permanent log of actual hook time: A. Within the next 25 hours of helicopter operation after receipt of this Notice; or, B. Immediately begin maintaining a permanent log of actual hook time and comply with the requirements of G.(1) above.
- (3). For helicopters not equipped with cargo hook assemblies: Within the next 400 hours of helicopter operation after receipt of this Notice.

## H. Interchangeability:

None

## I. Material/Part Availability:

Contact MDHS Field Service Department.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Output Drive Gear	369D25127-11	1	MDHS

## J. Warranty Policy:

Replacement Output Drive Gears will be provided at a prorated price based on hours used on the original output gear since the last TBO. (Transmissions will not be overhauled at MDHS unless specifically requested by the owner; then MDHS will charge for labor and materials above and beyond the Output Gear removal and replacement.)

MDHS will provide credit equivalent of ten (10) labor hours for transmission removal and reinstallation. Please contact MDHS Warranty Administration if a loaner transmission is required.

## K. Tooling:

No special tooling required.

## L. Weight and Balance:

N/A

## M. Electrical Load Data:

N/A

## N. Other Publications Affected:

N/A

## 2. ACCOMPLISHMENT INSTRUCTIONS:

- (1). Inspect aircraft records to determine what serial number output drive gear (369D25127-11) is installed in the main rotor transmission.
- (2). If 369D25127-11 Output Drive Gear serial number determination cannot be made via aircraft records, contact MDHS Field Service Department with transmission serial number or, using a bright light, view thru the open liquid level plug port to determine serial number of Output Gear. **NOTE:** Serial number is located on the back surface of the gear.

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- (3). If it is determined that the Output Gear Drive installed is among the serial numbers listed, and the time of compliance requirements of 1.G.(1), 1.G.(2) or 1.G.(3) are satisfied, then the gear must be replaced with one that has a serial number that falls outside the suspect range of serial numbers.

### 3. DISPOSITION OF PARTS REMOVED:

Return to MDHS.

### 4. COMPLIANCE RECORD:

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

### 5. POINTS OF CONTACT:

For further assistance, contact your local MDHS Field Service Representative (refer to the Business Development and Customer Support handbook for address and telephone numbers) or contact the Field Service Department at MDHS, Mesa, Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602) 891-6782.

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## OVERRUNNING CLUTCH INSPECTION

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) Model 369D, 369E, 369FF and 500N Series Helicopters.

#### B. Assembly/Components Affected by this Notice:

Overrunning Clutch Assemblies (P/N 369F5450-501).

#### C. Time of Compliance:

This Notice shall be accomplished as follows:

For helicopters with less than 100 hours of operation with the affected 369F5450-501 clutch assembly: After the initial 100 hours of operation and at each subsequent 100 hours of operation.

For helicopters with more than 100 hours of operation with the affected 369F5450-501 clutch assembly: Within the next 25 hours of helicopter operation and at each subsequent 100 hours of operation.

#### D. Reason:

To ensure the proper operation of the overrunning clutch assembly. Failure to accomplish the requirements of this Notice may result excessive vibration and wear of clutch components and possible loss of power to the helicopter drive system.

#### E. Description:

Procedures in this Notice provide owners and operators with information to inspect and, if necessary, replace the overrunning clutch assembly.

#### F. FAA Approval:

The technical design aspects of this Service Bulletin are FAA Approved.

#### G. Manpower:

2.0 man-hours to perform the inspection of the clutch. 14.0 man-hours if the overrunning clutch assembly has to be replaced.

#### H. Material/Part Availability:

Contact MDHS Warranty and Repair Department.

PARTS/SUPPLIES REQUIRED FOR REPLACING A 369F5450-501 CLUTCH ASSEMBLY			
Nomenclature	Part No.	Qty.	Source
Overrunning Clutch Assembly	369F5450-501	1	MDHS

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PARTS/SUPPLIES REQUIRED FOR REPLACING A 369F5450-1 CLUTCH SUB-ASSEMBLY			
Nomenclature	Part No.	Qty.	Source
Overrunning Clutch Sub-Assembly	369F5450-1	1	MDHS

PARTS/SUPPLIES REQUIRED WHEN REPLACING A 369F5450-501 WITH A NEW 369A5350-605 CLUTCH ASSEMBLY			
Nomenclature	Part No.	Qty.	Source
Overrunning Clutch Assembly	369A5350-605	1	MDHS
Coupling	369H5660	1	MDHS
Coupling Bolt	369A5528	1	MDHS
Shims	369A5526	2	MDHS
Bolt	NAS1104-4	4	MDHS
Washer	AN960KD416L	4	MDHS
Seal Assembly	369A8005-503	1	MDHS
Packing	NAS1593-017 or M83248/1-017 (Alternate)	1	MDHS

## I. Parts Policy:

MDHS will provide a replacement 369F5450-1, -501 or a new 369A5350-605 clutch assembly and hardware as required. Return worn/spun 369F5450-1 or -501 clutch assemblies to MDHS Warranty and Repair Department. Refer to the parts request form at the end of this Bulletin.

## J. Weight and Balance:

369F5450-501 = 7.98 lbs. 369A5350-605 = 5.38 lbs.

## K. Electrical Load Data:

N/A

## L. Other Publications Affected:

N/A

## 2. ACCOMPLISHMENT INSTRUCTIONS:

Refer to Figure 1.

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- (1). Gain access to the overrunning clutch.
- (2). Remove 369F5450-1 overrunning clutch sub-assembly from housing (Ref. CSP-HMI-2, Section 63-10-00).
- (3). Inspect clutch as follows:
  - (a). Visually inspect 369F5460-1 retainer, 369F5461-1 carrier and 369F5451-1 housing at MS16556-801 pin and shoulder for indications of wear from excessive spinning.

**NOTE:** 369F5461-1 carrier slot may not be in line with the slot in the 369F5460-1 retainer. As long as no wear is observed on the carrier or 369F5451-1 housing, this relative movement is acceptable.

- (b). **Condition A:** If inspection reveals existence of either of the two following situations, the 369F5450-501 clutch assembly is to be replaced with serviceable 369F5450-501 or a new/serviceable 369A5350-605 clutch assembly (Ref. CSP-HMI-2, Section 63-10-00).

- 1). 369F5451-1 clutch housing wear and/or MS16556-801 pin damage.
- 2). 369F5461-1 carrier wear.

- (c). **Condition B:** If inspection reveals existence of only the following situation, with no damage to the 369F5451-1 clutch housing and MS16556-801 pin, the currently installed 369F5450-1 clutch sub-assembly is to be replaced with a serviceable 369F5450-1 clutch sub-assembly.

- 1). Yielded material in the 369F5460-1 retainer outside diameter slotted area which interfaces with the MS16556-801 pin in the 369F5451-1 housing

**NOTE:** Installation of a new/serviceable 369A5350-605 or serviceable 369F5450-501 clutch assembly requires removal of the engine.

- (d). Record aircraft serial number, clutch serial number, run time on clutch and date of inspection.
- (4). If no wear, indication of spinning or pin damage is observed, reinstall 369F5450-1 overrunning clutch sub-assembly into 369F5451-1 housing.
- (5). Upon reaching 100 hours of additional operation time, return to step 2.(1). and proceed accordingly.

### 3. DISPOSITION OF PARTS REMOVED:

Return to MDHS.

### 4. COMPLIANCE RECORD:

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

### 5. POINTS OF CONTACT:

For further assistance, contact your local MDHS Field Service Representative (refer to the "At Your Service" handbook for address and telephone numbers) or contact the Field Service Department at MDHS, Mesa, Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602) 891-6782.

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FN-70  
NN-011

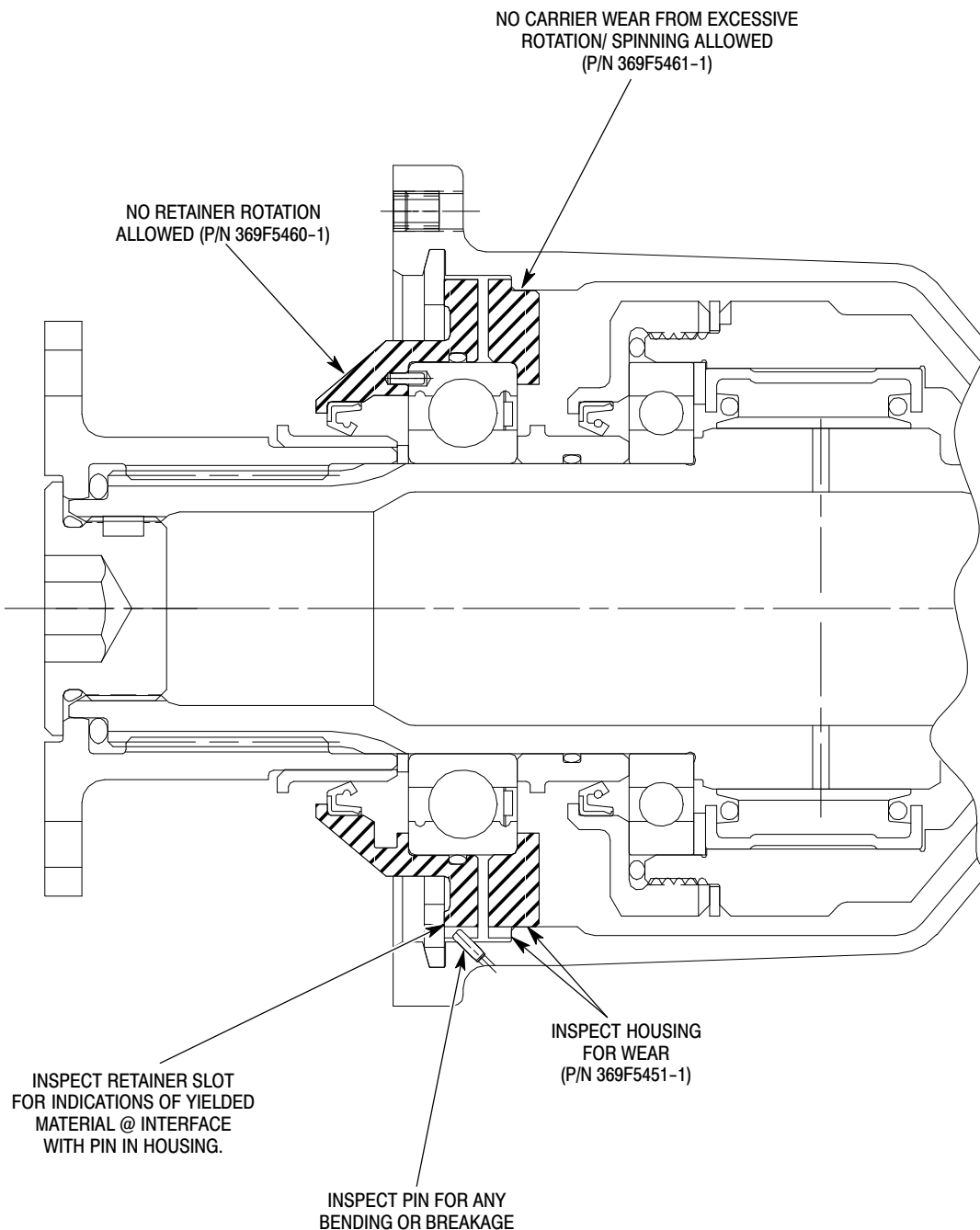


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88-752

Figure 1. Inspection of Overrunning Clutch Assembly.

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## OVERRUNNING CLUTCH INSPECTION

**PARTS REQUEST FORM:** Please fill in the following information and return to MDHS for parts/supplies required for compliance. This form may be faxed to MDHS Warranty and Repair Department at (602) 891-3952.

Aircraft Ser. No. \_\_\_\_\_

Aircraft Total Time \_\_\_\_\_

Date \_\_\_\_\_

Part Ser. No. (if required) \_\_\_\_\_

Ship to:

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## MAIN ROTOR TRANSMISSION ACCESSORY DRIVE INSPECTION

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

All Boeing 369D, 369E, 369FF, 500N and 600N Series Helicopters equipped with 369F5100-503 Main Rotor Transmissions. All 369F5100-503 Main Rotor Transmissions in Spares Inventories.

#### B. Assembly/Components Affected by this Service Bulletin:

Main Rotor Transmission (P/N 369F5100-503, Serial Numbers 005570-0001, 0003 thru 0010, 0012, 0015 thru 0018, 0020 thru 0028, 0030 thru 0051, 0053 thru 0065, 0067 thru 0088, 0090 thru 0098, 0100 thru 0103, 0106, 0108 thru 0109, 0111, 0135).

#### C. Time of Compliance:

The requirements of this Bulletin shall be accomplished within the next 50 hours of operation or no later than 31 December 1997.

#### D. Reason:

A fielded transmission was found not to have cotter pins installed on the nuts of the accessory drive idler gears. Failure to comply with the requirements of this Bulletin may result in an emergency landing situation.

#### E. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to having the main rotor transmission inspected and if necessary replacement information.

NOTE: It is recommended that the Service Bulletin regarding the inspection of input shaft coupling assemblies be accomplished concurrently with Service Bulletin (Ref SB369D-192, SB369E-085, SB369F-072, SB500N-013 and SB600N-003).

#### F. FAA Approval:

The technical design aspects of this Service Bulletin are FAA Approved.

#### G. Manpower:

One (1) manhour will be required to inspect transmissions in spares inventories and eight (8) manhours will be required to inspect those transmissions installed in helicopters.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact Boeing Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Main Rotor Transmission	369F5100-503	A/R	Boeing

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## **J. Warranty Policy:**

Boeing will provide replacement parts at no cost to the operator. Contact Boeing Commercial Warranty and Repair Department for replacement parts.

## **K. Tooling:**

Provided by Boeing Field Service Representative as needed.

## **L. Weight and Balance:**

N/A

## **M. Electrical Load Data:**

N/A

## **N. Other Publications Affected:**

N/A

## **2. ACCOMPLISHMENT INSTRUCTIONS:**

- (1). Contact your local Boeing Field Service Representative or the Boeing Commercial Field Service Department in Mesa, Arizona, to schedule Boeing or ACR approved personnel to perform this Service Bulletin.

NOTE: Operators wishing to have Boeing Approved Service Centers perform this operation must contact Boeing Field Service Department for approval, procedures and replacement items needed for transmission disassembly and reassembly.

## **3. DISPOSITION OF PARTS REMOVED:**

If the transmission has to be removed and replaced, immediately contact Boeing Commercial Warranty and Repair for a replacement transmission.

Removed transmissions shall be returned to ACR Industries, Inc.

ACR Industries, Inc.  
15375 Twenty Three Mile Road  
Macomb, Michigan 48042  
Phone: (810) 781-2800  
FAX: (810) 781-0152  
Contact person: Mike Gallagher

## **4. COMPLIANCE RECORD:**

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book and Component Record Card.

## **5. POINTS OF CONTACT:**

For further assistance, contact your local Boeing Field Service Representative (refer to the latest revision of the "At Your Service" handbook for address and telephone numbers) or contact the Field Service Department at Boeing, Mesa, Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602) 891-6782.

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## INPUT SHAFT COUPLING ASSEMBLY INSPECTION

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) 369H Series, 369D, 369E, 369FF, 500N and 600N Series Helicopters equipped with 369F5133-1 Input Shaft Coupling Assemblies. All 369F5133-1 Input Shaft Coupling Assemblies in spares inventories.

#### B. Assembly/Components Affected by this Notice:

Input Shaft Coupling Assemblies (P/N 369F5133-1, serial numbers 030829-0126 thru 030829-0207) installed on main transmission (P/N 369F5100-503) input shafts and overrunning clutches (P/N 369F5450).

#### C. Reason:

Input shaft coupling assemblies (P/N 369F5133-1) have been returned from operators in the field due to observed pitting on the internal spline teeth. Further examination indicates that the corrosion pitting is occurring below the solid film lubricant layer. Failure to comply with the requirements of this Bulletin may cause premature failure of spline teeth and subsequent loss of drive to the main rotor system resulting in an emergency landing situation.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to removing affected input shaft coupling assemblies, inspecting those couplings for unacceptable conditions and, as required, replacing them with acceptable couplings.

#### E. FAA Approval:

The technical design aspects of this Service Bulletin are FAA Approved.

#### F. Manpower:

One (1) man-hour is required to inspect input shaft couplings for affected serial numbers and an additional two (2) man-hours if the input shaft coupling has to be replaced.

#### G. Time of Compliance:

The requirements of this Bulletin shall be accomplished within the next 100 hours of helicopter operation or no later than 31 December 1997.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHI Field Service Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Input Shaft Coupling	369F5133-1	1	MDHS

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## **J. Warranty Policy:**

MDHI will provide replacement parts at no cost to the operator. Contact MDHS Commercial Warranty and Repair Department for replacement parts.

## **K. Tooling:**

N/A

## **L. Weight and Balance:**

N/A

## **M. Electrical Load Data:**

N/A

## **N. Other Publications Affected:**

N/A

## **2. ACCOMPLISHMENT INSTRUCTIONS:**

- (1). Verify affected serial numbered coupling is installed on helicopter either by Log Book entry or by visual inspection.
- (2). If coupling serial number is one on the affected list, remove coupling per HMI.
- (3). Visually inspect for evidence of pitting under the solid film lubricant in the spline area of the coupling. If there is evidence of pitting in the splines, replace coupling.
- (4). Install acceptable coupling per CSP-HMI-2.

## **3. DISPOSITION OF PARTS REMOVED:**

Return all affected components to MDHI Warranty & Repair within five days of removal.

## **4. COMPLIANCE RECORD:**

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

## **5. POINTS OF CONTACT:**

For further assistance, contact your local MDHI Field Service Representative (refer to the "At Your Service" handbook for address and telephone numbers) or contact the Field Service Department at Boeing, Mesa, Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602) 891-6782.

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SB369H-240  
SB369E-085  
SB500N-013

SB369D-192  
SB369F-072  
SB600N-003

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## INPUT SHAFT COUPLING ASSEMBLY INSPECTION

**PARTS REQUEST FORM:** Please fill in the following information and return to Boeing for parts/supplies required for compliance. This form may be faxed to MDHI Warranty and Repair Department at (602) 891-3952.

Aircraft Ser. No. \_\_\_\_\_

Aircraft Total Time \_\_\_\_\_

Date \_\_\_\_\_

Part Ser. No. (if required) \_\_\_\_\_

Ship to:

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\* Supersedes SB369H-241, SB369D-193, SB369E-086 and SB369F-073, dated 18 December 1997.

## TAIL ROTOR BLADE, LEADING EDGE INSPECTION FOR CRACKS

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

MD Helicopters, Inc. (MDHI) models 369A, including the OH-6A, 369H, 369HE, 369HS, 369HM, 369D, 369E and 369FF Series Helicopters.

#### B. Assembly/Components Affected by this Notice:

369A1613 (equipped with abrasion strips), 369D21606, 369D21613 and 369D21615 series tail rotor blades that have had the abrasion strip replaced and have not been inspected for skin thickness with more than 100 hours time in service. New tail rotor blades and tail rotor blades that have had the abrasion strips replaced and have been properly inspected for skin thickness are not affected by this Service Bulletin but are still subject to inspection requirements contained in the Handbook of Maintenance Instructions.

#### C. Reason:

Boeing has received a tail rotor blade from an operator that shows evidence of blade skin cracking at the inboard end of the abrasion strip. No cracks are allowed at this or any other location on tail rotor blades. Failure to comply with the requirements of this Bulletin may result in tail rotor blades failing in service and subsequent loss of directional control of the helicopter.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to inspecting tail rotor blades for any evidence of cracking.

#### E. FAA Approval:

The technical design aspects of this Service Bulletin are FAA Approved.

#### F. Manpower:

0.5 manhours for the inspection and an additional 4.6 manhours if the tail rotor blades have to be replaced.

#### G. Time of Compliance:

The requirements of this Bulletin shall be accomplished within the next 100 hours of helicopter operation. Repetitive inspections should be accomplished per the requirements contained in the Handbook of Maintenance Instructions. **NOTE:** MDHI approved blade repair facilities now incorporate the requirement to inspect the leading edge skin thickness as part of their repair procedures. The minimum thickness for leading edge skin is 0.024 inch.

#### H. Interchangeability:

None

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## I. Material/Part Availability:

Contact Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Tail Rotor Blade	369A1613-507 (369H Series)	A/R	MDHI
Tail Rotor Blade	369D21606-511 (369FF)	A/R	MDHI
Tail Rotor Blade	369D21613-61 (369D/E)	A/R	MDHI
Tail Rotor Blade	369D21615-31 (4-Bladed Tail Rotor)	A/R	MDHI
Transparent Protective Tape	3M 8671-1	A/R	3M (1-800-453-8116 or 1-800-362-3550 )
Promoter	3M #86	A/R	3M (1-800-453-8116 or 1-800-362-3550 )
304 Stainless Steel Tape (0.0027 inch thickness)	87-369D21104 30ft.	A/R	MDHI or Teledyne Rodney Metals (800-325-1455)
Abrasive Paper (400 grit)	N/A	A/R	Commercial
Naphtha, aliphatic	TT-N-95 Type II or equivalent	A/R	Commercial
Dye Penetrant Kit	Per MIL-I-25135 (or equivalent)	A/R	Commercial

## J. Warranty Policy:

Standard warranty policy applies.

## K. Tooling:

N/A

## L. Weight and Balance:

N/A

## M. Electrical Load Data:

N/A

## N. Other Publications Affected:

N/A

## 2. ACCOMPLISHMENT INSTRUCTIONS:

(Refer to figure 1)

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(1). Inspect tail rotor blades with the new style abrasion strips as follows:

- (a). Inspect leading edge for any evidence of cracking in the area shown in Figure 1. No cracks are allowed. If cracks are suspected, perform a dye penetrant inspection of the suspect area as follows:

- 1). By lightly abrading the blade skin, carefully remove the paint from the suspect area.



Do not use any chemicals to remove the paint and do not penetrate the metal skin of the blade.

- 2). Perform dye penetrant inspection on the suspected area per MIL-I-25135 (or equivalent).

- 3). Tail rotor blades with evidence of cracking must be removed from service.

**NOTE:** Tail rotor blades with the new abrasion strip configuration cannot be intermixed with tail rotor blades that have the old abrasion strip configuration.

- 4). If there is no evidence of cracking, the blade can be cleaned and touch-up epoxy paint applied to the affected area.

- (b). To reduce erosion, up to a 2 inch length of 3M transparent protective tape may be applied to all blades. An equal length of tape must be applied to all blades. The protective tape should be applied spanwise centered on the leading edge and overlap the inboard end of the abrasion strip by approximately 1/2 inch. The square corners of the tape should be rounded off before application to reduce the chance of peeling. 3M Promoter 86 may be used to improve adhesion of the tape.



DO NOT cut or trim tape after applied to the blades.

- (c). The tape should be inspected for condition and security during the preflight inspection. Evidence of erosion, lifting or movement requires tape replacement.

(2). Inspect tail rotor blades with old style abrasion strips as follows:

- (a). Remove stainless steel tape from the leading edge at the inboard end of the abrasion strip.

- (b). Inspect that area for evidence of cracks. No cracks are allowed. If cracks are suspected, perform a dye penetrant inspection of the suspect area as follows:

- 1). Carefully remove the paint from the suspect area.



Do not use any chemicals to remove the paint and do not abrade or penetrate the metal skin of the blade.

- 2). Perform dye penetrant inspection of the suspected area per MIL-I-25135 (or equivalent).

- 3). Tail rotor blades with evidence of cracking must be removed from service.

**NOTE:** Tail rotor blades with the new abrasion strip configuration cannot be intermixed with tail rotor blades that have the old style abrasion strip.

- 4). If there is no evidence of cracking, the blade can be cleaned and touch-up epoxy paint applied to the affected area.

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(c). Install new stainless steel tape in the same location as follows or perform PART II of HN-238, DN-187, EN-80 and FN-66:

- 1). Lightly abrade faying surface of tail rotor blade in the area where the tape is to be installed with 400 grit abrasive paper.
  - 2). Wipe faying surface of blade with solvent to eliminate grease and dirt film.
  - 3). Use heat gun or equivalent to warm blade surface. Temperature must not exceed 120 deg. F.
  - 4). Remove backing and apply stainless steel abrasion tape to leading edge of tail rotor blade. Apply 3.0 in. x 1.0 in. tape so that it overlaps each side of blade equally. Tape should overlap the inboard end of the abrasion strip 0.5 inch +/- 0.03 in. at the leading edge of the blade.
  - 5). Smooth and press tape into place by hand.
  - 6). Re-apply pressure by hand following initial installation to ensure proper bonding. Abrasion tape must be free of wrinkles and air bubbles.
- (3). Check tail rotor balance per the requirements of CSP-H-2 or CSP-HMI-2 after installation of tape.

### **3. DISPOSITION OF PARTS REMOVED:**

Return to MDHI.

### **4. COMPLIANCE RECORD:**

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

### **5. POINTS OF CONTACT:**

For further assistance, contact your local MDHI Field Service Representative (refer to the latest revision of the "At Your Service" handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602) 891-6782.

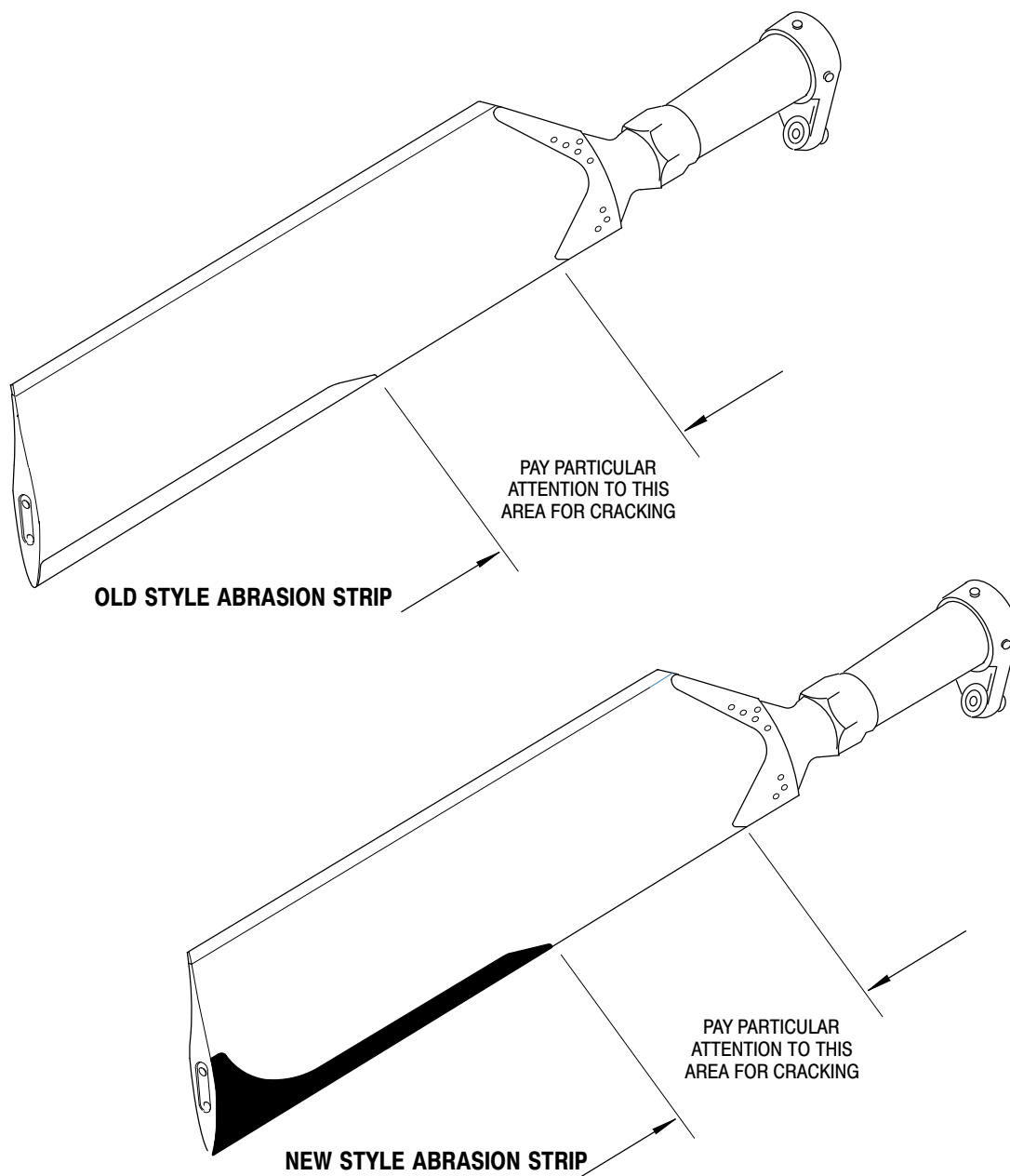
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**Figure 1. Tail Rotor Blade Inspection**



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\* Supersedes Service Bulletins SB369H-243R2, SB369D-195R2, SB369E-088R2, SB369F-075R2 SB500N-015R2 and SB600N-007R1, dated 26 March 1998. **Reason for Revision:** To further define a torque event for the replacement of affected main rotor blades and to be specific which models use the 369A1100-507 main rotor blade.

## MAIN ROTOR BLADE ROOT END INSPECTION AND TERMINATION ACTION FOR SUSPECT MAIN ROTOR BLADES

### **WARNING**

Failure to comply with the requirements of this Bulletin (Notice) may result in separation of a main rotor blade from the helicopter during operation.

### 1. **PLANNING INFORMATION:**

#### **A. Aircraft Affected:**

All MD Helicopters, Inc. (MDHI) 369, 500N and 600N series helicopters equipped with any of the main rotor blades listed below.

#### **B. Assembly/Components Affected by this Bulletin:**

Affected Main Rotor Blade Part Numbers and Serial Numbers listed below;  
P/N 369A1100-507 with S/N: D139 thru D203, D209 thru D223,  
P/N 369D21100-517 with S/N: H664, H665, H667, H669, H671, H672, H674, H676, H679, H680, H683 thru H724, H726 thru H999 and J000 thru J039, J041 thru J055,  
P/N 369D21102-517 with S/N: 1976 thru 2100, 2106 thru 2115.

#### **C. Reason:**

Due to a recent main rotor blade separation, MDHI is requiring all operators with any of the above noted serial numbered main rotor blades to perform an inspection for cracking of the lower surface of the blade, root fitting and doubler at the inboard end of the blade. Specifically, the inspection contained in this Bulletin, concentrates on the outermost two root fitting attachment bolts and the outermost end of the lower root fitting and adjacent doubler area. **The inspections required by this Bulletin are to be accomplished in conjunction with main rotor blade inspections already required as referenced in paragraph H. below.**

In addition to main rotor blade inspections, this Service Bulletin now defines a terminating action for the suspect main rotor blades. MDHI is introducing flight hour factoring as a means of addressing low cycle fatigue associated with the affected serial number main rotor blades referenced in this Bulletin. MDHI data indicate that those affected blades are sensitive to "torque events (TE)" and therefore are being assigned a number of TE that corresponds with the maximum allowable fatigue damage that the blades can withstand. Those operators equipped with those affected main rotor blades must log the number of TE throughout the service life of those blades. When those affected blades have reached the maximum number operation hours or maximum number of TE, those blades must be removed from service.

The definition of "Torque Event" and some recommended methods of logging the TE are included in this Bulletin. In addition to this Service Bulletin, MDHI will issue corresponding revisions to applicable sections of the Handbook of Maintenance Instructions and Type Certificate Data Sheets for those affected model aircraft.

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## D. Description:

This Bulletin contains a visual inspection of the main rotor blade root end for chordwise cracks in the doubler; also, paint/sealant cracking between the lower root end fitting and the doubler. This Bulletin is to be performed with the main rotor blade installed and raised off of the droop stop.

Additionally, this Bulletin now contains a terminating action for those suspect main rotor blades. The terminating action is based on the total number of (TE) or time in service (Ref. Section F. below).

## E. Time of Compliance:

This Bulletin shall be accomplished prior to next flight. Also, perform the inspection on main rotor blades with 600 or more hours of operation and at each subsequent 25 hours of helicopter operation.

Suspect main rotor blades shall be removed from service after reaching those life limits listed below or torque events defined below, whichever occurs first.

## F. Definition and Example of a Torque Event:

A torque event (TE) is defined as “the transition from forward flight to a hover” (see examples below).

Examples:

- 1) Taxi, takeoff and a flight which terminates into a hover and landing will record one (1) TE.
- 2) A flight which includes multiple transitions to a hover, such as external load operations, will record one (1) TE for each transition to a hover.

**Main Rotor Blade Life Limits with Suspect Doublers**

Part Number	Model	Current Life	Bulletin Life of 588 Suspect Blades	Torque Events (TE)
369A1100-507	369A (Army OH-6A), 369H, 369HM, 369HS, 369HE	2,440 Hr.	1,750 Hr.	10,600
369D21100-517	369D/E	3,530 Hr.	2,500 Hr.	15,000
369D21102-517	369F/FF/500N	3,430 Hr.	2,500 Hr.	15,000

For blades that presently do not have TE logged, the following criteria applies:

- (1). If the number of TE are known, then the operator shall log that number in the appropriate sections of the helicopter Log Book.
- (2). The previous operator(s) may be contacted to get an accurate number of TE from previous usage(s).
- (3). For non-cargo hook operators, if the number of TE is unknown, then six (6) TE/HR shall be used.

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- (4). If the number of TE is unknown, then 20 TE/hour shall be used.

Known/determined TE shall be recorded on a separate/blank rotorcraft log book form as required above. As additional TE are experienced, this information shall be updated in the helicopter log. If there are any questions on the above contact MDHI Product Support.

## **G. FAA Approval:**

The design engineering aspects of this Bulletin have been shown to comply with the applicable Federal Aviation Regulations, and are FAA Approved.

## **H. Reference Inspections:**

- (1). FAA Airworthiness Directive 98-03-15, referencing Service Bulletins SB369H-243R1, SB369D-195R1, SB369E-088R1, SB369F-075R1, SB500N-015R1, and SB600N-007 dated 23 January 1998.
- (2). FAA Airworthiness Directive 95-03-13, referencing Service Information Notices (Bulletins) HN-211.4, DN-51.6, EN-42.4 and FN-31.4, dated 27 January 1993 or later, for 100 hour inspection of main rotor blade root fitting and lead-lag links.
- (3). FAA Airworthiness Directive 96-10-09, referencing Service Information Notices (Bulletins) HN-239, DN-188, EN-81, FN-67 and NN-008, dated 27 October 1995 or later, for 100 hour inspection of main rotor blade lower root end fitting and doublers.
- (4). Pilot Flight Manual daily preflight check of main rotor blade root end fitting for chordwise cracks.

## **I. Warranty Policy:**

Contact MDHI Warranty and Repair Dept. for warranty consideration.

## **J. Disposition of Parts Removed:**

Contact a MDHI Warranty and Repair Dept. for disposition of unserviceable blades.

## **K. Points of Contact:**

For further assistance, contact your local MDHI Field Service Representative (refer to the latest revision of the "At Your Service" handbook for address and telephone numbers) or contact the Commercial Field Service Department at MDHI, Mesa, Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602)891-6782.

## **2. ACCOMPLISHMENT INSTRUCTIONS:**

Refer to Figures 1 and 2.

- (1). Inspect all 600N helicopters to verify what part number/dash number main rotor blades are installed. If any of the above listed 369D21102-517 (Ref. Paragraph 1. B.) main rotor blades are installed, those blades shall be removed and returned to MDHS. Removed blades shall be replaced with part number/dash number main rotor blades not listed in 1.B. **NOTE:** 369D21102-517 main rotor blades not listed in 1.B. are not subject to the inspection requirements of this Bulletin.
- (2). Inspect all 369 and 500N helicopters to verify what part number/dash number main rotor blades are installed. If any of the above listed (Ref. Paragraph 1.B.) main rotor blades are installed, those blades must be inspected per the following requirements of this Bulletin at the above defined intervals (Ref. 1.E.)

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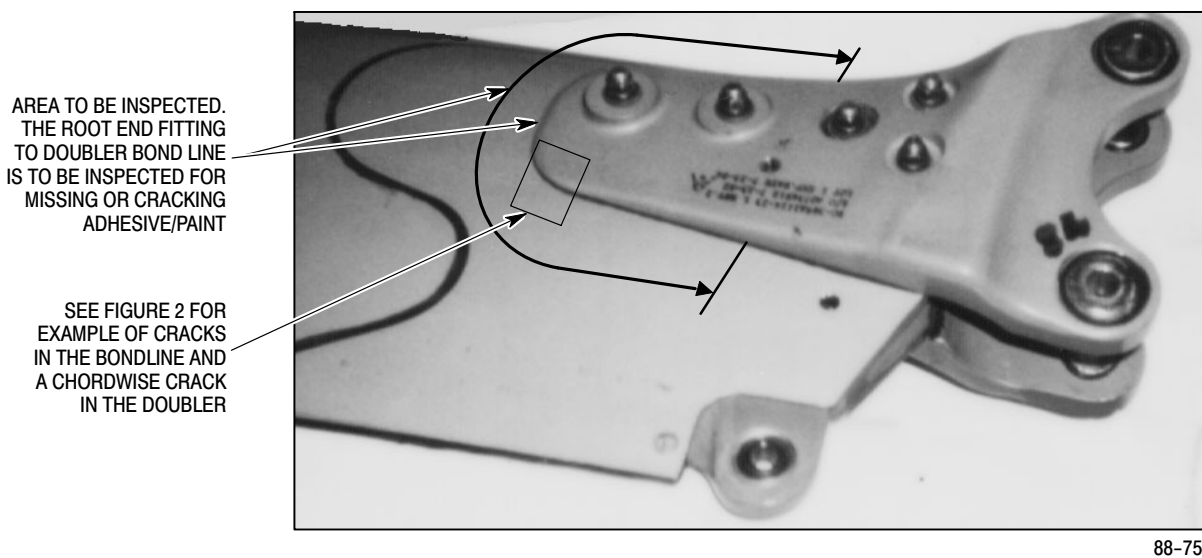
The following inspections must be accomplished using a 10X magnifying glass.

- (3). With the main rotor blade lifted off of the droop stop, observe the area shown in Figure 1 for any indications of chordwise cracking emanating from the root fitting edge on the blade lower surface doubler and skin or cracks on the doubler adjacent to the root end fitting. Cracking can travel toward both the leading and trailing edges of the blade.  
**NOTE:** Based on field reports, chordwise cracking, if present, is most likely to be found in line with the two outermost bolts and the outermost end of the lower root fitting. If any chordwise cracking is noted, the blade is unserviceable. Operators should contact their local Field Service Representative for disposition of unserviceable blades. If no cracking is noted, proceed to Step 4.
- (4). With the main rotor blade lifted off the droop stop, inspect the lower surface for missing or cracked adhesive/paint at the root end fitting to doubler bonding line in the area shown in Figure 1. If there is any missing or cracked adhesive/paint in the root end fitting to doubler bond line, proceed to Service Information Notices HN-239, DN-188, EN-81, FN-67 and NN-008 and perform the required inspections contained in that Bulletin.



Cracked main rotor blade root end or lead-lag links may produce a sudden change or increase in helicopter vibration. If operators experience a sudden onset of unusual or excessive vibration, a precautionary landing must be made. No further flights shall be attempted until the cause of the vibration has been identified and corrected.

- (5). Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book. The current Log Book Rotorcraft Log must have Attachments 1 & 2 inserted and the necessary TE information must be included.
- (6). Complete the attached compliance form and return (fax/send to MDHI).



88-756

**Figure 1. Main Rotor Blade Lower Surface Root Fitting and Doubler Inspection.**

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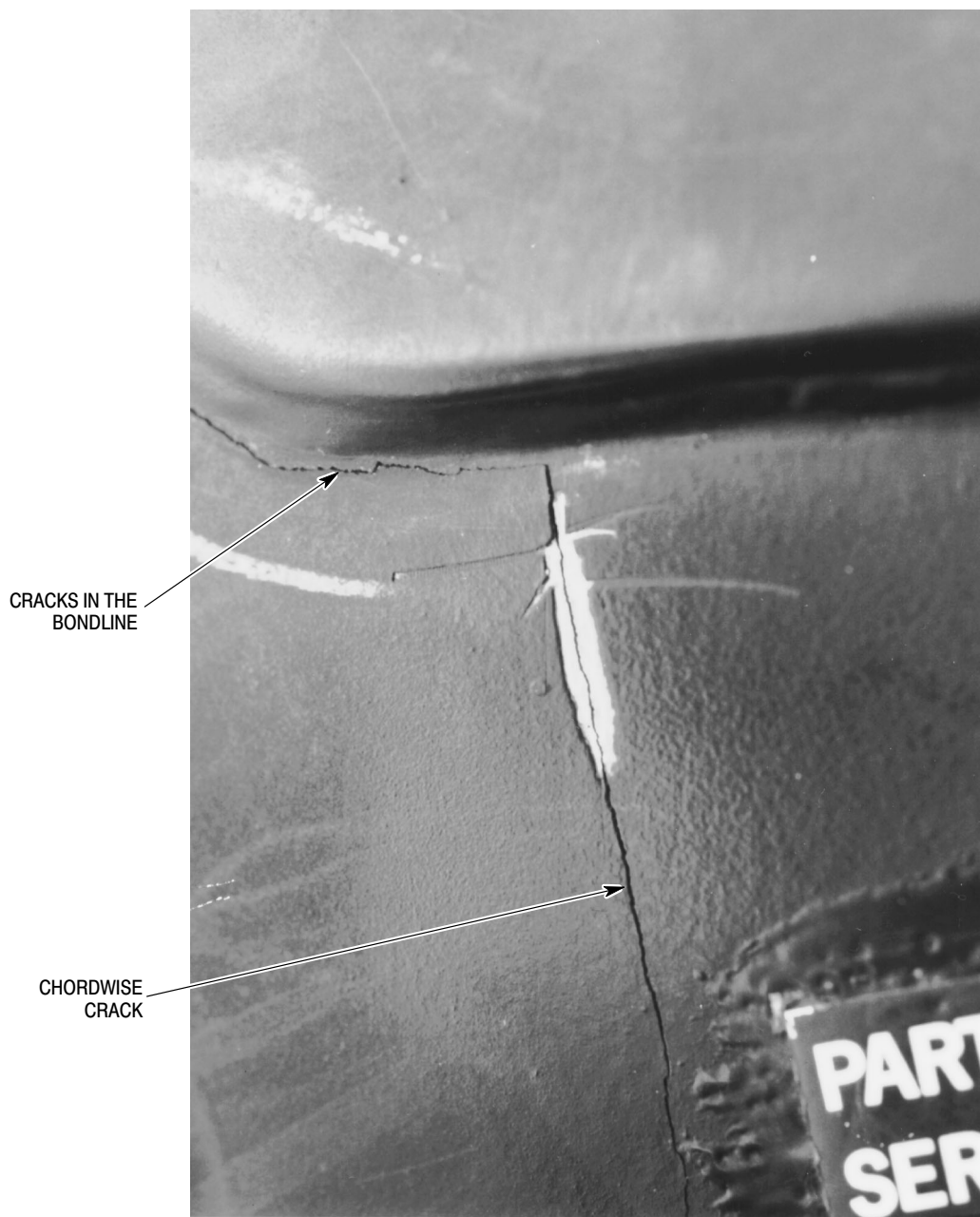


# SERVICE BULLETIN

DATE: 13 JULY 1998

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88-688

**Figure 2. Example of Main Rotor Blade Lower Surface Root End Cracking.**

SB369H-243R3    SB369D-195R3  
SB369E-088R3    SB369F-075R3  
SB500N-015R3    SB600N-007R2



DATE: 13 JULY 1998  
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# SERVICE BULLETIN

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## Compliance Recording Form:

Aircraft Serial Number:

Main Rotor Blade Part No.:

Main Rotor Blade Serial No.:

Total Hours on Blade:

Owner/Operator:

TE Established on this Blade:

Date of Compliance:

Address:

Telephone/FAX No.:

FAX this form to 602-891-6782

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# SERVICE BULLETIN

SB369D-196  
SB369E-089  
SB369F-076  
SB500N-016  
SB600N-012

DATE: 28 APRIL 1998

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## OIL COOLER BRACKET REPLACEMENT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 369D, 369E, 369FF, 500N and 600N Series Helicopters equipped with upgraded main transmissions (P/N 369F5100-503 and -505).

**NOTE:** 369E (Serial Number 0526E and subsequent), 369FF (Serial Number 0115F and subsequent), 500N (Serial Number LN079 and subsequent) and all 600N Series Helicopters were the only aircraft equipped with the upgraded transmissions in production.

#### B. Assembly/Components Affected By This Notice:

Oil Cooler Blower Bracket, P/N 369F5190-1.

#### C. Reason:

Field reports indicate that oil cooler blower brackets are subject to cracking. Failure to comply with the requirements of this Bulletin may result in loss of engine/transmission oil cooling which in turn may cause damage to those components, possible failure of these components and resultant forced landing situation.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to removing affected oil cooler blower brackets and replacing them with an improved design bracket.

#### E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### F. Manpower:

2.5 manhours to remove and replace affected oil cooling blower brackets.

#### G. Time of Compliance

The requirements of this Bulletin shall be accomplished within the next 100 hours of helicopter operation or no later than 30 November 1998.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHS Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Oil Cooler Blower Bracket	369F5194-1	1	MDHS

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SB369D-196  
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SB500N-016  
SB600N-012



DATE: 28 APRIL 1998

# SERVICE BULLETIN

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## **J. Warranty Policy:**

Replacement oil cooler blower brackets will be provided at no cost to the customer and a labor credit up to 2.5 hours will be issued upon request.

## **K. Disposition of Parts Removed**

Return to MDHS.

## **L. Tooling:**

N/A

## **M. Weight and Balance:**

N/A

## **N. Electrical Load Data:**

N/A

## **O. Other Publications Affected:**

Illustrated Parts Catalog, CSP-IPC-4.

## **P. Points of Contact**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

## **2. ACCOMPLISHMENT INSTRUCTIONS**

- (1). Remove 369F5190-1 oil cooler blower bracket per instructions contained in CSP-HMI-2, Section 63-00-00.
- (2). Install 369F5194-1 oil cooler blower bracket per instructions contained in CSP-HMI-2, Section 63-00-00.
- (3). Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

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SB369D-196  
SB369E-089  
SB369F-076  
SB500N-016  
SB600N-012

DATE: 28 APRIL 1998

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# SERVICE BULLETIN

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## OIL COOLER BLOWER BRACKET REPLACEMENT

**PARTS REQUEST FORM:** Please fill in the following information and return to MDHS

for parts/supplies required for compliance. This form may be faxed to MDHS

Warranty and Repair Department at (602) 891-3952.

Aircraft Ser. No. \_\_\_\_\_

Aircraft Total Time \_\_\_\_\_

Date \_\_\_\_\_

Part Ser. No. (if required) \_\_\_\_\_

Ship to:

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# SERVICE BULLETIN

DATE: 23 FEBRUARY 1999

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## ENGINE FUEL FILTER PRESSURE SWITCH REPLACEMENT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) 369D, 369E and 500N Series Helicopters equipped with 369D28144-1 fuel filter pressure switches.

**NOTE:** Only aircraft equipped with C20R/2 SP engines having the 369D28144-1 fuel filter pressure switch installed.

#### B. Assembly/Components Affected By This Notice:

Switch, Engine Fuel Filter Pressure Switch (P/N 369D28144-1, serial number 001 thru 261).

#### C. Reason: Replacement of the fuel filter pressure switch.

Failure to perform the requirements of this Bulletin, or performing the necessary procedures if an impending bypass condition has occurred, may result in a fuel filter by-pass condition without any warning indication which could result in loss of engine power. This condition may result in a precautionary/emergency landing situation.

Additionally, failure to perform the requirements of this Bulletin may result in the requirement to clean the entire engine fuel system due to suspected contamination from a potential bypass filter condition. The C20R/2 SP engine filter bowl has a mechanical impending bypass indicator along with the airframe installed fuel filter pressure switch to indicate fuel filter condition. If the engine filter bowl mechanical impending bypass indicator has been triggered, then the fuel system is suspect for contamination from possible filter bypass.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to replacing the fuel filter pressure switches, serial numbers 001 thru 261.

#### E. Time of Compliance:

The requirements of this Bulletin shall be accomplished at the next 100 hour inspection or no later than 31 July 1999.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

1.0 man-hours.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHI Warranty and Repair Dept.

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# SERVICE BULLETIN

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## J. Warranty Policy:

MDHI will provide replacement switches at no cost to the operator.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Switch, Engine Fuel Filter Pressure Switch	369D28144-3	1	MDHI

## K. Disposition of Parts Removed

Return to MDHI

## L. Tooling:

N/A

## M. Electrical Load Data:

N/A

## N. Other Publications Affected:

N/A

## O. Points of Contact

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

## 2. ACCOMPLISHMENT INSTRUCTIONS



Pressure switch is easily damaged. A slight shearing force applied to half of the pressure switch can cause leakage and/or operational failure. Always grip both halves of the pressure switch hex flats with wrench when loosening or torquing attaching hardware.

Pressure switches are not field repairable.

- (1). Per instructions contained in the Handbook of Maintenance Instructions (CSP-HMI-2, Section 28-00-00) replace 369D28144-1 fuel filter pressure switches with acceptable switches (serial number 262 and subsequent). **NOTE:** Serial number is ink stamped on switch. If unable to determine the serial number, replace the switch with one that is known outside of the affected serial number range.



**Air in the fuel system will cause a power reduction or flameout. Perform a fuel system vacuum leak check and system air bleed after opening fuel system to atmosphere and prior to releasing the helicopter for flight.**

- (2). Bleed fuel system per instructions contained in the Handbook of Maintenance Instructions (CSP-HMI-2, Section 28-00-00)
- (3). Record serial number of installed fuel filter pressure switch and compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

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# SERVICE BULLETIN

DATE: 10 MAY 1999

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## TAIL ROTOR FORK INSPECTION, FOUR-BLADED

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) MD369D and MD369E Series helicopters equipped with four-bladed tail rotor assemblies.

#### B. Assembly/Components Affected By This Notice:

Tail Rotor Fork Assembly, Four-Bladed, P/N 369D21701-21, with the two ridges on each of the long fork arms machined off.

**NOTE:** Tail Rotor Fork Assembly, Four-Bladed, P/N 369D21701-21M, is not affected by this bulletin.

#### C. Reason:

MDHI has discovered that a number of P/N 369D21701-21 tail rotor forks may develop cracks during normal service. Failure to perform the requirements of this Bulletin may result in loss of the tail rotor and directional control of the helicopter.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to inspecting all affected four-bladed tail rotor fork assemblies.

#### E. Time of Compliance:

The requirements of this Bulletin shall be accomplished prior to next flight. After the initial inspection, fork assemblies without ridges must be inspected at each subsequent 50 hours of helicopter operation. Fork assemblies without ridges must be replaced within one year from the date of this Bulletin. The 50 hour recurring inspection and the fork replacement do not apply to forks with ridges.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

0.2 man-hours for initial inspection and 2.0 man-hours for dye penetrant inspection.

#### H. Points of Contact

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

#### I. Interchangeability:

N/A

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## J. Material/Part Availability:

Contact MDHI Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Paint Remover	Turco 5873	A/R	Commercial
Dye Penetrant Inspection Kit	MIL-I-25135	A/R	Commercial
Tail Rotor Fork Assembly, Four Bladed	369D21701-21 or 369D21701-21M	A/R	MDHI

## K. Warranty Policy:

Labor reimbursement as specified in paragraph G.

## L. Disposition of Parts Removed

Return to MDHI.

## M. Weight and Balance:

N/A

## N. Other Publications Affected:

N/A

## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

- (1). Inspect tail rotor fork assembly for ridges on the two long arms which support the outboard tail rotor hub.
- (2). Parts with ridges are acceptable and do not require any further inspection.

**NOTE:** Operators must report to MDHI Field Service the presence or absence of ridges on their tail rotor fork assemblies.

- (3). Parts without ridges must perform the following inspection:



Do not allow paint remover to contact other than the inspection area.

- (a). Chemically remove paint from machined area. Do not use any abrasive materials.
- (b). Perform a dye penetrant inspection in accordance with MIL-I-25135 in area of paint removal. Fork assemblies that show any indications of cracking must be replaced.
- (c). Using a 10X magnifying glass inspect for cracks in area of paint removal. Fork assemblies that show any indications of cracking must be replaced.
- (d). Repeat step (3).(c). at each subsequent 50 hours of helicopter operation until fork assembly has been replaced with an acceptable fork assembly.

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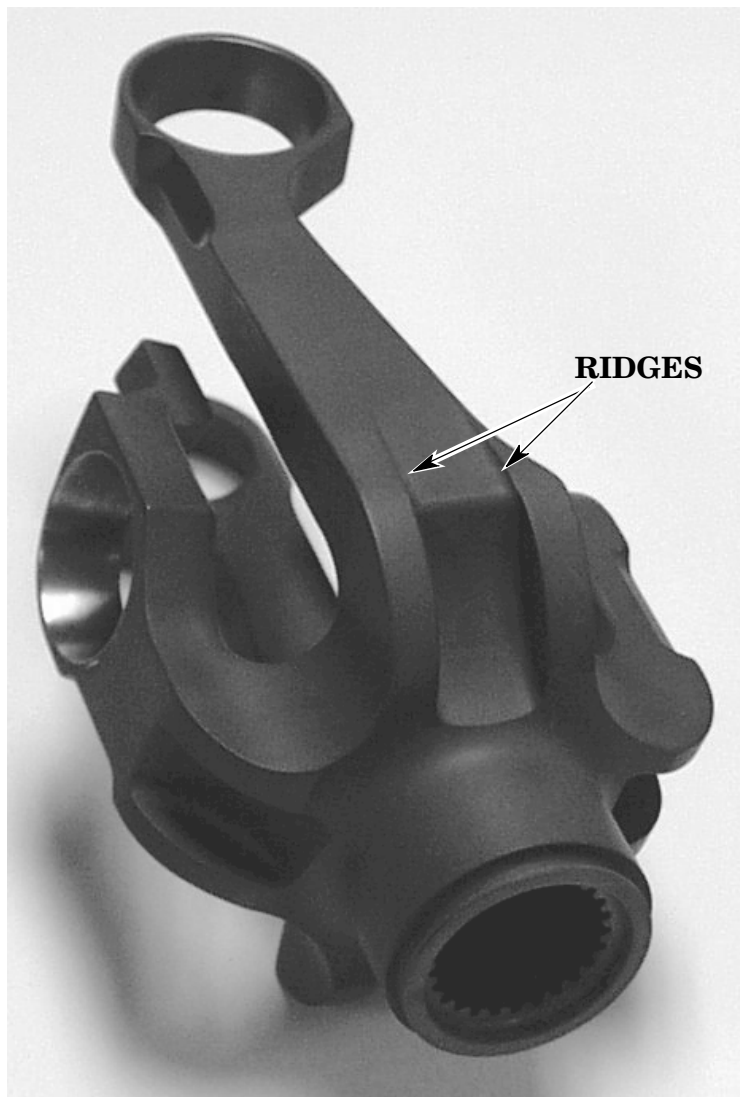
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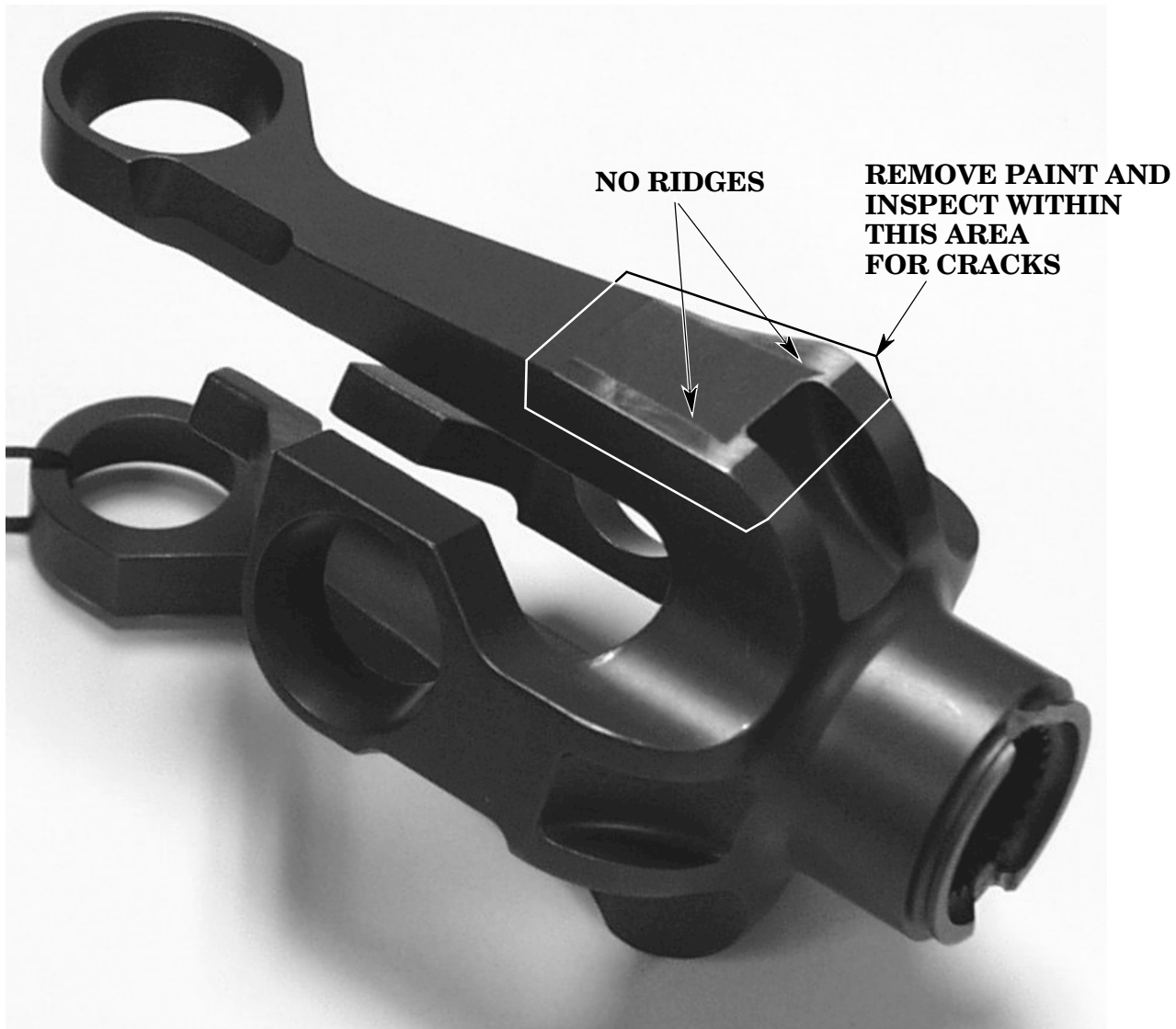
- (4). Record compliance to this Bulletin in the compliance section of the helicopter Log Book.



**Figure 1. Fork Assembly with ridges (Sheet 1 of 2).**

DATE: 10 MAY 1999

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****Figure 1. Fork Assembly without ridges (Sheet 2 of 2).**

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## TAIL ROTOR FORK INSPECTION, FOUR-BLADED

**Bulletin Response Form:** Please fill in the following information, as applicable, and return to MDHI Field Service Department. This form may be faxed to MDHI Field Service Department at (480) 891-6782.

Operator or Company Name:

Name of Contact Person:

Address:

Telephone:

Fax:

Aircraft Ser. No.:

Aircraft Registration Number:

Component Part Number:

Component Serial Number:

Date:

Date of Compliance:

Comments/Information:



# SERVICE BULLETIN

DATE: 11 JANUARY 2000

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## TURBINE OUTLET TEMPERATURE (TOT) INDICATING SYSTEM, ONE TIME INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

500N helicopters, S/N LN001 thru LN088, equipped with analog/digital TOT indicator  
369E helicopters, S/N 001 thru 543, equipped with analog/digital TOT indicator  
369D helicopters equipped with analog/digital TOT indicator.

#### B. Assembly/Components Affected By This Notice:

The TC300 terminal block located over the left-hand engine bay door.  
P1202J connector located in the battery compartment.  
P5 connector located on TOT indicator.

#### C. Reason:

There have been reports from the field of erroneous turbine outlet temperature (TOT) readings on aircraft equipped with analog/digital TOT indicators. To verify TOT system calibration and prevent the possibility of erroneous TOT indications. Failure to perform the requirements of this Bulletin may result in a condition that could damage critical engine components.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to verifying the installation of proper termination hardware in the aircraft TOT wiring circuitry.

#### E. Time of Compliance:

The requirements of this Bulletin shall be accomplished within the next 100 hours of helicopter operation or no later than 15 March 2000.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

Part I: 0.5 man-hours  
Part II: 3.0 man-hours

#### H. Interchangeability:

None

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DATE: 11 JANUARY 2000

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****I. Material/Part Availability:**

Contact MDHI Warranty and Repair Dept.

**NOTE:** Parts are individually packaged. Do not remove from package until you are ready to install.  
Terminal sockets may be impossible to distinguish from each other.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Terminal Lug, Chromel (stud size #8)	1-321897-0	1	MDHI
Terminal Lug, Alumel (stud size #10)	1-321898-0	1	MDHI
Terminal Pin, Chromel	M39029/87-480	1	MDHI
Terminal Pin, Alumel	M39029/87-479	1	MDHI
Terminal Socket, Chromel	M39029/88-492	1	MDHI
Terminal Socket, Alumel	M39029/88-491	1	MDHI
Terminal Socket, Chromel	M39029/32-245	1	MDHI
Terminal Socket, Alumel	M39029/32-244	1	MDHI

TOOLS AND EQUIPMENT	
Nomenclature	Source
Crimping tool P/N 46673-L (for terminal lugs)	AMP Inc. 441 Friendship Rd. Harrisburg, PA 17111 Phone: (717) 564-0100 FAX: (717) 986-7575
Crimping tool P/N MS22520/1-01	Daniels Manufacturing Corp. 526 Thorpe Road Orlando, FL 32824 Phone: (407) 855-6161 FAX: (407) 855-6884
Positioner P/N MS22520/1-02 (for M39029/10-140, -141 sockets)	Daniels
Positioner P/N MS22520/1-04 (for M39029/88-491, -492 sockets, and M39029/87-479, -480 pins)	Daniels
Thermocouple tester     Fluke, Model No. 714	Fluke Corp. P.O. Box 9090 Everett, WA 98206 Phone: (425) 347-6100 FAX: (425) 356-5116

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TOOLS AND EQUIPMENT (Cont.)	
Nomenclature	Source
Omega, Model No. CL-307A-K	OMEGA Engineering Inc. One Omega Drive, Box 4047 Stanford, CT 06907-0047 Phone: (203) 359-1660 FAX: (203) 359-7700
Barfield, Model No. TT-1000A	Barfield Instrument Corp. P.O. Box 025367 Miami, FL 33102 Phone: (305) 871-3900 FAX: (305) 871-5629

## J. Warranty Policy:

Parts will be provided at no cost to the operators. Tools will not be provided by MD Helicopters. MD Helicopters will compensate operators for labor, via a spares credit, not to exceed three (3) hours.

## K. Weight and Balance:

N/A

## L. Other Publications Affected:

Latest revision of applicable Rolls Royce Allison Operation and Maintenance Manual.

## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Part I

- (1). Disconnect the engine thermocouple wire harness at the TC300 terminal block located over the left-hand engine compartment door.
- (2). Connect tester (Ref. Figure 1) to TC300.
  - (a). Connect tester wire to #8 stud on TC300 (white chromel wire) (yellow lead for Fluke and Omega, red for Barfield).
  - (b). Connect tester wire to #10 stud on TC300 (green alumel wire) (red lead for Fluke and Omega, black for Barfield).



For Omega and Fluke testers, do not force lead into tester, one lead prong of plug is larger than the other, damage to tester connection will occur.

- (c). Connect lead to tester.
- (3). Set power switch to source for Omega and Fluke or ON position for Barfield.
- (4). Set indicator to temperatures in Table 1.
- (5). Turn on aircraft electrical power.

**NOTE:** TOT indicator requires approximately five seconds to reset internal circuitry.

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- (6). Verify TOT gauge indicates same as tester, within tolerance (Ref. Table 1).
  - (a). If TOT indicator matches temperatures in Table 1, no further action is required.
  - (b). If TOT indicator does not match temperatures in Table 1;
    - 1). Refer to applicable Rolls Royce Allison Operation and Maintenance Manual for possible maintenance actions, if TOT gauge indicates 30° lower than tester.
    - 2). Perform Part II of this service bulletin.
- (7). Turn off aircraft electrical power.
- (8). Set source switch to off position.
- (9). Disconnect tester from TC300.
- (10). Reconnect engine thermocouple wire harness to TC300 terminal block.
- (11). Record compliance to the Service Bulletin in the Compliance Record section of the helicopter Log Book.

**Table 1. TOT System Test**

Tester Setting (°C)	Indicator Reading (°C)
700°	700° ±10°
725°	725° ±10°
752°	752° ±10°
810°	810° ±10°

## **B. Part II**

**NOTE:** Terminal lugs and connector pins and sockets must be crimped on, no soldering allowed.

- (1). Disconnect the airframe thermocouple wire harness from the TC300 terminal block.
- (2). Using a magnet, verify that the terminal attached to the Chromel wire (white jacket) is not attracted to the magnet and that the terminal is silver (not gold) in color.
- (3). Using a magnet, verify that the terminal attached to the Alumel wire (green jacket) is attracted to the magnet and that the terminal is silver (not gold) in color.
- (4). If either is discrepant, replace the terminal lug(s) with the correct terminal lug(s).
- (5). Reconnect the airframe thermocouple wire harness to the TC300 terminal block.
- (6). Disconnect P1202 from J1202 in battery compartment.
- (7). Remove pins K and N from P1202.
- (8). Using a magnet, verify that pin N is magnetic and pin K is not magnetic and that the pins are silver (not gold) in color.
- (9). If either is discrepant, replace the pin(s) with the correct pin(s).
- (10). Reinstall pins in P1202.
- (11). Remove and replace sockets K and N from J1202.

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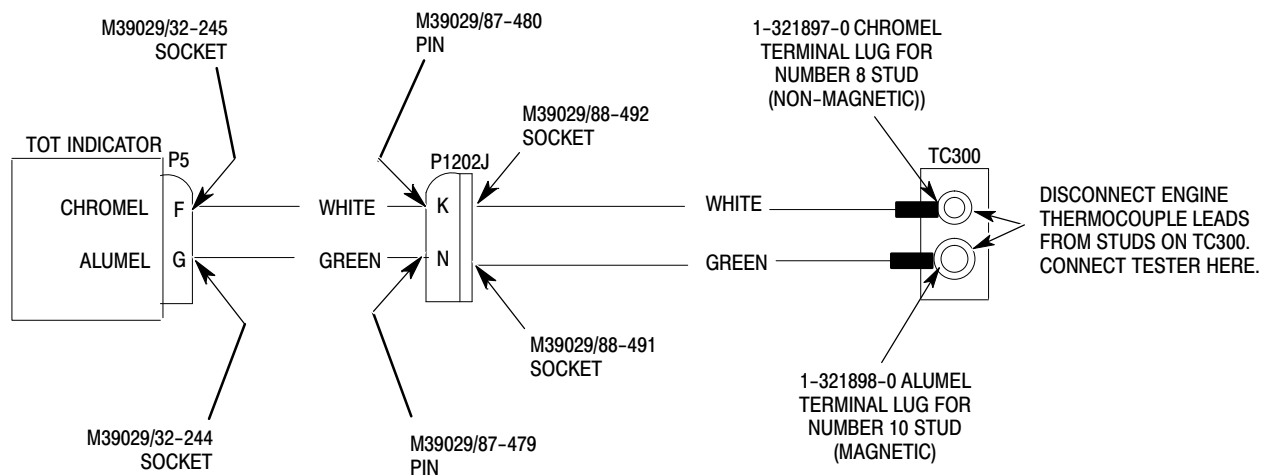
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**MANDATORY**

- (12). Reconnect P1202 to J1202.
- (13). Disconnect P5 from TOT indicator.
- (14). Remove and replace sockets F and G from P5.
- (15). Reconnect P5 to TOT indicator.
- (16). Perform Part I of this bulletin again.

**NOTE:** If TOT indicating system fails again, replace the indicator and re-test the system.

- (17). After TOT system passes test, record compliance to the Service Bulletin in the Compliance Record section of the helicopter Log Book.



88-773-1

**Figure 1. TOT Wire Harness Termination Verification**

### 3. DISPOSITION OF PARTS REMOVED

Return indicators to MDHI for disposition.

**NOTE:** If instrument was not supplied by MDHI, return to vendor for disposition.

### 4. POINTS OF CONTACT

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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DATE: 11 JANUARY 2000

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## Compliance Recording Form

**Customer/Operator Name**

---

**Aircraft Serial No.**

---

**Helicopter Total Time**

---

**Date of Compliance**

---

**Signature of Person Confirming Compliance**

---

**FAX this form to MDHI (480) 891-6782**

# SERVICE BULLETIN

DATE: 7 APRIL 2000

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## LANDING GEAR STRUT INSPECTION AND FAIRING MODIFICATION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All Model 369A (OH-6A) Helicopters,  
All Model 369H Series Helicopters,  
All Model 369D Helicopters,  
Model 369E Helicopters, serial number 0001 thru 0528,  
Model 369F/FF Helicopters, serial number 0001 thru 0114, 0600 thru 0602, 0700 thru 0702  
Model 500N Helicopters, serial number 001 thru LN-077.

#### B. Assembly/Components Affected By This Notice:

Mid Aft Fairing Assembly (P/N 369H6200-61, -62, standard gear)  
Aft Support Assembly (P/N 369H6200-23, -24) (-23 to be reinstalled on RH side and -24 to be reinstalled on LH side, all configurations)  
Aft Fairing Assembly (P/N 369H92113-91, -92, extended gear)  
Aft Filler Assembly (P/N 369H92113-131, -132, extended gear)  
Aft Fillet Assembly (P/N 369A6200-45, -46, standard gear)  
Aft Fillet Assembly (P/N 369H92113-111, -112, extended gear)

Mid Fwd Fairing Assembly (P/N 369H6200-41, -42, standard gear)  
Fwd Fairing Assembly (P/N 369H92113-81, -82, extended gear)  
Fwd Support Assembly (P/N 369H6200-23, -24) (-23 becomes RH side and -24 becomes LH side)  
Fwd Filler Assembly (P/N 369H92113-121, -122, extended gear)  
Fwd Fillet Assembly (P/N 369A6200-57, -58, standard gear)  
Fwd Fillet Assembly (P/N 369H92113-101, -102, extended gear)

#### C. Reason:

To inspect and clean up rivet hole and provide a convenient means for future inspection. Failure to comply with the requirements of this Bulletin may allow landing gear struts to break which could cause extensive damage to the helicopter.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to exchanging the left and right-hand landing gear fairing support assemblies (leaving the inboard fairing support rivet holes open), inspecting each rivet hole for cracks, and modifying each fairing to allow for future inspection of the rivet holes without removing the fairings.

#### E. Time of Compliance

The requirements of this Bulletin shall be accomplished as parts become available or no later than 31 July 2000.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

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**G. Manpower:**

12.0 Man-hours.

**H. Interchangeability:**

None

**I. Material/Part Availability:**

Contact MDHI Parts Sales Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Rivet	NAS1398B4-1	A/R	MDHI or Commercial
Rivet	MS20470A3-3	A/R	MDHI or Commercial
Rivet	NAS1739B4-1	A/R	MDHI or Commercial
Rivet	NAS1919B04-04 or NAS1919B04S04	A/R	MDHI or Commercial
Washer	AN960KD10L or NAS1149D0332K	A/R	MDHI or Commercial
Nut	MS21042-3	A/R	MDHI or Commercial
Screw	MS24693S272	A/R	MDHI or Commercial
Screw	NAS603-8	A/R	MDHI or Commercial
Screw	NAS603-7	A/R	MDHI or Commercial
Screw	NAS603-6	A/R	MDHI or Commercial
Nut-Clips	A1133-4-3	A/R	MDHI or Commercial
Plug, Button	HS4248-C56	4	Commercial
Chemical Coating	Iridite 14-2 Al-Coat Alodine 1201	A/R	Richardson Co. Allied-Kelite Products Division 2400 E. Devon Ave Des Plaines, IL
Adhesive	Scotch-Weld EC1838 (Part A & B) (RM002214)	A/R	MDHI or 3M Co Bldg. 223-N 3M Center St. Paul MN 55155-1000 (612) 733-1110

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## **J. Warranty Policy:**

In accordance with the existing warranty policy.

## **K. Disposition of Parts Removed**

Return to MD Helicopters, Inc. (MDHI) Warranty and Repair Dept.

## **L. Tooling:**

N/A

## **M. Weight and Balance:**

N/A

## **N. Electrical Load Data:**

N/A

## **O. Other Publications Affected:**

Basic Handbook of Maintenance Instructions (CSP-HMI-2 or CSP-H-2), Illustrated Parts Catalog (CSP-IPC-4 or CSP-H-7).

## **P. Points of Contact**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

## **2. ACCOMPLISHMENT INSTRUCTIONS**

### **A. Inspect Fairing Support Assemblies**

- (1). Remove all landing gear fairings (CSP-HMI-2, Section 32-10-00 or CSP-H-2, Section 6).
- (2). Inspect each fairing support assembly and note number and location of rivets attaching support assembly to landing gear strut.
  - (a). If three rivets (forward, aft and inboard) are present, continue with rework instructions below.
  - (b). If only two rivets (forward and aft) are present, fairing modification is not required. Reinstall fairings and record compliance with this Bulletin in Compliance Record section of helicopter Log Book.

**NOTE:** Landing Gear Fairing Fillets that have already been modified by procedures in the Handbook of Maintenance Instructions may not have to accomplish some steps in this Bulletin.

### **B. Rework Aft Landing Gear Assemblies**

**NOTE:** Refer to CSP-HMI-2 and CSP-IPC-4, Section 32-10-00, or CSP-H-2 and CSP-H-7 for illustrations and part number callouts and Figure 1 and Figure 2 for location of inspection hole and fairing/fillet rework/installation.

- (1). Remove applicable aft fillet assembly (P/N 369A6200-45, -46, 369H92113-111 & -112). Remove rivets.

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- (2). Remove 369H6200-23 and -24 support assemblies.
- (3). Clean and dye penetrant inspect 0.125 inch (3.18 mm) diameter hole in inboard surface of 369H6001-31, -32, -51, or -52 strut assemblies as shown in CSP-IPC-4, Section 32-10-00 and Figure 1.
- (4). If a crack is found, replace strut assembly. If no crack is found, continue with rework.
- (5). Ream hole to 0.132 inch (3.35 mm) diameter to provide smooth (63 RMS) surface. Leave hole open and apply chemical coating to bare metal.
- (6). Drill 0.87 inch (22.09 mm) diameter hole through aft fairing in line with 0.132 inch (3.35 mm) diameter hole in strut as shown in Figure 1.
- (7). Seal exposed edges of composite fairings using adhesive. Touch-up finish to match aircraft finish. Install HS4248-C56 button plug in hole.
- (8). Install 369H6200-23 and/or -24 aft support as required, using existing 0.125 inch (3.35 mm) diameter holes on forward and aft surfaces of strut assembly. Install support using two NAS1919B04-04 rivets.
- (9). Re-install 369H6200-61 and/or -62 aft fairing assembly.
- (10). Re-install 369A6200-45 and -46 aft fillet assemblies using (1) NAS603-7 with (2) AN960KD10L washers (top position) and NAS603-6 screws with (1) AN960KD10L at each of the three bottom positions.
- (11). Re-install 369H92113-91 and/or -92 aft fairing assembly, 369H92113-131 and/or -132 filler assembly.
- (12). Re-install 369H92113-111 and/or -112 aft fillet assembly (extended gear) using (1) NAS603-7 with (2) AN960KD10L washers (top position) and NAS603-6 screws with 1 AN960KD10L at the three bottom positions.
- (13). Install (3) NAS603-8 screws and (3) AN960KD10L washers (both sides) to the 369A6200-73 and -74 guide assembly-fillet.

## **C. Rework Fwd Landing Gear Assemblies**

**NOTE:** Refer to CSP-HMI-2 and CSP-IPC-4, Section 32-10-00, **or CSP-H-2 and CSP-H-7** for illustrations and part number callouts and Figure 1 and Figure 2 for location of inspection hole and fairing/fillet rework/installation.

- (1). Remove 369H92113-101 and -102 fwd fillet assemblies for 369H92113-503 and -504. Remove 369A6200-57 and -58 fwd fillet assemblies for 369H6200-507 and -508. Remove rivets.
- (2). Remove 369H6200-23 and -24 support assemblies.
- (3). Clean and dye penetrant inspect 0.125 inch (3.18 mm) diameter hole in inboard surface of 369H6001-1, -2, -41 or -42 strut assemblies.
- (4). If a crack is found, replace strut assembly as required. If no crack is found, continue with rework.
- (5). Ream hole to 0.132 inch (3.35 mm) diameter. Leave hole open and apply chemical coating to bare metal.

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- (6). Drill 0.87 inch (22.09 mm) diameter hole through fwd fairing assemblies in line with 0.132 inch (3.35 mm) diameter hole in strut.
- (7). Seal exposed edges of composite fwd fairings using adhesive. Touch-up finish to match aircraft finish. Install HS4248-C56 button plug in hole.
- (8). Install 369H6200-23 and -24 fwd supports assemblies using existing 0.125 inch (3.35 mm) diameter holes on forward and aft surfaces of strut assembly. Install support using two NAS1919B04-04 rivets.
- (9). Reinstall applicable 369H6200-41 and -42 and 369H92113-81 and -82 (extended gear) fwd fairing assemblies and 369H92113-121 and -122 (extended gear) fwd filler assemblies using NAS1398B4-1 rivets.
- (10). Install 369A6200-57 and -58, 369H92113-101 and -102 (extended gear) fwd fillet assemblies using (1) NAS603-7 with (2) AN960KD10L washers (top position) and NAS603-6 screws with 1 AN960KD10L at the three bottom positions.
- (11). Install (3) NAS603-8 screws and (3) AN960KD10L washers (both sides) to the 369A6200-73 and -74 guide assembly-fillet.
- (12). Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

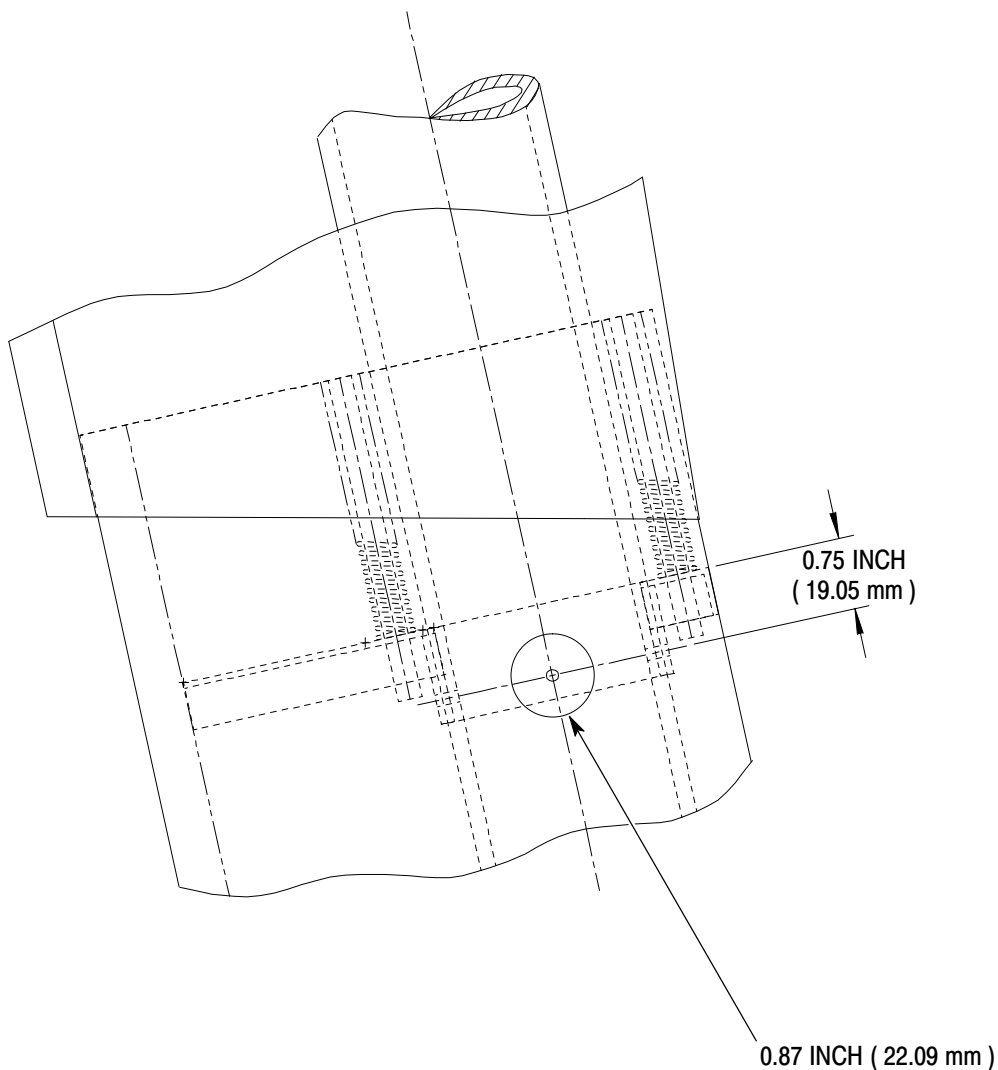
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VIEW LOOKING OUTBOARD NORMAL TO  
FUSELAGE CONTOUR AT CENTERLINE OF STRUT  
LH SIDE SHOWN. RH SIDE OPP  
BOTH AFT AND FWD

88-762

**Figure 1. Landing Gear Strut Inspection Hole**

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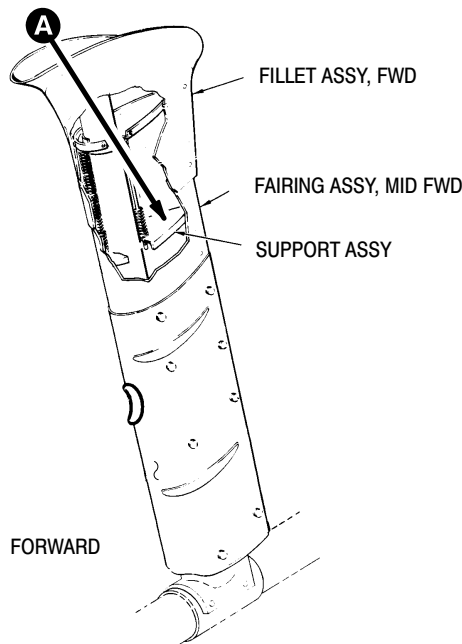
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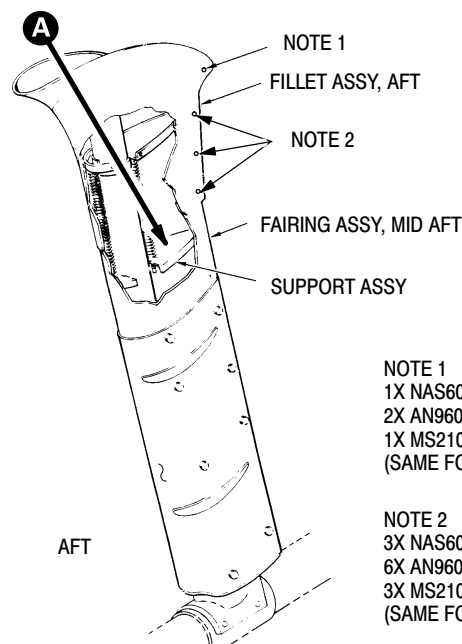
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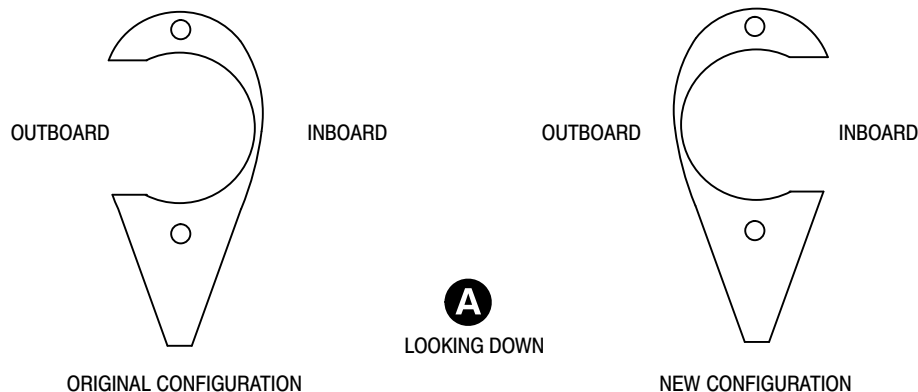
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Mid Fwd Fairing Assembly (P/N 369H6200-41, -42, std gear)  
Fwd Fairing Assembly (P/N 369H92113-81, -82, extended gear)  
Support Assembly (P/N 369H6200-23, -24, std & extended)  
Fwd Filler Assembly (P/N 369H92113-121, -122, extended gear)  
Fwd Fillet Assembly (P/N 369A6200-57, -58, std gear)  
Fwd Fillet Assembly (P/N 369H92113-101, -102, extended gear)



Mid Aft Fairing Assembly (P/N 369H6200-61, -62, std gear)  
Aft Fairing Assembly (P/N 369H92113-91, -92, extended gear)  
Support Assembly (P/N 369H6200-23, -24, extended and std gear)  
Aft Filler Assembly (P/N 369H92113-131, -132, extended gear)  
Aft Fillet Assembly (P/N 369A6200-45, -46, std gear)  
Aft Fillet Assembly (P/N 369H92113-111, -112, extended gear)



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**Figure 2. Landing Gear Modification**

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## MAIN ROTOR BLADE ASSEMBLY TORQUE EVENT INSPECTION

\* Supersedes Service Bulletin SB369H-245R1, SB369D-201R1, SB369E-095R1, SB369F-079R1, SB500N-023R1, SB600N-031R1, dated 24 July 2001. This revision adds cross-reference blade information, revises the aircraft affected (369H/HE/HS/HM series helicopters are no longer affected), and adds additional inspection instructions.

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

All 369D/E/F/FF, 500N, and 600N series helicopters . **This is for next rev.**

#### B. Assembly/Components Affected by this Bulletin:

Main Rotor Blade Assembly (P/N 369A1100 BASIC thru -511)

Main Rotor Blade Assembly (P/N 369D21100 BASIC thru -523)

Main Rotor Blade Assembly (P/N 369D21102 BASIC thru -523)

Main Rotor Blade Assembly (P/N 369D21120-501)

- This blade is also known as Helicopter Technology Company (HTC) P/N 500P2100-101 (STC Number SR09074RC) and carries HTC's PMA data plate as well as MDHI's data plate. All references in HTC's Maintenance Manual, HTC-M-001 and HTC's Mandatory Service Bulletin Notice No. 2100-3R3 that pertain to P/N 500P2100-101 pertain to MDHI P/N 369D21120-501, as well. The blades are identical.

Main Rotor Blade Assembly (P/N 369D21121-501)

- This blade is also known as Helicopter Technology Company (HTC) P/N 500P2300-501 (STC Number SR01050LA) and carries HTC's PMA data plate as well as MDHI's data plate. All references in HTC's Maintenance Manual, HTC-M-003 and HTC's Mandatory Service Bulletin Notice No. 2100-3R3 that pertain to P/N 500P2300-501 pertain to MDHI P/N 369D21121-501, as well. The blades are identical.

**NOTE:** HTC's Mandatory Service Bulletin Notice No. 2100-3R3 also pertains to P/N 500P2100 Basic (foreign military helicopters).

Table 1 provides a cross reference of the MDHI and HTC blade part numbers and applicable helicopter model.

**Table 1. Main Rotor Blade Part Numbers and Helicopter Models**

MDHI M/R Blade Part Number	Helicopter Model	HTC M/R Blade Part Number
N/A	Foreign Military	500P2100 Basic
369D21100 Basic thru -523	369D, 369E	N/A
369D21102 Basic thru -523	369FF, 500N, 600N	N/A
369D21120 Basic, -501	369D, 369E	500P2100-101
369D21121 Basic, -501	369FF, 500N, 600N	500P2300-501

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## C. Reason:

Some operators have experienced cracking of main rotor blades. These cracked blades have been associated with a high number of torque events/external lifts per hour which exceed the original design fatigue spectrum. This bulletin references criteria to assist operators in understanding their level of usage, the impact of that usage on the main rotor blade life and the corresponding inspections required to locate cracks that might occur. Failure to comply with this bulletin may result in the loss of a main rotor blade.

## D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to performing the main rotor blade torque event inspection and determining an inspection interval.

## E. Time of Compliance:

This Bulletin shall be accomplished at the next 100-Hour inspection, or no later than 90 days after the issue date of this Bulletin.

## F. FAA Approval:

The design engineering aspects of this Bulletin have been shown to comply with the applicable Federal Aviation Regulations, and are FAA Approved.

## G. Warranty Policy:

N/A

## H. Disposition of Parts Removed:

Scrap

## I. Other Publications Affected:

Handbook of Maintenance Instructions (CSP-HMI-2), Revision 34 dated 21 August 2003, TR03-004, 9 January 2004 or later.  
Rotorcraft Log Book (CSP-RLB), Revision 4 dated 31 May 2002 or later.

## J. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

## 2. ACCOMPLISHMENT INSTRUCTIONS:

### A. Preparation

- (1). Review the definition of a Torque Event (TE) (Ref. CSP-HMI-2 Section 04-00-00, Torque Event (TE)).
- (2). Review Rotorcraft Log Book entries to determine current number of TE accumulated on each main rotor blade. If the current number of TE cannot be reliably determined, 13,720 TE shall be used.
- (3). Record current number of TE accumulated on each main rotor blade in Rotorcraft Log Book. Continue to record the number of TE accumulated (actual usage) throughout the life of the main rotor blades.

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## B. Inspection

- (1). Determine the main rotor blade TE inspection interval, using current number of TE (Ref. CSP-HMI-2, Section 04-00-00, Table 1. Airworthiness Limitations Component Mandatory Replacement Schedule).
- (2). Inspect main rotor blades at the required interval (Ref. CSP-HMI-2, Section 62-10-00, Main Rotor Blade Torque Event Inspection), to include the following.

### NOTE:

- A record of TEs must be kept (Ref. CSP-HMI-2, Section 04-00-00, Table 1, Airworthiness Limitations Component Mandatory Replacement Schedule).
- It is recommended to paint the inboard 24 inches (not to be exceeded) of the blade gloss white to aid in crack detectability. If this is done, all blades must be painted alike and re-balanced. (Ref. CSP-HMI-2, Section 20-30-00, Main Rotor Blade Painting.)

(Ref. Figure 1)

- (3). When inspecting bottom side of blade, using bright light and 10x magnifying glass, inspect for chordwise cracks protruding from under root fitting and doubler.

## 3. COMPLIANCE RECORD

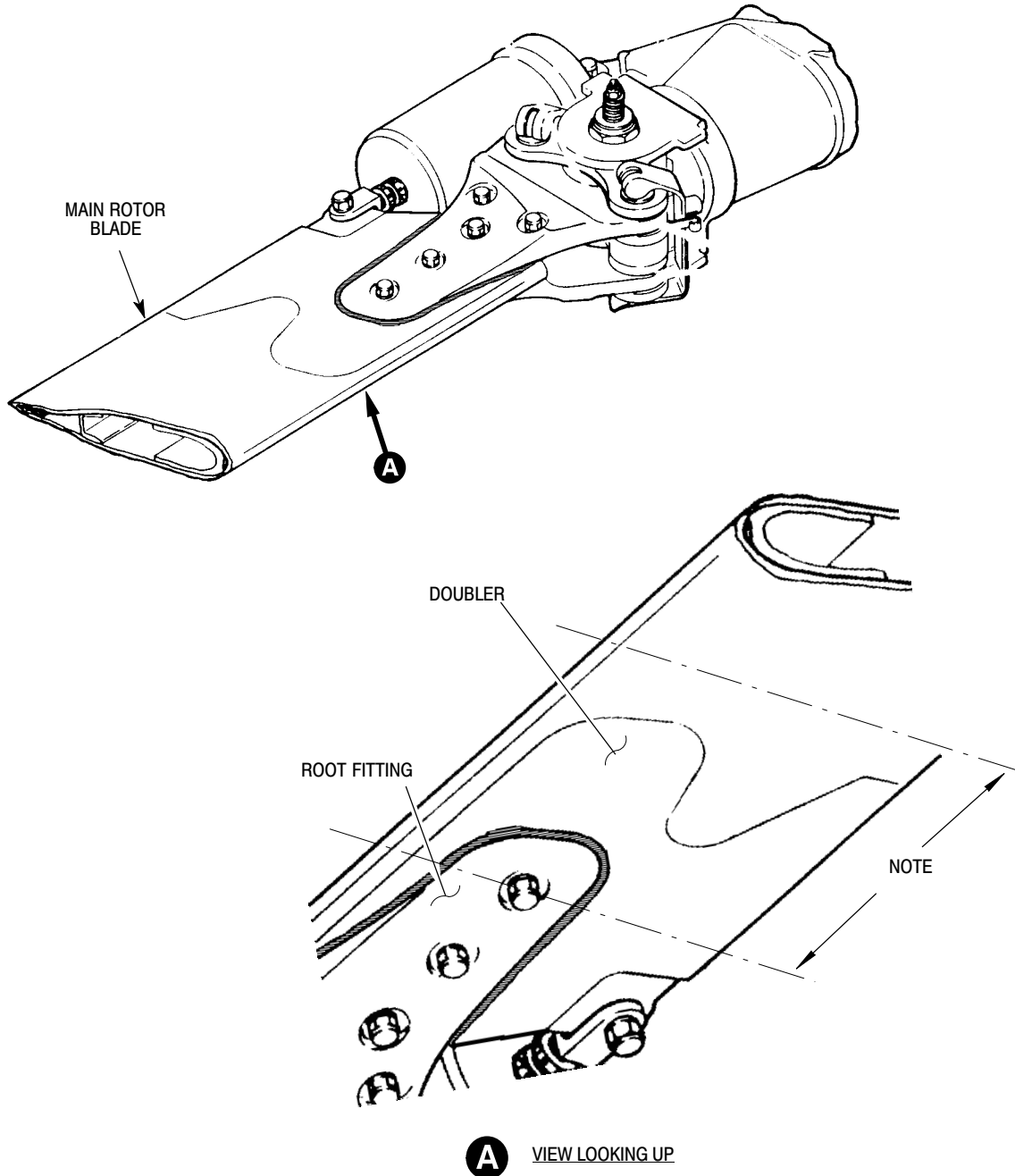
Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

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**NOTE:**  
USING BRIGHT LIGHT AND 10X MAGNIFYING GLASS, INSPECT FOR CHORDWISE CRACKS PROTRUDING FROM UNDER ROOT FITTING AND DOUBLER.

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**Figure 1. Main Rotor Blade Torque Event Inspection**

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## MAIN TRANSMISSION BONDING JUMPER INSPECTION AND REWORK

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

All Model 369D Helicopters\*  
Model 369E Helicopters, serial number 0001 thru 0562\*  
Model 369F/FF Helicopters, serial number 0001 thru 0144\*  
Model 500N Helicopters, serial number LN001 thru LN097\*  
Model 600N Helicopters, serial number RN003 thru RN066\*.

\*Equipped with upgraded main rotor transmission, P/N 369F5100-501, -503, -505. -507.

#### B. Assembly/Components Affected by this Bulletin:

Upgraded Main Rotor Transmission (P/N 369F5100-501, -503, -505. -507).

#### C. Reason:

Some helicopters equipped with the upgraded main rotor transmission may not have a bonding jumper installed between the transmission and the helicopter structure.

Failure to comply with this Bulletin may result in an insufficient ground path for Electromagnetic Interference (EMI) and High Intensity Radiated Fields (HIRF) potential, causing radio or other electrical equipment interference.

#### D. Description:

This Bulletin contains inspection instructions to determine if a jumper is installed between the main rotor transmission and the helicopter structure and rework instructions to install a jumper, if required.

#### E. FAA Approval:

The design engineering aspects of this Bulletin have been shown to comply with the applicable Federal Aviation Regulations, and are FAA Approved.

#### F. Manpower:

0.5 man-hour

#### G. Time of Compliance:

This Bulletin shall be accomplished at the next annual inspection or no later than 03 December 2003, whichever occurs first.

#### H. Interchangeability:

N/A

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## I. Material/Part Availability:

The parts listed below are included in Kit (P/N SBK-006). Contact MDHI Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Jumper Assembly	369A7719-19 or MHS5509-06DD	1	MDHI
Screw	NAS604-14P	1	MDHI
Nut	MS35650-3255	1	MDHI
Washer	MS35338-44	1	MDHI
Nut	MS21043-4	1	MDHI
Washer	NAS1149D0416J	3	MDHI

## J. Warranty Policy:

MDHI Warranty and Repair Department will provide parts at no cost to the operator.

## K. Tooling:

N/A

## L. Weight and Balance:

N/A

## M. Other Publications Affected:

Handbook of Maintenance Instructions (CSP-HMI-2).  
Illustrated Parts Catalog (CSP-IPC-4).

## N. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

## 2. ACCOMPLISHMENT INSTRUCTIONS:

(Ref. Figure 1)

### A. Inspection Procedure

- (1). Inspect for a jumper connected between the tach generator/cover and Station 124.00 canted frame.
- (2). If jumper is present, no further action is required.
- (3). If no jumper is present, perform Rework Instructions below.

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## **B. Rework Instructions**

- (1). Remove and retain lower outboard nut and washer from tach generator/cover mounting stud.
- (2). Prepare surface of tach generator/cover mounting flange and existing hole in Station 124.00 canted frame for electrical bond (Ref CSP-HMI-3, Section 96-00-00, Maintenance of Electrical Bonding Connections).
- (3). Install one end of jumper on tach generator/cover mounting stud and secure with retained nut and washer.
- (4). Attach other end of jumper to Station 124 canted frame with screw, washers and nuts.
- (5). Seal both jumper connections (Ref CSP-HMI-3, Section 96-00-00, Maintenance of Electrical Bonding Connections).

## **3. IDENTIFICATION:**

N/A

## **4. DISPOSITION OF PARTS REMOVED:**

N/A

## **5. COMPLIANCE RECORD**

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

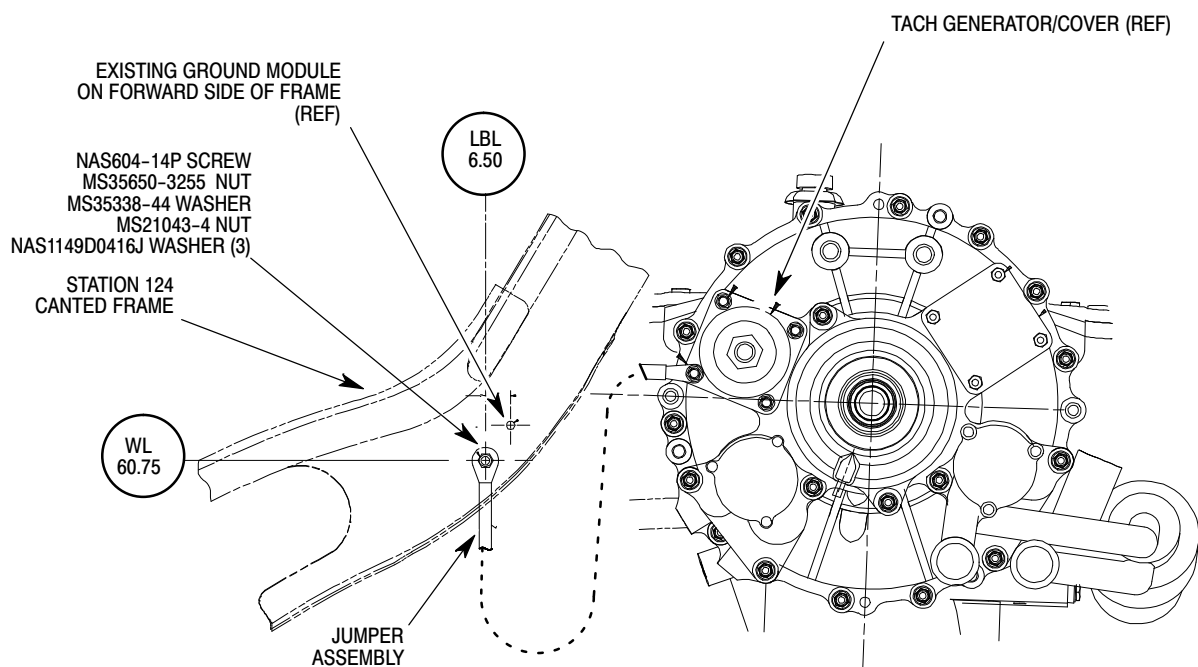
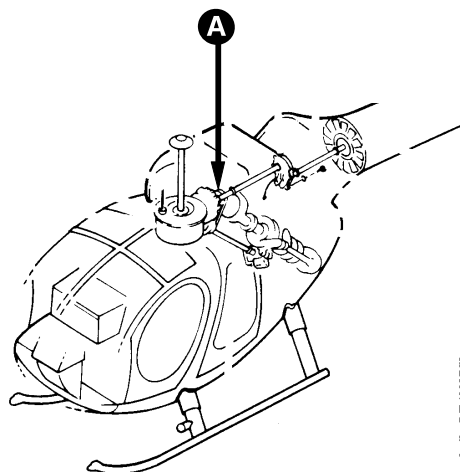
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**A**

LOOKING FORWARD

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## Figure 1. Jumper Installation

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## TAIL ROTOR BLADE ABRASION STRIP TAP TEST AND MODIFICATION

\* Supersedes SB369H-246, SB369D-203, SB369E-097, SB369F-082, dated 5 January 2006.  
This revision adds additional tail rotor blade assemblies.

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) Model 369A, including the OH-6A, 369H, 369HE, 369HS, 369HM, 369D, 369E, 369F and 369FF helicopters equipped with the affected tail rotor blades not modified per Part 2 of this Bulletin.

#### B. Assembly/Components Affected by this Bulletin:

Tail Rotor Blade Assy, MDHI P/N 369D21640-501, -503 and -505  
(Helicopter Technology Co - HTC P/N 500P3100-101 and -103)

Tail Rotor Blade Assy, MDHI P/N 369D21641-501, -503 and -505  
(Helicopter Technology Co - HTC P/N 500P3100-301 and -303)

Tail Rotor Blade Assy, MDHI P/N 369D21643-501, -503 and -505  
(Helicopter Technology Co - HTC P/N 500P3300-501 and -503)

Tail Rotor Blade Assy, MDHI P/N 369D21642-501, -503 and -505  
(Helicopter Technology Co - HTC P/N 500P3500-701 and -703)

#### C. Reason:

MDHI has received a report of an abrasion strip separating from a tail rotor blade.

Failure to comply with the requirements of this Bulletin may result in dis-bond or delamination of the tail rotor abrasion strip which could result in significant vibration, loss of the tail rotor, and ultimately loss of directional control.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to periodic inspection of the tail rotor blade abrasion strip to skin bond integrity (Part 1) and modification of the tail rotor blade by HTC to install a titanium rivet in the tip of the blade (Part 2).

#### E. FAA Approval:

The technical design aspects of this Service Bulletin are FAA Approved.

#### F. Manpower:

**Part 1:** 0.1 man-hour is required for each periodic inspection.

**Part 2:** 2.0 man hours are required to remove, replace and balance the tail rotor blades after modification is accomplished.

#### G. Time of Compliance:

##### **Part 1 Periodic Inspection of Tail Rotor Blade Abrasion Strip:**

Inspection shall be accomplished within 25 flight hours after receipt of this Bulletin and every 25 flight hours thereafter until Part 2 of this Bulletin is accomplished.

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## **Part 2 Tail Rotor Blade Assy Modification:**

This modification shall be accomplished not later than 31 January 2007. Accomplishment of Part 2 constitutes terminating action of the periodic inspection requirements of Part 1 of this Bulletin.

### **H. Interchangeability:**

None

### **I. Material/Part Availability:**

N/A

### **J. Warranty Policy:**

N/A

### **K. Tooling:**

N/A

### **L. Weight and Balance:**

N/A

### **M. Electrical Load Data:**

N/A

### **N. Other Publications Affected:**

N/A

## **2. ACCOMPLISHMENT INSTRUCTIONS:**

### **A. Part 1: Periodic Inspection of Tail Rotor Blade Abrasion Strip**

- (1). Perform a tap test on both upper and lower surfaces of abrasion strip surfaces on each tail rotor blade as follows:
  - (a). The tap test may be conducted using a coin (U.S. 25 cent piece or equivalent) or a small brass, mild steel or aluminum hammer.
  - (b). Lightly tap abrasion strip area as shown (Ref. Figure 1). Tap in a pattern with no more than 0.13 inch (3.30 mm) between taps in any direction.

**NOTE:** A void will produce a tone change. The tone will be lower over the void. A method of “tuning” your ear is to tap from the leading edge of the blade toward the trailing edge. As you move past the aft edge of the abrasion strip and over the skin, you will notice a distinctive lowering of the tone produced.

- (c). Inspect (tap test) abrasion strip to skin bond from inboard end of blade to blade tip in spanwise direction and from leading edge to aft edge of abrasion strip in chord-wise direction.
- (d). Allowable void size in abrasion strip area is 0.2 square inch (5.08 square mm). There shall be 1.0 inch (25.4 mm) between voids in this area.
- (e). Seventy-five percent of the abrasion strip bonded area shall be free from voids, except that no voids shall break out to the edges of the abrasion strip. The upper and lower surfaces shall be considered separately.

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- (2). Remove from service any tail rotor blade that does not meet the above inspection requirements.

## **B. Part 2: Tail Rotor Blade Assy Modification**

- (1). Fielded tail rotor blades are to be returned to the HTC Factory for installation of a titanium rivet in the abrasion strip at the blade tip. Modified tail rotor blades will be identified by the letter "T" painted on the blade root.

**NOTE:** After Part 2 rivet modification is completed, the Tail Rotor Blade assembly is re-balanced on installation; therefore, a mixed configuration is acceptable.

## **3. DISPOSITION OF PARTS REMOVED:**

Ship to HTC for modification.

## **4. COMPLIANCE RECORD:**

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

## **5. POINTS OF CONTACT:**

### **MDHI**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

### **HTC**

Helicopter Technology Company  
Gary Burdorf  
12902 South Broadway  
Los Angeles, CA 90061  
Voice: 310-523-2750  
FAX: 310-523-2745

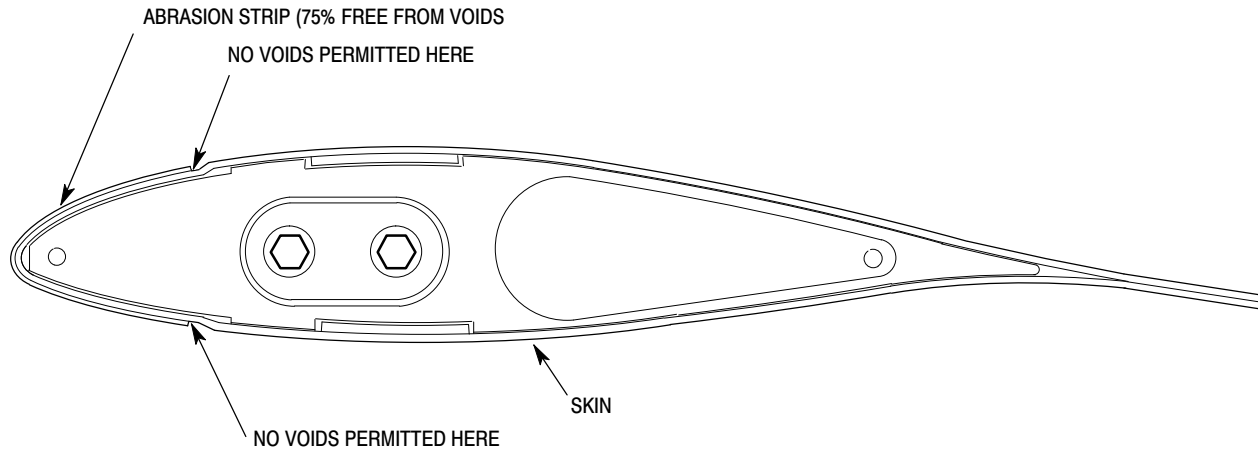
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88-822

**Figure 1. Tail Rotor Blade Abrasion Strip Inspection**



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## TAIL ROTOR BLADE ASSEMBLY, ONE TIME INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

MD Helicopters, Inc. (MDHI) helicopters 369 (Army YOH-6A), 369A (Army OH-6A), 369H, 369HM, 369HS, 369HE, 369D, 369E, 369F, and 369FF, that have affected tail rotor blades installed. This bulletin also applies to all affected part numbers in spares storage.

#### B. Assembly/Components Affected By This Bulletin:

Assy. No/Part No.	Nomenclature	Serial No.	Model	Source
369A1613 (all dash numbers)	Blade Assembly	All	A/H	MDHI
369D21606 (all dash numbers)	Blade Assembly	All	D/FF	MDHI
369D21613 (all dash numbers)	Blade Assembly	All	D/E	MDHI
369D21615 (all dash numbers)	Blade Assembly	All	D/E	MDHI
421-088 (all dash numbers)	Blade Assembly	All	A/D/E	MDHI
369A1620	Rotor Assy, Tail	REF	A/H	MDHI
369D21600	Installation, Rotor Assy, Tail	REF	D	MDHI
369D21600-501	Installation, Rotor Assy, Tail	REF	D/E	MDHI
369D21600-503	Installation, Rotor Assy, Tail	REF	D/E	MDHI
369D21600-505	Installation, Rotor Assy, Tail	REF	FF	MDHI
369D21610	Rotor Assy, Tail (Four Blade)	REF	D	MDHI
369D21610-501	Rotor Assy, Tail (Four Blade)	REF	D/E	MDHI
369D21610-503	Rotor Assy, Tail (Four Blade)	REF	D/E	MDHI
421-089	Installation, Rotor Assy, Tail	REF	A/D/E	MDHI

#### C. Reason:

Reports from the field have shown that there are tail rotor blades in operation with a machining defect. These blades have a sharp transition in the tapered end of the root fitting bore that can cause the tail rotor blade root fitting to fail. A crack in the tail rotor blade root fitting can result in the loss of the tail rotor and loss of directional control of the aircraft.

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## **D. Description:**

Procedures in this bulletin provide owners and operators with information pertaining to inspection of the tail rotor blade assembly. Tail rotor blades must be serviceable per this bulletin, CSP-H-2 Handbook of Maintenance Instructions, CSP-H-5 Component Overhaul Manual CSP-HMI-2 Handbook of Maintenance Instruction and CSP-COM-5 Component Overhaul Manual.

## **E. FAA Approval:**

The technical design aspects of this bulletin are FAA approved.

## **F. Manpower:**

Part 1: 0.1 man-hours.

Part 2: 0.4 man-hours.

Part 3: 2.0 man-hours.

## **G. Time of Compliance**

**Part 1:** Complete the requirements of Part 1 prior to the next flight.

**Part 2:** Complete the requirements of Part 2 before the one time ferry flight.

**Part 3:** Complete the requirements of this bulletin prior to the continuation of normal aircraft operation.

## **H. Interchangeability:**

None

## **I. Material/Part Availability:**

Parts/supplies can be obtained from MDHI Authorized Service Centers and locally from commercial sources.

## **J. Replacement Parts/Labor Policy:**

MDHI will provide Authorized Service Centers not more than 0.1 hours of labor credit (spares credit) to verify the part number of the tail rotor blade assembly installed and 0.4 hours of labor credit (spares credit) to inspect the serviceability of the tail rotor blade assemblies prior to the one time ferry flight.

Blade assemblies with sharp transitions are not acceptable and will be retained by the operator for future disposition from MDHI.

If the affected tail rotor blade part numbers are installed, MDHI will provide an additional 2.0 hours of labor credit (spares credit) for an authorized service center to remove and replace the tail rotor blade assembly and balance the tail rotor assembly.

If there are unserviceable components relative to the criteria in this bulletin, MDHI will provide replacement parts on a pro-rated basis to the customer.

**NOTE:** MDHI will not provide labor credit (spares credit) until the Bulletin Compliance Recording Form is received by the MDHI Field Service Department.

## **K. Tooling:**

N/A

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**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

N/A

**O. Points of Contact**

For further assistance, contact your local MDHI Field Service Representative or contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or (480) 346-6387.  
DATAFAX: (480) 346-6813.

## 2. ACCOMPLISHMENT INSTRUCTIONS

**A. Part 1: Tail Rotor Blade Inspection**

- (1). Check the part number of the blade assembly on the aircraft.
- (2). If the blade assembly part number is not one of the part numbers listed in this bulletin then the blade assembly is serviceable. Complete Part 1 of the Bulletin Compliance Recording Form and submit to MDHI.
- (3). If the blade assembly part number is one of the part numbers listed by this bulletin complete Part 1 of the Bulletin Compliance Recording Form and continue with Parts 2 & 3 of this bulletin.

**B. Part 2: Requirements For One Time Ferry Flight**

- (1). Clean the exterior of the tail rotor blade root fitting with CM819 Kimwipe, moistened with CM217 Isopropyl alcohol.
- (2). Use a bright light to inspect the exterior of the root fitting on the tail rotor blade assembly and check for serviceability of the root fitting (Ref. CSP-H-2 or CSP-HMI-2, Sec. 64-10-00).
- (3). If the root end of the blade assembly is not serviceable per the applicable maintenance manual, the one time ferry flight is not authorized.
- (4). If the root end of the blade assembly is serviceable per the applicable maintenance manual, a one time ferry flight not to exceed 100KTS to an appropriate maintenance facility to perform Part 3 is authorized.
- (5). Complete Part 2 of the Bulletin Compliance Recording Form and continue with Part 3 of this bulletin.

**C. Part 3: Removal, Inspection, Installation And Balancing Of The Tail Rotor Assembly**

- (1). Remove tail rotor, blade assembly from aircraft (Ref. CSP-H-2 or CSP-HMI-2, Sec. 64-10-00, and CSP-H-5 or CSP-COM-5, Sec. 64-20-10, 64-20-20).

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**MANDATORY**

- (2). Remove bushings and tail rotor blade crush washers from tail rotor blade assembly. Tag and identify the bushings and tail rotor blade crush washers to their applicable holes and blade locations.

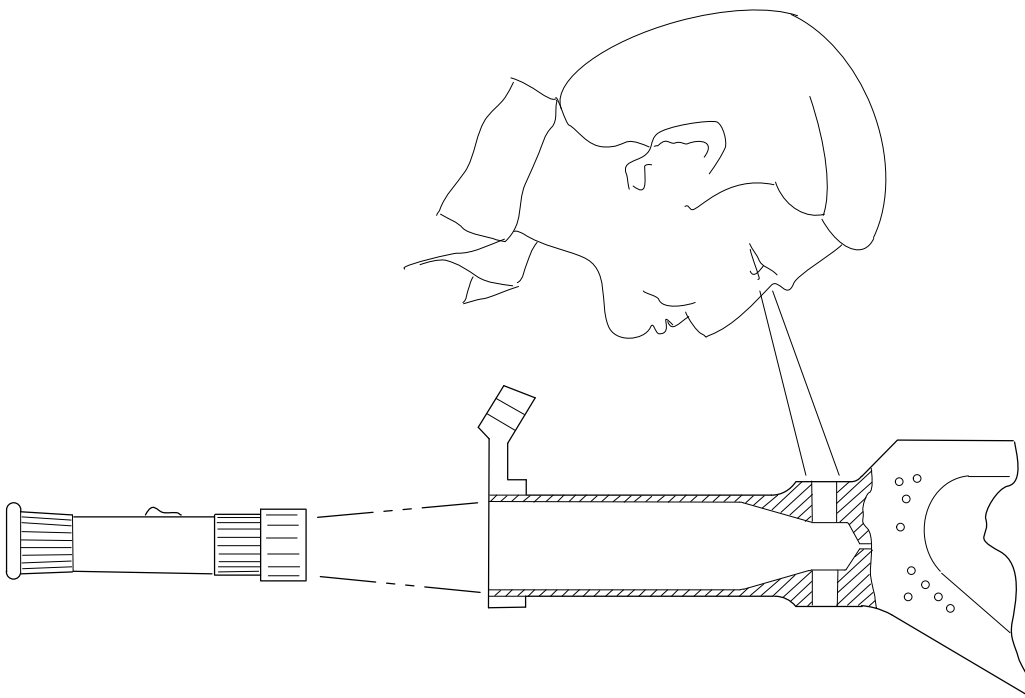
**NOTE:** When installing the same blade on the aircraft, the bushings and tail rotor crush washers can be reused. Bushings and tail rotor blade crush washers must be installed in the same hole from which they were removed (Ref. CSP-H-2 or CSP-HMI-2, Sec. 64-10-00, and CSP-H-5 or CSP-COM-5, Sec. 64-20-10, 64-20-20).

- (3). Clean the internal bore of the tail rotor blade root fitting with CM217 Isopropyl alcohol and CM819 Kimwipe.



Do not fill the blade with alcohol.

- (4). Use a bright light to inspect the bore of the tail rotor blade root fitting (Ref. Figure 1). Make sure the transition from the bore to the tapered end has a smooth radius (Ref. Figure 2).
- (5). A tail rotor blade assembly that is not acceptable will have a sharp transition (Ref. Figure 2)
- (6). Replace all blade assemblies that are missing a smooth radius (Ref. Figure 2).
- (7). Install serviceable blade assembly on aircraft (Ref. CSP-H-2 or CSP-HMI-2, Sec. 64-10-00, and CSP-H-5 or CSP-COM-5, Sec. 64-20-10, 64-20-20).
- (8). Complete Part 3 of the Bulletin Compliance Recording Form and submit to MDHI.



88-789

**Figure 1. Method for Visual Inspection of the Root Fitting**

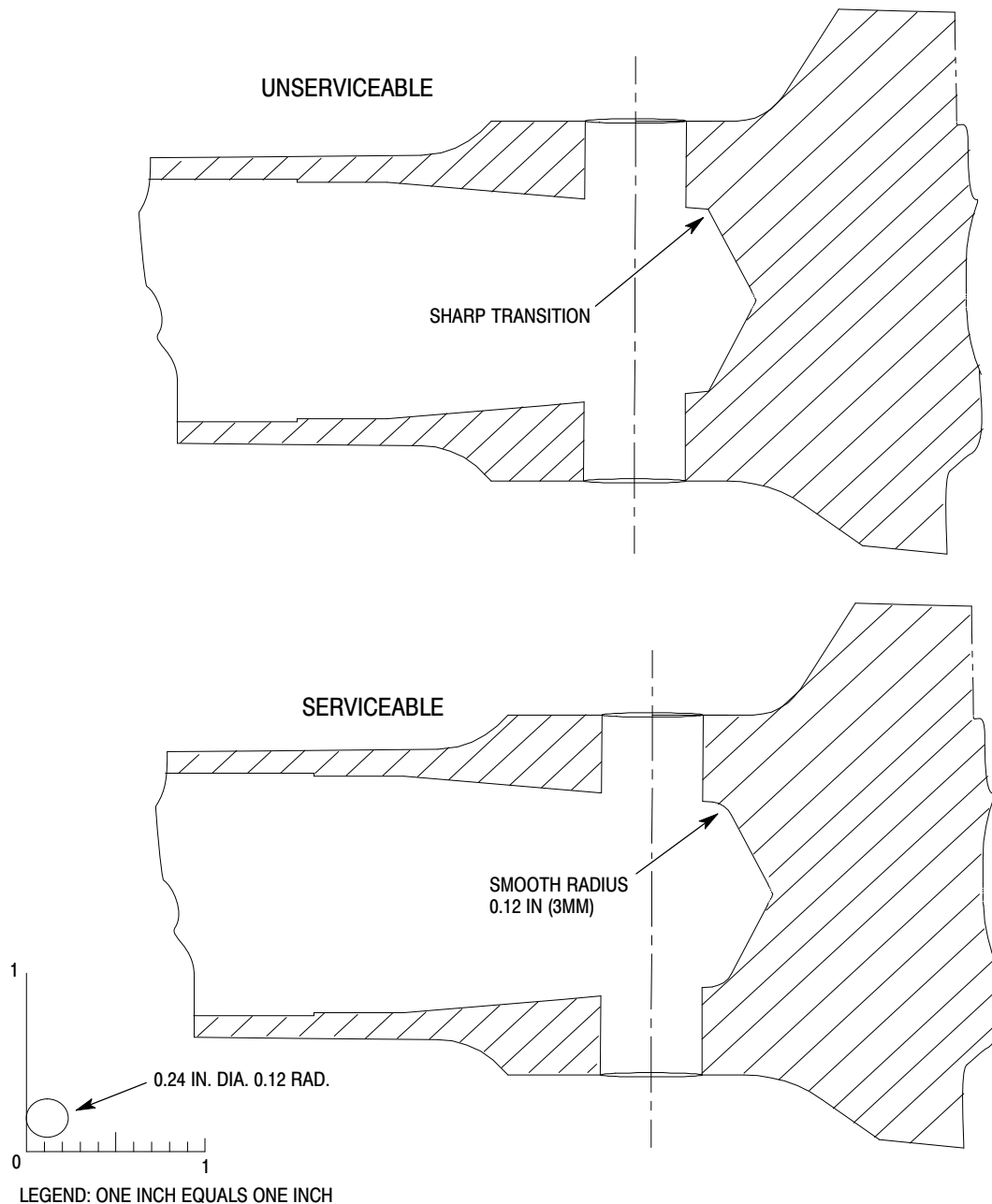
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- NOTE: 1. PITCH BEARING REMOVED FOR CLARITY  
2. THIS DRAWING IS A SCALE REPRESENTATION OF THE T/R BLADE ASSEMBLY  
AND CAN BE USED FOR COMPARISON.

88-790

**Figure 2. Cross Section of Blade Root Fitting**

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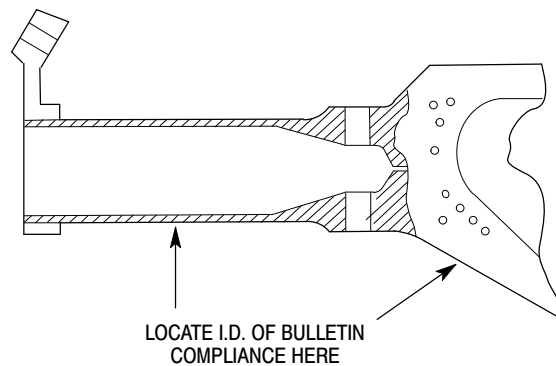
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## 3. IDENTIFICATION

- (1). Upon completion of Part 3 of this service bulletin, identify the serviceable tail rotor blade assembly with the service bulletin number applicable to the model of aircraft (Ref. Figure 3).
- (2). 369A operators identify compliance of this bulletin with “369A 4/XX/07”.
- (3). The identification will be made with CM312 Ink Stamp Permanent on the root end of the blade assembly adjacent to the blade assembly data plate and on the trailing edge of the root fitting (Ref. CSP-H-2 or CSP-HMI-2, Sec. 91-00-00).
- (4). Once the ink stamp has dried, coat the identification marking with CM314 Varnish, Moisture Resistant and allow to cure (Ref. CSP-H-2 or CSP-HMI-2, Sec. 91-00-00).



88-788

**Figure 3. Location of Bulletin Compliance I.D.**

## 4. DISPOSITION OF PARTS REMOVED

Remove parts from service that are not acceptable and retain for future disposition from MDHI.

## 5. COMPLIANCE RECORD

Record compliance of this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.

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## Service Bulletin SB369H-XXX, SB369D-XXX, SB369E-XXX, SB369F-XXX, One Time Inspection of the Tail Rotor Blade Assemblies

FAX completed form to MDHI (480) 346-6813 or  
Email to ServiceEngineering@mdhelicopters.com

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 phone (U.S. and Canada)  
480-346-6387 phone (International)  
480-346-6813 Fax

Attention:

This is to inform you that the Service Bulletin has been complied with as indicated below:

Customer/Operator Name: \_\_\_\_\_

Aircraft Serial No: \_\_\_\_\_

Current Aircraft Registration: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

### **PART 1 Completed (Mandatory)**

Helicopter Total Time: \_\_\_\_\_ Date: \_\_\_\_\_

Part Numbers: \_\_\_\_\_

Serial No. of Parts: \_\_\_\_\_

Time in Service of Parts: \_\_\_\_\_

Address/Location of where work is completed: \_\_\_\_\_

Name, Title and Signature Confirming Compliance: \_\_\_\_\_

### **PART 2 Completed (Circle One)      Yes      No      N/A**

Address/Location of where work is completed: \_\_\_\_\_

Results of Part 2 Inspection: \_\_\_\_\_

Name, Title and Signature Confirming Compliance: \_\_\_\_\_

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**PART 3 Completed (Circle One)**      **Yes**      **No**      **N/A**

Helicopter Total Time: \_\_\_\_\_ Date: \_\_\_\_\_

Part No: \_\_\_\_\_

Serial No. of Part: \_\_\_\_\_

Part Time in Service: \_\_\_\_\_

Address/Location of where work is completed: \_\_\_\_\_

Results of Service Bulletin: \_\_\_\_\_

Name, Title and Signature Confirming Compliance: \_\_\_\_\_



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\* Supersedes service bulletins SB369H-248, SB369D-205, SB369E-100, SB369F-085 and SB500N-039, dated 12 MAY 2008. Revised to change aircraft affected Model 369F/FF Helicopters serial numbers to include serial numbers 0600 thru 0602, 0700 thru 0708.

## OIL COOLER BELT, ONE TIME INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

Models 369H, 369HE, 369HS, 369HM

Model 369D Helicopters

Model 369E Helicopters, serial numbers 0001 thru 0572

Model 369F/FF Helicopters, serial number 0001 thru 0146, 0600 thru 0602, 0700 thru 0708

Model 500N Helicopters, serial number LN001 thru LN103

Helicopters Models that have 369H5648 and 369D25623 oil cooler belts shipped from MD Helicopters Inc. after 03 March 2008 are not affected by this Service Bulletin.

#### B. Assembly/Components Affected By This Bulletin:

Assy. No/Part No.	Nomenclature	Source
369D25610	Fan Assy., Transmission and Coupling	MD Helicopters, Inc.
369D25610-503	Fan Assy., Transmission and Coupling	MD Helicopters, Inc.
369D25610-505	Fan Assy., Transmission and Coupling	MD Helicopters, Inc.
369F5610-501	Fan Assy., Transmission and Coupling	MD Helicopters, Inc.
369D25623	Belt	MD Helicopters, Inc.
369H5610-705	Fan Assy., Transmission and Coupling	MD Helicopters, Inc.
369H5648	Belt	MD Helicopters, Inc.

#### C. Reason:

MD Helicopters, Inc. has found some oil cooler belts which were not manufactured in accordance with specifications. When in operation, these belts may track incorrectly and could result in damage to the belt and surrounding components. Failure to comply with this Bulletin can result in damage to the oil cooler blower assembly, the driven pulley and excessive engine and transmission oil temperatures.

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## **D. Description:**

Procedures in this bulletin provide owners and operators with information pertaining to inspection of the oil cooler belt. Oil cooler belts must be serviceable per this bulletin and CSP-HMI-2 (369D/E/F/500N) or CSP-H-2 (369H Series).

## **E. FAA Approval:**

The technical design aspects of this bulletin are FAA approved.

## **F. Manpower:**

One Time Belt Inspection: 0.5 man-hours.

One Time Belt Replacement: 2.5 man-hours.

## **G. Time of Compliance**

Complete inspection within 50 aircraft hours, the next time the main transmission cover is removed or no later than 15 September 2009; which ever comes first.

## **H. Interchangeability:**

None

## **I. Material/Part Availability:**

Parts/supplies can be obtained procured from MD Helicopters, Inc. Authorized Service Centers.

## **J. Replacement Parts/Labor Policy:**

If the affected oil cooler belt is installed, MD Helicopters, Inc. will provide 0.5 hour for inspection and if the belt needs replacement there will be an additional 2.5 hours for replacement. Total labor credit (spares credit) for an authorized service center is 3.0 hours maximum.

MD Helicopters, Inc. will not provide labor credit (spares credit) until the Bulletin Compliance Recording Form is received by the MD Helicopters, Inc. Field Service Department.

MD Helicopters, Inc. will not provide labor credit (spares credit) for Oil Cooler Belts that are unserviceable because of usual wear.

## **K. Tooling:**

N/A

## **L. Weight and Balance:**

N/A

## **M. Electrical Load Data:**

N/A

## **N. Other Publications Affected:**

CSP-HMI-2 and CSP-H-2

## **O. Points of Contact**

For further assistance, contact your local MD Helicopters, Inc. Field Service Representative or contact the Field Service Department at MD Helicopters, Inc., Mesa, Arizona.

Telephone 1-800-388-3378 or (480) 346-6387.

DATAFAX: (480) 346-6813.

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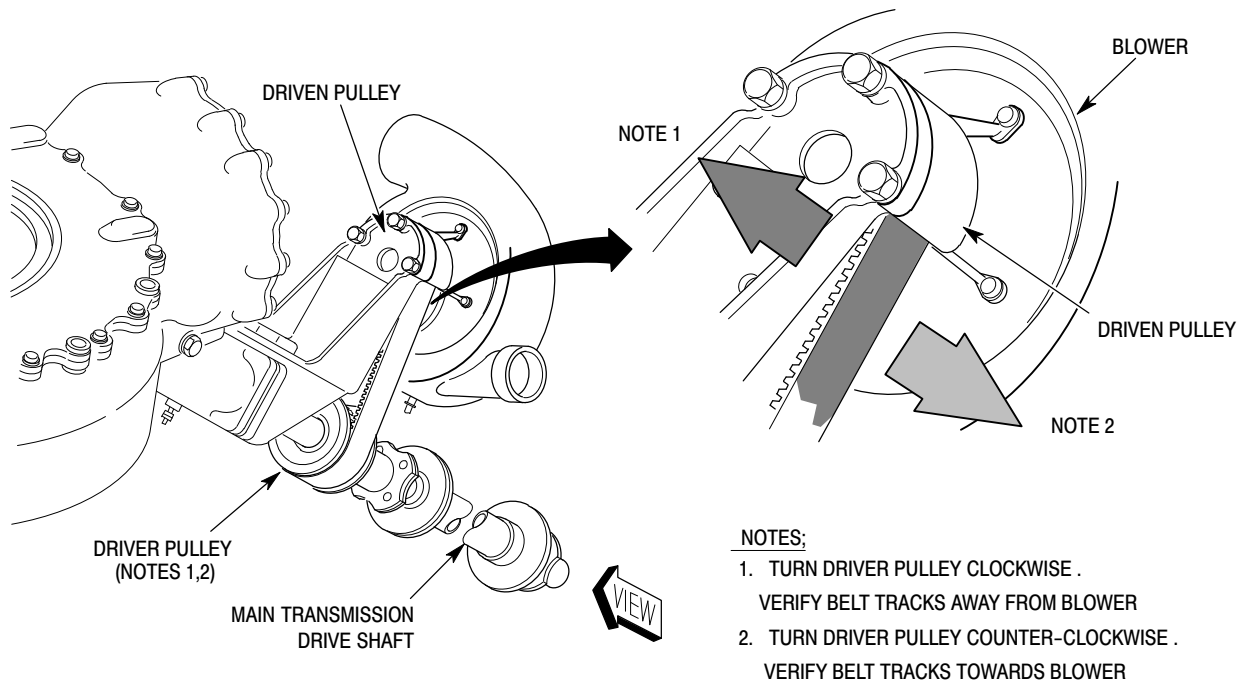
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## 2. ACCOMPLISHMENT INSTRUCTIONS

Ref to Figure 1.

### A. Inspection of the Oil Cooler Belt

- (1). Gain access to the oil cooler blower assembly Ref CSP-HMI-2, Sec 25-30-00 (369D/E/F/500N) or CSP-H-2, Sec 4 (369H Series).
- (2). Rotate the lower driver pulley with your hand in a clockwise direction (as you look at the main rotor transmission input). Make sure the belt tracks axially away from the blower on the upper driven pulley.
- (3). Rotate the lower driver pulley by hand in a counter-clockwise direction. Make sure the belt tracks axially towards the blower on the upper driven pulley.
- (4). If the oil cooler belt does not track correctly, complete Bulletin Compliance Recording Form and go to step B.
- (5). In addition to checking the belt tracking, inspect the condition of the oil cooler belt and make sure it is otherwise serviceable Ref CSP-HMI-2, Sec 63-21-00 (369D/E/F/500N) or CSP-H-2, Sec 9 (369H Series).
- (6). If the belt is serviceable and tracks correctly, no further maintenance action is required. Complete Bulletin Compliance Recording Form and return to MD Helicopters, Inc.



**Figure 1. Belt Tracking**

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## **B. Removal and Replacement of Oil Cooler Belt**

- (1). Gain access to the oil cooler blower assembly Ref CSP-HMI-2, Sec 25-30-00 (369D/E/F/500N) or CSP-H-2, Sec 4 (369H Series).
- (2). Remove oil cooler belt Ref CSP-HMI-2, Sec 63-21-00 (369D/E/F/500N) or CSP-H-2, Sec 9 (369H Series).
- (3). Install serviceable oil cooler belt Ref CSP-HMI-2, Sec 63-21-00 (369D/E/F/500N) or CSP-H-2, Sec 9 (369H Series).
- (4). Install interior trim Ref CSP-HMI-2, Sec 25-30-00 (369D/E/F/500N) or CSP-H-2, Sec 4 (369H Series).

## **3. IDENTIFICATION**

N/A

## **4. DISPOSITION OF PARTS REMOVED**

Scrap belts locally.

## **5. COMPLIANCE RECORD**

Record Compliance with this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book. Return Bulletin Compliance Recording Form to MD Helicopters, Inc.

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SB369H-248R1  
SB369D-205R1  
SB369E-100R1

SB369F-085R1  
SB500N-039R1

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## Bulletin Completed Record

**SB369H-248R1, SB369D-205R1, SB369E-100R1, SB369F-085R1,  
SB500N-039R1,  
One Time Inspection of the Oil Cooler Belt**

FAX this form to MD Helicopters, Inc. (480) 346-6813 or  
Email to ServiceEngineering@mdhelicopters.com

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 phone (U.S. and Canada)  
480-346-6387 phone (International)  
480-346-6813 Fax

Attention:

This is to tell you that this service bulletin has been completed as shown below:

Owner/Operator: \_\_\_\_\_

Aircraft Serial No: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

E-mail address: \_\_\_\_\_

### **Accomplishment Instructions Completed (Mandatory)**

Helicopter Total Time: \_\_\_\_\_ Date: \_\_\_\_\_

Location: \_\_\_\_\_

This bulletin completed by: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

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SB369E-100R1



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## REPLACEMENT OF MOBIL SHC 626 WITH MOBIL AGL

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 369H, 369HE, 369HM, and 369HS helicopter models.

All 369D helicopters.

369E helicopters, serial numbers 0001 thru 0607.

369FF helicopters, serial numbers 0001 thru 0184, 0600 thru 0602, and 0700 thru 0710.

500N helicopters, serial numbers LN001 thru LN109.

600N helicopters, serial numbers RN003 thru RN080.

#### B. Assembly/Components Affected By This Notice:

369D23011-31 Mast Support Pan

369D25300 Tail Rotor (Four-Bladed) Transmission Assembly

369D25300-501 Tail Rotor (Four-Bladed) Transmission Assembly

369D25400 Tail Rotor Transmission Assembly

369D26615 Markings - Model 369D, 369E, 369F Helicopters

369F5175-1 Main Rotor Transmission Oil Usage Decal

500N6615 Model 500N-530N Helicopter Markings

600N6615 Model 600N Markings

#### C. Reason:

ExxonMobil will make Mobil SHC 626 lubrication oil with a new formula. There will be a "NOT FOR AVIATION USE" label on Mobil SHC 626 made with the new formula. Mobil SHC 626 lubrication oil with the label "NOT FOR AVIATION USE" is not approved for use in MDHI rotorcraft. ExxonMobil will make Mobil AGL lubrication oil which is approved for use in all MDHI products that had used the approved Mobil SHC 626. Mobil AGL is the same formula as the approved Mobil SHC 626. Mobil AGL can be mixed with the approved Mobil SHC 626. Current inventories of the approved Mobil SHC 626 can be used until that inventory is gone.

Failure to comply with this bulletin can result in the incorrect use of a lubrication oil (Mobil SHC 626 with the label "NOT FOR AVIATION USE") in the transmission assembly which can cause damage to the transmission assembly.

#### D. Description:

Procedures in this Bulletin give owners and operators information on the introduction and use of Mobil AGL and to remove and replace the old Mobil SHC 626 decals with the new Mobil AGL decals.

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## **E. Time of Compliance:**

The requirements of this bulletin must be completed before the first use of Mobil AGL lubrication oil.

## **F. FAA Approval:**

The technical design aspects of this Bulletin are FAA Approved.

## **G. Manpower:**

Compliance with this bulletin will be approximately:

- 0.75 man-hours for single-engine models
- 0.50 man-hours for single-engine NOTAR models

## **H. Interchangeability:**

None.

## **I. Points of Contact:**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

## **J. Material/Part Availability:**

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Lubrication Oil	Mobil AGL	AR	ExxonMobil Corp. Aviation Lubricants (CAGE Code 53C29) — Commercially Available (ref. NOTE below)
Main Rotor Transmission Oil Usage Decal	369F5175-3	1 or 2	MDHI

**NOTE:** MDHI recommends owners and operators contact their current supplier of Mobil SHC 626 and tell them of their need to purchase Mobil AGL. Additional information for the purchase of Mobil AGL can be found at:

<http://www.exxonmobil.com/lubes/exxonmobil/emal/pages/wheretobuy/wheretobuy.html>

## **K. Warranty Policy:**

N/A

## **L. Disposition of Parts Removed:**

Discard removed Mobil SHC 626 decals and all Mobil SHC 626 decals in spares inventory.

## **M. Tooling:**

N/A

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**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

CSP-D-1 Rotorcraft Flight Manual

CSP-E-1 Rotorcraft Flight Manual

CSP-FF-1 Rotorcraft Flight Manual

CSP-HE/HS-1 Rotorcraft Flight Manual

CSP-520N-1 Rotorcraft Flight Manual

CSP-600N-1 Rotorcraft Flight Manual

CSP-H-2 Basic Handbook of Maintenance Instructions (Basic HMI)

CSP-H-7 Illustrated Parts Catalog

CSP-HMI-2 Basic Handbook of Maintenance Instructions - Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

CSP-COM-5 Component Overhaul Manual

CSP-102 Upgraded Transmission Conversion

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-H-2 Basic Handbook of Maintenance Instructions (Basic HMI)

CSP-H-7 Illustrated Parts Catalog

CSP-HMI-2 Basic Handbook of Maintenance Instructions - Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

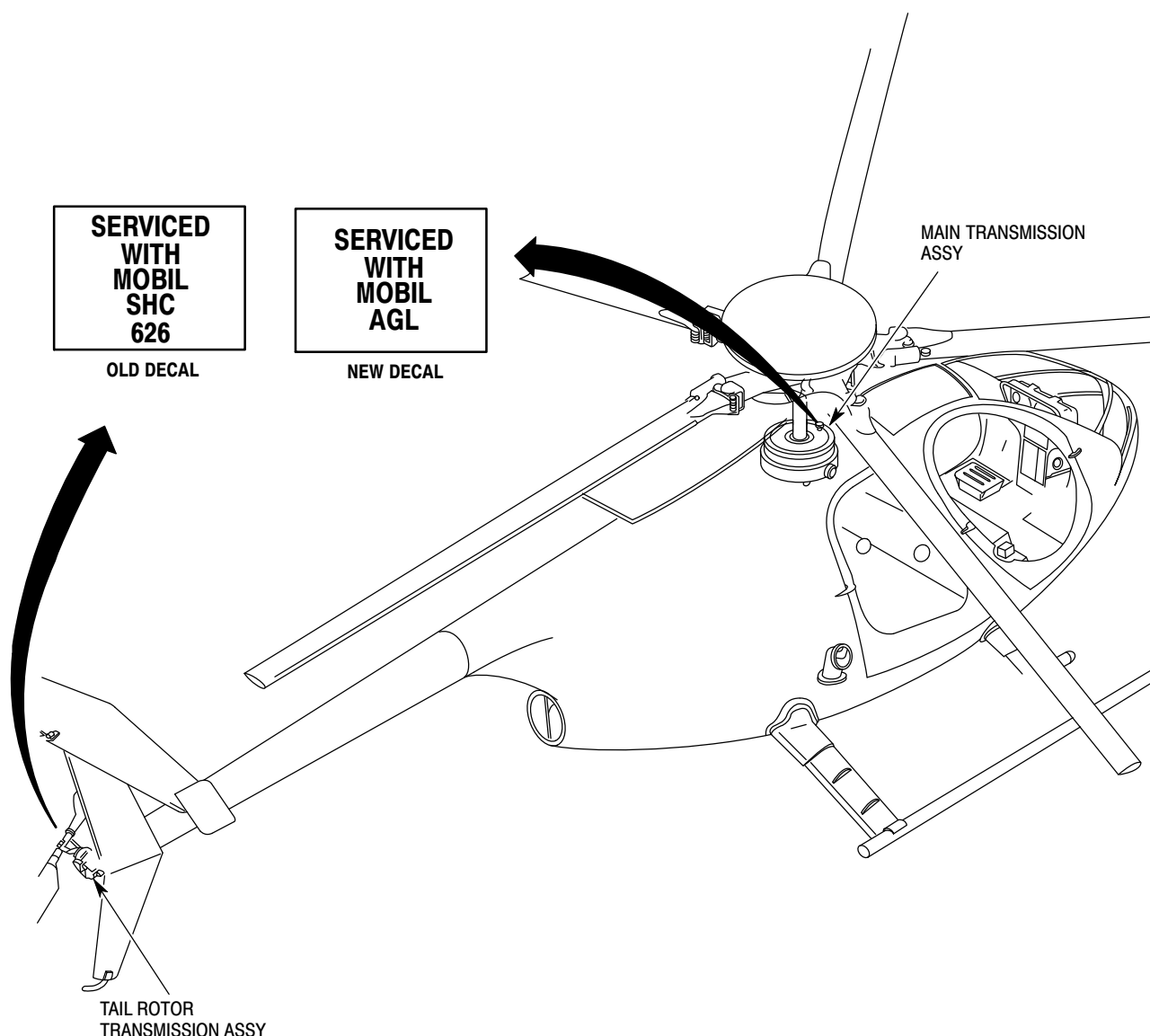
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**Figure 1. Removal and Replacement of Mobil SHC 626 References**

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## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Remove and Replace the Oil Usage Decal at the Main Transmission Assembly

(Ref. Figure 1)

**NOTE:** Not applicable for 369H, 369HE, 369HM, and 369HS rotorcraft.

- (1). Remove the fan hub and transmission cover fairing (ref. CSP-HMI-2, Section 53-30-30; not applicable for 369H, 369HE, 369HM, and 369HS models).
- (2). Remove the old decal from the mast support pan.
- (3). Clean the old adhesive from the mast support pan (ref. CSP-HMI-2, Section 20-20-00).
- (4). Install the new decal on the mast support pan.

### B. Remove and Replace the Oil Usage Decal on the Tail Rotor Transmission Assembly

**NOTE:** Not applicable for 369H, 369HE, 369HM, 369HS, 500N, and 600N rotorcraft.

- (1). Remove the old decal from the tail rotor transmission assembly.
- (2). Clean the old adhesive from the tail rotor transmission assembly (ref. CSP-HMI-2, Section 20-20-00).
- (3). Install the new decal on the tail rotor transmission assembly (ref. CSP-HMI-2, Section 11-00-00).

### C. Job Close

- (1). If necessary, service the transmission assemblies with Mobil AGL (ref. CSP-H-2, Section 2; or CSP-HMI-2, Section 12-00-00).
- (2). Install the cover fairing or access panel (ref. CSP-HMI-2, Section 53-30-30; not applicable for 369H, 369HE, 369HM, and 369HS models).

### D. Compliance Record

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.

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SB369H-251  
SB369E-104  
SB500N-045

SB369D-209  
SB369F-090  
SB600N-053



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## Bulletin Completion Record

### Replacement of Mobil SHC 626 with Mobil AGL

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner /Operator:</b> _____	<b>Helicopter Serial No:</b> _____
<b>Address:</b> _____ _____ _____	<b>Helicopter Total Time:</b> _____
	<b>Date:</b> _____
	<b>Location:</b> _____
<b>Phone:</b> _____	
<b>E-mail:</b> _____	

This bulletin is complete:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

FAX this form to MDHI (480) 346-6813 or  
Email to ServiceEngineering@mdhelicopters.com

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SB369D-209  
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## INSPECTION OF OVERRUNNING CLUTCH SPRAG ASSEMBLY

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

Model 369E Series Helicopters Serial No. 0001E and subsequent, equipped with any Cargo Hook

#### B. PREFACE:

This Service Information Notice lists a procedure for inspection of PN 369A5364 Sprag Assembly, 369A5352 Outer Race and 369A5353 Inner Race of PN 369A5350-603 Overrunning Clutch Assembly for wear in the cages and sprags of the sprag assembly, inner race and outer race. Excessive wear can lead to breakage and malfunction of the sprag assembly. The sprag assembly must be replaced where specified limits are exceeded.

\*To establish TIME OF COMPLIANCE, either clutch total time with hook attached may be used, or a separate and permanent log of external load operating mission time (takeoff to landing on a flight which involves external load operations) may be used. The log must meet requirements of FAR 91. 173.

#### C. TIME OF COMPLIANCE:

\*Shall be accomplished for helicopters with sprag assembly exceeding 600 hours in service, within next 50 hours and thereafter each 300 hours; for helicopters with less than 600 hours in service, at next 300-hour inspection and thereafter each 300 hours. The sprag assembly shall be replaced at 1800 hours total service time.

#### D. FAA APPROVAL:

The resultant alteration to the affected helicopters described by the inspection procedure in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### E. WEIGHT AND BALANCE:

Weight and balance are not affected

#### F. REFERENCE:

500E Model 369E HMI Volume I, Publication No. CSP-E-2, Issued 15 December 1982.  
500E Model 369E Component Overhaul Manual (COM), Part II, Publication No. CSP-E-5,

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## G. PARTS LIST:

PARTS LIST			
Nomenclature	Part No.	Qty.	Source
Sprag Assembly	369A5364	1	HHI
Outer Race	369A5352	1	HHI
Inner Race	369A5353	1	HHI

## H. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Magnifying Lens, 4x	
Outside Micrometer, 1.0000 to 1.5000 inches	
Inside Micrometer, 2.0000 to 2.2500 inches	
Calipers	

## 2. INSPECTION PROCEDURE

a. Remove overrunning clutch assembly from helicopter in accordance with Section 9 of HMI - Volume 1.

b. Disassemble overrunning clutch in accordance with Section 9 of HMI -Volume 1 and Part II of Component Overhaul Manual.

c. Visually inspect sprag assembly for broken drag clips, broken drag strips, cracked cages, broken or distorted ribbon spring, or cracked, broken or missing sprags. Disclosure of any of these discrepancies requires replacement of the sprag assembly.

**CAUTION** Do not remove sprags and clips from sprag assembly. Removal requires replacement of sprag assembly.

d. Inspect cages for peening or wear; maximum permissible width across inner cage and outer cage windows is 0.208 inch.. (See Figure 1 and Figure 2. ) If maximum is exceeded, replacement of sprag assembly is required. Note in Figure 2 that the most pronounced inner and outer cage wear occurs in the outside diameter corners of the crossbars. Wear should be measured at the worst point. Inspect for any wear on inner cage face opposite the flange end.

e. Using 4X magnifying lens, inspect sprag load surfaces. If any flats, scoring, heavy pitting or heavy scratches are found on sprag inner or outer surfaces, the sprag assembly must be replaced. (See Figure 3. )

f. Measure distance from edge of sprags to load pattern. Should the inner surface measurement be less than 0.050 inch minimum or the outer surface measurement be less than 0.070 inch minimum, the sprag assembly must be replaced. (See Figure 3. ) On the sprag inner contact surface of all the sprags in a sprag assembly the variation in distance from edge of sprag to load pattern should not exceed 0.030 inch. If this figure is exceeded, replace sprag assembly.

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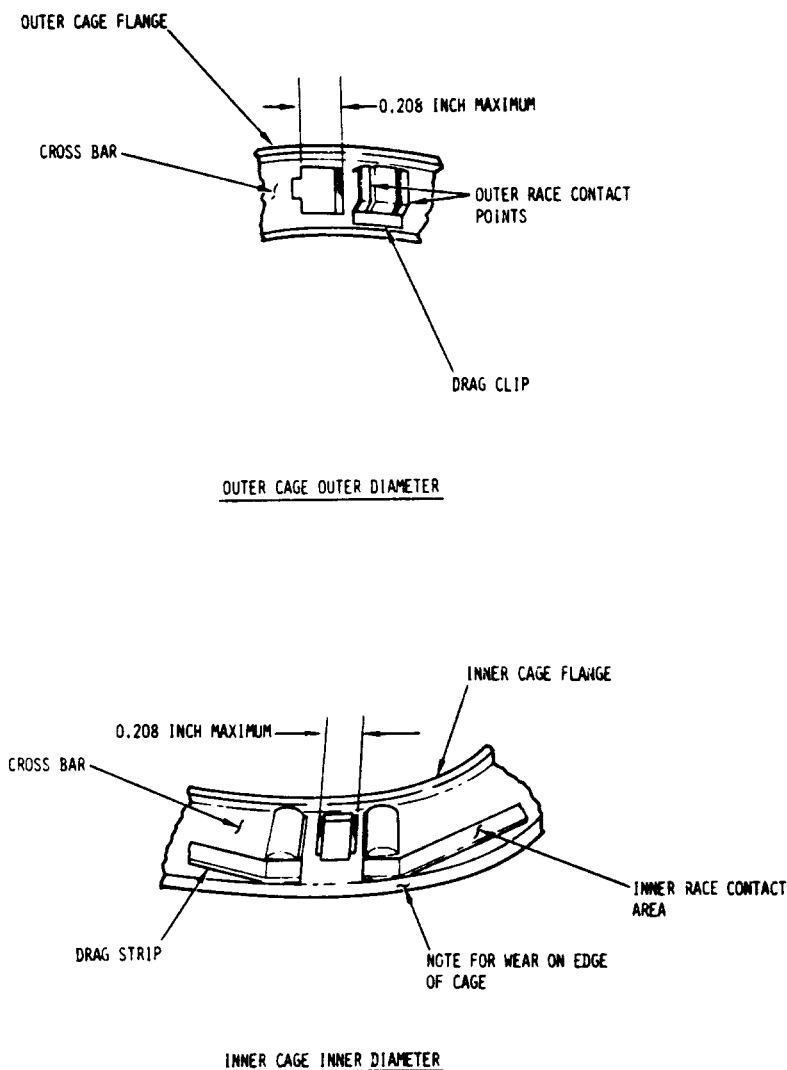
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- g. Check dimensions of inner race (369A5353) spragway outer diameter using outside micrometer and outer race (369A5352) spragway inner diameter using inside micrometer. Dimensional minimum limit for the inner race spragway is 1.4990 inches. Dimensional maximum limit for the outer race spragway is 2.1565 inches. (Refer to Part II, Section 2 of Component Overhaul Manual. )
- h. Using 4X magnifying lens visually inspect inner race and outer race for brinelling, scoring or pitting. On the inner race pay particular attention to area around oil drain holes for cracks. No defects are allowed. If any are found, replace inner race or outer race as applicable. (Refer to Part II, Section 2 of Component Overhaul Manual. )
- i. If the 369A5364 sprag assembly is replaced for any reason other than broken drag clips or drag strips or distorted ribbon springs, magnaflux inner race and outer race per Part II, Table 3-2 of HMI Component Overhaul Manual. Disclosure of any defect requires replacement of inner race or outer race as applicable.
- j. Reassemble overrunning clutch assembly in accordance with Section 9 of HMI - Volume 1.
- k. Reinstall clutch assembly into helicopter in accordance with Section 9 of HMI - Volume 1.
- l. Record compliance with this Service Information Notice in Compliance Record of helicopter log book.

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**Figure 1. Cage Wear Limits**

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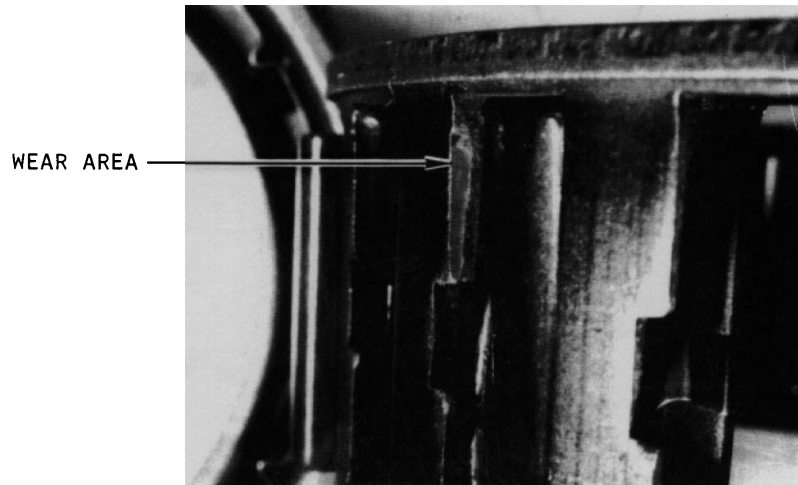
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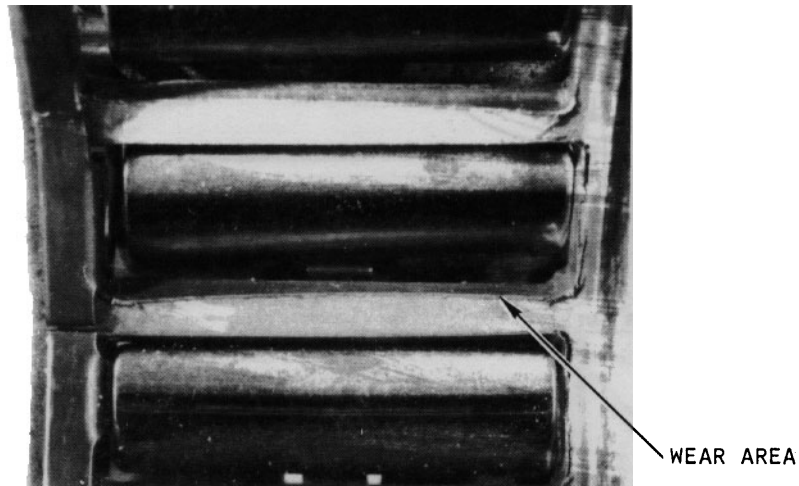
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OUTER CAGE WEAR AREA



INNER CAGE WEAR AREA

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## Figure 2. Excessive Cage Wear

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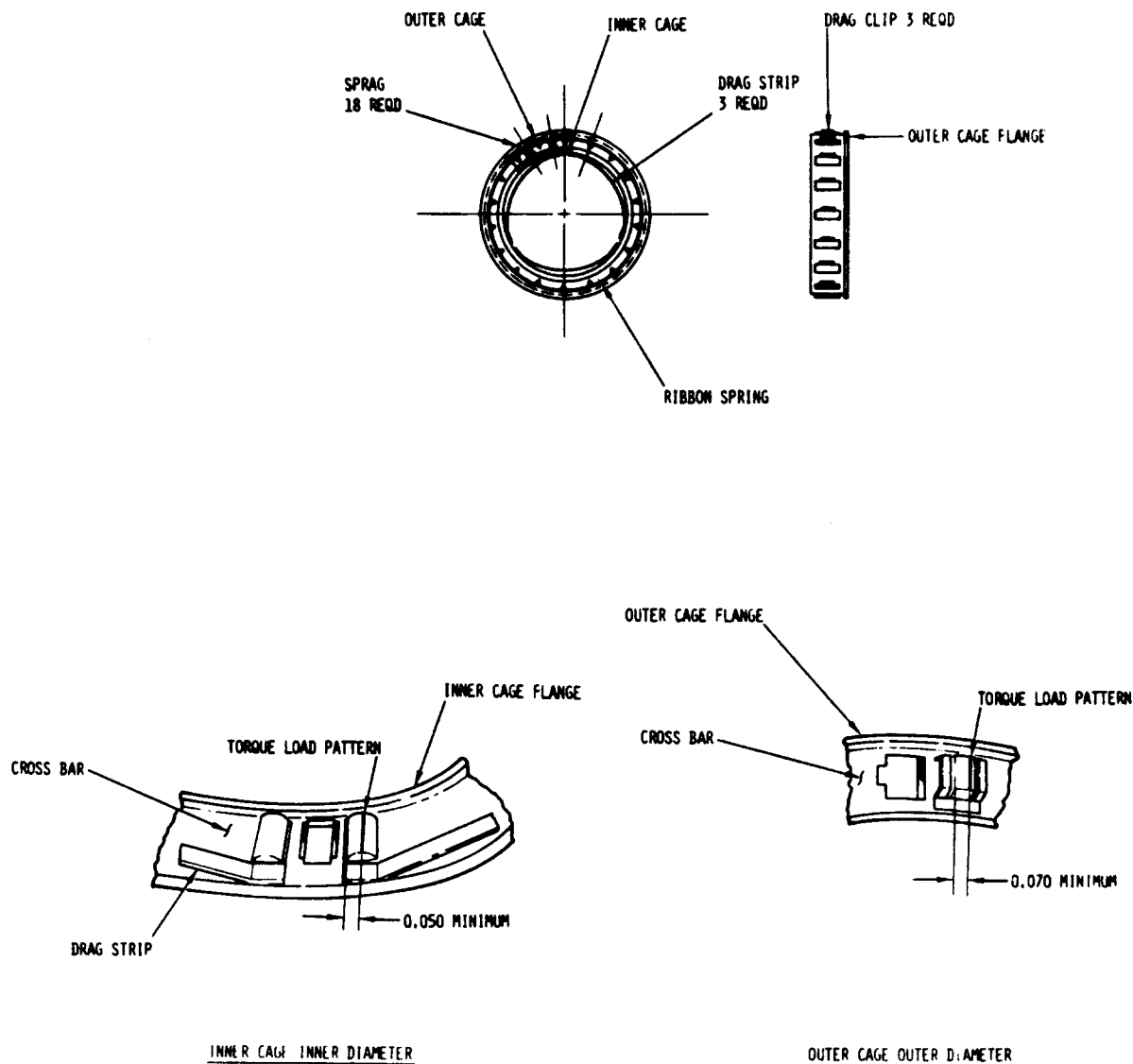
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**Figure 3. Sprag Torque Load Pattern**

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## PERIODIC INSPECTION OF MAIN ROTOR DRIVE SHAFT, PN 369D25510

### 1. PLANNING INFORMATION

#### A. Models Affected:

All 500E Model 369E Series Helicopters

#### B. Preface:

The information given in this Service Information Notice lists a procedure for a periodic removal and inspection of the main rotor drive shaft, including a close visual inspection of the shaft spherical spline teeth for possible cracks and damage.

The service life of the PN 369D25510 main rotor drive shaft is 3410 hours.

#### C. Time of Compliance:

Shall be accomplished at each and every 300-hour Periodic Inspection interval.

#### D. FAA Approval:

The inspection requirements listed in this Notice for affected models have been shown to comply with Federal Aviation Regulations and are FAA Approved.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. Reference:

369E HMI - Volume I (CSP-E-2), Issued 15 December 1982.

369E HMI - Volume II (CSP-E-3), Issued 15 December 1982.

#### G. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Magnifying Glass – 5X to 10X	
Magnetic Particle Inspection Kit – MIL-I-6868	

#### H. Materials:

MATERIAL	
Nomenclature	Source
Solvent, Cleaning P-D-680	

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## 2. PERIODIC INSPECTION OF MAIN ROTOR DRIVE SHAFT



Anytime main rotor drive shaft is removed, cover opening at top of main rotor hub to prevent entry of any foreign material into hub, mast and transmission.

- (1). Remove main rotor drive shaft (refer to Section 9 of HMI-Vol I).
- (2). Perform a visual inspection of the shaft spline as follows:
  - (a). Thoroughly clean with cleaning solvent to remove oil, dirt, etc.
  - (b). Use 5X to 10X magnifying glass and bright side light (45° or less; downward lighting may not define cracks).
  - (c). Pay particular attention to side of (each) tooth with larger wear pattern. Hairline cracks appear crescent-shaped and at the center and bottom of tooth in the root area (see Figure 1). Also, inspect neck (shaded area) of spline for cracks.

### NOTE:

- If cracking is suspected, perform magnetic particle inspection of shaft spline and teeth.
- If cracking or damage is found, the shaft is no longer airworthy. Discard drive shaft and return it to HHI Customer Service Department.
- Inspect replacement drive shaft per steps (2). and (3). of this Notice, prior to installation of shaft on helicopter.

- (3). Inspect all other surfaces of the drive shaft, per Section 9 of HMI Vol I.

**NOTE:** If surface corrosion or pitting of the shaft surface is noted, perform field repair of drive shaft per HMI- Vol I.

- (4). Remove protective cover and install main rotor drive shaft.
- (5). Record compliance with this Service Notice in Compliance Record of helicopter Log Book.

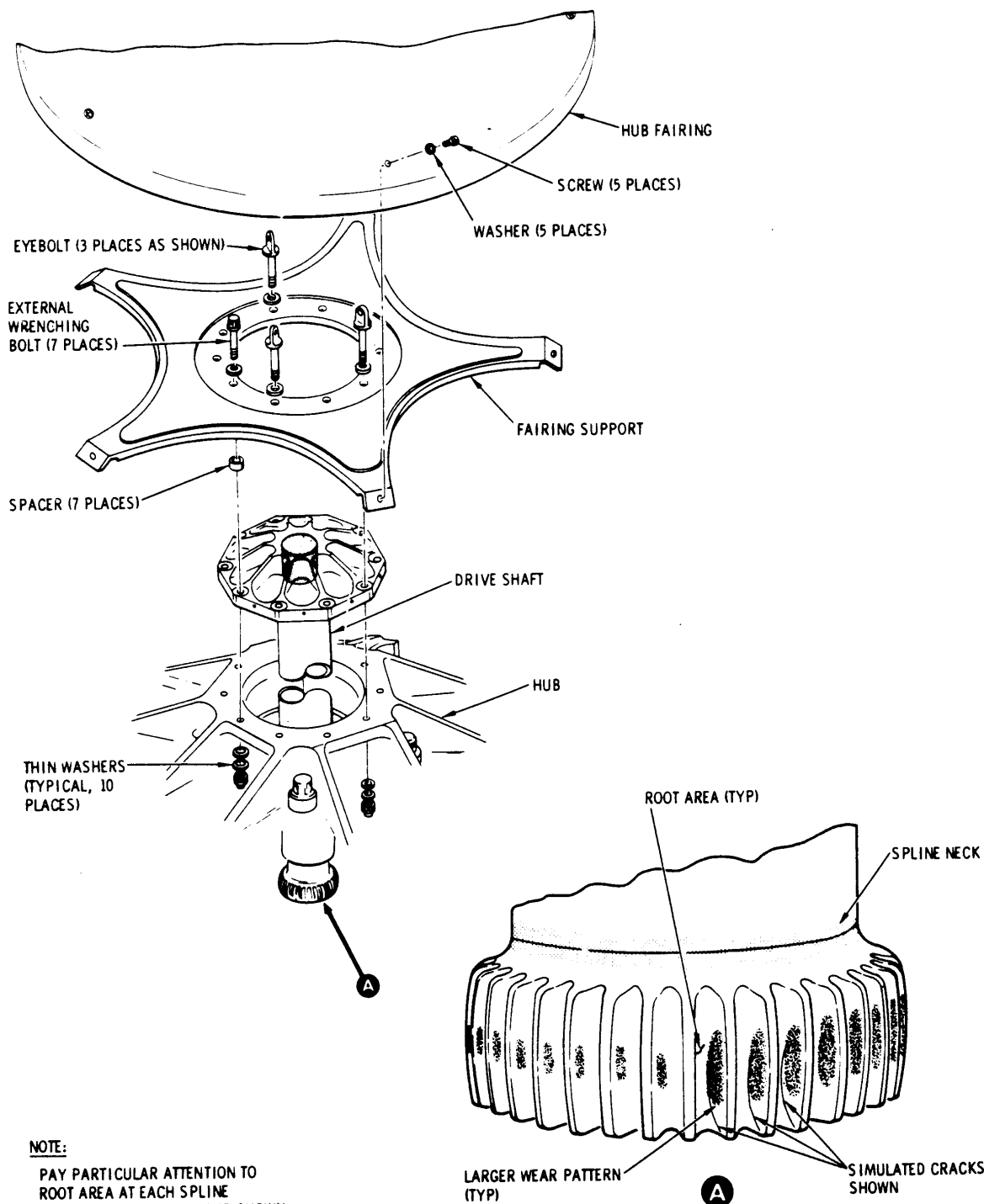
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**Figure 1. Inspection of Main Rotor Drive Shaft Spherical Spline**

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## PILOT'S COMPARTMENT, CENTER PASSENGER SEAT LAP BELT INSTALLATION CHECK; PREFLIGHT CHECK OF PASSENGER LAP BELT AND SHOULDER STRAP ADJUSTMENT

### 1. PLANNING INFORMATION

#### A. Models Affected:

All 500E Model 369E Series Helicopters

#### B. Preface:

Information given in Part I of this Notice provides for a one time inspection of the pilot's compartment, center passenger lap belt assembly for proper installation. If improperly installed, quick release of the lap belt and shoulder strap may be impaired.

Part II of this Notice lists a preflight check of each passenger's lap belt and shoulder strap (non-inertia reel type) to ensure they are properly adjusted so that the shoulder strap diagonally crosses the passenger's torso.

#### C. Time of Compliance:

Part I shall be accomplished at next daily inspection after receipt of this Notice.

Part II shall be accomplished at each preflight inspection when passengers are to be carried.

#### D. FAA Approval:

The inspection procedure and resultant alteration to affected helicopters described by this Notice has been found to comply with Federal Aviation Regulations and is FAA Approved.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. Reference:

500E Model 369E HMI - Vol 1 (CSP-E-2), Issued 15 December 1982.

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## **2. PART I – PILOT COMPARTMENT, CENTER PASSENGER SEAT LAP BELT INSTALLATION CHECK**

- (1). Check center passenger lap belt to see that tongue portion is installed to the right of the seat and that the buckle portion is installed to the left. If the tongue and buckle portions are reversed, remove and reinstall in correct positions (Section 4, HMI- Vol 1).
- (2). Record compliance with Part I of this Notice in Compliance Record of helicopter Log Book.

## **3. PART II – PREFLIGHT CHECK OF PASSENGER SEAT BELT (NON-INERTIA REEL TYPE) FIT AND ADJUSTMENT**

- (1). Check all but left rear passenger to see that shoulder strap diagonally crosses the torso and that the buckle, tongue and harness adaptor of the seat belt assembly are to the passenger's left, approximately over the left hip.
- (2). Check left rear passenger to see that the shoulder strap diagonally crosses the torso and that the buckle, tongue and harness adaptor of the seat belt assembly are to the passenger's right, approximately over the right hip.

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## FUEL VENT SYSTEM HOSE (PN 369A8131-19) INSPECTION

### 1. PLANNING INFORMATION

#### A. Models Affected:

All 500E Model 369E Series Helicopters

#### B. Preface:

The information given in this Service Information Notice provides for a visual inspection of fuel vent system hose (PN 369A8131-19) for deterioration, and replacement of hoses found to be defective with fuel vent system hose (PN 369A8131-35) made of improved materials.

The information given in this Service Information Notice is considered to be part of the HMI and will be incorporated at the next scheduled revision of the below referenced manuals.

#### C. Time of Compliance:

Shall be accomplished at the next 300-hour inspection interval, or six months from date of this Notice, whichever is sooner and at each subsequent 300-hour inspection interval until affected hose is replaced with the new PN 369A8131-35 hose.\*

\* The 300-hour fuel vent system inspection given in HMI - Vol II is required regardless of hose installed.

#### D. FAA Approval:

The resultant alteration to the affected helicopters described by the installation procedure in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. Reference:

369E HMI - Vol I (CSP-E-2), Issued 15 December 1982.

369E HMI - Vol II (CSP-E-3), Issued 1 December 1982.

#### G. Parts/Supplies:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Hose, fuel vent system	369A8131-35	1	HHI

#### H. Materials:

MATERIAL	
Nomenclature	Source
Lockwire MS20995H32	Commercial

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## 2. PROCEDURE

- (1). Remove right foot support fairing, controls access door and fuel vent cover (Section 2, HMI - Vol I).
- (2). Inspect 369A8131-19 fuel vent system hose for signs of deterioration by pinching or bending hose and looking for surface cracks, visible where hose is pinched or bent. If any cracks are noted, replace hose with new 369A8131-35 fuel vent system hose (Section 12, HMI - Vol I).

**NOTE:** Replacement of fuel vent system hose PN 369A8131-19 with new PN 369A8131-35 hose deletes the above inspection requirement.

- (3). Replace fuel vent cover, controls access door and right foot support fairing (Section 2, HMI - Vol I).
- (4). Record compliance with this Notice in Compliance Record of helicopter Log Book.

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## INSPECTION AND OVERHAUL OF FUEL SHUTOFF VALVE (PN 369A8104-5)

### 1. PLANNING INFORMATION

#### A. Models Affected:

All 500E Model 369E Series helicopters.

#### B. Preface:

The activation groove in the fuel shutoff valve ball can become worn from high seal drag in the valve. Information given in Part I of this Notice requires a one-time inspection of the shutoff valve for proper operation, and placarding of the fuel shutoff control to leave the shutoff valve open except in emergency until Part II of this Notice is accomplished.

Part II lists procedures for overhaul of fuel shutoff valves (PN 369A8104-5). Compliance with Part II of this Notice removes the restrictions for using the fuel shutoff control imposed by Part I of this Notice.

For 6 months from date of this Notice, fuel shutoff valve overhaul kit, PN 1595-1000, regularly priced \$214.52 may be obtained from your Hughes Service Center or Distributor for \$165.34.

#### C. Time of Compliance:

Part I of this Notice shall be accomplished within the next 25 hours of helicopter operation, from the date of this Notice.

Part II of this Notice shall be accomplished if the fuel shutoff valve does not open and close properly during the inspection required by Part I of this Notice, or within 6 months from the date of this Notice.

#### D. FAA Approval:

The resultant alteration to affected models as described by procedures given in Parts I and II of this Notice have been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. Reference:

369E HMI Volume I (CSP-E-2), Issued 15 December 1982.

Hughes Service Information Notice EN-6, Dated 15 March 1983.

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## 2. PART I – FUEL SHUTOFF VALVE (PN 369A8104–5) INSPECTION

### A. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Mirror	Commercial

- (1). Ensure all electrical power is off, battery is disconnected, and helicopter is electrically grounded.
- (2). Remove left fuel cell access door (Section 2, HMI Vol I).

**WARNING**

**Follow all fuel handling safety precautions. Fuel vapors are highly flammable and can result in fire or explosion if exposed to sparks or open flame.**

- (3). Disconnect powerplant fuel supply tube from fuel shutoff valve (Section 12, HMI Vol I).
- (4). Ensure fuel shutoff valve control is pushed in. Using mirror, check ball in fuel shutoff valve to see that valve is fully open.
- (5). Pull fuel shutoff control on instrument panel full out. Use mirror to check that valve is completely closed.
- (6). Push fuel shutoff control in; check valve using mirror to see that valve is open and unobstructed.

**WARNING**

**If fuel shutoff valve does not open and close fully during the above checks, the valve must be overhauled per Part II of this Notice, or replaced prior to further flight.**

- (7). Reattach powerplant fuel supply tube to fuel shutoff valve (Section 12, HMI Vol I).
- (8). Reinstall left fuel cell access door (Section 2, HMI Vol I).
- (9). Purge air from low pressure fuel filter housing (Hughes Notice DN-116).
- (10). Fabricate placard which reads, USE FUEL SHUTOFF VALVE IN EMERGENCY ONLY; attach placard to instrument panel where it can be easily seen by the pilot.
- (11). Record compliance with Part I of this Notice in Compliance Record of helicopter Log Book.

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## 3. PART II – OVERHAUL OF FUEL SHUTOFF VALVE (PN 369A8104-5)

### A. Parts/Supplies:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Overhaul kit, Fuel shutoff valve	1595-1000	1	HHI

### B. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Electric Pencil or equivalent	Commercial

### C. PROCEDURE

- (1). Ensure all electrical power is off.

#### **WARNING**

**When defueling helicopter, follow all fuel handling safety precautions. Ensure all electrical power is off; disconnect battery; and electrically ground helicopter. Open flames and sparks can cause fire or explosions.**

- (2). Defuel helicopter (Section 2, HMI Vol I).
- (3). Remove fuel shutoff valve from helicopter (Section 12, HMI Vol I).
- (4). Overhaul fuel shutoff valve according to instructions in PN 1595-1000 Fuel Shutoff Valve Overhaul Kit.
- (5). Using an electric pencil or equivalent, add the letter "M" at the end of the Hughes Part No. on the valve body.
- (6). Reinstall overhauled valve in helicopter (Section 12, HMI Vol I).

#### **CAUTION**

Purge air from fuel system prior to next flight. Failure to purge air from fuel system can result in engine flameout. (Refer to Hughes Service Information Notice DN-116.)

- (7). Refuel helicopter (Section 2, HMI Vol I).
- (8). Check fuel shutoff valve for leaks; check rigging and operation of fuel shutoff control. (Refer to Section 12, HMI Vol I.)
- (9). Record compliance with Part II of this Notice in Compliance Record of helicopter Log Book.

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## **MAIN TRANSMISSION OIL LINE (PN 369D25709 AND 369D25710) INSPECTION; AND REPLACEMENT OF MAIN TRANSMISSION OIL LINES (PN 369D25709 AND 369D25710) AND BRACKETRY WITH NEW PN 369D25709-11 AND 369D25710-11 LINES AND BRACKETRY.**

### **1. PLANNING INFORMATION**

**A. MODELS AFFECTED:** 500E Model 369E Helicopters Serial No. 0001E through 0015E.

**B. TIME OF COMPLIANCE:**

Part I - Shall be accomplished at the next 100-hour inspection and each subsequent 100-hour inspection until Part II of this Notice is accomplished.

Part II - Shall be accomplished at owner/operator discretion, or at next replacement of main transmission oil lines, whichever occurs first. Compliance with Part II of this Notice eliminates Part I 100 hour inspection requirement.

**C. PREFACE:**

PART I - The information given in Part I of this Notice provides a required inspection of the main transmission oil lines (PN 369D25709 and 369D25710) for chafing damage, which could cause the lines to leak.

PART II - The information given in Part II of this Notice provides procedures for replacing main transmission oil lines (PN 369D25709 and 369D25710) and bracketry with new oil lines (PN 369D25709-11 and 369D25710-11) and bracketry. The new installation will reduce the possibility of oil line chafing damage during operation.

Information given in this Service Information Notice is considered to be part of the HMI and will be incorporated in the below referenced manuals at the next scheduled revision.

**D. FAA APPROVAL:** The resultant alteration to the affected helicopters described by Part II of this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

**E. WEIGHT AND BALANCE:** Weight and balance not affected.

**F. REFERENCE PUBLICATIONS:**

369E HMI Volume I (CSP-E-2), Issued 15 December 1982.

369E HMI Volume II (CSP-E-3), Issued 15 December 1982.

369E Pilot's Flight Manual (CSP-E-1), Issued 23 November 1982.

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## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. PART I: INSPECTION OF MAIN TRANSMISSION OIL LINES (PN 369D25709 AND 369D25710)

- (1). Remove sound insulation and main transmission access cover (Section 2, HMI Vol 1).
- (2). Visually check entire length of 369D25709 and 369D25710 oil lines for chafing damage; if noted, perform Part II of this Notice.

**NOTE:** Black powdery deposits on the aluminum tubes indicate chafing damage.

- (3). Visually check each clamp attached to oil lines for evidence of cushion wear or deterioration; if noted, remove clamp and inspect tube under clamp for chafing damage. If tube is chafed, accomplish Part II of this Notice. If tube is undamaged install new clamp.

**NOTE:** Any rubber particles around or on clamp indicates possible clamp cushion wear or deterioration.

- (4). Replace sound insulation and transmission access cover (Section 2, HMI - Vol 1).
- (5). Record compliance with Part I of this Notice in Compliance Record of helicopter Log Book.

### B. PART II: REPLACEMENT OF MAIN TRANSMISSION OIL LINES (PN 369D25709 AND 369D25710) AND BRACKETRY WITH NEW LINES (PN 369D25709-11 AND 369D25710-11) AND BRACKETRY

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Tube Assembly	369D25709-11	1	Hughes
Tube Assembly	369D25710-11	1	Hughes
Bracket	369D25701-3	1	Hughes
Bracket	369D25701-5	1	Hughes
Bracket	367D25701-7	1	Hughes
Washer	AN960KD4	1	Commercial
Elbow	AN833-8D	2	Commercial
Nut	AN924-8D	2	Commercial
Clamp	NAS1713D-8N	2	Commercial
Clamp	NAS4181A-8N	2	Hughes
Screw	NAS1096-3-8	4	Commercial
Screw	NAS1096-3-7	2	Commercial
Washer	AN960KD10L	8	Commercial

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REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Washer	AN960-D1216	4	Commercial
Nut	MS21042-3	2	Commercial
Rivet	MS20426AD4	6	Commercial
Rivet	MS20470AD4	11	Commercial
Rivet	MS20470AD3	2	Commercial

TOOLS AND EQUIPMENT	
Nomenclature	Source
Drill Motor Portable	Commercial
Drill, No. 30	Commercial
Protractor	Commercial

MATERIAL	
Nomenclature	Source
Primer, Zinc Chromate, TT-P-1757	Commercial

- (1). Remove sound insulation and transmission access cover (Section 2, HMI - Vol 1).
- (2). Drain main transmission lubrication system (Section 2, HMI - Vol 1).
- (3). Remove screws, nuts and washers attaching all clamps holding 369D25709 and 369D25710 tube assemblies. (See Figure 1.)
- (4). Disconnect 369D25705-11 hose from AN821-8D elbow connected to 369D25709 tube assembly.
- (5). Disconnect 369D25705-21 hose from AN821-8D elbow connected to 369D25710 tube assembly.
- (6). Disconnect 369D25710 tube assembly from union at oil temperature sender housing. Remove tube assembly from helicopter.
- (7). Disconnect 369D25709 tube assembly from union at 369D23020-5 web. Remove tube assembly from helicopter.
- (8). Drill out rivets attaching brackets (Figure 1) to structure and remove brackets. Apply zinc chromate primer to holes. Fill holes with MS20426AD4 rivets.
- (9). Remove clamp securing 369D292490 heating hose to HS4194-6 standoff on canted station 124 channel. Remove and relocate standoff as shown in Figure 1 (View A) using MS20470AD3 rivets. Relocate clamp on heater hose and reattach clamp to standoff.

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- (10). Install 369D25701-3 bracket on 369H3011-17 bracket as shown in Figure 2, View A.
- (11). Install 369D25701-5 bracket on 369H3010-73 panel.
  - (a). Position bracket on panel as shown in Figure 2. Mark lower portion of panel to match holes in lower portion of bracket, remove bracket.
  - (b). Use No. 30 drill to drill holes in panel at locations marked. Clean drill cuttings from area and apply zinc chromate primer to holes.
  - (c). Attach bracket to panel using four MS20470AD4 rivets.
- (12). Install 369D25701-7 bracket on 369H3010-9 panel.
  - (a). Mark position for two bracket attach holes on outboard side of 369H3010-9 panel as shown in Figure 2.
  - (b). Use No. 30 drill to drill holes in panel at locations marked. Clean drill cuttings from area, particularly in plenum; apply zinc chromate primer to holes.
  - (c). Attach 369D25701-7 bracket to panel using two MS20470AD4 rivets.
- (13). Install AN833-8D elbow in upper and lower holes of 369D25701-3 bracket, with outboard end of elbow down. Attach each elbow to bracket with two AN960D1216 washers and one AN924-8D nut.
- (14). Connect 369D25705-21 hose assembly to upper AN833-8D elbow outboard (downward) leg.
- (15). Connect 369D25705-11 hose assembly to lower AN833-8D elbow outboard (downward) leg.
- (16). Install 369D25709-11 tube assembly.
  - (a). Position tube assembly so that upper end mates with inboard end of lower elbow in 369D25701-3 bracket, and lower end mates with open end of union at 369D23020-5 web. Tube must be centered between two inboard holes of 369D25701-5 bracket.
  - (b). Fit upper end of tube over lower elbow, secure to elbow with nut on tube assembly.
  - (c). Fit lower end of tube over open end of union at 369D23020-5 web, secure tube to union with nut on tube assembly.
  - (d). Place HS4181A8N clamp around tube at 369D25701-5 bracket. Attach clamp to inboard holes of bracket with two AN960KD10L washers and two NAS1096-3-8 screws.
  - (e). Place NAS1713D8N clamp on tube at 369D25701-7 bracket. Secure clamp to forward side of bracket aft leg with NAS1096-3-7 screw, two AN960KD10L washers and MS21042-3 nut.
- (17). Install 369D25710-11 tube assembly.
  - (a). Position tube so upper end mates with upper elbow through 369D25701-3 bracket, and lower end mates with open end of temperature sender housing. At 369D25701-5 bracket, tube must be centered between two outboard holes.
  - (b). Connect tube ends to elbow and union and secure with nuts on tube ends.

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- (c). Place HS4181A8N clamp around tube at 369D25701-5 bracket. Attach clamp to bracket with two AN960KD10L washers and two NAS1096-3-8 screws.
- (d). Place NAS1713D8N clamp over tube at 369D25701-7 bracket. Attach clamp to forward side of bracket with NAS1096-3-7 screw, two AN960KD10L washers, and MS21042-3 nut.
- (18). Check to see that minimum of 0.25 inch clearance exists between tubes and 369H3011-17 bracket as shown in Figure 2, adjust as required for minimum clearance.
- (19). Fill transmission with approved lubricant (Section 2, HMI - Vol 1).
- (20). Start and operate helicopter until lubricant is circulated through system (369E Pilot's Flight Manual).
- (21). Check installation for leaks and security.
- (22). Reinstall sound insulation and transmission access cover (Section 2, HMI - Vol 1).
- (23). Check main transmission oil level at sight gage (Section 2, HMI - Vol 1).
- (24). Record compliance with Part II of this Notice in Compliance Record of helicopter Log Book.

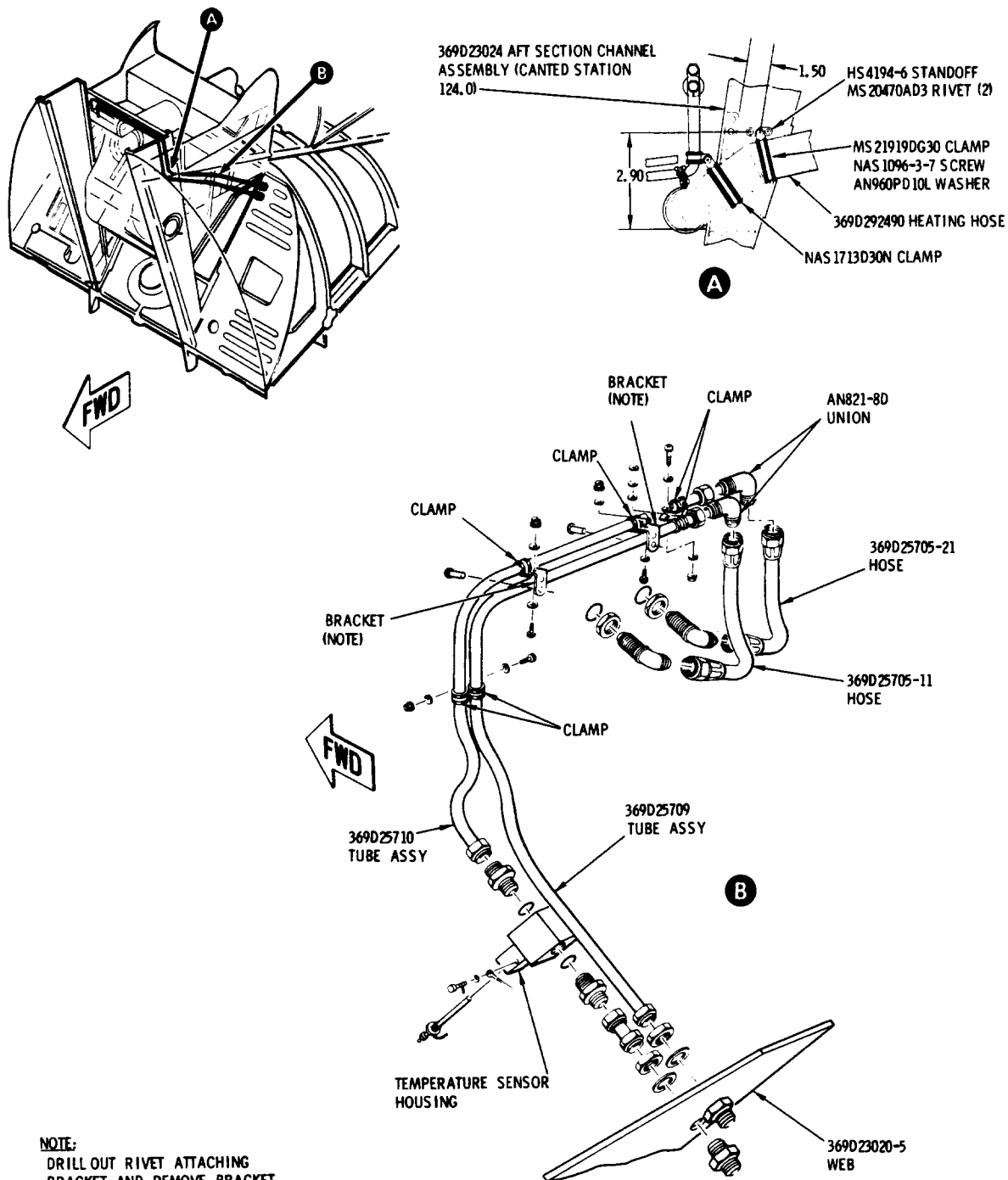
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**NOTE:**  
 DRILL OUT RIVET ATTACHING  
 BRACKET AND REMOVE BRACKET.  
 APPLY WET ZINC CHROMATE PRIMER  
 TO HOLE AND FILL WITH APPROPRIATE  
 SIZE SOLID RIVET.

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**Figure 1. Existing Hardware Removal and Relocation**

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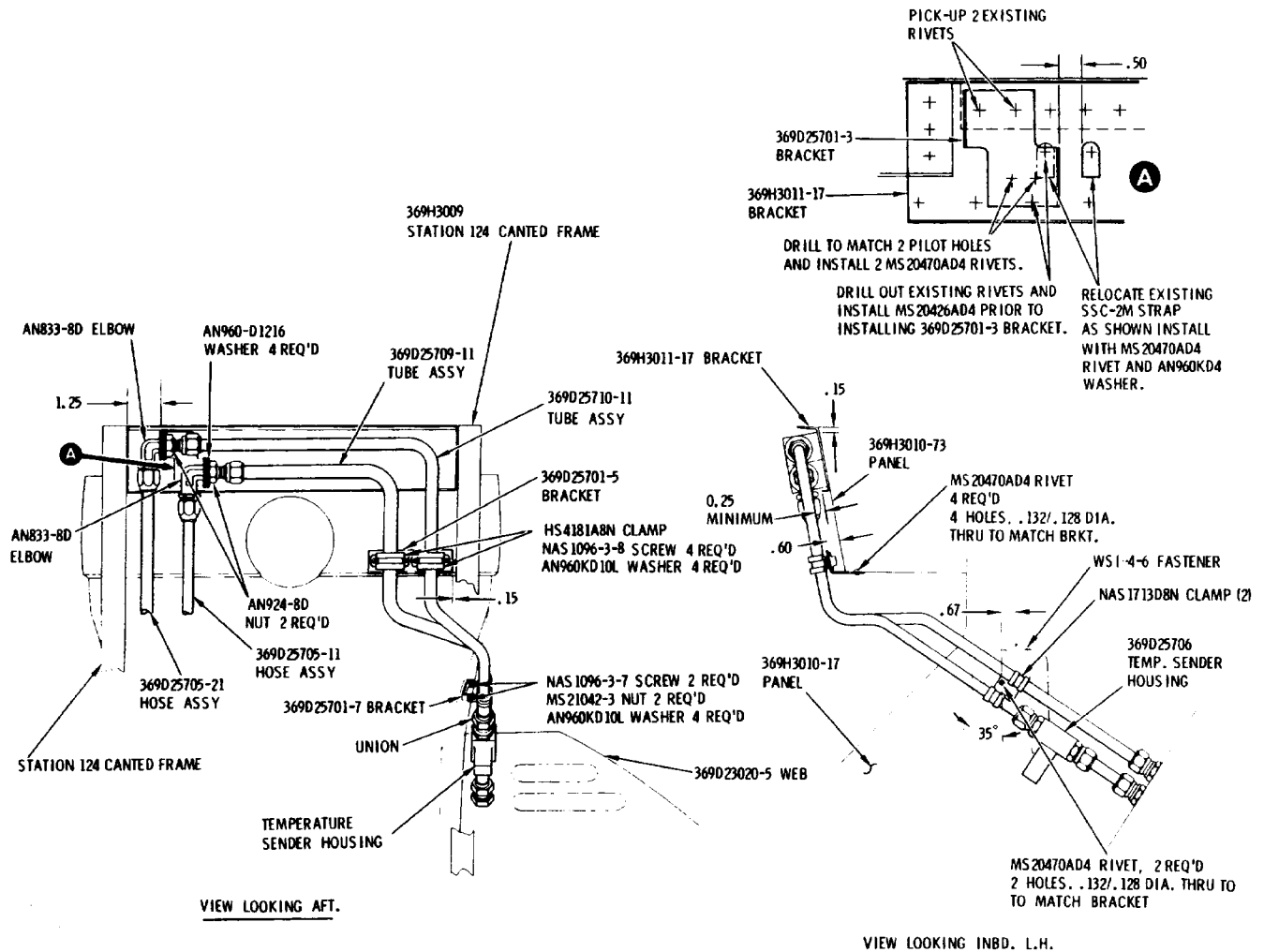
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**Figure 2. Installation of 369D25709-11 and 369D25710-11 Main Transmission Oil Lines**

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## INSTALLATION OF COLLECTIVE STICK SUPPORT BRACKET REINFORCEMENT STRAP

### 1. PLANNING INFORMATION

#### A. Models Affected:

All 500E Model 369E Series Helicopters Serial No. 0001E through 0019E.

#### B. Preface:

The information given in this Service Information Notice lists a procedure for installing a collective stick support bracket reinforcement strap to strengthen the support bracket in the area of attachment by providing a secondary load path.

#### C. Time of Compliance:

Shall be accomplished within next 100 hours of helicopter operation, after receipt of parts.

#### D. FAA Approval:

The resultant alteration to the affected helicopters described. by the installation procedure of this Notice has been shown to comply with the applicable Federal Aviation Regulations and is FAA Approved.

#### E. Weight and Balance Data:

Weight and balance not affected

#### F. Reference:

500E Model 369E HMI - Vol. 1, Issued 15 December 1982.

#### G. Parts/Supplies:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Strap Assy	369ASK806-3	1	HHI
Spacer	369ASK806-9	2	HHI
Washer	NAS1197 -416L	AR	Commercial
Washer	NAS1197 -416	AR	Commercial
Bolt	NAS1304-28	2	Commercial
Nut	MS2 1042 -4	2	Commercial

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## H. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Tool, collective bungee installation (Commercial Helicopters) 369D29936	HHI
Tool, collective bungee installation (Military Helicopters) 369A9936	HHI

## 2. INSTALLATION PROCEDURE

- (1). Remove pilot's seat cover and controls access door. (Refer to Basic HMI - Vol I, Section 2.)
- (2). Install collective bungee installation tool on collective bungee spring. (Refer to Basic HMI - Vol I, Section 7.) Use over-center action of collective stick to load tool.
- (3). Remove nuts, washers and bolts installed through bungee support bracket and controls support bracket assembly. Retain washers and discard bolts and nuts.

**NOTE:** Insulation on some production strap assemblies, PN 369ASK806-3, covers the entire strap. The insulation material must be removed from each end of the strap to one inch inboard prior to installing the strap. To remove this material, cut the unwanted portion from the strap using a plastic knife or similar instrument. Use care when cutting the insulating material. If the strap is scratched or nicked, it must be replaced.

- (4). Install strap with new bolts, washers, spacers, nuts and retained washers as shown in Figure 1.
- (5). Ensure that strap is tight with bolts torqued by shimming with new washers as required. (See Figure 1.)
- (6). Use over-center action of collective stick to remove load from bungee tool and remove tool from bungee spring. (Refer to basic HMI - Vol I, Section 7.)
- (7). Reinstall pilot's seat cover and controls access door. (Refer to Basic HMI - Vol I, Section 2.)
- (8). Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

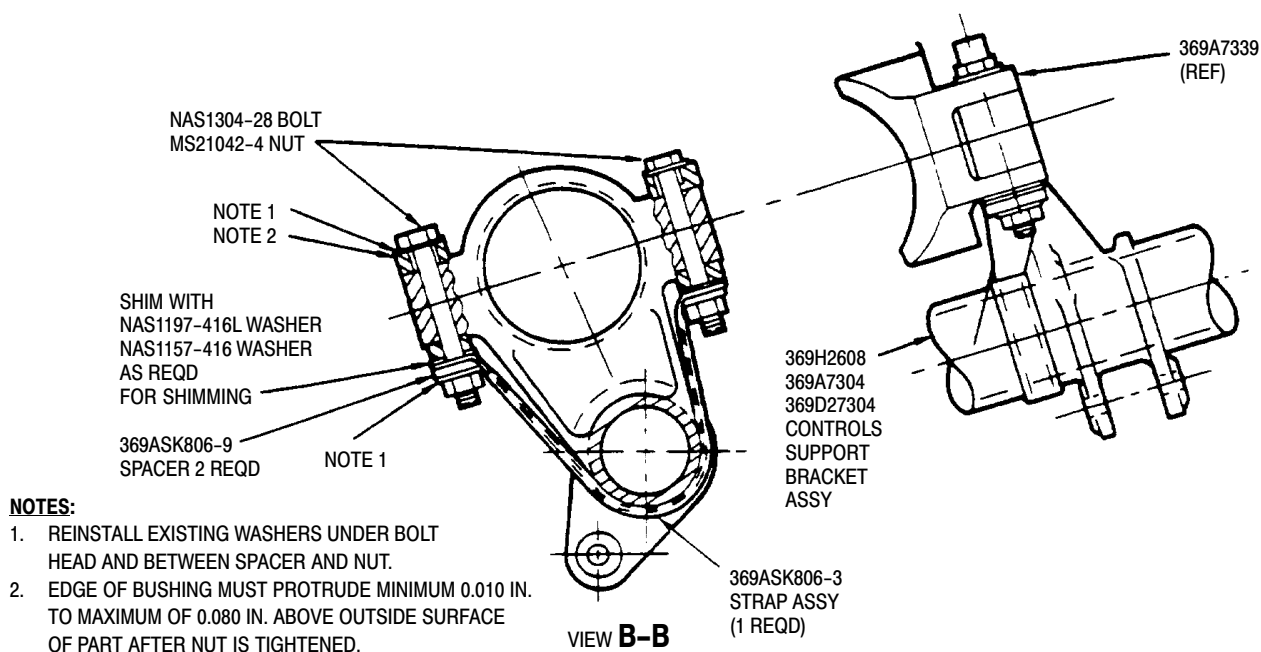
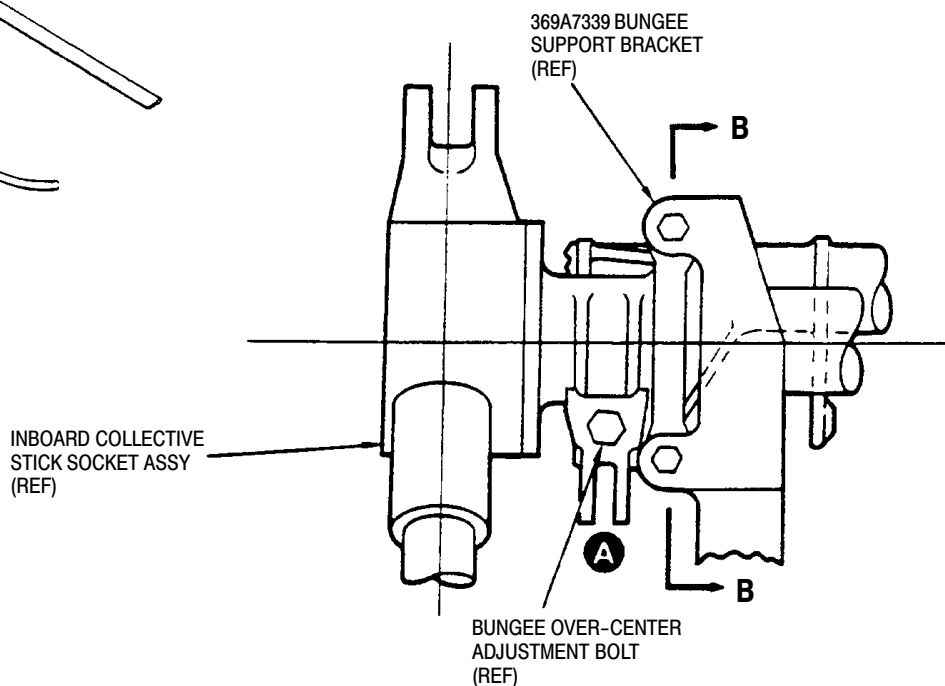
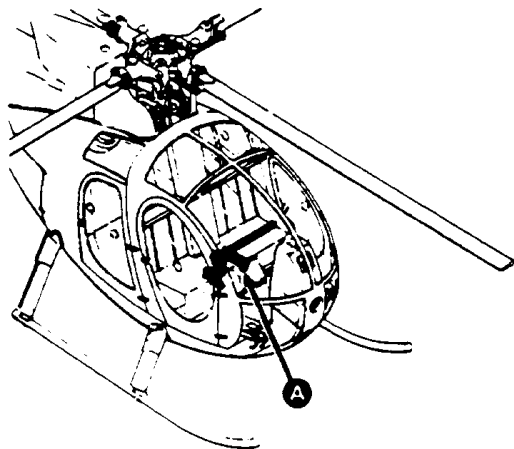
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**Figure 1. Installation of Collective Stick Support Bracket Reinforcement Strap**

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## MAIN ROTOR SWASHPLATE BEARING, PN 369A7003-3, INSPECTION AND POSSIBLE REPLACEMENT

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All 500E Model 369E Series helicopters containing any of the following listed assemblies, plus any spare assemblies uninstalled on helicopters. Assemblies affected are: 369A7003-3 Swashplate Bearing Assembly, 369D21000 Main Rotor Installation, and 369D27609-501 Main Rotor Swashplate Installations received between June 1, 1983 and December 20, 1983.

Swashplate Bearing Assemblies PN 369A7003-3 with 9XXX series serial numbers, or with the blue dot identifier per step g of the following procedure, do not require reinspection per this Notice.

#### B. TIME OF COMPLIANCE:

Must be accomplished prior to further flight, following receipt of this Notice, for affected parts in service.

Shall be accomplished prior to installing affected parts from spares.

Shall be accomplished on all spares inventory.

#### C. PREFACE:

A recent field report indicated that a 369A7003-3 Main Rotor Swashplate Bearing Assembly was found without the ball bearing cages installed. Information given in this Notice provides procedures for a one-time inspection of all affected 369A7003-3 bearings for missing cages. Subject bearings found with cages missing shall be removed from service or spares immediately and returned to Hughes Helicopters. Replacement 369A7003-3 bearings will be provided by Hughes through authorized Service Centers and Distributors.

#### D. FAA APPROVAL:

The resultant alteration to affected models from the inspection procedure in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### E. WEIGHT AND BALANCE:

Not affected.

#### F. REFERENCE PUBLICATIONS:

500E Model 369E HMI Vol. 1 (CPS-E-2), Issued 30 November 1983.

500D Model 369D COM (CSP-D-5), Reissued 15 September 1981.

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## 2. ACCOMPLISHMENT INSTRUCTIONS

MATERIAL	
Nomenclature	Source
Lacquer, Blue Acrylic, Fed-Std-15102	Commercial
Isopropyl Alcohol, TT-I-735	Commercial

- (1). Remove main rotor swashplate from helicopter (Section 7, HMI Vol. 1).

**NOTE:** It is not necessary to remove bearing assembly from swashplate or separate stationary and rotating swashplates to perform the required inspection.

- (2). Remove four nuts and washers attaching retainer to rotating swashplate. It may be necessary to move arms of rotating swashplate for access to bolts (See Figure 1).



Do not allow dirt, grit, or any foreign material to enter bearing assembly.

- (3). While holding swashplate assembly with bearing inverted, carefully clean exposed bearing assembly surface, snap ring and seal with a clean lint-free cloth dampened with isopropyl alcohol. Do not allow alcohol to enter bearing.
- (4). Carefully remove upper snap ring and seal from swashplate bearing assembly as shown in Figure 2. Note seal orientation so seal can be reinstalled in same position.
- (5). Visually check areas under seal to ensure that bearing cage is in place as shown in Figure 2. If cage is not in place, bearing balls will be visible.



If bearing cage is not present, replace bearing assembly with inspected bearing assembly from spares, or with a bearing assembly not affected by this Notice. (Refer to Part V, 369D-COM for removal and installation of bearing assembly).

- (6). If bearing cage is in place as shown in Figure 2, carefully clean seal, snap ring and snap ring groove, and reinstall seal and snap ring on bearing assembly.



Ensure that seal is flat and smooth after installation, with seal lip inner diameter contacting inner race of bearing.

- (7). Using blue acrylic lacquer, place a blue dot, approximately 1/8 inch diameter, on outer surface of snap ring as shown in Figure 2.
- (8). Reinstall retainer on rotating swashplate with bolts, washers, and nuts. Torque nuts to 50-70 inch-pounds (See Figure 1).
- (9). Reinstall swashplate assembly on helicopter (Section 7, HMI, Vol. 1).
- (10). Record compliance with this Notice in Compliance Record of helicopter Log Book.

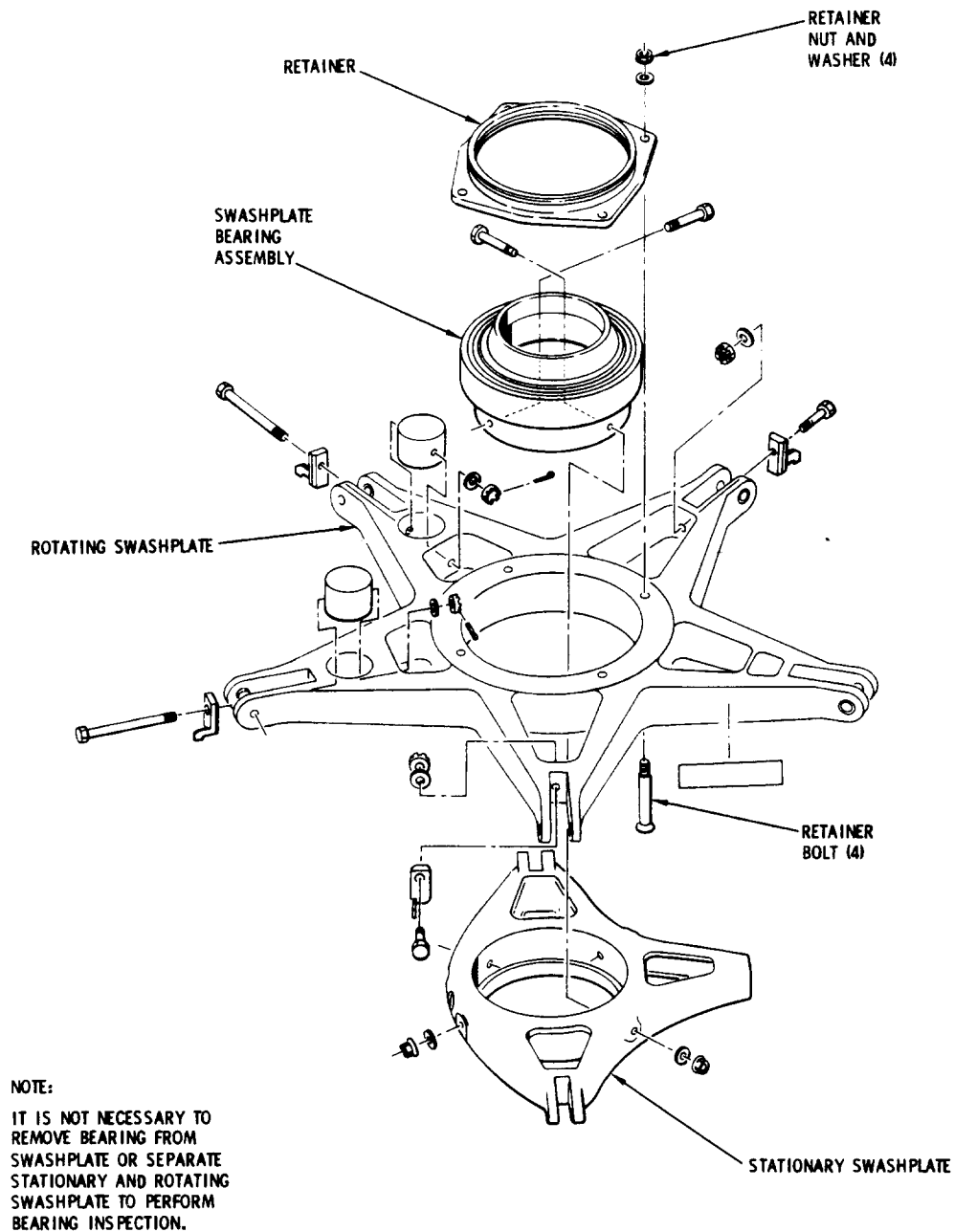
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**Figure 1. Main Rotor Swashplate Assembly (Exploded View)**

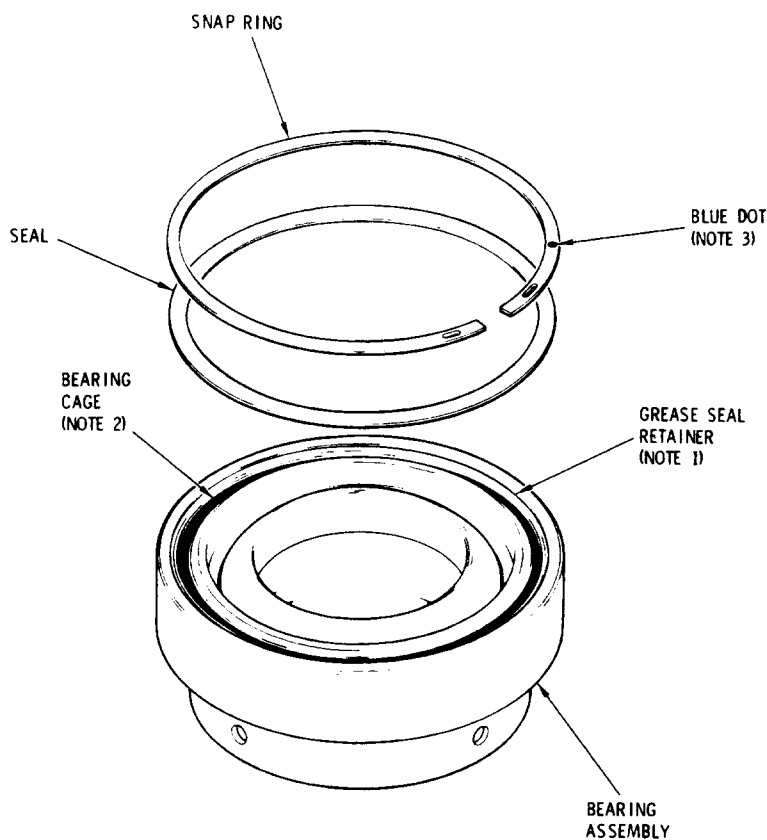
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**SERVICE BULLETIN****/// MANDATORY ///****NOTES:**

1. PART NO. AND SERIAL NO. ARE INK STAMPED ON GREASE SEAL RETAINER.
2. IF BEARING CAGE IS MISSING BALLS WILL BE VISIBLE.
3. AFTER INSPECTION, PLACE BLUE ACRYLIC LACQUER DOT, 1/8 INCH DIAMETER, ON SNAP RING AS SHOWN.

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**Figure 2. Main Rotor Swashplate Bearing Inspection***Copyright 1999-2022 by MD Helicopters, LLC**This document may be reproduced and distributed provided no fee is charged, the text is not modified, and this copyright notice is included.***/// MANDATORY ///**



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\* Supersedes Service Notice EN-13, dated 26 March 1984.

## **INSPECTION, PN 369A7011 LONGITUDINAL MIXER CONTROL ROD; REPLACEMENT OF PN 369D22509-51 DOUBLER WITH 369DSK169-3 REPAIR DOUBLER**

### **1. PLANNING INFORMATION**

#### **A. MODELS AFFECTED:**

500E Model 369E Series Helicopters Serial No. 0001E through 0027E, 0029E through 0036E and 0038E through 0043E.

#### **B. PREFACE:**

Information in this Notice gives procedures for a one time check of the longitudinal mixer control rod for interference by rivets attaching the 369D22509-51 doubler to the control rod tunnel web, and modification of the doubler installation, or replacement of the doubler to prevent such interference.

Part I provides inspection procedures to check for existing interference, and for removal of rivets attaching the doubler to the controls tunnel web, which can interfere with movement of the longitudinal mixer control rod. additionally, inspection of PN 369D22509-21 web for missing rivets is included.

Part II provides procedures for fabrication and installation of a PN 369DSK169-3 repair doubler channel to replace the existing 369D22509-51 doubler. Additionally, procedures for repairing or replacing damaged longitudinal mixer control rods are included.

Information given in this Notice will be incorporated as appropriate at the next scheduled revision to the below referenced manuals.

#### **C. TIME OF COMPLIANCE:**

Part I of this Notice shall be accomplished within the next 10 hours of helicopter operation following receipt of this Notice, for all affected models.

Part II shall be accomplished prior to further flight as directed in procedure given in Part I.

#### **D. FAA APPROVAL:**

The resultant modification to affected models as described by the procedure given in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### **E. WEIGHT AND BALANCE:**

Weight and balance not affected

#### **F. REFERENCE:**

Model 369E Supplement to HMI Volume 1 (CSP-E-2), Issued 30 November 1983.

HMI Volume 1 (CSP-D-2), Reissued 15 January 1982; Revision 3, 15 August 1983.

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## 2. PROCEDURE

### PART I - INSPECTION OF PN 369A7011 LONGITUDINAL MIXER CONTROL ROD

PARTS LIST			
Nomenclature	Part No.	Qty.	Source
Rivets	NAS 1738B 4	11 ( if required)	Commercial

MATERIALS	
Nomenclature	Source
Primer, Zinc Chromate TT-P-1757	Commercial

TOOLS AND EQUIPMENT	
Nomenclature	Source
Drill motor, Portable	Commercial
Grinder, Portable	Commercial
Drill (sizes as required)	Commercial
Depth Gage	Commercial

- a. Remove all crew compartment interior trim from controls tunnel (Section 4, HMI Vol 1).
- b. Remove controls access door (Section 2, HMI Vol 1).
- c. Check 369D22509-21 web below shoulder.. beam for presence of 11 rivets as shown in Figure 1. If rivets are missing, install 11 NAS1738B4 rivets as shown.
- d. Release cyclic friction; with hand on rivets, (shown in shaded area of Figure 1) connecting 369D22509-51 doubler to controls tunnel web, move cyclic control stick full forward, then slowly to the full aft position. If any movement of the 369D22509-51 doubler is felt, perform Part II of this Notice. Control rod must be repaired or replaced if any damage is noted. If no movement is detected, complete Part I of this Notice.
- e. Move cyclic stick to full forward position; using portable drill or grinder, carefully drill out or grind heads off any rivets connecting 369D22509-51 doubler to controls tunnel web in area shown in Figure 1. Carefully press rivet shanks out of holes.
- f. Using flashlight, observe longitudinal mixer control rod through holes left by rivet removal, while slowly moving cyclic control stick full aft. If any scratches, nicks or other damage to rod is evident, perform Part II of this Notice.

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## PART II - FABRICATION AND INSTALLATION OF 369DSK169-3 REPAIR DOUBLER

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Repair doubler	369DSK169-3	1	Locally fabricated
Rivet	NAS1738B4-2	26	Commercial
Clamp (tie-straps)	SST-4	3	Commercial

MATERIAL	
Nomenclature	Source
Aluminum Alloy Sheet 2024-T3 QQ-A-250 /4 or /5	Commercial
Primer, Zinc Chromate TT-P-1757	Commercial
Abrasive Paper, Grade 400, wet or dry P-P-101	Commercial

TOOLS AND EQUIPMENT	
Nomenclature	Source
Grinder, Portable (Hand held)	Commercial
Drill motor (Portable)	Commercial
Dril (Sizes as required)	Commercial

**NOTE:** If crew compartment trim and controls access door has been reinstalled, remove per Sections 4 and 2 of HMI Vol 1.



Use care during removal and installation of control rod to avoid striking other installed control rods.

- Remove control tunnel cover boot. Disconnect and remove longitudinal mixer control rod (Section 7, HMI Vol 1). Ensure that other control rods are in the full aft position.
- Using portable drill or grinder, carefully drill out or grind heads off rivets attaching 369D22509-51 doubler. Carefully press rivets out of holes.
- Fabricate 369DSK169-3 repair doubler channel from 2024-T3 aluminum alloy sheet, 0.32 inch thick, as shown in Figure 2. Apply zinc chromate primer to all bare metal; paint to match helicopter finish.
- Using removed doubler as template, drill holes in 369DSK169-3 repair doubler to match existing rivet pattern; do not drill holes in area shown in Figure 2 (three places). Center 369D22509-51 doubler to 369DSK169-3 repair doubler when drilling holes.

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e. Attach repair doubler using NAS1738B4-2 rivets.



When removing notches from damaged control rod, rub or polish along length of rod only. Rod will be damaged beyond repairable limits if rubbed or polished around rod circumference. If repair requires removal of material exceeding 0.040 inch or if damage depth exceeds 0.040 inch, rod must be replaced.

f. Inspect longitudinal mixer control rod for damage caused by rubbing or striking tunnel beam doubler rivets. If damage does not exceed 0.040 inch depth, and cracks or sharp notches are not present, repair by applying zinc chromate primer to damaged area. If sharp notches are present, remove sharpness by rubbing along length of rod with 400 grade abrasive paper. Depth after repair may not exceed 0.040 inch. Apply zinc chromate primer to entire damaged area after repair. Replace rod if cracked or if damage exceeds depth limit.

g. Carefully lower riveted end of repaired or replacement 369A7011 control rod (reinstall removed control rod if not damaged) through tunnel opening.

h. Reinstall control tunnel cover boot; secure with tie-straps.



Do not tighten loosened jam nut on rod end beating without holding rod end with wrench.

i. Reattach upper end of longitudinal mixer control rod to longitudinal pitch idler (Section 7, HMI Vol 1).

j. Align lower rod end with longitudinal mixer bellcrank and attach with hardware removed.

k. Perform controls rigging (Section 7, HMI Vol 1).

l. Reinstall crew compartment trim removed for access (Section 4, HMI Vol 1).

m. Reinstall controls access door (Section 2, HMI Vol 1).

n. Record compliance with Part II of this Notice in Compliance Record of Helicopter Log Book.

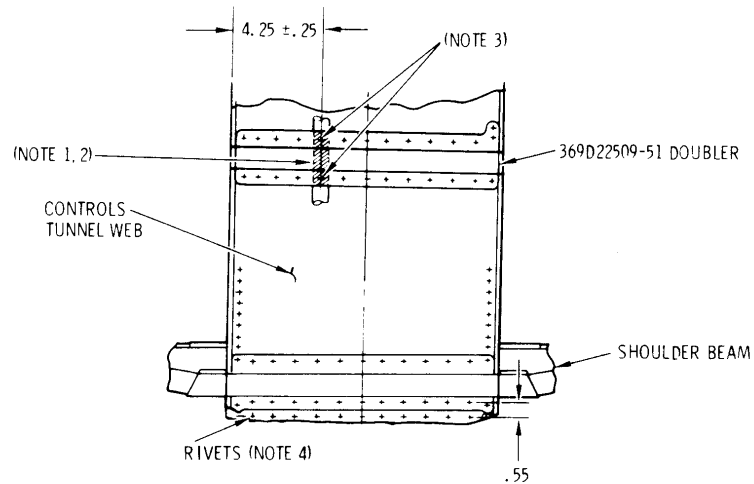
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## NOTES:

1. PLACE FINGERS ON RIVETS IN SHADED AREA WHILE MOVING CYCLIC STICK FULL AFT TO CHECK FOR CONTROL ROD INTERFERENCE.
2. REMOVE ANY RIVETS IN THIS AREA.
3. LEAVE THESE HOLES OPEN. (2 PL)
4. IF RIVETS NOT INSTALLED, INSTALL 11 NAS1738B4 RIVETS AS SHOWN.

88-601

**Figure 1. Interference Check and Rivet Removal; Check for Missing Rivets**

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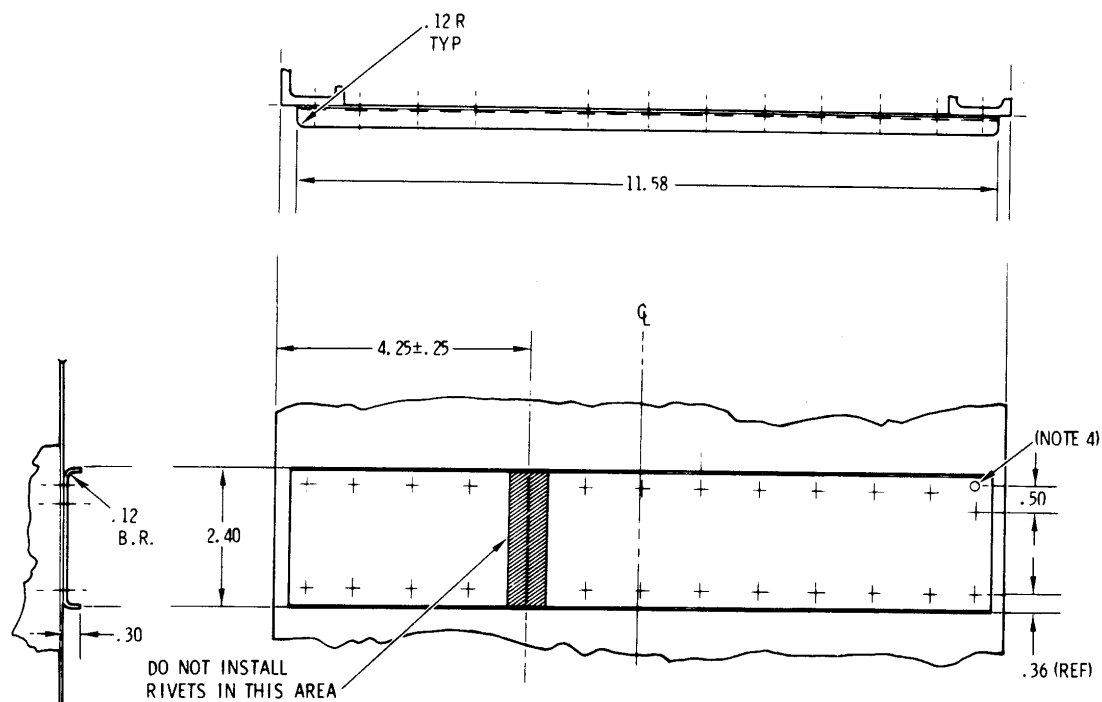
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## NOTES:

1. FABRICATE FROM 0.032 INCH THICK, 2024-T3 ALUMINUM ALLOY SHEET.
2. RELOCATE RIVET HOLE FROM HOLE IN 369D22509-51 AS SHOWN.
3. CENTER 369D22509-51 DOUBLER TO REPAIR DOUBLER AND MATCH DRILL HOLES EXCEPT AS NOTED.

88-699

**Figure 2. Fabrication of Repair Doubler Channel**

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## ALTERATION OF CREW COMPARTMENT SEAT BACK ASSEMBLIES

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

500E Model 369E Series Helicopters Serial No. 0003E through 0024E, 0026E through 0036E, 0038E through 0051E and 0053E through 0065E. 530F Model 369F Series Helicopters Serial No. 0003F through 0008F and 0010F.

#### B. PREFACE:

This Service Information Notice describes alteration of PN 369D26554 crew compartment seat back assemblies on affected models, by replacing Boltron seat back pans with new 369D26554-93 and 369D26554-95 seat back pans, and removing one inch of foam from the seat back cushions which are  $6.60 \pm 0.10$  inch thick. This alteration will allow the seat bottom to move further aft, permitting more room for aft cyclic control stick travel and improve crew comfort.

Replacement seat back pans for affected models will be provided by Hughes Helicopters Warranty Repair Department, for 60 days from the date of this Notice.

#### C. TIME OF COMPLIANCE:

Shall be accomplished within the next 100 hours of helicopter operation, after receipt of replacement seat back pans.

Replacement seat back pans shall be ordered for affected models, within 2 weeks after receipt of this Notice.

Shall be accomplished prior to installation of affected spare seat back assemblies.

#### D. FAA APPROVAL:

The resultant modification to affected models as described by the procedure given in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### E. WEIGHT AND BALANCE:

Weight and balance not affected.

#### F. REFERENCE:

500D Model 369D HMI Vol 1 (CSP-D-2), Reissued 15 January 1982; Revision 3, 15 August 1983.

530F Model 369F HMI Vol 1 (CSP-F-2), Issued 1 March 1984.

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## G. PARTS LIST:

PARTS LIST			
Nomenclature	Part No.	Qty.	Source
Seat back pan (LH)	369D26554-93		HHI
Seat back pan (RH)	369D26554-95		HHI

## H. MATERIALS:

MATERIALS	
Nomenclature	Source
Contact cement No. 1300L or No. 1357	3M Company Phone (213) 726-6352

## I. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Long blade knife or Hot wire foam cutter	Commercial  Commercial

## 2. PROCEDURE

- Remove crew compartment outboard seat back cushion assemblies (Section 4, HMI Vol).
- Measure and record thickness of seat back assemblies as shown in figure 1.
- Remove staples attaching cushions to Boltron pans. Carefully remove cushions from pans; discard pans. Do not remove fabric from foam. If seat measurement in step b was 5.60 +0.10 inch, continue with step f; if seat measurement was 6.60 +0.10 inch, continue with step d.
- Measure and mark one inch of foam at bottom of cushions as shown in figure 1. Separate material from foam only as required for access.
- Using suitable long blade knife or hot wire foam cutter, cut and remove one inch of foam from bottom of cushions along lines marked.
- Bond cushions and any loose fabric to new Boltron pans using contact cement. Use 369D26554-93 Boltron pan for left seat back assembly and 369D26554-95 Boltron pan for right seat back assembly.
- Reinstall seat back assemblies in helicopter (Section 4, HMI Vol 1).
- Record compliance with this Notice in Compliance Record of helicopter Log Book.

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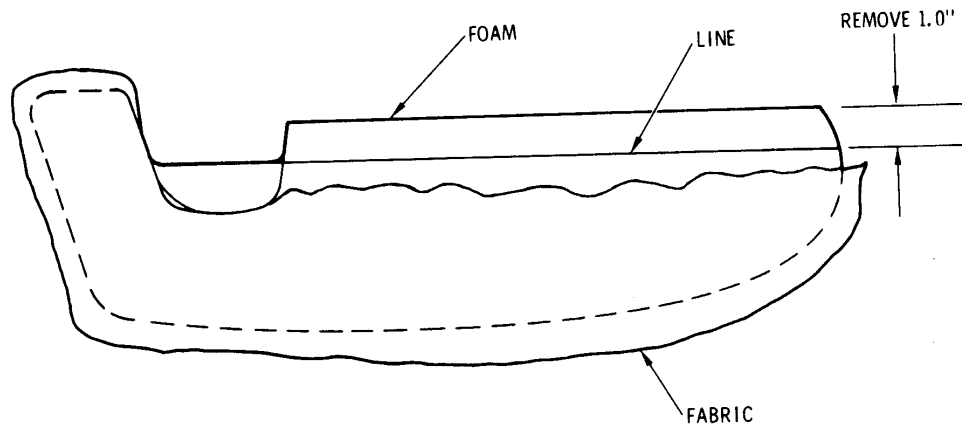
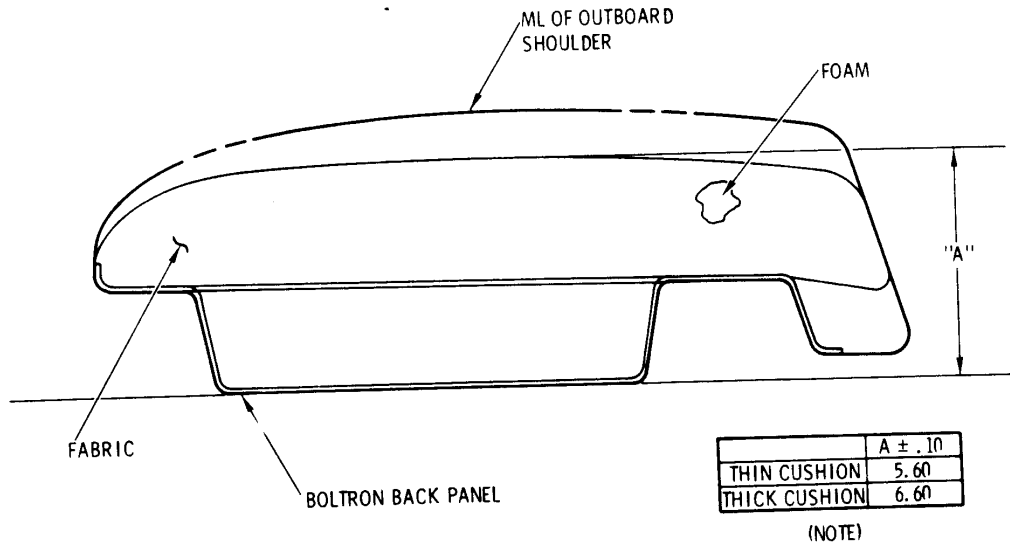


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**NOTE:**

IF SEAT BACK MEASURES  $6.60 \pm 0.10$  INCH,  
REMOVE ONE INCH OF FOAM FROM CUSHION  
AS SHOWN USING LONG BLADE KNIFE  
OR HOT WIRE FOAM CUTTER.

88-602

**Figure 1. Seat Back Measurement and Foam Removal**

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\* Supersedes Service Information Notice EN-40 and FN-29, dated 30 October 1987.

## REWORK OF HORIZONTAL STABILIZER ASSEMBLY (P/N 421-087-503 AND -505).

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All McDonnell Douglas Helicopter Company (MDHC) 369E and 369F/FF Series helicopters.

#### B. PREFACE:

MDHC has received reports of the horizontal stabilizer skin and tabs cracking as a result of a vibration at the outboard ends of the horizontal stabilizer tabs. Therefore, MDHC is requiring operators to perform the following rework of the horizontal stabilizer assembly.

The cost of the 421-087-21 and -22 horizontal stabilizer stiffeners is \$43.56 each and the 421-087-9 weights are \$34.68 each (U.S. funds).

**NOTE:** Helicopters which have complied with the requirements of EN-40/FN-29, dated 30 October 1987, do not have to comply with this Notice. Revisions to this Notice provide instructions for those helicopters which develop horizontal tab stabilizer resonance due to the addition of stiffeners with the removal of the tab weights on the horizontal stabilizer.

#### C. TIME OF COMPLIANCE:

The requirements of this Notice shall be accomplished within the next 100 hours of helicopter operation or 90 days, whichever occurs first.

#### D. FAA APPROVAL:

The resultant alteration to affected models as described by the procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### E. WEIGHT AND BALANCE:

Weight and balance data not affected

#### F. REFERENCE:

369D/E HMI Vol. I (CSP-D-2) Revised 01 March 1989  
369F/FF HMI Vol. I (CSP-F-2) Revised 15 April 1986  
369D/E/F Structural Repair Manual (CSP-DEF-6) Revised 15 Nov. 1984  
369E Pilot's Flight Manual (CSP-E-1) Revised 19 October 1988  
369FF Pilot's Flight Manual (CSP-FF-1) Issued 25 October 1985

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## G. PARTS LIST:

PARTS LIST			
Nomenclature	Part No.	Qty.	Source
Stiffener	421-087-21	1	MDHC
Stiffener	421-087-022	1	MDHC
Rivet, blind	NAS173884-3	4	MDHC
Rivet	M S20470AD3-4	6*	MDHC
Tab weight	421-087-9	A/R	MDHC or field fabricate

\* Additional rivets will be required for those operators who reinstall tab weights to obtain acceptable tail rotor balance and for eliminating tab resonance.

## H. TOOLS AND MATERIALS:

TOOLS AND MATERIALS	
Nomenclature	Source
Heat gun	Commercial
Drill	Commercial
Drill bit (#27, #30 & #40)	Commercial (RM#000150)
Solvent, MEK (TT-M-261)	Commercial (RM#008922)
Abrasive paper, 400 grit	Commercial
Primer (HMS-15-1100, Type 1 )	Commercial (RM#009924)
Primer, zinc-chromate (TT-P-1757)	Commercial (RM#009222)
Aluminum alloy 2024 (alternate 2024-T42) .032 inch thick	Commercial (RM#000163)

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## 2. PROCEDURE

- a. Remove horizontal stabilizer from aircraft per Section 5 of applicable HMI and support safely on suitable work table to accomplish the following steps.
- b. Install stiffeners on outboard ends of horizontal stabilizer as shown in Figure 1 and the following instructions:
  1. Drill out existing NAS1738B4-3 rivets as shown in Figure 1 using #27 size drill bit.
  2. Position stiffeners as shown in Fig. 1 and drill remaining holes using #40 size drill bit.
  3. Apply zinc-chromate primer to holes.
  4. Install NAS1738B4-3 and MS20470AD3-4 rivets per Figure 1.
- c. Perform tail rotor balancing per Section 8 of applicable HMI.
- d. Install horizontal stabilizer per Section 5 of applicable HMI.
- e. With helicopter located on a flat smooth surface, operate the 369E Series helicopter engines at 102 - 105 percent N2 and 369F/FF Series helicopter engines at 99 - 102 percent N2 per applicable PFM. Observe the horizontal stabilizer tab.
- f. If tab resonance occurs and tail rotor balancing is unacceptable, fabricate, apply primer to non-bonding surfaces and install (2) 421-087-9 tab weights adjacent and immediately inboard from the existing tab weights (if installed, see the following note) per the following instructions and as shown in Figure 1.

### NOTE:

- If tab resonance is not evident and the tabs weights are not installed, proceed to Step h.
  - If the outboard tab weights have been previously removed, install weights in the outboard locations as shown in Figure 1. If required, a maximum of two sets of tab weights may be installed to eliminate tab resonance.
1. Clean all tab weight and horizontal stabilizer bonding surfaces down to the primer in the area to be bonded.
  2. Apply adhesive to tab weights and horizontal stabilizer and position tab weights as shown in Figure 1. Fair in edges with adhesive squeeze out.
  3. Install rivets in the same pattern as existing tab weights prior to adhesive curing. Allow adhesive to cure and touch up finish to match adjacent area.
- g. Repeat tail rotor balancing per Section 8 of applicable HMI. Operate 369E Series helicopter engines at 102 - 105 percent N2 and 369F/FF Series helicopter engines at 99-102 percent N2 and verify observe horizontal stabilizer tab resonance has been eliminated. If tab resonance still exists, contact a MDHC Field Service Representative for disposition.
- h. Record compliance to this Notice in the Compliance Record section of the helicopter Log Book.

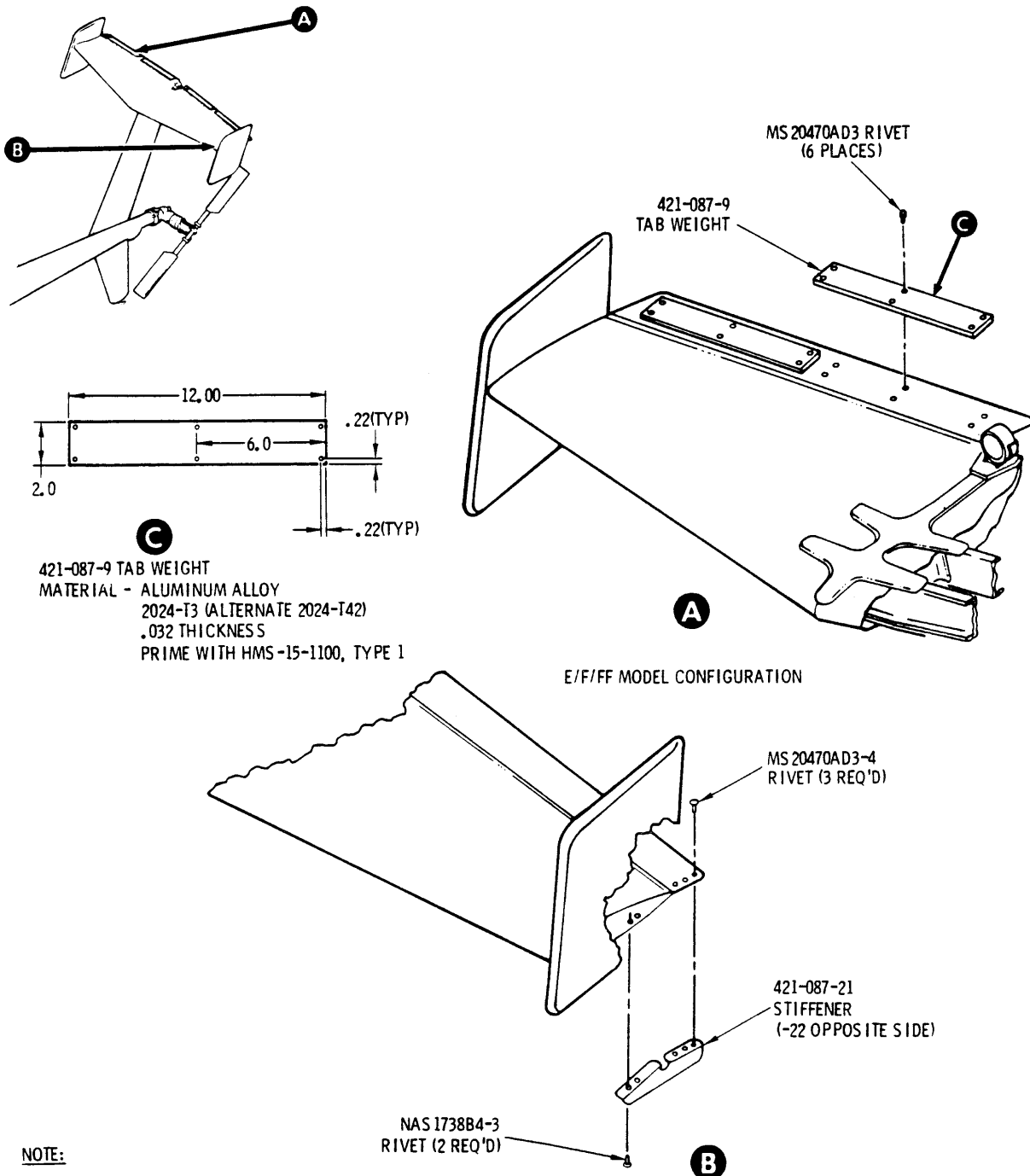
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**NOTE:**

DIMENSIONS SHOWN IN INCHES

88-635-28

**Figure 1. Horizontal Stabilizer Rework.**

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## ONE-TIME REPLACEMENT OF DIODES WITH TRANSZORBES

### 1. PLANNING INFORMATION:

#### A. Models Affected:

MDHC 369E/FF Series helicopters, serial numbers 0384E thru 0459E; and 369FF Series helicopters, serial numbers 0076FF thru 0091FF are affected by the requirements of this Notice.

#### B. Assembly/Components Affected by This Notice:

Various relay assemblies and a terminal board assembly in the helicopter electrical system.

#### C. Summary:

McDonnell Douglas Helicopter Company (MDHC) is requiring operators to replace diodes with transzorb on a number of relays. Operators will also have to add a transzorb to a terminal board.

#### D. Purpose:

To prevent E.P.O. unit or trim actuator assembly damage from voltage spikes and to prevent possible damage from occurring to the aircraft electrical system.

#### E. Time of Compliance:

The requirements of this Notice shall be accomplished within the next 100 hours of helicopter operation.

#### F. FAA Approval:

The resultant alterations to affected models as described by the procedures in this Notice have been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### G. Reference Publications:

369D/E/F/FF HMI (CSP-HMI-3) Revised 29 March 1991

PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Transzorb Assembly	369D24260-11	A/R	MDHC
Transzorb *	1N6055A	REF.	MDHC or Commercial
Terminal lug *	MS25036-102	REF.	MDHC or Commercial
Teflon Tubing *	AWG size 16: .051 I.D. Min.	REF.	MDHC or Commercial
Wire	AWG size 22	A/R	Commercial
Solder	Per QQ-S-571	A/R	Commercial

\* Components of 369D24260-11 transzorb assembly.

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## **2. AIRCRAFT INSPECTION AND/OR REWORK PROCEDURE:**

**NOTE:** Diode assemblies are installed two ways. On relay assemblies, they are installed on terminal posts with terminal lugs under washers and nuts. On TB1003, diodes are soldered to the terminal posts. Subsequently, transzorb assemblies are installed the same way. Refer to CSP-HMI-3 for the general location of the relays and terminal boards and to the Figures in this Notice for electrical schematics.

- (1). Remove diode assembly from the K310 battery relay and install 369D24260-11 transzorb assembly (refer to Figure 1).
- (2). Remove diode assembly from the K309 APU relay and install 369D24260-11 transzorb assembly (refer to Figure 1).
- (3). Remove diode assembly from the K308 FWD line contactor relay and install 369D24260-11 transzorb assembly (refer to Figure 1).
- (4). Remove diode assembly from the K101 landing light relay and install 369D24260-11 transzorb assembly (refer to Figure 2).
- (5). If a cargo hook assembly is installed, remove diode assembly from the K201 cargo hook relay and install 369D24260-11 transzorb assembly (refer to Figure 2).
- (6). Remove diode assembly from the K312 AFT line contactor relay and install 369D24260-11 transzorb assembly (refer to Figure 1).
- (7). Solder a 1N6055A transzorb onto TB1003 with wire terminating at posts 9 and 10. Also, 22 AWG jumpers should be soldered onto TB1001, post 8 to TB1003, post 9; and from TB1003, post 10 to the K104 auto re-ignition relay pin X2 (refer to Figure 3).

## **3. COMPLIANCE RECORD:**

Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

## **4. WEIGHT AND BALANCE:**

Weight and balance not affected.

## **5. POINTS OF CONTACT:**

For further information, contact your local MDHC Field Service Representative (refer to the latest revision of the Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHC, Mesa, Arizona. Telephone: 1-800-445-1516 or (602) 891-6342.

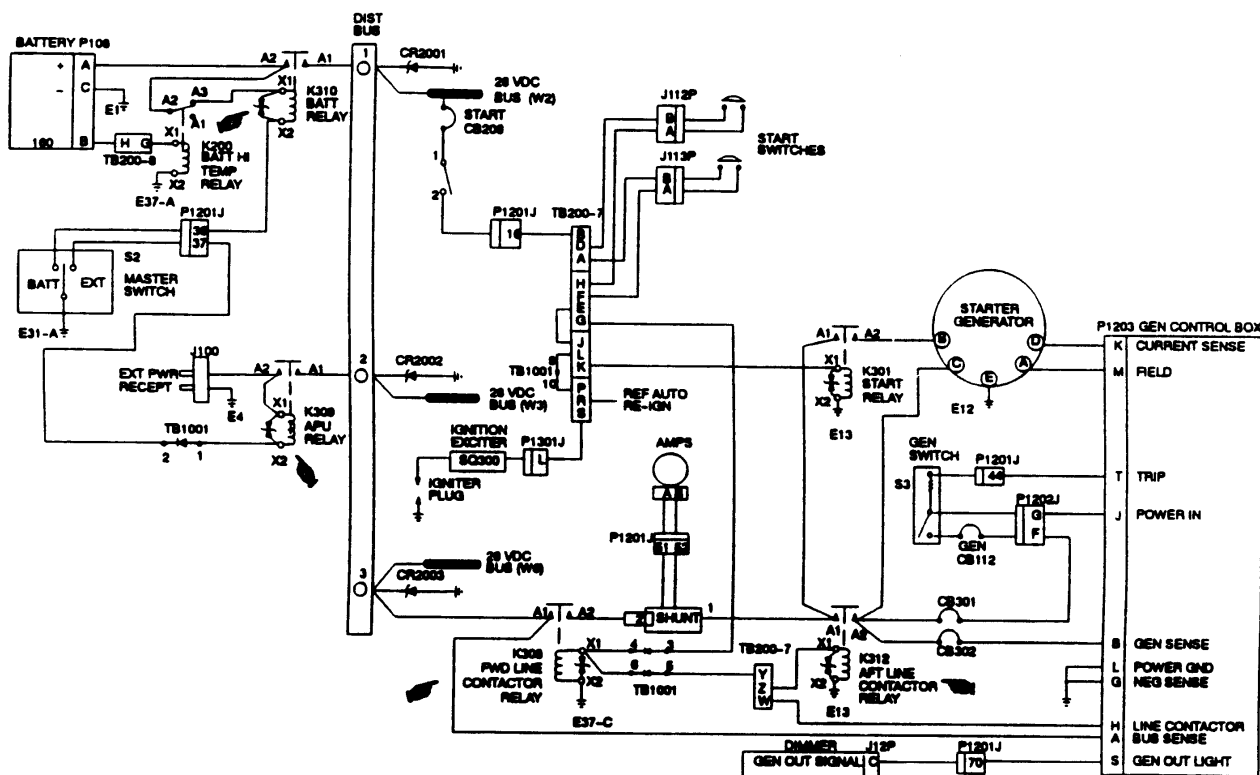
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Q98-1008-2

**Figure 1. Transzorb Installation (K308, K309, K310, K312).**

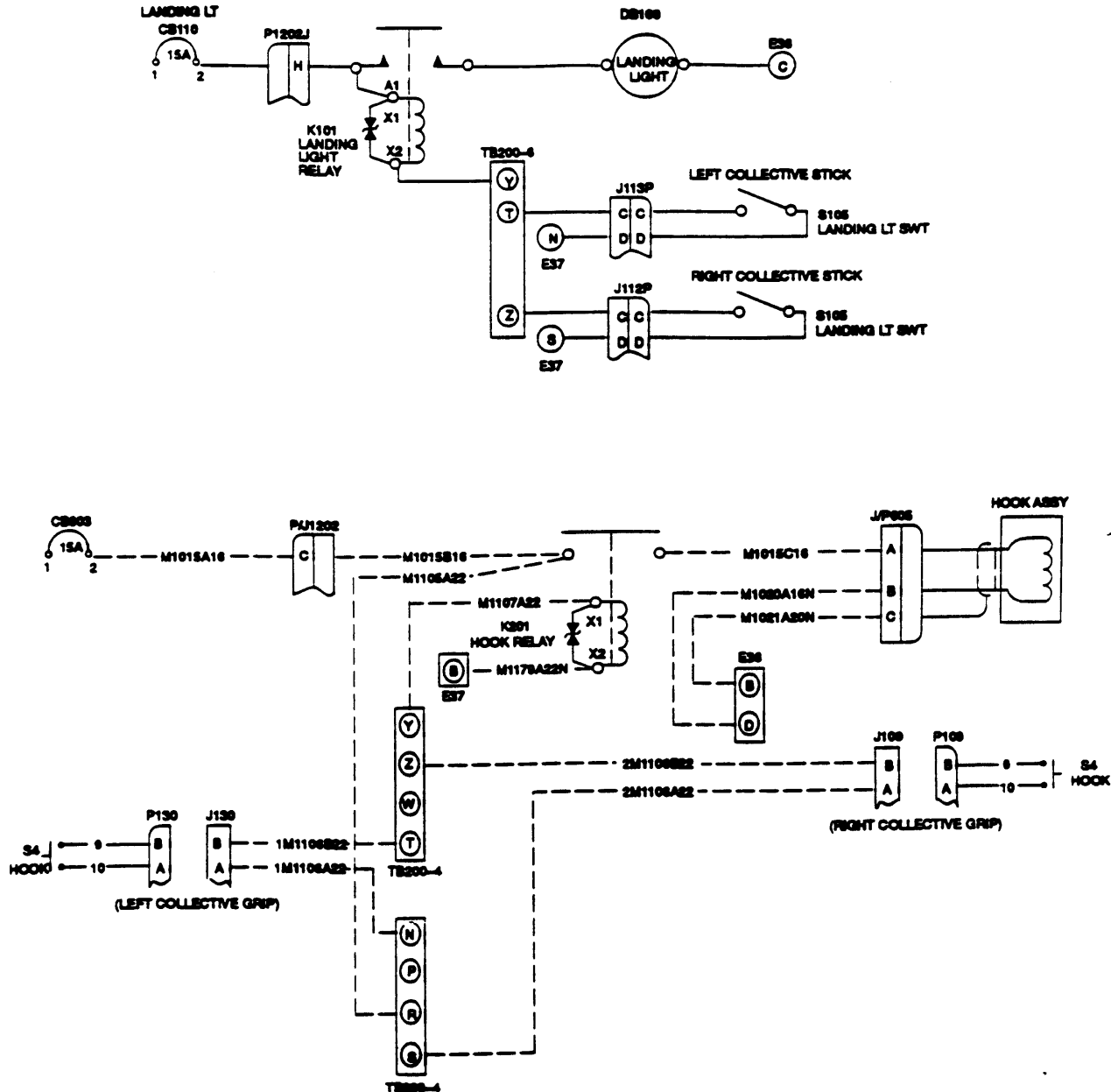
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**Figure 2. Transzorb Installation (K101, K201).**

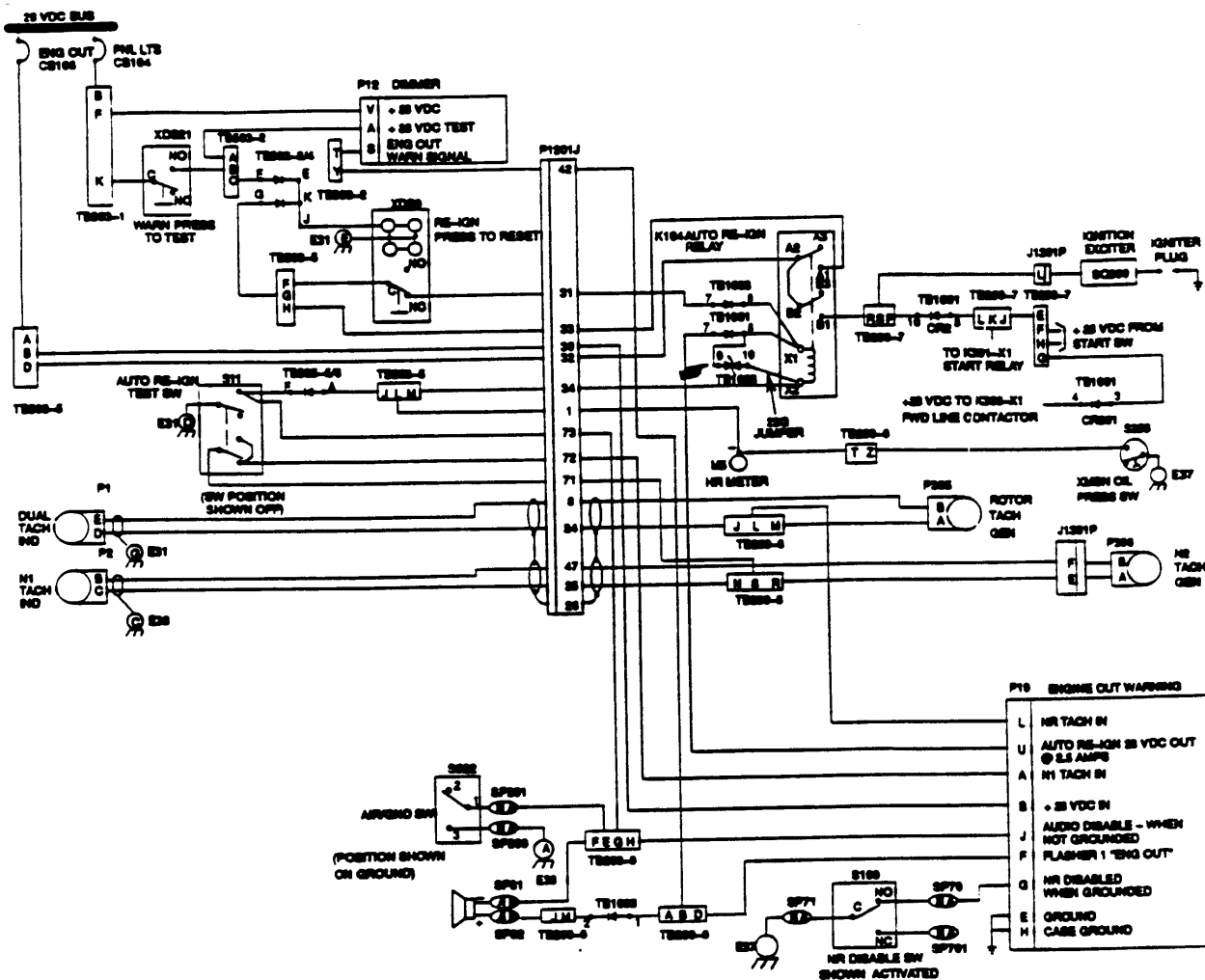
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**Figure 3. Transzorb Installation (TB1001, TB1003, K104).**

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## FUEL PRESSURE SWITCH INSPECTION (P/N 369D28144-1)

### 1. PLANNING INFORMATION:

#### A. Models Affected:

369E Series helicopters, Serial No. 0451E through 0501E, that have 250-C20R/2 engines equipped with CECO suction fuel pumps.

#### B. Assembly/Components Affected by this Notice:

369D28144-1 fuel pressure switch.

#### C. Summary:

McDonnell Douglas Helicopter Company (MDHC) has received a known quantity of the subject fuel pressure switches that contain an internal diaphragm that may cause switch malfunction. As a result, MDHC is requiring operators to inspect their helicopters for certain serial number pressure switches and to replace those specific serial number pressure switches with acceptable parts.

#### D. Purpose:

To prevent the occurrence of a possible fuel pressure switch failure during helicopter operation.

#### E. Time of Compliance:

The requirements of this Notice shall be accomplished within the next 300 hours of helicopters operation.

#### F. FAA Approval:

The resultant inspection/replacement to affected models as described by the procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### G. Weight and Balance:

Not affected.

#### H. Reference Publications:

369D/E/F/FF HMI (CSP-HMI-2) Revised 20 January 1992

PARTS			
Nomenclature	Part No.	Qty.	Source
Fuel Pressure Switch	369D28144-1	A/R	MDHC Refer to MD500 Warranty and Repair Department for those aircraft still under warranty.

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DATE: 20 MAY 1992

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## **2. AIRCRAFT INSPECTION AND/OR REWORK PROCEDURE:**

- (1). Using a flashlight and a mirror, determine the serial number of 369D28144-1, fuel pressure switch.

**NOTE:** The serial number of the fuel pressure switch is located on the upper side of the switch.



Ensure both halves of the fuel filter pressure switch are gripped by wrench when torquing the installation. An asymmetrical wrench grip may cause shearing motion between assembly halves. Such damage may result in leakage or failure to operate FUEL FILTER caution/warning light, or both.

- (2). Remove the following listed serial number fuel pressure switches from service and replace with acceptable fuel pressure switches.

Fuel pressure switch P/N 369D28144-1, Serial No. 1P thru 27P.

- (3). Return fuel pressure switches that have been removed from service as a result of the requirements of this Notice to MDHC.
- (4). Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

## **3. POINTS OF CONTACT:**

For further information, contact your local MDHC Field Service Representative (refer to the latest revision of the Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHC, Mesa Arizona. Telephone: 1-800-445-1516 or (602) 891-6342.

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# SERVICE BULLETIN

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\* Supersedes Service Bulletins SB369E-090, SB369F-077, SB500N-017 and SB600N-014, dated 06 July 1998. The reason for this revision is to clarify locations of various electrical components.

## SOCKET CONTACT ASSEMBLY INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) 369E (384E and subsequent), 369FF (076FF and subsequent) 500N and 600N series helicopters.

#### B. Assembly/Components Affected By This Notice:

Terminal Board and Relay Bracket Assembly (P/N 369D24255), HS4256-1 Relay Receptacle, and 019-0075-002 Contact Socket.

#### C. Reason:

To ensure that the sockets properly fit their corresponding pins of the affected relay. Failure to comply with the requirements of this Bulletin may affect the operation of the Battery Hi Temp or Auto Reignition Ignitor relay used on generic wired 369E, 369FF and 500N. Non-compliance may also affect the Battery Hi Temp relay, FADEC Caution Warning Signals to the indicator lights and the Voice Warning Unit, (FADEC Start relay, ECU Fail relay, Engine Out relay or Manual Mode relay) on 600N aircraft.

The problem of the incorrect socket to relay pin connection may affect the operation of the following relays on the generic wired 369E, 369FF, and 500N helicopters:

**Battery Hi Temp. Relay** (K200 - The redundant automatic disconnect of the overtemp battery may not function)

**Auto Re-ignition Igniter relay** (K104 - May not allow the igniters to automatically fire, manual override is available at the collective start switch for 369E/FF and 500N only)

The following Model 600N helicopter relays may be affected by this problem:

**Battery Hi Temp relay** (K200 - same as 369E/FF and 500N above)

**FADEC Related relays as noted below:**

**ECU Fail relay** (K2 - May not get a signal to ECU caution lights or voice warning pertaining to the ECU)

**Engine Out relay** (K3 - May fail to get engine out warning light or voice warning)

**Manual Mode relay** (K5 - May not get caution light/voice warning indication ECU switched to manual mode)

**FADEC start relay** (K1 - May not be able to start engine)

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Voice Warning Unit (The FADEC Warning Signals (K1, K2, K3 and K5), may not get a voice warning for FADEC failures)

## **D. Description:**

Procedures in this Bulletin provide owners and operators with information pertaining to inspecting various relay receptacle assemblies for proper contact socket size and fit. Relay assemblies to be inspected are the K1, K2, K3, K5, K104 and K200 (relay P/N HS 4240).

**NOTE:** These relay positions contain the suspect 019-0075-002 sockets.

## **E. Time of Compliance:**

The requirements of this Bulletin shall be accomplished at the next regularly scheduled inspection of the aircraft or within the next 30 calendar days after receipt of this Service Bulletin, whichever occurs first, but not later than August 15, 1998.

## **F. FAA Approval:**

The technical design aspects of this Bulletin are FAA Approved.

## **G. Manpower:**

2.0 man-hours to perform the inspection only.

## **H. Interchangeability:**

None

## **I. Material/Part Availability:**

Contact Commercial Suppliers.

REPLACEMENT PARTS/SUPPLIES/TOOLS			
Nomenclature	Part No.	Qty.	Source
Socket	019-0075-002	A/R	Obtain replacement sockets from your local MDHS Field Service Representative.
Socket Extraction Tool	ATV 2073	1	Astro Tool Co. 21615 S.W. TV Highway Beaverton, Oregon 97006 (503) 642-9853
Socket Crimping Tool used with: Die Head	M2252/1-01	1	Daniels Manufacturing Orlando, Florida (407) 855-6161
	TH184S	1	
GO-NO/GO Gauge	Number 60 drill bit or 0.040 in. (1.016 mm) wire gauge	1	Commercial

## **J. Warranty Policy:**

Standard warranty policy applies.

## **K. Tooling:**

Refer to Table in I.

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DATE: 25 SEPTEMBER 1998

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## L. Weight and Balance:

N/A

## M. Electrical Load Data:

N/A

## N. Other Publications Affected:

N/A

## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1 and Figure 2 )

**NOTE:** The following information should be known prior to performing the following inspection.

- The sockets that do not fit the pins have a larger opening, which is evident when viewed with the naked eye and are very loose when inserted on the relay pin.
- Discrepant sockets have two witness holes, one in the wire crimp area and another in the relay pin contact area. The correct sockets have one witness hole in the crimp area and no witness hole in the relay pin contact area.
- The color of the red paint on the discrepant socket band is dark red. The color of the paint on the correct socket is red/orange.

(1). Access the suspect relays (Ref. CSP-HMI-3). **NOTE:** The suspect relays are located on the inboard side of the battery compartment attached to the center keel.

(2). Remove relay to be inspected from its socket (Ref. CSP-HMI-3).



Ensure gauge is inserted perpendicular to the face of the receptacle, to prevent damage to the receptacle and contact socket.

(3). Insert the GO NO/GO gauge into every socket of relay receptacle. If gauge goes into socket, the socket is to be replaced.

(4). Reinstall relay into socket (Ref. CSP-HMI-3).

(5). Reinstall any panels removed for access.

(6). Record compliance with this Bulletin in the Rotorcraft Logbook.

## 3. DISPOSITION OF PARTS REMOVED

Scrap

## 4. COMPLIANCE RECORD

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

## 5. POINTS OF CONTACT

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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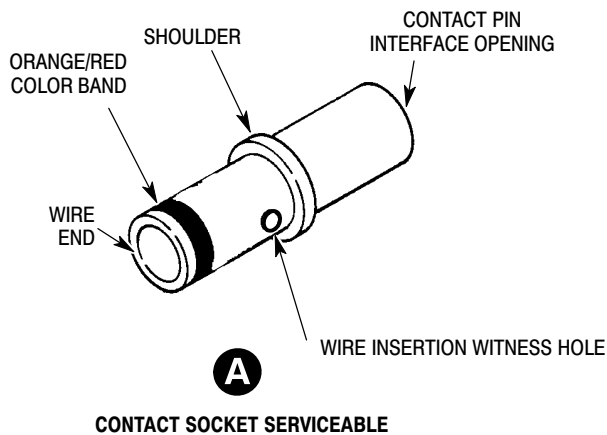
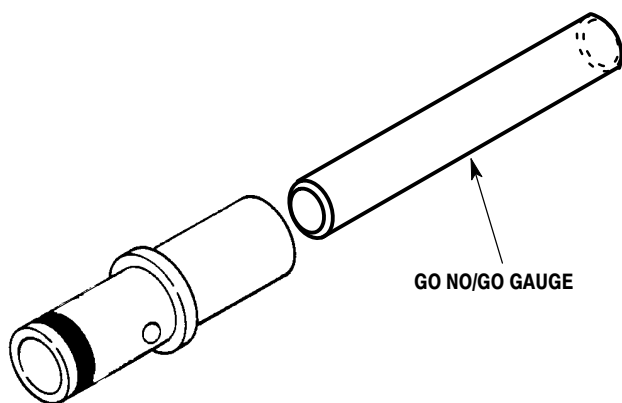
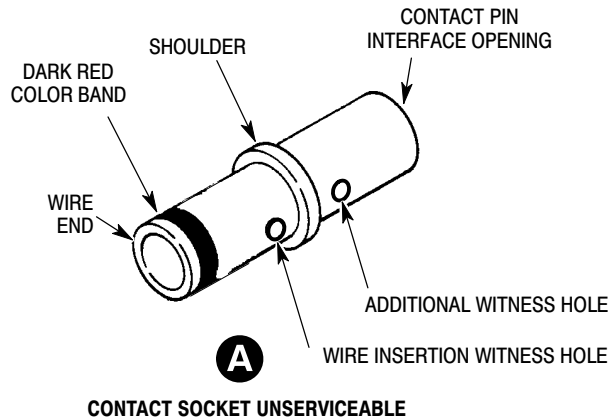
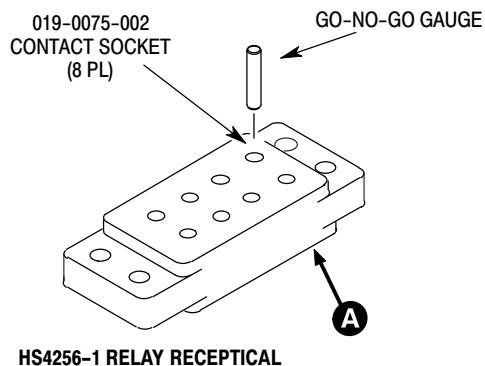
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**Figure 1. Contact Socket Inspection**

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## Figure 2. Contact Socket Assembly Inspection

McDonnell Douglas Helicopter Systems  
Service Bulletin Response Form

Fax to (602) 891-6782

Operator or Company Name:

Location:

Bulletin No.:

Title:

Aircraft Serial No.:

Date of Compliance:

Person Who Signed-off Bulletin:

Telephone:

Fax:



# SERVICE BULLETIN

DATE: 28 MARCH 2007

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## ONE TIME INSPECTION OF THE OIL COOLER BLOWER, DRIVE PULLEY INSTALLATION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

MD Helicopters, Inc. (MDHI) helicopters 369E (S/N 0568 and 0571E), 369FF (S/N 0146FF), 500N (S/N LN102, LN103 and LN104) and 600N (S/N RN060, RN065, RN068, RN069 and RN070) that have 369D25630-101 or 600N5630-501, blower assemblies installed.

#### B. Assembly/Components Affected By This Bulletin:

Fan Assembly - Transmission & Coupling P/N 369F5610-501 and -503.

#### C. Reason:

There have been reports from the field that oil cooler driven pulleys have been installed onto the oil cooler blower assembly with missing hardware or with the correct hardware installed incorrectly. This has caused the driven pulley to become loose and cause damage to surrounding components. Failure to comply with this Bulletin can result in damage to the oil cooler blower assembly, the driven pulley and excessive oil temperatures.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to inspection of the oil cooler blower assembly and driven pulley to make sure that the correct hardware is installed in accordance with the Handbook of Maintenance Instruction (CSP-HMI-2).

#### E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### F. Manpower:

Part 1: 1.5 man-hours.

Part 2: 5.5 man-hours.

#### G. Time of Compliance

Part 1: Complete the requirements of this Bulletin prior to the next flight.

Part 2: If correct assembly can not be verified in Part 1. A one time ferry flight not to exceed 100KTS to an appropriate maintenance facility to perform the required repairs is authorized

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Parts/supplies can be purchased from MDHI and locally from commercial sources.

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REPLACEMENT PARTS/SUPPLIES				
Nomenclature	Part No.	Qty.	Effectivity	Source
Nut, Self Locking, Reduced Hexagon, Ring Base	MS21043-6	1	D/E/FF/500N/600N	MDHI
Washer	369D25633	1	D/E/FF/500N/600N	MDHI
Washer	AN960C916	1	D/E/FF/500N/600N	MDHI
Washer, Interchangeable With AN960C916 Washer	NAS1149C0963R	1	D/E/FF/500N/600N	MDHI
Spacer	369D25631	1	D/E/FF/500N/600N	MDHI
Belt	369D25623	1	D/E/FF/500N	MDHI
Belt	93920219	1	600N	MDHI
Pulley, Driven	369D25624	1	D/E/FF/500N	MDHI
Pulley, Driven	600N5624-1	1	600N	MDHI
Shaft	29223	1	D/E/FF/500N	MDHI
Shaft	600N5617-1	1	600N	MDHI
Seal, Interchangeable With 17X40LSTO Seal	29226	1	D/E/FF/500N/600N	MDHI
Seal	17X40LSTO	1	D/E/FF/500N/600N	MDHI
Bearing	369H5655-5	1	D/E/FF/500N/600N	MDHI
Bearing	369H5655-3	1	D/E/FF/500N/600N	MDHI

**J. Warranty Policy:**

MDHI will provide, to Authorized Service Centers, up to 1.5 hours to inspect and make sure that the driven pulley is installed correctly and an additional 5.5 hours to replace damaged components, if required.

If there are damaged components, MDHI will also provide replacement parts at no cost to the customer.

**K. Tooling:**

N/A

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**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

N/A

**O. Points of Contact**

For further assistance, contact your local MDHI Field Service Representative or contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or (480) 346-6387.  
DATAFAX: (480) 346-6813.

**2. ACCOMPLISHMENT INSTRUCTIONS****A. Part 1: Driven Pulley Assembly Installation Inspection**

- (1). Gain access to oil cooler blower assembly (Ref CSP-HMI-2, Sec 25-30-00).

**NOTE:** If the AN960C916 washer can not be verified as being correctly installed between the driven pulley and the 369D25631 spacer on the oil cooler blower shaft (Ref Figure 1), the oil cooler assembly must be removed from the aircraft and disassembled.

- (2). Using a bright light and a mirror inspect the oil cooler blower assembly to make sure that the driven pulley is installed correctly on the oil cooler shaft (Ref. CSP-HMI-2 and CSP-IPC-4, Section 63-21-00).

**B. Part 2: Removal, Repair And Reinstallation Of The Oil Cooler Blower Assembly**

- (1). Remove driven pulley and oil cooler blower assembly from aircraft (Ref CSP-HMI-2, Sec 63-21-00).
- (2). Remove driven pulley from oil cooler blower shaft (Ref CSP-HMI-2, Sec 63-21-00).
- (3). Verify that the AN960C916 washer is installed between the driven pulley and the 369D25631 spacer. (See Figure 1)
- (4). Inspect oil cooler blower assembly, driven pulley and belt (Ref CSP-HMI-2, Sec 63-21-00).
- (5). Remove and replace damaged components (Ref CSP-HMI-2, Sec 63-21-00).
- (6). Reinstall driven pulley and oil cooler blower assembly (Ref CSP-HMI-2, Sec 63-21-00).

**3. IDENTIFICATION**

N/A

**4. DISPOSITION OF PARTS REMOVED**

Send back to MDHI for evaluation.

**Figure 1.**

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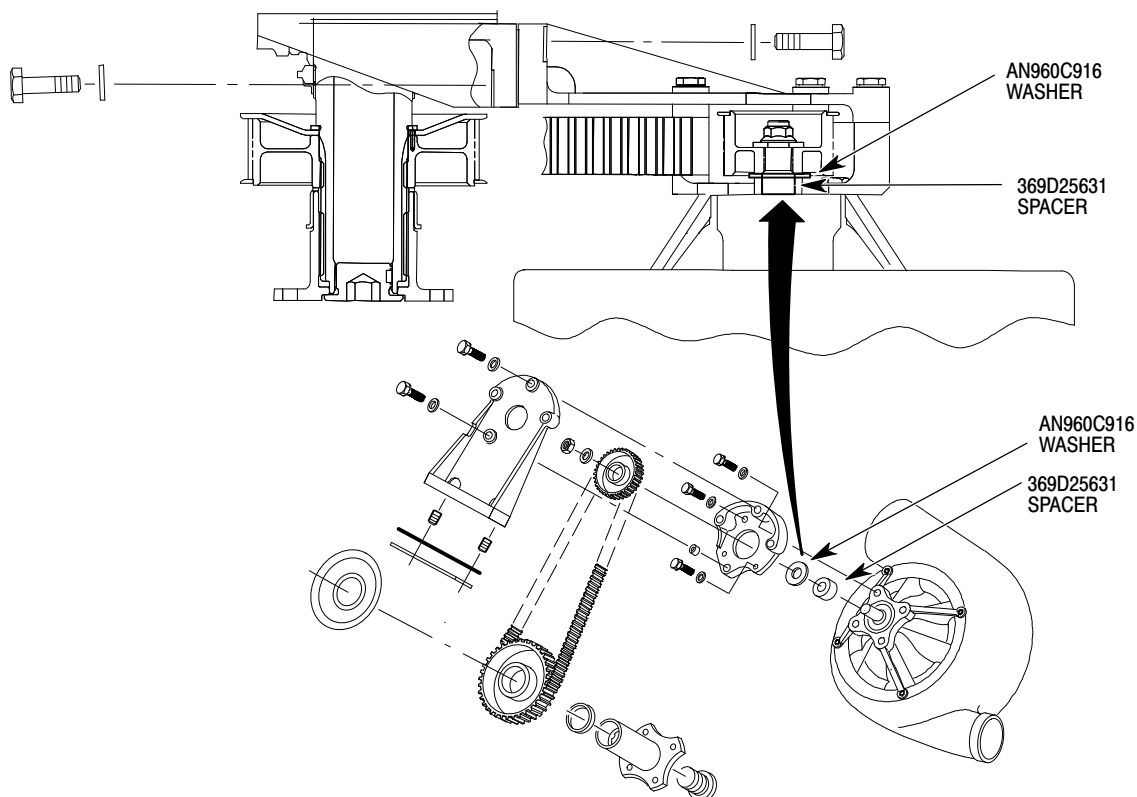
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DATE: 28 MARCH 2007

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## 5. COMPLIANCE RECORD

Record Compliance with this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.

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# SERVICE BULLETIN

DATE: 21 NOVEMBER 2011

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## TAIL ROTOR BLADE ASSEMBLY INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) Model 369A (Army OH-6A), 369H, 369HE, 369HS, 369HM, 369D, 369E, 369F, and 369FF, and tail rotor blade assemblies in spares inventory.

#### B. Assembly/Components Affected By This Notice:

Tail Rotor Blade Assembly MDHI P/N 369D21640-501 and -503  
Helicopter Technology Co. (HTC) HTC P/N 500P3100-101 to include "M", "MT", "T" and "IT"

Tail Rotor Blade Assembly MDHI P/N 369D21641-501 and -503  
Helicopter Technology Co. (HTC) HTC P/N 500P3100-301 to include "M", "MT", "T" and "IT"

Tail Rotor Blade Assembly MDHI P/N 369D21643-501 and -503  
Helicopter Technology Co. (HTC) HTC P/N 500P3300-501 to include "M", "MT", "T" and "IT"

Tail Rotor Blade Assembly MDHI P/N 369D21642-501 and -503  
Helicopter Technology Co. (HTC) HTC P/N 500P3500-701 to include "M", "MT", "T" and "IT"

#### C. Reason:

Failure to comply with this bulletin can result in the pitch control arm separating from the tail rotor blade. This will lead to an unbalanced condition, vibration, partial loss of tail rotor pitch control and possible loss of directional control of the helicopter.

#### D. Description:

Procedures in this Bulletin give owners and operators information that pertains to an inspection of the tail rotor blade assembly pitch control arm for any evidence of corrosion, corrosion pitting or cracks.

#### E. Time of Compliance:

Perform this Bulletin within five (5) flight hours of receiving this Bulletin. Remove Tail Rotor Blade Assembly, strip paint and inspect each pitch control arm (all four sides and the pocket) for corrosion, corrosion pitting or cracks in the hatched areas shown in Figure 1 of this Bulletin.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

Corrosion Inspection: Five and one-half (5.5) man-hours.

#### H. Interchangeability:

None.

#### I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

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## J. Material/Part Availability:

Contact MDHI Field Service Department.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Tail Rotor Blade Assembly	369D21640-507	AR	MDHI
Tail Rotor Blade Assembly	369D21641-507	AR	MDHI
Tail Rotor Blade Assembly	369D21642-507	AR	MDHI
Tail Rotor Blade Assembly	369D21643-507	AR	MDHI
Tail Rotor Blade Assembly	500P3100-305	AR	HTC
Tail Rotor Blade Assembly	500P3300-505	AR	HTC
Tail Rotor Blade Assembly	500P3500-705	AR	HTC
Paint Stripper	Turco #5351	1	Henkel
Aluminum Tape (0.005 thick 2.0 width)	MIL-T-23399	1	3M
Alodine	Alodine 1201	1	Henkel

## K. Warranty Policy:

N/A

## L. Tooling:

Magnifying Glass, 10X minimum - commercial

Bright Light Source - commercial

TOOLS AND EQUIPMENT	
Nomenclature	Source
Magnifying Glass 10X	Commercial
Bright Light Source	Commercial

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# SERVICE BULLETIN

DATE: 21 NOVEMBER 2011

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**MANDATORY**

## **M. Weight and Balance:**

N/A

## **N. Electrical Load Data:**

N/A

## **O. Other Publications Affected:**

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-H-2 Basic Handbook of Maintenance Instructions

CSP-H-4, Appendix B – Airworthiness Limitations Overhaul and Replacement Schedules  
Periodic Inspections Weight and Balance Procedures

## **P. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-H-2 Basic Handbook of Maintenance Instructions

AD 2003-08-51 issued April 15, 2003

AMOC June 13, 2003 for AD 2003-08-51

HTC Service Bulletin 3100-5 – Tail Rotor Blade Pitch Control Arm Corrosion Inspection

## **2. ACCOMPLISHMENT INSTRUCTIONS**

(Ref. Figure 1)

### **A. Corrosion Inspection**

- (1). Remove tail rotor blade assembly (Ref. CSP-HMI-2, Section 64-10-00, or CSP-H-2, Section 8).



Use care when handling pitch bearings. Teflon reinforced linings are easily damaged if mishandled or exposed to contaminants. If lining is damaged or contaminated, bearing service life will be shortened or bearing replacement may be required.

- (2). (Ref. Figure 1, Note 2). Carefully tape around bearing, bushing and blade areas to prevent contamination from debris and paint stripper. Use aluminum tape that is resistant to paint stripper.



Extreme care shall be taken to prevent debris or paint stripper contamination in bearing and bushing areas and tail rotor blade bond surfaces and cavities.

- (3). Remove paint from tail rotor blade pitch control arm (all four sides and the pocket) as shown in Figure 1 with paint stripper. (Ref. CSP-HMI-2, Section 20-30-00 or CSP-H-2, Section 2).

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The pitch control arm area is shot peened and has a protective chemical coating. No abrasive cleaning, sanding or blending is allowed.

- (4). (Ref. Figure 1 hatched area). Use a bright light and 10X magnifying glass to inspect the tail rotor blade pitch control arm (all four sides and the pocket) for corrosion, corrosion pitting or cracks. No corrosion, corrosion pitting or cracks are allowed. If corrosion, corrosion pitting or cracks are present, replace blade assembly before next flight. (Ref. CSP-HMI-2, Section 64-10-00 or CSP-H-2, Section 8). Mark the defective tail rotor blade assembly as scrap and destroy.
- (5). Make sure the inspection area has a “dimpled” shot peen surface texture. If the inspection area surface is not shot peened or there is evidence of blending or material removal that affected the shot peened surface, replace blade assembly before next flight. (Ref. CSP-HMI-2, Section 64-10-00 or CSP-H-2, Section 8). In addition, check rotorcraft maintenance records to make sure no rework was done in this area. Mark the defective tail rotor blade assembly as scrap and destroy.
- (6). If no corrosion, corrosion pitting or cracks exist and the inspection area has an acceptable shot peen surface texture, refinish stripped pitch control arm as follows:
  - (a). Apply alodine per instructions contained in the CSP-HMI-2, Section 20-40-00 or CSP-H-2, Section 2).
  - (b). Apply primer and paint to match original as required (Ref. CSP-HMI-2, Section 20-30-00 or CSP-H-2, Section 2).
- (7). Install tail rotor blade assembly (Ref CSP-HMI-2, Section 64-10-00 or CSP-H-2, Section 8).

## **B. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book and the tail rotor blade assembly component card.
- (2). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.

## **C. Periodic Inspection**

Upon completion of this Bulletin, perform yearly inspections of pitch control arm per CSP-HMI-2, Section 05-20-15 or CSP-H-4, Section 05-20-15.

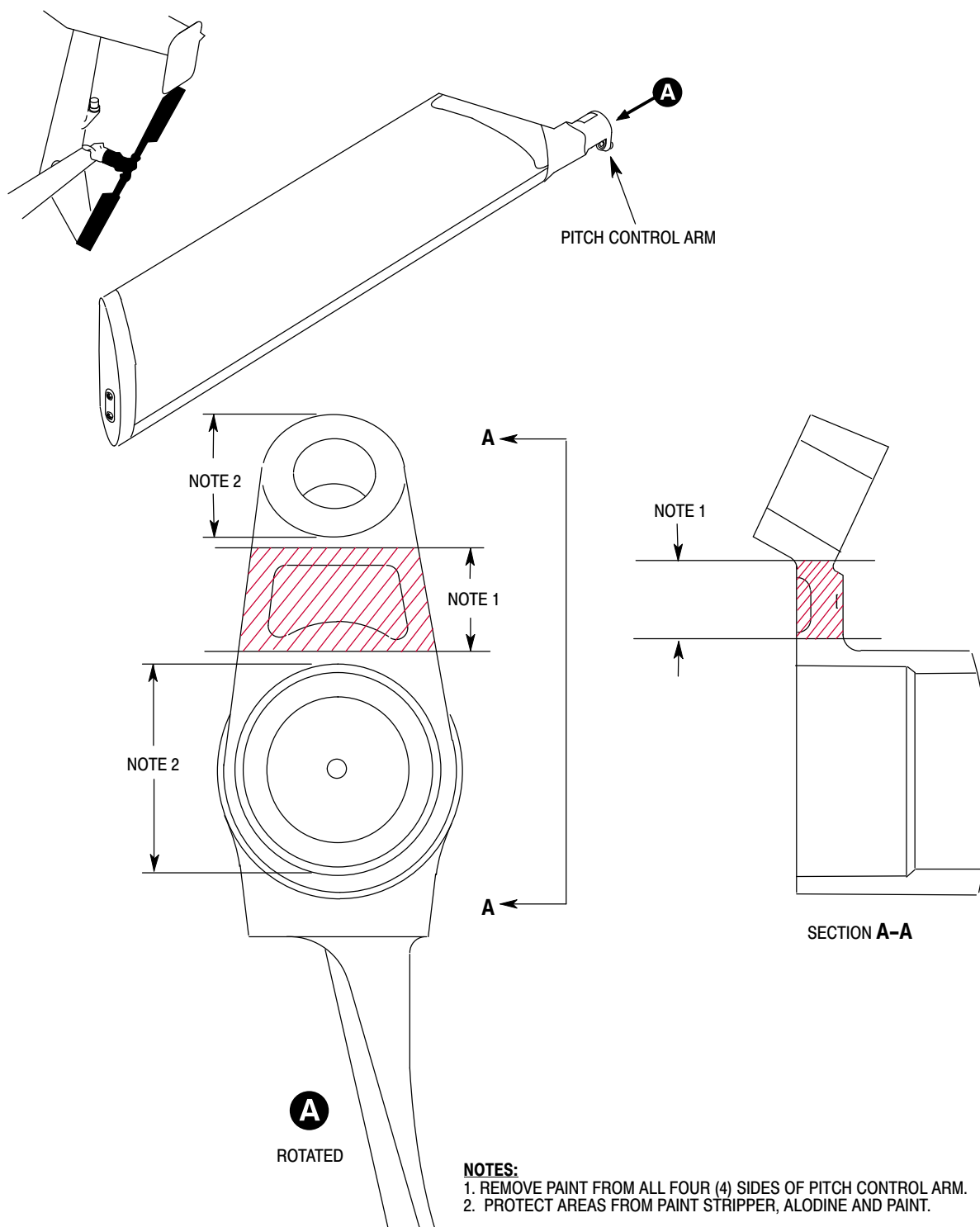
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**Figure 1. Tail Rotor Pitch Control Arm**

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## Bulletin Completed Record

### TAIL ROTOR BLADE ASSEMBLY INSPECTION

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

Owner /Operator: _____	Helicopter Serial No: _____
Address: _____	Helicopter Total Time: _____
_____	Tail Rotor Blade P/N: _____
_____	S/N: _____
_____	Date Complete: _____
Phone: _____	Location: _____
E-mail: _____	

This bulletin is complete: \_\_\_\_\_

(Signature)

(Print Name)

(Title)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
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# SERVICE BULLETIN

DATE: 29 JULY 1983

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## INSPECTION OF OVERRUNNING CLUTCH SPRAG ASSEMBLY

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All Model 369FF Series Helicopters equipped with any Cargo Hook.

#### B. PREFACE:

This Service Information Notice lists a procedure for inspection of PN 369A5364 Sprag Assembly, 369A5352 Outer Race and 369A5353 Inner Race of PN 369A5350-603 Overrunning Clutch Assembly for wear in the cages and sprags of the sprag assembly, inner race and outer race. Excessive wear can lead to breakage and malfunction of the sprag assembly. The sprag assembly must be replaced where specified limits are exceeded.

\*To establish TIME OF COMPLIANCE, either clutch total time with hook attached may be used, or a separate and permanent log of external load operating mission time (takeoff to landing on a flight which involves external load operations) may be used. The log must meet requirements of FAR 91. 173.

#### C. TIME OF COMPLIANCE:

\*Shall be accomplished for helicopters with sprag assembly exceeding 600 hours in service, within next 50 hours and thereafter each 300 hours; for helicopters with less than 600 hours in service, at next 300-hour inspection and thereafter each 300 hours. The sprag assembly shall be replaced at 1800 hours total service time.

#### D. FAA APPROVAL:

The resultant alteration to the affected helicopters described by the inspection procedure in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### E. WEIGHT AND BALANCE:

Weight and balance are not affected

#### F. REFERENCE:

530F Model 369F HMI Volume I. Publication No. CSP-F-2, Issued 29 July 1983. 500D Model 369D Component Overhaul Manual (369D-COM), Part II. Publication

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## G. PARTS LIST:

PARTS LIST			
Nomenclature	Part No.	Qty.	Source
Sprag Assembly	369A5364	1	HHI
Outer Race	369A5352	1	HHI
Inner Race	369A5353	1	HHI

## H. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Magnifying Lens, 4x	
Outside Micrometer, 1.0000 to 1.5000 inches	
Inside Micrometer, 2.0000 to 2.2500 inches	
Calipers	

## 2. INSPECTION PROCEDURE

- a. Remove overrunning clutch assembly from helicopter in accordance with Section 9 of HMI - Volume 1.
- b. Disassemble overrunning clutch in accordance with Section 9 of HMI -Volume 1 and Part II of Component Overhaul Manual.
- c. Visually inspect sprag assembly for broken drag dips, broken drag strips, cracked cages, broken or distorted ribbon spring, or cracked, broken or missing sprags. Disclosure of any of these discrepancies requires replacement of the sprag assembly.

**CAUTION** Do not remove sprags and clips from sprag assembly. Removal requires replacement of sprag assembly.

- d. Inspect cages for peening or wear; maximum permissible width across inner cage and outer cage windows is 0.208 inch. (See Figure 1 and Figure 2. ) If maximum is exceeded, replacement of sprag assembly is required. Note in Figure 2 that the most pronounced inner and outer cage wear occurs in the outside diameter corners of the crossbars. Wear should be measured at the worst point. Inspect for any wear on inner cage face opposite the flange end.
- e. Using 4X magnifying lens, inspect sprag load surfaces. If any flats, scoring, heavy pitting or heavy scratches are found on sprag inner or outer surfaces, the sprag assembly must be replaced. (See Figure 3. )
- f. Measure distance from edge of sprags to load pattern. Should the inner surface measurement be less than 0.050 inch minimum or the outer surface measurement be less than 0.070 inch minimum, the sprag assembly must be replaced. (See Figure 3. ) On the sprag inner contact surface of all the sprags in a sprag assembly the variation in distance from edge of sprag to load pattern should not exceed 0.030 inch. If this figure is exceeded, replace sprag assembly.

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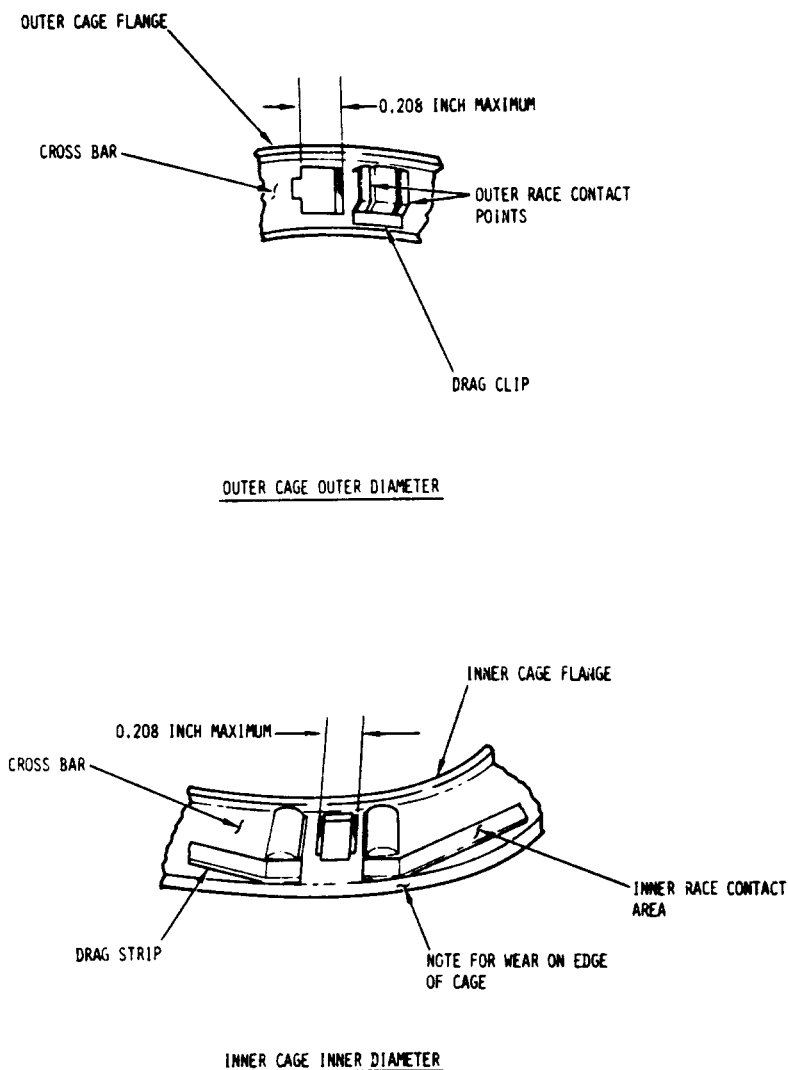
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- g. Check dimensions of inner race (369A5353) spragway outer diameter using outside micrometer and outer race (369A5352) spragway inner diameter using inside micrometer. Dimensional minimum limit for the inner race spragway is 1.4990 inches. Dimensional maximum limit for the outer race spragway is 2.1565 inches. (Refer to Part II, Section 2 of Component Overhaul Manual. )
- h. Using 4X magnifying lens visually inspect inner race and outer race for brinelling, scoring or pitting. On the inner race pay particular attention to area around oil drain holes for cracks. No defects are allowed. If any are found, replace inner race or outer race as applicable. (Refer to Part II, Section 2 of Component Overhaul Manually)
- i. If the 369A5364 sprag assembly is replaced for any reason other than broken drag clips or drag strips or distorted ribbon springs, magnaflux inner race and outer race per Part II, Table 3-2 of HMI Component Overhaul Manual. Disclosure of any defect requires replacement of inner race or outer race as applicable.
- j. Reassemble overrunning clutch assembly in accordance with Section 9 of HMI - Volume 1.
- k. Reinstall clutch assembly into helicopter in accordance with Section 9 of HMI - Volume 1.
- 1. Record compliance with this Service Information Notice in Compliance Record of helicopter log book.

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**Figure 1. Cage Wear Limits**

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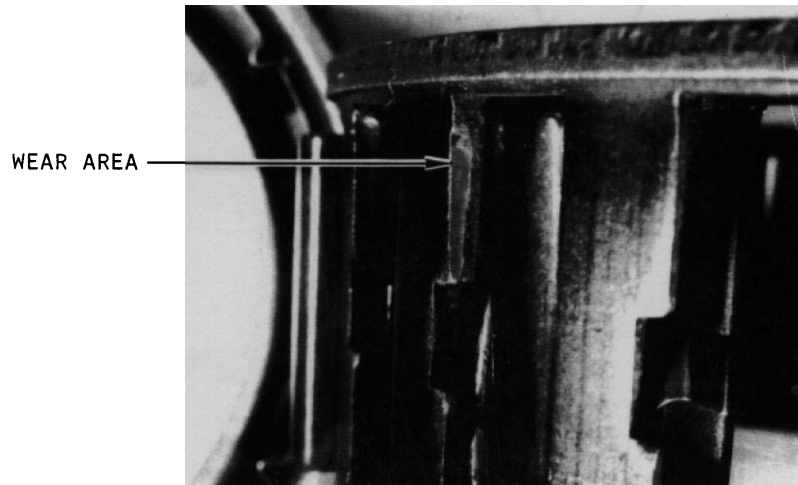
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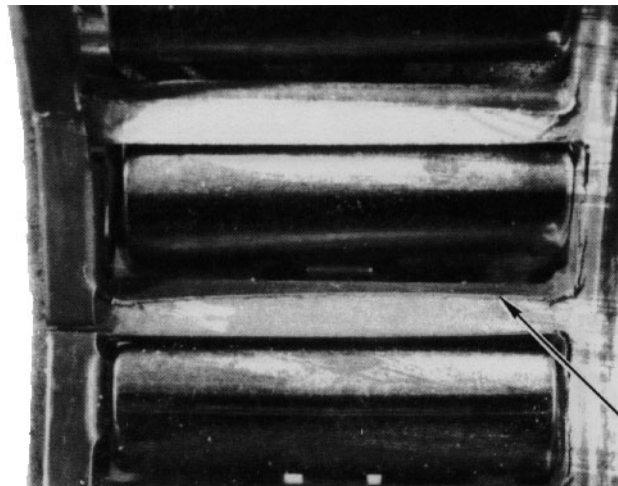
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OUTER CAGE WEAR AREA



INNER CAGE WEAR AREA

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## Figure 2. Excessive Cage Wear

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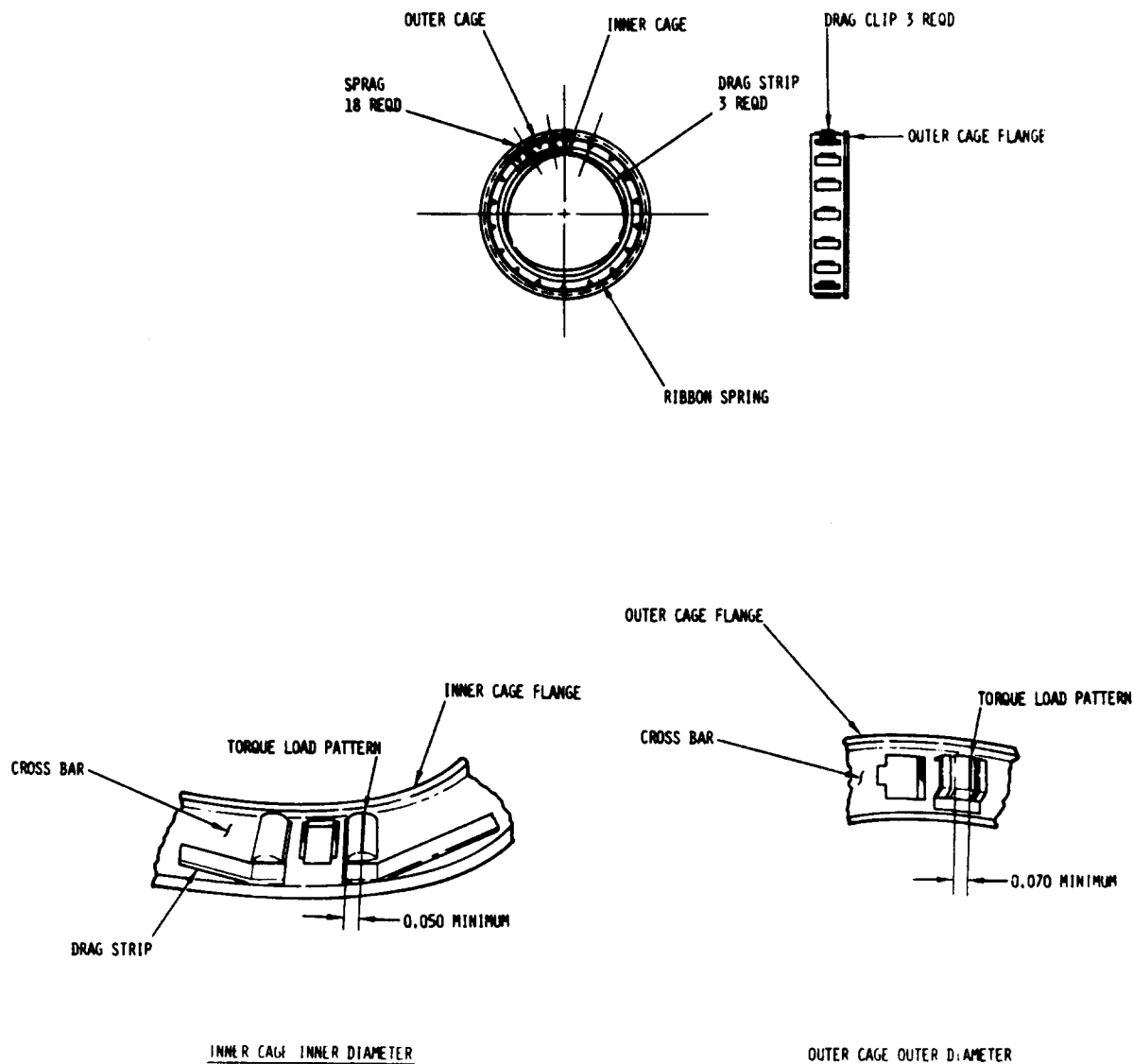
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**Figure 3. Sprag Torque Load Pattern**

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## PERIODIC INSPECTION OF MAIN ROTOR DRIVE SHAFT, PN 369D25510

### 1. PLANNING INFORMATION

#### A. Models Affected:

Model 369F Series Helicopters Serial No. 0001F and subsequent

#### B. Preface:

The information given in this Service Information Notice lists a procedure for a periodic removal and inspection of the main rotor drive shaft, including a close visual inspection of the shaft spherical spline teeth for possible cracks and damage.

The service life of the PN 369D25510 main rotor drive shaft is 3410 hours.

#### C. Time of Compliance:

Shall be accomplished at each and every 300-hour Periodic Inspection interval.

#### D. FAA Approval:

The inspection requirements listed in this Notice for affected models have been shown to comply with Federal Aviation Regulations and are FAA Approved.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. Reference:

369F HMI - Volume I (CSP-F-2), Issued 29 July 1983.

369F HMI - Volume II (CSP-F-3), Issued 29 July 1983.

#### G. Tools and Equipment:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Magnifying Glass – 5X to 10X	
Magnetic Particle Inspection Kit – MIL-I-6868	

#### H. Materials:

MATERIAL	
Nomenclature	Source
Solvent, Cleaning P-D-680	

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## 2. PERIODIC INSPECTION OF MAIN ROTOR DRIVE SHAFT



Anytime main rotor drive shaft is removed, cover opening at top of main rotor hub to prevent entry of any foreign material into hub, mast and transmission.

- (1). Remove main rotor drive shaft (refer to Section 9 of HMI-Vol I).
- (2). Perform a visual inspection of the shaft spline as follows:
  - (a). Thoroughly clean with cleaning solvent to remove oil, dirt, etc.
  - (b). Use 5X to 10X magnifying glass and bright side light (45° or less; downward lighting may not define cracks).
  - (c). Pay particular attention to side of (each) tooth with larger wear pattern. Hairline cracks appear crescent-shaped and at the center and bottom of tooth in the root area (see Figure 1). Also, inspect neck (shaded area) of spline for cracks.

### NOTE:

- If cracking is suspected, perform magnetic particle inspection of shaft spline and teeth.
- If cracking or damage is found, the shaft is no longer airworthy. Discard drive shaft and return it to HHI Customer Service Department.
- Inspect replacement drive shaft per steps (2). and (3). of this Notice, prior to installation of shaft on helicopter.

- (3). Inspect all other surfaces of the drive shaft, per Section 9 of HMI Vol I.

**NOTE:** If surface corrosion or pitting of the shaft surface is noted, perform field repair of drive shaft per HMI- Vol I.

- (4). Remove protective cover and install main rotor drive shaft.
- (5). Record compliance with this Service Notice in Compliance Record of helicopter Log Book.

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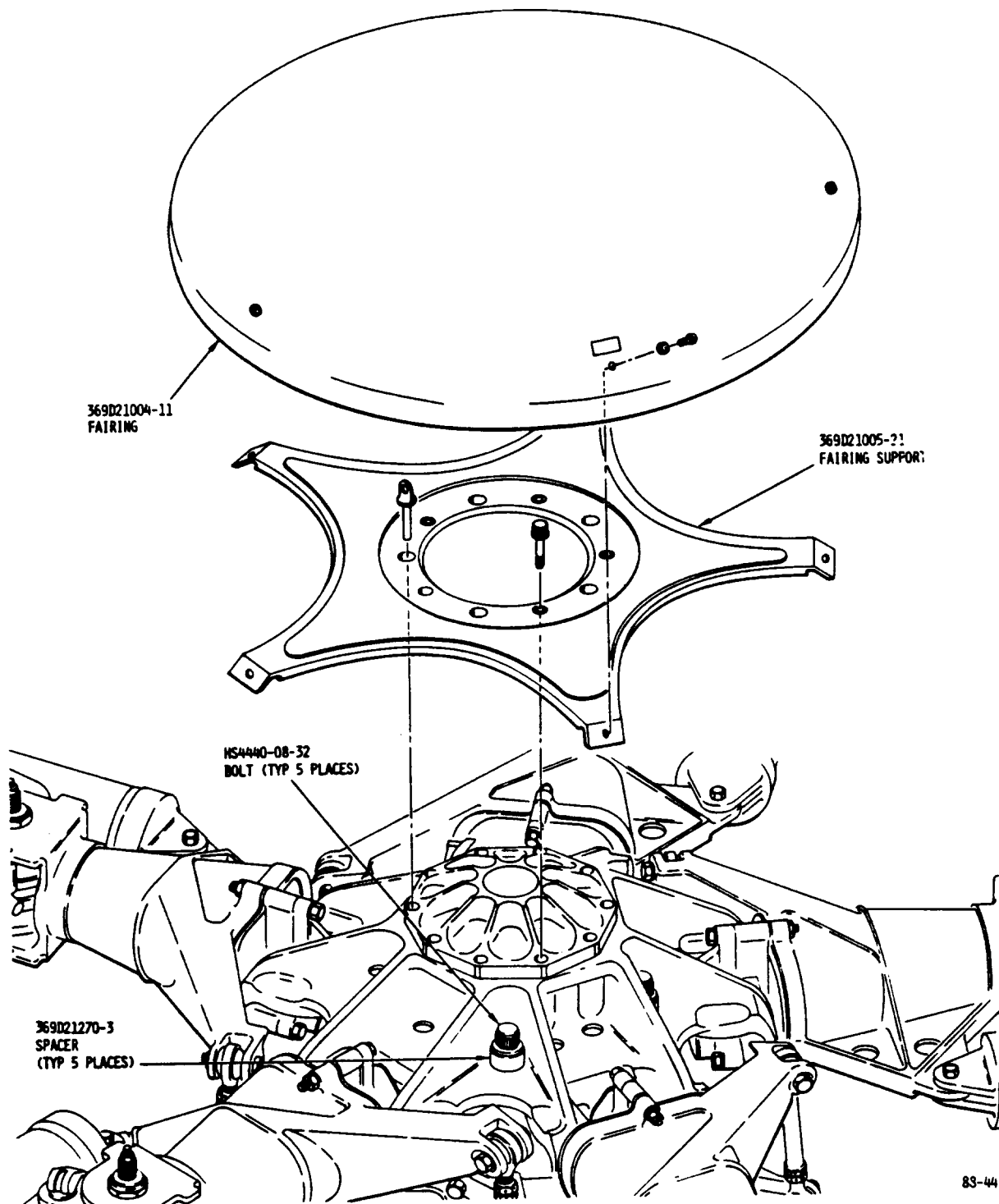


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**Figure 1. Inspection of Main Rotor Drive Shaft Spherical Spline**

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## DISARMING N<sub>2</sub> ELECTRONIC OVERSPEED CONTROL SYSTEM

### 1. PLANNING INFORMATION

#### A. Models Affected:

All 530F Model 369F Series helicopters.

#### B. Preface:

Information given in this Notice covers disarming of the N<sub>2</sub> Electronic Overspeed Control System on all affected models per the referenced Allison Engine Alert Bulletin and Federal Aviation Administration Airworthiness Directive (AD) 79-06-05.

#### C. Time of Compliance:

The N<sub>2</sub> Electronic Overspeed Control System has been disarmed and the required placard installed, on all 530F Model 369F Series helicopters by Hughes. This system must remain disarmed, with the placard installed, until otherwise instructed by Hughes.

#### D. FAA Approval:

The procedure for disarming the N<sub>2</sub> Electronic Overspeed Control System, as described in this Notice, has been shown to comply with Federal Aviation Regulations. and is FAA-approved.

#### E. Weight and Balance Data:

Weight and balance not affected.

#### F. Reference:

Allison Engine Alert Bulletin CEB-A-73-3018, Revision No. 1, dated 15 February 1983.

### 2. PROCEDURE

- (1). Disarm N<sub>2</sub> Electronic Overspeed Control System (Allison Alert Bulletin CEB-A-73-3018, Revision No. 1).
- (2). Install placard adjacent to N<sub>2</sub> Electronic Overspeed Control System circuit breaker per Allison Alert Bulletin CEB-A-73-3018, Revision No. 1).
- (3). Record compliance with this Notice in Compliance Record of helicopter Log Book.



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## ONE-TIME REWORK OF 250-C30 LOWER AFT ENGINE MOUNT INSTALLATION.

### 1. PLANNING INFORMATION

#### A. MODELS AFFECTED:

All McDonnell Douglas Helicopter Company (MDHC) 369F/FF Series helicopters, serial numbers 0001F thru 0057F.

#### B. PREFACE:

Field reports indicate that the 369H2532-9 clip located in the engine compartment at station 137.5 is cracking due to loads from the aft engine mount. Therefore, MDHC is requiring all 369F/FF Series helicopter operators to rework the aft engine mount airframe attach point by installing a 369DSK400-53 doubler at that location. The addition of the doubler will strengthen that area and help prevent cracking of the clip at that location.

#### C. TIME OF COMPLIANCE:

The requirements of this Service Information Notice shall be accomplished within the next 100 hours of helicopter operation or 90 days, whichever occurs first.

#### D. FAA APPROVAL:

The resultant alteration to affected models as prescribed by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

#### E. WEIGHT AND BALANCE:

Weight and balance data not affected

#### F. REFERENCE:

HMI VoI.I (CSP-F-2) Revised 15 April 1986  
Structural Repair Manual (CSP-DEF-6) Issued 15 Nov. 1984

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## G. PARTS LIST:

PARTS LIST			
Nomenclature	Part No.	Qty.	Source
Doubler	369DSK400-53	1	MDHC or Field Fabricate
Rivet	MS20427M3	A/R	MDHC or Commercial
Rivet	MS20615M3	4	MDHC or Commercial

## H. MATERIALS:

MATERIALS	
Nomenclature	Source
*301 Cres steel (QQ-S-766, .040 thick) 1/2 hard	Commercial (RM#008319)
Primer, zinc chromate (TP-P-1757)	Commercial (RM#009222)
Primer, epoxy	Commercial (RM#009924)
Paint, topcoat, white	Commercial (RM#009136)

\*Only required for field fabrication of doubler.

## I. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Drill	Commercial
Drill bit, size 12	Commercial
Drill bit, size 40	Commercial
Drill Guide	Commercial

## 2. PROCEDURE

- Remove NAS1306-12 bolt from the lower left side of the 369D28531 engine mount assembly.
- Remove the 369DSK400-157 and -158 mounting brackets from the 369H2532-13 ring.
- Using a No. 40 drill bit, drill out existing (6) rivets attaching the 369H2532-9 clip to the 369H2532-13 ring.
- Inspect the 369H2532-13 ring and the 369H2532-9 clip for damage. If required, repair per FAA AC 43.13-1A.
- Procure engine mount doubler (PN 369DSK400-53) from MDHC or field fabricate per Figure 2.

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Ensure that doubler is not resting on either rib at that location on the ring.

f. Carefully position doubler between ribs on the ring as shown in Figure 1 and mark location of existing holes for clip and engine mounting bracket in ring on the doubler.

**NOTE:** Use a drill guide when drilling holes for the engine mounting brackets.

g. Using a #40 drill bit, drill marked locations on the doubler (a drill guide is necessary for the (8) holes for the -157 and -158 mounting bracket locations).

h. Using a drill guide #12 drill bit, drill (8) holes for the -157 and -158 mounting brackets

i. Position doubler on the aft side of the STA 137.50 ring and 369H2532-9 clip on the fwd side of ring and cleco in place.

**NOTE:** When edge distance between a rivet and a mounting hole would be less than 0.30 inch, delete that rivet.

j. Layout and drill remaining holes in the STA 137.50 ring as shown in Figure 1. Countersink the doubler at all #40 holes except the corner locations.

k. Using a #12 drill bit, drill (8) holes for the -157 and -158 mounting brackets.

l. Remove clecos and doubler. Deburr holes in ring and doubler.

m. Apply zinc chromate primer to laying surfaces of doubler, ring and clip. Position doubler and install MS20427-M3 rivets in those locations which attach the 369H2532-9 clip.

n. Install MS20615-M3 rivets in the corner locations as shown in Figure 1.

o. Install remaining MS20427-M3 rivets per Figure 1.

p. Install 369DSK400-157 and -158 mounting brackets. Torque bolts 20-25 inch-lbs. plus drag torque.

q. Install 369D28531 engine mount bolt. Torque bolt 160-190 inch-lbs. plus drag torque

r. Apply epoxy primer to all exposed surfaces of doubler per manufacturer's instruction. Allow to dry.

s. Apply topcoat to doubler per manufacturer's instructions and allow to dry.

t. Perform alignment check of engine-to-transmission per Section 2 of structural repair manual.

u. Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

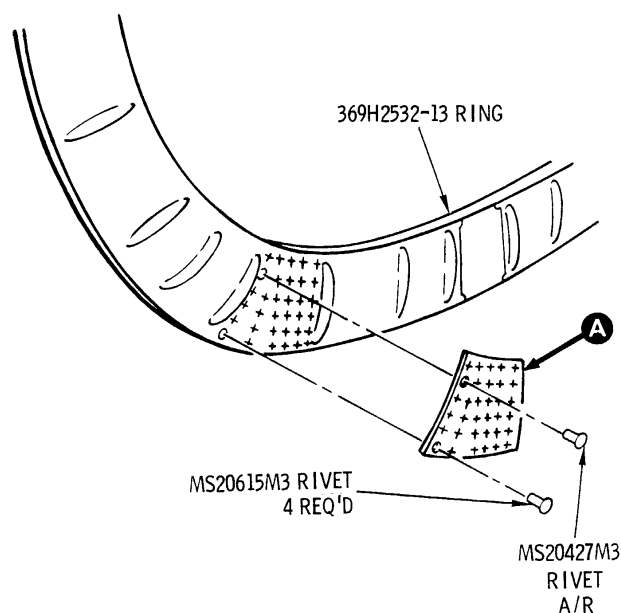
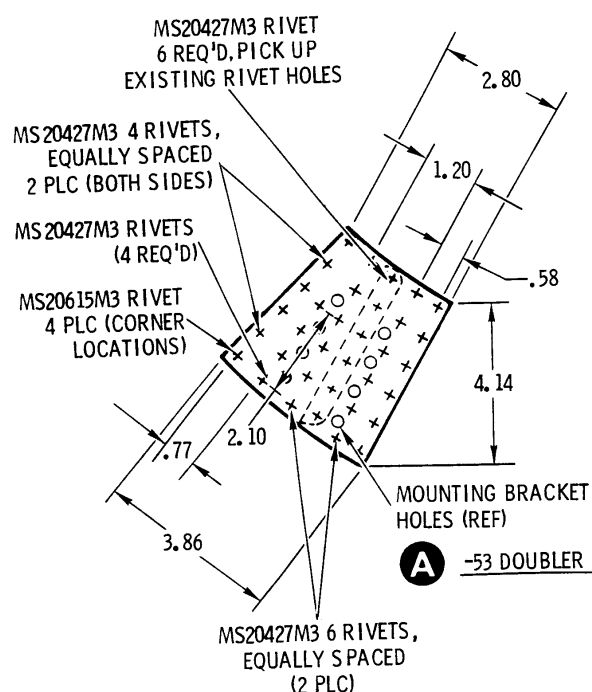
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## NOTES:

1. ALL DIMENSIONS IN INCHES.
2. 0.22 INCH EDGE DISTANCE, TYPICAL ALL AROUND.
3. MAKE FROM .040 THICK, 301 CRES, 1/2 HARD PER QQ-S-766.
4. WHEN EDGE DISTANCE BETWEEN A RIVET AND A MOUNTING HOLE WOULD BE LESS THAN .300, DELETE THAT RIVET.
5. RIVET LOCATIONS ARE APPROXIMATE.

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**Figure 1. Installation of 369DSK400-53 Doubler Assembly.**

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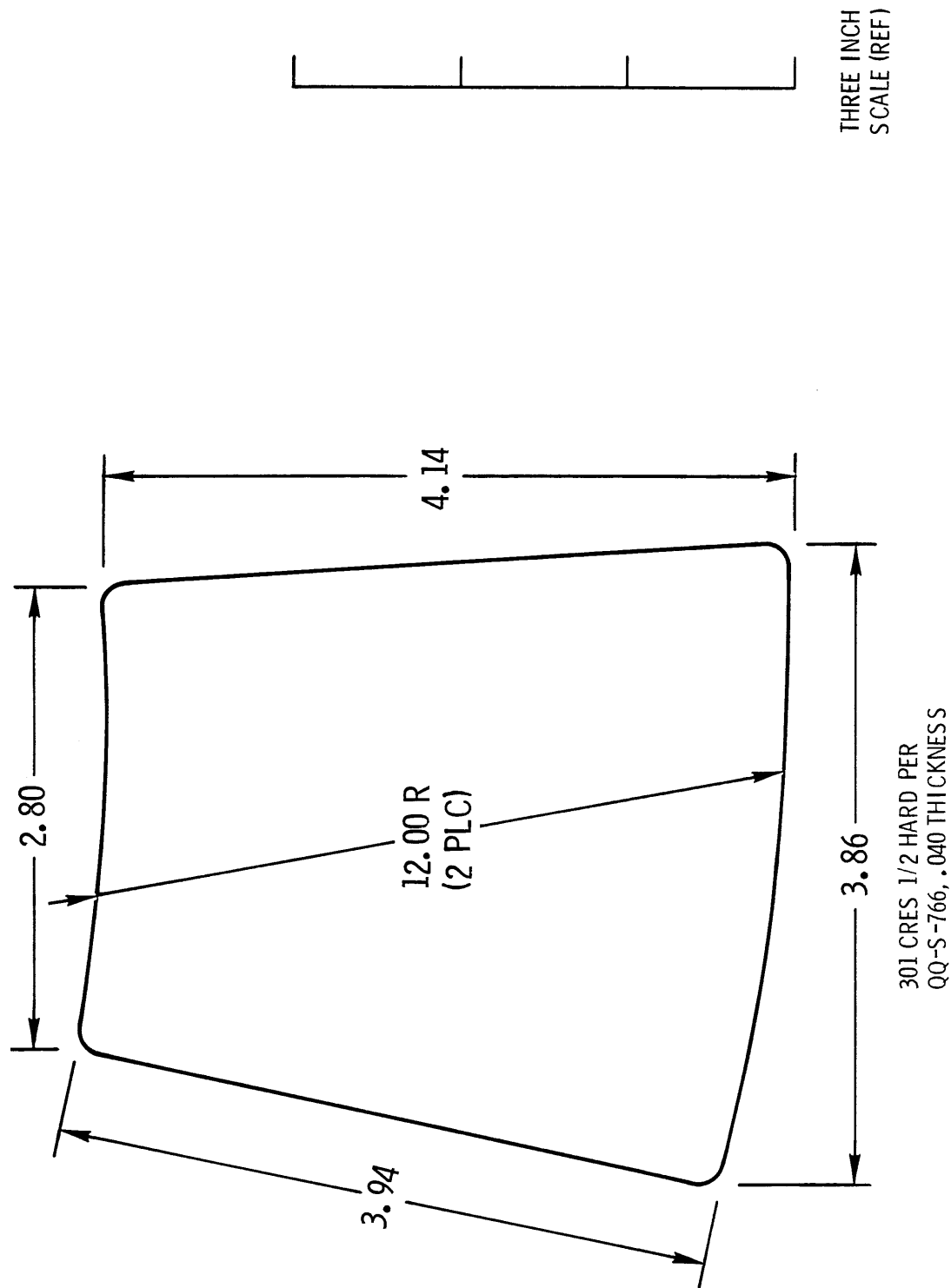


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**NOTE:**

- \* -53 DOUBLER TO BE FABRICATED TO DIMENSIONS SHOWN IN INCHES. ( $\pm .030$ )
- \* THE TEMPLATE IS TO BE USED TO DIMENSION THE DOUBLER. THE DIMENSIONS ARE FOR REFERENCE ONLY AND ARE TO BE USED TO DETERMINE THE ACCURATE SCALE OF THE TEMPLATE.

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**Figure 2. Fabrication of 369DSK400-53 Doubler Assembly.**

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# SERVICE BULLETIN

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## TAIL ROTOR CONTROL ROD REPLACEMENT

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) 369F/FF Series Helicopters.

#### B. Assembly/Components Affected by this Notice:

Tail Rotor Control Rod Assembly, P/N 369D27516.

#### C. Reason:

MDHS has discovered that P/N 369D27516, Model 369F/FF tail rotor control rod may buckle when subjected to ultimate (jam) load conditions. Failure to comply with this Notice may result in loss of directional control of the helicopter.

#### D. Description:

Procedures in this Notice provide owners and operators with information pertaining to replacement of the existing tail rotor control rod assembly with an improved control rod.

#### E. FAA Approval:

The technical design aspects of this Service Information Notice are FAA Approved.

#### F. Manpower:

One man-hour when accomplished in conjunction with a 300 hour/annual inspection. Four man-hours when accomplished as a stand-alone task.

#### G. Time of Compliance:

The requirements of this Notice shall be accomplished within the next 300 hours of helicopter operation after receipt of replacement control rod or no later than 31 December 1997. Contact MDHS immediately after receipt of this Notice for a replacement tail rotor control rod.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHS Warranty and Repair Department in Mesa, Arizona at 1-800-388-3378. DATAFAX: (602) 891-3952.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Tail Rotor Control Rod	369D27516-5	1	MDHS

#### J. Warranty Policy:

Replacement tail rotor control rods will be provided at no cost to the customer.

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N/A.

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

Illustrated Parts Catalog (CSP-IPC-4).

**2. ACCOMPLISHMENT INSTRUCTIONS:**

- (1). Remove tail rotor control rod per instructions contained in the Handbook of Maintenance Instructions (CSP-HMI-2).
- (2). Install new tail rotor control rod (P/N 369D27516-5) per instructions contained in the Handbook of Maintenance Instructions (CSP-HMI-2).

**3. DISPOSITION OF PARTS REMOVED:**

Scrap locally.

**4. COMPLIANCE RECORD:**

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

**5. POINTS OF CONTACT:**

For further assistance, contact your local MDHS Field Service Representative (refer to the Business Development and Customer Support handbook for address and telephone numbers) or contact the Field Service Department at MDHS, Mesa, Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602) 891-6782.

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## MINIMUM N1 STARTING SPEED DECAL/PLACARD INSTALLATION

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

Model 369F/FF Helicopters, serial number 0001 thru 0144.

#### B. Assembly/Components Affected by this Bulletin:

Console Assembly, LH Command (P/N 369D24153), Console Assembly, RH Command (P/N 369D24175).

#### C. Reason:

The N1 starting speed decal/placard referenced in the Rotorcraft Flight Manual may not have been installed on the helicopter instrument panel.

Failure to comply with the placard instructions contained in this Bulletin may result in a hot start.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to the verification and installation of the N1 starting speed decal/placard on the instrument panel, if required.

#### E. FAA Approval:

The design engineering aspects of this Bulletin have been shown to comply with the applicable Federal Aviation Regulations, and are FAA Approved.

#### F. Manpower:

0.2 man-hour

#### G. Time of Compliance:

This Bulletin shall be accomplished at the next annual inspection or no later than one year after the issue date of this Bulletin.

#### H. Interchangeability:

N/A

#### I. Material/Part Availability:

Contact MDHI Parts Sales Dept. or Warranty and Repair Dept., as applicable.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Decal/Placard	369H4010-11	1	MDHI
Alcohol, Isopropyl		AR	Commercial

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Standard Warranty Policy applies.

**K. Tooling:**

N/A

**L. Weight and Balance:**

N/A

**M. Other Publications Affected:**

Handbook of Maintenance Instructions (CSP-HMI-2).

Illustrated Parts Catalog (CSP-IPC-4).

**N. Points of Contact:**

For further assistance, contact your local MDHI Field Service Representative or contact the Field Service Department at MDHI, Mesa, Arizona.

Telephone 1-800-388-3378 or (480) 346-6387.

DATAFAX: (480) 346-6813.

**2. ACCOMPLISHMENT INSTRUCTIONS:****A. Inspection**

- (1). Check instrument panel for a decal/placard that reads: "RECOMMENDED MINIMUM N1 SPEED FOR STARTING IS 12 PERCENT".
- (2). If decal/placard is installed, no further action is required.
- (3). If decal/placard is not installed, perform Decal/Placard Installation below.

**B. Decal/Placard Installation**

- (1). Clean surface of instrument panel near N1 tachometer with isopropyl alcohol.
- (2). Peel backing from decal/placard and press decal/placard onto instrument panel.

**3. IDENTIFICATION:**

N/A

**4. DISPOSITION OF PARTS REMOVED:**

N/A

**5. COMPLIANCE RECORD**

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

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## INSPECTION OF SHORT EDGE MARGIN CONDITION ON 369D23500 TAILBOOM ASSEMBLY

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

Model 369D, Model 369E and Model 369F/FF Helicopters with tailboom assembly serial numbers listed below:

7604-0001 to 7604-0003  
7604-0006 to 7604-0047  
7604-0049 to 7604-0082  
7604-0084 to 7604-0113

#### B. Assembly/Components Affected By This Notice:

Model 369D: Tailboom Assembly - 369D23500-505 and -511  
Model 369E: Tailboom Assembly - 369D23500-505 and -511  
Model 369F/FF: Tailboom Assembly - 369D23500-507 and -513

#### C. Reason:

Improper installation of the frame ring at STA 209.78 can result in a short edge margin condition with the rivets that attach the installed longerons. Failure to inspect and correct short edge margin condition could result in reduced structural strength of the tailboom.

#### D. Description:

Procedures in this Bulletin give owners and operators information to find if a short edge margin condition exists and install repair doubler.

#### E. Time of Compliance:

Perform Part I of this Service Bulletin within 6 months or 100 hours after SB release, which ever comes first.

Perform Part II based on the results of the Part I inspection.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

Part I - Inspection: Four (4.0) man-hours

Part II - Modification: Eight (8.0) man-hours

#### H. Interchangeability:

None.

#### I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

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**J. Material/Part Availability:**

Contact MDHI Warranty Repair Department to order required items

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Repair Material	2024-T3 Alclad per QQ-A-250/5 Stock size 3.0" x 5.5" x 0.063" thick	1	Commercial
Rivet	MS20470AD4	8	Commercial
Rivet	MS20470AD5	2	Commercial
Primer	CM318 / MIL-P-85582	AR	Commercial
Chemical Coating	CM206 / MIL-C-5541	AR	Commercial
Structural Adhesive	EA9394	AR	Commercial

**K. Warranty Policy:**

N/A

**L. Disposition of Parts Removed:**

N/A

**M. Tooling:**

TOOLS AND EQUIPMENT	
Nomenclature	Source
Inspection Light	Commercial
Inspection Mirror	Commercial
Steel Rule or Caliper	Commercial

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

CSP-IPC-4, Illustrated Parts Catalog

CSP-SRM-6, Structural Repair Manual

**Q. Reference Publications:**

Refer to the latest revision of this publication for procedures and additional information:

CSP-HMI-2, Basic Handbook of Maintenance Instructions - Servicing and Maintenance

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## 2. ACCOMPLISHMENT INSTRUCTIONS

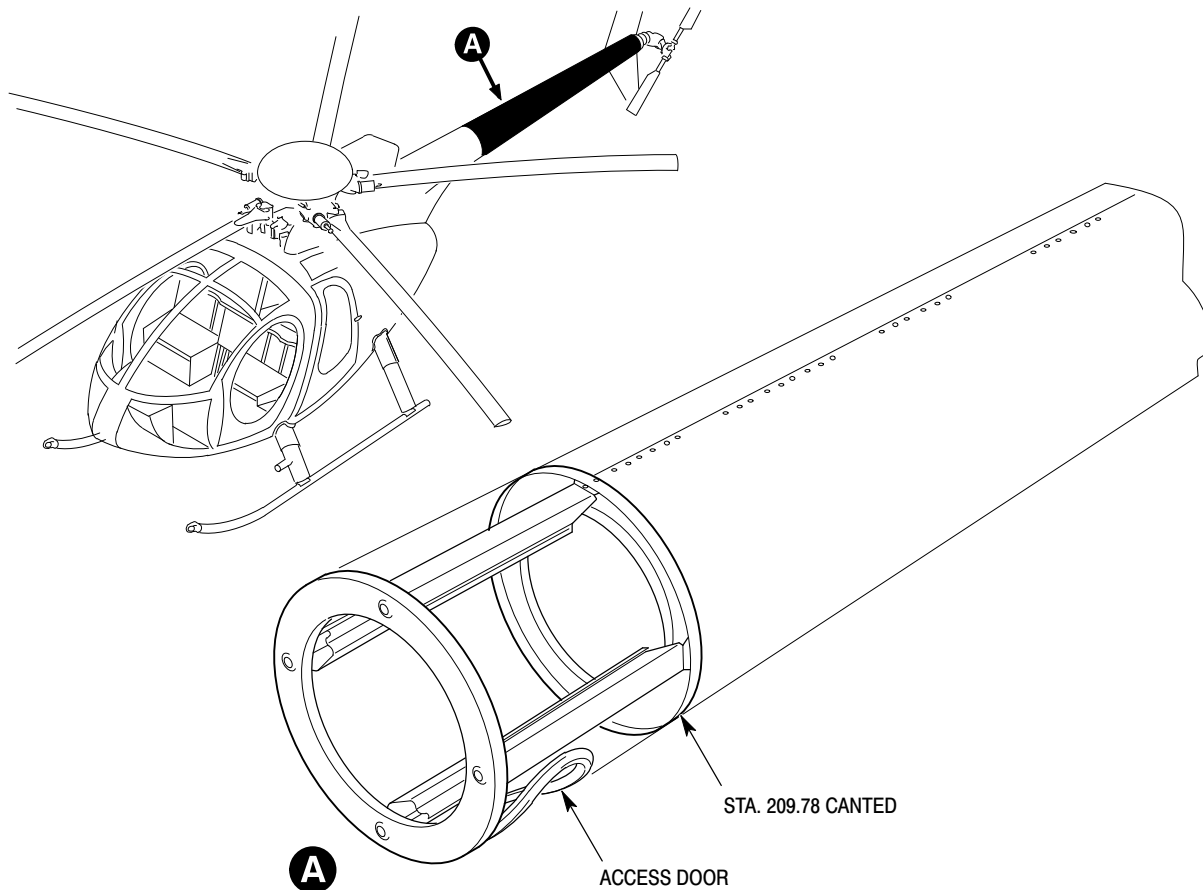
### A. Prepare Aircraft

(Ref. Figure 1)

- (1). Remove the access door from the lower left-hand side of the tailboom assembly.
- (2). Remove the tail rotor transmission and tail rotor drive shaft as a unit  
(Ref. CSP-HMI-2, Section 63-15-00).

**NOTE:** If there is sufficient access after Step 2.A.(2). is complete, do not remove tail rotor control rod.

- (3). Remove tail rotor control rod (Ref. CSP-HMI-2, Section 67-20-10).



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**Figure 1. Tailboom Assembly**

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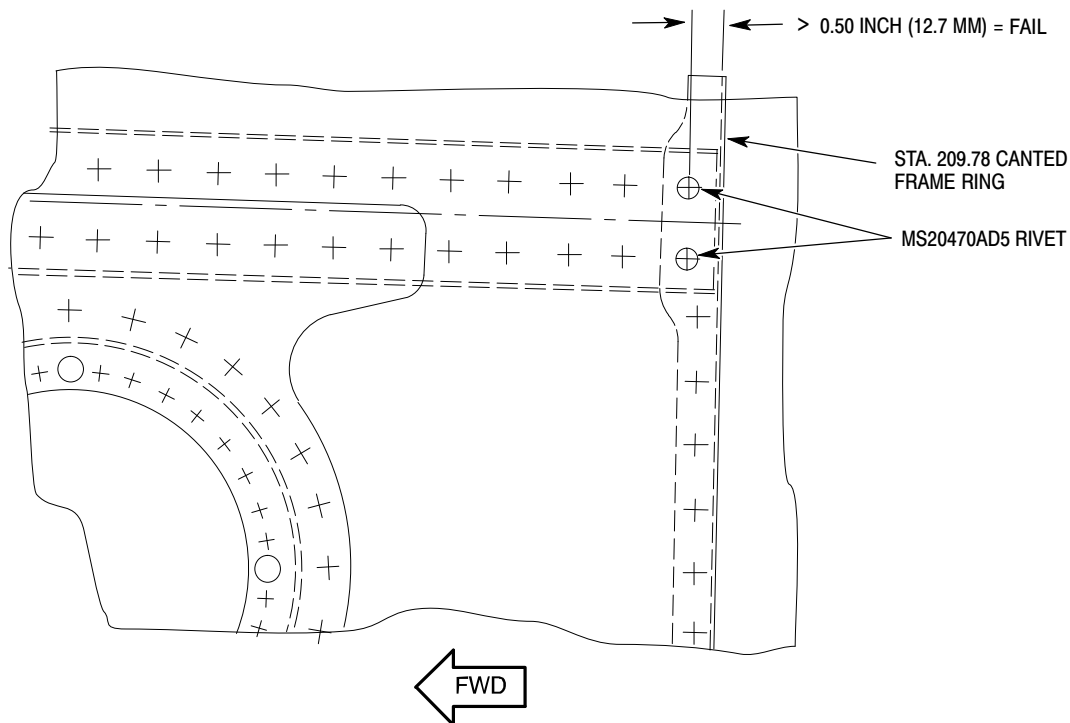
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## B. PART 1 - Inspection

(Ref. Figure 2)

- Measure the distance from the forward face of the STA 209.78 frame ring to the center of the two aft rivet locations on each longeron.



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**Figure 2. STA 209.78 Frame Ring to Rivet Measurement**

- Record each rivet measurement in the table below:

Longeron Location (Looking Forward)						
12 O'Clock:	Rivet No. 1		Rivet No. 2		Pass / Fail	
3 O'Clock:	Rivet No. 1		Rivet No. 2		Pass / Fail	
6 O'Clock:	Rivet No. 1		Rivet No. 2		Pass / Fail	
9 O'Clock:	Rivet No. 1		Rivet No. 2		Pass / Fail	

- For each longeron location, record if each rivet inspection passes or fails, based on the following criteria:

If either of the two aft rivets for a longeron is more than 0.50 inches (12.7mm) from the forward face of the frame ring, there is an unsatisfactory edge margin condition.

- Record the pass or fail result for each rivet in the last column of the table above.
- Mark each rivet that fails the edge margin inspection.

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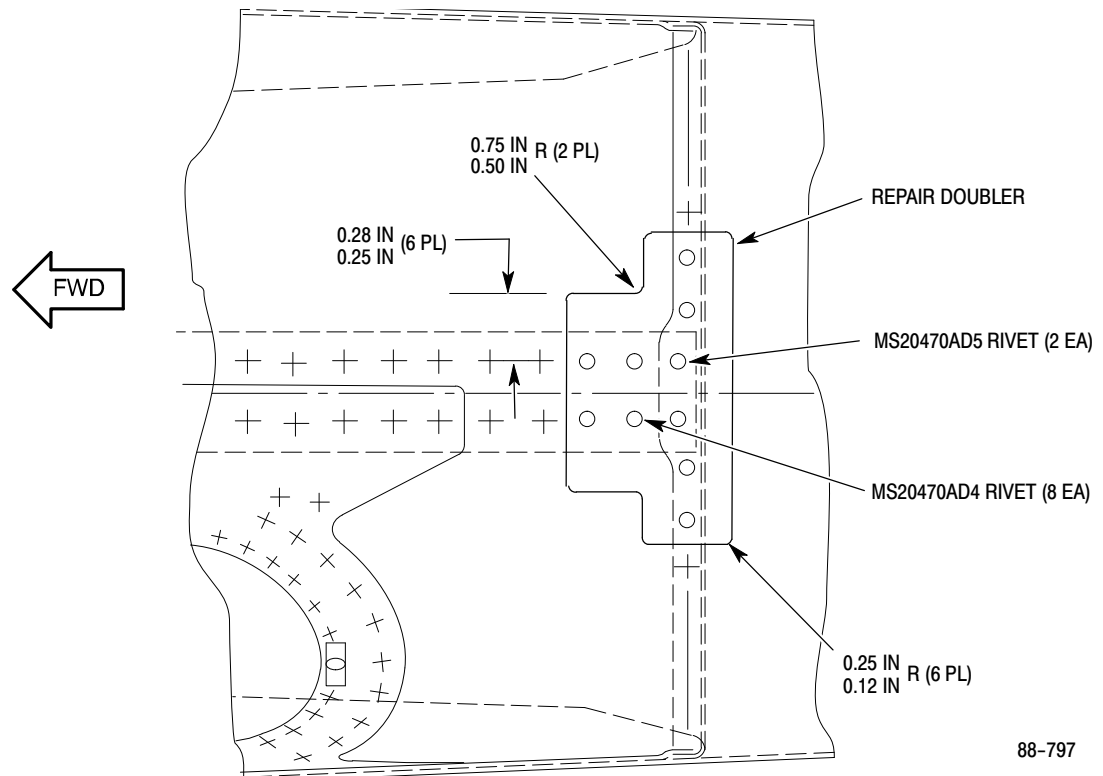
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## C. PART 2 - Modification

(Ref. Figure 3 and Figure 4)

**NOTE:** Do the following modification at each longeron location that failed the Step B.(1). inspection.

- (1). Carefully remove the ten rivets shown in Figure 3.
- (2). Fabricate a "T-shaped" repair doubler using 0.063 inch thick 2024-T3 Alclad, per QQ-A-250/5.
- (3). Size the repair doubler such that there is a 0.250 inch (6.35mm) to 0.280 inch (7.11mm) edge margin around the perimeter of the repair doubler.
- (4). Shape the repair doubler so it has a radius of approximately 5.722 inches (145.34mm) to agree with the shape of the tailboom. See Figure 4.
- (5). Put the repair doubler on the tailboom assembly and drill pilot holes in the repair doubler at existing rivet locations.
- (6). Remove the repair doubler and drill full size holes at each hole location to match final rivet diameter.
- (7). Clean and deburr all hole locations on the repair doubler and tailboom assembly.
- (8). Remove paint from tailboom, clean area and prepare surfaces for bonding.
- (9). Apply chemical coating (CM206) to all areas of the repair doubler and any exposed material of the tailboom assembly, per CSP-HMI-2, Section 20-40-00.



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**Figure 3. Repair Doubler**

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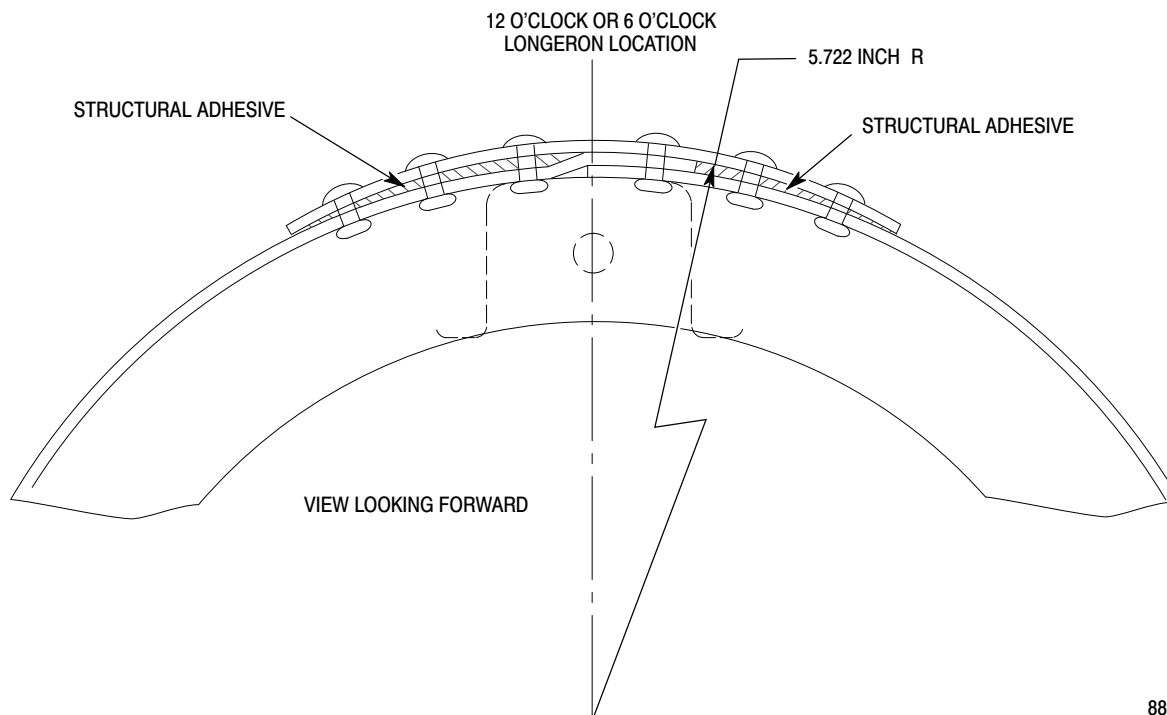
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- (10). Apply primer (CM318) to all non faying surfaces of the repair doubler.
- (11). Apply structural adhesive (EA9394) to the faying surfaces of the repair doubler.
- (12). At the 6 O'Clock and 12 O'Clock longeron location, apply structural adhesive (EA9394) to the tailboom surface as shown in Figure 4.
- (13). Install the repair doubler with eight (8) MS420470AD4 rivets and two (2) MS20470AD5 rivets. Install all rivets with wet primer (CM318) and allow adhesive and primer to cure.
- (14). Fillet seal the edges of the repair doubler with structural adhesive (EA9394).
- (15). If necessary, touch up the finish of all parts per CSP-HMI-2, Chapter 20.



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**Figure 4. Repair Doubler Installation**

## **D. Job Close-Up**

- (1). If necessary, reinstall tail rotor control rod (Ref. CSP-HMI-2, Section 67-20-10).
- (2). Reinstall the tail rotor transmission and tail rotor drive shaft as a unit (Ref. CSP-HMI-2, Section 63-15-00).
- (3). Reinstall the access door on the lower left-hand side of the tailboom assembly.

## **E. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MHDI Field Service Department.

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## Bulletin Completed Record

### [Part 1] – INSPECTION OF SHORT EDGE MARGIN CONDITION ON 369D23500 TAILBOOM ASSEMBLY

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner /Operator:</b> _____	<b>Helicopter Serial No:</b> _____
<b>Address:</b> _____	<b>Helicopter Total Time:</b> _____
_____	<b>Date Complete:</b> _____
_____	<b>Location:</b> _____
<b>Phone:</b> _____	
<b>E-mail:</b> _____	

[Part 1 of ] This bulletin is complete: \_\_\_\_\_  
(Signature)

\_\_\_\_\_ (Print Name)

Part 2 Required: Y / N (circle one) \_\_\_\_\_  
(Title)

**Serial Number** of tailboom: \_\_\_\_\_

**Comments:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

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## Bulletin Completed Record

### [Part 2] INSPECTION OF SHORT EDGE MARGIN CONDITION ON 369D23500 TAILBOOM ASSEMBLY

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner /Operator:</b> _____	<b>Helicopter Serial No:</b> _____
<b>Address:</b> _____ _____ _____ _____	<b>Helicopter Total Time:</b> _____  <b>Date Complete:</b> _____  <b>Location:</b> _____
<b>Phone:</b> _____	
<b>E-mail:</b> _____	

[Part 2 of ] This bulletin is complete: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

**Serial Number** of modified tailboom: \_\_\_\_\_

**Comments:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# SERVICE BULLETIN

DATE: 14 FEBRUARY 2011

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## ONE-TIME INSPECTION OF THE GENERATOR CONTROL UNIT AND 200-AMP STARTER/GENERATOR WIRING

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

MD Helicopters, Inc. (MDHI) Model 369FF Helicopters, serial numbers (SNs) 0092 thru 0172, 0174, and 0175.

#### B. Assembly/Components Affected By This Notice:

369D24253 W214 Fuselage Electrical Wire Harness, Connector P1203  
369D24254 MD500 Helicopter Electrical Interconnect Diagram  
369D24262-503 Instrument and Electrical Equipment Installation  
369D242894-3/-5 Generator Control Unit (GCU)

#### C. Reason:

Rotorcraft have left the production facility with possibly incorrect wiring of the GCU overload protection function. Failure to do this inspection and repair (if necessary) could result in an electrical overload.

#### D. Description:

Procedures in this Bulletin give owners and operators information to do a one-time inspection of the GCU wiring and, if necessary, to do a wiring change.

#### E. Time of Compliance:

The instructions in this bulletin must be completed during the next 100-hour inspection or when additional electrical equipment is installed.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA approved.

#### G. Manpower:

0.5 man-hours for inspection and, if necessary, 1.0 hour for repair.

#### H. Interchangeability:

None.

#### I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

#### J. Material/Part Availability:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Lockwire	MS20995-C32 (Preferred) or MS20995-F32 (Alternative)	AR	Commercial

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**K. Warranty Policy:**

The MDHI Warranty and Repair Department will give 0.5 hour of labor warranty (spares credit) to the operator. MDHI will also give to the operator 1.0 hour of labor warranty (spares credit) if the wiring is repaired.

**L. Disposition of Parts Removed:**

N/A

**M. Tooling:**

**NOTE:** These tools are necessary only if the continuity check shows that the wiring is incorrect. The insertion/extraction tool CIET-16-03 or the insertion/removal tool are alternative tools for extraction tool CET-16-4 and insertion tool CIT-16.

TOOLS AND EQUIPMENT	
Nomenclature	Source
Extraction Tool CET-16-4 (PN 038888-0004)	ITT Cannon Electric (TS8), 3208 Humboldt Street, Los Angeles, CA 90031
Insertion Tool CIT-16 (PN 038895-0000)	ITT Cannon Electric (TS8)
Insertion/Extraction Tool CIET-16-03 (PN 274-7002-000) (Alternative for PN 038888-0004 or PN 038895-0000)	ITT Cannon Electric (TS8)
Insertion/Removal Tool (PN 10538988-16) (Alternative for PN 038888-0004 or PN 038895-0000)	AMP Inc. (TS1), 441 Friendship Road, Harrisburg, PA 17111

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

N/A

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-HMI-2, Basic Handbook of Maintenance Instructions - Servicing and Maintenance

CSP-HMI-3, Basic Handbook of Maintenance Instructions - Instruments/Electrical/-Avionics (Ref. Section 96-02-00, Figure 208, Sheet 3, for Wiring Diagram)

CSP-IPC-4, Illustrated Parts Catalog

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## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

### A. Check Procedure

- (1). Make sure the rotorcraft electrical power is OFF.
- (2). Locate the GCU under the left-hand pilot foot panel in the battery compartment.
- (3). Remove lockwire from Connector P1203.
- (4). Remove Connector P1203 from GCU.
- (5). Disconnect the wire from Starter/Generator G300 Terminal D.
- (6). Do a continuity check to determine which pin (F or K) is connected to Terminal D.
  - (a). If Pin F is connected to Terminal D, the wiring is correct. Go to Procedure C.
  - (b). If Pin K is connected to Terminal D, the wiring must be repaired. Go to Procedure B.

### B. Repair Procedure

- (1). Remove the backshell from Connector P1203 to get access to the wires and pins.
- (2). Remove Wire GCU1A22N WHT and its pin from Pin F location with extraction tool.
- (3). Remove Wire P1052A22 and its pin from Pin K location with extraction tool.
- (4). Insert Wire P1052A22 and its pin in Pin F location with insertion tool.
- (5). Insert Wire GCU1A22N WHT and its pin in Pin K location with insertion tool.
- (6). Make sure pins F and K are correctly installed and locked in place.
- (7). Install the backshell on Connector P1203.
- (8). Do a check of the continuity between Connector P1203 Terminal F and Starter/Generator G300 Terminal D and between Connector P1203 Terminal K and a suitable ground point with a Volt/Ohmmeter.

### C. Job Close-Up

- (1). Install Connector P1203 on GCU.
- (2). Connect the wire to Starter/Generator G300 Terminal D.
- (3). Safety Connector P1203 with lockwire.
- (4). Install the left-hand pilot foot panel.

### D. Compliance Record

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MHDI Field Service Department.

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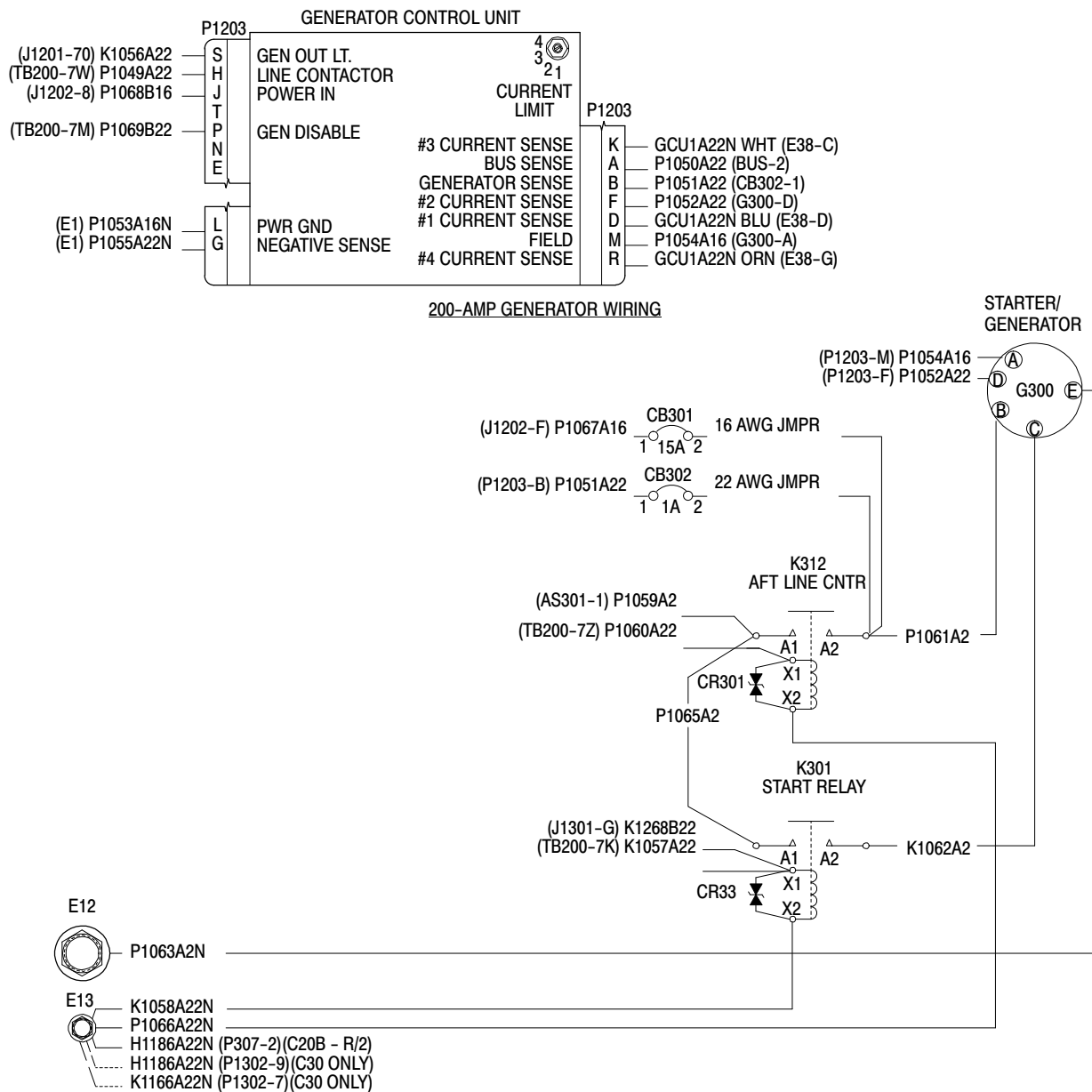
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**Figure 1. GCU and Starter/Generator Wiring Diagram**

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## Bulletin Completed Record

### One-Time Inspection of the Generator Control Unit and 200-Amp Starter/Generator Wiring

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI at 480-346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner /Operator:</b> _____	<b>Helicopter Serial No:</b> _____
<b>Address:</b> _____ _____ _____	<b>Helicopter Total Time:</b> _____  <b>Date Complete:</b> _____
	<b>Location:</b> _____
<b>Phone:</b> _____	<b>Wiring Correct Yes / No (Circle One)</b>
<b>E-mail:</b> _____	<b>Wiring Repaired Yes / No / N/A (Circle One)</b>

This bulletin is complete:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
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DATE: 14 FEBRUARY 2011

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\* Supersedes Service Bulletins SB369E-108 and SB369F-094, dated 14 May 2013. Revised to change serial number effectivity in Paragraph 1.A., Aircraft Affected, to clarify the Warranty Policy, and to add the anti-collision light support assembly (Part No. 369D23660-7).

## **AFT POSITION AND ANTI-COLLISION LIGHT MOUNTING INSPECTION, REPLACEMENT AND REPAIR**

### **1. PLANNING INFORMATION**

#### **A. Aircraft Affected:**

MD Helicopters Inc. (MDHI) Model 369E Helicopters, serial numbers 0608E thru 0621E and Model 369FF Helicopters, serial numbers 0186FF thru 0250FF.

#### **B. Assembly/Components Affected By This Notice:**

Position Light Mounting Bracket Assembly, Part No. (PN) 369D23662-11  
Anti-Collision Light Support Assembly, PN 369D23660-5

#### **C. Reason:**

The aft position light mounting bracket assembly is experiencing fatigue cracking due to increased weight of LED position light.

The rivets of the anti-collision light support assembly may shear or pull through the mounting bracket and/or shear.

Failure to comply with this bulletin may result in aft position light and anti-collision light LED assemblies breaking off of the aircraft resulting in damage to the tail rotor and possible loss of directional control.

#### **D. Description:**

Procedures in this Bulletin give owners and operators information to replace the aft position light mounting bracket assembly and inspect and repair the anti-collision light support assembly.

#### **E. Time of Compliance:**

Compliance with this bulletin must be completed within the next 10 flight hours after you get this bulletin.

#### **F. FAA Approval:**

The technical design aspects of this Bulletin are FAA Approved.

#### **G. Manpower:**

Compliance with this bulletin will be approximately one half (0.5) man-hours to inspect the aft anti-collision light support assembly on the aircraft. Three and one half (3.5) man-hours to replace the position light bracket assembly and two (2.0) man-hours to repair the anti-collision light support assembly.

#### **H. Interchangeability:**

None.

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## I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

## J. Material/Part Availability:

Contact MDHI Warranty Department to order required items

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Aft Position Light Mounting Bracket Assembly	369D23662-13	1	MDHI
Anti-Collision Light Support Assembly	369D23660-7	1	MDHI
Electrical Sleeving	MIL-I-3190/6 RM011067	AR	Commercial MDHI
Knife Splice Terminal	32446	2	Commercial MDHI
Permanent Ink Marker	Sharpie 13601 or 32001	AR	Commercial
Primer	MIL-P-85582, T1, C2 MIL-P-23377, T1, C	AR	Commercial
Rivet, Blind	NAS1919B04-04	4	MDHI
Rivet, Solid Universal Head	MS20470AD3-3-5	3	MDHI
Rivet, Solid, Countersunk	NAS1097AD4-3	10	MDHI
Sealing Compound	Pro-Seal 890 B2	AR	Commercial

## K. Warranty Policy:

MDHI will provide parts listed in table Replacement Parts/Supplies at NO cost.

MDHI will also allow a Labor Credit as follows:

- One half (0.5) man-hours for the initial on-aircraft inspection.
- Three and one half (3.5) man-hours for the replacement of each installed position light mounting bracket assembly.
- Two (2) man-hours for the repair of each installed anti-collision light assembly.

Customers must submit a completed SOR in order to receive these parts per this Service Bulletin.

Additional discrepancies found over and above the specified warranty coverage are the responsibility of the customer.

## L. Disposition of Parts Removed:

N/A

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**M. Weight and Balance:**

N/A

**N. Electrical Load Data:**

N/A

**O. Other Publications Affected:**

CSP-IPC-4, Illustrated Parts Catalog

**P. Reference Publications:**

Refer to the latest revision of this publication for procedures and additional information:

CSP-HMI-2, Basic Handbook of Maintenance Instructions - Servicing and Maintenance

CSP-HMI-3, Basic Handbook of Maintenance Instructions - Instruments Electrical Avionics

## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

**A. [Part 1] Inspection**

- (1). Remove the anti-collision light (ref. CSP-HMI-3, Section 96-40-00) and examine the anti-collision light support assembly for pulled through or sheared rivets.
  - (a). Make sure the five rivets on each side of the anti-collision support light assembly are countersunk and flush.
  - (b). If the rivets show signs of pulling through the support assembly or shearing, do Procedure C.
- (2). Do an inspection of anti-collision support light assembly, PN 369D23660-5, for the installation of ten MS20426AD3 rivets.
  - (a). If there are MS20426AD3 rivets, do Procedure C.

**B. [Part 2] Replacement of Aft Position Light Mounting Bracket**

- (1). If installed, remove horizontal stabilizer (ref. CSP-HMI-2, Section 53-50-10).
- (2). Remove aft position light.
  - (a). Disconnect knife splice terminals.
  - (b). Cut off knife splice terminals from wires.
  - (c). Pull wires thru horizontal stabilizer.
  - (d). Remove four screws on aft position light and retain all hardware and gaskets.
  - (e). Remove aft position light from aft position light mounting bracket assembly.

**NOTE:** For Step (3). thru Step (9). keep the trailing edge of the horizontal stabilizer facing down.

- (3). Remove aft position light mounting bracket assembly.
  - (a). Remove four forward rivets by drilling the rivet head only with a #30 drill.

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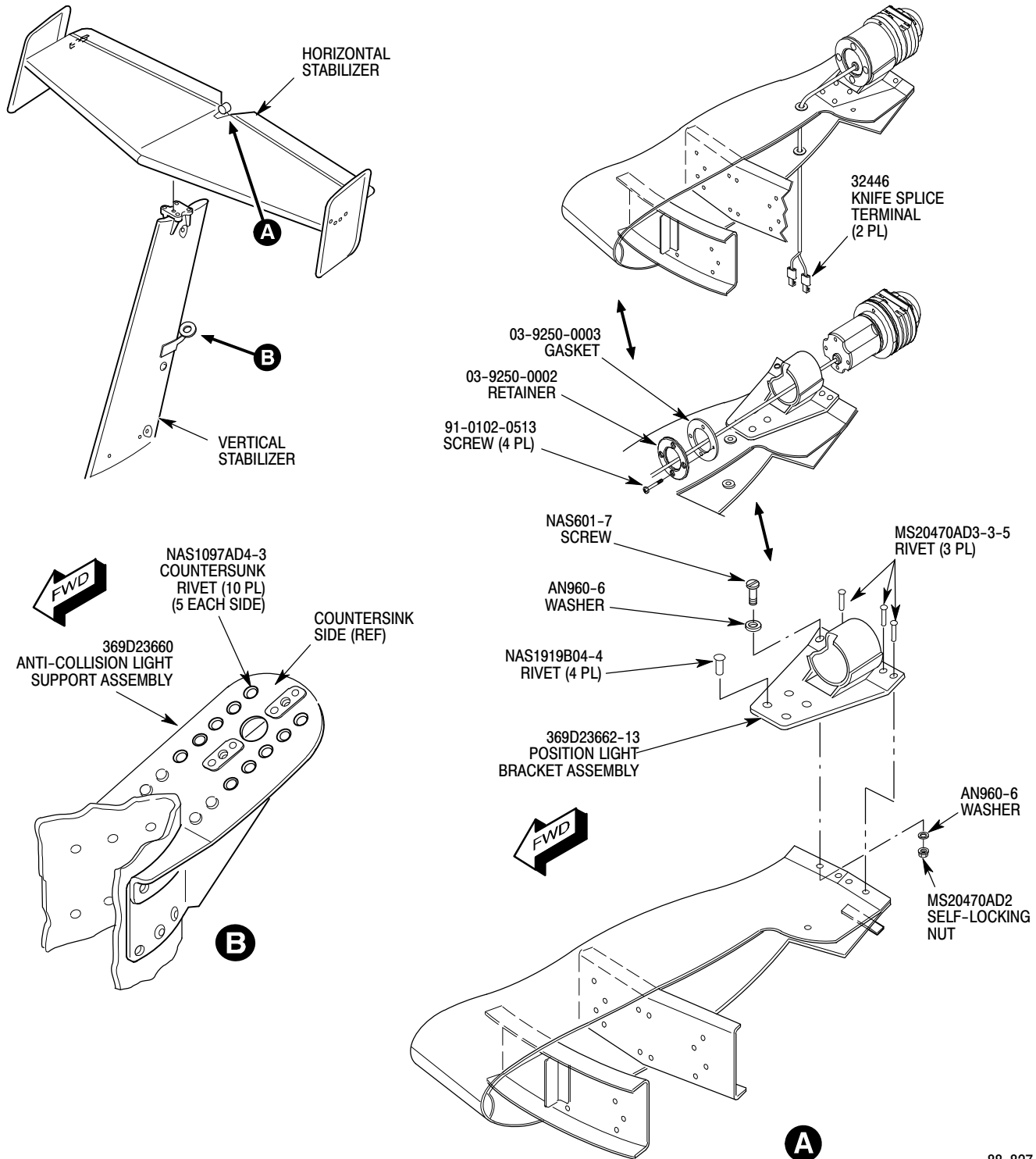
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**Figure 1. LED Position and Anti-Collision Mount Assemblies**

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- (b). Use a small drift to tap the remaining part of rivet into the horizontal stabilizer.
- (c). Remove three trailing edge rivets by drilling the rivet head only with a # 40 drill.
- (d). Use a small drift to tap the remaining part of rivet out of the horizontal stabilizer.
- (e). Remove one screw, two washers and one self-locking nut. Retain hardware.
- (4). Inspect rivet holes for cracks and oversize.
  - (a). If cracked or oversize contact MDHI Field Service.
- (5). Insert Pro-Seal 890 B-2 sealing compound (approximately ⅓ ounce) into open rivet holes to contain rivet pieces.
- (6). Shake horizontal stabilizer until rivet pieces are secured in sealing compound.
- (7). Apply corrosion protection to the rivet holes (ref. CSP-HMI-2, Chapter 20-40-00).
- (8). Use Cleco fasteners to hold position light mounting bracket 369D23662-13 in the correct position.
- (9). Wet install seven rivets with primer.
- (10). Install one screw, two washers and one self-locking nut.
- (11). Install aft position light:
  - (a). Install aft position light into aft mounting bracket assembly.
  - (b). Install gasket, retainer and four screws on aft position light.
  - (c). Pull wiring thru horizontal stabilizer.
  - (d). Install electrical sleeving over wires.
  - (e). Install knife splice terminals onto wires.
  - (f). Connect knife splice terminals.
  - (g). Pull electrical sleeving over knife splice terminals and zip-ty ends.
- (12). Reinstall horizontal stabilizer (ref. CSP-HMI-2, Section 53-50-10).

## **C. [Part 3] Repair of Anti-Collision Support Assembly**

- (1). Remove anti-collision light (ref. CSP-HMI-3, Section 96-40-00).
- (2). Remove ten (10) rivets from anti-collision light support assembly with a # 40 drill.
- (3). Inspect rivet holes for cracks.
  - (a). If there is a crack, contact MDHI Field Service.
- (4). Enlarge the rivet holes with a #30 drill.
- (5). Deburr the rivet holes.
- (6). Apply corrosion protection to the rivet holes (ref. CSP-HMI-2, Section 20-40-00).
- (7). Wet install ten (10) NAS1097AD4-3 rivets in anti-collision light support assembly with primer.

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- (8). As necessary, do a touchup of the paint (ref. CSP-HMI-2, Section 20-30-00).
- (9). Identify the anti-collision light support assembly as 369D23660-7 with a permanent ink marker.
- (10). Install the anti-collision light on the support assembly with two (2) new self-locking nuts (ref. CSP-HMI-3, Section 96-40-00).

## **D. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete the Bulletin Completed Record forms (attached) and FAX or e-mail them to the MHDH Field Service Department.

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## Bulletin Completed Record

### [Part 1] SUPPORT ASSEMBLY, ANTI-COLLISION LIGHT INSPECTION

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner /Operator:</b> _____	<b>Helicopter Serial No:</b> _____
<b>Address:</b> _____	<b>Helicopter Total Time:</b> _____
_____	<b>Date Complete:</b> _____
_____	<b>Location:</b> _____
<b>Phone:</b> _____	
<b>E-mail:</b> _____	

[Part 1 of 3] This bulletin  
is complete:

\_\_\_\_\_  
(Signature)

Part 3: Required: Y / N  
(circle one)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

**Serial Number** of tailboom: \_\_\_\_\_

**Comments:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

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## Bulletin Completed Record

### [Part 2] BRACKET ASSEMBLY, MOUNTING AFT POSITION LIGHT REPLACEMENT

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner /Operator:</b> _____	<b>Helicopter Serial No:</b> _____
<b>Address:</b> _____ _____ _____ _____	<b>Helicopter Total Time:</b> _____  <b>Date Complete:</b> _____  <b>Location:</b> _____
<b>Phone:</b> _____	
<b>E-mail:</b> _____	

[Part 2 of 3] This bulletin  
is complete:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

**Serial Number** of modified tailboom: \_\_\_\_\_

**Comments:** \_\_\_\_\_  
\_\_\_\_\_  
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## Bulletin Completed Record

### [Part 3] SUPPORT ASSEMBLY, ANTI-COLLISION LIGHT REPAIR

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner /Operator:</b> _____	<b>Helicopter Serial No:</b> _____
<b>Address:</b> _____	<b>Helicopter Total Time:</b> _____
_____	<b>Date Complete:</b> _____
_____	<b>Location:</b> _____
<b>Phone:</b> _____	
<b>E-mail:</b> _____	

[Part 3 of 3] This bulletin  
is complete:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

**Serial Number** of modified tailboom: \_\_\_\_\_

**Comments:** \_\_\_\_\_

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\_\_\_\_\_

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## REMOVABLE (COPILOT) GAS PRODUCER CONTROL COLLECTIVE STICK TUBE ASSEMBLY TORSION BAR, PN 369H7841-5 REPLACEMENT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

MD Helicopters, Inc. (MDHI) Model 369E helicopter, serial number 0615E and Model 369FF helicopters, serial numbers 0192FF thru 0199FF.

Removable Gas Producer Control Collective Stick Tube Assembly, PN 369H7841-501 purchased as spares on Sales Order 126691.

#### B. Assembly/Components Affected By This Notice:

Removable Gas Producer Control Collective Stick Tube Assembly, PN 369H7841-501.

#### C. Reason:

MDHI has been notified by a supplier that non-conforming parts used in the copilot collective stick were delivered to MDHI. A pre-process stress relief procedure used during manufacture of the removable gas producer control collective stick tube assembly torsion bar, PN 369H7841-5 was not performed. The torsion bar must be replaced.

Failure to comply with this bulletin can result in the loss of copilot throttle control of the gas producer. The loss of copilot throttle control, if not immediately corrected by the pilot, could result in equipment damage or the loss of the aircraft.

#### D. Description:

Procedures in this bulletin give owners and operators information to replace the removable gas producer control collective stick tube assembly torsion bar, PN 369H7841-5.

#### E. Time of Compliance:

The requirements of this bulletin must be completed no later than 100 flight hours after receipt of this service bulletin, and no later than March 30, 2014.

#### F. FAA Approval:

No technical design aspects were changed in this bulletin, therefore FAA LAACO acceptance is not required. This bulletin is DER Approved.

#### G. Manpower:

Compliance with this bulletin will be approximately 2.5 man-hours.

#### H. Interchangeability:

None.

#### I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

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## J. Material/Part Availability:

Contact MDHI Spare Parts Sales Department for parts availability.

Telephone: 1-800-388-3378 Option 2 or 480-346-6540. DATAFAX: 480-346-6821.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Removable Pitch Collective Stick Repair Kit	SBK-014	1	MDHI
•Torsion Bar (component of kit)	369H7841-5	1	MDHI
•Rivet (component of kit)	MS20470AD4-10	4	MDHI

## K. Warranty Policy:

The MDHI Warranty Department will give a Removable Pitch Collective Stick Repair Kit, PN SBK-014 at no cost to the operator.

MDHI Warranty Department will give 2.5 hours of labor credit (spares credit) to complete this repair.

Standard warranty policy applies.

## L. Disposition of Parts Removed:

Return to MDHI.

## M. Tooling:

N/A

## N. Weight and Balance:

N/A

## O. Electrical Load Data:

N/A

## P. Other Publications Affected:

N/A

## Q. Reference Publications:

CSP-HMI-2 Basic Handbook of Maintenance Instructions - Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

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## 2. ACCOMPLISHMENT INSTRUCTIONS

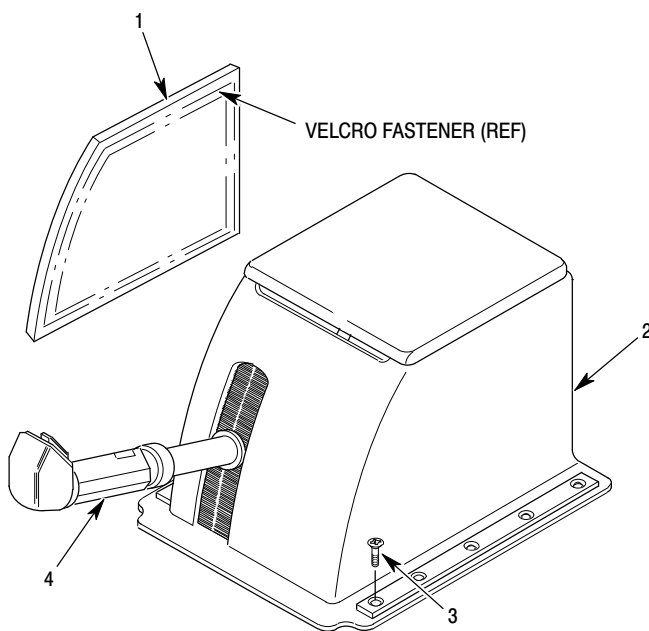
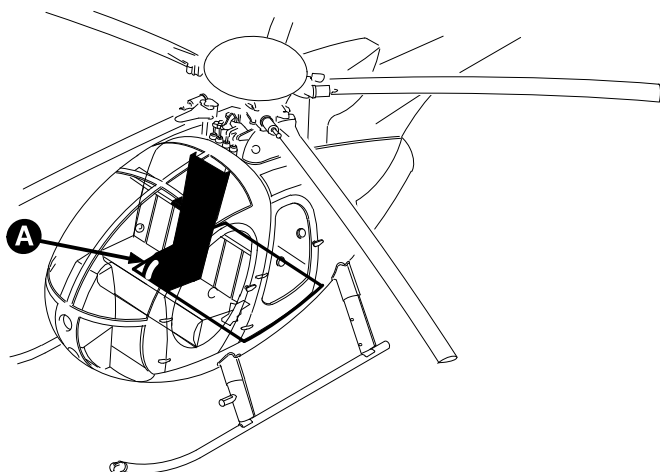
### A. Remove the Removable (Copilot) Collective Pitch Stick Assembly

- (1). Remove the pilots and copilots mesh seat bottoms or upholstered seat bottoms.
  - (a). Remove the pilots and copilots mesh seat bottoms.
    - 1). Remove the four bolts securing the pilots seat bottom frame to the fuselage.
    - 2). Remove the pilots seat bottom frame from the aircraft.
    - 3). Remove the four bolts securing the copilots seat bottom frame to the fuselage.
    - 4). Remove the copilots seat bottom frame from the aircraft.
  - (b). Remove the pilots and copilots upholstered seat bottoms.
    - 1). Push up on the pilots seat bottom to release the Velcro fasteners, then remove the pilots seat bottom from the aircraft.
    - 2). Push up on the copilots seat bottom to release the Velcro fasteners, then remove the copilots seat bottom from the aircraft.
- (2). Pull out on the panel (1, Figure 1) to release the Velcro fasteners, then remove the panel(1) from the collective stick cover (2).
- (3). Remove the ten screws (3), securing the collective stick cover (2), then slide the collective stick cover (2) forward on the removable (copilot) collective pitch stick assembly (4).
- (4). Remove the nut (1, Figure 2), the washer (2), and the bolt (3).
- (5). Disconnect electrical connector (4). Retain face gasket (5) for assembly.
- (6). Pull forward and remove the removable (copilot) collective pitch stick assembly (4, Figure 1) with the collective stick cover (2).
- (7). Remove the collective stick cover (2) from the removable (copilot) collective pitch stick assembly (4).

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**Figure 1. Collective Stick Cover Removal and Installation**

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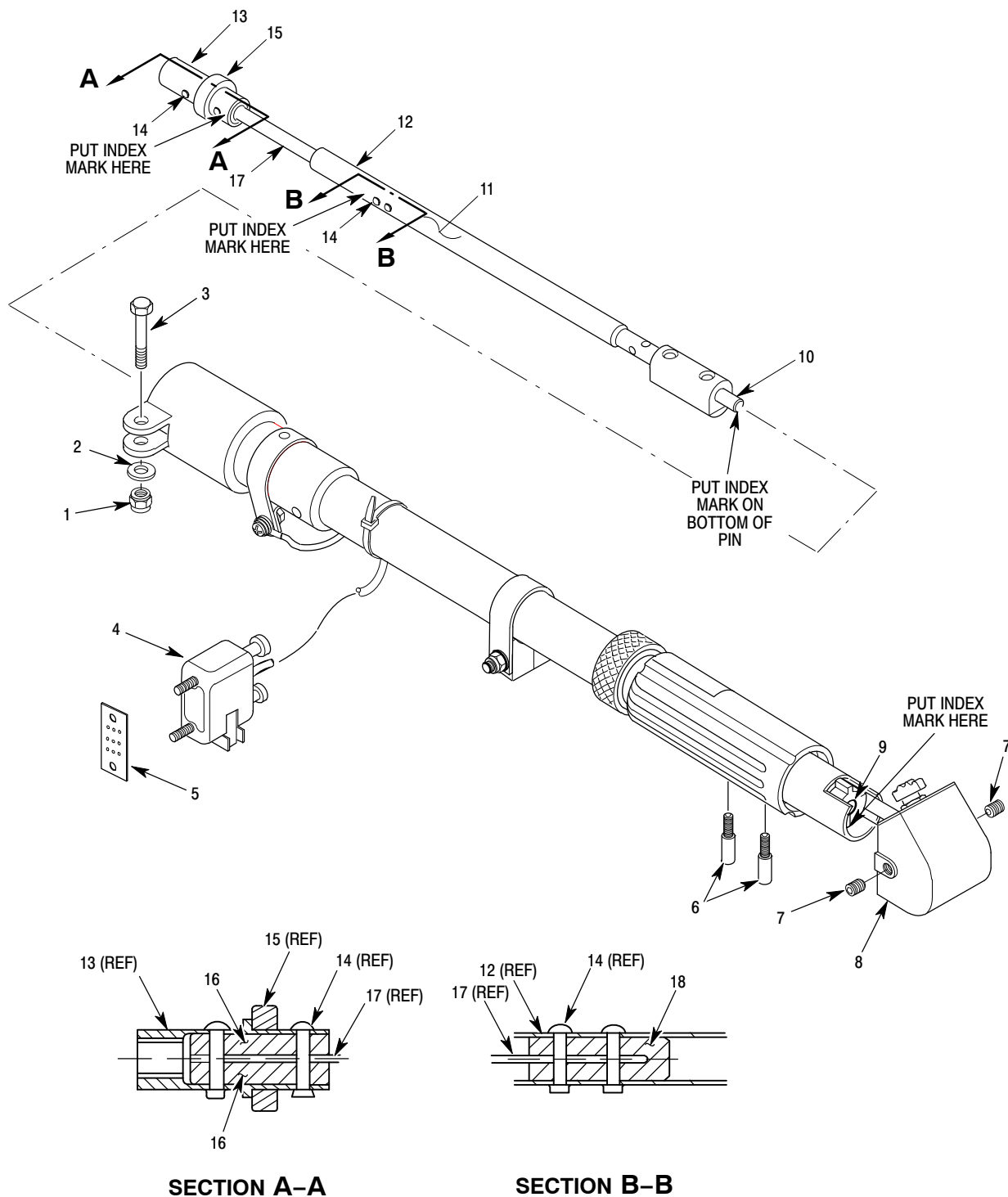
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**Figure 2. Torsion Bar Replacement**

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**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****B. Disassemble the Removable (Copilot) Collective Pitch Stick Assembly**

- (1). Remove the two collective stick twist grip attaching bolts (6, Figure 2).
- (2). Remove the two setscrews (7).
- (3). Put the connector wiring thru the bottom end of the removable (copilot) collective pitch stick assembly and gently pull out on the switch housing assembly (8) to gain access to the collective stick gas producer control guide (9).
- (4). Use a permanent marker and put an index mark extending from the bottom of the collective stick gas producer tube fitting (10) to the bottom of the collective stick gas producer control guide (9) to aid in assembly. (Ref. Figure 2)
- (5). Loosen, but do not remove the setscrew in the bottom of the collective stick gas producer control guide (9).
- (6). If required, use a hammer and a nylon drift (or equivalent) to tap on the end of the collective stick gas producer tube fitting (10) and gently remove the tube fitting (10) from the collective stick gas producer control guide (9).
- (7). Remove the removable collective stick gas producer control tube assembly (11).

**C. Remove the Removable Gas Producer Control Collective Stick Tube Assembly Torsion Bar**

**NOTE:** Alignment of the removable collective stick gas producer control tube (12, Figure 2) and the gas producer control tube to pinion adapter (13) must be maintained during assembly.

- (1). Use a permanent marker and put an index mark the side of the removable collective stick gas producer control tube (12) and the gas producer control tube to pinion adapter (13), next to the rivet locations to aid assembly. (Ref. Figure 2)
- (2). Use a drill and remove the four rivets (14) heads, and push the rivets out of the removable collective stick gas producer control tube (12) and the gas producer control tube to pinion adapter (13).
- (3). Make sure the bushing (15) remains in place on the gas producer control tube to pinion adapter (13).
- (4). Remove the gas producer control tube to pinion adapter (13) and the two part spacer (16) from the torsion bar (17). Retain two part spacer (16) and the gas producer control tube to pinion adapter (13) for assembly.
- (5). Remove the torsion bar (17) and the adapter (18) from the removable collective stick gas producer control tube assembly (12). Retain adapter (18) for assembly.
- (6). Return the removed torsion bar (17), along with a copy of the Bulletin Completed Record to MDHI.
- (7). Clean all parts in accordance with standard shop practices prior to the start of assembly. Use care not to erase the index marks.

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## **D. Install the Replacement Removable Gas Producer Control Collective Stick Tube Assembly Torsion Bar**

- (1). Align the replacement torsion bar (17, Figure 2) in the adapter (18), and install the torsion bar (17) and the adapter (18) in the removable collective stick gas producer control tube (12).
- (2). Align the rivet holes in the torsion bar (17) and the adapter (18) with the rivet holes in the removable collective stick gas producer control tube (12).
- (3). Secure the torsion bar (17) and the adapter (18) in the removable collective stick gas producer control tube (12) with two new rivets (14).

**NOTE:** Alignment of the removable collective stick gas producer control tube (12, Figure 2) and the gas producer control tube to pinion adapter (13) must be maintained during assembly.

- (4). Install the two part spacer (16) on the torsion bar (17), and install the gas producer control tube to pinion adapter (13) on the two part spacer (16) and the torsion bar (17).
- (5). Align the rivet holes in the torsion bar (17) and the two part spacer (16) with the rivet holes in the gas producer control tube to pinion adapter (13) making sure that the index marks on the gas producer control tube to pinion adapter (13) and the removable collective stick gas producer control tube (12) are aligned.
- (6). Secure the torsion bar (17) and the two part spacer (16) in the gas producer control tube to pinion adapter (13) with two new rivets (14).

## **E. Assemble the Removable (Copilot) Collective Pitch Stick Assembly**

- (1). With the index mark on the bottom of the collective stick gas producer tube fitting (10, Figure 2) facing down, install the removable collective stick gas producer control tube assembly (11) in the removable (copilot) collective pitch stick assembly until the collective stick gas producer tube fitting (10) is fully seated in the collective stick gas producer control guide (9).
- (2). Align the index marks on the collective stick gas producer tube fitting (10) and the collective stick gas producer control guide (9), and tighten the setscrew in the bottom of the collective stick gas producer control guide (9).
- (3). Install the two collective stick twist grip attaching bolts (6).
- (4). Gently pull on the wiring at the connector while installing the switch housing assembly (8) until fully seated. Secure the switch housing assembly (8) with two setscrews (7).

## **F. Install the Removable (Copilot) Collective Pitch Stick Assembly**

- (1). Lubricate the stick housing socket with grease.
- (2). Install the collective stick cover (2, Figure 1) on the removable (copilot) collective pitch stick assembly (4), then slide the collective stick cover (2) forward on the removable (copilot) collective pitch stick assembly (4).
- (3). Rotate the pilot's and copilot's throttle grips so that the collective stick twist grip attaching bolts (6, Figure 2) are facing down.
- (4). Install the removable (copilot) collective pitch stick assembly (4, Figure 1), and the collective stick cover (2) on the inboard housing socket extension while moving copilot's grip back and forth slightly to engage the inboard housing socket extension splines with the gas producer control tube to pinion adapter (13, Figure 2).

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- (5). Fully seat the removable (copilot) collective pitch stick assembly and secure with the bolt (3), the washer (2), and the nut (1). into place.
- (6). Install the face gasket (5, Figure 2) on the electrical connector (4), then connect the electrical connector (4).
- (7). Slide the collective stick cover (2, Figure 1) into place and secure with ten screws (3).
- (8). Install the pilots and copilots mesh seat bottoms or upholstered seat bottoms.
  - (a). Install the pilots and copilots mesh seat bottoms.
    - 1). Install and align the copilots seat bottom frame in the aircraft.
    - 2). Install the four bolts securing the copilots seat bottom frame to the fuselage.
    - 3). Install the four bolts securing the pilots seat bottom frame to the fuselage.
  - (b). Install the pilots and copilots upholstered seat bottoms.
    - 1). Install and align the pilots seat bottom in the aircraft and push down to secure the Velcro fasteners.
    - 2). Install and align the copilots seat bottom in the aircraft and push down to secure the Velcro fasteners.

## **G. Verify Removable (Copilot) Collective Pitch Stick Assembly Operation**

- (1). Rotate the pilot's and copilot's throttle twist grips thru the full range of motion. Verify smooth movement thru the full range of motion. If binding or sticking is felt thru the pilot or copilot's throttle twist grips, or the pilot and copilot's throttle twist grips are not synchronized, remove and reinstall the removable (copilot) collective pitch stick assembly, or check rigging setup. (Ref. CSP-HMI-2, Section 76-20-00)

## **H. Job Close-Up**

- (1). Clean up all maintenance debris.

## **I. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.

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## Bulletin Completed Record

### REMOVABLE (COPILOT) GAS PRODUCER CONTROL COLLECTIVE STICK TUBE ASSEMBLY TORSION BAR, PN 369H7841-5 REPLACEMENT

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner /Operator:</b> _____	<b>Helicopter Serial No:</b> _____
<b>Address:</b> _____	<b>Helicopter Total Time:</b> _____
_____	<b>Date Complete:</b> _____
_____	<b>Location:</b> _____
<b>Phone:</b> _____	
<b>E-mail:</b> _____	

This bulletin is complete:

\_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

The removed torsion bar,  
PN 369H7841-5 has been  
returned to MDHI:

\_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

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\* Supersedes Service Bulletin SB369D-214R1, SB369E-110R1, SB369F-096R1, SB500N-050R1, and SB600N-060R1, dated 11 September 2014. Revised to change the warranty policy and the inspection procedures. Helicopters that have completed the Initial Issue or Revision 1 of SB369D-214, SB369E-110, SB369F-096, SB500N-050, or SB600N-060 and meet the intent of this revision have no additional action.

## INSPECTION OF THE COPILOT GAS PRODUCER CONTROL GEAR SHAFT ASSEMBLY

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

369D, 369E, 369FF, 500N, and 600N helicopters with a left-hand (LH) command configuration:

369E helicopters, serial numbers (SNs) 0001E thru 0616E with LH command.

369FF helicopters, SNs 0001FF thru 0209FF, 0600FF thru 0602FF, 0700FF thru 0711FF with LH command.

500N helicopters, SNs LN001 thru LN109 with LH command.

600N helicopters, SNs RN003 thru RN080 with LH command.

**NOTE:** Ref. SB600N-058R1 for 600N helicopters with right-hand (RH) command.

#### B. Assemblies / Components / Spares Affected By This Notice:

369A7336-503 / 369A7336A503 Pilot Gas Control Producer Control Gear Shaft Assembly; and all assemblies in spares inventory.

#### C. Reason:

Copilot gear shaft assemblies have been found without the required Loctite® R/C #35 on the shaft and gear, which can cause the spring pins to loosen and fall out.

**NOTE:** The throttle control of the pilot continues to be operational.

Failure to comply with this bulletin can result in a loss of copilot throttle control and a precautionary landing.

#### D. Description:

Procedures in this Bulletin give owners and operators information to do the disassembly, inspection, and re-assembly to make sure the gear and shaft are correctly assembled.

#### E. Time of Compliance:

The instructions in this bulletin must be completed at the next 100-hour or annual inspection.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA Approved.

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## G. Manpower:

Compliance with this bulletin will be approximately 1 (one) to 4 (four) man-hours.

## H. Interchangeability:

None.

## I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

## J. Material/Part Availability:

Contact MDHI Spare Parts Sales Department for parts availability. Telephone: 1-800-388-3378 Option 2 or 480-346-6540. DATAFAX: 480-346-6821.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Gear Shaft Assembly, Pilot Control Gas Producer	369A7336-503 or 369A7336A503	1	MDHI
Grease, Aircraft and Instrument (CM116)	MIL-G-23827	AR	Commercial

## K. Warranty Policy:

Warranty coverage is inclusive of copilot gear shaft assembly replacement (ref. Replacement Parts/Supplies Table of Section 1.J. herein). Additional discrepancies found, other than the missing Loctite R/C #35, is the responsibility of the customer.

MDHI Warranty Department will give authorized Service Centers not more than one (1) hour of labor (spares) credit to complete the visual inspection and four (4) hours of labor (spares) credit if there is no Loctite.

## L. Disposition of Parts Removed:

Return to MDHI with a completed Service Operational Report (SOR).

## M. Tooling:

Ref. CSP-HMI-2, Section 91-00-00, for the item and manufacturer / supplier numbers.

TOOLS AND EQUIPMENT	
Nomenclature (Item)	Source (Manufacturer / Supplier)
Collective Bungee Installation Tool (ST508)	MDHI (TS10)

## N. Weight and Balance:

N/A

## O. Electrical Load Data:

N/A

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## **P. Other Publications Affected:**

CSP-RLB Rotorcraft Log Book

CSP-HMI-2 Basic Handbook of Maintenance Instructions - Servicing and Maintenance

## **Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-RLB Rotorcraft Log Book

CSP-D-1 Rotorcraft Flight Manual

CSP-E-1 Rotorcraft Flight Manual

CSP-FF-1 Rotorcraft Flight Manual

CSP-520N-1 Rotorcraft Flight Manual

CSP-600N-1 Rotorcraft Flight Manual

CSP-HMI-2 Basic Handbook of Maintenance Instructions - Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

## **2. ACCOMPLISHMENT INSTRUCTIONS**

### **A. Checks for Loctite**

(Ref. Figure 1)

(1). Do an inspection for the installation of PN 369A7336-501 gear shaft assembly (1):

**NOTE:** The -501 gear shaft is not installed on Model 600N helicopters. The -501 gear shaft assembly is not affected by this service bulletin.

(a). As necessary, get access to the center flight controls.

(b). Examine with a strong light and a mirror or a borescope the right-side end of gear shaft assembly (1) along bellcrank (33) and housing cap (45) for a cotter pin that holds the shaft and gear together.

1). The cotter pin will be visible inside the shaft.

2). If there is a cotter pin, make an entry in the Rotorcraft Log Book to record the installation of PN 369A7336-501 gear shaft assembly and return the helicopter to service.

3). If there is no cotter pin, go to the next step.

(2). Do an inspection for PN 369A7336-503 gear shaft assembly (1):

(a). If installed, hold the collective grip on the right-hand collective pitch stick while another technician turns the collective grip on the left-hand collective pitch stick.

1). If both pins have fallen out of gear shaft assembly (1), the right-hand collective grip will not move.

a). If the right-hand collective grip did not move, do procedures 2.B., 2.E., and 2.G. for the 369D, 369E, 369FF, and 500N models, and procedures 2.C., 2.F., and 2.G. for the 600N Model.

b). If the right-hand collective grip did move, go to the next step.

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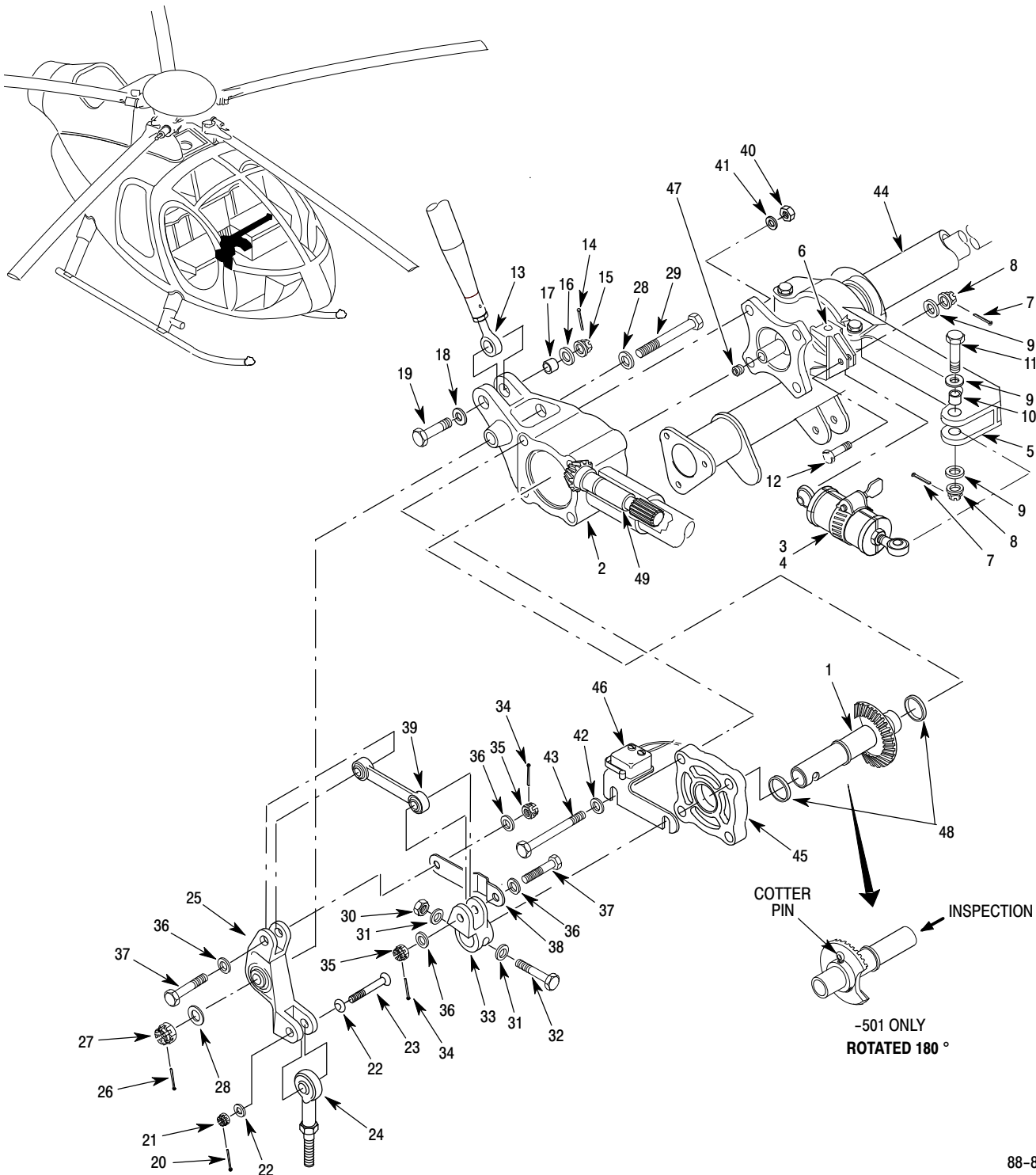
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**Figure 1. Removal and Assembly of the  
(369D, 369E, 369FF, 500N) Copilot Gas Producer Control Gear Shaft Assembly**

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## Legend (Ref. Figure 1)

- |   |   |
|---|---|
| 1. GEAR SHAFT ASSEMBLY (REF. IPC, 67-10-00, FIG. 6) | 26. COTTER PIN                                |
| 2. HOUSING  | 27. NUT                                       |
| 3. COLLECTIVE BUNGEE (REF. IPC, 67-10-00, FIG. 10)  | 28. WASHER                                    |
| 4. COLLECTIVE BUNGEE INSTALLATION TOOL (ST508)      | 29. BOLT                                      |
| 5. OVERCENTER SUPPORT BRACKET                       | 30. NUT                                       |
| 6. BUNGEE SUPPORT BRACKET                           | 31. WASHER                                    |
| 7. COTTER PIN                                       | 32. BOLT                                      |
| 8. NUT  | 33. BELLCRANK                                 |
| 9. WASHER   | 34. COTTER PIN                                |
| 10. BUSHING   | 35. NUT                                       |
| 11. BOLT  | 36. WASHER                                    |
| 12. BOLT  | 37. BOLT                                      |
| 13. CONTROL ROD (REF. IPC, 67-00-00, FIG. 2)        | 38. ACTUATOR CAM                              |
| 14. COTTER PIN                                      | 39. LINK                                      |
| 15. NUT   | 40. NUT                                       |
| 16. WASHER  | 41. WASHER                                    |
| 17. BUSHING   | 42. WASHER                                    |
| 18. WASHER  | 43. BOLT                                      |
| 19. BOLT  | 44. TORQUE TUBE (REF. IPC, 67-10-00, FIG. 10) |
| 20. COTTER PIN (REF. IPC, 76-20-00, FIG. 1)         | 45. HOUSING CAP (REF. IPC, 67-10-00, FIG. 6)  |
| 21. NUT   | 46. N <sub>R</sub> DISABLE SWITCH AND BRACKET |
| 22. WASHER  | 47. PIPE PLUG (FIG. IPC, 67-10-00, 10)        |
| 23. BOLT  | 48. BACKLASH SHIM (FIG. IPC, 67-10-00, 6)     |
| 24. ENGINE CONTROL ROD                              | 49. N <sub>1</sub> PINION GEAR                |
| 25. IDLER (REF. IPC, 67-10-00, FIG. 6)              |   |

(3). Remove components as necessary to get to the Controls Access Door on the aft side of Station 78.50 (ref. CSP-HMI-2, Section 52-50-00).

(4). Remove the Controls Access Door.

(5). Examine gear shaft assembly (1) with a strong light and a mirror or a borescope for Loctite (ref. Figure 1 and Figure 2).

**NOTE:** The gear shaft assembly is located in housing (2). Loctite will show as a blue-to-green stripe of color past the brass-color gears on the grey-color shaft.

(a). If there is Loctite, there will be a blue to green sheen in the interface of the gear and shaft (ref. Figure 3).

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Do not use torque seal to make the slippage mark. Torque seal can get into gears, bearings and shafts and damage the components.

- (b). If you cannot see Loctite, put a slippage mark with a bright-colored indelible ink or with a spot of white paint with a long brush on the gear and shaft of gear shaft assembly (1).

**NOTE:** Use an indelible ink that will visibly contrast with the background color of the gear shaft assembly.

- 1). Do a visual inspection at every 100-hour inspection to make sure the slippage mark has not split.
  - a). If the slippage mark has split, replace gear shaft assembly (1).
- (c). If there is Loctite, go to Procedure 2.G.(6).

## **B. Disassembly (Models 369D, 369E, 369FF, 500N)**

(Ref. Figure 1)

- (1). Do a check of the gas producer controls rigging before disassembly (ref. CSP-HMI-2, Section 76-20-00).
- (2). Make sure the throttle movement is smooth and moves freely.
- (3). Apply friction to the pilot's throttle with the throttle in the OFF position.
- (4). As necessary, get access to the center flight controls.
- (5). Remove collective bungee (3) with ST508 collective bungee installation tool (4) (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 11.A.).

**NOTE:** Do not remove overcenter support bracket (5) or bungee support bracket (6) and do not disassemble collective bungee (3).



Protect collective mixer control rod (13) after it is disconnected from housing (2) to prevent damage.

- (6). Disconnect control rod (13) from housing (2) (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 1.A.).

**NOTE:** Do not remove control rod (13).

- (7). Do the Inboard Collective Stick Socket Assembly Removal procedure (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 12.A.).
- (8). Remove cotter pin (20), nut (21), washers (22), and bolt (23) from the rod end bearing of engine control rod (24) and idler (25).
  - (a). Discard cotter pin (20).
- (9). Remove cotter pin (26), nut (27), washers (28), and bolt (29) from housing (2) and idler (25).
  - (a). Discard cotter pin (26).
- (10). Remove nut (30), washers (31), and bolt (32) from bellcrank (33) and gear shaft assembly (1).

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- (11). Remove cotter pins (34), nuts (35), washers (36), and bolts (37) from idler (25), bellcrank (33), actuator cam (38) and link (39).

(a). Discard cotter pin (34).

- (12). Remove nuts (40), washers (41, 42), and bolts (43) from torque tube (44) from housing (2), housing cap (45), and N<sub>R</sub> disable switch and bracket (46).

- (13). Find pipe plug (47) that attaches gear shaft assembly (1) to the pilot's gas producer interconnect torque tube and copilot's collective stick.

- (14). Have an assistant hold the gear shaft assembly.

**NOTE:** Use an  $\frac{7}{16}$ -inch Allen wrench on the pilot's gear shaft inside the shaft hexagon, not the pipe plug. Use a  $\frac{3}{16}$ -inch Allen wrench on the pipe plug.

- (15). Carefully loosen the pilot's stick pipe plug to remove tension.

- (16). After the pipe plug is loose, remove housing (2).



Make sure the location of each backlash shim is recorded for re-assembly.

- (17). Record the locations of the backlash shims (48) on gear shaft assembly (1).

- (18). Remove backlash shims (48).

- (19). Take housing (2) to a workbench.

- (20). Turn housing (2) so that the cutout of the ring gear of the gear shaft assembly (1) will go around N<sub>1</sub> pinion gear (49).

- (21). Remove gear shaft assembly (1) from housing (2).

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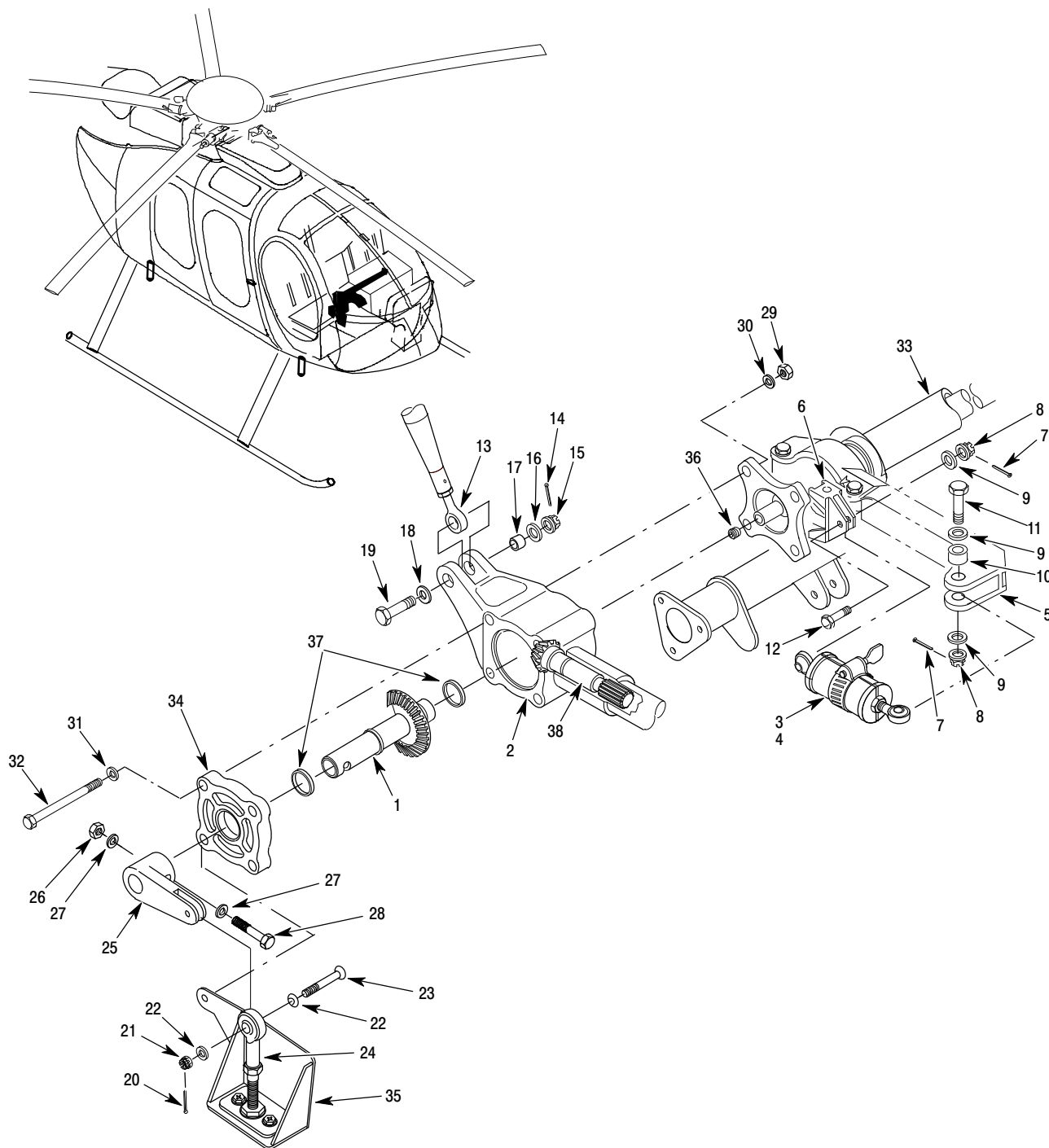


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**Figure 2. Removal and Assembly of the  
600N Copilot Gas Producer Control Gear Shaft Assembly**

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## Legend (Ref. Figure 2)

- |   |  |
|---|--|
| 1. GEAR SHAFT ASSEMBLY (REF. IPC, 67-10-00, FIG. 3) | 20. COTTER PIN (REF. IPC, 76-20-60, FIG. 1)    |
| 2. HOUSING  | 21. NUT  |
| 3. COLLECTIVE BUNGEE (REF. IPC, 67-10-00, FIG. 10)  | 22. WASHER                                     |
| 4. COLLECTIVE BUNGEE INSTALLATION TOOL (ST508)      | 23. BOLT                                       |
| 5. OVERCENTER SUPPORT BRACKET                       | 24. ENGINE CONTROL ROD                         |
| 6. BUNGEE SUPPORT BRACKET                           | 25. BELLCRANK                                  |
| 7. COTTER PIN                                       | 26. NUT  |
| 8. NUT  | 27. WASHER                                     |
| 9. WASHER   | 28. BOLT                                       |
| 10. BUSHING   | 29. NUT (REF. IPC, 67-10-00, FIG. 3)           |
| 11. BOLT  | 30. WASHER                                     |
| 12. BOLT  | 31. WASHER                                     |
| 13. CONTROL ROD (REF. IPC, 67-00-00, FIG. 2)        | 32. BOLT                                       |
| 14. COTTER PIN                                      | 33. TORQUE TUBE (REF. IPC 67-10-00, FIG. 10)   |
| 15. NUT   | 34. HOUSING CAP (REF. IPC, 67-10-00, FIG. 3)   |
| 16. WASHER  | 35. BRACKET                                    |
| 17. SPACER  | 36. PIPE PLUG (REF. 67-10-00, FIG. 10)         |
| 18. WASHER  | 37. BACKLASH SHIM (REF. IPC, 67-10-00, FIG. 3) |
| 19. BOLT  | 38. N <sub>1</sub> PINION GEAR                 |

### C. Disassembly (Model 600N)

(Ref. Figure 2)

- (1). Do a check of the gas producer controls rigging before disassembly (ref. CSP-HMI-2, Section 72-20-00).
- (2). Make sure the throttle movement is smooth and moves freely.
- (3). Apply friction to the pilot's throttle with the throttle in the OFF position.
- (4). Remove the pilot's seat cover to get access to the center flight controls.
- (5). Remove collective bungee (3) with ST508 collective bungee installation tool (4) (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 11.A.).

**NOTE:** Do not remove overcenter support bracket (5) or bungee support bracket (6) and do not disassemble collective bungee (3).



Protect collective mixer control rod (13) after it is disconnected from housing (2) to prevent damage.

- (6). Disconnect control rod (13) from housing (2) (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 1.A.).

**NOTE:** Do not remove the collective mixer control rod.

- (7). Do the Inboard Collective Stick Socket Assembly Removal procedure (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 12.A.).

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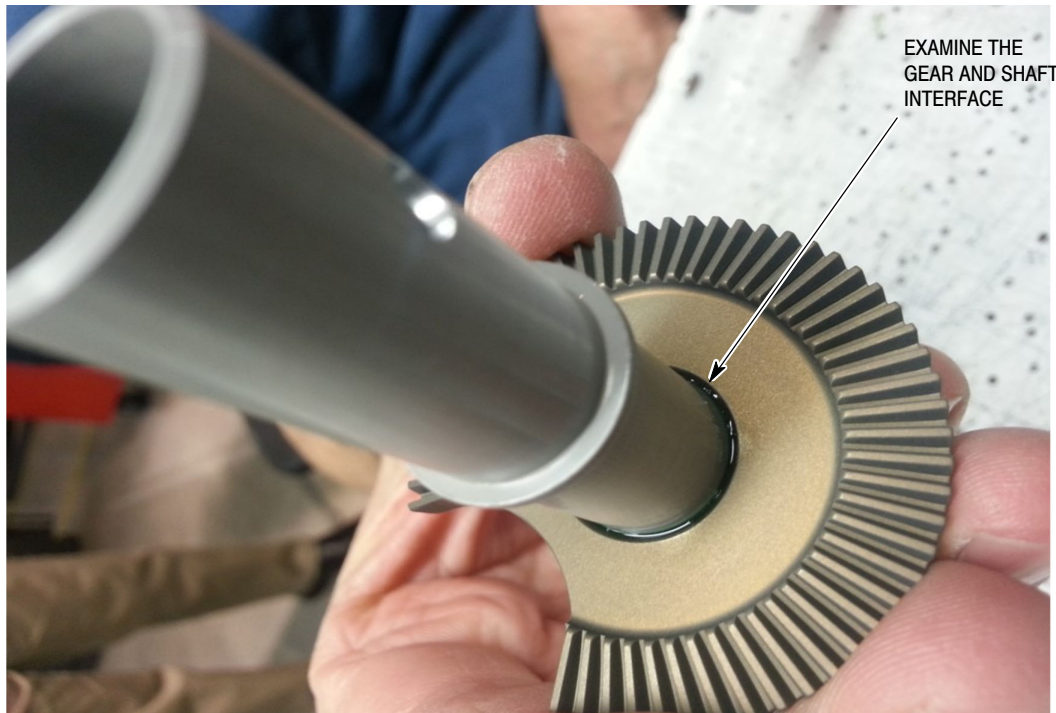
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**Figure 3. Inspection of the Gear Shaft Assembly**

- (8). Remove cotter pin (20), nut (21), washers (22), and bolt (23) from the rod end bearing of the engine control rod (24) and bellcrank (25).
- (9). Remove nut (26), washers (27), bolt (28), and bellcrank (25) from gear shaft assembly (1).
- (10). Remove nuts (29), washers (30, 31), bolts (32), from collective control torque tube (33), housing (2), housing cap (34), and bracket (35)
- (11). Find pipe plug (36) that attaches gear shaft assembly (1) to the pilot's gas producer interconnect torque tube and copilot's collective stick.
- (12). Have an assistant hold the gear shaft assembly.

**NOTE:** Use an  $\frac{7}{16}$ -inch Allen wrench on the pilot's gear shaft inside the shaft hexagon, not the pipe plug. Use a  $\frac{3}{16}$ -inch Allen wrench on the pipe plug.

- (13). Carefully loosen the pilot's stick pipe plug to remove tension.
- (14). After the pipe plug is loose, remove housing (2).



Make sure the location of each backlash shim is recorded for re-assembly.

- (15). Record the locations of the backlash shims (37) on gear shaft assembly (1).
- (16). Remove backlash shims (37).
- (17). Take housing (2) to a workbench.

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(18). Turn housing (2) so that the cutout of the ring gear of the gear shaft assembly (1) will go around N<sub>1</sub> pinion gear (38).

(19). Remove gear shaft assembly (1) from housing (2).

## **D. Deleted (Ref. Procedure 2.A.)**

## **E. Assembly (Models 369D, 369E, 369FF, 500N)**

(Ref. Figure 1)

(1). Install the gear shaft assembly:

- (a). Install backlash shims (48) in their original positions.
- (b). Apply a small quantity of grease (CM116) to the gears of gear shaft assembly (1).
- (c). Install assembled gear shaft assembly (1, 48) in housing (2).
- (d). Turn gear shaft assembly (1) to let the cutout go by the N<sub>1</sub> pinion gear (49).
- (e). Release friction from the pilot's throttle with the throttle in the OFF position.
- (f). Fully turn gear shaft assembly (1) to apply the grease on its gear and the N<sub>1</sub> pinion gear (48).

**NOTE:** The cutout of the gear shaft assembly will face aft.

- (g). Turn gear shaft assembly (1) to engage the N<sub>1</sub> pinion gear (49) at the same position observed during disassembly.
- (2). Install housing (2) on torque tube (44) with housing cap (45), N<sub>R</sub> disable switch and bracket (46), washers (41, 42), bolts (43), and nuts (40).
- (3). Install bellcrank (33) on gear shaft assembly (1) with washers (31), bolt (32), and nut (30).
- (4). Install idler (25), bellcrank (33), actuator cam (38) and link (39) with washers (36), bolts (37), nuts (35), and cotter pins (34).
- (5). Engage pipe plug (47) with an Allen wrench to tighten the pilot's and copilot's pipe plugs at the same time.
- (6). Remove protective materials from control rod (13).
- (7). Connect control rod (13) to housing (2) (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 1.B.).
- (8). Install collective bungee (3) with ST508 collective bungee installation tool (4) (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 11.B.).

## **F. Assembly (Model 600N)**

(Ref. Figure 2)

(1). Install the gear shaft assembly:

- (a). Install backlash shims (37) in their original positions.
- (b). Apply a small quantity of grease (CM116) to the gears of gear shaft assembly (1).

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- (c). Install assembled gear shaft assembly (1, 37) in housing (2).
- (d). Turn gear shaft assembly (1) to let the cutout go by the N<sub>1</sub> pinion gear (38).
- (e). Release friction from the pilot's throttle with the throttle in the OFF position.
- (f). Fully turn gear shaft assembly (1) to apply the grease on its gear and the N<sub>1</sub> pinion gear (38).

**NOTE:** The cutout of the gear shaft assembly will face aft.

- (g). Turn gear shaft assembly (1) to engage the N<sub>1</sub> pinion gear (38) at the same position observed during disassembly.
- (2). Install housing (2) on torque tube (33) with housing cap (34), bracket (35), washers (30, 31), bolts (32), and nuts (29).
- (3). Install bellcrank (25) on gear shaft assembly (1) with washers (27), bolt (28), and nut (26).
- (4). Engage pipe plug (36) with an Allen wrench to tighten the pilot's and copilot's pipe plugs at the same time.
- (5). Connect control rod (13) to housing (2) (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 1.B.).
- (6). Install collective bungee (3) with ST508 collective bungee installation tool (4) (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 11.B.).

## **G. Job Close-Up**

- (1). Do the Inboard Collective Stick Socket Assembly Installation procedure (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 12.B.).
- (2). Turn the copilot's throttle.
  - (a). The throttle must be smooth and does not catch.
- (3). As you hold the pilot's throttle grip to prevent movement, do a check of the copilot's throttle grip for movement.
  - (a). If there is movement, do the Gas Producer Interconnecting Torque Tube Assembly Shimming (as applicable) (ref. CSP-HMI-2, Section 67-10-00, Adjustment / Test).
  - (b). If there is a loss of the range of movement, do the Gas Producer Interconnecting Torque Tube Assembly Shimming (as applicable) (ref. CSP-HMI-2, Section 67-10-00, Adjustment / Test) or tighten the pipe plug.
- (4). As you hold the copilot's throttle grip to prevent movement, do a check of the pilot's throttle grip for movement.
  - (a). If there is movement, do the Gas Producer Interconnecting Torque Tube Assembly Shimming (as applicable) (ref. CSP-HMI-2, Section 67-10-00, Adjustment / Test).
  - (b). If there is a loss of the range of movement, do the Gas Producer Interconnecting Torque Tube Assembly Shimming (as applicable) (ref. CSP-HMI-2, Section 67-10-00, Adjustment / Test) or tighten the pipe plug.

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- (5). Do a check of the pilot's and copilot's throttle:
  - (a). The throttle must be smooth and does not catch.
  - (b). If there is movement, do the Gas Producer Interconnecting Torque Tube Assembly Shimming (as applicable) (ref. CSP-HMI-2, Section 67-10-00, Adjustment / Test).
- (6). Install the pilot's seat cover.
- (7). Install the Center Access Door.
- (8). Do the throttle, hydro-mechanical unit (HMU), and control cable rigging procedures before an engine start (ref. CSP-HMI-2, Chapter 76, applicable engine section).
- (9). Do a check of the HMU stop, idle cutoff, and maximum stop positions during the throttle checks before an engine start (ref. CSP-600RFM-1).

## **H. Compliance Record**

- (1). Install as necessary removed components.
- (2). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (3). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.

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## SB369D-214R2 / SB369E-110R2 / SB369F-096R2 / SB500N-050R2 / SB600N-060R2 Completion Record

### Inspection of the Pilot Gas Producer Control Gear Shaft Assembly

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner/- Operator:</b> _____	<b>Helicopter Serial No:</b> _____
<b>Address:</b> _____ _____ _____ _____	<b>Helicopter Total Time:</b> _____  <b>Date Complete:</b> _____  <b>Location:</b> _____
<b>Phone:</b> _____	
<b>E-mail:</b> _____	

This bulletin is complete:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
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## ENGINE OIL HOSE INSPECTION AND REPLACEMENT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

MD Helicopters, Inc. (MDHI) Model 369F/FF helicopters, serial numbers (SNs) 0001FF thru 0209FF, 0600FF thru 0602FF and 0700FF thru 0711FF.

MDHI Model 600N helicopters, SNs RN0002 thru RN0082.

All Engine Oil Hoses, PN 369DSK400-103 in spares inventory.

#### B. Assembly/Components Affected By This Notice:

Engine Oil Hose, PN 369DSK400-103

#### C. Reason:

MDHI has determined that some installed engine oil hoses, PN 369DSK400-103, can kink and cause engine oil pressure fluctuations and oil leaks.

Failure to comply with this bulletin can result in low or fluctuating engine oil pressure and engine oil leaks.

#### D. Description:

Procedures in this bulletin give owners and operators information to examine and replace an unserviceable engine oil hose, PN 369DSK400-103, with new engine oil hose, PN 369D28505-1.

This bulletin also gives instructions to replace engine oil hoses, PN 369DSK400-103, in spares inventory.

#### E. Time of Compliance:

Examine engine oil hose for leaks and make sure there is no low oil pressure fluctuation at next engine run up.

The requirements of this bulletin must be completed within 100 hours after receipt of this bulletin or during the 100-hour inspection (whichever occurs first).

Engine oil hoses, PN 369DSK400-103 must be returned to MDHI no later than six (6) months from the the date of this Service Bulletin to receive new replacement engine oil in hose, PN 369D28505-1, at no cost to the operator.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA Approved.

#### G. Manpower:

Compliance with the engine oil hose inspection part of this bulletin will be approximately one (1.0) man-hours.

Compliance with the engine oil hose replacement part of this bulletin will be approximately three (3.0) man-hours.

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**H. Interchangeability:**

None.

**I. Points of Contact:**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona.  
 Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

**J. Material/Part Availability:**

Contact MDHI Spare Parts Sales Department for parts availability.  
 Telephone: 1-800-388-3378 Option 2 or 480-346-6540. DATAFAX: 480-346-6821.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Engine Oil In Hose	369D28505-1	1	MDHI

**K. Warranty Policy:**

The MDHI Warranty Department will give a engine oil In hose, PN 369D28505-1 at no cost to the operator. A completed Service and Operation Report (SOR) and Part 2 Bulletin Completed Record must be returned with the engine oil hose PN 369DSK400-103.

MDHI will give operators a labor warranty (spares credit) as follows:

- One (1.0) hours for the initial installed engine oil hose inspection.
- Three (3.0) hours for replacement of unserviceable engine oil hose PN 369DSK400-103 that is returned to MDHI.

No labor warranty (spares credit) will be given for engine oil hoses returned from spares inventory.

**L. Disposition of Parts Removed:**

Return to MDHI.

**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

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## **Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-SRM-6 Structural Repair Manual

## **2. ACCOMPLISHMENT INSTRUCTIONS**

### **A. Installed Engine Oil Hose Inspection**

- (1). Open engine access doors.
- (2). If installed, remove engine oil cooler deflector (duct) PN 369D28304 (Ref. CSP-HMI-2, Section 71-60-00).
- (3). Use a caliper and measure the outside diameter (O.D.) of the engine oil hose, PN 369DSK400-103, with the firesleeve installed.
- (4). Measure the engine oil hose in the plane of the bend at the tightest area of the bend and record the measurement.
- (5). Make sure the engine oil hose is not less than 1.0 inch (25.4 mm) O.D. in this area.
- (6). Measure the engine oil hose O.D. perpendicular to the plane of the bend in the same area and record the measurement.
- (7). Make sure the engine oil hose is not more than 1.3 inch (33.0 mm) O.D. in this area.
- (8). If engine oil hose, PN 369DSK400-103, does not meet one or both measurement requirements, replace the hose.

### **B. Installed Engine Oil Hose Replacement**

- (1). Remove engine oil hose, PN 369DSK400-103 (Ref. CSP-HMI-2, Section 79-00-00).
- (2). Install engine oil in hose, PN 369D28505-1 (Ref. CSP-HMI-2, Section 79-00-00).
- (3). Install engine oil cooler deflector (duct) PN 369D28304 (Ref. CSP-HMI-2, Section 71-60-00).
- (4). Make sure the engine oil in hose, PN 369D28505-1 has a minimum of 0.060 inch (1.52 mm) clearance with the engine oil cooler deflector.
- (5). If necessary, cut engine oil cooler deflector to get a minimum of 0.060 inch (1.52 mm) clearance with the engine oil in hose.
- (6). If engine oil cooler deflector was cut for engine oil in hose clearance, seal or repair edge of cut as required in accordance with CSP-HMI-2, Section 20-30-00 or CSP-SRM-6, Section 53-00-00.

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**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****C. Spares Inventory Engine Oil Hose Replacement**

- (1). For unused engine oil hoses in spares inventory complete Part 2 - Bulletin Completed Record form (attached) and include with the returned engine oil hose when shipped to MDHI.

**D. Job Close-Up**

- (1). Clean up all maintenance debris.

**E. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete Part 1 - Bulletin Completed Record form (attached) after inspection and FAX or e-mail to MDHI Field Service Department.
- (3). Complete Part 2 - Bulletin Completed Record form (attached) and include with the returned engine oil hose when shipped to MDHI.

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## Bulletin Completed Record

### [Part 1] – Engine Oil Hose Inspection

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner /Operator:</b> _____	<b>Helicopter Model/ Serial No:</b> _____
<b>Address:</b> _____ _____ _____	<b>Helicopter Total Time:</b> _____
	<b>Date Complete:</b> _____
	<b>Location:</b> _____
<b>Phone:</b> _____	<b>Step 2.A.(4). Oil Hose Measurement</b> _____
<b>E-mail:</b> _____	<b>Step 2.A.(6). Oil Hose Measurement</b> _____

[Part 1 of ] This bulletin is complete:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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## Bulletin Completed Record

### [Part 2] Engine Oil Hose Replacement

MD Helicopters, Inc.  
 Field Service Department  
 4555 E. McDowell Road  
 Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
 480-346-6387 Phone (International)  
 480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

Owner /Operator: _____	Helicopter Model/ Serial No: _____
Address: _____ _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____  Location: _____
Phone: _____	
E-mail: _____	

[Part 2 of ] This bulletin is  
 complete: \_\_\_\_\_

(Signature)

(Print Name)

(Title)

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
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## ONE-TIME INSPECTION OF FUEL PUMP HARNESS ROUTING AND DECAL INSTALLATION

- \* Supersedes Service Bulletins SB369HN-210, SB369DN-150, SB369EN-38, and SB369FN-27, dated 15 September 1987. Revised to the latest MD Helicopters, Inc. (MDHI) style and format.
- \* Supersedes Service Bulletins SB369H-255, SB369D-213, SB369E-111, SB369F-098, SB500N-049, dated 30 April 2014. Revised to include an alternate method to secure a shorter fuel pump wire that is too short to wrap around the fuel inlet hose.

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) Model 369A (OH-6A), 369H, 369HE, 369HS, 369HM, AND 369D helicopters.

MDHI Model 369E helicopters, SNs 0001E thru 0620E.

MDHI Model 369F/FF helicopters, SNs 0001FF thru 0212FF, 0600FF thru 0605FF and 0700FF thru 0717FF with a PN 369A8143-3 auxiliary fuel pump installed.

MDHI Model 500N helicopters, SNs LN001 thru LN0111.

#### B. Assembly/Components Affected By This Notice:

369A8143 or 369A8143-3 Auxiliary Fuel Pump Assemblies

369A8113 LH Fuel Cell Fuel Inlet Hose Assembly

#### C. Reason:

Recent field incidents have occurred where maintenance personnel have not followed the procedures in CSP-H-2 or CSP-HMI-2 regarding the installation of the auxiliary fuel (start) pump. An incorrectly positioned auxiliary fuel (start) pump wire can interfere with the fuel quantity sensor float. This interference can result in erroneous fuel quantity indications. To prevent this situation, the fuel pump wire must be wrapped around the fuel inlet hose as shown in the applicable maintenance manual. If the fuel pump wire is too short to wrap around the fuel inlet hose, use a tiedown strap to attach the wire.

#### D. Description:

Procedures in this bulletin give owners and operators information to do a one-time inspection of the auxiliary fuel pump assembly wire routing in the left hand fuel cell, and corrective action, if necessary. A decal is also installed on the LH fuel cell access cover that refers personnel to the procedures contained in the appropriate maintenance manual.

#### E. Time of Compliance:

The requirements of this bulletin must be completed no later than the next 100 hour inspection.

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## F. FAA Approval:

The technical design aspects of this bulletin are FAA Approved.

Paragraphs 2.F.(1). thru 2.F.(8). of this Service Bulletin have been approved by the manager of the FAA Los Angeles Aircraft Certification Office (LAACO) as a Global Alternative Method of Compliance (AMOC) to Airworthiness Directive (AD) 2016-05-09 Paragraph (e)(1)(ii).

## G. Manpower:

Compliance with this bulletin will be approximately three (3) man-hours to complete the inspection and test and approximately one (1) man-hour to re-route the auxiliary fuel pump wire if required.

## H. Interchangeability:

None.

## I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

## J. Material/Part Availability:

Contact MDHI Spare Parts Sales Department for parts availability.  
Telephone: 1-800-388-3378 Option 2 or 480-346-6540. DATAFAX: 480-346-6821.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Adhesive, Fast Setting	MDM16-1068, Class 8B: Epibond 1217 A/B (RM011959)	(1 oz (28G))	Commercial
Decal, Warning — Start Pump	MHS5861-66	1	MDHI
Gasket, Fuel Quantity Transmitter	369A4518 (Order PN 15-423)	1	MDHI
Strap, Tiedown, Adjustable	MS3367	1	Commercial

## K. Warranty Policy:

Contact the MDHI Warranty Department for prices, orders, and availability.  
Telephone: 1-800-388-3378 or 480-346-6403. DATAFAX: 480-346-6814.

MDHI Warranty Department will give authorized Service Centers not more than 4 hours of labor credit (spares credit) to complete this modification.

Standard warranty policy applies.

## L. Disposition of Parts Removed:

N/A

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**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

N/A

**Q. Reference Publications:**

CSP-H-2 Basic Handbook of Maintenance Instructions

CSP-H-7 Illustrated Parts Catalog

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

## 2. ACCOMPLISHMENT INSTRUCTIONS

**A. Get Access to the LH Fuel Cell Cover Assembly**

- (1). Make sure all electrical power is OFF.
- (2). Get access to the LH fuel cell cover assembly (ref. CSP-H-2, Chapter 12, or CSP-HMI-2, Chapter 28, as applicable).

**B. Remove the Fuel Quantity Sensor**

**WARNING** Use all necessary precautions consistent with safe practices when working in or around fuel cells.

**CAUTION** Care must be taken not to damage the fuel float arm or low fuel level warning contact spring when you do this bulletin.

- (1). Disconnect the wire harness from the fuel quantity sensor (1, Figure 1).
- (2). Cut and remove the lockwire (3) from the five bolts (4) that attach the fuel quantity sensor (1) to the support assembly (6).
- (3). Remove the five bolts (4) and five washers (5) from the fuel quantity sensor (1).
- (4). Carefully lift the fuel quantity sensor (1) up and out of the support assembly (6).
  - (a). Remove and discard the fuel quantity sensor gasket (2).

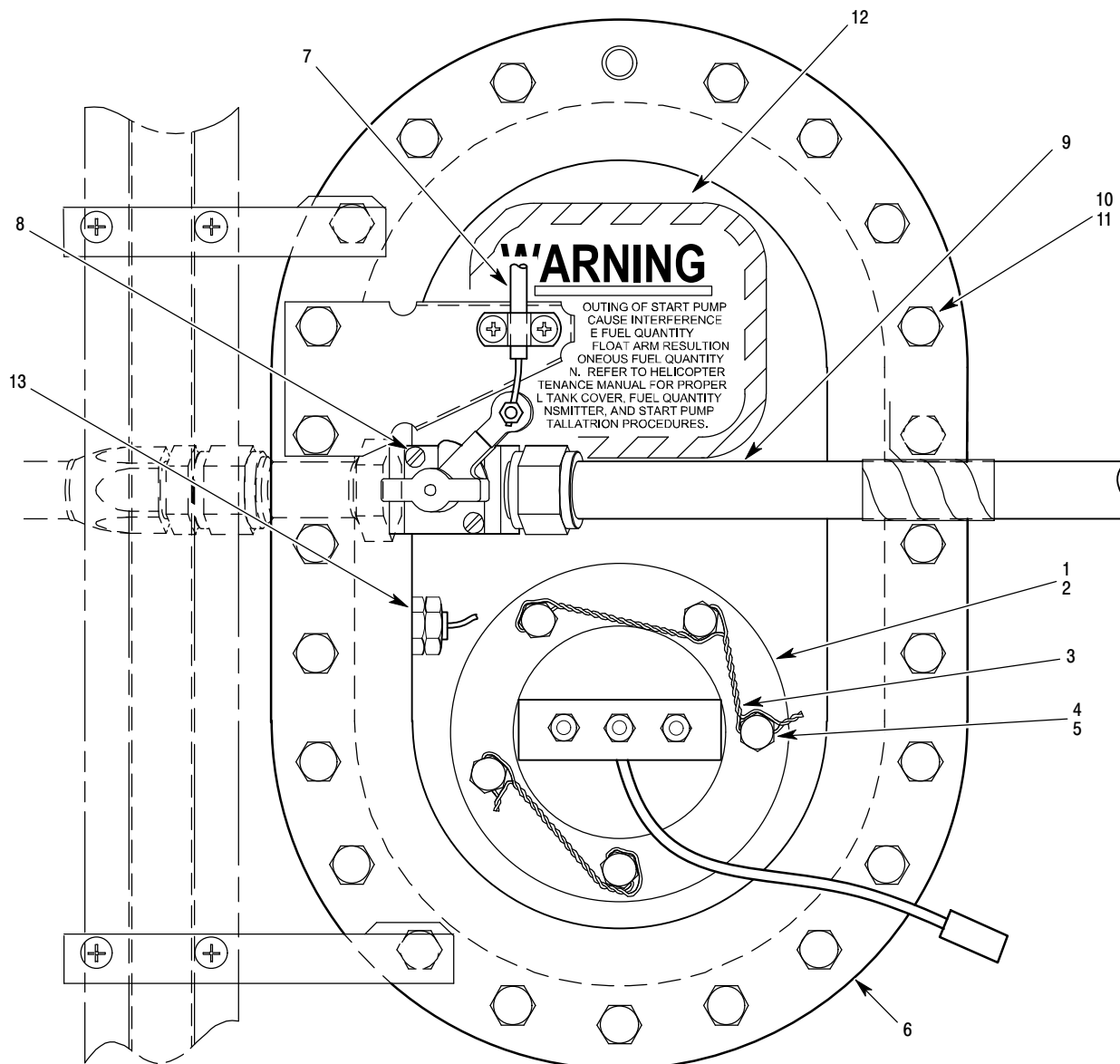
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**Figure 1. Fuel Cell Cover and Components**

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## Legend (Ref. Figure 1)

- |  |  |
|--|--|
| 1. FUEL QUANTITY SENSOR (REF. IPC, 28-00-00, FIG. 1 & 2) | 8. FUEL SHUT-OFF VALVE                   |
| 2. FUEL QUANTITY SENSOR GASKET                           | 9. LH FUEL CELL FUEL INLET HOSE ASSEMBLY |
| 3. LOCKWIRE  | 10. BOLT                                 |
| 4. BOLT  | 11. WASHER                               |
| 5. WASHER  | 12. START PUMP WARNING DECAL             |
| 6. LH FUEL CELL COVER                                    | 13. AUXILIARY FUEL PUMP WIRE             |
| 7. CONTROL CABLE   |  |

### C. Inspect Auxiliary Fuel Pump Assembly Wire Routing

- (1). Use a shop mirror and flashlight to inspect the auxiliary fuel pump wire routing (Ref. Figure 2).
  - (a). The auxiliary fuel pump wire must be wrapped around the LH fuel cell fuel inlet hose assembly a minimum of one revolution.
- (2). If the auxiliary fuel pump wire is wrapped around the LH fuel cell fuel inlet hose, re-install the fuel quantity sensor (Ref. Step 2.D.), then go to Step 2.G.
- (3). If the auxiliary fuel pump wire is not wrapped around the LH fuel cell fuel inlet hose, re-install the fuel quantity sensor (Ref. Step 2.D.).
  - (a). If the wire is long enough to wrap around the hose assembly, then go to Step 2.E. (Method 1).
  - (b). If the wire is too short to wrap around the hose assembly, then go to Step 2.F. (Method 2).

### D. Install the Fuel Quantity Sensor

- (1). Install a new fuel quantity sensor gasket (2, Figure 1) on the fuel quantity sensor (1).
- (2). Install the fuel quantity sensor in the support assembly with five bolts (4) and five washers (5).
  - (a). Safety the five bolts (4) with lockwire (3).
- (3). Connect the wiring harness connector to the fuel quantity sensor (1).
- (4). Go to Step 2.G.

### E. Method 1 — Route the Auxiliary Fuel Pump Wire Around the LH Fuel Cell Fuel Inlet Hose

- (1). Loosen the nut on the cable clamp and disconnect control cable (7, Figure 1) from fuel shutoff valve (8).
- (2). Disconnect the LH fuel cell fuel inlet hose assembly (9) from the LH fuel cell fuel shutoff valve (8) assembly.
- (3). Disconnect the wiring harness connector from the auxiliary fuel pump wire (13) connector at the LH fuel cell cover (6).

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- (4). Remove the bolts (13) and washers (14) securing the LH fuel cell cover (6) to the LH fuel cell.
- (5). Carefully pry up the edge of the fuel cell cover (6) to break it loose from the LH fuel cell.
- (6). Remove the auxiliary fuel pump connector jam nut (13).
- (7). Remove the connector from the LH fuel cell cover.
- (8). Wrap the auxiliary fuel pump wire around the LH fuel cell fuel inlet hose, a minimum of one revolution, in such a way that it cannot interfere with the operation of the fuel quantity sensor float (Ref. Figure 2.).
- (9). Install the auxiliary fuel pump wire thru the LH fuel cell cover (6, Figure 1) and secure with hex nut (13).
- (10). Re-seat the LH fuel cell cover (6) on the LH fuel cell and secure with washers (14) and bolts (13).
- (11). Go to Step 2.G.

## **F. Method 2 — Install a Short Auxiliary Fuel Pump Wire with a Tiedown Strap**

- (1). Loosen the nut on the cable clamp and disconnect control cable (7, Figure 1) from fuel shutoff valve (8).
- (2). Disconnect the LH fuel cell fuel inlet hose assembly (9) from the LH fuel cell fuel shutoff valve (8) assembly.
- (3). Disconnect the wiring harness connector from the auxiliary fuel pump wire (13) connector at the LH fuel cell cover (6).
- (4). Remove the bolts (13) and washers (14) from the LH fuel cell cover (6) to the LH fuel cell.
- (5). Carefully pry up the edge of the fuel cell cover (6) to break it loose from the LH fuel cell.
- (6). Remove the auxiliary fuel pump connector jam nut (13).
- (7). Remove the connector from the LH fuel cell cover.
- (8). Attach the auxiliary fuel pump wire around the LH fuel cell fuel inlet hose with a tiedown strap in such a way that it cannot interfere with the operation of the fuel quantity sensor float (Ref. Figure 2.).
- (9). Install the auxiliary fuel pump wire thru the LH fuel cell cover (6, Figure 1) and secure with hex nut (13).
- (10). Re-seat the LH fuel cell cover (6) on the LH fuel cell and secure with washers (14) and bolts (13).
- (11). Go to Step 2.G.

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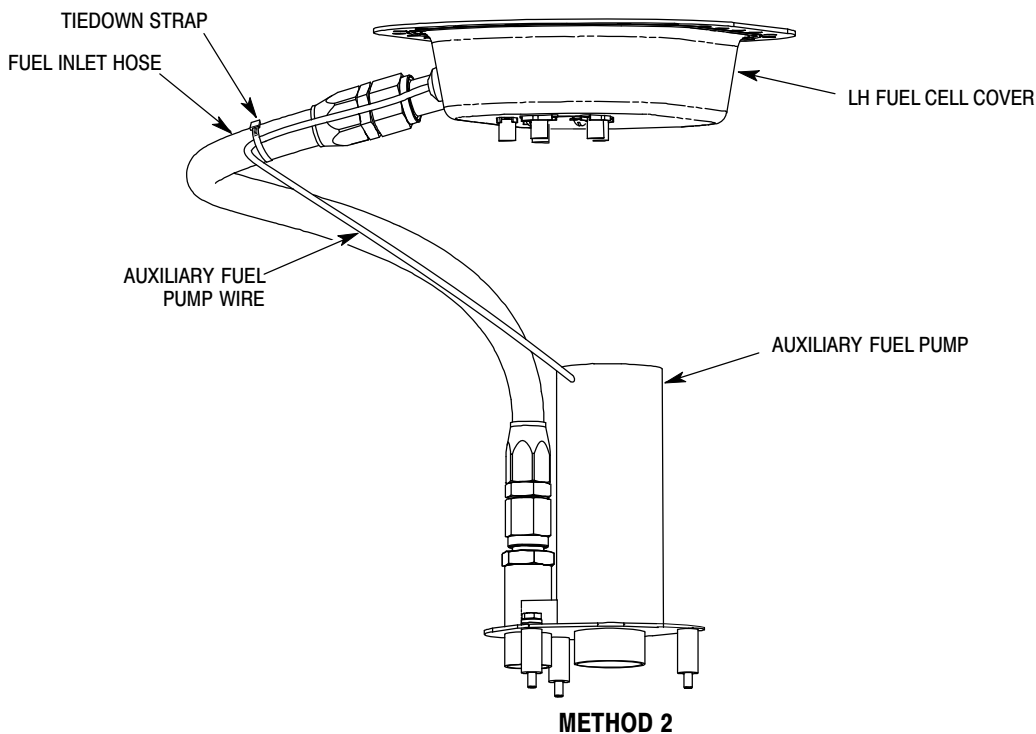
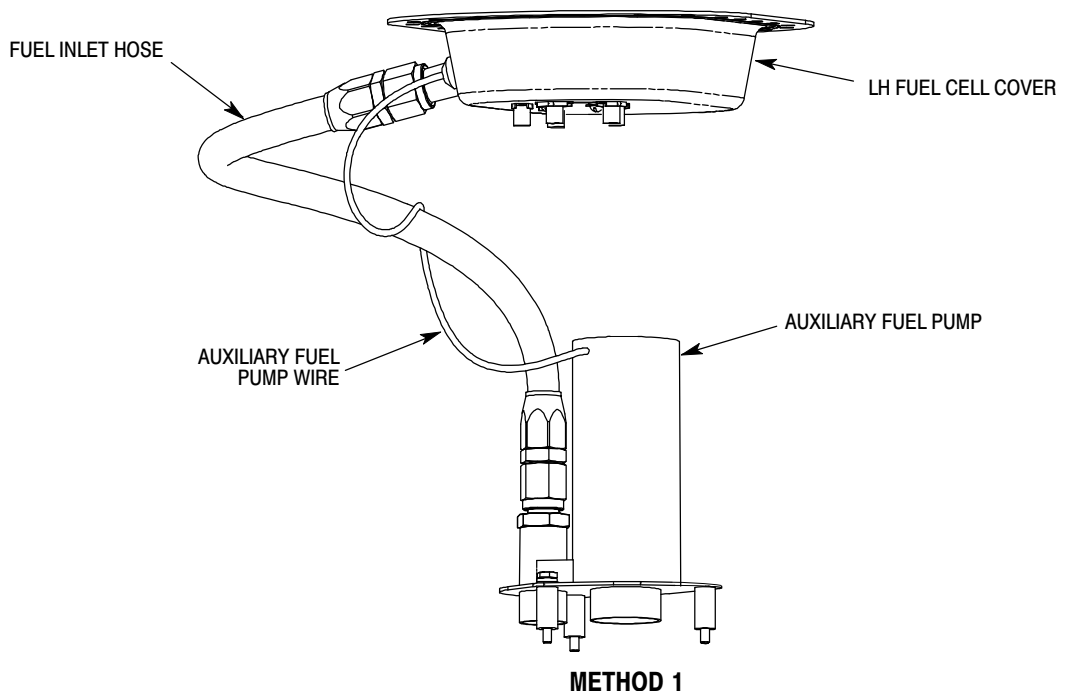
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**Figure 2. Auxiliary Fuel Pump Wire Routing**

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## **G. Do a Fuel Quantity Sensor (Transmitter) Functional Check**

**NOTE:** This functional check is not for fuel quantity indicating system accuracy, but to check proper fuel float arm function.

- (1). Do a fuel quantity sensor functional check. Refer to CSP-H-2, Section 12, or CSP-HMI-2, Chapter 28-00-00.

## **H. Install the Warning Decal**

- (1). Clean the top of the LH fuel cell cover (6, Figure 2) using isopropyl alcohol and a clean cloth.
- (2). Install the warning decal (12) on the LH fuel cell cover (6).
- (3). Edge seal (fillet) the decal (12) using MDM16-1068D, Class 8B, fast cure adhesive. The fillet shall be 0.03 inch (0.8 mm) minimum and 0.13 inch (3.2 mm) maximum.

## **I. Service the Fuel System**

- (1). Make sure fuel system is properly serviced per SB369HN-185 and CSP-H-2 for 369H Series helicopters and CSP-HMI-2 for 369D, 369E, 369F/FF, and 500N Series helicopters.

## **J. Job Close-Up**

- (1). Clean any fuel spillage using a clean cloth.
- (2). Install the LH fuel access door assembly. Refer to CSP-H-2 for 369H Series helicopters and CSP-HMI-2 for 369D, 369E, 369F/FF, and 500N Series helicopters.

## **K. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.

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SB369H-255R1 SB369D-213R1  
SB369E-111R1 SB369F-098R1  
SB500N-049R1

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## Bulletin Completed Record

### ONE-TIME INSPECTION OF FUEL PUMP HARNESS ROUTING AND DECAL INSTALLATION

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

Owner /Operator: _____	Helicopter Serial No: _____
Address: _____ _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____  Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete: \_\_\_\_\_  
(Signature)  
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SB369H-255R1    SB369D-213R1  
SB369E-111R1    SB369F-098R1  
SB500N-049R1



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## INSTALLATION OF THE TAIL ROTOR DRIVE SHAFT AND SECONDARY DAMPENER BUSHINGS

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

369FF helicopters, serial numbers (SNs) 0174FF thru 0213FF.

#### B. Assembly/Components Affected By This Notice:

369DSK152-13 Tail Rotor Drive Shaft and Secondary Dampener Bushings

#### C. Reason:

The 369DSK152-13 drive shaft bushings have not been installed in 369FF helicopters, SNs 0174FF thru 0212FF.

The bushings limit the radial off-center travel of the dampener to keep an acceptable clearance between the tail rotor drive shaft assembly and the clearance hole in the fuselage frame where the dampener is mounted. Failure to complete this bulletin may cause contact between the tail rotor drive shaft assembly and the fuselage.

#### D. Description:

Procedures in this bulletin give owners and operators information to install the 369DSK152-13 drive shaft bushings.

#### E. Time of Compliance:

The instructions in this bulletin must be completed at the next 100-flight-hour inspection or the next annual inspection, whichever occurs first.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA Approved.

#### G. Manpower:

Compliance with this bulletin will be approximately 6.0 man-hours.

#### H. Interchangeability:

None.

#### I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

#### J. Material/Part Availability:

Contact MDHI Customer Support Spares Sales for parts availability.  
Telephone: 1-800-388-3378 (Option 2) / 480-346-6423 (Canada and Domestic) /  
480-346-6427 (Military) / 480-346-6492 (International). DATAFAX: 480-346-6821.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Bushing, Secondary Dampener	369DSK152-13	2	MDHI

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**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****K. Warranty Policy:**

MDHI Warranty Department will give the required replacement parts/supplies (ref. the Replacement Parts/Supplies table in Part 1.J.) at no cost to the operator and authorized service center. Labor allowance will not be given for this installation.

Standard warranty policy applies (ref. CSP-A-2).

**L. Disposition of Parts Removed:**

N/A

**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-FF-1 Rotorcraft Flight Manual

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

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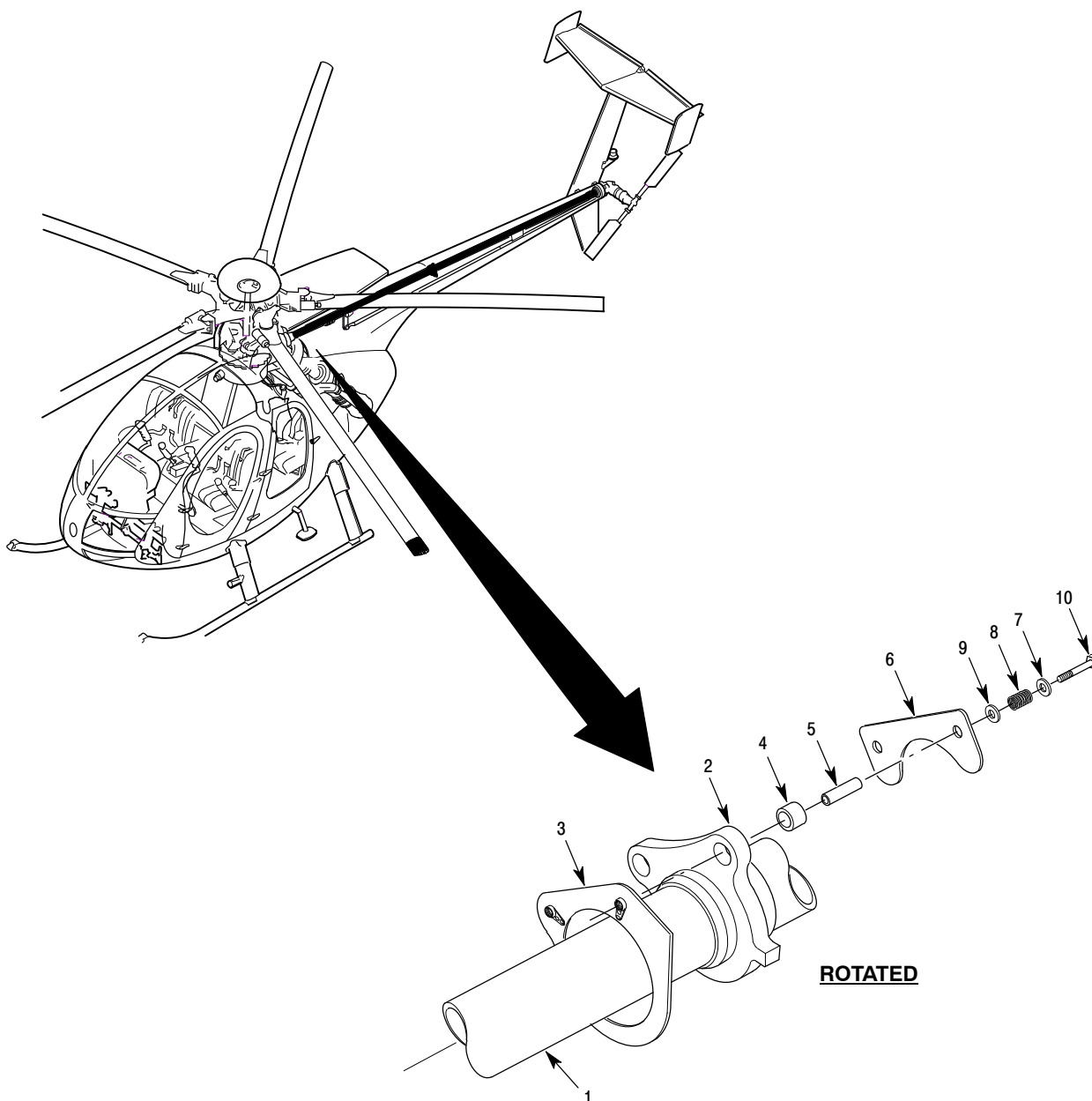


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**Figure 1. Installation of the Bushings**

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## Legend (Ref. Figure 1)

- |  |                                 |
|--|---------------------------------|
| 1. DRIVE SHAFT ASSEMBLY (REF. IPC, 63-00-00, FIG. 1) | 7. FLAT WASHER                  |
| 2. DAMPENER  | 8. SPRING                       |
| 3. DOUBLER   | 9. FLAT WASHER                  |
| 4. BUSHING   | 10. BOLT                        |
| 5. SPACER  | 11. BOLT (NOT SHOWN)            |
| 6. PLATE   | 12. SUPPORT BRACKET (NOT SHOWN) |

## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Install the Bushings

- (1). Do the Tail Rotor Drive Shaft Twist Inspection (ref. CSP-HMI-2, Section 63-15-10, Tail Rotor Drive Shaft Inspection / Check).
- (2). Remove drive shaft assembly (1) (ref. CSP-HMI-2, Section 63-15-10, Tail Rotor Drive Shaft Removal / Installation).
- (3). Do the Tail Rotor Drive Shaft Dampener Inspection (ref. CSP-HMI-2, Section 63-15-10, Tail Rotor Drive Shaft Inspection / Check).
- (4). Do the Tail Rotor Drive Shaft Inspection (ref. CSP-HMI-2, Section 63-15-10, Tail Rotor Drive Shaft Inspection / Check).
- (5). Disassemble the forward dampener:
  - (a). Remove bolts (10, 11) , washers (7, 9), springs (8), plate (6), and spacers (5).
- (6). Assemble the forward dampener with bushings (4):
  - (a). Align dampener (2) with the holes of support bracket (12).



Make sure washers (7) are against spacers (5) after bolts (10, 11) have been tightened. The bolts can wear quickly if the clamp-up is not tight.

- (b). Install bushings (4), spacers (5), plate (6), with flat washers (7), springs (8), flat washers (9), and bolts (10, 11).
  - (c). Adjust the dampener breakaway friction (ref. CSP-HMI-2, Section 63-15-10, Tail Rotor Drive Shaft Inspection / Check).
- (7). Install drive shaft assembly (1) (ref. CSP-HMI-2, Section 63-15-10, Tail Rotor Drive Shaft Removal / Installation).
- (8). Displace dampener (2) so that it touches drive shaft assembly (1).
- (9). Measure dampener (2) to drive shaft assembly (1) clearance **180°** from the contact point with a wire gage.
  - (a). The clearance must be **0.020 inch (0.51 mm) minimum**.
  - (b). Check the clearance at **90°** intervals from the first contact point.
- (10). Install the boom-bolt access covers.

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# SERVICE BULLETIN

DATE: 7 JANUARY 2015

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## **B. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.

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DATE: 7 JANUARY 2015

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# SERVICE BULLETIN

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## SB369F-099 Completed Record

### Installation of the Tail Rotor Drive Shaft and Secondary Dampener Bushings

MD Helicopters, Inc.  
 Field Service Department  
 4555 E. McDowell Road  
 Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
 480-346-6387 Phone (International)  
 480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner/- Operator:</b> _____	<b>Helicopter Serial No:</b> _____
<b>Address:</b> _____ _____ _____	<b>Helicopter Total Time:</b> _____
	<b>Date Complete:</b> _____
	<b>Location:</b> _____
<b>Phone:</b> _____	
<b>E-mail:</b> _____	

This bulletin is complete: \_\_\_\_\_

(Signature)

(Print Name)

(Title)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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# SERVICE BULLETIN

DATE: 4 MARCH 2016

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## DRILL DRAIN HOLES FOR ANTENNA INSTALLATIONS

### 1. PLANNING INFORMATION

#### **A. Aircraft Affected:**

All 369E, 369FF, 500N, and 600N helicopter models with an aftermarket antenna installation, Part No. (PN) A68-13017-03 and A68-13056-01/-03/-05.

#### **B. Assembly/Components Affected By This Notice:**

A68-13012-01, Antenna Mount Installation  
A68-13017-03, Navigation Antenna Installation  
A68-13056-01/-03/-05 Radar Altimeter Antenna Installation

#### **C. Reason:**

Failure to comply with this bulletin can let moisture collect in the antenna mount and cause corrosion.

#### **D. Description:**

Procedures in this bulletin give owners and operators information to drill drain holes in the antenna installation to prevent moisture and corrosion.

#### **E. Time of Compliance:**

The requirements of this bulletin must be completed 30 days after receipt of this bulletin.

#### **F. FAA Approval:**

The technical design aspects of this bulletin are FAA Approved.

#### **G. Manpower:**

Compliance with this bulletin will be approximately 1.0 (one) man-hour.

#### **H. Interchangeability:**

None.

#### **I. Points of Contact:**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

#### **J. Material/Part Availability:**

Contact MDHI Customer Support Spares Sales for parts availability.  
Telephone: 1-800-388-3378 (Option 2) / 480-346-6423 (Canada and Domestic) /  
480-346-6427 (Military) / 480-346-6492 (International). DATAFAX: 480-346-6821.

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Ref. CSP-HMI-2, Section 91-00-00, for the item numbers of the consumable materials.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature (Item No.)	Part No.	Qty.	Source
Chemical Coating (CM206)	MIL-DTL-5541, Class 1A Iridite 14-2, Al-Coat, Alodine 1201	AR	Commercial
Primer (CM318)	MIL-P-84482, Type 1, Class 2	AR	Commercial
Sealant, Corrosion Inhibitive	Pro-Seal 870 B-1/2	AR	Commercial

**K. Warranty Policy:**

Standard warranty policy applies (ref. CSP-A-2).

Additional discrepancies found over and above the specified warranty coverage is the responsibility of the customer.

**L. Disposition of Parts Removed:**

N/A

**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

N/A

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-HMI-2 Basic Handbook of Maintenance Instructions — Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

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DATE: 4 MARCH 2016

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## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Make a Drain Hole for the Navigation Antenna Installation

(Ref. Figure 1)

- (1). Remove screws (1), washers (2), and navigation antenna (3) from antenna mount (4).
  - (a). Disconnect the electrical connector from navigation antenna (3).
- (2). Remove screws (5), washers (6), and antenna mount (4).
- (3). Put a mark for a drill point from the aft right-hand corner of the antenna mount.
  - (a). Measure **0.22 inch (5.6 mm)** from the right-hand wall of the antenna mount.
  - (b). Measure **0.93 inch (23.6 mm)** from the aft wall of the antenna mount.
- (4). Drill a **0.25-inch (6.4 mm) diameter** hole thru the antenna mount.
- (5). Deburr, remove ridges, and clean the drain hole.
- (6). Put a chemical coating (SM206) on the bare aluminum hole (ref. CSP-HMI-2, 20-30-00).
- (7). Put primer (CM318) on the bare aluminum (ref. CSP-HMI-2, 20-40-00).
- (8).
- (9). As necessary, touch-up the paint (ref. CSP-HMI-2, 20-30-00).
- (10). Install antenna mount (4) with washers (6) and screws (5).
- (11). Put an edge seal with Pro-Seal 870 B-1/2 on the antenna mount and helicopter skin interface (ref. the manufacturer instructions).
- (12). Connect navigation antenna (3) to the electrical connector.
- (13). Install the navigation antenna (3) with washers (2) and screws (1).

### Legend (Ref. Figure 1)

- |                       |                  |
|-----------------------|------------------|
| 1. SCREW              | 4. ANTENNA MOUNT |
| 2. WASHER             | 5. SCREW         |
| 3. NAVIGATION ANTENNA | 6. WASHER        |

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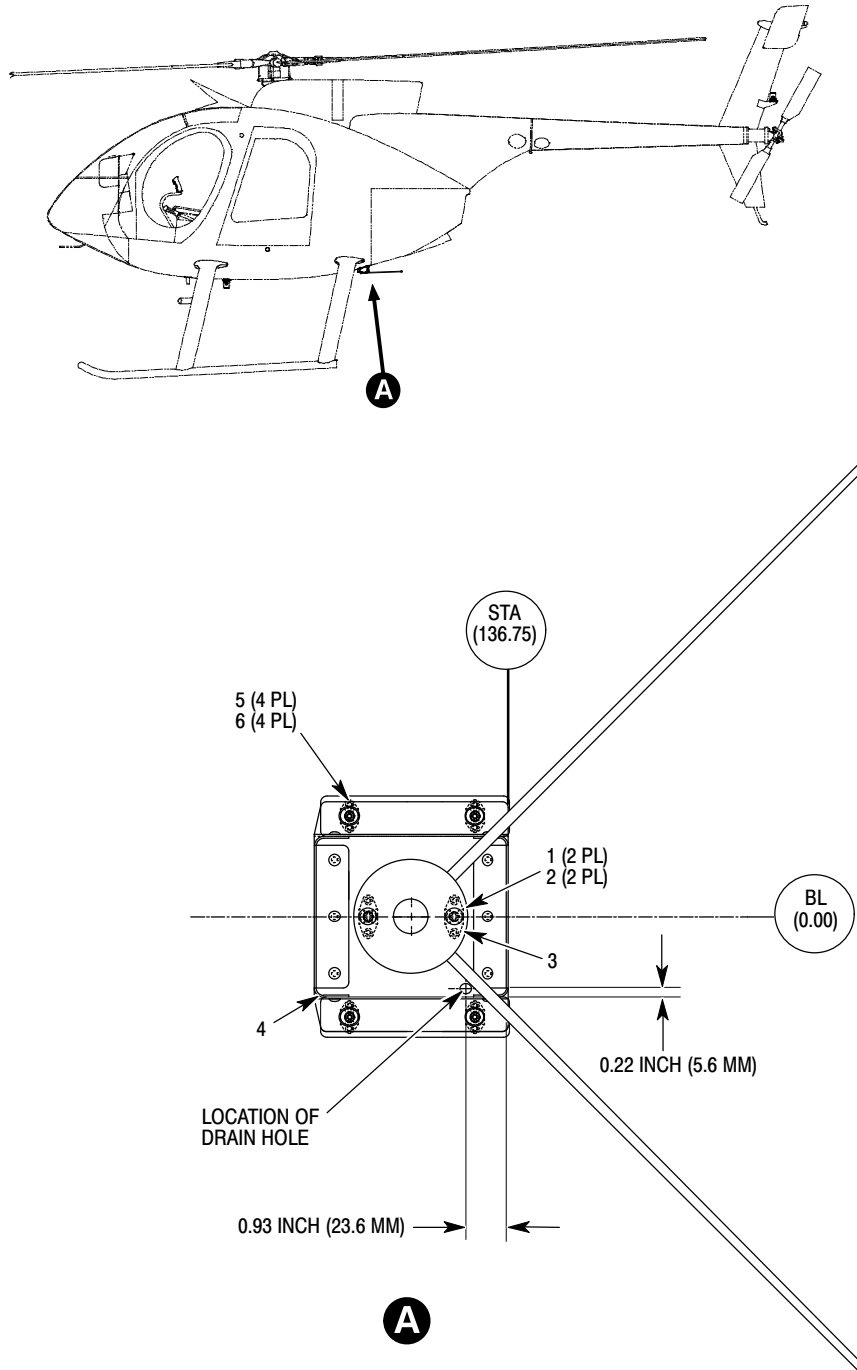


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**Figure 1. Location of the Navigation Antenna Mount Drain**

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DATE: 4 MARCH 2016

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## **B. Make Drain Holes for the Radar Altimeter Antenna Installation**

(Ref. Figure 2)

- (1). Remove screws (1), washers (2), and radar altimeter antenna (3) from left-hand and right-hand mounts (4, 5).
- (2). Put marks for drill points on the inboard forward position and outboard aft position, of both mounts.
  - (a). Measure **1.00 inch (25.4 mm)** from opposite corners of both mounts.
  - (b). Measure **0.54 inch (13.7 mm)** from the bend of the mounts in two places opposite one another.
- (3). Drill two **0.25-inch (6.4 mm) diameter** holes thru both mounts.
- (4). Deburr, remove ridges, and clean the drain holes.
- (5). Use a vacuum to remove unwanted material from inside the mounts.
- (6). Put a chemical coating (SM206) on the bare aluminum hole (ref. CSP-HMI-2, 20-30-00).
- (7). Put primer (CM318) on the bare aluminum (ref. CSP-HMI-2, 20-40-00).
- (8). As necessary, touch-up the paint (ref. CSP-HMI-2, 20-30-00).
- (9). Install radar altimeter antenna (3) on left-hand and right-hand mounts (4, 5) with washers (2) and screws (1).

## **C. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.

### **Legend (Ref. Figure 2)**

- |                            |                     |
|----------------------------|---------------------|
| 1. SCREW                   | 4. LEFT-HAND MOUNT  |
| 2. WASHER                  | 5. RIGHT-HAND MOUNT |
| 3. RADAR ALTIMETER ANTENNA |                     |

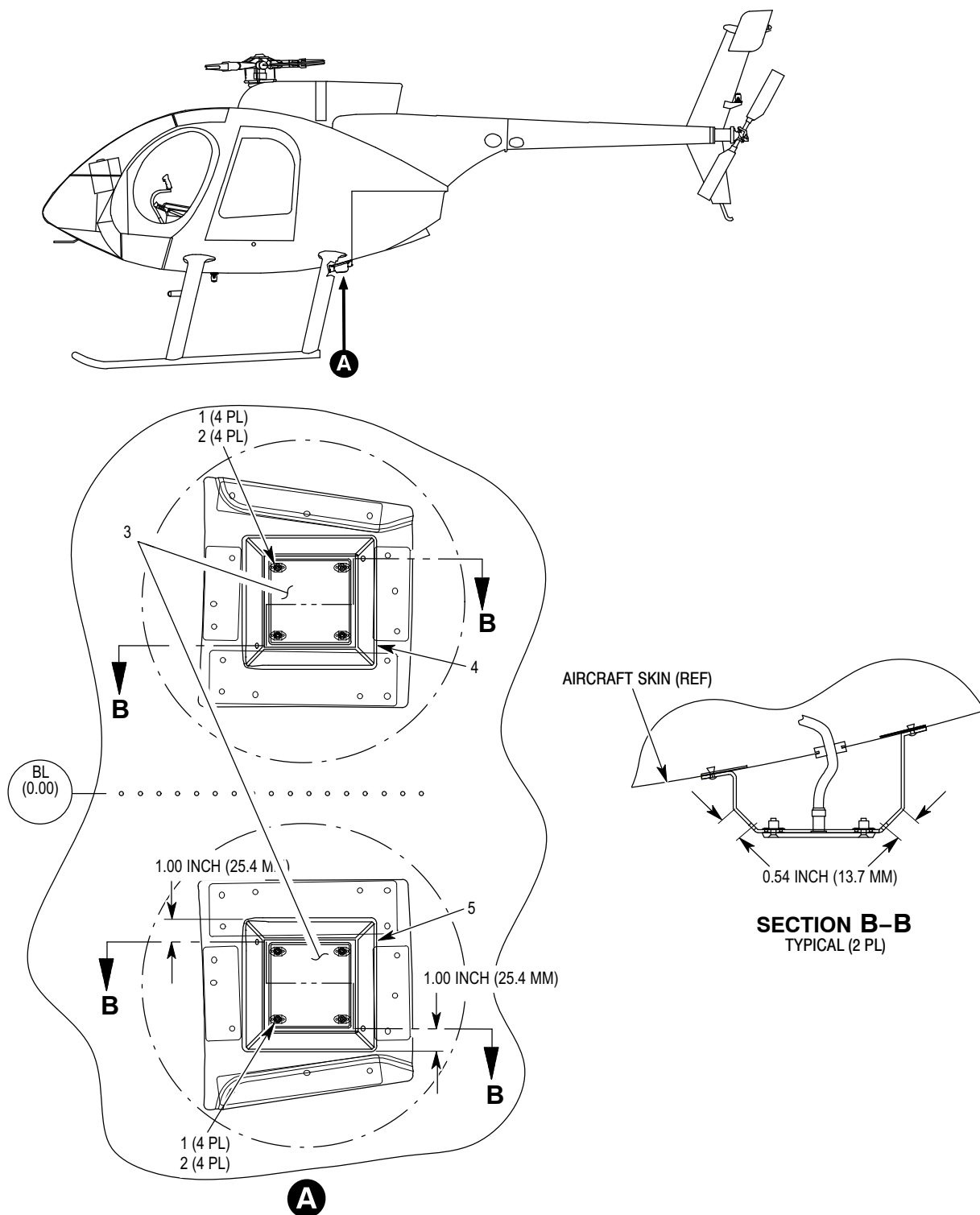
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**Figure 2. Location of the Radar Altimeter Antenna Mount Drains**

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## Bulletin Completed Record

### Drill Drain Holes for Antenna Installations

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

Owner/- Operator: _____	Helicopter Serial No: _____
Address: _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____
Phone: _____	Location: _____
E-mail: _____	

This bulletin is complete: \_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
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# SERVICE BULLETIN

DATE: 11 OCTOBER 2017

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## INSPECTION OF PN 369D292028, AFT PASSENGER STEP ASSEMBLIES, ON EXTENDED LANDING GEAR ASSEMBLIES

\* Supersedes service bulletins SB369D-206R1, SB369E-101R1, and SB369F-086R1, dated 26 April 2013. These bulletins have been reissued under new numbers as there were bulletins with these numbers already in the field. Owners and operators must review their maintenance records and bulletin compliance by content to make sure both bulletins have been completed. The first bulletin was:

- Bellcrank One Time Inspection and Possible Replacement, SB369D-206, SB369E-101, SB369F-086, dated 03 April 2009.

Read the content of the bellcrank bulletin and this bulletin (same as the previous one) to determine if both bulletins have been accomplished. Use your maintenance records for inspection, removal, and installation of effected components to find compliance with either or both bulletins. If a bulletin has not been complied with, do the instructions of either bulletin. Should this bulletin already be done under the duplicate number, make a note in the maintenance logs of this superseding bulletin.

### 1. PLANNING INFORMATION

#### **A. Aircraft Affected:**

Model 369D Helicopters, all serial numbers  
Model 369E Helicopters, serial numbers 0001E thru 0597E and 0599E thru 0612E  
Model 369F/FF Helicopters, serial numbers 0001FF thru 0155FF, 0157FF thru 0186FF, and 0700FF thru 0710FF

#### **B. Assembly/Components Affected By This Bulletin:**

PN 369D292028-BSC and 369D292028-5 aft passenger step assemblies used on helicopters with extended landing gear assemblies and all spares inventory.

Step assemblies installed since original service bulletin, dated 05 February 2010, must be inspected including spares inventory.

**NOTE:** All step assemblies that have been modified per Part III of DN-110.1, EN-56, or FN-42 do not require this inspection.

#### **C. Reason:**

Examine aft passenger step assemblies for possible cracked welds.

#### **D. Description:**

This bulletin gives instructions for a three-part inspection:

- Initial visual inspection with 10X magnification
- Proof-load test with visual inspection
- Fluorescent penetrant inspection of the aft passenger step assembly welds

#### **E. FAA Approval:**

The technical design aspects of this bulletin are FAA Approved.

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**F. Time of Compliance:**

This Service Bulletin must be completed within 25 flight hours of receipt.

**G. Manpower:**

1 man-hour for inspection

0.5 man-hours for step replacement

**H. Interchangeability:**

None

**I. Points of Contact:**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

**J. Material/Part Availability:**

Speak to the MDHI Warranty Department to order the aft step assembly. A Service and Operations Report (SOR) needs to be submitted to the MDHI Warranty Department through an authorized service center referencing service bulletin number and compliance.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Step Assembly, AFT	369D292028-5	AR	MDHI
Primer	MIL-P-85582 MRM013935	AR	Commercially Available MDHI

**K. Warranty Policy:**

The MDHI Warranty Department will supply aft step assemblies at no cost to the operator for rotorcraft still under MDHI warranty. MDHI will also give up to 1 hour of labor warranty (spares credit) for the inspections and 0.5 hour of labor warranty (spares credit) for the step removal and replacement for rotorcraft still under MDHI warranty.

**L. Disposition of Parts Removed:**

Scrap removed aft passenger step assemblies.

**M. Tooling:**

Magnifying Glass, 10X minimum — Commercially Available

Fluorescent Penetrant Inspection Kit — Commercially Available

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

CSP-HMI-2, Handbook of Maintenance Instructions

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## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

### A. Preparation

- (1). Remove cover and fairing on aft extended landing gear assemblies (Ref. CSP-HMI-2, Section 32-10-00).

### B. Initial Visual Inspection

- (1). Clean weld area with solvent.
- (2). Using 10X magnifying glass, examine weld where step is attached to mounting plate for possible cracking or damage (View A-A).
- (3). If any cracks are visible, replace step assembly (Ref. CSP-HMI-2, Section 32-10-00).
- (4). If no cracks are visible, do Part C.
- (5). If the step assembly is replaced, do Part E.

### C. Proof Load Test with Visual Inspection

#### **WARNING**

**Extreme care shall be taken when applying proof load weight to the subject step assembly.**

- (1). Apply a 400 pound (181.4 kg) proof load approximately 1.0 inch (25.4 mm) from forward end of step assembly.
- (2). Remove 400 pound (181.4 kg) proof load.
- (3). Using 10X magnifying glass, examine weld where step is attached to mounting plate for possible cracking or damage (View A-A).
- (4). If any cracks are visible, replace step assembly (Ref. CSP-HMI-2, Section 32-10-00).
- (5). If the step assembly is replaced, do Part E.
- (6). If no cracks are visible, do Part D.

### D. Fluorescent Penetrant Inspection

#### **CAUTION**

**Do not allow paint remover to contact other than the inspection area.**

- (1). Remove paint from weld area per instructions contained in Standard Practices Manual (CSP-HMI-2, Section 20-30-00, Paint Removal Chemical).
- (a). Do a fluorescent penetrant inspection in accordance with manufacturers instructions. Examine weld where step is attached to mounting plate for possible cracking or damage (View A-A).

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(2). If any cracks are visible, replace step assembly (Ref. CSP-HMI-2, Section 32-10-00).

(a). If no evidence of cracking is found, touch up weld area as follows:

- 1). Apply chemical coating per instructions contained in Standard Practices Manual (CSP-HMI-2, Section 20-40-00, Aluminum Alloy, Surface Touch-up Treatment).
- 2). Apply primer and topcoat to match original, as required (CSP-HMI-2, Section 20-30-00, Paint Touchup).

(3). Do Part E.

## **E. Marking, Fairing/Cover installation and Compliance Confirmation**

- (1). Permanent ink stamp or mark the bottom of step assembly with Service Bulletin number to indicate compliance with this bulletin.
- (2). Install fairing and cover on aft extended landing gear assemblies (Ref. CSP-HMI-2, Section 32-10-00).
- (3). Make a record in the Compliance Record section of the Rotorcraft Log Book that this bulletin is completed.
- (4). Complete the Bulletin Completed Record form. Fax to MDHI Field Service department.

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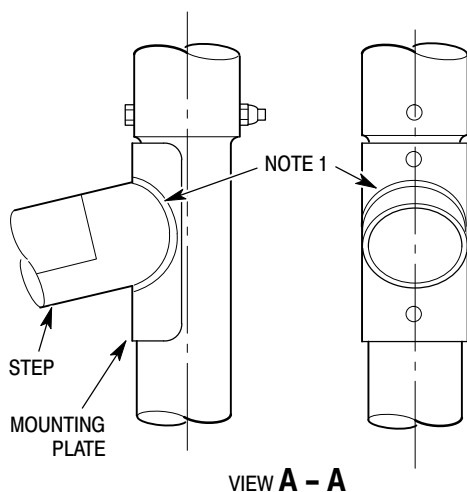
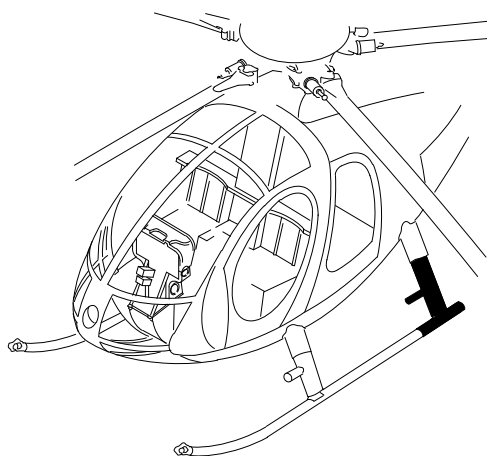


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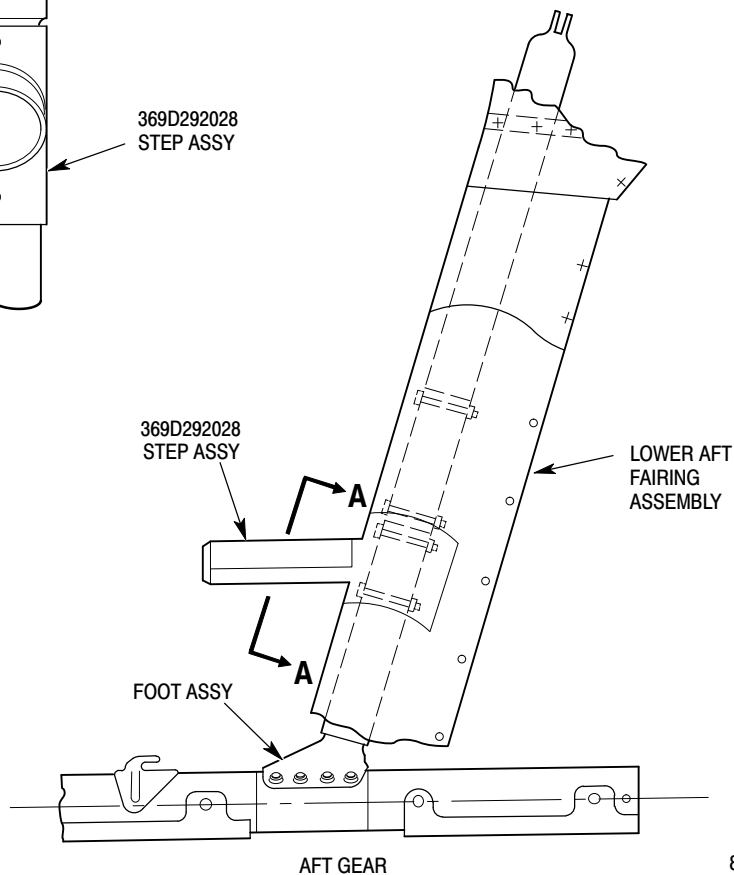
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369D292028  
STEP ASSY

**NOTES:**

1. CHECK AREA OF WELD WHERE STEP ATTACHES TO MOUNTING PLATE. USE 10X MAGNIFYING GLASS.



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**Figure 1. Inspection of Aft Extended Landing Gear Step Assembly**

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DATE: 11 OCTOBER 2017

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****SB369D-220/SB369E-118/SB369F-105****Completed Record****Inspection of PN 369D292028, Aft Passenger Step Assemblies, on  
Extended Landing Gear Assemblies.**

FAX this form to MDHI (480) 346-6813 or  
E-mail to ServiceEngineering@mdhelicopters.com

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 phone (U.S. and Canada)  
480-346-6387 phone (International)  
480-346-6813 Fax

Dear Sir:

This is to tell you that this service bulletin has been completed as shown below:

Owner/Operator: \_\_\_\_\_

Aircraft Serial No: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

E-mail address: \_\_\_\_\_

Helicopter Total Time: \_\_\_\_\_

Date: \_\_\_\_\_

Location: \_\_\_\_\_

\_\_\_\_\_

This bulletin is complete: \_\_\_\_\_

(Signature)

\_\_\_\_\_  
(Print Name)\_\_\_\_\_  
(Title)

# SERVICE BULLETIN

DATE: 5 JUNE 2019

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## REPLACE THE HIGH TORQUE WARNING DECAL

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

369FF helicopters, serial numbers 0255FF, 0269FF, and 0270FF

#### B. Assembly/Components Affected By This Notice:

MHS5861-33, High Torque WARNING Decal

#### C. Reason:

New production helicopters have the incorrect decal for the high torque WARNING. The old MHS5861-33 decal is in pounds per square inch (psi) when it must be in percent. The MHS5861-84 decal is in percent and replaces the MHS5861-33 decal.

Failure to comply with this bulletin can cause pilot to not correct or miss a high torque WARNING which can cause loss of life and/or a loss of the helicopter.

#### D. Description:

Procedures in this bulletin give owners and operators information to replace the MHS5861-33 decal with the MHS5861-84 decal.

#### E. Time of Compliance:

The instructions in this bulletin must be completed within the next five (5) flight hours after you get this bulletin, and no later than 30 April 2019.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA-approved.

#### G. Manpower:

Compliance with this bulletin will be approximately 0.25 man-hours.

#### H. Interchangeability:

None.

#### I. Points of Contact:

For further assistance, contact MDHI Field Service at:  
<https://www.mdhelicopters.com/contact.html>

#### J. Material/Part Availability:

Contact MDHI Spare Sales for parts availability at:  
<https://www.mdhelicopters.com/contact.html>

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Ref. CSP-HMI-2, Section 91-00-00, Table 1, for the item numbers of the consumable materials in the Nomenclature column, and Table 2, for the manufacture/supplier numbers in the Source column.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
High Torque WARNING Decal	MHS5861-84	1	MDHI (MS50)
Cleaning Solvent (CM219)	Methyl-Isobutyl-Ketone	AR	MS28

## K. Warranty Policy:

Standard warranty policy applies.

The hours in Manpower (ref. Paragraph G.) are an estimate, and are not reimbursable, unless specified in the Warranty Policy.

Additional discrepancies found over and above the specified warranty coverage is the responsibility of the customer.

## L. Disposition of Parts Removed:

Scrap the removed MHS5861-33 decal.

## M. Tooling:

N/A

## N. Weight and Balance:

N/A

## O. Electrical Load Data:

N/A

## P. Other Publications Affected:

CSP-FF-2 Rotorcraft Flight Manual

CSP-HMI-2 Basic Handbook of Maintenance Instructions — Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

## Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-FF-2 Rotorcraft Flight Manual

CSP-HMI-2 Basic Handbook of Maintenance Instructions — Servicing and Maintenance

CSP-HMI-3 Basic Handbook of Maintenance Instructions — Instruments/Electrical/Avionics

CSP-IPC-4 Illustrated Parts Catalog

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## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

### A. Remove the MHS5861-33 Decal

- (1). Clean the decal and the adjacent area.
  - (a). Use soap and water for light cleanup.

**WARNING** Use the correct personal protection. CM219 cleaning solvent is flammable, can cause serious eye irritation, is an inhalation hazard and can cause respiratory irritation.

- (b). Use CM219 cleaning solvent for heavy cleanup.
  - (c). Make sure the area is free from unwanted material that can have an effect on the adhesive.

**CAUTION** Do not use a sharp edge (for example, a razor blade or box cutter). Damage to the paint can occur.

- (2). Remove the decal with a cloth moistened with CM219 cleaning solvent.
  - (3). Carefully remove the decal and peel it away from the surface with a plastic scraper.
  - (4). Clean the decal removal area again (ref. Step (1)).
  - (5). Let the area fully dry.

### B. Install the MHS5861-84 Decal

- (1). Remove the backing from the decal.
- (2). Put the decal in position with only one edge in contact with the surface.
  - (a). Install the decal.
  - (b). Roll out all wrinkles and air bubbles.

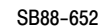
### C. Compliance Record

- (1). Record compliance to this Service Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) of the Rotorcraft Log Book CSP-RLB.
- (2). Show compliance with this Service Bulletin by one of these methods:
  - (a). Complete a Service Operation Report (SOR) at <https://www.mymd.aero/dashboard>.
  - (b). Put an entry in your <https://www.mymd.aero/> account.
  - (c). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your MDHI Field Service Representative.

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### Figure 1. Replacement of the High Torque WARNING Decal

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## SB369F-112 Completed Record

### Replace the High Torque WARNING Decal

MD Helicopters, Inc.  
Field Service  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact.html>  
Or contact your Field Service Representative.

Owner/Operator: _____	Helicopter Serial No: _____
Address: _____	Helicopter Total Time: _____
_____	Date Complete: _____
_____	Location: _____
_____	
Phone: _____	
E-mail: _____	

This bulletin is complete: \_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
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# SERVICE BULLETIN

DATE: 5 MAY 2020

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## INSPECTION OF THE POSITION LIGHT MOUNTING BRACKET ASSEMBLY

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 369D helicopters  
All 369E helicopters  
All 369F/FF helicopters

#### B. Assembly/Components Affected By This Notice:

369D23662-13 Position Light Mounting Bracket Assembly

#### C. Reason:

There have been reports of position light mounting bracket assemblies that have become loose or broken off from the horizontal stabilizer. Failure to comply with this bulletin can cause the bracket assembly to break off the helicopter and possibly cause damage to the tail rotor and a loss of directional control.

#### D. Description:

Procedures in this bulletin give owners and operators information to do preflight inspections of the position light mounting bracket assembly until the bracket assembly is replaced or it is found that replacement is not necessary. The rivet holes in the bracket assembly can be incorrectly formed, which can allow the rivets to work loose or pull thru.

#### E. Time of Compliance:

The requirements of this bulletin must be completed by or at the next 100-hour or annual inspection.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA-approved.

#### G. Manpower:

Compliance with this bulletin will be approximately 6 labor-hours for the bracket assembly replacement.

#### H. Interchangeability:

None.

#### I. Points of Contact:

For further assistance, contact MDHI Field Service at:  
<https://www.mdhelicopters.com/contact.html>

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## J. Material/Part Availability:

Contact MDHI Spare Sales for parts availability at:

<https://www.mdhelicopters.com/contact.html>

Ref. CSP-HMI-2, Section 91-00-00, Table 1, for the item numbers of the consumable materials in the Nomenclature column, and Table 2, for the manufacture/supplier numbers in the Source column.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Position Light Mounting Bracket Assembly	369D23662-13	1	MDHI
Rivet, Blind, Bulbed, Protruding Head	NAS1919B04 (D Model) NAS1738B4 (E and F models)	4	Commercial
Rivet, Solid, Universal Head	MS20470AD3	3 or 4	Commercial
Sealing Compound, Fuel Resistant (CM425)	Pro-Seal 890	AR	MS62

## K. Warranty Policy:

Contact MDHI Warranty for prices, orders, and availability at:

<https://www.mdhelicopters.com/contact.html> or <https://www.mymd.aero/>.

MDHI will provide the parts listed in the Replacement Parts/Supplies at NO cost.

MDHI will also allow a Labor Credit of 6 labor-hours for the removal and installation of the horizontal stabilizer to replace or install a position light mounting bracket assembly.

Customers must submit a completed Service Operation Report (SOR) to an Authorized Service Center to receive the parts and Labor Credit for this Service Bulletin.

Additional discrepancies found over and above the specified warranty coverage is the responsibility of the customer.

## L. Disposition of Parts Removed:

Return to an authorized service center or MDHI with a completed SOR.

## M. Tooling:

N/A

## N. Weight and Balance:

N/A

## O. Electrical Load Data:

N/A

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**P. Other Publications Affected:**

The latest revision of these publications will be affected:

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-HMI-3 Basic Handbook of Maintenance Instructions – Instruments-Electrical-Avionics

CSP-IPC-4 Illustrated Parts Catalog

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-RLB Rotorcraft Log Book

CSP-D-1 Rotorcraft Flight Manual

CSP-E-1 Rotorcraft Flight Manual

CSP-FF-1 Rotorcraft Flight Manual

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-HMI-3 Basic Handbook of Maintenance Instructions – Instruments-Electrical-Avionics

CSP-IPC-4 Illustrated Parts Catalog

SB369E-108 / SB369F-094 Aft Position and Anti-Collision Light Mounting Inspection, Replacement and Repair

SL369E-089 / SL369F-080 Inspection of the Aft Position Light Mounting Bracket Assembly

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## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Examine the Installed Position Light Mounting Bracket Assembly

(Ref. Figure 1)

- (1). Use a ladder to examine bracket assembly (1) and light (7) on the top of the horizontal stabilizer for installation and damage of the bracket assembly.
  - (a). Make sure bracket assembly (1) and light (7) is not loose or cracked.
    - 1). Replace a bracket assembly (1) that is loose or damaged. (Ref. Procedures C. and E.)
    - 2). Examine the installation of rear position light (7).
    - 3). Tighten or replace loose screws (10), gasket (9), or retainer (8).
  - (b). Make sure rivets (2, 3) are not loose, missing, sheared, have signs that the rivets are strained (working loose), have visible oxides around the rivet heads, or are pulling thru the bracket assembly.
    - 1). Replace a bracket assembly (1) that has loose or damaged rivets.
  - (c). If installed, make sure screw (4), washers (5), and nut (6) are not loose or missing.
    - 1). Tighten or replace a loose screw (4), washers (5), and nut (6).

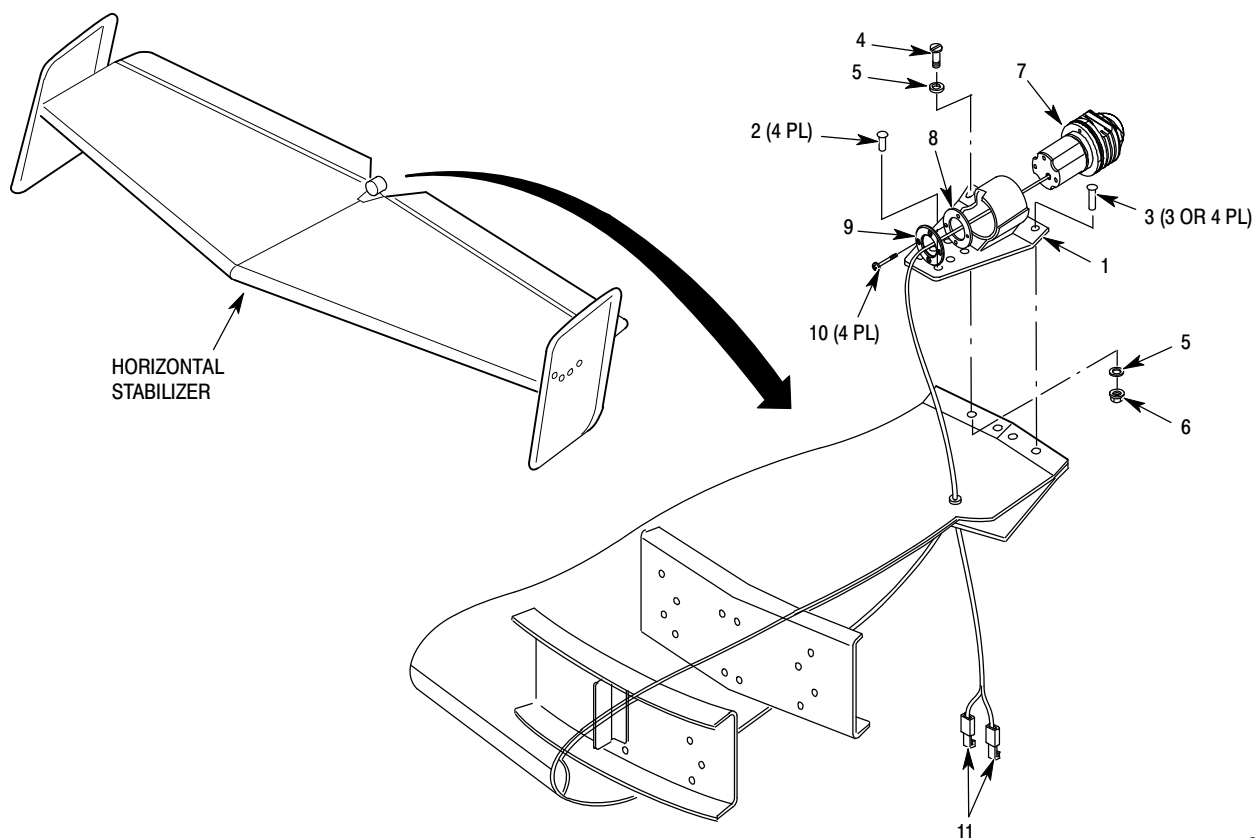
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- |  |                        |
|--|------------------------|
| 1. BRACKET ASSEMBLY (369D23662-13)                                   | 6. NUT                 |
| 2. RIVET(NAS1919B04 for D Model or<br>NAS1738B4 for E and FF Models) | 7. REAR POSITION LIGHT |
| 3. RIVET(MS20470AD3)   | 8. GASKET              |
| 4. SCREW   | 9. RETAINER            |
| 5. WASHER  | 10. SCREW              |
|  | 11. KNIFE SPLICE       |

**Figure 1. Inspection and Replacement of the  
Position Light Mounting Bracket Assembly**

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## **B. Inspection of the Installed Position Light Mounting Bracket Assembly**

(Ref. Figure 2)

- (1). Remove the rear position light. (Ref. CSP-HMI-2, 96-40-00)
- (2). Measure the thickness of the front edge of the omega bracket:
  - (a). If the omega bracket thickness is approximately **0.025 inch (0.64 mm)**, examine the rear position light for its part number:
    - 1). If the part number is not 369D24144-1 or -3, replacement of the bracket assembly is not necessary.
    - 2). If the part number is 369D24144-1 or -3, replace the bracket assembly with bracket assembly 369D23662-13. (Ref. Procedures C. and E.)
  - (b). If the omega bracket thickness is approximately **0.050 inch (1.27 mm)**, measure the thickness of the base:
    - 1). If the base thickness is approximately **0.050 inch (1.27 mm)**, replacement of the bracket assembly is not necessary.
    - 2). If the base thickness is approximately **0.032 inch (0.81 mm)**, replace the bracket assembly with bracket assembly 369D23662-13. (Ref. Procedures C. and E.)
- (3). As necessary, install the rear position light.

## **C. Removal of the Position Light Mounting Bracket Assembly**

(Ref. Figure 1)

- (1). Remove the horizontal stabilizer. (Ref. CSP-HMI-2, Section 53-50-10)
- (2). Remove rear position light (7). (Ref. CSP-HMI-2, 96-40-00)

**NOTE:** For Step (3). thru Step (5). keep the trailing edge of the horizontal stabilizer facing down.

- (3). Remove four forward rivets (2) by drilling the rivet head only with a No. 30 drill.
  - (a). Use a small drift to tap the remaining part of rivet into the horizontal stabilizer.
- (4). Remove three or four trailing edge rivets (3) by drilling the rivet head only with a No. 40 drill.
  - (a). Use a small drift to tap the remaining part of rivet out of the horizontal stabilizer.
- (5). If installed, remove screw (4), washers (5), and nut (6).
  - (a). Keep the hardware for installation.
- (6). Insert approximately ½ **ounce (3.4 ml)** of sealing compound (CM425) in the open rivet holes to catch the rivet pieces.
- (7). Shake the horizontal stabilizer until all rivet pieces are caught by the sealing compound.
- (8). Apply corrosion protection to the rivet holes. (Ref. CSP-HMI-2, Chapter 20-40-00)

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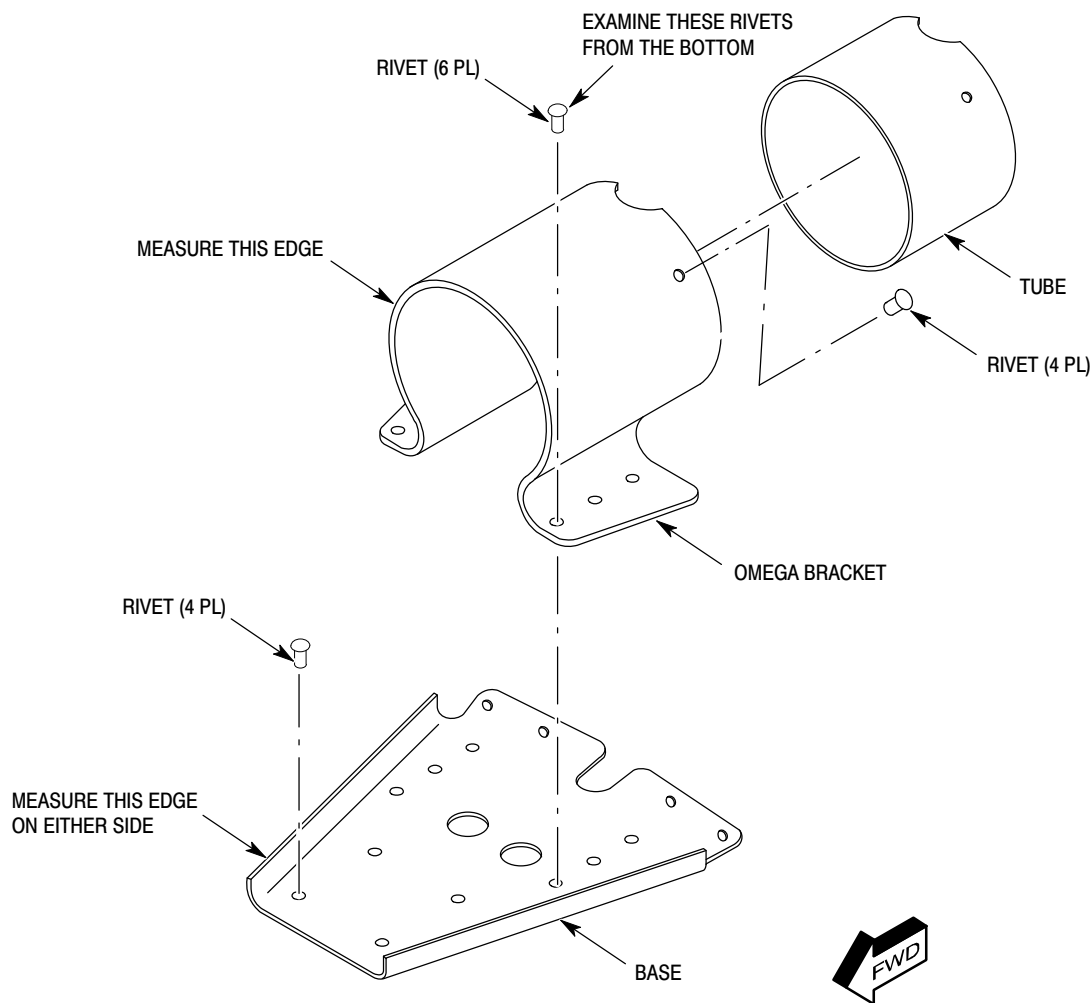
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SB88-654

**Figure 2. Inspection of the Position Light Mounting Bracket Assembly (Exploded View)**

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**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****D. Inspection of the Removed Position Light Mounting Bracket Assembly**

(Ref. Figure 3)

- (1). Examine the four holes along the aft edge of the base for cracks, elongation, and oversize holes. (Ref. Figure 2)
  - (a). If there are cracks, elongated, or oversized holes, email or speak to MDHI Field Service.
- (2). Remove the paint and sealant from the the bottom of the base and the six rivets as necessary. (Ref. Figure 2)
- (3). Illuminate the surface of the rivets with a parallel light from a flashlight. (Ref. Figure 3)
  - (a). If the rivets holes are dimpled, then the bracket assembly is serviceable and no replacement is necessary.

**NOTE:** For dimpled holes, the rivet heads will have a gentle curve that blends with the rivet heads.

- (b). If the rivet holes are countersunk, then the bracket assembly is unserviceable and must be replaced with a 369D23662-13 bracket assembly.

**NOTE:** For countersunk holes, the material around the rivet head looks flat and the hole has a clean edge.

- (c). If you are not sure if the surface is dimpled or countersunk, email or speak to MDHI Field Service to get further instruction.

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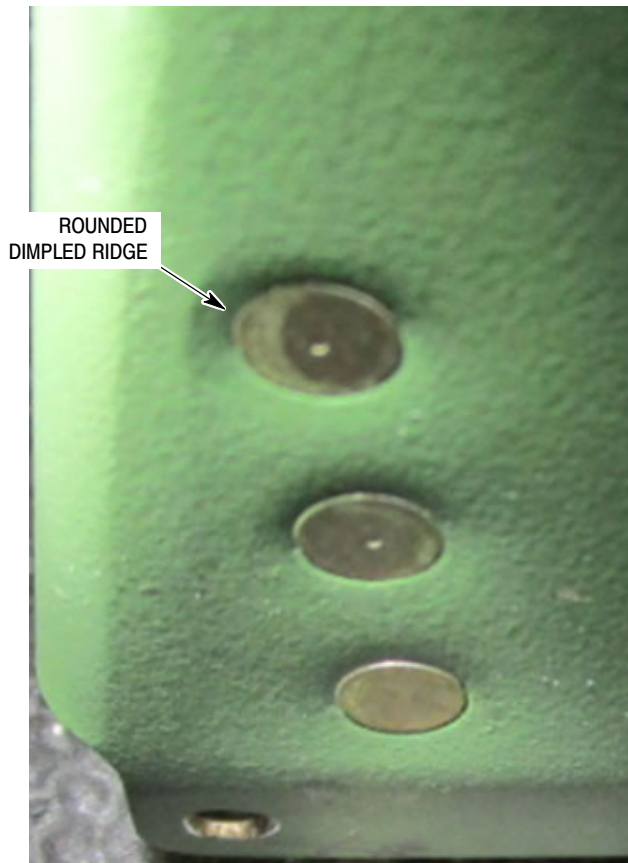


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DIMPLED HOLES



COUNTERSUNK HOLES

SB88-653

**Figure 3. Example of Dimpled and Countersunk Holes**

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**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****E. Installation of the Position Light Mounting Bracket Assembly**

(Ref. Figure 1)

- (1). Use Cleco fasteners to hold bracket assembly (1, 369D23662-13) in the correct position.
  - (a). Wet install four rivets (2) with primer.
  - (b). If removed, install screw (4), washers (5), and nut (6).
  - (c). Wet install three or four rivets (3) with primer.
- (2). Install rear position light (7):
  - (a). Install rear position light (7) in bracket assembly (1).
  - (b). Install gasket (8), retainer (9), and screws (10) on rear position light (7).
  - (c). Install the electrical sleeving over the wires.
  - (d). Pull the wiring thru the horizontal stabilizer conduit.
  - (e). Install knife splice terminals (11) on the wires.
- (3). Install the horizontal stabilizer. (Ref. CSP-HMI-2, Section 53-50-10)
  - (a). Connect knife splice terminals (11).
  - (b). Pull the electrical sleeving over the knife splice terminals and zip-tie the ends.

**F. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) of the Rotorcraft Log Book CSP-RLB.
- (2). Show compliance with this Service Bulletin by one of these methods:
  - (a). Complete a Service Operation Report (SOR) at <https://www.mymd.aero/dashboard>.
  - (b). Put an entry in your <https://www.mymd.aero/> account.
  - (c). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your MDHI Field Service Representative.

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**SB369D-225 / SB369E-124 / SB369F-113**

**Bulletin Completed Record**

## Inspection of the Position Light Mounting Bracket Assembly

MD Helicopters, Inc.  
Field Service  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact.html>  
Or contact your Field Service Representative.

Owner/Operator: _____	Helicopter Serial No: _____
Address: _____	Helicopter Total Time: _____
_____	Date Complete: _____
_____	Location: _____
_____	
Phone: _____	
E-mail: _____	

This bulletin is complete:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_

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# SERVICE BULLETIN

DATE: 2 SEPTEMBER 2020

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## SOFTWARE UPGRADE FOR THE DISPLAY UNIT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

369FF helicopters, serial numbers 0255FF, 0269FF, 0270FF, 0317FF, 0318FF, and 0320FF.

#### B. Assembly/Components Affected By This Notice:

369HW24485-1 Display Unit (DU)  
369SW24485-101 Display Unit Software

#### C. Reason:

This service bulletin will resolve:

- Nuisance engine oil pressure (EOP) exceedance indication (shown as an E) during cold weather starts. These exceedances are also logged.
- Nuisance flashing red indication on the N<sub>2</sub> digital display during the transition outside the 99 to 100% range.

This service bulletin will add:

- An indication of the N<sub>2</sub> speed avoid range.

#### D. Description:

Procedures in this bulletin give owners and operators information to install updated software. The updated software removes EOP exceedance display and logging. The N<sub>2</sub> digits will be yellow when the percent RPM is more than or equal to 71.8% and less than or equal to 91.5%. The N<sub>2</sub> digits will be white when percent RPM is more than or equal to 55.0% and less than or equal to 71.7% and when percent RPM is more than or equal to 91.6% and less than 106.4%.

#### E. Time of Compliance:

The instructions of this bulletin must be completed at the next scheduled inspection or access.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA-approved.

#### G. Labor Hours:

Compliance with this bulletin will be approximately 0.5 labor hours.

#### H. Interchangeability:

None.

#### I. Points of Contact:

For further assistance, contact MDHI Field Service at:

<https://www.mdhelicopters.com/contact.html>

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## J. Material/Part Availability:

Contact MDHI Spare Sales for parts availability at:

<https://www.mdhelicopters.com/contact.html>

Ref. CSP-HMI-2, Section 91-00-00, Table 1, for the item numbers of the consumable materials in the Nomenclature column.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Display Unit Software	369SW24485-103	1	MDHI
Identification Plate	MHS4726-7	2	MDHI
Sharpie Marker	13601, 32001, or 39109	1	Commercial
Methyl-Propyl-Ketone (MPK)(CM219)	EAN 901928 or P2017400	AR	Commercial
Moisture-Resistant Varnish (CM314)	MIL-V-173, Class 2	AR	Commercial

## K. Warranty Policy:

Contact MDHI Warranty for prices, orders, availability, and service at:

<https://www.mdhelicopters.com/contact.html>.

Standard warranty policy applies.

The hours in Labor Hours (ref. Paragraph G.) are an estimate, and are not reimbursable, unless specified in the Warranty Policy.

Additional discrepancies found over and above the specified warranty coverage is the responsibility of the customer.

## L. Disposition of Parts Removed:

N/A

## M. Tooling:

N/A

## N. Weight and Balance:

N/A

## O. Electrical Load Data:

N/A

## P. Other Publications Affected:

CSP-RLB Rotorcraft Log Book

CSP-FF-2 Rotorcraft Flight Manual

CSP-IPC-4 Illustrated Parts Catalog

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## **Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-FF-2 Rotorcraft Flight Manual

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-HMI-3 Basic Handbook of Maintenance Instructions – Instruments/Electrical/Avionics

CSP-IPC-4 Illustrated Parts Catalog

## **2. ACCOMPLISHMENT INSTRUCTIONS**

(Ref. Figure 1)

### **A. Install the Software**

**NOTE:** Install the software revision in both DUs.

- (1). Do the Download Clear Data Procedure. (Ref. CSP-HMI-3, 95-40-01)
- (2). Remove power from the helicopter.
- (3). Remove screws and SD card slot cover.
- (4). Insert the micro SD memory chip with the software update in the SD card slot.
- (5). Hold the REV button and right encoder in.
  - (a). Supply power to the helicopter.
  - (b). Hold the button in until the maintenance mode menu shows.
- (6). Select Option 1) LOAD SOFTWARE to enter the load software menu.
  - (a). Select Option 1) LOAD ALL SOFTWARE to start the software update.
  - (b). Select YES at the bottom of the screen to install the update.

**NOTE:** The memory will be prepared and then the new file will be loaded. A percent complete and a countdown timer will be shown on the display.

- (c). Follow the instructions on the display to load each software file.
- (d). The update is complete when the “Software Loaded Successfully” message is shown on the screen.
  - 1). Select SELECT at the bottom of the screen to return to the main Load SW Menu.
- (e). Select the RETURN TO MENU option.
- (f). Select Option 2) SOFTWARE INFO.
  - 1). Make sure the correct software CRCs, versions, and part numbers are shown:

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Description	CRC	Version	Vendor PN
HDU Display Boot Software	4FF44AC5	1.07	H108E-132
HDU Display Flight Software	2908F194	1.14	H108E-133
HDU Display Maintenance Software	8152F5A6	1.01	H108E-134
HDU Display Foreground Configuration Data	292999A6	1.01	H108E-135
DHDU Communication Boot Software	19B1453F	1.08	H108E-136
HDU Communication Flight Software	E128EE63	1.13	H108E-137
HDU Communication Maintenance Software	1FB5E0AA	1.01	H108E-138
HDU Display Background Configuration Data	80FFB67B	0.07	H108E-139

(g). Select Option 4) EXIT.

(7). Remove the micro SD memory chip.

(8). Select SELECT to restart the display.

(9). Install the micro SD card slot cover with screws.

(10). Do Procedure A. again for the second DU.

## B. Replace the DU Labels

(1). Remove the DU. (Ref. CSP-HMI-3, 95-40-01)

**NOTE:** It is not necessary to disconnect the electrical connection.

(a). Remove the old identification plate:

1). Clean the plate and adjacent area with:

a). Soap and water for light clean-up.

**WARNING** Use the correct personal protection. MKP (CM219) is flammable, can cause serious eye irritation, is an inhalation hazard and can cause respiratory irritation.

b). MPK (CM219) for heavy clean-up.

c). Make sure the area is free from unwanted material that can have an effect on the adhesive.

2). Prepare the plate with a cloth moist with cleaning solvent (CM219) for removal.

**CAUTION** Do not use a sharp edge (for example, a razor blade or box cutter). Damage to the paint can occur.

3). Carefully remove the label and peel it away from the surface with a plastic scraper.

(b). Prepare the new identification plate:

1). Make sure the top of the identification plate is clean.

2). Write the hardware part number – 369HW24485-1 – on the new identification plate with a marker.

3). Write the software part number – 369SW24485-103 – on the new identification plate with a marker.

4). Let the ink fully dry for **one hour minimum** at the ambient temperature.

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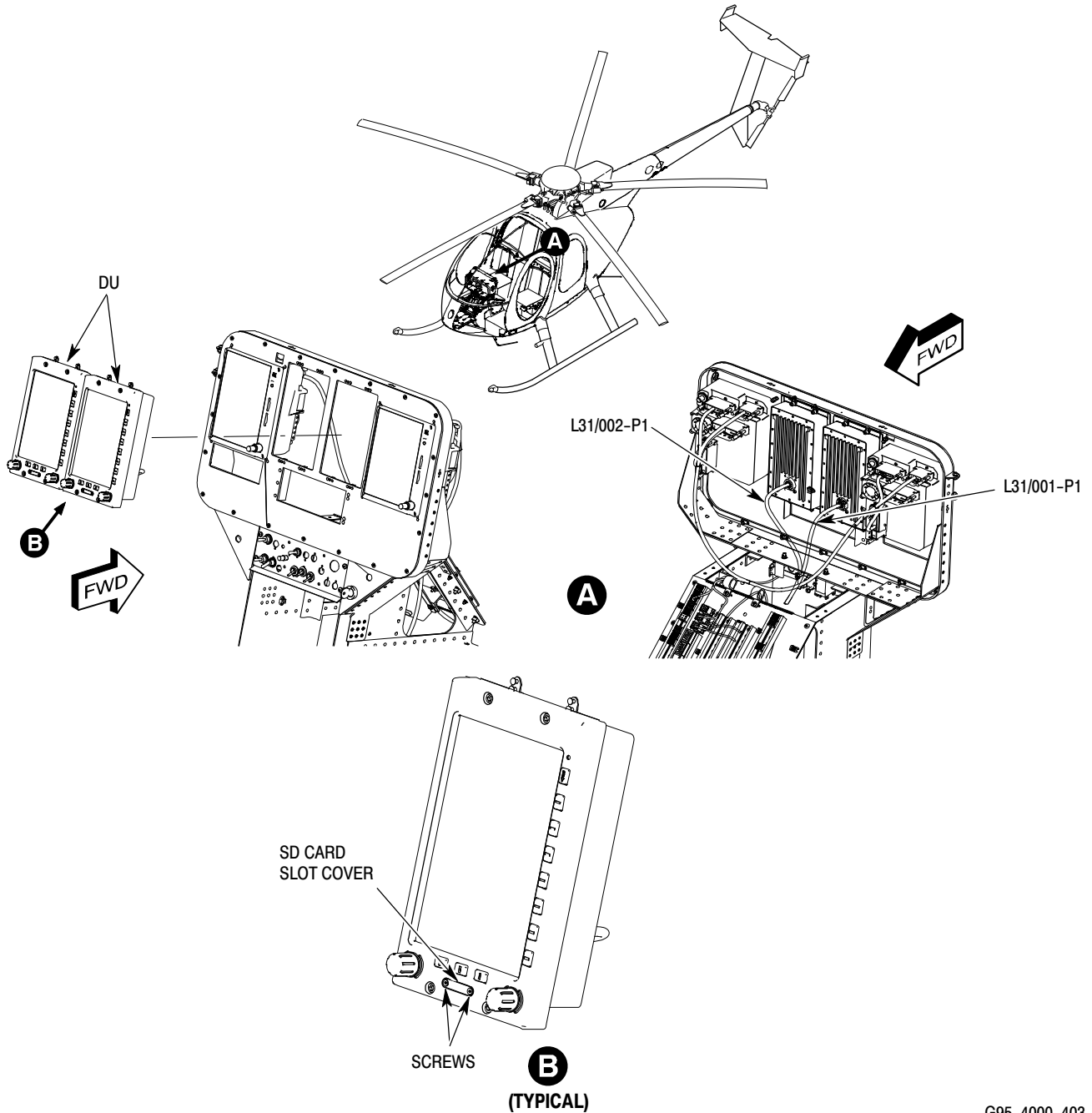


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G95-4000-403-1

Figure 1. Display Unit

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**MANDATORY**

- (c). Install the new identification plate on the DU to identify the updated SW configuration.

- 1). Clean the installation area with:

- a). Soap and water for light clean-up.



**Use the correct personal protection. MPK (CM219) is flammable, can cause serious eye irritation, is an inhalation hazard and can cause respiratory irritation.**

- b). MPK (CM219) for heavy clean-up.

- 2). Remove the protective peel from the back of the new identification plate.



Carefully put the identification plate on the DU. Bubbles, creases, overlaps, and wrinkles can occur.

- 3). Put the decal in position with only one edge in contact with the surface.

- a). Install the decal.

- b). Roll out all wrinkles and air bubbles.

- 4). Apply a thin layer of varnish (CM314) to protect the plate from long-term exposure and erosion.

- 5). Let the varnish fully dry.

**NOTE:** The set-to-touch time is about **one hour**, but varnish can take **one to five hours** to fully dry, because of local temperature, humidity, and weather conditions.

- (2). Install the DU.

- (3). Do Procedure B. again for the second DU.

## **C. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) of the Rotorcraft Log Book CSP-RLB.

- (2). Show compliance with this Service Bulletin by one of these methods:

- (a). Complete a Service Operation Report (SOR) at <https://www.mymd.aero/dashboard>.

- (b). Put an entry in your <https://www.mymd.aero/> account.

- (c). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your MDHI Field Service Representative.

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# SERVICE BULLETIN

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## Bulletin Completed Record

### Software Upgrade for the Display Unit

MD Helicopters, Inc.  
Field Service  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact.html>  
Or contact your Field Service Representative.

Owner/– Operator: _____	Helicopter Serial No.: _____
Address: _____ _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____  Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete:

\_\_\_\_\_  
(Signature)  
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# SERVICE BULLETIN

DATE: 25 JANUARY 1993

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## RATE GYRO INSPECTION AND REPLACEMENT

### 1. PLANNING INFORMATION:

#### A. Summary:

Astronautics Corporation has notified McDonnell Douglas Helicopter Company (MDHC) that a limited number of rate gyros manufactured by them for the SAS system may be defective. The suspect units are serialized 008983-0001 **thru** 0089983-0021. Any malfunction would cause an increase in pilot workload (additional force needs to be applied to the controls) during partial power descent. MDHC requires that all operators who have helicopters equipped with any of the listed serialized rate gyros, remove those rate gyros and return them to MDHC for a replacement part.

#### B. Purpose:

To ensure that any possible defective rate gyro is removed and replaced on all MD500N series helicopters.

#### C. Models Affected:

All MD500N Series helicopters equipped with rate gyro 500N7302-1, serial numbers 008983-0001 **thru** 008983-0021.

#### D. Time of Compliance:

The requirements of this Notice shall be accomplished within 300 hours of helicopter operation after receipt of parts or no later than July 31, 1993.

#### E. FAA Approval:

The design engineering aspects of this notice have been shown to comply with the applicable Federal Aviation Regulations, and are FAA approved.

#### F. Assembly/Components Affected by this Notice:

500N7302-1 rate gyro.

#### G. Weight and Balance:

Not affected.

#### H. Reference Publications:

369D/E/F/FF/500N HMI (CSP-HMI-2) Revised 21 December 1992

PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Rate Gyro	500N7302-1	1	MDHC (Replacement rate gyros must be ordered through MDHC's Commercial Warranty and Repair Department.

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## **2. AIRCRAFT INSPECTION AND/OR REWORK PROCEDURE:**

**CAUTION** When removing or installing a rate gyro, it is to be treated as a delicate instrument. Do not bump, drop, strike, tumble or jolt it as damage may occur to the gyro.

- (1). Determine the serial number of the 500N7302-1 rate gyro.
- (2). Remove all rate gyros serial numbers 008983-0001 **thru** 008983-0021 and return those rate gyros to MDHC Commercial Warranty and Repair Department for a free replacement part (see the following note).

**CAUTION** Rate gyros reworked by Astronautics will be identified by the letter “M” following the serial number (i.e. 008983-0021M).

- (3). Install an acceptable rate gyro.
- (4). Record compliance to this Service Information Notice in the compliance record section of the helicopter Log Book.

## **3. RECORDING AND COMPLIANCE:**

Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

## **4. POINTS OF CONTACT:**

For further information, contact your local MDHC Field Service Representative (refer to the latest revision of the Product Support handbook for address and telephone numbers) or contact the MDHC Warranty and Repair Department, Mesa, Arizona. Telephone: 1-800-388-6342, ext. 1-8565. Datafax: (602)891-3952.

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# SERVICE BULLETIN

DATE: 28 MAY 1993

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## PILOT PREFLIGHT CHECK OF YSAS ACTUATOR AND REPLACEMENT OF S.A.S. ACTUATOR

### 1. PLANNING INFORMATION:

#### A. Summary:

Recent reported failures of Stability Augmentation System (S.A.S.) actuators in the field have been investigated by McDonnell Douglas Helicopter Company (MDHC) and the actuator supplier, Astronautics. We have confirmed that a specific number of actuators may contain defective capacitors.

#### B. Purpose:

This Service Information Notice provides a pilot's preflight check for proper operation of the S.A.S. actuator, explains the procedure that operators must follow to have affected S.A.S. actuators replaced in the field and ensures the proper operation of all MDHC 500N helicopters.

#### C. Models Affected:

All Model 500N Series helicopters, Serial Number LN-001 through LN-045.

#### D. Time of Compliance:

**PART I** shall be accomplished by operators immediately upon receipt of this Notice.

**PART II** shall be accomplished by operators before the next flight and continued at each subsequent flight until the preflight check requirements of this Notice are incorporated into the Pilot Flight Manual.

**PART III** shall be accomplished by all affected operators within seven (7) days after receipt of replacement actuators.

#### E. Assembly/Components Affected by this Notice:

The S.A.S. actuator (P/N 500N7304-1), Serial No. 008983-0004 thru 008983-0104, that do not contain a blue dot on the part number data plate.

#### F. FAA Approval:

FAA Approval: The design engineering aspects of this notice have been shown to comply with the applicable Federal Aviation Regulations, and are FAA approved.

#### G. Weight and Balance:

Not affected.

#### H. Reference Publications:

369D/E/F/FF/500N HMI (CSP-HMI-2) Revised 21 December 1992  
500N Pilot Flight Manual (CSP-520N-1) Revised 17 September 1992

#### I. Warranty Information:

MDHC Commercial Warranty and Repair Department will provide acceptable replacement S.A.S. actuators at no cost to the operator. The replacement parts will be covered by MDHC's new part warranty. MDHC will also credit those affected operators with three hours of labor warranty (spares credit). Return affected S.A.S. actuators to Commercial Warranty and Repair within five days of removal.

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REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
YSAS Actuator	500N7304-1	1	MDHC Commercial Warranty and Repair Department, Mesa, Arizona.

## 2. PART I – VERIFICATION

- (1). Review helicopter records, or using the instructions contained Handbook of Maintenance Instructions remove and visually inspect the YSAS actuator to determine if it is within the above range of affected actuators and does not contain a blue dot on the part number data plate.
- (2). If it is determined that the YSAS actuator is within the affected serial number range and does not have a blue dot on the part number data plate, place an order for a replacement actuator through an Approved MDHC Service Center or Distributor or Commercial Warranty and Repair, Mesa, Arizona.

## 3. PART II – PILOT PREFLIGHT CHECK OF YSAS ACTUATOR

- (1). With aircraft electrical power **ON**, confirm YSAS circuit breaker **IN** and listen for sounds of the YSAS gyro spinning up underneath the right front seat.
- (2). Turn YSAS switch **ON** and confirm that the trailing edge of the right vertical stabilator is at its nominal position (approximately 2 inches inboard of the 5 degree mark on the degree plate located on the upper surface of the horizontal stabilizer).

**NOTE:** This position will vary somewhat depending on how level the helicopter is in the roll attitude, however it is not considered critical for this ground check. Also, when the YSAS switch is turned **ON**, movement of the right stabilator may or may not take place based upon a recent change in the helicopter's roll attitude and/or the length of time the YSAS gyro has had to power up.

- (3). Hold the trailing edge of the horizontal stabilizer so the fingers of your right hand rest on both sides of the trailing edge of the right vertical stabilator. With your left hand, shake the helicopter laterally using either the tail skid or the horizontal stabilizer mounting bracket. Vertical stabilator movement should be detected if the actuator is functioning.
- (4). If the YSAS actuator does not appear to be functioning properly, then the aircraft may be flown, however the YSAS switch should be **OFF** and YSAS circuit breaker **IN** until the S.A.S. actuator is replaced. If there is any concern about the YSAS system operation, the YSAS ground test procedure should be performed per the instructions contained in the HMI.

## 4. PART III – REPLACEMENT OF AFFECTED YSAS ACTUATORS

- (1). Remove S.A.S. actuators per the instructions contained in the Handbook of Maintenance Instructions (HMI).

**NOTE:** Affected S.A.S. actuators are P/N 500N7304-1, serial number 008983-0004 thru 008983-0104 without a blue dot on the part number data plate. The serial number is located on the part number data plate of the actuator.

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- (2). Return removed S.A.S. actuators to MDHC Commercial Warranty and Repair Department within five (5) days of removal.

**NOTE:** S.A.S. actuators that fall within the serial number range of affected actuators will be reworked by the manufacturer. Actuators that have been reworked to a serviceable condition will be identified with a blue dot located on the part number data plate.

- (3). Install replacement S.A.S. actuator per the instructions contained in the HMI.
- (4). Perform ground test procedure of the YSAS system per the instructions contained in the HMI.
- (5). Record compliance to **PART III** of this Service Information Notice in the aircraft Log Book.

## **5. POINTS OF CONTACT:**

For further assistance, contact your local MDHC Field Service Representative (refer to the latest revision of the Business Development and Customer Support handbook for address and telephone numbers) or contact the Field Service Department at MDHC, Mesa Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602)891-6782.

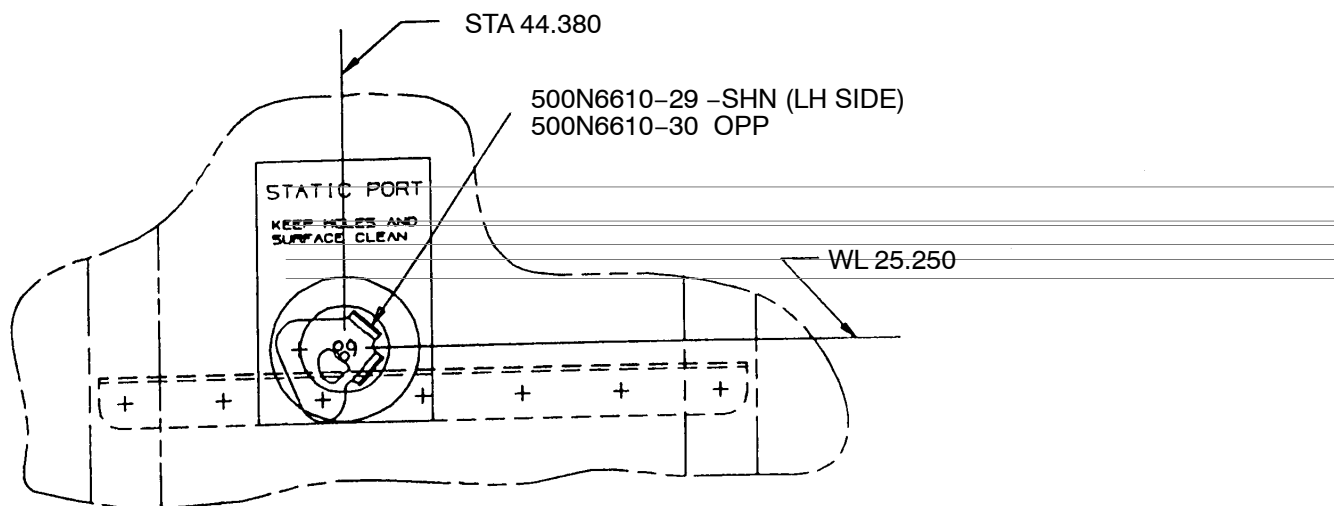
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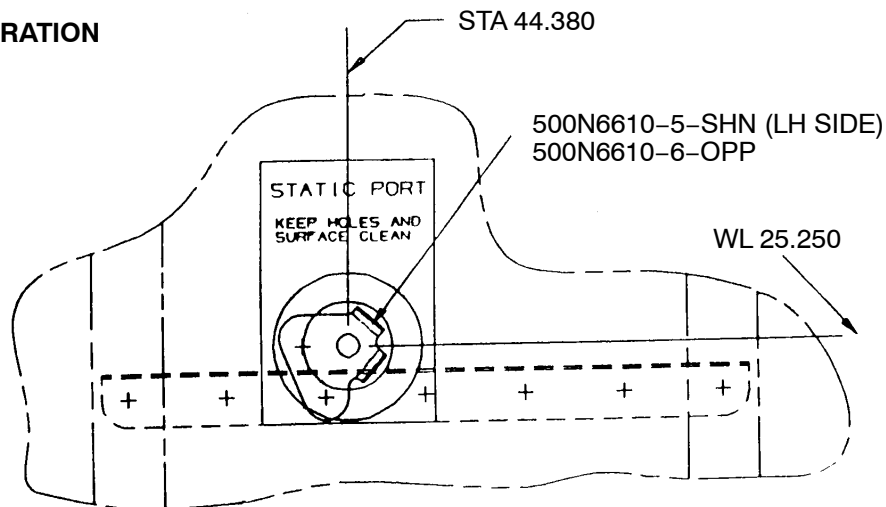
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**NEW CONFIGURATION**



**OLD CONFIGURATION**

88-674

Figure 1. Rework of Static Port Intake.

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## INSTALLATION OF TAILBOOM DECAL

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

McDonnell Douglas Helicopter Systems (MDHS) MD500N, Serial No. LN001 thru LN060, are affected by the requirements of this Notice.

#### B. Assembly/Components Affected by this Notice:

500N6615, Model 500N helicopter markings.

#### C. Reason:

To clearly display a caution regarding the thruster cable connection located at the forward end of the tailboom.

#### D. Description:

Procedures in this Notice provide operators with instructions to properly install a decal inside the forward area of the tailboom that contains a caution to ensure proper connection of the thruster cable assembly. **WARNING:** Improper connection of the thruster cable assembly could result in loss of pedal control and subsequent control of the helicopter.

#### E. Approval:

The engineering aspects of this Notice have been shown to comply with the applicable Federal Aviation Regulations, and are FAA Approved.

#### F. Time of Compliance:

The requirements of this Notice shall be complied with at the next 300 hour/annual inspection of the helicopter or the next time the 500N3535 tailboom cover assembly is removed at the forward end of the tail boom, whichever occurs first.

#### G. Interchangeability:

N/A

#### H. Material/Part Availability:

Operators affected by the requirements of this Notice should contact the MDHS Warranty and Repair Department immediately to procure a 500N4026-23 decal.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Decal, Caution-Thruster Disconnect	500N4026-23	1	MDHS Warranty and Repair Department

#### I. Warranty Policy:

MDHS will provide affected operators with decals free of charge. Affected operators should contact MDHS Warranty and Repair Department immediately upon receipt of this Notice to procure a decal. Please provide name, address and aircraft serial number to obtain a decal free of charge.

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**J. Tooling:**

No special tooling required.

**K. Weight and Balance:**

N/A.

**L. Electrical Load Data:**

N/A.

**M. Other Publications Affected:**

N/A.

**2. ACCOMPLISHMENT INSTRUCTIONS:**

- (1). Remove the 500N3535 tailboom cover assembly (ref. CSP-IPC-4, Section 53-00-30, Fig. 1, Item 10).
- (2). Install the 500N4026-23 decal adjacent to the thruster disconnect assembly in a location on the tailboom that will be covered up by the 500N3535 cover assembly.
- (3). Install 500N3535 tailboom cover assembly.

**3. IDENTIFICATION:**

None required.

**4. DISPOSITION OF PARTS REMOVED:**

N/A.

**5. COMPLIANCE RECORD:**

Record compliance to the requirements of this Notice in the Compliance Record section of the helicopter Log Book.

**6. POINTS OF CONTACT:**

For further assistance, contact your local MDHS Field Service Representative (refer to the latest revision of the Business Development and Customer Support handbook for address and telephone numbers) or contact the Field Service Department at MDHS, Mesa Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602)891-6782.

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## FORWARD AND CENTER THRUSTER CONTROL CABLES, CONDUIT CAP RELIEF AREA, INSPECTION

\* Supersedes SB500N-020R1, SB600N-027R1 dated 24 November 1999.  
Revision 2 corrects typographical errors Aircraft which have complied with SB500N-020R1, SB600N-027R1 meet the intent of this revision.

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

500N helicopters, LN001 thru LN099 and 600N helicopters, RN003 thru RN074.

#### B. Assembly/Components Affected By This Bulletin:

All 500N7201-5, -7, -37, -45 and -51 thruster control cables installed in the helicopters listed above and in spares inventory.

#### C. Reason:

Operators have experienced stress corrosion cracks in the relieved area of the thruster control cable conduit cap. Cracks have been found between the swage and threads of both the forward cable at Sta. 123.30 (500N/600N) and the center thruster cable at Sta. 264.00 (500N) or Sta. 292.00 (600N).

Failure to comply with this Service Bulletin may result in a slightly lagged thruster response to sharp right pedal input.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to inspecting the thruster control cable conduit cap and cable coupling connector.

#### E. FAA Approval:

The design engineering aspects of this bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA approved.

#### F. Time of Compliance:

Shall be accomplished within the next 100 hours of flight or before 19 February 2000, whichever occurs first.

Continue to inspect per this Bulletin every one hundred (100) flight hours or three (3) months, whichever occurs first, until the new cables (500N7201-55 and -57 or -59) are installed.

The forward and center thruster cables must be replaced with the new configuration cable no later than 1 December 2000.

#### G. Weight and Balance Data:

Weight and balance not affected.

#### H. Reference:

369D/E/FF - 500N/600N HMI (CSP-HMI-2) Revised 1 June 1999, or latest revision

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## I. Manpower:

Three (3) man-hours for inspection requirements and maximum of eight (8) man-hours for replacement.

## J. Material/Part Availability:

Contact MDHI Warranty and Repair Dept.

PARTS				
Nomenclature	Part No.	500N Qty.	600N Qty.	Source
Forward cable (500N/600N)	500N7201-37 or -55	A/R	A/R	MDHI
Center cable (500N)	500N7201-45 or -57	A/R	N/A	MDHI
Center cable (600N)	500N7201-51 or -59	N/A	A/R	MDHI
Click Bond Adhesive (600N)	HMS-16-1068 CL12 Alternate EA.9321  Alternate CB200	N/A	1	MDHI DEXTER Adhesive & Coating 2850 Willow Pass Rd. Bay Point, CA 94565 CLICK BOND 2151 Lockheed Way Carson City, NV 89706
Stud (600N)	HS5806CR-3CR8 Alternate CS125-1032-8CR (NS001250)	N/A	1	MDHI CLICK BOND 2151 Lockheed Way Carson City, NV 89706
Clamp (600N)	MS21919WDG6 or MS21919WDF6	N/A	1	MDHI Commercial
Clamp (500N/600N)	AN742D6	4	4	MDHI Commercial
Nut (500N/600N)	MS21042L3	4	5	MDHI Commercial
Bolt (500N/600N)	NAS6603H2 or NAS1303-2H	4	4	MDHI Commercial
Washer (500N/600N)	AN960KD10 or AN960JD10 or NAS1149D0363J	8	10	MDHI Commercial
Safety Wire, Stainless Steel 0.032 inch		A/R	A/R	Commercial
Isopropyl Alcohol		N/A	A/R	Commercial

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## **K. Warranty:**

MDHI Warranty Department will provide acceptable replacement components at no cost to the operator if parts are replaced prior to 1 December 2000. The replacement parts will be covered by the MDHI new part warranty. MDHI will also credit those affected operators with three (3) hours of labor warranty (spares credit) for the inspection requirements and maximum of eight (8) hours of labor warranty (spares credit) for replacement. Operators must return affected components to MDHI Warranty Department within five (5) days of removal in order to receive credit for replacement and labor allowance credit.

## **2. ACCOMPLISHMENT INSTRUCTIONS**

### **A. Cable Inner Coupling Connector Inspection**

(Ref. Figure 1, View C)

- (1). Remove tailboom fairing.
- (2). Turn cable outside collar counter-clockwise and back to expose the inner cable.
- (3). Apply sufficient right pedal to expose inner cables.
- (4). Without bending cable, slide male connector out of female connector.
- (5). Inspect for indications of obvious damage.
- (6). Ensure forward cable opening is correct for center cable male fitting (Ref. CSP-HMI-2, Forward and Center Cable Assembly Inspection).
- (7). Reconnect forward and center control cable couplings.

#### **WARNING**

**Failure to properly connect thruster cables could result in uncoupling during flight and loss of anti-torque authority.**

- (a). Apply sufficient right pedal to expose inner cables.
  - (b). Without bending cable, insert inner male connector into inner female connector and ensure they are properly engaged together.
  - (c). Slide outside cable collar over forward cable to engage locking device and turn clockwise until fully locked.
- (8). Reinstall tailboom fairing.

### **B. Forward Cable Inspection:**

(Ref. Figure 1, View A)

#### **CAUTION**

Any time maintenance work is to be performed near engine air inlet, use care to prevent entry of foreign objects that might later be sucked into the compressor. Cover engine inlet with suitable material.

- (1). 600N - Remove the engine air particle separator.  
500N - Open the engine air particle separator bypass door.
- (2). Locate forward thruster cable on left side of plenum area.
- (3). Using a bright light, locate thruster control cable on left side of plenum area. Inspect relief area of cable conduit cap, just aft of mount bracket, between threads and swage for cracks or evidence of corrosion.

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If the cable conduit cap has separated at the relief area, cable must be removed from service and a serviceable cable installed ***before further flight***.

- (4). If corrosion is found, clean corrosion area and inspect relieved area for crack.
- (5). Damage criteria requiring cable removal:
  - (a). Cable conduit cap which has separated at the relief area is not allowed.
  - (b). Any total crack length that exceeds more than 180 degrees around the conduit cap is not allowed.
- (6). If separation or an unacceptable crack is found, remove the cable and mark as scrap for return to MDHI. Replace with a serviceable cable which has been inspected per the requirements of this Bulletin.
- (7). Install two secondary safety clamps (AN742D6) as follows:

(Ref. Figure 1, View D and F)

**NOTE:** The two clamps are positioned 180° from each other.

Do not allow the clamps to chaff against the airframe. The single safety clamp alternate installation can be installed if airframe structure interferes with the second clamp.

- (a). Install first clamp pointing up on the cable next to the swage.
- (b). Install the second clamp pointing down on the cable next to the first clamp.
- (c). Safety wire the bolt on the first clamp to the top of the jamnut that secures the cable to the airframe.
- (d). Safety wire the bolt on the second clamp to the bottom of the jamnut that secures the cable to the bracket. If second clamp is not installed, alternate safety wire installation starts at the bottom of the jamnut, goes past the first clamp and is tightly wrapped around the cable a minimum of 3 times and a maximum of 5 times.
- (8). 600N - Install the engine air particle separator.  
500N - Close the engine air particle separator bypass door.

## C. Center Cable Inspection:

(Ref. Figure 1, View B)

- (1). Remove stationary and rotating thruster cones (Ref. CSP-HMI-2).
- (2). Using a bright light and a mirror, locate thruster control cable inside tailboom. Inspect conduit cap relief area, just forward of mount bracket, between threads and swage for evidence of corrosion.



If the cable conduit cap has separated at the relief area, cable must be removed from service and a serviceable cable installed ***before further flight***.

- (3). If corrosion is found, clean corrosion area and inspect conduit cap relief area for cracks.
- (4). Damage criteria requiring cable removal:
  - (a). Cable conduit cap which has separated at the relief area is not allowed.
  - (b). Any total crack length that exceeds more than 180 degrees around the conduit cap is not allowed.

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(5). If separation or an unacceptable crack is found, remove the cable and mark as scrap for return to MDHI. Replace with a serviceable cable which has been inspected per the requirements of this Bulletin.

(6). Install two clamps (AN742D6) as follows:

(Ref. Figure 1, View E and F)

**NOTE:** The two clamps are positioned inside the tailboom approximately 180° from each other. Do not allow the clamps to chaff against the tailboom.

- (a). Install the first clamp on the cable next to the swage pointing up along the top portion of the tailboom.
- (b). Install the second clamp on the cable next to the first clamp pointing down along the bottom portion of the tailboom approximately 180° from the first clamp.
- (c). Safety wire the bolt on the first clamp to the top of the jamnut that secures the cable to the airframe.
- (d). Safety wire the bolt on the second clamp to the bottom of the jamnut that secures the cable to the airframe.

**NOTE:** The following procedure is only for the 600N.

(7). Install one Click Bond and clamp (MS21919WD6) as follows:

(Ref. Figure 1, View G)

## **WARNING**

**During scuff sand operation of 600N tailboom surface , DO NOT sand into graphite material of tailboom surface.**

**NOTE:** If surface is primed, then it is only necessary to wipe with isopropyl alcohol and air dry for 15 minutes (no sanding required).

- (a). If necessary, scuff sand a 2 inch (5 cm) diameter area approximately one inch from the end of the conduit cap metal swage on the unprimed surface of the tailboom to remove loose resin or surface gloss.
- (b). Wipe with isopropyl alcohol and air dry for 15 minutes.
- (c). Mix Click Bond per manufacturers instructions.
- (d). Install adhesive per manufacturers instructions.
- (e). Insert the cable into clamp (MS21919WD6) and position clamp approximately 1.12 to 1.20 inches (2.85 to 3.0 cm) from the end of metal swage.
- (f). Install two (AN960KD10) washers (HS 5806CR-3CR8) on the stud, one (MS21919WDG6) clamp, and nut (MS21042L3)).
- (8). Reinstall stationary and rotating thruster cones (Ref. CSP-HMI-2).
- (9). Rig the rotating thruster cone (Ref. CSP-HMI-2).

### **3. POINTS OF CONTACT**

For further information, contact your local MDHI Field Service Representative (refer to the latest revision of the Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone: 1-800-388-6342 or (480) 891-6342.

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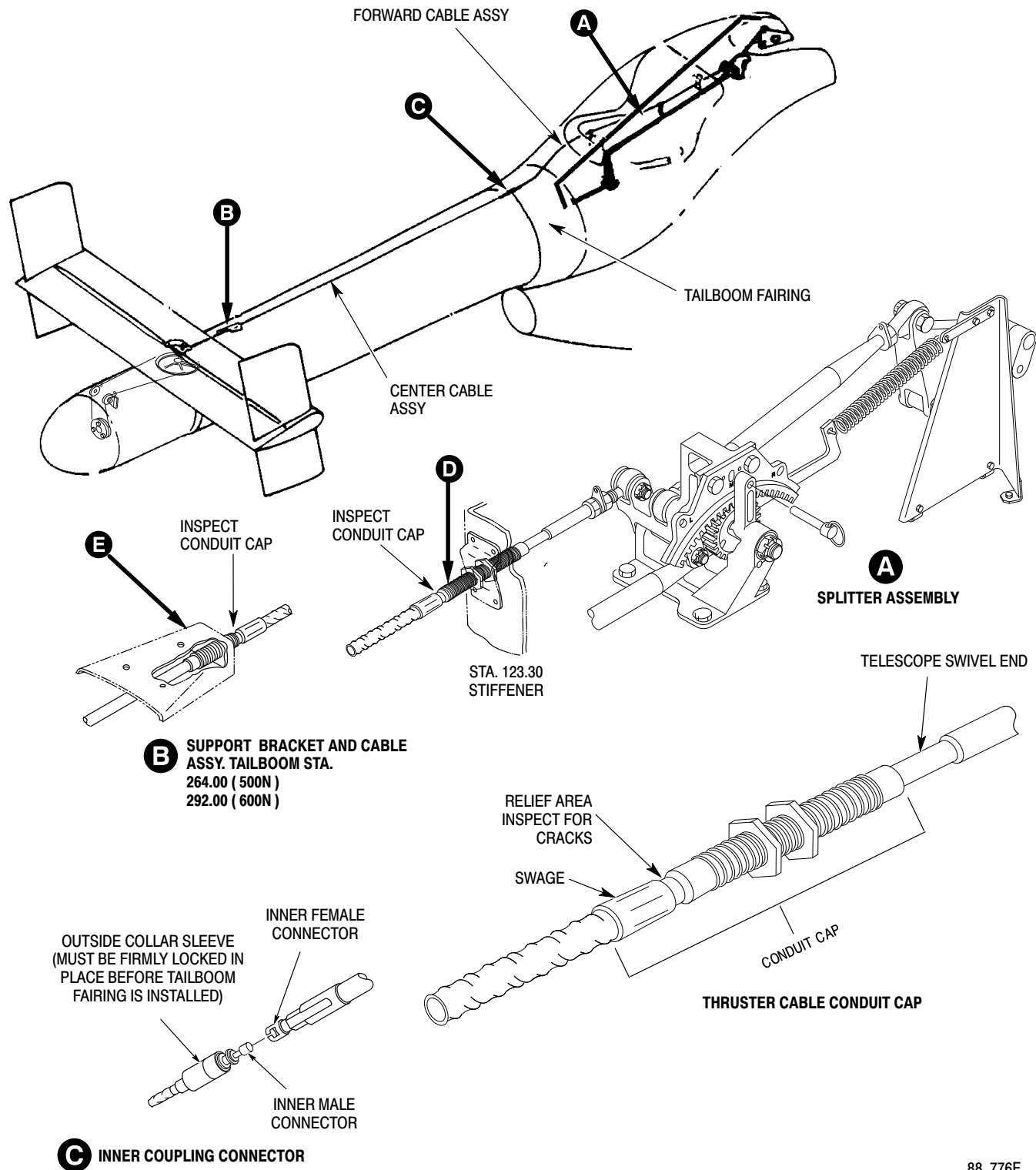
**MANDATORY**

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**Figure 1. Forward and Center Cable Relief Area Inspection (Sheet 1 of 2)**

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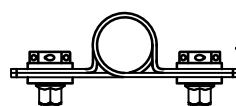
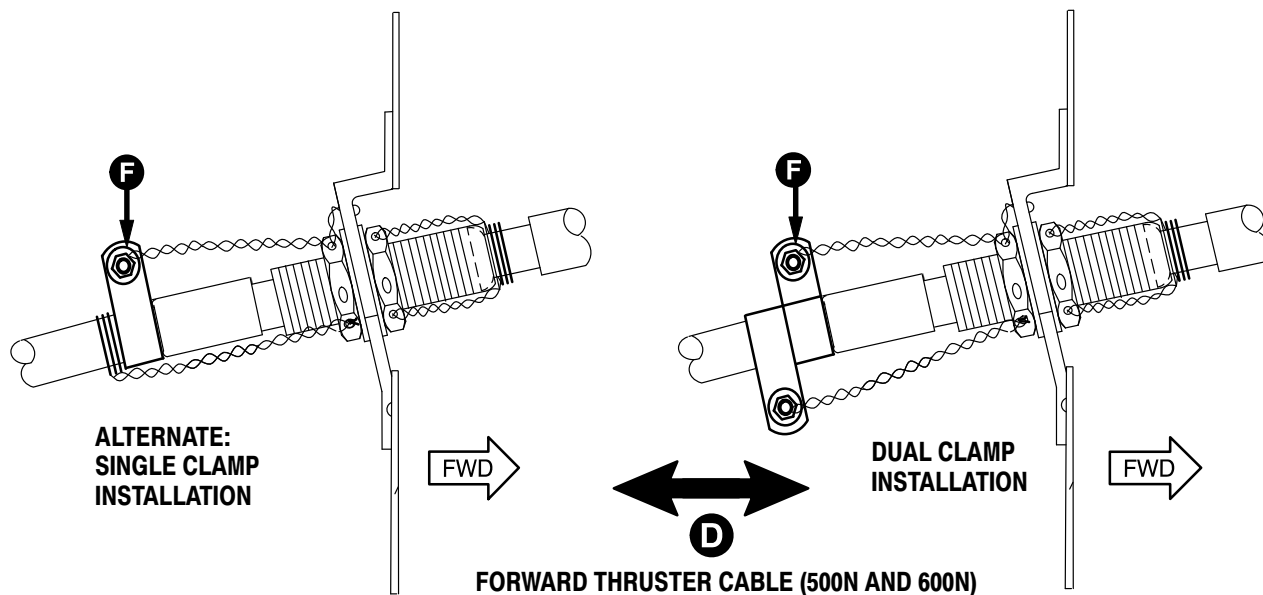
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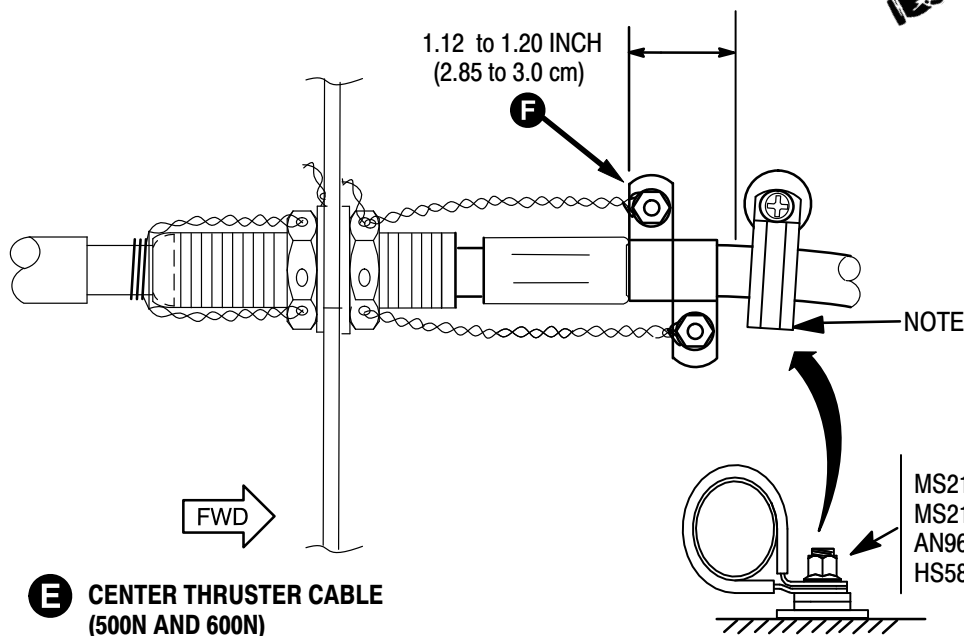
**MANDATORY**



AN960KD10 WASHER	2
AN742D6 CLAMP	1
MS21042L3 NUT	1
NAS6603H2 BOLT	1

**SECONDARY SAFETY CLAMP**  
TYPICAL x3 or 4 PLACES

**F**



NOTE: CLICK BOND INSTALLATION (600N ONLY)

88 776 H

**Figure 1. Forward and Center Cable Relief Area Inspection (Sheet 2 of 2)**

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## Compliance Recording Form

### Forward and Center Thruster Control Cables, CONDUIT CAP RELIEF AREA, Inspection

Customer/Operator Name:

---

Aircraft Serial No. :

---

Helicopter Total Time:

---

Center Thruster Cable Total Time:

---

Forward Thruster Cable Total Time:

---

Date of Compliance for Inspection:

---

Results of Inspection: \_\_\_\_\_ Cracks \_\_\_\_\_ No Cracks

---

Signature of Person Confirming Compliance:

---

**Please Return to MDHI Field Service Immediately  
Following Inspection**

**FAX this form to MDHI (480) 891-6782**

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## FORWARD AND CENTER THRUSTER CONTROL CABLES, CONDUIT CAP AT TELESCOPIC SWIVEL END, INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

500N helicopters, LN001 thru LN099 and 600N helicopters, RN003 thru RN074.

#### B. Assembly/Components Affected By This Bulletin:

All 500N7201-5, -7, -37, -45 and -51 thruster control cables installed in the helicopters listed above and in spares inventory.

#### C. Reason:

Stress corrosion cracks have been discovered in the thruster control cable conduit cap at the telescopic swivel ends. Cracks have been found on the conduit cap of both the forward cable at Sta. 123.30 (500N/600N) and the center thruster cable at Sta. 264.00 (500N) or Sta. 292.00 (600N).

Failure to comply with this Service Bulletin may result in a fixed thruster and loss of normal anti-torque directional control of the helicopter.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to visually inspecting the thruster cable conduit cap at the telescopic swivel end for cracks, corrosion and obvious damage.

#### E. FAA Approval:

The design engineering aspects of this bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA approved.

#### F. Time of Compliance:

Shall be accomplished within the next five (5) flight hours or by 31 December 1999, whichever occurs first.

Continue to inspect per this Bulletin every one hundred (100) flight hours or three (3) months, whichever occurs first, until the new cables (500N7201-55 and -57 or -59) are installed.

The forward and center thruster cables must be replaced no later than 1 December 2000.

#### G. Manpower:

Three (3) man-hours for inspection requirements and maximum of eight (8) man-hours for replacement.

#### H. Weight and Balance Data:

Weight and balance not affected.

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## I. Material/Part Availability:

Contact MDHI Warranty and Repair Dept.

PARTS			
Nomenclature	Part No.	Qty.	Source
Forward cable (500N/600N)	500N7201-37 or -55	A/R	MDHI
Center cable (500N)	500N7201-45 or -57	A/R	MDHI
Center cable (600N)	500N7201-51 or -59	A/R	MDHI

## J. Warranty:

MDHI Warranty Department will provide acceptable replacement components at no cost to the operator if parts are replaced prior to 1 December 2000. The replacement parts will be covered by the MDHI new part warranty. MDHI will also credit those affected operators with three (3) hours of labor warranty (spares credit) for the inspection requirements and maximum of eight (8) hours of labor warranty (spares credit) for replacement. Operators must return affected components to MDHI Warranty Department within five (5) days of removal in order to receive credit for replacement and labor allowance credit.

## K. Reference:

369D/E/FF - 500/600N HMI (CSP-HMI-2) Revised 1 June 1999, or latest revision

## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Forward Cable Inspection:

(Ref. Figure 1)

**CAUTION** Any time maintenance work is to be performed near engine air inlet, use care to prevent entry of foreign objects that might later be sucked into the compressor. Cover engine inlet with suitable material.

- (1). Remove left side engine inlet fairing to access splitter assembly area.
- (2). Locate forward thruster cable on left side of plenum area.
- (3). Inspect for any evidence of swivel ball separation from conduit cap.

**CAUTION** If an unacceptable crack or ball separation from conduit cap is found, the cable must be removed from service and a serviceable cable installed ***before further flight***.

- (4). Using a bright light and 10x magnifying glass, inspect the general area of the conduit cap and at the telescopic swivel end for cracks, corrosion and obvious damage.
- (5). Damage criteria requiring cable removal:
  - (a). Any missing piece in the end of the conduit cap at the telescopic end is not allowed.
  - (b). Any one crack larger than 0.15 inch is not allowed.
  - (c). The total length of all cracks can not exceed a combined total of 0.30 inch.

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(6). If an unacceptable crack is found, remove the cable and mark as scrap for return to MDHI. Replace with a serviceable cable which has been inspected per the requirements of this Bulletin.

(7). Install a secondary safety using 0.032 inch stainless steel safety wire as follows:

(a). Safety wire starts at the top of the jamnut, goes to the end of the conduit cap, is tightly wrapped around the shaft in front of the swivel ball joint a minimum of 3 times and a maximum of 5, and returns to the bottom side of the jamnut (Ref. Figure 1, Sheet 2)

(8). Reinstall left side engine inlet fairing.

## **B. Center Cable Inspection:**

(Ref. Figure 1)

(1). Remove stationary and rotating thruster cones (Ref. CSP-HMI-2).

(2). Inspect for any evidence of swivel ball separation from conduit cap.

(3). Using a bright light and 10x magnifying glass, inspect the general area of the conduit cap and at the telescopic swivel end for cracks, corrosion and obvious damage.



If an unacceptable crack or ball separation from conduit cap is found, the cable must be removed from service and a serviceable cable installed ***before further flight.***

(4). Damage criteria requiring cable removal:

(a). Any missing piece in the end of the conduit cap at the telescopic end is not allowed.

(b). Any one crack larger than 0.15 inch is not allowed.

(c). The total length of all cracks can not exceed a combined total of 0.30 inch.

(5). If an unacceptable crack is found, remove the cable and mark as scrap for return to MDHI. Replace with a serviceable cable which has been inspected per the requirements of this Bulletin.

(6). Install a secondary safety using 0.032 inch stainless steel safety wire as follows:

(a). Safety wire starts at the top of the jamnut, goes to the end of the conduit cap, is tightly wrapped around the shaft in front of the swivel ball joint a minimum of 3 times and a maximum of 5, and returns to the bottom side of the jamnut (Ref. Figure 1, Sheet 2)

(7). Reinstall stationary and rotating thruster cones (Ref. CSP-HMI-2).

(8). Re-rig rotating thruster cone (Ref. CSP-HMI-2).

## **3. POINTS OF CONTACT**

For further information, contact your local MDHI Field Service Representative (refer to the latest revision of the Product Support handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone: 1-800-388-6342 or (480) 891-6342.

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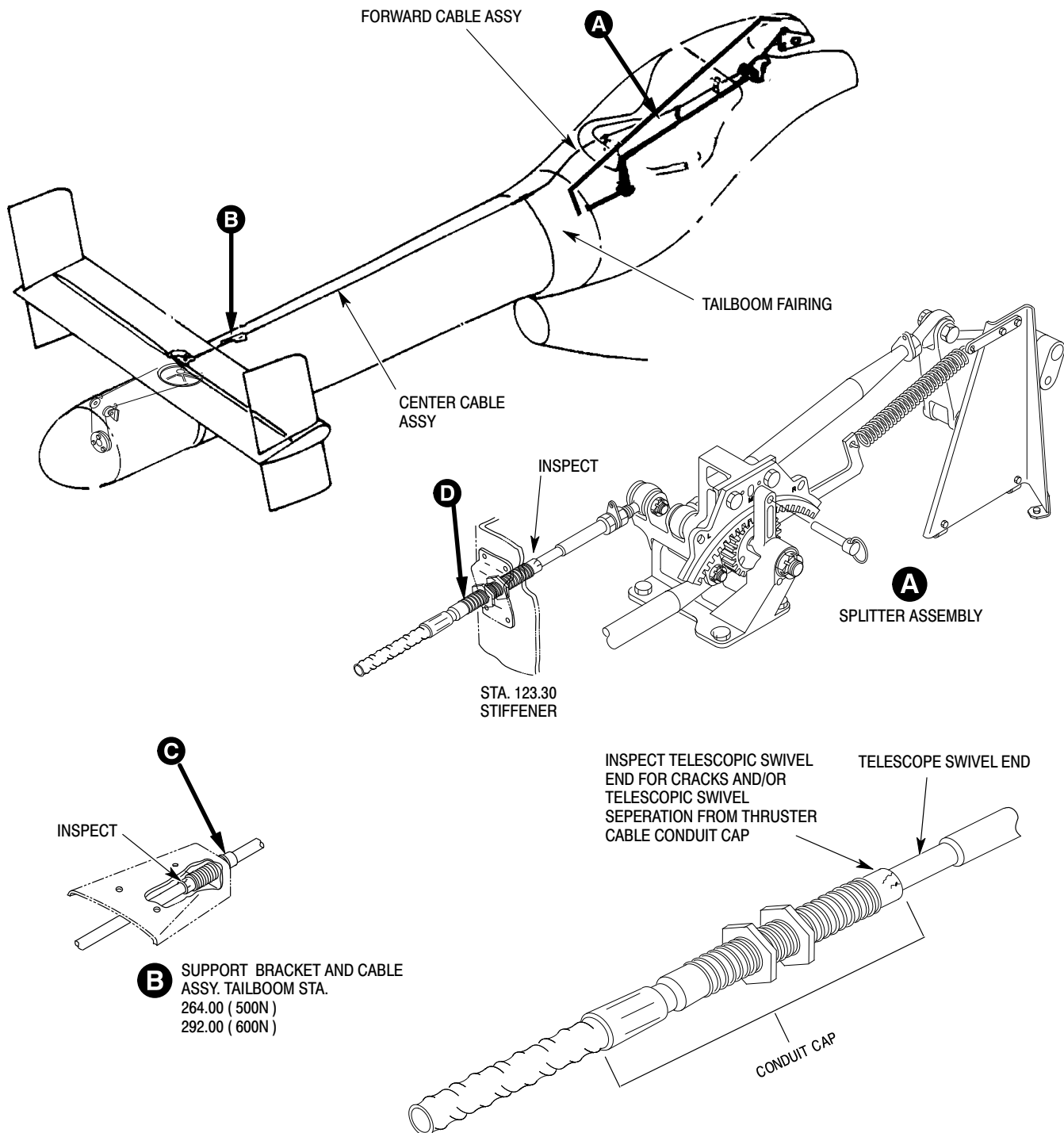
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**Figure 1. Forward and Center Cable Relief Area Inspection (Sheet 1 of 2)**

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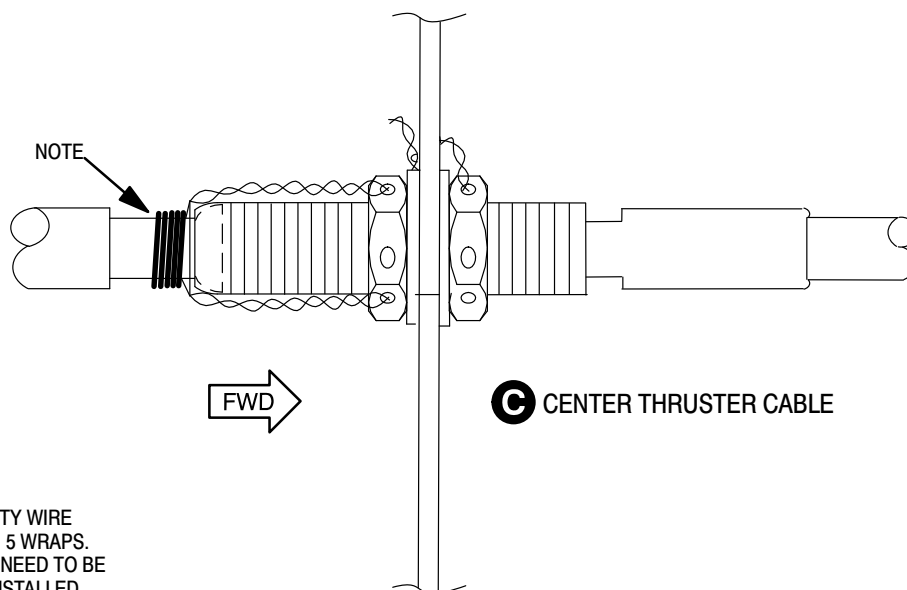
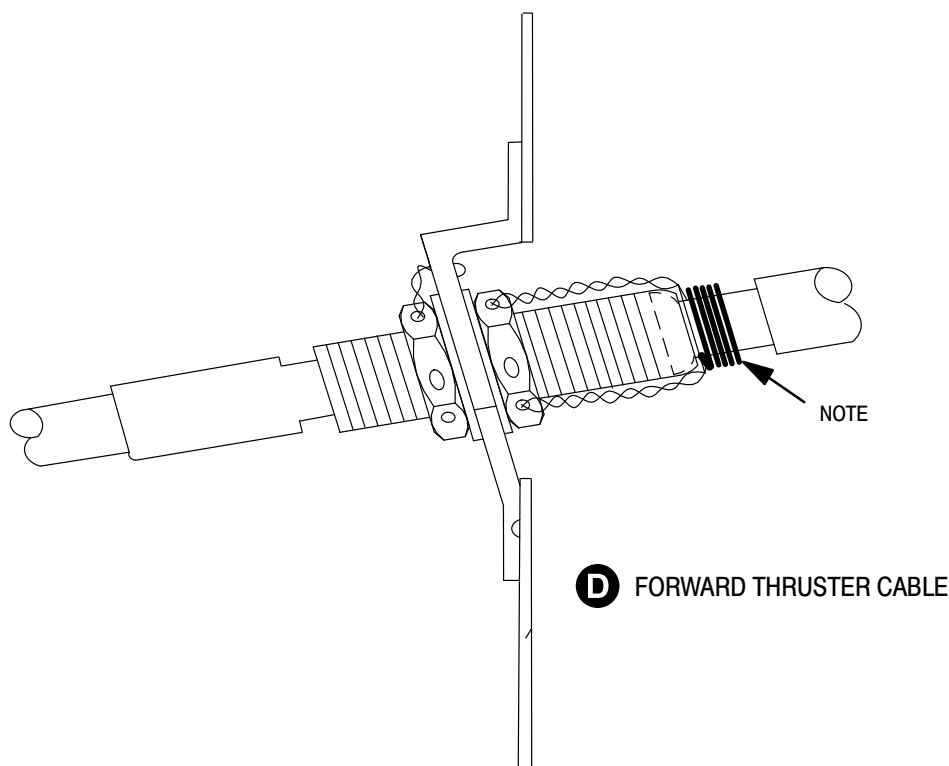


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NOTE:  
0.032 STAINLESS STEEL SAFETY WIRE  
MINIMUM 3 WRAPS, MAXIMUM 5 WRAPS.  
CURRENT SAFETY WIRE MAY NEED TO BE  
REMOVED BUT MUST BE REINSTALLED.

88\_776\_C

**Figure 1. Forward and Center Cable Relief Area Inspection (Sheet 2 of 2)**

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## Compliance Recording Form

Customer/Operator Name:

---

Aircraft Serial No. :

---

Helicopter Total Time:

---

Center Thruster Cable Total Time:

---

Forward Thruster Cable Total Time:

---

Date of Compliance for Inspection:

---

Results of Inspection: \_\_\_\_\_ Cracks \_\_\_\_\_ No Cracks

---

Signature of Person Confirming Compliance:

---

**Please Return to MDHI Field Service Immediately  
Following Inspection**

**FAX this form to MDHI (480) 891-6782**

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DATE: 23 OCTOBER 2001

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## FAN PITCH CONTROL AFT TUBE ASSEMBLY ONE TIME INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

Model 500N Helicopters, serial number LN001 thru LN094.

(Serial numbers LN092 thru LN094 were checked prior to delivery and are affected only if the aft tube assembly (P/N 500N7113-11) has been replaced.)

Model 600N Helicopters, serial number RN003 thru RN061.

(Serial numbers RN053, RN056 thru RN057 and RN060 thru RN061 were checked prior to delivery and are affected only if the aft tube assembly (P/N 500N7113-11) has been replaced.)

All Aft Tube Assemblies (P/N 500N7113-11) in spares inventory.

#### B. Assembly/Components Affected By This Bulletin:

Aft Tube Assembly (P/N 500N7113-11).

#### C. Reason:

Some fan pitch control aft tube assemblies were manufactured with the locking slot at an incorrect angle, which may cause misalignment of the fan pitch control linkage.

Failure to comply with this Bulletin may cause excessive wear on the associated clevis assembly and bellcrank.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to inspecting the fan pitch control linkage to determine if a discrepant aft tube assembly is installed and if any damage has occurred. Instructions for identifying discrepant aft tube assemblies in spares inventory are also included.

#### E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### F. Manpower:

0.75 man-hour for inspection (helicopters without a particle separator).

1.5 man-hours for inspection (helicopters with a particle separator).

8.0 man-hours for replacement.

#### G. Time of Compliance

The requirements of this Bulletin shall be accomplished within the next 100 hours of helicopter operation after receipt of this Bulletin, but no later than 30 June 2002.

#### H. Interchangeability:

None

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## I. Material/Part Availability:

Contact MDHI Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Tube Assembly, Aft	500N7113-11	1	MDHI
Clevis Assembly	500N7114-3	1	MDHI
Bellcrank	500N7110-3	1	MDHI

## J. Warranty Policy:

MDHI will replace discrepant parts at no cost to the operator. MDHI will also credit operators that are required to replace the aft tube assembly with 8 hours of labor warranty (spares credit).

## K. Tooling:

N/A

## L. Weight and Balance:

N/A

## M. Electrical Load Data:

N/A

## N. Other Publications Affected:

N/A

## O. Points of Contact

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Fan Pitch Control Linkage Inspection

- (1). Remove engine inlet screen (Ref. CSP-HMI-2, Section 71-10-00, Engine Air Inlet Screen Removal (600N) or remove particle separator Ref. CSP-HMI-2, Section 71-10-60, Particle Separator Removal).  
(Ref. Figure 1)
- (2). Inspect link assembly for contact with clevis assembly and bellcrank.
- (3). Inspect inside of clevis assembly and bellcrank for wear, indicated by shiny crescent shaped area near link assembly.
- (4). If link assembly is contacting either clevis assembly or bellcrank, replace aft tube assembly (Ref. CSP-HMI-2, Section 67-20-30, Fan Pitch Control Tube Replacement). Return removed aft tube assembly to MDHI.

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- (5). If wear is observed on clevis assembly or bellcrank, replace aft tube assembly, clevis assembly and bellcrank (Ref. CSP-HMI-2, Section 67-20-30, Fan Pitch Control Tube Replacement and Station 135.50 Support Bracket and Bellcrank Replacement). Return removed aft tube assembly, clevis assembly and bellcrank to MDHI.
- (6). Install engine inlet screen (Ref. CSP-HMI-2, Section 71-10-00, Engine Air Inlet Screen Installation (600N) or install particle separator Ref. CSP-HMI-2, Section 71-10-60, Particle Separator Installation).

## **B. Inspection Aft Tube Assembly In Spares Inventory**

- (1). Inspect splined end of all aft tube assemblies in spares inventory that are marked "Jaco, 1/99".  
(Ref. Figure 2)
  - (a). An unserviceable part is identified by the locating slot cut between the splines, as shown.
  - (b). A serviceable part is identified by the locating slot cut into part of the spline, as shown.
- (2). Return unserviceable parts to MDHI.

## **3. IDENTIFICATION**

N/A

## **4. DISPOSITION OF PARTS REMOVED**

Return to MDHI Warranty Repair Dept.

## **5. COMPLIANCE RECORD**

Record Compliance with this Service Bulletin in the Compliance Record section of the helicopter Log Book.

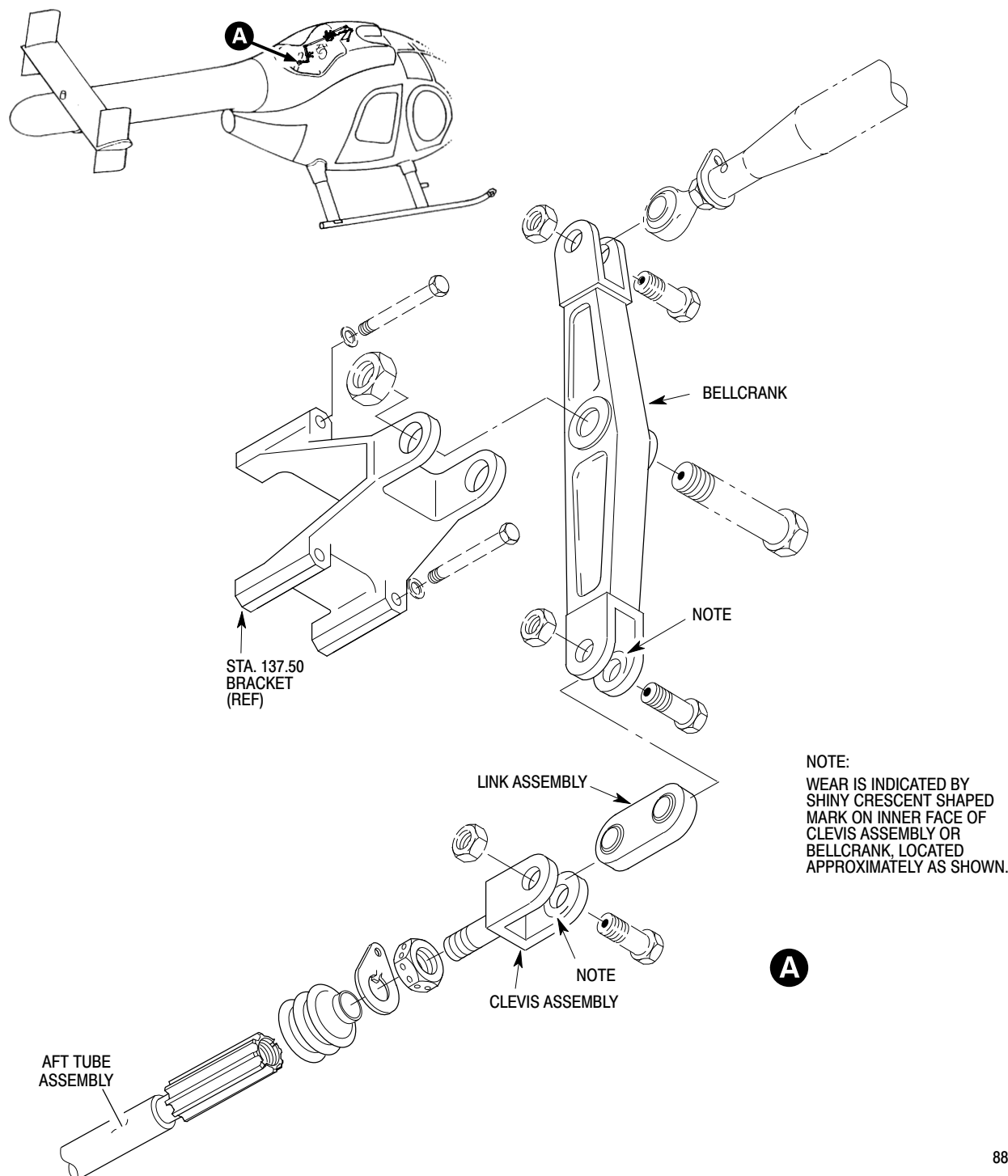
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**Figure 1. Fan Pitch Control Linkage**

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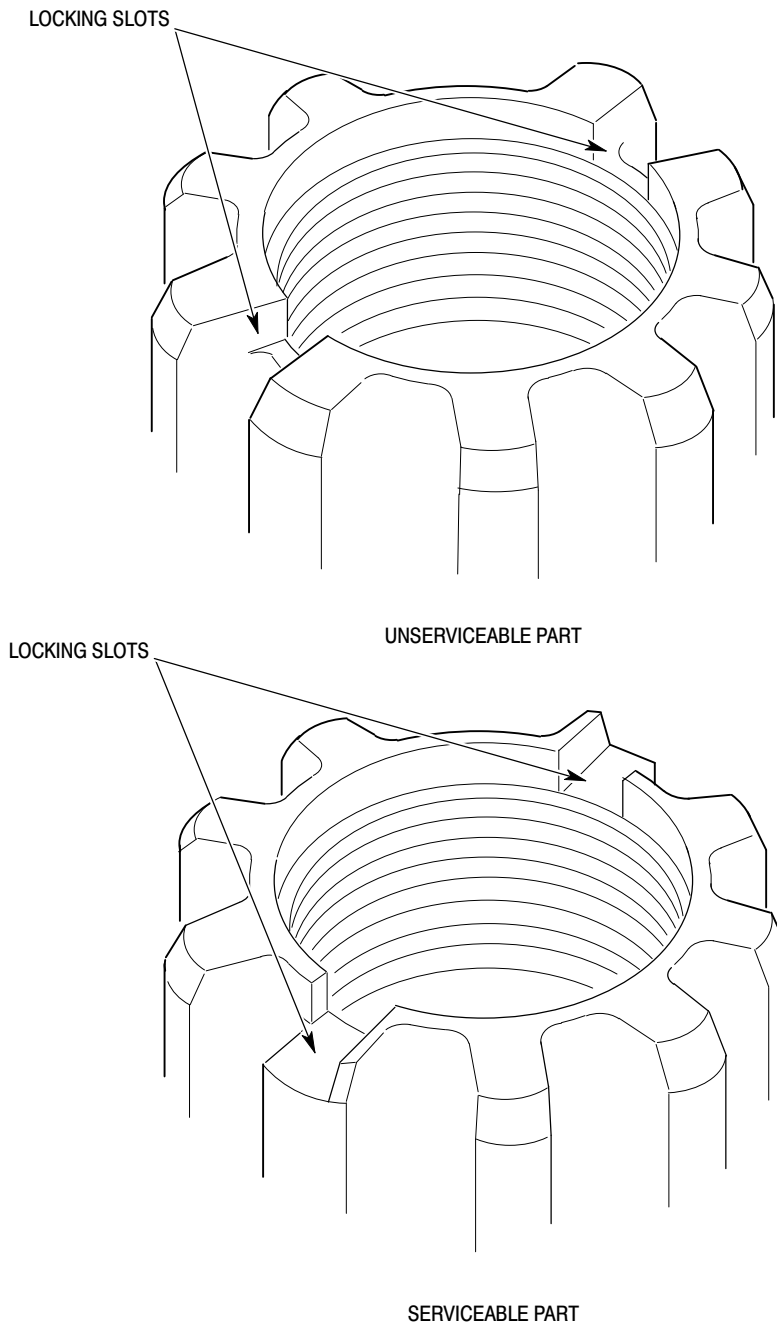
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**Figure 2. Splined End of Aft Tube Assembly**

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# SERVICE BULLETIN

DATE: 26 NOVEMBER 2003

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## TAILBOOM ASSEMBLY OVERLAP INSPECTION AND REWORK

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

Model 500N and 600N Helicopters, equipped with the part numbered and serial numbered tailboom assemblies listed below.

#### B. Assembly/Components Affected By This Bulletin:

Tailboom Assembly, P/N 500N3600-501, S/N: 006040-0001 thru 006040-0011.

Tailboom Assembly, P/N 600N3500-507, S/N: 006040-0001 thru 006040-0003, 006040-0005, 006040-0007, 006040-0008.

Tailboom Assembly, P/N 600N3500-509, S/N: 006040-0001 thru 006040-0003, 007604-0001, 007604-0002.

#### C. Reason:

To notify 500N and 600N operators that certain part numbered/serial numbered tailboom assemblies contain overlaps in the outer skin longitudinal splices that do not meet design criteria.

Failure to comply with this Bulletin may result in cracks in the tailboom assembly. This condition could lead to component failure and result in loss of control of the helicopter.

#### D. Description:

Procedures in this Bulletin provide affected owners and operators with information pertaining to a recurring inspection of specific serial numbered tailboom assemblies and reworking the affected tailboom assemblies by installing doublers.

#### E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### F. Manpower:

**Part 1:** 0.5 man-hours. **Part 2:** 30-50 man-hours.

#### G. Time of Compliance

Perform the requirements of this Bulletin according to the indicated schedule:

##### Part 1:

- Inspection - Perform before the next flight and every 25 flight hours until Part 2 of this Bulletin is accomplished.

##### Part 2:

- Rework - Perform before the next 400 flight hours or no later than one year after the issued date of this Bulletin, whichever occurs first.

#### H. Interchangeability:

None

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## I. Material/Part Availability:

Contact MDHI Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Doubler (500N)	QR016880-1	2	MDHI
Doubler (600N)	QR016883-1	2	MDHI
Sandpaper, 180 and 120 grit		AR	Commercial
Methyl-ethyl-keytone (MEK) TT-M-261 or Acetone O-A-51		AR	Commercial  Commercial
Gloves, Latex or Cotton		AR	Commercial
Berol silver pencil or equivalent		1	Commercial
Adhesive, epoxy MDM 16-1068, C7	EA9309.3	AR	Loctite Aerospace 2850 Willow Pass Rd., P.O. Box 312 Bay Point, CA 94565-0031 (925) 458-8000 (800) 424-9300
Tape, Flashbreaker MDM 20-1267/1520, /1521, /1522, /1650, /1693		AR	Airtech International, Inc. 5700 Skylab Road Huntington Beach, CA 92647 (714) 899-8100
Scrim Cloth, 0.3 oz/sq yd MDM 20-1267/1013		AR	Commercial
Release Film	A4000 RED	AR	Airtech International, Inc. 5700 Skylab Road Huntington Beach, CA 92647 (714) 899-8100
Dry Fiberglass Breather material	N10	AR AR	Commercial Airtech International, Inc. 5700 Skylab Road Huntington Beach, CA 92647 (714) 899-8100
Vacuum Bagging Materials		AR	Commercial

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REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Vacuum Pump (Capable of supplying 20–29 in. HG (63–91 kPa))		1	Commercial
Fairing Compound	Evercoat Glaze Coat #417	AR	Fibre Glass–Evercoat 6600 Cornell Rd Cincinnati, OH 45242–2000 (513) 489–7600
and/or			
Fairing Compound MDM–16–1068, CL6	EA960F	AR	Loctite Aerospace 2850 Willow Pass Rd., P.O. Box 312 Bay Point, CA 94565–0031 (925) 458–8000 (800) 424–9300
Epoxy Primer MIL–P–23377 or 350 HS Primer 535K020 / 930K097		AR	Commercial  PRC–Desoto International, Inc 5454 San Fernando Rd Glendale, CA 91203 (818) 240–2060
Topcoat MDM 15–1100, TII or TIII: Deft Type II, Class 2		AR	Deft Inc 17451 Von Karman Avenue Irvine, CA 92614–6295 (800) 544–3338 (949) 474–0400 Akzo Nobel Aerospace Coatings East Water Street Waukegan, IL 60085 (847) 625–3340 PRC–Desoto International, Inc 5454 San Fernando Rd Glendale, CA 91203 (818) 240–2060
Akzo Nobel Type II, Class 3			
PRC Desoto Type II (420 EHS)			

## J. Warranty Policy:

MDHI will provide parts and a technician to perform the rework. Contact your local MDHI Field Service Representative or the Field Service Department for scheduling.

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## K. Tooling:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Template (500N), P/N 500N3536-PAT1 (consists of upper and lower templates)	MDHI
Template (600N), P/N 600N3510-PAT1 (consists of upper and lower templates)	MDHI
Caul (500N), P/N 500N3536-ATP1	MDHI
Caul (600N), P/N 600N3510-ATP1	MDHI

## L. Weight and Balance:

MODIFICATION	WEIGHT Pounds (kg)	LONGITUDINAL ARM Inches (cm)	LATERAL ARM Inches (cm)
Tailboom Assembly Rework (500N)	1.07 (0.48)	222.7 (565.7)	2.70 (6.9)
Tailboom Assembly Rework (600N)	1.40 (0.63)	236.7 (601.2)	2.70 (6.9)

## M. Electrical Load Data:

N/A

## N. Other Publications Affected:

N/A

## O. Points of Contact

For further assistance, contact your local MDHI Field Service Representative or contact the Field Service Department at MDHI, Mesa, Arizona.

Telephone 1-800-388-3378 or (480) 346-6387.

DATAFAX: (480) 346-6813.

## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

### A. Part 1: Inspection of Tailboom Assembly

- (1). Visually inspect indicated areas for cracks in paint.
- (2). If cracks in paint are found, contact MDHI Field Service Department for further instructions.
- (3). Repeat this inspection every 25 flight hours until Part 2 of this Bulletin is accomplished.

### B. Part 2: Rework of Tailboom Assembly

- (1). If installed, remove tailboom from helicopter (Ref CSP-HMI-2, Section 53-40-30, Tailboom Removal) and place in cradle or sawhorses in secure manner.

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- (2). Place upper and lower templates on tailboom and secure in place with tape. Mark doubler locations through template eyebrows for forward and aft locations.
- (3). Remove templates from tailboom.
- (4). Mask off repair area to prevent damage surrounding area.



Use care to prevent damage to plies by over sanding.

- (5). Remove paint or primer in repair area (if applicable) by sanding with 120 grit or finer sandpaper. When paint and primer is removed, sand rework area using 180 grit or finer sandpaper.
- (6). Solvent wipe repair area using clean cloth dampened with Methyl-ethyl-keytone (MEK) or Acetone until there is no visible residue on cloth.
- (7). Let air dry for 15 minutes minimum.
- (8). Remove peel ply from doublers.
- (9). Abrade doublers peel ply surface with 180 grit sandpaper.
- (10). Solvent wipe doublers using clean cloth dampened with Methyl-ethyl-keytone (MEK) or Acetone until there is no visible residue on cloth.
- (11). Let air dry for 15 minutes minimum.
- (12). While wearing clean latex or cotton gloves, locate doubler to tailboom surface using 1 inch flashbreaker tape. Mask an area 0.25 inch (6.4 mm) beyond doubler to prevent squeeze out from adhering to surface.
- (13). Perform final solvent wipe down on tailboom and doubler.
- (14). Let air dry for 15 minutes minimum.
- (15). Mix two batches of 100 gm each of epoxy adhesive per manufacturer's instructions. Save small sample for Durometer test.
- (16). Apply epoxy adhesive to surfaces of mapped out area of tailboom and to doublers.
  - (a). Use a squeegee to apply adhesive.
  - (b). Use 4 inch foam roller to spread adhesive evenly across both surfaces.
- (17). Center scrim cloth over adhesive on tailboom surface. Lightly press scrim cloth into adhesive.
- (18). Position and align doubler on tailboom using previously marked forward and aft centerlines.
- (19). Tape doubler into position radially and longitudinally with 1 inch flashbreaker tape.
- (20). Center perforated release over doubler and tape in place.
- (21). Position caul over doubler using previously marked forward and aft centerlines.
- (22). Tape caul into position radially and longitudinally with 1 inch flashbreaker tape.

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Ensure there is adequate release tape or release film on caul to prevent adhesion to doubler.

- (23). Place breather material (dry fiberglass or Airtech N10) over caul. Position breather material so it overlaps scrim cloth on all edges and tape into place.

**NOTE:** Ensure that breather path to repair area and vacuum source is not pinched off.

- (24). Position bagging film over sealant tape. Ensure adequate space is available to install two vacuum ports outside repair area.
- (25). Slowly apply vacuum to repair area and roll over caul with rubber roller.
- (a). Start rolling from center outward, forward and aft.
  - (b). Start rolling again from center and roll side to side to edges of caul.
  - (c). Keep repair area under vacuum of 20 to 29 inch HG (63-91 kPa) for 16 hours minimum.
- (26). After cure remove vacuum source and vacuum bagging materials.
- (27). Inspect area for doubler position, and voids (tap test).
- (a). Void areas of 0.75 in. (19.1 mm) with separation of 1.0 in. (25.4 mm) are acceptable. Total void area cannot exceed 10% of total bonded area.
  - (b). No voids open to edge are permitted.
  - (c). Fill edge voids with epoxy adhesive as required.
- (28). Clean up excess resin squeeze-out with sandpaper, as required.
- (29). Fill and fair with fairing compound, as required.
- (30). Solvent wipe repair area using clean cloth dampened with Methyl-ethyl-keytone (MEK) or Acetone until there is no visible residue on cloth.
- (31). If required, prime repaired tailboom with epoxy primer per manufacturer's instructions.
- (32). If required, apply topcoat to repaired tailboom per manufacturer's instructions.
- (33). If required, install tailboom (Ref CSP-HMI-2, Section 53-40-30, Tailboom Installation).

### 3. IDENTIFICATION

N/A

### 4. DISPOSITION OF PARTS REMOVED

N/A

### 5. COMPLIANCE RECORD

Record Compliance with this Service Bulletin in the Compliance Record section of the helicopter Log Book.

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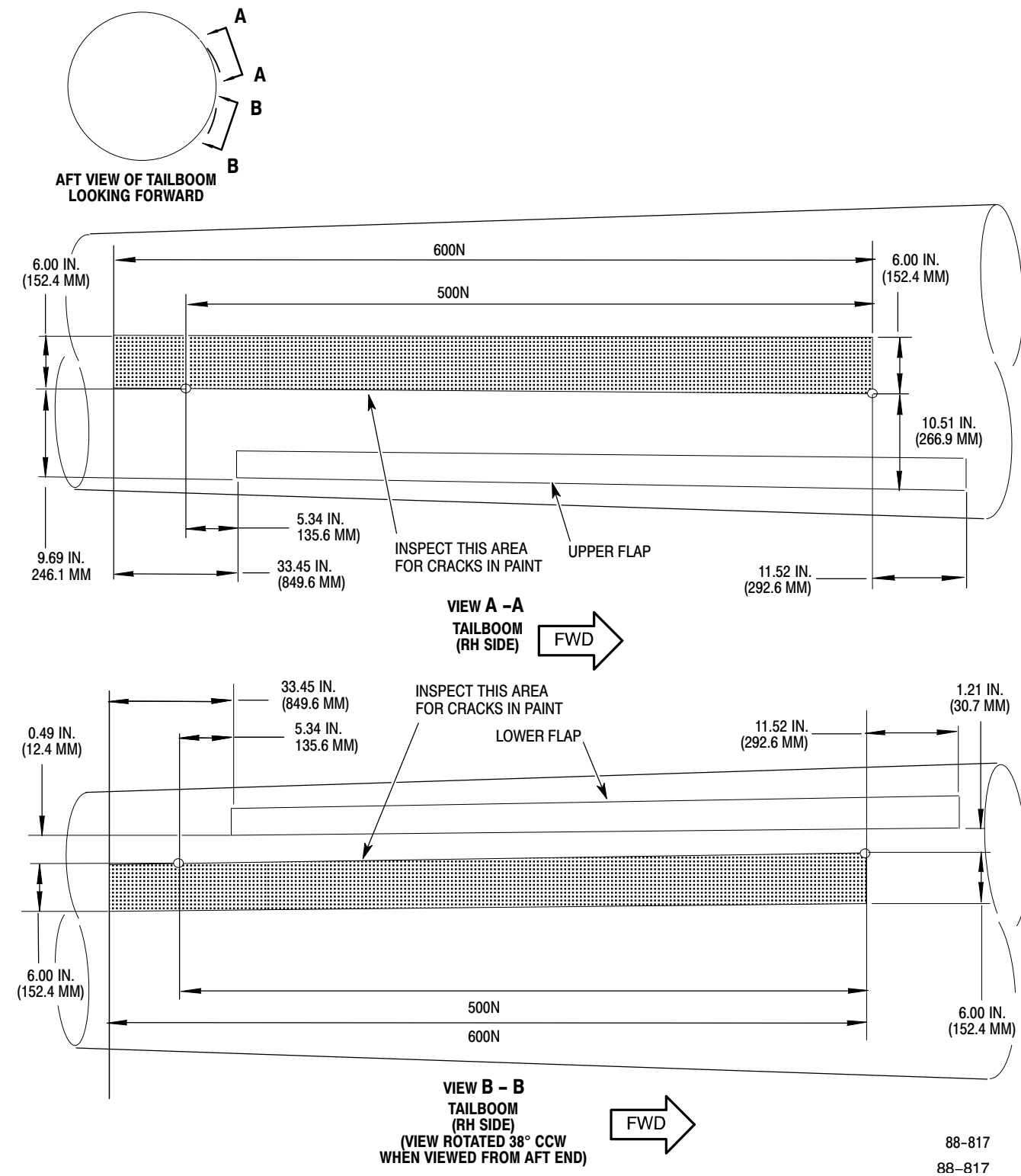
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**Figure 1. Tailboom Assembly Inspection**

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****TAILBOOM ASSEMBLY OVERLAP INSPECTION AND REWORK****BULLETIN INCORPORATION FORM**

Please fill in the information below, as applicable, and return to MDHI Field Service Dept.  
This form may be faxed to MDHI Field Service Department at **(480) 346-6813**.

<b>FROM:</b>	<b>DATE:</b>
Operator or Company Name:	
Name of Contact Person:	
Address:	
City, State, Country	
Telephone #:	
Fax #:	

<b>HELICOPTER INFORMATION:</b>	
Helicopter Serial Number:	
Helicopter Registration Number:	
Date of Compliance with this Bulletin:	

<b>Comments/Information:</b>



# SERVICE BULLETIN

DATE: 3 MAY 2004

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## FORWARD AND CENTER THRUSTER CONTROL CABLE ASSEMBLIES CONNECTOR ONE TIME INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

Model 500N helicopters, serial number LN001 thru LN099  
Model 600N helicopters, serial number RN003 thru RN068.

#### B. Assembly/Components Affected By This Bulletin:

Cable Assembly, Forward, 500N and 600N (P/N 500N7201-55)  
Cable Assembly, Center, 500N (P/N 500N7201-57)  
Cable Assembly, Center, 600N (P/N 500N7201-59)

#### C. Reason:

A fractured inner female connector on a forward thruster control cable assembly, due to stress corrosion cracking, has been reported.

Failure to comply with this Service Bulletin may result in a fixed thruster and loss of normal anti-torque directional control of the helicopter.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to a one time inspection of the connectors on the forward and center thruster control cable assemblies.

#### E. FAA Approval:

The design engineering aspects of this bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA approved.

#### F. Manpower:

1.0 man-hour.

#### G. Time of Compliance:

Shall be accomplished within the next 10 flight hours or 30 days after the issue date of this Bulletin, whichever occurs first.

#### H. Interchangeability:

N/A

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## I. Material/Part Availability:

Contact MDHI Parts Sales Dept.

PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Cable Assembly, Forward (500N and 600N)	500N7201-55	1	MDHI
Cable Assembly, Center (500N)	500N7201-57	1	MDHI
Cable Assembly, Center (600N)	500N7201-59	1	MDHI

## J. Warranty:

Standard warranty applies.

## K. Tooling:

N/A

## L. Weight and Balance Data:

Weight and balance not affected.

## M. Electrical Load Data:

N/A

## N. Other Publications Affected:

Basic Handbook of Maintenance Instructions (CSP-HMI-2).

## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Cable Inner Connector Inspection

(Ref. Figure 1)

- (1). Remove tailboom fairing.
- (2). Turn cable outside collar counter-clockwise and back to expose the inner cable.
- (3). Apply sufficient right pedal to expose inner cables.
- (4). Without bending cable, slide male connector out of female connector.
- (5). Inspect cable inner connectors.

**NOTE:** Connectors may be lightly cleaned with Scotchbrite to remove surface corrosion prior to inspection.

- (a). Move inner cables as required to fully expose inner connectors.
- (b). Using a bright light and 10x magnifying glass, inspect male and female connectors for corrosion pitting and cracking.

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- (c). If corrosion pitting or cracking is found, replace forward and/or center cable assemblies (Ref. CSP-HMI-2, Section 67-20-30, Forward Cable Assembly Replacement and/or Center Cable Assembly Replacement).

- (6). Reconnect forward and center control cable couplings.

**WARNING**

**Failure to properly connect thruster cables could result in uncoupling during flight and loss of anti-torque authority.**

- (a). Apply sufficient right pedal to expose inner cables.
- (b). Without bending cable, insert inner male connector into inner female connector and ensure they are properly engaged together.
- (c). Slide outside cable collar over forward cable to engage locking device and turn clockwise until fully locked.

- (7). Reinstall tailboom fairing.

### 3. IDENTIFICATION:

N/A

### 4. DISPOSITION OF PARTS REMOVED:

Return to MDHI.

### 5. COMPLIANCE RECORD:

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

### 6. POINTS OF CONTACT

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

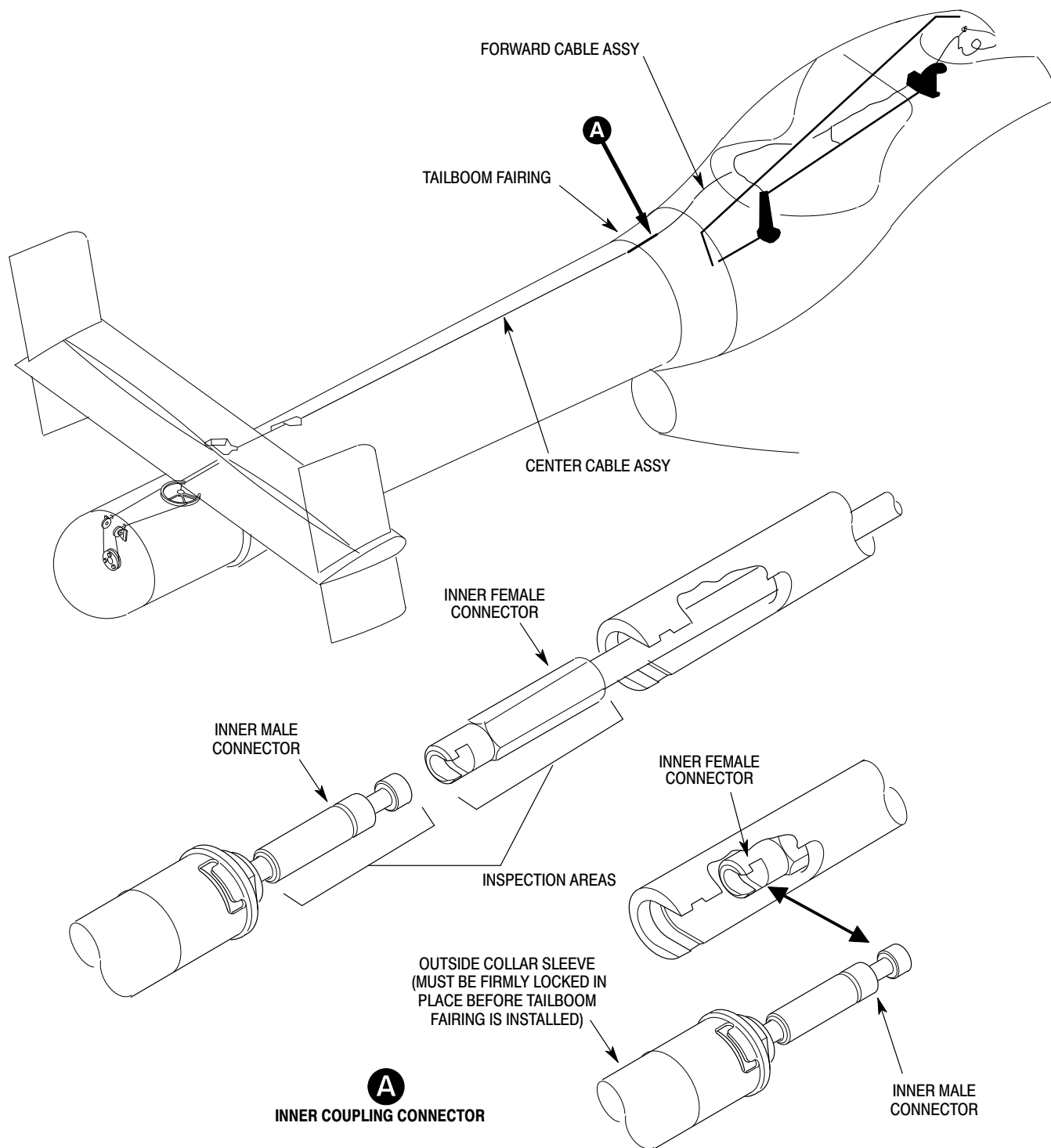
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**Figure 1. Forward and Center Thruster Cable Assembly Connector Inspection**

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## FORWARD AND CENTER THRUSTER CONTROL CABLE ASSEMBLIES CONNECTOR ONE TIME INSPECTION

### BULLETIN INCORPORATION FORM

Please fill in the information below, as applicable, and return to MDHI Field Service Dept.  
This form may be faxed to MDHI Field Service Department at **(480) 346-6813**.

<b>FROM:</b>		<b>DATE:</b>	
Operator or Company Name:			
Name of Contact Person:			
Address:			
City, State, Country			
Telephone #:			
Fax #:			

<b>HELICOPTER INFORMATION:</b>	
Helicopter Serial Number:	
Helicopter Registration Number:	
Date of Compliance with this Bulletin:	

<b>Inspection Results:</b>					
<b>Forward Cable:</b>	<b>Corrosion Pitting</b>	<b>Yes</b>	<b>No</b>	<b>Cracking</b>	<b>Yes No</b>
<b>Center Cable:</b>	<b>Corrosion Pitting</b>	<b>Yes</b>	<b>No</b>	<b>Cracking</b>	<b>Yes No</b>



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\* Supersedes Service bulletins SB500N-029R2 and SB600N-046R2, dated 05 May 2008. Revised to change parts necessary and instructions for strap replacement. Helicopters that have completed SB500N-029R2 or SB600N-046R2 do not have to do this service bulletin again.

## NOTAR® FAN TENSION-TORSION (TT) STRAP REPLACEMENT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

MD Helicopters, Inc. (MDHI) Model 500N Helicopters, serial number LN-001 thru LN-105, Model 600N Helicopters, serial number RN003 thru RN074 and all spares inventory.

#### B. Assembly/Components Affected By This Bulletin:

500N5311-5 tension-torsion strap, fan blade NOTAR®.

One fan assembly contains thirteen tension-torsion straps.

#### C. Reason:

MD Helicopters, Inc. and Lord Corporation have determined that it is necessary at intervals to replace fan blade tension-torsion straps as part of maintenance of the NOTAR® system. The Lord Corporation has determined that the tension-torsion straps can, over time, absorb moisture that can cause the straps to have decreased strength. If you do not complete this bulletin, parts will remain in service after their life limit expires which could cause the straps to have decreased strength which decreases directional/yaw control of the helicopter if the strap fails.

#### D. Description:

Procedures in this bulletin give owners and operators information about the tension-torsion strap replacement. The tension-torsion straps have been added to the life limited parts list in the CSP-HMI-2, Section 04-00-00 Airworthiness Limitations Component Mandatory Replacement Schedule. A component record card must be made for each tension-torsion strap affected by this bulletin and kept in the Rotorcraft Log Book.

Part 1 removes, inspects and identifies each tension-torsion strap with an expiration date and records their serial numbers and expiration date in the Rotorcraft Log Book.

Part 2 replaces the tension-torsion straps and makes a record of completion.

#### E. FAA Approval:

The technical design aspects of this bulletin are FAA Approved.

#### F. Time of Compliance:

Part 1 - Inspection and marking must be completed no later than 6 months from the date of this bulletin.

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Part 2 - Replacement of the tension-torsion straps must be completed as follows:

- If the manufacturing cure date is more than 9 years before the date of this bulletin, the strap must be replaced within 6 months.
- If the manufacturing cure date is between 7 to 9 years before the date of this bulletin, strap must be replaced within 12 months.
- If the manufacturing cure date is between 3 to 7 years before the date of this bulletin, the strap must be replaced within 24 months.
- If the manufacturing cure date is less than 3 years before the date of this bulletin, the strap must be replaced 5 years after the manufacturing cure date.

## G. Manpower:

Part 1: 20 man-hours.

Part 2: 20 man-hours.

## H. Interchangeability:

None

## I. Material/Part Availability:

Owners/operators who complete this bulletin within two years of the date of this bulletin are eligible for special pricing.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Tension-Torsion Strap Assembly-Fan Blade, NOTAR®	500N5311-5	13	MDHI
Bolt	NAS1954-20	13	MDHI or Commercial
Pin, Cotter (Split)	MS24665-86	13	MDHI or Commercial
Ink, Marking, Stencil  or	A-A-208 Type 1 Color Number 37038 (or equivalent)	As necessary	Matthews International 6515 Penn Avenue Pittsburgh, PA 15206 Ph 412-665-2500 Fax 412-665-2594
Fine Tip Permanent Marker	Sharpie™ (or equivalent)	1	Commercial

## J. Warranty Policy:

**NOTE:** If the date of original Airworthiness Certificate of the helicopter is more than 9 years before the date of this bulletin, contact Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387, DATAFAX: (480) 346-6813 before you do Part 1.

MDHI to supply one ship-set (13 straps) for each operating NOTAR® helicopter. Sets will be supplied to the owner/operator based on need as defined in time of compliance. Parts will be sent when available from the manufacturer and after MDHI has received the Bulletin Completed Record form for Part 1.

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MDHI Warranty and Repair Department will give Authorized Service Centers not more than 20 hours of labor credit (spares credit) to complete the inspection and identify the component with a service life date in accordance with Part 1.

MDHI Warranty and Repair Department will give Authorized Service Centers not more than 20 hours of labor credit (spares credit) to complete the component replacement in accordance with Part 2.

**K. Tooling:**

N/A

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

Handbook of Maintenance Instructions CSP-HMI-2 and CSP-IPC-4.

**O. Points of Contact:**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

**A. Part 1: Tension-Torsion Strap Assembly Inspection and Identification:**

**NOTE:** The life limit of the tension-torsion strap will start on the date the package is opened. If the package is open, and the package opening date is unknown, the life limit will be determined by the cure date marked on each part.

- (1). If the part is in storage, remove from storage and examine the package seal to make sure it has not been opened. If open, continue to step (3). If package is not opened, return part to storage.
- (2). Remove fan blade straps from helicopter (Ref. CSP-HMI-2, Section 64-25-30).
- (3). Find the cure date on the strap. Find expiration date (Ref. Table 1). Write the words **EXPIRATION DATE** on the strap face with the applicable date, use permanent ink.

Table 1. Tension-Torsion Expiration Date		
Date of This Bulletin	Manufacturers Cure Date	Expiration Date
03/2008	Before 03/1999	09/2008
03/2008	03/1999 thru 02/2001	03/2009
03/2008	03/2001 thru 02/2005	03/2010
03/2008	03/2005 thru 02/2008	Cure Date Plus 5 Years

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- (4). If the strap goes back to storage, create item Component Record Cards for tension-torsion straps.
- (5). Install tension-torsion straps (Ref. CSP-HMI-2, Section 64-25-30).
- (6). Put revision 41 (or later) of the Airworthiness Limitations Schedule (ALS) in the CSP-HMI-2 Handbook of Maintenance Instructions, Section 04-00-00.
- (7). Make a record in the Compliance Record section of the Rotorcraft Log Book that Part 1 of this bulletin is completed.
- (8). Complete Part 1 of the Bulletin Completed Record form. Fax to MDHI Warranty and Repair Department.

## **B. Part 2: Tension-Torsion Strap Assembly Replacement:**

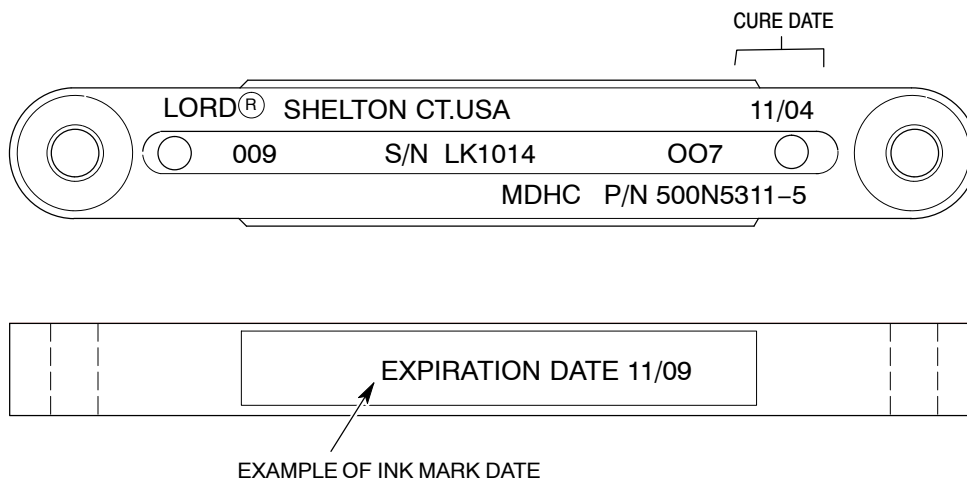
**NOTE:** The strap life limit is five years after opening the package.

- (1). Remove straps from packages; write the words **EXPIRATION DATE** on the strap face with the date 5 years after package is opened, use permanent ink.
- (2). Make item Component Record Cards for tension-torsion straps.



Make sure MS2002C4 countersunk washers are installed under bolt heads, NAS1149D0332K flat washers are installed with retainer pins, and NAS1149F0432P flat washers are installed under nuts.

- (3). Install new tension-torsion straps and new bolts (Ref. CSP-HMI-2, Section 64-25-30).
- (4). Make a record in the Compliance Record section of the Rotorcraft Log Book that Part 2 of this bulletin is completed.



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**Figure 1. Fan Tension-Torsion Strap Assembly**

## **3. DISPOSITION OF PARTS REMOVED**

Fax a copy of the completed Service and Operations Report (SOR) form to MDHI Warranty Repair Dept. DATAFAX: (480) 346-6813.

Send tension-torsion straps (13 each) along with the (original) completed Service and Operations Report (SOR) form to MDHI Warranty Repair Dept.

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**MANDATORY**



SB500N-029R3

SB600N-046R3

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## Bulletin Completed Record

### SB500N-029R3 or SB600N-046R3, NOTAR® Fan Tension-Torsion Strap Replacement

FAX this form to MDHI (480) 346-6813 or  
Email to ServiceEngineering@mdhelicopters.com

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 phone (U.S. and Canada)  
480-346-6387 phone (International)  
480-346-6813 Fax

Dear Sir:

This is to tell you that this service bulletin has been completed as shown below:

Owner/Operator: \_\_\_\_\_

Aircraft Serial No: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

E-mail address: \_\_\_\_\_

#### **PART 1 Completed**

Helicopter Total Time: \_\_\_\_\_ Date: \_\_\_\_\_

Location: \_\_\_\_\_

Part 1 of this bulletin is complete: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

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# SERVICE BULLETIN

DATE: 27 AUGUST 2008

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**MANDATORY**

\* Supersedes service bulletins SB500N-040 and SB600N-047, dated 15 August 2008. Revised to change aircraft affected and delete steps to pull the YSAS circuit breaker and install cable ties. Added Part A and Part B to bulletin completed form.

## DE-ENERGIZE YSAS SYSTEM AND REPLACE YSAS ADAPTER

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

MD500N helicopters serial number LN-001 thru LN-107 and MD600N helicopters serial number RN-003 thru RN-076 with YSAS system installed.

All YSAS adapters in spares inventory without a manufacture date stamp.

#### B. Assembly/Components Affected By This Bulletin:

500N7218-1 YSAS adapter.

#### C. Reason:

Some YSAS adapters were made with a decreased strength material. It is possible for the YSAS adapter to become unserviceable which will result in reduced directional control of the helicopter.

#### D. Description:

Procedures in this bulletin give owners and operators instructions to de-energize the YSAS system, operate the helicopter as specified in the applicable Flight Manual for operation with a YSAS that does not operate, and replace the YSAS adapter.

#### E. FAA Approval:

The technical design aspects of this bulletin are FAA Approved.

In addition, the Manager of the FAA Los Angeles Aircraft Certification Office approves the actions defined in Section 2. Accomplishment Instructions, paragraph A.(1) of this service bulletin as an alternative method of compliance to the requirements of paragraph (a)(1) of FAA AD 2008-18-51 for all MD500N and MD600N helicopters in the applicability of the subject AD. All provisions of AD 2008-18-51 that are not specifically referenced in the above statement remain fully applicable and must be complied with.

The FAA is considering rulemaking action to mandate this revised Service Bulletin.

**NOTE:** Section 2., Accomplishment Instructions, paragraphs A.(1) of Service Bulletin SB500N-040 and SB600N-047, Dated August 15, 2008 which pulled the circuit breaker for the YSAS have been deleted in this revision of the Service Bulletin.

#### F. Time of Compliance:

Part A. must be completed before the next flight.

Part B. must be completed as soon as a YSAS adapter is available.

#### G. Manpower:

0.2 man-hour for part A.

5.5 man-hours for part B.

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## H. Interchangeability:

None

## I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

## J. Material/Part Availability:

Speak to the MDHI Warranty Repair Department to order the YSAS adapter.

PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Adapter, YSAS	500N7218-1	1	MDHI

## K. Warranty Policy:

The MDHI Warranty and Repair Department will supply a YSAS adapter at no cost to the operator. MDHI will also give, to authorized Service Centers, up to 0.2 hour of labor warranty (spares credit) for part A. and five and one half hours of labor warranty (spares credit) for part B. of this bulletin.

## L. Disposition of Parts Removed:

Scrap.

## M. Tooling:

N/A

## N. Weight and Balance:

N/A

## O. Electrical Load Data:

N/A

## P. Other Publications Affected:

CSP-HMI-2 Handbook of Maintenance Instructions.

## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. MD500N Helicopters and All MD600N Helicopters With YSAS Installed:

- (1). De-energize the YSAS system, set **YSAS** switch to **OFF** (Ref. CSP-520N-1, Section 4, Figure 4-2 and CSP-600RFM-1, Section 7, Figure 7-7).
- (2). Make a placard **YSAS SYSTEM DE-ENERGIZED. AIRSPEED LIMIT 100 KIAS or V<sub>NE</sub>, WHICHEVER IS LESS.**
- (3). Install placard on instrument panel in view of pilot.
- (4). Make a record in the Compliance Record section of the Rotorcraft Log Book that Part A of this service bulletin has been completed.

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# SERVICE BULLETIN

DATE: 27 AUGUST 2008

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## B. YSAS Adapter Replacement:

- (1). Remove YSAS actuator (Ref. CSP-HMI-2, Section 67-20-30).
- (2). Measure distance between inboard end of YSAS control rod and inboard end of adapter, record dimension.
- (3). Remove lockwire from YSAS control rod and adapter. Discard lockwire.



The threads on the adapter are left handed.

- (4). Loosen jam nut and remove adapter.
- (5). Install jam nut on new adapter marked with a date of manufacture 8-15-08 or later.
- (6). Install new adapter into YSAS control rod and adjust to length recorded in step (2). Torque jam nut and safety with lockwire.
- (7). Install YSAS actuator (Ref. CSP-HMI-2, Section 67-20-30).
- (8). Do the YSAS actuator rigging check (Ref. CSP-HMI-2, Section 67-20-30, Stability Augmentation System Rigging Instructions).
- (9). Remove placard **YSAS SYSTEM DE-ENERGIZED. AIRSPEED LIMIT 100 KIAS or V<sub>NE</sub>, WHICHEVER IS LESS**, from instrument panel.
- (10). Make a record in the Compliance Record section of the Rotorcraft Log Book that Part B this service bulletin has been completed.
- (11). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.

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DATE: 27 AUGUST 2008

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# SERVICE BULLETIN

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## Bulletin Completed Record

### SB500N-040R1 or SB600N-047R1, De-Energize YSAS System and Replace YSAS Adapter.

FAX this form to MDHI (480) 346-6813 or  
Email to ServiceEngineering@mdhelicopters.com

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 phone (U.S. and Canada)  
480-346-6387 phone (International)  
480-346-6813 Fax

Dear Sir:

This is to tell you that this service bulletin has been completed as shown below:

Owner/Operator: \_\_\_\_\_

Aircraft Serial No: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

E-mail address: \_\_\_\_\_

#### **PART A Completed**

Helicopter Total Time: \_\_\_\_\_ Date: \_\_\_\_\_

Location: \_\_\_\_\_

Part A of this bulletin is complete: \_\_\_\_\_

(Signature)

(Print Name)

(Title)





SB500N-040R1  
SB600N-047R1

# SERVICE BULLETIN

DATE: 27 AUGUST 2008

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## PART B Completed

Helicopter Total Time: \_\_\_\_\_

Date: \_\_\_\_\_

Location: \_\_\_\_\_

This bulletin is complete: \_\_\_\_\_

(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

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DATE: 27 AUGUST 2008  
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# SERVICE BULLETIN

DATE: 11 OCTOBER 2017

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## INSPECTION OF PN 369D292028, AFT PASSENGER STEP ASSEMBLIES, ON EXTENDED LANDING GEAR ASSEMBLIES

\* Supersedes service bulletin SB500N-043R1, dated 26 April 2013. Revised to remove SB369D-206R1, SB369E-101R1, and SB369F-086R1 which will be reissued under a separate service bulletin with new unique numbers. Helicopters that are in compliance with SB500N-043, dated 05 February 2010, or SB500N-043R1, meet the intent of this bulletin and have no additional action.

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

Model 500N Helicopters, serial numbers LN001 thru LN109

#### B. Assembly/Components Affected By This Bulletin:

PN 369D292028-BSC and 369D292028-5 aft passenger step assemblies used on helicopters with extended landing gear assemblies and all spares inventory.

Step assemblies installed since original service bulletin, dated 05 February 2010, must be inspected including spares inventory.

**NOTE:** Deleted.

#### C. Reason:

Examine aft passenger step assemblies for possible cracked welds.

#### D. Description:

This bulletin gives instructions for a three-part inspection:

- Initial visual inspection with 10X magnification
- Proof-load test with visual inspection
- Fluorescent penetrant inspection of the aft passenger step assembly welds

#### E. FAA Approval:

The technical design aspects of this bulletin are FAA Approved.

#### F. Time of Compliance:

This Service Bulletin must be completed within 25 flight hours of receipt.

#### G. Manpower:

1 man-hour for inspection

0.5 man-hours for step replacement

#### H. Interchangeability:

None

#### I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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DATE: 11 OCTOBER 2017

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## J. Material/Part Availability:

Speak to the MDHI Warranty Department to order the aft step assembly. A Service and Operations Report (SOR) needs to be submitted to the MDHI Warranty Department through an authorized service center referencing service bulletin number and compliance.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Step Assembly, AFT	369D292028-5	AR	MDHI
Primer	MIL-P-85582 MRM013935	AR	Commercially Available MDHI

## K. Warranty Policy:

The MDHI Warranty Department will supply aft step assemblies at no cost to the operator for rotorcraft still under MDHI warranty. MDHI will also give up to 1 hour of labor warranty (spares credit) for the inspections and 0.5 hour of labor warranty (spares credit) for the step removal and replacement for rotorcraft still under MDHI warranty.

## L. Disposition of Parts Removed:

Scrap removed aft passenger step assemblies.

## M. Tooling:

Magnifying Glass, 10X minimum — Commercially Available

Fluorescent Penetrant Inspection Kit — Commercially Available

## N. Weight and Balance:

N/A

## O. Electrical Load Data:

N/A

## P. Other Publications Affected:

CSP-HMI-2, Handbook of Maintenance Instructions

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DATE: 11 OCTOBER 2017

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## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

### A. Preparation

- (1). Remove cover and fairing on aft extended landing gear assemblies (Ref. CSP-HMI-2, Section 32-10-00).

### B. Initial Visual Inspection

- (1). Clean weld area with solvent.
- (2). Using 10X magnifying glass, examine weld where step is attached to mounting plate for possible cracking or damage (View A-A).
- (3). If any cracks are visible, replace step assembly (Ref. CSP-HMI-2, Section 32-10-00).
- (4). If no cracks are visible, do Part C.
- (5). If the step assembly is replaced, do Part E.

### C. Proof Load Test with Visual Inspection

#### **WARNING**

**Extreme care shall be taken when applying proof load weight to the subject step assembly.**

- (1). Apply a 400 pound (181.4 kg) proof load approximately 1.0 inch (25.4 mm) from forward end of step assembly.
- (2). Remove 400 pound (181.4 kg) proof load.
- (3). Using 10X magnifying glass, examine weld where step is attached to mounting plate for possible cracking or damage (View A-A).
- (4). If any cracks are visible, replace step assembly (Ref. CSP-HMI-2, Section 32-10-00).
- (5). If the step assembly is replaced, do Part E.
- (6). If no cracks are visible, do Part D.

### D. Fluorescent Penetrant Inspection

#### **CAUTION**

**Do not allow paint remover to contact other than the inspection area.**

- (1). Remove paint from weld area per instructions contained in Standard Practices Manual (CSP-HMI-2, Section 20-30-00, Paint Removal Chemical).
- (a). Do a fluorescent penetrant inspection in accordance with manufacturers instructions. Examine weld where step is attached to mounting plate for possible cracking or damage (View A-A).

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(2). If any cracks are visible, replace step assembly (Ref. CSP-HMI-2, Section 32-10-00).

(a). If no evidence of cracking is found, touch up weld area as follows:

- 1). Apply chemical coating per instructions contained in Standard Practices Manual (CSP-HMI-2, Section 20-40-00, Aluminum Alloy, Surface Touch-up Treatment).
- 2). Apply primer and topcoat to match original, as required (Ref. CSP-HMI-2, Section 20-30-00, Paint Touchup).

(3). Do Part E.

## **E. Marking, Fairing/Cover installation and Compliance Confirmation**

- (1). Permanent ink stamp or mark the bottom of step assembly with Service Bulletin number to indicate compliance with this bulletin.
- (2). Install fairing and cover on aft extended landing gear assemblies (Ref. CSP-HMI-2, Section 32-10-00).
- (3). Make a record in the Compliance Record section of the Rotorcraft Log Book that this bulletin is completed.
- (4). Complete the Bulletin Completed Record form. Fax to MDHI Field Service department.

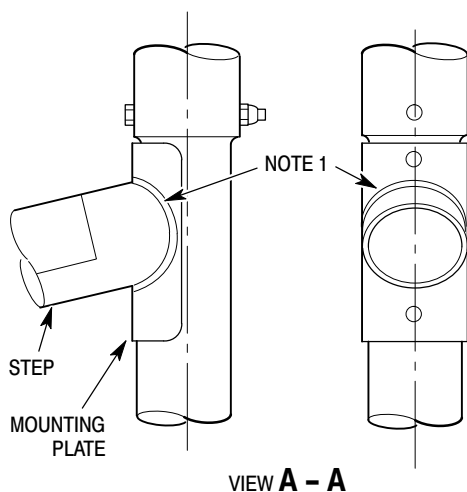
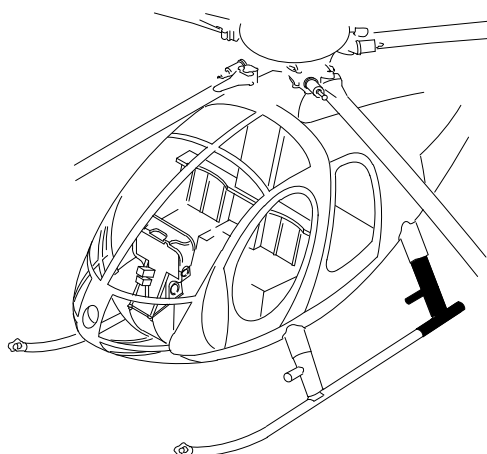
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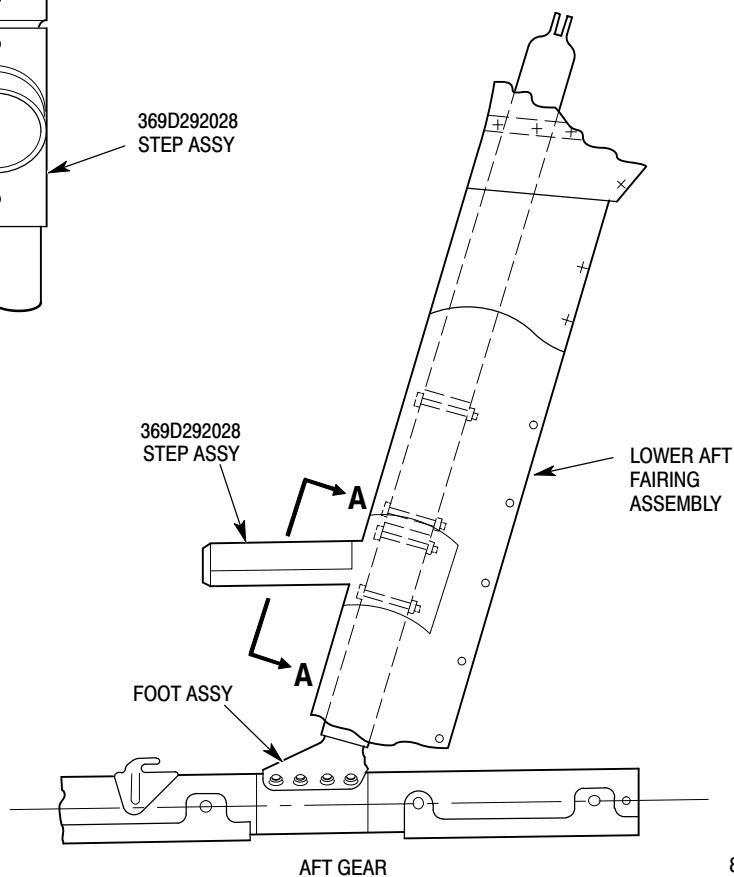
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369D292028  
STEP ASSY

**NOTES:**

1. CHECK AREA OF WELD WHERE STEP ATTACHES TO MOUNTING PLATE. USE 10X MAGNIFYING GLASS.



88-569C

**Figure 1. Inspection of Aft Extended Landing Gear Step Assembly**

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DATE: 11 OCTOBER 2017

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## SB500N-043R2 Completed Record

### Inspection of PN 369D292028, Aft Passenger Step Assemblies, on Extended Landing Gear Assemblies

FAX this form to MDHI (480) 346-6813 or  
E-mail to ServiceEngineering@mdhelicopters.com

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 phone (U.S. and Canada)  
480-346-6387 phone (International)  
480-346-6813 Fax

Dear Sir:

This is to tell you that this service bulletin has been completed as shown below:

Owner/Operator: \_\_\_\_\_

Aircraft Serial No: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

E-mail address: \_\_\_\_\_

Helicopter Total Time: \_\_\_\_\_

Date: \_\_\_\_\_

Location: \_\_\_\_\_

This bulletin is complete: \_\_\_\_\_

(Signature)

(Print Name)

(Title)

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# SERVICE BULLETIN

DATE: 9 JULY 2012

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## ROTATING CONE ASSEMBLY INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) Model 500N and Model 600N Helicopters, equipped with the Rotating Cone Assemblies listed below.

#### B. Assembly/Components Affected By This Bulletin:

Rotating Cone Assembly, P/N 500N3740-81 (500N).

Rotating Cone Assembly, P/N 500N3740-71 (600N).

#### C. Reason:

To notify 500N and 600N owners and operators that Rotating Cone Assemblies need a mandatory one-time inspection to verify the Rotating Cone Assembly part number.

Failure to comply with this Bulletin may result in aircraft exceeding the life limit of the Rotating Cone Assembly. This condition could lead to component failure and possible loss of directional control of the helicopter.

#### D. Description:

If it is determined that 500N and 600N owners/operators have a P/N 500N3740-81 or P/N 500N3740-71 Rotating Cone Assembly on their aircraft, owners/operators need to correct the component record for the Rotating Cone Assembly in their Rotorcraft Log Book to give the Rotating Cone Assembly a 10,000 hour life limit.

Owners/operators also need to determine total time since new of the Rotating Cone Assembly and record this information on the component record in their Rotorcraft Log Book.

#### E. Time of Compliance

Perform this Bulletin within one hundred (100) flight hours of receiving this Bulletin.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

Part Number Inspection: One (1.0) man-hours.

#### H. Interchangeability:

None

#### I. Points of Contact

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

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DATE: 9 JULY 2012

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**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****J. Material/Part Availability:**

Contact MDHI Field Service Department.

**K. Warranty Policy:**

N/A

**L. Tooling:**

N/A

**M. Weight and Balance:**

N/A

**N. Electrical Load Data:**

N/A

**O. Other Publications Affected:**

CSP-HMI-2 Basic Handbook of Maintenance Instructions - Servicing and Maintenance

**P. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-HMI-2 Basic Handbook of Maintenance Instructions - Servicing and Maintenance

**2. ACCOMPLISHMENT INSTRUCTIONS**

(Ref. Figure 1)

**A. Rotating Cone Assembly Inspection**

- (1). Remove Rotating Cone Assembly (Ref CSP-HMI-2, Section 53-40-30, Rotating Thruster Cone Removal).
- (2). Check MDHI part number on inside of Rotating Cone Assembly.
- (3). Find the component record for the Rotating Cone Assembly in the Rotorcraft Log Book.
- (4). Record the Rotating Cone Assembly part number to include dash number and serial number in the Rotorcraft Log Book.
- (5). If the Rotating Cone Assembly is a P/N 500N3740-81 or P/N 500N3740-71, owners/operators will revise the component record located in the Rotorcraft Log Book to read 10,000 Life Hours.
- (6). Determine total time since new of the Rotating Cone Assembly and record this information on the component record in the Rotorcraft Log Book.
- (7). Install Rotating Cone Assembly (Ref CSP-HMI-2, Section 53-40-30, Rotating Thruster Cone Installation).

**B. Compliance Record**

- (1). Record Compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.

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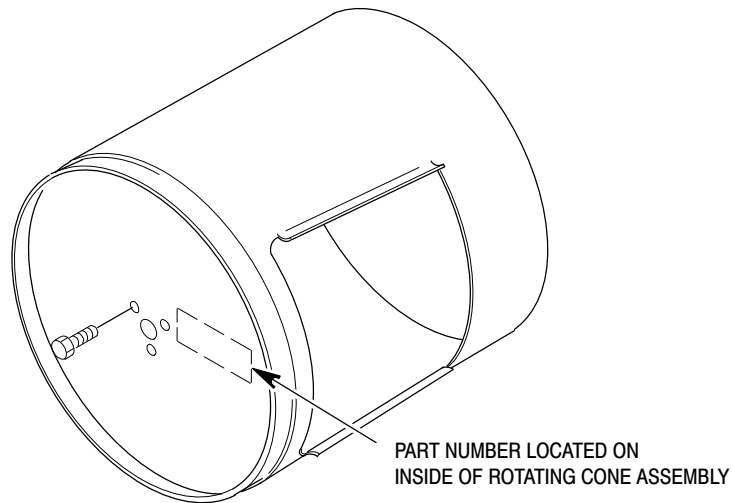
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DATE: 9 JULY 2012

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600N ROTATING CONE ASSEMBLY SHOWN

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**Figure 1. Rotating Cone Assembly**

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DATE: 9 JULY 2012

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## Bulletin Completed Record

### ROTATING CONE ASSEMBLY INSPECTION

MD Helicopters, Inc.  
 Field Service Department  
 4555 E. McDowell Road  
 Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
 480-346-6387 Phone (International)  
 480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner /Operator:</b> _____	<b>Helicopter Serial No:</b> _____
	<b>Helicopter Total Time:</b> _____
	<b>Rotating Cone Assy P/N:</b> _____
<b>Address:</b> _____	<b>Rotating Cone Assy Serial No:</b> _____
_____	
_____	<b>Date Complete:</b> _____
_____	
	<b>Location:</b> _____
<b>Phone:</b> _____	
<b>E-mail:</b> _____	

This bulletin is complete: \_\_\_\_\_

(Signature)

(Print Name)

(Title)

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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# SERVICE BULLETIN

DATE: 14 JANUARY 2016

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\* Supersedes Service Bulletin SB500N-051 and SB600N-062, dated 19 February 2015. Revised to change the serial number effectivity of the aircraft affected. Helicopters that have completed the initial issue of this bulletin and meet the intent of this revision have no additional action.

## REMOVE AND REPLACE THE YSAS ADAPTER

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

MD500N helicopters serial numbers (SNs) LN001 thru LN114 and MD600N helicopters SNs RN003 thru RN083 with Yaw Stability Augmentation System (YSAS) installed.

#### B. Assembly/Components Affected By This Bulletin:

500N7218-1 YSAS Tube Assembly Adapter

900C2010303-101 VSCS (Vertical Stabilizer Control System) Tube Adapter

#### C. Reason:

A new YSAS adapter with increased material strength is available. It is possible for the older YSAS adapters to become unserviceable, which will result in reduced directional control of the helicopter.

#### D. Description:

Procedures in this bulletin give owners and operators instructions to remove and replace the 500N7218-1 YSAS adapter with a 900C2010303-101 YSAS adapter with increased material strength.

#### E. FAA Approval:

The technical design aspects of this bulletin are FAA approved.

#### F. Time of Compliance:

The instructions in this bulletin must be completed at the next scheduled inspection or access.

#### G. Manpower:

5.5 man-hours

#### H. Interchangeability:

None

#### I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

DATE: 14 JANUARY 2016

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## J. Material/Part Availability:

Speak to the MDHI Warranty Repair Department to order the YSAS adapter.

PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Adapter Tube, VSCS	900C2010303-101	1	MDHI
Jam Nut	AN315-6L	1	Commercial
Loctite® 084 Blue	MIL-S-22473, Grade C	As Required	Commercial

## K. Warranty Policy:

The MDHI Warranty and Repair Department will supply a YSAS adapter (ref. the Parts/Supplies table in Part 1.J.) at no cost to the operator. MDHI will also give, to authorized Service Centers, five and one half (5.5) hours of labor warranty (spares credit) for this bulletin.

## L. Disposition of Parts Removed:

Scrap removed parts.

## M. Tooling:

N/A

## N. Weight and Balance:

N/A

## O. Electrical Load Data:

N/A

## P. Other Publications Affected:

CSP-HMI-2 Basic Handbook of Maintenance Instructions - Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

## Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-520N-1 Rotorcraft Flight Manual

CSP-600N-1 Rotorcraft Flight Manual

CSP-HMI-2 Basic Handbook of Maintenance Instructions - Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

SB500N-040 (Latest Revision), De-Energize YSAS System and Replace YSAS Adapter

SB600N-047 (Latest Revision), De-Energize YSAS System and Replace YSAS Adapter

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# SERVICE BULLETIN

DATE: 14 JANUARY 2016

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## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Remove and Replace the YSAS Adapter

- (1). De-energize the YSAS system, set **YSAS** switch to **OFF** (ref. CSP-520N-1, Section 4, Figure 4-2 and CSP-600RFM-1, Section 7, Figure 7-7).
- (2). Remove YSAS actuator (ref. CSP-HMI-2, Section 67-20-30).
- (3). Measure distance between inboard end of YSAS control rod and inboard end of adapter.
  - (a). Record the dimension.
- (4). Remove lockwire from YSAS control rod and adapter.
  - (a). Discard lockwire.



The threads on the adapter are left handed.

- (5). Loosen jam nut to remove 500N7218-1 adapter.
  - (a). Discard 500N7218-1 adapter.
- (6). Remove old NAS509L6 jam nut and NAS1193K6CP locking device.
  - (a). Discard the jam nut and locking device.
- (7). Install a new AN315-6L jam nut on a new 900C2010303-101 adapter.
  - (a). Install a thin layer of locking compound (MIL-S-22473, Grade C) to the new adapter.
- (8). Install new adapter in YSAS control rod.
  - (a). Adjust new adapter to the length recorded in Step (3).(a).
  - (b). Torque new jam nut.
- (9). Install YSAS actuator (ref. CSP-HMI-2, Section 67-20-30).
- (10). Do the YSAS actuator rigging check (ref. CSP-HMI-2, Section 67-20-30, Stability Augmentation System Rigging Instructions).
- (11). Make a record in the Compliance Record section of the Rotorcraft Log Book that this service bulletin has been completed.
- (12). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.

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DATE: 14 JANUARY 2016

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# SERVICE BULLETIN

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## SB500N-051R1 / SB600N-062R1 Completed Record

### Remove and Replace the YSAS Adapter

MD Helicopters, Inc.  
 Field Service Department  
 4555 E. McDowell Road  
 Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
 480-346-6387 Phone (International)  
 480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner/- Operator:</b> _____	<b>Helicopter Serial No:</b> _____
<b>Address:</b> _____ _____ _____ _____	<b>Helicopter Total Time:</b> _____  <b>Date Complete:</b> _____  <b>Location:</b> _____
<b>Phone:</b> _____	
<b>E-mail:</b> _____	

This bulletin is complete: \_\_\_\_\_

(Signature)

(Print Name)

(Title)

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

FAX this form to MDHI (480) 346-6813 or  
 Email to ServiceEngineering@mdhelicopters.com

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# SERVICE BULLETIN

DATE: 12 SEPTEMBER 1997

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## ENGINE COOLING IMPROVEMENT

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

Boeing 600N helicopters, serial numbers RN003 thru RN017.

#### B. Assembly/Components Affected by this Notice:

Engine Oil System Installation (P/N 369D28300-509).

#### C. Reason:

To improve engine oil cooling allowing an increase in the ambient temperature operating environment to 125°F at sea level. Compliance with the requirements of this Bulletin shall increase the allowable operating temperature environment (refer to Rotorcraft Flight Manual, CSP-600RFM-1, Revision 3 or later. See Section II, Figure 2-1 Ambient Temperature Envelope). Accomplishing the requirements of this Bulletin makes the oil cooler duct installation equivalent to a 369D28300-511 installation.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to installing eight (8) stiffeners around the oil cooler ducting installation held in place by ty-straps.

#### E. FAA Approval:

The technical design aspects of this Service Bulletin are FAA Approved.

#### F. Manpower:

1.5 manhours.

#### G. Time of Compliance:

The requirements of this Bulletin shall be accomplished at the next scheduled 100 hour/annual inspection or at the next access to the affected engine oil cooling ducting, or no later than 31 March 1998.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact Boeing Warranty and Repair Department.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Stiffener, Oil Cooler Duct Seal	600N8301-1	8	MDHS

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DATE: 12 SEPTEMBER 1997

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Boeing will provide parts at no cost to the operator and 1.5 hours of labor credit to accomplish this modification.

**K. Tooling:**

N/A

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

Rotorcraft Flight Manual (CSP-600RFM-1), Basic Handbook of Maintenance Instructions (CSP-600HMI-2/3) and Illustrated Parts Catalog (CSP-600IPC-4).

**2. ACCOMPLISHMENT INSTRUCTIONS:**

- (1). Remove interior and stress panels, as required, to gain access to the engine oil cooling duct area.
- (2). Remove the two MS3367-6-9 ty-straps that hold the 369D28303 engine oil cooler duct connector in place.
- (3). Refer to Figure 1. Install four 600N8301-1 oil cooler duct seal stiffeners underneath each of the ty-straps (one on each of the four sides, two places) and tighten ty-straps.

**3. DISPOSITION OF PARTS REMOVED:**

N/A.

**4. COMPLIANCE RECORD:**

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

**5. POINTS OF CONTACT:**

For further assistance, contact your local Boeing Field Service Representative (refer to the latest revision of the "At Your Service" handbook for address and telephone numbers) or contact the Field Service Department at Boeing, Mesa, Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602) 891-6782.

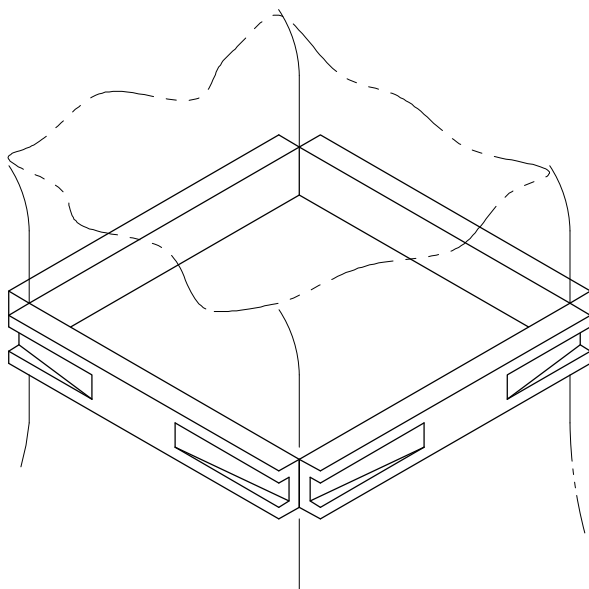
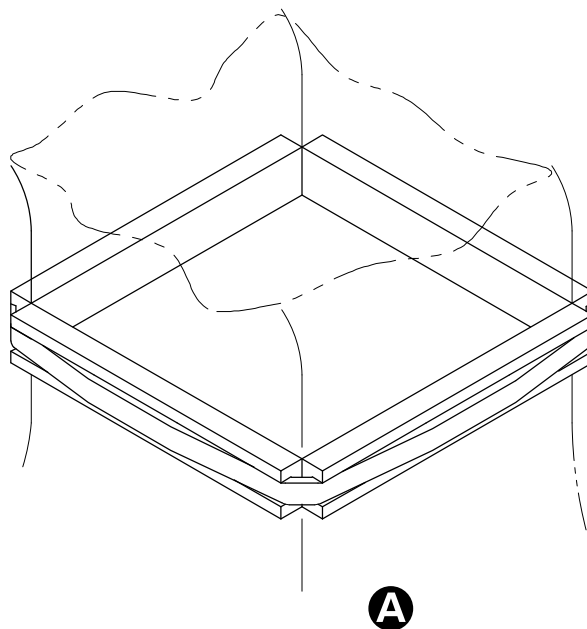
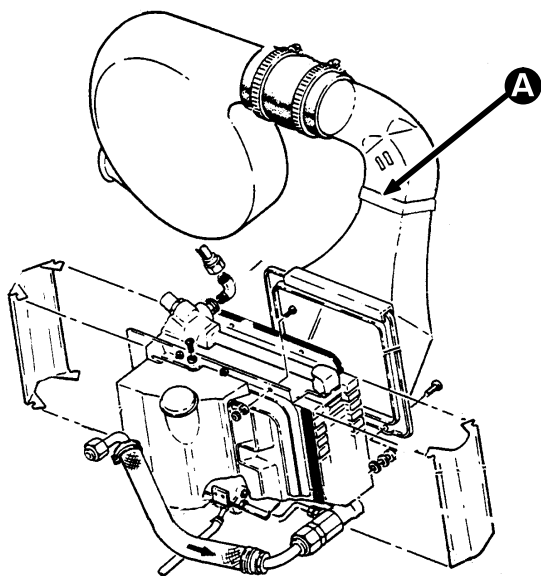
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88-753

Figure 1. Engine Cooling Improvement Modification

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# SERVICE BULLETIN

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## OIL COOLING DUCT MODIFICATION

**PARTS REQUEST FORM:** Please fill in the following information and return to Boeing for parts/supplies required for compliance. This form may be faxed to Boeing Warranty and Repair Department at (602) 891-3952.

Aircraft Ser. No. \_\_\_\_\_

Aircraft Total Time \_\_\_\_\_

Date \_\_\_\_\_

Part Ser. No. (if required) \_\_\_\_\_

Ship to:

# SERVICE BULLETIN

DATE: 12 FEBRUARY 1998

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## CABIN SEAT RESTRAINT ASSEMBLY REPLACEMENT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All MD600N Series Helicopters, serial numbers RN0003 thru RN0023.

#### B. Assembly/Components Affected By This Notice:

Restraint Assembly - Mid Cabin Seat (P/N 600N6521-501, -502).

#### C. Reason:

To provide longer mid cabin seat restraints. Failure to perform the requirements of this Bulletin may cause some passengers discomfort when the seat restraints are engaged or may not allow some passenger to engage the seat restraints at all, which may result in injury to passengers during flight operations.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to replacing the mid cabin seat restraints.

#### E. Time of Compliance

The requirements of this Bulletin shall be accomplished within the next 100 hours of operation or no later than 30 April 1998.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

Two (2.0) man-hours will be required to remove the existing mid cabin seat restraints and replace them with improved versions.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHS Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Restraint Assembly - Cabin Seat	600N6521-503	1	MDHS
Restraint Assembly - Cabin Seat	600N6521-504	2	MDHS

#### J. Warranty Policy:

Parts and two (2) hours labor allowance will be covered under warranty.

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****K. Tooling:**

N/A

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

Illustrated Parts Catalog (CSP-IPC-4).

**2. ACCOMPLISHMENT INSTRUCTIONS**

Refer to Figure 1.

- (1). Remove the 600N6521-501 cabin seat restraint assembly and install a 600N6521-503 cabin seat restraint assembly per instructions contained in the Handbook of Maintenance Instructions (CSP-HMI-2).
- (2). Remove the 600N6521-502 cabin seat restraints assembly and install 600N6521-504 cabin seat restraint assemblies per instructions contained in the Handbook of Maintenance Instructions (CSP-HMI-2).

**NOTE:** Webbing should be installed thru a loop on the side of the aft cabin seats.**3. DISPOSITION OF PARTS REMOVED**

Return to MDHS

**4. COMPLIANCE RECORD**

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

**5. POINTS OF CONTACT**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

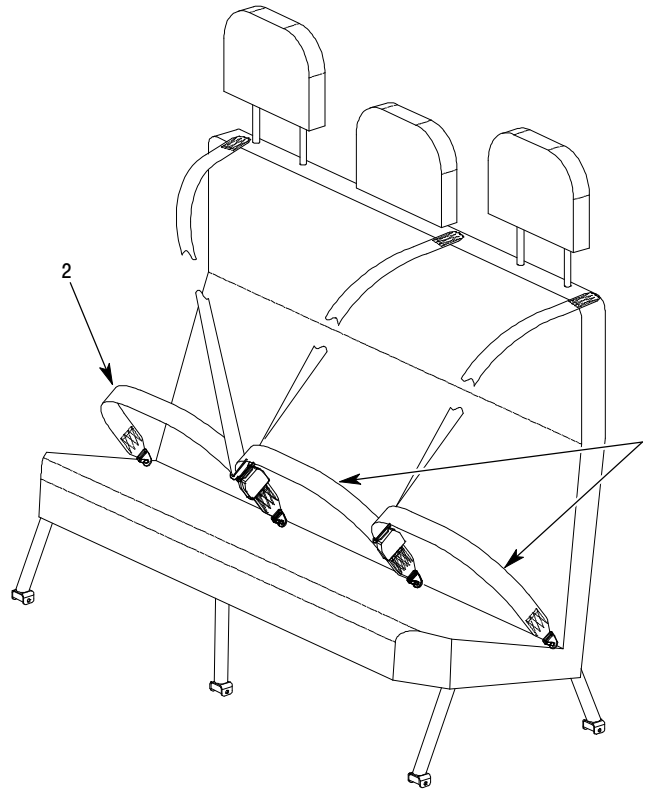
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PASSENGER MID SEAT

ITEM 1: 600N6521-504  
ITEM 2: 600N6521-503

88-755

**Figure 1. Cabin Seat Restraint Replacement**

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## CABIN SEAT RESTRAINT REPLACEMENT

**PARTS REQUEST FORM:** Please fill in the following information and return to MDHS for parts/supplies required for compliance. This form may be faxed to MDHS

Warranty and Repair Department at (602) 891-3952.

Aircraft Ser. No. \_\_\_\_\_

Aircraft Total Time \_\_\_\_\_

Date \_\_\_\_\_

Part No. 600N6521-503 (Qty. 1)  
600N6521-504 (Qty. 2)

Ship to:



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**MANDATORY**

## INSTALLATION OF REVISED V<sub>NE</sub> CARDS

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) MD600 Series Helicopters, serial numbers RN0003 thru RN0023.

#### B. Assembly/Components Affected By This Notice:

V<sub>NE</sub> Limitation Placards (600N6530-17, -19, -21, -23, and -25)

#### C. Reason:

MDHS has recently completed cold weather testing which expanded the ambient temperature and start envelope to -40 deg. C. This change is included in Rev. 4 to the Rotorcraft Flight Manual (CSP-600RFM-1). This Bulletin provides immediate replacements of the existing V<sub>NE</sub> cards to allow helicopter operation at lower outside ambient temperatures. Failure to comply with the requirements of this Bulletin will unnecessarily limit cold weather operations.

#### D. Description:

Procedures in this Bulletin provide owners and operators with new V<sub>NE</sub> card alterations which will allow owners to operate in lower outside ambient temperatures.

#### E. Time of Compliance

The requirements of this Bulletin shall be accomplished prior to operating in temperatures lower than -30 deg. C or no later than 30 June 1998.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

0.5 man-hours

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHS Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
V <sub>NE</sub> Placard	600N6530-29	1	MDHS
V <sub>NE</sub> Placard	600N6530-31	1	MDHS

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REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
V <sub>NE</sub> Placard	600N6530-33	1	MDHS
V <sub>NE</sub> Placard	600N6530-35	1	MDHS
V <sub>NE</sub> Placard	600N6530-37	1	MDHS
V <sub>NE</sub> Placard (Cargo Hook Only)	600N6530-39	1	MDHS

## J. Warranty Policy:

At a later date, MDHS will provide replacement V<sub>NE</sub> placards at no charge to the customer. In the interim, operators can cut out the attached temporary V<sub>NE</sub> placards and mount them over the existing V<sub>NE</sub> placards until replacement placards can be provided.

## K. Tooling:

N/A

## L. Weight and Balance:

N/A

## M. Electrical Load Data:

N/A

## N. Other Publications Affected:

MD600 Rotorcraft Flight Manual (CSP-600RFM-1) and Illustrated Parts Catalog (CSP-600IPC-4).

## 2. ACCOMPLISHMENT INSTRUCTIONS

**NOTE:** Ensure that the V<sub>NE</sub> placard part number remains on the temporary replacement placard when performing the following steps.

- (1). Cut out the attached V<sub>NE</sub> cards and temporarily replace the existing V<sub>NE</sub> cards with the cut out versions until a permanent replacement can be provided.

## 3. DISPOSITION OF PARTS REMOVED

Return to MDHS

## 4. COMPLIANCE RECORD

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

## 5. POINTS OF CONTACT

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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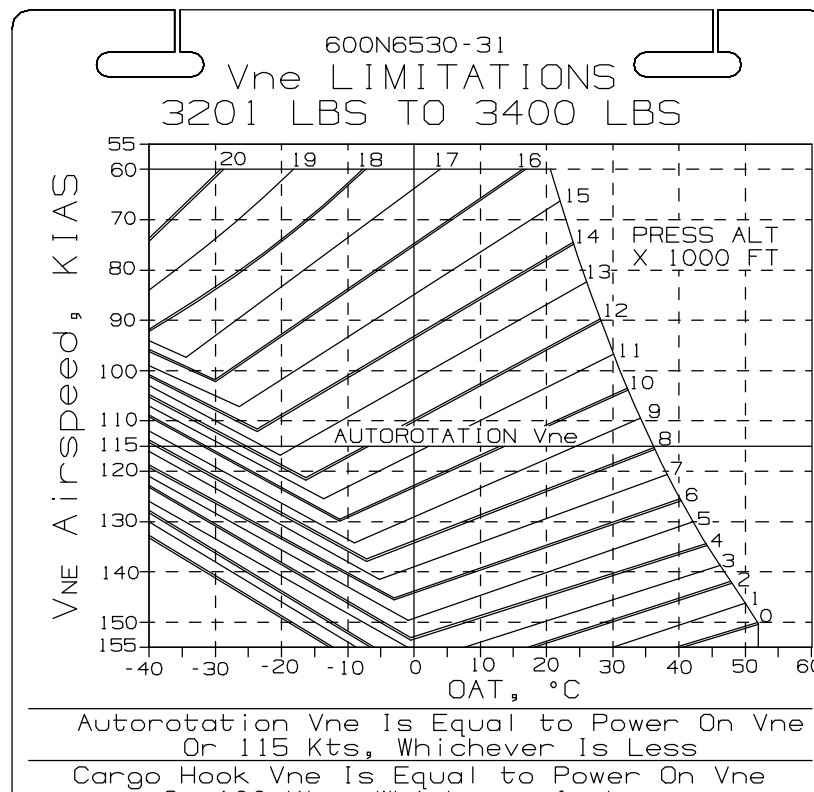
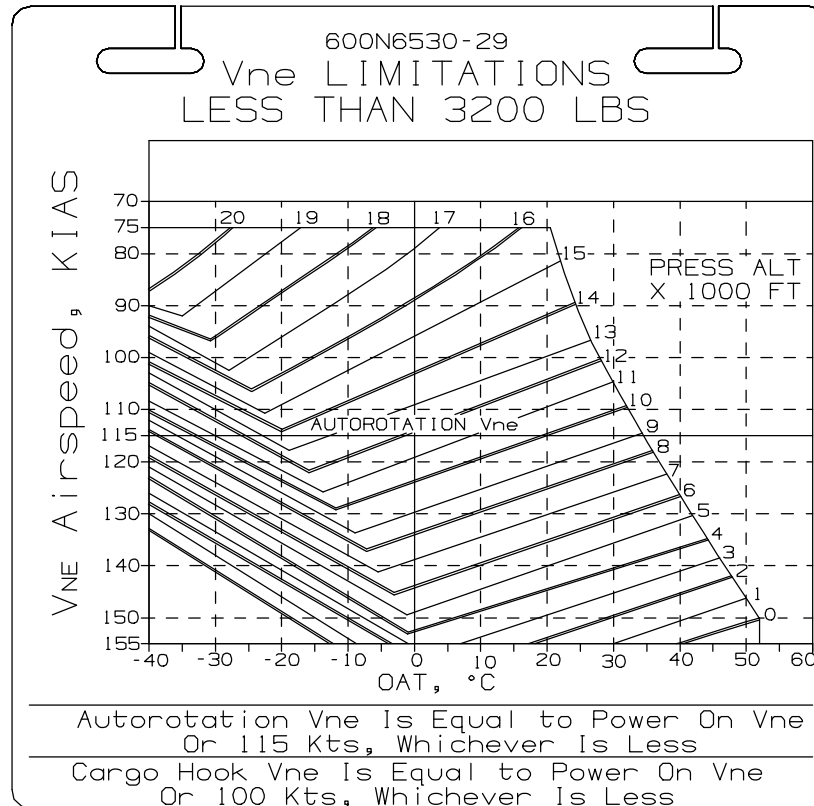
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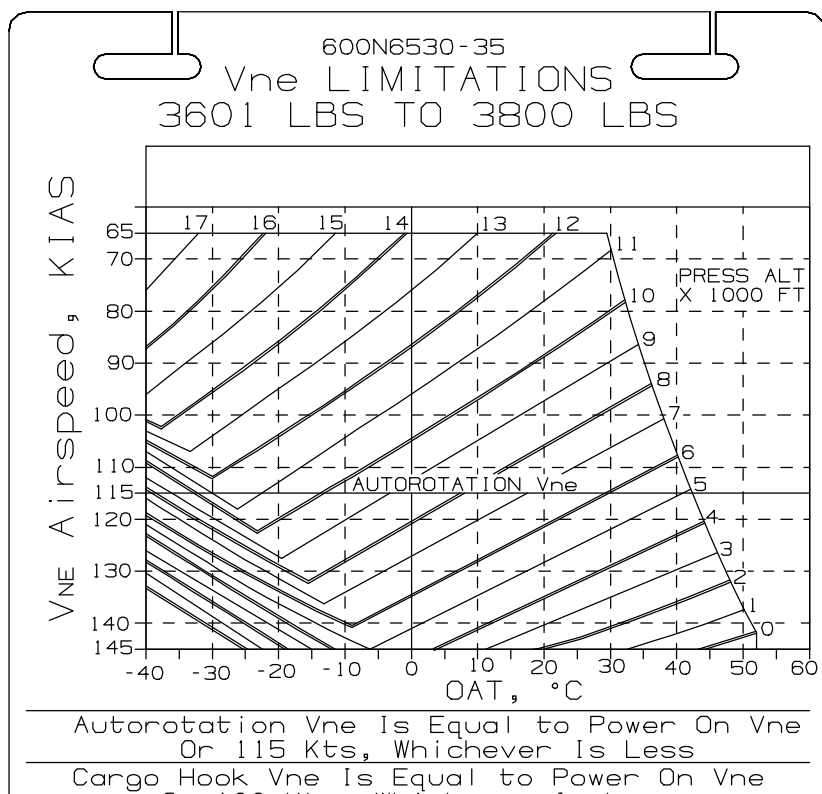
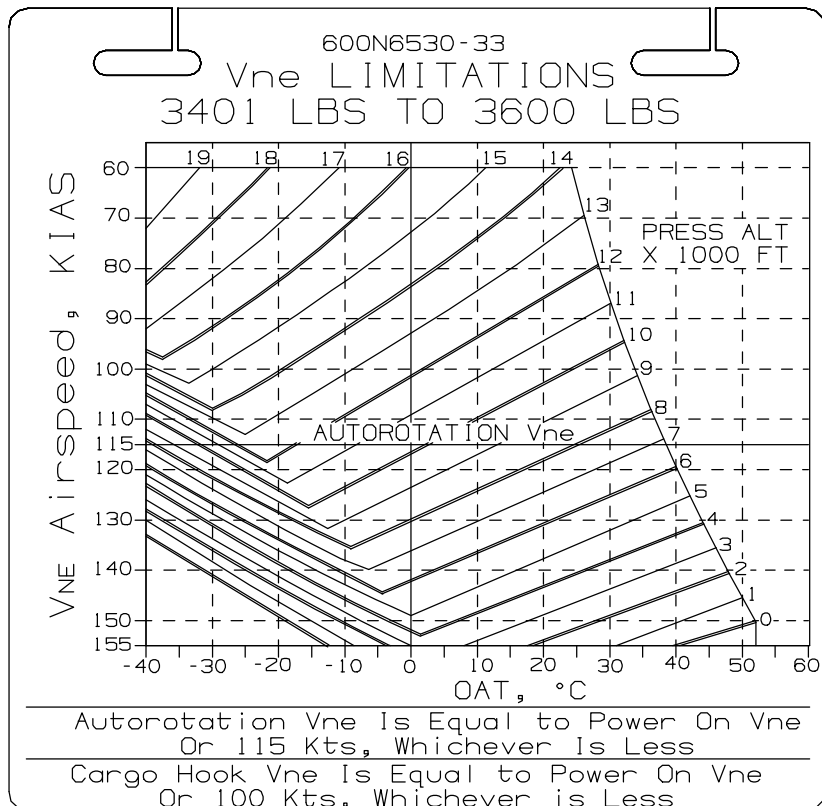
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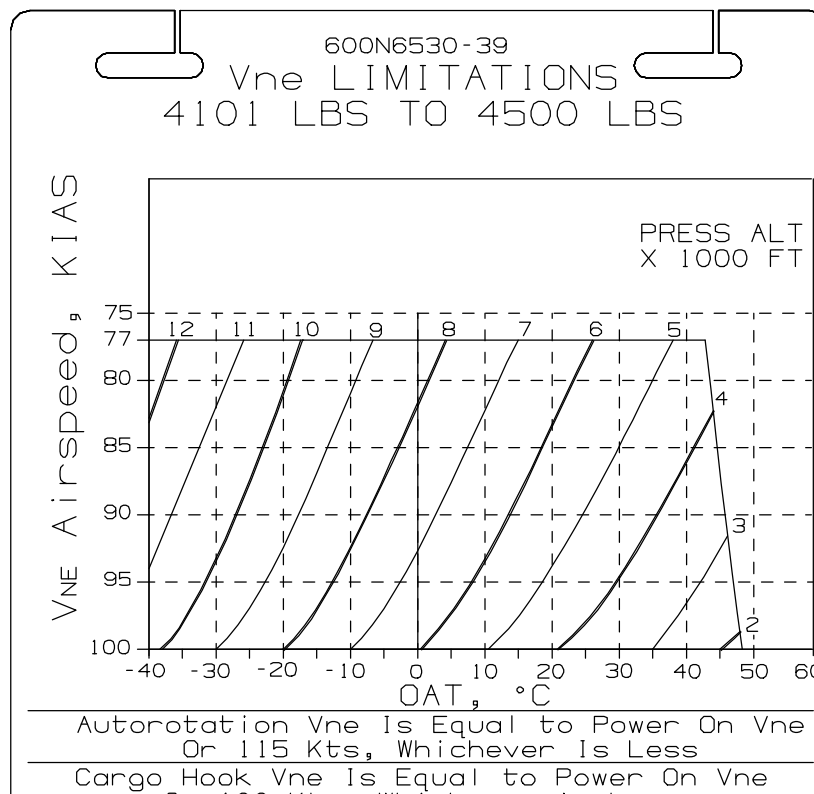
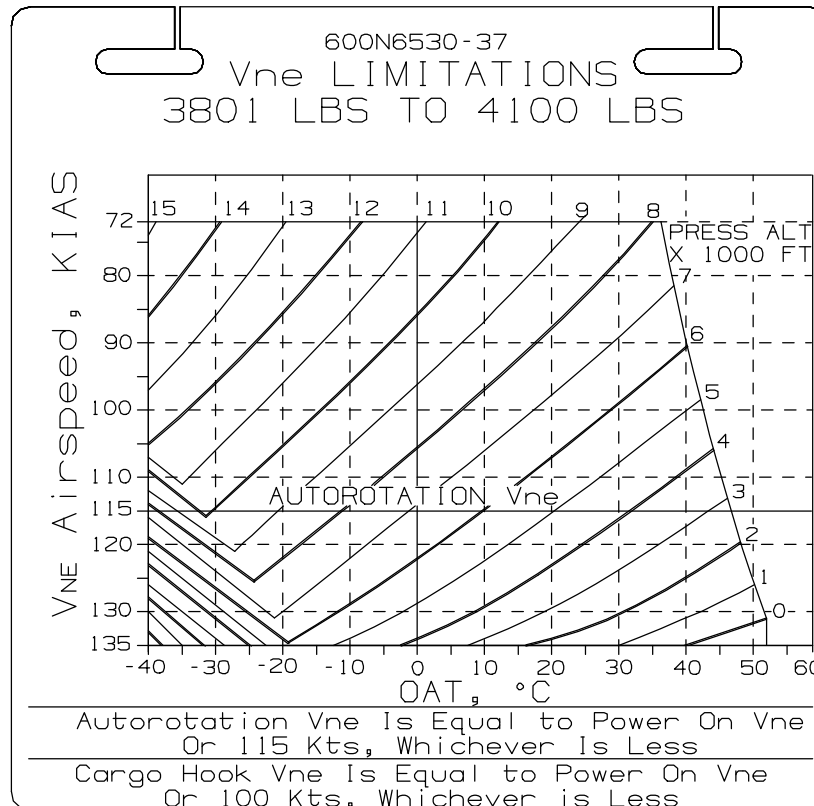
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## V<sub>NE</sub> CARD REPLACEMENT

**PARTS REQUEST FORM:** Please fill in the following information and return to MDHS

for parts/supplies required for compliance. This form may be faxed to MDHS

Warranty and Repair Department at (602) 891-3952.

Aircraft Ser. No. \_\_\_\_\_

Aircraft Total Time \_\_\_\_\_

Date \_\_\_\_\_

Part Ser. No. (if required) \_\_\_\_\_

\_\_\_\_\_  
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Ship to:

# SERVICE BULLETIN

DATE: 08 DECEMBER 1997

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## THRUSTER TIP CAP REMOVAL

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

MD600N Series Helicopters, serial numbers RN003 thru RN022.

#### B. Assembly/Components Affected By This Bulletin:

Tip Cap, Thruster (P/N 500N3741-1).

#### C. Reason:

Compliance with this Bulletin will improve the yaw axis trim characteristics of the aircraft.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information allowing operators to remove the thruster tip cap.

#### E. Time of Compliance

The requirements of this Bulletin shall be accomplished within the next 300 hours of helicopter operation or no later than 30 June 1998.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

1.5 man-hours.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Epoxy Primer	MIL-P-85582	A/R	Crown Metro Aerospace Coatings, Inc. 4343 Temple City Blvd. Temple City, CA. 91780 (818)579-6270 or Commercial

#### J. Warranty Policy:

N/A

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**K. Tooling:**

N/A

**L. Weight and Balance:**

Weight: -1.8 lb. Arm: 342.8 in. Moment: -617 in.lb.

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

The revised helicopter dimensions will be included in a future revision to the Rotorcraft Flight Manual (CSP-600RFM-1) and the Rotorcraft Maintenance Manual (CSP-600RMM-2/3).

**2. ACCOMPLISHMENT INSTRUCTIONS**

- (1). Remove the eight (8) screws and washers attaching the tip cap to the rotating thruster assembly.
- (2). Remove tip cap.
- (3). Reinstall screws and washers to the rotating thruster assembly.
- (4). Apply masking tape to the part number/serial number dataplate.

**NOTE:** Operators have the option to relocate the part number/serial number dataplate to the inside surface of the rotating thruster endcap. Contact MDHS for instructions and replacement dataplates.

- (5). Operators must paint the thruster can assembly using epoxy primer (MIL-P-85582 or equivalent).
- (6). Operators have the option to apply a final top coat to match the aircraft color following the paint manufacturer's instructions.

**3. DISPOSITION OF PARTS REMOVED**

Retain for possible future use.

**4. COMPLIANCE RECORD**

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

**5. POINTS OF CONTACT**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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# SERVICE BULLETIN

DATE: 19 FEBRUARY 1998

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## GENERATOR CONTROL UNIT (GCU) REPLACEMENT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) MD600 helicopters, serial numbers RN003 thru RN031.

#### B. Assembly/Components Affected By This Notice:

Generator Control Unit (GCU) P/N 369D24284-3.

#### C. Reason:

To prevent a possible cold weather GCU failure which may prevent the GCU from coming on-line at -40 deg. F. Failure to comply with this Bulletin may result in the GCU not coming on-line until the GCU reaches an internal temperature of -30 deg. F which can cause a delay in starting the helicopter.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to replacing the GCU to allow cold weather engine starts.

#### E. Time of Compliance

The requirements of this Bulletin shall be accomplished no later than 31 January 1999.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

0.5 man-hours.

#### H. Interchangeability:

The 369D24284-5 GCU is one-way interchangeable with the 369D24284-3 or prior configuration GCU's.

#### I. Material/Part Availability:

Contact MDHS Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Generator Control Unit	369D24284-5	1	MDHS

#### J. Warranty Policy:

Replacement GCU's will be provided at no cost to the customer.

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****K. Tooling:**

N/A

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

Illustrated Parts Catalog, CSP-IPC-4, Section 96-10-00.

**2. ACCOMPLISHMENT INSTRUCTIONS**

- (1). Remove 369D24284-3 generator control unit per instructions contained in the Handbook of Maintenance Instructions, Section 96-10-00.
- (2). Install 369D24284-5 generator control unit per instructions contained in the Handbook of Maintenance Instructions, Section 96-10-00.

**3. DISPOSITION OF PARTS REMOVED**

Return to MDHS.

**4. COMPLIANCE RECORD**

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

**5. POINTS OF CONTACT**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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DATE: 24 FEBRUARY 1998

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## COLLECTIVE CONTROLS LIFE REDUCTION AND SERIALIZATION

### **WARNING**

Recently several collective components have had their life-limits reduced. Refer to the current revision of the Handbook of Maintenance Instructions (CSP-HMI-2/3, Section 04-00-00, Rev. 2 dated 20 January 1998 or later) for life-limited items installed on 600N helicopters. Life-limited components interchanged between models or configurations must be restricted to the lowest service life indicated for the models or configurations affected.

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) 600N helicopters, serial number RN003 thru RN027.

#### B. Assembly/Components Affected by the Serialization Requirements of this Bulletin:

Housing, Collective Stick, P/N 369A7347  
Tube, Collective Pitch Control, P/N 369A7348  
Tube, Collective Pitch (co-pilot), P/N 369A7809  
Housing, Collective Stick, P/N 369A7820

#### C. Reason:

To notify 600N operators of new life reductions to various components of the collective controls and the requirement to apply serial numbers to various life-limited components. Failure to comply with the requirements of this Bulletin may result in parts remaining in service after the life-limits have been reached on those components. This condition could lead to component failure and result in loss of control of the helicopter.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to serialization of various collective control assemblies.

#### E. Time of Compliance:

The requirements of this Bulletin shall be accomplished at the next scheduled inspection prior to the aircraft reaching 400 hours of time in service or no later than 10 April 1998.

#### F. FAA Approval:

The technical design aspects of this Service Bulletin are FAA approved.

#### G. Manpower:

0.5 man-hours.

#### H. Interchangeability:

None

#### I. Tooling:

N/A

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**J. Weight and Balance:**

N/A

**K. Electrical Load Data:**

N/A

**L. Other Publications Affected:**

Handbook of Maintenance Instructions (CSP-HMI-2/3, Section 04-00-00, Revision 2 or later).

**M. Points of Contact**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

**2. ACCOMPLISHMENT INSTRUCTIONS**

- (1). Determine if the aircraft is configured left hand command or right hand command and use the following tables for serialization as required.
- (2). Using ink stamp permanent paint (MIL-M-43719), apply serial numbers to the parts indicated in the following tables in an area/location that will be the most visible when the part/assembly is installed.
- (3). Add the various component part numbers to the applicable Component Log of the helicopter Log Book.
- (4). Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

LEFT HAND COMMAND	
A/C Serial #	Housing 369A7820
RN-003	009999-0003
RN-004	009999-0004
RN-005	009999-0005
RN-006	009999-0006
RN-007	009999-0007
RN-008	009999-0008
RN-009	009999-0009
RN-010	009999-0010
RN-011	009999-0011
RN-012	009999-0012
RN-013	009999-0013
RN-014	009999-0014

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LEFT HAND COMMAND	
RN-015	009999-0015
RN-016	009999-0016
RN-017	009999-0017
RN-018	009999-0018
RN-019	009999-0019
RN-020	009999-0020
RN-021	009999-0021
RN-022	009999-0022
RN-023	009999-0023
RN-024	009999-0024
RN-025	009999-0025
RN-026	009999-0026
RN-027	009999-0027

RIGHT HAND COMMAND			
A/C Serial #	Tube 369A7348	Housing 369A7347	Housing 369A7809
RN-003	009999-0003	009999-0003	009999-0003
RN-004	009999-0004	009999-0004	009999-0004
RN-005	009999-0005	009999-0005	009999-0005
RN-006	009999-0006	009999-0006	009999-0006
RN-007	009999-0007	009999-0007	009999-0007
RN-008	009999-0008	009999-0008	009999-0008
RN-009	009999-0009	009999-0009	009999-0009
RN-010	009999-0010	009999-0010	009999-0010
RN-011	009999-0011	009999-0011	009999-0011
RN-012	009999-0012	009999-0012	009999-0012
RN-013	009999-0013	009999-0013	009999-0013
RN-014	009999-0014	009999-0014	009999-0014
RN-015	009999-0015	009999-0015	009999-0015
RN-016	009999-0016	009999-0016	009999-0016
RN-017	009999-0017	009999-0017	009999-0017
RN-018	009999-0018	009999-0018	009999-0018
RN-019	009999-0019	009999-0019	009999-0019

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RIGHT HAND COMMAND			
RN-020	009999-0020	009999-0020	009999-0020
RN-021	009999-0021	009999-0021	009999-0021
RN-022	009999-0022	009999-0022	009999-0022
RN-023	009999-0023	009999-0023	009999-0023
RN-024	009999-0024	009999-0024	009999-0024
RN-025	009999-0025	009999-0025	009999-0025
RN-026	009999-0026	009999-0026	009999-0026
RN-027	009999-0027	009999-0027	009999-0027

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# SERVICE BULLETIN

DATE: 28 APRIL 1998

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**MANDATORY**

## LANDING GEAR FAIRING MODIFICATION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) MD600 helicopters, serial number RN003 thru RN029.

#### B. Assembly/Components Affected By This Notice:

Fairing Installation - Landing Gear, P/N 600N6070 and 600N6075.

#### C. Reason:

To prevent possible cracking of the landing gear fairing. Failure to comply with the requirement of this Bulletin may lead to the development of cracks in the landing gear fairings.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to installing washers and rubber washers on the landing gear fairings to aid in preventing premature cracking.

#### E. Time of Compliance

The requirements of this Bulletin shall be accomplished at the next 100 hour inspection or no later than 30 August 1998.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

1.0 man-hours.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHS Field Service Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Screw	NAS603-9P	24	MDHS
Washer	AN970-3	24	MDHS
Washer (rubber)	600N6081-1	48	MDHS

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# SERVICE BULLETIN

**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****J. Warranty Policy:**

MDHS will provide replacement parts at no cost to the operator. Labor costs will be assumed by the operator.

**K. Tooling:**

N/A.

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

Illustrated Parts Catalog (CSP-600IPC-4).

**O. Points of Contact**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

**2. ACCOMPLISHMENT INSTRUCTIONS**

- (1). Remove existing screws and washers from forward and aft landing gear struts at locations shown in Figure 1.
- (2). Install replacement hardware as shown in Figure 1.
- (3). Apply touch-up paint as required.
- (4). Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

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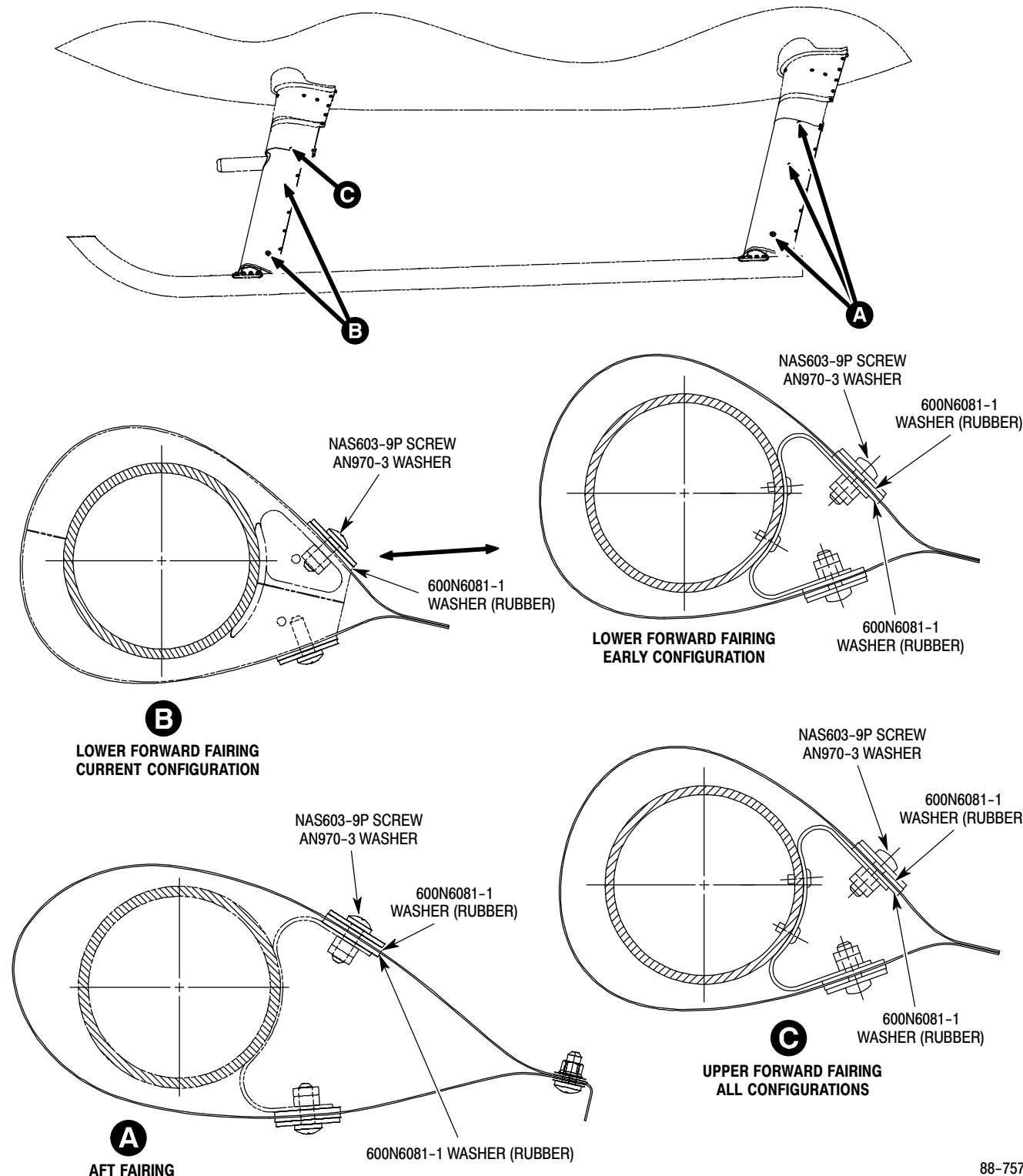


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88-757

**Figure 1. Landing Gear Modification Hardware Installation**

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# SERVICE BULLETIN

DATE: 05 MAY 1998

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## CYCLIC CONTROL MIXER LINKS REPLACEMENT (EIGHT DEGREE PHASE SHIFT RECOVERY)

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) MD600N helicopters, serial number RN003 thru RN014 and RN016 thru RN037.

#### B. Assembly/Components Affected By This Notice:

369A7608-501 Link Assembly  
369A7613-1 Link Assembly  
369A7613-2 Link Assembly

#### C. Reason:

To recover the cyclic phase shift caused by adding the sixth blade to the main rotor system. Complying with the requirements of this Bulletin will result in reduced pilot workload.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to replacing various longitudinal and lateral mixer output links in the main rotor control system.

#### E. Time of Compliance

The requirements of this Bulletin shall be accomplished at the next 100 hour inspection or no later than 30 November 1998.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

2.0 man-hours.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHS Field Service Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Link Assembly	600N7635-1	1	MDHS
Link Assembly	600N7636-1, or -9	1	MDHS
Link Assembly	600N7636-3, or -11	1	MDHS

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****J. Warranty Policy:**

MDHS will provide replacement parts at no cost to the operator. Operators may receive a labor credit of 2.0 hours to perform the requirements of this Service Bulletin.

**K. Disposition of Parts Removed**

Return to MDHS

**L. Tooling:**

N/A

**M. Weight and Balance:**

N/A

**N. Electrical Load Data:**

N/A

**O. Other Publications Affected:**

Illustrated Parts Catalog (CSP-600IPC-4)

**P. Points of Contact**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

**2. ACCOMPLISHMENT INSTRUCTIONS**

Refer to Figure 1.

- (1). Replace cyclic control link assemblies as required per instructions contained in the Handbook of Maintenance Instructions (CSP-HMI-2/3, Section 62-30-00).
- (2). Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

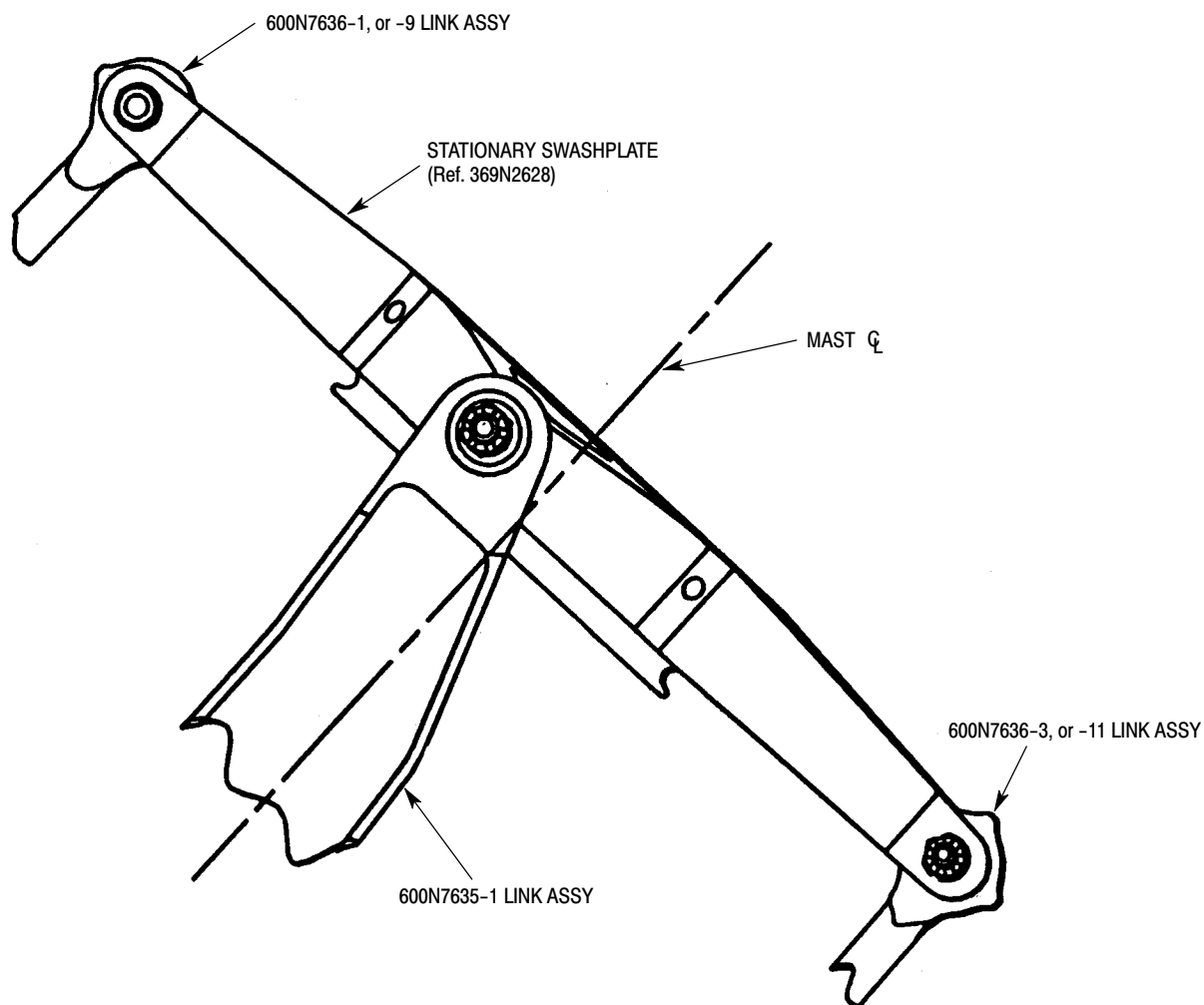
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88-758

**Figure 1. Cyclic Control Mixer Links Replacement.**



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DATE: 15 APRIL 1999

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## LOW FUEL LEVEL WARNING LIGHT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

MD Helicopters, Inc. (MDHI) MD600N helicopters, serial number RN003 and RN005 thru RN037.

#### B. Assembly/Components Affected By This Notice:

Fuel Quantity Indicator, (P/N 600N8107-5)

#### C. Reason:

The original issue of this Service Bulletin provided operators with modification instructions to prevent any dim or falsely extinguished low fuel level light indications. MDHI received compliance recording forms from all affected operators. A new fuel quantity indicator is now being provided to correct that condition. This revision to the Service Bulletin provides operators with instructions to replace the 600N8107-5 Fuel Quantity Indicator (without low fuel level dimming ability) with the 600N8107-13 indicator (with low fuel level light dimming ability), and return indicator wiring to the pre SB600N-013 configuration.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to replacing the fuel quantity indicator and modifying the low fuel caution warning light circuitry previously modified by accomplishing SB600N-013, dated 01 May 1998.

#### E. Time of Compliance:

The requirements of this Bulletin shall be accomplished within the next 100 hours of helicopter operation or no later than 31 July 1999.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

2.0 man-hours

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHI Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Fuel Quantity Indicator	600N8107-13	1	MDHI

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****J. Warranty Policy:**

2.0 man-hours labor credit will be allowed to perform this Bulletin.

**K. Disposition of Parts Removed**

Return to MDHI

**L. Tooling:**

N/A

**M. Weight and Balance:**

N/A

**N. Electrical Load Data:**

N/A

**O. Other Publications Affected:**

Illustrated Parts Catalog (CSP-IPC-4).

**P. Points of Contact**

For further assistance, contact your local MDHI Field Service Representative (refer to the latest revision of the "At Your Service" handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (602) 891-6342. DATAFAX: (602) 891-6782.

**2. ACCOMPLISHMENT INSTRUCTIONS**

- (1). Reconfigure the low fuel circuitry to the original configuration as shown in Figure 1.
  - (a). Relocate wire number "E1180A22" from TB503-1M into TB503-2H. (Ref. Figure 1.)
- (2). Remove fuel quantity indicator (600N8107-5) and replace it with a new configuration fuel quantity indicator (600N8107-13).
- (3). Perform fuel system calibration procedure per CSP-HMI-2, Section 28-00-60.
- (4). Return old configuration fuel quantity indicators to MDHI.
- (5). Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book. Additionally, return/fax the attached compliance form to MDHI.

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DATE: 15 APRIL 1999

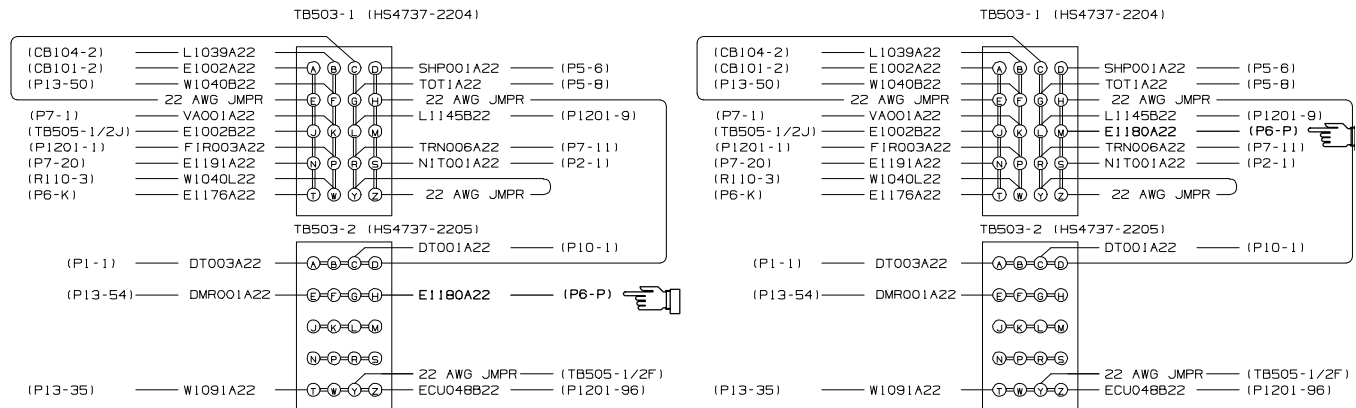
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**MANDATORY**

MODULES LOCATED IN THE CONSOLE

ORIGINAL CONFIGURATION

MODIFIED CONFIGURATION  
PER SB600N-013



88-760A

**Figure 1. Low Fuel Level Warning Light Circuitry Modification**

DATE: 15 APRIL 1999

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# SERVICE BULLETIN

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## Compliance Recording Form

**Customer/Operator Name**

---

**Aircraft Serial No.**

---

**Helicopter Total Time**

---

**Date of Compliance**

---

**Signature of Person Confirming Compliance**

---

**FAX this form to MDHI (602) 891-6782**

# SERVICE BULLETIN

DATE: 23 APRIL 1999

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## ENGINE FUEL CONTROL BOX ATTACHMENT BOLT REPLACEMENT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) 600N helicopters, serial number RN003 thru RN026.

#### B. Assembly/Components Affected By This Notice:

NAS6703U6, Attachment Bolt (Engine Fuel Control Box)

#### C. Reason:

Inspection of an aircraft after a recent ground run revealed that the subject bolt had fallen out. A longer bolt will provide proper thread engagement and eliminate this from happening. Failure to comply with the requirements of this Service Bulletin may result loss of engine throttle control. This condition may result in a precautionary/emergency landing situation.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to replacing the engine fuel control attachment bolt.

#### E. Time of Compliance

The requirements of this Bulletin shall be accomplished within the next 100 hours of helicopter operation or no later than 30 November 1999.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

0.5 man-hours

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHI Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Bolt	NAS6703U8	1	MDHS

#### J. Disposition of Parts Removed

Return to MDHI

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## K. Warranty Policy:

Replacement bolts will be provided at no cost to the operator through 30 November 1999.

## L. Tooling:

N/A

## M. Other Publications Affected:

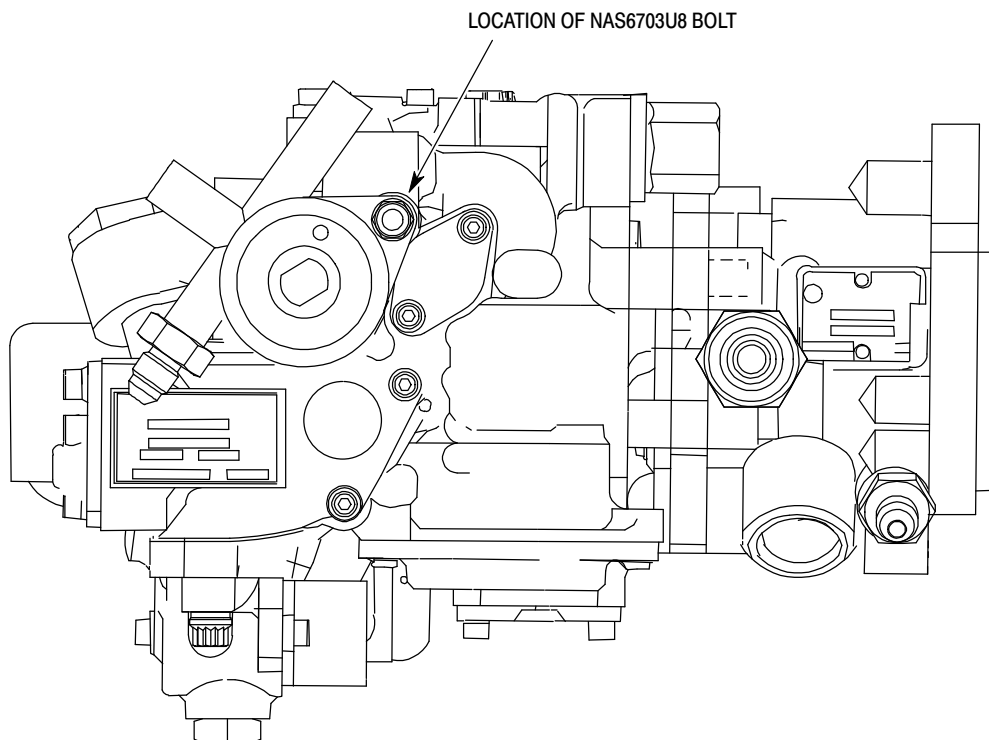
Illustrated Parts Catalog (CSP-IPC-4)

## N. Points of Contact

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

## 2. ACCOMPLISHMENT INSTRUCTIONS

- (1). Replace NAS6703U6 bolt with NAS6703U8 bolt per instructions contained in the Handbook of Maintenance Instructions (CSP-600HMI-2/3) Section 76-00-00 (ref. to Figure 1 below). **NOTE:** This installation is also shown in the Illustrated Parts Catalog (CSP-IPC-4, Section 71-00-60, Figure 3).
- (2). Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.



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**Figure 1. Engine Fuel Control Box Attachment Bolt Replacement.**

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SB600N-015

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MD Helicopters, Inc.  
Service Bulletin Response Form

Fax to (602) 891-6782

Operator or Company Name:

Location:

Bulletin No.:

Title:

Aircraft Ser. No.:

Date of Compliance:

Person Who Signed-Off Bulletin:

Tele:

Fax:

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# SERVICE BULLETIN

DATE: 18 SEPTEMBER 2000

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\* Supersedes Service Bulletin SB600N-016 dated 30 September 1998. Revision 1 adds an alternate part number for the Voice Warning LRU. Aircraft which have complied with SB600N-016 meet the intent of this revision.

## AUDIO WARNING SYSTEM MODIFICATION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

**Part 1** - All MD600N helicopters, serial number RN003 thru RN049 certified in the United Kingdom. Owner/Operators of helicopters not certified in the United Kingdom, may perform this Bulletin as an option.

**Part 2** - Optional for all MD600N helicopters serial number RN003 thru RN0049. **Part 1** must be complied with if performing **Part 2**.

#### B. Assembly/Components Affected By This Notice:

**Part 1** - Voice Warning LRU P/N 600N4514-3 or 600N4514-5.

**Part 2** - Fuselage Wire Harness, and Console Wire Harness.

#### C. Reason:

**Part 1** - Replacement of the Voice Warning LRU P/N 600N4514-3 with P/N 600N4514-5 or P/N 600N4515-1 provides increased voice warning volume output and a second voice warning audio output channel. This allows the Voice Warning to interrupt the the ICS System and enunciate warning messages when necessary. Failure to comply with Part 1 may result in insufficient voice warning volume during high noise operations e.g. doors off.

**Part 2** - Modification for routing the Intercommunications System (ICS) output through the Voice Warning LRU. This incorporates the second voice warning audio output channel provided by the 600N4514-5 or 600N4515-1 Voice Warning LRU. Failure to comply with part 2 may result in ICS communications partially obscuring the voice warning enunciations with certain stereo systems.

#### D. Description:

**Part 1** - Procedures in Part 1 provide owners and operators with information pertaining to the replacement of the Voice Warning LRU.

**Part 2** - Procedures in Part 2 provide owners and operators with information pertaining to the modification of the interconnecting wire harness.

#### E. Time of Compliance:

**Part 1** - The requirements of Part 1 shall be accomplished at the next major inspection, or as parts become available, or prior to registering the helicopter in the United Kingdom, whichever occurs first.

**Part 2** - Optional.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

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## G. Manpower:

**Part 1** - One half (0.5) Man-hour.

**Part 1 and Part 2** - Four (4) man-hours.

## H. Interchangeability:

The 600N4514-3 Voice Warning LRU is replaced by the 600N4514-5 or 600N4515-1 Voice Warning LRU.

## I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

## J. Material/Part Availability:

Contact MDHS Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Voice Warning LRU (1) (2)	600N4514-5 or 600N4515-1	1	MDHI or Commercial
Wire, Normal Weight, Tin Coated Copper (2)	M22759/34-22-9 (RM015660)	150 in (381 cm)	MDHI or Commercial
Contact, Pin (2)	M39029/58-360	2	MDHI or Commercial
Contact, Socket (2)	M39029/32-259	2	MDHI or Commercial
Contact, Socket (2)	M39029/22-191	1	MDHI or Commercial
Contact, Socket (2)	M39029/56-348	1	MDHI or Commercial

### NOTE:

- (1) Required for part 1.
- (2) Required for part 2.

## K. Warranty Policy:

The standard warranty policy applies.

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## L. Tooling:

Tools listed in this table may be purchased from the sources in the table notes or provided on loan from Boeing. Contact your Field Service Representative to arrange for loaner tool. (Ref. 1. I. Points of Contact:).

REQUIRED TOOLS FOR ELECTRICAL TERMINATIONS					
Item No.	Availability (Ref. Note:)	Tool Frame Part No.	Turret Part No.	Positioner Part No.	Insertion/Extraction Part No.
1	(1) (3) (1) (1) (2) (3) (1) (2) (3)	M22520/1-01	M22520/1-02	N/A	DAK/DRK 20 or M81868/17-09 Insert M81969/19-07 Extract
2	(1) (1) (2) (3)	M22520/2-01	K330-3	86-19	MS3160-20 or 81515-23
	(1) (3)	M22520/7-01	M22520/7-11	N/A	
3	(1) (3) (1) (1) (2) (3)	M22520/2-01	M22520/2-09	N/A	DAK/DRK 95-22M or M81469/14-01
4	(1) (3) (1) (1) (2) (3)	M22520/2-01	M22520/2-07	N/A	DAK/DRK 95-22M or M81469/14-01

## NOTE:

- (1) Daniel's Manufacturing, phone number (407) 855-6161.
- (2) Richie Electrical, phone number (800) 966-1161 and (602) 831-1318.
- (3) MDHI Warranty and Repair Dept.

## M. Weight and Balance:

N/A

## N. Electrical Load Data:

N/A

## O. Disposition of Parts Removed:

Return to MDHI.

## P. Other Publications Affected:

Illustrated Parts Catalog (CSP-IPC-4)

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## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Part 1:

(Ref. Figure 1)

- (1). Disconnect P19 from voice warning control unit. Bag or cap P19 to prevent FOD.
- (2). Remove four (4) bolts and washers attaching existing voice warning LRU. Retain hardware for reinstallation of new voice warning LRU.
- (3). Install 600N4514-5 or 600N4515-1 voice warning LRU using four (4) bolts and washers. Torque bolts per the Handbook of Maintenance Instructions (CSP-HMI-2, Section 20-00-00).

### B. Part 2:

(Ref. Figure 2)

- (1). Perform Part 1.
- (2). Fabricate wires in accordance with Wire Build Table.

WIRE BUILD TABLE						
Wire No.	Wire Nomenclature	Part No.	Wire Length	Termination		Source
				A	B	
1	W1087B22	M22759/34-22-9	72 in (183 cm)	M39029/22-191 (2)	M39029/56-348 (4)	MDHI
2	W1087A22	M22759/34-22-9	36 in (92 cm)	M39029/58-360 (3)	M39029/32-259 (1)	MDHI
3 (1)	W1086C22	M22759/34-22-9	36 in (92 cm)	M39029/58-360 (3)	M39029/32-259 (1)	MDHI

#### NOTE:

- (1) This wire may exist in some aircraft, if installed do not replace.
- (2) Number after termination part number, refers to tools required by item number in required tools table (Ref. **1. L. Tooling**).
- (3). Modify fuselage wiring harness as follows:

**NOTE:** Route and secure added wires with existing wire harness. Trim any excess wire length and reterminate as necessary.

- (a). Visually verify if wire W1086C22 is installed from J1201-40 to P19-G. If not installed, install new wire.
- (b). Install wire W1087A22 from J1201-42 to P19-J.

- (4). Modify console wiring harness as follows:

**NOTE:** Route and secure added wires with existing wire harness.

- (a). Relocate W1085B22 from TB502-6F to TB502-6S.

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- (b). Install W1087B22 from P1201 to TB502-6H.
- (5). Reconnect P19 to voice warning control unit.
- (6). Secure any opened areas.
- (7). Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

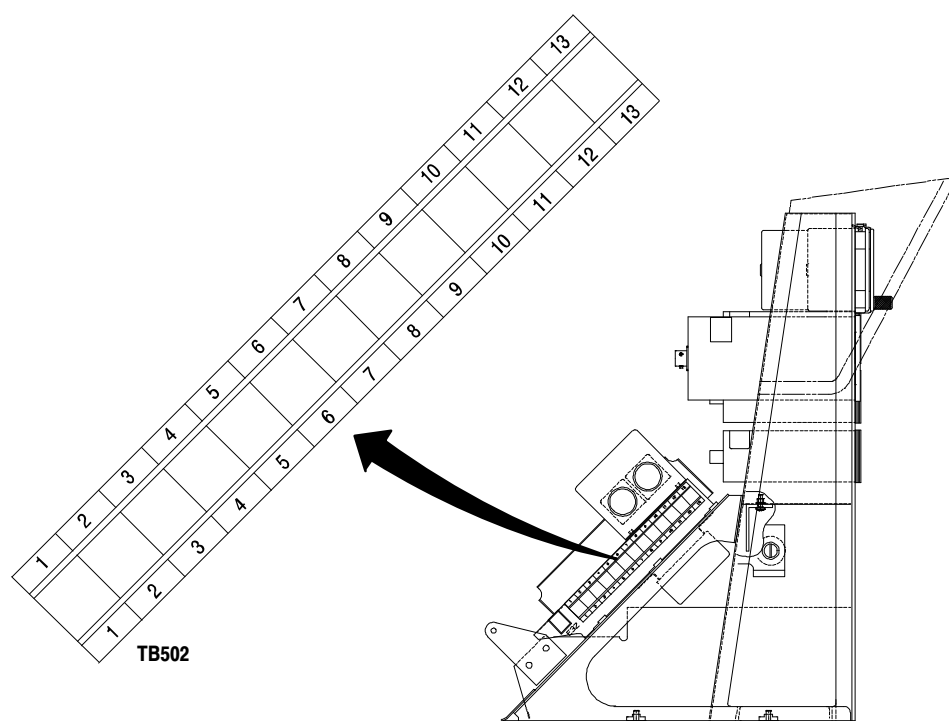
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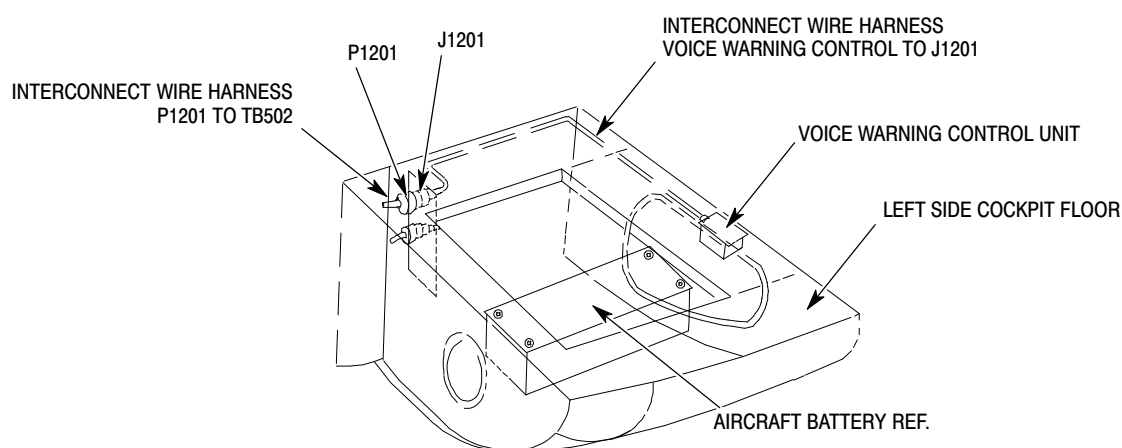
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INSTRUMENT CONSOLE, LOOKING INBOARD LEFT SIDE

**Figure 1. Component Locations**

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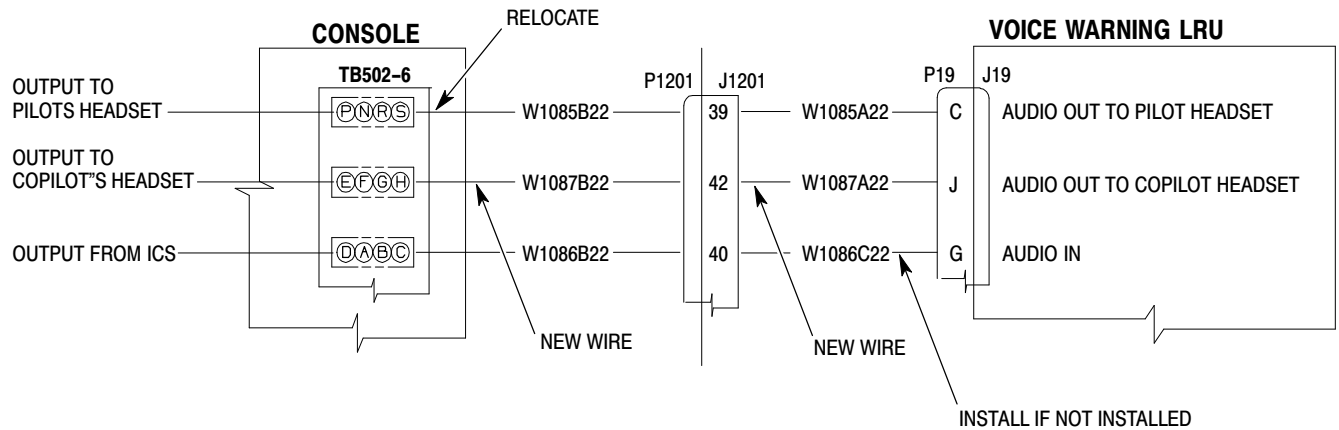
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**Figure 2. Wiring Modification**

**MANDATORY**



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## FADEC MANUAL SWITCH GUARD MODIFICATION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) MD600N helicopters, serial number RN003 thru RN044.

#### B. Assembly/Components Affected By This Notice:

Stick Assembly, Collective, Pilot (P/N 600N7750)  
Stick Assembly, Collective, Pilot, Right Hand Command (P/N 600N7780)

#### C. Reason:

To install an additional guard near the Engine Control Unit (ECU) (manual/auto) switch located on the collective stick assemblies. The new guard provides additional protection against inadvertent ECU switch activation. Failure to comply with the requirements of this Bulletin may result in the switch being turned to manual mode during flight which could cause unanticipated speed-up or slow down the engine with associated changes in rotor RPM leading to possible overspeed.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to adding an additional guard to the collective stick assemblies noted above. The additional guard will add protection to both sides of the switch.

#### E. Time of Compliance:

The requirements of this Bulletin shall be accomplished by 31 October 1998.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

0.5 man-hours.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHS Field Service Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Switch Guard – ECU Auto/Man	600N7769-1	1	MDHS
Screw	NAS600-5P	2	Commercial or MDHS
Washer	MS35333-36	2	Commercial or MDHS

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**MANDATORY MANDATORY MANDATORY****J. Warranty Policy:**

MDHS will provide new switch guard and 0.5 hours labor credit to add the additional guard.

**K. Tooling:**

N/A

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

Illustrated Parts Catalog (CSP-IPC-4)

**2. ACCOMPLISHMENT INSTRUCTIONS**

Refer to Figure 1 when performing the accomplishment instructions of this Bulletin.

- (1). Remove existing switch guard (P/N 600N7759-1)
- (2). Remove nut securing the switch.
- (3). Place the new switch guard (P/N 600N7769-1) over the switch and reinstall switch nut.
- (4). Place the old switch guard on top of new guard and install washers and screws provided by MDHS.
- (5). Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

**3. DISPOSITION OF PARTS REMOVED**

Scrap

**4. POINTS OF CONTACT**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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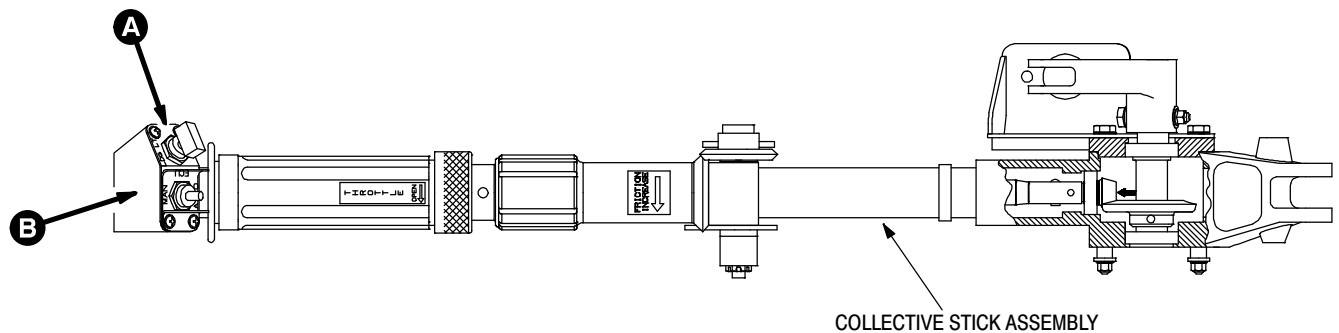
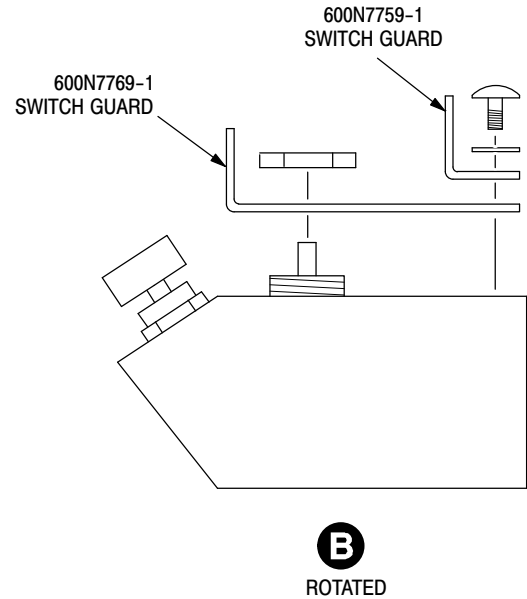
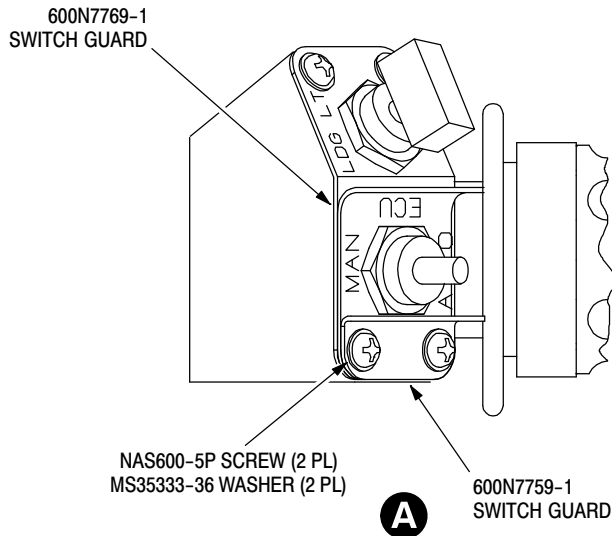


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**Figure 1. ECU Switch Guard Modification.**

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## TORQUE PRESSURE TRANSDUCER HIGH INTENSITY RADIATED FIELDS (HIRF) PROTECTION MODIFICATION

\* Supersedes Service Bulletin 600N-018, dated 08 October 1998. Expanded aircraft effectivity to ensure an accurate torque indication system for all affected helicopters and corrected connector part number. Aircraft which have complied with SB600-018 have met the intent of this revision.

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 600N helicopters, serial number RN003 thru RN047.

#### B. Assembly/Components Affected By This Notice:

Torque and TOT display unit to the Torque Transducer to the Voice Warning box interconnect wiring, and Torque Transducer, P/N PX9606.

#### C. Reason:

To prevent possible inaccuracy of the torque indicating system caused by high intensity radiated fields and to comply with JAA Interim HIRF Policies INT/POL/27 & 29/1, Issue 2, dated 01 June 1997.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to the modification of interconnect wiring for the torque indicating system to prevent possible inaccurate indications and to comply with JAA Interim HIRF Policies.

#### E. Time of Compliance

The requirements of this Bulletin shall be accomplished at the next major inspection or as parts become available, or no later than 31 January 2001, or prior to registering the helicopter in a country that requires compliance to the JAA Interim HIRF Policies (JAA INT/POL/27 & 29/1, Issue 2, dated 01 June 1997 or later revision), whichever occurs first.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

Eight (8) manhours.

#### H. Interchangeability:

None

#### I. Disposition of Parts Removed:

The removed Torque Pressure Transducer is the same part number as the Engine Oil Pressure Transducer, and may be retained as a spare engine oil pressure transducer.

#### J. Points of Contact

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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## K. Material/Part Availability:

Contact MDHS Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Transducer, Pressure, Torque	PX10126	1	MDHS
Wire, Shielded, Single Conductor	M27500-22SD1T23 (ref. RM #011234)	272 in (691 cm)	MDHS
Wire, Shielded, Two Conductor	M27500-22SD2T23 (ref. RM #011129)	212 in (539 cm)	MDHS
Jumper, Shielding	M83519/2-8	13	MDHS
Connector (P23)	MS27484T8F35S	1	MDHS
Backshell (P23)	M85049/17-08N02	1	MDHS
Contact, Pin (J1201)	M39029/58-360	3	MDHS
Contact, Socket (P19)	M39029/32-259	1	MDHS
Contact, Socket (TB200-6)	M39029/22-191	3	MDHS
Contact, Socket (P23)	M39029/57-354	4	MDHS

## L. Warranty Policy:

Parts will be provided at no cost. Eight (8) hours of labor will be provided to compensate for actual labor hours, not to exceed eight (8) hours.

## M. Tooling:

Tools listed in this table may be purchased from the sources in the table notes or provided on loan from Boeing. Contact your Field Service Representative to arrange for loaner tool. (Ref. **1.J. Points of Contact**).

REQUIRED TOOLS FOR ELECTRICAL TERMINATIONS					
Item No.	Availability (Ref. Note:)	Tool Frame Part No.	Turret Part No.	Positioner Part No.	Insertion/Extraction Part No.
5	(1)(3) (1) (1)(2)(3) (1)(2)(3)	M22520/1-01	M22520/1-02	N/A	DAK/DRK 20 or M81868/17-09 Insert M81969/19-07 Extract
6	(1) (1)(2)(3)	M22520/2-01	K330-3	86-19	MS3160-20 or 81515-23
	(1)(3)	M22520/7-01	M22520/7-11	N/A	

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REQUIRED TOOLS FOR ELECTRICAL TERMINATIONS (Cont.)					
Item No.	Availability (Ref. Note:)	Tool Frame Part No.	Turret Part No.	Positioner Part No.	Insertion/Extraction Part No.
7	(1)(3) (1) (1)(2)(3)	M22520/2-01	M22520/2-09	N/A	DAK/DRK 95-22M or M81469/14-01
8	(1)(3)	M22520/7-01	M22520/7-06	N/A	M81969/14-01

**NOTE:**

- (1) Daniel's Manufacturing, phone number (407) 855-6161.
- (2) Richie Electrical, phone number (800) 966-1161 and (602) 831-1318.
- (3) MDHS Warranty and Repair Dept.

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

Basic Handbook of Maintenance Instruction (CSP-HMI-3).

## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1 and Figure 2)

**A. Modify Fuselage Wire Harness:**

**NOTE:**

- Do Not heat shrink any shield jumpers until all jumpers at that location are in place.
  - Route wires and remove excessive length prior to installing shields and terminations.
  - Route and secure new wires with existing wire harnesses.
- (1). Access P23 and remove existing connector.
  - (2). Cut the shield jumper pigtail from the shield sleeve at J1201-50. Leave the pigtail attached to the shield sleeve at J1201-51.
  - (3). Replace existing E1258B22 with M27500-22SD2T23 two conductor shielded wire.
  - (4). Replace existing torque pressure transducer P/N PX9606 with new P/N PX10126 torque pressure transducer (Ref. CSP-HMI-2).
  - (5). Terminate new E1258B22 with M39029/58-360 (J1201) pins (tool item no.7), M39029/57-354 (P23) sockets (tool item no.8) and install M83519/2-8 shield jumpers.
  - (6). At J1201 insert the white wire into J1201-49 and the blue wire into J1201-50.
  - (7). Insert jumper from J1201-51 into new shield sleeve at J1201-50 and heat shrink shield sleeve.

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- (8). At P23 place M85049/17-08N02 backshell over E1258B22 and shield jumper.
- (9). At P23 insert the white wire into P23-1 and the blue wire into P23-2.
- (10). Replace existing E1259B22 with M27500-22SD1T23 single conductor shielded wire.
- (11). Terminate new E1259B22 with M39029/57-354 (P23) socket (tool item no.8).
- (12). At P23 insert E1259B22 through M85049/17-08N02 backshell.
- (13). At P23 install M83519/2-8 shield jumper onto E1259B22, insert conductor into P23-3 and daisy chain shield jumper with shield of E1258B22.
- (14). Using previously removed 24 AWG single conductor wire, fabricate a shield jumper pigtail of sufficient length to jumper the shield on E1259B22 and P23-4.
- (15). At P23 terminate fabricated shield jumper with M39029/57-354 socket (tool item no.8) and insert into P23-4.
- (16). Insert remaining end of fabricated shield jumper into shield sleeve on E1259B22.
- (17). At P23 ensure all shield jumpers are in place and heat shrink shield sleeves.
- (18). Terminate the shield jumper from E1258B22 into the shield termination area of P23 backshell.
- (19). Terminate new E1259B22 with M39029/22-191 (TB200) socket (tool item no.6) and M83519/2-8 shield jumper.
- (20). Insert E1259B22 into TB200-6-R.
- (21). Replace existing E1259BBB22 with M27500-22SD1T23 single conductor shielded wire.
- (22). Terminate new E1259BBB22 with M39029/22-191 (TB200) socket (tool item no.6) and M39029/32-259 (P19) socket (tool item no.5).

**NOTE:** Shield is not terminated on E1259BBB22 at P19.

- (23). Install M83519/2-8 shield jumper onto E1259BBB22 at TB200.
- (24). At TB200 insert E1259BBB22 into TB200-6-S.
- (25). At P19 insert E1259BBB22 into P19-K
- (26). Replace existing E1259BB22 with M27500-22SD1T23 single conductor shielded wire.
- (27). Terminate new E1259BB22 with M39029/22-191 (TB200) socket (tool item no.6) and M39029/58-360 (J1201) pin (tool item no.7).

**NOTE:** Shield is not terminated on E1259BB22 at J1201.

- (28). Install M83519/2-8 shield jumper onto E1259BB22 at TB200.
- (29). At TB200 insert E1259BB22 into TB200-6-N.
- (30). At J1201 insert E1259BB22 into J1201-65
- (31). At TB200 ensure shield jumpers from TB200-6-S, R, and N are daisy chained together and heat shrink shield sleeves.

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## **B. Modify Console Wire Harness:**

- (1). Disassemble P5 and Install M83519/2-8 shield jumpers onto the shields of P5-3 and P5-4.
- (2). Daisy chain shield jumpers from P5-3, P5-4, and P5-6 together and heat shrink shield sleeves.
- (3). Reassemble P5.
- (4). Close all previously opened access panels.
- (5). Scrap removed parts except transducer which can be retained as a spare engine oil pressure transducer.
- (6). Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

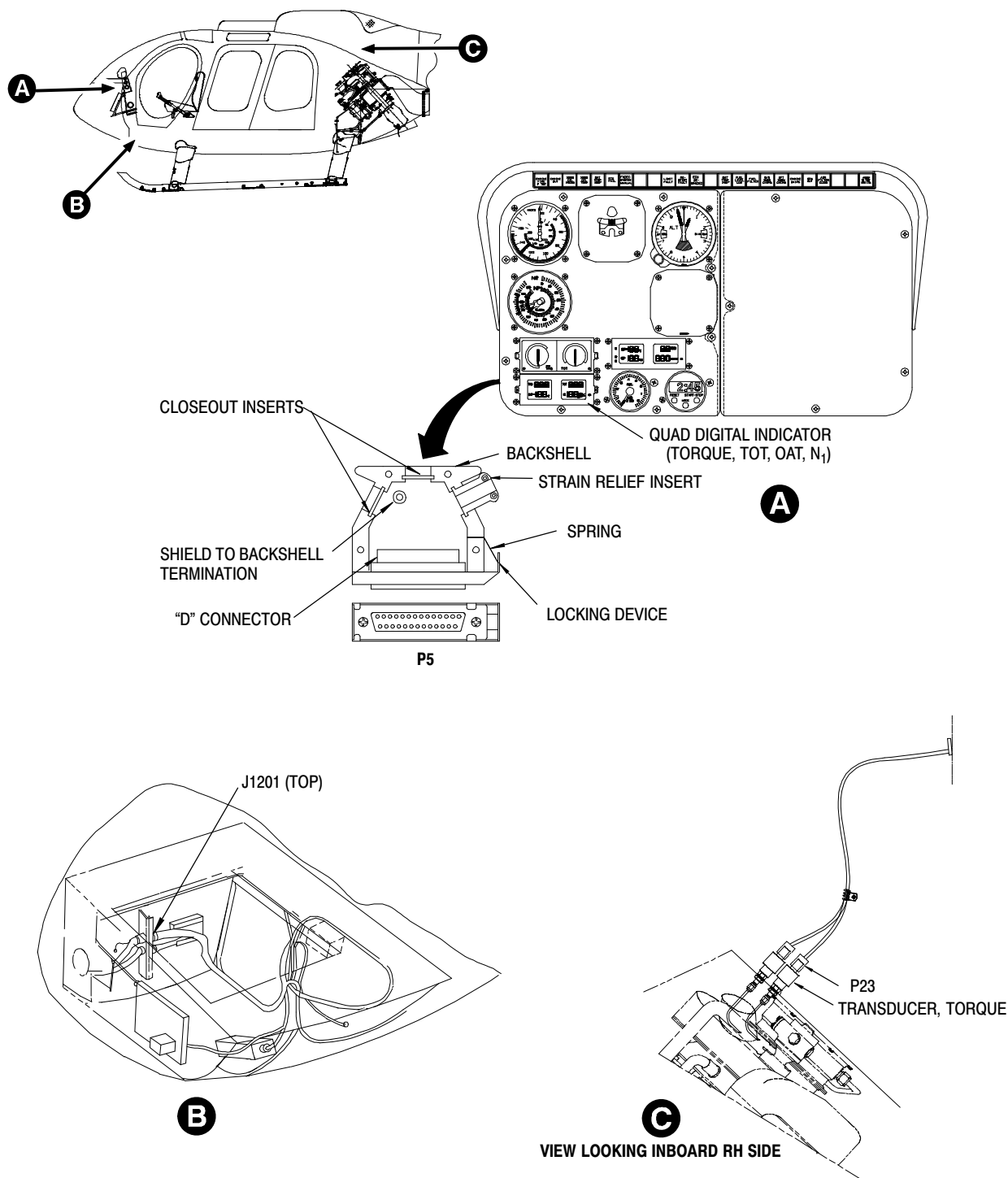
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**Figure 1. Component Locator**

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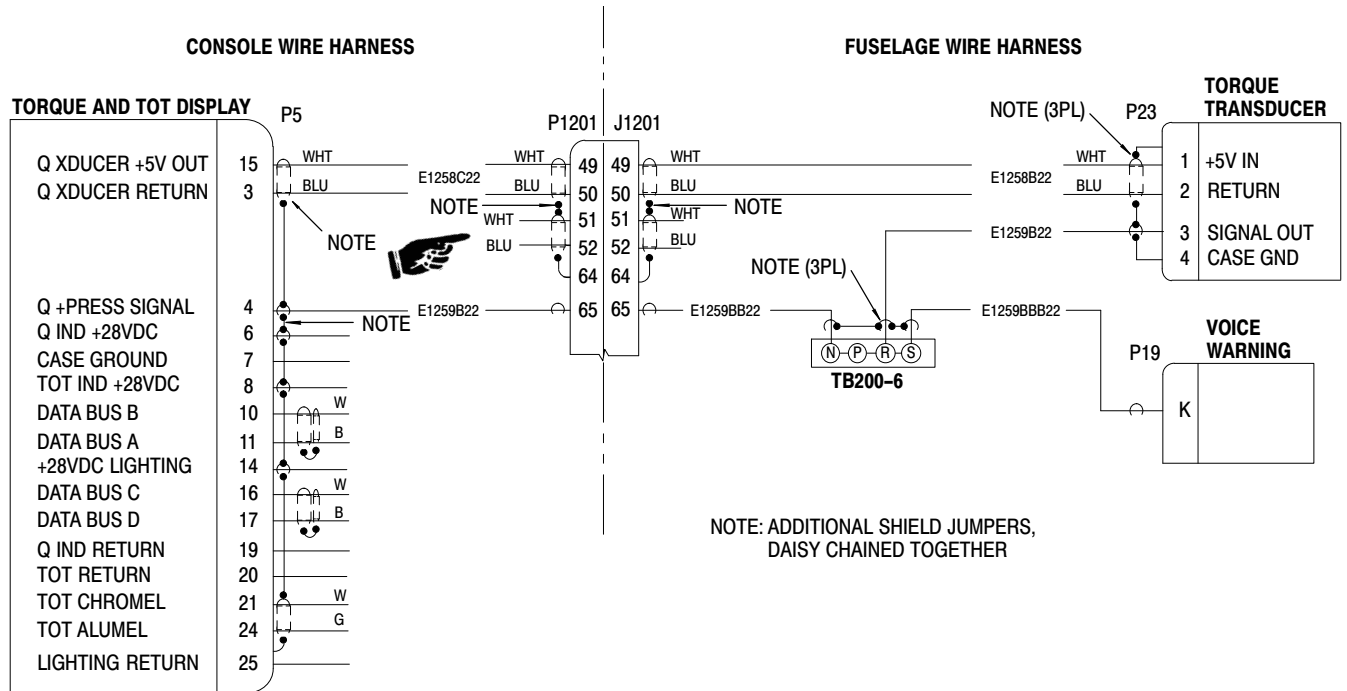


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**Figure 2. Wiring Modification, Torque Pressure Transducer**

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Torque Pressure Transducer High Intensity Radiated Fields (HIRF) Protection Modification

Parts Request Form: Please fill in the following information and return to MDHS for parts/supplies required for compliance. This form may be faxed to MDHS Warranty and Repair Department at (602) 891-3952.

Aircraft Ser. No.:

Aircraft Total Time:

Date:

Parts Required:

Part Ser. No. (if required):

Ship to:

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## FADEC WIRE HARNESS STAND-OFF INSTALLATION INSPECTION AND MODIFICATION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) MD600 helicopters, serial number RN003 thru RN040.

#### B. Assembly/Components Affected By This Notice:

Electrical Wiring Harness Installation (P/N 600N4262)

#### C. Reason:

MDHS has discovered that a possible internal wire harness shorting condition may occur if a longer length screw is substituted for the proper screw in the aft compartment trim above the FADEC ECU, in the drive shaft closeout area. Failure to comply with the requirements of this Bulletin could cause FADEC fault lights to illuminate and/or prevent the ship from starting due to FADEC faults.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to inspecting the FADEC wire harness for any possible damage from adjacent hardware. This Bulletin also requires operators to install three pan poles to provide additional clearance for trim mounting screws in the transmission drive shaft area.

#### E. Time of Compliance

The requirements of this Bulletin shall be accomplished within the next 100 hours of helicopter operation or no later than 30 November 1999.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

2.0 man-hours.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHI Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Pan Pole	PP2S-S10	3	MDHI
Nut	MS21043-08	3	MDHI

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REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Screw	MS51957-45	3	MDHI
Washer	NAS620A8L	6	MDHI
Tie-Straps	MS3367-1	3	MDHI

**J. Warranty Policy:**

MDHI will provide parts and 2.0 hour of labor credit to operators.

**K. Tooling:**

N/A

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

Illustrated Parts Catalog (CSP-IPC-4)

**2. ACCOMPLISHMENT INSTRUCTIONS**

- (1). Remove trim panels as required to expose the FADEC wire harness attach points above the FADEC ECU in the aft compartment. Inspect wire harness for any damage from adjacent hardware. If there is apparent chaffing on the wire harness cover (NOMEX cover), the wire harness may be removed and a pin to pin continuity check can be made. The wire harness is not field repairable and, if the stainless steel braid is damaged and/or pin to pin continuity check has failed, the harness must be replaced.
- (2). Remove the tie straps that secure the FADEC wire harness to the ships structure and secure the wire harness to provide adequate clearance to perform the following rework.
- (3). Locate and install the three Pan Pole standoffs as shown on Figure 1.
- (4). Secure FADEC wire harness to the standoffs using tie straps. **NOTE:** The transmission drain lines may be secured to these standoffs as well for convenience. It is not necessary to remove the existing tie bases in the rework area.
- (5). Reinstall any trim panels previously removed.
- (6). Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book. Complete the attached form and FAX back to MDHS.

**3. DISPOSITION OF PARTS REMOVED**

Scrap locally.

**4. POINTS OF CONTACT**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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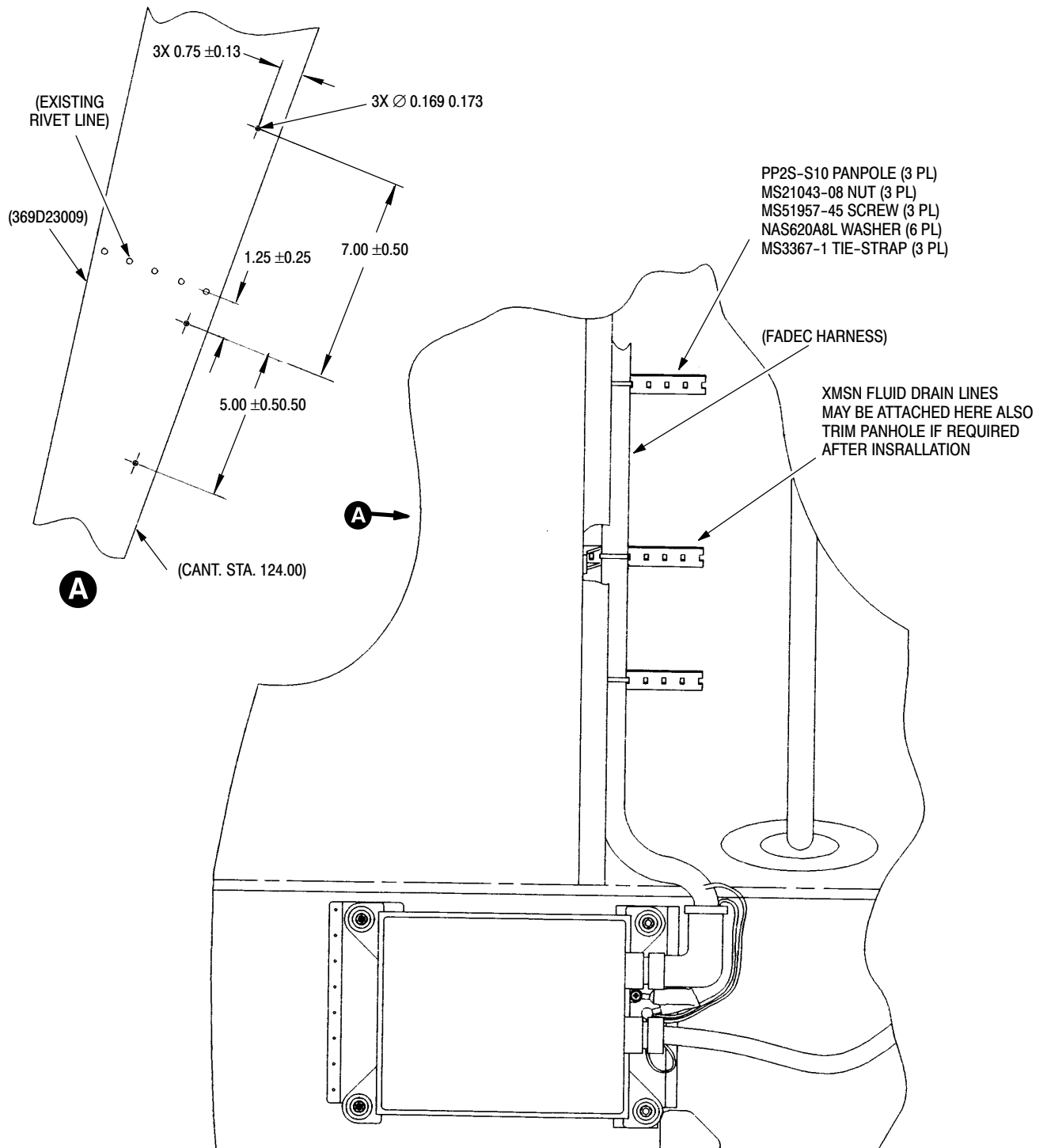
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**Figure 1. FADEC Wire Harness Routing Rework.**

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**Service Bulletin Compliance Form**

**Aircraft Serial Number:**

**Date of Compliance:**

**Person Reporting Compliance:**

**Replacement Parts Required:**

**FAX this form to (602) 891-6782**

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\* Supersedes SB600N-020R1 dated 22 February 2000, revised to incorporate FAA Policy ASW-2001-01.

## ELECTROMAGNETIC COMPATIBILITY (EMC) TEST FOR OPTIONAL EQUIPMENT EFFECTS ON THE FADEC CONTROL

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 600N helicopters with assembly/components affected by this notice.

#### B. Assembly/Components Affected By This Notice:

Any modification, not previously approved, with a high potential for electromagnetic interference (EMI). Electrical equipment is determined to have a high potential for interference if the optional electrical equipment requires large currents (greater than 25 amps) to operate, radiates strong (greater than 30 watts) electromagnetic fields, has a transmitting antenna located near (less than 1.64 feet (0.5 m) away) the FADEC system, or has a High Frequency (HF) transmitter of any power. Examples of types of equipment in this class are HF radios, high powered radars, hoists, and radio installations with transmitting antennas located near the FADEC system. Examples of types of equipment possibly requiring large currents to operate or radiating strong electromagnetic fields are EMS equipment, night sun lights, air conditioners, video and sound systems, FLIR sensors, forward looking radars, weather radars, communication systems and datalink transmission systems. Equipment that does not meet this criteria is considered to not have a high potential for interference and does not need to be tested per this Bulletin.

Do not test previously approved installations, or installations identical to those previously approved by the FAA or through compliance to previous revisions of this Bulletin.

Do not test Type Certificated or Supplemental Type Certificated installations, or installations qualified to a Federal Aviation Administration accepted standard for radiated and conducted emissions.

#### C. Reason:

Type certificate data sheet H3WE requires an (EMC) test for any modification with a high potential for (EMI). This test demonstrates that the operation of optional electrical equipment does not adversely affect the operation of the Full Authority Digital Electronic Control (FADEC) system for the Rolls-Royce Allison (RRA) 250-C47M engine. Failure to comply with this Bulletin may result in abnormal operation or loss of the FADEC system. This condition may cause a precautionary/emergency landing situation.

#### D. Description:

This test consists of ground and/or flight tests, during which the Equipment Under Test (EUT) is operated while the FADEC system is monitored for any anomalies.

#### E. Time of Compliance:

Recurring compliance, upon installation of assembly/components affected by this bulletin.

#### F. FAA Approval:

The technical aspects of this Bulletin are FAA Approved.

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**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****G. Manpower:**

All tests shall be witnessed by a test director who has received instruction from RRA in the use of Chandler Evans Maintenance Terminal 95 and a pilot qualified in the MD600N.

**NOTE:** RRA personnel will provide instructions on completion of this test procedure using the 250-C47M engine maintenance terminal software. Following instruction and FAA concurrence, the trained personnel may complete the testing as defined by 600N-CE-8044P.

**H. Criteria For Determining Ground/Flight Test Applicability:**

In most cases, ground and flight testing is required to show EMC. If the optional electrical equipment can only be operated under flight conditions, then ground testing need not be performed.

**I. Test Site and Facility:**

Conduct the test at a location that minimizes EMI to the aircraft from external sources.

**J. Test Data Documentation:**

(Ref. Figure 1, Figure 2, and Figure 3)

A report cover sheet and test data sheets shall be prepared prior to the test. Test data sheets shall identify each operating mode of the EUT.

For EUT that can operate over multiple frequencies, test at least one (1) frequency in the low end, middle, and high end of the range. EUT that can operate over a large frequency range test at least one (1) frequency in each octave of frequency range and at the low and high end of the overall range. If any EMI response is detected during testing, perform additional testing to determine the frequency at which the greatest EMI effect occurs.

At the completion of the test, a report consisting of the cover sheet and test data sheets must be approved by an approved technician or a RRA representative. The approved technician or RRA representative's signature on the report cover sheet verifies the test data has been reviewed and there is no unacceptable EMI effect on the FADEC system.

A copy of this report shall be delivered to MDHI Field Service for MDHI records. Any and all installations that result in a detected EMI effect are to be reported by MDHI to the FAA, Los Angeles Aircraft Certification Office.

Contact RRA for requirements on becoming an approved technician.

**K. Equipment Installation Approval:**

Approval of the optional equipment installation shall be the responsibility of the installing organization.

**L. Points of Contact:**

For further assistance, contact your local MDHI Field Service Representative or contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or (480) 346-6387.  
DATAFAX: (480) 346-6813.

**M. Warranty Policy:**

None

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## **N. Tooling:**

Refer to the latest revision of the “600N Electromagnetic Compatibility Test For Optional Equipment Effects On The FADEC”, MDHS document number 600N-CE-8044P, for tooling requirements. Contact MDHI Field Service to verify or obtain the latest revision of the test document 600N-CE-8044P.

## **O. Other Publications Affected:**

None

## **2. ACCOMPLISHMENT INSTRUCTIONS**

- (1). Perform EMC test in accordance with the latest revision of MDHS document 600N Electromagnetic Compatibility Test For Optional Equipment Effects On The FADEC, number 600N-CE-8044P.
- (2). Record compliance to this Bulletin in the Compliance Record section of the rotorcraft Log Book, and specify all equipment tested.

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**EMC EVALUATION TEST REPORT FOR**  
**NON-QUALIFIED ELECTRICAL/ELECTRONIC**  
**EQUIPMENT WITH A HIGH POTENTIAL FOR INTERFERENCE**  
**INSTALLED ON THE MD600N**  
**HELICOPTER EQUIPPED WITH THE ROLLS-ROYCE MODEL**  
**250-C47M FADEC SYSTEM**

**These tests are accomplished in accordance with the FAA  
approved test procedure in latest revision of MDHS  
approved test procedure 600N-CE-8044P**

## AIRCRAFT TESTED

Aircraft Registration Number \_\_\_\_\_ Date of Test \_\_\_\_\_

Aircraft Serial Number \_\_\_\_\_

## TEST RESULTS APPROVAL

Authorized Technician \_\_\_\_\_ Date: \_\_\_\_\_

### Figure 1. Sample Report Cover Sheet

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## EMC TEST DATA SHEET

TEST PHASE:	_____	DATE:	_____
HELICOPTER S/N:	_____	PILOT	_____
AUTHORIZED TECHNICIAN	_____	TEST DIRECTOR	_____

SOURCE			VICTIM (FADEC)	
EQUIPMENT	FILE NAME	OPERATING MODE	TEST PASS	TEST FAIL
CLEAR	T0A	NO EQUIPMENT UNDER TEST		
#1 KX-165 NAV/COM	T1A	ON/OFF		
#1 KX-165 NAV/COM	T1B	TRANSMIT ON 118.0		
#1 KX-165 NAV/COM	T1C	TRANSMIT ON 123.7		
#1 KX-165 NAV/COM	T1D	TRANSMIT ON 128.65		
#1 KX-165 NAV/COM	T1E	TRANSMIT ON 135.9		
#2 KX-196A COM	T2A	ON/OFF		
#2 KX-196A COM	T2B	TRANSMIT ON 118.0		
#2 KX-196A COM	T2C	TRANSMIT ON 123.7		
#2 KX-196A COM	T2D	TRANSMIT ON 128.65		
#2 KX-196A COM	T2E	TRANSMIT ON 135.9		
KMA-24H-71 AUDIO PANEL	T3A	ON/OFF		
KT-76A TRANSPONDER	T4A	ON/OFF		
KT-76A TRANSPONDER	T4B	STANDBY TO ALT PUSH IDENT (XPDR MUST BE INTERROGATED)		
KG55A COMPASS SYSTEM	T5A	ON/OFF		

Notes:

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**Figure 3. Sample Test Data Sheet (Sheet 1 of 2)**

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## EMC TEST DATA SHEET

TEST PHASE:	_____	DATE:	_____
HELICOPTER S/N:	_____	PILOT	_____
AUTHORIZED TECHNICIAN	_____	TEST DIRECTOR	_____

SOURCE			VICTIM (FADEC)	
EQUIPMENT	FILE NAME	OPERATING MODE	TEST PASS	TEST FAIL
KG-55A COMPASS SYSTEM	T5B	SLAVE COMPASS LEFT AND RIGHT		
VIDEO RECORDER	T6A	ON/OFF		
VIDEO RECORDER	T6B	ACTIVATE RECORD/PLAY MODES		
VIDEO RECORDER	T6C	ACTIVATE FAST FORWARD & REWIND		
WESCAM CAMERA	T7A	ON/OFF		
WESCAM CAMERA	T7B	PAN LEFT/RIGHT AND UP/DOWN		
WESCAM CAMERA	T7C	ZOOM IN/OUT & 2X EXTENDER IN/OUT		
WESCAM CAMERA	T7D	FOCUS & 2X EXTENDER IN/OUT		
KRA10A RADAR ALT	T8A	ON/OFF		
KRA10A RADAR ALT	T8B	PRESS TO TEST		
KN-63 DME	T9A	RECEIVE LOCK ON DISTANCE THEN OFF/ON		
ARGUS 5000 MOVING MAP	T10A	ON/OFF		
FREZZI TALENT LIGHT	T11A	ON/OFF		
END	T12A	ALL EQUIPMENT UNDER TEST ON		

Notes:

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**Figure 3. Sample Test Data Sheet (Sheet 2 of 2)**

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## INSPECTION/REIDENTIFICATION/SERIALIZATION OF CYCLIC CONTROL STICK SOCKETS AND LEFT HAND COMMAND (CO-PILOT) CYCLIC TUBE

\* Supersedes SB600N-021, dated 09 November 1998. This Service Bulletin is being revised to include additional aircraft effectivities.

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) MD600N helicopters, serial numbers RN003 thru RN051.

#### B. Assembly/Components Affected By This Notice:

Pilot and Co-Pilot Cyclic Control Stick Assemblies (P/N 369D24285-505, 369D24285-507, 369D24286-BSC, and 369D24286-509); Pilot and Co-Pilot Sockets (P/N 369A7141 and 369A7802) and Co-Pilot Cyclic Tube (P/N 369D27132-501) Refer Table I for assembly configurations.

#### C. Reason:

To inspect all MD600N pilot and co-pilot cyclic control stick assemblies for cracks in the area of the socket housings. To add serial numbers to all socket housings and left hand command co-pilot cyclic tube assemblies. Failure to comply with the requirements of this Bulletin may result in total loss of cyclic control of the helicopter.

#### D. Description:

**PART I** - Provides operators with instructions to initially remove the cyclic control sticks from the helicopter, remove the paint in the area of the seven (7) tube attach rivets (or quick disconnect pin holes on the co-pilot's stick) and perform an inspection of that area using a bright light and a 10X magnifying glass. **PART I** also provides instructions to apply serial numbers and new part numbers to all socket housings. Additionally, operators will add serial numbers and new part numbers to the left hand command co-pilot cyclic tubes.

**PART II** - Provides operators with instructions to perform subsequent inspections of the same areas for cracks using a bright light and a 10X magnifying glass at each subsequent eight (8) hours of helicopter operation. **PART II** does not necessitate removal of the cyclic control stick from the helicopter.

#### E. Time of Compliance:

**PART I** - Prior to next flight (one-time only), for aircraft with 100 hours or greater of helicopter operation.

**PART II** - At each subsequent eight (8) hours of helicopter operation.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

**PART I** - 2.5 man-hours.

**PART II** - 0.5 man-hours.

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**H. Interchangeability:**

None

**I. Material/Part Availability:**

Contact MDHS Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES (See Notes below)			
Nomenclature	Part No.	Qty.	Source
Cyclic Control Stick Assembly, Pilot (left hand command)	369D24285B905	A/R	MDHS
Cyclic Control Stick Assembly, Pilot (right hand command)	369D24285B907	A/R	MDHS
Cyclic Control Stick Assembly, Co-Pilot (right hand command)	369D24286B909	A/R	MDHS
Cyclic Control Stick Assembly, Co-Pilot (left hand command)	369D24286B913	A/R	MDHS
Paint Remover, Epoxy Alkaline Type (MIL-R-81294)  <b>NOTE:</b> The specified type of paint remover is the <i>only</i> paint remover allowed when accomplishing this Service Bulletin.	B&B 1617 B&B 1567C	A/R	B&B Chemical Co., Inc. 875 W. 20th St. Hialeah, FL 33010
	Turco 5469 Turco 5981	A/R	Turco Products Industrial Division of Pennwalt Corp. 24600 S. Main St. Carson, CA 90744
	Eldorado PR-3444 Eldorado PR-3500 Eldorado PR-3505	A/R	Eldorado Chemical Co., Inc. P.O. Box 32101 San Antonio, TX 78216

NOTE: These are the part numbers that should be used when ordering replacement parts. These assemblies consist of the cyclic stick and socket only and will require your grip and harness to complete the assembly. The replacement parts listed above are life-limited assemblies (1000 hours).

**J. Warranty Policy:**

MDHS will provide replacement parts and a labor credit, not to exceed 2.5 hours.

**K. Tooling:**

N/A

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

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## **N. Other Publications Affected:**

Handbook of Maintenance Instructions (CSP-HMI-2)

## **2. POINTS OF CONTACT**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

## **3. ACCOMPLISHMENT INSTRUCTIONS**

Refer to Figures 1 and 2.

### **A. PART I - INITIAL REMOVAL/INSPECTION/REIDENTIFICATION OF CYCLIC STICK ASSEMBLY FOR AIRCRAFT WITH 100 HOURS OR GREATER OF HELICOPTER OPERATION**

(1). Inspect sockets.

- (a). Remove cyclic control stick assemblies from the helicopter per instructions in the Handbook of Maintenance Instructions, Section 67-10-00.



Use only those paint removers listed above (per MIL-R-81294). Other paint removers may cause damage to the magnesium part.

- (b). Using an acceptable paint remover and the manufacturer's instructions, remove paint on the lower end of the cyclic control stick assembly in the area of the seven (7) tube attach rivets (pilot side) and quick disconnect pin holes (co-pilot side) shown in Figures 1 and 2.
- (c). Rinse area where paint remover has been applied with water.
- (d). Using a bright light and a 10X magnifying glass, inspect the rivet area for cracks extending radially from the rivets and along the fillet surfaces (or quick disconnect pin holes on the co-pilot's stick), as shown in Figures 1 and 2. No cracks are allowed.

**NOTE:** Cyclic control stick assemblies that show any indications of cracking, corrosion or have reached 1000 hours of service life must be replaced with a serviceable part.

(2). Re Identify parts per Table I.

- (a). For cyclic stick assemblies that do not show cracks apply new part numbers to the sockets (Ref. Table I, Fig. 1 and Fig. 2) and serial numbers (Ref. Table III) using ink stamp permanent paint (MIL-M-43719). Apply the serial number in an area/location that will be the most visible when the part/assembly is installed. Record serial number in the Installed Component Record section of the helicopter Log Book.
- (b). Apply serial numbers (Ref. Table II) to the left hand command co-pilot's cyclic tubes using ink stamp permanent paint (MIL-M-43719). Apply the serial number in an area/location that will be the most visible when the part/assembly is installed.
- (c). Apply part number 369D27132-503 (Ref. Table I) to the cyclic tube. Record serial number and new part number in the Installed Component Record section of the helicopter Log Book.

(3). Install serviceable cyclic control stick assemblies per the Handbook of Maintenance Instructions, Section 67-10-00.

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- (4). Record compliance to **PART I** of this Service Bulletin in the Compliance Record section of the helicopter Log Book. As necessary, fill out the attached Compliance Record form and FAX the completed form back to MDHS.

## **B. PART II - 8 HOUR INSPECTION OF CYCLIC CONTROL STICK ASSEMBLY**

Refer to Figures 1 and 2.

- (1). As necessary remove cover to gain access to the bottom area of the cyclic control stick assembly.
- (2). Using a bright light and a 10X magnifying glass, inspect the rivet area for cracks extending radially from the rivets and along the fillet surfaces (or quick disconnect pin holes on co-pilot's stick), as shown in Figures 1 and 2. No cracks are allowed.

**NOTE:** Cyclic control stick assemblies that show any indications of cracking, corrosion or have reached 1000 hours of service life must be replaced.

- (3). Record compliance to **PART II** of this Service Bulletin in the Compliance Record section of the helicopter Log Book.

## **C. Disposition of Parts Removed**

Return to MDHS

**TABLE I: CONFIGURATION MODIFICATIONS**

ASSEMBLY		ACTION	NEW PART NO.	NEW SERIAL NO.
369D24285-505, Stick Assembly - Cyclic Control, Pilot		Reidentify per Part I	369D24285-905	N/A
Tube Assembly	369D27132-503	N/A	N/A	N/A
Socket	369A7141	Inspect and reidentify per Part I	369A7141-5	Ref. Table III
369D24285-507, Stick Assembly - Cyclic Control, Pilot		Reidentify per Part I	369D24285-907	N/A
Tube Assembly	369D27132-503	N/A	N/A	N/A
Socket	369A7141	Inspect and reidentify per Part I	369A7141-5	Ref. Table III
369D24286-BSC, Stick Assembly - Cyclic Control, Co-Pilot		Reidentify per Part I	369D24286-913	N/A
Tube Assembly	369D27132-501	Reidentify per Part I	369D27132-503	Ref. Table II
Socket	369A7802	Inspect and reidentify per Part I	369A7802-3	Ref. Table III
369D24286-509, Stick Assembly - Cyclic Control, Co-Pilot		Reidentify per Part I	369D24286-909	N/A

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Tube Assembly	369D27132-503	N/A	N/A	N/A
Socket	369A7802	Inspect and reidentify per Part I	369A7802-3	Ref. Table III

**TABLE II: LEFT HAND COMMAND (CO-PILOT) CYCLIC TUBE  
(P/N 369D27132-503) SERIAL NUMBERS**

AIRCRAFT SER. NO.	TUBE ASSY SER. NO.	AIRCRAFT SER. NO.	TUBE ASSY SER. NO.
RN003	009999-0101	RN028	009999-0126
RN004	009999-0102	RN029	009999-0127
RN005	009999-0103	RN030	009999-0128
RN006	009999-0104	RN031	009999-0129
RN007	009999-0105	RN032	009999-0130
RN008	009999-0106	RN033	009999-0131
RN009	009999-0107	RN034	009999-0132
RN010	009999-0108	RN035	009999-0133
RN011	009999-0109	RN036	009999-0134
RN012	009999-0110	RN037	009999-0135
RN013	009999-0111	RN038	009999-0136
RN014	009999-0112	RN039	009999-0137
RN015	009999-0113	RN040	009999-0138
RN016	009999-0114	RN041	009999-0139
RN017	009999-0115	RN042	009999-0140
RN018	009999-0116	RN043	009999-0141
RN019	009999-0117	RN044	009999-0142
RN020	009999-0118	RN045	009999-0143
RN021	009999-0119	RN046	009999-0144
RN022	009999-0120	RN047	009999-0145
RN023	009999-0121	RN048	009999-0146
RN024	009999-0122	RN049	009999-0147
RN025	009999-0123	RN050	009999-0148
RN026	009999-0124	RN051	009999-0149
RN027	009999-0125		

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**MANDATORY MANDATORY MANDATORY**
**TABLE III: SOCKET (369A7141-5 & 369A7802-3) SERIAL NUMBERS**

AIRCRAFT SER. NO.	SOCKET ASSY SER. NO. (Note)	AIRCRAFT SER. NO.	SOCKET ASSY SER. NO. (Note)
RN003	009999-0003		
RN004	009999-0004	RN028	009999-0028
RN005	009999-0005	RN029	009999-0029
RN006	009999-0006	RN030	009999-0030
RN007	009999-0007	RN031	009999-0031
RN008	009999-0008	RN032	009999-0032
RN009	009999-0009	RN033	009999-0033
RN010	009999-0010	RN034	009999-0034
RN011	009999-0011	RN035	009999-0035
RN012	009999-0012	RN036	009999-0036
RN013	009999-0013	RN037	009999-0037
RN014	009999-0014	RN038	009999-0038
RN015	009999-0015	RN039	009999-0039
RN016	009999-0016	RN040	009999-0040
RN017	009999-0017	RN041	009999-0041
RN018	009999-0018	RN042	009999-0042
RN019	009999-0019	RN043	009999-0043
RN020	009999-0020	RN044	009999-0044
RN021	009999-0021	RN045	009999-0045
RN022	009999-0022	RN046	009999-0046
RN023	009999-0023	RN047	009999-0047
RN024	009999-0024	RN048	009999-0048
RN025	009999-0025	RN049	009999-0049
RN026	009999-0026	RN050	009999-0050
RN027	009999-0027	RN051	009999-0051

**NOTE:** Locate your rotorcraft serial number. In the column to the right of your serial number is a serial number (009999-XXXX). Apply this serial number to both the 369A7141-5 & 369A7802-3 sockets as applicable.

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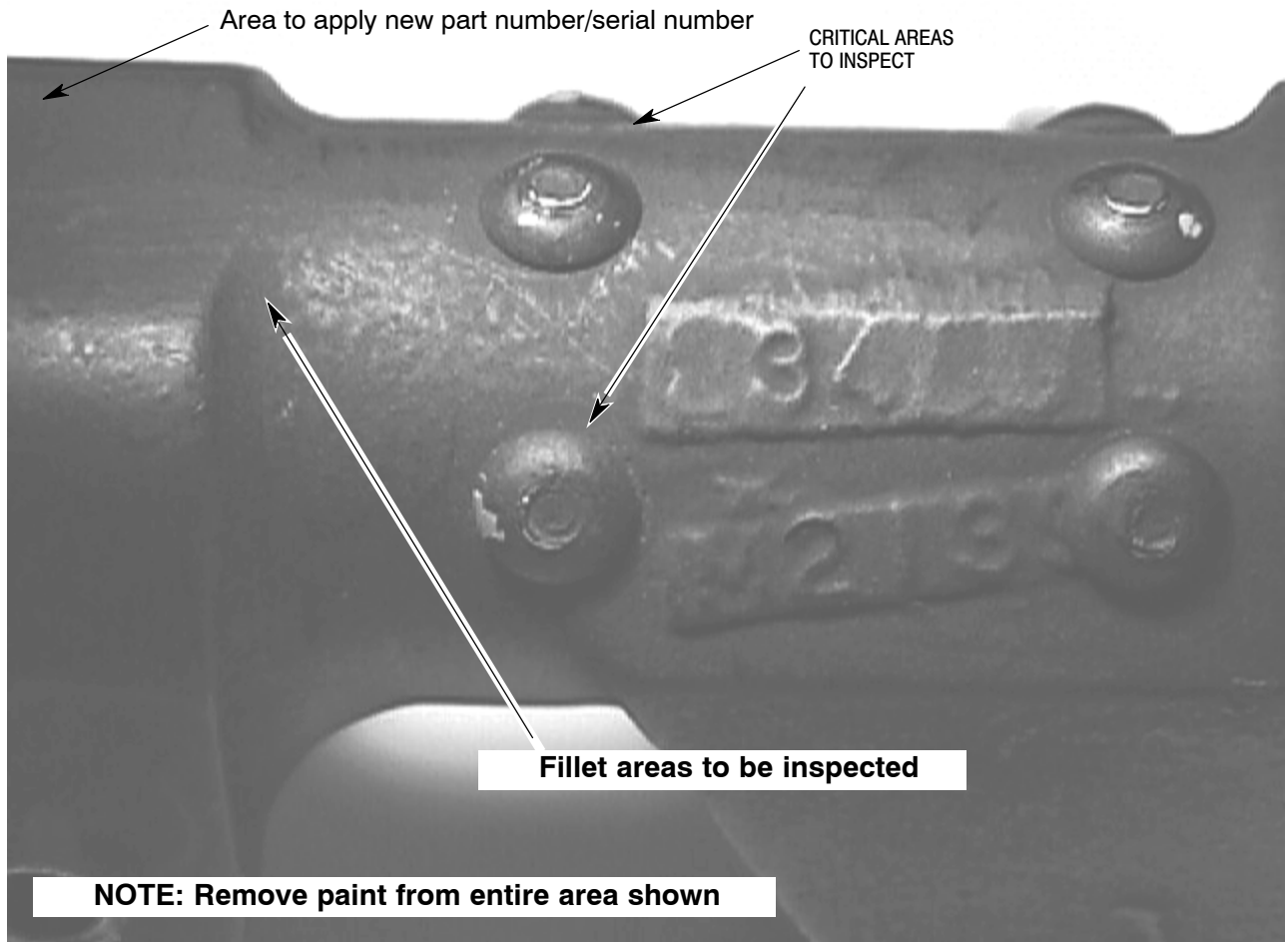


Figure 1. Cyclic Control Stick Inspection (Pilot)

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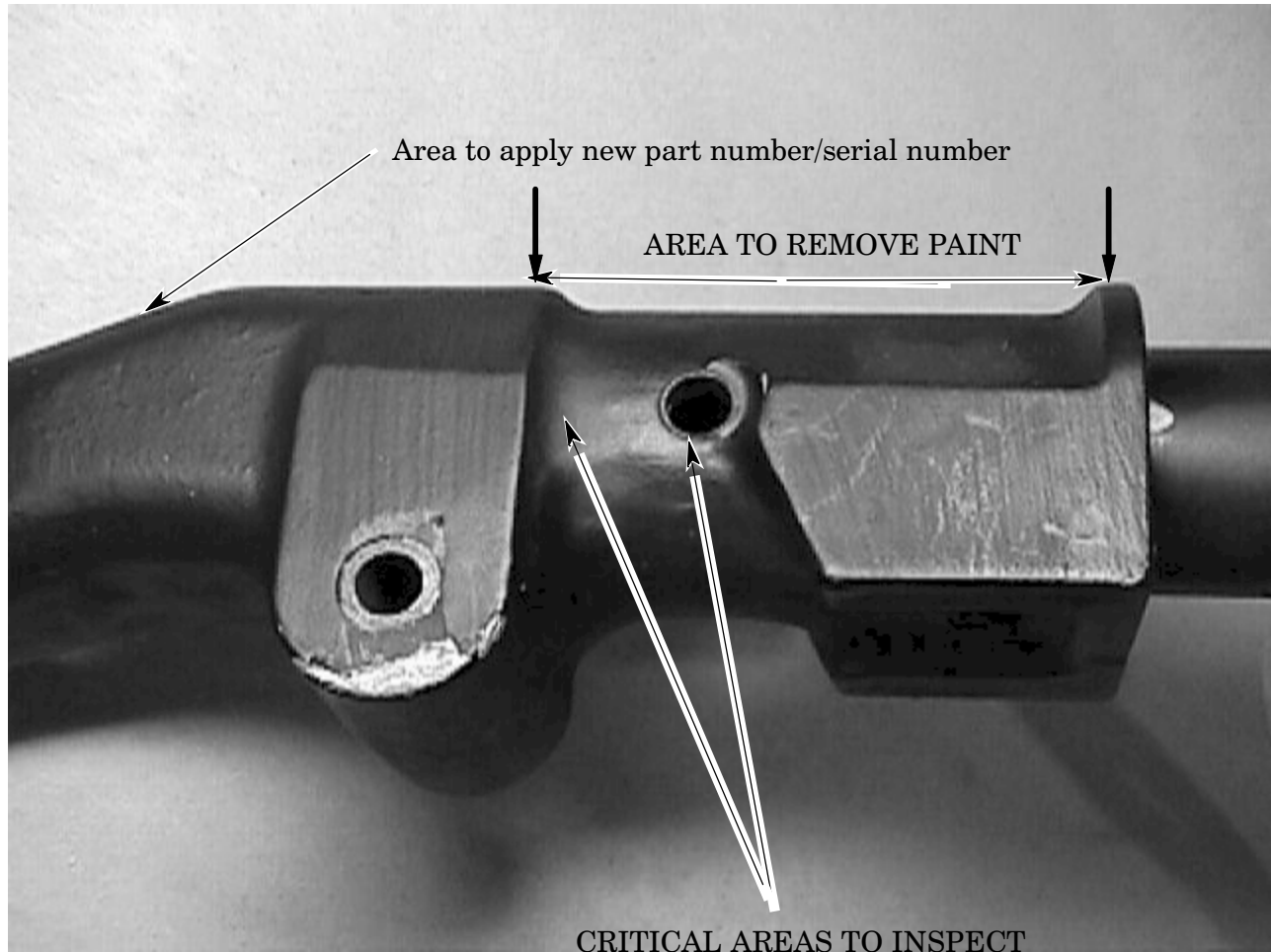


Figure 2. Cyclic Control Stick Assembly Inspection (Co-Pilot)



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## SERVICE BULLETIN COMPLIANCE RECORD FORM

**NAME:**

**A/C SERIAL NUMBER:**

**DATE OF COMPLIANCE:**

**PARTS REQUIRED FOR COMPLIANCE TO SERVICE BULLETIN:**

**FAX COMPLETED FORM TO (602)891-6782**

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## IMPROVED ENGINE TORQUE PRESSURE TRANSDUCER

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) MD600N helicopters, serial number RN003 thru RN047 that are NOT registered in European countries subject to the Joint Aviation Authorities (JAA) HIRF Interim Policies (JAA INT/POL/27 & 29/1, Issue 2, dated 01 June 1997), and DO NOT have engine torque pressure transducer P/N PX9606-1 installed.

#### B. Assembly/Components Affected By This Notice:

Engine torque pressure transducer P/N PX9606.

#### C. Reason:

Engine torque pressure transducer P/N PX9606 may indicate slightly higher torque than actual torque. Failure to comply with this Bulletin may result in the pilot receiving incorrect engine torque indications.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to the replacement of the engine torque pressure transducer.

#### E. Time of Compliance

Within the next three hundred (300) hours of flight or one year, whichever comes first.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

Two (2) man-hours.

#### H. Interchangeability:

The torque pressure transducer P/N PX9606-1 supercedes and is one way interchangeable with the P/N PX9606.

#### I. Disposition of Parts Removed:

Return to MDHI.

#### J. Points of Contact

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

#### K. Material/Part Availability:

Contact MDHI Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Transducer, Pressure, Torque	PX9606-1	1	MDHI

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## L. Warranty Policy:

Part will be provided at no cost. Two (2) hours of labor will be provided to compensate for actual labor hours, not to exceed two (2) hours.

## M. Tooling:

N/A

## N. Weight and Balance:

N/A

## O. Electrical Load Data:

N/A

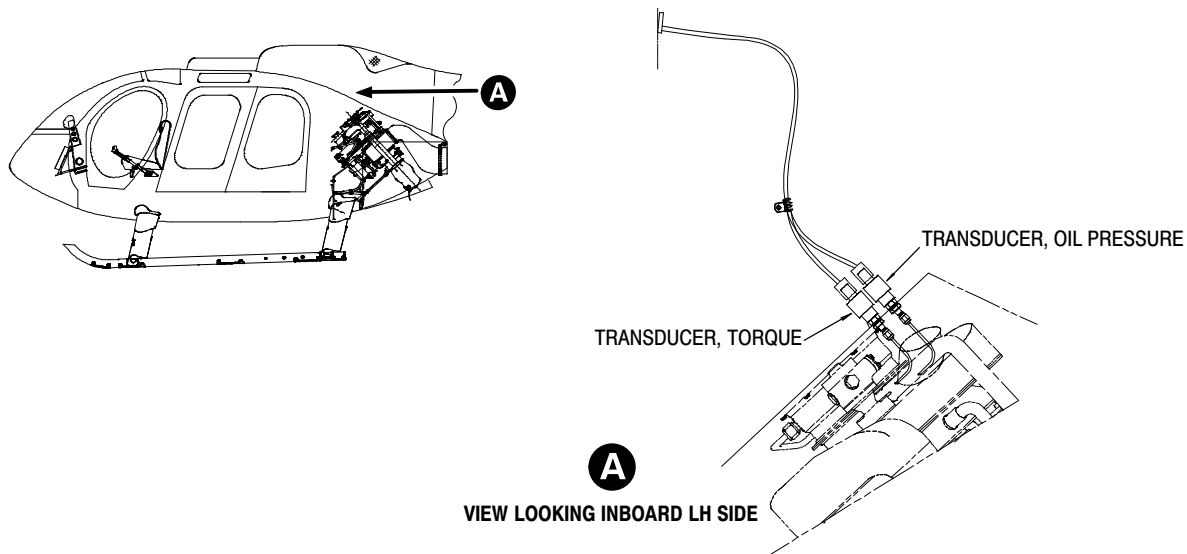
## P. Other Publications Affected:

Illustrated Parts Catalog (CSP-IPC-4).

## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

- (1). Replace existing torque pressure transducer P/N PX9606 with new P/N PX9606-1 torque pressure transducer (Ref. CSP-HMI-2).



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**Figure 1. Pressure Transducer Location**

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## Improved Engine Torque Pressure Transducer

**Parts Request Form:** Please fill in the following information and return to MDHI for parts/supplies required for compliance. This form may be faxed to MDHI Warranty and Repair Department at (602) 891-3952.

Aircraft Ser. No.:

Aircraft Total Time:

Date:

Parts Required:

Part Ser. No. (if required):

Ship to:

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\* Supersedes SB600N-023, dated 05 April 1999. **Reason for Revision:** Extend compliance time. Aircraft which have complied with SB600N-023 meet the intent of this revision.

## CYCLIC STICK REPLACEMENT

**NOTE:** Aircraft that have been modified to the requirements of this Service Bulletin no longer have to perform the requirements of SB600N-021R1.

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All model 600N helicopters, serial number RN003 thru RN051.

#### B. Assembly/Components Affected By This Notice:

Pilot and Co-Pilot Cyclic Control Stick Assemblies (P/N 369D24285-505, 369D24285-507, 369D24285-905, 369D24285-907, 369D24286-513, 369D24286-509, 369D24286-909 and 369D24286-913); Pilot and Co-Pilot Sockets (P/N 369A7141, 369D7141-5 and 369A7802, 369D7802-3) and Co-Pilot Cyclic Tube (P/N 369D27132-501 and 369D27132-503).

#### C. Reason:

To replace life-limited cyclic control assemblies with unlimited life and improved cyclic control assemblies. Failure to perform the requirements of this Service Bulletin will result in having to perform repetitive aircraft inspections and replacement of cyclic sticks as described in SB600N-021R1.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to replacing life-limited cyclic control assemblies with unlimited life cyclic control assemblies.

#### E. Time of Compliance:

The requirements of this Bulletin shall be accomplished within the next 300 hours of helicopter operation or no later than 14 January 2000.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

10.0 man-hours.

#### H. Interchangeability:

None

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## I. Material/Part Availability:

Contact MDHS Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Cyclic Stick Assembly, Pilot, Left Hand Command	600N7140B1 (consists of 600N7141-1 socket and 600N7132-501 tube)	1	MDHI
Cyclic Stick Assembly, Pilot, Right Hand Command	600N7140B3 (consists of 600N7141-1 socket and 600N7132-501 tube)	1	MDHI
Cyclic Stick Assembly, Co-Pilot, Left Hand Command	600N7801B1 (consists of 600N7802-1 socket and 600N7132-501 tube)	1	MDHI
Cyclic Stick Assembly, Co-Pilot Right Hand Command	600N7801B3 (consists of 600N7802-1 socket and 600N7132-501 tube)	1	MDHI
Connector	MS3476W18-32P	2	MDHI
Backshell	M85049/55-18W	2	MDHI
Sleeving	HS5330-1524 (RM 012518) HS5330-1531 (RM 012519)	A/R A/R	MDHI or Commercial
Tie Strap	MS3367-6-0	A/R	MDHI or Commercial

## J. Warranty Policy:

Replacement parts will be supplied by MDHI at no cost to the operator. A spares credit will be provided to compensate for labor (not to exceed 10 man-hours).

## K. Tooling:

Stripping tool (standard)

Crimping tool - MS22520/101-102 or equivalent (MS22520/701-702 or MS22520/201-202)

Insertion tools (M81969/14-02 or equivalent)

## L. Weight and Balance:

N/A

## M. Electrical Load Data:

N/A

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## **N. Other Publications Affected:**

Illustrated Parts Catalog (CSP-IPC-4)

## **2. ACCOMPLISHMENT INSTRUCTIONS**

Refer to Figure 1 Wiring Schematic while performing the requirements of this Service Bulletin.

- (1). Remove cyclic control stick assemblies from the helicopter per instructions in the Handbook of Maintenance Instructions, Section 67-10-00.
- (2). Identify each wire harness subassembly before removing from cyclic assembly for ease on reinstallation (black, green, red, yellow, white) forward hole; (gray, blue, purple twist, green twist) aft hole.
- (3). Securely attach leader string or safety wire to individual wire assemblies before removing from cyclic stick assembly for convenience of reassembly.
- (4). Cut and discard P109/P130 plugs as close to the back of the plug as possible.
- (5). Remove cyclic grip from stick assembly by removing screw per the HMI, Section 67-10-20.
- (6). Carefully remove grip and wire harness from the cyclic stick assembly.
- (7). Reinstall the wire harness sub-assemblies into new stick assembly. Ensure proper location of previously identified wire harness subassemblies.
- (8). Install cyclic grip to stick assembly per the HMI, Section 67-10-20.
- (9). Install new sleeving and new backshell (P/N M85049/55-18W) onto wire harness.
- (10). Using wire stripping tool and crimper, strip and crimp new pins onto wire harness.
- (11). Using insertion tool M81969/14-02 or equivalent, insert pins into the appropriate sockets of the connector (P/N MS3476W18-32P). Ensure pins have locked into the plug. Insert new red closeout plugs in unused sockets.
- (12). Assemble new connector (P109/P130). Position backshell onto plug.
- (13). As necessary, secure wire harness to stick assembly using tie straps.
- (14). Install cyclic stick assemblies into the helicopter per the HMI, Section 67-10-00.
- (15). Perform an operational check of the cyclic stick assemblies per the HMI, Section 67-10-00.
- (16). Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

## **3. DISPOSITION OF PARTS REMOVED**

Return to MDHI.

## **4. POINTS OF CONTACT**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

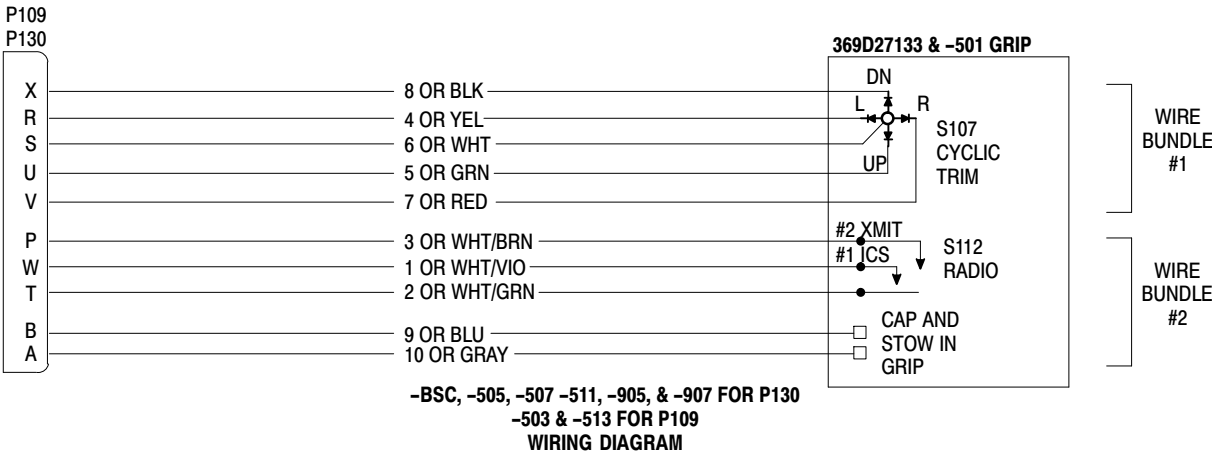
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88-774

Figure 1. Cyclic Stick Assembly Wiring Schematic.





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McDonnell Douglas Helicopter Systems  
Service Bulletin Response Form

Fax to (602) 891-6782

Operator or Company Name:

Location:

Bulletin No.:

Title:

Aircraft Ser. No.:

Date of Compliance:

Person Who Signed-Off Bulletin:

Tele:

Fax:

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# SERVICE BULLETIN

DATE: 06 APRIL 1999

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**MANDATORY**

## LONGITUDINAL MIXER OUTPUT LINK ASSEMBLY REPLACEMENT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All MD Helicopter, Inc. (MDHI) MD600N helicopters, serial number RN003 thru RN049.

#### B. Assembly/Components Affected By This Notice:

Link Assembly, Longitudinal Mixer Output (P/N 600N7635-1)

#### C. Reason:

MDHI has received reports from the field indicating that two 600N7635-1 link assemblies have been found to have loose bearings. Therefore, MDHI is requiring that those link assemblies have to be replaced with the improved 600N7635-5 link assemblies that have had the bearing staked into place. Failure to perform the requirements of this Service Bulletin may result in vibrations within the cyclic controls.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to replacing the 600N7635-1 link assembly with a 600N7635-5 link assembly.

#### E. Time of Compliance

Each operator has been contacted and told to inspect this bearing prior to each flight.

**NOTE:** Replacement link assemblies will be shipped to operators in the field along with this Service Bulletin.

The requirements of this Bulletin shall be accomplished prior to next flight upon receipt of this Service Bulletin and replacement parts.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

1.0 man-hour.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHI Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Link Assembly, Longitudinal Mixer Output	600N7635-5	1	MDHI (replacement links will be shipped along with this Service Bulletin)

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****J. Warranty Policy:**

Replacement parts will be provided at no cost. One man-hour of labor cost will be provided via a spares credit.

**K. Tooling:**

N/A

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:****2. ACCOMPLISHMENT INSTRUCTIONS**

- (1). Remove the 600N7635-1 longitudinal mixer output link assembly per the Handbook of Maintenance Instructions (CSP-HMI-2, Section 62-30-60).
- (2). Install a 600N7635-5 link assembly per the Handbook of Maintenance Instructions (CSP-HMI-2, Section 62-30-60).
- (3). Record compliance to the Service Bulletin in the Compliance Record section of the helicopter Log Book. The attached Service Bulletin Compliance Form shall be filled out and sent or faxed to the Field Service Department.

**3. DISPOSITION OF PARTS REMOVED**

Return to MDHI

**4. POINTS OF CONTACT**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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SB600N-024R1

# SERVICE BULLETIN

DATE: 06 APRIL 1999

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MD Helicopters, Inc.  
Service Bulletin Compliance Response Form

Fax to (602) 891-6782

Operator or Company Name:

Location:

Bulletin No.:

Title:

Aircraft Ser. No.:

Date of Compliance:

Person Who Signed-Off Bulletin:

Tele:

Fax:

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# SERVICE BULLETIN

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## FUEL SYSTEM INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

MD Helicopters, Inc. (MDHI) MD600N helicopters, serial number RN003 thru RN045.

#### B. Assembly/Components Affected By This Notice:

Fuel System Installation (P/N 600N8100)

#### C. Reason:

Presently, some fuel system hoses can inadvertently be interchanged. This will result in fuel starvation and subsequent engine flameout, while the fuel gauge still reads above "0" and the fuel low level light has not illuminated. Failure to comply with the requirements of this Bulletin may result in an engine flameout, loss of power condition which will result in an emergency landing situation.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to inspecting the fuel system to verify proper fuel line connections between the fuel cells and the engine. MDHI is currently in the process of developing new hoses which will eliminate the possibility of intermixing hose connections. MDHI will revise this Bulletin when new design hoses become available. In the interim, MDHI is providing operators with an inspection procedure to ensure proper operation of the aircraft fuel system.

#### E. Time of Compliance:

The requirements of this Bulletin shall be accomplished within the next 100 hours of helicopter operation or no later than 31 August 1999. The requirements of this Bulletin are also being incorporated into the Handbook of Maintenance Instructions because they must be accomplished after any entry into the left fuel cell due to the fact that hoses have to be disconnected and subsequently reinstalled.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

Eight (8) man-hours for Method A

One (1) man-hour for Method B

#### H. Warranty Policy:

A labor credit equal to eight (8) man-hours will be issued.

#### I. Other Publications Affected:

N/A

### 2. POINTS OF CONTACT

For further assistance, contact your local MDHI Field Service Representative (refer to the latest revision of the "At Your Service" handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (602) 891-6342. DATAFAX: (602) 891-6782

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## 3. ACCOMPLISHMENT INSTRUCTIONS

**NOTE:** Operators may comply with the requirements of this Service Bulletin using one of the two following methods. **Method A** is a physical inspection of the subject hoses to verify proper hose connections. **Method B** is a functional test of the fuel system to verify proper hose connections.

## 4. METHOD A

- (1). Gain access to the fuel cell covers and remove the fuel cell covers.
- (2). Verify that all hose connections have been properly installed as shown in Figures 402, 403 and 404 of the Handbook of Maintenance Instructions (CSP-HMI-2, Section 28-00-60). Make any necessary corrections per CSP-HMI-2, Section 28-00-60.
- (3). As necessary, service the fuel system per CSP-HMI-2, Section 12-00-00.
- (4). Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

## 5. METHOD B

- (1). Ensure the aircraft is level. Defuel the aircraft by attaching an external pump to the engine fuel feed hose (disconnect the fuel feed hose from the engine). Verify the fuel gauge reads "0". Make any necessary corrections per CSP-HMI-2, Section 28-00-60. Reinstall the engine fuel feed hose per CSP-HMI-2, Section 28-00-60. Perform a fuel system air bleed check per 28-00-00.
- (2). As necessary, service the fuel system per CSP-HMI-2, Section 12-00-00.
- (3). Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

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# SERVICE BULLETIN

DATE: 11 JANUARY 2000

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## TURBINE OUTLET TEMPERATURE (TOT) WIRE HARNESS, ONE TIME INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

600N helicopters, S/N RN003 thru RN056.

#### B. Assembly/Components Affected By This Notice:

The TC3002 terminal block located on the aft-right face of the engine fireshield.  
The TC300 terminal block located over the left-hand engine bay door.  
P1202J connector located in the battery compartment.  
P5 connector located on TOT indicator.

#### C. Reason:

There have been reports from the field of erroneous turbine outlet temperature (TOT) readings on aircraft equipped with analog/digital TOT indicators. To verify TOT system calibration and prevent the possibility of erroneous TOT indications. Failure to perform the requirements of this Bulletin may result in a condition that could damage critical engine components.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to verifying the installation of proper termination hardware in the aircraft TOT wiring circuitry.

#### E. Time of Compliance:

The requirements of this Bulletin shall be accomplished within the next 100 hours of helicopter operation or no later than 15 March 2000.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

Part I: 0.5 man-hours  
Part II: 3.0 man-hours

#### H. Interchangeability:

None

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# SERVICE BULLETIN

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## I. Material/Part Availability:

Contact MDHI Warranty and Repair Dept.

**NOTE:** Parts are individually packaged. Do not remove from package until you are ready to install. Terminal sockets may be impossible to distinguish from each other.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Terminal Lug, Chromel (stud size #8)	1-321897-0	3	MDHI
Terminal Lug, Alumel (stud size #10)	1-321898-0	3	MDHI
Terminal Pin, Chromel	M39029/87-480	1	MDHI
Terminal Pin, Alumel	M39029/87-479	1	MDHI
Terminal Socket, Chromel	M39029/88-492	1	MDHI
Terminal Socket, Alumel	M39029/88-491	1	MDHI
Terminal Socket, Chromel	010-2020-055C	1	MDHI
Terminal Socket, Alumel	010-2020-055A	1	MDHI
Terminal Socket, Chromel	M39029/88-484	1	MDHI
Terminal Socket, Alumel	M39029/88-483	1	MDHI
Terminal Pin, Chromel	M39029/87-476	1	MDHI
Terminal Pin, Alumel	M39029/87-475	1	MDHI

TOOLS AND EQUIPMENT	
Nomenclature	Source
Crimping tool P/N 46673-L (for terminal lugs)	AMP Inc. 441 Friendship Rd. Harrisburg, PA 17111 Phone: (717) 564-0100 FAX: (717) 986-7575
Crimping tool P/N MS22520/1-01	Daniels Manufacturing Corp. 526 Thorpe Road Orlando, FL 32824 Phone: (407) 855-6161 FAX: (407) 855-6884
Positioner P/N MS22520/1-02 (for M39029/10-140, -141 sockets)	Daniels
Positioner P/N MS22520/1-04 (for M39029/88-491, -492 sockets, and M39029/87-479, -480 pins)	Daniels

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TOOLS AND EQUIPMENT (Cont.)	
Nomenclature	Source
Thermocouple tester    Fluke, Model No. 714	Fluke Corp. P.O. Box 9090 Everett, WA 98206 Phone: (425) 347-6100 FAX: (425) 356-5116
Omega, Model No. CL-307A-K	OMEGA Engineering Inc. One Omega Drive, Box 4047 Stanford, CT 06907-0047 Phone: (203) 359-1660 FAX: (203) 359-7700
Barfield, Model No. TT-1000A	Barfield Instrument Corp. P.O. Box 025367 Miami, FL 33102 Phone: (305) 871-3900 FAX: (305) 871-5629

## **J. Warranty Policy:**

Parts will be provided at no cost to the operators. Tools will not be provided by MD Helicopters. MD Helicopters will compensate operators for labor, via a spares credit, not to exceed three (3) hours.

## **K. Weight and Balance:**

N/A

## **L. Other Publications Affected:**

Latest revision of applicable Rolls Royce Allison Operation and Maintenance Manual.

## **2. ACCOMPLISHMENT INSTRUCTIONS**

### **A. Part I**

- (1). Disconnect the engine thermocouple wire harness at the TC3002 terminal block located on the aft-right face of the engine fireshield.
- (2). Connect tester (Ref. Figure 1) to TC3002.
  - (a). Connect tester wire to #8 stud on TC3002 (white chromel wire) (yellow lead for Fluke and Omega, red for Barfield).
  - (b). Connect tester wire to #10 stud on TC3002 (green alumel wire) (red lead for Fluke and Omega, black for Barfield).



For Omega and Fluke testers, do not force lead into tester, one lead prong of plug is larger than the other, damage to tester connection will occur.

- (c). Connect lead to tester.
- (3). Connect FADEC maintenance lap-top terminal to ECU.

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- (4). Set power switch to source for Omega and Fluke or ON position for Barfield.

**NOTE:** Do not set temperature above 765°C. If maximum temperature is exceeded on the TOT gauge (779°C for more than 12 seconds), an exceedance is recorded.

- (5). Set indicator to temperatures in Table 1.

- (6). Turn on aircraft electrical power.

**NOTE:** TOT indicator requires approximately five seconds to reset internal circuitry.

- (7). Verify TOT gauge indicates same as tester, within tolerance (Ref. Table 1).

- (a). If TOT indicator matches temperatures in Table 1, no further action is required.

- (b). If TOT indicator does not match temperatures in Table 1;

- 1). Refer to applicable Rolls Royce Allison Operation and Maintenance Manual for possible maintenance actions, if TOT gauge indicates 30° lower than tester.

- 2). Perform Part II of this service bulletin.

- (8). Verify FADEC maintenance lap-top terminal indicates TOT within  $\pm 5^\circ\text{C}$ . If FADEC maintenance lap-top terminal is not within tolerance ( $\pm 5^\circ\text{C}$ ), perform Part III of this service bulletin.

- (9). Turn off aircraft electrical power.

- (10). Set source switch to off position.

- (11). Disconnect tester from TC3002.

- (12). Reconnect engine thermocouple wire harness to TC3002 terminal block.

- (13). Record compliance to the Service Bulletin in the Compliance Record section of the helicopter Log Book.

**Table 1. TOT System Test**

Tester Setting (°C)	Indicator Reading (°C)
625°	625° $\pm 10^\circ$
680°	680° $\pm 10^\circ$
727°	727° $\pm 10^\circ$
765°	765° $\pm 10^\circ$

## **B. Part II**

**NOTE:** Terminal lugs and connector pins and sockets must be crimped on, no soldering allowed.

- (1). Disconnect airframe thermocouple wire harness from TC3002 terminal block.
- (2). Using a magnet, verify that the terminal attached to the Chromel wire (white jacket) is not attracted to the magnet and that the terminal is silver (not gold) in color.
- (3). Using a magnet, verify that the terminal attached to the Alumel wire (green jacket) is attracted to the magnet and that the terminal is silver (not gold) in color.

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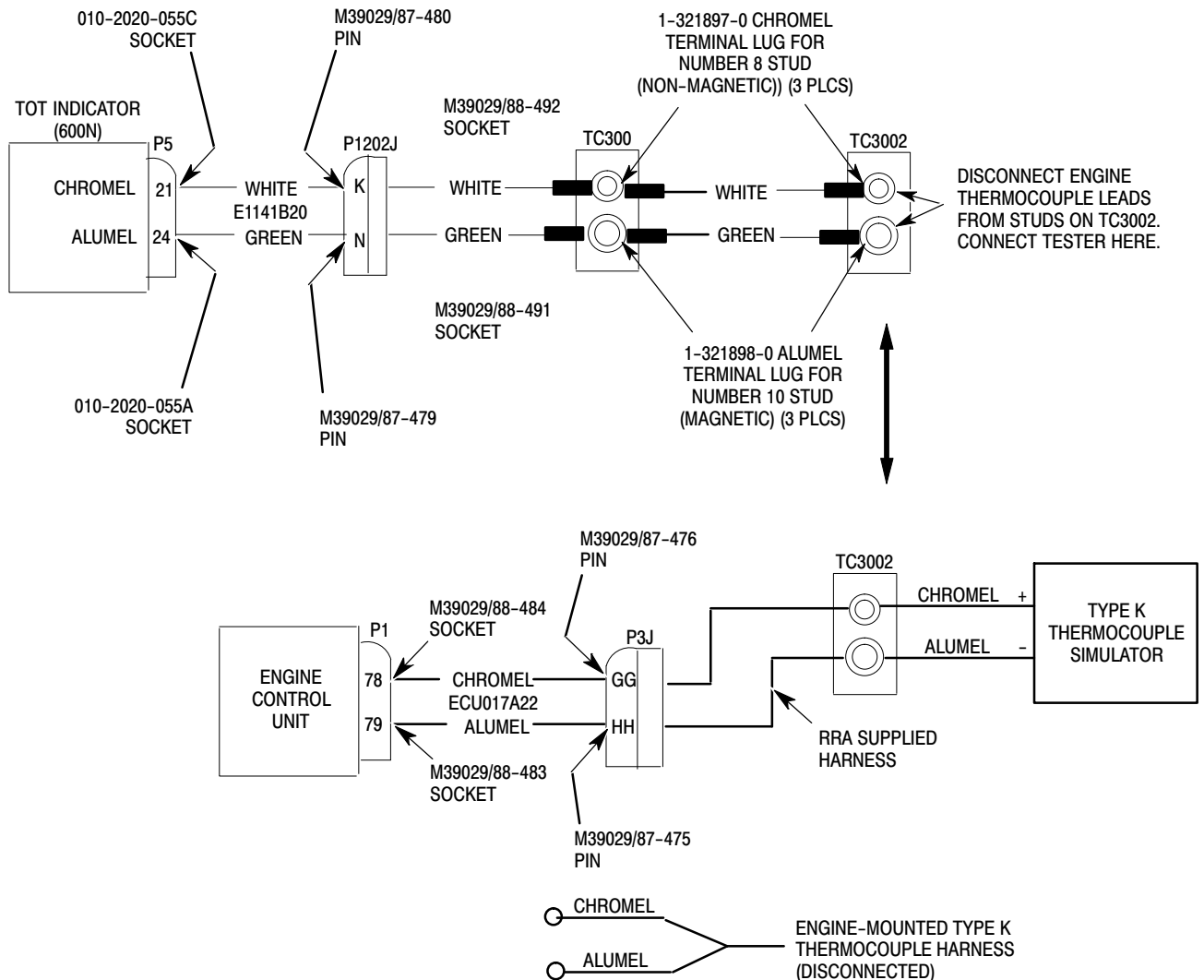
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**Figure 1. TOT Wire Harness Termination Verification**

- (4). If either is discrepant, replace the terminal lug(s) with the correct terminal lug(s).
- (5). Reconnect the airframe thermocouple wire harness to the TC3002 terminal block.
- (6). Disconnect airframe thermocouple wire harness from TC300 terminal block.
- (7). Using a magnet, verify that the terminal attached to the Chromel wire (white jacket) is not attracted to the magnet and that the terminal is silver (not gold) in color.
- (8). Using a magnet, verify that the terminal attached to the Alumel wire (green jacket) is attracted to the magnet and that the terminal is silver (not gold) in color.
- (9). If either is discrepant, replace the terminal lug(s) with the correct terminal lug(s).

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- (10). Reconnect the airframe thermocouple wire harness to the TC300 terminal block.
- (11). Disconnect P1202 from J1202 in battery compartment.
- (12). Remove pins K and N from P1202.
- (13). Using a magnet, verify that pin N is magnetic and pin K is not magnetic and that the pins are silver (not gold) in color.
- (14). If either is discrepant, replace the pin(s) with the correct pin(s).
- (15). Reinstall pins in P1202.
- (16). Remove and replace sockets K and N from J1202.
- (17). Reconnect P1202 to J1202.
- (18). Disconnect P5 from TOT indicator.
- (19). Remove and replace sockets 21 and 24 from P5.
- (20). Reconnect P5 to TOT indicator.
- (21). Perform Part I of this bulletin again.

**NOTE:** If TOT indicating system fails again, replace the analog indicator and re-test the system.

- (22). After TOT system passes test, record compliance to the Service Bulletin in the Compliance Record section of the helicopter Log Book.

## **C. Part III**

**NOTE:** Terminal lugs and connector pins and sockets must be crimped on, no soldering allowed.

- (1). Disconnect P3 from J3 on the firewall.
- (2). Remove pins GG and HH from J3.
  - (a). Using a magnet, verify that pin HH is magnetic and pin GG is not magnetic.
  - (b). Verify that both pins are silver (not gold) in color.
- (3). If either pin is discrepant, replace the pin(s) with the correct pin(s).
- (4). Reinstall the pins into J3 and reconnect J3 to P3.
- (5). Disconnect P1 from ECU.
- (6). Remove and replace sockets 78 and 79 from P1.
- (7). Perform Part I of this bulletin again.

**NOTE:** If ECU TOT indication fails again, refer to Rolls-Royce Allison Maintenance Manual for FADEC system troubleshooting procedures.

## **3. DISPOSITION OF PARTS REMOVED**

Return indicators to MDHI for disposition.

## **4. POINTS OF CONTACT**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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## Compliance Recording Form

Customer/Operator Name

---

Aircraft Serial No.

---

Helicopter Total Time

---

Date of Compliance

---

Signature of Person Confirming Compliance

---

FAX this form to MDHI (480) 891-6782





# SERVICE BULLETIN

DATE: 10 JANUARY 2001

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## MOTIVE FLOW RESTRICTOR REMOVAL

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

600N helicopters, serial number RN003 thru RN061.

#### B. Assembly/Components Affected By This Notice:

250-C47M Engine Build-Up Assembly (P/N 600N8601)

#### C. Reason:

Some 600N helicopter operators have reported early low fuel warnings during high-power cruise flight. Removing the restrictor in the motive flow line from the engine fuel pump to the fuel transfer ejector pump will increase fuel transfer inside the fuel tank, preventing early low fuel warnings during high-power cruise flight.

Failure to comply with this Bulletin could result in continued early low fuel warnings.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to removing the motive flow restrictor and replacing it with a union.

#### E. Time of Compliance

The requirements of this Bulletin shall be accomplished within the next 100 hours of helicopter operation or the next scheduled inspection, after receipt of parts and no later than one year after the issue date of this Bulletin.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

One (1) man-hour.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHI Warranty and Repair/Parts Sales Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Union, Flared Tube	AN815-4D	1	MDHI
Packing	MS29512-04	1	MDHI

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**J. Warranty Policy:**

Normal aircraft warranty applies.

**K. Tooling:**

N/A

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

Handbook of Maintenance Instruction (CSP-HMI-2) and Illustrated Parts Catalog (CSP-IPC-4).

**2. ACCOMPLISHMENT INSTRUCTIONS****WARNING**

Avoid fuel vapor ignition and fire. Use only nonsparking tools and explosion proof work lights. Attach helicopter to an approved electrical ground. Switch OFF all electrical power. Disconnect external power and battery before opening fuel system. Ensure work area is adequately ventilated.

**A. Modification Instructions**

(Ref. Figure 1)

- (1). Disconnect motive fuel line from JEHB1872325L restrictor.
- (2). Remove and discard restrictor and packing from tee.
- (3). Install new MS29512-04 packing on AN815-4D union and thread union onto tee.
- (4). Torque union to **95 - 105 inch-pounds (10.73 - 11.86 Nm)**.
- (5). Connect motive fuel line to union and torque to **50 - 65 inch-pounds (5.65- 7.34 Nm)**.
- (6). Perform fuel system vacuum leak inspection (CSP-HMI-2, Section 28-00-60, Fuel System Vacuum Leak Inspection).
- (7). Bleed air out of helicopter engine fuel controls (Rolls-Royce Engine Operation and Maintenance Manual).

**3. DISPOSITION OF PARTS REMOVED**

Scrap

**4. COMPLIANCE RECORD**

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

**5. POINTS OF CONTACT**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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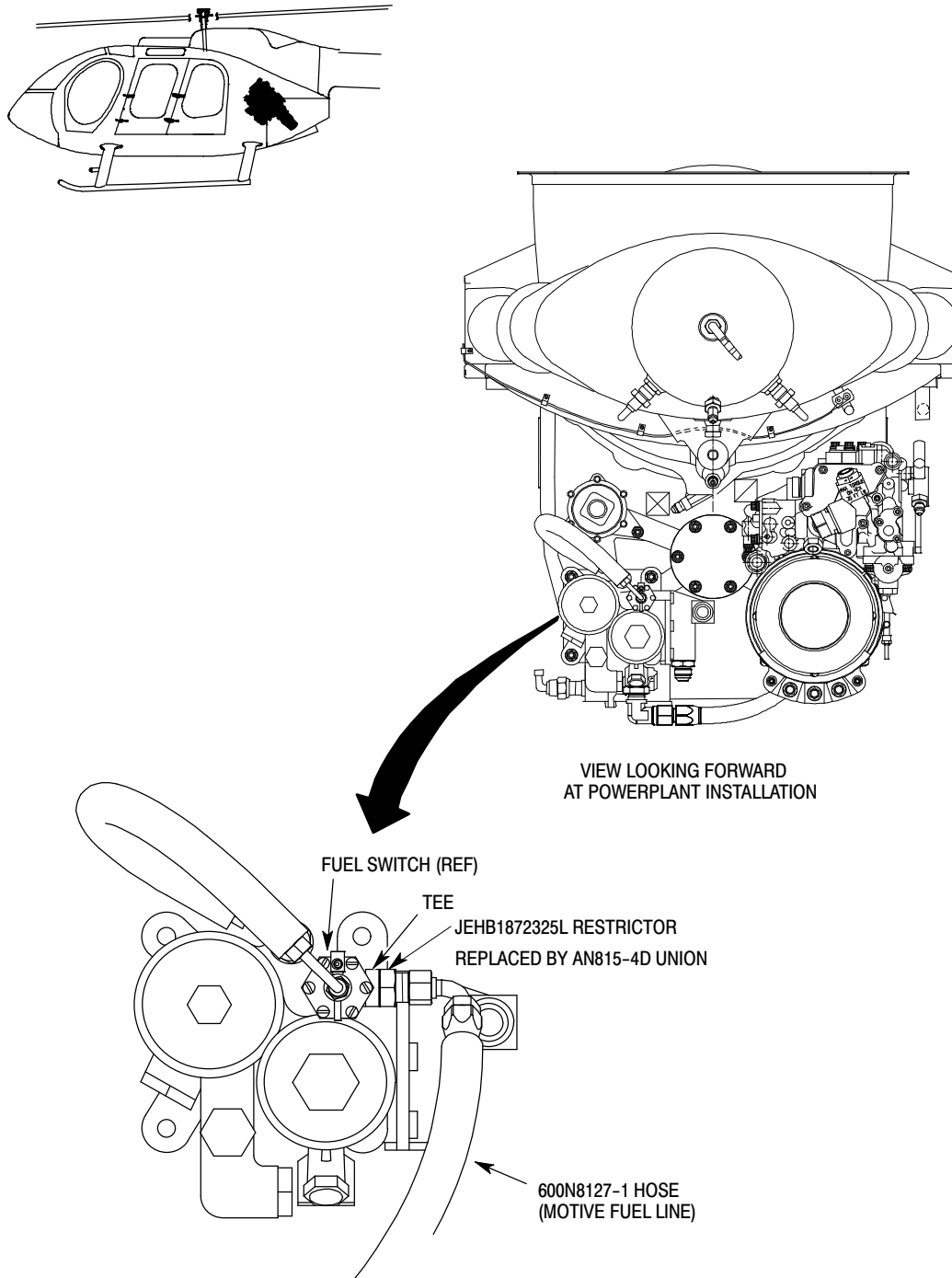
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**Figure 1. Motive Flow Restrictor Removal**

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# SERVICE BULLETIN

DATE: 25 MAY 2001

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## INSPECTION OF VERTICAL STABILIZER AND TORQUE TUBE AND REPLACEMENT OF ATTACHING HARDWARE

\* Supersedes Service Bulletin SB600-030, dated 06 December 2000. This revision changes aircraft affected, the expandable diameter bolt part number and revises accomplishment instructions to include replacement of torque tube bearing race. Aircraft which have complied with SB600-030 do not meet the intent of this revision.

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

600N helicopters, serial number RN003 thru RN063.

#### B. Assembly/Components Affected By This Notice:

Torque Tube (P/N 500N3950-7)

#### C. Reason:

Some 600N helicopter operators have reported looseness of vertical stabilizers and elongation of the bolt holes in the vertical stabilizer torque tube prior to reaching the life limit of the torque tube.

This bulletin provides inspection and replacement criteria.

Failure to comply with this Bulletin may result in looseness of the vertical stabilizers and possible subsequent premature failure of the torque tube.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to inspection of the vertical stabilizers and torque tube bolt holes, replacement of the torque tubes and bearing races, if required, and installation of new expandable diameter bolts.

#### E. Time of Compliance

The initial inspection requirements of this Bulletin shall be accomplished within the next 100 hours of helicopter operation or no later than 28 February 2001, whichever occurs first. Recurring inspection is required at each 100 hours of helicopter operation until the expandable diameter bolts are installed. The expandable diameter bolts shall be installed no later than 1 December 2001.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

Inspection: 0.5 man-hours.

Torque tube replacement and installation of expandable diameter bolts: 2.0 man-hours.

#### H. Interchangeability:

None

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## I. Material/Part Availability:

Contact MDHI Parts Sales Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Tube, Torque	500N3950-7	2	MDHI
Bolt, Expandable Diameter (1)	600N2012-3	8	MDHI
Pin, Cotter	MS24665-155 (or equivalent)	8	MDHI
Washer	NAS1149C0316 or NAS1149C032	8	MDHI
Bearing Race	500N3990-1	2	MDHI
<b>NOTES:</b> (1) The 600N2012-3 expandable bolt can be identified by the two 0.050 inch (1.27 mm) thick spacers under the thick washer at the nut end of the bolt (the 600N2012-1 bolt does not have these spacers).			

## J. Warranty Policy:

Torque tubes will be provided, through 1 December 2001, at a pro-rated price based on the published 3,000 hour life (refer to CSP-HMI-2, Chapter 04 for Life Limit hours).

Expandable diameter bolts and cotter pins will be provided, through 1 December 2001, at no cost. Labor costs will be incurred by the operator.

## K. Tooling:

N/A

## L. Weight and Balance:

N/A

## M. Electrical Load Data:

N/A

## N. Other Publications Affected:

Basic Handbook of Maintenance Instructions (CSP-HMI-2, Revision 29 or later),  
 Illustrated Parts Catalog (CSP-IPC-4, Revision 6 or later).

## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Inspect Vertical Stabilizers

(Ref. Figure 1)

- (1). Check both vertical stabilizers for looseness. Hold either upper or lower vertical stabilizer and move other portion of stabilizer.

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- (a). If movement is 2° or less, as indicated on horizontal stabilizer degree plate, inspection is complete. Reinspect vertical stabilizers at each 100 hours of helicopter operation. Removal of existing attaching hardware and installation of expandable diameter bolts removes the 100 hour reinspection requirement.
- (b). If movement is greater than 2°, as indicated on horizontal stabilizer degree plate, check torque of each vertical stabilizer attaching nut.
- (2). Torque check of MS21042L4 nut (if stabilizer looseness is greater than 2° ).
  - (a). If torque is **40 - 60 inch-pounds (4.52 - 6.77 Nm)**, inspect torque tubes per step B. below.
  - (b). If torque is less than **40 - 60 inch-pounds (4.52 - 6.77 Nm)**, retorque nuts.
    - 1). Remove vertical stabilizer attaching nuts.
    - 2). Reinstall nuts and note drag torque.
    - 3). Torque each nut to **30 - 40 inch-pounds (3.39 - 4.52 Nm)** plus drag torque.
    - 4). Recheck both vertical stabilizers for looseness. Hold either upper or lower vertical stabilizer and move other portion of stabilizer.
      - a). If movement is 2° or less, as indicated on horizontal stabilizer degree plate, inspection is complete. Reinspect vertical stabilizers at each 100 hours of helicopter operation. Removal of existing attaching hardware and installation of expandable diameter bolts removes the 100 hour reinspection requirement.
      - b). If movement is greater than 2°, as indicated on horizontal stabilizer degree plate, inspect torque tubes per step B. below.

## **B. Inspect Torque Tubes**

- (1). Remove vertical stabilizers (CSP-HMI-2, Section 53-50-30, Vertical Upper and Lower Stabilizer Removal).
- (2). Measure diameter of eight holes in each torque tube.
- (3). If diameter of any hole exceeds 0.254 in. (6.4516 mm), remove and replace torque tube with new parts.
  - (a). Install new bearing race on new torque tube (CSP-HMI-2, Section 53-50-30, Vertical Stabilizer Torque Tube Bearing Race Replacement).
  - (b). Remove existing torque tube and install new torque tube with bearing race (CSP-HMI-2, Section 53-50-30, Vertical Torque Tube Replacement).
- (4). If new torque tube is installed, rig vertical stabilizers (CSP-HMI-2, Section 67-20-30, Vertical Stabilizer Assembly Rigging).
- (5). Install vertical stabilizers with existing attaching hardware or with expandable diameter bolts (CSP-HMI-2, Section 53-50-30, Vertical Upper and Lower Stabilizer Installation). If existing attaching parts are used, reinspect vertical stabilizers at each 100 hours of helicopter operation. Installation of vertical stabilizers with expandable diameter bolts removes the 100 hour reinspection requirement.

**NOTE:** If expandable diameter bolts were installed per this Bulletin prior to Revision 1, reinstall the expandable diameter bolts per the instructions given in CSP-HMI-2, Section 53-50-30, Vertical Upper and Lower Stabilizer Installation.

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**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****C. Install Expandable Diameter Bolts**

Deleted and incorporated in CSP-HMI-2, Section 53-50-30, Vertical Upper and Lower Stabilizer Installation.

**3. DISPOSITION OF PARTS REMOVED**

Return to MDHI Warranty Administration.

**4. COMPLIANCE RECORD**

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

**5. POINTS OF CONTACT**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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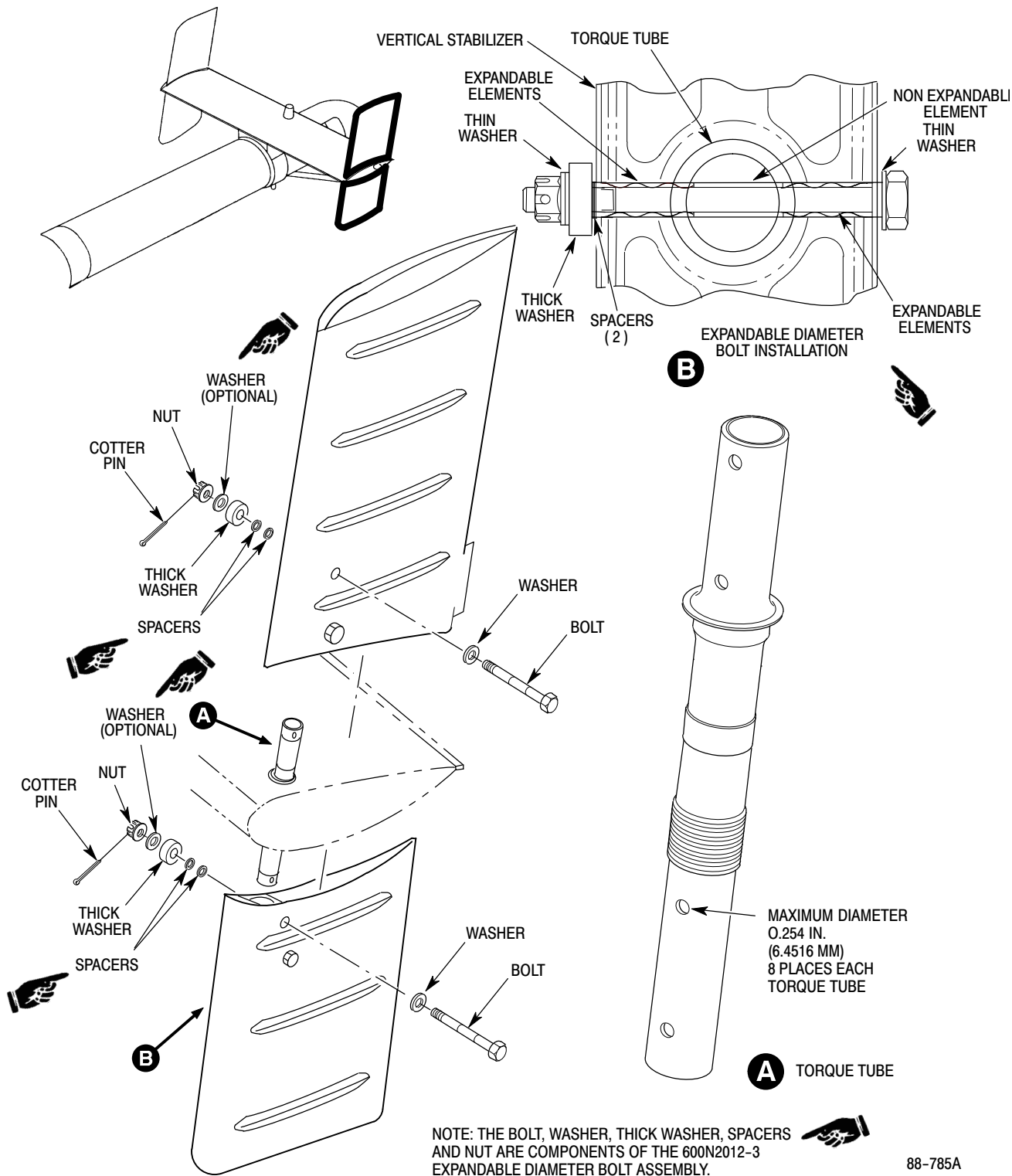


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**Figure 1. Torque Tube Inspection and Expandable Diameter Bolt Installation**

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## TURBINE OUTLET TEMPERATURE (TOT) INDICATOR REPLACEMENT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

600N helicopters, S/N RN003 thru RN078.

#### B. Assembly/Components Affected By This Notice:

Torque/TOT Indicator (P/N 9A3420, 9A3420-2).

#### C. Reason:

There have been reports from the field of erroneous turbine outlet temperature (TOT) readings on aircraft equipped with analog/digital TOT indicators. The instrument manufacturer has identified and corrected the problem. Replacement indicators are now available.

Failure to perform the requirements of this Bulletin may result in a condition that could damage critical engine components.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to replacement of the Analog Torque/TOT indicator.

#### E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### F. Manpower:

0.25 man-hour.

#### G. Time of Compliance:

The requirements of this Bulletin shall be accomplished within 1 year of the issue date of this Bulletin.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHI Warranty and Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Analog Torque/TOT Indicator	9A3420-3	1	MDHI
Analog Torque/TOT Indicator	9A3420-4	1	MDHI

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****J. Warranty Policy:**

MDHI Warranty and Repair Department will provide acceptable replacement Analog Torque/TOT indicators at no cost to the operator. The replacement parts will be covered by the MDHI new part warranty. MDHI will also credit those affected operators with 0.25 hour of labor warranty (spares credit) for replacement of the Analog Torque/TOT indicator. Operators must return affected Analog Torque/TOT indicators with a completed Service and Operations Report (SOR) form to MDHI Warranty and Repair Department within five days of removal in order to receive credit for replacement and labor allowance credit.

**K. Tooling:**

N/A

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

Illustrated Parts Catalog (CSP-IPC-4).

**2. ACCOMPLISHMENT INSTRUCTIONS****A. Replace Analog Torque/TOT Indicator**

- (1). Remove existing P/N 9A3420 or 9A3420-2 indicator (Ref. CSP-HMI-2, Section 95-00-00, Instruments Replacement).
- (2). Install new P/N 9A3420-3 (replaces P/N 9A3420) or P/N 9A3420-4 (replaces P/N 9A3420-2) indicator (Ref. CSP-HMI-2, Section 95-00-00, Instruments Replacement).

**3. IDENTIFICATION:**

N/A

**4. DISPOSITION OF PARTS REMOVED**

Return indicators with a completed Service and Operations Report (SOR) form to MDHI Warranty Repair Dept. for disposition.

**5. COMPLIANCE RECORD:**

Record compliance to the Service Bulletin in the Compliance Record section of the helicopter Log Book. Complete the attached Compliance Recording Form and return it to MDHI.

**6. POINTS OF CONTACT**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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## Compliance Recording Form

Customer/Operator Name

---

Aircraft Serial No.

---

Helicopter Total Time

---

Date of Compliance

---

Signature of Person Confirming Compliance

---

FAX this form to MDHI (480) 346-6813



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## MAIN ROTOR DRIVE SHAFT LIFE REDUCTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 600N Helicopters.

#### B. Assembly/Components Affected By This Bulletin:

Main Rotor Drive Shaft (P/N 600N5510-1).

#### C. Reason:

To notify 600N operators that after final review of all fatigue test data for the main rotor drive shaft, there is a life reduction from 16,000 hours to 14,000 hours.

Failure to comply with this Bulletin may result in parts remaining in service beyond their life-limit. This condition may result in total loss of drive to the main rotor hub.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to life limit reduction to the main rotor drive shaft.

#### E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### F. Manpower:

0.5 man-hour.

#### G. Time of Compliance

The requirements of this Bulletin shall be accomplished at the next scheduled maintenance or within one year of the issue date of this Bulletin, whichever occurs first.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHI Parts Sales Dept.

#### J. Warranty Policy:

N/A

#### K. Tooling:

N/A

#### L. Weight and Balance:

N/A

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**/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

Handbook of Maintenance Instructions (CSP-HMI-2), Revision 29 or later.

**O. Points of Contact**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

**2. ACCOMPLISHMENT INSTRUCTIONS****A. Update Rotorcraft Log Book**

**NOTE:** For current life limits, refer to CSP-HMI-2, Section 04-00-00, Airworthiness Limitations Component Mandatory Replacement Schedule.

- (1). Update Component Historical Record for Main Rotor Drive Shaft (P/N 600N5510-1), based on revised finite life.
- (2). Update Installed Component Collector Record for Main Rotor Drive Shaft (P/N 600N5510-1), based on revised finite life.
- (3). If main rotor drive shaft component time exceeds revised finite life, remove and replace main rotor drive shaft (Ref. CSP-HMI-2, Section 63-10-00, Main Rotor Drive Shaft Replacement).

**3. IDENTIFICATION**

N/A

**4. DISPOSITION OF PARTS REMOVED**

Scrap

**5. COMPLIANCE RECORD**

Record Compliance with this Service Bulletin in the Compliance Record section of the helicopter Log Book.

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## TORQUE TRANSDUCER ELECTRICAL CONNECTOR ONE TIME INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

Model 600N Helicopters, serial number RN003 thru RN061.  
Serial numbers RN003 thru RN047 must be in compliance with Service Bulletin SB600N-018R1 or later revision prior to accomplishing this Bulletin.

#### B. Assembly/Components Affected By This Bulletin:

Torque Transducer Electrical Connector (P/N MS27484T8F35S).

#### C. Reason:

Some torque transducer electrical connectors were installed with a sealing plug or a contact in the center contact position, which may block the transducer ambient pressure port. This condition may cause erroneous torque meter indications with changes in altitude.

Failure to comply with this Bulletin may cause continued erroneous torque meter indications and possible failure to keep torque within RFM limits.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to inspecting the torque transducer electrical connector to determine if a sealing plug or contact is installed in the center contact position.

#### E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### F. Manpower:

0.75 man-hour (helicopters without particle separator).  
1.5 man-hours (helicopters with particle separator).

#### G. Time of Compliance

The requirements of this Bulletin shall be accomplished within the next 300 hours of flight or within one year of the issue date of this Bulletin, whichever occurs first.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

N/A

#### J. Warranty Policy:

The standard warranty policy applies.

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**/// MANDATORY ///****K. Tooling:**

N/A

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

N/A

**O. Points of Contact**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

## 2. ACCOMPLISHMENT INSTRUCTIONS

**A. Torque Transducer Electrical Connector Inspection**

- (1). Remove engine inlet screen (Ref. CSP-HMI-2, Section 71-10-00, Engine Inlet Screen Removal (600N)) or remove particle separator (Ref. CSP-HMI-2, Section 71-10-60, Particle Separator Removal).  
  
(Ref. Figure 1)
- (2). Unplug connector, P23 from torque transducer.
- (3). Remove backshell from connector.
- (4). Verify that center contact position (position 6) of connector is open and unobstructed.
- (5). If contact position is obstructed, remove sealing plug or extract contact.
- (6). Reassemble backshell and connector, and verify that shield terminations are not damaged.
- (7). Install reassembled connector on torque transducer mating connector.
- (8). Install engine inlet screen (Ref. CSP-HMI-2, Section 71-10-00, Engine Inlet Screen Installation (600N)) or install particle separator (Ref. CSP-HMI-2, Section 71-10-60, Particle Separator Installation).

## 3. IDENTIFICATION

N/A

## 4. DISPOSITION OF PARTS REMOVED

Scrap.

## 5. COMPLIANCE RECORD

Record Compliance with this Service Bulletin in the Compliance Record section of the helicopter Log Book.

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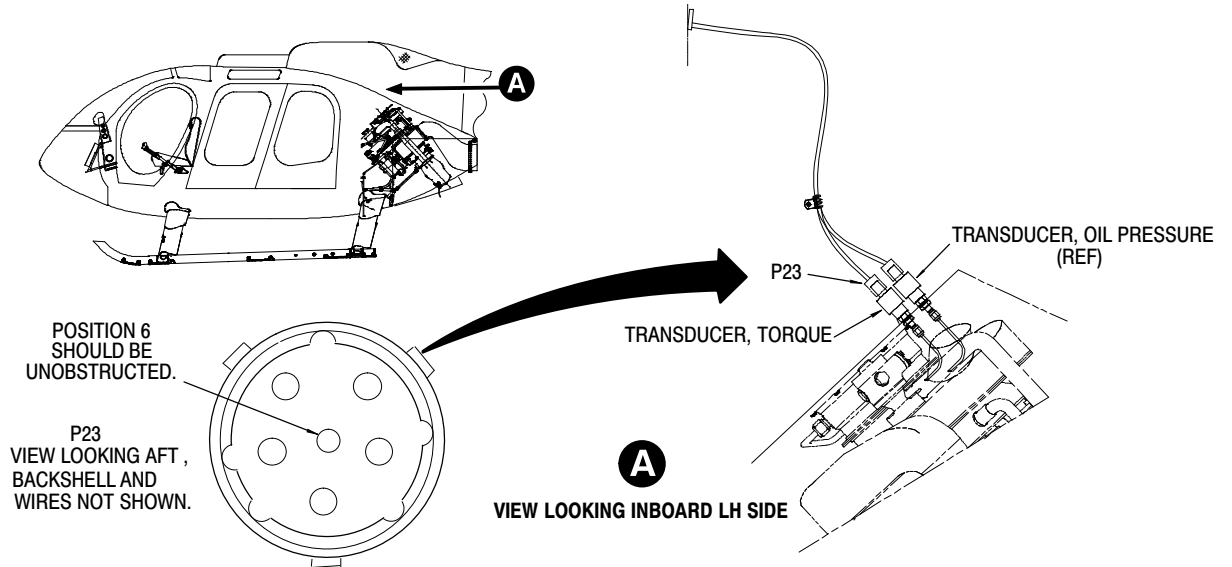
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**Figure 1. Torque Transducer Electrical Connector Location**



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## TAILBOOM ASSEMBLY ATTACH FITTING ONE TIME INSPECTION AND REPAIR

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

Model 600N Helicopters, serial number RN003 thru RN063.

#### B. Assembly/Components Affected By This Bulletin:

Tailboom Attach Fitting (P/N 500N3422), Angle (P/N 500N3429-6), Clip (P/N 500N3427-7).

#### C. Reason:

Some 600N helicopter operators have reported cracked upper right-hand tailboom attach fittings.

Failure to comply with this Bulletin may result in eventual loss of tailboom and control of the helicopter.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to inspecting the tailboom attach fittings and repair of damaged fittings.

#### E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### F. Manpower:

Part 1 Inspection 0.5 man-hours.

Part 2 Inspection and repair 8.0 man-hours.

#### G. Time of Compliance

The Part 1 Inspection requirements of this Bulletin shall be accomplished within the next five (5) hours of helicopter operation after receipt of this Bulletin or within thirty (30) days of the issue date of this Bulletin, whichever occurs first.

The Part 2 Inspection and repair requirements of this Bulletin shall be accomplished within the next twenty-five (25) hours of helicopter operation after receipt of this Bulletin or within ninety (90) days of the issue date of this Bulletin, whichever occurs first.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Part/supplies may be purchased locally from commercial sources.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Plug, Button	NAS451-47 (or equivalent)	2	Commercial
Rivet	MS20426AD4	2	Commercial

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REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Rivet (Monel)	MS20615-4M	8	Commercial
Sealing compound MIL-S-8802, MIL-S-8516 (or equivalent)	Pro-Seal 890, PR1422 (or equivalent)	AR	Commercial
Primer	MIL-P-23377 TII, C2 (or equivalent non-chlorinated primer)	AR	Commercial
Stainless steel, 301 1/4 hard, 0.032-0.040 in. thick, 1 in. wide, length to fit	AMS5517 or MIL-S-5059	1	Commercial
Washer	AN960C516 or NAS1149C0563R	2	Commercial
Washer	AN960C616 or NAS1149C0663R	2	Commercial
Rivet, blind	NAS1720H4 or CR6223-4 CR6253-4 (over sized)	AR	Commercial
Nutplate, tailboom attachment	FBL10001-5 or FBL10001-6 (attach with CR3212-4 rivets)	AR	Commercial
Acid-Gel Passivate	Pasa-Jell 101 (or equivalent)	AR	Commercial

**J. Warranty Policy:**

Standard warranty applies.

**K. Tooling:**

N/A

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

N/A

**O. Points of Contact**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona.  
 Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Part 1 Inspection

- (1). Remove tailboom fairing
- (2). Shake tailboom and observe mating surfaces of tailboom and fuselage flange.
- (3). Using a 0.002 inch feeler gauge, check for gap between tailboom and fuselage flange within 0.60 inch (15.3 mm) of centerline of each of the four attach bolts.
- (4). If no movement of tailboom is observed at fuselage mating flange and no gap exists between tailboom and fuselage flange at any tailboom attach bolt, reinstall tailboom fairing.
- (5). If movement of tailboom is observed at fuselage mating flange and or a gap exists between tailboom and fuselage flange at any tailboom attach bolt, contact MDHI Field Service Dept. and perform Part 2 Inspection and Repair below, prior to next flight.

### B. Part 2 Inspection and Repair

- (1). Remove tailboom (Ref. CSP-HMI-2, Section 53-30-40, Tailboom Removal)

**NOTE:** Use standard sheet metal practices.

- (2). Drill out rivets attaching **upper** left-hand and right-hand access covers.  
(Ref. Figure 1)
- (3). Inspect upper left-hand and right-hand tailboom attach fittings.
  - (a). Using 10X magnification and bright light inspect for cracks. Pay particular attention to area around aft rivet holes. No cracks are allowed.
  - (b). If any cracks are found, contact MDHI Field Service Dept. for replacement instructions.
- (4). Inspect two (2) upper left and right-hand tailboom attach nutplates.
  - (a). Inspect for thread damage and cracks.
  - (b). Cracks would appear from top of self-locking nut split to base of nut.
  - (c). Replace nutplate if threads are damaged or cracked.
- (5). Inspect angle.
  - (a). Using 10X magnification and bright light inspect for cracks. No cracks are allowed.
  - (b). If any cracks are found on left-hand angle, contact MDHI Field Service Dept. for repair/replacement instructions.



Use caution when removing and installing monel rivets. Do not drive out stems with punch. Damage to fitting may occur.

- (c). If any cracks are found on right-hand angle, proceed as follows:

(Ref. Figure 2)

- 1). Drill out top three rows of rivets (six rivets) securing outer skin below tailboom attach fitting and pull skin to access angle.
- 2). Drill out rivets securing clip to angle and tailboom attach fuselage flange. Remove clip.
- 3). Fabricate new clip from 301 1/4 hard stainless steel, as shown. (Ref. Figure 3).
- 4). Install new clip with two (2) MS20426AD4 and eight (8) MS20615-4M rivets. Install rivets wet with primer. (Ref. Figure 2).

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(Ref. Figure 4)

- (6). Modify left-hand and right-hand access covers.
  - (a). Locate, drill and deburr 0.75 inch (19.05 mm) hole in each cover as shown.
  - (b). Install plug button in hole and seal with sealing compound.
- (7). Remove all debris and close outer skin using blind rivets.
- (8). Install modified left-hand and right-hand access covers with blind rivets.
- (9). Install tailboom (Ref. CSP-HMI-2, Section 53-30-40, Tailboom Installation) except add one washer to each tailboom bolt between tailboom and NAS1587 countersunk washer. Ensure that minimum of two threads extend past nutplate.
- (10). Using a 0.002 inch feeler gauge, check for gap between tailboom and fuselage flange within 0.60 inch (15.3 mm) of centerline of each of the four attach bolts.1 No gap allowed. If gap exists, contact MDHI Field Service Dept.
- (11). Install tailboom fairing

### 3. IDENTIFICATION

N/A

### 4. DISPOSITION OF PARTS REMOVED

Return to MDHI Field Service Dept.

### 5. COMPLIANCE RECORD

Record Compliance with this Service Bulletin in the Compliance Record section of the helicopter Log Book.

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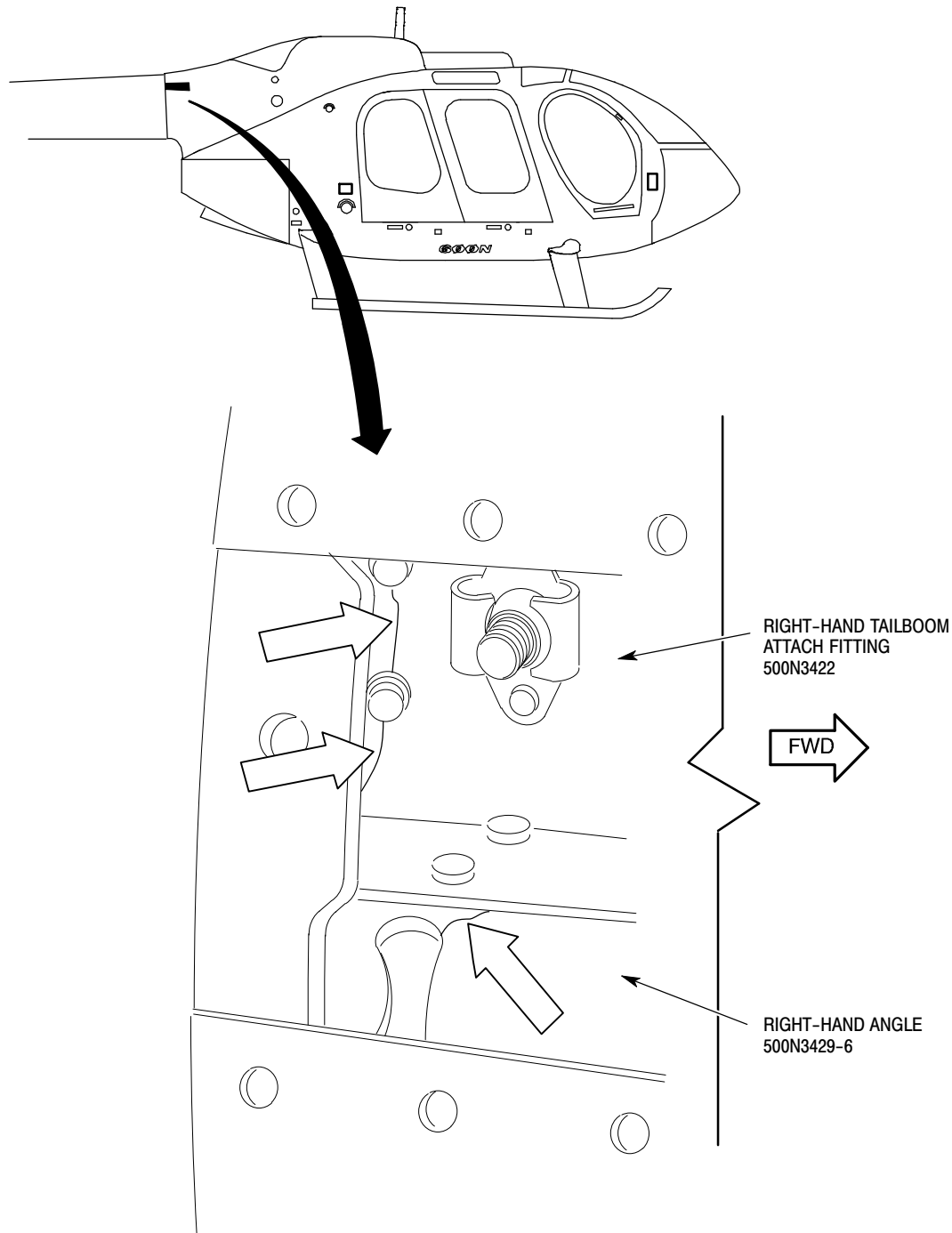


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**Figure 1. Tailboom Attach Fitting and Angle Inspection**

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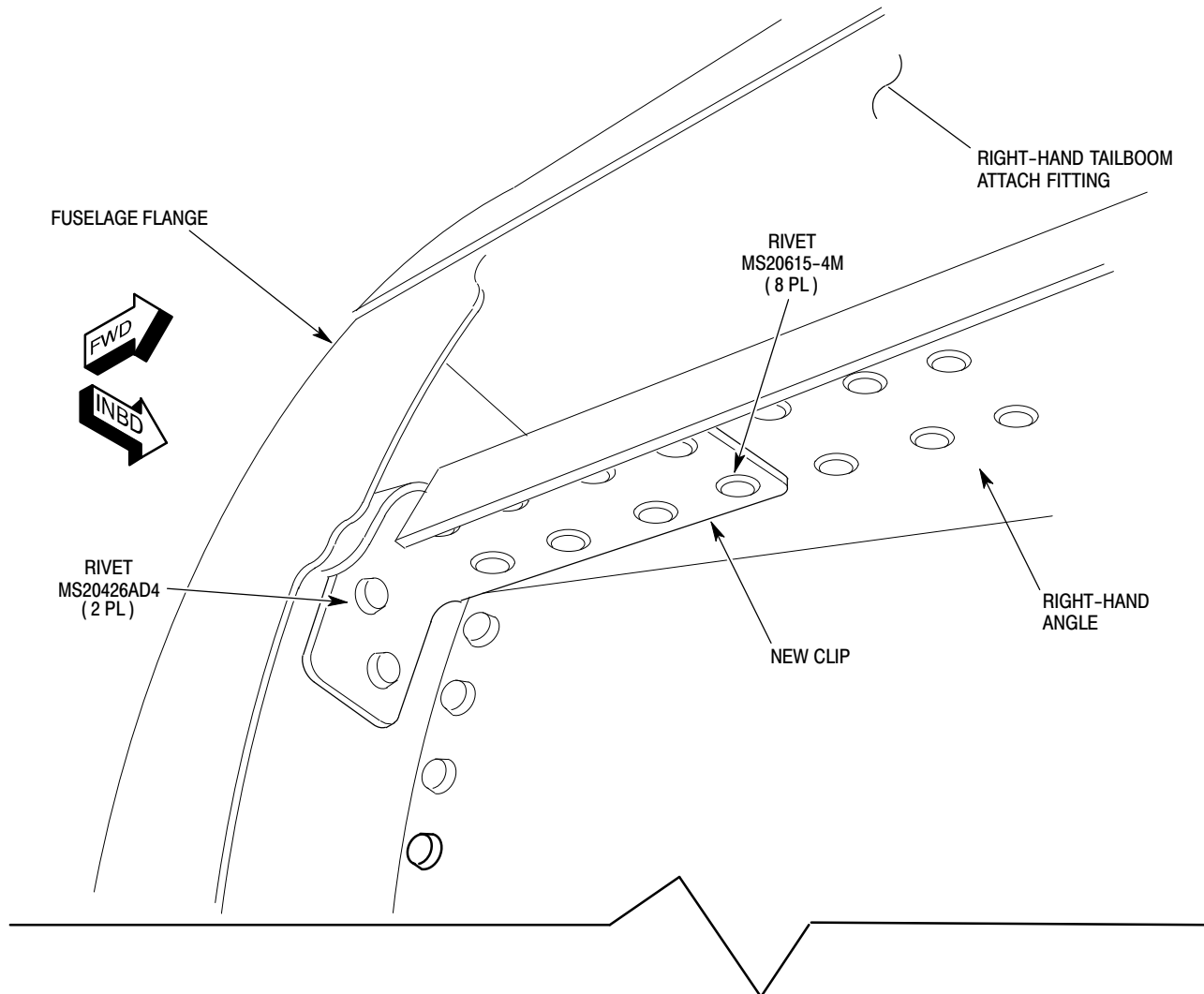
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## Figure 2. Clip Installation

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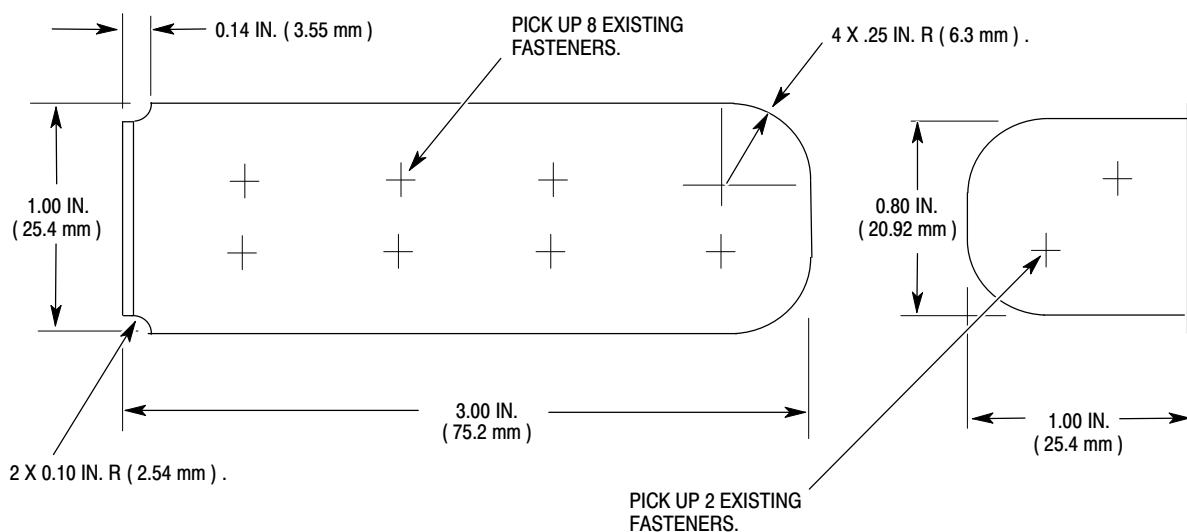
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MATERIAL: 301 CRES 1/4 HD AMS5517 0.032 OR 0.040 THICK.  
BEND RADIUS: 0.12 IN. R  
FINISH: ACID-GEL PASSIVATE AND EPOXY PRIME.

88-802

**Figure 3. Fabrication of Clip**

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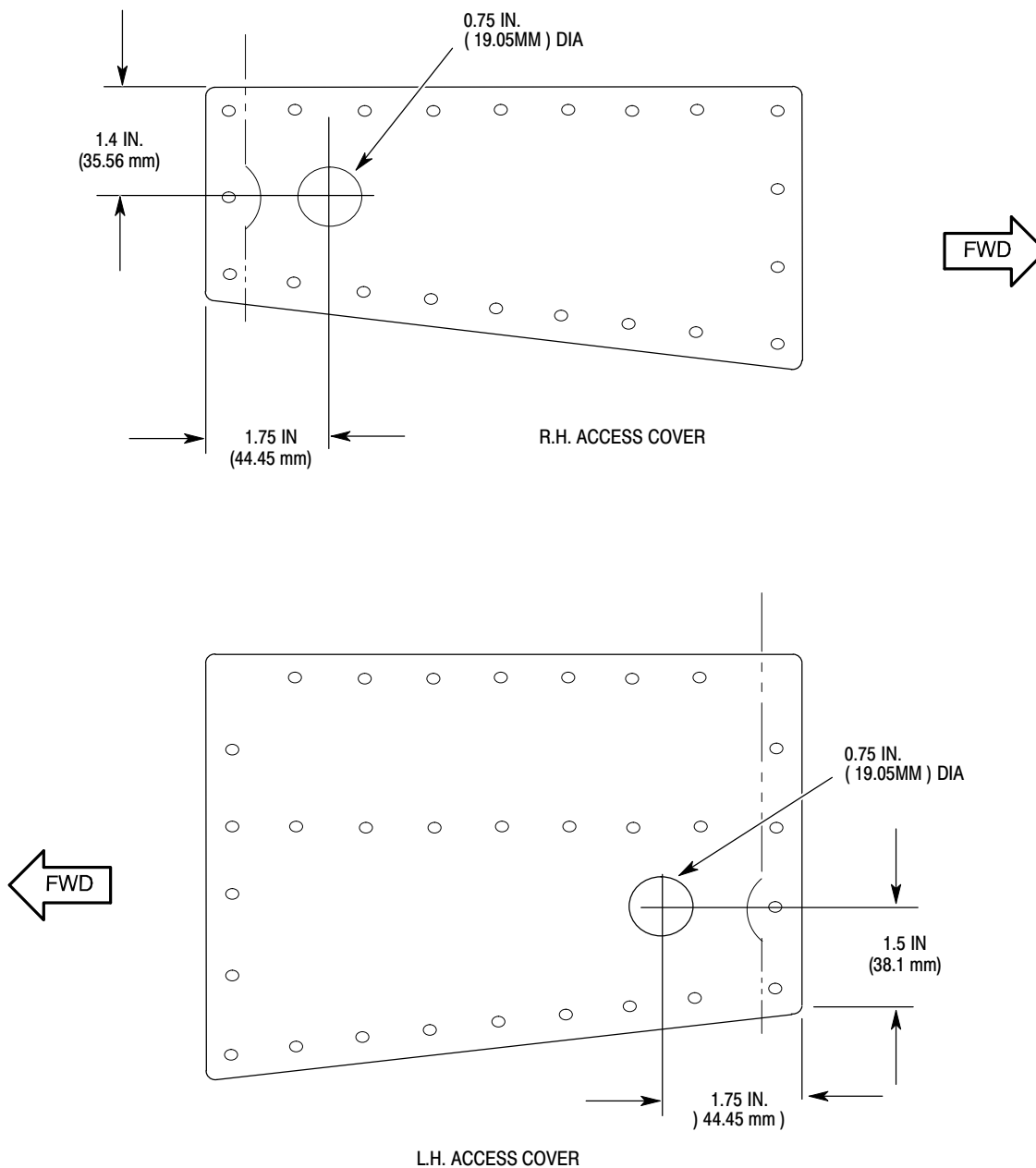
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**Figure 4. Modification of Access Panels**

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BULLETIN TITTLE

**Bulletin Response Form:** Please fill in the following information, as applicable, and return to MDHI Field Service Department. This form may be faxed to MDHI Field Service Department at (480) 346-6813.

Operator or Company Name:

Name of Contact Person:

Address:

Telephone:

Fax:

Aircraft Ser. No.:

Aircraft Registration Number:

Date:

Date of Compliance:

Part 1. Comments/Information:

Part 2. Comments/Information:

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# SERVICE BULLETIN

DATE: 6 MAY 2003

PAGE 1 OF 4

/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///

## EXHAUST DUCT INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

Model 600N Helicopters, serial number RN003 thru RN067.

#### B. Assembly/Components Affected By This Bulletin:

Exhaust Duct (P/N 369D28630-BSC, -501).

#### C. Reason:

An operator has reported airframe damage in the vicinity of the engine exhaust duct.

Failure to comply with this Bulletin may result in damage to the engine exhaust duct, aft section firewall and airframe structure.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to checking the clearance between the engine exhaust duct and the aft section firewall and inspecting for evidence of contact.

#### E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### F. Manpower:

1.0 man-hour.

#### G. Time of Compliance

The requirements of this Bulletin shall be accomplished no later than thirty (30) days after the issue date of this Bulletin.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

N/A

#### J. Warranty Policy:

Standard warranty applies.

#### K. Tooling:

N/A

#### L. Weight and Balance:

N/A

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

N/A

**O. Points of Contact**

For further assistance, contact your local MDHI Field Service Representative or contact the Field Service Department at MDHI, Mesa, Arizona.

Telephone 1-800-388-3378 or (480) 346-6387.

DATAFAX: (480) 346-6813.

**2. ACCOMPLISHMENT INSTRUCTIONS****A. Engine Exhaust Duct Inspection**

- (1). Remove engine oil filter access door.
- (2). Open engine access doors.



Allow engine to cool, if necessary, before proceeding.

(Ref. Figure 1)

- (3). Using flashlight and mirror, look in engine bay through engine access doors and look through engine oil filter access cutout.
- (4). Inspect top of engine exhaust duct for contact marks and bottom of upper aft section firewall for contact marks with discoloration, holes or tears. Pay particular attention to firewall blanket retainer clips at Sta. 155.75 fuselage ring.
  - (a). If there is no evidence of contact or damage, no further action is required.
  - (b). If there is evidence of contact with discoloration, estimate minimum gap between top of engine exhaust duct and upper aft section firewall at Sta. 155.75 fuselage ring and contact MDHI Field Service Department for further instructions.
  - (c). If there is a hole or tear in the firewall blanket, maintenance is required before next flight. Contact MDHI Field Service Department for further instructions.
- (5). Close engine access doors.
- (6). Install engine oil filter access door.

**3. IDENTIFICATION**

N/A

**4. DISPOSITION OF PARTS REMOVED**

N/A

**5. COMPLIANCE RECORD**

Record Compliance with this Service Bulletin in the Compliance Record section of the helicopter Log Book and complete and return the Bulletin Response Form.

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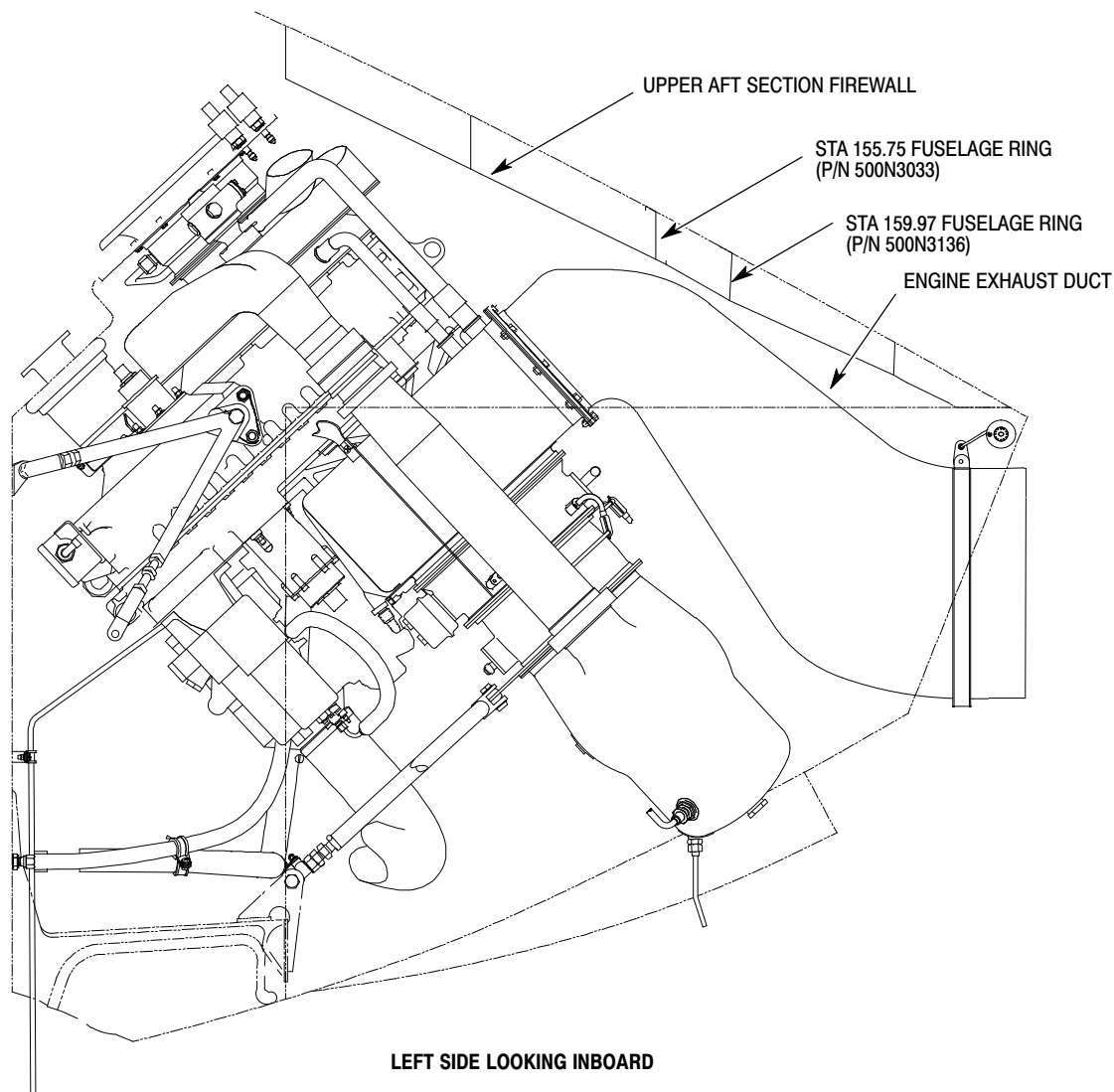


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**Figure 1. Engine Exhaust Duct Inspection**

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**Bulletin Response Form:** Please fill in the following information, as applicable, and return to MDHI Field Service Department. This form may be faxed to MDHI Field Service Department at (480) 346-6813.

Comments/Information:

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# SERVICE BULLETIN

DATE: 9 DECEMBER 2003

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## TAILBOOM ASSEMBLY ATTACH FITTINGS AND UPPER LONGERONS INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

Model 600N Helicopters, serial number RN003 thru RN059.

#### B. Assembly/Components Affected By This Bulletin:

Tailboom Attach Fitting (P/N 500N3422-BSC, -3), Upper Longeron (P/N 500N3120-3, -4).

#### C. Reason:

Analysis of the tailboom attach fittings and the upper longerons indicate that cracks may occur. Failure to comply with this Bulletin may result in eventual loss of tailboom and control of the helicopter.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to adding inspection holes in the fuselage and recurring inspections of the tailboom attach fittings and upper longerons for cracks.

#### E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### F. Manpower:

Part 1: 2.0 man-hours, Part 2 and 3: 1.0 man-hour.

#### G. Time of Compliance

Perform the requirements of this Bulletin according to the indicated schedule:

**NOTE:** For helicopter serial numbers RN003 thru RN059; ensure upper left-hand (LH) and right-hand (RH) tailboom attach fitting inspection holes (L167/R167) have been installed per MDHI Service Bulletin SB600N-036, prior to accomplishing this Bulletin.

#### Part 1 Aft Fuselage Inspection Hole Installation and Initial Inspection.

- Perform before the next 100 flight hours after receipt of this Bulletin or before 28 February 2004, whichever occurs first.

#### Part 2 Tailboom Attach Fittings Recurring Inspection.

- Upper Tailboom Attach Fittings - Perform every 25 flight hours.
- Lower Tailboom Attach Fittings - Perform every 100 flight hours.

#### Part 3: Upper Longerons Recurring Inspection.

- Perform every 1,200 flight hours.

#### H. Interchangeability:

None

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DATE: 9 DECEMBER 2003

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## I. Material/Part Availability:

Part/supplies may be purchased locally from commercial sources.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Plug, Button	NAS451-47 (or equivalent)	6	Commercial
Sealing compound MIL-S-8802, MIL-S-8516 (or equivalent)	Pro-Seal 890, PR1422 (or equivalent)	AR	Commercial
Nutplate, Tailboom Attachment	FBL10001-5 or FBL10001-6 (attach with CR3212-4 rivets)	AR	Commercial

## J. Warranty Policy:

Standard warranty applies.

## K. Tooling:

N/A

## L. Weight and Balance:

N/A

## M. Electrical Load Data:

N/A

## N. Other Publications Affected:

Handbook of Maintenance Instructions (CSP-HMI-2).

## O. Points of Contact

For further assistance, contact your local MDHI Field Service Representative or contact the Field Service Department at MDHI, Mesa, Arizona.

Telephone 1-800-388-3378 or (480) 346-6387.

DATAFAX: (480) 346-6813.

# SERVICE BULLETIN

DATE: 9 DECEMBER 2003

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## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

### **A. Part 1: Aft Fuselage Inspection Hole Installation and Initial Inspection**

- (1). Add inspection holes and visually inspect lower LH and lower RH tailboom attach fittings.
  - (a). Locate, drill and deburr two 0.75 inch (19.05 mm) holes (L166/R166) for inspection of LH and RH lower tailboom attach fittings as shown.
  - (b). Remove all debris.
  - (c). Using bright light, visually inspect for cracks. Pay particular attention to area around aft rivet holes, as shown. No cracks are allowed. If any cracks are found, contact MDHI Field Service Department before next flight.
  - (d). Install plug button in each inspection hole and seal with sealing compound.
- (2). Add inspection holes and visually inspect upper LH and RH longerons.
  - (a). Locate, drill and deburr two 0.75 inch (19.05 mm) holes (L153/R153) for inspection of upper left-hand and right-hand longerons as shown.
  - (b). Remove all debris.
  - (c). Using bright light and mirror or borescope, inspect bottom surface of longerons for cracks. Pay particular attention to area around four rivet holes, as shown. No cracks are allowed. If any cracks are found, contact MDHI Field Service Department before next flight.
  - (d). Install plug button in each inspection hole and seal with sealing compound.
- (3). Add inspection holes for lower LH and RH longerons.
  - (a). Locate, drill and deburr two 0.75 inch (19.05 mm) holes (L158/R158) for inspection of lower left-hand and right-hand longerons as shown.
  - (b). Remove all debris.
  - (c). Install plug button in each lower longeron inspection hole and seal with sealing compound.
  - (d). Refer to CSP-HMI-2, Section 05-20-20, Special Inspections for inspection requirements for lower LH and RH longerons.

### **B. Part 2: Tailboom Attach Fittings Recurring Inspection.**

- (1). Remove plug buttons from inspection holes L167/R167 (upper fittings) or L166/R166 (lower fittings), as required.
- (2). Using bright light, visually inspect upper fittings and angles or lower fittings, as required, for cracks. Pay particular attention to area around aft rivet holes, as shown. No cracks are allowed. If any cracks are found, contact MDHI Field Service Department before next flight.
- (3). Using bright light, visually inspect tailboom attach nutplates for thread damage and cracks. Cracks would appear from top of self-locking nut split to base of nut. Replace nutplate if threads are damaged or cracked.

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- (4). Install plug button in each inspection hole and seal with sealing compound.

## **C. Part 3: Upper Longerons Recurring Inspection.**

- (1). Remove plug buttons from inspection holes L153/R153.
- (2). Using bright light and mirror or borescope, visually inspect bottom surface of longerons for cracks. Pay particular attention to area around four rivet holes, as shown. No cracks are allowed. If any cracks are found, contact MDHI Field Service Department before next flight.
- (3). Install plug button in each inspection hole and seal with sealing compound.

## **3. IDENTIFICATION**

N/A

## **4. DISPOSITION OF PARTS REMOVED**

N/A

## **5. COMPLIANCE RECORD**

Record Compliance with this Service Bulletin in the Compliance Record section of the helicopter Log Book.

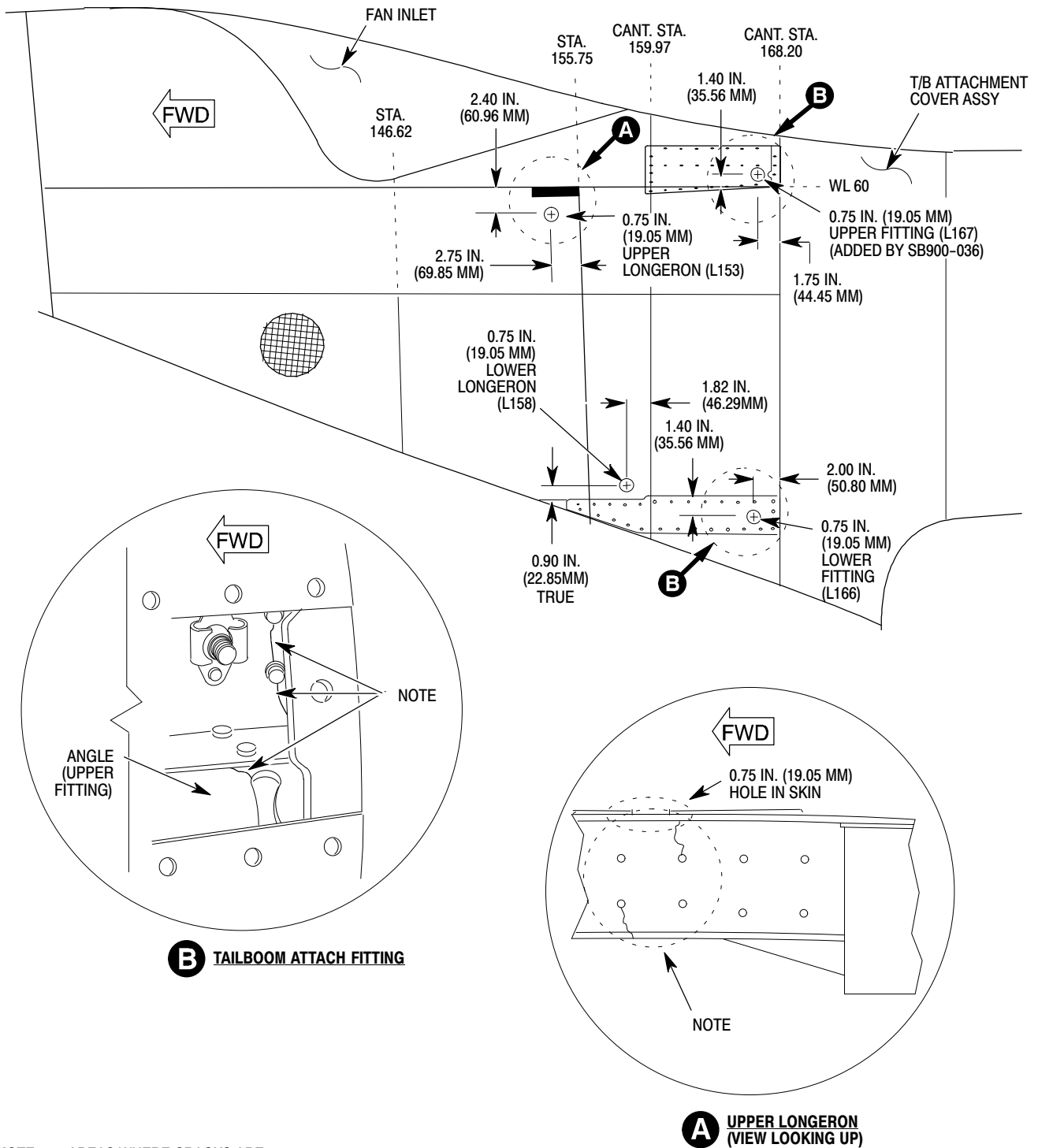
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**NOTE:** AREAS WHERE CRACKS ARE MOST LIKELY TO APPEAR.

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**Figure 1. Lower Tailboom Attach Fittings and Upper Longerons Inspection**

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# BULLETIN INCORPORATION FORM

<b>FROM:</b>	<b>DATE:</b>
Operator or Company Name:	
Name of Contact Person:	
Address:	
City, State, Country	
Telephone #:	
Fax #:	

<b>HELICOPTER INFORMATION:</b>	
Helicopter Serial Number:	
Helicopter Registration Number:	
Date of Compliance with SB (Part 1)	

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\* Supersedes Service Bulletin SB600N-040 dated 19 December 2003. Revision 1 corrects the part number for the Control Support Bracket Assembly. Aircraft which have complied with SB600N-040 meet the intent of this revision.

## CONTROL SUPPORT BRACKET ASSEMBLY LIFE REDUCTION WITH YSAS INSTALLED

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

Model 600N Helicopters, serial number RN025, RN029, RN032, RN034, RN035, RN036, RN037, RN038, RN040, RN041, RN045, RN048, and RN067.

#### B. Assembly/Components Affected By This Bulletin:

Fuselage Sta. 75 Control Support Bracket Assembly (P/N 369N2608-11).

#### C. Reason:

To notify 600N operators that the finite life for the fuselage Sta. 75 control support bracket assembly (aluminum) installed in helicopters equipped with the Yaw Stability Augmentation System (YSAS) is reduced from 6000 hours to the revised finite life listed in Time of Compliance (paragraph G.). The new finite life is based on the helicopter/component time in service at the time the YSAS was installed.

Failure to comply with this Bulletin may result in the affected part remaining in service beyond its life-limit. This condition could lead to component failure and result in loss of control of the helicopter.

#### D. Description:

Procedures in this Bulletin provide affected owners and operators with information pertaining to the life reduction and replacement of the fuselage Sta. 75 control support bracket assembly.

#### E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### F. Manpower:

**Part 1.** Update Rotorcraft Logbook: 0.5 man-hour.

**Part 2.** Replace control support bracket: 30-40 man-hours.

#### G. Time of Compliance

Perform the requirements of this Bulletin according to the indicated schedule:

##### Part 1:

- Update Rotorcraft Logbook - Perform within 90 days of the issue date of this Bulletin.

##### Part 2:

- Replace control support bracket - Perform before the fuselage Sta. 75 control support bracket assembly reaches the revised finite life (listed below) or no later than 30 November 2005, whichever occurs first.

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Helicopter Serial No.	Revised Finite Life (Hours)	Helicopter Serial No.	Revised Finite Life (Hours)
RN025	2556	RN038	2531
RN029	2377	RN040	2562
RN032	2498	RN041	2763
RN034	2456	RN045	2015
RN035	2243	RN048	2125
RN036	2652	RN067	1600
RN037	2544		

**H. Interchangeability:**

None

**I. Material/Part Availability:**

Contact MDHI Parts Sales Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Sta. 75 Control Support Bracket Assembly	600N2608-9	1	MDHI

**J. Warranty Policy:**

N/A

**K. Tooling:**

N/A

**L. Weight and Balance:**

MODIFICATION	WEIGHT Pounds (kg)	LONGITUDINAL ARM Inches (cm)	LATERAL ARM Inches (cm)
Remove Sta. 75 Control Support Bracket Assembly, P/N 369N2608-11 (aluminum) and install P/N 600N2608-9 (steel).	3.1 (1.4)	75.0 (190.5)	0 (0)

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

Handbook of Maintenance Instructions (CSP-HMI-2), Revision 34, TR 03-003 or later.

**O. Points of Contact**

For further assistance, contact your local MDHI Field Service Representative or contact the Field Service Department at MDHI, Mesa, Arizona.

Telephone 1-800-388-3378 or (480) 346-6387.

DATAFAX: (480) 346-6813.

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## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Part 1: Update Rotorcraft Log Book

**NOTE:** For current life limits, refer to CSP-HMI-2, Section 04-00-00, Airworthiness Limitations Component Mandatory Replacement Schedule.

- (1). Update Component Historical Record for Fuselage Sta. 75 Control Support Bracket Assembly (P/N 369N2608-11), based on revised finite life.
- (2). Update Installed Component Collector Record for Fuselage Sta. 75 Control Support Bracket Assembly (P/N 369N2608-11), based on revised finite life.

### B. Part 2: Replace Sta 75 Control Support Bracket Assembly

- (1). Before fuselage Sta. 75 control support bracket assembly (P/N 369N2608-11) component time reaches the revised finite life, remove it and and replace with fuselage Sta. 75 control support bracket assembly (P/N 600N2608-1). (Ref. CSP-HMI-2, Section 67-10-00, Control Support Bracket and Bellcrank Removal/Installation.)

## 3. IDENTIFICATION

N/A

## 4. DISPOSITION OF PARTS REMOVED

Scrap (mutilate/destroy to prevent inadvertent return to service).

## 5. COMPLIANCE RECORD

Record Compliance with this Service Bulletin in the Compliance Record section of the helicopter Log Book.



# SERVICE BULLETIN

DATE: 3 MAY 2004

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## FORWARD AND CENTER THRUSTER CONTROL CABLE ASSEMBLIES CONNECTOR ONE TIME INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

Model 500N helicopters, serial number LN001 thru LN099  
Model 600N helicopters, serial number RN003 thru RN068.

#### B. Assembly/Components Affected By This Bulletin:

Cable Assembly, Forward, 500N and 600N (P/N 500N7201-55)  
Cable Assembly, Center, 500N (P/N 500N7201-57)  
Cable Assembly, Center, 600N (P/N 500N7201-59)

#### C. Reason:

A fractured inner female connector on a forward thruster control cable assembly, due to stress corrosion cracking, has been reported.

Failure to comply with this Service Bulletin may result in a fixed thruster and loss of normal anti-torque directional control of the helicopter.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to a one time inspection of the connectors on the forward and center thruster control cable assemblies.

#### E. FAA Approval:

The design engineering aspects of this bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA approved.

#### F. Manpower:

1.0 man-hour.

#### G. Time of Compliance:

Shall be accomplished within the next 10 flight hours or 30 days after the issue date of this Bulletin, whichever occurs first.

#### H. Interchangeability:

N/A

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## I. Material/Part Availability:

Contact MDHI Parts Sales Dept.

PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Cable Assembly, Forward (500N and 600N)	500N7201-55	1	MDHI
Cable Assembly, Center (500N)	500N7201-57	1	MDHI
Cable Assembly, Center (600N)	500N7201-59	1	MDHI

## J. Warranty:

Standard warranty applies.

## K. Tooling:

N/A

## L. Weight and Balance Data:

Weight and balance not affected.

## M. Electrical Load Data:

N/A

## N. Other Publications Affected:

Basic Handbook of Maintenance Instructions (CSP-HMI-2).

## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Cable Inner Connector Inspection

(Ref. Figure 1)

- (1). Remove tailboom fairing.
- (2). Turn cable outside collar counter-clockwise and back to expose the inner cable.
- (3). Apply sufficient right pedal to expose inner cables.
- (4). Without bending cable, slide male connector out of female connector.
- (5). Inspect cable inner connectors.

**NOTE:** Connectors may be lightly cleaned with Scotchbrite to remove surface corrosion prior to inspection.

- (a). Move inner cables as required to fully expose inner connectors.
- (b). Using a bright light and 10x magnifying glass, inspect male and female connectors for corrosion pitting and cracking.

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- (c). If corrosion pitting or cracking is found, replace forward and/or center cable assemblies (Ref. CSP-HMI-2, Section 67-20-30, Forward Cable Assembly Replacement and/or Center Cable Assembly Replacement).

- (6). Reconnect forward and center control cable couplings.

**WARNING**

**Failure to properly connect thruster cables could result in uncoupling during flight and loss of anti-torque authority.**

- (a). Apply sufficient right pedal to expose inner cables.
- (b). Without bending cable, insert inner male connector into inner female connector and ensure they are properly engaged together.
- (c). Slide outside cable collar over forward cable to engage locking device and turn clockwise until fully locked.

- (7). Reinstall tailboom fairing.

### 3. IDENTIFICATION:

N/A

### 4. DISPOSITION OF PARTS REMOVED:

Return to MDHI.

### 5. COMPLIANCE RECORD:

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

### 6. POINTS OF CONTACT

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

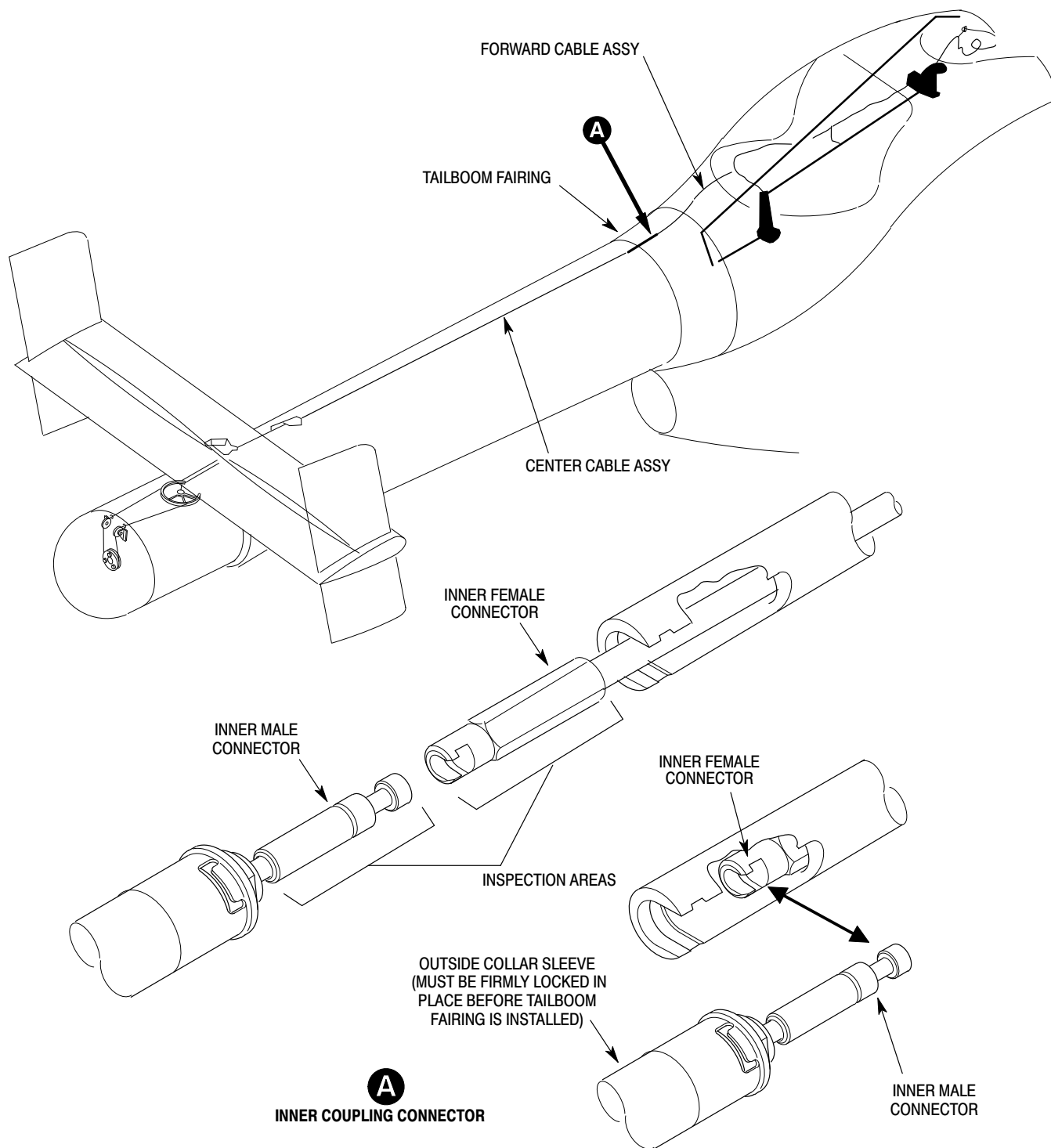
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**Figure 1. Forward and Center Thruster Cable Assembly Connector Inspection**

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## FORWARD AND CENTER THRUSTER CONTROL CABLE ASSEMBLIES CONNECTOR ONE TIME INSPECTION

### BULLETIN INCORPORATION FORM

Please fill in the information below, as applicable, and return to MDHI Field Service Dept. This form may be faxed to MDHI Field Service Department at **(480) 346-6813**.

<b>FROM:</b>		<b>DATE:</b>	
Operator or Company Name:			
Name of Contact Person:			
Address:			
City, State, Country			
Telephone #:			
Fax #:			

<b>HELICOPTER INFORMATION:</b>	
Helicopter Serial Number:	
Helicopter Registration Number:	
Date of Compliance with this Bulletin:	

<b>Inspection Results:</b>					
<b>Forward Cable:</b>	<b>Corrosion Pitting</b>	<b>Yes</b>	<b>No</b>	<b>Cracking</b>	<b>Yes No</b>
<b>Center Cable:</b>	<b>Corrosion Pitting</b>	<b>Yes</b>	<b>No</b>	<b>Cracking</b>	<b>Yes No</b>



# SERVICE BULLETIN

DATE: 13 APRIL 2006

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## TAILBOOM ASSEMBLY ATTACH FITTING ONE TIME INSPECTION, ATTACH FITTING AND NUTPLATE REPLACEMENT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

Model 600N Helicopters, serial number RN003 thru RN058 that have not been modified by TB600N-007, or latest revision.

#### B. Assembly/Components Affected By This Bulletin:

Tailboom Attach Fitting (P/N 500N3422-BSC, -3).

#### C. Reason:

Analysis of the tailboom attach fittings indicate that cracks may occur and the nutplates may wear or experience thread damage. Failure to comply with this Bulletin may result in loss of tailboom and control of the helicopter.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to inspection of the tailboom attach fittings, replacement of the nutplates and attach fitting.

#### E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### F. Manpower:

Part 1: 1.0 man-hours.

Part 2: 25.0 man-hours.

#### G. Time of Compliance

Perform the requirements of this Bulletin according to the indicated schedule:

**NOTE:** For helicopter serial numbers RN003 thru RN058; ensure Service Bulletin SB600N-036 and Service Bulletin SB600N-039, or latest revision, have been accomplished prior to accomplishing this Bulletin.

#### **Part 1:** Aft Fuselage attach fitting inspection.

- Perform borescope inspection of all four attach fittings within five hours of receipt of this bulletin.

#### **Part 2:** Aft Fuselage rework, attach fitting replacement and nutplate replacement.

- Replace attach fitting before the next 25 flight hours after receipt of this Bulletin or before 23 June 2006, whichever occurs first.

**NOTE:** Tailboom Attach Fittings Recurring Inspection, Upper and Lower Tailboom Attach Fittings - Perform recurring inspection per SB600N-039, or latest revision.

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## H. Interchangeability:

None

## I. Material/Part Availability:

Parts/supplies may be purchased from MDHI and locally from commercial sources.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Fitting, Ring, Frame (Steel) (Attach Fitting)	500N3422-3	AR	MDHI
Nutplate, Tailboom Attachment	MS21059L5	2	MDHI
Nutplate, Tailboom Attachment	MS21059L6	2	MDHI
Bolt	MHS 5482-5H18	AR	MDHI
Bolt	MHS 5482-6H18	AR	MDHI
Pin Rivet Collar	MHS5605-5-5 MHS5582-5	4 4	MDHI
Rivet	CR3212-4	8	Commercial
Rivet	NAS1097AD3-5	9	Commercial
Rivet	MS20615M4-4	11	Commercial
Rivet	MS20615M4-5	29	Commercial
Rivet	MS20427M5-4	2	Commercial
Rivet	NAS1919B04	AR	Commercial
Rivet	NAS1919B05	AR	Commercial
Enamel, Epoxy (White)	MDM 15-1100 (or equivalent)		Commercial

## J. Warranty Policy:

MDHI Warranty and Repair Department will provide tailboom attachment nutplates, frame ring fitting (steel), pin rivets and collars at no cost to the operator.

MDHI will also provide, to Authorized Service Centers, up to 25 hours labor warranty for rework.

## K. Tooling:

Lighted Borescope

## L. Weight and Balance:

N/A

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## **M. Electrical Load Data:**

N/A

## **N. Other Publications Affected:**

Handbook of Maintenance Instructions (CSP-HMI-2).

## **O. Points of Contact**

For further assistance, contact your local MDHI Field Service Representative or contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or (480) 346-6387.  
DATAFAX: (480) 346-6813.

## **2. ACCOMPLISHMENT INSTRUCTIONS**

### **A. Part 1: Aft Fuselage Attach Fitting Inspection**

- (1). Remove button plugs.

#### **NOTE:**

- In the following step, cleaning of the attach fitting may be necessary to complete inspection.
  - If attach fitting cannot be satisfactorily cleaned for borescope inspection, immediately proceed to Part 2 of this bulletin.
- (2). Using a lighted borescope, inspect all four attach fittings, and surrounding area, for cracks; no cracks allowed. If any cracks are found in the top-right attach point, proceed to Part 2 of this bulletin. If any cracks are found in the other attach fittings, perform TB600N-007, or latest revision.
  - (3). Reinstall button plugs.

### **B. Part 2: Aft Fuselage Rework and Nutplate Replacement**

(Ref. Figure 1)

- (1). Using appropriate ground support equipment, support the weight of the tailboom to avoid damage to nutplate or bolt threads while removing bolts.
- (2). Remove tailboom (Ref. CSP-HMI-2, Sec. 53-40-30).
- (3). Using a 10x magnifying glass, inspect attach bolt threads and shank for damage, replace bolts if excessively worn or damaged.

**NOTE:** If any doubt about condition of bolt threads, replace the bolt.

- (4). Remove button plugs from all four attach points.
- (5). Remove covers over all four, upper and lower, tailboom attach points.
- (6). Remove tailboom attach nutplates.
- (7). Thoroughly clean attach fittings.
- (8). Using bright light and 10x magnifying glass, visually inspect for cracks in attach fittings and upper angle (Ref. Figure 1).

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- (9). Using a magnet, check top-right attach fitting. If it is steel, attach fitting does not need to be replaced and proceed to step (10). If attach fitting is aluminum, proceed as follows.



A high level of sheet metal expertise and experience is required to perform this modification.

- (a). Remove anti-torque fan (Ref. CSP-HMI-2, Sec. 64-25-30, Anti-Torque Fan Removal).
- (b). Remove anti-torque fan liner (Ref. CSP-HMI-2, Sec. 64-25-30, Anti-Torque Fan Liner (Felt Metal Seal) Removal).
- (c). Remove rivets and remove and retain outer ring frame upper skin.
- (d). Remove rivets and remove and retain RH outer ring frame lower skin.
- (e). Remove and retain fan liner nutplate.
- (f). Remove rivets and remove and discard RH upper attach fitting.
- (g). Position new 500N3422-3 attach fitting between aft ring frame and fan support frame and securely clamp in place.
- (h). Mark location for all rivet holes and fan liner bolt hole on attach fitting.
- (i). Backdrill tailboom attach bolt hole, 0.315-0.322 in. (8.001-8.1788 mm), and nutplate rivet holes.
- (j). Remove attach fitting.



Ensure that minimum edge distance is maintained for all rivet holes.

- (k). Drill rivet holes and fan liner bolt hole in new attach fitting using drill press.
- (l). Deburr holes and remove all debris.
- (m). Temporarily install attach fitting with clecos.



Check fit clearance between rivet tails and nutplate retainer before final installation. Buck rivets again, if needed, to provide clearance for nutplate retainer.

- (n). Install rivets securing attach fitting in place.
- (o). Install fan liner nutplate.
- (p). Install RH outer ring frame lower skin.
- (q). Install outer ring frame upper skin.
- (r). Install anti-torque fan liner (Ref. CSP-HMI-2, Sec. 64-25-30, Anti-Torque Fan Liner (Felt Metal Seal) Installation).
- (s). Install anti-torque fan (Ref. CSP-HMI-2, Sec. 64-25-30, Anti-Torque Fan Installation).

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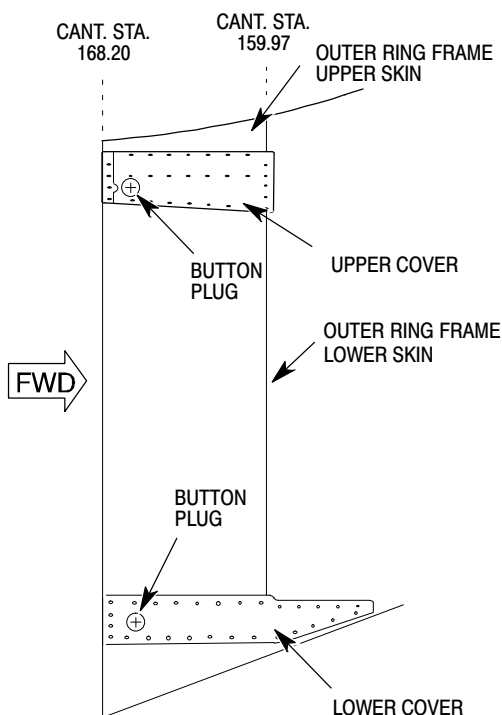
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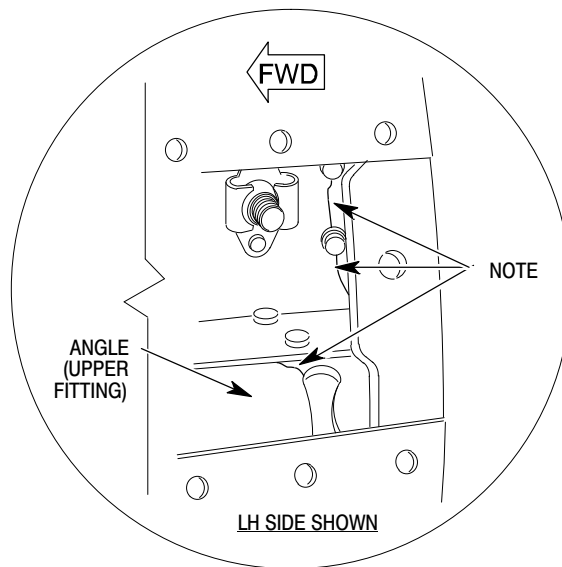
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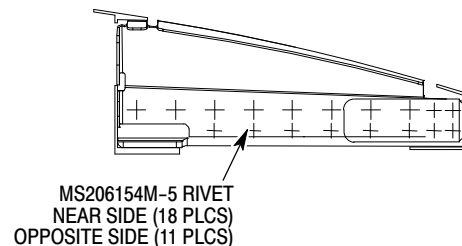
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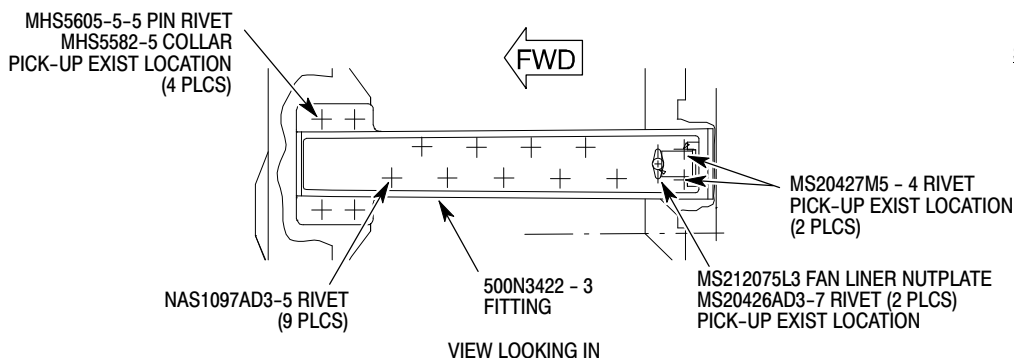
RH SIDE SHOWN



**NOTE:**  
AREAS WHERE CRACKS ARE MOST LIKELY TO APPEAR.



SIDE VIEW



VIEW LOOKING IN

RIVET INSTALLATION

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**Figure 1. Attach Point Access**

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- (10). Prepare area inside of attach fitting areas for paint.
- (11). Using painter's corks, or other suitable means, plug attach holes and rivets holes.
- (12). Cover felt metal seal nutplates to keep paint from entering them.

**NOTE:** Do not allow paint to pool in attach area.

- (13). Paint entire attach area with a thin coat of white paint (this will aid in future crack inspection).
- (14). After paint has cured, install MS21059-L5 nutplates in top right and bottom left attach points using CR3212-4 rivets.
- (15). Install MS21059-L6 nutplates in top left and bottom right attach points using CR3212-4 rivets.
- (16). Re-attach covers using NAS1919B04 rivets.



Do not lubricate tailboom attach bolts or nutplates, this will cause a false torque reading.

- (17). Using appropriate ground support equipment, support the weight of the tailboom to avoid damage to nutplate and bolt threads while installing bolts.
- (18). Re-install tailboom (Ref. CSP-HMI-2, Sec. 53-40-30).

**3. IDENTIFICATION**

N/A

**4. DISPOSITION OF PARTS REMOVED**

Scrap

**5. COMPLIANCE RECORD**

Record Compliance with this Service Bulletin in the Compliance Record section of the helicopter Log Book.

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## LATERAL MIXER OUTPUT LINK ASSEMBLY, ONE TIME INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All Model 600N Helicopters.

#### B. Assembly/Components Affected By This Bulletin:

Lateral Mixer Output Link Assembly (P/N 600N7636-1, -3).

#### C. Reason:

Visual inspection of the lateral mixer output link assembly has shown that cracks may be present radiating from the bearing bores on the link ends. Failure to comply with this bulletin may result in loss of main rotor controllability.

#### D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to inspection of the lateral mixer output link assembly.

#### E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### F. Manpower:

Part 1: 3.0 man-hours.

Part 2: 5.0 man-hours.

#### G. Time of Compliance

Perform the requirements of this Bulletin according to the indicated schedule:

**Part 1:** Lateral mixer output link assembly removal, visual inspection and installation of link assembly before next flight.

**Part 2:** Lateral mixer output link assembly, removal, eddy current inspection and installation of link assembly. A one time ferry flight not to exceed 100KTS to an appropriate maintenance facility to perform the eddy current inspection is authorized.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact MDHI Parts Sales for replacement parts.

#### J. Warranty Policy:

Contact MDHI Warranty and Repair Department.

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**K. Tooling:**

N/A

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

Handbook of Maintenance Instructions (CSP-HMI-2).

**O. Points of Contact**

For further assistance, contact your local MDHI Field Service Representative or contact the Field Service Department at MDHI, Mesa, Arizona.  
 Telephone 1-800-388-3378 or (480) 346-6387.  
 DATAFAX: (480) 346-6813.

## 2. ACCOMPLISHMENT INSTRUCTIONS

**A. Part 1: Lateral mixer output link assembly visual inspection**

- (1). Remove lateral mixer output link assembly.

**NOTE:** In the following step, cleaning of the link assembly may be necessary to complete inspection.

- (2). Using a bright light and a 10x magnifier, inspect link end shaded areas on both sides of the link assembly around bearing bore for indication of cracking. Replace and link assemblies suspected of cracks.
- (3). Reinstall lateral mixer link assembly.

**B. Part 2: Lateral mixer output link assembly eddy current inspection**

(Ref. Figure 1)

- (1). Remove lateral mixer output link assembly (Ref CSP-HMI-2, Section 62-30-60).

**NOTE:**

- In the following step, cleaning of the link assembly may be necessary to complete inspection.
  - Eddy current is to be performed by a Level II technician certified by either ASNT-TC-1A or MIL-STD-410 in eddy current and active in eddy current inspection within the last 12 months.
- (2). Perform eddy current inspection of the shaded areas on both sides of the link assembly.
  - (3). Install lateral mixer output link assembly (Ref. CSP-HMI-2, Sec. 62-30-60).

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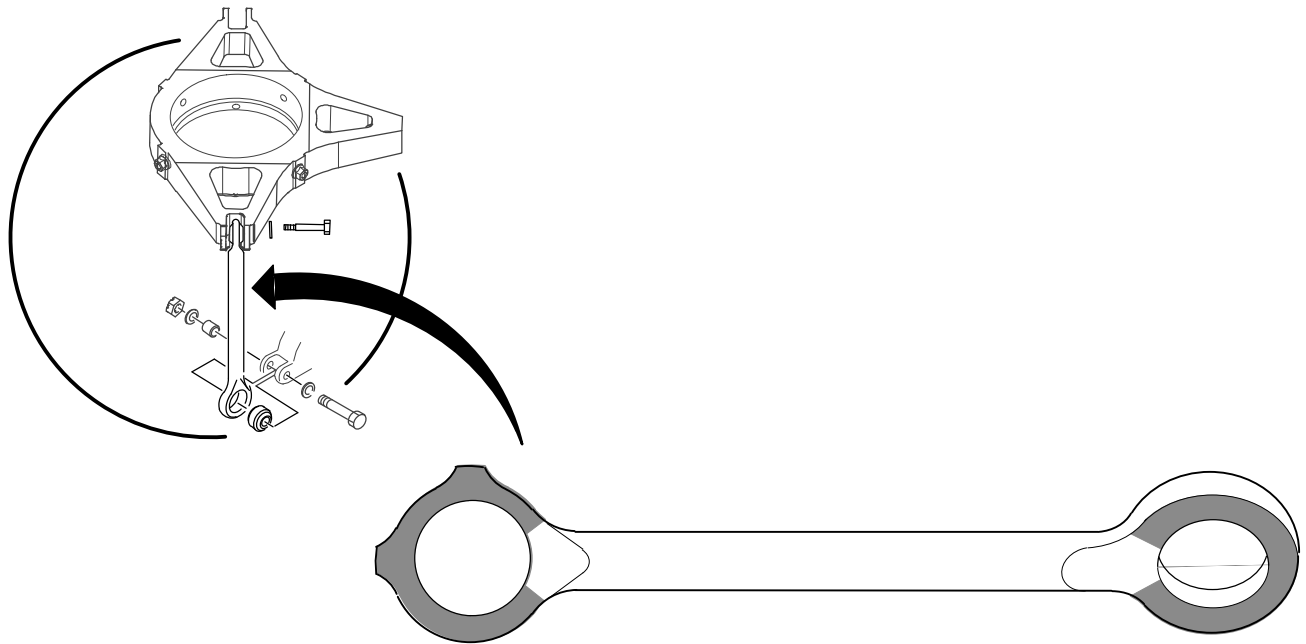
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NOTE:

BEARINGS HAVE BEEN REMOVED FOR CLARITY.

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**Figure 1. Attach Point Access**

**3. IDENTIFICATION**

N/A

**4. DISPOSITION OF PARTS REMOVED**

Return to MDHI.

**5. COMPLIANCE RECORD**

Record Compliance with this Service Bulletin in the Compliance Record section of the helicopter Log Book.

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# SERVICE BULLETIN

## LATERAL MIXER OUTPUT LINK ASSEMBLY, ONE TIME INSPECTION

Please fill in the information below, as applicable, and return to MDHI Field Service Dept. This form may be faxed to MDHI Field Service Department at **(480) 346-6813**.

<b>FROM:</b>		<b>DATE:</b>	
Operator or Company Name:			
Name of Contact Person:			
Address:			
City, State, Country			
Telephone #:			
Fax #:			

<b>HELICOPTER INFORMATION:</b>	
Helicopter Serial Number:	
Helicopter Registration Number:	
Date of Compliance with SB	

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# SERVICE BULLETIN

DATE: 06 MARCH 2008

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## NOTAR® FAN TENSION-TORSION (TT) STRAP REPLACEMENT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

MD Helicopters, Inc. (MDHI) Model 500N Helicopters, serial number LN-001 thru LN-105, Model 600N Helicopters, serial number RN003 thru RN074 and all spares inventory.

#### B. Assembly/Components Affected By This Bulletin:

500N5311-5 tension-torsion strap, fan blade NOTAR®.

One fan assembly contains thirteen tension-torsion straps.

#### C. Reason:

MD Helicopters, Inc. and Lord Corporation have determined that it is necessary at intervals to replace fan blade tension-torsion straps as part of maintenance of the NOTAR® system. The Lord Corporation has determined that the tension-torsion straps can, over time, absorb moisture that can cause the straps to have decreased strength. If you do not complete this bulletin, parts will remain in service after their life limit expires which could cause the straps to have decreased strength which decreases directional/yaw control of the helicopter if the strap fails.

#### D. Description:

Procedures in this bulletin give owners and operators information about the tension-torsion strap replacement. The tension-torsion straps have been added to the life limited parts list in the CSP-HMI-2, Section 04-00-00 Airworthiness Limitations Component Mandatory Replacement Schedule. A component record card must be made for each tension-torsion strap affected by this bulletin and kept in the Rotorcraft Log Book.

Part 1 removes, inspects and identifies each tension-torsion strap with an expiration date and records their serial numbers and expiration date in the Rotorcraft Log Book.

Part 2 replaces the tension-torsion straps and makes a record of completion.

#### E. FAA Approval:

The technical design aspects of this bulletin are FAA Approved.

#### F. Time of Compliance:

Part 1 - Inspection and marking must be completed no later than 6 months from the date of this bulletin.

Part 2 - Replacement of the tension-torsion straps must be completed no later than:

- Within 6 months of the date of this bulletin if the manufacturing cure date is more than 9 years after the date of this bulletin.
- Within 12 months of the date of this bulletin if the manufacturing cure date is between 7 to 9 years after the date of this bulletin.
- Within 24 months of the date of this bulletin if the manufacturing cure date is between 3 to 7 years after the date of this bulletin.
- If the manufacturing cure date is less than 3 years before the date of this bulletin, replace the strap 5 years after the manufacturing cure date.

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## G. Manpower:

Part 1: 20 man-hours.

Part 2: 20 man-hours.

## H. Interchangeability:

None

## I. Material/Part Availability:

Owners/operators who complete this bulletin within two years of the issue date of this bulletin are eligible for special pricing.

Contact MDHI Warranty and Repair Department for price and parts availability.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Tension-Torsion Strap Assembly-Fan Blade, NOTAR®	500N5311-5	13	MDHI
Washer, Countersunk, High Strength	MS2002C4	13	MDHI or Commercial
Washer, Flat	NAS1149D0432P	13	MDHI or Commercial
Washer, Flat	NAS1149F0332K	13	MDHI or Commercial
Bolt	NAS1954-20	13	MDHI or Commercial
Pin (Retainer)	5005318-7	13	MDHI
Pin, Cotter (Split)	MS24665	13	MDHI or Commercial
Ink, Marking, Stencil	A-A-208 Type 1 Color Number 37038 (or equivalent)	As necessary	Matthews International 6515 Penn Avenue Pittsburgh, PA 15206 Ph 412-665-2500 Fax 412-665-2594 or
Fine Tip Permanent Marker	Sharpie™ (or equivalent)	1	Commercial

## J. Warranty Policy:

**NOTE:** If the date of original Airworthiness Certificate of the helicopter is more than 9 years before the date of this bulletin, contact Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387, DATAFAX: (480) 346-6813 before you do Part 1.

MDHI to supply one ship-set (13 straps) for each operating NOTAR® helicopter. Sets will be supplied to the owner/operator based on need as defined in time of compliance. Parts will be sent when available from the manufacturer and after MDHI has received the Bulletin Completed Record form for Part 1.

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**MANDATORY**

MDHI Warranty and Repair Department will give Authorized Service Centers not more than 20 hours of labor credit (spares credit) to complete the inspection and identify the component with a service life date in accordance with Part 1.

MDHI Warranty and Repair Department will give Authorized Service Centers not more than 20 hours of labor credit (spares credit) to complete the component replacement in accordance with Part 2.

**K. Tooling:**

N/A

**L. Weight and Balance:**

N/A

**M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

Handbook of Maintenance Instructions CSP-HMI-2 and CSP-IPC-4.

**O. Points of Contact:**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

**A. Part 1: Tension-Torsion Strap Assembly Inspection and Identification:**

**NOTE:** The life limit of the tension-torsion strap will start on the date the package is opened. If the package is open, and the package opening date is unknown, the life limit will be determined by the cure date marked on each part.

- (1). If the part is in storage, remove from storage and examine the package seal to make sure it has not been opened. If open, continue to step (3). If package is not opened, return part to storage.
- (2). Remove fan blade straps from helicopter (Ref. CSP-HMI-2, Section 64-25-30).
- (3). Find the cure date on the strap. Find expiration date (Ref. Table 1). Write the words **EXPIRATION DATE** on the strap face with the applicable date, use permanent ink.

Table 1. Tension-Torsion Expiration Date		
Date of This Bulletin	Manufacturers Cure Date	Expiration Date
02/2008	Before 02/1999	08/2008
02/2008	03/1999 thru 02/2001	02/2009
02/2008	03/2001 thru 02/2005	02/2010
02/2008	03/2005 thru 02/2008	Cure Date Plus 5 Years

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- (4). If the strap goes back to storage, create item Component Record Cards for tension-torsion straps.
- (5). Install tension-torsion straps (Ref. CSP-HMI-2, Section 64-25-30).
- (6). Put revision 41 (or later) of the ALS in the CSP-HMI-2 Rotorcraft Maintenance Manual, Section 04-00-00.
- (7). Make a record in the Compliance Record section of the Rotorcraft Log Book that Part 1 of this bulletin is completed.
- (8). Complete Part 1 of the Bulletin Completed Record form. Fax to MDHI Warranty and Repair Department.

## B. Part 2: Tension-Torsion Strap Assembly Replacement:

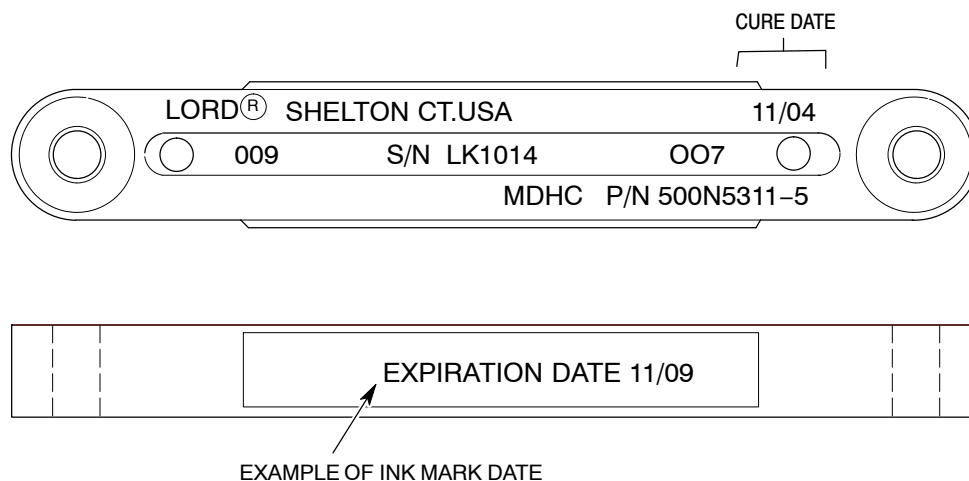
**NOTE:** The strap life limit is five years after opening the package.

- (1). Remove straps from packages; write the words **EXPIRATION DATE** on the strap face with the date 5 years after package is opened, use permanent ink.
- (2). Make item Component Record Cards for tension-torsion straps.



Make sure MS2002C4 countersunk washers are installed under bolt heads, NAS1149D0432P flat washers are installed with retainer pins, and NAS1149F0332K flat washers are installed under nuts.

- (3). Install new tension-torsion straps, retainer pins, bolts, countersunk washers, flat washers and cotter pins (Ref. CSP-HMI-2, Section 64-25-30).
- (4). Make a record in the Compliance Record section of the Rotorcraft Log Book that Part 2 of this bulletin is completed.



88-792

**Figure 1. Fan Tension-Torsion Strap Assembly**

## 3. DISPOSITION OF PARTS REMOVED

Fax a copy of the completed Service and Operations Report (SOR) form to MDHI Warranty Repair Dept. DATAFAX: (480) 346-6813.

Send tension-torsion straps (13 each) along with the (original) completed Service and Operations Report (SOR) form to MDHI Warranty Repair Dept.

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SB500N-029  
SB600N-046

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## Bulletin Completed Record

### SB500N-029 or SB600N-046, NOTAR® Fan Tension-Torsion Strap Replacement

FAX this form to MDHI (480) 346-6813 or  
Email to ServiceEngineering@mdhelicopters.com

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 phone (U.S. and Canada)  
480-346-6387 phone (International)  
480-346-6813 Fax

Dear Sir:

This is to tell you that this service bulletin has been completed as shown below:

Owner/Operator: \_\_\_\_\_

Aircraft Serial No: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

E-mail address: \_\_\_\_\_

#### **PART 1 Completed**

Helicopter Total Time: \_\_\_\_\_ Date: \_\_\_\_\_

Location: \_\_\_\_\_

Part 1 of this bulletin is complete: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

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DATE: 3 MARCH 2010

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\* Supersedes SB600N-050 dated 16 March 2009. Revised to add latest revision of Rolls-Royce Commercial Engine Bulletin.

## GOVERNOR ELECTRONIC CONTROL UNIT (ECU) REPLACEMENT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

MD Helicopters, Inc. (MDHI) Model 600N Helicopters, serial number RN003 thru RN077.

#### B. Assembly/Components Affected By This Bulletin:

600N8500 Engine Control Installation. Custom Aircraft Interiors MD600-6200-138 ECU harness cover, if installed.

#### C. Reason:

Rolls-Royce Corporation has made a product improvement to the Model 250 Series IV FADEC single engine control system with the addition of a Reversionary Governor to the EMC-35A ECU. This improvement will reduce the possibility of a reversion to manual mode. The new ECU will be designated EMC-35R.

#### D. Description:

Procedures in this bulletin give owners and operators data about Rolls-Royce commercial engine bulletin CEB 73-6048 ENGINE FUEL AND CONTROL - INTRODUCTION OF REVERSIONARY GOVERNOR ELECTRONIC CONTROL UNIT (ECU).

This bulletin also has instructions to modify the Custom Aircraft Interiors MD600-6200-138 ECU harness cover, if installed.

#### E. FAA Approval:

The technical design aspects of this bulletin are FAA Approved.

#### F. Time of Compliance:

This bulletin must be completed when Rolls-Royce CEB 73-6048 is completed.

#### G. Manpower:

5 man-hours for ECU replacement.

2 man-hours for ECU harness cover modification.

#### H. Interchangeability:

None

#### I. Material/Part Availability:

Contact Rolls-Royce Corporation.

#### J. Warranty Policy:

N/A

#### K. Tooling:

N/A

#### L. Weight and Balance:

Incorporation of the airframe changes included in this Service Bulletin have a negligible impact on aircraft weight and balance. Incorporation of Rolls-Royce CEB 73-6048 will add 2.5 pounds at aircraft FS 119.28 and RBL 11.20.

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****M. Electrical Load Data:**

N/A

**N. Other Publications Affected:**

CSP-IPC-4 Illustrated Parts Catalog and CSP-600RFM-1 Rotorcraft Flight Manual.

MDHI electronic publications and publication downloads are available for free. Go to [http://www.mdhelicopters.com/publications/pubs\\_registration.php](http://www.mdhelicopters.com/publications/pubs_registration.php) and register to access free publications.

**O. Points of Contact:**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

**2. ACCOMPLISHMENT INSTRUCTIONS**

(Ref. Figure 1)

**NOTE:** Do not install the four removed MHS306-324 large area washers and MHS5542-03043 bushings on the bolts that attach the ECU.

- (1). Do the Rolls-Royce commercial engine bulletin CEB 73-6048 ENGINE FUEL AND CONTROL - INTRODUCTION OF REVERSIONARY GOVERNOR ELECTRONIC CONTROL UNIT (ECU) Revision 2 or subsequent.
- (2). Modify the Custom Aircraft Interiors MD600-6200-138 ECU harness cover as follows:
  - (a). Remove harness cover.
  - (b). Mark dimensions on harness cover to make cut out larger.
  - (c). Cut out harness cover material at marks, use a high speed cut off wheel or equivalent.
  - (d). Maintain initial harness cover cut out radius in corners.
  - (e). Smooth edge of cut out, use 180 grit or finer abrasive paper.
  - (f). Touch up paint at cut out to match harness cover.
  - (g). Identify harness cover with the number of this bulletin, use permanent ink. Put bulletin number adjacent to manufacturers part number.
  - (h). Install harness cover.
- (3). Make sure CSP-600RFM-1 Rotorcraft Flight Manual has revision 9 or subsequent. Tell the aircrew that this bulletin has been completed.
- (4). Make a record in the Compliance Record section of the Rotorcraft Log Book that this bulletin is completed.
- (5). Make a copy of the completed engine information table on page 3 of 5 of Rolls-Royce commercial engine bulletin CEB-73-6048, accomplishment instructions. Fax to MDHI Field Service Department.
- (6). Complete the Bulletin Completed Record form. Fax to MDHI Field Service Department.

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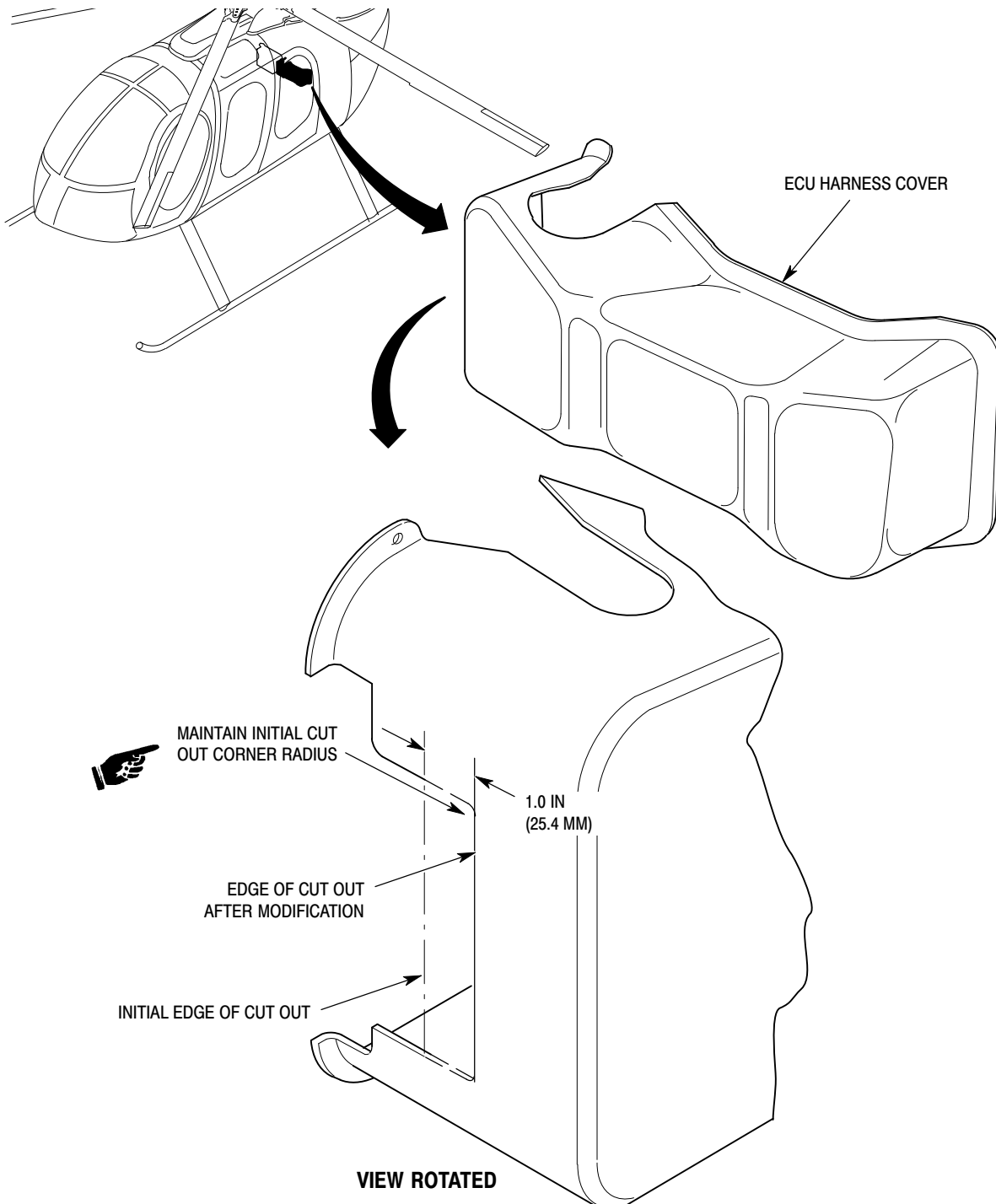
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**Figure 1. ECU Harness Cover Modification**

## 3. DISPOSITION OF PARTS REMOVED

N/A

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****Bulletin Completed Record****SB600N-050, Governor Electronic Control Unit (ECU) Replacement**

FAX this form to MDHI (480) 346-6813 or  
Email to ServiceEngineering@mdhelicopters.com

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 phone (U.S. and Canada)  
480-346-6387 phone (International)  
480-346-6813 Fax

Dear Sir:

This is to tell you that this service bulletin has been completed as shown below:

Owner/Operator: \_\_\_\_\_

Aircraft Serial No: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone: \_\_\_\_\_

E-mail address: \_\_\_\_\_

Helicopter Total Time: \_\_\_\_\_ Date: \_\_\_\_\_

Location: \_\_\_\_\_

\_\_\_\_\_

This bulletin is complete: \_\_\_\_\_

(Signature)

\_\_\_\_\_

(Print Name)

\_\_\_\_\_

(Title)

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## ONE-TIME INSPECTION OF THE HORIZONTAL STABILIZER TORQUE TUBES AND THE LANDING GEAR STRUTS

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

600N helicopters, serial numbers RN003 thru RN080.

#### B. Assembly/Components Affected By This Notice:

500N3950-7/-9 Horizontal Stabilizer Torque Tube

600N3950-1/-3 600N YSAS Horizontal Stabilizer Torque Tube

600N6022-7/-8/-9/-10/-11/-12/-13/-14 Landing Gear Strut

600N6027-1/-2 Landing Gear Strut

#### C. Reason:

The 600N3950-1 horizontal stabilizer torque tube has an incorrect life-limit in CSP-HMI-2, Chapter 04. The life-limit is 400 flight hours, not 1000 flight hours. The 600N3950-3 torque tube life-limit is correct (1000 flight hours).

The life-limit of the 500N3950-7/-9 horizontal stabilizer torque tube is 3000 flight hours.

The life-limit of the 600N6022-7/-8/-9/-10/-11/-12/-13/-14 landing gear struts are 696 flight hours or 4170 landings. The 600N6027-1/-2 left-hand and right-hand landing gear struts have unlimited life (subject to the limits of on-condition maintenance and inspections) and do not have serial numbers.

Owners and operators must do a check of the parts installed in the Component Records and/or on the rotorcraft to make sure the part number (PN), serial number (SN), and the number of flight hours in use.

Failure to comply with this bulletin can result in rotorcraft with horizontal stabilizer torque tubes and/or landing gear struts that have been in service longer than the specified life-limit.

#### D. Description:

Procedures in this Bulletin give owners and operators information to check the PN, SN, and number of flight hours or landings (as necessary).

#### E. Time of Compliance:

The instructions in this bulletin must be completed within the next 50 flight hours after you get this bulletin.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

#### G. Manpower:

Compliance with this bulletin will be approximately two (2) man-hours to examine the Rotorcraft Log Book and approximately (2) man-hours to examine the components installed on the rotorcraft.

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****H. Interchangeability:**

None.

**I. Points of Contact:**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

**J. Material/Part Availability:**

Contact MDHI Field Service Department.

**K. Warranty Policy:**

Standard warranty policy applies.

**L. Disposition of Parts Removed:**

Scrap.

**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

CSP-HMI-2 Basic Handbook of Maintenance Instructions - Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-RLB Rotorcraft Log Book

CSP-HMI-2 Basic Handbook of Maintenance Instructions - Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

SB600N-030 Inspection of Vertical Stabilizer and Torque Tube and Replacement of  
Attaching Hardware

SB600N-040 Control Support Bracket Assembly Life Reduction

SB600N-047 De-Energize YSAS System and Replace YSAS Adapter

TB600-006 600N Yaw Stability Augmentation System (YSAS) Installation

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## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

### **A. [Part 1] Examine the Horizontal Stabilizer Torque Tubes**

- (1). Examine the Rotorcraft Log Book for the horizontal stabilizer torque tube PNs and SNs.
  - (a). Record the PNs on the Bulletin Completed Record [Part 1].
  - (b). Record the SNs on the Bulletin Completed Record [Part 1].
  - (c). Record the number of flight hours for each horizontal stabilizer torque tube on the Bulletin Completed Record [Part 1].
- (2). If the Rotorcraft Log Book does not have the PN and SN you must disassemble the rotorcraft to access the information.
  - (a). Remove the end tip access covers (ref. CSP-HMI-2, Section 53-50-30).
    - 1). If the PN and SN is not visible, remove the upper and lower vertical stabilizers (ref. CSP-HMI-2, Section 53-50-30).
    - 2). Remove the torque tubes.
  - (b). Examine each torque tube for the PN and SN.
  - (c). Record these part numbers and serial numbers in the Rotorcraft Log Book.
  - (d). Record the PNs on the Bulletin Completed Record [Part 1].
  - (e). Record the SNs on the Bulletin Completed Record [Part 1].
  - (f). Calculate the number of flight hours from the date of installation in the Rotorcraft Log Book.
  - (g). Record the number of flight hours for each horizontal stabilizer torque tube on the Bulletin Completed Record [Part 1] and in the Rotorcraft Log Book.
  - (h). If necessary, install the torque tubes (ref. CSP-HMI-2, Section 53-50-30).
  - (i). If necessary, install the upper and lower vertical stabilizers.
  - (j). Install the end tip access covers.

### **B. [Part 2] Examine the Landing Gear Struts**

- (1). Examine the Rotorcraft Log Book for the landing gear struts PNs and SNs.
  - (a). Record the PNs on the Bulletin Completed Record [Part 2].
  - (b). Record the SNs on the Bulletin Completed Record [Part 2].
  - (c). Record the number of flight hours or landings for each landing gear strut on the Bulletin Completed Record [Part 2].
- (2). If the Rotorcraft Log Book does not have the PN and SN you must disassemble the rotorcraft to access the information.
  - (a). Remove the landing gear fairings (ref. CSP-HMI-2, Section 32-10-60).

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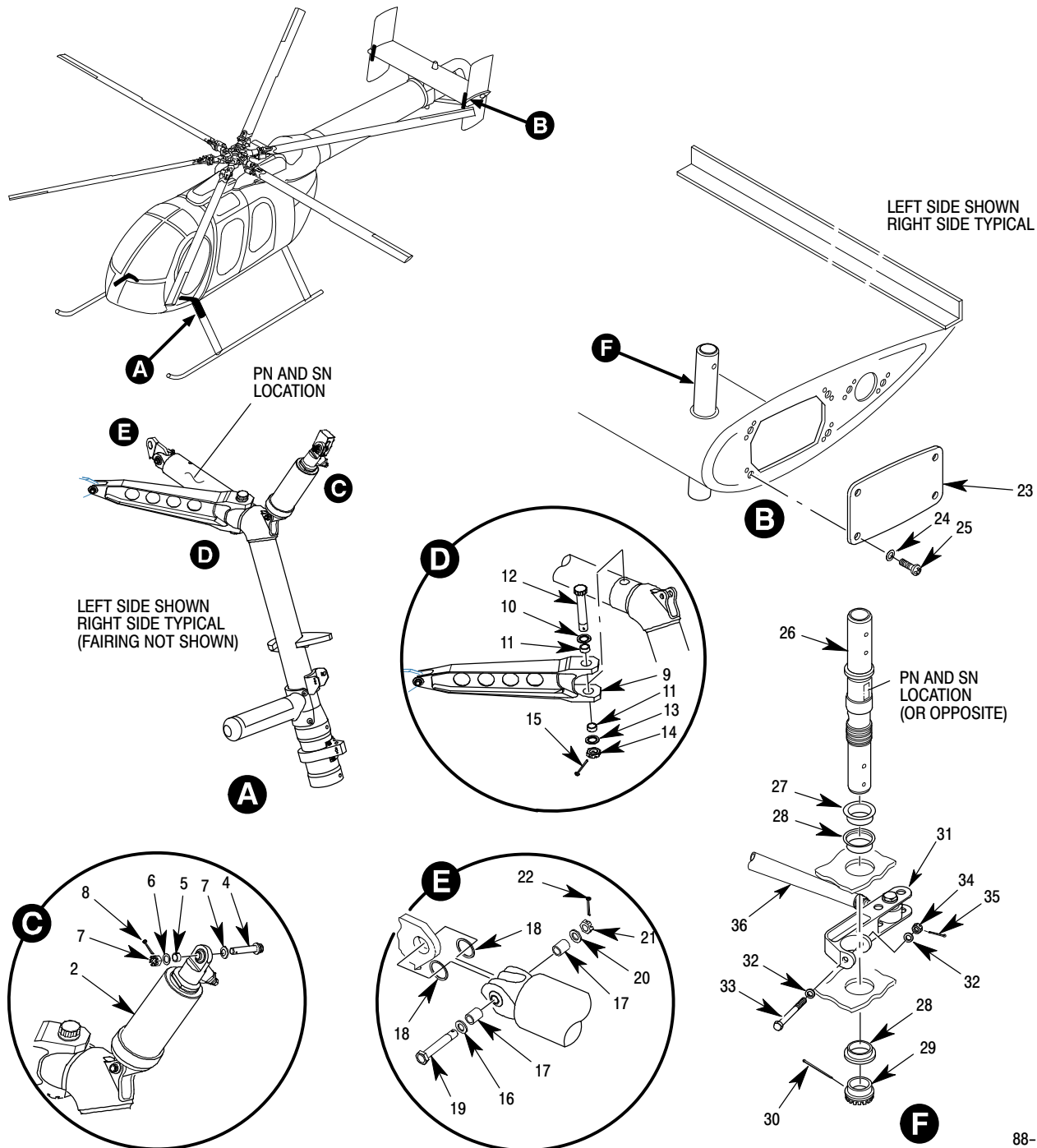
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**Figure 1. Landing Gear Struts and Horizontal Stabilizer Torque Tubes**

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## Legend (Ref. Figure 1)

1. LANDING GEAR STRUT (CSP-IPC-4, 32-10-60, FIG. 4)
2. DAMPER ASSEMBLY (CSP-IPC-4, 32-10-60, FIG. 1)
3. COUNTERSUNK WASHER
4. BOLT
5. BUSHING
6. FLAT WASHER
7. SELF-LOCKING NUT
8. COTTER PIN
9. BRACE ASSEMBLY
10. COUNTERSUNK WASHER
11. BUSHING
12. BOLT
13. FLAT WASHER
14. NUT
15. COTTER PIN
16. COUNTERSUNK WASHER
17. BUSHING
18. WASHER
19. BOLT
20. FLAT WASHER
21. SELF-LOCKING NUT
22. COTTER PIN
23. TIP ACCESS COVER (CSP-IPC-4, 53-50-30, FIG. 1)
24. FLAT WASHER
25. SCREW
26. TORQUE TUBE
27. BEARING RACE
28. BUSHING
29. LOCKNUT
30. COTTER PIN
31. BELLCRANK ASSEMBLY
32. WASHER
33. BOLT
34. NUT
35. COTTER PIN
36. DIRECTIONAL CONTROL TUBE (CSP-IPC-4, 67-20-30, FIG. 3)

- 
- (b). As necessary, disassemble the landing gear to access the PN and SN information.
  - (c). Examine each landing gear strut for the PN and SN.
  - (d). Record these part numbers and serial numbers in the Rotorcraft Log Book.
  - (e). Record the PNs on the Bulletin Completed Record [Part 2].
  - (f). Record the SNs on the Bulletin Completed Record [Part 2].
  - (g). Calculate the number of flight hours or landings from the date of installation in the Rotorcraft Log Book.
  - (h). Record the number of flight hours or landings for each landing gear strut on the Bulletin Completed Record [Part 2] and the Rotorcraft Log Book.
  - (i). Assemble the landing gear (ref. CSP-HMI-2, Section 32-10-60).
  - (j). Install the landing gear fairing.

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## **C. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.

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## SB600N-055 Completed Record

### [Part 1] One-Time Inspection of the Horizontal Stabilizer Torque Tubes and the Landing Gear Struts

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner /Operator:</b> _____	<b>Rotorcraft Serial No:</b> _____
<b>Address:</b> _____	<b>Rotorcraft Total Time:</b> _____
_____	<b>Date Complete:</b> _____
_____	<b>Location:</b> _____
_____	<b>Torque Tube PNs (Left/Right)</b> _____
<b>Phone:</b> _____	<b>Torque Tube SNs (Left/Right)</b> _____
<b>E-mail:</b> _____	<b>No. Of Flight Hrs. (Left/Right)</b> _____

[Part 1 of 2] This bulletin  
is complete:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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## SB600N-055 Completed Record

### [Part 2] One-Time Inspection of the Horizontal Stabilizer Torque Tubes and the Landing Gear Struts

MD Helicopters, Inc.  
 Field Service Department  
 4555 E. McDowell Road  
 Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
 480-346-6387 Phone (International)  
 480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner /Operator:</b> _____	<b>Rotorcraft Serial No:</b> _____
<b>Address:</b> _____	<b>Rotorcraft Total Time:</b> _____
_____	<b>Date Complete:</b> _____
_____	<b>Location:</b> _____
_____	<b>Strut PNs (Left/Right)</b> _____
<b>Phone:</b> _____	<b>Strut SNs (Left/Right)</b> _____
<b>E-mail:</b> _____	<b>No. Of Flight Hours/Landings (Left/Right)</b> _____

[Part 2 of 2] This bulletin is complete: \_\_\_\_\_  
 (Signature)  
 \_\_\_\_\_  
 (Print Name)  
 \_\_\_\_\_  
 (Title)

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



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\* Supersedes Service Bulletins SB369H-253R1, SB369D-211R1, SB369E-106R1, SB369F-092R1, SB500N-048R1, and SB600N-056R1, dated 15 April 2013. Revised to change bearing replacement criteria.

## UPPER MAIN ROTOR PITCH CONTROL ROD END, PN 369A1011 INSPECTION AND REPLACEMENT

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) Model 369E, 369FF, 500N and 600N helicopters delivered after 30 June 2011.

All MDHI Model 369A (OH-6A), 369H, 369HE, 369HS, 369HM, 369D, 369E, 369FF, 500N and 600N helicopters with an upper main rotor pitch control rod end, Part Number (PN) 369A1011, replaced during routine maintenance after 30 June 2011.

All upper main rotor pitch control rod ends, PN 369A1011, purchased as spares inventory after 30 June 2011.

#### B. Assembly/Components Affected By This Notice:

Upper Main Rotor Pitch Control Rod Ends, PN 369A1011, identified with RBC Transport Dynamics Corp. (RBC) vendor code 5963 and a manufacture date after 30 June 2011.

Main Rotor Pitch Control Rod Assembly, PN 369D21008

Main Rotor Pitch Control Rod Assembly, PN 369A1008

#### C. Reason:

MDHI has determined that upper main rotor pitch control rod ends, PN 369A1011, identified with vendor code 5963 and a manufacture date after 06-30-11, installed on aircraft or purchased as spares after 30 June 2011 can show a breakout torque that is too high (unserviceable) after an unusually short time.

Failure to comply with this bulletin can result in excessive cyclic vibration, main rotor pitch control rod assembly rod end failure and possible pitch housing assembly damage.

#### D. Description:

Procedures in this bulletin give owners and operators information to examine and replace the high breakout torque (unserviceable) main rotor pitch control rod ends. A Daily Pre-Flight Check must be done if immediate main rotor pitch control rod end replacement is not possible and the pitch control rod end turns freely.

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## **E. Time of Compliance:**

- (1). Customers with affected aircraft must do this bulletin within 25 flight hours after you get this bulletin.
- (2). Customers with affected aircraft must replace main rotor pitch control rod ends, PN 369A1011, identified with vendor code 5963 and a manufacture date after 06-30-11 , installed on-aircraft, no later than 300 flight hours after you get this bulletin or within one (1) year from the date of this bulletin if the pitch control rod end turns freely.
- (3). All unserviceable main rotor pitch control rod ends, PN 369A1011, identified with vendor code 5963 and a manufacture date after 06-30-11, must be returned to MDHI within one (1) year from the date of this bulletin to get replacement parts at no cost to the operator.

## **F. FAA Approval:**

The technical design aspects of this bulletin are FAA Approved.

## **G. Manpower:**

Compliance with this bulletin will be approximately one half (0.5) man-hour to complete the inspection and approximately one (1) man-hour to replace each main rotor pitch control rod end.

## **H. Interchangeability:**

None.

## **I. Points of Contact:**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

## **J. Material/Part Availability:**

Contact MDHI Field Service Department.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Main Rotor Pitch Control Rod End	369A1011	1 (per assembly)	MDHI
Main Rotor Swash Plate Elastomer Ring	369D21012	2 (per assembly)	MDHI
Cotter Pin	MS24665-153	1 (per assembly)	Commercially Available
Lock Wire	CM702	AR	Commercially Available

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## **K. Warranty Policy:**

Contact the MDHI Customer Service Department for prices, orders, and availability.

The MDHI Warranty and Repair Department will replace unserviceable main rotor pitch control rod ends, PN 369A1011, identified with vendor code 5963 and a manufacture date after 06-30-11, at no cost to the operator if the unserviceable rod ends are returned to MDHI within one (1) year of the date of this bulletin. Completed Service and Operation Report (SOR) and Part 2 - Bulletin Completed Records must be returned with the rod ends. Unserviceable main rotor pitch control rod ends that have been installed on-aircraft must be marked with the time (hours) in service to qualify for warranty replacement.

MDHI will also give operators a labor warranty (spares credit) as follows:

- One half (0.5) hours for the initial on-aircraft inspection.
- One (1) hour for the replacement of each installed unserviceable main rotor pitch control rod end, PN369A1011, identified with vendor code 5963 and a manufacture date after 06-30-11 that is returned to MDHI.

## **L. Disposition of Parts Removed:**

Return high breakout torque (unserviceable) upper main rotor pitch control rod ends, PN 369A1011, identified with vendor code 5963 and a manufacture date after 06-30-11 to MDHI.

## **M. Tooling:**

N/A

## **N. Weight and Balance:**

N/A

## **O. Electrical Load Data:**

N/A

## **P. Other Publications Affected:**

N/A

## **Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-D-1 Rotorcraft Flight Manual

CSP-E-1 Rotorcraft Flight Manual

CSP-FF-1 Rotorcraft Flight Manual

CSP-HE/HS-1 Rotorcraft Flight Manual

CSP-520N-1 Rotorcraft Flight Manual

CSP-600N-1 Rotorcraft Flight Manual

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CSP-H-2 Basic Handbook of Maintenance Instructions (Basic HMI)

CSP-H-7 Illustrated Parts Catalog (IPC)

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Examine Upper Main Rotor Pitch Control Rod Ends, PN 369A1011, for Vendor Code 5963 and a Manufacture Date After 06-30-11

- (1). Do an on-aircraft inspection of the upper main rotor pitch control rod ends as follows:
  - (a). Get access to the upper main rotor pitch control rod assembly rod ends.
  - (b). Examine each installed upper main rotor pitch control rod end for vendor code 5963 and a manufacture date after 06-30-11. (Ref. Figure 1).
  - (c). If any installed main rotor pitch control rod end is identified with vendor code 5963 and a manufacture date after 06-30-11, record the quantity found on the Part 1 – Bulletin Completed Record (Ref. Step 2.F.(2).) for installed main rotor pitch control rod assembly rod ends. Go to Step 2.B.
  - (d). If no installed main rotor pitch control rod ends are identified with vendor code 5963 and a manufacture date after 06-30-11, record “0” quantity on the Part 1 – Bulletin Completed Record (Ref. Step 2.F.(2).) for on-aircraft main rotor pitch control rod ends. No further action on the aircraft is required.
- (2). Do a spares inventory inspection of the main rotor pitch control rod ends purchased after June 30 2011 as follows:
  - (a). Examine each main rotor pitch control rod end for vendor code 5963 and a manufacture date after 06-30-11. (Ref. Figure 1).
  - (b). If any main rotor pitch control rod end in spares inventory is identified with vendor code 5963 and a manufacture date after 06-30-11, record the quantity found on the Part 1 – Bulletin Completed Record (Ref. Step 2.F.(2).) for spares inventory.
  - (c). If no main rotor pitch control rod ends in spares inventory are identified with vendor code 5963 and a manufacture date after 06-30-11, record “0” quantity on the Part 1 – Bulletin Completed Record (Ref. Step 2.F.(2).) for spares inventory. No further action with spares inventory is required.

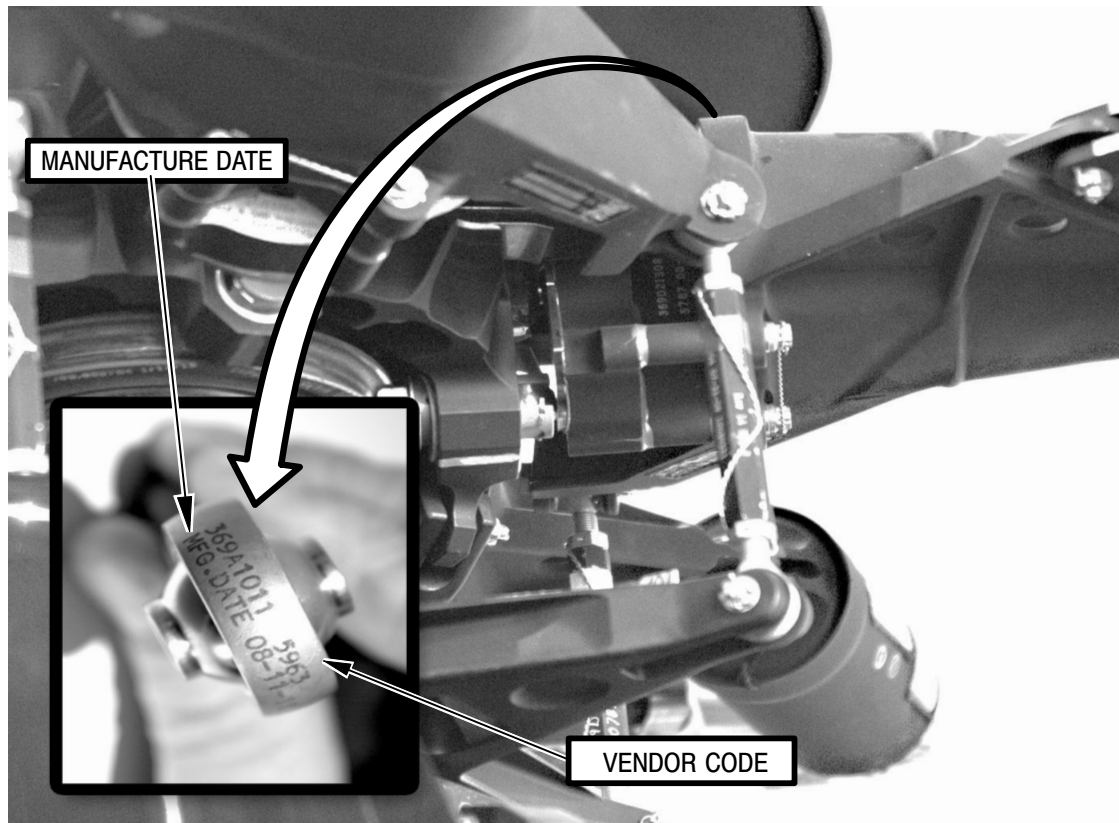
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**Figure 1. Installed Main Rotor Pitch Control Rod Assembly**

**B. Make Sure Installed Upper Main Rotor Pitch Control Rod Ends, PN 369A1011, Identified with Vendor Code 5963 and a Manufacture Date After 06-30-11 Turn Freely**

**NOTE:** If upper main rotor pitch control rod ends with vendor code 5963 and a manufacture date after 06-30-11 are installed and rotate freely, do the following. The main rotor pitch control rod end replacement can be postponed for a period of up to, but no later than, 300 flight hours or one year, whichever occurs first. A mandatory Daily Pre-Flight Check is required if main rotor pitch control rod end replacement is postponed.

- (1). Turn the main rotor pitch control rod assembly with a back and forth movement. (Ref. Figure 2).
- (2). If the main rotor pitch control rod assembly does not turn back and forth freely, do Step 2.C. before the next flight.

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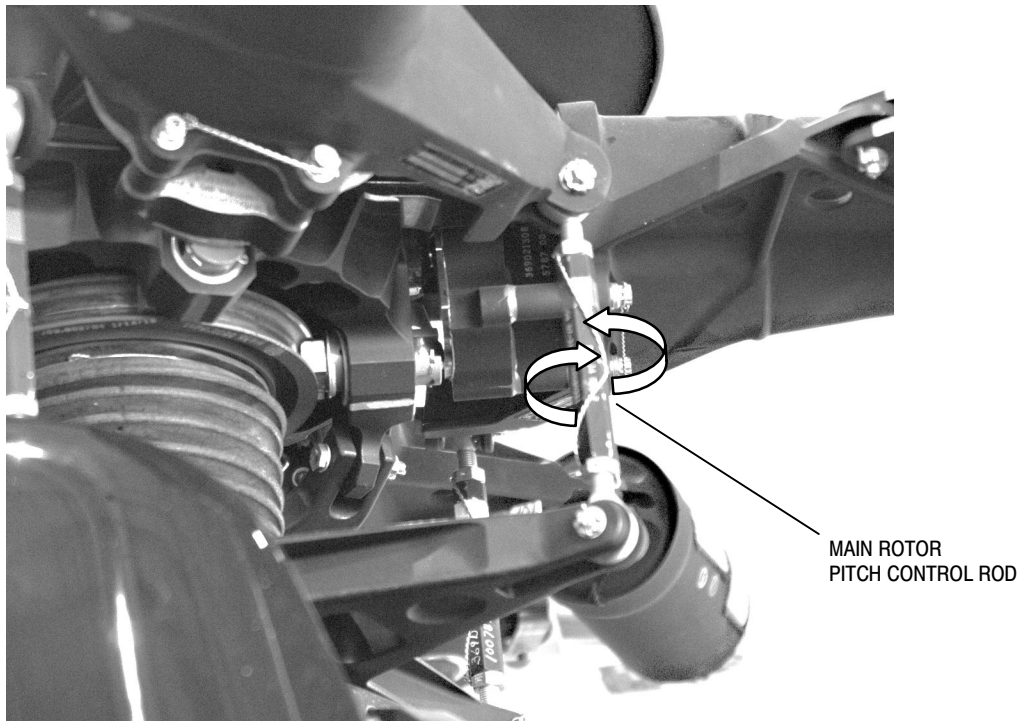
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- (3). If the main rotor pitch control rod assembly turns back and forth freely, do the following step:
  - (a). Do Step 2.E. for replacement of the main rotor pitch control rod end at a later date. Replacement can be postponed for a period of up to, but no later than, 300 flight hours or one year, whichever occurs first.
- (4). Do Step 2.B.(1)., Step 2.B.(2)., and Step 2.B.(3). again for each main rotor pitch control rod assembly.



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**Figure 2. Main Rotor Pitch Control Rod Assembly Movement Check**

## **C. Main Rotor Pitch Control Rod End Replacement**

- (1). Remove the main rotor pitch control rod assembly. (Ref. CSP-HMI-2, Section 62-30-00 or 62-30-60 or CSP-H-2, Section 7).

**NOTE:** Deleted.

- (2). Measure and record the length of the removed main rotor pitch control rod. Nominal length may have been changed at the previous track and balance.
- (3). Remove and discard the lockwire from the main rotor pitch control rod assembly.
- (4). Loosen the jam nut and remove the upper main rotor pitch control rod end and the jam nut.

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- (5). Remove the jam nut from the main rotor pitch control rod end.
- (6). Identify or tag the removed main rotor pitch control rod end with the time (hours) in service.
- (7). Install the jam nut on the new main rotor pitch control rod end.
- (8). Install the new main rotor pitch control rod end and the jam nut in the main rotor pitch control rod assembly.
- (9). Adjust the length of the main rotor pitch control rod assembly to the dimension recorded in Step 2.C.(2).
- (10). Hold the main rotor pitch control rod and torque the jam nut to 95 – 100 inch-pounds (10.73 – 11.30Nm).

**NOTE:** Clock main rotor pitch control rod assembly ends to allow for maximum movement when installed on aircraft.

- (11). Safety the jam nuts with lockwire.
- (12). Examine the main rotor hub pitch control housing assembly pitch control rod mounting clevis for damage. Go to Step 2.D.
- (13). Install the main rotor pitch control rod assembly. (Ref. CSP-HMI-2, Section 62-30-00 or 62-30-60 or CSP-H-2, Section 7).
- (14). Record the quantity of main rotor pitch control rod rod ends removed from the aircraft, and the flight time for each rod end on the Part 2 – Bulletin Completed Record (Ref. Step 2.F.(3).) for installed main rotor pitch control rod rod ends.
- (15). Perform a main rotor track and balance procedure if required. (Ref. CSP-HMI-2, Section 18-10-00 or 18-10-60 or CSP-H-2, Section 7).

## **D. Do a Main Rotor Hub Pitch Control Housing Assembly Pitch Control Rod Mounting Clevis Inspection**

- (1). Examine the main rotor hub pitch control housing assembly pitch control rod mounting clevis bushing for wear and looseness. None allowed.
- (2). Examine the main rotor hub pitch control housing assembly pitch control rod mounting clevis outboard hole for elongation and other obvious damage. The diameter of the outboard hole must not exceed 0.3135 inch (7.9629 mm).
- (3). If damage is found, contact MDHI Field Service Department.
- (4). If no damage is found, go to Step 2.C.(13).

## **E. Mandatory Daily Pre-Flight Check and Postponed Main Rotor Pitch Control Rod End Replacement**

- (1). One at a time, turn each main rotor pitch control rod assembly in a back and forth movement. (Ref. Figure 2).
- (2). If all main rotor pitch control rod assemblies turns back and forth freely, the main rotor pitch control rod assembly rod ends are serviceable and flight operations can resume for the day.

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- (3). If any one of the main rotor pitch control rod assemblies does not turn back and forth freely, the main rotor pitch control rod end is not serviceable. Do Step 2.C. before the next flight.

■ **NOTE:** Deleted.

## **F. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete Part 1 - Bulletin Completed Record form (attached) after inspection and FAX or e-mail to MDHI Field Service Department.
- (3). Complete Part 2 - Bulletin Completed Record form (attached) and include with the returned main rotor pitch control rod ends when shipped to MDHI.

## **G. Return All Unserviceable Upper Main Rotor Pitch Control Rod Ends, PN 369A1011, with Vendor Code 5963 and a Manufacture Date After 06-30-11**

- (1). Fax or e-mail a copy of the completed Service and Operation Report (SOR) to MDHI Field Service Department prior to shipment.

■ **NOTE:** Unserviceable main rotor pitch control rod ends that have been installed on-aircraft must be marked with the time (hours) in service to qualify for warranty replacement.

- (2). Complete the Part 2 - Bulletin Completed Record with the total quantity of unserviceable main rotor pitch control rod assembly rod ends removed from aircraft or spares inventory that are being returned to MDHI. Include a copy of the SOR with the Part 2 - Bulletin Completed Record.
- (3). Package the unserviceable main rotor pitch control rod assembly rod ends for shipment. Include a copy of the SOR and the Part 2 - Bulletin Completed Record.
- (4). Ship package to:

**MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734**

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## Bulletin Completed Record

**Part 1 – Inspection for Main Rotor Pitch Control Rod Ends,  
PN 369A1011, identified with Vendor Code 5963 and a Manufacture  
Date After 06-30-11**

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI 480-346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner /Operator:</b> _____  <b>Address:</b> _____ _____ _____ _____  <b>Phone:</b> _____ <b>E-mail:</b> _____	<b>Helicopter Serial No:</b> _____  <b>Helicopter Total Time:</b> _____  <b>Date Complete:</b> _____  <b>Location:</b> _____
--	--

An inspection for upper main rotor pitch control rod ends, PN 369A1011, identified with vendor code 5963 and a manufacture date after 06-30-11 has been performed on this operators fleet and spares inventory with the following results:

Installed (On-Aircraft) Quantity	_____
Spares Inventory Quantity	_____
Total Quantity	_____

**NOTE:** If the Total Quantity above is "0", record "0" on the Part 2 - Bulletin Completed Record. FAX both forms, to MDHI 480-346-6813 or E-mail to ServiceEngineering@mdhelicopters.com, and there is no further action is required for this Service Bulletin.

Part 1 of this bulletin is complete:

	(Signature)
	(Print Name)
	(Title)

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## Bulletin Completed Record

**Part 2 – Unserviceable Main Rotor Pitch Control Rod Ends, PN 369A1011, identified with Vendor Code 5963 and a Manufacture Date After 06-30-11 Being Returned to MDHI**

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

Return this form with shipment.

Owner /Operator: _____	Helicopter Serial No: _____
Address: _____	Helicopter Total Time: _____
_____	Date Complete: _____
_____	Location: _____
_____	
Phone: _____	
E-mail: _____	

Unserviceable upper main rotor pitch control rod ends, PN 369A1011, with vendor code 5963 and a manufacture date after 06-30-11 are being returned to MDHI for replacement. The quantity of rod ends being returned is as follows:

Installed (On Aircraft) Quantity \_\_\_\_\_ Flight Time \_\_\_\_\_  
Spares Inventory Quantity \_\_\_\_\_  
Total Quantity \_\_\_\_\_

Part 2 of this bulletin is complete:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

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\* Supersedes Service Bulletins SB369H-254, SB369D-212, SB369E-107, SB369F-093, SB500N-047, and SB600N-057, dated 26 December 2012. Revised to show serial numbers which are not affected by the requirements of the initial issue of this service bulletin.

## MAIN ROTOR HUB LEAD LAG LINK ASSEMBLY INSPECTION AND DAILY PRE-FLIGHT CHECK

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) Model 369A (OH-6A), 369H, 369HE, 369HS, 369HM, 369D, 369E, 369F/FF, 500N, and 600N helicopters with one or more main rotor hub lead lag link assemblies, Part No. (PN) 369H1203-51, -53, with a serial number (SN) prefix code of 5009-XXXX installed.

Lead lag link assemblies between SN 5009-1500 thru 5009-1629 (inclusive) do not have to comply with the requirements of this bulletin, but must be included in the normal daily pre-flight check.

#### B. Assembly/Components Affected By This Notice:

Main Rotor Hub Lead Lag Link Assembly, PN 369H1203-51, -53

#### C. Reason:

Some operators have reported that the bushings installed in one or more main rotor hub lead lag link assemblies, PN 369H1203-51, -53, with a serial number prefix code of 5009-XXXX, have become loose, moved and are no longer flush with the surface of the main rotor hub lead lag link assembly.

Failure to comply with this bulletin can result in excessive main rotor vibration, main rotor blade tracking problems, main rotor blade attaching pin damage, and main rotor hub lead lag link assembly damage or failure. Failure to replace an unserviceable main rotor hub lead lag link assembly could result in loss of a main rotor blade assembly or loss of a helicopter.

#### D. Description:

Procedures in this bulletin give owners and operators information to do a Daily Pre-Flight Check of the main rotor hub lead lag link assemblies.

#### E. Time of Compliance:

The requirements of this bulletin must be completed prior to the next flight.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA Approved.

#### G. Manpower:

Compliance with this bulletin will be approximately one half (0.5) man-hour. A one half (0.5) hour inspection credit is available and must be submitted to MDHI through an authorized Service Center.

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**H. Interchangeability:**

None.

**I. Points of Contact:**

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

**J. Material/Part Availability:**

Contact MDHI Spares Sales Department for parts availability.  
Telephone: 1-800-388-3378 or 480-346-6540. DATAFAX: 480-346-6821.

**K. Warranty Policy:**

The MDHI Warranty and Repair Department will give replacement main rotor hub lead lag link assemblies at no cost to the operator if any main rotor hub lead lag link assembly, PN 369H1203-51, -53, with a serial number prefix code of 5009-XXXX are found to be unserviceable. MDHI standard warranty policies apply. Please refer to the MDHI Warranty Manual, CSP-A-2.

**L. Disposition of Parts Removed:**

Contact MDHI Spares Sales Department.  
Telephone: 1-800-388-3378 or 480-346-6540. DATAFAX: 480-346-6821.

**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

N/A

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-D-1 Rotorcraft Flight Manual

CSP-E-1 Rotorcraft Flight Manual

CSP-FF-1 Rotorcraft Flight Manual

CSP-HE/HS-1 Rotorcraft Flight Manual

CSP-520N-1 Rotorcraft Flight Manual

CSP-600N-1 Rotorcraft Flight Manual

CSP-H-2 Basic Handbook of Maintenance Instructions (Basic HMI)

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CSP-H-7 Illustrated Parts Catalog (IPC)

CSP-HMI-2 Basic Handbook of Maintenance Instructions - Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

CSP-A-2 Warranty Manual

## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Examine Main Rotor Lead Lag Link Assemblies, PN 369H1203-51, -53 with a Serial Number Prefix Code of 5009-XXXX for Loose or Moved Bushings

- (1). Get access to the lead lag link assemblies.

**NOTE:** Lead lag link assembly bushings are coated with blue coat. When correctly installed, the blue coat coating should not be visible.

- (2). Examine each installed lead lag link assembly for bushings that moved and are not installed flush with the top and bottom surfaces of the lead lag link assembly (Ref. Figure 1) and have blue coat visible.
- (3). If any lead lag link assembly has bushings that have moved and are not flush with the lead lag link assembly top and bottom surfaces, suspend flight operations. Contact MDHI Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813, or your local Field Service Representative.
- (4). If any lead lag link assembly bushings have blue coat visible, suspend flight operations. Contact MDHI Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813, or your local Field Service Representative.
- (5). Pilots or maintenance personnel shall perform Step 2.A.(2) as part of the Daily Pre-Flight Check.

### B. Compliance Record

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.

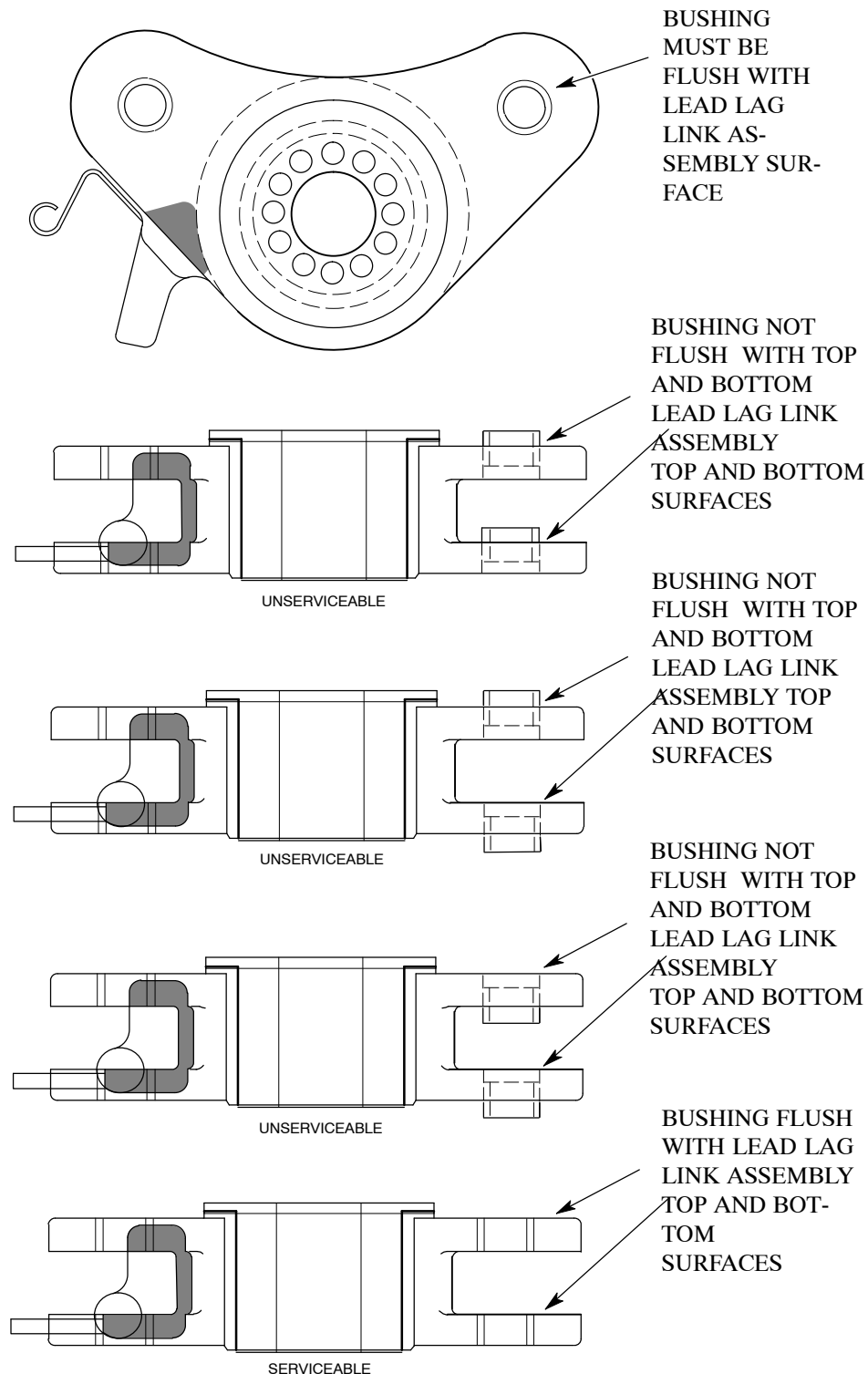
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**Figure 1. Examine Main Rotor Hub Lead Lag Link Assembly Bushings**

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SB369H-254R1    SB369D-212R1  
SB369E-107R1    SB369F-093R1  
SB500N-047R1    SB600N-057R1



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## ONE-TIME INSPECTION OF THE PILOT GAS PRODUCER CONTROL GEAR SHAFT ASSEMBLY

\* Supersedes Service Bulletin SB600N-058, dated 30 March 2014. Revised to include Serial Number RN029.

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 600N helicopters with right-hand (RH) command. This includes RH command installed at the factory for serial numbers (SNs) RN012, RN025, RN029, RN032, RN034, RN035, RN036, RN037, RN040, RN041, RN045, RN051, RN058, RN060, RN061, RN062, RN064, RN065, RN066, RN068, RN069, and RN070.

#### B. Assembly / Components / Spares Affected By This Notice:

369A7336-503 / 369A7336A503 Pilot Gas Control Producer Control Gear Shaft Assembly; and to include assemblies in spares inventory.

#### C. Reason:

Gear shaft assemblies have been found without the required Loctite® R/C #35 on the shaft and gear, which can cause the spring pins to loosen and fall out. This can result in an inadvertent engine shutdown if the copilot's throttle is reduced to idle.

Failure to comply with this bulletin can result in a loss of idle detent of the throttle control, engine shutdown, and a forced autorotation landing.

#### D. Description:

Procedures in this Bulletin give owners and operators information to do the disassembly, inspection, and re-assembly to make sure the gear and shaft are correctly assembled.

#### E. Time of Compliance:

The instructions in this bulletin must be completed before the next flight.

#### F. FAA Approval:

The technical design aspects of this Bulletin are FAA approved.

#### G. Manpower:

Compliance with this bulletin will be approximately 0.25 to 4.00 man hours.

#### H. Interchangeability:

None.

#### I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

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**J. Material/Part Availability:**

Contact MDHI Spare Parts Sales Department for parts availability.

Telephone: 1-800-388-3378 Option 2 or 480-346-6540. DATAFAX: 480-346-6821.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Gear Shaft Assembly, Pilot Control Gas Producer	369A7336-503 or 369A7336A503	1	MDHI
Grease, Aircraft and Instrument (CM116)	MIL-G-23827	AR	Commercial

**K. Warranty Policy:**

Standard warranty policy applies (ref. CSP-A-2).

MDHI Warranty Department will give authorized Service Centers not more than one (1) hour of labor (spares) credit to complete the visual inspection and four (4) hours of labor (spares) credit if there is no Loctite.

**L. Disposition of Parts Removed:**

Return to MDHI with a completed Service Operational Report (SOR).

**M. Tooling:**

Ref. CSP-HMI-2, Section 91-00-00, for the item and manufacturer / supplier numbers.

TOOLS AND EQUIPMENT	
Nomenclature (Item)	Source (Manufacturer / Supplier)
Collective Bungee Installation Tool (ST508)	MDHI (TS10)

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

CSP-IPC-4 Illustrated Parts Catalog

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-600RFM-1 Rotorcraft Flight

CSP-HMI-2 Basic Handbook of Maintenance Instructions - Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

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## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Visual Check for Loctite

(Ref. Figure 1)

- (1). Remove components as necessary to get to the Controls Access Door (ref. CSP-HMI-2, Section 52-50-00).
- (2). Open the Controls Access Door.
- (3). Examine gear shaft assembly (1) with a strong light and a mirror or a borescope for Loctite (ref. Figure 1).

**NOTE:** The gear shaft assembly is located in housing (2). Loctite will show as a blue-to-green stripe of color past the brass-color gears on the grey-color shaft.

- (a). If you cannot see Loctite, do procedures 2.B., 2.C., 2.D., 2.E. and 2.F.
- (b). If there is Loctite, go to Procedure 2.F. and install the center access door.

### B. Disassembly

(Ref. Figure 1)

- (1). Apply friction to the pilot's throttle with the throttle in the OFF position.
- (2). Remove the pilot's seat cover to get access to the center flight controls.
- (3). Remove collective bungee (3) with ST508 collective bungee installation tool (4) (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 11.A.).

**NOTE:** Do not remove overcenter support bracket (5) or bungee support bracket (6) and do not disassemble collective bungee (3).



Protect collective mixer control rod (13) after its disconnect from housing (2) to prevent damage.

- (4). Disconnect control rod (13) from housing (2) (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 1.A.).

**NOTE:** Do not remove the collective mixer control rod.

- (5). Do the Pilot's Collective Pitch Stick Removal (R/H Command) procedure (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 7.A.).
- (6). Remove cotter pin (20) nut (21), washers (22), and bolt (23) from the rod end bearing of the engine control cable (24) and bellcrank (25).
- (7). Remove nut (26), washers (27), bolt (28), and bellcrank (25) from gear shaft assembly (1).
- (8). Remove nuts (29), washers (30, 31), bolts (32), from collective control torque tube (33), housing (2), housing cap (34), and bracket (35)
- (9). Find pipe plug (36) that attaches gear shaft assembly (1) to the pilot's gas producer interconnect torque tube and copilot's collective stick.
- (10). Have an assistant hold the gear shaft assembly.

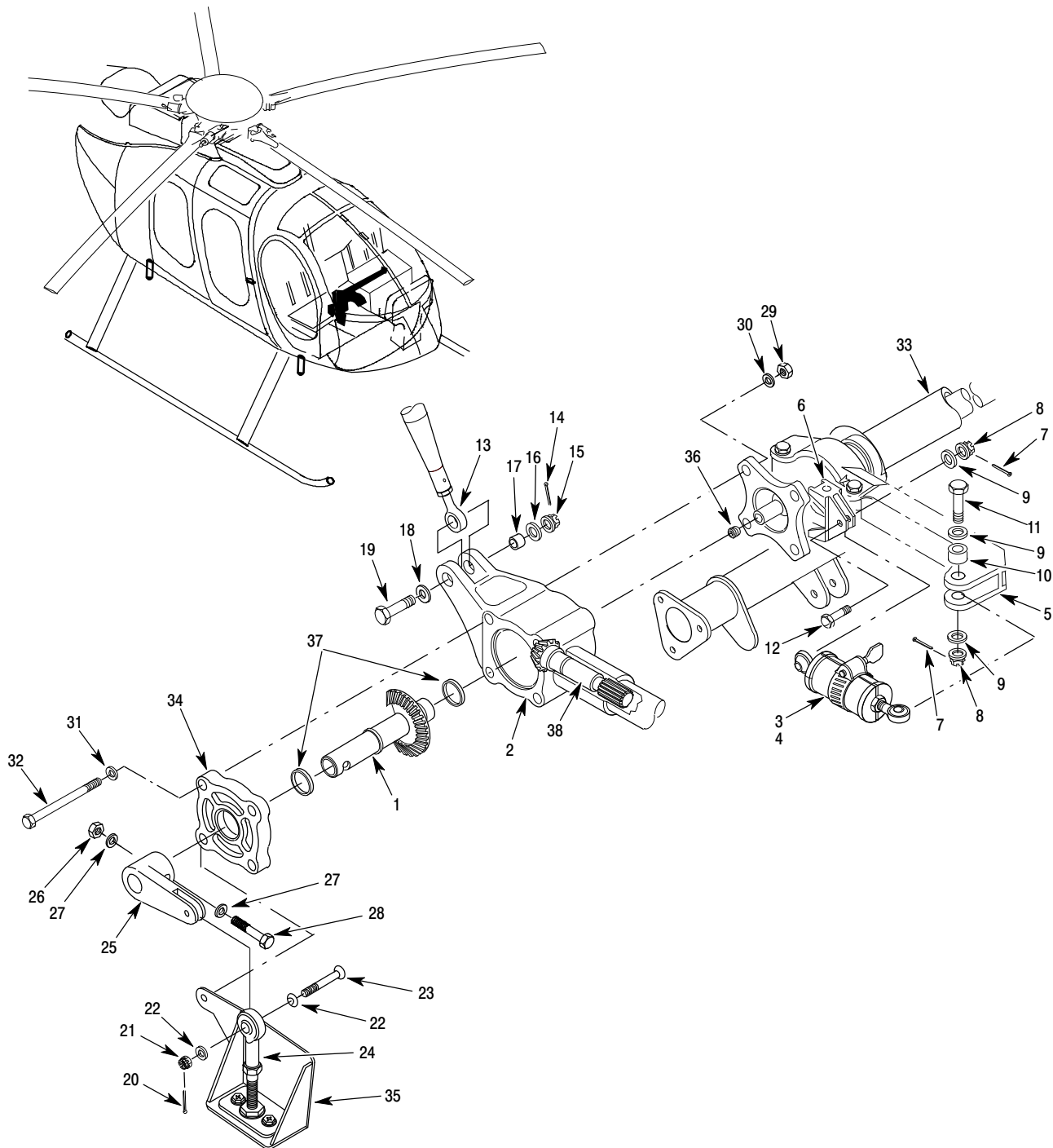
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**Figure 1. Removal and Assembly of the  
Pilot Gas Producer Control Gear Shaft Assembly**

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## Legend (Ref. Figure 1)

- |   |  |
|---|--|
| 1. GEAR SHAFT ASSEMBLY (REF. IPC, 67-10-00, FIG. 3) | 20. COTTER PIN (REF. IPC, 76-20-60, FIG. 1)    |
| 2. HOUSING  | 21. NUT  |
| 3. COLLECTIVE BUNGEE (REF. IPC, 67-10-00, FIG. 10)  | 22. WASHER                                     |
| 4. COLLECTIVE BUNGEE INSTALLATION TOOL (ST508)      | 23. BOLT                                       |
| 5. OVERCENTER SUPPORT BRACKET                       | 24. ENGINE CONTROL CABLE                       |
| 6. BUNGEE SUPPORT BRACKET                           | 25. BELLCRANK                                  |
| 7. COTTER PIN                                       | 26. NUT  |
| 8. NUT  | 27. WASHER                                     |
| 9. WASHER   | 28. BOLT                                       |
| 10. BUSHING   | 29. NUT (REF. IPC, 67-10-00, FIG. 3)           |
| 11. BOLT  | 30. WASHER                                     |
| 12. BOLT  | 31. WASHER                                     |
| 13. CONTROL ROD (REF. IPC, 67-00-00, FIG. 2)        | 32. BOLT                                       |
| 14. COTTER PIN                                      | 33. TORQUE TUBE (REF. IPC 67-10-00, FIG. 10)   |
| 15. NUT   | 34. HOUSING CAP (REF. IPC, 67-10-00, FIG. 3)   |
| 16. WASHER  | 35. BRACKET                                    |
| 17. SPACER  | 36. PIPE PLUG (REF. 67-10-00, FIG. 10)         |
| 18. WASHER  | 37. BACKLASH SHIM (REF. IPC, 67-10-00, FIG. 3) |
| 19. BOLT  | 38. N <sub>1</sub> PINION GEAR                 |

**NOTE:** Use an Allen wrench on the pilot's gear shaft inside the shaft hexagon, not the pipe plug.

(11). Carefully loosen the pilot's stick pipe plug to remove tension.

(12). After the pipe plug is loose, remove housing (2).



Make sure the location of each backlash shim is recorded for re-assembly.

(13). Record the locations of the backlash shims (37) on gear shaft assembly (1).

(14). Remove backlash shims (37).

(15). Take the socket assembly to a workbench.

(16). Turn housing (2) so that the cutout of the ring gear of the gear shaft assembly (1) will go around N<sub>1</sub> pinion gear (38).

(17). Remove gear shaft assembly (1) from housing (2).

### C. Inspection

(Ref. Figure 2)

(1). Remove grease (CM116) from the gear shaft assembly (ref. CSP-HMI-2, Section 20-20-00).

(2). Examine the gear shaft assembly for damage.

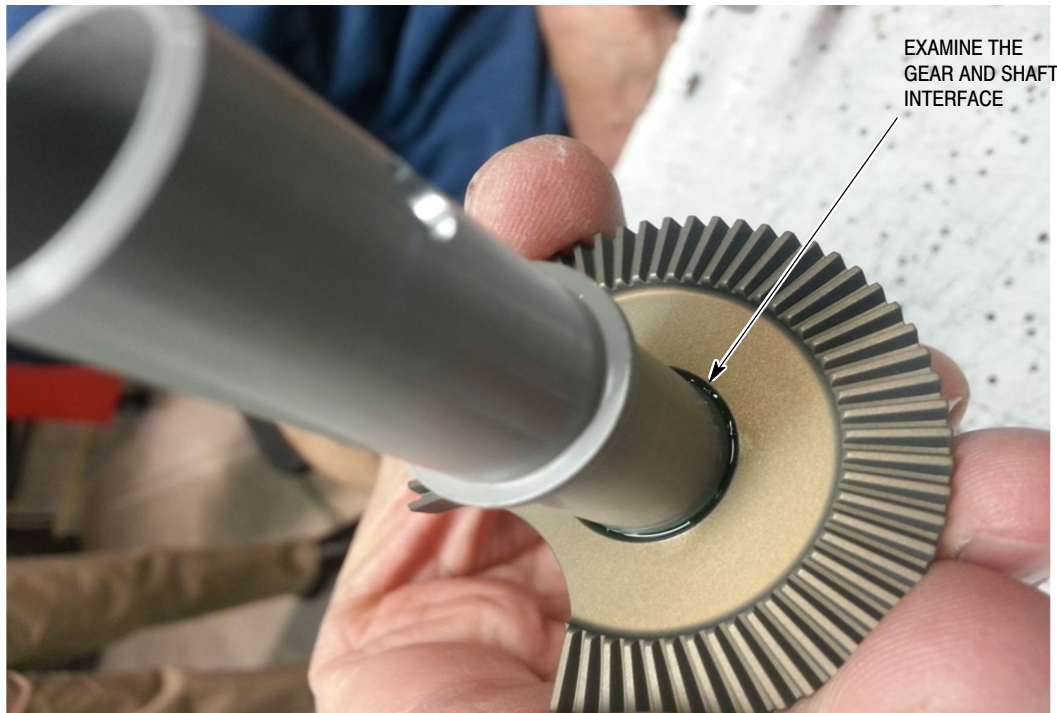
(a). If there is damage, replace the gear shaft assembly.

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**Figure 2. Inspection of the Gear Shaft Assembly**

- (3). Examine the gear shaft assembly with a 10X magnification glass and strong light for evidence of Loctite.
  - (a). If there is Loctite, there will be a blue to green sheen in the interface of the gear and shaft.
  - (b). If there is no Loctite, return the gear shaft assembly to MDHI for replacement.

### **D. Assembly**

(Ref. Figure 1)

- (1). Install the gear shaft assembly:
  - (a). Install backlash shims (29) in their original positions.
  - (b). Apply a small quantity of grease (CM116) to the gears of gear shaft assembly (28).
  - (c). Install assembled gear shaft assembly (28, 29) in housing (16).
  - (d). Turn gear shaft assembly (28) to let the cutout go by the N<sub>1</sub> pinion gear (30).
  - (e). Release friction from the pilot's throttle with the throttle in the OFF position.
  - (f). Fully turn gear shaft assembly (28) to apply the grease on its gear and the N<sub>1</sub> pinion gear (30).

**NOTE:** The cutout of the gear shaft assembly will face aft.

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- (g). Turn gear shaft assembly (28) to engage the N<sub>1</sub> pinion gear (30) at the same position observed during disassembly.
- (2). Install housing (16) on collective control torque tube (15) with housing cap (17), bracket (18), washers (12, 13), bolts (14), and nuts (11).
- (3). Install bellcrank (23) on gear shaft assembly (28) with washers (25), bolt (26), and nut (24).
- (4). Engage pipe plug (27) with an Allen wrench to tighten the pilot's and copilot's pipe plugs at the same time.
- (5). Connect the collective mixer control rod to housing (16) (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 1.B.).
- (6). Install collective bungee (1) with ST508 collective bungee installation tool (2) (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 11.B.).
- (7). Do the Pilot's Collective Pitch Stick Installation (R/H Command) procedure (ref. CSP-HMI-2, Section 67-10-00, Removal / Installation, Procedure 7.B.).
- (8). Turn the copilot's throttle.
  - (a). The throttle must be smooth and does not catch.
- (9). As you hold the pilot's throttle grip to prevent movement, do a check of the copilot's throttle grip for movement.
  - (a). If there is movement, do the Gas Producer Interconnecting Torque Tube Assembly Shimming (as applicable) (ref. CSP-HMI-2, Section 67-10-00, Adjustment / Test).
  - (b). If there is a loss of the range of movement, do the Gas Producer Interconnecting Torque Tube Assembly Shimming (as applicable) (ref. CSP-HMI-2, Section 67-10-00, Adjustment / Test) or tighten the pipe plug.
- (10). As you hold the copilot's throttle grip to prevent movement, do a check of the pilot's throttle grip for movement.
  - (a). If there is movement, do the Gas Producer Interconnecting Torque Tube Assembly Shimming (as applicable) (ref. CSP-HMI-2, Section 67-10-00, Adjustment / Test).
  - (b). If there is a loss of the range of movement, do the Gas Producer Interconnecting Torque Tube Assembly Shimming (as applicable) (ref. CSP-HMI-2, Section 67-10-00, Adjustment / Test) or tighten the pipe plug.
- (11). Do a check of the pilot's and copilot's throttle:
  - (a). The throttle must be smooth and does not catch.
  - (b). If there is movement, do the Gas Producer Interconnecting Torque Tube Assembly Shimming (as applicable) (ref. CSP-HMI-2, Section 67-10-00, Adjustment / Test).
- (12). Install the pilot's seat cover.
- (13). Install the Center Access Door.

## **E. Checks**

- (1). Do the throttle, hydromechanical unit (HMU), and control cable rigging procedures before an engine start (ref. CSP-HMI-2, Chapter 76, applicable engine section).

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- (2). Do a check of the HMU stop, idle cutoff, and maximum stop positions during the throttle checks before an engine start (ref. CSP-600RFM-1).

## **F. Compliance Record**

- (1). Install as necessary removed components.
- (2). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (3). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.





# SERVICE BULLETIN

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## SB600N-058 Completed Record

### One-Time Inspection of the Pilot Gas Producer Control Gear Shaft Assembly

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

Owner /Operator: _____	Helicopter Serial No: _____
Address: _____ _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____  Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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# SERVICE BULLETIN

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\* Supersedes Service Bulletins SB369H-256, SB369D-215, SB369E-112, SB369F-100, SB500N-052, and SB600N-063, dated 30 June 2015. Revised to add the replacement of an obsolete latch assembly, PN 51L1-3X3AA. Helicopters that have completed the Initial Issue of this bulletin meet the intent of this revision and have no additional action.

## EXCHANGE OF ENGINE BAY DOOR LATCH ASSEMBLIES WITH MISSING LOCKWIRE HOLE

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

Owners and operators who have purchased latch assembly, PN V951L04-1X3BP, PN 51L1-3XH3AA, or PN 51L1-3X3AA for spares inventory or installed this latch assembly on these helicopters:

369H, 369HE, 369HS, and 369HM helicopter models  
369D helicopters  
369E helicopters  
369F/FF helicopters  
500N helicopters  
600N helicopters

#### B. Assembly/Components Affected By This Notice:

V951L04-1X3BP Latch Assembly  
51L1-3X3AA Latch Assembly  
51L1-3XH3AA Latch Assembly

#### C. Reason:

The V951L04-1X3BP latch assemblies, which are used in three places to lock the engine bay doors does not have the necessary lockwire hole in the draw hook. The lockwire provision is used to safety the draw hook once rigged. The 51L1-3X3AA latch assembly is an obsolete latch which must be replaced. A 369D22024-23 latch assembly is available for replacement of the latches without the lockwire hole and for 51L1-3XAA latches. Also, 369D22024-23 latches can be used to replace broken, missing, or worn 51L1-3XH3AA latches, as necessary, under normal service conditions.

Failure to comply with this bulletin can cause an installed latch assembly to become disengaged and cause the engine bay doors to become loose or open.

#### D. Description:

Procedures in this bulletin give owners and operators information to exchange latch assemblies with missing lockwire holes or obsolete latch assemblies for new latch assemblies with the lockwire holes.

#### E. Time of Compliance:

The instructions in this bulletin must be completed within the next five (5) flight hours after you get this bulletin, and no later than 30 days after receipt of this bulletin.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA Approved.

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## G. Manpower:

Compliance with this bulletin will be approximately 2.0 man-hours to remove and install the latch assembly, and 0.5 man-hours to do an inspection of stores inventory.

## H. Interchangeability:

None.

## I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

## J. Material/Part Availability:

Contact MDHI Customer Support Spares Sales for parts availability.  
Telephone: 1-800-388-3378 (Option 2) / 480-346-6423 (Canada and Domestic) /  
480-346-6427 (Military) / 480-346-6492 (International). DATAFAX: 480-346-6821.

Ref. CSP-HMI-2, Section 91-00-00, for the item numbers of the consumable materials.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No. (Item No.)	Qty.	Source
Latch Assembly	369D22024-23	AR	MDHI
Lockwire, CRES	MS20995C32 (CM702)	AR	MDHI or Commercial
Rivet, 100-Degree Countersunk Head Solid	MS20427M4 (Select the Length as Necessary)	AR	MDHI or Commercial
Rivet, Solid Universal Head	MS20470AD3 (Select the Length as Necessary)	AR	MDHI or Commercial
Rivet, Mechanically Locked Spindle Protruding Head Bulbed General Purpose Blind	NAS1919B04-02	AR	MDHI or Commercial

## K. Warranty Policy:

Contact the MDHI Warranty Department for prices, orders, and availability.  
Telephone: 1-800-388-3378 or 480-346-6403. DATAFAX: 480-346-6814.

The MDHI Warranty Department will give the correct 369D22024-23 latch assembly at no cost to the operator. MDHI will also give to authorized Service Centers two (2) hour(s) of labor (spares credit) if the V951L04-1X3BP or 51L1-3X3AA latches were installed on a helicopter, and 0.5 hours of labor (spares credit) for the inspection of the spares inventory.

Standard warranty policy applies (ref. CSP-A-2). This also includes replacement of 51L1-XH3AA latches which can be installed and used until there are no more in inventory.

Additional discrepancies found over and above the specified warranty coverage is the responsibility of the customer.

## L. Disposition of Parts Removed:

Return to MDHI with a completed Service Operation Report (SOR).

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**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

N/A

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-HMI-2 Basic Handbook of Maintenance Instructions - Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

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## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Find Latch Assemblies in Stores Inventory

- (1). Do an inspection of stores to find V951L04-1X3BP or 51L1-3XAA latch assemblies.
- (2). If you find V951L04-1X3BP or 51L1-3XAA latch assemblies, return the latches to MDHI for the correct latches with an SOR.

### B. Examine Aircraft for Installed Latch Assemblies

(Ref. Figure 1)

- (1). Do an inspection of helicopter maintenance records for the installation of V951L04-1X3BP or 51L1-3X3AA latch assemblies.
- (2). Do an inspection of helicopters for installed V951L04-1X3BP or 51L1-3X3AA latch assemblies.
  - (a). Remove V951L04-1X3BP latch assemblies without the lockwire hole or 51L1-3X3AA latch assemblies (ref. CSP-HMI-2, Subject 52-40-00).
  - (b). Remove the rivets and doubler with the latch assembly.
  - (c). Remove the rivets and latch assembly from the doubler.
- (3). Send removed V951L04-1X3BP or 51L1-3X3AA latch assemblies to MDHI with an SOR.
  - (a). Tell MDHI Customer Support Spares Sales of an incorrect latch to get the correct latch sent to you immediately.
- (4). Broken, missing, or worn 51L1-3XH3AA latch assemblies can be replaced with 369D22024-23 latch assemblies, as necessary.

**NOTE:** The MDHI standard warranty policy applies to 51L1-3XH3AA latches.

- (5). Install new 369D22024-23 latch assemblies with the lockwire hole on the engine access doors (ref. CSP-HMI-2, Subject 52-40-00).
  - (a). Install the latch assembly on the doubler with rivets.
  - (b). Install the doubler with the latch assembly on the door with rivets.

### C. Compliance Record

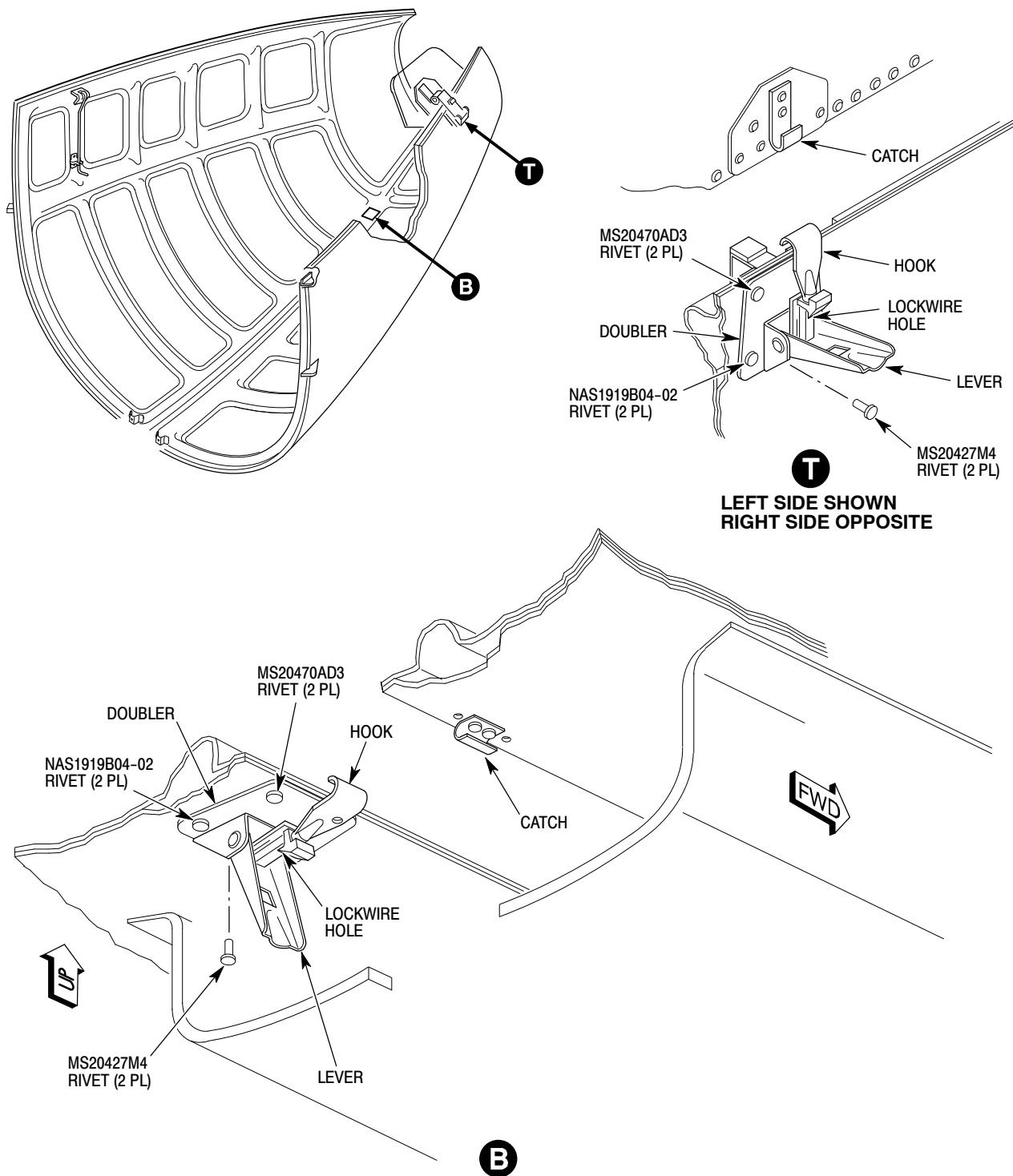
- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.

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**Figure 1. Location of Latch Assemblies**

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## Bulletin Completed Record

### Exchange of Engine Bay Door Latch Assemblies with Missing Lockwire Holes

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner/- Operator:</b> _____	<b>Helicopter Serial No:</b> _____
<b>Address:</b> _____ _____ _____ _____	<b>Helicopter Total Time:</b> _____  <b>Date Complete:</b> _____  <b>Location:</b> _____
<b>Phone:</b> _____	
<b>E-mail:</b> _____	

This bulletin is complete: \_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



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DATE: 5 OCTOBER 2016

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## RA-4500 RADAR ALTIMETER INSPECTION

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 369D helicopters.

All 369E helicopters.

All 369FF helicopters.

All 500N helicopters.

All 600N helicopters.

#### B. Assembly/Components Affected By This Notice:

**NOTE:** Base part numbers (no dash number) include all dash numbers.

P/N 84560-1X-300A

#### C. Reason:

The FreeFlight Systems RA-4500 Radar Altimeter (Rad Alt) Modification (Mod) 2 differs from the Mod 3 assembly only in its RF sensitivity specifications. The Mod 2 assembly has lower RF receive sensitivity than the Mod 3 assembly. Higher sensitivity is as result of increased signal gain of the ER front end in the Mod 3 system assembly. Due to the increased sensitivity of the Mod 3 system at higher altitudes, when ground signals are weak, the radar altimeter has the potential to detect unwanted aircraft/rotorcraft surface reflections and flag them as valid. In these unique circumstance the Mod 2 Rad Alt has been an appropriate solution.

If operators are experiencing invalid indications, MDHI recommends implementing the Mod 2 assembly. The modification level is controlled by label on the RA-4500 unit. (Ref. Figure 1.) If the operator is not experiencing invalid indications, MDHI recommends continued operation with the Mod 3 assembly.

Failure to comply with this bulletin can result in intermittent and erroneous readings on the RAD-40 display when the aircraft is above 2500ft above ground level (AGL). In normal operation, the RAD-40 should display four hyphens (" - - - ") when the aircraft is above 2500ft AGL.

#### D. Description:

Procedures in this bulletin give owners and operators information to inspect the RA-4500 Rad Alt for modification level and replace the Mod 3 assembly with the Mod 2 assembly if necessary.

#### E. Time of Compliance:

The requirements of this bulletin must be completed during the next 100-flight-hour inspection or the next annual inspection.

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## F. FAA Approval:

The technical design aspects of this bulletin are FAA Approved.

## G. Manpower:

Compliance with this bulletin will be approximately 1.0 (one) to 3.0 (three) man-hours.

## H. Interchangeability:

None.

## I. Points of Contact:

For further assistance, contact the Field Service Department at MDHI, Mesa, Arizona.  
Telephone 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

## J. Material/Part Availability:

Contact MDHI Customer Support Spares Sales.

Telephone: 1-800-388-3378 (Option 2) / 480-346-6423 (Canada and Domestic) /  
480-346-6427 (Military) / 480-346-6492 (International). DATAFAX: 480-346-6821.

Contact FreeFlight Systems Customer Support for parts availability and replacement times.

Telephone: (US only) 1-800-487-4662, (International) 1-254-662-0000.

3700 Interstate 35 South

Waco, Texas 76706-3756 U.S.A.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Transceiver, RA-4500 Radar Altimeter	84560-1X-300A	1	Commercial

## K. Warranty Policy:

The following warranty policies apply:

For 369FF model helicopters, serial numbers 0180FF, 0181FF, 0183FF, 0184FF, 0214FF thru 0217FF, 0219FF thru 0225FF, 0252FF and 0256FF thru 0266FF only, return the RA-4500 radar altimeter direct to MDHI for disposition.

For all other helicopters return direct to FreeFlight Systems. If the RA-4500 radar altimeter is within the FreeFlight Systems 2 year warranty, the unit will be modified at no charge to the customer. If the RA-4500 radar altimeter out of warranty, cost for modification is \$150.00 per unit.

Labor allowance will not be given for this installation.

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**L. Disposition of Parts Removed:**

Return RA-4500 radar altimeter to FreeFlight Systems with applicable documentation.

For 369FF model helicopters, serial numbers 0180FF, 0181FF, 0183FF, 0184FF, 0214FF thru 0217FF, 0219FF thru 0225FF, 0252FF and 0256FF thru 0266FF only, return the RA-4500 radar altimeter direct to MDHI.

**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

N/A

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-HMI-2, Basic Handbook of Maintenance Instructions - Servicing and Maintenance

CSP-HMI-3, Basic Handbook of Maintenance Instructions - Instruments/Electrical/  
Avionics

CSP-IPC-4, Illustrated Parts Catalog

FreeFlight Systems RA-4000 and RA-4500 Equipment Installation Manual 84629

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## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1.)

### A. Inspection of the RA-4500 Radar Altimeter for Modification Version

- (1). Make sure all electrical power is removed from the helicopter (Ref. CSP-HMI-3, Section 96-00-00).
- (2). Make sure helicopter switches are in the OFF or SAFE position.
- (3). Get access to the RA-4500 Radar Altimeter (1) (Rad Alt).
- (4). Remove the Rad Alt.
  - (a). Disconnect the electrical connector.
  - (b). Disconnect the antenna connectors.
  - (c). If the optional mounting tray (4) is not used, remove screws.
  - (d). If the optional mounting tray (4) is used, loosen the thumb-screw hold down.
  - (e). Remove Rad Alt.
- (5). Inspect the RA-4500 (3) data plate for modification version.
  - (a). If data plate (3) reads Modification 3, replace with the Mod 2 Rad Alt. (Ref. Procedure (6)).
  - (b). If data plate (3) reads Modification 2, inspection is complete. (Ref. Step (7)).
- (6). Install the Modification 2 type Rad Alt.
  - (a). If the optional mounting tray is not used, install the 4 mounting screws.
  - (b). If the optional mounting tray is used.
    - 1). Install Rad Alt on the mounting tray.
    - 2). Tighten the thumb-screw hold down.
  - (c). Install the electrical connector.
  - (d). Install the antenna connectors.
- (7). Install components that were removed to get access to the Rad Alt.

### B. Maintenance Operational Check

**NOTE:** The MOC must be done once the modification is complete and before the helicopter can return to service.

- (1). Connect electrical power to the helicopter (Ref. CSP-HMI-3, Section 96-00-00).
- (2). Do an Altitude Zero Calibration on the Radar Altimeter (Ref. FreeFlight Systems RA-4000 and RA-4500 Equipment Installation Manual 84629).
- (3). Do an Operational Test on the Radar Altimeter (Ref. FreeFlight Systems RA-4000 and RA-4500 Equipment Installation Manual 84629).

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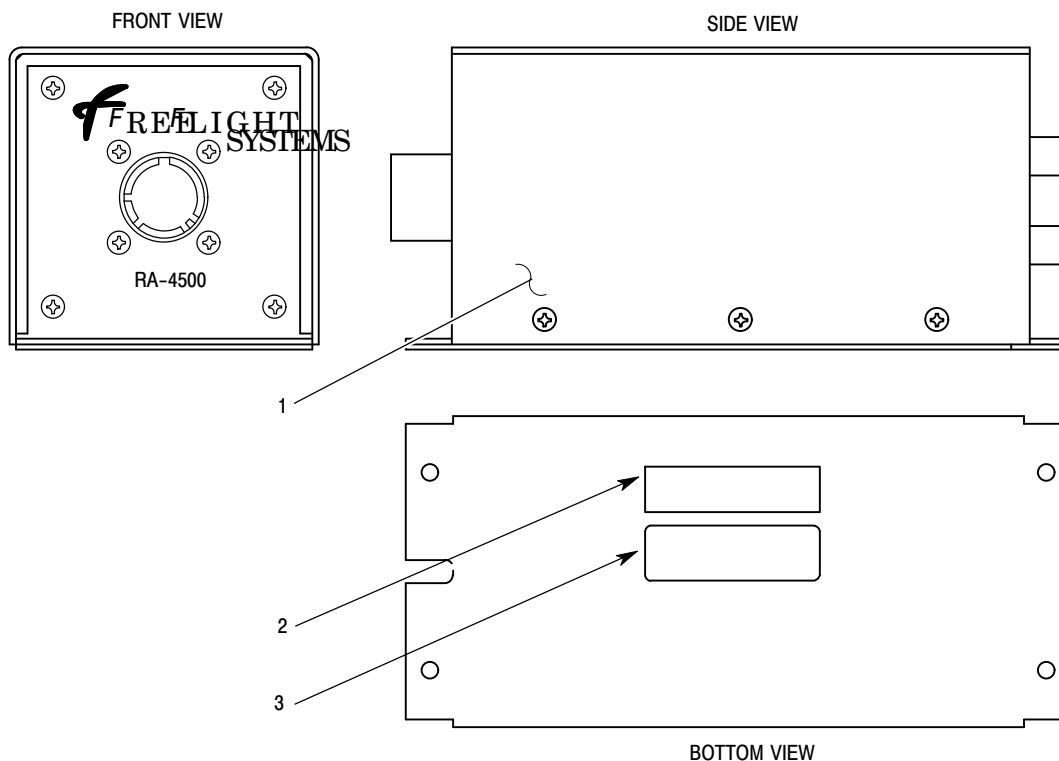
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## C. Installation Final Test

- (1). Do a Installation Final Test on the Radar Altimeter (Ref. FreeFlight Systems RA-4000 and RA-4500 Equipment Installation Manual 84629).



A03-54001  
SB88-839

- |                                |  |
|--------------------------------|--|
| 1. RA-4500 Radar Altimeter     | 3. Manufacturer Data Plate with Part Number and Mod Status |
| 2. MDHI Part Number Data Plate | 4. (Not Shown) Optional Mounting Tray                      |

**Figure 1. RA-4500 Installation**

## D. Compliance Record

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.

SB369D-216  
SB369F-102  
SB600N-065

SB369E-114  
SB500N-054



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## Bulletin Completed Record

### RA-4500 RADAR ALTIMETER INSPECTION

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner/- Operator:</b> _____	<b>Helicopter Serial No:</b> _____
<b>Address:</b> _____ _____ _____	<b>Helicopter Total Time:</b> _____  <b>Date Complete:</b> _____
<b>Phone:</b> _____	<b>Location:</b> _____
<b>E-mail:</b> _____	

This bulletin is complete: \_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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DATE: 16 FEBRUARY 2017

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## INSPECTION OF THE MAIN ROTOR BLADE ABRASION STRIPS

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 369D helicopters  
All 369E helicopters  
All 369FF helicopters  
All 500N helicopters  
All 600N helicopters

#### B. Assemblies Affected By This Bulletin:

Main rotor blades:

369D21120-505 369D / 369E Main Rotor Blade  
369D21121-505 369FF / 500N / 600N Main Rotor Blade

- (1). With an abrasion strip with a chord length of **1.25 inch (31.8 mm)**
- (2). And with an abrasion strip with less than 700 service hours total time since new (TTSN) or since replacement of a **1.25 inch (31.8 mm)** abrasion strip

#### C. Reason:

There have been field reports of delamination or disbondment of abrasion strips installed on the main rotor blades.

Failure to comply with this bulletin can result in delamination or disbondment of the abrasion strip during operation. A loose abrasion strip or the loss of an abrasion strip can cause vibration and possible loss of control of the helicopter.

#### D. Description:

Procedures in this bulletin give owners and operators information to do inspections to make sure of the bond of the abrasion strip to the main rotor blade.

#### E. Time of Compliance:

The requirements of this bulletin must be completed within seven (7) days after you get this bulletin and during every daily tap test thereafter until either an abrasion strip with a **0.88 inch (22.4 mm)** chord length is installed, or a **1.25 (31.8 mm)** chord length abrasion strip has more than 700 service hours TTSN.

Owners and operators that have complied with Mandatory Service Bulletin 2100-8, Main Rotor Blade Abrasion Strip Daily Inspection Requirements, from Helicopter Technology Co., LLC (HTC) are already in compliance with this bulletin.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA Approved.

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**G. Manpower:**

Compliance with **Part 1:** approximately 0.25 man-hours.

Compliance with **Part 2:** approximately 1.00 man-hours.

**H. Interchangeability:**

None.

**I. Points of Contact:**

MDHI Field Service Department: Telephone 1-800-388-3378 or 480-346-6387 /  
DATAFAX: 480-346-6813.

**J. Material/Part Availability:**

Speak to MDHI Customer Support Spares Sales for parts availability:  
Telephone: 1-800-388-3378 (Option 2) / 480-346-6423 (Canada and Domestic) /  
480-346-6427 (Military) / 480-346-6492 (International) / DATAFAX: 480-346-6821.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
369D / 369E Main Rotor Blade	369D21120-505	AR	MDHI
369FF / 500N / 600N Main Rotor Blade	369D21121-505	AR	MDHI

**K. Warranty Policy:**

Return main rotor blades to Helicopter Technology Company, LLC (HTC). HTC contact information is: phone 310-523-2750 or fax 310-523-2745.

Fill out a Service and Operations Report (SOR) and send it to the MDHI Field Service Department.

**L. Disposition of Parts Removed:**

Return main rotor blades to Helicopter Technology Company, LLC (HTC). HTC contact information is: phone 310-523-2750 or fax 310-523-2745.

Fill out a Service and Operations Report (SOR) and send it to the MDHI Field Service Department.

**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

N/A

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## **Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

SL369D-131 / SL369E-084 / SL369F-076 / SL500N-031 / SL600N-025, Inspections of Main Rotor Blades

HTCM-001 Main Rotor Blades (Installation and Maintenance) (HTC)

HTCQ-004 Standard Repair Instructions Manual — Main Rotor Blade (HTC)

Mandatory Service Bulletin 2100-8, Main Rotor Blade Abrasion Strip Daily Inspection Requirements (HTC)

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## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

### A. Part 1 — Examine the Main Rotor Blades

- (1). Examine each abrasion strip on the main rotor blades:
  - (a). Measure the chord length:
    - 1). An abrasion strip with a **1.25 inch (31.8 mm)** chord length and less than 700 service hours TTSN is subject to this bulletin.
      - a). Go to Step 2.A.(1).(b).
    - 2). An abrasion strip with a **0.88 inch (22.4 mm)** chord length is not subject to this bulletin.
      - a). If all chord lengths on each main rotor blade are **0.88 inch (22.4 mm)**, go to Procedure 2.C.
  - (b). It is not necessary to do this bulletin for main rotor blades with abrasion strips with a **1.25 inch (31.8 mm)** chord length with more than 700 service hours TTSN — go to Procedure 2.C.
- (2). An abrasion strip with a **1.25 inch (31.8 mm)** chord length and less than 700 service hours TTSN must have a tap test inspection done during each daily inspection:
  - (a). Examine the top and bottom of the abrasion strip installation for blisters, bubbles, delamination, and disbondment.
    - 1). Replace a main rotor blade with a blister, bubble, delamination, or disbondment.
  - (b). Do a tap test (ref. CSP-HMI-3, Chapter 20, Nondestructive Inspection) on the top and bottom of the abrasion strip installation to find a void or voids (spaces of missing material below a surface with no indication of defects or damage):
    - 1). Lightly tap the upper and lower surfaces of the abrasion strip.
    - 2). Tap in a pattern with no more than **0.12 inch (3.0 mm)** between taps in every direction.

**NOTE:** A void will cause a change in the tap tone — a lower tone will be over the void.

- 3). Replace a main rotor blade with:
  - a). A void that is **0.50 inch (12.7 mm)** from an edge of an abrasion strip.
  - b). Multiple voids.
  - c). A void that has an area more than **0.50 inch<sup>2</sup> (322.6 mm<sup>2</sup>)**.
- 4). A single void is acceptable if:
  - a). The void is not within **0.50 inch (12.7 mm)** of an edge.
  - b). The area if the void is not more that **0.50 inch<sup>2</sup> (322.6 mm<sup>2</sup>)**.
- 5). If there is no void or an acceptable single void, do the daily tap tests until:
  - a). The abrasion strip fails the tap test or
  - b). Part 2 is completed or
  - c). A main rotor blade with an abrasion strip with a **1.25 inch (31.8 mm)** chord length has more than 700 service hours.

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## B. Part 2 — Removal and Replacement of Discrepant Main Rotor Blades

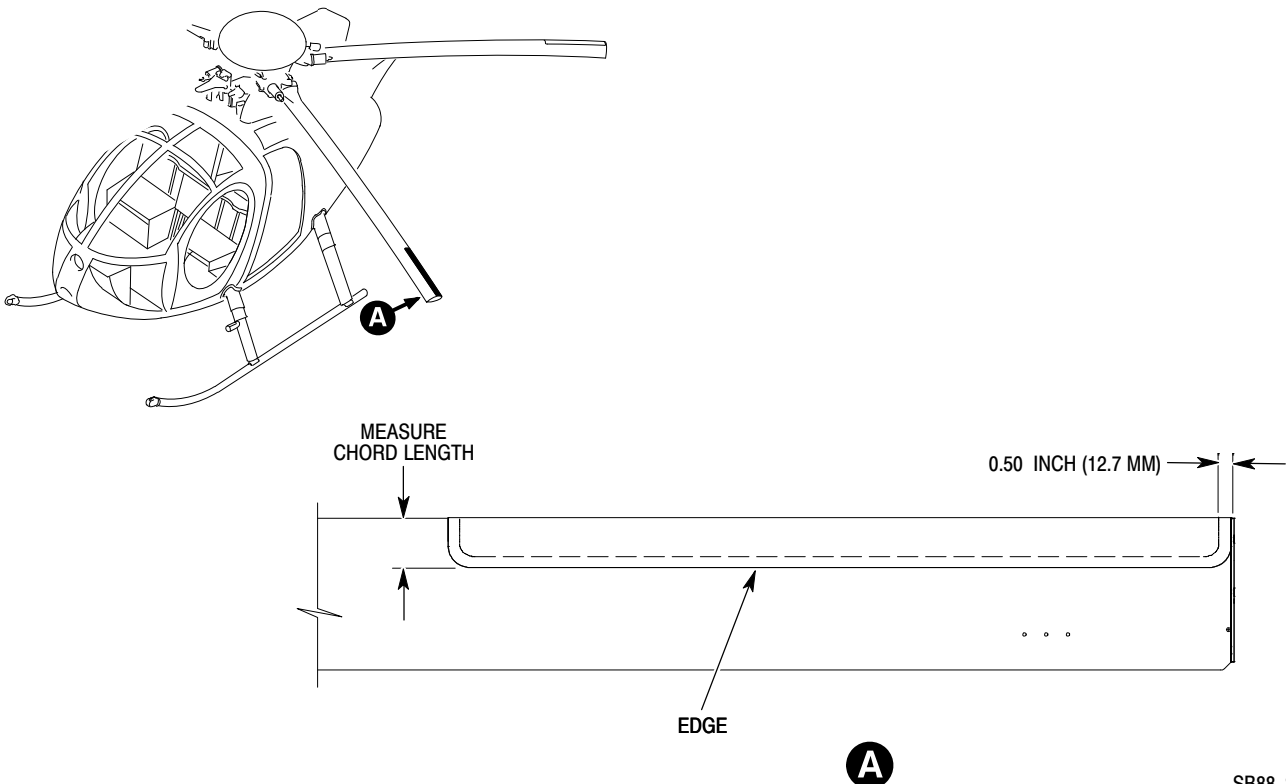
### WARNING

Obey the serial number interchangeability and notes in CSP-H-7 or CSP-IPC-4 if you replace individual blades and mix with installed blades.

- (1). As necessary, remove and return discrepant main rotor blades to HTC or an HTC-authorized repair station (ref. the last revision of Mandatory Service Bulletin 2100-8) to have the **1.25 inch (31.8 mm)** abrasion strip replaced with a **0.88 inch (22.4 mm)** abrasion strip.
- (2). Installation of a modified or new main rotor blade with a **0.88 inch (22.4 mm)** abrasion strip will satisfy and end the inspections of Part 1 herein for the main rotor blade.

## C. Compliance Record

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete the Bulletin Completed Record form (attached) and e-mail it to the MDHI Field Service Department after the completion of parts 1 and 2, as necessary.



SB88-840

**Figure 1. Inspection of the Abrasion Strip**

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SB369E-116  
SB500N-055

SB369D-218  
SB369F-103  
SB600N-067



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## Bulletin Completed Record

### [Part 1] Inspection of the Main Rotor Blade Abrasion Strips

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner/- Operator:</b> _____	<b>Helicopter Serial No:</b> _____
<b>Address:</b> _____ _____ _____	<b>Helicopter Total Time:</b> _____  <b>Date Complete:</b> _____
	<b>Location:</b> _____
	<b>Serial No.:</b> _____
<b>Phone:</b> _____	<b>Blade 1</b> _____ <b>Blade 2</b> _____ <b>Blade 3</b> _____
<b>E-mail:</b> _____	<b>Blade 4</b> _____ <b>Blade 5</b> _____

[Part 1 of 2] This bulletin  
is complete:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Blade 1: \_\_\_\_\_  
Blade 2: \_\_\_\_\_  
Blade 3: \_\_\_\_\_  
Blade 4: \_\_\_\_\_  
Blade 5: \_\_\_\_\_

FAX this form to MDHI (480) 346-6813 or  
Email to ServiceEngineering@mdhelicopters.com

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SB369E-116  
SB500N-055

SB369D-218  
SB369F-103  
SB600N-067



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## Bulletin Completed Record

### [Part 2] Inspection of the Main Rotor Blade Abrasion Strips

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

<b>Owner /Operator:</b> _____	<b>Helicopter Serial No:</b> _____
<b>Address:</b> _____ _____ _____	<b>Helicopter Total Time:</b> _____  <b>Date Complete:</b> _____
	<b>Location:</b> _____
<b>Phone:</b> _____	<b>Serial No.:</b> _____
<b>E-mail:</b> _____	<b>Blade 1</b> _____ <b>Blade 2</b> _____ <b>Blade 3</b> _____ <b>Blade 4</b> _____ <b>Blade 5</b> _____

[Part 2 of 2] This bulletin  
is complete:

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Blade 1: \_\_\_\_\_  
Blade 2: \_\_\_\_\_  
Blade 3: \_\_\_\_\_  
Blade 4: \_\_\_\_\_  
Blade 5: \_\_\_\_\_

FAX this form to MDHI (480) 346-6813 or  
Email to ServiceEngineering@mdhelicopters.com

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\* Supersedes Service Bulletins SB369D-219, SB369E-117, SB369F-104, SB500N-056, and SB600N-068, dated 31 January 2018. SB369D-219R1, SB369E-117R1, SB369F-104R1, SB500N-056R1, and SB600N-068R1, dated 10 September 2018, are cancelled. Revised to remove all references to CSP-COM-5, and to provide direct instruction for paint removal and application. Helicopters that have completed previous revisions of this service bulletin meet the intent of this revision and have no additional action.

## ONE-TIME INSPECTION FOR TRANSMISSION CRACKS

### 1. PLANNING INFORMATION

#### A. Aircraft Main Transmission Assemblies Affected:

All Transmission Assemblies, Part Number (PN) 369F5100 in the serial number range as shown in paragraph B.

#### B. Assembly/Components Affected By This Notice:

**NOTE:** Base part numbers (no dash number) include all dash numbers.

PN 369F5100 — Main Transmission Assembly.

Serial number range: 5304-0410, 5304-0411, 5304-0412, 5304-0413, 5304-0414, 5304-0415, 5304-0416, 5304-0417, 5304-0418, 5304-0419, 5304-0420, 5304-0421, 5304-0422, 5304-0423, 5304-0424, 5304-0425, 5304-0426, 5304-0427, 5304-0428, 5304-0429, 5304-0430, 5304-0431, 5304-0432, 5304-0433, 5304-0434, 5304-0435, 5304-0436, 5304-0437, 5304-0438, 5304-0439, 5304-0440, 5304-0441, 5304-0442, 5304-0443, 5304-0444, 5304-0445, 5304-0446, 5304-0447, 5304-0448, 5304-0449, 5304-0450, 5304-0451, 5304-0452, 5304-0453, 5304-0454, 5304-0455, 5304-0457, 5304-0461, 5304-0463, 5304-0468, 5304-0469, 5304-0470, 5304-0471, 5304-0472, 5304-0473, 5304-0474, 5304-0475, 5304-0476, 5304-0477, 5304-0478, 5304-0482, 5304-0483, 5304-0485, 5304-0488, 5304-0493, 5304-0498.

#### C. Reason:

Failure to comply with this bulletin can cause the transmission to lose lubrication pressure causing a warning light to illuminate and a precautionary landing to be performed.

#### D. Description:

Procedures in this bulletin give owners and operators information to do an inspection for cracks in the transmission housing at the three boss locations shown in Figure 1.

#### E. Time of Compliance:

Within the next 100-hour inspection or annual inspection, whichever comes first, after you get this bulletin.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA approved.

#### G. Manpower:

Compliance with this bulletin will be approximately 4 man-hours.

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## H. Interchangeability:

None.

## I. Points of Contact:

For further assistance, contact MDHI Field Service at:  
<https://www.mdhelicopters.com/contact.html>

## J. Material/Part Availability:

Contact MDHI Spares Sales for parts availability at:  
<https://www.mdhelicopters.com/contact.html>

Ref. CSP-HMI-2, Section 91-00-00, Table 1, for the item numbers of the consumable materials in the Nomenclature column.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No. (or Specification)	Qty.	Source
Main Transmission	369F5100-507	1	MDHI
Acetone (CM223)	Federal Specification O-A-51	AR	Commercial
Epoxy Enamel (CM304) FED-STD-595, Color Code 37038	MDM15-1100, Type II MIL-DTL-53039, Type IV MIL-PRF-85285, Type I	AR	MDHI Commercial Commercial
Primer (CM318)	MIL-PRF-85582, Type I, Class C2	AR	Commercial
Abrasive Paper (CM801)	Federal Specification P-P-101	AR	Commercial
Crocus Cloth (CM803)	Federal Specification P-C-458	AR	Commercial

## K. Warranty Policy:

Contact MDHI Warranty for prices, orders, and availability at:  
<https://www.mdhelicopters.com/contact.html>

The hours in Manpower (ref. Paragraph G.) are an estimate, and are not reimbursable, unless specified in the Warranty Policy.

MDHI Warranty will give authorized Service Centers not more than 4 hours of labor credit (spares credit) to complete this inspection.

Standard warranty policy applies.

## L. Disposition of Parts Removed:

Return to MDHI with a completed Service Operation Report (SOR).

## M. Tooling:

N/A

## N. Electrical Load Data:

N/A

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## **O. Other Publications Affected:**

N/A

## **P. Reference Publications:**

CSP-HMI-2 Basic Handbook of Maintenance Instructions — Servicing and Maintenance  
CSP-HMI-2 Basic Handbook of Maintenance Instructions — 91-00-00, Charts

## **2. ACCOMPLISHMENT INSTRUCTIONS**

### **A. External Inspection of the Transmission Housing**

(Ref. Figure 1)

**NOTE:** When you do this inspection procedure all of these limitations apply:

- If cracks are found at the locations shown in Figure 1, and there is an indication that there is oil leakage at a crack or cracks, the transmission must be replaced before further flight.
- If cracks are found but there is no oil leakage from the cracks, the transmission can stay in service for up to 300 hours before replacement is required.
- Cracks must be inspected every 100 hours to make sure no further cracking is observed and there is no indication of oil leakage from a crack or cracks.

- (1). Remove the sound insulation and transmission access covers (ref. CSP-HMI-2, 25-30-00, Passenger Compartment Interior Trim).

**NOTE:** Oil leakage is an indication that the transmission housing can have cracks around the bosses.

- (2). Look for indications of oil leakage around the three bosses on the transmission housing (ref. Figure 1).



Cracks may not be seen through painted surfaces. Only remove the paint and the primer from the surfaces around the plugs. Do not remove the (orange or yellow colored) Rockhard coating. This will damage corrosion protection for the transmission housing.

- (3). Remove the paint and primer from the top surfaces of the three bosses.
  - (a). Clean the paint and primer from the transmission surface around each boss with abrasive paper (CM801), clean cloth (CM803), and cleaning solvent (CM223) (ref. CSP-HMI-2, 91-00-00, Charts).
- (4). Do a visual inspection of the three bosses for cracks with a 10X magnification glass and a bright light.
- (5). If cracks are found in the bosses:
  - (a). Leaking oil: Immediately replace the transmission (ref. CSP-HMI-2, 63-20-25, Maintenance Practices).
  - (b). Not leaking oil: Notify the MDHI Field Service Department to schedule a transmission replacement.
    - 1). Clean the area with a clean cloth (CM803) and cleaning solvent (CM223) around the boss locations where cracks have been found.
    - 2). Make a note of the size and location of the crack(s).
    - 3). DO NOT reapply paint to the bosses where cracks have been found.

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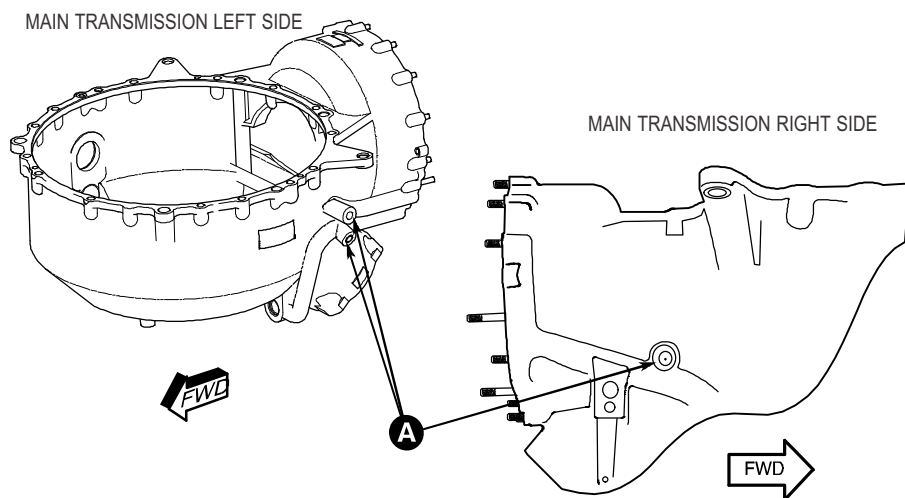
SB369D-219R2 SB369E-117R2  
SB369F-104R2 SB500N-056R2  
SB600N-068R2



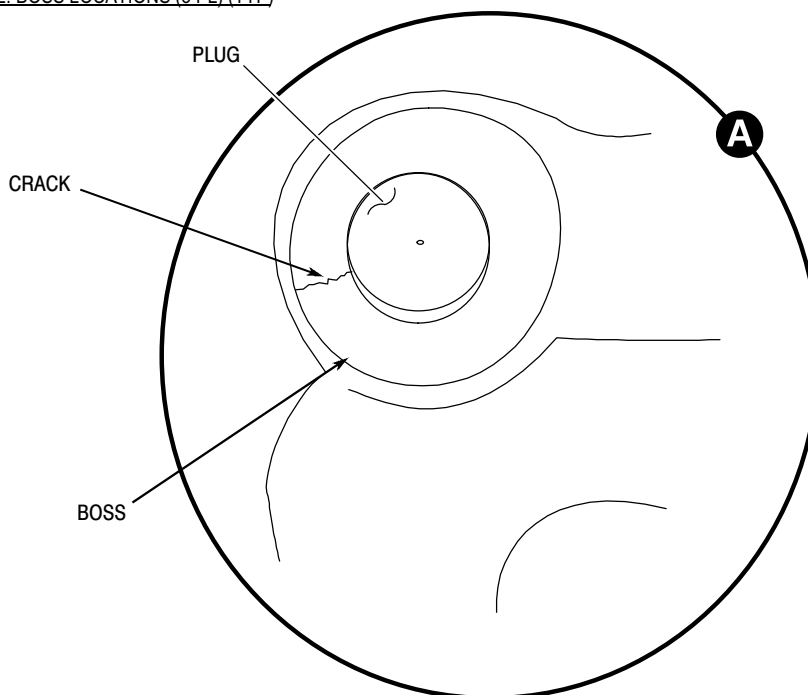
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NOTE: BOSS LOCATIONS (3 PL) (TYP)



SB88-841

**Figure 1. Inspection for Cracks in the Transmission Housing**

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- (6). Every 100 hours, repeat the visual inspection with a 10X magnification glass and a bright light to make sure:
  - (a). The crack(s) have not increased in length or width.
  - (b). There is no indication of oil leakage from the crack(s).
  - (c). Replace the transmission (ref. CSP-HMI-2, 63-20-25, Main Transmission Maintenance Practices):
    - 1). Immediately, if there is oil leakage from the identified crack or cracks.
    - 2). Immediately, if the cracks have increased in size.
    - 3). Within 300 hours after the discovery of cracks.
- (7). If cracks are not found, apply primer and paint to exposed surface areas (ref. CSP-HMI-2, 20-00-00, Standard Practices).



Do not paint mounting surfaces, holes, accessory pads, studs or shaft extensions. Do not paint drain tube in seal retainer assembly, drain valves and chip detectors, identification plate, electrical terminals and packing.

- (a). Prepare surface to be spot-painted as described (ref. CSP-HMI-2, Chapter 20-00-00).
- (b). Featheredge chipped or peeling paint with abrasive paper (CM801).
- (c). Clean all surfaces thoroughly with a clean cloth (CM803) and cleaning solvent (CM223).
  - 1). Dry surfaces thoroughly with a dry clean cloth or compressed air.
- (d). Mix primer in accordance with the manufacturer instructions.
- (e). Apply one coat of epoxy primer (CM318).
  - 1). Let the epoxy primer dry thoroughly.
- (f). Mix epoxy paint (CM304) in accordance with the manufacturer instructions.
- (g). Apply two coats of epoxy paint (CM304) to the primed surface.
  - 1). Let the first coat of paint dry for 4 hours.
  - 2). Apply a second coat.

## **B. Job Close-Up**

- (1). Install the sound insulation and transmission access covers (ref. CSP-HMI-2, 25-30-00, Passenger Compartment Interior Trim).

## **C. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete the Bulletin Completed Record form (attached) and contact MDHI at <https://www.mdhelicopters.com/contact.html>.

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## Bulletin Completed Record

### ONE-TIME INSPECTION FOR TRANSMISSION CRACKS

MD Helicopters, Inc.  
Field Service  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact.html>  
Or contact your Field Service Representative.

Owner/- Operator: _____	Helicopter Serial No: _____
Address: _____ _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____  Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete: \_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
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## INSPECTION OF THE MAIN ROTOR BLADES FOR CRACKS

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 369A helicopters  
All 369H, 369HE, 369HS, and 369HM helicopter models  
All 369D helicopters  
All 369E helicopters  
All 369FF helicopters  
All 500N helicopters  
All 600N helicopters

#### B. Assembly/Components Affected By This Notice:

**NOTE:** Base part numbers (no dash number) include all dash numbers.

369A1100 Main Rotor Blade Assembly  
369D21100 Main Rotor Blade Assembly  
369D21102 Main Rotor Blade Assembly  
369D21120 Main Rotor Blade Assembly  
369D21121 Main Blade Assembly

#### C. Reason:

There have been field reports of cracks in the skin next to the trim tab of the main rotor blades.

Failure to comply with this bulletin can cause the loss of a main rotor blade during operation and cause significant vibration and a loss of helicopter control.

#### D. Description:

Procedures in this bulletin give owners and operators information to examine the main rotor blades for cracks in the skin next to the trim tab.

#### E. Time of Compliance:

The instructions in this bulletin must be completed before the next 25 flight hours, and then during every 100-hour or annual inspection thereafter.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA Approved.

#### G. Manpower:

Compliance with this bulletin will be approximately 0.1 man-hours.

#### H. Interchangeability:

None.

#### I. Points of Contact:

For further assistance, contact Helicopter Technology Company, LLC (HTC):  
phone 310-523-2750 or fax 310-523-2745.

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## **J. Material/Part Availability:**

For parts availability, contact Helicopter Technology Company, LLC (HTC): phone 310-523-2750 or fax 310-523-2745.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
369H / 369HE / 369HS / 369HM Main Rotor Blade Assy	369A1100	AR	HTC
369D / 369E Main Rotor Blade Assembly	369D21100	AR	HTC
369FF / 500N / 600N Main Rotor Blade Assembly	369D21102	AR	HTC
369D / 369E Main Rotor Blade Assembly	369D21120	AR	HTC
369FF / 500N / 600N Main Rotor Blade Assembly	369D21121	AR	HTC

**NOTE:** Ref. the applicable illustrated parts catalog for interchangeability and supersedence.

## **K. Warranty Policy:**

Return main rotor blades to Helicopter Technology Company, LLC (HTC): phone 310-523-2750 or fax 310-523-2745.

## **L. Disposition of Parts Removed:**

Fill out a Service and Operations Report (SOR) and send it to the MDHI Field Service Department.

Scrap a cracked blade. Additional information and blade disposition is available from HTC: phone 310-523-2750 or fax 310-523-2745.

## **M. Tooling:**

N/A

## **N. Weight and Balance:**

N/A

## **O. Electrical Load Data:**

N/A

## **P. Other Publications Affected:**

N/A

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## **Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-H-2 Basic Handbook of Maintenance Instructions (Basic HMI)

CSP-H-4, Appendix B, Airworthiness Limitations, Overhaul and Replacement Schedules, Periodic Inspections, Weight and Balance Procedures

CSP-H-7 Illustrated Parts Catalog (IPC)

CSP-HMI-2 Basic Handbook of Maintenance Instructions — Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

SL369D-131 / SL369E-084 / SL369F-076 / SL500N-031 / SL600N-025, Inspections of Main Rotor Blades

HTCM-001 Main Rotor Blades (Installation and Maintenance) (HTC)

Mandatory Service Bulletin 2100-9, Main Rotor Blade Enhanced 100-Hour Inspection Requirements (HTC)

## **2. ACCOMPLISHMENT INSTRUCTIONS**

### **A. Examine the Main Rotor Blades for Cracks Near the Trim Tab**

- (1). Follow the instructions of the latest revision of HTC Mandatory Service Bulletin 2100-9, Main Rotor Blade Enhanced 100-Hour Inspection.

### **B. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete the Bulletin Completed Record form (attached) and FAX or e-mail the form to the MDHI Field Service Department.

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SB369H-257  
SB369E-119  
SB500N-057

SB369D-221  
SB369F-106  
SB600N-069



DATE: 2 APRIL 2018  
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# SERVICE BULLETIN

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## Bulletin Completed Record

### Inspection of the Main Rotor Blades for Cracks

MD Helicopters, Inc.  
Field Service Department  
4555 E. McDowell Road  
Mesa, AZ 85215-9734

800-388-3378 Phone (U.S. and Canada)  
480-346-6387 Phone (International)  
480-346-6813 Fax

FAX this form to MDHI (480) 346-6813 or E-mail to ServiceEngineering@mdhelicopters.com

Owner/- Operator: _____	Helicopter Serial No: _____
Address: _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____
Phone: _____	Location: _____
E-mail: _____	Serial No.: Blade 1 _____ Blade 2 _____ Blade 3 _____ Blade 4 _____ Blade 5 _____

This bulletin is complete: \_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
\_\_\_\_\_

Blade 1: \_\_\_\_\_  
Blade 2: \_\_\_\_\_  
Blade 3: \_\_\_\_\_  
Blade 4: \_\_\_\_\_  
Blade 5: \_\_\_\_\_

FAX this form to MDHI (480) 346-6813 or  
Email to ServiceEngineering@mdhelicopters.com

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# SERVICE BULLETIN

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## REMOVE AND REPLACE COLLECTIVE LINK ASSEMBLIES, PART NO. 600N7617-1

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 600N helicopters

#### B. Assembly Affected By This Notice:

600N7617-1, Link Assembly — Collective

#### C. Reason:

The 600N7617-1 link assembly is an aluminum part, that is used in the helicopter in two locations. The first location is the Collective Controls (ref. Figure 1) which does not have a life-limit for this part. The second location is the Longitudinal Controls which does have a life-limit when the optional yaw stability augmentation system (YSAS) is installed. If the aluminum link is used in a helicopter with the optional YSAS installed, there is a 15,000-hour life-limit on the link (ref. CSP-HMI-2, Chapter 4, Table 1. Airworthiness Limitations Schedule).

In January 2002, the unlimited life 600N7617-5 collective link assembly, made from steel, was created to replace the 600N7617-1 aluminum link assembly installed in the longitudinal position on the optional YSAS kit. YSAS-equipped helicopters now could use either the 600N7617-1 with life-limits or the new steel 600N7617-5 link.

To eliminate the possibility that links from a non-YSAS helicopter that have not had the in-flight hours recorded can be installed on YSAS-equipped helicopters, and to prevent stressed aluminum links from a YSAS-equipped helicopter to be installed on non-YSAS helicopter, replace the aluminum link in the Collective Controls with a steel link to preclude possible confusion and for part commonality.

Failure to comply with this bulletin can cause a potential failure of the longitudinal controls.

#### D. Description:

Procedures in this bulletin give owners and operators information to remove and replace the aluminum life-limited 600N7617-1 link assemblies with steel unlimited-life 600N7617-5 link assemblies in both the collective and longitudinal.

#### E. Time of Compliance:

The instructions in this bulletin must be completed within the next 25 flight hours after you get this bulletin, and no later than 30 December 2019.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA approved.

#### G. Manpower:

Compliance with this bulletin will be approximately 2.0 man-hours at each location.

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**H. Interchangeability:**

None.

**I. Points of Contact:**

For further assistance, contact MDHI Field Service at:

<https://www.mdhelicopters.com/contact.html>
**J. Material/Part Availability:**

Contact MDHI Spare Sales for parts availability at:

<https://www.mdhelicopters.com/contact.html>

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Collective and/or Longitudinal Link Assembly	600N7617-5	1 or 2	MDHI

**K. Warranty Policy:**

Standard warranty policy applies.

The hours in Manpower (ref. Paragraph G.) are an estimate, and are not reimbursable, unless specified in the Warranty Policy.

MDHI Warranty Department will credit operators two (2) man hours per link assembly.

Owners and operators who fail to comply with the instructions of this bulletin before 30 June 2018 are not eligible for the warranty.

Additional discrepancies found over and above the specified warranty coverage is the responsibility of the customer.

**L. Disposition of Parts Removed:**

Return to MDHI with a completed Service Operation Report (SOR) all removed and spare 600N7615-1 longitudinal link assemblies.

**M. Tooling:**

Ref. CSP-HMI-2, Section 91-00-00, for the item and manufacturer / supplier numbers.

TOOLS AND EQUIPMENT	
Nomenclature (Item)	Source (Manufacturer / Supplier)
Collective Bungee Installation Tool (ST508)	MDHI (TS10)

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

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## **P. Other Publications Affected:**

CSP-HMI-2 Basic Handbook of Maintenance Instructions — Servicing and Maintenance

CSP-HMI-3 Basic Handbook of Maintenance Instructions — Instruments/Electrical/Avionics

CSP-IPC-4 Illustrated Parts Catalog

## **Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-600RFM-1 Rotorcraft Flight Manual

CSP-HMI-2 Basic Handbook of Maintenance Instructions — Servicing and Maintenance

CSP-HMI-3 Basic Handbook of Maintenance Instructions — Instruments/Electrical/Avionics

CSP-IPC-4 Illustrated Parts Catalog

SB600N-040 Control Support Bracket Assembly Life Reduction with YSAS Installed

SB600N-047R1 De-Energize YSAS System and Replace YSAS Adapter

SB600N-062R1 Remove and Replace the YSAS Adapter

TB600N-006R1 600N Yaw Stability Augmentation System (YSAS) Installation

## **2. ACCOMPLISHMENT INSTRUCTIONS**

(Ref. Figure 1)

### **A. Remove and Replace the Link Assemblies**

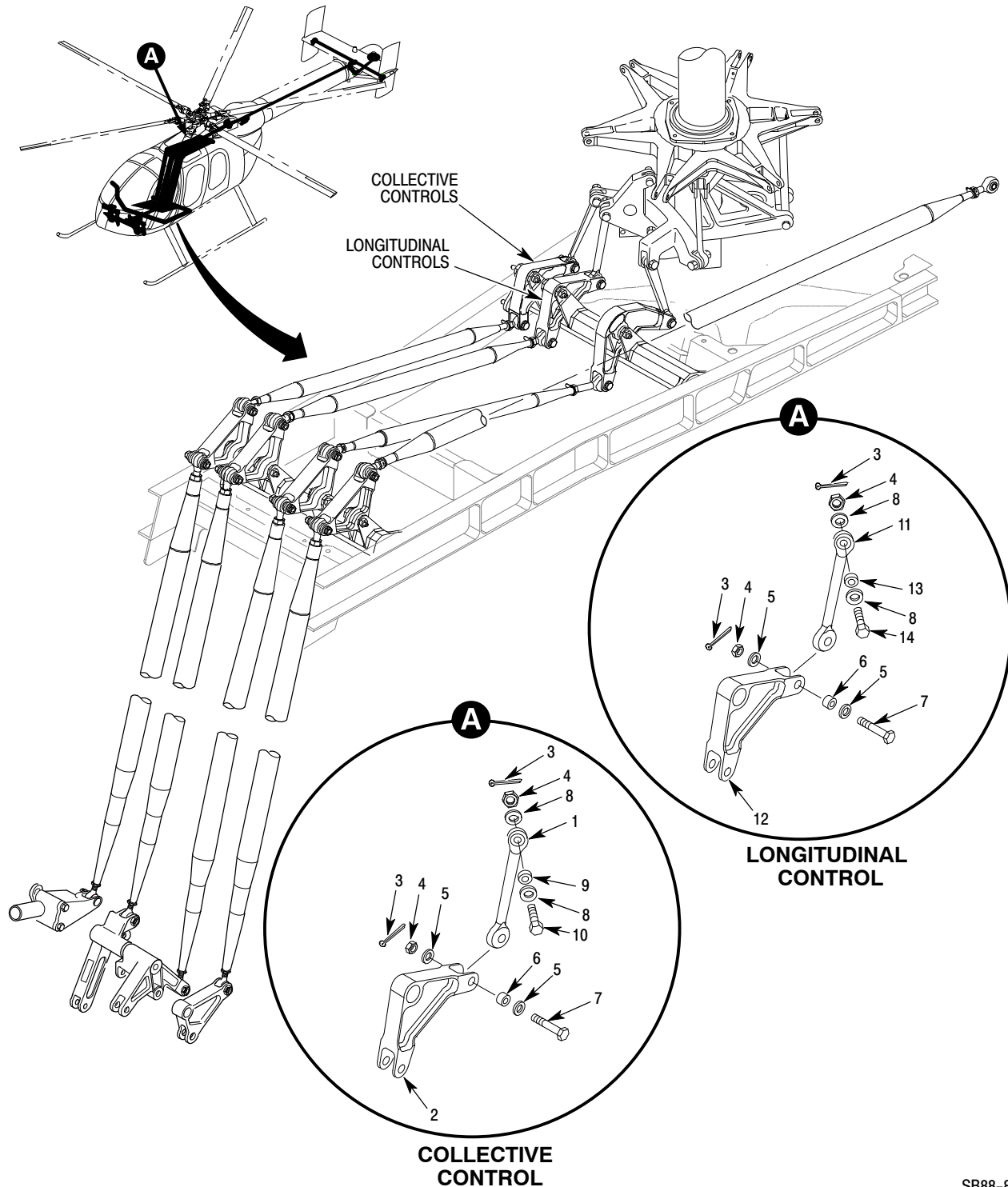
- (1). Remove the upper fuselage control fairing.
- (2). Remove aluminum link assembly (1) from the collective controls (ref. CSP-HMI-2, 67-10-00, Link Assembly Replacement (600N), Removal).
  - (a). Replace the aluminum link assembly with a steel link assembly.
  - (b). Install steel link assembly (11) in the collective controls (ref. CSP-HMI-2, 67-10-00, Link Assembly Replacement (600N), Installation).
- (3). Examine the link assembly in the longitudinal controls:
  - (a). If its part number is 600N7617-5 the link assembly is a steel part (11).
    - 1). Go to Job Close-Up (ref. Procedure 2.B.)
  - (b). If its part number is 600N7617-1 the link assembly is an aluminum part (1) and must be replaced (go to Step (4)).

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SB88-844

**Figure 1. Location of the Collective Link Assemblies in the Command Flight Control Installation**

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## Legend (Ref. Figure 1)

- |   |                        |
|---|------------------------|
| 1. LINK (ALUMINUM) (REF. IPC, 67-00-60, FIGURE 1) | 8. FLAT WASHER         |
| 2. COLLECTIVE CRANK                               | 9. SLOTTED BUSHING     |
| 3. COTTER PIN                                     | 10. BOLT               |
| 4. NUT  | 11. LINK (STEEL)       |
| 5. FLAT WASHER                                    | 12. LONGITUDINAL CRANK |
| 6. PRESS-FIT BUSHING                              | 13. SLOTTED BUSHING    |
| 7. BOLT   | 14. BOLT               |

- 
- (4). Remove aluminum link assembly (1) from the longitudinal controls (ref. CSP-HMI-2, 67-10-00, Link Assembly Replacement (600N), Removal).

- (a). Replace the aluminum link assembly (1) with a steel link assembly (11).

- (b). Install steel link assembly (11) in the longitudinal controls (ref. CSP-HMI-2, 67-10-00, Link Assembly Replacement (600N), Installation).

### **B. Job Close-Up**

- (1). Install the upper fuselage controls fairing.

### **C. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete the Bulletin Completed Record form (on the next page) and mail a copy or e-mail a scanned copy to the MDHI Field Service Department.

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**MANDATORY**

## Bulletin Completed Record

### Remove and Replace Collective Link Assemblies, Part No. 600N7617-1

MD Helicopters, Inc.  
 Field Service Department  
 4555 East McDowell Road  
 Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
 Website: <https://www.mdhelicopters.com/contact.html>  
 Or contact your Field Service Representative.

Owner/- Operator: _____	Helicopter Serial No: _____
Address: _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____
Phone: _____	Location: _____
E-mail: _____	

This bulletin is complete: \_\_\_\_\_  
 (Signature)  
 \_\_\_\_\_  
 (Print Name)  
 \_\_\_\_\_  
 (Title)

Comments: \_\_\_\_\_  
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\* Supersedes Service Bulletins SB369D-222, SB369E-121, SB369F-108, SB500N-059, and SB600N-71, date 8 May 2019. Revised to add details to the inspection of the blade root fittings, and to add MDHI contact information. Helicopters that are in compliance with SB369D-222, SB369E-121, SB369F-108, SB500N-059, and SB600N-71 meet the intent of this revision and have no additional action.

## ADDITIONAL INSPECTION OF THE MAIN ROTOR BLADE ROOT FITTINGS

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 369E helicopters  
All 369D helicopters  
All 369FF helicopters  
All 500N helicopters  
All 600N helicopters

#### B. Components Affected By This Notice:

369D21100-BSC, -503, -505, -507, -509, -511, -512, -513, -515, -516, -517, -519, -521, -523 Main Rotor Blade Assembly

369D21102-BSC, -501, -503, -517, -519, -521, -523 Main Rotor Blade Assembly

369D21120-501, -503, -505 Main Rotor Blade Assembly

369D21121-501, -503, -505 Main Blade Assembly

#### C. Reason:

This bulletin is issued to improve the inspection of the root fitting of the main rotor blades. The bonding between the doublers and the upper and lower root fittings can become delaminated, but if the bolts are not loosened the delamination may not be found.

Failure to comply with this bulletin can result in helicopter operation with a possible defect in the main rotor blade.

#### D. Description:

Procedures in this bulletin give owners and operators information to do a check for delamination of the bond between the doublers and the upper and lower root fittings.

#### E. Time of Compliance:

The instructions in this bulletin must be completed at the next scheduled 100-hour inspection and then every 100-hour inspection thereafter.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA approved.

#### G. Manpower:

Compliance with this bulletin will be approximately 0.50 man-hours.

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## H. Interchangeability:

None.

## I. Points of Contact:

For further assistance, contact MDHI Field Service at:

<https://www.mdhelicopters.com/contact.html>

## J. Material/Part Availability:

Contact MDHI Spare Sales for parts availability at:

<https://www.mdhelicopters.com/contact.html>

Ref. CSP-HMI-2, Section 91-00-00, Table 2, for the manufacture/supplier numbers in the Source column.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Main Rotor Blade Assembly	369D21100-BSC, -501, -503, -505, -507, -509, -511, -512, -513, -515, -516, -517, -519, -521, -523	AR	MS50
	369D21102-BSC, -501, -503, -517, -519, -521, -523		
	369D21120-501, -503, -505		
	369D21121-501, -503, -505		
Mylar Shim	0.004 Inch (0.10 mm) Thick; 0.118 to 0.236 Inch (3 to 6 mm) Wide	AR	Locally Made
Sealant	DP-190 (AMS-S-8802, Type II, Class B-2) or Pro Seal (PR-1422, Class B)	AR	MS86 MS92

## K. Warranty Policy:

Return main rotor blades to Helicopter Technology Company, LLC (HTC):  
phone 310-523-2750 or fax 310-523-2745.

## L. Disposition of Parts Removed:

Fill out a Service and Operations Report (SOR) at <https://www.mymd.aero/dashboard>  
(select the **SUPPORT** dropdown menu, and then select **New SOR**).

## M. Tooling:

N/A

## N. Weight and Balance:

N/A

## O. Electrical Load Data:

N/A

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## **P. Other Publications Affected:**

CSP-HMI-2 Basic Handbook of Maintenance Instructions — Servicing and Maintenance

## **Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-HMI-2 Basic Handbook of Maintenance Instructions — Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

SL369D-131 / SL369E-084 / SL369F-076 / SL500N-031 / SL600N-025, Inspections of Main Rotor Blades

HTCM-001 Main Rotor Blades (Installation and Maintenance) (HTC)

Mandatory Service Bulletin 2100-9, Main Rotor Blade Enhanced 100-Hour Inspection Requirements (HTC)

## **2. ACCOMPLISHMENT INSTRUCTIONS**

(Ref. Figure 1)

### **A. Inspection of the Blade Root Fittings**

- (1). Remove the rotor blade to be examined from the helicopter. (Ref. CSP-HMI-2, 62-10-00, Main Rotor Blade Replacement)
- (2). Examine the interface and area around the upper and lower root fittings, doublers, and bonding for cracks or delamination.
  - (a). If there are no visible cracks or delamination, continue the inspection (go to Step B.(1)).
  - (b). If there are cracks or delamination of the bonding at the periphery of the blade root fittings and doublers do these steps:

**CAUTION** Do not remove the bolt, nut, or washers from the blade. It is possible the hardware stackup for the blade can be incorrectly assembled.

- 1). Loosen the outboard bolt.
- 2). Try to insert a Mylar shim between the bottom of the root fitting and the doubler.

**NOTE:** The Mylar shim is **0.004 inch (0.10 mm) thick** and **0.118 to 0.236 inch (3 to 6 mm) wide**.

**CAUTION** Do not remove the bolt, nut, or washers from the blade. It is possible the hardware stackup for the blade can be incorrectly assembled.

- 3). If the Mylar shim did not go between the bottom of the root fitting and the doubler, loosen the adjacent bolt.
- 4). Try to insert a Mylar shim between the bottom of the root fitting and the doubler.

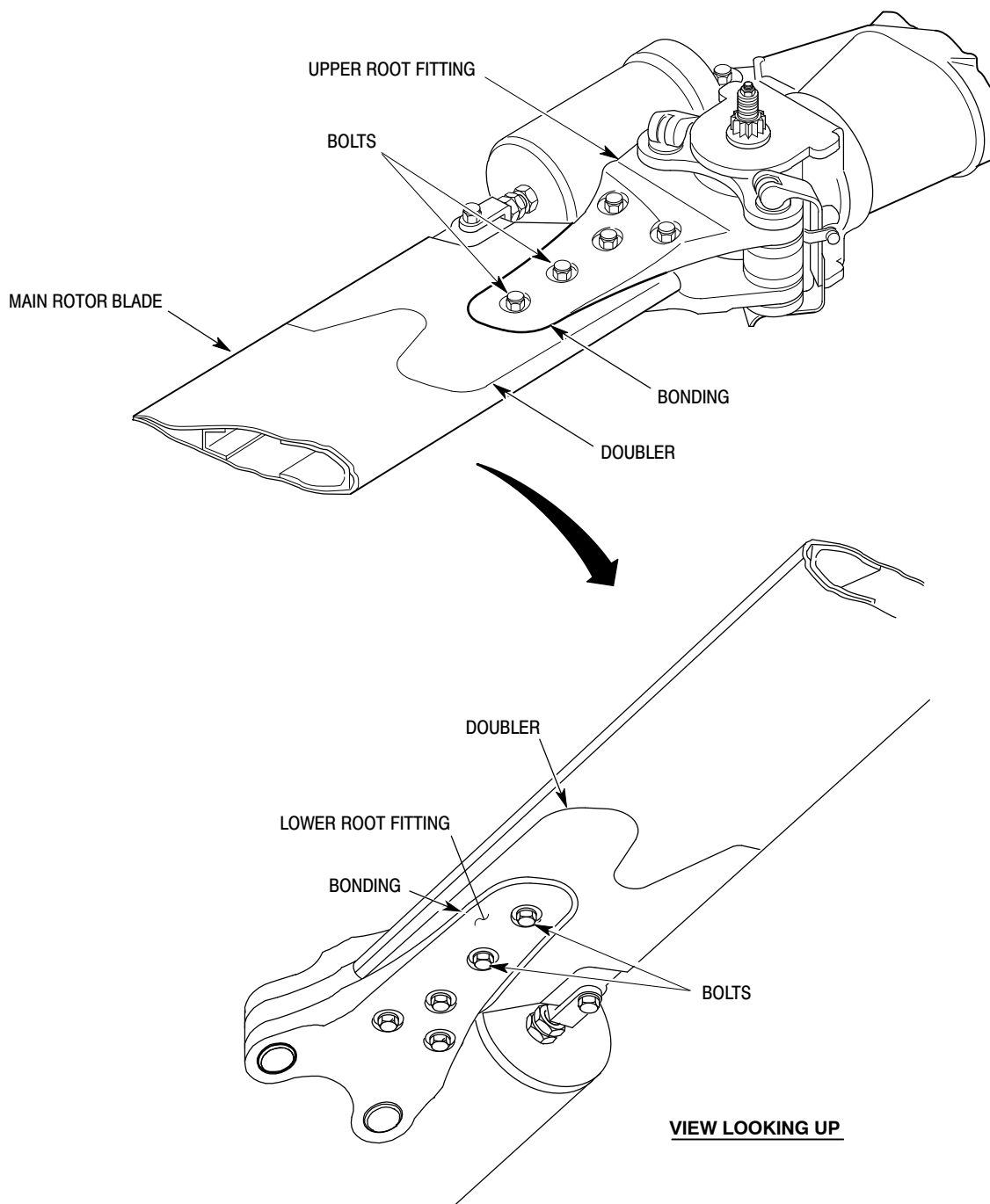
**NOTE:** The Mylar shim is **0.004 inch (0.10 mm) thick** and **0.118 to 0.236 inch (3 to 6 mm) wide**.

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SB88\_845

**Figure 1. Inspection of the Blade Root Fittings**

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Do not use chemicals to remove the sealant. Damage to the blade can occur.

**NOTE:** A sealant bead can prevent the ability to see a disbond. If necessary, for better inspection, the sealant bead can be removed.

- 5). If necessary, remove the sealant with 320 sandpaper from the periphery of the blade root fitting to get a better view of the bond line.
  - 6). Remove and replace a blade with a crack or delamination (ref. CSP-HMI-2, Section 62-10-00, Removal/Installation, Procedure 2. Main Rotor Blade Replacement).
  - 7). If there is no crack or delamination, torque the bolts **50 to 60 inch-pound (5.65 to 6.78 Nm) plus 10 inch-pound (1.13 Nm)** of run-on torque.
  - 8). If necessary, apply sealant to the periphery of the blade root fitting (ref. the manufacturer instructions).
- (c). Contact MDHI Field Service or HTC if you are not sure of the condition.
- (d). Install the rotor blade in the same position as removed. (Ref. CSP-HMI-2, (Ref. CSP-HMI-2, 62-10-00, Main Rotor Blade Replacement)

## **B. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) of the Rotorcraft Log Book CSP-RLB.
- (2). Show compliance with this Service Bulletin by one of these methods:
  - (a). Complete a Service Operation Report (SOR) at <https://www.mymd.aero/dashboard>.
  - (b). Put an entry in your <https://www.mymd.aero/> account.
  - (c). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your MDHI Field Service Representative.

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## Bulletin Completed Record

### Additional Inspection of the Blade Root Fitting

MD Helicopters, Inc.  
Field Service  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact.html>  
Or contact your Field Service Representative.

Owner/- Operator: _____	Helicopter Serial No: _____
Address: _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____  Location: _____
Phone: _____	Serial No.: Blade 1 _____ Blade 2 _____
E-mail: _____	Blade 3 _____ Blade 4 _____
	Blade 5 _____ Blade 6 _____

This bulletin is complete: \_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Blade 1: \_\_\_\_\_  
Blade 2: \_\_\_\_\_  
Blade 3: \_\_\_\_\_  
Blade 4: \_\_\_\_\_  
Blade 5: \_\_\_\_\_  
Blade 6: \_\_\_\_\_

Email a scanned copy of this form to your MDHI Field Service Representative or  
Attach a scanned copy of this form to the SOR form (ref. Paragraph 1.L.)

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## GTN 650 SOFTWARE CONFIGURATION FOR 600N GLASS COCKPITS

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

600N Helicopter, Serial Number (SN) RN0083

#### B. Assemblies/Components Affected By This Notice:

MHS4726-6 Identification (ID) Plate

#### C. Reason:

The 600N helicopter, SN RN0083, uses an unique GTN650H software configuration, which must be relabeled correctly to show the unique configuration. This service bulletin will give instructions to put the corrected ID plate on the GTN 650 GPS/NAV/COM.

#### D. Description:

Procedures in this bulletin give owners and operators information to make sure the software configuration identification is correct.

#### E. Time of Compliance:

The requirements of this bulletin must be completed within twenty-five (25) flight hours or one month after receipt of this bulletin.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA approved.

#### G. Manpower:

Compliance with this bulletin will be approximately 0.25 man-hours.

#### H. Interchangeability:

None.

#### I. Points of Contact:

For further assistance, contact MDHI Field Service at:  
<https://www.mdhelicopters.com/contact.html>

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## J. Material/Part Availability:

Contact MDHI Spare Sales for parts availability at:

<https://www.mdhelicopters.com/contact.html>

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Identification Plate identified as follows: MDHI HW P/N: 369HW24432-1 MDHI SW P/N: 369SW24432-BSCM	MHS4726-6	1	MDHI
Epoxy Adhesive	Epibond® 1217-A and 1217-B, or 1217-A/B	AR	Commercial
Isopropyl Alcohol (CM217)	TT-I-735	AR	Commercial

## K. Warranty Policy:

N/A

## L. Disposition of Parts Removed:

N/A

## M. Tooling:

N/A

## N. Weight and Balance:

N/A

## O. Electrical Load Data:

N/A

## P. Other Publications Affected:

CSP-IPC-4 Illustrated Parts Catalog

## Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-HMI-3 Basic Handbook of Maintenance Instructions – Instruments / Electrical / Avionics

CSP-IPC-4 Illustrated Parts Catalog

## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. New ID Plate Installation

- (1). Remove the GTN 650 from the console (ref. CSP-HMI-3, 97-20-00, Removal and Installation, Procedure 6.A. Garmin GTN 650 – GPS/COM/NAV Removal).

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Carefully remove the ID plate from the GTN 650. Do not damage the paint.

- (2). Remove the installed GTN 650 ID plate with a thin blade (for example, a single-edge razor blade).
  - (a). Clean the surface with isopropyl alcohol (CM217).
  - (b). Let the area fully dry.
- (3). Install the ID plate:
  - (a). Remove the peel from the metallic tape ID plate.
  - (b). Install the ID plate by hand with pressure on the prepared area.
  - (c). Seal the top surface and edges of the ID plate with epoxy adhesive (ref. Para. 1.J., Material/Part Availability, and the manufacturer instructions):
    - 1). As necessary, mask or protect the adjacent surfaces.



Do not clean the ID plate with alcohol or solvents that can remove the written part numbers on the ID plate.

- 2). Make sure the ID plate is clean and dry before the protective layer of epoxy adhesive is applied.



The set time of the epoxy adhesive permits only a short-time for use and application. Quickly apply the mixture.

- 3). Mix parts A and B of the epoxy adhesive (ref. the manufacturer instructions).
- 4). Apply the epoxy adhesive to the top and edges of the ID plate with a brush.

**NOTE:** Use a flat-bottom brush for the best result.

- 5). Let the protective layer fully dry.

- (4). Install the GTN650H in the console (ref. CSP-HMI-3, 97-20-00, Removal and Installation, Procedure 6.B. Garmin GTN 650 – GPS/COM/NAV Installation).

## **B. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) of the Rotorcraft Log Book CSP-RLB.
- (2). Record on the GTN 650 component card the applicable information.
- (3). Show compliance with this Service Bulletin by one of these methods:
  - (a). Complete a Service Operation Report (SOR) at <https://www.mymd.aero/dashboard>.
  - (b). Put an entry in your <https://www.mymd.aero/> account.
  - (c). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your MDHI Field Service Representative.

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DATE: 27 MAY 2020

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# SERVICE BULLETIN

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## Bulletin Completed Record

### GTN 650 Software Configuration for 600N Glass Cockpits

MD Helicopters, Inc.  
 Field Service  
 4555 East McDowell Road  
 Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
 Website: <https://www.mdhelicopters.com/contact.html>  
 Or contact your Field Service Representative.

Owner/- Operator: _____	Helicopter Serial No: _____
Address: _____ _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____  Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete: \_\_\_\_\_  
 (Signature)  
 \_\_\_\_\_  
 (Print Name)  
 \_\_\_\_\_  
 (Title)

Comments: \_\_\_\_\_  
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# SERVICE BULLETIN

DATE: 19 APRIL 2019

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## INSPECTION OF THE MAIN ROTOR HUB LEAD-LAG BOLTS, PART NO. 369D21220-BSC

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 369H, 369HE, 369HS, and 369HM helicopter models  
All 369E helicopters  
All 369D helicopters  
All 369FF helicopters  
All 500N helicopters  
All 600N helicopters

#### B. Components Affected By This Notice:

Main Rotor Hub Lead-Lag Bolt, Part No. (PN) 369D21220, Serial Numbers (SNs):

000110-0092, 000110-0094, 000110-0118, 000110-0133, 000110-0276, 000110-0302,  
000110-0338, 000110-0408, 000110-0420, 000110-0488, 000110-0564, 000110-0571,  
000110-0598, 000110-0610, 000110-0636, 000110-0716, 000110-0768, 000110-0774,  
000110-0800, 000110-0820, 000110-0836, 000110-0864, 000110-0880, 000110-0903,  
000110-1049, 000110-1209, 000110-1239, 000110-2188, 000110-2221, 000110-2362,  
000110-2370, 000110-3008, 000110-3026, 000110-3058, 000110-3098, 000110-3184,  
000110-3191, 000110-3343, 000110-3409, 000110-3431, 000110-3432, 000110-3436,  
000110-3442, 000110-3450, 000110-3452, 000110-3495, 000110-3534, 000110-3548,  
000110-3580, 000110-3615, 000110-3675, 000110-3681, 000110-3784, 000110-3803,  
000110-3814, 000110-3817, 000110-3820, 000110-3828, 000110-3846, 000110-3866,  
000110-3888, 000110-3890, 000110-4243, 000110-4261, 000110-4271, 000110-4288,  
000110-4293, 000110-4378, 000110-4400, 000110-4432, 000110-4438, 000110-4444,  
000110-4457, 000110-4463, 000110-4479, 000110-4490, 000110-4504, 000110-4512,  
000110-4533, 000110-4537, 000110-4544, 000110-4569, 000110-4570, 000110-4578,  
000110-4583, 000110-4590, 000110-4603, 000110-4607, 000110-4679, 000110-4700,  
000110-4703, 000110-4745, 000110-4765, 000110-4796, 000110-4845, 000110-4849,  
000110-4881, 000110-4920, 000110-4974, 000110-4977, 000110-4986, 000110-5182,  
000110-5230, 000110-5236, 000110-5237, 000110-5314, 000110-5353, 000110-5371,  
000110-5389, 000110-5399, 000110-5430, 000110-5434, 000110-5444, 000110-5457,  
000110-5498, 000110-5529, 000110-5530, 000110-5559, 000110-5586, 000110-5645,  
000110-5753, 000110-5769, 000110-5822, 000110-5829, 000110-5876, 000110-5878,  
000110-5907, 000110-6069, 000110-6091, 000110-6105, 000110-6182, 000110-6185,  
000110-6203, 000110-6235, 000110-6280, 000110-6293, 000110-6296, 000110-6424,  
000110-6432, 000110-6465, 000110-6486, 000110-6487, 000110-6501, 000110-6515,  
000110-6517, 000110-6597, 000110-6632, 000110-6662, 000110-6671, 000110-7102,  
000110-7116, 000110-7118, 000110-7138, 000110-7174, 000110-7178, 000110-7221,  
000110-7254, 000110-7263, 000110-7339, 000110-7459, 000110-7479, 000110-7531,  
000110-7532, 000110-7636, 000110-7678, 000110-7806, 000110-7886, 000110-7998,  
000110-8025, 000110-8031, 000110-8033, 000110-8080, 000110-8094, 000110-8098,  
000110-8142, 000110-8158

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**MANDATORY MANDATORY MANDATORY**

5013-A231, 5013-B036, 5013-B057, 5013-B081, 5013-B083, 5013-B084

5013-8300, 5013-8346, 5013-8386, 5013-8405, 5013-8653, 5013-8746, 5013-8935,  
5013-8955, 5013-9151, 5013-9177, 5013-9223, 5013-9291, 5013-9320, 5013-9326,  
5013-9678, 5013-9699, 5013-9708, 5013-9845, 5013-9885, 5013-9899, 5013-9988,  
5013-10010, 5013-10039, 5013-10068, 5013-10089, 5013-10098, 5013-10165,  
5013-10167, 5013-10202, 5013-10208, 5013-10227, 5013-10259, 5013-10284,  
5013-10329

5787-B059

5787-0611, 5787-0654, 5787-0661, 5787-0662, 5787-0705, 5787-0727, 5787-0773,  
5787-0784, 5787-0799, 5787-1022, 5787-1039, 5787-1045, 5787-1084, 5787-1095,  
5787-1641, 5787-1646, 5787-1650, 5787-1651, 5787-1656, 5787-1657, 5787-1658,  
5787-1670, 5787-1746, 5787-2058, 5787-2060, 5787-2067, 5787-2076, 5787-2083,  
5787-2154, 5787-2171, 5787-2185, 5787-2188, 5787-2190, 5787-3093, 5787-3094,  
5787-3124, 5787-3156, 5787-3185, 5787-3806, 5787-3839, 5787-3856, 5787-3946,  
5787-4003

048765-0002, 048765-0008, 048765-0023, 048765-0043, 048765-0054, 048765-0088,  
048765-0145, 048765-0193, 048765-0199, 048765-0209, 048765-0224, 048765-0317,  
048765-0326, 048765-0327, 048765-0328, 048765-0392, 048765-0414, 048765-0421,  
048765-0430, 048765-0438, 048765-0503, 048765-0627, 048765-0661, 048765-0667,  
048765-0701, 048765-0724, 048765-0744, 048765-0772, 048765-0785, 048765-0795,  
048765-0828, 048765-0837, 048765-0875, 048765-0909, 048765-0920, 048765-0925,  
048765-0937, 048765-0953, 048765-0957, 048765-0961, 048765-0977, 048765-0997,  
048765-1026, 048765-1032, 048765-1057, 048765-1063, 048765-1076, 048765-1081,  
048765-1091, 048765-1129, 048765-1134, 048765-1154, 048765-1158, 048765-1194,  
048765-1210, 048765-1262, 048765-1266, 048765-1286, 048765-1287, 048765-1289,  
048765-1292, 048765-1311, 048765-1324, 048765-1329, 048765-1351, 048765-1369,  
048765-1372, 048765-1403, 048765-1423, 048765-1451, 048765-1458, 048765-1463,  
048765-1477, 048765-1491, 048765-1508

084783-0008, 084783-0322, 084783-0336, 084783-0353, 084783-0359, 084783-0418,  
084783-0419, 084783-0432, 084783-0436, 084783-0510, 084783-0537, 084783-0545,  
084783-0549, 084783-0768, 084783-0860, 084783-0880, 084783-0886, 084783-0888,  
084783-0891, 084783-0893, 084783-4785, 084783-4844, 084783-4955, 084783-5012

085803-0215, 085803-0217, 085803-0219, 085803-0225, 085803-0232, 085803-1356,  
085803-1411, 085803-1426, 085803-1700, 085803-1730

## C. Reason:

These 369 lead-lag bolts have had an unauthorized repair of its cadmium plating during service and overhaul between April 2004 and October 2018. These lead-lag bolts can have a decrease in the service life.

Failure to comply with this bulletin can cause a lead-lag bolt to be used past its effective service life.

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## **D. Description:**

Procedures in this bulletin give owners and operators information to find the serial numbers that have been repaired and will have to be replaced by a qualified MDHI team.

## **E. Time of Compliance:**

The instructions in this bulletin must be completed within seven (7) days after receipt of this bulletin. Bolts can be replaced at the next overhaul or service, or no later than the next twelve months after you get this bulletin. MDHI will tell the customer when the replacement bolts are available.

## **F. FAA Approval:**

The technical design aspects of this bulletin are FAA approved.

## **G. Manpower:**

Compliance with this bulletin will be approximately 0.25 man-hours.

## **H. Interchangeability:**

None.

## **I. Points of Contact:**

For further assistance, contact MDHI Field Service at:

<https://www.mdhelicopters.com/contact.html>

## **J. Material/Part Availability:**

Contact MDHI Spare Sales for parts availability at:

<https://www.mdhelicopters.com/contact.html>

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Main Rotor Lead-Lag Bolt	369D21220	1 to 6	MDHI

## **K. Warranty Policy:**

Contact MDHI Warranty for prices, orders, availability, and service at:

<https://www.mdhelicopters.com/contact.html> or <https://www.mymd.aero/dashboard> or <https://www.mymd.aero/>.

The MDHI Warranty Department will give the lead-lag bolts at no cost to the operator. MDHI will also send a field maintenance team to replace the bolts.

Standard warranty policy applies.

The hours in Manpower (ref. Paragraph 1.G.) are an estimate, and are not reimbursable, unless specified in the Warranty Policy.

Additional discrepancies found over and above the specified warranty coverage is the responsibility of the customer.

## **L. Disposition of Parts Removed:**

Return to MDHI with a completed Service Operation Report (SOR).

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**MANDATORY**

SB369H-259  
SB369E-122  
SB500N-060

SB369D-223  
SB369F-110  
SB600N-073



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**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

N/A

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-RLB Rotorcraft Log Book

CSP-H-4 Periodic Inspections, Overhaul and Retirement Schedule and Weight and Balance Procedure (Basic HMI Appendix B)

CSP-H-7 Illustrated Parts Catalog

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

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## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

### A. Find the Serial Number of the Main Rotor Hub Lead-Lag Bolt

- (1). Examine the Component Maintenance records for the serial number of each of the four, five, or six lead-lag bolts installed on a helicopter.
- (2). Examine the serial number on lead-lag bolts in storage.
- (3). If the Component Maintenance records are incomplete, look at the head of the lead-lag bolt to find the serial number.



Make sure to keep each balance weight stackup together and to record the location of each stackup during removal. Incorrect installation can cause an imbalance in the main rotor.

- (a). If necessary, remove screws (6), washers (7), nuts (9), and washers (10, 11) (ref. Figure 1).
- (b). Record or make a note of the position each stackup is removed from.
- (c). After you look for the serial number, install each stackup to the correct location.
- (4). Do a check of the lead-lag bolt serial numbers with the serial numbers shown in Paragraph 1.B.
  - (a). Tell MDHI if there is a lead-lag bolt or bolts with the Paragraph 1.B. serial numbers installed on a helicopter so MDHI can schedule a time to replace the lead-lag bolts.
- (5). If the time on the bolt is known, include the hours on the Bulletin Completed Record or in your MyMD.Aero account, or in a new Service Operation Report (SOR).

### B. Compliance Record

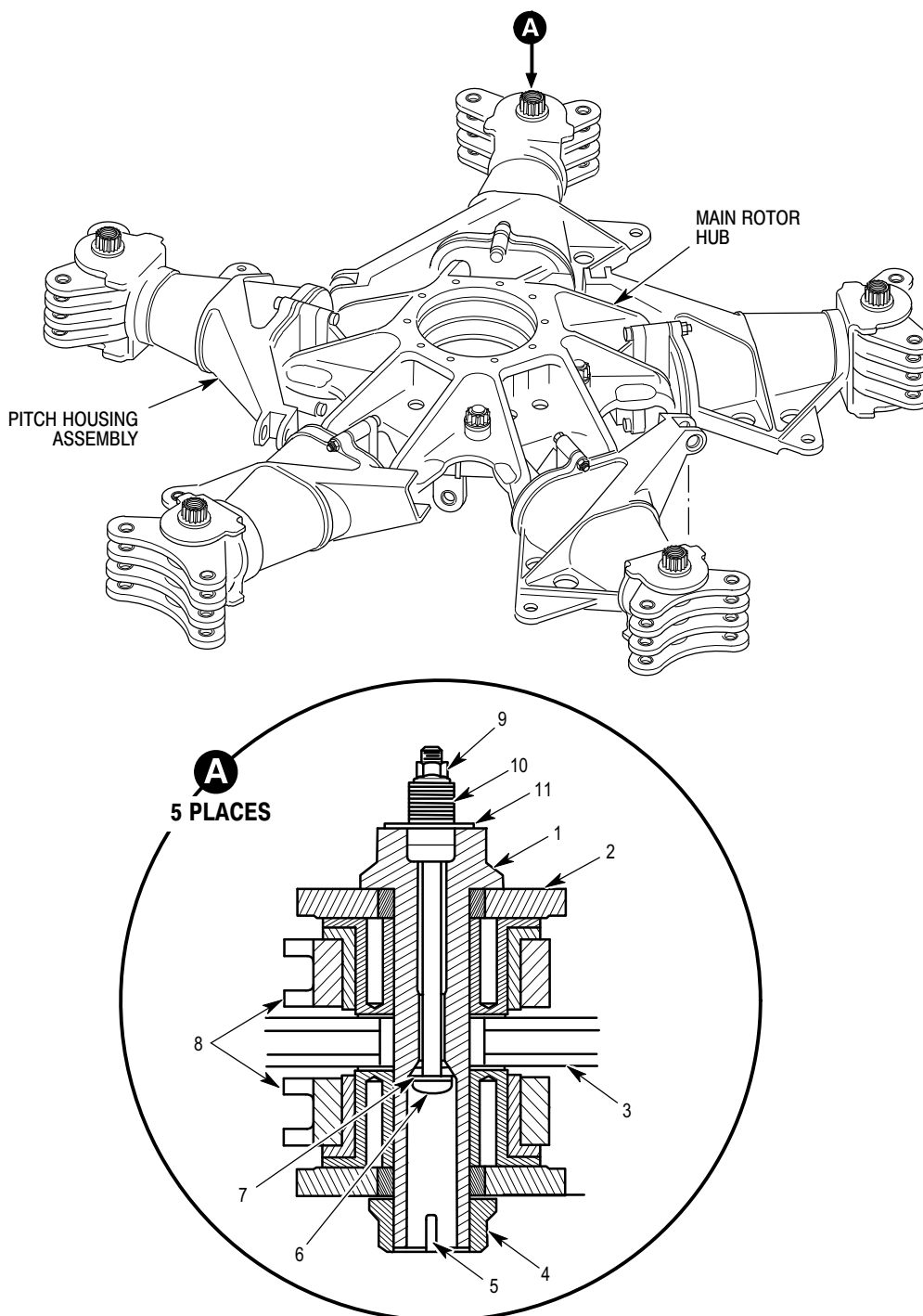
- (1). Record compliance to this Service Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) of CSP-RLB Rotorcraft Log Book.
- (2). Show compliance with this Service Bulletin by one of these methods:
  - (a). Complete a Service Operation Report (SOR) at <https://www.mymd.aero/dashboard>.
  - (b). Put an entry in your <https://www.mymd.aero/> account.
  - (c). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your MDHI Field Service Representative.

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# SERVICE BULLETIN

/// MANDATORY ///



SB88-645

**Figure 1. Main Rotor Hub Lead-Lag Bolt Location and Installation**

/// MANDATORY ///

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## Legend (Ref. Figure 1)

- |   |            |
|---|------------|
| 1. LEAD-LAG BOLT (REF. IPC, 62-20-00, FIGURE 1) | 7. WASHER  |
| 2. PITCH HOUSING                                | 8. LINK    |
| 3. HUB STRAP                                    | 9. NUT     |
| 4. NUT  | 10. WASHER |
| 5. COTTER PIN                                   | 11. WASHER |
| 6. SCREW  |            |

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SB500N-060

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## Bulletin Completed Record

### Inspection of the Main Rotor Hub Lead-Lag Bolt, PN 369D21220

MD Helicopters, Inc.  
Field Service  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact.html>  
Or contact your Field Service Representative.

Owner/- Operator: _____	Helicopter Serial No: _____
Address: _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____
Phone: _____	Location: _____
E-mail: _____	Serial No. Bolt 1 _____ Bolt 2 _____ Bolt 3 _____ Bolt 4 _____ Bolt 5 _____ Bolt 6 _____

This bulletin is complete: \_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
\_\_\_\_\_

Bolt 1: \_\_\_\_\_  
Bolt 2: \_\_\_\_\_  
Bolt 3: \_\_\_\_\_  
Bolt 4: \_\_\_\_\_  
Bolt 5: \_\_\_\_\_  
Bolt 6: \_\_\_\_\_

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# SERVICE BULLETIN

DATE: 20 NOVEMBER 2019

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## REPLACE THE MHS5861-2R INTERIOR RIGHT-HAND OPEN AND LOCK DECAL

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 369D helicopters  
All 369E helicopters  
All 369FF helicopters  
All 500N helicopters  
All 600N helicopters

#### B. Assembly/Components Affected By This Notice:

MHS5861-2R Interior Right-Hand (RH) Open and Lock Decal

#### C. Reason:

The MHS5861-2R decal is incorrect. The LOCKED text orientation at the bottom of the decal is incorrectly oriented and is supposed to align with a closed and locked handle. Also, the MHS5861-2R is added as an alternate part for Part Number (PN) 600N6615-26 in the 600N Model.

Failure to comply with this bulletin can cause the door to be incorrectly locked.

#### D. Description:

Procedures in this bulletin give owners and operators information to replace the MHS5861-2R decal with a MHS5861-83R decal for the 369D, 369E, 369FF, and 500N, and as an alternate decal for the 600N models.

#### E. Time of Compliance:

The instructions in this bulletin must be completed at the next scheduled inspection or access.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA approved.

#### G. Manpower:

Compliance with this bulletin will be approximately 0.25 man-hours.

#### H. Interchangeability:

None.

#### I. Points of Contact:

For further assistance, contact MDHI Field Service at:  
<https://www.mdhelicopters.com/contact.html>

#### J. Material and Part Availability:

Contact MDHI Spare Sales for parts availability at:  
<https://www.mdhelicopters.com/contact.html>

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Ref. CSP-HMI-2, Section 91-00-00, Table 1, for the item numbers of the consumable materials (CM) in the Nomenclature column, and Table 2, for the manufacture/supplier (MS) numbers in the Source column.

REPLACEMENT PARTS AND SUPPLIES			
Nomenclature (Item)	Part No.	Qty.	Source
Interior RH Open and Lock Decal	MHS5861-83R	2	MDHI (MS50)
Cleaning Solvent (CM219)	Methyl-Isobutyl-Ketone	AR	MS28

## **K. Warranty Policy:**

Contact MDHI Warranty for prices, orders, and availability at:  
<https://www.mdhelicopters.com/contact.html> or <https://www.mymd.aero/>.

Standard warranty policy applies.

The hours in Manpower (ref. Paragraph G.) are an estimate, and are not reimbursable, unless specified in the Warranty Policy.

## **L. Disposition of Parts Removed:**

Scrap removed decals and all decals in spares inventory.

## **M. Tooling:**

N/A

## **N. Weight and Balance:**

N/A

## **O. Electrical Load Data:**

N/A

## **P. Other Publications Affected:**

CSP-HMI-2 Basic Handbook of Maintenance Instructions — Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

## **Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-HMI-2 Basic Handbook of Maintenance Instructions — Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

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## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

**NOTE:** It is not necessary to remove a 600N6615-26 decal on a 600N if it is readable and in good condition.

### A. Remove the MHS5861-2R Decal

(1). Clean the decal and the adjacent area.

(a). Use soap and water for light cleanup.

#### **WARNING**

**Use the correct personal protection. CM219 cleaning solvent is flammable, can cause serious eye irritation, is an inhalation hazard and can cause respiratory irritation.**

(b). Use CM219 cleaning solvent for heavy cleanup.

(c). Make sure the area is free from unwanted material that can have an effect on the adhesive.

(2). Remove the decal with a cloth moistened with CM219 cleaning solvent.

#### **CAUTION**

Do not use a sharp edge (for example, a razor blade or box cutter). Damage to the paint can occur.

(3). Carefully remove the decal and peel it away from the surface with a plastic scraper.

(4). Clean the decal removal area again (ref. Step (1)).

(5). Let the area fully dry.

### B. Install the MHS5861-83R Decal

(1). Remove the backing from the decal.

(2). Put the decal in position with only one edge in contact with the surface.

(a). Install the decal.

(b). Roll out all wrinkles and air bubbles.

### C. Compliance Record

(1). Record compliance to this Service Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) of the Rotorcraft Log Book CSP-RLB.

(2). Show compliance with this Service Bulletin by one of these methods:

(a). Complete a Service Operation Report (SOR) at <https://www.mynd.aero/dashboard>.

(b). Put an entry in your <https://www.mynd.aero/> account.

(c). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your MDHI Field Service Representative.

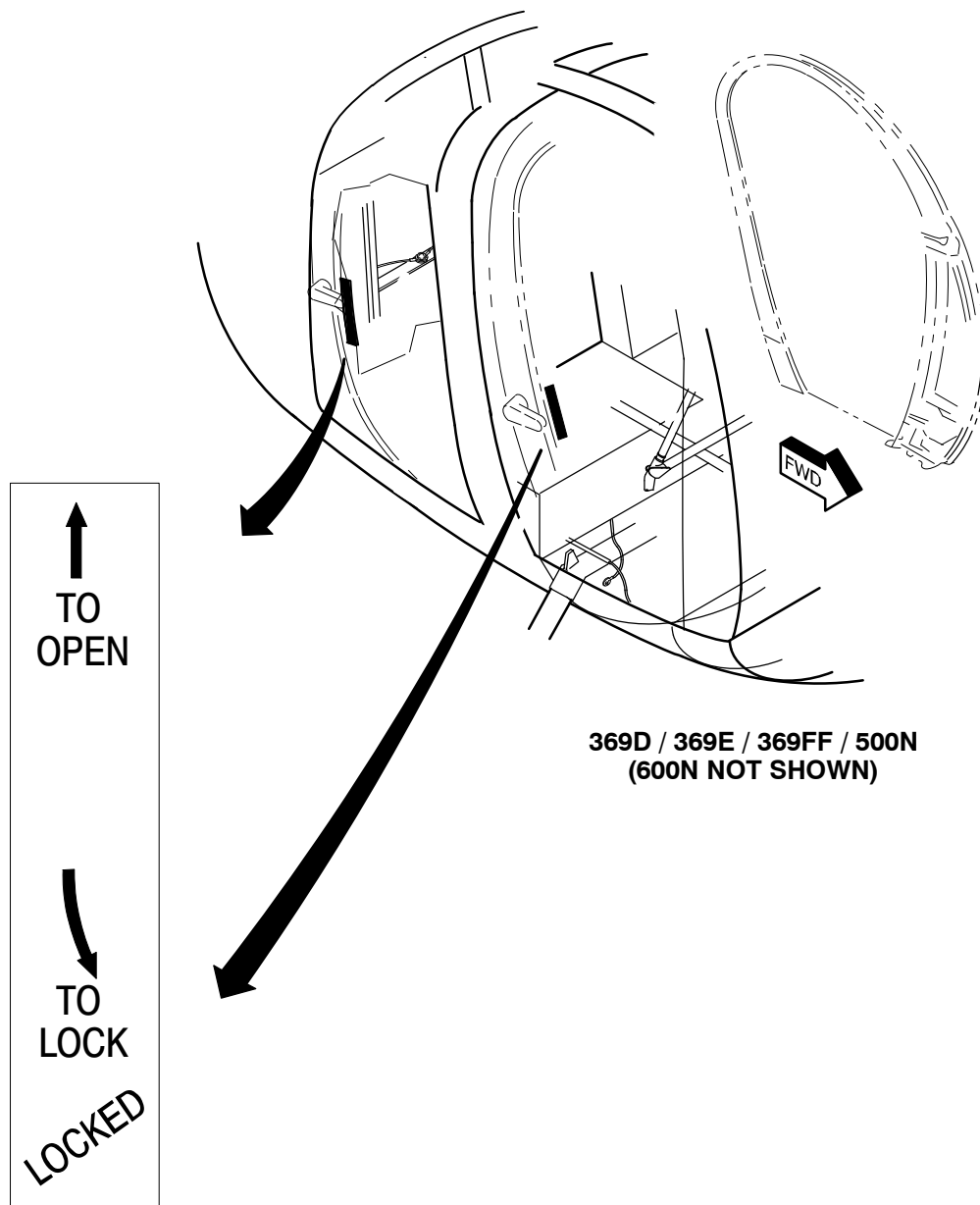
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MHS5861-83R

SB88-646

**Figure 1. Removal and Installation of the Interior RH Open and Lock Decal**

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## Bulletin Completed Record

**Replace the MHS5861-2R Interior Right-Hand Open and Lock Decal**

MD Helicopters, Inc.  
Field Service  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact.html>  
Or contact your Field Service Representative.

Owner/- Operator: _____	Helicopter Serial No: _____
Address: _____ _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____  Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete: \_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
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SB369E-123  
SB500N-061

SB369D-224  
SB369F-111  
SB600N-074



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## ONE-TIME INSPECTION OF THE DRIVE SYSTEM INSTALLATION WITH KAMATIC COUPLINGS

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 369HS, 369HE, and 369HM helicopters with Kamatics drive shaft coupling  
All 369D helicopters with Kamatics drive shaft coupling  
All 369E helicopters with Kamatics drive shaft coupling  
All 369FF helicopters with Kamatics drive shaft coupling  
All 500N helicopters with Kamatics drive shaft coupling  
All 600N helicopters with Kamatics drive shaft coupling

#### B. Components Affected By This Notice:

NAS6604-5 Long-Thread Tension Bolt  
369D25501-9 Tail Rotor Drive Shaft Coupling

#### C. Reason:

Incorrect bolts, Part No. (PN) NAS6604-5 were installed during the drive system installation for helicopters with Kamatic couplings, PN 369D25501-9. The bolt is too long and can touch the coupling. The correct bolt is PN NAS6204-5.

Failure to comply with this bulletin can cause damage to the Kamatic tail rotor drive shaft couplings.

#### D. Description:

Procedures in this bulletin give owners and operators information to do an inspection for NAS6604-5 bolts and to replace them with NAS6204-5 bolts.

#### E. Time of Compliance:

The instructions in this bulletin must be completed within the next 10 flight hours after you get this bulletin, and no later than 31 August 2019.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA-approved.

#### G. Manpower:

Compliance with this bulletin will be approximately one (1) man-hour.

#### H. Interchangeability:

None.

#### I. Points of Contact:

For further assistance, contact MDHI Field Service at:  
<https://www.mdhelicopters.com/contact.html>

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## J. Material/Part Availability:

Contact MDHI Spare Sales for parts availability at:

<https://www.mdhelicopters.com/contact.html>

Ref. CSP-HMI-2, Section 91-00-00, Table 1, for the item numbers of the consumable materials in the Nomenclature column, and Table 2, for the manufacture/supplier numbers in the Source column.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Bolt, Short-Thread Close Tolerance Tension	NAS6204-5	6	MDHI (MS50)
Coupling, Tail Rotor Drive Shaft (Kamatic)	369D25501-9	AR	MDHI (MS50)

## K. Warranty Policy:

Contact MDHI Warranty for prices, orders, availability, and service at:

<https://www.mdhelicopters.com/contact.html> or <https://www.mymd.aero/dashboard> or <https://www.mymd.aero/>.

Standard warranty policy applies.

The hours in Manpower (ref. Paragraph G.) are an estimate, and are not reimbursable, unless specified in the Warranty Policy.

Owners and operators who fail to comply with the instructions of this bulletin before 31 August 2019 are not eligible for the warranty.

Additional discrepancies found over and above the specified warranty coverage is the responsibility of the customer.

## L. Disposition of Parts Removed:

Return to an authorized service center or MDHI all removed 369D25501-9 couplings with a completed Service Operation Report (SOR).

## M. Tooling:

Contact MDHI Spares Sales for parts availability at:

<https://www.mdhelicopters.com/contact.html>.

TOOLS AND EQUIPMENT	
Nomenclature (Item)	Source (Manufacturer / Supplier)
396A9983 Torque Wrench Adapter	MD Helicopters, Inc. (MS50)

## N. Weight and Balance:

N/A

## O. Electrical Load Data:

N/A



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## **P. Other Publications Affected:**

N/A

## **Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-H-2 Basic Handbook of Maintenance Instruction (ref. Chapter 9, Procedure 10)

CSP-HMI-2 Basic Handbook of Maintenance Instructions — Servicing and Maintenance (ref. 63-10-00, Inspection and Check, Procedure 8, Repair, Procedure 9; 63-15-10, Removal and Installation, Procedure 2, and Inspection and Check, Procedure 1; and 63-15-30, Maintenance Practices, procedures 2 and 5)

CSP-IPC-4 Illustrated Parts Catalog (ref. 63-00-00, figures 1 and 2; 63-00-50, Figure 2; and 63-00-60, Figure 1).

## **2. ACCOMPLISHMENT INSTRUCTIONS**

### **A. 369HE/369HM/369HS/369D/369E/369FF – Examine the Drive Shaft Connections**

(Ref. Figure 1)

- (1). Examine the bolt installation at the interface between the drive shaft and the drive shaft coupling at the main transmission.
  - (a). Examine the bolts to make sure the bolts are not NAS6604-5 bolts.
  - (b). The threaded end of the bolts must not touch the drive shaft coupling.
  - (c). If the bolts are not NAS6204-5 bolts, or touch the drive shaft coupling, remove the bolts.
    - 1). Examine the drive shaft coupling for gouges, wear, and other damage (ref. Procedure 2.C.).
  - (d). Replace removed bolts and washers with the correct bolts (NAS6204-5) and washers (NAS620C416L).
    - 1). Torque bolts **80 to 100 inch-pounds (9.04 to 11.30 Nm) plus drag torque.**
    - 2). Apply torque stripes to the bolts.
- (2). Examine the bolt installation at the interface between the drive shaft and the drive shaft coupling at the tail rotor gearbox.
  - (a). Examine the bolts to make sure the bolts are not NAS6604-5 bolts.
  - (b). The threaded end of the bolts must not touch the drive shaft coupling.
  - (c). If the bolts are not NAS6204-5 bolts, or touch the drive shaft coupling, remove the bolts.
    - 1). Examine the drive shaft coupling for gouges, wear, and other damage (ref. Procedure 2.C.).
  - (d). Replace removed bolts and washers with the correct bolts (NAS6204-5) and washers (NAS620C416L).
    - 1). Torque bolts **80 to 100 inch-pounds (9.04 to 11.30 Nm) plus drag torque.**
    - 2). Apply torque stripes to the bolts.

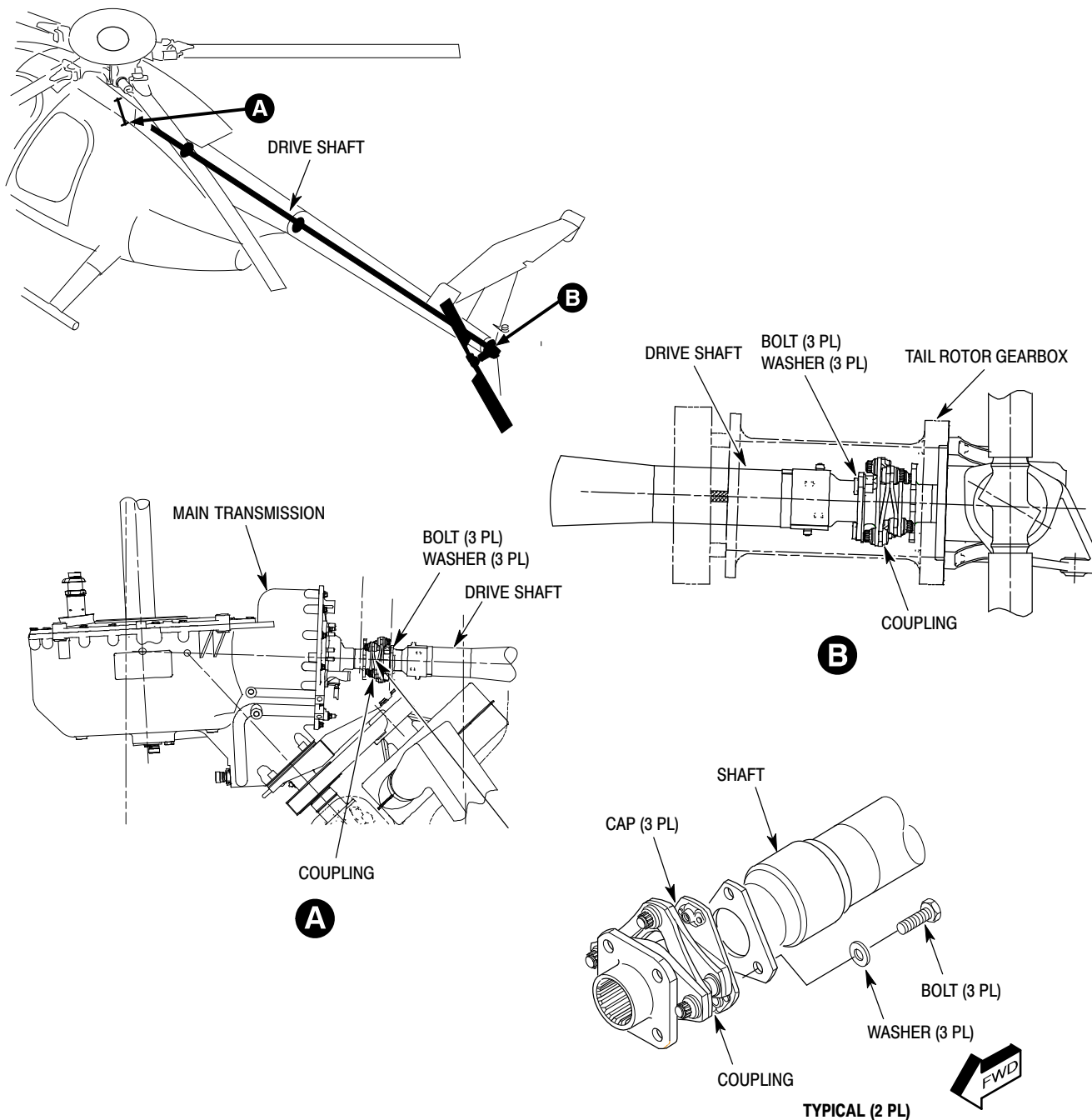
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G63-1012A

**Figure 1. 369D/369E/369FF – Inspection of the Drive Shaft Installation**

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## **B. 500N/600N – Examine the Drive Shaft Connections**

(Ref. Figure 2 and Figure 3)

- (1). Examine the bolt installation at the interface between the drive shaft and the drive shaft couplings at the main transmission.
  - (a). Examine the bolts to make sure the bolts are not NAS6604-5 bolts.
  - (b). The threaded end of the bolts cannot touch the drive shaft coupling.
  - (c). If the bolts are not NAS6204-5 bolts, or touch the drive shaft coupling, remove the bolts.
    - 1). Examine the drive shaft coupling for gouges, wear, and other damage (ref. Procedure 2.C.).
  - (d). Replace incorrect or removed bolts and washers with the correct bolts (NAS6204-5) and washers (NAS620C416L).
    - 1). Torque bolts **80 to 100 inch-pounds (9.04 to 11.30 Nm) plus drag torque.**
    - 2). Apply torque stripes to the bolts.
- (2). Examine the bolt installation at the interface between the drive shaft and the drive shaft couplings at the NOTAR® transmission.
  - (a). Examine the bolts to make sure the bolts are not NAS6604-5 bolts.
  - (b). The threaded end of the four bolts must not touch the drive shaft coupling.
  - (c). If the bolts are not NAS6204-5 bolts, or touch the drive shaft coupling, remove the bolts.
    - 1). Examine the drive shaft coupling for gouges, wear, and other damage (ref. Procedure 2.C.).
  - (d). Replace removed bolts and washers with the correct bolts (NAS6204-5) and washers (NAS620C416L).
    - 1). Torque bolts **80 to 100 inch-pounds (9.04 to 11.30 Nm) plus drag torque.**
    - 2). Apply torque stripes to the bolts.

## **C. All Models – Examine the Couplings**

**NOTE:** If the coupling can be repaired, ref. 63-10-00, Repair, Procedure 9.

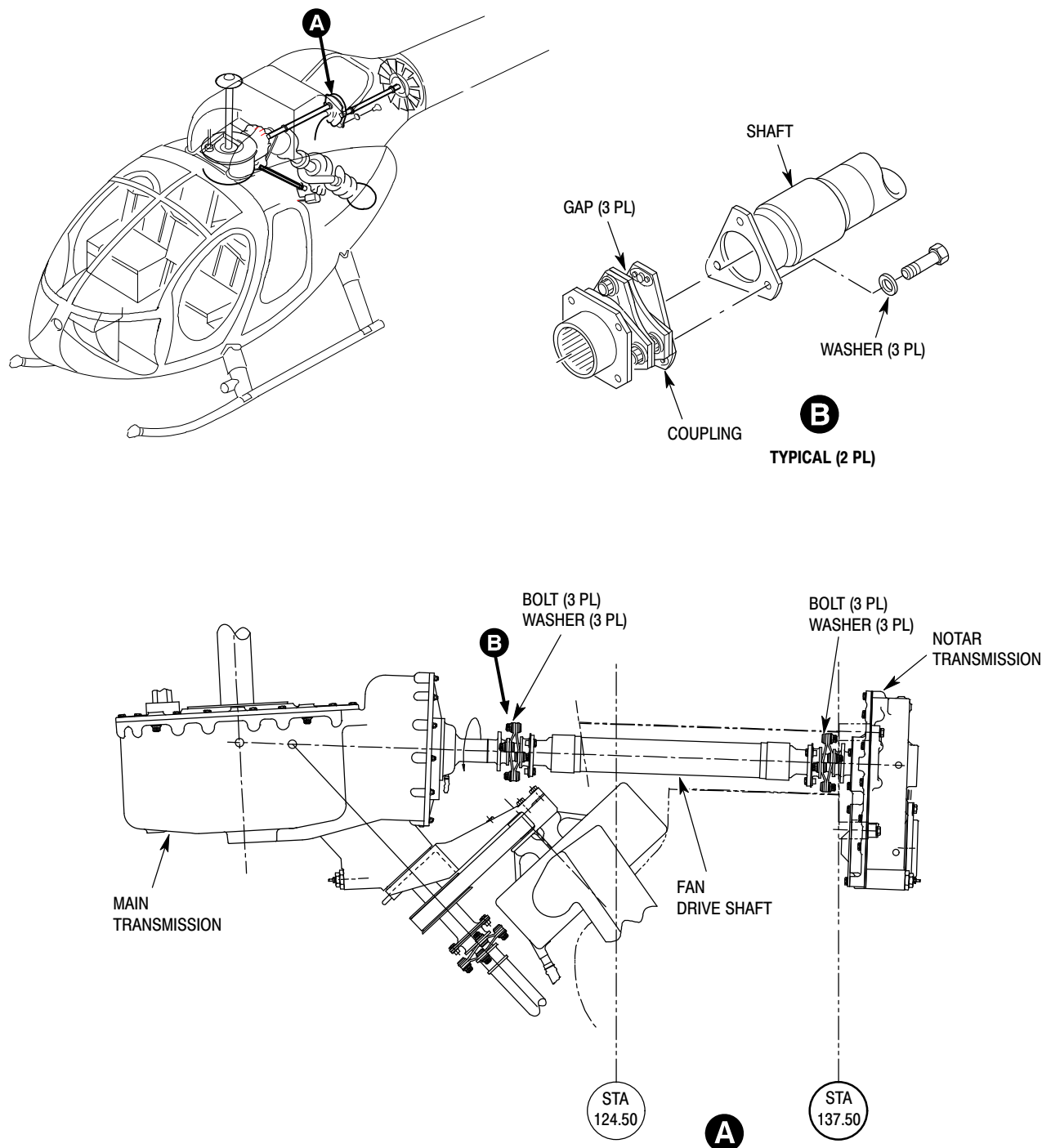
- (1). Examine the flanges for signs of contact.
  - (a). Damage cannot be more than **0.005 inch (0.13 mm) deep** before repair.
  - (b). Replace a coupling with cracks.
  - (c). During installation of new bolts, make sure the shims are calculated correctly.

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P63-0050-1-1C

**Figure 2. 500N – Inspection of the Drive Shaft Installation**

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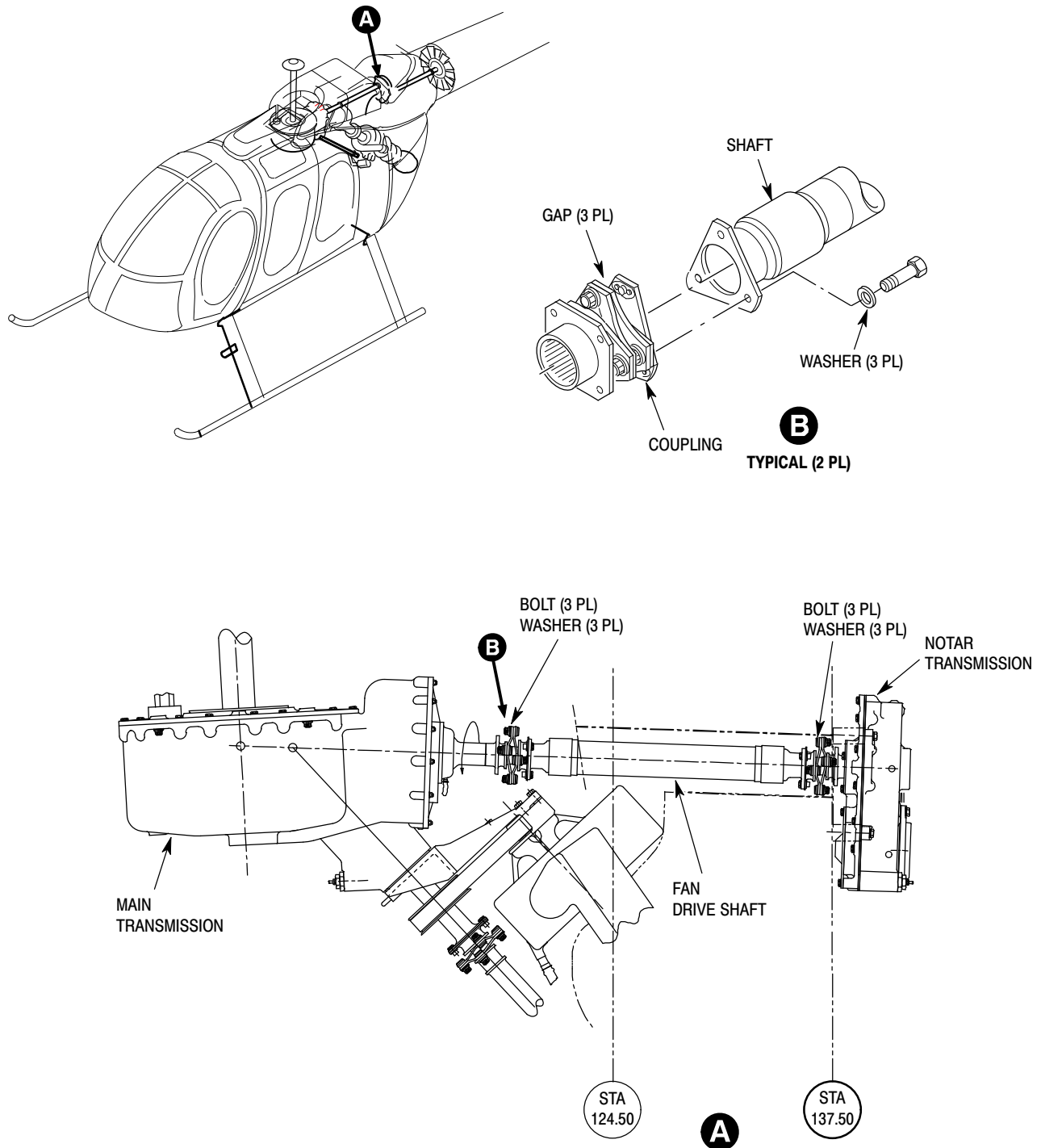
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P63-0060-1-1B

**Figure 3. 600N – Inspection of the Drive Shaft Installation**

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## **D. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) of the Rotorcraft Log Book CSP-RLB.
- (2). Show compliance with this Service Bulletin by one of these methods:
  - (a). Complete a Service Operation Report (SOR) at <https://www.mymd.aero/dashboard>.
  - (b). Put an entry in your <https://www.mymd.aero/> account.
  - (c). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your MDHI Field Service Representative.

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SB369H-260  
SB369E-126  
SB500N-063

SB369D-226  
SB369F-115  
SB600N-076

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## Bulletin Completed Record

### One-Time Inspection of the Drive Train Installation with Kamatic Couplings

MD Helicopters, Inc.  
Field Service Engineering  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact.html>  
Or contact your Field Service Representative.

Owner/ Operator: _____	Helicopter Serial No: _____
Address: _____	Helicopter Total Time: _____
_____	Date Complete: _____
_____	Location: _____
_____	
Phone: _____	
E-mail: _____	

This bulletin is complete: \_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
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## INSTALL COTTER PINS IN THE SEAT-BELT INSTALLATIONS

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 369H, 369HE, 369HS, and 369HM helicopter models  
All 369D helicopters  
All 369E helicopters  
All 369FF helicopters  
All 500N helicopters  
All 600N helicopters

#### B. Installations Affected By This Bulletin:

**NOTE:** Base part numbers (no dash number) include all dash numbers.

M30093 Columbia Contract Equipment Modification  
369A4000 Model 369A Helicopter Equipment Installation  
369A6500 Model 369A Complete Equipment Installation  
369D26521 Equipment Installation  
369D26523 Upholstery and Equipment Installation  
369D290170 Litter Kit Installation  
369D296500 Military Kit Equipment Installation  
369H6500 Equipment Installation (HM)  
396H6502 Commercial Military Seat Belt Installation  
369H6503 Standard and Executive Seat Belt Installation  
369H6521 First and Second Generation 369HS Regular Production Equipment Installation  
369H6530 369HE Equipment Installation  
369H90011 Customer Option Litter Installation  
369H90018 Pilot and Copilot Harness Installation  
369H90035 Customer Option Seating and Belts for Installation  
421-099 Shoulder Harness and Seat Belt Inertia Reel Installation  
600N6500 Interiors and Equipment Installation

#### C. Reason:

This bulletin improves the installation of the seat belts with the installation of cotter pins to prevent the hook-ends from disengagement from the attachment points.

Failure to comply with this bulletin can cause a pilot, copilot, or passenger to fall out of the helicopter in-flight or on the ground.

#### D. Description:

Procedures in this bulletin give owners and operators information to install an MS24665-151 cotter pin in all seat-belt restraint assemblies with a hook-end fitting.

#### E. Time of Compliance:

The instructions in this bulletin must be completed within the next 25 flight-hours after you get this bulletin.

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**F. FAA Approval:**

The technical design aspects of this bulletin are FAA-approved.

**G. Manpower:**

Compliance with this bulletin will be approximately 0.25 man-hours.

**H. Interchangeability:**

None.

**I. Points of Contact:**

For further assistance, contact MDHI Field Service at:

<https://www.mdhelicopters.com/contact.html>

**J. Material/Part Availability:**

Contact MDHI Spare Sales for parts availability at:

<https://www.mdhelicopters.com/contact.html>

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Cotter Pins	MS24665-151	As Necessary	Commercial

**K. Warranty Policy:**

Contact MDHI Warranty for prices, orders, availability, and service at :

<https://www.mdhelicopters.com/contact.html>.

Standard warranty policy applies.

The hours in Manpower (ref. Paragraph G.) are an estimate, and are not reimbursable, unless specified in the Warranty Policy.

**L. Disposition of Parts Removed:**

N/A

**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

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## **P. Other Publications Affected:**

CSP-H-2 Basic Handbook of Maintenance Instructions (Basic HMI)

CSP-H-7 Illustrated Parts Catalog (IPC)

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

## **Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-H-2 Basic Handbook of Maintenance Instructions (Basic HMI)

CSP-H-7 Illustrated Parts Catalog (IPC)

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

## **2. ACCOMPLISHMENT INSTRUCTIONS**

(Ref. Figure 1)

### **A. Install Cotter Pins in the Seat-Belt Hook-End Fittings**

- (1). Open crew and passenger doors to access the attachment point of the seat-belt assemblies.
- (2). Make sure the hook-end fittings of the seat belts are in the closed position.
- (3). Install a cotter pin in the hole in each hook-end fitting in the closed position.
- (4). Close the crew and passenger doors.

### **B. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) of the Rotorcraft Log Book CSP-RLB.
- (2). Show compliance with this Service Bulletin by one of these methods:
  - (a). Complete a Service Operation Report (SOR) at <https://www.mymd.aero/dashboard>.
  - (b). Put an entry in your <https://www.mymd.aero/> account.
  - (c). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your MDHI Field Service Representative.

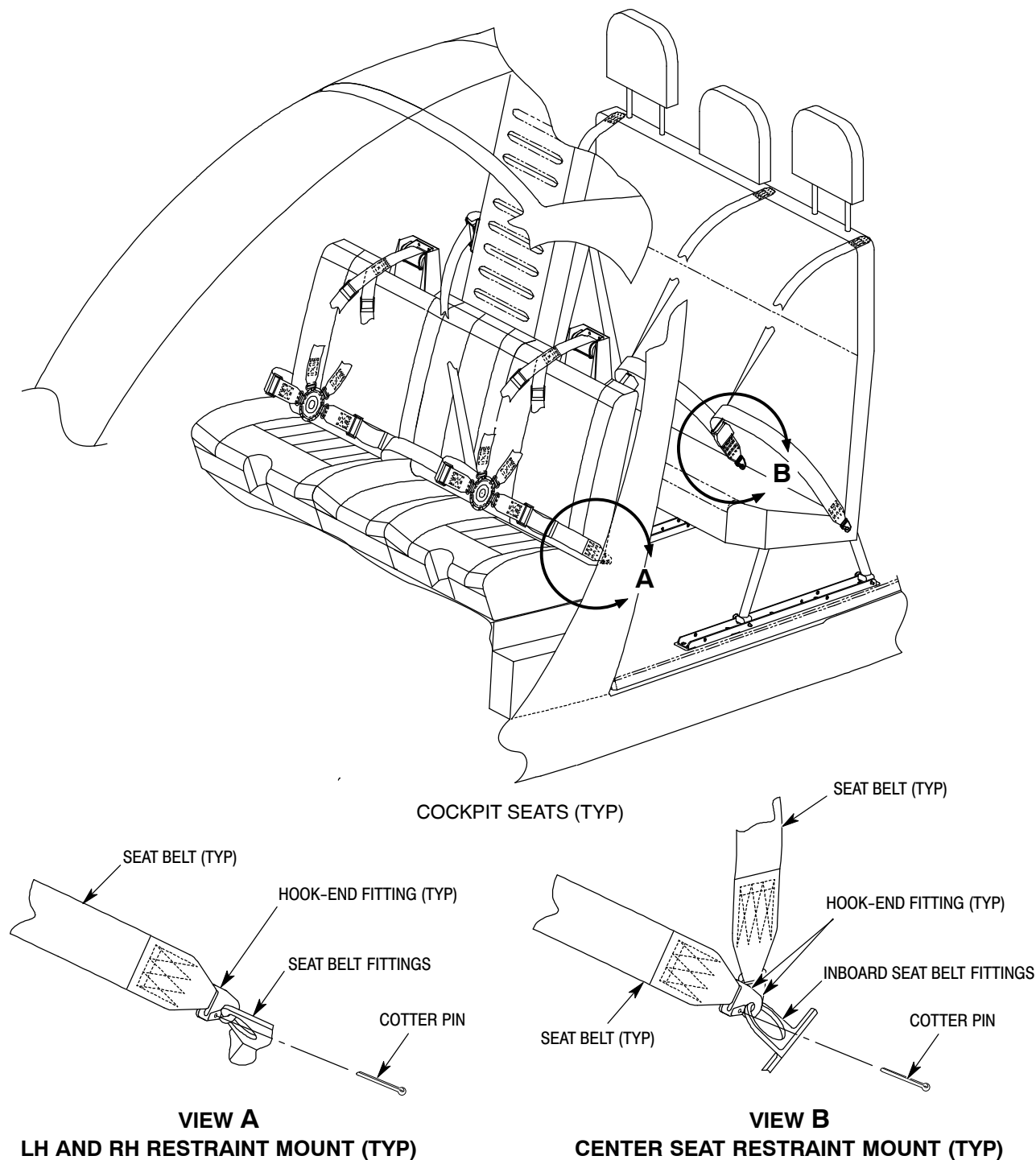
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P63-0061-1

**Figure 1. Installation of a Cotter Pin in a Restraint (Typical)**

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SB369E-127  
SB500N-064

SB369D-227  
SB369F-117  
SB600N-078

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## Bulletin Completed Record

### Install Cotter Pins in the Seat-Belt Installations

MD Helicopters, Inc.  
Field Service  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact.html>  
Or email or speak to your Field Service Representative.

Owner/- Operator: _____	Helicopter Serial No: _____
Address: _____ _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____  Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete: \_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
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SB369E-127  
SB500N-064

SB369D-227  
SB369F-117  
SB600N-078



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\* Supersedes Service Bulletins SB369H-263R1, SB369D-229R1, SB369E-129R1, SB369F-119R1, SB500N-066R1, and SB600N-080R1, dated 15 May 2020. Revised to delete compliance Method 2 and to add a reoccurring 300-hour borescope inspection of the pilot-to-copilot tail rotor torque tube.

\* Helicopters that are in compliance with SB369H-263, SB369D-229, SB369E-129, SB369F-119, SB500N-066, and SB600N-080, dated 30 January 2020, must add a reoccurring 300-hour borescope inspection of the pilot-to-copilot tail rotor torque tube.

\* Helicopters that are in compliance with SB369H-262, SB369D-228, SB369E-128, SB369F-118, SB500N-065, and SB600N-079 must add a 300-hour borescope inspection of the pilot-to-copilot tail rotor torque tube.

## INSPECTION OF THE PILOT-TO-COPILOT TAIL ROTOR TORQUE TUBE

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 369H, 369HE, 369HS, and 369HM helicopters  
All 369D helicopters  
All 369E helicopters  
All 369F/FF helicopters  
All 500N helicopters  
All 600N helicopters

#### B. Assembly/Components Affected By This Notice:

369H7531-9/-11/-13 Pilot-to-Copilot Tail Rotor Torque Tube

#### C. Reason:

MDHI has received a 369H7531 pilot-to-copilot tail rotor torque tube with a significant spiral crack that seems to have originated from a hole where the tail rotor torque tube control fitting attaches to the torque tube. The crack caused reduced directional control pedal authority.

Failure to comply with this bulletin can cause a loss of anti-torque authority and directional control.

#### D. Description:

Procedures in this bulletin give owners and operators information to do a reoccurring inspection of the tail rotor torque tube for cracks and defects.

#### E. Time of Compliance:

For helicopters with 600 flight hours or less: the Accomplishment Instructions (ref. Procedure 2.A.) in this bulletin must be completed during the next 100-hour inspection and every 300-hour inspection thereafter.

For helicopters with more than 600 flight hours: the Accomplishment Instructions (ref. Procedure 2.A.) must be completed after a maximum of 5 hours of flight time. During these 5 flight hours, flights with increased, excessive, or rapid pedal movements must be limited. Perform (ref. Procedure 2.A.) the 300-hour inspection thereafter.

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## F. FAA Approval:

The technical design aspects of this bulletin are FAA-approved.

## G. Manpower:

Compliance with this bulletin will be approximately one (1) man-hour.

## H. Interchangeability:

None.

## I. Points of Contact:

For further assistance, contact MDHI Field Service at:

<https://www.mdhelicopters.com/contact.html>

## J. Material/Part Availability:

Contact MDHI Spare Sales for parts availability at:

<https://www.mdhelicopters.com/contact.html>

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Pilot-to-Copilot Tail Rotor Torque Tube	369H7531-9/-11/-13	1	MDHI

## K. Warranty Policy:

Contact MDHI Warranty for prices, orders, availability, and service at:

<https://www.mdhelicopters.com/contact.html>.

Standard warranty policy applies.

Additional discrepancies found over and above the specified warranty coverage is the responsibility of the customer.

## L. Disposition of Parts Removed:

Return the removed part to an authorized service center or MDHI with a completed Service Operation Report (SOR).

Fill out a Service and Operations Report (SOR) at <https://www.mymd.aero/dashboard> (select the **SUPPORT** dropdown menu, and then select **New SOR**).

## M. Tooling:

Contact MDHI Spares Sales for parts availability at:

<https://www.mdhelicopters.com/contact.html>.

TOOLS AND EQUIPMENT	
Nomenclature (Item)	Source (Manufacturer / Supplier)
Borescope	Commercially Available

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**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

N/A

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

Civil Aviation Authority of New Zealand Continuing Airworthiness Notice (CAN) 27-014

CSP-H-2 Basic Handbook of Maintenance Instructions

CSP-H-7 Illustrated Parts Catalog

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

## 2. ACCOMPLISHMENT INSTRUCTIONS

**NOTE:** The left-hand command installation is shown. The procedures for the right-hand command are the same.

**A. Borescope Inspection of the Pilot-to-Copilot Tail Rotor Torque Tube**

(Ref. Figure 1)

- (1). Get access to the inspection area, as necessary.
- (2). Examine the exterior of torque tube (1) with a bright light and a mirror for cracks, elongation, and other damage.

**NOTE:** Remove panels and components as necessary to get access. (Ref. CSP-HMI-2)

- (3). Examine the interior of torque tube (1) with a borescope for cracks, elongation, and other damage.
  - (a). Fully examine the area around the interface of torque tube (1) and bushing segments (4).
  - (b). Replace a torque tube with cracks, elongation, or damage. (Ref. CSP-HMI-2, 67-20-10, Removal / Installation, procedures 5. or 6.)
- (4). Examine the tail rotor torque tube interior with a borescope at every 300-hour inspection.

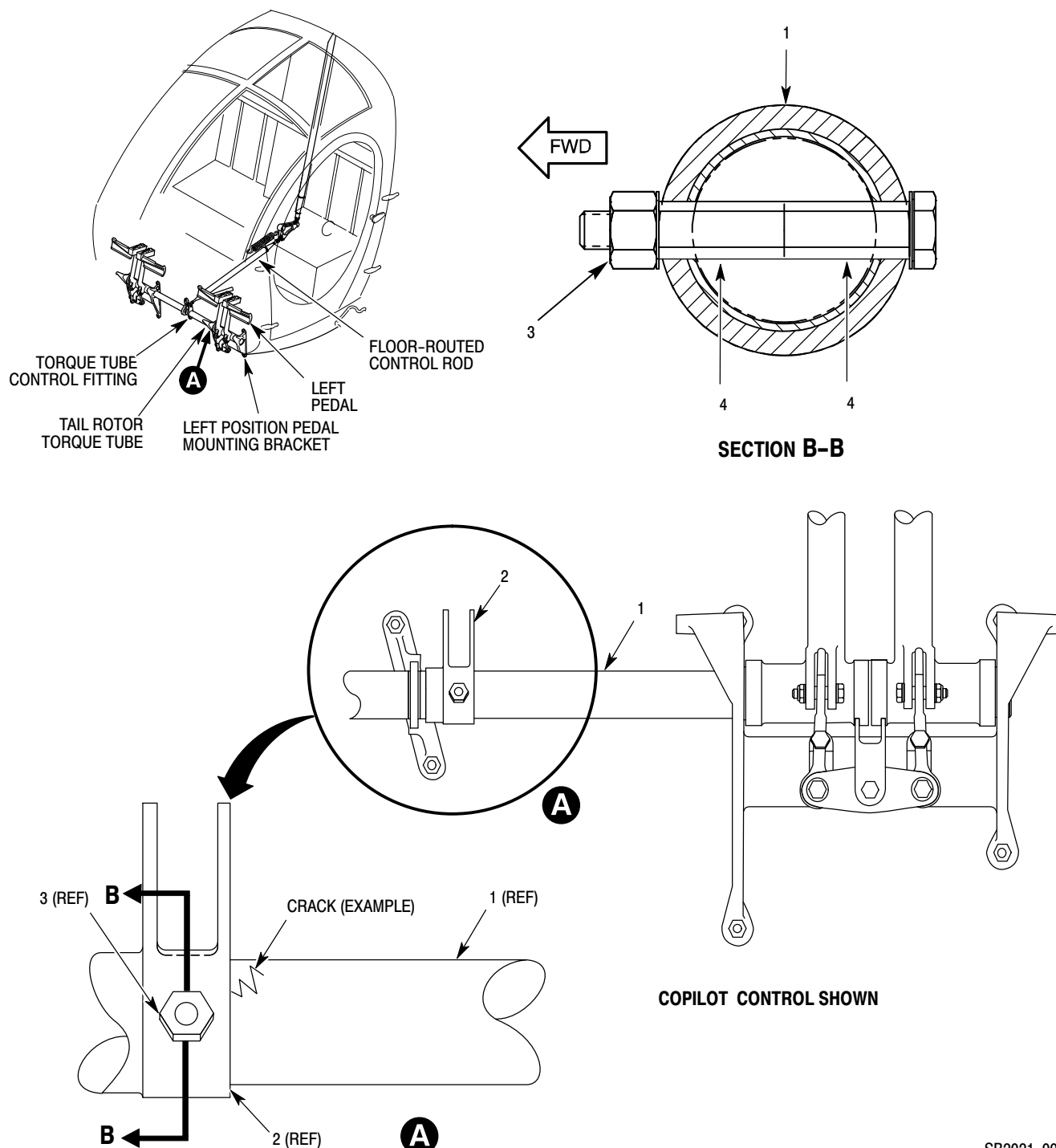
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SB2021-001

**Figure 1. Borescope Inspection of the Torque Tube**

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## Legend (Ref. Figure 1)

- |   |                    |
|---|--------------------|
| 1. TORQUE TUBE, PILOT-TO-COPILOT TAIL ROTOR | 3. NUT             |
| 2. CONTROL FITTING, TAIL ROTOR TORQUE TUBE  | 4. BUSHING SEGMENT |

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### C. Compliance Record

- (1). Record compliance to this Service Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) of the Rotorcraft Log Book CSP-RLB.
- (2). Show compliance with this Service Bulletin by one of these methods:
  - (a). Complete a Service Operation Report (SOR) at <https://www.mymd.aero/dashboard>.
  - (b). Put an entry in your <https://www.mymd.aero/> account.
  - (c). Return the Pilot-to-Copilot Tail Rotor Torque Tube to MDHI. (Ref. Procedure 1.L., Disposition of Parts Removed)
  - (d). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your MDHI Field Service Representative.

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## Bulletin Completed Record

### Inspection of the Pilot-to-Copilot Tail Rotor Torque Tube

MD Helicopters, Inc.  
Field Service  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact.html>  
Or contact your Field Service Representative.

Owner/- Operator: _____	Helicopter Serial No.: _____
Address: _____ _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____  Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete: \_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
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# SERVICE BULLETIN

DATE: 26 MAY 2023

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**MANDATORY**

\* Supersedes Service Bulletins SB369H-264, SB369D-230, SB369E-130, SB369F-121, SB500N-067, dated 16 December 2022. Revised to update Planning Information, 1.E., Accomplishment Instructions, 2.A.3. for additional inspection requirements, and Figure 1.

## INSPECTION OF THE MAIN TRANSMISSION DRIVE SHAFT COUPLINGS

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 369H helicopters  
All 369D helicopters  
All 369E helicopters  
All 369F/FF helicopters  
All 500N helicopters

#### B. Assembly/Components Affected By This Notice:

369H5660 Main Transmission Drive Shaft Coupling, Serial Numbers (SN) **8564-0001 thru 8564-0308**

#### C. Reason:

MD Helicopters has found 369H5660 couplings that have mechanical damage to the root fillets, spline faces, and the major diameter. One hundred and forty-eight (148) of these couplings were delivered to operators between 3 June 2020 and 1 May 2022. This coupling is used on helicopters with a 369A5100 or 369D25100 main transmission assembly, or a 369A5350 overrunning clutch.

Failure to comply with this bulletin can result in an emergency autorotational landing.

#### D. Description:

Procedures in this bulletin give owners and operators information to do an inspection of the couplings. Discrepant couplings must be removed from service.

#### E. Time of Compliance:

The Accomplishment Instructions (ref. Procedure 2.A.) in this bulletin must be completed within 50 flight hours or 6 months, whichever occurs first.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA-approved.

#### G. Manpower:

Compliance with this bulletin will be approximately one to three (1 to 3) man-hour(s): 1 hour to do the inspection, and if necessary, 2 hours to replace the coupling(s).

#### H. Interchangeability:

None.

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## I. Points of Contact:

For further assistance, contact MD Helicopter Field Service at:

<https://www.mdhelicopters.com/contact.html>

## J. Material/Part Availability:

Contact MD Helicopters Spare Sales for parts availability at:

<https://www.mdhelicopters.com/contact.html>

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Main Transmission Drive Shaft Coupling	369H5660	2	MD Helicopters

## K. Warranty Policy:

Contact MD Helicopters Warranty for prices, orders, availability, and service at:

<https://www.mdhelicopters.com/contact.html>.

MD Helicopters Warranty will give the coupling at no cost to the operator. MD Helicopters will also give to authorized Service Centers one (1) hour of labor warranty (spares credit) for Part A, and two (2) hours for Part B, of this bulletin.

## L. Disposition of Parts Removed:

Return the removed part to an authorized service center or MD Helicopters with a completed Service Operation Report (SOR).

Fill out a Service and Operations Report (SOR) at <https://www.mymd.aero/dashboard> (select the **SUPPORT** dropdown menu, and then select **New SOR**); or complete the the attached Bulletin Completed Record form filled out and signed, and return with the coupling(s).

## M. Tooling:

N/A

## N. Weight and Balance:

N/A

## O. Electrical Load Data:

N/A

## P. Other Publications Affected:

N/A

## Q. Reference Publications:

Ref. the latest revision of these publications for procedures and additional information:

CSP-RLB Rotorcraft Log Book

CSP-H-2 Basic Handbook of Maintenance Instructions

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CSP-H-7 Illustrated Parts Catalog

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Inspection of the Drive Shaft Couplings

- (1). Get access to the inspection area, as necessary. (Ref. CSP-H-2, Section 2, or CSP-HMI-2, 63-10-00)
- (2). Remove the main transmission drive shaft and drive shaft couplings. (Ref. CSP-H-2, Section 9, or CSP-HMI-2, 63-10-00)
- (3). Examine the drive shaft couplings with a bright light and 10X magnification glass for mechanical damage or cracks to the splines. (Ref. Figure 1 and Figure 2)
  - (a). Replace drive shaft couplings with cracks.

**NOTE:** A coupling with only mechanical damage can be kept in service for an additional 300 flight hours after completing the visual inspection. (Ref. Figure 2)

- (b). The coupling must be replaced after the additional 300 flight hours.

### B. Replacement of the Drive Shaft Couplings

- (1). Install the drive shaft coupling(s). (Ref. CSP-H-2, Section 9, or CSP-HMI-2, 63-10-00)
- (2). Install the main transmission drive shaft. (Ref. CSP-H-2, Section 9, or CSP-HMI-2, 63-10-00)

### C. Job Close-Up

- (1). Make sure that all tools, equipment, and loose objects are removed from the work area.
- (2). Make sure that the work area is clean.
- (3). Install removed access panels. (Ref. CSP-H-2, Section 2, or CSP-HMI-2, 63-10-00, as necessary)

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**NOTE:** THE APPEARANCE OF TOOL MARKS DUE TO THE BROACHING PROCESS MAY BE PRESENT IN THE SPLINE AREA. THESE MARKS ARE COSMETIC ONLY AND NOT GROUNDS FOR REJECTION OF THE COUPLING.

**Figure 1. Sample Image of Acceptable Splines**

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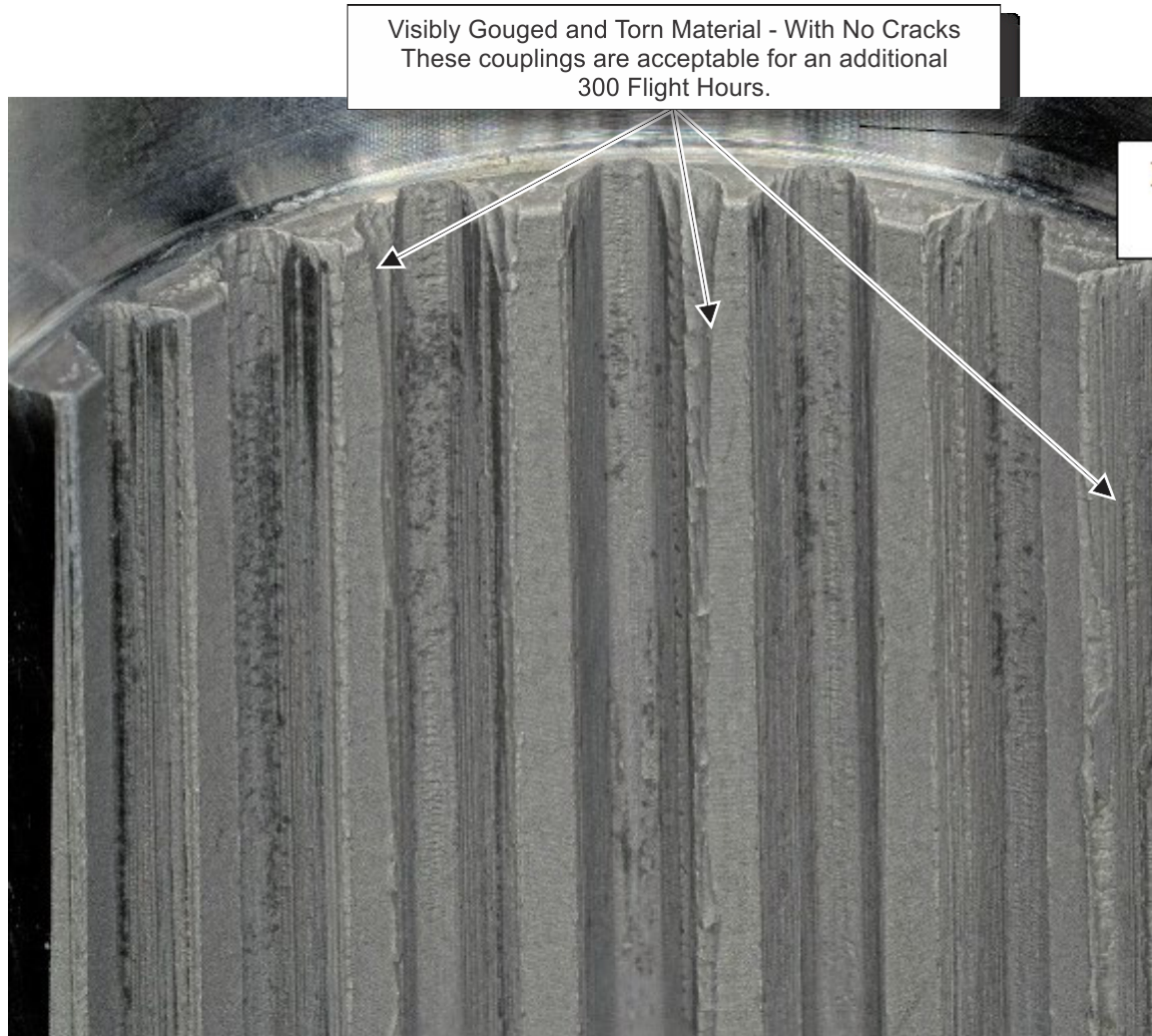


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**NOTE:** COUPLINGS THAT HAVE NO CRACKS, BUT HAVE GOUGING OR TORN MATERIAL, ARE ACCEPTABLE FOR AN ADDITIONAL 300 FLIGHT HOURS. THEY MUST BE REPLACED AFTER 300 FLIGHT HOURS.

**Figure 2. Sample Image of Mechanically Damaged Splines**

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## **D. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) of the Rotorcraft Log Book CSP-RLB.
- (2). Show compliance with this Service Bulletin by one of these methods:
  - (a). Complete a Service Operation Report (SOR) at <https://www.mymd.aero/dashboard>.
  - (b). Put an entry in your <https://www.mymd.aero/> account.
  - (c). Return the drive shaft coupling(s) to MD Helicopters. (Ref. Procedure 1.L., Disposition of Parts Removed)
  - (d). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your MD Helicopters Field Service Representative.

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SB500N-067R1

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## Bulletin Completed Record

### Inspection of the Main Transmission Drive Shaft Coupling

MD Helicopters, LLC  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact.html>  
Or contact your Field Service Representative.

Owner/- Operator: _____	Helicopter Serial No.: _____
Address: _____ _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____  Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete:

\_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
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\* Supersedes Service Bulletin SB369H-243R1, SB369D-231R1, SB369E-131R1, SB369F-122R1, SB500N-068R1, and SB600N-082R1, dated 28 June 2023. Revised to correct 369H bulletin number. SB369H-243 is changed to SB369H-265.

### 369A7505-7/-8/-14/-15 TAIL ROTOR PEDALS SUPPORT BRACKET INSPECTION

#### 1. PLANNING INFORMATION

##### A. Aircraft Affected:

All 369H, 369D, 369E, 369F, 500N, and 600N helicopter models.

##### B. Assembly/Components Affected By This Notice:

369A7505-7/-8/-14/-15 Tail Rotor Pedals Support Bracket

##### C. Reason:

There have been reports that the use of the pedals as leverage can cause cracks in the magnesium tail rotor pedals support bracket assembly.

Failure to comply with this bulletin can cause a loss of anti-torque authority and directional control.

##### D. Description:

Procedures in this bulletin give owners and operators information to do a recurring inspection of the magnesium tail rotor pedals support bracket assembly for cracks and corrosion.

##### E. Time of Compliance:

The visual inspection in this bulletin must be completed within the next 25 flight hours and every 100-hour and annual inspection thereafter.

The nondestructive inspection in this bulletin must be completed within the next 50 flight hours and every 300-hours thereafter for magnesium tail rotor pedals support bracket assemblies.

##### F. FAA Approval:

The technical design aspects of this bulletin are FAA-approved.

##### G. Labor Hours:

Compliance with this bulletin will be approximately a half (0.5) man-hour for the visual inspection and two (2) man-hours for the nondestructive inspection.

##### H. Interchangeability:

None.

##### I. Points of Contact:

For further assistance, contact Field Service at:

<https://www.mdhelicopters.com/contact/>

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## J. Material/Part Availability:

Contact Spare Sales for parts availability at:

<https://www.mdhelicopters.com/contact/>

Ref. CSP-HMI-2, Section 91-00-00, Table 1, for the item numbers of the consumable materials in the Nomenclature column.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
LH Tail Rotor Pedals Support Bracket Assembly	369N2640-2	1	MD Helicopters (9D5S6)
RH Tail Rotor Pedals Support Bracket Assembly	369N2640-1	1	MD Helicopters (9D5S6)

## K. Warranty Policy:

Contact Warranty for prices, orders, availability, and service at

<https://www.mdhelicopters.com/contact/>.

Standard warranty policy applies.

Additional discrepancies found over and above the specified warranty coverage is the responsibility of the customer.

## L. Disposition of Parts Removed:

Return to an authorized service center or MD Helicopters with a completed Service and Operation Report (SOR).

## M. Tooling:

N/A

## N. Weight and Balance:

N/A

## O. Electrical Load Data:

N/A

## P. Other Publications Affected:

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

## Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

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### 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

**NOTE:** PN 369A7505-7/-8/-14/-15 is a magnesium bracket assembly. PN 369N2640-1/-2 is an aluminum bracket assembly.

#### **A. Tail Rotor Pedals Support Bracket Visual Inspection**

- (1). Identify the installed LH and RH tail rotor pedals support bracket part number.
  - (a). If the part number is 369A7505-7/-8/-14/-15, go to Step 2.A.(2).
  - (b). If the part number is 369N2640-1/-2, this bulletin is not required.
- (2). Examine the tail rotor pedals support bracket for cracks and corrosion with a 10X magnification glass, mirror, and bright light.

**NOTE:** It is permitted to use a borescope to examine the tail rotor pedals support bracket.

- (a). Carefully examine the lug area for cracks and corrosion.
  - (b). Carefully examine the web area for cracks and corrosion.
  - (c). Carefully examine the bearing seat area for cracks and corrosion.
- (3). If the magnesium bracket is cracked or corroded, replace bracket with the applicable aluminum bracket, PN 369N2640-1/-2. (Ref. CSP-HMI-2, 67-20-10)
- (4). If the magnesium bracket is not cracked or corroded, refinish any exposed areas. (Ref. CSP-HMI-2, 20-40-00)

#### **B. Tail Rotor Pedals Support Bracket Nondestructive Inspection**

- (1). Identify the installed LH and RH tail rotor pedals support bracket part number.
  - (a). If the part number is 369A7505-7/-8/-14/-15, go to Step 2.B.(2).
  - (b). If the part number is 369N2640-1/-2, this bulletin is not required.
- (2). Use one of the following nondestructive inspection methods to examine the tail rotor pedals support brackets for cracks.
  - (a). Do a Fluorescent Penetrant Inspection. (Ref. CSP-HMI-2, 20-90-00)
  - (b). Do an Eddy Current Inspection. (Ref. CSP-HMI-2, 20-90-00)
  - (c). Do a Dye Penetrant Inspection. (Ref. CSP-HMI-2, 20-90-00)
- (3). If the magnesium bracket is cracked or corroded, replace bracket with the applicable aluminum bracket, PN 369N2640-1/-2. (Ref. CSP-HMI-2, 67-20-10)
- (4). If the magnesium bracket is not cracked or corroded, refinish any exposed areas. (Ref. CSP-HMI-2, 20-40-00)

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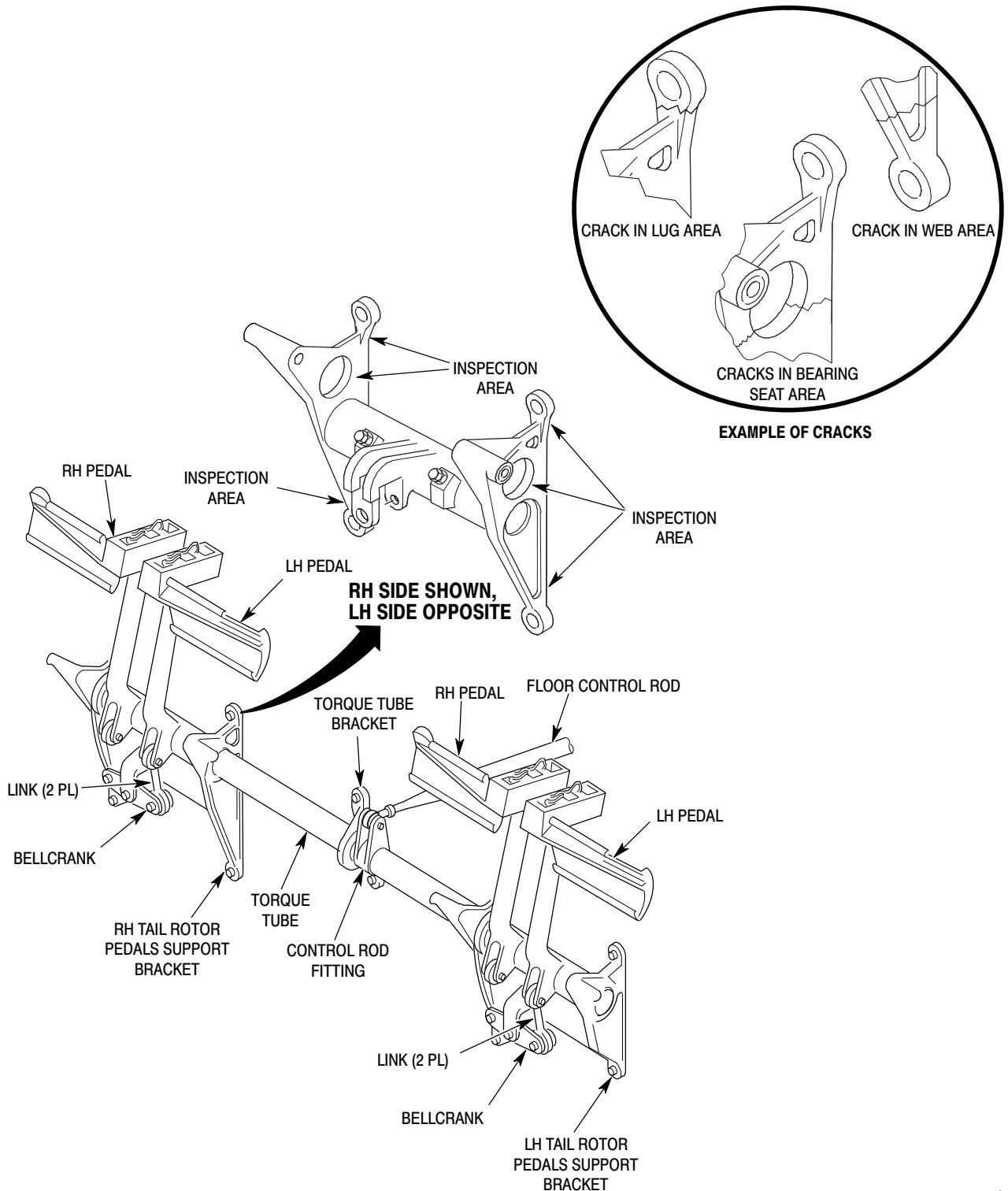


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2021-001A

**Figure 1. Inspection of the Tail Rotor Pedals Support Bracket**

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### C. Job Close-Up

- (1). Make sure that all tools, equipment, and loose objects are removed from the work area.
- (2). Make sure that the work area is clean.

### D. Compliance Record

- (1). Record compliance to this Service Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) of the Rotorcraft Log Book CSP-RLB.
- (2). Show compliance with this Service Bulletin by one of these methods:
  - (a). Complete a Service and Operation Report (SOR) at <https://www.mymd.aero/dashboard>.
  - (b). Put an entry in your <https://www.mymd.aero/> account.
  - (c). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your Field Service Representative.

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SB369E-131R2 SB369F-122R2  
SB500N-068R2 SB600N-082R2



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## Bulletin Completed Record

### 369A7505-7/-8/-14/-15 TAIL ROTOR PEDALS SUPPORT BRACKET INSPECTION

MD Helicopters, LLC  
Field Service  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact/>  
Or contact your Field Service Representative.

Owner/- Operator:	_____	Helicopter Serial No.:	_____
Address:	_____	Helicopter Total Time:	_____
	_____	Date Complete:	_____
	_____	Location:	_____
	_____		
Phone:	_____		
E-mail:	_____		

This bulletin is complete: \_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
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\* Supersedes Service Bulletins SB369D-232, SB369E-132, SB369F-123, SB500N-070, dated 20 July 2023. Added SB600N-081. Revised to update Planning Information, 1.A. and 1.J. for the addition of the 600N part number and revised Accomplishment Instructions.

### INSPECTION OF MAIN ROTOR HUB ASSEMBLIES FOR PITCH HOUSING BOLT INSTALLATION

#### 1. PLANNING INFORMATION

##### A. Aircraft Affected:

369D, 369E, 369FF, 500N, and 600N helicopters with the main rotor hub assemblies shown in Part B.

##### B. Assembly/Components Affected By This Notice:

Main Rotor Hub Assemblies, Serial Numbers: 0011, 0184, 0210, 0275, 0277, 0526, 0587, 0758, 0914, 1123, 1138, 1299, 1431, 1432, 1744, 1812, 1901, 1958, 1990, 002222-2211, 002222-2240, 002222-2247, 002222-2257, 002222-2275, 002222-2310, 002222-2446, 002222-2505, 002222-2517, 002222-2534, 002222-2684, 7604-2683, 009999-0047, 009999-0074 (BSAS), 009999-2296, 009999-2704, 009999-2757, 009999-2761

##### C. Reason:

There have been incidents of observable gaps at the mating surfaces of the pitch housing, bearing housing, and spacer at the top and bottom bolts. This gap occurs beneath the head of the bolts and the mating surface of one or more pitch housings on the main rotor hub assembly. This causes freedom of movement and lets the droop angle to increase more than the permitted maximum angle.

Failure to comply with this bulletin can cause damage to the main rotor hub assembly installation.

##### D. Description:

Procedures in this bulletin give owners and operators information to do an inspection of the main rotor hub assembly for the correct assembly of the pitch housings.

##### E. Time of Compliance:

The instructions in this bulletin must be completed within the next 10 flight hours after you get this bulletin.

##### F. FAA Approval:

The technical design aspects of this bulletin are FAA-approved.

##### G. Labor Hours:

Compliance with this bulletin will be approximately one (1) labor hours.

##### H. Interchangeability:

None.

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**I. Points of Contact:**

For further assistance, contact Field Service at:

<https://www.mdhelicopters.com/contact/>

**J. Material/Part Availability:**

Contact Spare Sales for parts availability at:

<https://www.mdhelicopters.com/contact/>

Ref. CSP- HMI- 2, Section 91- 00- 00, Table 1, for the item numbers of the consumable materials in the Nomenclature column, and Table 2, for the manufacture/supplier numbers in the Source column.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Main Rotor Hub Assembly (5- blade)	369D21200- BSC/- 501/- 503/- 601	1	MD Helicopters (9D5S6)
Main Rotor Hub Assembly (6- blade)	600N1200- 503	1	MD Helicopters (9D5S6)
Lockwire	MS20995C32	AR	Commercial

**K. Warranty Policy:**

Contact Warranty for prices, orders, availability, and service at

<https://www.mdhelicopters.com/contact/>.

Warranty will give the authorized Service Centers up to one (1) hour of warranty labor (spares credit) for the inspection, and up to six (6) hours if the hub need to be removed and sent to MD Helicopters.

**L. Disposition of Parts Removed:**

Return the main rotor hub assembly to an authorized service center or MD Helicopters with a completed Service and Operation Report (SOR).

**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

CSP- RLB Rotorcraft Log Book

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

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CSP-RLB Rotorcraft Log Book

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

### 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

**NOTE:** Figure 1 illustrates a 5-blade main rotor hub. Inspections for the 6-blade main rotor hub are typical for each of the six arms.

#### A. Examine the Main Rotor Hub

- (1). Do the Main Rotor Hub Inspection. (Ref. CSP-HMI-2, Chapter 62)
- (2). Examine the installation of the pitch housings (2) on the main rotor hub (1).
  - (a). If the main rotor hub has zero (0) hours and has never been installed on a helicopter:
    - 1). Do a torque check of nuts (4):
      - a). The nuts (4) torque must be **50 to 70 inch-pounds (67.79 to 94.90 Nm) plus drag torque**. (Ref. CSP-HMI-2, Section 20-10-00)
        1. If the nut torque is good, proceed to Step 2.
      - b). If the nut torque is not between **50 to 70 inch-pounds (67.79 to 94.90 Nm) plus drag torque**, torque nuts (4) to meet the requirement.
        1. Proceed to Step 2.
    - 2). Do a torque check of bolts (6):
      - a). Remove the lockwire.
      - b). The bolts (6) torque must be **50 to 70 inch-pounds (67.79 to 94.90 Nm) plus drag torque**. (Ref. CSP-HMI-2, Section 20-10-00)
        1. If the torque is good, the main rotor hub can be used in the future.
      - c). If the bolt torque is not between **50 to 70 inch-pounds (67.79 to 94.90 Nm) plus drag torque**, torque bolts (6) to meet the requirement.
        1. The main rotor hub can be used in the future.
      - d). Safety bolts (6) with lockwire.
  - (b). If the main rotor hub is installed on a helicopter or has any time on it:
    - 1). Have an assistant lift the end of the main rotor blades for each pitch housing to be level with the root of the main rotor blades.
    - 2). Examine the installation of nuts (4) and bolts (5, 6) in pitch housings (2) and spacers (7).
      - a). There must be no gaps between nuts (4) and/or bolts (5, 6) and pitch housings (2) or spacers (7).
      - b). If there are gaps, remove the main rotor hub assembly and return it to MD Helicopters. (Ref. CSP-HMI-2, Chapter 62)

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SB500N-070R1

SB369D-232R1  
SB369F-123R1  
SB600N-081

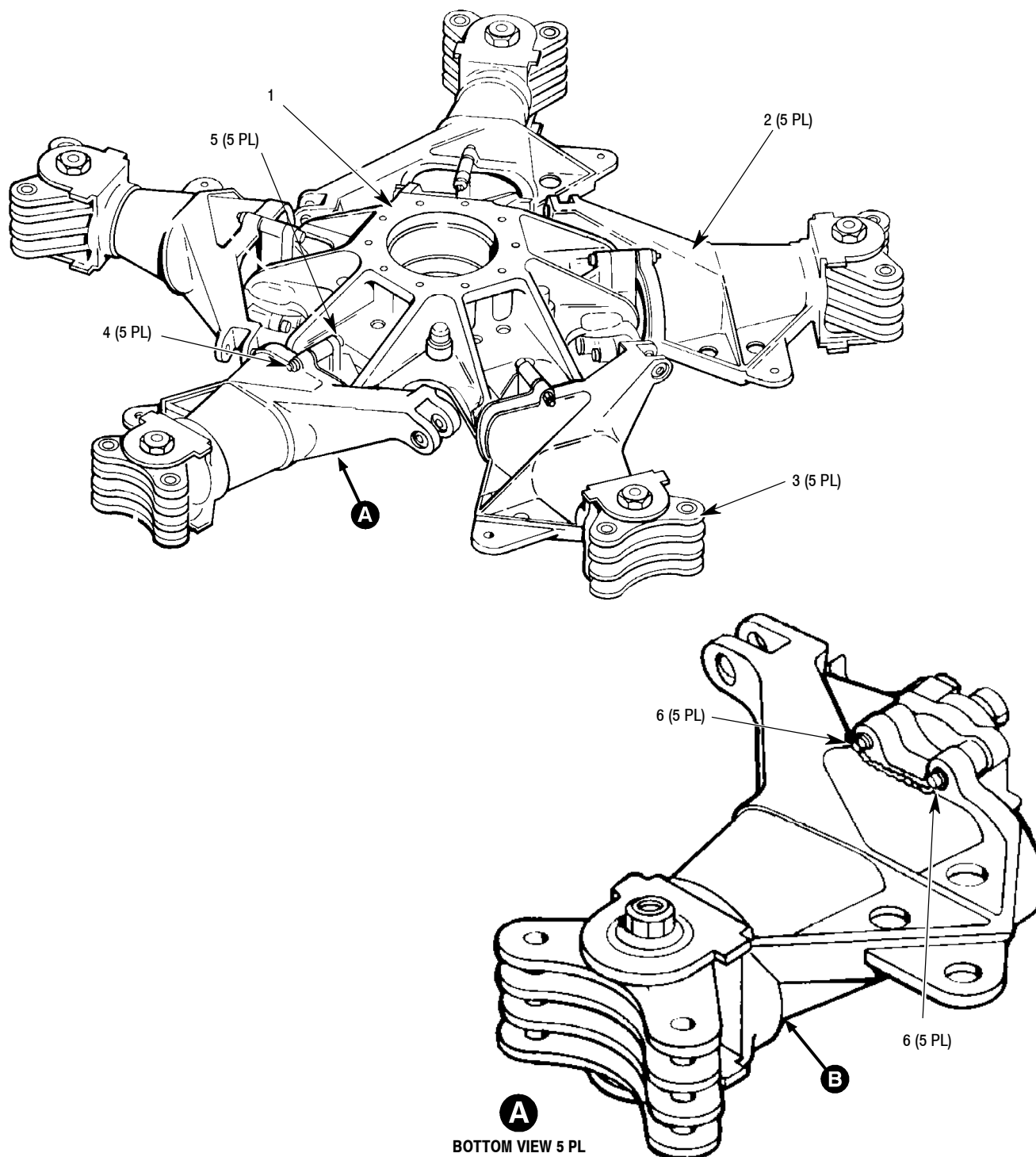
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SB500N-070

**Figure 1. Inspection of the Pitch Housing Installation (Sheet 1 of 2)**

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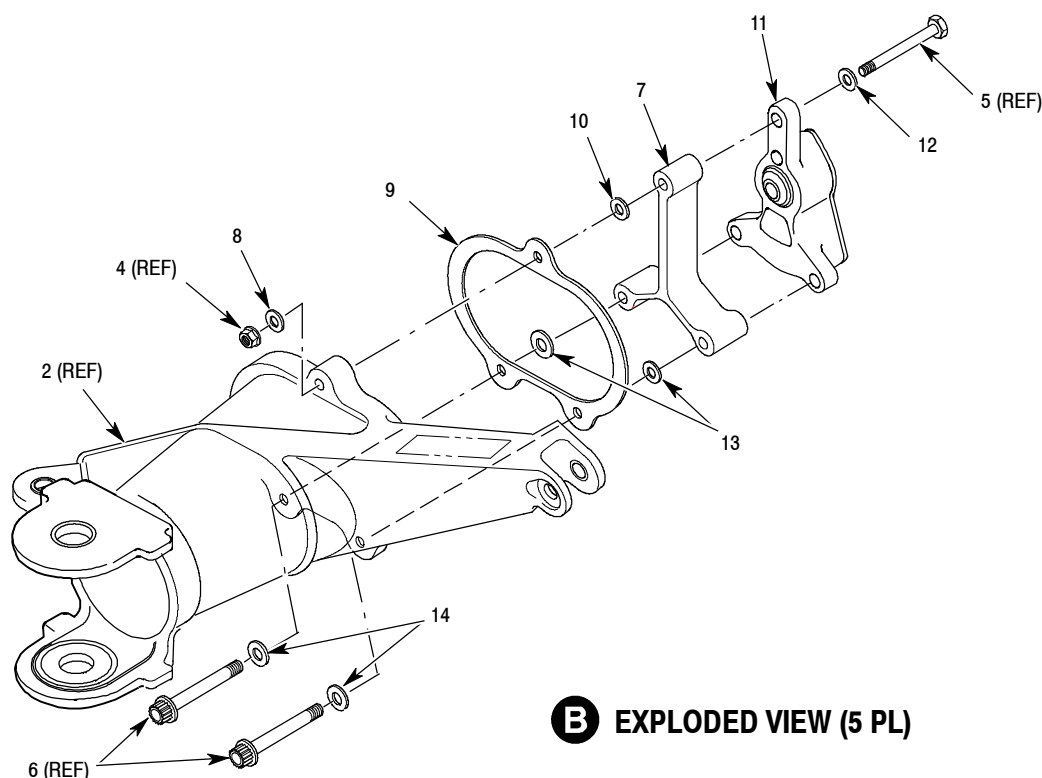
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**B** EXPLODED VIEW (5 PL)

SB500N070-2

- |                        |                          |
|------------------------|--------------------------|
| 1. MAIN ROTOR HUB ASSY | 8. WASHER                |
| 2. PITCH HOUSING       | 9. STRIKER STRIP         |
| 3. LEAD-LAG LINK ASSY  | 10. WASHER               |
| 4. NUT                 | 11. BEARING HOUSING ASSY |
| 5. BOLT                | 12. WASHER               |
| 6. TENSION BOLT        | 13. WASHER               |
| 7. SPACER              | 14. WASHER               |

**Figure 1. Inspection of the Pitch Housing Installation (Sheet 2 of 2)**

- 3). Do a torque check of nuts (4):
  - a). The nuts (4) torque must be **50 to 70 inch-pounds (67.79 to 94.90 Nm) plus drag torque.** (Ref. CSP- HMI- 2, Section 20- 10- 00)
  - b). If the torque is good, proceed to Step 4.
  - c). If one or more nut torque is not between **50 to 70 inch-pounds (67.79 to 94.90 Nm) plus drag torque**, remove the main rotor hub assembly and return it to MD Helicopters. (Ref. CSP- HMI- 2, Chapter 62)
- 4). Do a torque check of bolts (6):
  - a). Remove the lockwire.
  - b). The torque of bolts (6) must be **50 to 70 inch-pounds (67.79 to 94.90 Nm) plus drag torque.** (Ref. CSP- HMI- 2, Section 20- 10- 00)

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- c). If the torque is good, the main rotor hub can stay in service.
  - d). If one or more bolt torque is not between **50 to 70 inch-pounds (67.79 to 94.90 Nm) plus drag torque**, remove the main rotor hub assembly and return it to MD Helicopters. (Ref. CSP-HMI-2, Chapter 62)
  - e). If the torque is good, safety bolts (6) with lockwire.
- (3). Make sure to do the Main Rotor Hub Droop Angle Check at the next 300-Hour Inspection. (Ref. CSP-HMI-2, Chapter 62)

## **B. Job Close-Up**

- (1). If necessary, install a main rotor hub assembly. (Ref. CSP-HMI-2, Chapter 62)
- (2). Make sure that all tools, equipment, and loose objects are removed from the work area.
- (3). Make sure that the work area is clean.
- (4). Install (removed) access doors / panels.

## **C. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record Log. (Ref. CSP-RLB-L8 of the Rotorcraft Log Book CSP-RLB)
- (2). Show compliance with this Service Bulletin by one of these methods:
  - (a). Complete a Service and Operation Report (SOR) at <https://www.mymd.aero/dashboard>.
  - (b). Put an entry in your <https://www.mymd.aero/> account.
  - (c). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your Field Service Representative.

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## Bulletin Completed Record

### INSPECTION OF MAIN ROTOR HUB ASSEMBLIES FOR PITCH HOUSING BOLT INSTALLATION

MD Helicopters, LLC  
Field Service  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact/>  
Or contact your Field Service Representative.

Owner/- Operator: _____	Helicopter Serial No.: _____
Address: _____ _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____  Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete:

\_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
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SB369E-132R1  
SB500N-070R1

SB369D-232R1  
SB369F-123R1  
SB600N-081



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## SERVICE BULLETIN

DATE: 30 JUNE 2023

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\* Supersedes Service Bulletin SB369H-266, SB369D-233, SB369E-133, SB369F-124, dated 21 June 2023. Revised to delete second paragraph from 1.C.

## INSPECTION OF THE TAIL ROTOR DRIVE FORK BOLTS, PN 369A1602-3

### 1. PLANNING INFORMATION

#### A. Aircraft Affected:

All 369H, 369HE, 369HS, and 369HM helicopter models

All 369D helicopters

All 369E helicopters

All 369F/FF helicopters

#### B. Assembly/Components Affected By This Notice:

369A1602-3 Tail Rotor Drive Fork Bolt

#### C. Reason:

Tail rotor drive fork bolts have been found with a gouge caused during its manufacture. The damage was caused by a collet that slipped during the process to drill a cotter pin hole. The damage is a very thin circumferential gouge on the shank about **0.50 inch (12.7 mm)** below the bolt head.

Deleted.

#### D. Description:

Procedures in this bulletin give owners and operators information to examine fork bolts that are installed and in stores for gouges.

#### E. Time of Compliance:

The instructions of this bulletin must be completed at the next 3,450-hour overhaul of the tail rotor assembly.

#### F. FAA Approval:

The technical design aspects of this bulletin are FAA-approved.

#### G. Labor Hours:

Compliance with this bulletin will be approximately one (1) labor hours.

#### H. Interchangeability:

None.

#### I. Points of Contact:

For further assistance, contact Field Service at:

<https://www.mdhelicopters.com/contact.html>

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**SERVICE BULLETIN****/// MANDATORY ////////////////////////////////// MANDATORY ////////////////////////////////// MANDATORY ///****J. Material/Part Availability:**

Contact Spare Sales for parts availability at:

<https://www.mdhelicopters.com/contact.html>

Ref. CSP-HMI-2, Section 91-00-00, Table 2, for the manufacture/supplier numbers in the Source column.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Tail Rotor Drive Fork Bolt(s)	369A1602-3	As Necessary	MD Helicopters, LLC (9D5S6)
Cotter Pin	MS24665-153	1 or 2	Commercially Available

**K. Warranty Policy:**

Contact Warranty for prices, orders, availability, and service at

<https://www.mdhelicopters.com/contact.html>.

MD Helicopters Warranty will give the fork bolt at no cost to the operator, upon receipt of the removed fork bolt.

Additional discrepancies found over and above the specified warranty coverage is the responsibility of the customer.

**L. Disposition of Parts Removed:**

Return to an authorized service center or MD Helicopters rejected installed and spare fork bolt(s) (PN 369A1602-3) with the attached Bulletin Completed Form.

Fill out a Service and Operations Report (SOR) at <https://www.mymd.aero/dashboard> (select the **SUPPORT** dropdown menu, and then select **New SOR**).**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

N/A

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-H-2 Basic Handbook of Maintenance Instructions (Basic HMI)

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CSP-H-7 Illustrated Parts Catalog (IPC)

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-IPC-4 Illustrated Parts Catalog

CSP-COM-5 Component Overhaul Manual

### 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

#### A. Inspection of the Fork Bolts

**NOTE:** Tail-rotor fork bolts with a gouge can be removed and installed again during routine maintenance, other than an overhaul of the tail rotor assembly.

- (1). At the next 3,450-hour overhaul, replace gouged fork bolt(s) in two- or four-blade tail rotor assemblies. (Ref. CSP-H-2, Section 8; and CSP-COM-5, 64-20-10 and 64-20-20).
- (2). Install fork bolts in two- or four-blade tail rotor assemblies. (Ref. CSP-H-2, Section 8; and CSP-COM-5, sections 64-20-10 and 64-20-20)
  - (a). As a part of the installation, make sure to do an elongation check of fork bolt(s). (Ref. CSP-H-5, Section 6; and CSP-COM-5, 64-20-10 and 64-20-20)

#### B. Job Close-Up

- (1). Make sure that all tools, equipment, and loose objects are removed from the work area.
- (2). Make sure that the work area is clean.

#### C. Compliance Record

- (1). Record compliance to this Service Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) of the Rotorcraft Log Book CSP-RLB.
- (2). Show compliance with this Service Bulletin by one of these methods:
  - (a). Complete a Service and Operation Report (SOR) at <https://www.mymd.aero/dashboard>.
  - (b). Put an entry in your <https://www.mymd.aero/> account.
  - (c). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your Field Service Representative.

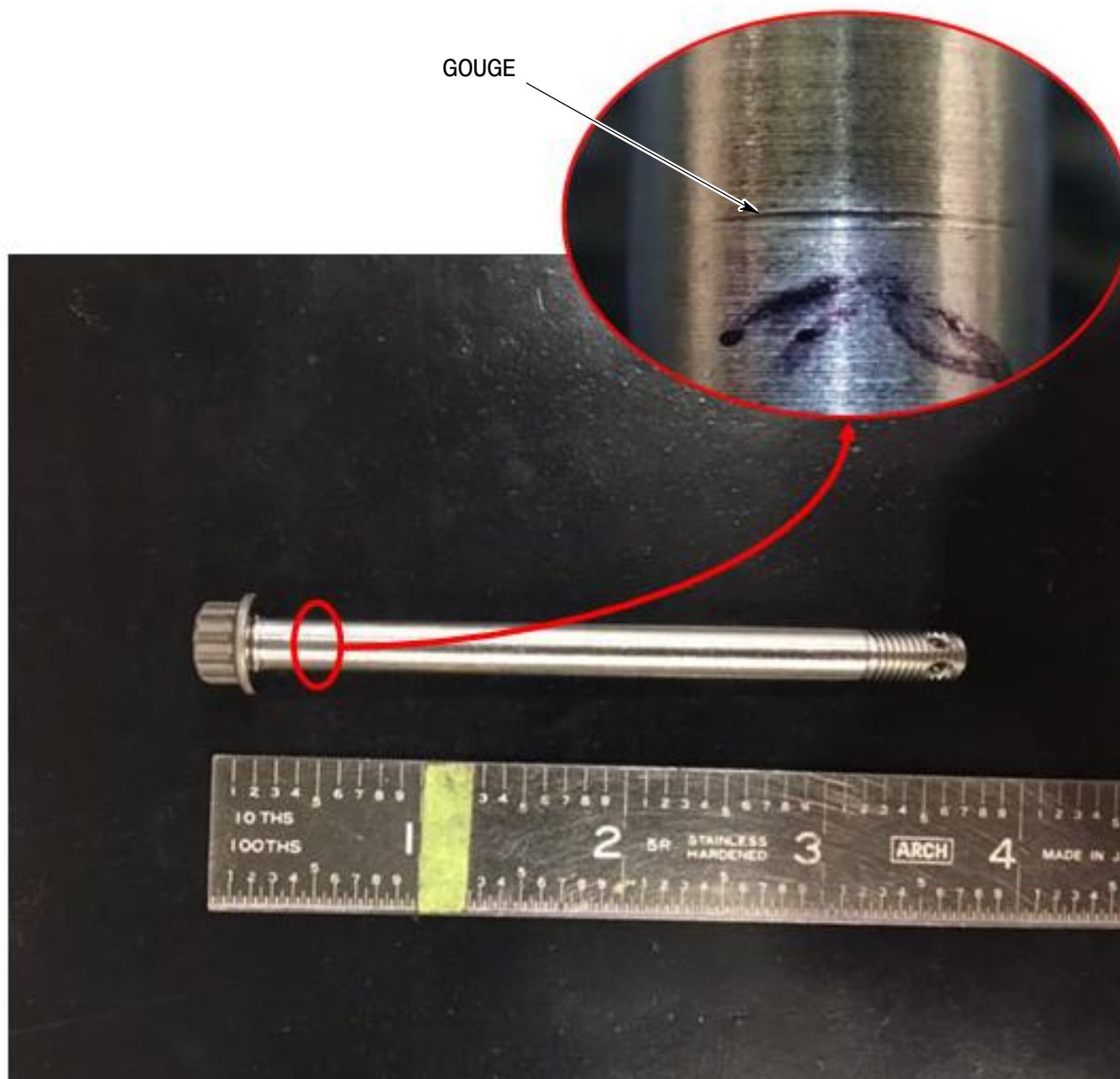
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SB369A1607-01

**Figure 1. Inspection of a Tail Rotor Drive Fork Bolt**

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SB369D-233R1  
SB369F-124R1

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## Bulletin Completed Record

### Inspection of the Tail Rotor Drive Fork Bolts, PN 369A1602-3

MD Helicopters, LLC  
Field Service  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact.html>  
Or contact your Field Service Representative.

Owner/- Operator: _____	Helicopter Serial No.: _____
Address: _____ _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____  Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete:

\_\_\_\_\_  
(Signature)  
  
\_\_\_\_\_  
(Print Name)  
  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
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## SERVICE BULLETIN

DATE: 01 SEPTEMBER 2023

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**MANDATORY**

### INSPECTION OF THE GENERATOR FEEDER WIRE

#### 1. PLANNING INFORMATION

##### A. Aircraft Affected:

369E helicopters, serial numbers (SNs) 0384 thru 0625  
369FF helicopters, SNs 0001 thru 0333  
369E to 369FF conversions, SNs 0600FF thru 0608FF, 0700FF thru 0720FF  
500N helicopters, SNs LN001 thru LN113.

##### B. Assembly/Components Affected By This Notice:

369D24253-501 / -503 / -505 / -507 / -509 / -511 / -515 / -525 / -527 Fuselage Electrical Wire Harness

##### C. Reason:

It has been found that the generator feeder wire has a tight clearance in the area below the left front seat. The wire enters the compartment thru a conduit that goes back to the engine bay from the battery bus to the engine starter-generator. The gap can decrease during helicopter take-off.

Failure to comply with this bulletin can cause an interference that can cause damage to the wire between the battery bus and the engine starter-generator.

##### D. Description:

Procedures in this bulletin give owners and operators information to examine the installation for the clearance between the generator feeder wire and the bolt on the landing gear strut.

##### E. Time of Compliance:

The instructions of this bulletin must be completed at the next 100-hour inspection or the next access.

##### F. FAA Approval:

The technical design aspects of this bulletin are FAA-approved.

##### G. Labor Hours:

Compliance with this bulletin will be approximately four (4) labor hours.

##### H. Interchangeability:

None.

##### I. Points of Contact:

For further assistance, contact Field Service at: <https://www.mdhelicopters.com/contact/>

##### J. Material/Part Availability:

Ref. CSP-HMI-2, Section 91-00-00, Table 1, for the item numbers of the consumable materials in the Nomenclature column, and Table 2, for the manufacture/supplier numbers in the Source column.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Sealing Compound, Fuel-Resistant (CM425)	SAE AMS-S-8802, Type II, Class B1/2	AR	Commercial

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**K. Warranty Policy:**

MD Helicopters will give authorized Service Centers up to 4 hours of labor warranty (spares credit) at \$100 per hour.

Standard warranty policy applies.

Additional discrepancies found over and above the specified warranty coverage is the responsibility of the customer.

**L. Disposition of Parts Removed:**

N/A

**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

CSP-RLB Rotorcraft Log Book

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP-HMI-2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP-HMI-3 Basic Handbook of Maintenance Instructions – Instruments/Electrical/Avionics

CSP-IPC-4 Illustrated Parts Catalog

STC SR00450AT Installation Instructions for HT100 Seat Pan Inspection Panels

## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

**A. Do an Inspection of the Wire Harness Installation**

- (1). Remove the left compartment access door. (Ref. CSP-HMI-2, Section 52-50-00)
- (2). Remove the battery. (Ref. CSP-HMI-3, Section 96-05-10)
- (3). Remove the left crew upholstered seat (ref. CSP-HMI-2, Section 25-10-00) or left mesh seat (ref. CSP-HMI-2, Section 25-15-00).
- (4). If installed, remove the left seat structure panel. (Ref. STC SR00450AT)
- (5). If necessary to get access, remove the left foot support fairing. (Ref. CSP-HMI-2, Section 52-50-00)
- (6). Hoist or jack the helicopter so that the skids clear the ground. (Ref. CSP-HMI-2, Chapter 7)
- (7). Examine the clearance of the generator feeder wire of the 369D24253 Wire Harness with the nut on the landing gear strut.

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- (a). Make sure there is a **0.090 inch (2.28 mm)** clearance:
  - 1). If the clearance is less than **0.090 inch (2.28 mm)** move the generator feeder wire by hand to get the minimum clearance.
    - a). If the minimum clearance is met, this service bulletin is complete.
    - b). If the minimum clearance is NOT met, go to Procedure (8).
- (8). Modify the outboard conduit on the left side of the airframe:
  - (a). Lower the helicopter to the ground. (Ref. CSP-HMI-2, Chapter 7)
  - (b). Trim the conduit back to the bulkhead.
  - (c). Deburr with sandpaper or another approved method.
  - (d). Apply sealing compound (CM425) to the interface of the bulkhead and trimmed conduit.
  - (e). Hoist or jack the helicopter so that the skids clear the ground. (Ref. CSP-HMI-2, Chapter 7)
    - 1). Examine the clearance of the generator feeder wire of the 369D24253 Wire Harness with the nut on the landing gear strut.
      - a). Make sure there is a **0.090 inch (2.28 mm)** clearance:
        - 1. If the minimum clearance is met, this service bulletin is complete.
        - 2. If the clearance is less than **0.090 inch (2.28 mm)** move the generator feeder wire by hand to get the minimum clearance.
        - 3. If the minimum clearance is NOT met, speak with your MD Helicopters Field Service Representative.
- (9). Lower the helicopter to the ground. (Ref. CSP-HMI-2, Chapter 7)
- (10). If removed, install the left foot support fairing. (Ref. CSP-HMI-2, Section 52-50-00)
- (11). Install the battery. (Ref. CSP-HMI-3, Section 96-05-10)
- (12). Install the left compartment access door. (Ref. CSP-HMI-2, Section 52-50-00)
- (13). If removed, install the left seat structure panel. (Ref. STC SR00450AT)
- (14). Install the left crew upholstered seat ((ref. CSP-HMI-2, Section 25-10-00) or left mesh seat (ref. CSP-HMI-2, Section 25-15-00).

### **B. Job Close-Up**

- (1). Make sure that all tools, equipment, and loose objects are removed from the work area.
- (2). Make sure that the work area is clean.

### **C. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) of the Rotorcraft Log Book CSP-RLB.
- (2). Show compliance with this Service Bulletin by one of these methods:
  - (a). Complete a Service and Operation Report (SOR) at <https://www.mymd.aero/dashboard>.
  - (b). Put an entry in your <https://www.mymd.aero/> account.
  - (c). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your Field Service Representative.

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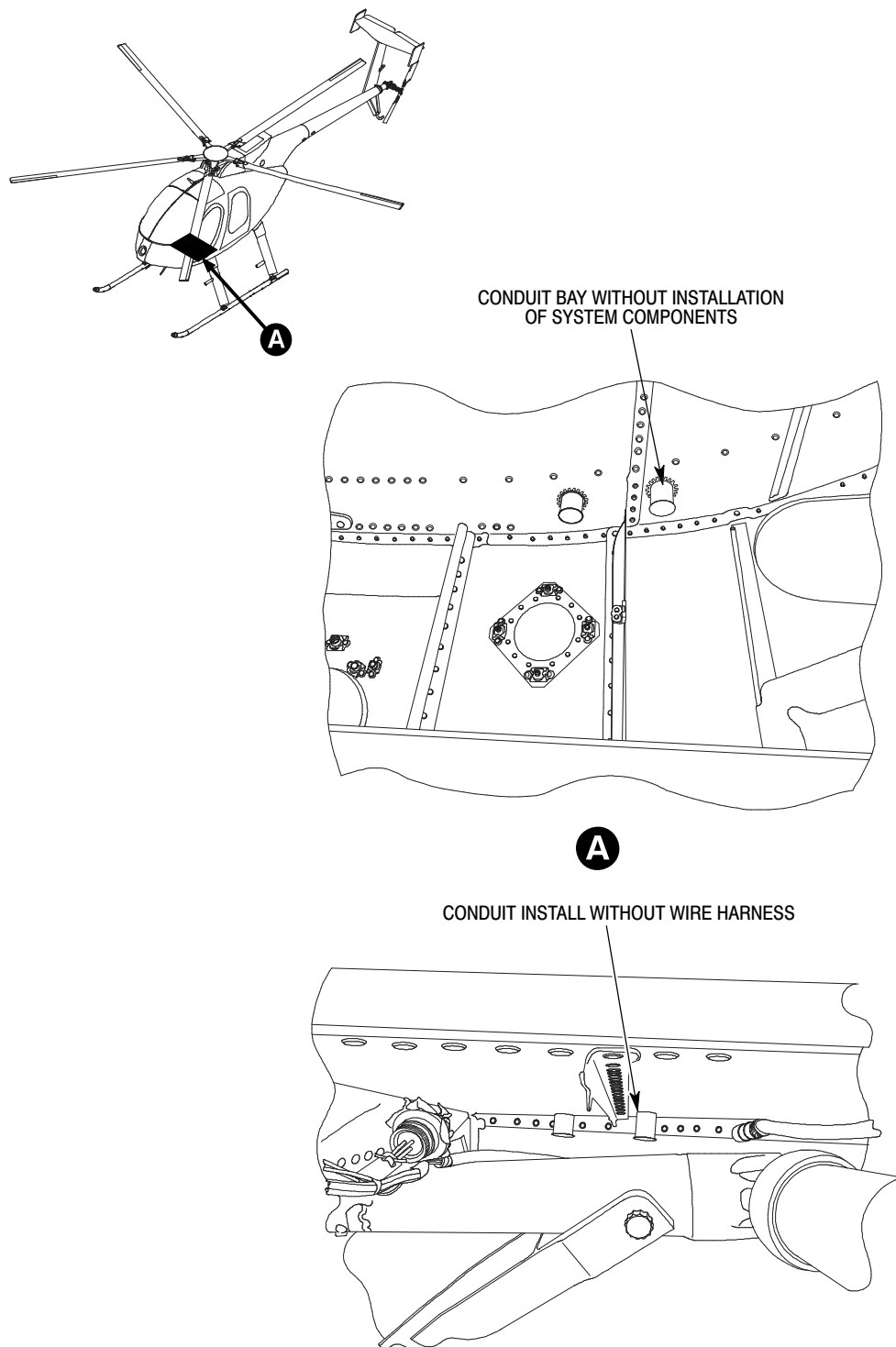
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**Figure 1. Location of Interference (Sheet 1 of 2)**

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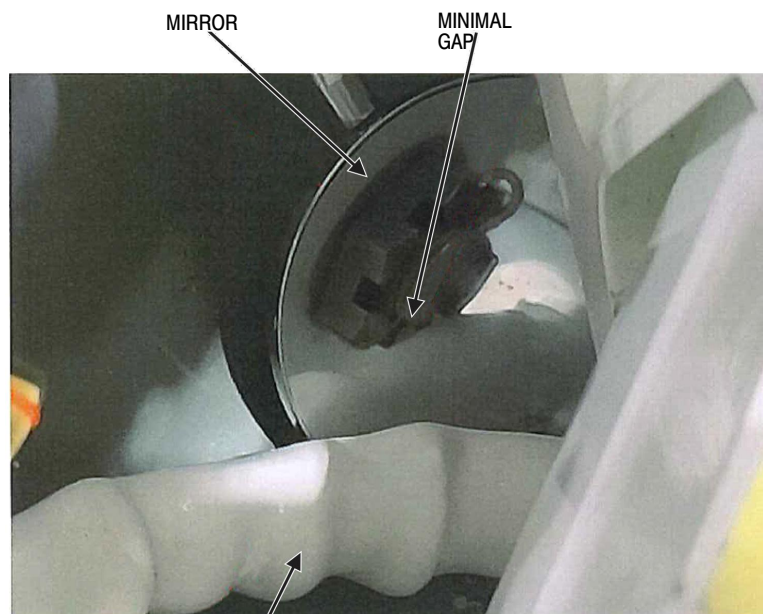
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SB500N-071

SB369F-126

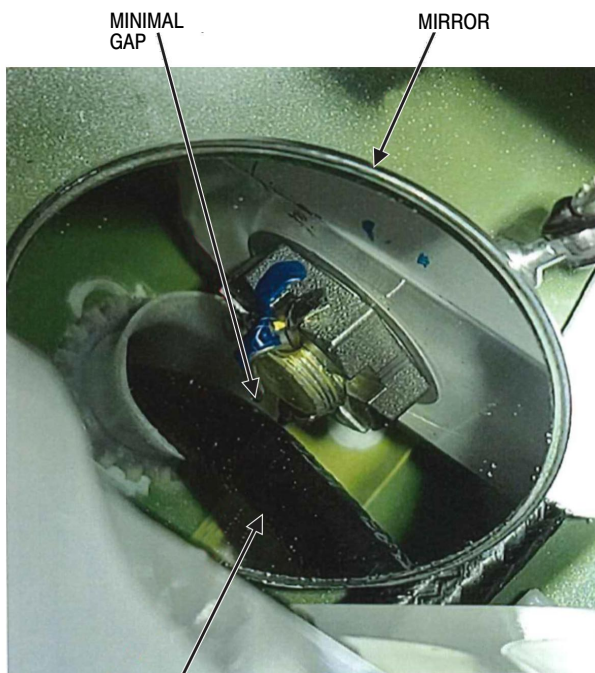
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CABLE IN WHITE CHAFE  
PROTECTION



CABLE IN BLACK CHAFE  
PROTECTION

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**Figure 1. Location of Interference (Sheet 2 of 2)**

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## Bulletin Completed Record

### Inspection of the Generator Feeder Wire

MD Helicopters, LLC  
Field Service  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact/>  
Or contact your Field Service Representative.

Owner/- Operator: _____	Helicopter Serial No.: _____
Address: _____ _____ _____ _____	Helicopter Total Time: _____  Date Complete: _____  Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete:

\_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
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(Title)

Comments: \_\_\_\_\_  
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DATE: 17 JANUARY 2024

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**MANDATORY MANDATORY MANDATORY****INSPECTION OF THE HORIZONTAL STABILIZER  
ATTACH LUG FITTINGS****1. PLANNING INFORMATION****A. Aircraft Affected:**

All 369D Helicopters  
All 369E Helicopters  
All 369FF Helicopters

**B. Assembly/Components Affected By This Notice:**

369D23601- BSC / - 503 / - 505 / - 507 / - 509 / - 511 Horizontal Stabilizer Assembly (D Model)  
369D23601- 513 Horizontal Stabilizer Assembly (E Model)  
369D23601- 515 Horizontal Stabilizer Assembly (FF Model)  
421- 087- 503 / - 517 / - 601 / - 903 Horizontal Stabilizer Assembly (FF Model)  
421- 087- 505 / - 519 / - 905 Horizontal Stabilizer Assembly (E Model)

**C. Reason:**

Horizontal stabilizer assembly installed on 369D, 369E, and 369FF aircraft, can develop cracks in the mounting attach lugs. MD Helicopter (MDH) recommends the inspection of the horizontal stabilizer within the next 50 flight hours. (Ref. CSP- HMI- 2, 53- 50- 10)

**D. Description:**

Procedures in this bulletin give owners and operators information to examine the horizontal stabilizer assembly mounting attach lugs for cracks.

**E. Time of Compliance:**

The instructions of this bulletin must be completed within the next 50 flight hours.

**F. FAA Approval:**

The technical design aspects of this bulletin are FAA- approved.

**G. Labor Hours:**

Compliance with this bulletin will be approximately one (1) labor hour.

**H. Interchangeability:**

None.

**I. Points of Contact:**

For further assistance, contact Field Service at:  
<https://www.mdhelicopters.com/contact/>

**J. Material/Part Availability:**

Contact Spare Sales for parts availability at:  
<https://www.mdhelicopters.com/contact/>

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**SERVICE BULLETIN****MANDATORY MANDATORY MANDATORY**

Ref. CSP- HMI- 2, Section 91- 00- 00, Table 2, for the manufacture/supplier numbers in the Source column.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Horizontal Stabilizer Assembly	369D23601- BSC / - 503 / - 505 / - 507 / - 509 / - 511 / - 513 / - 515  421- 087- 503 / - 505 / - 517 / - 519 / - 601 / - 903 / - 905	1	MD Helicopters, LLC (9D5S6)

**K. Warranty Policy:**

Contact Warranty for prices, orders, availability, and service at

<https://www.mdhelicopters.com/contact/>.

Additional discrepancies found over and above the specified warranty coverage is the responsibility of the customer.

**L. Disposition of Parts Removed:**

Return to an authorized service center or MD Helicopters with a completed Service and Operation Report (SOR).

Fill out a Service and Operations Report (SOR) at <https://www.mymd.aero/dashboard> (select the **SUPPORT** dropdown menu, and then select **New SOR**).

**M. Tooling:**

N/A

**N. Weight and Balance:**

N/A

**O. Electrical Load Data:**

N/A

**P. Other Publications Affected:**

N/A

**Q. Reference Publications:**

Refer to the latest revision of these publications for procedures and additional information:

CSP- HMI- 2 Basic Handbook of Maintenance Instructions – Servicing and Maintenance

CSP- IPC- 4 Illustrated Parts Catalog

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## 2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

### A. Inspection of the Horizontal Stabilizer Attach Lug Fittings

- (1). Remove the horizontal stabilizer. (Ref. CSP- HMI- 2, 53- 50- 10)
- (2). Do a visual inspection of the attach lug fittings using a bright light and 10x magnification glass for cracks.
- (3). If cracks are suspected, do an eddy current inspection of the attach lug fittings. (Ref. CSP- HMI- 2, 20- 90- 00)
- (4). If the attach lug fittings have cracks, replace the horizontal stabilizer. (Ref. CSP- HMI- 2, 53- 50- 10)
- (5). If there are no cracks, install the horizontal stabilizer. (Ref. CSP- HMI- 2, 53- 50- 10)

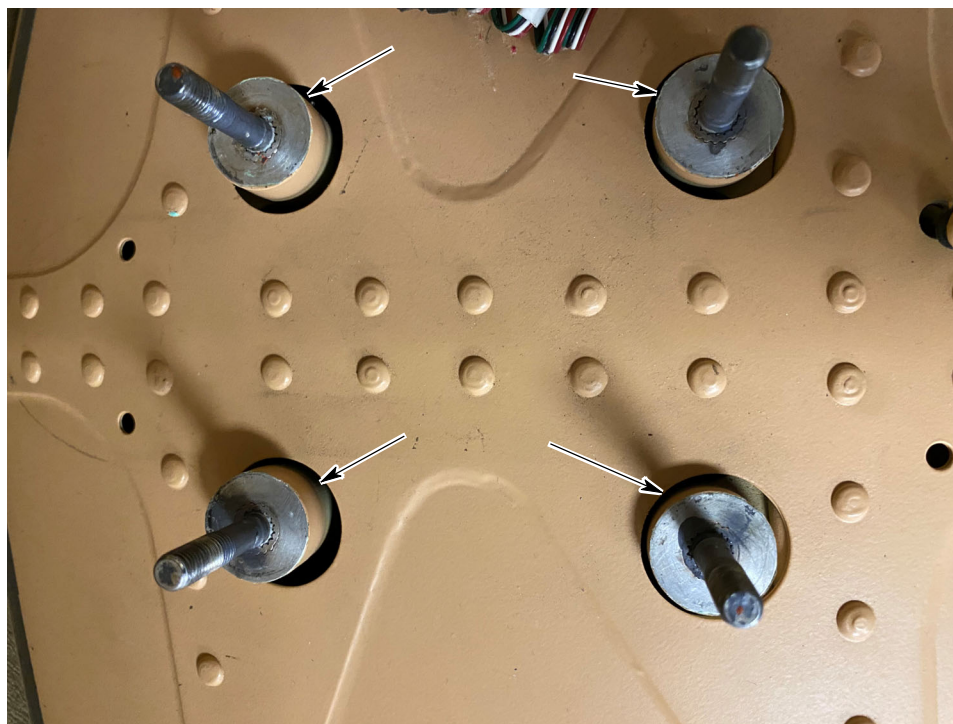


Figure 1. Inspection of the Horizontal Stabilizer Attach Lug Fittings

### B. Job Close-Up

- (1). Make sure that all tools, equipment, and loose objects are removed from the work area.
- (2). Make sure that the work area is clean.

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**SERVICE BULLETIN****/// MANDATORY ///****C. Compliance Record**

- (1). Record compliance to this Service Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) of the Rotorcraft Log Book CSP-RLB.

**NOTE:** Annotate the horizontal serial number and flight hours in any of the following submittals.

- (2). Show compliance with this Service Bulletin by one of these methods:
  - (a). Complete a Service and Operation Report (SOR) at <https://www.mymd.aero/dashboard>.
  - (b). Put an entry in your <https://www.mymd.aero/> account.
  - (c). Mail a copy or e-mail a scanned copy of the Bulletin Completed Record to your Field Service Representative.

**/// MANDATORY ///**



HELICOPTERS™

# SERVICE BULLETIN

SB369E-135

SB369D-234  
SB369F-125

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## Bulletin Completed Record

### Inspection of the Horizontal Stabilizer Attach Lug Fittings

MD Helicopters, LLC  
Field Service  
4555 East McDowell Road  
Mesa, AZ 85215-9734

Phone: 480-346-6300 or 1-480-346-6300 (International)  
Website: <https://www.mdhelicopters.com/contact/>  
Or contact your Field Service Representative.

Owner/- Operator:	_____	Helicopter Serial No.:	_____
Address:	_____	Helicopter Total Time:	_____
	_____	Date Complete:	_____
	_____	Location:	_____
	_____		
Phone:	_____		
E-mail:	_____		

This bulletin is complete:

\_\_\_\_\_  
(Signature)  
\_\_\_\_\_  
(Print Name)  
\_\_\_\_\_  
(Title)

Comments: \_\_\_\_\_  
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