

**MODEL MD900 SERIES
TECHNICAL BULLETIN PACKAGE**

**THIS PACKAGE CONTAINS A COMPLETE SET OF ALL
MD900 SERIES TECHNICAL BULLETINS ISSUED
THROUGH:**

12 DECEMBER 2022

TECHNICAL BULLETIN

for MD Explorer Rotorcraft

Technical Bulletins		
Publication	Publication Title	Issue / Reissue Date
TB900– 001	VSCS Actuator Mounting Bracket Repair	11 Nov 1997
TB900– 002	Alternate Nutplate Installation	11 Nov 1997
TB900– 003R2	Tub Shell (Fuselage) Inspection Panels, Modification to Install	22 Sep 2009
TB900– 004	Modification Instructions for NACA Inlet Assembly Installation	11 Nov 1997
TB900– 005	Heat/Defog Upper Deck Through Fitting Modification	12 Jan 1998
TB900– 006R1	Main Rotor Blade Pitch Case Abrasion Tape	14 Feb 2001
TB900– 007R1	Main Rotor Blade Root End Abrasion Tape	14 Feb 2001
TB900– 008	NAS1919 and NAS1921 Alternate Fastener with Drive Anvil	06 Nov 1998
TB900– 009R1	Modification Instructions for Optional 27 Ampere Hour Battery	15 March 2010
TB900– 010R1	Increased One Engine Inoperative (OEI) Torque Limit Modification	13 Dec 2001
TB900– 011	Landing/Hover Light Relocation Modification	17 Mar 1999
TB900– 012R1	Fire Extinguishing System Installation	09 Feb 2000
TB900– 014R4	JAR OPS–3 Modification	13 Nov 2001
TB900– 015	Windscreen Wipers –103 Installation	17 Jun1999
TB900– 016R2	Dual Pilot to Single Pilot Control Conversion	16 Nov 2000
TB900– 017	Heat/Defog Shutoff Valve Upgrade Modification	26 Jul 1999
TB900– 018R2	Dual Essential Bus Relays Modification	23 Aug 2001
TB900– 019	Range Extender Modification	30 Aug 2000
TB900– 020R2	Removable Copilot Controls Modification	02 May 2002
TB900– 021	Cabin Window Emergency Release Cover Modification	26 Feb 2002
TB900– 022	Rain Gutter Modification	17 Jun 2002
TB900– 023	Oil Cooler Inlet Duct Modification	27 Jan 2003
TB900– 024	Cabin Door Modification	23 Apr 2003
TB900– 025R2	Generator Cooling Modification	14 Aug 2003
TB900– 026	Supplemental Fuel Cell (Check Valve) Modification	27 May 2003
TB900– 027R1	Electrical Noise Suppression Modification	06 Mar 2008

TECHNICAL BULLETIN

for MD Explorer Rotorcraft

Technical Bulletins (Cont.)		
Publication	Publication Title	Issue / Reissue Date
TB900- 028	MD900 (900 Configuration) to MD900 (902 Configuration with PW207E Engines) Change	20 Dec 2007
TB900- 029R1	Upper Deck Air Conditioning System Installation	11 Feb 2022
TB900- 030	Supplemental Fuel System Installation	19 Feb 2008
TB900- 031	MD900 (902 Configuration) PW206E to PW207E Engine Conversion Modification	02 Nov 2009
TB900- 032	VSCS Test Box	02 Feb 2010
TB900- 033R3	Optional Preventative Modification/Repair of the Roof Rib	20 Apr 2021
TB900- 034R1	Thruster Assembly Modification	09 Feb 2011
TB900- 035	Modification Of Upper Damper Cap	29 Jul 2010
TB900- 036	Remove and Replace the FS401.73 Cable Attachment Bracket Assembly	25 Sep 2015
TB900- 037	Secondary Ejector Oil Breather Fitting Modification	26 Jul 2010
TB900- 038	Universal Nose Mount Installation	01 Jul 2021
TB900- 039	Modification of Main Rotor Upper Hub Assembly 900R2101006-105, -107, and -109	31 Jul 2012
TB900- 040R1	Electrical Modification, LED Strobe	20 Dec 2017
TB900- 041	Remove and Replace the Tailboom Attachment Ring	09 Mar 2012
TB900- 042	Repair for the Upper Flange Bolt Holes in the Main Rotor Upper Hub Assembly	25 Oct 2012
TB900- 043	Modification of the NACA Inlet Door Panel Assembly	08 Apr 2013
TB900- 044R1	Increase of Operational Weight Limit to 6770 lb (3070.82 kg)	29 Oct 2013
TB900- 045	Modification of the Pitchcase Assemblies	13 Jun 2014
TB900- 046R2	Installation of the Seat Tracks	08 Dec 2022
TB900- 049	Installation or Modification for a New Cargo Hook	17 Dec 2015
TB900- 051	Modification for the 12-Volt Clutch Refrigerant Compressor Assembly Installation	11 Feb 2022
TB900- 053R1	Replacement of Attitude and Heading Reference System (AHRS) LCR-92S with LCR-100	12 Dec 2022
TB900- 055	Installation of a Dual System Hydraulic Hand Pump	16 Jun 2022

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 1 OF 6

VSCS ACTUATOR MOUNTING BRACKET REPAIR

1. PLANNING INFORMATION

A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) MD900 helicopters, serial number 900-00010 thru 900-00051.

B. Assembly/Components Affected By This Notice:

VSCS actuator attach bracket part number 900F2341255-101.

C. Reason:

Aircraft in the field have experienced working of the VSCS actuator attach bracket attachment fasteners. Failure to repair this condition could result in the loss of control of the horizontal endplates on that side.

D. Description:

Procedures in this Bulletin provide owners and operators with instructions to replace their existing six (6) fastener VSCS actuator attach bracket part number 900F2341255-101 with an improved ten (10) fastener attach bracket part number 900F2341255-103, -104.

E. Time of Compliance:

Customer option, at the discretion of the owner/operator.

F. Classification:

Compliance with this Bulletin is a major alteration.

G. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

H. Manpower:

Two (2) manhours.

I. Interchangeability:

None

J. Disposition of Parts Removed

Return to MDHS

K. 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.

L. Material/Part Availability:

Contact MDHS Field Service Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Actuator Attach Bracket, LH	900F2341255-103	1	The Boeing Co.
Actuator Attach Bracket, RH	900F2341255-104	1	The Boeing Co.

DATE: 11 NOVEMBER 1997
 PAGE 2 OF 6

TECHNICAL BULLETIN

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Rivet Installation Gun	230	1	Huck or Commercial
Rivet Pulling Head	99-680	1	Huck or Commercial
Cobalt Drill Bit	#19	5	Commercial
Primer	MIL-P-23377, T1, C1 (Boeing Ref. RM012212)	AR	The Boeing Co. or Crown Metro Greenville, SC (803) 277-1870 or DeSoto Aerospace Coatings, Inc. Berkeley, CA (818) 549-7823
Fastener, Blind Bolt	HS5912-05-05	10	The Boeing Co. or Commercial
Fastener, Blind Bolt	HS5912-06-05	AR	The Boeing Co. or Commercial

M. Warranty Policy:

None

N. Tooling:

N/A

O. Weight and Balance:

N/A

P. Electrical Load Data:

N/A

Q. Other Publications Affected:

Rotorcraft Maintenance Manual (CSP-900RMM-2, and CSP-900IPL-4).

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 3 OF 6

2. ACCOMPLISHMENT INSTRUCTIONS

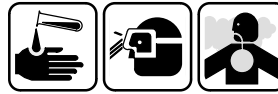
This repair procedure is typical and may be used for either left or right VSCS actuator bracket.

(Ref. Figure 1)

- (1). Remove VSCS from inboard attach bracket (Ref. CSP-900RMM-2 Section 67-20-00).
- (2). Remove existing VSCS actuator bracket.

NOTE: If bracket is attached with Visu-Loc fasteners, hold rivet head while drilling to prevent rotation of fastener.

Protective Equipment



- (a). Using a number 40 drill, drill through rivet center stem.
- (b). With a **0.094 inch (2.39mm)** punch, remove rivet stem lock ring.
- (c). Using a number 19 drill bit, drill through rivet body to a depth slightly greater than the thickness of the rivet head.
- (d). If rivet head has not come off, remove by inserting a **0.156 inch (3.96mm)** punch into the previously drilled hole and levering the rivet head until it breaks off.



Back up area adjacent to rivet with hard wood, or other suitable substance prior to driving out rivet body.

- (e). Using a **0.156 inch 3.96mm)** punch, drive the remainder of the rivet body out of the rivet hole.
- (f). Inspect hole diameter **0.167 inch (4.24mm)** maximum. If hole is above maximum limit, install next size larger fastener. Maximum fastener diameter not to exceed **0.199 inch (5.06 mm)**.

DATE: 11 NOVEMBER 1997

PAGE 4 OF 6

TECHNICAL BULLETIN

- (3). Using new bracket locate bracket mounting holes in horizontal stabilizer assembly.



Back up area of new hole location with hard wood, or other suitable substance prior to drilling mounting holes.

- (4). Drill additional mounting rivet holes to a number 19 drill.
- (5). Position bracket in horizontal stabilizer assembly.

Primer (C310)

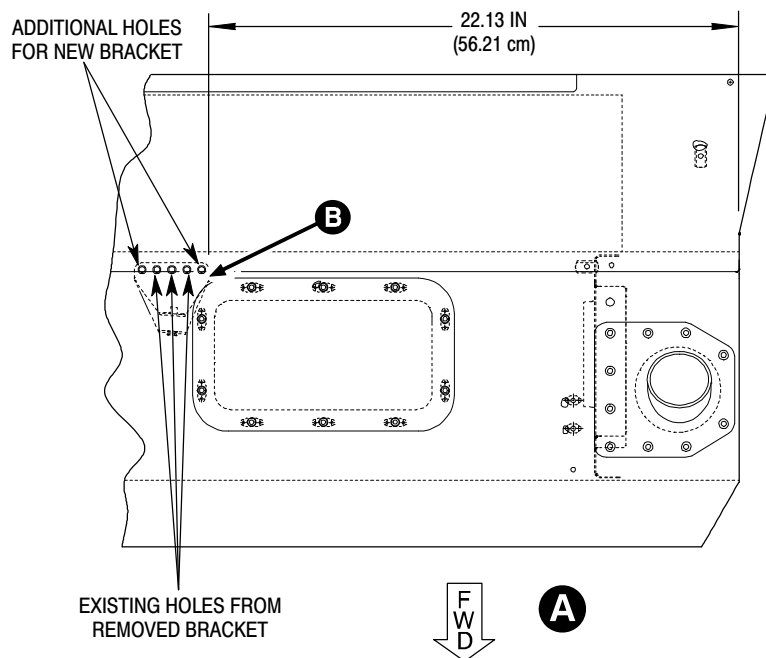
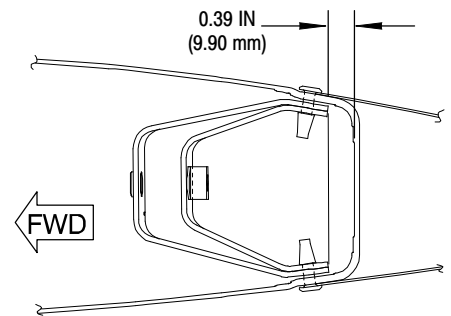
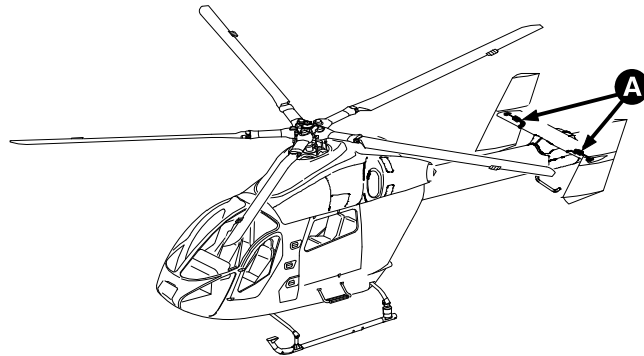


- (6). Install fasteners into horizontal stabilizer assembly and bracket. Wet install fasteners using primer MIL-P-23377.
- (7). Connect VSCS actuator to new VSCS bracket (Ref. CSP-900RMM-2 Section 67-20-00).
- (8). Perform a VSCS Operational Test (Ref. CSP-900RMM-2 Section 67-20-00).
- (9). Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 5 OF 6



B
LOOKING INBOARD
LEFT SIDE

9B53-076

Figure 1. VSCS Actuator Attach Bracket Replacement

DATE: 11 NOVEMBER 1997
PAGE 6 OF 6

TECHNICAL BULLETIN

VSCS Actuator Mounting Bracket Repair

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:

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 1 OF 6

ALTERNATE NUTPLATE INSTALLATION

1. PLANNING INFORMATION

A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) MD900 Series Helicopters.

B. Assembly/Components Affected By This Notice:

HS5826CR3CR nutplates that have become unserviceable or disbonded.

C. Reason:

Operators have experienced disbonded HS5826CR3CR nutplates. Failure to repair an unserviceable nutplate will result in the reduction of component attachment.

D. Description:

This Bulletin provides operators with a procedure to replace bonded HS5826CR3CR nutplates that have become unserviceable. Nutplates may be replaced in any location with an alternate nutplate and rivets. If the original nutplate has disbonded, and is otherwise serviceable, it may be drilled and reattached with rivets.

E. Time of Compliance:

Customer option, at the discretion of the owner/operator.

F. Classification:

Compliance with this Bulletin is a minor repair.

G. FAA APPROVAL:

The technical aspects of this Bulletin are FAA Approved.

H. Manpower:

Nutplate replacement only, one half (0.5) man-hour.

I. Interchangeability:

None

J. Warranty Policy:

None

K. Tooling:

N/A

L. Weight and Balance:

N/A

M. Electrical Load Data:

N/A

DATE: 11 NOVEMBER 1997

PAGE 2 OF 6

TECHNICAL BULLETIN

N. Other Publications Affected:

Rotorcraft Maintenance Manual (CSP-900RMM-2, and CSP-900IPL-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.

P. Material/Part Availability:



The NAS1474 nutplate has a cap height 0.222 in. (0.56 mm) less than the HS5826 nutplate, and requires the installation of a shorter screw or the addition of washers.

Table 1. Replacement Parts

Item No.	Qty.	Part Number	Description
1	1	NAS1474A3	Nut Plate
2	2	MS20605R3W*	Rivet

*Length of rivet as determined from Figure 1.

Table 2. MS20605 Dash Number Grip Range

Dash No.	Grip Range	
	Minimum	Maximum
1	0.040 IN (0.38mm)	0.062 IN (1.57mm)
2	0.063 IN (1.60mm)	0.125 IN (3.18mm)
3	0.126 IN (3.20mm)	0.187 IN (4.75mm)
4	0.188 IN (4.78mm)	0.250 IN (6.35mm)
5	0.251 IN (6.38mm)	0.312 IN (7.92mm)
6	0.313 IN (7.95mm)	0.375 IN (9.53mm)
7	0.376 IN (9.55mm)	0.437 IN (11.10mm)
8	0.438 IN (11.13mm)	0.500 IN (12.70mm)

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 3 OF 6

2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1 and CSP-900RMM-2)

Consumable Materials (Ref. CSP-SPM)	
Item	Nomenclature
C215	Sealing Compound, Fireproof
C216	Sealant, Fuel Resistant
C310	Primer
C419	Alcohol, Isopropyl
C807	Sandpaper

NOTE: This procedure describes replacement of an HS5826CR3CR nutplate with a new NAS1474A3 nutplate. If the original nutplate has become disbonded, and is otherwise serviceable, it may be reinstalled with rivets. Step 1 and Figure 1 provide information for drilling of the original nutplate for the use of rivets.

- (1). Mask area to prevent FOD contamination.

WARNING

Protective Equipment






- Do not cut or sand into or expose graphite/epoxy fibers.
 - Do not use aluminum oxide abrasives on graphite/epoxy materials.
- (2). Remove old nutplate if installed by carefully cutting baseplate away from adhesive.
 - (3). Lightly sand to remove remaining adhesive with sandpaper (C807).
 - (4). If reusing old nutplate, drill two 0.098 inch (2.49 mm) holes through baseplate of nutplate 0.37 inch (9.39 mm) from the center. Deburr holes.
 - (5). Matchdrill holes in nutplate to attachment structure.
 - (6). Countersink rivet holes 100°.
 - (7). Vacuum area and remove masking.

WARNING

Alcohol, Isopropyl (C419)






- (8). Wipe area clean with isopropyl alcohol isopropyl alcohol (C419).

WARNING

Primer (C310)


- (9). Secure nutplate to structure with rivets. Install rivets wet with primer (C310) .

NOTE: MS20605 rivets may be installed with any "Pop Rivet" hand rivet puller using the smallest nose piece that will accommodate the rivet stem.

DATE: 11 NOVEMBER 1997

PAGE 4 OF 6

TECHNICAL BULLETIN

WARNING

- **Sealing Compound (C215)**



- **Sealant, Fuel Resistant (C216)**

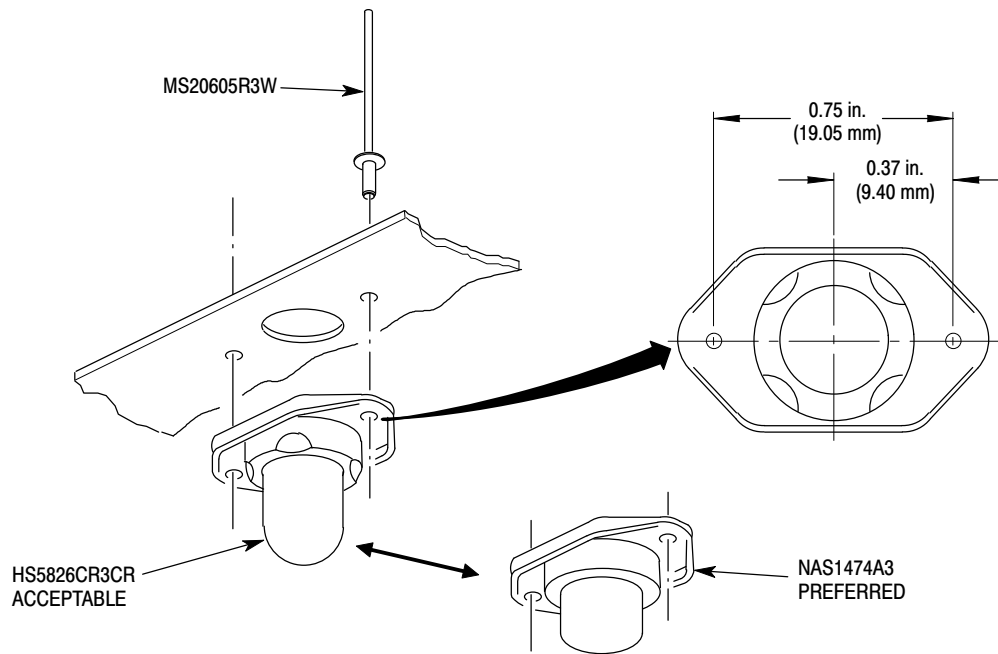


- (10). If nutplate is an any engine firewall build up assembly component, seal rivets with sealing compound (C215). In all other areas seal rivets with sealant (C216). This is to prevent vapors, fluids, etc. from entering area beyond nutplate.
- (11). Record compliance of this Bulletin in the compliance record section of the helicopter log book.

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 5 OF 6



9M51-060

Figure 1. Alternate Nutplate Installation

TECHNICAL BULLETIN

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 Total Time:

Date:

Parts Required:

Part Ser. No. (if required):

Ship to:

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009

PAGE 1 OF 32

* Supersedes technical bulletin TB900-003R1, dated 15 March 2002. Revised to change installation of doubler plies for access panel at FS 172.0 to prevent an interference with fuselage structure.

TUB SHELL (FUSELAGE) INSPECTION PANELS, MODIFICATION TO INSTALL

1. PLANNING INFORMATION

A. Aircraft Affected:

All MD900 helicopters.

B. Assembly/Components Affected By This Bulletin:

Fuselage tub shell assembly 900F1307019.

C. Reason:

With these access panels installed in the fuselage tub shell, it is not necessary to remove the cabin floor for inspections.

D. Description:

(Ref. Figure 1)

Procedures in this bulletin give owners and operators procedures to add three access panels to the fuselage tub assembly. These access panels give access to the area under the cabin floor outboard of the keel beams. This gives inspection and maintenance access to heat defog system tubes and fire detection cable, vapor shroud components forward of station 230.50, area wire harness installations, and structural components.

The owner or operator has the option to install a graphite/epoxy or a stainless steel inner doubler, form in place seal or rubber seal, and quarter turn fasteners or screws.

The operator has the option to install one access door at a time. You can install only one, two, or all three doors. There are no limitations on door installation sequence.

E. Compliance:

At owner/operator option.

F. Requirements of Accomplishment:

This modification is only to be done by persons approved to do composite repair at a facility with the necessary equipment.

G. Classification:

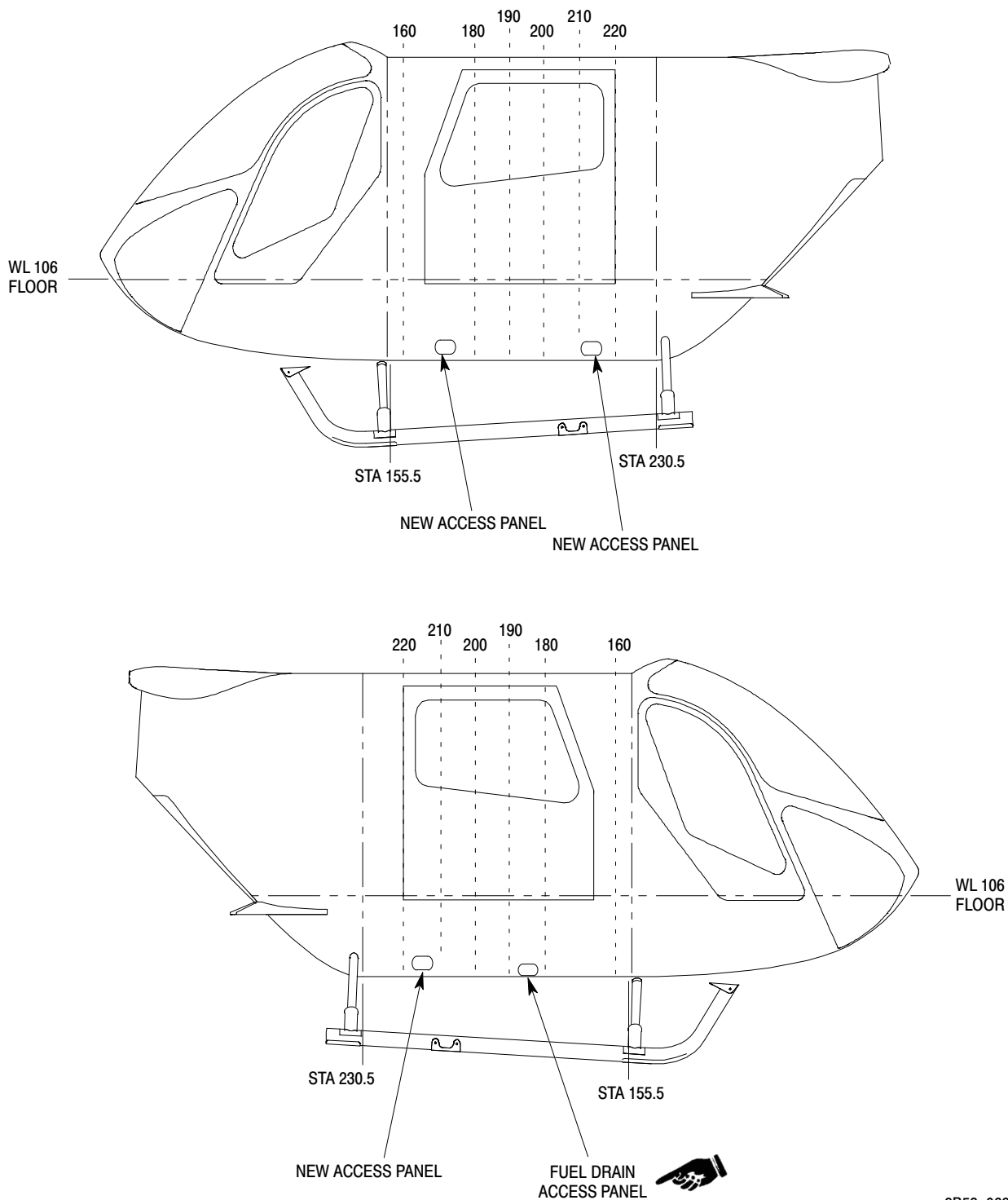
Completion of this bulletin is a major alteration.

H. FAA Approval:

The technical design aspects of this bulletin are FAA approved.

DATE: 22 SEPTEMBER 2009
PAGE 2 OF 32

TECHNICAL BULLETIN



9B53-068A

Figure 1. Access Panel Locations

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009

PAGE 3 OF 32

I. Manpower:

NOTE: The man-hour estimate is for a helicopter that is not modified and has a standard interior.
20 man-hours for each panel.

19 man-hours for each panel, if modification area is already open for other maintenance.

J. Interchangeability:

None

K. Warranty Policy:

N/A

L. Tooling:

N/A

M. Weight and Balance:

Part A 1.0 pound (0.454 Kg) for graphite/epoxy inner doubler and 1.6 pound (0.726 Kg) for stainless steel inner doubler at FS 213.5, BL 30.4, WL 92.9.

Part B 1.0 pound (0.454 Kg) for graphite/epoxy inner doubler and 1.6 pound (0.726 Kg) for stainless steel inner doubler at FS 213.5, BL -30.4, WL 92.9.

Part C 1.0 pound (0.454 Kg) for graphite/epoxy inner doubler and 1.6 pound (0.726 Kg) for stainless steel inner doubler at FS 172.0, BL -30.4, WL 92.9.

N. Electrical Load Data:

N/A

O. Other Publications Affected:

N/A

P. Disposition of Parts Removed:

N/A

Q. 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.

R. Necessary Supplies, Parts, and Equipment:

NOTE: The supplies and parts listed are for installation of all three access doors. If the installation is less than three, adjust the quantities as necessary.

SUPPLIES, PARTS, AND EQUIPMENT			
Nomenclature	Part or Specification No.	Qty.	Source
Aluminum Sheet, 2024T3 0.040 in. (1.02 mm), Aluminum Clad	QQ-A-250/5 T3 (MRM000160)	24 X 24 in. (61 X 61 cm)	MDHI or Commercial
Stainless Steel Sheet, 301 Cres, 1/4 Hard, 2B, 0.025 in (0.64 mm) (4)	MIL-S-5059 AMS 5517J (MRM007058)	26 X 51 in. (66.0 X 129.6 cm)	MDHI or Commercial

DATE: 22 SEPTEMBER 2009
PAGE 4 OF 32

TECHNICAL BULLETIN

SUPPLIES, PARTS, AND EQUIPMENT (Cont.)			
Nomenclature	Part or Specification No.	Qty.	Source
Receptacle, Quarter Turn (5)	MHS4427-3 Camloc Number 5R2-3	24	MDHI or Commercial
Nutplate (5)	MS21060L3	24	MDHI or Commercial
Rivet, Blind, Nonstructural, 100 Degree Flush	MS20605R3W2	48	MDHI or Commercial
Stud Fastener, Quarter Turn (6)	HS4437-6 Camloc Number 5S15-5	24	MDHI or Commercial
Screw, Machine, Pan Head (6)	MS27039C1-08	24	MDHI or Commercial
Washer, Retaining, Quarter Turn (7)	MHS4429-2	24	MDHI or Commercial
Epoxy Primer	MIL-P-23377, Type 1, Class 1 or Equivalent (MRM012212)	AR	Commercial
Screw, Machine, Pan Head	NAS603-8P	6	MDHI or Commercial
Washer, Flat	AN960JD10L	6	MDHI or Commercial
Washer, Flat	AN960-10L	6	MDHI or Commercial
Washer, Lock	MS35338-43	6	MDHI or Commercial
Nut, Self Locking	MS21042L3	3	MDHI or Commercial
Jumper, Electrical Bond (8)	MS25083-5BB16 or M83413/8-A016BB	3	MDHI or Commercial
Jumper, Electrical Bond, Quick Disconnect (8)	MS25083-3BB16 or M83413/8-D016BB	3	MDHI or Commercial
Chemical Film	Iridite 14-2	AR	Richardson Company Allied-Kelite Products Division 2400 E. Devon Ave. Des Plaines, IL.
Solvent, Blended	Desoclean 45 or Equivalent	AR	DeSoto Aerospace Coatings, Inc. Berkeley, CA. (818) 549-7823

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009

PAGE 5 OF 32

SUPPLIES, PARTS, AND EQUIPMENT (Cont.)			
Nomenclature	Part or Specification No.	Qty.	Source
Sealant, Fuel Resistant	MIL-S-8802, Type 2, Class B1/2	AR	Coast Proseal Compton, CA.
Epoxy Resin, Structural HMS 16-1115 T3	Araldite 501 (MRM011312)	AR	Ciba-Geigy Corp. E. Lansing, MI. (800) 367-8793
Epoxy Fairing Compound HMS 16-1068 CL6	RP1257-3 or	AR	Ciba-Geigy Corp. E. Lansing, MI. (800) 367-8793 Dexter Adhesives Pittsburgh, CA. (510) 458-8217
	EA960F	AR	
Filler, Epoxy Adhesive, Non-sagging HMS 16-1069 CL12	EA9321 (MRM010246) or	AR	Dexter Adhesives Pittsburgh, CA. (510) 458-8217 Cytec Inc. Havre De Grace, MD (410) 939-1910
	BR 95	AR	
Plain Weave Graphite Fabric, 5.6 oz./sq. yd.	Fiberite W-5-322	3 sq. yd. (2.5 sq. M)	Fiberite Corp. Greenville, TX (903) 457-8500
Fabric, E Glass	MDM 16-1267/1601 MIL-C-9084 T3 C2	1.5 sq. yd. (1.25 sq. M)	MDHI or Commercial
Shielding, Expanded Aluminum Foil	MDM 16-1255 Type 1 (MRM012757)	1.5 sq. yd. (1.25 sq. M)	MDHI or Commercial
Fluorosilicone Release Compound	REN RP 79-2 or Equivalent	1	Ciba-Geigy Corp. E. Lansing, MI. (800) 367-8793
Primer	Uroprime 1320S or Equivalent	AR	Dupont Co. Lionville, PA (800) 338-7668
Topcoat	To Match Aircraft	AR	Commercial
Strip, Silicone Rubber	MIL-R-6130 T2, GR A, SOFT 0.125 X 1.0 in. (3.18 X 25.4 mm)	90 in. (228.6 cm)	Commercial

DATE: 22 SEPTEMBER 2009
PAGE 6 OF 32

TECHNICAL BULLETIN

SUPPLIES, PARTS, AND EQUIPMENT (Cont.)			
Nomenclature	Part or Specification No.	Qty.	Source
Adhesive/Sealant, Silicone HMS 16-1118 T1 C1	Silastic 732 (White) (MRM002212) or RTV 157 (Black) (MRM011172)	AR	Dow Corning Midland, MI (517) 496-5900 General Electric Co. Waterford, NY (518) 237-3330
Respirator, Safety Glasses, Gloves, etc.		AR	Commercial
Vacuum Pump Capable of Supplying 20-29 inches HG (63-91 kPa)		1	Commercial
Vacuum Bagging Materials		AR	Commercial
Tape, Flashbreaker	MDM 20-1267/1520, /1521, /1522, /1650, /1693 (2.0 in. MRM0154244 or Equivalent	AR	Airtech International, INC Carson, CA (310) 603-9683
Gram Scale		1	Commercial
Mix Cups, Mix Sticks, Plastic Squeegee, etc.		AR	Commercial
90 Degree High Speed Die Grinder		1	Commercial
Rotary File, Two (2) and Three (3) Inch Sanding Mandrils, and Sanding Disks (180 Grit and Finer)		AR	Commercial
Drill Motor		1	Commercial
Drum Sander, 1 and 2 Inch (25 and 51 mm) Diameter (180 Grit and Finer)		1	Commercial
Drill, High Speed	Number Forty (40)	2	Commercial
Drill, Dagger	Number Forty (40)	2	Commercial
Drill, High Speed	Number Two (2)	2	Commercial
Drill, High Speed	Number Eight (8)	1	Commercial

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009
PAGE 7 OF 32

SUPPLIES, PARTS, AND EQUIPMENT (Cont.)			
Nomenclature	Part or Specification No.	Qty.	Source
Drill, Dagger	Number Two (2)	2	Commercial
Sandpaper, Non Aluminum Oxide	180 Grit and Finer	AR	Commercial

NOTES:

- (4) Graphite/epoxy or stainless steel is necessary for inner doublers.
- (5) Quarter turn receptacles or nutplates are necessary for panel installation.
- (6) Quarter turn fasteners or screws are necessary for panel installation.
- (7) Retaining washer is not necessary if screws are used for panel installation.
- (8) Use one of the two bond jumper.

2. ACCOMPLISHMENT INSTRUCTIONS

NOTE: Accomplishment instructions are for one access panel installation, and are applicable to all three access panel locations.

A. Get Access To Modification Area:

NOTE: It is not necessary to defuel the helicopter if only the left outboard cabin floor panel (AL 165), or right outboard cabin floor panel (AR 165) is removed at one time.

- (1). Remove left outboard cabin floor panel (AL 165), or right outboard cabin floor panel (AR 165) (Ref. CSP-900RMM-2 Section 06-00-00).

B. Mark Access Panel Locations:

(Ref. Figure 2 and Figure 3)

- (1). Make access hole outer skin cut out template from a stable material to the cut out dimensions.
- (2). Mark FS 172.0 on inner and outer side of tub assembly, left side only.
- (3). Mark FS 213.5 on inner and outer side of tub assembly, left and right.
- (4). Measure down from the upper edge of tub skin at WL 106.00 13.2 in. (335.3 mm) and make a WL mark on tub skin.
- (5). Align template center with station and waterline mark, use tape to keep it in position.

NOTE: Make marks out of area of doubler ply installation.

- (6). Mark panel cut out location.

DATE: 22 SEPTEMBER 2009
PAGE 8 OF 32

TECHNICAL BULLETIN

C. Prepare Outer Layer of Graphite/Epoxy For Doubler Ply Installation:

CAUTION

- Do not sand into or expose Astrostrike™ expanded aluminum foil lightening protection. A layer of primer must stay to insulate the expanded aluminum foil from the graphite/epoxy to prevent corrosion.
- Around the outer edges of the doubler installation, carefully sand 1.5 in. (38 mm) of the surface to expose the Astrostrike™ expanded aluminum foil lightening protection. This is necessary to make sure there is electrical continuity of the foil.
- Do not sand into or expose graphite/epoxy fibers.
- Do not use aluminum oxide abrasives on graphite/epoxy materials.

Protective Equipment



- (1). Lightly sand outer skins to remove gloss and topcoat, use 180 grit sandpaper or nylon pad.

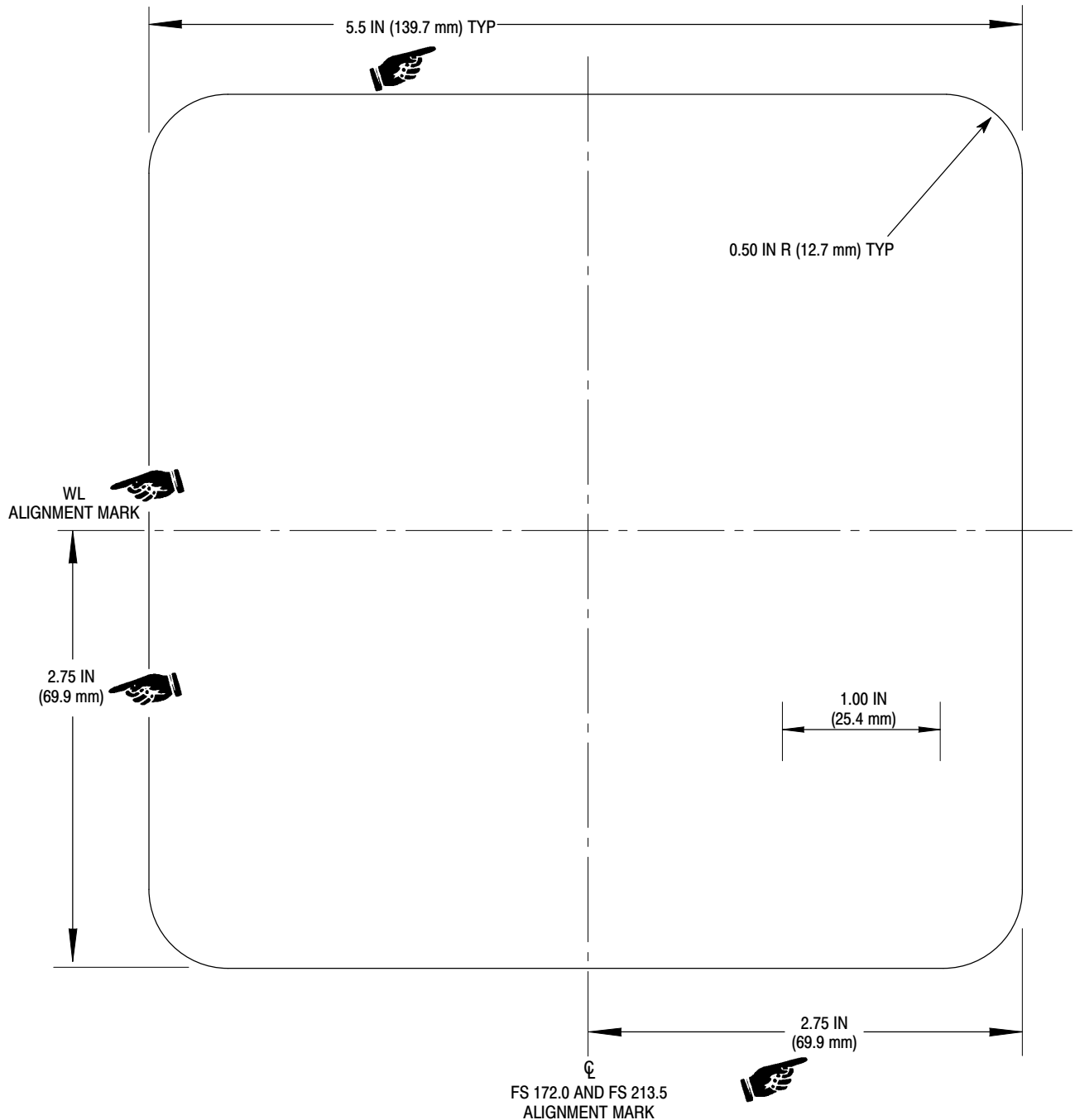
Solvent Cleaner (C429)



- (2). Clean area with Desoclean 45 or equivalent blended solvent and dry in air for a minimum of fifteen minutes.

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009
PAGE 9 OF 32



9B53-075A

Figure 2. Access Hole Outer Skin Cut Out Template

DATE: 22 SEPTEMBER 2009
PAGE 10 OF 32

TECHNICAL BULLETIN

D. Prepare and Install Outer Doubler Plies:

(Ref. Table 1 and Figure 3)



Prepare and install doubler plies at only one outer location at a time.

NOTE: For access panel installation at FS 172, cut outer graphite plies 4, 5, and 6 at upper forward corner 45 degrees and decrease overlap of plies 4, 5, and 6 to 0.25 in. (6.35 mm) to prevent an interference with adjacent doubler.

- (1). Make a record of lot, batch number, and shelf life limit of fabric and epoxy resin. Keep record with helicopter maintenance records.



- Do not machine mix epoxy as it will cause air to be included in the epoxy which will reduce its strength.
- Make sure shelf life of graphite fabric and epoxy resin is in manufacturers limits.

Resin, Epoxy (C504)



- (2). Mix epoxy fully by weight (Ref. Table 1).

Table 1. Epoxy Resin Mix and Cure

Material	Mix Ratio		Cure in Hours
	Part A	Part B	
Araldite 501	100	14-16	12 Minimum @ Room Temperature Followed by 1.5-2.5 @ 170-190 °F (77-88 °C)

- (3). Apply epoxy resin to doubler plies, use **0.26-0.30 oz. (7.37-8.51 g) epoxy resin for each sq. ft. (929 sq. cm)** of fabric.

NOTE:

- Do not apply epoxy to Astrostrike expanded aluminum foil. Sufficient epoxy is included in the other doubler plies to make sure there is a good bond.
- Make sure to cut doubler plies to the correct orientation, refer to ply installation sequence table in Figure 3.
 - (a). Cut two pieces of nonporous release film approximately 3.0 in. (76 mm) larger than doubler ply.
 - (b). Put a mark on one piece of nonporous release film the dimension the doubler ply will be when it is installed.
 - (c). Apply a thin layer of epoxy resin, 1.0 in. (25 mm) larger than mark, on the side of the nonporous release film without a mark.
 - (d). Put the doubler ply on the epoxy resin.

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009

PAGE 11 OF 32

- (e). Put the other piece of nonporous release film on the doubler ply.
- (f). Carefully push epoxy resin into fabric, use a plastic squeegee. Push unwanted epoxy resin outboard of fabric.
- (4). Cut the doubler ply and nonporous release film to the dimension mark on the nonporous release film.
- (5). Apply a very thin layer of epoxy resin on the surface where you will install the doublers.

NOTE: Make sure to install doubler plies in the correct orientation, refer to ply installation sequence table in Figure 3.

- (6). Remove nonporous release film from both sides of smallest doubler ply and put doubler ply on tub assembly outer skin, align center of doubler ply with center of access panel location.



On the outer side of the tub assembly, install the smaller fiberglass ply between the outer layer of graphite fabric and the expanded aluminum foil.

- (7). Continue to install doubler plies on tub assembly outer skin in order (smallest to largest).



- It is necessary to monitor the temperature with a calibrated thermocouple, when you use the elevated temperature cure.
- Make a record of temperatures and pressures during the procedure that follows. Keep record with helicopter maintenance records.

- (8). Cure doubler installation (Ref. Table 1).

- (a). Install peel ply, bleeder ply, nonporous release film, thermocouple, breather cloth, heat pad, vacuum bag sealing putty, vacuum bag, and vacuum port.
- (b). Apply **20-29 in. HG (68-98 kPa)** to vacuum bag and maintain a minimum of **20 in. HG (68 kPa)** during cure.

Protective Equipment



- (9). Remove unwanted resin with 180 grit (or finer) sandpaper. Surface is to be smooth.

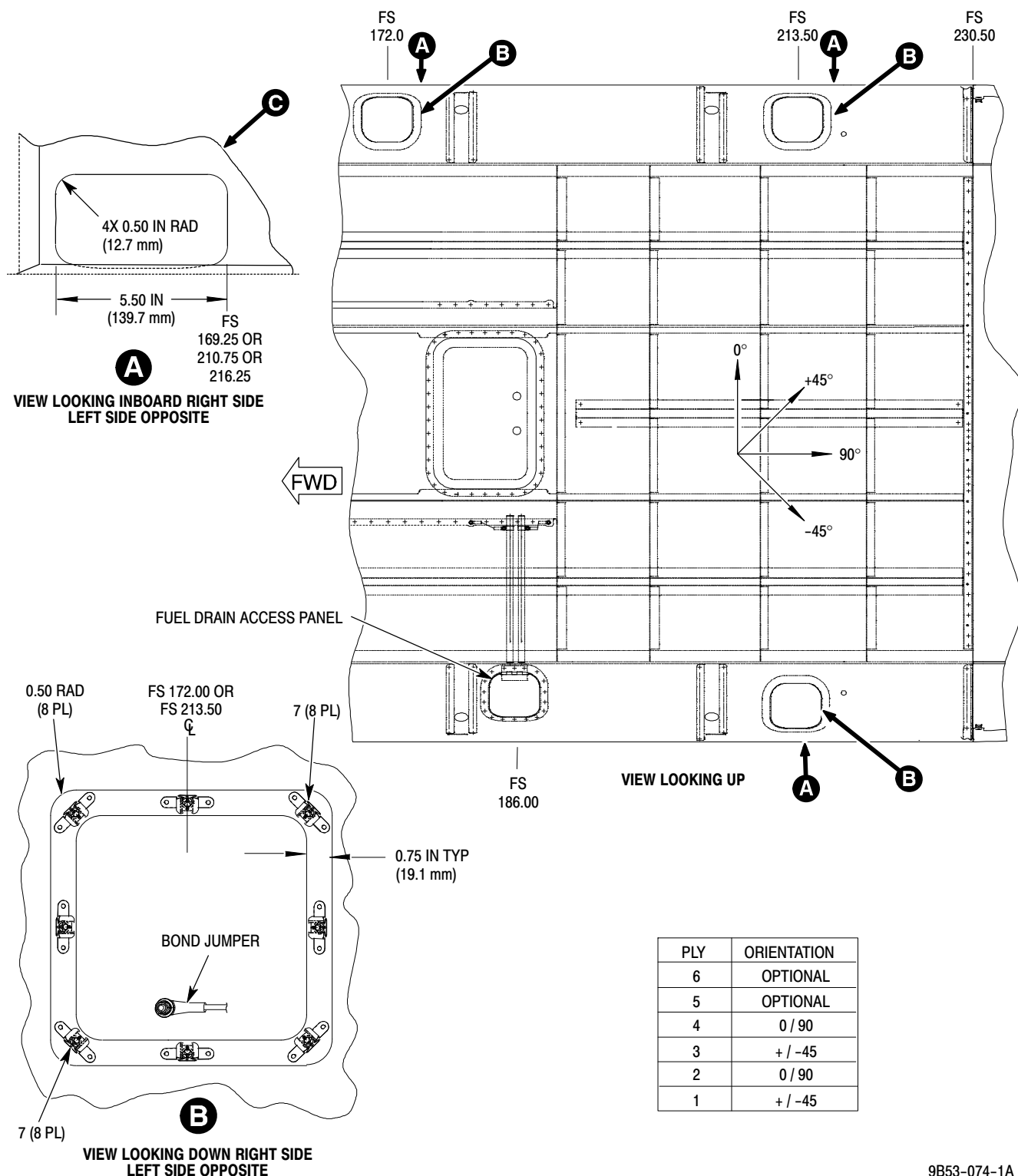
Solvent Cleaner (C429)



- (10). Clean surfaces with Desoclean 45 or equivalent.

DATE: 22 SEPTEMBER 2009
PAGE 12 OF 32

TECHNICAL BULLETIN



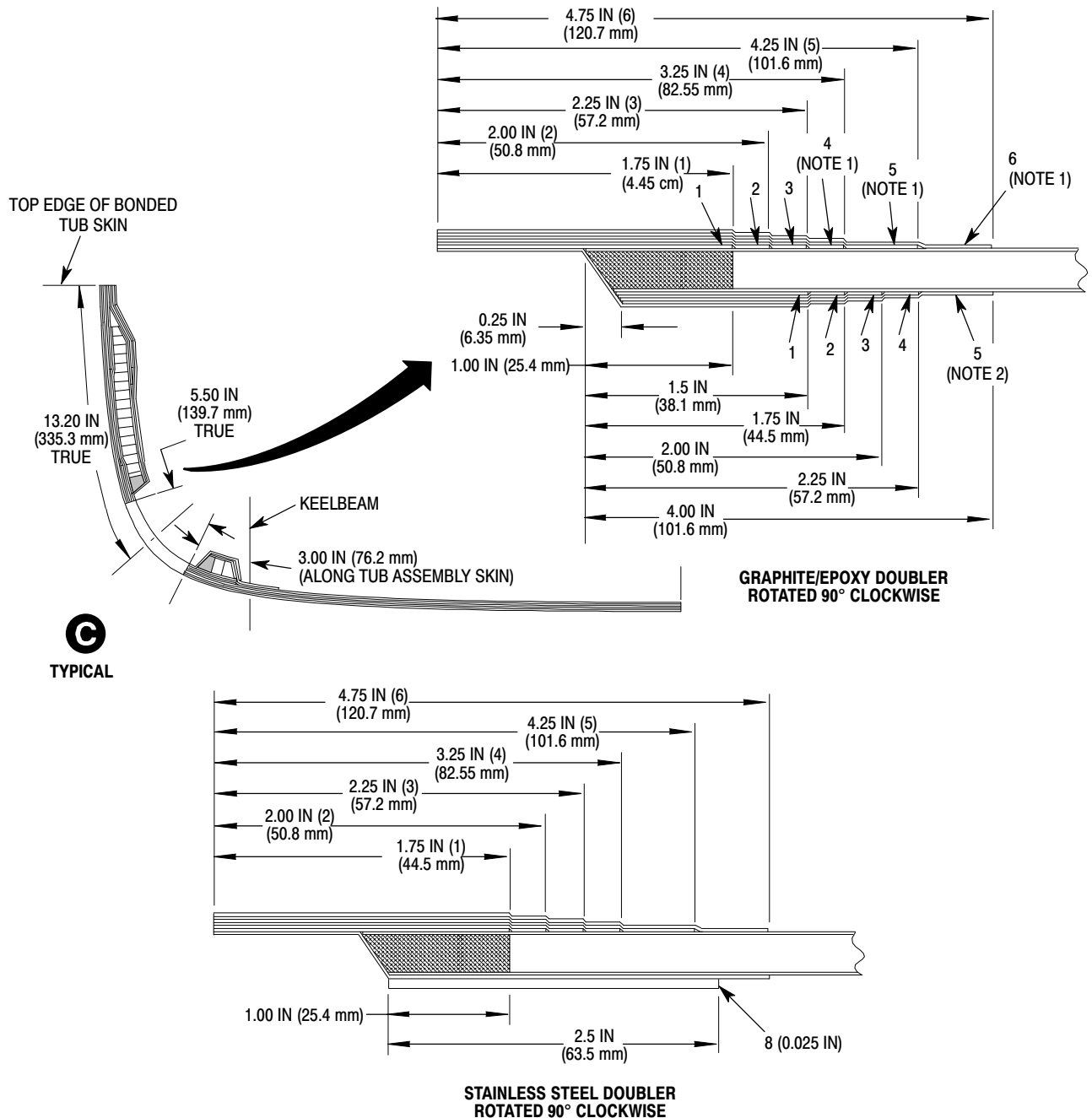
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Figure 3. Access Panel Installation (Sheet 1 of 2)

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009

PAGE 13 OF 32



NOTES:

1. FOR ACCESS PANEL INSTALLATION AT FS 172, CUT OUTER GRAPHITE PLYS AT UPPER FORWARD CORNER 45 DEGREES AND DECREASE OVERLAP OF PLYS 4, 5, AND 6 TO 0.25 IN (6.35 mm) TO PREVENT AN INTERFERENCE WITH ADJACENT DOUBLER.
2. FOR ACCESS PANEL INSTALLATION AT FS 172, CUT INNER GRAPHITE PLY 5 FORWARD EDGE ALIGNED WITH FORWARD EDGE OF PLY 4 TO PREVENT AN INTERFERENCE WITH ADJACENT INNER WEB.

9B53-074-2A

Figure 3. Access Panel Installation (Sheet 2 of 2)

DATE: 22 SEPTEMBER 2009
PAGE 14 OF 32

TECHNICAL BULLETIN

Legend (Ref. Figure 3)

1. PLAIN WEAVE GRAPHITE FABRIC
2. PLAIN WEAVE GRAPHITE FABRIC
3. PLAIN WEAVE GRAPHITE FABRIC
4. PLAIN WEAVE GRAPHITE FABRIC
5. FABRIC, E GLASS
6. SHIELDING, EXPANDED ALUMINUM FOIL
7. QUARTER TURN RECEPTACLE OR NUTPLATE
8. STAINLESS STEEL DOUBLER

E. Remove Graphite/Epoxy Plies and Core Material:

(Ref. Figure 2, Figure 3, and Figure 4)

- (1). Mark outer side of tub assembly with the area to be cut out, use access hole outer skin cut out template.

CAUTION

- Be careful not to damage graphite/epoxy surfaces.
- Protect components in the area of work from tools, use a shield (e.g. stainless steel sheet).
- Do not use aluminum oxide abrasives on graphite/epoxy materials.

NOTE: When you cut graphite/epoxy, leave an excess of **0.1-0.2 in. (2.5-5mm)** more material to be removed in a later step.

Protective Equipment



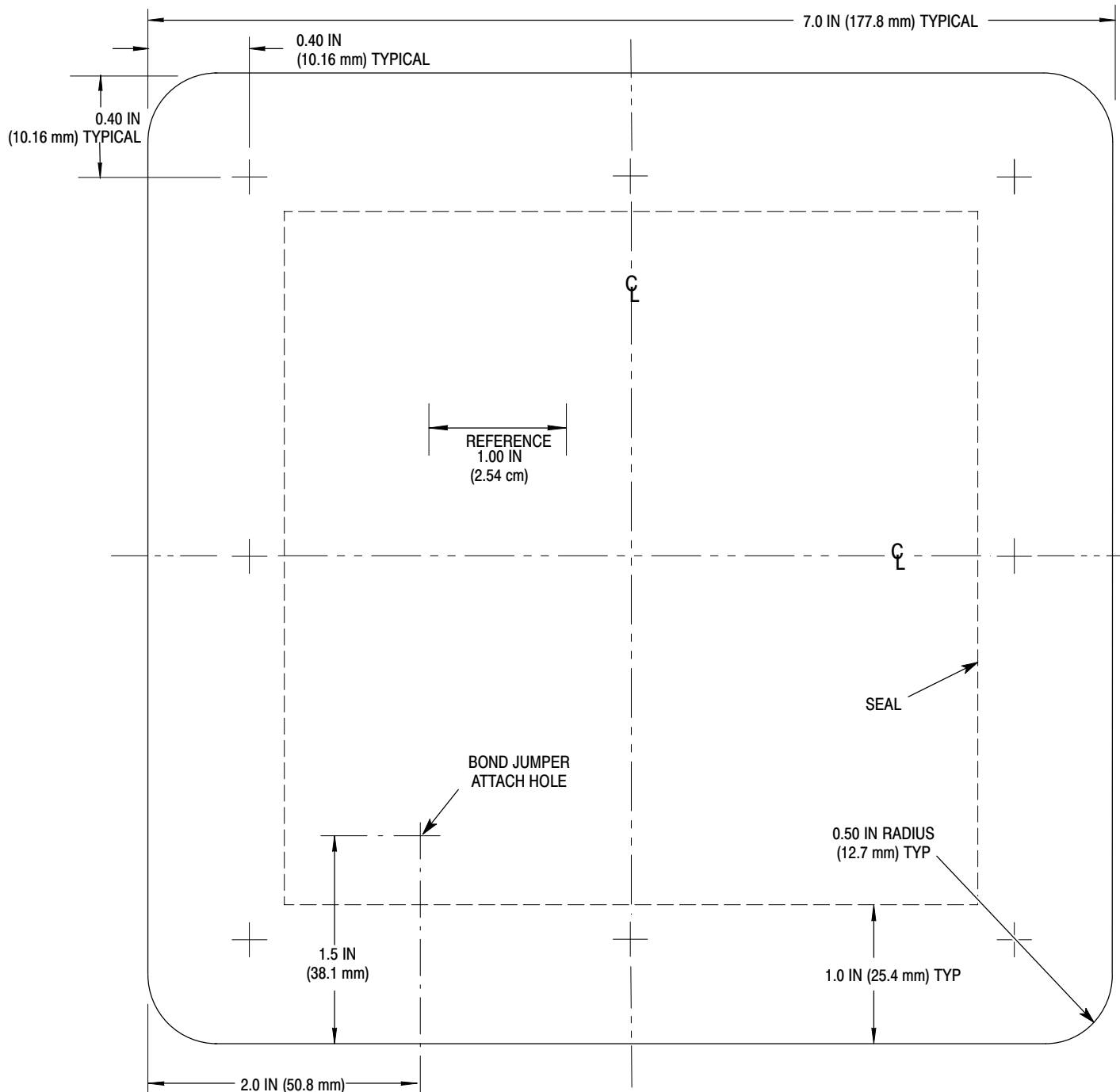
- (2). Remove outer layer of graphite/epoxy, honeycomb core, and inner layer of graphite/epoxy, use a 90° high-speed die grinder with a rotary file.
- (3). Make access panel from aluminum sheet and roll to agree with the contour of the tub assembly. Do not drill holes at this time.
- (4). Mark dimension of cut out in inner layer of graphite/epoxy, use the access panel as a template.
- (5). Remove inner layer of graphite/epoxy, use a 90° high-speed die grinder with a rotary file.

NOTE: It is not necessary to remove all old epoxy.

- (6). Carefully remove honeycomb core. Remove core **1.0 in. (25.4 mm)** more than edge of inner layer of graphite/epoxy. Use a 90° high-speed die grinder with a two (2) and three (3) inch disk sander attachment and 180 grit (or finer) disks

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009
PAGE 15 OF 32



9B53-073A

Figure 4. Access Panel

DATE: 22 SEPTEMBER 2009
PAGE 16 OF 32

TECHNICAL BULLETIN

F. Fill Space Where Core Is Removed With Epoxy Adhesive:

(Ref. Figure 5)

Protective Equipment



NOTE: Drill all **0.063 inch (1.60mm)** holes in inner graphite/epoxy laminate only.

- (1). Drill three **0.063 in. (1.60mm)** holes at forward and aft edges equal distance **0.063 in. (1.60 mm)** in from outer edge of space where core was removed so epoxy adhesive will fully fill it.
- (2). Drill two **0.063 in. (1.60mm)** holes at upper edge equal distance **0.063 in. (1.60 mm)** in from outer edge of space where core was removed so epoxy adhesive will fully fill it.
- (3). Vacuum area fully and remove any loose core, chips, and dust.

Solvent Cleaner (C429)



- (4). Clean surfaces with Desoclean 45 or equivalent and dry in air for a minimum of fifteen minutes.
- (5). Make a record of lot, batch number, and shelf life limit of epoxy adhesive.
- (6). Prepare epoxy filler and fill space.

Adhesive, Epoxy (C411)



CAUTION

- Do not machine mix epoxy adhesive, it will cause air to be included in the epoxy adhesive which will decrease its strength.
 - Make sure shelf life of epoxy adhesive is in manufacturers limits.
- (a). Mix epoxy adhesive by weight (Ref. Table 2).

NOTE:

- Start to fill space at the bottom and put flashbreaker release tape on the edge of the space as it fills.
- As epoxy adhesive starts to come out of the 0.063 in. (1.60 mm) holes, put flashbreaker release tape on holes.
- (b). Fully fill space and make sure epoxy adhesive comes out of all eight 0.063 in (1.60mm) holes. Use a tongue depressor or equivalent.

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009

PAGE 17 OF 32

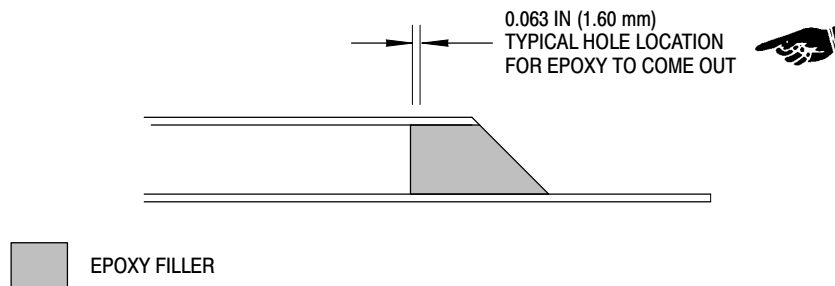
CAUTION

- It is necessary to monitor the temperature with a calibrated thermocouple, when you use the elevated temperature cure.
- Make a record of temperatures during the procedure that follows.

(7). Cure epoxy adhesive (Ref. Table 2).

Table 2. Epoxy Adhesive Mix and Cure

Material	Mix Ratio		Cure in Hours
	Part A	Part B	
EA 9321	2	1	24 @ Room Temperature or 2 @ 150–170 °F (66–77 °C)
BR 95	3	1	24 @ Room Temperature or 2 @ 150–170 °F (66–77 °C)



9B53-071A

Figure 5. Hole Location For Epoxy Adhesive

DATE: 22 SEPTEMBER 2009
PAGE 18 OF 32

TECHNICAL BULLETIN

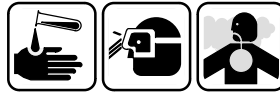
G. Complete access holes:

(Ref. Figure 6)

CAUTION

- Be careful not to damage graphite/epoxy surfaces.
- Protect components in the area of work from tools, use a shield (e.g. stainless steel sheet).
- Do not use aluminum oxide abrasives on graphite/epoxy materials.

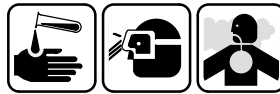
Protective Equipment



- (1). Make edge of hole in outer layer of graphite/epoxy smooth, use a 90° high-speed die grinder with a 320 grit (or finer) drum sander.
- (2). Make inner graphite/epoxy cut out template from a stable material to the cut out dimensions.
- (3). Mark dimension of hole in inner layer of graphite/epoxy, use template.
- (4). Chamfer inner layer of graphite/epoxy and epoxy adhesive to inner hole dimension at a 45 degree angle, use a 90° high-speed die grinder with a drum sander.
- (5). Make edge of hole and epoxy adhesive smooth, use a 90° high-speed die grinder with a 320 grit (or finer) drum sander.

H. Prepare Inner layer of Graphite/Epoxy For Doubler Installation:

Protective Equipment



CAUTION

- Do not sand into or expose graphite/epoxy fibers.
 - Do not use aluminum oxide abrasives on graphite/epoxy materials.
- (1). Lightly sand inner surface to remove gloss, use 180 grit sandpaper or nylon pad.

Solvent Cleaner (C429)



- (2). Clean area with Desoclean 45 or equivalent and dry in air for a minimum of fifteen minutes.

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009

PAGE 19 OF 32

I. If Inner Graphite/Epoxy Doublers Are Installed, Prepare Inner Doubler Plies:

(Ref. Figure 3 and Table 3)



- Prepare and install doubler plies at one location at a time.
- Make sure shelf life of graphite fabric and epoxy resin is in manufacturers limits.

NOTE:

- For access panel installation at FS 172, cut inner graphite ply 5 froward edge aligned with forward edge of ply 4 to prevent an interference with adjacent inner web.
 - Inner doubler plies are installed in strips with full width overlap in each corner.
- (1). Make a record of lot, batch number, and shelf life limit of fabric and epoxy resin.
 - (2). Cut sufficient doubler ply material to make the necessary doublers. Make doublers 1.0 in. (25.4 mm) larger than outer dimension.

Resin, Epoxy (C504)



Do not machine mix epoxy resin, it will cause air to be included in the epoxy resin which will decrease its strength.

- (3). Mix epoxy resin by weight (Ref. Table 3).

Table 3. Epoxy Resin Mix and Cure

Material	Mix Ratio		Cure in Hours
	Part A	Part B	
Araldite 501	100	15 ± 1	12 Minimum @ Room Temperature Followed by 1.5–2.5 @ 170–190 °F (77–88 °C)

- (4). Apply epoxy resin to doubler plies, use **0.26-0.30 oz. (7.37-8.51 g) epoxy resin for each sq. ft. (929 sq. cm)** of fabric.
 - (a). Cut two pieces of nonporous release film approximately 3.0 in. (76 mm) larger than doubler ply.
 - (b). Put a mark on one piece of nonporous release film the dimension the doubler ply will be when it is installed.
 - (c). Apply a thin layer of epoxy resin, 1.0 in. (25 mm) larger than mark, on the side of the nonporous release film without a mark.
 - (d). Put the doubler ply on the epoxy resin.
 - (e). Apply a thin layer of epoxy resin on the doubler ply.
 - (f). Put the other piece of nonporous release film on the doubler ply.

DATE: 22 SEPTEMBER 2009
PAGE 20 OF 32

TECHNICAL BULLETIN

(g). Carefully push epoxy resin into fabric, use a plastic squeegee. Push unwanted epoxy resin outboard of fabric.

(5). Cut the doubler ply and nonporous release film to the dimension mark on the nonporous release film.

J. Install Inner Doubler Plies:

(Ref. Figure 3)

- (1). Apply a very thin layer of epoxy resin on the surface where you will install the doublers.
- (2). Remove nonporous release film from both sides of smallest doubler ply and put on tub assembly aligned with center of hole location.
- (3). Continue to install plies on tub assembly in order (smallest to largest).

CAUTION

- It is necessary to monitor the temperature with a calibrated thermocouple, when you use the elevated temperature cure.
 - Make a record of temperatures and pressures during the procedure that follows.
- (4). Cure doubler installation (Ref. Table 3).
 - (a). Install peel ply, bleeder ply, nonporous release film, thermocouple, and an applicable caul plate.
 - (b). Install clamps to get a pressure of **10-15 lb. for each sq. in. (0.70-1.05 kg for each sq. cm).**

Protective Equipment



- (5). Remove unwanted epoxy resin with 180 grit (or finer) sandpaper. Surface is to be smooth.

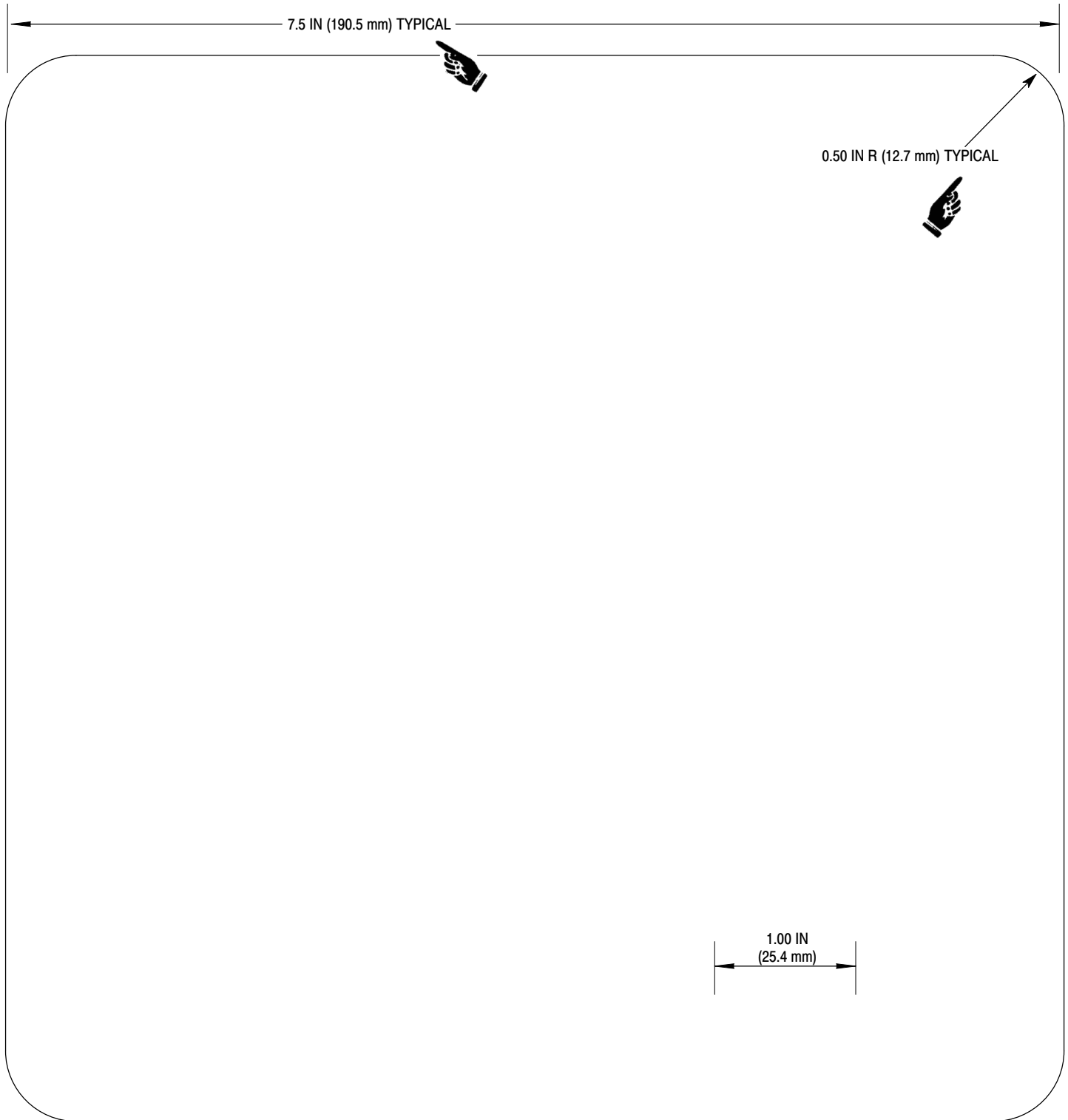
Solvent Cleaner (C429)



- (6). Clean surfaces with Desoclean 45 or equivalent.

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009
PAGE 21 OF 32



9B53-070A

Figure 6. Inner Graphite/Epoxy Cut Out Template

DATE: 22 SEPTEMBER 2009
PAGE 22 OF 32

TECHNICAL BULLETIN

K. If Stainless Steel Inner Doublers Are Installed:

- (1). Install inner fiberglass ply.

Fluorosilicone Compound (C222)



NOTE: Before you install cover on access hole, apply mold release compound on cover.

- (a). Install a cover on outer side of access hole, use access panel or other applicable material.
- (b). Tape fully with flashbreaker release tape and duct tape.
- (c). Prepare inner fiberglass doubler ply for installation (Ref. Procedure D.).
- (d). Install inner fiberglass doubler ply (Ref. Procedure D.).
- (e). Remove fiberglass doubler ply from inner side of access hole, use a 90° die-grinder and rotary file.
- (f). Make fiberglass doubler smooth, use 320 grit or finer sandpaper.

L. Make and Install Stainless Steel Doubler:

(Ref. Figure 7)

Protective Equipment



- (1). Cut doublers from stainless sheet and deburr.

NOTE: When installed, doublers overlap horizontally.

- (2). Roll doublers to agree with contour of tub assembly.
- (3). Joggle doubler.
- (4). Lightly sand doublers to remove gloss, use 180 grit sandpaper or nylon pad.

Solvent Cleaner (C429)



- (5). Clean doublers with Desoclean 45 or equivalent and dry in air a minimum on fifteen minutes.
- (6). Make a record of lot, batch number, and shelf life limit of epoxy adhesive.

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009

PAGE 23 OF 32

Adhesive, Epoxy (C411)



CAUTION

- Do not machine mix epoxy adhesive, it will cause air to be included in the epoxy adhesive which will decrease its strength.
- Make sure shelf life of epoxy adhesive is in manufacturers limits.

(7). Mix epoxy adhesive by weight (Ref. Table 4).

Table 4. Epoxy Adhesive Mix and Cure

Material	Mix Ratio		Cure in Hours
	Part A	Part B	
EA 9321	2	1	24 @ Room Temperature or 2 @ 150–170 °F (66–77 °C)
BR 95	3	1	24 @ Room Temperature or 2 @ 150–170 °F (66–77 °C)

- (8). Apply a thin layer of epoxy adhesive on the surface where you will install the doublers.
- (9). Install the doubler without a joggle in the lower position and clamp to hold in place.
- (10). Apply a thin layer of epoxy adhesive on the doubler without a joggle where the joggled doubler overlaps it.
- (11). Install the joggled doubler in the upper position and clamp to hold in place.
- (12). Add sufficient clamps to make sure there is a good bond.
- (13). Remove unwanted epoxy adhesive from around doublers.

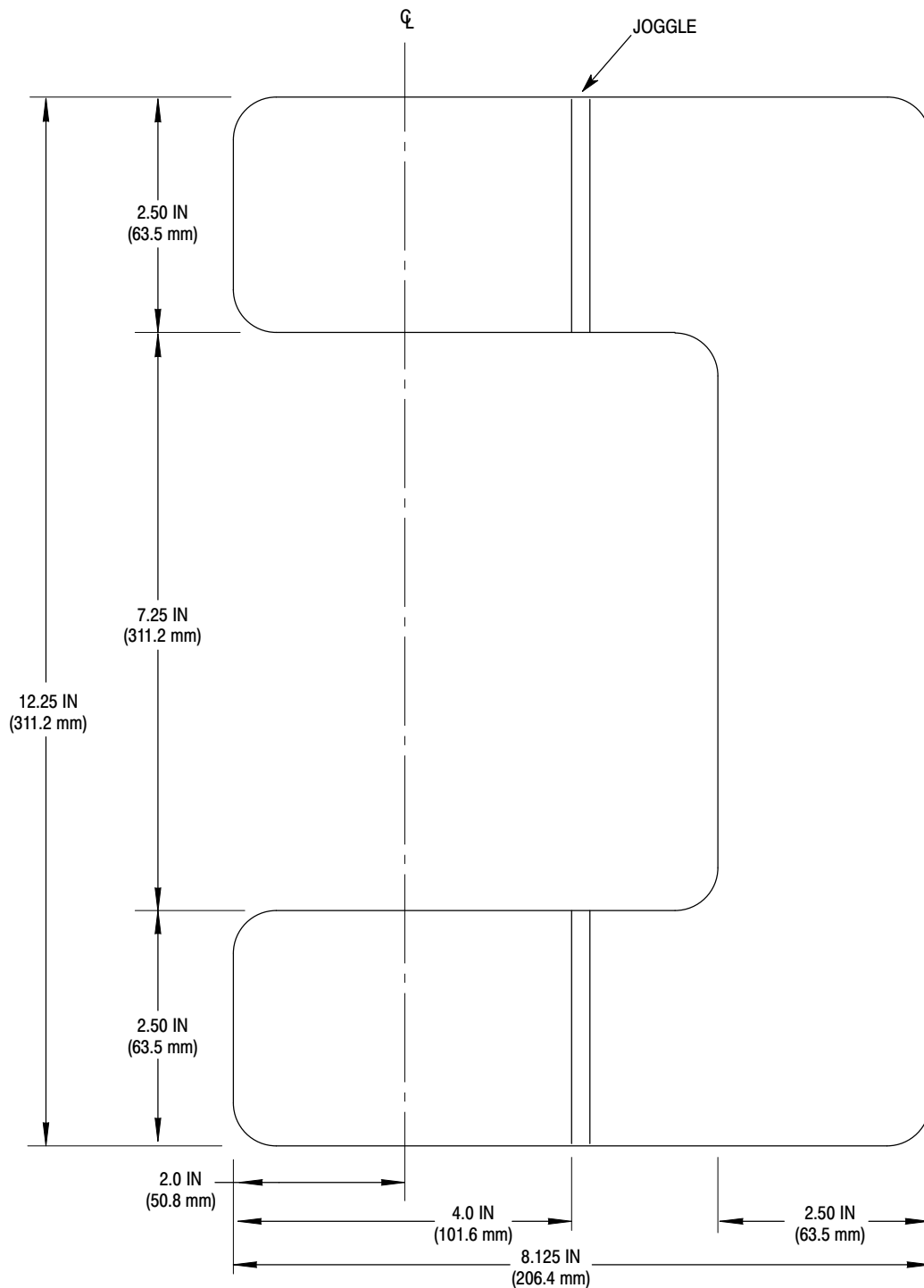
CAUTION

- It is necessary to monitor the temperature with a calibrated thermocouple, when you use the elevated temperature cure.
- Make a record of temperatures and pressures during the procedure that follows.

(14). Cure epoxy adhesive (Ref. Table 4).

DATE: 22 SEPTEMBER 2009
PAGE 24 OF 32

TECHNICAL BULLETIN

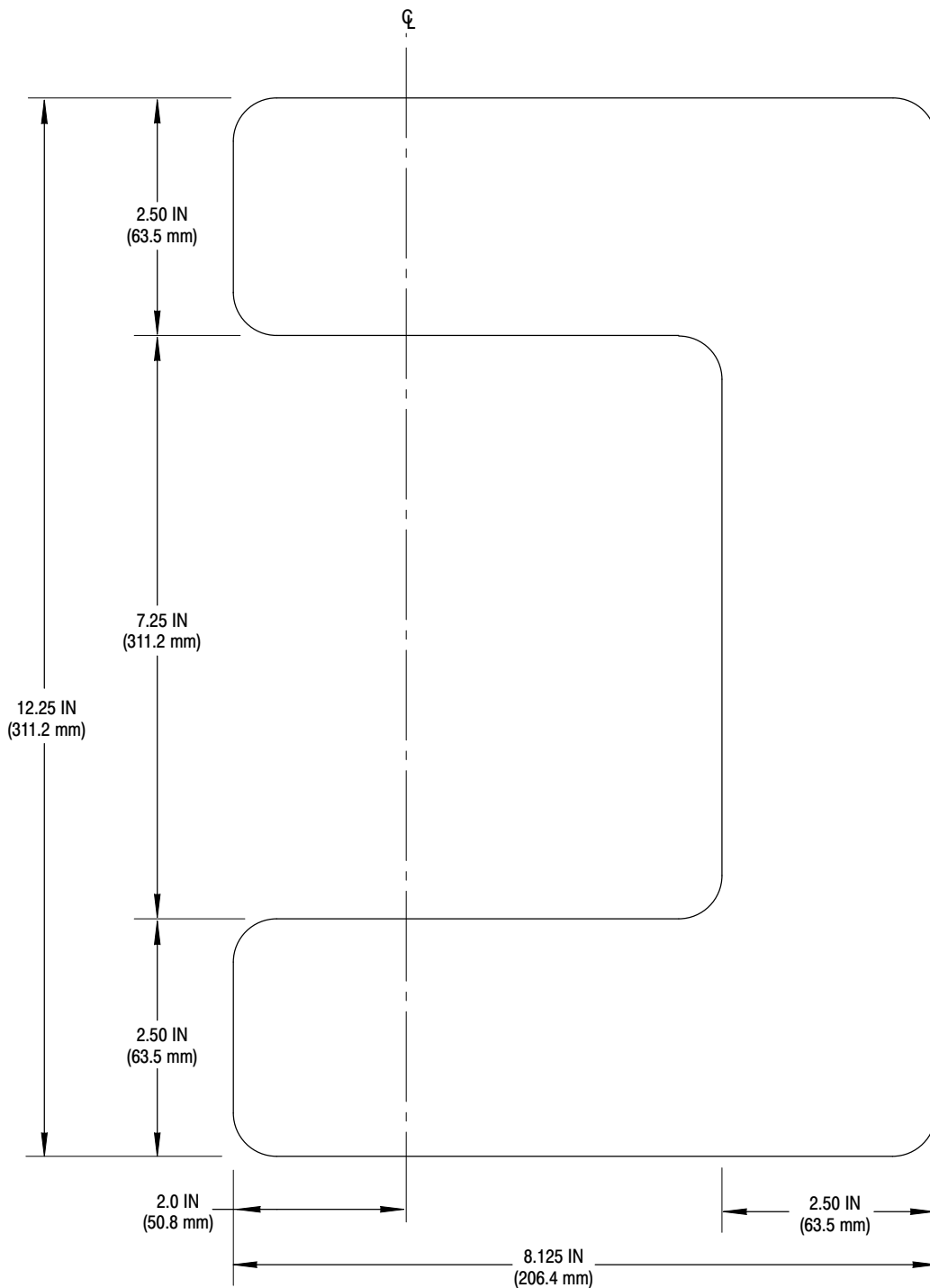


9B53-088A

Figure 7. Stainless Steel Doubler (Sheet 1 of 2)

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009
PAGE 25 OF 32



9B53-087A

Figure 7. Stainless Steel Doubler (Sheet 2 of 2)

DATE: 22 SEPTEMBER 2009
PAGE 26 OF 32

TECHNICAL BULLETIN

M. Make Area Smooth:

(Ref. Table 5)

- (1). Make a record of lot, batch number, and shelf life limit of epoxy adhesive.

Adhesive, Epoxy (C405)



CAUTION

- Do not machine mix epoxy as it will cause air to be included in the epoxy which will reduce its strength.
- Make sure shelf life of epoxy adhesive is in manufacturers limits.
- Maximum thickness of epoxy adhesive, primer, and top coat must not be more than 7 mils in thickness.

- (2). Mix epoxy adhesive by weight (Ref. Table 5).

Table 5. Epoxy Adhesive Mix and Cure

Material	Mix Ratio		Cure in Hours
	Part A	Part B	
EA 960F	2	1	24 @ Room Temperature or 2 @ 150–170 °F (66–77 °C)
RP-1257-3	1	1	24 @ Room Temperature or 2 @ 150–170 °F (66–77 °C)

CAUTION

- It is necessary to monitor the temperature with a calibrated thermocouple, when you use the elevated temperature cure.
- Make a record of temperatures during the procedure that follows.

- (3). Make doubler edges smooth with fuselage, use epoxy adhesive.

- (4). Cure epoxy adhesive (Ref. Table 5).

CAUTION

- Do not sand into or expose Astrostrike™ expanded aluminum foil lightning protection.
- Do not sand into or expose graphite/epoxy fibers.
- Do not use aluminum oxide abrasives on graphite/epoxy materials.

Protective Equipment



- (5). Sand area lightly with 320 grit sandpaper.

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009

PAGE 27 OF 32

Solvent Cleaner (C429)



(6). Clean surfaces with Desoclean 45 or equivalent.

NOTE: Maximum thickness of epoxy adhesive, primer, and top coat must not be more than 7 mils.

(7). If necessary, do steps (1). thru (6). to get a smooth contour between doubler plies and fuselage skin.

N. Install Receptacles or Nutplates:

(Ref. Figure 3 and Figure 4)

- (1). Mark location of holes in access panel and drill, use a number forty (2.49 mm) drill.
- (2). Drill pilot holes at marks, use a number forty (2.49 mm) drill.
- (3). Mark locations of the quarter turn receptacle or nutplate center holes, use access panel as a template.
- (4). Drill pilot holes at marks, use a number forty (2.49 mm) drill.
- (5). Increase dimension of quarter turn fastener or screw holes in tub assembly, use a number two (5.61 mm) drill.
- (6). Drill rivet holes for the receptacles, use a number forty (2.49 mm) drill. Use the receptacle or nutplate as a guide.
- (7). Countersink rivet holes 100 degrees and deburr all holes.

Primer (C310)



(8). Install receptacles or nutplates with MS20605 rivets. Install rivets wet with primer (C310).

O. Complete Access Panel:

(Ref. Figure 3)

- (1). Complete fastener holes.
 - (a). Increase dimension of quarter turn fastener holes in access panel, use a number two (5.61 mm) drill. Deburr holes.
 - (b). Increase dimension of screw holes in access panel, use a number eight (5.05 mm) drill. Deburr holes.
- (2). Mark location of bond jumper attach hole.
- (3). Drill bond jumper attach hole, use a number eight (5.05 mm) drill. Deburr hole.

Chemical Coating (C233)



(4). Apply chemical coating (C233) to aluminum (Ref. CSP-SPM, Section 20-40-00).

DATE: 22 SEPTEMBER 2009
PAGE 28 OF 32

TECHNICAL BULLETIN

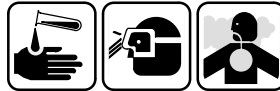
- (5). Apply masking tape to of bond jumper attach point.

Primer (C310)



- (6). Apply primer (C310) to access panel (Ref. CSP-SPM, Section 20-30-00).
(7). If quarter turn fasteners are installed, assemble access panel, HS4437 stud, and HS4429 retaining washer.

Silicone Compound (C221)



- (8). Install panel seal.
(a). If rubber seal is installed, install seal MIL-R-6130 on access panel with silicone compound (C221).

Fluorosilicone Compound (C222)



- (b). If form in place seal is installed, apply fluorosilicone compound (C222) to tub assembly around access hole and dry in air for fifteen minutes.
(c). If form in place seal is installed, do the procedure that follows.
1). Make a record of lot, batch number, and shelf life limit of sealant (C216).

Sealant, Fuel Resistant (C216)



- 2). Mix sealant (C216), refer to manufacturers instructions.
3). Apply a 0.250 in. (6.35 mm) bead of sealant (C216) around outer edge of panel.
4). Install panel.
5). Remove unwanted sealant (C216) from around access panel.
6). Cure sealant (C216), refer to manufacturers instructions.
(9). Remove panel.

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009

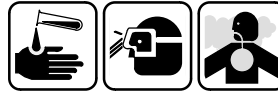
PAGE 29 OF 32

P. Connect Electrical Bond Jumper:

(Ref. Figure 8)

- (1). Connect bond jumper (7) to access panel, use screw (2), washer (3), washer (4), lock washer (5), and nut (6). Torque nut.
- (2). Find the hole on aft flange of keel attach channel approximately **2.0 in. (50.8 mm)** from the bottom and **0.75 in. (19.05 mm)** outboard from keel beam surface.

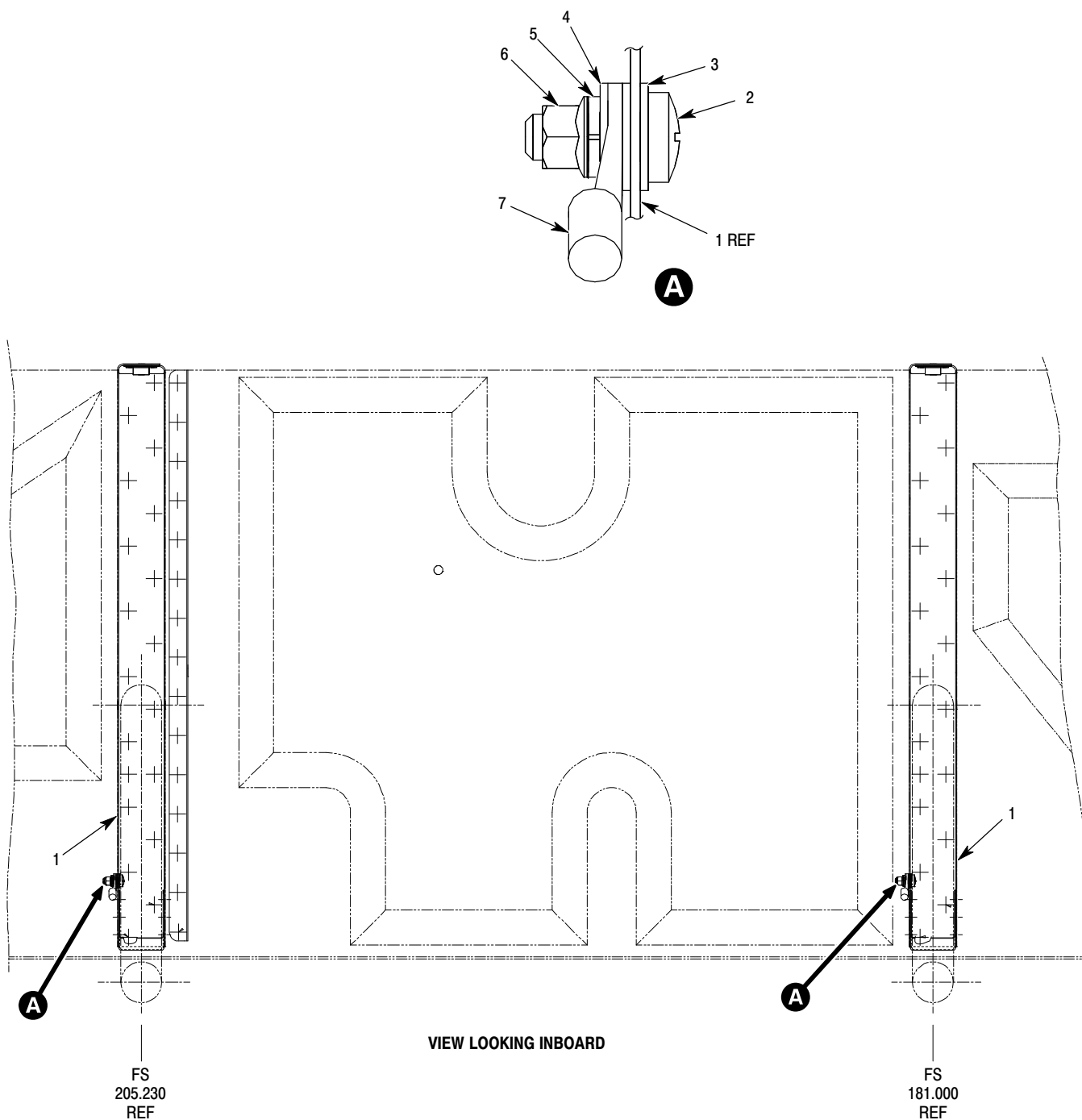
Protective Equipment



- (3). Increase dimension of hole, use a number eight (5.05 mm) drill. Deburr hole.
- (4). Prepare mating surface of keel attach channel and bond jumper for electrical bond (Ref. CSP-SPM, Section 20-50-00).
- (5). Connect bond jumper (7) from access panel to keel attach channel, use screw (2), washer (3), washer (4), lock washer (5), and nut (6). Torque nut.
- (6). Environmentally seal both ends of bond jumper (Ref. CSP-SPM, Section 20-50-00).
- (7). Do a test for Class “L” electrical bond (Ref. CSP-SPM, Section 20-50-00).

DATE: 22 SEPTEMBER 2009
PAGE 30 OF 32

TECHNICAL BULLETIN



9B53-069

Figure 8. Electrical Bond Jumper (RH Shown LH Opposite)

TECHNICAL BULLETIN

DATE: 22 SEPTEMBER 2009

PAGE 31 OF 32

Legend (Ref. Figure 8)

1. KEEL ATTACH CHANNEL
2. SCREW NAS603-8P
3. WASHER AN960JD10L
4. WASHER AN960-10L
5. WASHER MS35338-43
6. NUT MS21042L3
7. BOND JUMPER MS25083

Q. Touch Up Paint:



Maximum thickness of epoxy adhesive, primer, and top coat must not be more than 7 mils in thickness.

- (1). Touch up all surfaces with primer Uroprime 1320S or equivalent.
- (2). Touch up topcoat to match helicopter.

R. Close All Removed Panels:

- (1). Install left outboard cabin floor panel (AL 165), or right outboard cabin floor panel (AR 165) (Ref. CSP-900RMM-2, Section 06-00-00).
- (2). Make a record in the Compliance Record section of the Rotorcraft Log Book that this technical bulletin have been completed.

NOTE: If you do not install all three panels, include in the record which location access panel has been installed.

TECHNICAL BULLETIN

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TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 1 OF 38

MODIFICATION INSTRUCTIONS FOR NACA INLET ASSEMBLY INSTALLATION

1. PLANNING INFORMATION

A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) MD900 helicopters serial numbers MD900-00002 through MD900-00051.

B. Assembly/Components Affected By This Notice:

Engine Inlet Assemblies, with or without an inlet particle separator.

C. Reason:

Installation of the NACA duct engine inlet will reduce engine MGT approximately 20°C at cruise power. The engine performance gained by this modification will depend on the operation of the aircraft.

D. Description:

This Bulletin provides the owner or operator with instructions to install the Engine NACA Inlet Installation. The instructions herein refer to maintenance practices contained in CSP-900RMM-2, CSP-900RMM-3, and CSP-900WIR-8).

E. Time of Compliance:

Customer option, at the discretion of the owner/operator.

F. Classification:

Compliance with this Bulletin is a major alteration.

G. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

H. Manpower:

Forty (40) man-hours.

I. Interchangeability:

N/A

J. Disposition of Parts Removed

N/A

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 Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

DATE: 11 NOVEMBER 1997

PAGE 2 OF 38

TECHNICAL BULLETIN

L. Warranty Policy:

None

M. Tooling:

N/A

N. Weight and Balance:

Aircraft must be weighed.

O. Electrical Load Data:

N/A

P. Other Publications Affected:

Rotorcraft Maintenance Manual (CSP-900RMM-2).

Q. Material/Part Availability:

Contact MDHS Field Service Dept. for NACA kit availability.

Table 1. Replacement Parts

Item No.	Qty.	Part Number	Description	Source
1	1	900F2337200-101	Inlet Assembly – LH	
2	1	900F2337200-102	Inlet Assembly – RH	
3	1	900F2337009-101	Upper Support Bracket – LH	
4	1	900F2337009-102	Upper Support Bracket – RH	
5	1	900F2337008-101	Lower Support Bracket – LH	
6	1	900F2337008-102	Lower Support Bracket – RH	
7	1	900F2337012-101	Inlet Support Assembly – LH	
8	1	900F2337012-102	Inlet Support Assembly – RH	
9	1	900F2337013-101	Inlet Gusset – LH	
10	1	900F2337013-102	Inlet Gusset – RH	
11	1	900F2337026-101	Inlet Cover – LH	
12	1	900F2337026-102	Inlet Cover – RH	
13	2	900F5337000-9	Flange Doubler	
14	2	900F5337000-11	Flange Doubler	
15	24	HS4424-1C	Quarter Turn Retaining Ring	
16	24	HS4434-4C	Quarter Turn Grommet	
17	12	HS4436F5N	Quarter Turn Folding Bail Stud	
18	12	HS4436F6N	Quarter Turn Folding Bail Stud	
19	4	HS4435-2	Quarter Turn Receptacle	

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997
PAGE 3 OF 38
Table 1. Replacement Parts (Cont.)

Item No.	Qty.	Part Number	Description	Source
20	AR	MS20426AD4	Rivet, Countersunk	
21	AR	MS20470AD5	Rivet, Universal Head	
22	6	MS27039-1-10	Screw, Panhead	
23	4	MS27039-1-11	Screw, Panhead	
24	AR	NAS1097AD3	Rivet, Shear Head	
25	AR	NAS1149F0332P	Washer	
26	12	NAS6603-2	Bolt, Hex Head	
27	14	MS21076L3N	Nutplate	
28	AR	MS20470AD4	Universal Head Rivet	
29	AR	MS20615-3M	Universal Head Rivet	
30	AR	HS5788A4	Seal Material	
31	AR	HS5788B4	Seal Material	
32	1	900F2611060-101	Upper Reworked Transmission Door – LH	
33	1	900F2611060-102	Upper Reworked Transmission Door – RH	
34	1	900F2611070-101	Lower Reworked Transmission Door – LH	
35	1	900F2611070-102	Lower Reworked Transmission Door – RH	
36	–	900F2611100-103	Existing Transmission Door Assembly	
37	–	900F2611100-104	Existing Transmission Door Assembly	
38	1	900F2611074-101	Screen Assembly – RH	
39	8	MS27039-1-09	Screw, Panhead	
40	4	900F5337000-201	Ply, 12.0 x 20.0 Carbon Fabric Plainweave	
41	2	900F5337000-203	Ply, 12.0 x 20.0 Carbon Fabric Plainweave	
42	4	900F5337000-205	Ply, 12.0 x 20.0 Carbon Fabric Plainweave	
43	2	900F5337000-207	Ply, 12.0 x 20.0 Carbon Fabric Plainweave	
44	AR	HMS16-1115 TY3	Epoxy Resin, Part A and Part B	
45	AR	NAS1919M04S04	Rivet, Rivet	
46	AR	NAS1919M04S05	Rivet, Blind	
47	1	900F2337025-101	Screen Assembly – LH (Used with Screened Inlet Panel)	
48	1	900F2337025-102	Screen Assembly – RH (Used with Screened Inlet Panel)	
49	1	900F2337024-101	Inlet Screen Frame *(Used with Screened Inlet Panel)	

DATE: 11 NOVEMBER 1997

PAGE 4 OF 38

TECHNICAL BULLETIN

Table 1. Replacement Parts (Cont.)

Item No.	Qty.	Part Number	Description	Source
50	1	115744-0360	Teflon Tubing	
51	1	115744-0480	Teflon Tubing	
52	6	AN960KD10LL	Washer, Flat	
53	3	MS21042L3	Nut, Self Locking	
54	5	MS21919WCH7	Clamp, Loop Type, Cushioned	
55	3	NAS603-8P	Screw, Pan Head	
56	5	HS5266-2210	Adapter, Tubing	
57	1	MS9597-014	Bracket, Angle	
58	4	NAS1922-0050-1	Clamp, Hose	
59	2	AN838-4D	Elbow, Tube to Hose, 90 Degree	
60	2	AN839-4D	Elbow, Tube to Hose, 45 Degree	
61	4	AN924-4D	Nut	
62	6	AN960KD716	Washer, Flat	
63	1	900E2720603-103	Panel Assembly, NACA Inlet Door	
64	1	900E3720019-101	Panel, Edge Light, NACA Inlet	
65	1	4905-001	Indicator, Illuminated, LH NACA	
66	1	4905-002	Indicator, Illuminated, RH NACA	
67	1	4905-101	Sleeve Assembly, Indicator	
68	1	HS4791-1	Module, Socket, Relay	
69	1	HS4235-3101	Relay, 10 AMP, 2PDT	
70	1	MS3320-5	Circuit Breaker, Trip Free, 5 AMP	
71	2	D38999/26JA35SN	Connector, Plug, Electrical, Composite	
72	2	M85049/38S9W	Backshell, Straight, Self Locking	
73	1	D38999/26JE99SN	Connector, Plug	
74	1	JANTXIN5420	Diode	
75	4	MS21083N06	Nut, Self Locking, Non-metallic Insert	
76	4	AN960JD6L	Washer, Flat	
77	2	HS5884-0500	Plug, Button, Nylon	
78	2	MS25036-102	Lug, Ring Terminal, Crimp Style	
79	3	MS25036-149	Lug, Ring Terminal, Crimp Style	
80	12	M39029/56-351	Contact, Socket, 20-24 AWG	
81	18	M39029/56-348	Contact, Power, Socket, 22-22D AWG	

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997
PAGE 5 OF 38
Table 1. Replacement Parts (Cont.)

Item No.	Qty.	Part Number	Description	Source
82	7	M39029/56-363	Contact, Socket, 20-24 AWG	
83	7	M39029/58-360	Contact, Power, Pin, 22-22D AWG	
84	10	M39029/22-191	Contact, Power, Socket, 22 AWG	
85	6	M39029/22-192	Contact, Power, Socket, 20 AWG	
86	8	1662-202-1631	Contact, 16 AWG to 20-24 AWG	
87	7	M81824/1-2	Splice, Permanent, Crimp	
88	100 yds. (91.5 M)	M22759/35-22-9	Wire, S/C, 22 AWG	
89	6 in. (15 cm)	M22759/43-20-9	Wire, S/C, 20 AWG	
90	6 in. (15 cm)	M23053/5-1060	Insulation Sleeving, Heat Shrinkable	
91	2	HS4910-1001	Marker, Cable	
92	28 ft. (853 cm)	HS5330-1539	Sleeving , Expandable (With IPS Only) (RM015135)	

Table 2. Cutout Templates (Ref. Figure 10 and Figure 11)

Item No.	Qty.	Part Number	Description
1	1	900F5337000-1	Inboard Firewall Pattern - LH
2	1	900F5337000-2	Inboard Firewall Pattern - RH
3	1	900F5337000-3	Outboard Firewall Pattern - LH
4	1	900F5337000-4	Outboard Firewall Pattern - RH
5	1	900F5337000-5	Cowl Inlet Cutout - LH
6	1	900F5337000-6	Cowl Inlet Cutout - RH
7	1	900F5337000-7	Screen Cutout - RH
8	1	900F5337000-9	Flange Doubler
9	1	900F5337000-11	Flange Doubler

DATE: 11 NOVEMBER 1997

PAGE 6 OF 38

TECHNICAL BULLETIN

2. AIRCRAFT PREPARATION

- (1). Remove LH and RH transmission access door assemblies (L210 and R210) (Ref. CSP-900RMM-2 Section 53-30-00).
- (2). Remove LH and RH transmission door hold open struts and associated hardware. Struts and hardware are not used after transmission door modification.
- (3). Remove (screened) Inlet Panel Assembly or Inlet Particle Separator Panel (IPS) (Ref. CSP-900RMM-2 Section 71-60-00).



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- (4). Protect air inlet cavity to prevent foreign objects from entering engine area during modification procedure.

3. ENGINE WASH TUBING MODIFICATION

(Ref. Figure 1)

Consumable Materials (Ref. CSP-SPM)	
<u>Item</u>	<u>Nomenclature</u>
C216	Sealant, Fuel Resistant

NOTE: Prior to cutting hole in right side firewall, modify and relocate engine wash tubes with Teflon tubing.

- (1). Remove existing engine wash tube assemblies and spray nozzles. Retain nozzles for reinstallation (Ref. CSP-900RMM-2 Section 71-60-00).

Sealant, Fuel Resistant (C216)



- (2). Using sealant (C216) fill in reduced diameter of elbows (59 and 60) and allow to cure.
- (3). Install both ends of Teflon tubes (50 and 51) onto elbows (59 and 60) and secure with lockwire (58).
- (4). Attach angle bracket (57) to existing engine lifting bracket (Ref. Figure 1).

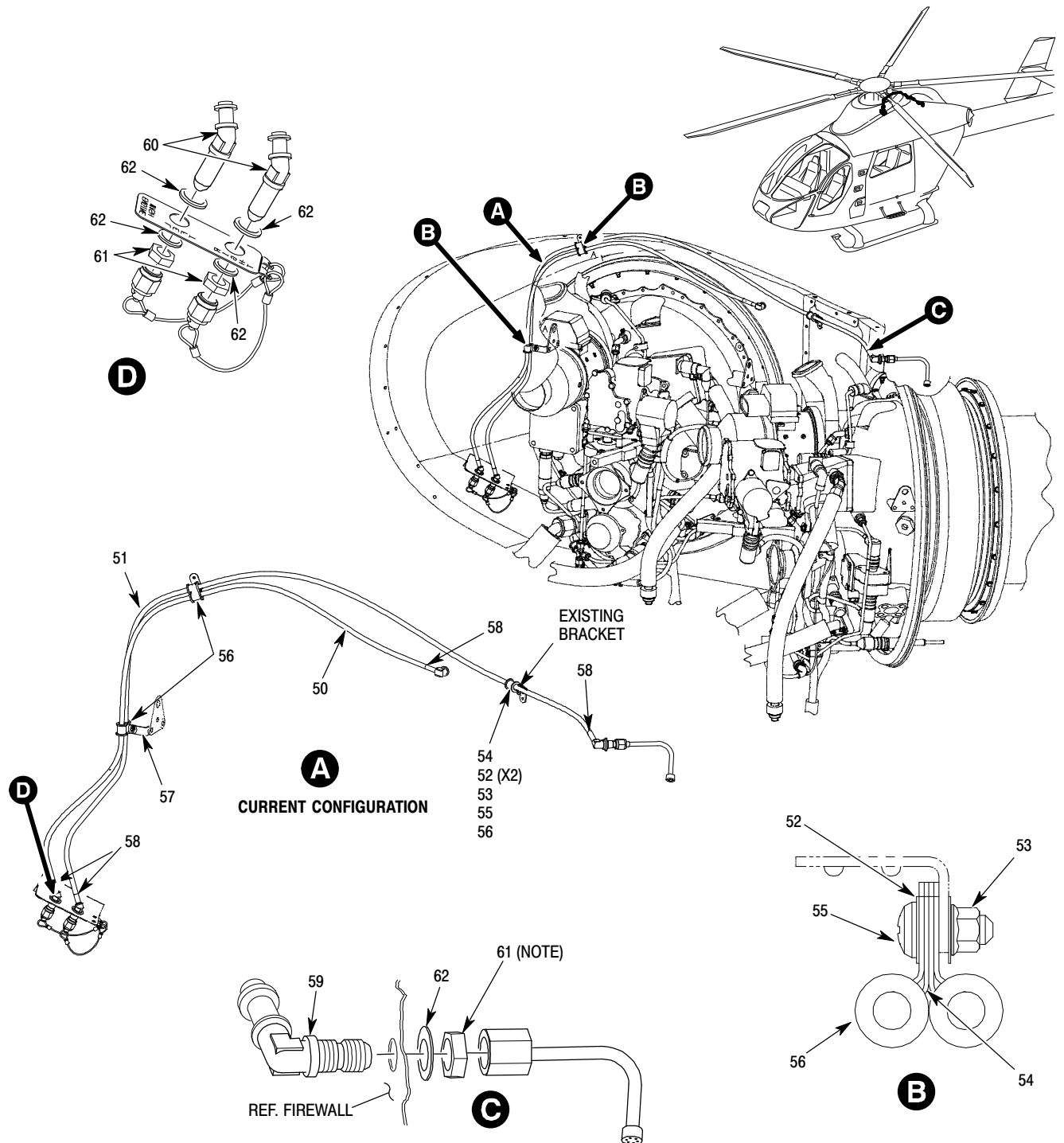
NOTE: Remove cushions from loop clamps prior to installation.

- (5). Install Teflon tube lines (50 and 51) using loop clamps (54) with tubing adapters (56).
- (6). Secure loop clamps (54) using screws (55), washers (52) and nuts (53).
- (7). Secure both ends of tube assemblies using washers (62) and nuts (61). Torque nuts.
- (8). Reinstall engine wash spray nozzles. Clock nozzles 45° outboard.

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 7 OF 38



NOTE: TORQUE 85-105 IN-LB (9.60-11.86 N-m)

9B71-077

Figure 1. Engine Wash Modification

DATE: 11 NOVEMBER 1997

PAGE 8 OF 38

TECHNICAL BULLETIN

4. FIREWALL MODIFICATIONS

(Ref. Figure 2)

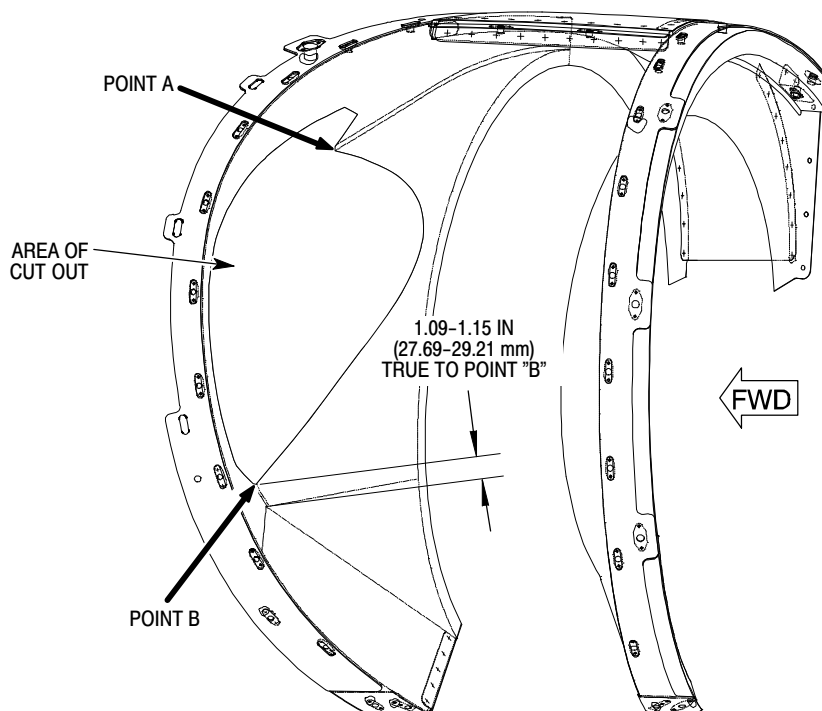
NOTE: The templates to be used for the inlet firewall cutouts (-1, -2, -3 and -4) must be fabricated from mylar for stability purposes.

- (1). Locate point "B" of -1 or -2 template on firewall using dimensions shown in Figure 2.
- (2). Position point "A" of -1 or -2 template to align with seam on firewall per Figure 2.
- (3). Line up heel lines and radius tangents with seams on firewall.
- (4). Locate -3 or -4 template by lining up reference points "A" and "B", heel lines and radius tangents with seams on firewall.
- (5). Trace cutout patterns onto firewall.

Protective Equipment



- (6). Use rotary file, pneumatic nibbler, radiac wheel or equivalent to cutout firewall material.



9B71-078

Figure 2. Firewall Modifications

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 9 OF 38

5. NACA INLET ASSEMBLY INSTALLATION (LH AND RH TYPICAL)

(Ref. Figure 3)

Consumable Materials (Ref. CSP-SPM)	
Item	Nomenclature
C307	Primer, Epoxy

- (1). Locate inlet support assemblies (7 or 8) relative to inlet assemblies (1 or 2) by sliding support into inlet until they are wedged in as far as possible.

Protective Equipment



- (a). Match drill holes **0.220 - 0.226 in. (5.59 - 5.74 mm)** dia. through inlet assemblies from nutplate locations on support assemblies.
 - (b). Secure with bolts (26) and washers (25).
- (2). Install seal material (30) along entire aft inboard edge of inlet assembly (1 or 2).
- (3). Attach upper support bracket (3 or 4) to upper inlet assembly bracket using bolts (26) and washers (25).
 - (a). Orient brackets as pictured in Figure 3.
- (4). Attach lower support bracket (5 or 6) to lower inlet assembly bracket using bolts (26) and washers (25).
 - (a). Orient brackets as pictured in Figure 3.
- (5). Slip aft end of inlet assembly (1 or 2) through firewall cutout, compressing seal material as required, until flanges of upper and lower support brackets (3 and 5) or (4 and 6) mate with forward surface of firewall.
- (6). Center inlet assembly in firewall cutout.
- (7). Position outboard surface of support assembly (7 or 8) with inboard surface of fairing support according to Figure 3.
- (8). Verify position of support assembly (7 or 8) and match drill through firewall from pilot holes in support brackets.
- (9). Match drill inlet scoop pilot holes through firewall flange.

Primer, Epoxy (C307)



- (10). Install nutplates (27) on inboard side of firewall flange using rivets (29), wet install with epoxy primer (C307).

DATE: 11 NOVEMBER 1997

PAGE 10 OF 38

TECHNICAL BULLETIN

- (11). Remove existing fastener joining forward and aft fairing supports in order to locate inlet gusset (9 or 10).
 - (a). Locate gusset (9 or 10) on aft flange of fairing support. Outboard flange of gusset must mate with inboard surface of support assembly (7 or 8).
 - (b). Ensure a minimum of 2 diameter edge distance on gusset before match drilling gusset at location where rivet was removed in step (11).
 - (c). Match drill from pilot hole on gusset (9 or 10) through fairing support flange.
- (12). Match drill rivet holes from pilot holes in support assembly (7 or 8) and gusset (9 or 10) into aft fairing support.
- (13). Match drill holes from nutplates on support assembly (7 or 8).
- (14). After all holes are drilled, remove inlet assembly and deburr all holes to prepare for rivet installation.

NOTE: Orient rivets (head-in/head-out) to minimize interference with particle separator panels or (screen) inlet panels.

Primer, Epoxy (C307)



- (15). Wet install rivets (21) with epoxy primer (C307) into support bracket (3 and 5) or (4 and 6).

NOTE: For aircraft with (screened) inlet panel assy., the outboard screen assembly (47 or 48) is captured along the inlet scoop with the inlet screen frame (49), (forward) inlet cover (11 or 12) and upper and lower transmission door camlocks (Ref. Figure 3).

- (16). Install screws (22) and washers (25) on outboard side of inlet scoop.

Primer, Epoxy (C307)



- (17). Wet install with rivets (28) with epoxy primer (C307) into gusset (9 or 10).

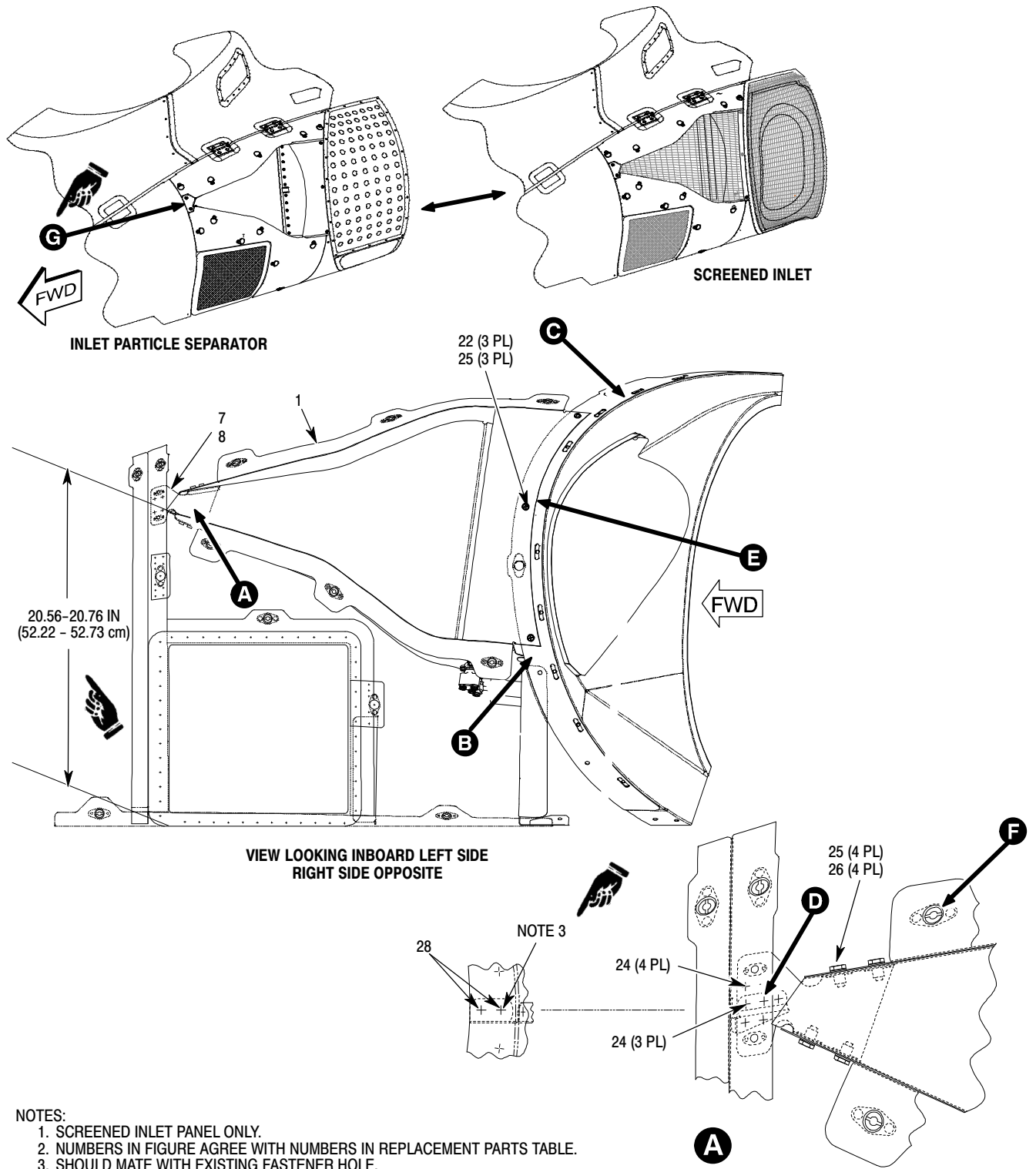
NOTE: Position flush head of rivet on outboard surface of aft fairing support.

- (18). Wet install rivets (24) with epoxy primer (C307) into support assembly (7 or 8) and gusset (9 or 10).
- (19). Apply seal material (31) to inboard surface of inlet covers (11 or 12).
 - (a). For aircraft with particle separator panel - use **0.125 in. (3.175 mm)** thick seal material.
 - (b). For aircraft with (screened) inlet panel assy. - use **0.062 in. (1.575 mm)** thick seal material.
 - (c). Use as many strips as required to cover entire surface.
 - (d). Trim away excess seal to be flush with cover edges.
- (20). Install with screws (23) and washers (25).

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 11 OF 38



NOTES:

1. SCREENED INLET PANEL ONLY.
2. NUMBERS IN FIGURE AGREE WITH NUMBERS IN REPLACEMENT PARTS TABLE.
3. SHOULD MATE WITH EXISTING FASTENER HOLE.

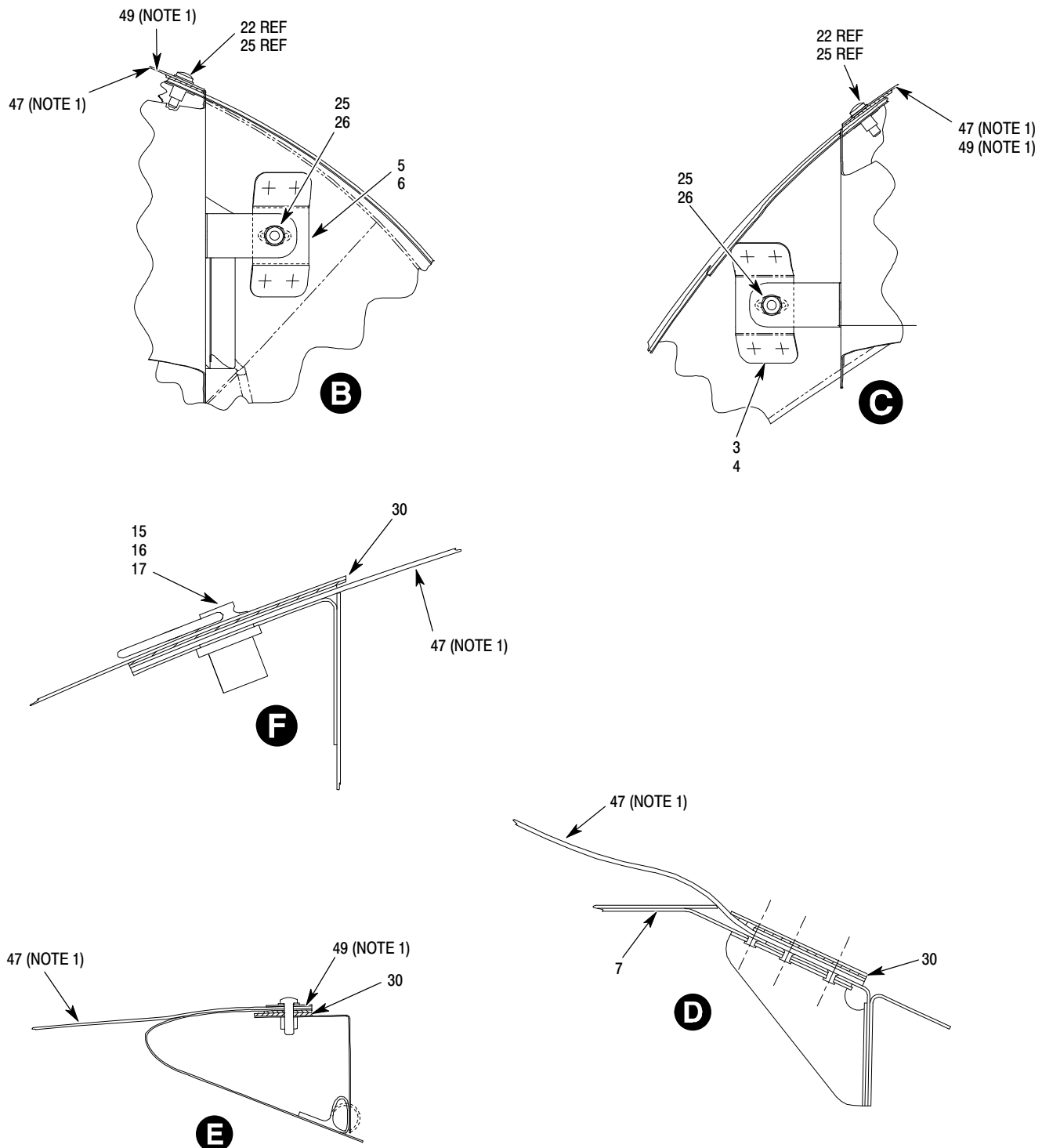
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Figure 3. NACA Inlet Assembly Installation (Sheet 1 of 2)

DATE: 11 NOVEMBER 1997

PAGE 12 OF 38

TECHNICAL BULLETIN



9B71-089-2A

Figure 3. NACA Inlet Assembly Installation (Sheet 2 of 2)

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 13 OF 38

6. ENGINE ACCESS DOOR MODIFICATIONS

A. Modify Access Door Support - Aircraft Serial Number 0014 thru 0051:

(Ref. Figure 4)

Consumable Materials (Ref. CSP-SPM)	
Item	Nomenclature
C310	Primer

- (1). Install flange doubler (14) onto 900F2330111 aft fairing support.

Protective Equipment



- (a). Locate doubler and back drill pilot holes through fairing support with a number forty (40) drill.
- (b). Drill center hole for quarter turn stud to **0.609 inch (15.47 mm)**. Drill two (2) each receptacle mounting holes with a number forty (40) drill. Use the receptacle as a template.
- (c). Disassemble and deburr all holes.
- (d). Countersink 100° all fastener holes in the 900F2330111 support.

Primer (C310)



- (e). Attach doubler to support using rivets (24) at “E”. Install rivets wet with primer (C310).
- (f). Attach receptacle to support and doubler using rivets (20). Install rivets wet with primer (C310).
- (2). Install flange doubler (13) onto 900F2330105 oil cooler spacer and 900F2331502 oil cooler doubler.

Protective Equipment



- (a). Locate doubler and remove existing rivets “A” and “B”

NOTE: Do not match drill or install any fasteners at location “D”. Pilot holes in doubler to remain open.

DATE: 11 NOVEMBER 1997
PAGE 14 OF 38

TECHNICAL BULLETIN

- (b). Back drill holes “A” and “B” through doubler (13) with a number thirty (30) drill.
- (c). Back drill pilot holes “C” through oil cooler spacer with a number forty (40) drill.
- (d). Drill center hole for quarter turn stud to **0.609 inch (15.47 mm)**.
- (e). Drill two (2) each receptacle mounting holes with a number forty (40) drill into the (13) doubler only. Use the receptacle as a template.
- (f). Disassemble and deburr all holes.
- (g). Countersink 100° all “C” fastener holes in the 900F2330105 oil cooler spacer.
- (h). Countersink 100° the receptacle mounting holes in the (13) doubler.

Primer (C310)

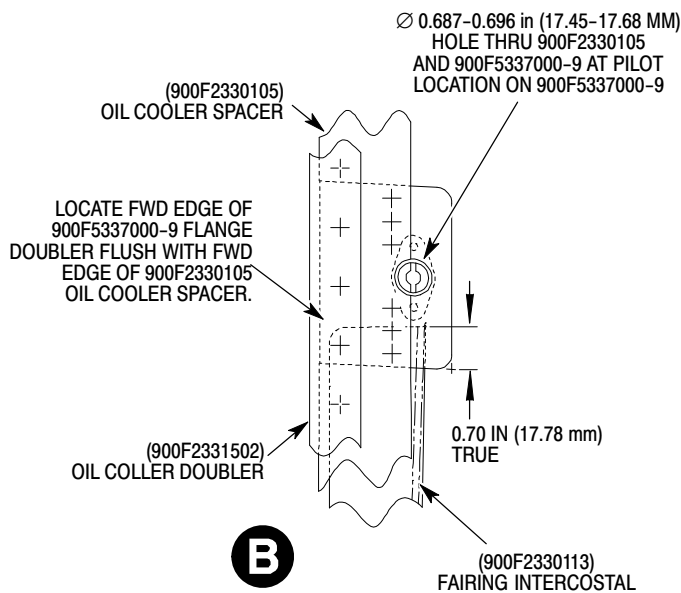
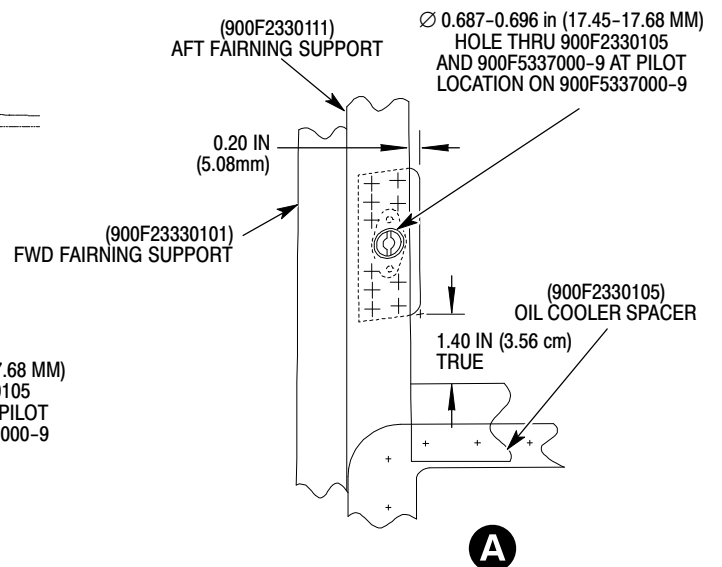
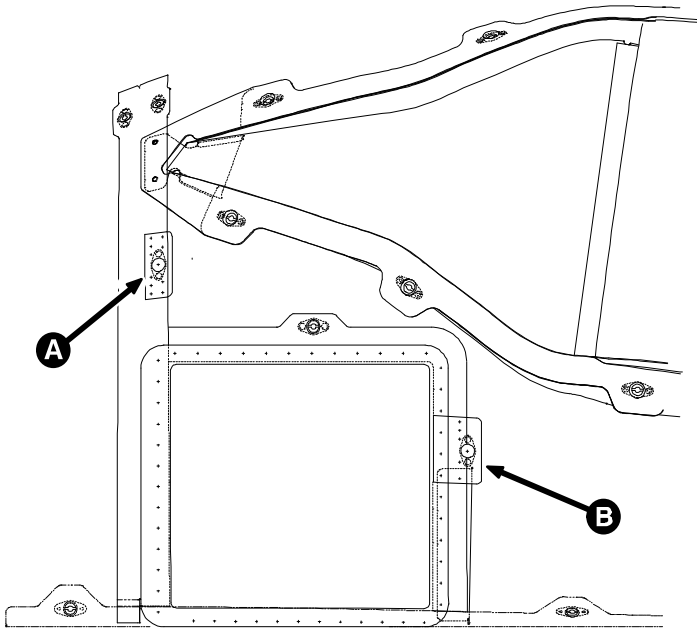


- (i). Attach receptacle to doubler using rivets (20). Install rivets wet with primer (C310).
- (j). Attach doubler (13) to oil cooler spacer using rivets (24) at location “C”. Install rivets wet with primer (C310).
- (k). Attach doubler (13) to oil cooler spacer and doubler using rivets (45) at location “A”. Install rivets wet with primer (C310).
- (l). Attach doubler (13) to oil cooler spacer, intercostal, and doubler using rivet (46) at location “B”. Install rivet wet with primer (C310).

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 15 OF 38



9B71-081A

Figure 4. Access Door Support Modification – Aircraft Serial Number 0014 thru 0051

DATE: 11 NOVEMBER 1997

PAGE 16 OF 38

TECHNICAL BULLETIN

B. Cut Access Door and Install Doubler Plies

(Ref. Figure 5 and Table 3)

Consumable Materials (Ref. CSP-SPM)	
<u>Item</u>	<u>Nomenclature</u>
C429	Solvent Cleaner
C504	Resin, Epoxy
C310	Primer

- (1). Remove all seals, hinges, and latches from access doors.

NOTE:

- Buckling of the -5 and -6 template around the slit is acceptable as this is not the final trim.
 - The templates to be used for the inlet firewall cutouts (-1, -2, -3 and -4) must be fabricated from mylar for stability purposes.
- (2). Locate the -5 template onto the 900F2611100-103 or 900F2611150-101 LH transmission door.
 - (3). Locate the -6 and -7 template onto the 900F2611100-104 or 900F2611150-102 RH transmission door.
 - (4). Mark locations to be cut and remove templates.

Protective Equipment



- (5). Cut out door using a high speed die grinder and a diamond grit cutting wheel and a rotary file. Tolerance of cutouts is ± 0.09 inch (2.29mm).

CAUTION

- Do not use aluminum oxide abrasives on graphite/epoxy composites.
 - Do not sand into or expose graphite/epoxy fibers of outer plies.
- (6). Clean up edges using a disk and drum sanders with 180 grit abrasive.
 - (7). Remove inner graphite/epoxy plies, honeycomb core, and filler from inside of doors. Use a diamond grit cutting wheel and disk sander.

Solvent Cleaner (C429)



- (8). Wipe doors clean with solvent cleaner (C429) and allow to air dry a minimum of fifteen (15) minutes.

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 17 OF 38

- (9). Cut enough doubler ply material to fabricate the required doublers with an additional **1.0 inch (2.54 cm)** outside dimension on each doubler.



Do not machine mix epoxy as it will cause air to be included in the epoxy which will reduce its strength.

Resin, Epoxy (C504)



- (10). Mix epoxy resin (C504) thoroughly by weight in accordance with table.

Table 3. Epoxy Resin Mix and Cure

Material	Mix Ratio		Cure in Hours
	Part A	Part B	
HMS16-1115, T3	100	15 ± 1	12 Hours Minimum @ Room Temperature Followed by 2 Hours +30/-0 Minutes @ 180° F ± 10° F (Ramp Up to 180° F ± 10° F From Room Temperature)

- (11). Impregnate doubler plies with **0.28 ± 0.02 oz. (7.94g ± 0.57g)** epoxy resin per sq. ft. of fabric.
- (12). Prepare doubler plies for installation.
- Mark nonporous release film with the dimensions of the doubler plies. Size release film **3 to 4 inches (7.62 to 10.16 cm)** larger than doubler ply size.
 - Brush a thin coat of epoxy resin, the size of the doubler ply, onto the nonporous release film on the opposite side from the dimensional mark of the doubler ply.
 - Place the doubler ply onto the epoxy resin, apply another thin coat of resin, and cover with another piece of nonporous release film.
 - Using a plastic squeegee, carefully work the resin into the fabric. Work excess resin outboard of the fabric.
 - Cut the doubler ply and nonporous release film to the finished dimension marked on the nonporous release film.
- (13). Brush a very thin coat of epoxy onto the inner side of the door skin over the entire area of the doubler installation.
- (14). Remove nonporous release film from both sides of doubler ply and place doubler ply onto the inner side of the door skin.
- (15). Continue installing plies onto the inner side of the door skin.



When using the elevated temperature cure, it is necessary to monitor the temperature with a calibrated thermocouple.

- (16). Cure doubler installation.

DATE: 11 NOVEMBER 1997

PAGE 18 OF 38

TECHNICAL BULLETIN

- (a). Install peel ply, bleeder ply, non-porous release film, thermocouple, breather cloth, heat pad, vacuum bag sealing putty, vacuum bag, and vacuum port.
- (b). Apply **20-29 inches HG (63-91 kPa)** to vacuum bag and maintain a minimum of **20 inches HG (63 kPa)** during cure.
- (c). Cure per table.

C. Install Screen Assembly and Reinstall Hardware

(Ref. Figure 5)

- (1). Locate 900F2611074-101 screen assembly onto RH lower door panel.
- (2). Locate mounting holes using the 900F2611074-101 screen assembly as a template.

Protective Equipment



- (3). Drill four (4) mounting holes to **0.221 +0.005/ -0.001 inch (5.61 +0.127/ -0.025 mm)**.
- (4). Drill two (2) each nutplate mounting holes with a number forty (40) drill.
- (5). Countersink 100° nutplate mounting holes.

Primer (C310)

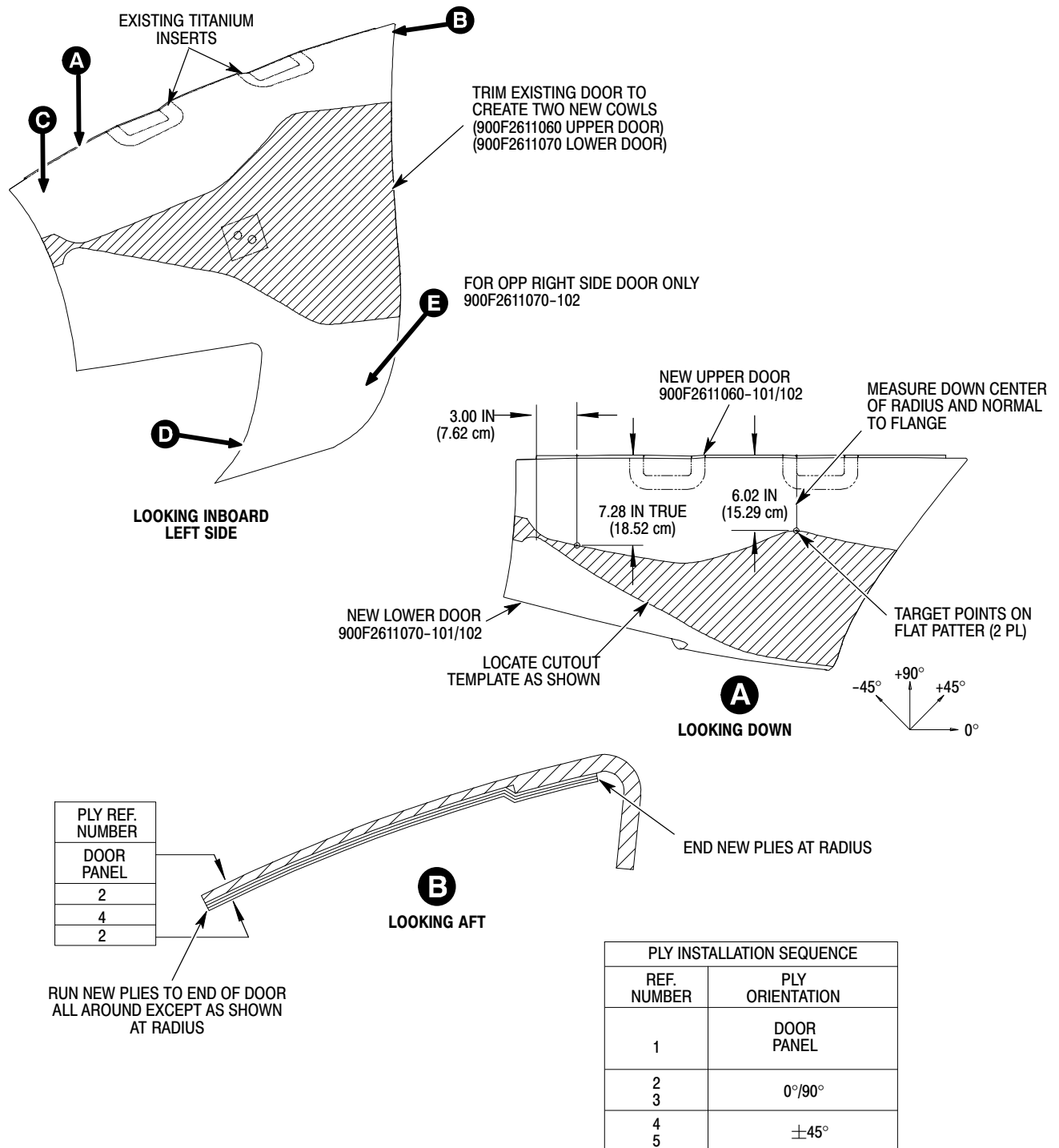


- (6). Install nutplates (27) with rivets (24). Install rivets wet with primer (C310).
- (7). Reinstall all previously removed hardware.

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 19 OF 38



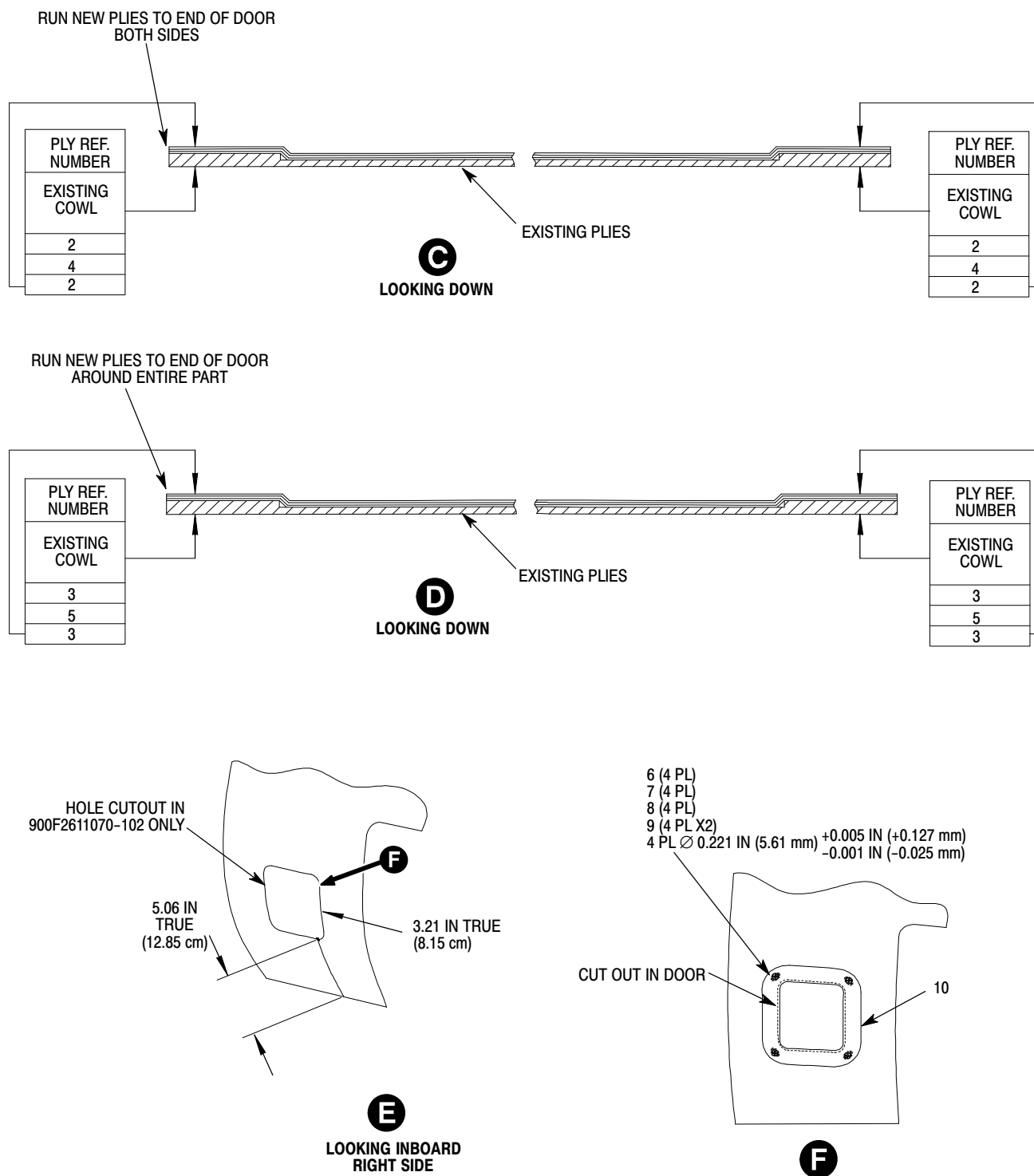
9B71-082-1A

Figure 5. Engine Access Door Modifications (Sheet 1 of 2)

DATE: 11 NOVEMBER 1997

PAGE 20 OF 38

TECHNICAL BULLETIN



9B71-082-2

Figure 5. Engine Access Door Modifications (Sheet 2 of 2)

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 21 OF 38

Legend (Ref. Figure 5)

1. EXISTING PLIES OF TRANSMISSION ACCESS DOOR
 2. CARBON FABRIC, PLAIN WEAVE
 3. CARBON FABRIC, PLAIN WEAVE
 4. CARBON FABRIC, PLAIN WEAVE
 5. CARBON FABRIC, PLAIN WEAVE
 6. SCREW
 7. WASHER
 8. NUTPLATE
 9. RIVET
 10. SCREEN ASSEMBLY
-

DATE: 11 NOVEMBER 1997

PAGE 22 OF 38

TECHNICAL BULLETIN

D. Finish Fit Access Doors and Installation

(Ref. Figure 6)

Consumable Materials (Ref. CSP-SPM)	
<u>Item</u>	<u>Nomenclature</u>
C301	Primer, Epoxy

- (1). Install modified access doors onto aircraft.

Protective Equipment



- (2). Locate and drill quarter turn fastener holes at new receptacle locations to **0.473-0478 inch (12.01-12.14 mm)** .

Primer, Epoxy (C301)

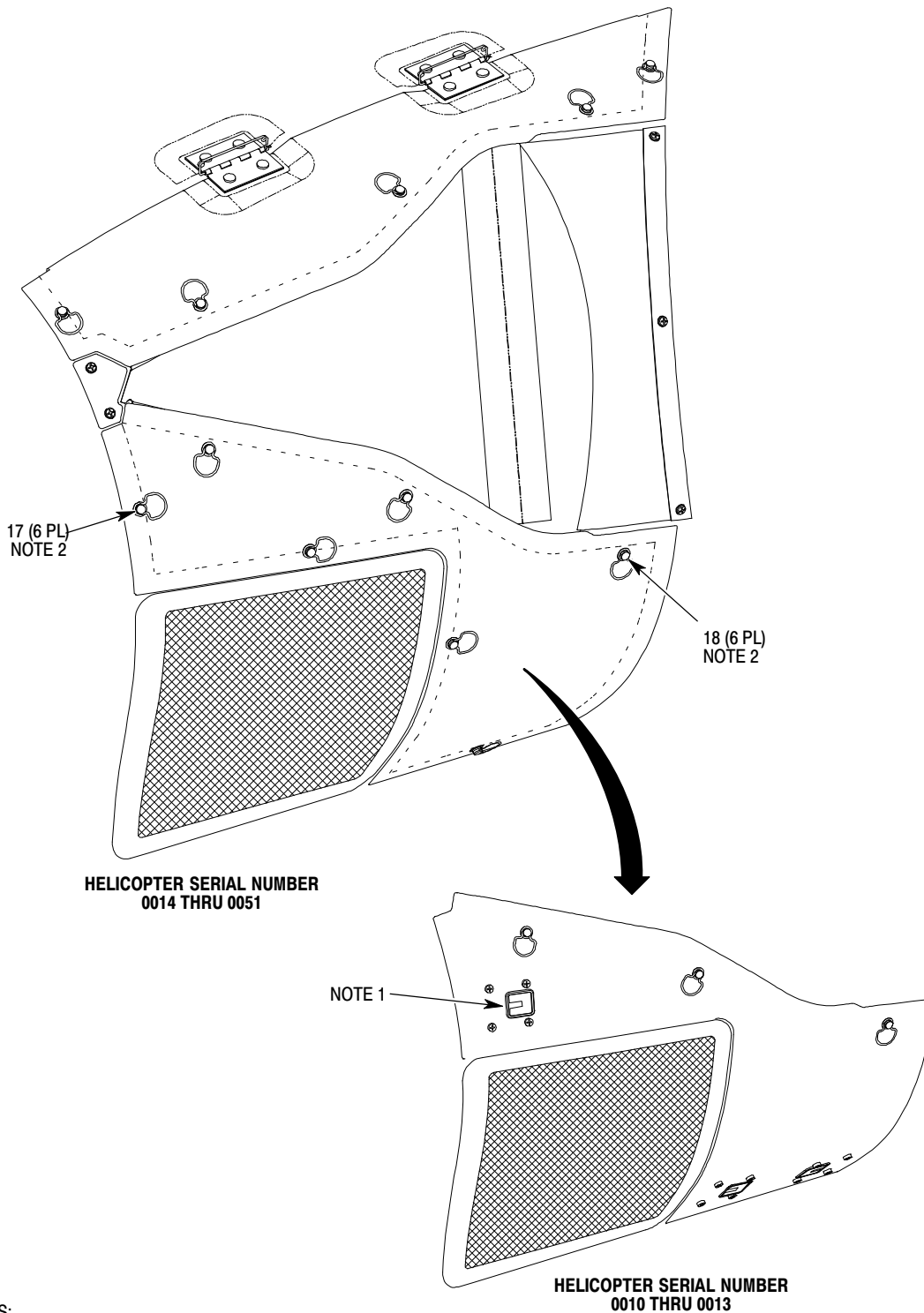


- (3). Install grommets HS4434 into holes and secure with retaining ring HS4424. Install wet with primer (C310)
- (4). Install quarter fasteners HS4436 into grommets HS4434.
- (5). Install doors and mark edge of inlet on underside of access doors with all fasteners installed.
- (6). Remove access doors and final trim along inlet edge leaving **0.060 inch (1.52 mm)** overhanging inlet.
- (7). Smooth all edges with 180 grit abrasive paper.
- (8). Install seal material (31) around entire inner edge of the LH and RH 900F2611070 access doors.
- (9). Install seal material (31) along inner forward and lower edge of the LH and RH 900F2611060 access doors.
- (10). Install seal material (30) along inner aft edge of the LH and RH 900F2611060 access doors.
- (11). Install seal material (31) along upper outboard flange of the LH and RH 900F2611060 access doors.
- (12). Identify the modified access doors as: 900F2611060-101 Reworked Upper LH Trans Door, 900F2611060-102 Reworked Upper RH Trans Door, 900F2611070-101 Reworked Lower LH Trans Door, and 900F2611070-102 Reworked Lower RH Trans Door. Use an indelible ink fine tipped marking pen.
- (13). Touch up top coat to match aircraft.

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 23 OF 38



NOTES:

1. EXISTING LATCHES (3 PL).
2. NUMBERS IN FIGURE AGREE WITH NUMBERS IN REPLACEMENT PARTS TABLE.

9B71-084A

Figure 6. Finish Fit Access Doors and Installation

DATE: 11 NOVEMBER 1997
PAGE 24 OF 38

TECHNICAL BULLETIN

7. ELECTRICAL MODIFICATIONS, NACA INLET DOOR ACTUATOR (IPS INSTALLATION ONLY)

NOTE: The instructions in this Bulletin are for a standard aircraft. There may be non-MDHS installed options which may conflict with these instructions. If problems are encountered while complying with this Bulletin, contact MDHS Field Service Department.

A. Instrument Panel Modification For Indicator Light Installation

(Ref. Figure 7)

Consumable Materials (Ref. CSP-SPM)	
<u>Item</u>	<u>Nomenclature</u>
C233	Chemical Coating
C303	Finish Enamel, Black
C310	Primer

NOTE: The location of the indicator lights depicted in Figure 7 is the preferred location. Optional equipment may interfere with this location. The location is then at the discretion of the owner operator as long as the lights are in reach of and plain view of the pilot.

- (1). Remove the panel which mounts the VSCS Indicators (Ref. CSP-900RMM-3 Section 95-30-00).
- (2). Locate cutouts for lights in panel.

Protective Equipment



- (3). Cutout light openings in panel and deburr.

Chemical Coating (C233)



Primer (C310)



Finish Enamel, Black (C303)



- (4). Touch up exposed aluminum with chemical coating (C233).
- (5). Touch up panel with primer (C310) and black finish enamel (C303).

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 25 OF 38

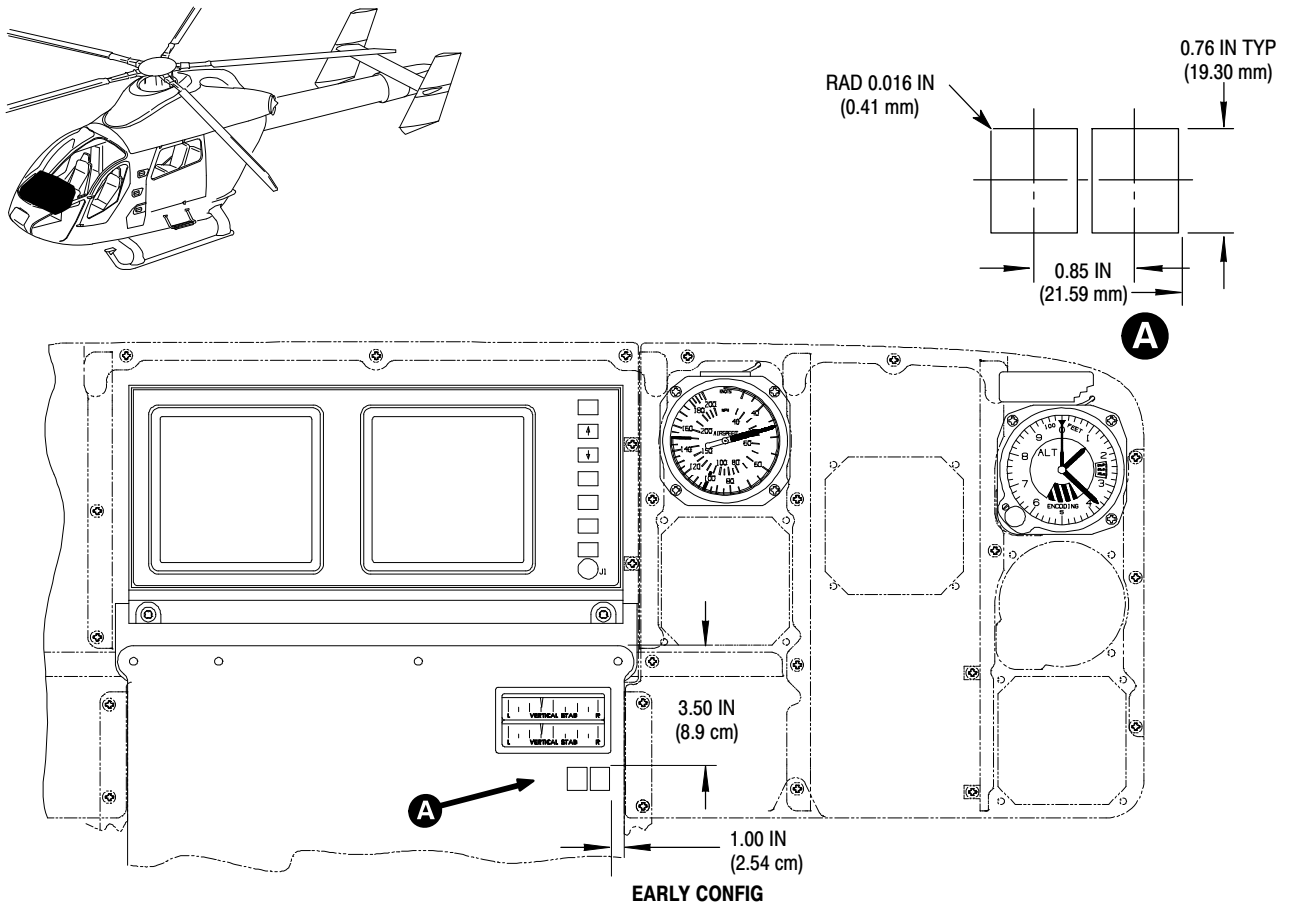


Figure 7. Indicator Light Installation (Sheet 1 of 2)

DATE: 11 NOVEMBER 1997
PAGE 26 OF 38

TECHNICAL BULLETIN

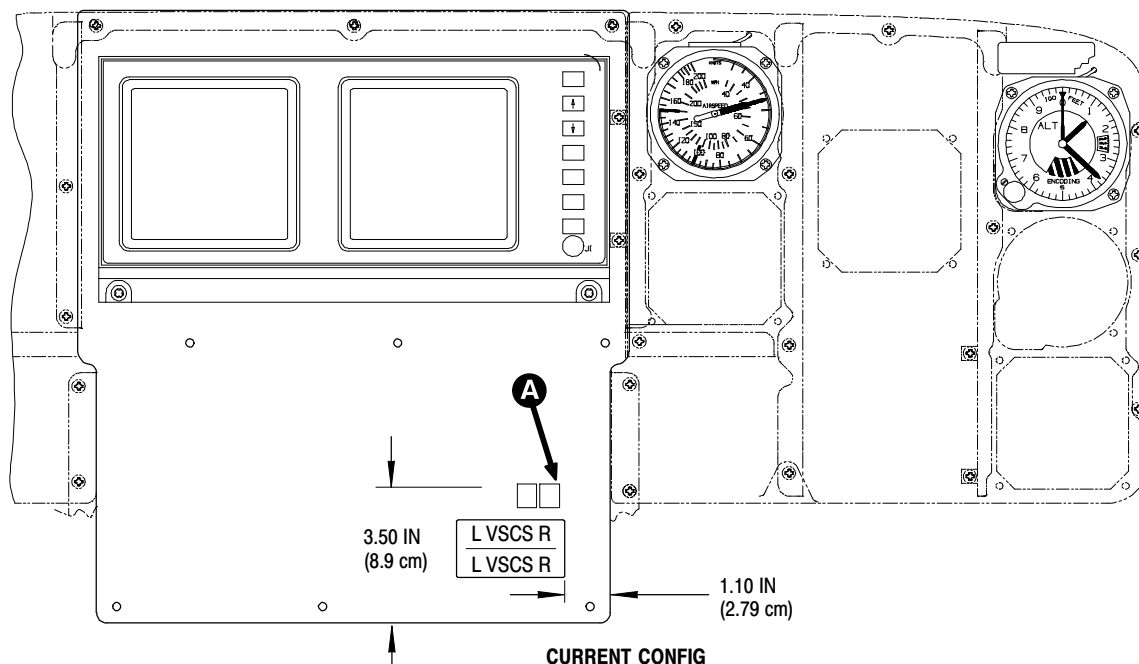


Figure 7. Indicator Light Installation (Sheet 2 of 2)

B. Fabricate Wires

(Ref. Table 4 and Figure 8)

NOTE: Refer to CSP-900RMM-2 and -3, Sections 67-20-00 and 98-40-00 for electrical connector attachments.

- (1). Fabricate and identify wires per table.
- (2). Fabricate sub-harness from P442.
 - (a). Install wires into P442.
 - (b). Tie harness at four (4) inch (10 cm) intervals for fifty-five (55) inches (139.7 cm) and install fifty-five (55) inches (139.7 cm) of HS5330-1539 anti chafe sleeving.
 - (c). Identify HS4910-1001 marker as “W312 P442 M/W P155” and install at P442.
- (3). Fabricate sub-harness from P441.
 - (a). Install wires into P441.
 - (b). Tie harness at four (4) inch (10 cm) intervals for ten (10) inches (25.4 cm) and install ten (10) inches (25.4 cm) of HS5330-1539 anti chafe sleeving.

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997
PAGE 27 OF 38

(c). Identify HS4910-1001 marker as “W312 P441 M/W P155” and install at P441.

Table 4. Wire Build

Wire No.	Wire Nomenclature	Part No.	Wire Length	Termination		Source
				A	B	
1	M22759/35-22-9	NACA19B22 EMI 3	87 IN	M39029/56-348	Strip and Tin	Boeing
2	M22759/35-22-9	NACA19C22 EMI 3	6 IN	Strip and Tin	Strip and Tin	Boeing
3	M22759/35-22-9	NACA19A22 EMI 3	16 IN	M39029/22-192	M39029/58-360	Boeing
4	M22759/35-22-9	T107C22 EMI 3	16 IN	M39029/58-360	M39029/22-191	Boeing
5	M22759/35-22-9	NACA13A22 EMI 3	16 IN	M39029/58-360	M39029/22-191	Boeing
6	M22759/35-22-9	NACA14A22 EMI 3	16 IN	1662-202-1631	Strip and Tin	Boeing
7	M22759/35-22-9	NACA1G22 EMI 3	16 IN	M39029/22-191	M39029/22-191	Boeing
8	M22759/35-22-9	NACA1D22 EMI 3	16 IN	M39029/22-191	1662-202-1631	Boeing
9	M22759/35-22-9	NACA12A22N EMI 3	16 IN	1662-202-1631	MS25036-102	Boeing
10	M22759/35-22-9	NACA1E22 EMI 3	16 IN	M39029/22-191	1662-202-1631	Boeing
11	M22759/35-22-9	NACA15A22N EMI 3	16 IN	1662-202-1631	MS25036-102	Boeing
12	M22759/35-22-9	NACA1F22 EMI 3	16 IN	M39029/22-191	1662-202-1631	Boeing
13	M22759/35-22-9	NACA1C22 EMI 3	16 IN	M39029/58-360	M39029/22-191	Boeing
14	M22759/35-22-9	NACA1H22 EMI 3	16 IN	M39029/58-360	M39029/22-191	Boeing
15	M22759/35-22-9	NACA18A22 EMI 3	16 IN	M39029/58-360	1662-202-1631	Boeing
16	M22759/35-22-9	NACA16A22 EMI 3	16 IN	M39029/58-360	1662-202-1631	Boeing
17	M22759/35-22-9	NACA1J22 EMI 3	87 IN	M39029/56-351	M39029/56-348	Boeing
18	M22759/35-22-9	NACA18B22 EMI 3	87 IN	M39029/56-351	M39029/56-348	Boeing
19	M22759/35-22-9	NACA16B22 EMI 3	87 IN	M39029/56-351	M39029/56-348	Boeing
20	M22759/35-22-9	NACA17A22 EMI 3	87 IN	M39029/56-351	M39029/22-192	Boeing
21	M22759/35-22-9	NACA2D22 EMI 3	210 IN	M39029/56-351	M39029/56-351	Boeing
22	M22759/35-22-9	NACA3D22 EMI 3	210 IN	M39029/56-351	M39029/56-351	Boeing
23	M22759/35-22-9	NACA5B22 EMI 3	210 IN	M39029/56-351	Strip and Tin	Boeing
24	M22759/35-22-9	NACA7B22 EMI 3	210 IN	M39029/56-351	Strip and Tin	Boeing

DATE: 11 NOVEMBER 1997

PAGE 28 OF 38

TECHNICAL BULLETIN

Table 4. Wire Build (Cont.)

Wire No.	Wire Nomenclature	Part No.	Wire Length	Termination		Source
				A	B	
25	M22759/35-22-9	NACA11B22 EMI 3	210 IN	M39029/56-351	Strip and Tin	Boeing
26	M22759/35-22-9	NACA2C22 EMI 3	92 IN	M39029/58-363	Strip and Tin	Boeing
27	M22759/35-22-9	NACA3C22 EMI 3	92 IN	M39029/58-363	Strip and Tin	Boeing
28	M22759/35-22-9	NACA1A22 EMI 3	24 IN	M39029/56-348	MS25036-149	Boeing
29	M22759/35-22-9	NACA2B22 EMI 3	60 IN	M39029/56-348	Strip and Tin	Boeing
30	M22759/35-22-9	NACA3B22 EMI 3	60 IN	M39029/56-348	Strip and Tin	Boeing
31	M22759/35-22-9	NACA4A22N EMI 3	155 IN	M39029/22-192	M39029/56-348	Boeing
32	M22759/35-22-9	NACA5A22 EMI 3	155 IN	M39029/58-363	M39029/56-348	Boeing
33	M22759/35-22-9	NACA6A22N EMI 3	155 IN	M39029/22-192	M39029/56-348	Boeing
34	M22759/35-22-9	NACA7A22 EMI 3	155 IN	M39029/58-363	M39029/56-348	Boeing
35	M22759/35-22-9	NACA2A22 EMI 3	15 IN	M39029/56-348	Strip and Tin	Boeing
36	M22759/35-22-9	NACA3A22 EMI 3	15 IN	M39029/56-348	Strip and Tin	Boeing
37	M22759/35-22-9	NACA8A22N EMI 3	107 IN	M39029/22-192	M39029/56-348	Boeing
38	M22759/35-22-9	NACA9A22 EMI 3	107 IN	M39029/58-363	M39029/56-348	Boeing
39	M22759/35-22-9	NACA10A22N EMI 3	107 IN	M39029/22-192	M39029/56-348	Boeing
40	M22759/35-22-9	NACA11A22 EMI 3	107 IN	M39029/58-363	M39029/56-348	Boeing
41	M22759/35-22-9	NACA1B22 EMI 3	278 IN	M39029/58-363	M39029/56-348	Boeing
42	M22759/43-20-9	P121F20 EMI 3	6 IN	MS25036-149	MS25036-149	Boeing
43	M22759/35-22-9	Jumper	6 IN	M39029/22-191	Strip and Tin	Boeing
44	M22759/35-22-9	Jumper	6 IN	Strip and Tin	Strip and Tin	Boeing

C. Wire Installation

(Ref. Figure 8, Table 4, CSP-900RMM-2 Section 06-00-00, CSP-900RMM-3 Section 96-30-00 and 98-00-00, and CSP-900WIR-8)

- (1). Modify A620 electrical load center.
 - (a). Access A620 electrical load center and install CB42.
 - (b). Install wire number 28 from J1-3 to CB42-2 and wire number 42 from CB32-1 to CB42-1. Route with existing wire harness and secure

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 29 OF 38

- (2). Modify W125 left utility systems wire harness.
 - (a). Access the W125 left utility systems and install wire number 41 from P375-3 to P171-116. Route with existing wire harness and secure.
- (3). Modify W312 inlet particle separator wire harness.
 - (a). Access W312 inlet particle separator and install P441 and P442 sub-harnesses.
 - (b). Install sub-harness P442 onto A414 right NACA actuator and route with existing wires to breakout.
 - (c). Install sub-harness P441 onto A415 left NACA actuator and route with existing wires to breakout.
 - (d). Install wires 26, 29, and 35 into P155 SP9.
 - (e). Install wires 27, 30, and 36 into P155 SP10.
 - (f). Tie sub-harness as one harness at four (4) inch (10 cm) intervals for ninety (90) inches (228.6 cm) and install ninety-seven (97) inches (228.6 cm) of HS5330-1539 anti chafe sleeving.
 - (g). Route harness with existing W312 wire harness.
 - (h). Install sub-harnesses P441 and P442 into P155.
 - (i). Install sub-harnesses P441 and P442 to GS401.
 - (j). Finish tying harness and anti chafe sleeving.
 - (k). Identify HS4910-1001 marker as "W312 P155 M/W P441 and P442" and install at P155.
- (4). Modify W123 left engine controls wire harness.
 - (a). Access W123 left engine controls.
 - (b). Install wires into J155.
 - (c). Tie wires at four (4) inch (10 cm) intervals and tie into existing harness to P171 breakout.
 - (d). Install wires into P171.
 - (e). Install wire into GS114.
 - (f). Access center console.
 - (g). Tie wires at four (4) inch (10 cm) intervals to within six (6) inches of P133.
 - (h). Install eighty-seven (87) inches (221 cm) of anti chafe sleeving onto wires.
 - (i). Install wires into P133 and secure wires and anti chafe sleeving.
 - (j). Install splices J155 SP1, SP2, SP3, SP4, and P171 SP1 including two (2) jumpers wire number (44) each.
 - (k). Tie wires 23, 24, NO TAG, 25 and 1 at four (4) inch (10 cm) intervals and install eighty-seven (87) inches (221 cm) of HS5330-1539 anti chafe sleeving.

DATE: 11 NOVEMBER 1997

PAGE 30 OF 38

TECHNICAL BULLETIN

- (1). Route wires with existing harness to S2 and S3.
- (5). Install indicator S2 and S3.
 - (a). Install M23417/11 connector pins to S2 and S3 wires with AMP crimp tool 90260-1 or equivalent.
 - (b). Install connector block into mounting sleeve.
 - (c). Install wires into connector block
 - (d). Retract mounting pawls and insert switch body into panel cutouts and slide mounting sleeve onto body. Tighten pawls.
- (6). Install A603 panel assy, NACA inlet door.

(Ref. Figure 9)

NOTE: On aircraft that can not install the A603 panel assembly as depicted in the figure, the NACA Door override switch may be located at owner/operator option within reach of the pilot.

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 31 OF 38

(7). Modify A612 forward interconnect panel

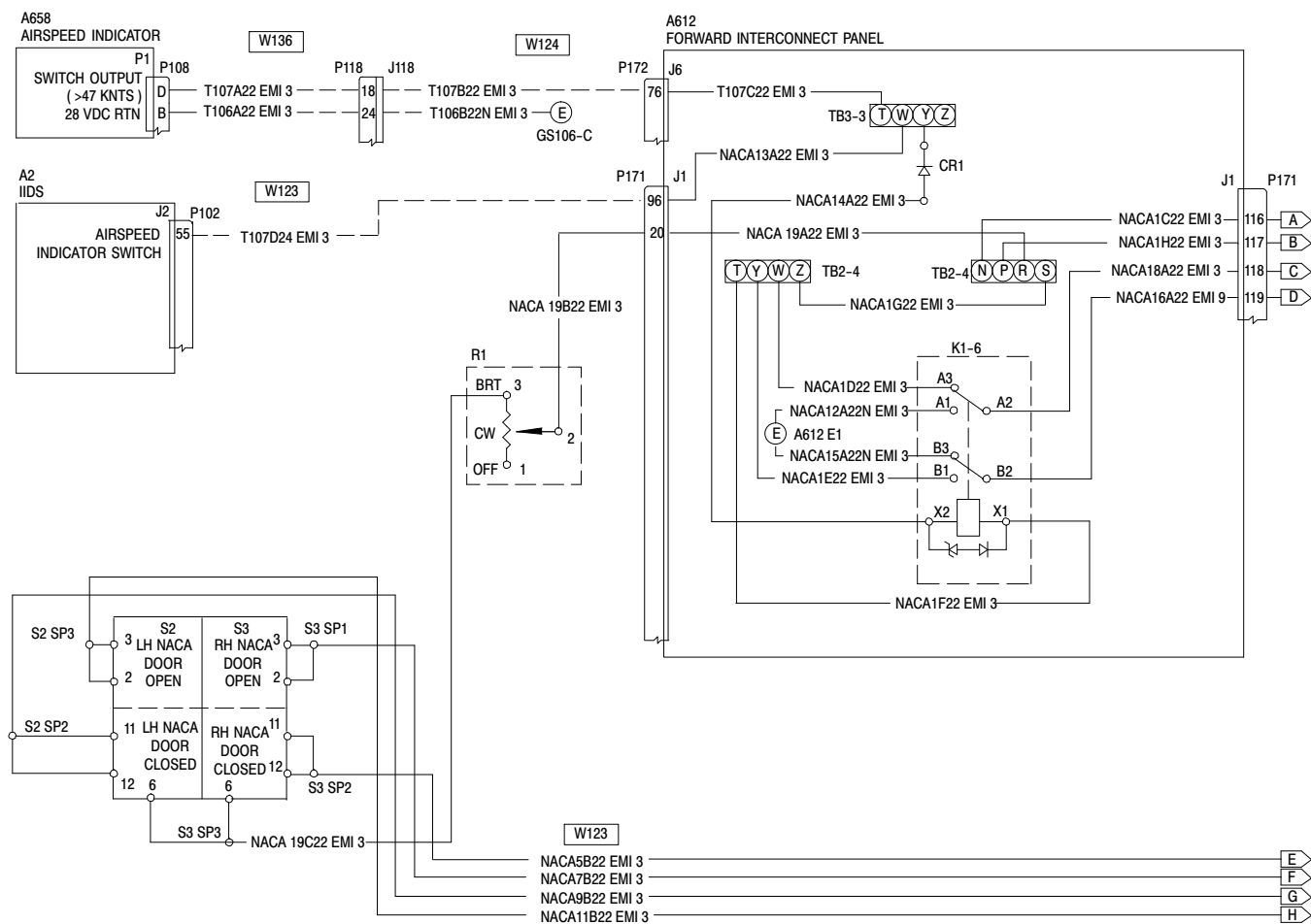
NOTE: Complete removal of the A612 forward interconnect panel is not required. Disconnect connectors/wiring as required to access wiring and relay installation.

- (a). Access A612 forward interconnect panel.
 - (b). Install relay socket XK1-6 into position number six (6) on K1 relay track.
 - (c). Install wires into relay socket.
 - (d). Solder diode CR1 onto wire number 5 and cover with M23053/5 shrink sleeving.
 - (e). Solder diode CR1 onto wire number 43 and cover with M23053/5 shrink sleeving.
 - (f). Remove existing wire T107C24 EMI 3 from J6-76 and J1-96 and discard.
 - (g). Install wires into J1. Route wires with existing harness.
 - (h). Install wire into J6. Route wire with existing harness.
 - (i). Install wires into TB2-4 and TB2-9. Route wires with existing harness.
 - (j). Tie wires into existing wire harness.
 - (k). Install K1-6 into XK1-6 relay socket.
 - (l). Secure A612 forward interconnect panel.
- (8). Close and secure all access panels previously opened for this portion of the modification.

DATE: 11 NOVEMBER 1997

PAGE 32 OF 38

TECHNICAL BULLETIN



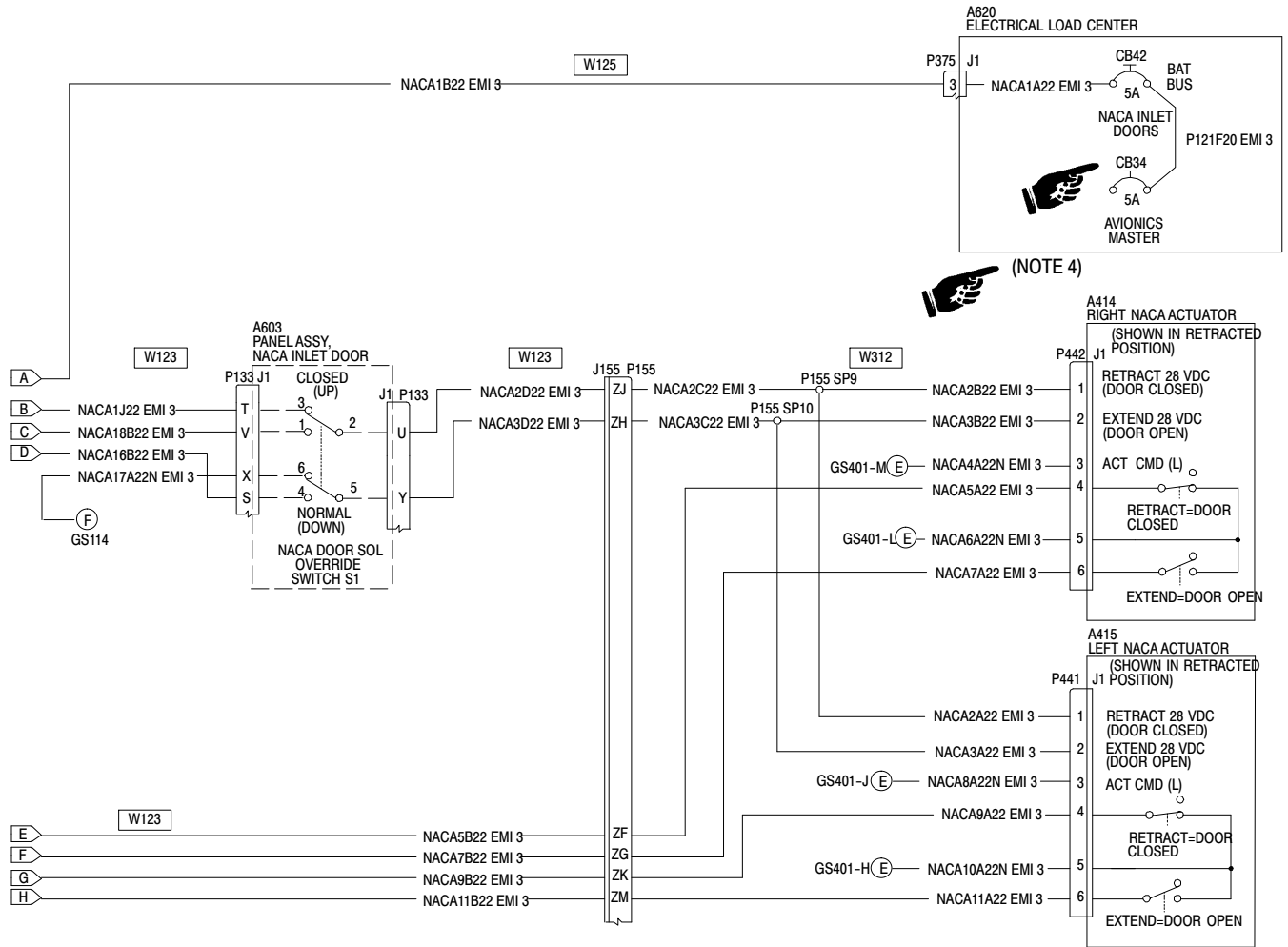
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Figure 8. Electrical Schematic, NACA Inlet (Sheet 1 of 2)

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 33 OF 38



9B71-086-2

DATE: 11 NOVEMBER 1997

PAGE 34 OF 38

TECHNICAL BULLETIN

D. NACA Inlet Door Operational Check

(Ref. Figure 9)

- (1). Verify that the NACA inlet system installation is complete in accordance with this modification instruction and that the NACA inlet door is in the full closed position.
- (2). Verify that the NACA door override switch on the NACA inlet panel assembly is in the “NORMAL” position.

External Power



- (3). Apply power to the aircraft and verify that the “LH NACA CLOSED and RH NACA CLOSED” indicator lights are illuminated.
- (4). Perform “Pitot Leak Test” (Ref. CSP-900RMM-3 Section 95-10-00, Inspection/Test).
- (5). While airspeed indication is increasing verify that the NACA doors start to open at an indicated 47 ± 5 KIAS.
- (6). Verify that when full open the “LH NACA CLOSED and RH NACA CLOSED” indicator lights are no longer illuminated. Verify that when full open the “LH NACA OPEN and RH NACA OPEN” indicator lights are illuminated.
- (7). While airspeed indication is decreasing verify that the NACA doors start to close at an indicated 47 ± 5 KIAS.
- (8). Verify that when full closed the “LH NACA OPEN and RH NACA OPEN” indicator lights are no longer illuminated. Verify that when full closed the “LH NACA CLOSED and RH NACA CLOSED” indicator lights are illuminated.
- (9). Move the NACA door override switch to the “CLOSED” position.
- (10). While increasing airspeed to 100 KIAS and decreasing to 0 KIAS verify that the NACA doors remain closed.
- (11). Verify that the “LH NACA CLOSED and RH NACA CLOSED” indicator lights remain illuminated during the entire override switch closed steps of the operational test.

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 35 OF 38

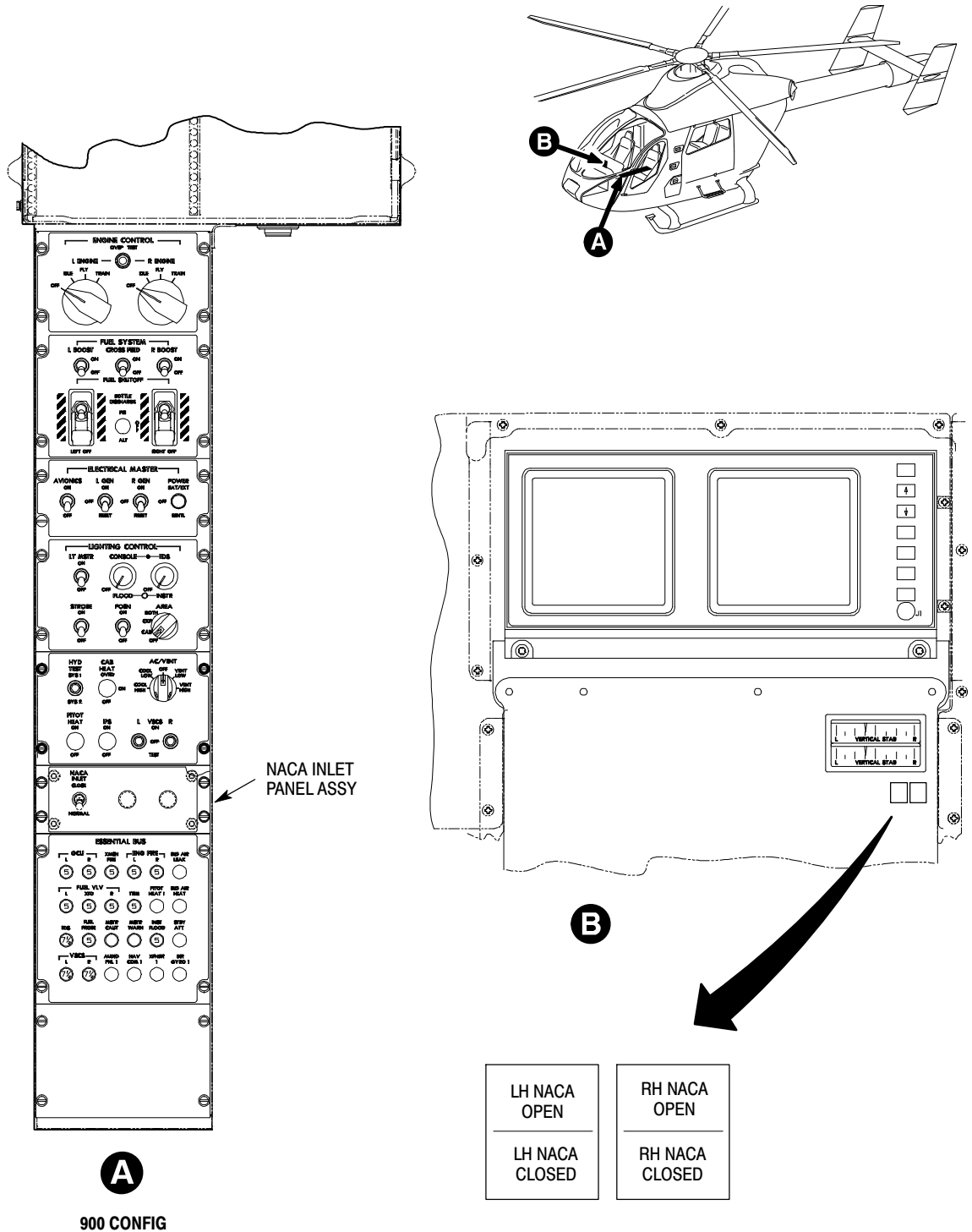
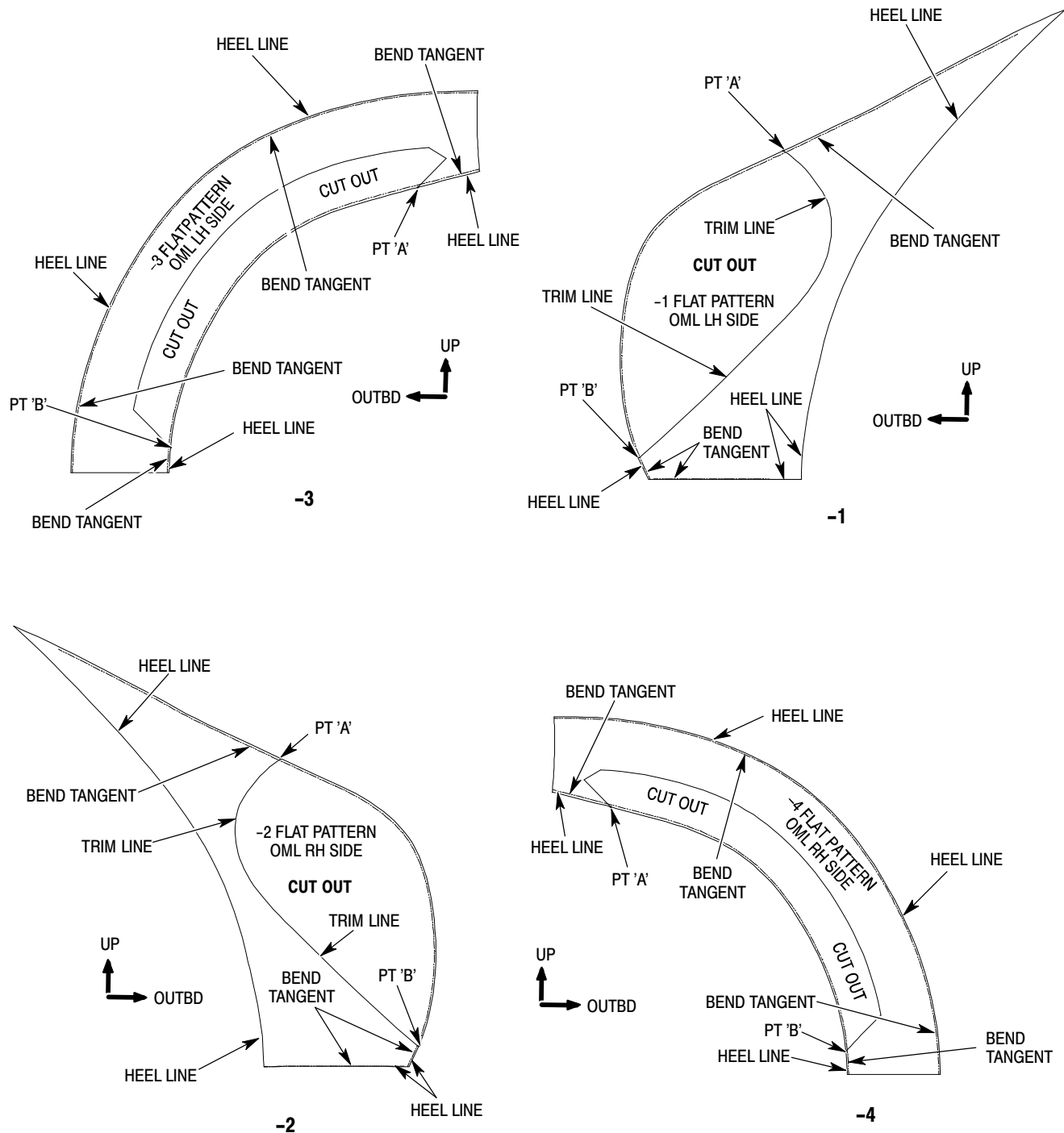


Figure 9. NACA Inlet Door Operational Check

DATE: 11 NOVEMBER 1997

PAGE 36 OF 38

TECHNICAL BULLETIN



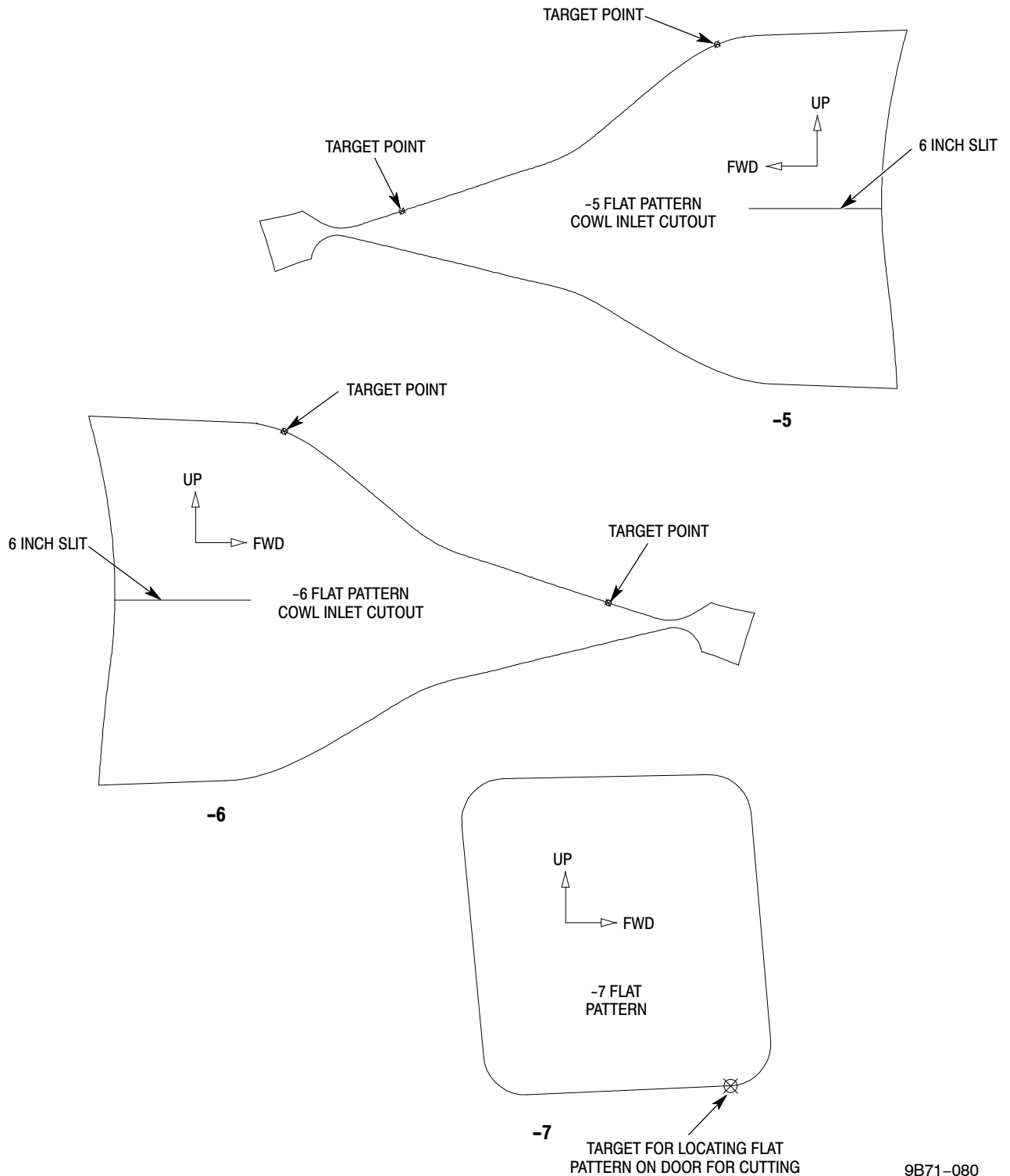
9B71-083

Figure 10. Firewall Cutout Templates (Reference)

TECHNICAL BULLETIN

DATE: 11 NOVEMBER 1997

PAGE 37 OF 38



9B71-080

Figure 11. Transmission Door Cutout Templates (Reference)

PAGE 38 OF 38

TECHNICAL BULLETIN

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 Total Time:

Date:

Parts Required:

Part Ser. No. (if required):

Ship to:

TECHNICAL BULLETIN

DATE: 12 JANUARY 1998

PAGE 1 OF 6

HEAT/DEFOG UPPER DECK THROUGH FITTING MODIFICATION

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 helicopters, serial number 900-00002 thru 900-00051.

B. Assembly/Components Affected By This Notice:

900P2250205 Line Assembly, Heat/Defog-CHK Valve to Deck and 900P2250209 Tube Assembly, Heat/Defog-Roof to Valve.

C. Reason:

Aircraft in the field have experienced bleed air leaks at the upper deck heat/defog through fitting. This causes loss of heating efficiency and failure to pass the heat/defog leak test.

D. Description:

Procedures in this Bulletin provide owners and operators with instructions to replace their existing bleed air through fitting with an AN flared bulkhead union and jam nut. This modification requires flaring of the ends of the affected line and tube assemblies.

E. Time of Compliance:

Customer option, at the discretion of the owner/operator.

F. Classification:

Compliance with this Bulletin is a minor alteration.

G. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

H. Manpower:

Four (4) man-hours on a standard helicopter with a standard interior.

I. Interchangeability:

None

J. Disposition of Parts Removed

N/A

K. 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: 12 JANUARY 1998

PAGE 2 OF 6

TECHNICAL BULLETIN

L. Material/Part Availability:

Contact MDHS Commercial Warranty and Repair Dept. (See Parts Request Form at the end of this Bulletin).

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Union, Bulkhead, Flared Tube	AN832-12J	1	The Boeing Co. or Commercial
Nut, Union, Bulkhead, Flared Tube	AN924-12J	1	The Boeing Co. or Commercial
Nut, Tube Coupling, Short	AN818-12J	2	The Boeing Co. or Commercial
Sleeve, Flared Tube Fitting	MS20819-12J	2	The Boeing Co. or Commercial
Seal Assembly, Flexible Coupling	W932-12D	4	The Boeing Co. or Commercial
Thread Locking Compound	MIL-S-22473, GB, Color Yellow, RM002598	1.6 oz (47.32 Cu cm)	The Boeing Co. or Loctite Inc. 702 North Mountain Rd. Newington, CT. 06111 (203) 278-1280
Sealing Compound, Fireproof	HMS16-1191, RM011316	3.0 oz (88.72 Cu cm)	The Boeing Co. or Courtaulds Aerospace 5430 San Fernando Rd. Glendale, CA. 91209 (818) 240-2060
Tape, Adhesive	HS5227-K1208, RM009971	108 ft (32.92 M)	The Boeing Co. or Airtec International Inc. 2542 E. Del Amo Bl. Carson, CA. 90749 (213) 603-9683
Solvent Cleaner	Desoclean 45 or Equivalent	AR	DeSoto Aerospace Coatings Inc. 1608 Fourth St. Berkeley, CA. 94710 (818) 549-7823

TECHNICAL BULLETIN

DATE: 12 JANUARY 1998

PAGE 3 OF 6

M. Warranty Policy:

None

N. Tooling:

Flaring equipment capable of flaring 0.75 in (19.05 mm) 321 CRES tubing with an 0.020 in. (0.51 mm) wall thickness.

O. Weight and Balance:

N/A

P. Electrical Load Data:

N/A

Q. Other Publications Affected:

N/A

2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

- (1). Access heat/defog system at FS 251.31 above and below the upper deck (Ref. CSP-900RMM-2, Section 21-40-00).
- (2). Remove 900P2250205 line assembly and 900P2250209 tube assembly (Ref. CSP-900RMM-2, Section 21-40-00).
- (3). Remove seal assemblies from ends of tube and line assemblies and discard.
- (4). Remove gaskets from above and below upper deck and discard.
- (5). Measure and mark the 900P2250205 line assembly **1.125 in. (2.86 cm)** from flange end.
- (6). Measure and mark the 900P2250209 tube assembly **1.375 in. (3.49 cm)** from flange end.

Protective Equipment

- (7). Cut the line and tube assemblies at the marks, and deburr.
- (8). Install one (1) each sleeve and coupling nut on each cut tube, and flare in accordance with MS33584 for **0.75 in. (19.05 mm)** tube.

Solvent Cleaner (C429)

- (9). Clean tubes with Desoclean 45 or equivalent and blow dry with filtered compressed air.

DATE: 12 JANUARY 1998

PAGE 4 OF 6

TECHNICAL BULLETIN

- (10). Modify both removed flanges by removing all remaining tubing.
- (11). Enlarge hole in both flanges to **1.062 in. (2.70 cm)** in diameter and deburr.
- (12). Clean both sides of upper deck and both modified flanges with Desoclean 45 or equivalent and blow dry with filtered compressed air.

Sealing Compound (C215)

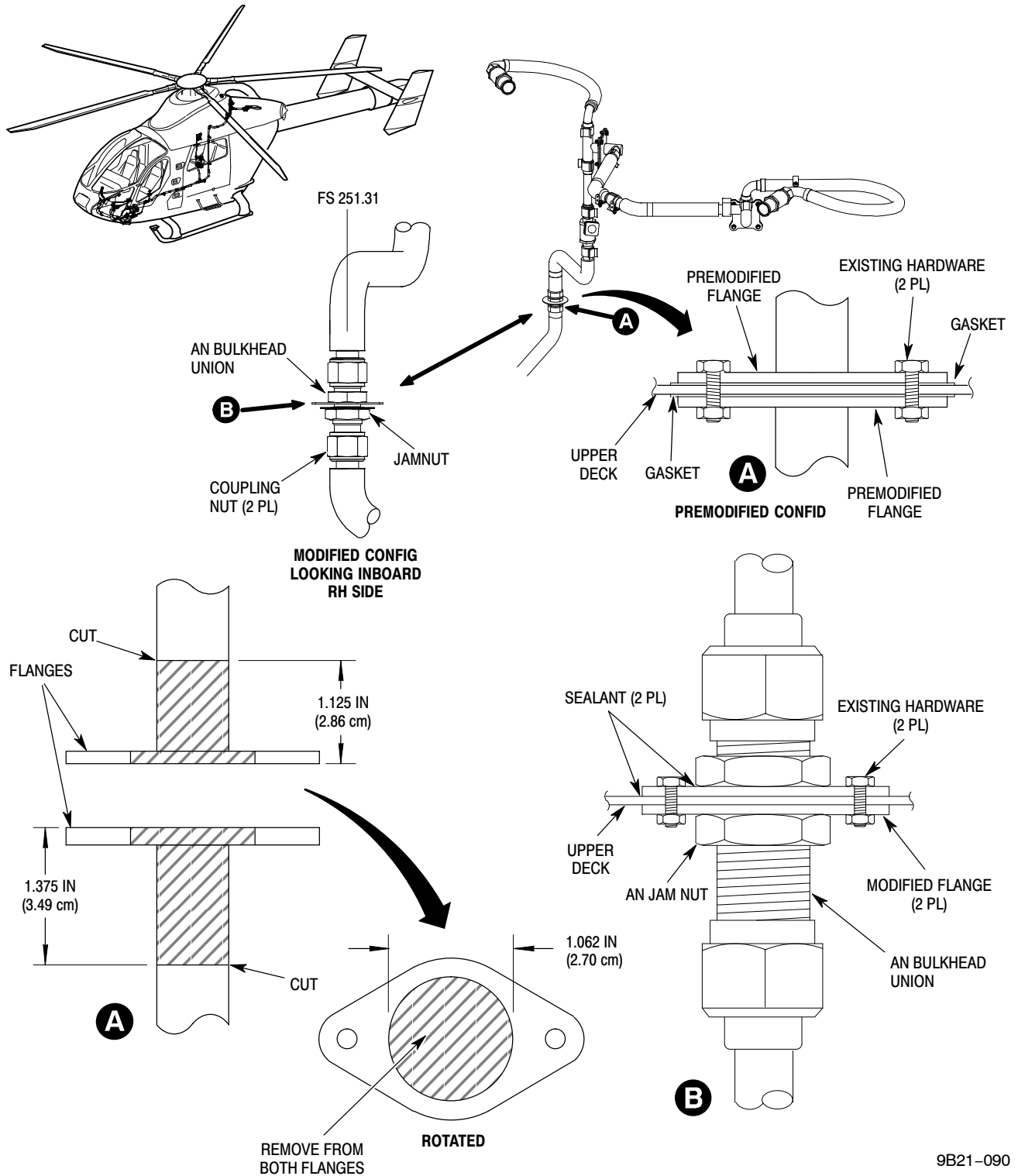


- (13). Reinstall flanges wet with fireproof sealing compound and original hardware. Torque bolts **36-46 in. lb. (4.0-5.2 N•m)**.
- (14). Clean AN bulkhead union and jam nut with Desoclean 45 or equivalent and blow dry with filtered compressed air.
- (15). Install bulkhead union through flanges, coat upper threads with thread locking compound and install jam nut. Torque jam nut **500-600 in. lb. (56.48-67.77 N•m)**.
- (16). Apply fireproof sealing compound to bulkhead union and jam nut.
- (17). Replace seal assemblies at both flexible couplings (Ref. CSP-900RMM-2, Section 21-40-00).
- (18). Reinstall modified line and tube assemblies (Ref. CSP-900RMM-2, Section 21-40-00). Torque coupling nuts **500-600 in. lb. (56.48-67.77 N•m)**.
- (19). Perform Heat/Defog System Leak Check (Ref. CSP-900RMM-2, Section 21-40-00).
- (20). Reinstall insulation and tape to tube assembly and close all opened areas (Ref. CSP-900RMM-2, Section 21-40-00).
- (21). Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.

TECHNICAL BULLETIN

DATE: 12 JANUARY 1998

PAGE 5 OF 6



9B21-090

Figure 1. Heat/Defog Modification

TECHNICAL BULLETIN

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 Total Time:

Date:

Parts Required:

Part Ser. No. (if required):

Ship to:

TECHNICAL BULLETIN

DATE: 14 FEBRUARY 2001

PAGE 1 OF 3

* Supersedes Technical Bulletin TB900-006, dated 28 April 1998. Revised to delete the use of Neoprene Adhesive.

MAIN ROTOR HUB PITCHCASE ABRASION TAPE

1. PLANNING INFORMATION

A. Aircraft Affected:

All Model MD900 helicopters.

B. Assembly/Components Affected By This Bulletin:

M/R Hub Pitchcase Assemblies: 900R1102000-103, -105 & - 107 (all dash numbers including future P/N's).

C. Description/Reason:

MD900 operators may apply a layer of Mylar tape to the leading edge of all M/R hub pitchcases to provide additional protection against abrasion. The tape should be installed on the leading edge from the inboard end of the pitchcase to the outboard end on all five pitchcases.

D. Time of Compliance:

Customer option, at the discretion of the owner/operator.

E. FAA Approval:

The technical design aspects of this Bulletin are FAA approved.

F. Material/Part Availability:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Aerosol Primer	#86	AR	3M
Item Deleted			
Protective Tape	8671-3 (three inch)	30 in. (76.2 cm)	3M

G. Warranty Policy:

N/A

H. Weight and Balance:

N/A

I. Electrical Load Data:

N/A

J. Other Publications Affected:

N/A

DATE: 14 FEBRUARY 2001

PAGE 2 OF 3

TECHNICAL BULLETIN

K. 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). Clean leading edge surface of pitchcase with clean cloth dampened with isopropyl alcohol (C419) (Ref. CSP-SPM). Wipe dry with clean cloth.



DO NOT cut or trim tape after it is applied to pitchcase.

NOTE: The square corners of protective tape 8671-3 should be rounded off before application to reduce the chance of peeling.

- (2). Cut tape to length and shape to fit leading edge of pitchcase.

NOTE:

- 3M #86 aerosol primer may be used to improve adhesion of protective tape.
- If primer is used, mask off outer area on pitch case to prevent overspray.

- (3). Apply primer #86 per manufacturers instructions.

- (4). This step deleted.

NOTE:

- Properly applied tape should show no evidence of air bubbles.
- If air bubbles are trapped, lift tape to release air: then reaffix tape.

- (5). Remove backing from tape 8671-3.

- (6). Apply tape 8671-3 to leading edge surface of pitchcase.

- (7). Work tape with roller, spatula or similar tool from root end to outboard end of pitchcase until positive contact is made over the entire tape area.

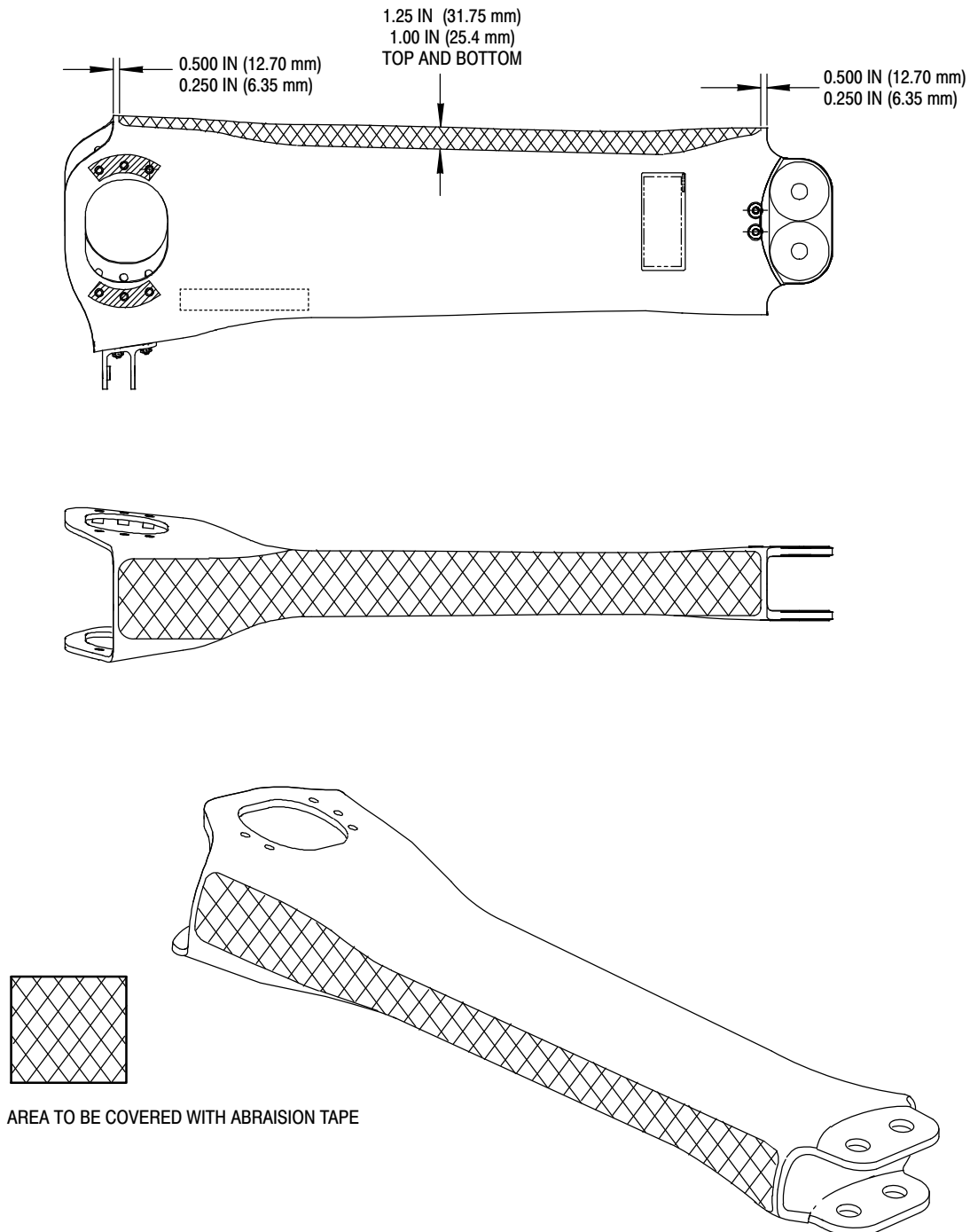
- (8). Repeat application process to all five main rotor hub pitchcases.

- (9). Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.

TECHNICAL BULLETIN

DATE: 14 FEBRUARY 2001

PAGE 3 OF 3



9B62-109

Figure 1. Pitch Case Abrasion Tape

TECHNICAL BULLETIN

DATE: 14 FEBRUARY 2001

PAGE 1 OF 2

* Supersedes Technical Bulletin TB900-007, dated 28 April 1998. Revised to delete the use of Neoprene Adhesive.

MAIN ROTOR BLADE ROOT END ABRASION TAPE

1. PLANNING INFORMATION

A. Aircraft Affected:

All Model MD900 Helicopters.

B. Description/Reason:

Procedures in this Bulletin provide owners and operators with information pertaining to application of a layer of Mylar tape to the leading edge of the root end area of all the main rotor blades to provide additional protection against abrasion. The tape should be installed on the leading edge from the inboard end of the inboard abrasion strip to the root end leading edge fairing on all five blades.

C. Time of Compliance:

Customer option, at the discretion of the owner/operator.

D. FAA Approval:

The technical design aspects of this Bulletin are FAA approved.

E. Material/Parts Availability:

PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Aerosol Primer	#86	AR	3M
Item Deleted			
Protective Tape	8671-3 (three inch. wide) *	30 in. (76.2 cm)	3M
Protective Tape	8671-6 (six inch. wide) *	30 in. (76.2 cm)	3M

NOTE: *Either width tape may be used at the discretion of the customer/operator.

F. Warranty Policy:

N/A

G. Weight and Balance:

N/A

H. Electrical Load Data:

N/A

I. Other Publications Affected:

N/A

DATE: 14 FEBRUARY 2001

PAGE 2 OF 2

TECHNICAL BULLETIN

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.

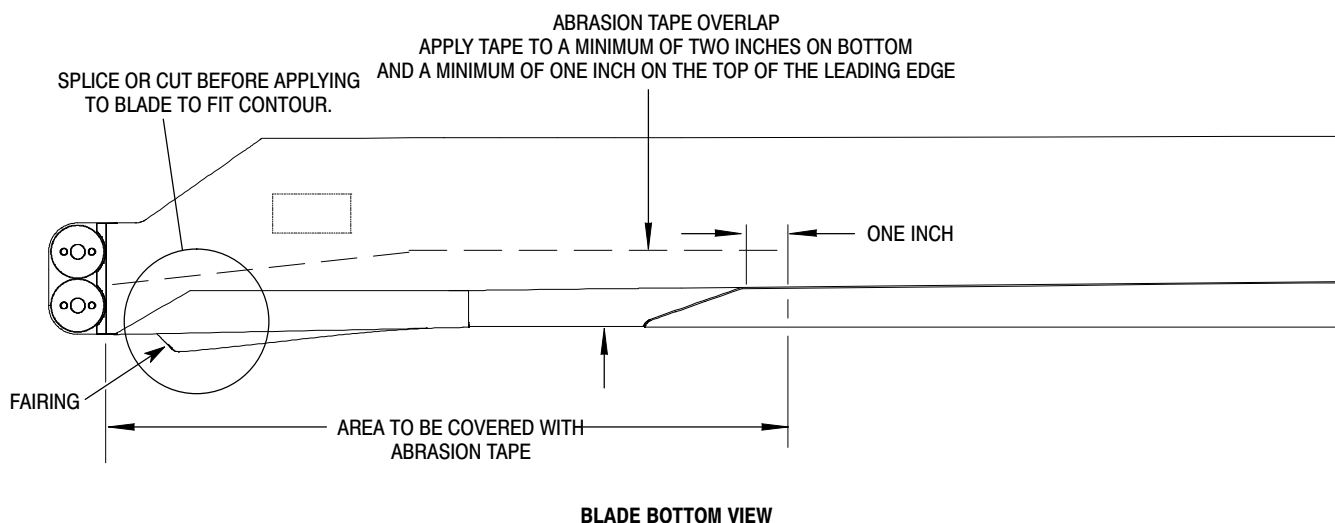
2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

CAUTION DO NOT cut or trim tape after application to blades.

NOTE: 3M #86 aerosol primer may be used to improve adhesion of tape.

- (1). Mask blade in the area primer is to be applied.
- (2). Apply primer #86, per manufacturer's instructions, to the area to be taped.
- (3). This step deleted.
- (4). Before application, round-off square corners of tape to reduce chance of peeling.
- (5). Apply tape to overlap inboard abrasion strip and blade root fairing as depicted in Figure 1.
- (6). Apply tape to wrap around blade leading edge a minimum of **1.0 inch (2.54 cm)** over the top surface and a minimum of **2.0 inches (5.08 cm)** around the bottom surface of blade.
- (7). Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.



9B62-110

Figure 1. Application of Protective Tape

TECHNICAL BULLETIN

DATE: 06 NOVEMBER 1998

PAGE 1 OF 5

NAS1919 AND NAS1921 ALTERNATE FASTENER WITH DRIVE ANVIL

1. PLANNING INFORMATION

A. Aircraft Affected:

All McDonnell Douglas Helicopter Systems (MDHS) MD900 helicopters, serial number MD900-000001 thru MD900-999999.

B. Assembly/Components Affected By This Notice:

NAS1919XXXS and NAS1921XXXS Blind Rivets installed throughout the MD900.

C. Reason:

Owner/Operators may desire to install NAS1919XXXSXXU fasteners as an alternate to NAS1919XXXSXX fasteners and NAS1921XXXSXXU fasteners as an alternate to NAS1921XXXSXX fasteners. Not installing fasteners with a U at the end of the part number may result in un-necessary tooling requirements.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to an alternate NAS1919XXXS and NAS1921XXXS Blind Rivet that does not require Huck tool to install. The alternate fastener may be installed at any location that a NAS1919XXXS or NAS1921XXXS fastener had been previously installed. The "S" following the fastener material and diameter information signifies the fastener is for use with single (non-shifting) hand held installation tools. The "U" following the length information signifies the fastener incorporates a drive anvil to seat the lock collar. Any installation tool with a flat nose may be used to install rivets with the "U" code.

E. Time of Compliance

Customer option, at the discretion of the owner/operator.

F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

G. Manpower:

Dependant on rivet quantity and location.

H. Interchangeability:

None

I. Disposition of Parts Removed

N/A

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.

DATE: 06 NOVEMBER 1998

PAGE 2 OF 5

TECHNICAL BULLETIN

K. Material/Part Availability:

Contact MDHS Commercial Part Sales Department.

Table 1. Replacement Parts/Supplies

Nomenclature	Part No.	Qty.	Source
Rivet, Blind, General Purpose, Mechanically Locked Spindle	NAS1919XXXSXXU (9)	AR	Commercial or MDHS
Rivet, Blind, General Purpose, 100° Flush, Mechanically Locked Spindle	NAS1921XXXSXXU (9)	AR	Commercial or MDHS

NOTES:

(9) Refer to Table 2 for material information required to complete part number.

(10) Refer to Table 3 for diameter and length information required to complete part number.

Table 2. NAS1919 Material Component of Part Number

Composition Code Letter	Sleeve Composition	Spindle Composition	Lock Ring Composition
B	5056 Aluminum (QQ-A-430)	2024 Aluminum (QQ-A-430)	5056 Aluminum (QQ-A-430)
C	A286 CRES (AMS5737)	A286 CRES (AMS5737)	A286 CRES (AMS5737) or 316 CRES (AMS5690)
M	Monel (QQ-N-281)	A286 CRES (AMS5737)	A286 CRES (AMS5737), Monel (QQ-N-281) or 316 CRES (AMS5690)

TECHNICAL BULLETIN

DATE: 06 NOVEMBER 1998
PAGE 3 OF 5
Table 3. NAS1919 Grip Range (dimensions in inches (mm))

Grip Length Dash No.	NAS1919X04 0.125 in. (3.175 mm) Diameter			NAS1919X05 0.156 in. (3.962 mm) Diameter			NAS1919X06 0.190 in. (4.826 mm) Diameter			NAS1919X08 0.250 in. (6.350 mm) Diameter		
	Grip Range		Length	Grip Range		Length	Grip Range		Length	Grip Range		Length
	MIN	MAX	MAX	MIN	MAX	MAX	MIN	MAX	MAX	MIN	MAX	MAX
00	0.020 0.508	0.035 0.889	0.171 4.343	0.025 0.635	0.045 1.143	0.193 4.902	N/A	N/A	N/A	N/A	N/A	N/A
01	0.025 0.635	0.062 1.575	0.198 5.029	0.031 0.787	0.062 1.575	0.227 5.766	0.037 0.940	0.062 1.575	0.251 6.375	N/A	N/A	N/A
02	0.063 1.600	0.125 3.175	0.260 6.604	0.063 1.600	0.125 3.175	0.273 6.394	0.063 1.600	0.125 3.175	0.287 7.290	0.063 1.600	0.125 3.175	0.335 8.509
03	0.126 3.200	0.187 4.750	0.323 8.204	0.126 3.200	0.187 4.750	0.338 8.585	0.126 3.200	0.187 4.750	0.350 8.890	0.126 3.200	0.187 4.750	0.397 10.084
04	0.188 4.775	0.250 6.350	0.385 9.779	0.188 4.775	0.250 6.350	0.398 10.109	0.188 4.775	0.250 6.350	0.412 10.465	0.188 4.775	0.250 6.350	0.460 11.684
05	0.2516 375	0.312 7.925	0.448 11.379	0.251 6.375	0.312 7.925	0.461 11.709	0.251 6.375	0.312 7.925	0.475 12.065	0.251 6.375	0.312 7.925	0.522 13.259
06	0.313 7.950	0.375 9.525	0.510 12.954	0.313 7.950	0.375 9.525	0.523 13.284	0.313 7.950	0.375 9.525	0.537 13.640	0.313 7.950	0.375 9.525	0.585 14.859
07	0.376 9.550	0.437 11.100	0.573 14.046	0.376 9.550	0.437 11.100	0.586 14.884	0.376 9.550	0.437 11.100	0.600 15.240	0.376 9.550	0.437 11.100	0.647 16.434
08	0.438 11.125	0.500 12.700	0.635 16.129	0.438 11.125	0.500 12.700	0.648 16.459	0.438 11.125	0.500 12.700	0.662 16.815	0.438 11.125	0.500 12.700	0.710 18.034
09	0.501 12.725	0.562 14.275	0.698 17.729	0.501 12.725	0.562 14.275	0.711 18.059	0.501 12.725	0.562 14.275	0.725 18.415	0.501 12.725	0.562 14.275	0.772 19.609
10	0.563 14.300	0.625 15.875	0.761 19.329	0.563 14.300	0.625 15.875	0.773 19.634	0.563 14.300	0.625 15.875	0.787 19.990	0.563 14.300	0.625 15.875	0.835 21.209
11				0.626 15.900	0.687 17.450	0.836 21.234	0.626 15.900	0.687 17.450	0.850 21.590	0.626 15.900	0.687 17.450	0.897 22.784
12							0.688 17.475	0.750 19.050	0.912 23.165	0.688 17.475	0.750 19.050	0.960 24.384
13										0.751 19.075	0.812 20.625	1.022 25.959
14										0.813 20.650	0.875 22.225	1.085 27.559

L. Warranty Policy:

N/A

DATE: 06 NOVEMBER 1998

PAGE 4 OF 5

TECHNICAL BULLETIN

M. Tooling:

Table 4. Drill Bit and Drive Punch Size

Diameter	Spindle (Stem)		Sleeve (Body)	
	Drill	Punch	Drill	Punch
04	# 40 0.098 in (2.489 mm)	0.094 inch (2.38mm)	#30 0.129 in (3.264 mm)	0.125 in (3.175 mm)
05	# 40 0.098 in (2.489 mm)	0.094 inch (2.38mm)	#20 0.161 in (4.089 mm)	0.156 in (3.970mm)
06	#30 0.129 in (3.264 mm)	0.125 in (3.175 mm)	#10 0.194 in (4.915 mm)	0.188 in (4.763 mm)
08	#30 0.129 in (3.264 mm)	0.125 in (3.175 mm)	"F" 0.257 in (6.528mm)	0.250 in (6.350mm)

NOTE: NAS1919XXXSXXU and NAS1921XXXSXXU rivets may be installed with any "Pop Rivet" hand rivet puller using the smallest nose piece that will accommodate the rivet stem.

N. Weight and Balance:

N/A

O. Electrical Load Data:

N/A

P. Other Publications Affected:

N/A

2. ACCOMPLISHMENT INSTRUCTIONS

This repair procedure is typical and may be used for any installed NAS1919 or NAS 1921 rivet. (Ref. Table 1, Table 4, and Table 5)

Consumable Materials (Ref. CSP-SPM)	
Item	Nomenclature
C310	Primer

Protective Equipment



- (1). If not already removed, remove rivet to be replaced.
 - (a). Using a stem drill bit (Ref. Table 4), drill through rivet center stem.
 - (b). With a stem punch (Ref. Table 4), remove rivet stem lock ring.
 - (c). Using a body drill bit (Ref. Table 4), drill through rivet body to a depth slightly greater than the thickness of the rivet head.
 - (d). If rivet head has not come off, remove by inserting a body punch (Ref. Table 4) into the previously drilled hole and levering the rivet head until it breaks off.

TECHNICAL BULLETIN

DATE: 06 NOVEMBER 1998

PAGE 5 OF 5



Back up area adjacent to rivet with hard wood, or other suitable substance prior to driving out rivet body.

- (e). Using a body punch (Ref. Table 4), drive the remainder of the rivet body out of the rivet hole.
- (f). Inspect hole diameter (Ref. Table 5). If hole is above maximum limit, install next size larger fastener.
- (2). Determine diameter and grip length of rivet to be installed.

Primer (C310)



- (3). Install new rivet wet with primer (C310)

Table 5. Fastener Hole Diameter Limits

Diameter	Hole Diameter Limits	
Code	Minimum	Maximum
04	0.128 in (3.251 mm)	0.132 in (3.353 mm)
05	0.160 in (4.064 mm)	0.164 in (4.166 mm)
06	0.192 in (4.877 mm)	0.196 in (4.978 mm)
08	0.256 in (6.502 mm)	0.261 in (6.629 mm)

- (4). Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.

TECHNICAL BULLETIN

DATE: 15 MARCH 2010

PAGE 1 OF 4

* Supersedes Technical Bulletin TB900-009, dated 20 November 1998. Revised to reflect the correct part number for the Rod, Continuous Thread and other typographical errors. Aircraft that are in compliance with TB900-009 meet the intent of this revision.

MODIFICATION INSTRUCTIONS FOR 27 AMPERE HOUR BATTERY OPTION

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 helicopters, serial number 900-000002 thru 900-000062.

B. Assembly/Components Affected By This Notice:

Aircraft battery and battery vent tubing installation.

C. Reason:

Owner/Operators may desire to install the 27 Ampere Hour Battery option. The 27 Ampere Hour Battery provides additional reserve amperage under extreme operating conditions.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to the installation of the 27 Ampere Hour Battery option.

E. Time of Compliance

Customer option, at the discretion of the owner/operator.

F. Classification:

Compliance with this Bulletin is a major alteration.

G. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

H. Manpower:

Two (2) man-hours.

I. Interchangeability:

None

J. Disposition of Parts Removed

Disposition at the owner/operator level.

K. 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: 15 MARCH 2010

PAGE 2 OF 4

TECHNICAL BULLETIN

L. Material/Part Availability:

Contact MDHI Commercial Warranty and Repair Dept. (See Parts Request Form at the end of this Bulletin).

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Battery, Saft, 27 AH	024470-000	1	MDHI
Bracket, Battery Installation	900F5750003-1	2	MDHI
Rod, Continuous Thread	MHS4506-4R0805	2	MDHI
Screw, Machine	NAS603-7	4	MDHI
Washer, Flat	AN960JD10	4	MDHI

M. Warranty Policy:

None

N. Tooling:

N/A

O. Weight and Balance:

+12.14 lbs (5.51 kg) at FS 89.9, BL 0.00, and WL 109.5

P. Electrical Load Data:

N/A

Q. Other Publications Affected:

Rotorcraft Flight Manual CSP-900RFM206A-1, CSP-900RFM206E-1, CSP-900RFM207E-1, CSP-902RFM206E-1, CSP-902RFM207E-1, and Rotorcraft Maintenance Manual CSP-900RMM-2, CSP-900RMM-3, and Illustrated Parts List CSP-900IPL-4.

2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Table 1)

- (1). Remove existing aircraft battery and 2 ea. continuous threaded rod. Retain nuts and washers for reinstallation.
- (2). Install longer threaded rod into existing inserts a minimum of 0.280 in (7.11 mm). Torque only to overcome self locking run on torque.
- (3). Install aft battery bracket using NAS603 screws and AN960JD10 washers. Torque screws (Ref. CSP-SPM).
- (4). Install 27 ampere hour battery against aft bracket.
- (5). Install forward bracket and position to prevent fore and aft motion of battery. Torque screws (Ref. CSP-SPM).

TECHNICAL BULLETIN

DATE: 15 MARCH 2010

PAGE 3 OF 4

- (6). Install previously removed washers and nuts onto threaded rod and tighten sufficiently to ensure no axial movement of the joint.
- (7). Install existing vent tubing onto battery case.
- (8). Record accomplishment of this Modification Instruction in the Compliance Record Section of the Helicopter Log Book.

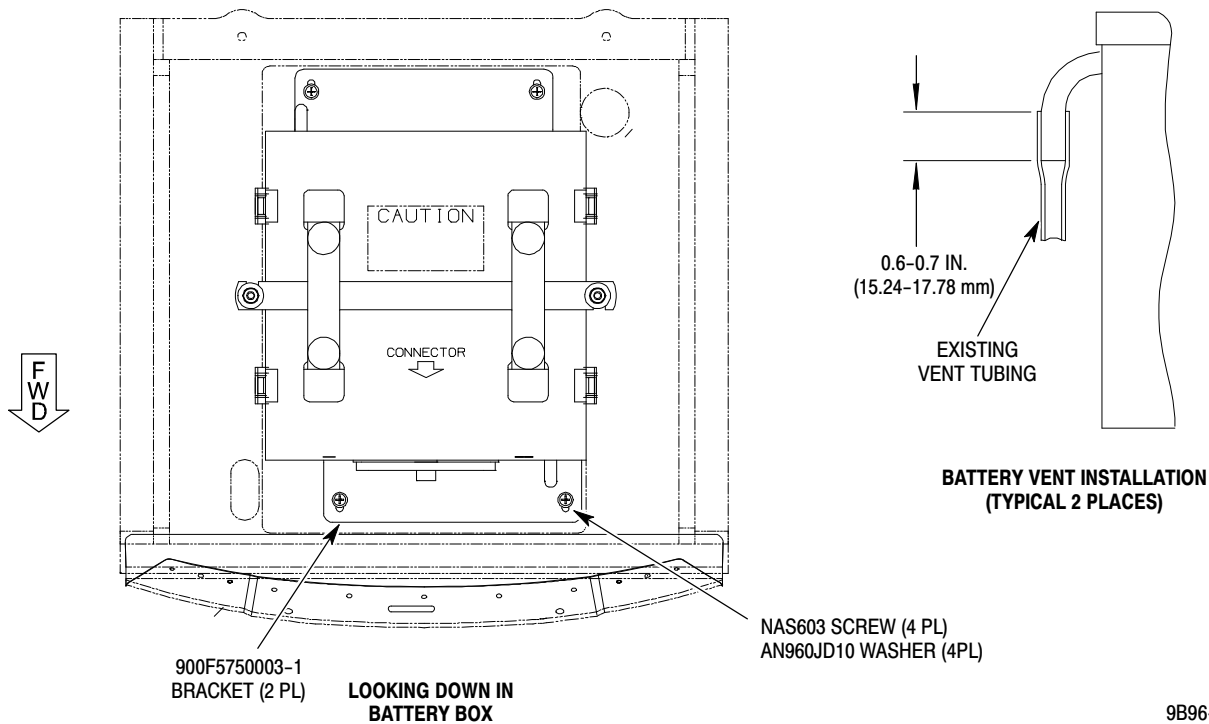


Table 1.

9B96-119

PAGE 4 OF 4

TECHNICAL BULLETIN

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 Total Time:

Date:

Parts Required:

Part Ser. No. (if required):

Ship to:

TECHNICAL BULLETIN

DATE: 13 DECEMBER 2001

PAGE 1 OF 3

* Supersedes Technical Bulletin TB900-010, dated 15 March 1999. Revised to reflect the current Integrated Instrument Display System (IIDS) part number.

INCREASED ONE ENGINE INOPERATIVE (OEI) TORQUE LIMIT MODIFICATION

1. PLANNING INFORMATION

A. Aircraft Affected:

All MD900 helicopters, serial number 00010 thru 00051 equipped with Pratt & Whitney PW206A engines.

B. Assembly/Components Affected By This Notice:

Integrated Instrument Display System (IIDS) P/N 900A3720002.

C. Reason:

Operators may desire to upgrade their rotorcraft for increased One Engine Inoperative (OEI) torque limits. Operators not complying with this Bulletin must operate to standard OEI limits.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to upgrading their rotorcraft for increased OEI torque limits. Rotorcraft must be operated in accordance with Rotorcraft Flight Manual CSP-900RFM-1, revision 15 or later.

E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

F. Manpower:

One (1) manhours.

G. Time of Compliance:

Optional, at the discretion of the owner/operator.

H. Classification:

Compliance with this Bulletin is a minor alteration.

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. Interchangeability:

None

K. Material/Part Availability:

Contact MDHI Part Sales Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Integrated Instrumentation Display System	900A3720002-117	1	MDHI

DATE: 13 DECEMBER 2001

PAGE 2 OF 3

TECHNICAL BULLETIN

L. Disposition of Parts Removed

Return to MDHI

M. Warranty Policy:

N/A

N. Tooling:

N/A

O. Other Publications Affected:

Rotorcraft Flight Manual (CSP-900RFM-1),
Illustrated Parts List (CSP-900IPL-4),
Rotorcraft Maintenance Manual (CSP-900RMM-3, Reissue 1, Revision 5, Temporary
Revision TR01-001, dated 17 October 2001) or later revision.

2. ACCOMPLISHMENT INSTRUCTIONS

- (1). Remove existing IIDS (Ref. CSP-900RMM-3, Section 95-30-00, Integrated Instrument Display (IIDS) Removal).
- (2). Install replacement IIDS (Ref. CSP-900RMM-3, Section 95-30-00, Integrated Instrument Display (IIDS) Installation).
- (3). Record compliance to this Technical Bulletin in the Compliance Record section of the Rotorcraft Log Book.



DATE: 13 DECEMBER 2001

INCREASED ONE ENGINE INOPERATIVE (OEI) TORQUE LIMITS MODIFICATION

Aircraft Ser. No.:

Aircraft Total Time:

Date:

Parts Required:

Part Ser. No. (if required):

Ship to:

TECHNICAL BULLETIN

DATE: 17 MARCH 1999

PAGE 1 OF 5

MODIFICATION LANDING/HOVER LIGHT RELOCATION

1. PLANNING INFORMATION

A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) MD900 helicopters, serial number MD900-00002 thru MD900-00051.

B. Assembly/Components Affected By This Notice:

Hover/Landing Light Installation, P/N 900E7750005-101.

C. Reason:

Operators may desire to modify their rotorcraft to the updated landing/hover light configuration.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to modifying their rotorcraft for an updated landing/hover light installation. The 900E7750005 Hover/Landing Light Installation uses different mounting brackets than previous installations, to provide for greater mounting angle of the hover and landing light assemblies.

E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

F. Manpower:

Eight (8) manhours.

G. Time of Compliance

Optional, at the discretion of the owner/operator.

H. Classification:

Compliance with this Bulletin is a minor alteration.

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. Interchangeability:

None

K. Material/Part Availability:

Contact MDHI Part Sales Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
1) Bracket Assembly, Landing Light	900E2750260-101	1	MDHI or Commercial
2) Bracket Assembly, Hover Light	900E2750261-101	1	MDHI or Commercial

DATE: 17 MARCH 1999

PAGE 2 OF 5

TECHNICAL BULLETIN

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
3) Bracket Assembly, Adjust	900E2750262-101	2	MDHI or Commercial
4) Screw	NAS1096-3-8	8	MDHI or Commercial
5) Washer	AN960JD10L	8	MDHI or Commercial
6) Grommet	MS35489-141	1	MDHI or Commercial
7) Tape, Polyethylene	HMS16-1029*T3C2 2 in (5.08 mm)	24 in (61 cm)	MDHI or Commercial
8) Cable, Power, Electrical	M27500-12SP2U00 (RM013601)	120 in (305 cm)	MDHI or Commercial
9) Cable, Power, Electrical	M27500-20SP2U00 (RM013611)	120 in (305 cm)	MDHI or Commercial
10) Terminal, Lug, Crimp	MS25036-153	2	MDHI or Commercial
11) Terminal, Lug, Crimp	MS25036-156	2	MDHI or Commercial
12) Sealant	MIL-S-8802*C B1/2 (RM016087)	1 oz (28 g)	MDHI or Commercial
13) Adhesive, epoxy	HMS16-1068*C1 (RM000150)	1 oz (28 g)	MDHI or Commercial
14) Heat Shrinkable Sleeving	M23053/5-106-0 (RM002445)	1 in (2.54 cm)	MDHI or Commercial

L. Disposition of Parts Removed

Scrap

M. Warranty Policy:

N/A

N. Tooling:

N/A

O. Weight and Balance:

Hover/landing light installation, external, 0.92 lbs at FS 240.62.

P. Electrical Load Data:

N/A

Q. Other Publications Affected:

Rotorcraft Maintenance Manual (CSP-900RMM-3), and Illustrated Parts List (CSP-900IPL-4).

TECHNICAL BULLETIN

DATE: 17 MARCH 1999

PAGE 3 OF 5

2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

NOTE:

- It is not necessary to remove airframe attached brackets.
 - Check wiring harness for sufficient length prior to replacing wires.
 - Landing light window may be painted to match aircraft.
- (1). Remove hover/landing light from aircraft (Ref. CSP-900RMM-3). Retain hardware and wiring harness.
 - (2). If necessary disassemble wiring harness and replace wires with longer conductors (Ref. CSP-900RMM-3).
 - (3). Remove nutplate located at approximately FS 149.6 and LBL 1.4.
 - (4). Enlarge hole of removed nutplate to 0.5 in (12.7 mm) and blend in rivet holes. Deburr hole.
 - (5). Install MS35489 grommet into hole. Install with HMS 16-1068 adhesive.
 - (6). Install wire harness to external power box and route through grommet. Route with and secure to existing wire harness.

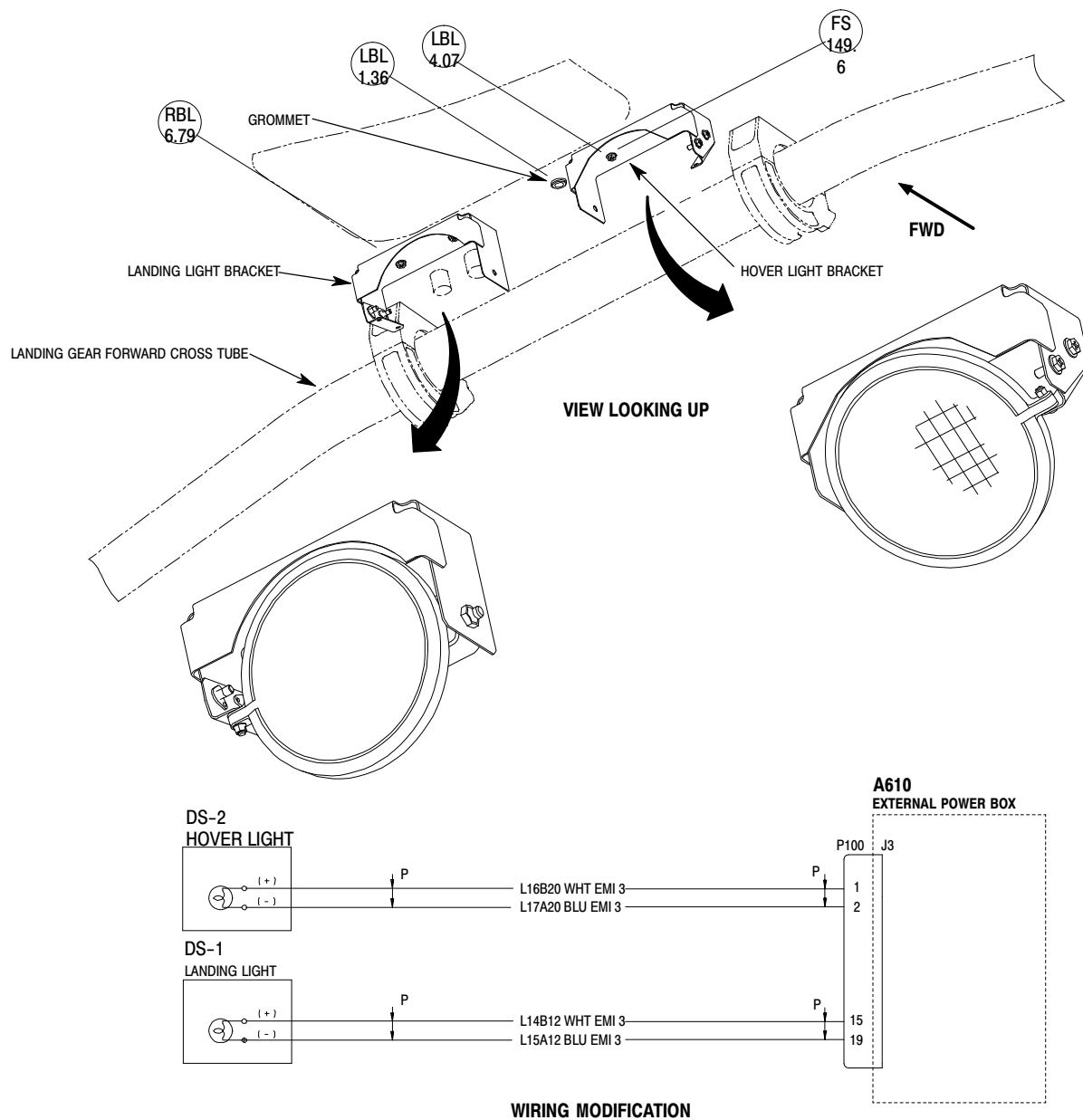
Sealing Compound (C205)

- (7). Environmentally seal grommet with MIL-S-8802 (Ref. CSP-SPM).
- (8). Apply polyethylene tape to 900E2750260 landing and 900E2750261 hover light bracket assemblies to fuselage faying surface.
- (9). Install landing and hover light bracket assemblies using 4 ea. NAS1096 screws and AN960JD washers. Install screws into existing nutplates and align bracket assemblies with butt line of aircraft. Torque screws (Ref. CSP-900RMM-2).
- (10). Attach two 900E2750262 adjustment bracket assemblies to the landing and hover light assemblies with 4 ea. NAS1096 screws and AN960JD washers. Do not torque hardware at this time.
- (11). Remove brackets from and disassemble both light assemblies and retain hardware.
- (12). Install light assemblies into mounting and adjustment brackets using retained hardware. Do not torque hardware at this time.
- (13). Shrink 0.5 in (12.7 mm) heat shrinkable sleeving onto hover light wiring to align with housing grommet when bulb is installed.
- (14). Route wires through light housings, connect wires to bulbs, and install bulbs.
- (15). Adjust landing light to $13^{\circ} \pm .5^{\circ}$ in relation to aircraft waterline. Torque hardware (Ref. CSP-900RMM-2).
- (16). Adjust hover light to $36^{\circ} \pm 1^{\circ}$ in relation to aircraft waterline. Torque hardware (Ref. CSP-900RMM-2).

DATE: 17 MARCH 1999

PAGE 4 OF 5

TECHNICAL BULLETIN



9B96-124

Figure 1. Modification, Hover/Landing Light

- (17). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.



DATE: 17 MARCH 1999
PAGE 5 OF 5

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 Part Sales Department at (602) 891-3952.

Parts Required:

Part Ser. No. (if required):

Ship to:

TECHNICAL BULLETIN

DATE: 9 FEBRUARY 2000

PAGE 1 OF 14

FIRE EXTINGUISHING SYSTEM INSTALLATION

* Supersedes TB900-012, dated 17 March 1999. Revision 1 updates part numbers and clarifies planning information and references. Aircraft which have complied with TB900-012 meet the intent of this revision.

1. PLANNING INFORMATION

A. Aircraft Affected:

MD-900 Helicopters serial number 00002 thru 00051.

B. Assembly/Components Affected By This Notice:

Fire Extinguisher Configuration P/N 90000723000.

C. Reason:

Operators may desire to install the fire extinguishing system in their rotorcraft.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to installing the fire extinguisher system in their rotorcraft.

E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

F. Manpower:

Forty-six (46) manhours.

G. Time of Compliance:

Optional, at the discretion of the owner/operator.

H. Classification:

Compliance with this Bulletin is a major alteration.

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. Interchangeability:

None

K. Material/Part Availability:

Contact MDHI Part Sales Dept.

NOTE: Parts listed may require longer than usual lead times for availability.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Fire Extinguisher Installation	900P7690200-101	REF	MDHI
1. Tube Assembly, Discharge, Left Side	900P2690210-101	1	MDHI

DATE: 9 FEBRUARY 2000

PAGE 2 OF 14

TECHNICAL BULLETIN

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
2. Bracket Assembly, Fire Bottle Mounting, Left Side	900P2690211-103	1	MDHI
3. Bracket Assembly, Fire Bottle Mounting, Right Side	900P2690212-103	1	MDHI
4. Support, Fire Bottle Mounting, Left Side	900P2690217-101	1	MDHI
5. Support, Fire Bottle Mounting, Right Side	900P2690217-102	1	MDHI
6. Tube Assembly, Distribution, Left Side	900P2690220-103	1	MDHI
7. Tube Assembly, Crossflow	900P2690230-101	2	MDHI
8. Tube Assembly, Discharge, Right Side	900P2690240-105	1	MDHI
9. Tube Assembly, Distribution, Right Side	900P2690250-103	1	MDHI
10. Bracket, Angle	MS9597-014	4	MDHI
11. Bracket, Support Clamp	AN743-C13	2	MDHI
12. Union, Flared Tube, Bulkhead	AN832-12J	1	MDHI
13. Nut, Tube, Bulkhead Fitting	AN924-12J	2	MDHI
14. Washer, Flat	AN960C10L	12	MDHI
15. Washer, Flat	AN960C1716	2	MDHI
16. Washer, Flat	AN960KD10LL	4	MDHI
17. Washer, Flat	AN960KD416	6	MDHI
18. Clamp, Cushioned, Loop Type	HS5764-12	4	MDHI
19. Nut, Self-Locking	MS21043-3	8	MDHI
20. Screw, Pan Head	MS51958-63	6	MDHI
21. Rivet, Blind, Protruding Head	NAS1919B04S02	4	MDHI
22. Rivet, Blind, Protruding Head	NAS1919C04S02	4	MDHI
23. Screw, Hex Head	NAS1096-3-8	4	MDHI
24. Screw, Pan Head	NAS604-10P	6	MDHI
25. Compound, Sealing, Fireproof	HMS16-1191	1 oz (28 g)	MDHI
26. Spacer, Engine Deck	900P2690265-103	4	MDHI
27. Rivet, Solid, Universal Head	MS20470AD4-5	2	MDHI

TECHNICAL BULLETIN

DATE: 9 FEBRUARY 2000

PAGE 3 OF 14

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
28. Rivet, Blind, Protruding Head	NAS1919C04S03	8	MDHI
29. Rivet, Solid, Flush Head	NAS1097AD4-5	2	MDHI
30. Elbow, Flared Tube, Bulkhead	AN833-12J	1	MDHI
31. Bolt, Hex Head	NAS6703U1	2	MDHI
Fire Bottle Assembly	900P2690000-101	REF	MDHI
1. Container, Fire Extinguisher	900P3690000-101	2	MDHI
2. Cartridge, Fire Extinguisher, Primary	900P3690001-101	2	MDHI
3. Cartridge, Fire Extinguisher, Secondary	900P3690002-101	2	MDHI
Wire Harness Installation, W307 Fire Suppression	900E2760307-103	1	MDHI
Fire Suppression Switch Installation	900E7720603-101	REF	MDHI
1. Switch, Toggle	MS24659-27E	1	MDHI
2. Terminal, Lug, Crimp Style	MS25036-102	11	MDHI
3. Wire, Electrical, Insulated	M22759/43-20-9	24 in (61 cm)	MDHI
4. Wire, Electrical, Insulated	M22759/43-22-9	30 in (76 cm)	MDHI

L. Disposition of Parts Removed

Scrap

M. Warranty Policy:

N/A

N. Weight and Balance:

+14.9 lbs (6.759 kg) @ FS 240.7, LBL 1.1, and WL 156.8.

O. Tooling:

N/A

P. Other Publications Affected:

None

DATE: 9 FEBRUARY 2000

PAGE 4 OF 14

TECHNICAL BULLETIN

2. ACCOMPLISHMENT INSTRUCTIONS

A. Upper Deck Preparation:

(Ref. Figure 1)



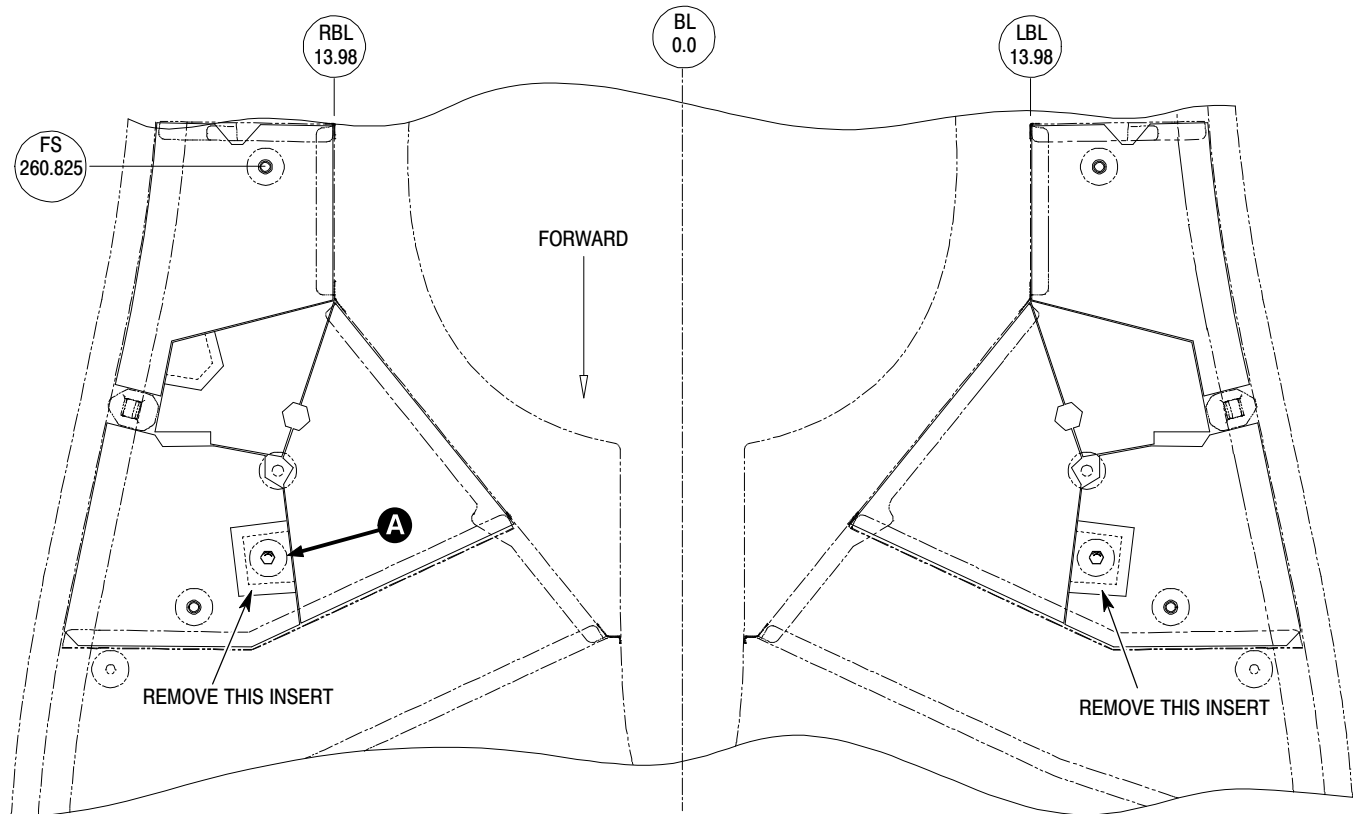
Prior to removing the A620 electrical load center note the location of any option installed electrical components or wiring. Ensure all electrical components and wiring are re-installed/re-connected at completion of modification.

- (1). Remove A620 electrical load center (Ref. CSP-900RMM-3).
- (2). Remove left engine cowling L260 and right engine cowling R260 (Ref. CSP-900RMM-2).
- (3). Remove left and right forward outboard engine deck insulation to expose upper deck plug, fire extinguishing system.
- (4). Remove insert from removed pieces of insulation.
- (5). Remove left and right upper deck plug.
 - (a). Have assistant prevent pan head bolt on top of plug installation from turning.
 - (b). Remove self-locking nut, washer, lower cover, and plug from bottom side of upper deck.
 - (c). Remove pan head bolt and upper cover from top of deck.
 - (d). Remove all sealant residue and clean upper and lower surfaces of upper deck.

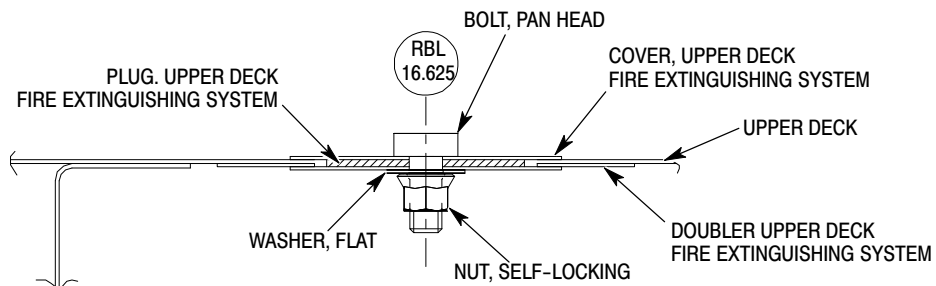
TECHNICAL BULLETIN

DATE: 9 FEBRUARY 2000

PAGE 5 OF 14



LOOKING DOWN AT UPPER DECK



PLUG INSTALLATION, UPPER DECK
RIGHT SHOWN, TYPICAL

A

9B53-128

Figure 1. Upper Deck Preparation

DATE: 9 FEBRUARY 2000

PAGE 6 OF 14

TECHNICAL BULLETIN

B. Fire Extinguisher Installation:

(Ref. Figure 2)

- (1). Locate 6 each bracket mounting holes in left and right fire bottle mounting bracket. Drill pilot holes with a #40 drill bit and deburr.
- (2). Locate 2 each rivet attach holes in left and right fire bottle mounting support. Drill pilot holes with a #40 drill bit and deburr.
- (3). Locate 2 fire bottle mounting support attach holes in FS 245.25 frame insert. Drill pilot holes with a #40 drill bit.
 - (a). Enlarge holes in FS 245.25 frame insert to **0.203 - 0.221 in (5.16 - 5.61 mm)** and deburr.

Chemical Coating (C233)



Primer (C309)



- (b). Touch up holes in FS 245.25 frame insert with chemical coating (C233) and primer (C309).
- (4). Temporarily install fire bottle mounting brackets with 2 each NAS1096 screws and AN960 washers.
- (5). Locate brackets to FS 237.391 sub-frame, LBL 7.75 longeron and RBL 7.75 longeron. Drill 6 each rivet attach holes with a #40 drill bit and cleco in place. Enlarge rivet attach holes with a #30 drill bit and cleco.
- (6). Temporarily attach left and right 900P2690217 supports to fire bottle bracket assemblies with 2 NAS1096 screws and AN960 washers.
 - (a). Drill 2 each rivet attach holes from pilot holes in supports into FS 245.25 frame insert flange with a #40 drill bit and cleco. Enlarge rivet attach holes with a #30 drill bit.
- (7). Remove supports and fire bottle mounting brackets. Deburr all rivet holes.
- (8). Install 900P2690217 supports using clecos.
 - (a). Install 2 each NAS1919B04S02 rivets into each support and FS 245.25 frame insert flange. Install wet with primer (C309).
- (9). Install fire bottle mounting brackets with 4 each NAS1096 screws and AN960 washers and clecos.
 - (a). Install 4 each NAS1919C04S03 rivets into each mounting bracket and LBL/RBL 7.75 longeron. Install wet with primer (C309).
 - (b). Install 2 each MS20470AD4-5 rivets into each mounting bracket and FS 237.391 sub-frame. Install wet with primer (C309).

TECHNICAL BULLETIN

DATE: 9 FEBRUARY 2000

PAGE 7 OF 14

Solvent Cleaner (C429)



- (10). Clean top and bottom of upper deck at FS 243.25 LBL/RBL 16.625 with solvent cleaner (C429) or equivalent and allow to air dry for 15 minutes.
- (11). Install AN union in upper deck at FS 243.25 and LBL 16.625.

Sealing Compound (C215)



- (a). Install one spacer down into hole in upper deck. Install wet with sealing compound (C215) on faying surfaces of spacer and upper deck.
 - (b). Apply approximately 0.125 in (3.2 mm) thick coat of sealing compound (C215) on top surface of spacer. Install union down into hole in upper deck.
 - (c). Install second spacer up onto union. Install wet with sealing compound (C215) on faying surfaces of spacer and upper deck.
 - (d). Install AN washer and AN nut onto union on underside of deck. Torque nut **500-600 in lb (56.48-67.77 N·m)**.
- (12). Install AN elbow in upper deck at FS 243.25 and RBL 16.625.
- (a). Apply approximately 0.125 in (3.2 mm) thick coat of sealing compound (C215) to surface of one spacer. Install spacer onto elbow with sealing compound (C215) between spacer and elbow.
 - (b). Install elbow up into upper deck. Install wet with sealing compound (C215) on faying surfaces of spacer and upper deck.
 - (c). Install second spacer, AN washer, and AN nut onto elbow on upper side of deck. Install wet with sealing compound (C215) on faying surfaces of washer, spacer, and upper deck. Torque nut **500-600 in lbs (56.48-67.77 N·m)**.
- (13). Install left and right distribution tubes onto fittings in upper deck. Do not tighten at this time.
- (a). Remove exhaust ejector cowl assemblies R270 and L270 to access area inboard of firewall (Ref. CSP-900RMM-2).
 - (b). Remove top forward bolt from heat defog firewall to engine fitting or blanking plate.
 - (c). Install NAS6703U1 bolt, MS9597-014 angle bracket, AN960C10L washer, and MS21043-3 nut. Do not tighten at this time.
 - (d). Install HS5764-12 clamp, at upper location, onto distribution tubes. Install clamps to angle brackets using MS51958-63 screws, 2 each AN960C10L washers, and MS21043-3 nuts. Do not tighten at this time.

DATE: 9 FEBRUARY 2000

PAGE 8 OF 14

TECHNICAL BULLETIN

- (e). Align distribution tube, clamp, and bracket. Torque attaching hardware (Ref. CSP-SPM).
- (f). Torque distribution tube “B” nuts **900-1000 in lbs (101.66-112.96 N·m)**.
- (g). Install HS5764-12 clamp, at lower position, onto distribution tubes. Install clamps to angle brackets using MS51958-63 screws, 2 each AN960C10L washers, and MS21043-3 nuts. Do not tighten at this time.
- (h). Attach angle brackets to AN743-C13 support bracket using MS51958-63 screws, AN960C10L washers, and MS21043-3 nuts. Do not tighten at this time.
- (i). Align support bracket with rivets on firewall and locate rivet location. Pick up existing rivet if possible.
- (j). If applicable remove existing rivets using a #30 drill bit.
- (k). Using the support bracket as a template, drill 2 rivet holes in each bracket using a #30 drill bit. Deburr holes in bracket and firewall.

Primer (C309)

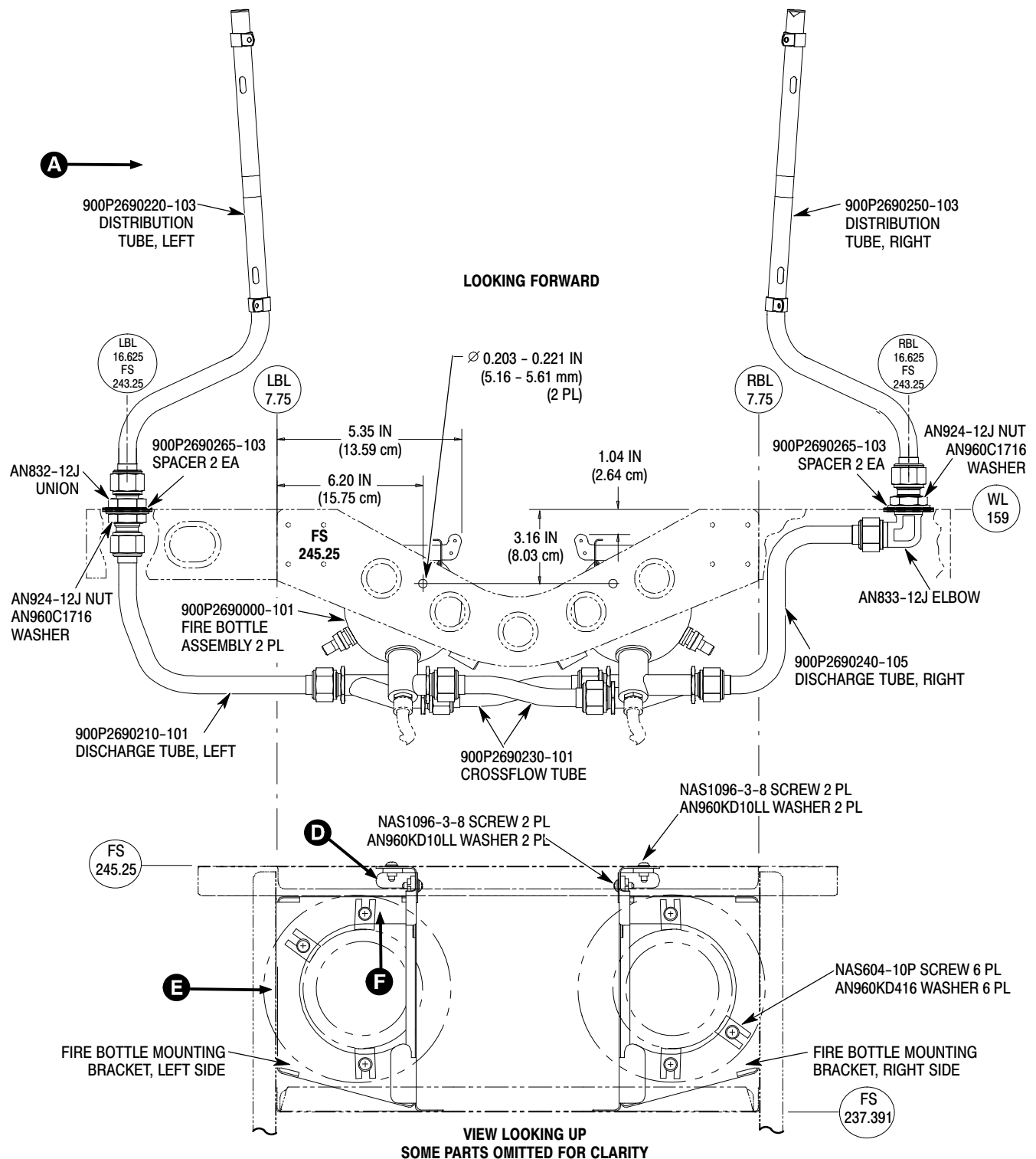


- (l). Install support bracket to firewall using 2 each NAS1919C04S02 rivets. Install wet with primer (C309).
 - (m). Torque all attach hardware (Ref. CSP-SPM).
 - (n). Vacuum area thoroughly to remove any foreign objects.
 - (o). Reinstall anti-torque upper inlet assembly T240 (Ref. CSP-900RMM-2).
- (14). Install left and right forward outboard engine deck insulation.
- (15). Install left engine cowling L260 and right engine cowling R260 (Ref. CSP-900RMM-2).
- (16). Install the fire bottle assembly and remaining fire extinguishing system tubing (Ref. CSP-900RMM-2, section 26-20-20).

TECHNICAL BULLETIN

DATE: 9 FEBRUARY 2000

PAGE 9 OF 14



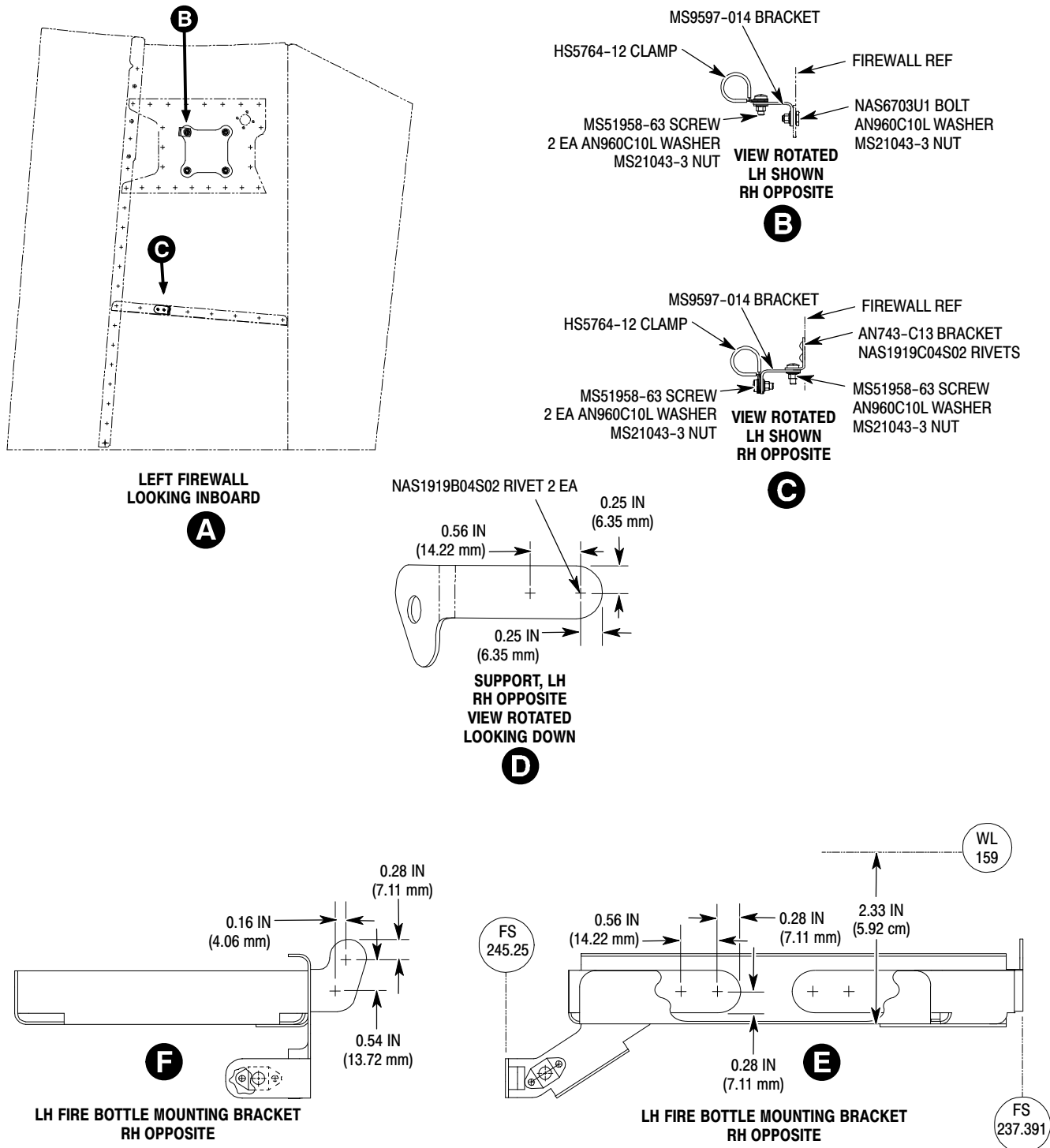
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Figure 2. Fire Extinguisher Installation (Sheet 1 of 2)

DATE: 9 FEBRUARY 2000

PAGE 10 OF 14

TECHNICAL BULLETIN



9B26-125-2

Figure 2. Fire Extinguisher Installation (Sheet 2 of 2)

TECHNICAL BULLETIN

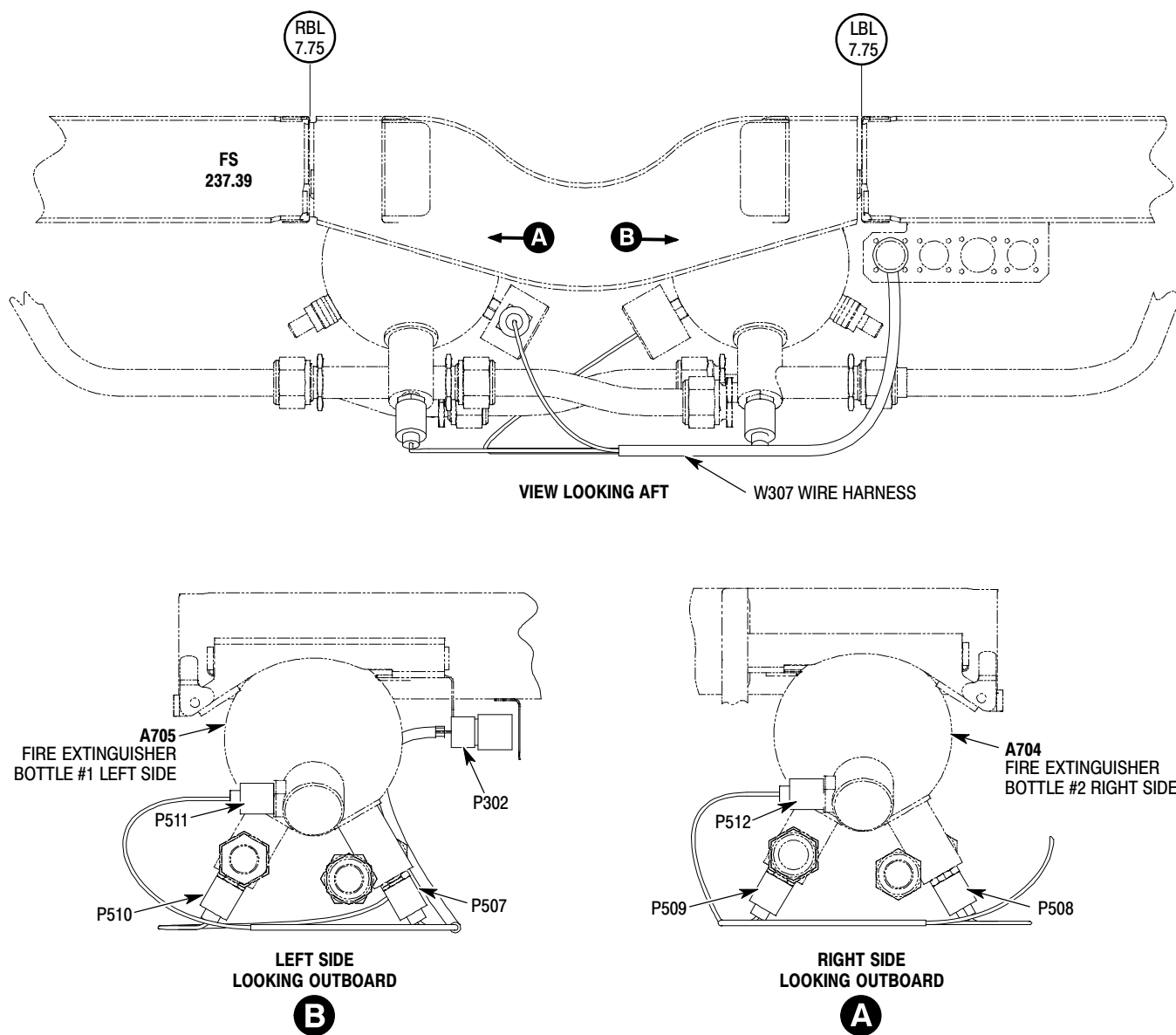
DATE: 9 FEBRUARY 2000

PAGE 11 OF 14

C. Installation, W307 Wire Harness:

(Ref. Figure 3)

- (1). Install W307 fire extinguishing system wire harness.



9B98-126

Figure 3. Wire Harness W307 Installation

DATE: 9 FEBRUARY 2000

PAGE 12 OF 14

TECHNICAL BULLETIN

D. Installation, Fire Bottle Discharge Switch:

(Ref. Figure 4)

- (1). Fabricate wires in accordance with wire build table and CSP-900RMM-3.

WIRE BUILD TABLE						
Wire No.	Wire Nomenclature	Part No.	Wire Length	Termination		Source
				A	B	
1	W31D22 EMI 3	M22759/43-22-9	9 in (23 cm)	MS25036-102	MS25036-102	MDHI
2	W33A22 EMI 2	M22759/43-22-9	6 in (15 cm)	MS25036-102	MS25036-102	MDHI
3	W32A22 EMI 2	M22759/43-22-9	6 in (15 cm)	MS25036-102	MS25036-102	MDHI
4	W31C22 EMI 3	M22759/43-22-9	9 in (23 cm)	MS25036-102	M39029/58-363	MDHI
5	W34A20 EMI 2	M22759/43-20-9	6 in (15 cm)	MS25036-102	M39029/58-363	MDHI
6	W35A20 EMI 2	M22759/43-20-9	6 in (15 cm)	MS25036-102	M39029/58-363	MDHI
7	W36A20 EMI 2	M22759/43-20-9	6 in (15 cm)	MS25036-102	M39029/58-363	MDHI
8	W37A20 EMI 2	M22759/43-20-9	6 in (15 cm)	MS25036-102	M39029/58-363	MDHI

- (2). Remove A604 engine/fuel control panel from center console (Ref. CSP-900RMM-3).
- (3). Remove plug button from A604 panel and install bottle discharge switch using supplied hardware (Ref. CSP-900RMM-3).
- (4). Install wire W31D22 EMI 3 between S6-5 and S7-5.
- (5). Install wire W33A22 EMI 2 between S6-4 and S8-2.
- (6). Install wire W32A22 EMI 2 between S7-4 and S8-5.
- (7). Install wire W31C22 EMI 3 between S7-5 and J1-A.
- (8). Install wire W34A20 EMI 2 between S8-3 and J1-B.
- (9). Install wire W35A20 EMI 2 between S8-1 and J1-C.
- (10). Install wire W36A20 EMI 2 between S8-6 and J1-D.
- (11). Install wire W37A20 EMI 2 between S8-4 and J1-Y.
- (12). Record compliance with this Bulletin in the Rotorcraft Logbook.

TECHNICAL BULLETIN

DATE: 9 FEBRUARY 2000

PAGE 13 OF 14

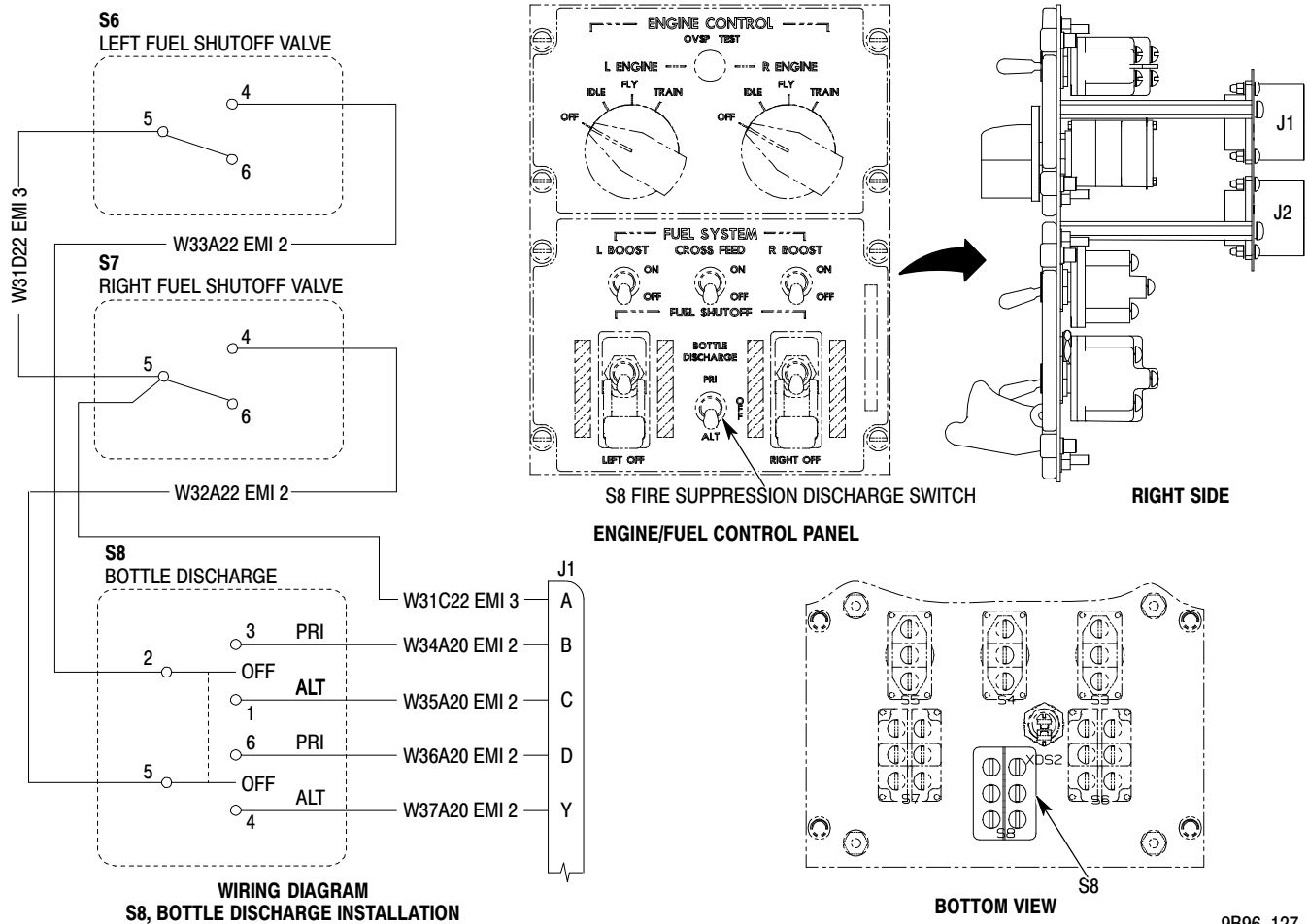


Figure 4. Fire Bottle Discharge Switch (S8) Installation

9B96-127



DATE: 9 FEBRUARY 2000
PAGE 14 OF 14

TECHNICAL BULLETIN

FIRE EXTINGUISHING SYSTEM INSTALLATION

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 Part Sales Department at (602) 891-3952.

Aircraft Ser. No.: _____

Aircraft Total Time: _____

Date: _____

Parts Required:

Part Ser. No. (if required): _____

Ship to:

TECHNICAL BULLETIN

DATE: 13 NOVEMBER 2001

PAGE 1 OF 19

JAR OPS 3 MODIFICATION

* Supersedes TB900-014R3, dated 15 March 2001. Revised to reflect the change in nomenclature for part number 90005720002 and the title change of Technical Bulletin TB900-010R1, due to the part number change for the Integrated Instrument Display System (IIDS). Aircraft which have complied with previous revisions of this Bulletin meet the intent of this revision.

1. PLANNING INFORMATION

A. Aircraft Affected

All MD900 helicopters serial number 00010 thru 00051 equipped with Pratt & Whitney PW206A engines.

B. Assembly/Components Affected By This Notice:

Attitude Gyro #1 Circuit Breaker Installation P/N 900A7701149-101; Wire Harness Installation, W451, Attitude Gyro #1 P/N 900A7711049-101; Attitude Gyro #1 Instrument Installation P/N 900A7701049-101; MOD Increased OEI Torque Limit P/N 90005720002; Hover/Landing Light Installation, External P/N 900E5750029; Fire Extinguisher Configuration P/N 9000723000-101; and Modification Take Off Timer P/N 900E5750028.

C. Reason:

This Bulletin has been released to identify and authorize the helicopter modifications necessary to meet JAR OPS 3 operations. Revision 4 is released to reflect changes in the Integrated Instrument Display System (IIDS) part numbers.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to modifying their rotorcraft for JAR OPS 3 operations. JAR OPS 3 provides operating rules for day and night VFR Category A operations as defined by JAR OPS 3 operating rules.

NOTE: Use the latest revision of the Service and Technical Bulletins referenced below.

For JAR OPS 3, the operator must;

- Ensure the items listed below have been accomplished prior to installation of GO/NO GO Timer modification.
- ● Install the #1 Attitude Gyro System in accordance with CSP-900RMM-3.
- ● Install the Increased One Engine Inoperative (OEI) Torque Limit Modification in accordance with TB900-010R1.

NOTE: There are two different external hover/landing light installations. The 900E5750029 installation is the only installation acceptable for the requirements of this Bulletin.

- ● Perform the 900E5750029 External Hover/Landing Light Modification in accordance with TB900-011.
- ● Install the Fire Extinguishing System in accordance with TB900-012R1.
- ● Comply with SB900-063 Mechanical Engine Control System Modification.
- ● Comply with SB900-069R1 A612 Forward Interconnect Panel Modification.

DATE: 13 NOVEMBER 2001

PAGE 2 OF 19

TECHNICAL BULLETIN

- Perform the GO/NO-GO Timer Modification in accordance with this Bulletin.
- Operate the rotorcraft in accordance with the latest revision of Rotorcraft Flight Manual CSP-900RFM-1 and JAR OPS 3 Supplement CSP-900RFM-S2.

E. Manpower:

Fifty (50) manhours for this Bulletin.

F. Time of Compliance

Optional, at the discretion of the owner/operator.

G. Classification:

Compliance with this Bulletin is a major alteration.

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:

None

J. Material/Part Availability:

Contact MDHI Part Sales Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
MOD Increased OEI Torque Limit	90005720002	1	MDHI
Attitude Gyro #1 Installation	900A7701049-101	REF	MDHI
1) Attitude Gyro	504-0028-906	1	MDHI
2) Screw, Machine	MS51957-34B	4	MDHI
3) Washer, Flat	NAS620C6LP	4	MDHI
Wire Harness Installation, W451, Attitude Gyro #1	900A7711049-101	REF	MDHI
1) Wire Harness	900A2710451-103	1	MDHI
2) M39029/22-192	Contact, Socket	2	MDHI
3) M39029/22-191	Contact, Socket	1	MDHI
Circuit Breaker Installation, Attitude Gyro #1	900A7701149-101	REF	MDHI
1) Circuit Breaker, Trip Free, 5A	MS3320-5	1	MDHI
2) Terminal, Lug, Crimp, Insulated	MS25036-149	3	MDHI
3) Wire Electrical	M22759/43-22-9	60 in (152.4 cm)	MDHI

TECHNICAL BULLETIN

DATE: 13 NOVEMBER 2001

PAGE 3 OF 19

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Modification, Take Off Timer	900E5750028	REF	MDHI
1) Resistor, 510 OHM, 10%, 1/2 Watt	10N556	1	MDHI
2) Resistor, 220 OHM, 10%, 1/2 Watt	10N547	1	MDHI
3) Resistor, 698 KILO-OHM, 1/2 Watt	58F003698K	1	MDHI
4) Contact	1662-202-1631	11	MDHI
5) Terminal Board	900E2750120-101	1	MDHI
6) Bracket	900E2750630-101	1	MDHI
7) Label, NO-GO	900E5750025-1	1	MDHI
8) Label, GO	900E5750025-3	1	MDHI
9) Relay, 8 Second Time Delay	M83726/30-1002P	1	MDHI
10) Washer	AN960JD6L	3	MDHI
11) Washer	AN960JD10L	8	MDHI
12) Terminal, Stud, Insulated	HS4093-1	6	MDHI
13) Relay	HS4235-1101	2	MDHI
14) Track Assembly, Relay	HS4785-104	1	MDHI
15) Socket Module, Relay	HS4791-1	2	MDHI
16) Sleeving, Expandable, Black	HS5330-1524	36 in (91.5 cm)	MDHI
17) Diode, Power Rectifier	JANTX1N5420	1	MDHI
18) Relay Socket	M12883/40-23S	1	MDHI
19) Wire, Single Conductor	M22759/43-22-9	964 in (245 cm)	MDHI
20) Heat Shrinkable Sleeving, Black	M23053/5-106-0	2 in (5 cm)	MDHI
21) Contact, Socket	M39029/1-16-20	1	MDHI
22) Contact, Socket	M39029/22-191	15	MDHI
23) Contact, Socket	M39029/56-348	13	MDHI

DATE: 13 NOVEMBER 2001

PAGE 4 OF 19

TECHNICAL BULLETIN

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
24) Contact, Socket	M39029/58-360	14	MDHI
25) Contact, Socket	M39029/92-534	9	MDHI
26) Splice, Crimp, Insulated, Blue	M81824/1-2	3	MDHI
27) Solid Rivet	MS20470AD4	2	MDHI
28) Nut, Self Locking	MS21042L06	1	MDHI
29) Nut, Self Locking	MS21042L3	4	MDHI
30) Switch	MS24524-23	1	MDHI
31) Lug, Ring Terminal, Red	MS25036-102	2	MDHI
32) Lamp Holder, Green	MS25041-7	1	MDHI
33) Lamp Holder, Amber	MS25041-8	1	MDHI
34) Lamp	MS25237-327	2	MDHI
35) Washer, Lock, Spring	MS35338-41	1	MDHI
36) Screw, Machine	MS51957-30	1	MDHI
37) Screw, Machine	NAS603-8P	4	MDHI
38) Nut	NAS671-6	1	MDHI
39) Rivet, Blind	NAS1919B04-01	3	MDHI
40) Paint, Black Per FED-STD-595 #37038	HMS15-1100, T2 (RM009918)	1 oz (30 cc)	MDHI
41) Paint, White Per FED-STD-595 #17875	HMS15-1100, T2 (RM009134)	1 oz (30 cc)	MDHI
42) Supplement to the Rotorcraft Flight Manual for Takeoff and Landing Operations	CSP-900RFM-S2	1	MDHI

K. Disposition of Parts Removed

Return to MDHI

L. Warranty Policy:

N/A

M. Tooling:

N/A

TECHNICAL BULLETIN

DATE: 13 NOVEMBER 2001

PAGE 5 OF 19

N. Weight and Balance:

Attitude Gyro #1 circuit breaker installation, 0.07 lbs at FS 244.4.

Attitude Gyro #1 wire harness installation, 0.18 lbs at FS 145.0.

Attitude Gyro #1 instrument installation, 2.92 lbs, at FS 104.8.

Take off timer installation, 1.3 lbs at FS 111.2, LBL 0.7, WL 113.2.

O. Electrical Load Data:

N/A

P. Other Publications Affected:

Rotorcraft Flight Manual JAR OPS 3 Supplement (CSP-900RFM-S2), Rotorcraft Maintenance Manual (CSP-900RMM-3), and Illustrated Parts List (CSP-900IPL-4).

2. ACCOMPLISHMENT INSTRUCTIONS

A. Attitude Gyro #1 Installation:

- (1). Install Attitude Gyro #1 Indicator, Wire Harness, and Circuit Breaker (Ref. CSP-900RMM-3).

B. IIDS Replacement:

- (1). Remove and replace IIDS (Ref. TB900-010R1).

C. Modification, Hover/Landing Light:

- (1). Perform Hover/Landing Light Modification (Ref. TB900-011).

D. Installation, Fire Extinguishing System:

- (1). Install Fire Extinguishing System (Ref. TB900-012R1).

E. Modification, Mechanical Engine Control System Modification:

- (1). Perform Mechanical Engine Control System Modification (Ref. SB900-063).

F. Modification, A612 Forward Interconnect Panel:

- (1). Perform A612 Forward Interconnect Panel Modification (Ref. SB900-069R1).

G. Modification, Take Off Timer:

(Ref. Table 1)

- (1). Fabricate wires (Ref. Table and CSP-900RMM-3).

Table 1. Wire Build

Wire No.	Wire Nomenclature	Part No.	Wire Length	Termination		Source
				A	B	
1	TT27A22 EMI 3	M22759/43-22-9 (RM005659)	30 in (76 cm)	1662-202-1631	M39029/92-534	MDHI
2	TT28B22 EMI 3	M22759/43-22-9 (RM005659)	16 in (41 cm)	M39029/22-191	M39029/58-360	MDHI

DATE: 13 NOVEMBER 2001

PAGE 6 OF 19

TECHNICAL BULLETIN

Table 1. Wire Build (Cont.)

Wire No.	Wire Nomenclature	Part No.	Wire Length	Termination		Source
				A	B	
3	TT29A22 EMI 3	M22759/43-22-9 (RM005659)	16 in (41 cm)	Strip and Tin	M39029/58-360	MDHI
4	TT33A22N EMI 3	M22759/43-22-9 (RM005659)	30 in (76 cm)	1662-202-1631	MS25036-102	MDHI
5	TT21A22 EMI 3	M22759/43-22-9 (RM005659)	12 in (31 cm)	M39029/58-360	M39029/22-191	MDHI
6	TT21B22 EMI 3	M22759/43-22-9 (RM005659)	12 in (31 cm)	M39029/22-191	Strip and Tin	MDHI
7	TT31B22 EMI 3	M22759/43-22-9 (RM005659)	12 in (31 cm)	1662-202-1631	Strip and Tin	MDHI
8	TT22B22 EMI 3	M22759/43-22-9 (RM005659)	12 in (31 cm)	1662-202-1631	Strip and Tin	MDHI
9	TT29C22 EMI 3	M22759/43-22-9 (RM005659)	12 in (31 cm)	M39029/58-360	Strip and Tin	MDHI
10	TT35A22 EMI 3	M22759/43-22-9 (RM005659)	16 in (41 cm)	Strip and Tin	M39029/92-534	MDHI
11	TT24D22 EMI 3	M22759/43-22-9 (RM005659)	6 in (15 cm)	M39029/22-191	M39029/22-191	MDHI
12	TT28A22 EMI 3	M22759/43-22-9 (RM005659)	36 in (91 cm)	1662-202-1631	M39029/22-191	MDHI
13	TT24C22 EMI 3	M22759/43-22-9 (RM005659)	36 in (91 cm)	1662-202-1631	M39029/22-191	MDHI
14	TT24A22 EMI 3	M22759/43-22-9 (RM005659)	6 in (15 cm)	M39029/22-191	M39029/22-191	MDHI
15	TT21C22 EMI 3	M22759/43-22-9 (RM005659)	16 in (41 cm)	M39029/22-191	M39029/92-534	MDHI
16	TT34A22 EMI 3	M22759/43-22-9 (RM005659)	12 in (31 cm)	Strip and Tin	M39029/92-534	MDHI
17	TT22A22 EMI 3	M22759/43-22-9 (RM005659)	36 in (91 cm)	Strip and Tin	Strip and Tin	MDHI
18	TT32C22 EMI 3	M22759/43-22-9 (RM005659)	12 in (31 cm)	1662-202-1631	Strip and Tin	MDHI

TECHNICAL BULLETIN

DATE: 13 NOVEMBER 2001
PAGE 7 OF 19
Table 1. Wire Build (Cont.)

Wire No.	Wire Nomenclature	Part No.	Wire Length	Termination		Source
				A	B	
19	TT32B22 EMI 3	M22759/43-22-9 (RM005659)	12 in (31 cm)	1662-202-1631	Strip and Tin	MDHI
20	TT22C22 EMI 3	M22759/43-22-9 (RM005659)	12 in (31 cm)	1662-202-1631	Strip and Tin	MDHI
21	TT31C22 EMI 3	M22759/43-22-9 (RM005659)	12 in (31 cm)	1662-202-1631	Strip and Tin	MDHI
22	TT24F22 EMI 3	M22759/43-22-9 (RM005659)	16 in (41 cm)	M39029/22-191	M39029/92-534	MDHI
23	TT25C22 EMI 3	M22759/43-22-9 (RM005659)	12 in (31 cm)	M39029/92-534	M39029/58-360	MDHI
24	TT26C22 EMI 3	M22759/43-22-9 (RM005659)	12 in (31 cm)	M39029/92-534	M39029/58-360	MDHI
25	TT31A22 EMI 3	M22759/43-22-9 (RM005659)	36 in (91 cm)	M39029/92-534	Strip and Tin	MDHI
26	TT32A22 EMI 3	M22759/43-22-9 (RM005659)	40 in (102 cm)	M39029/92-534	Strip and Tin	MDHI
27	TT24B22 EMI 3	M22759/43-22-9 (RM005659)	40 in (102 cm)	1662-202-1631	M39029/22-191	MDHI
28	TT24G22 EMI 3	M22759/43-22-9 (RM005659)	16 in (41 cm)	M39029/22-191	M39029/58-360	MDHI
29	TT24E22 EMI 3	M22759/43-22-9 (RM005659)	16 in (41 cm)	M39029/22-191	M39029/58-360	MDHI
30	TT25B22 EMI 3	M22759/43-22-9 (RM005659)	24 in (61 cm)	M39029/58-348	M39029/58-348	MDHI
31	TT25A22 EMI 3	M22759/43-22-9 (RM005659)	40 in (102 cm)	M39029/58-360	Strip and Tin	MDHI
32	TT26B22 EMI 3	M22759/43-22-9 (RM005659)	24 in (61 cm)	M39029/58-348	M39029/58-348	MDHI
33	TT26A22 EMI 3	M22759/43-22-9 (RM005659)	40 in (102 cm)	M39029/58-360	Strip and Tin	MDHI
34	TT24K22 EMI 3	M22759/43-22-9 (RM005659)	24 in (61 cm)	M39029/58-348	M39029/58-348	MDHI

DATE: 13 NOVEMBER 2001

PAGE 8 OF 19

TECHNICAL BULLETIN

Table 1. Wire Build (Cont.)

Wire No.	Wire Nomenclature	Part No.	Wire Length	Termination		Source
				A	B	
35	TT24N22 EMI 3	M22759/43-22-9 (RM005659)	40 in (102 cm)	M39029/58-360	Strip and Tin	MDHI
36	TT24H22 EMI 3	M22759/43-22-9 (RM005659)	24 in (61 cm)	M39029/58-348	M39029/58-348	MDHI
37	TT24M22 EMI 3	M22759/43-22-9 (RM005659)	40 in (102 cm)	M39029/58-360	Strip and Tin	MDHI
38	TT28C22 EMI 3	M22759/43-22-9 (RM005659)	40 in (102 cm)	M39029/58-348	M39029/58-348	MDHI
39	TT28D22 EMI 3	M22759/43-22-9 (RM005659)	10 in (25 cm)	M39029/58-360	MS25036-102	MDHI
40	TT29B22 EMI 3	M22759/43-22-9 (RM005659)	40 in (102 cm)	M39029/58-348	M39029/58-348	MDHI
41	TT28E22 EMI 3	M22759/43-22-9 (RM005659)	16 in (41 cm)	M39029/22-191	Strip and Tin	MDHI
42	TT30B22N EMI 3	M22759/43-22-9 (RM005659)	40 in (102 cm)	M39029/1-16-20	M39029/58-348	MDHI
43	TT30A22 EMI 3	M22759/43-22-9 (RM005659)	10 in (25 cm)	M39029/58-360	Strip and Tin	MDHI

(2). If applicable, remove or cap and stow unused wires (Ref. Table and CSP-900RMM-3).

(Ref. Table 2)

Table 2. Wires To Be Removed From W124 On Rotorcraft S/N 00008-00018

Wire Number	From	To
L121B24 EMI 3	J118-36	P172-69
L122B24 EMI 3	J118-37	P172-70
L123F24 EMI 3	J118-38	P172-71
L124B24N EMI 3	J118-39	GS104-F
L126B24 EMI 3	J118-40	P172-72
L127B24 EMI 3	J118-41	P172-73
L128F24 EMI 3	J118-42	P172-74
L129B24N EMI 3	J118-43	GS104-G

TECHNICAL BULLETIN

DATE: 13 NOVEMBER 2001

PAGE 9 OF 19

(Ref. Figure 1)

- (3). Stencil new S9 switch legend as shown using block font with a height of 0.08 in (2.03 mm) minimum. Paint new legend using HMS15-1100 white paint.
- (4). Install GO and NO-GO lights.
 - (a). Blackout “PUSH TO TEST” with HMS15-1100 black paint.
 - (b). Remove instrument panel glareshield (Ref. CSP-900RMM-3).
 - (c). Locate position of lights approximately as shown.
 - (d). Remove encoding altimeter (Ref. CSP-900RMM-3).

Protective Equipment



- (e). Drill holes with a number 40 drill and enlarge to **0.470 - 0.490 in ()** and deburr.

Chemical Coating (C233)



- (f). Touch up with chemical coating (C233) (Ref. CSP-SPM).

Primer (C310)



- (g). Touch up with primer (C310) (Ref. CSP-SPM).
- (h). Install lamp holders and lamps (Ref. CSP-900RMM-3).
- (i). Install “NO-GO” and “GO” labels as shown.

NOTE: Do not reinstall altimeter and glareshield at this time.

- (5). Install K1 and K2 relay.
 - (a). Remove access panels PL120 and PR120 (Ref. CSP-900RMM-2).

Protective Equipment



- (b). Locate the 900E2750630 bracket as shown in figure and drill three (3) equally spaced number 30 holes through bracket and aircraft structure.
- (c). Deburr holes and electrical bond prep bracket and structure for class R electrical bond (Ref. CSP-SPM).

DATE: 13 NOVEMBER 2001

PAGE 10 OF 19

TECHNICAL BULLETIN

Primer (C310)



- (d). Install bracket using NAS1919 rivets. Install wet with primer (C310).
- (e). Electrical bond prep bracket and HS4785 track assembly for class R electrical bond (Ref. CSP-SPM).
- (f). Install track assembly using four (4) NAS603-8P screws, eight (8) AN960JD10L washers, and four (4) MS21042L3 nuts. Torque hardware (Ref. CSP-900RMM-2).
- (g). Test track for class R electrical bond (Ref. CSP-SPM).
- (h). Install two (2) HS4791-1 relay sockets into track assembly (Ref. CSP-900RMM-3).

NOTE: Do not install relays or close panels at this time.

- (6). Modify A612 forward interconnect panel.

CAUTION

- The modifications in this portion of this Bulletin are compatible with base line rotorcraft.
 - If it is determined that this portion of this Bulletin is not compatible with a specific rotorcraft, contact MDHS Field Service for assistance (Ref. Points of Contact).
 - Note the location of any option installed wiring or components prior to removing or disconnecting any wiring or components.
- (a). Access A612 panel and remove (Ref. CSP-900RMM-3).
 - (b). Mark location of cutout and three (3) relay mounting holes for K11 relay.
 - (c). Mark location for two (2) TB5 mounting fasteners, use holes in TB5 as a template.

Protective Equipment



- (d). Drill three relay mounting holes with a number 4 drill bit and deburr.
- (e). Cutout relay mounting clearance hole and deburr.
- (f). Drill TB5 mounting holes with a number 30 drill bit and deburr.

Chemical Coating (C233)



- (g). Touch up with chemical coating (C233) (Ref. CSP-SPM).

TECHNICAL BULLETIN

DATE: 13 NOVEMBER 2001

PAGE 11 OF 19

Primer (C310)



- (h). Install TB5 with two (2) MS2047AD4 rivets. Install wet with primer (C310).
- (i). Touch up K11 cutout and mounting holes with primer (C310) (Ref. CSP-SPM).
- (j). Install K11 relay socket using supplied hardware. Torque hardware.

NOTE: Do not install K11 relay at this time.

Protective Equipment



- (k). Mark location of ground stud E2 and drill with a number 18 drill bit and deburr.

Chemical Coating (C233)



- (l). Prepare ground stud location E2 for class R electrical bond (Ref. CSP-SPM).
 - (m). Install MS51957 Screw, 3 ea. AN960JD6L washers, MS35338 spring lock washer, NAS671 nut, and MS21042L06 nut.
 - (n). Test E2 for class R electrical bond (Ref. CSP-SPM).
 - (o). Identify E2 location with reference designator using permanent ink.
 - (p). Install power rectifier diode CR4 onto TB5-1 and TB5-2.
 - (q). Install 220 ohm resistor onto TB5-3 and TB5-6, or if Bulletin was previously complied with prior to Revision 3, replace existing 2.2 K resistor with 220 ohm resistor.
 - (r). Install 698 K ohm resistor onto TB5-5 and TB5-8.
- (7). Modify A602 electrical/lighting control panel.
- (a). Remove A602 panel from center console (Ref. CSP-900RMM-3).
 - (b). Remove existing S5 lighting master and replace with MS24524-23 switch (Ref. CSP-900RMM-3).
 - (c). Install 510 ohm resistor onto R2-3A and R2-2A with heat shrinkable sleeving over resistor conductors, or if Bulletin was previously complied with prior to Revision 3, disconnect lead of existing 510 ohm resistor from R2-1A and reconnect to R2-3A.

(Ref. Figure 2)

NOTE:

- Route new wires with existing harness.
- Tie new wires into existing harness after installing all wires.

DATE: 13 NOVEMBER 2001

PAGE 12 OF 19

TECHNICAL BULLETIN

- (d). Install wire TT28D22 EMI 3 from S5-4 to J2-F.
- (e). Install wire TT29C22 EMI 3 from J2-G to R2-3A, or if Bulletin was previously complied with prior to Revision 3, disconnect existing wire TT29C22 EMI 3 from R2-1A and reconnect to R2-3A.
- (f). Install wire TT30A22 EMI 3 from J2-H to R2-2A.

TECHNICAL BULLETIN

DATE: 13 NOVEMBER 2001

PAGE 13 OF 19

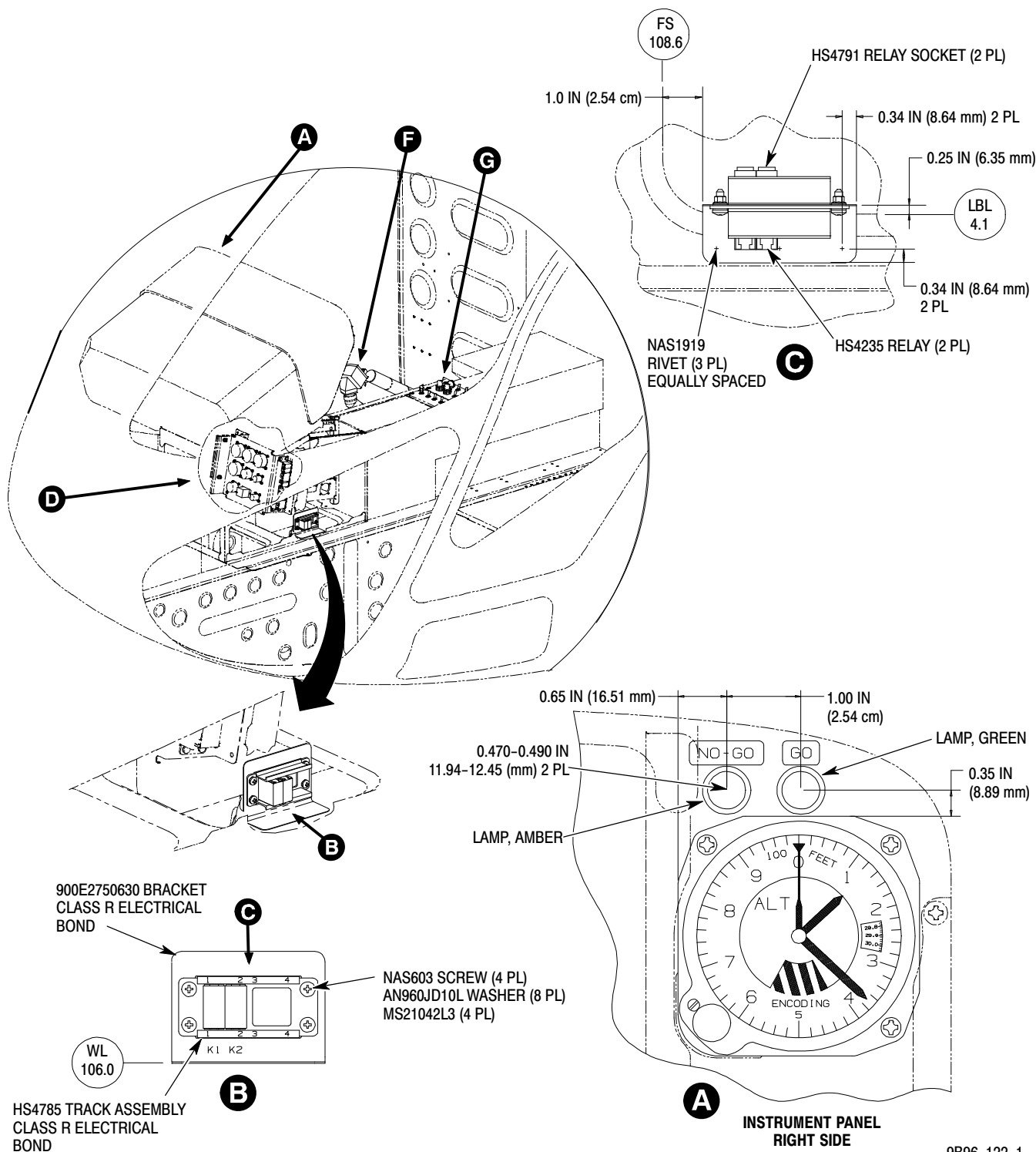


Figure 1. A612 Forward Interconnect Panel Modification (Sheet 1 of 3)

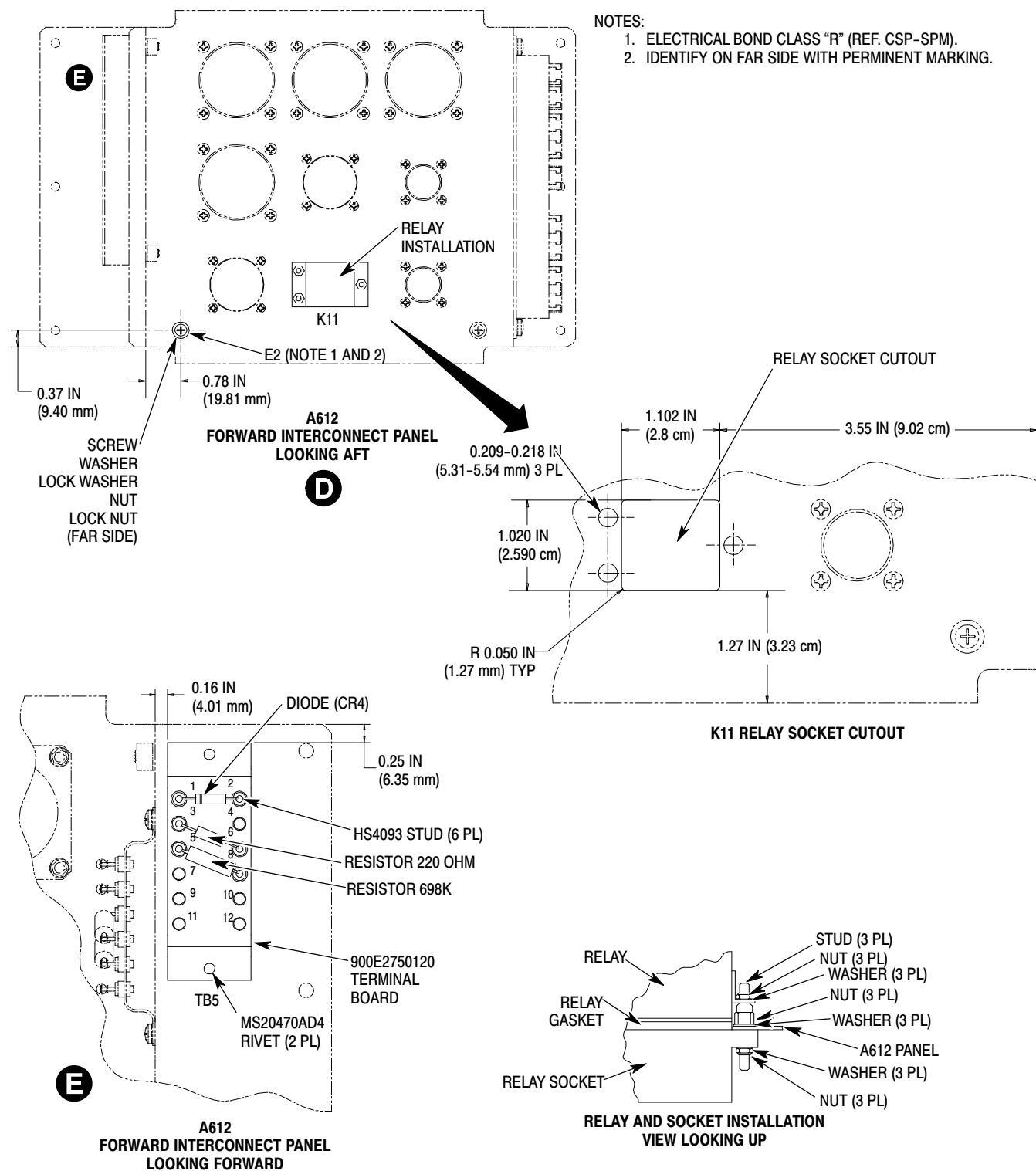
DATE: 13 NOVEMBER 2001

PAGE 14 OF 19

TECHNICAL BULLETIN

NOTES:

1. ELECTRICAL BOND CLASS "R" (REF. CSP-SPM).
2. IDENTIFY ON FAR SIDE WITH PERMANENT MARKING.



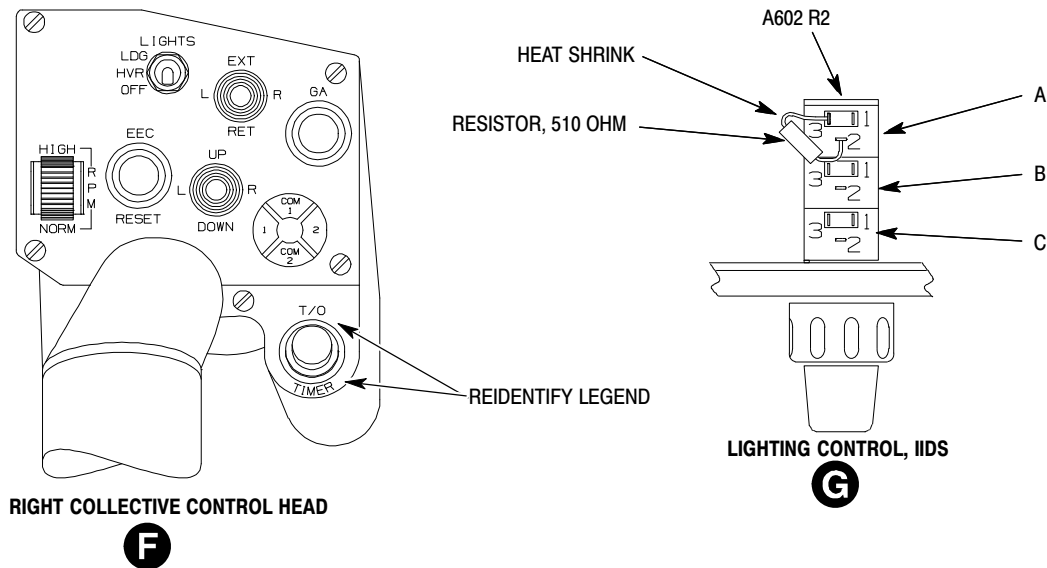
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Figure 1. A612 Forward Interconnect Panel Modification (Sheet 2 of 3)

TECHNICAL BULLETIN

DATE: 13 NOVEMBER 2001

PAGE 15 OF 19



9B96-122-3A

Figure 1. A612 Forward Interconnect Panel Modification (Sheet 3 of 3)

(Ref. Figure 2)

NOTE:

- Route new wires with existing harness.
- Tie new wires into existing harness after installing all wires.

(8). Install new wiring into W124 wire harness.

- (a). Install wire TT28C22 EMI 3 from P172-73 to P116-F.
- (b). Install wire TT29B22 EMI 3 from P172-74 to P116-G.
- (c). Install wire TT30B22N EMI 3 from GS104-F to P116-H.
- (d). Install wire TT25B22 EMI 3 from P172-69 to J118-37.
- (e). Install wire TT26B22 EMI 3 from P172-70 to J118-36.
- (f). Install wire TT24K22 EMI 3 from P172-71 to J118-39.
- (g). Install wire TT24H22 EMI 3 from P172-72 to J118-38.

(9). Reinstall A602 electrical/lighting control panel Ref. CSP-900RMM-3).

(10). Install new wiring into W136 wire harness

NOTE: Install new wires in W136 wire harness inside HS5330 expandable sleeving.

- (a). Install wire TT25A22 EMI 3 from P118-37 to NO-GO lamp holder (amber).
- (b). Install wire TT26A22 EMI 3 from P118-36 to GO lamp holder (green).
- (c). Install wire TT24N22 EMI 3 from P118-39 to GO lamp holder (green).
- (d). Install wire TT24M22 EMI 3 from P118-38 to NO-GO lamp holder (amber).

DATE: 13 NOVEMBER 2001

PAGE 16 OF 19

TECHNICAL BULLETIN

(11). Install new wiring into A612 panel wire harness.

- (a). Remove wire E208B24 EMI 3 from J1-18 to TB2-6Z and discard.
- (b). Install wire TT21A22 EMI 3 from J6-12 to TB2-6T.
- (c). Install wire TT21B22 EMI 3 from TB2-6W to TB5-1.
- (d). Install wire TT21C22 EMI 3 from TB2-6Z to K11-B2.
- (e). Install wire TT24A22 EMI 3 from TB2-6D to TB3-8M.
- (f). Install wire TT24D22 EMI 3 from TB3-8J to TB3-8N.

NOTE: Splices K2-SP1, K2-SP2, and K2-SP3 will be completed after reinstallation of A612 panel.

- (g). Install wire TT31A22 EMI 3 from K2-SP1 to K11-X2.
 - (h). Install wire TT22A22 EMI 3 from K2-SP2 to TB5-2.
 - (i). Install wire TT32A22 EMI 3 from K2-SP3 to K11-B1.
 - (j). Install wire TT28B22 EMI 3 from TB3-8Y to J6-73.
 - (k). Install wire TT24F22 EMI 3 from TB3-8R to K11-X1.
 - (l). Install wire TT24G22 EMI 3 from TB3-8S to J6-71.
 - (m). Install wire TT24E22 EMI 3 from TB3-8P to J6-72.
 - (n). Install wire TT28E22 EMI 3 from TB3-8Z to TB5-3.
 - (o). Install wire TT35A22 EMI 3 from TB5-5 to K11-D3.
 - (p). Install wire TT34A22 EMI 3 from TB5-8 to K11-D1.
 - (q). Install wire TT29A22 EMI 3 from TB5-6 to J6-74.
 - (r). Install wire TT25C22 EMI 3 from K11-A3 to J6-69.
 - (s). Install wire TT26C22 EMI 3 from K11-A1 to J6-70.
- (12). Reinstall A612 forward interconnect panel (Ref. CSP-900RMM-3).
- (13). Install wiring from A612 to K1/K2.
- (a). Install wire TT24C22 EMI 3 from K1-X1 to TB3-8K.
 - (b). Install wire TT28A22 EMI 3 from K1-A1 to TB3-8W.
 - (c). Install wire TT27A22 EMI 3 from K1-A2 to K11-A2.
 - (d). Install wire TT33A22N EMI 3 from K1-B1 to E2.

TECHNICAL BULLETIN

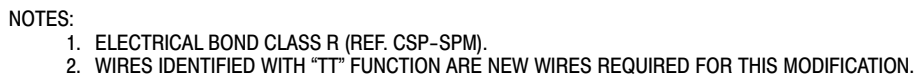
DATE: 13 NOVEMBER 2001

PAGE 17 OF 19

NOTE:

- Complete splices K2-SP1, K2-SP2, and K2-SP3 after insertion of all the wires into each splice (Ref. CSP-900RMM-3).
- Splices shall be secured into wiring from A612 to K1/K2 after completion of wiring installation.
 - (e). Install wire TT31B22 EMI 3 from K1-X2 to K2-SP1.
 - (f). Install wire TT31C22 EMI 3 from K2-B3 to K2-SP1.
 - (g). Install wire TT22C22 EMI 3 from K2-B2 to K2-SP2.
 - (h). Install wire TT22B22 EMI 3 from K1-B2 to K2-SP2.
 - (i). Install wire TT32B22 EMI 3 from K2-B1 to K2-SP3.
 - (j). Install wire TT32C22 EMI 3 from K2-X2 to K2-SP3.
 - (k). Install wire TT24B22 EMI 3 from K2-X1 to TB3-8L.
- (14). Install altimeter, glareshield, K11 relay, K1 relay, and K2 relay.
- (15). Secure all wiring.
- (16). Perform operational test of GO NO-GO installation.
 - (a). Apply electrical power to the rotorcraft (Ref. CSP-900RMM-3).
 - (b). Place LT MSTR switch on Lighting Control panel in OFF position.
 - (c). Press and release takeoff timer switch on right collective.
 - (d). Verify the NO-GO (amber) light is illuminated for eight (8) seconds.
 - (e). Verify the GO (green) light is illuminated after the NO-GO (amber) light is off.
 - (f). Press and release the takeoff timer switch on the right collective and verify both lights are off.
 - (g). Place LT MSTR switch on Lighting Control panel in ON position.
 - (h). Repeat steps (c), (d) and (e).
 - (i). Rotate IIDS lighting control on Lighting Control panel and verify that the intensity of the GO (green) light can be changed.
 - (j). Press and release the takeoff timer switch on the right collective and verify both lights are off.
- (17). Close/install all previously opened panels.
- (18). Record compliance to this Service Bulletin in the Compliance Record section of the Rotorcraft Log Book.

TECHNICAL BULLETIN



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TECHNICAL BULLETIN

DATE: 13 NOVEMBER 2001

PAGE 19 OF 19

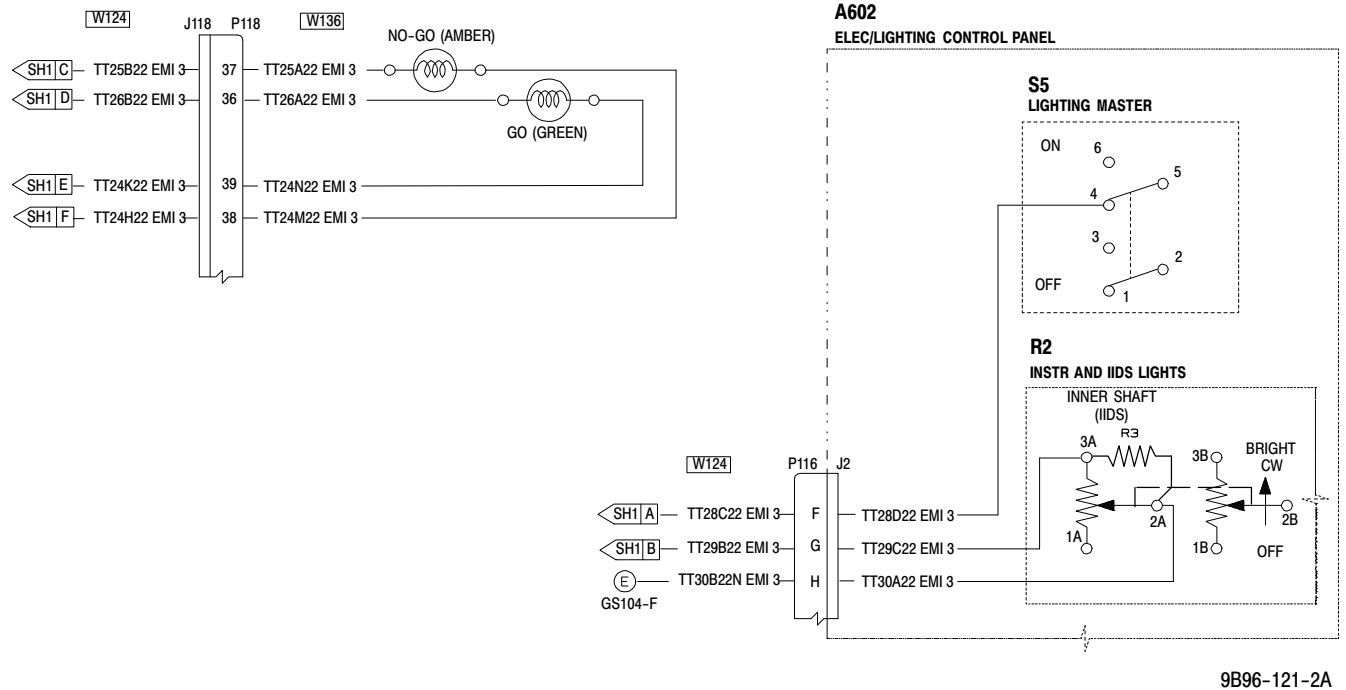


Figure 2. Take Off Timer Wiring Diagram (Sheet 2 of 2)

TECHNICAL BULLETIN

DATE: 17 JUNE 1999

PAGE 1 OF 11

WINDSCREEN WIPERS –103 INSTALLATION

1. PLANNING INFORMATION

A. Aircraft Affected:

MD Helicopters, Inc., MD900 serial number 900-000008 and subsequent.

B. Assembly/Components Affected By This Notice:

Cockpit Screens Installation 900F7305603, Console Component Installation 900E7720001, and Electrical Load Center 900E2750620.

C. Reason:

Owner/Operators may desire to install Windscreen Wipers on their aircraft.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to the installation of the Windscreen Wipers option.

E. Time of Compliance

Customer option, at the discretion of the owner/operator.

F. Classification:

Compliance with this Bulletin is a major alteration.

G. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

H. Interchangeability:

None

I. Disposition of Parts Removed

N/A

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.

DATE: 17 JUNE 1999

PAGE 2 OF 11

TECHNICAL BULLETIN

K. Material/Part Availability:

Contact MDHI Part Sales Dept. (Ref. Parts Request Form at the end of this Bulletin).



Hardcoat Windscreens are required for wiper installation and operation. One of the Hardcoat Windscreens Installations listed below must be ordered separately and installed in conjunction with the Windscreen Wipers Option.

HARDCOAT WINDSCREEN REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Windscreen LH, Untinted, Coated	900F3302003-101	1	MDHI
Windscreen RH, Untinted, Coated	900F3302003-102	1	MDHI
Windscreen LH, Tinted, Coated	900F3302004-101	1	MDHI
Windscreen RH, Tinted, Coated	900F3302004-102	1	MDHI

WINDSCREEN WIPERS INSTALLATION REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Bracket Assembly, Motor, LH	900N5200001-9	1	MDHI
Bracket Assembly, Motor, RH	900N5200001-10	1	MDHI
Mount Assembly, LH	900N5200001-7	1	MDHI
Mount Assembly, RH	900N5200001-8	1	MDHI
Motor Assembly, RH	900N5200001-14	1	MDHI
Motor Assembly, LH	900N5200001-13	1	MDHI
Link Assembly, RH	2314M-115-1	1	MDHI
Link Assembly, LH	2314M-115-2	1	MDHI
Arm Wiper	2314M-171-1	2	MDHI
Wiper Blade, RH	2315M-67-2	1	MDHI
Wiper Blade, LH	2315M-67-1	1	MDHI
Switch Assembly	2316M-40-1	1	MDHI
Spacer, Sleeve	NAS47P3C-150	8	MDHI
Rivet, Flush	MS20426AD3	16	MDHI
Screw, Pan Head	NAS7703-54	8	MDHI
Washer, Flat	AN960C10	8	MDHI

TECHNICAL BULLETIN

DATE: 17 JUNE 1999
PAGE 3 OF 11

WINDSCREEN WIPERS INSTALLATION REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Screw, Pan Head	MS27039C0818	6	MDHI
Screw, Pan Head	MS27039C0817	2	MDHI
Screw, Pan Head	MS27039C0814	2	MDHI
Washer, Flat	AN960C8L	8	MDHI
Washer, Flat	HS306-220	8	MDHI
Nut, Hex, Self Locking	NAS679C08M	8	MDHI
Bolt, Hex Head	NAS6204-12	2	MDHI
Washer, Nylon	NAS1515H4	4	MDHI
Plastic Tape, Black, 0.025 in (0.64 mm) Thick, 1.0 in (2.54 cm) Wide	HMS16-1124 (RM006358)	20 in. (50.8 cm)	MDHI
Grommet	MS35489-49	2	MDHI
Connector (P535 and P536)	MS3476W16-8S	2	MDHI
Backshell (P535 and P536)	M85049/52S16W	2	MDHI
Circuit Breaker (CB 38 and CB68)	MS3320-7-1/2	2	MDHI
Terminal Lug (S1)	MS25036-101	40	MDHI
Terminal Lug (CB38 and CB68)	MS25036-149	6	MDHI
Contact, Socket (P535 and P536)	M39029/5-116	16	MDHI
Plug, Sealing (P535 and P536)	MS27488-16	4	MDHI
Contact, Power, Socket (GS)	M39029/22-192	2	MDHI
Wire, 20 AWG	M22759/43-20-9 (RM011266)	210 ft. (64.0 M)	MDHI
Sleeving, Protective, Black	HS5330-1524 (RM010171)	10 ft. (3.05 M)	MDHI
Cable Marker	HS4910-1001	2	MDHI
Jumper, Bonding	HS5509-14-BB-2	2	MDHI
Sealant	HP15-10, Type IV (RM009331)	1	MDHI

DATE: 17 JUNE 1999

PAGE 4 OF 11

TECHNICAL BULLETIN

WINDSCREEN WIPERS INSTALLATION REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Sleeving, Shrink, Black	M23053/16-002-0 (RM012518)	1 ft. (30.5 cm)	MDHI
Safety Wire	MS20995C20 (RM016381)	1 ft. (30.5 cm)	MDHI
Nutplate, Self Locking	MS21075L08N	8	MDHI

L. Warranty Policy:

N/A

M. Tooling:

N/A

N. Weight and Balance:

19.5 lb (8.85 kg) at FS 95.6 BL 00.0.

O. Electrical Load Data:

N/A

P. Other Publications Affected:

Rotorcraft Flight Manual CSP-900PFM-1, Rotorcraft Maintenance Manual CSP-900RMM-2, CSP-900RMM-3, and Illustrated Parts List CSP-900IPL-4 have been revised to incorporate this option.

2. ACCOMPLISHMENT INSTRUCTIONS

- (1). Remove standard cockpit windscreens, retain hardware (Ref. CSP-900RMM-2, Section 53-10-00).
- (2). Position wiper motor mounting bracket assemblies centered about four each mounting holes and match drill from windscreen attach holes.
- (3). Drill four each mounting holes with a number 11 (4.85 mm) drill and deburr.
- (4). Drill nutplate attach holes with a number 40 (2.49 mm) drill and deburr.
- (5). Touch up chemical film (Ref. CSP-SPM).
- (6). Attach four each MS21075L08N nutplates using MS20426AD3 rivets.

NOTE:

- Do not install windscreen attaching hardware at ten locations used for wiper motor bracket assembly and mount assembly installations.
 - Do not seal windscreens at this time.
- (7). Install hardcoat windscreens (Ref. CSP-900RMM-2, Section 53-10-00).

TECHNICAL BULLETIN

DATE: 17 JUNE 1999

PAGE 5 OF 11

- (8). Temporarily install wiper motor mounting bracket assemblies (Ref. CSP-900RMM-2, Section 53-10-00).
- (9). Cut a 1.062 in. (2.698 cm) hole in windscreen on center with motor mounting bracket motor shaft clearance hole.
- (10). Remove motor mounting bracket assemblies (Ref. CSP-900RMM-2, Section 53-10-00).
- (11). Position mount assemblies centered vertically on windscreen attach holes. Maintain minimum 0.38 in (9.65 mm) horizontal edge distance, and mark mount assemblies two each attach holes.
- (12). Drill holes with a number 11 (4.85 mm) drill and deburr.
- (13). Temporarily install mount assemblies using windscreen attach hardware.
- (14). Mark mount assemblies on center with windscreen motor shaft clearance hole and remove.
- (15). Cut a 1.062 in. (2.698 cm) hole in mount assemblies on center with windscreen motor shaft clearance hole and deburr.
- (16). Deburr hole in windscreen and install MS35489-49 grommet.
- (17). Prepare upper outboard wiper motor attach hole for electrical bond (Ref. CSP-SPM).
- (18). Install wiper motors onto mounting bracket assemblies using NAS7703-54 screws, HS5509 jumper (upper outboard bolt), AN960C10 washers, and NAS47P3C-150 spacers (Ref. CSP-900RMM-2, Section 53-10-00).
- (19). Environmentally seal bonding jumper at wiper motor (Ref. CSP-SPM).
- (20). Install HMS 16-1124 plastic tape onto the LH and RH motor mounting bracket assemblies four places to prevent any part of the bracket assemblies from contacting structure. Trim excess tape and cut holes for attaching hardware.

NOTE: Do not install screw common to mount assembly in mounting bracket at this time.

- (21). Install mounting bracket assemblies into helicopter with motors attached using MS27039C0818 screws (two lower attach holes), MS27039C0817 screw (top attach hole), and HS306-220 washers. Torque fasteners **8 +2/-0 in lb (0.90 +0.23/-0 N•m)**.
- (22). Locate bonding jumper free end attach point on instrument panel, location optional.
- (23). Prepare bonding jumper free end attach point for electrical bond (Ref. CSP-SPM).
- (24). Attach bonding jumper free end to instrument panel.
- (25). Test bonding jumper for class “L” electrical bond (Ref. CSP-SPM).
- (26). Environmentally seal bonding jumper at instrument panel (Ref. CSP-SPM)..

DATE: 17 JUNE 1999

PAGE 6 OF 11

TECHNICAL BULLETIN

(27). Install windscreen wiper control switch.

NOTE:

- Location of switch is optional.
- Switch must be installed within reach of the pilot

(Ref. Figure 1)

- (a). Remove small blank console panel and shift all panels aft of lighting control panel aft to make room for the blank panel (Ref. CSP-900RMM-3, Section 96-00-00).

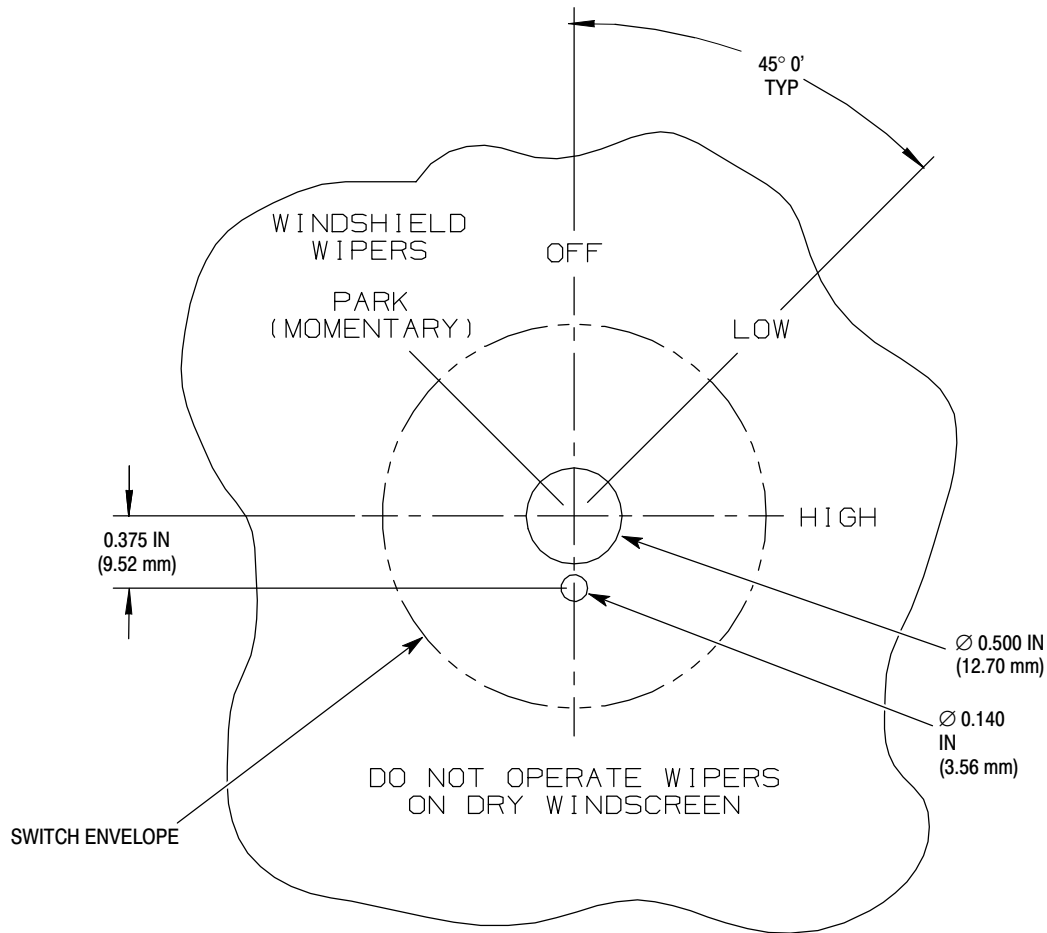
NOTE: Switch requires a minimum of four inches (10.16 cm) depth clearance.

- (b). Locate switch mounting hole and lockwasher tab hole. Drill both holes with a number forty (2.49 mm) drill.
- (c). Enlarge switch mounting hole to a 0.5 in. (12.7 mm).
- (d). Enlarge lockwasher tab hole to a number twenty-eight (3.57 mm).
- (e). Deburr holes and touch up finish (Ref. CSP-SPM).
- (f). Install switch into panel (Ref. CSP-900RMM-3, Section 96-00-00).
- (g). Mark switch positions and "DO NOT OPERATE WIPERS ON DRY WINDSCREEN" with contrasting permanent ink. Letters to be 0.20 in. (5.0 mm) in height.

TECHNICAL BULLETIN

DATE: 17 JUNE 1999

PAGE 7 OF 11



9B53-112

Figure 1. Wiper Switch Mounting and Marking

(28). Access A620 electrical load center and install CB38 and CB68 (Ref. CSP-900RMM-3).

(29). Fabricate wires (Ref. CSP-900RMM-3, Chapter 98).

(Ref. Figure 2)

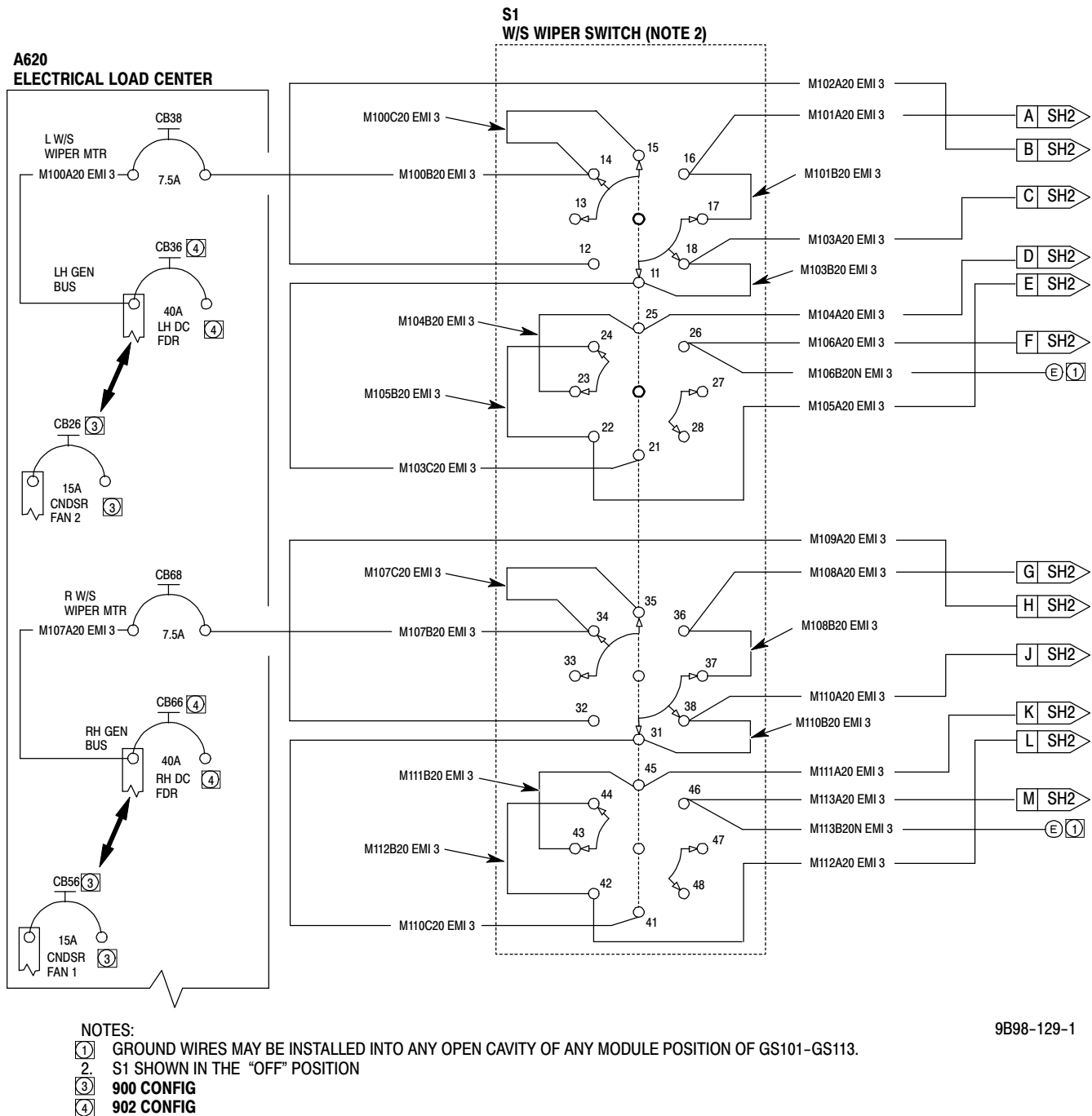
NOTE: Install ground wires into any open cavity in any ground module position of GS101-GS113 (Ref. CSP-900RMM-2, Chapter 98).

(30). Install wires and route with existing wire harness.

DATE: 17 JUNE 1999

PAGE 8 OF 11

TECHNICAL BULLETIN



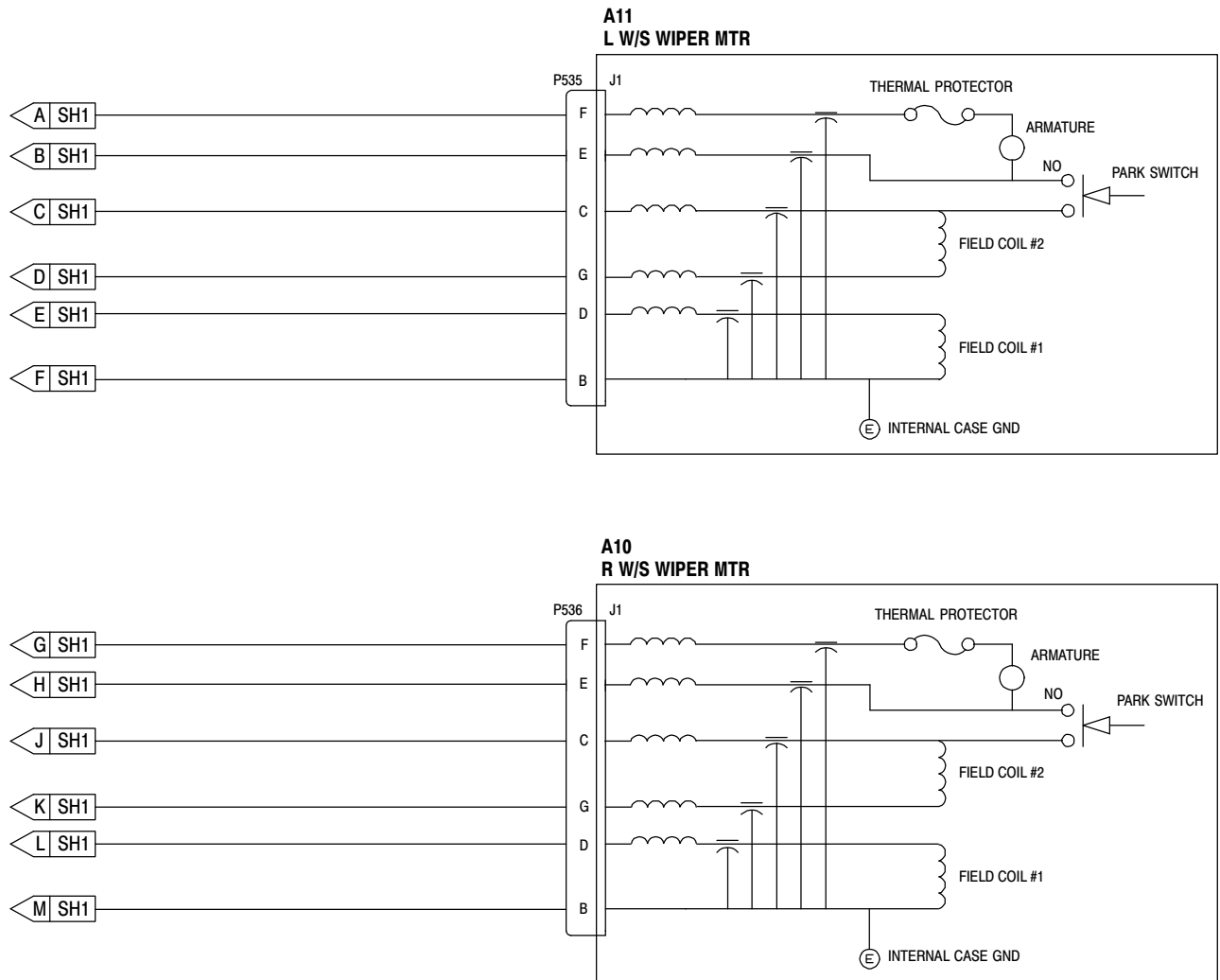
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Figure 2. Windscreen Wipers Interconnect Wiring Diagram (Sheet 1 of 2)

TECHNICAL BULLETIN

DATE: 17 JUNE 1999

PAGE 9 OF 11



9B98-129-2

Figure 2. Windscreen Wipers Interconnect Wiring Diagram (Sheet 2 of 2)



Ensure proper connection of P535 and P536 prior to wiper operation.

- (31). Connect wires to switch and install connectors P535 and P536 onto wiper motors.
- (32). Apply electrical power to the helicopter (Ref. CSP-900RMM-3).



Ensure wipers are in the park position.

- (33). Position wipers in the park position (Ref. CSP 900RMM-2, Section 53-10-00)
- (34). Remove electrical power from the helicopter (Ref. CSP-900RMM-3, Section 96-00-00).
- (35). Temporarily install mount assemblies using attach hardware and mark a 1.0 in (2.54 cm) radius arc around the motor output shaft center.

DATE: 17 JUNE 1999

PAGE 10 OF 11

TECHNICAL BULLETIN

- (36). Install wiper arms (Ref. CSP-900RMM-2, Section 53-10-00).
- (37). Install wiper blades (Ref. CSP-900RMM-2, Section 53-10-00).
- (38). Install wiper links upper end (Ref. CSP-900RMM-2, Section 53-10-00).
- (39). Adjust wiper blades to be parallel to windscreen frame and mark location of wiper links lower attach hole, on mount assemblies, centered on 1.0 in (2.54 cm) arc.
- (40). Remove wiper blades with links attached (Ref. CSP-900RMM-2, Section 53-10-00).
- (41). Remove wiper arms (Ref. CSP-900RMM-2, Section 53-10-00).
- (42). Remove mount assemblies and drill lower wiper link attach point with a "K" (7.14 mm) drill and deburr.
- (43). Seal windscreens (Ref. CSP-900RMM-2, Section 53-10-00).
- (44). Locate nutplate attach holes, drill with a number 40 (2.49 mm) drill, and deburr
- (45). Touch up mount assemblies chemical film (Ref. CSP-SPM).
- (46). Install MS21075L4 nutplates using MS20426AD3 rivets.
- (47). Install mount assemblies using MS27039C0818 screw (upper hole), MS27039C0814 screw (lower hole), and HS306-220 washers. Torque fasteners **8 +2/-0 in lb (0.90 +0.23/-0 N•m)**..
- (48). Install wiper arms (Ref. CSP-900RMM-2, Section 53-10-00).
- (49). Install wiper blades (Ref. CSP-900RMM-2, Section 53-10-00).
- (50). Install wiper links lower end (Ref. CSP-900RMM-2, Section 53-10-00).



DO NOT operate windscreen wipers on a dry windscreen.

- (51). Adjust wiper arm tension (Ref. CSP-900RMM-2, Section 53-10-00).
- (52). Perform windscreen wiper rigging/operational check (Ref. CSP-900RMM-2, Section 53-10-00).
- (53). Secure all previously opened areas (Ref. CSP-900RMM-2 and -3)

Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.



DATE: 17 JUNE 1999
PAGE 11 OF 11

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 Part Sales Department at (602) 891-3952.

Parts Required:

Ship to:

TECHNICAL BULLETIN

DATE: 16 NOVEMBER 2000

PAGE 1 OF 6

DUAL PILOT TO SINGLE PILOT FLIGHT CONTROL CONVERSION

* Supersedes TB900-0016R1, dated 7 April 2000. Revised to correct cyclic jumper plug part number and clarify conversion instructions. Aircraft that complied with previous versions of TB900-016, meet the intent of this revision.

1. PLANNING INFORMATION

A. Aircraft Affected:

MD-900 helicopters, serial number 900-00008 and subsequent.

B. Assembly/Components Affected By This Notice:

Cyclic controls installation, dual pilot P/N 900C7012007-101; collective controls installation, dual pilot P/N 900C7012006-101; and directional controls installation, dual pilot P/N 900C7012008-101.

C. Reason:

This bulletin allows operators to change their rotorcraft configuration from dual to single flight control and back to dual, as required.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to removing the dual pilot flight controls and installing an autopilot disconnect switch jumper plug. The autopilot disconnect switch jumper plug allows operation of the autopilot, if installed, when the co-pilot's cyclic is removed. Failure to install the jumper plug when the co-pilot's cyclic is removed will cause the autopilot, if installed, to be inoperative.

E. Manpower:

Two (2) manhours one time preparation and two (2) manhours each conversion.

F. Time of Compliance

Optional, at the discretion of the owner/operator.

G. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

H. Classification:

Compliance with this Bulletin is a minor alteration.

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. Interchangeability:

None

DATE: 16 NOVEMBER 2000

PAGE 2 OF 6

TECHNICAL BULLETIN

K. Material/Part Availability:

Contact MDHI Part Sales Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Pedal Cover, Copilot	900C2012079-101	1	MDHI
Sheet, Aluminum Alloy, 2024-T3, 0.032 in (0.81 mm) Thick	QQ-A-250/5	15 in (38 cm) X 12 in (30.5 cm)	MDHI (MRM000163) or Commercial
Lockwire	MS20995C20	AR	MDHI (MRM002793) or Commercial
* Plug, Jumper	200-05647-0040	1	MDHI or AlliedSignal Avionics, 23500 W 150th St, Olathe, KS (913) 782-0400

* Jumper Plug is listed for reference only and is furnished with the AlliedSignal IFR Kit. It is used when autopilot is installed and the cyclic stick is removed.

L. Disposition of Parts Removed:

Scrap

M. Warranty Policy:

N/A

N. Tooling:

N/A

O. Weight and Balance:

-7.86 lbs (3.57 kg) @ FS 139.5 and LBL 18.3 for removal.

+7.86 lbs (3.57 kg) @ FS 139.5 and LBL 18.3 for installation.

P. Electrical Load Data:

N/A

Q. Other Publications Affected:

None

2. ACCOMPLISHMENT INSTRUCTIONS

A. Preparation:

(Ref. Figure 1)

(1). Cyclic cover:

TECHNICAL BULLETIN

DATE: 16 NOVEMBER 2000

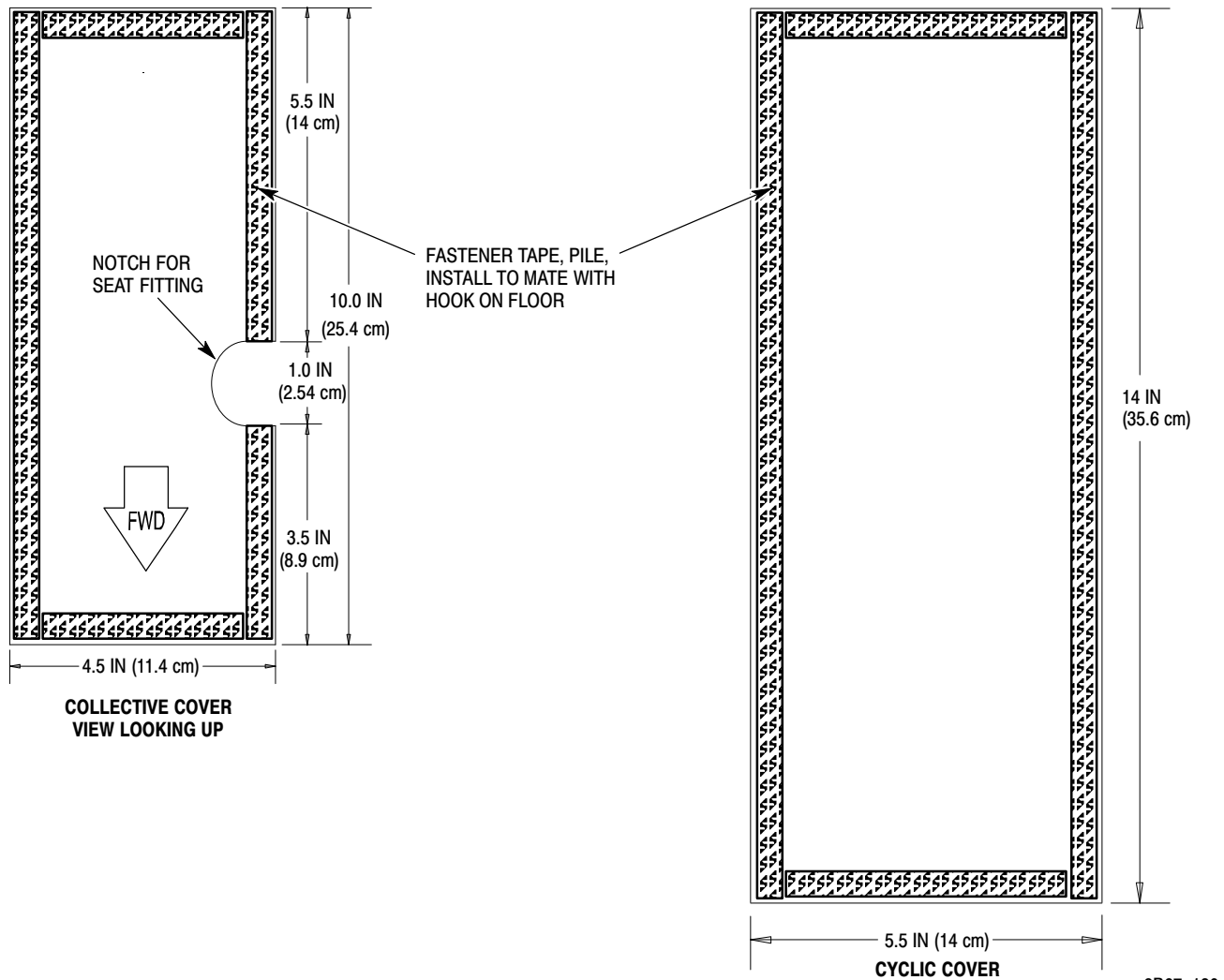
PAGE 3 OF 6

- (a). Fabricate cyclic cover from aluminum sheet and deburr.
- (b). Paint to match installed surrounding area and dry.
- (c). Install pile fastener tape.
- (2). Collective cover:
 - (a). Fabricate collective cover from aluminum sheet and deburr.
 - (b). Paint to match installed surrounding area and dry.
 - (c). Install pile fastener tape.
- (3). This Step Deleted

DATE: 16 NOVEMBER 2000

PAGE 4 OF 6

TECHNICAL BULLETIN

**Figure 1. Collective and Cyclic Cover**

TECHNICAL BULLETIN

DATE: 16 NOVEMBER 2000

PAGE 5 OF 6

B. Converting From Dual To Single Controls:

- (1). Remove left cyclic stick (Ref. CSP-900RMM-2, Section 67-10-00).
- (2). If autopilot is installed, remove jumper plug from adjacent dummy receptacle and install it on J143.
- (3). If autopilot is not installed, remove protective cover from adjacent dummy receptacle and install it on J143.
- (4). Install cyclic cover over opening in floor.
- (5). Remove left collective stick (Ref. CSP-900RMM-2, Section 67-10-00).
- (6). Unplug connector, P2, from J141 and remove left collective stick wire harness, W100.
- (7). Remove protective cover from adjacent dummy receptacle and install it on J141.
- (8). Remove left collective stick link, reinstall hardware in collective stick bellcrank. **Torque 5 in lb (0.56 N•m)** and install new cotter pin (Ref CSP-900RMM-2, Section 67-10-00).
- (9). Remove mechanical engine controls interconnect cables (Ref. CSP-900RMM-2, Section 76-00-00).
- (10). Cut lockwire and remove mechanical engine controls interconnect cable adapters from right collective.
- (11). Cut lockwire and remove mechanical engine controls over travel tube assemblies from outboard side of removed left collective stick. Cover openings with suitable plugs.
- (12). Install over travel tube assemblies into right collective stick in place of removed interconnect cable attach fittings. **Torque 5 in lb (0.56 N•m)** and safety with lockwire.
- (13). Reinstall all opened panels (Ref. CSP-900RMM-2, Section 06-00-00).
- (14). Install collective cover over opening in floor.
- (15). Stow left directional pedals:
 - (a). Simultaneously pull up the adjustment handle and pull out the adjustment stop knob on the left co-pilot pedal, and pivot the left pedal shaft assembly forward to contact the stowage block (Ref. CSP-900RMM-2, Section 67-20-00).
 - (b). Repeat step (15).(a). for the right pedal.
 - (c). Install pedal cover over left directional pedals.
- (16). Check the following prior to flight.
 - (a). Operation of cyclic stick switches.
 - (b). Operation of collective stick switches, twist grip functions and collective friction.
 - (c). Start helicopter or connect hydraulic mule to GSE panel (Ref. CSP-900RMM-2, Section 12-00-00) and perform cyclic control response check (Ref. CSP-900RFM-1 or CSP-902RFM-1, Section IV).

DATE: 16 NOVEMBER 2000

PAGE 6 OF 6

TECHNICAL BULLETIN

C. Converting From Single To Dual Controls:

- (1). Un-stow left directional pedals:
 - (a). Remove pedal cover from over left directional pedals.
 - (b). Simultaneously pull up the adjustment handle and pull out the adjustment stop knob on the left co-pilot pedal, and pivot the left pedal shaft assembly aft to align with the pedal crank assembly. Release adjustment handle and lock pedal shaft assembly to pedal crank assembly (Ref. CSP-900RMM-2, Section 67-20-00).
 - (c). Repeat step (1).(b). for the right pedal.
- (2). Remove collective cover from over opening in floor.
- (3). Remove cockpit access floor panel AL129 and AL138 Ref. CSP-900RMM-2, Section 06-00-00).
- (4). Cut lockwire and remove over travel tube assemblies from right collective stick mechanical engine controls interconnect cable attach points.
- (5). Install mechanical engine controls over travel tube assemblies into outboard side of left collective stick. **Torque 5 in lb (0.56 N•m)** and safety with lockwire.
- (6). Install mechanical engine controls interconnect cable adapters into right collective. **Torque 5 in lb (0.56 N•m)** and safety with lockwire.
- (7). Install left collective stick link (Ref CSP-900RMM-2, Section 67-10-00).
- (8). Remove protective cover from J141 and install it on adjacent dummy receptacle. Plug connector, P2, of left collective stick wire harness, W100, into J141.
- (9). Install left collective stick (Ref. CSP-900RMM-2, Section 67-10-00).
- (10). Install mechanical engine controls interconnect cables (Ref. CSP-900RMM-2, Section 76-00-00).
- (11). Remove cyclic cover from over opening in floor.
- (12). If autopilot is installed, remove jumper plug from J143 and install it on adjacent dummy receptacle.
- (13). If autopilot is not installed, remove protective cover from J143 and install it on adjacent dummy receptacle.
- (14). Install left cyclic stick (Ref. CSP-900RMM-2, Section 67-10-00).
- (15). Close all opened areas (Ref. CSP-900RMM-2, Section 06-00-00).
- (16). Check the following prior to flight.
 - (a). Operation of cyclic stick switches.
 - (b). Operation of collective stick switches, twist grip functions and collective friction.
 - (c). Start helicopter or connect hydraulic mule to GSE panel (Ref. CSP-900RMM-2, Section 12-00-00) and perform cyclic control response check (Ref. CSP-900RFM-1 or CSP-902RFM-1, Section IV).

TECHNICAL BULLETIN

DATE: 26 JULY 1999

PAGE 1 OF 5

HEAT/DEFOG SHUT OFF VALVE UPGRADE MODIFICATION

1. PLANNING INFORMATION

A. Aircraft Affected:

MD Helicopters, Inc. MD900 serial number 900-00002 thru 900-00051.

B. Assembly/Components Affected By This Notice:

900P3250210-103 Heat/Defog Flow Control Shut Off Valve, 900P2250205 Line Assembly, Heat/Defog Shut Off Valve to Deck, and 900P2250209 Tube Assembly, Heat/Defog-Roof to Valve.

C. Reason:

The Heat/Defog flow control shut off valve P/N 900P3250210-103 is no longer manufactured and is replaced by the P/N 900P3250210-105 shut off valve.

D. Description:

Procedures in this Bulletin provide owners and operators with instructions to replace their existing Heat/Defog flow control shut off valve P/N 900P3250210-103 with a P/N 900P3250210-105. This modification requires flaring of one end of the affected line assembly.

E. Time of Compliance:

Customer option, at the discretion of the owner/operator.

F. Classification:

Compliance with this Bulletin is a minor alteration.

G. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

H. Manpower:

Five (5) man-hours (includes required part of TB900-005) on a standard helicopter with a standard interior.

I. Interchangeability:

N/A

J. Disposition of Parts Removed

N/A

K. 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: 26 JULY 1999

PAGE 2 OF 5

TECHNICAL BULLETIN

L. Material/Part Availability:

Contact MDHI Commercial Warranty and Repair Dept. (Ref. Parts Request Form at the end of this Bulletin).

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Line Assembly,	900P2250205-109	1	MDHI
Valve Assembly, Shut Off	900P3250210-105	1	MDHI
Screw, Machine	NAS603-7P	1	MDHI or Commercial
Clamp, Cushioned	MS21919WCH19	2	MDHI or Commercial
Contact, Pin	M39029/58-363	2	MDHI or Commercial
Bracket	MS9592-102 or AS9592-102	1	MDHI or Commercial
Union, Bulkhead, Flared Tube	AN832-12J	1	MDHI or Commercial
Nut, Union, Bulkhead, Flared Tube	AN924-12J	1	MDHI or Commercial
Nut, Tube Coupling, Short	AN818-12J	2	MDHI or Commercial
Sleeve, Flared Tube Fitting	MS20819-12J	2	MDHI or Commercial
Seal Assembly, Flexible Coupling	W932-12D	2	MDHI or Commercial
Thread Locking Compound	MIL-S-22473, GB, Color Yellow, RM002598	1.6 oz (47.32 Cu cm)	MDHI or Loctite Inc. 702 North Mountain Rd. Newington, CT. 06111 (203) 278-1280
Sealing Compound, Fireproof	HMS16-1191, RM011316	3.0 oz (88.72 Cu cm)	MDHI or Courtaulds Aerospace 5430 San Fernando Rd. Glendale, CA. 91209 (818) 240-2060
Tape, Adhesive	HS5227-K1208, RM009971	108 ft (32.92 M)	MDHI or Airtec International Inc. 2542 E. Del Amo Bl. Carson, CA. 90749 (213) 603-9683
Solvent Cleaner	Desoclean 45 or Equivalent	AR	DeSoto Aerospace Coatings Inc. 1608 Fourth St. Berkeley, CA. 94710 (818) 549-7823

TECHNICAL BULLETIN

DATE: 26 JULY 1999

PAGE 3 OF 5

M. Warranty Policy:

Standard warranty policy applies.

N. Tooling:

Flaring equipment capable of flaring 0.75 in (19.05 mm) 321 CRES tubing with an 0.020 in. (0.51 mm) wall thickness.

O. Weight and Balance:

N/A

P. Electrical Load Data:

N/A

Q. Other Publications Affected:

N/A

2. **ACCOMPLISHMENT INSTRUCTIONS**

NOTE: Removal of components may be simplified by removing the 900P2250205-105 line assembly, 900P3250210-103 shut off valve assembly, and 900P2250202-101 line assembly prior to disassembly.

A. Modification If TB900-005 Was Previously Accomplished:

- (1). Remove and discard 900P2250205-105 line assembly, retain attaching hardware (Ref. CSP-900RMM-2, Section 21-40-00).

B. Modification If TB900-005 Was Not Previously Accomplished:

- (1). Remove and discard 900P2250205-105 line assembly, retain attaching hardware (Ref. CSP-900RMM-2, Section 21-40-00). Retain flange in accordance with instructions in TB900-005.
- (2). Remove 900P2250209-103 tube assembly, retain attaching hardware (Ref. CSP-900RMM-2, Section 21-40-00).
- (3). Perform upper deck modifications and install the AN832-12J bulkhead union in accordance with instructions in TB900-005.
- (4). Perform modifications to the 900P2250209-103 tube assembly in accordance with the instructions in TB900-005.
- (5). Install modified 900P2250209-103 tube assembly (Ref. TB900-005).

C. Modification All:

- (1). Remove 900P3250210-103 shut off valve assembly (Ref. CSP-900RMM-2, Section 21-40-00).
- (2). Remove 900P2250202-101 line assembly, retain attaching hardware (Ref. CSP-900RMM-2, Section 21-40-00).
- (3). Modify 900P2250202-101 line assembly.

DATE: 26 JULY 1999

PAGE 4 OF 5

TECHNICAL BULLETIN

- (a). Measure and mark the 900P2250202-101 line assembly **1.320 in (3.353 cm)** from flange end adjacent to shut off valve.

Protective Equipment



- (b). Cut the line assembly at the mark, and deburr.
- (c). Install one each sleeve and coupling nut on cut line assembly, and flare in accordance with MS33584 for **0.75 in. (19.05 mm)** tube.

Solvent Cleaner (C429)



- (d). Clean line assembly with Desoclean 45 or equivalent and blow dry with filtered compressed air.

NOTE: Installation of components may be simplified by assembling the 900P2250205-109 line assembly, 900P3250210-105 shut off valve assembly, MS9592-102 bracket, upper MS21919WCH19 clamp, and modified 900P2250202-101 line assembly prior to installation.

- (4). Install 900P2250205-109 line assembly between shut off valve and upper deck (Ref. CSP-900RMM-2, Section 21-40-00).
- (5). Install contacts onto 900P3250210-105 shut off valve assembly wiring (Ref. CSP-900RMM-3, Chapter 98).
- (6). Install 900P3250210-105 shut off valve assembly (Ref. CSP-900RMM-2, Section 21-40-00).
- (7). Install modified 900P2250202-101 line assembly using new seals on upper end (Ref. CSP-900RMM-2, Section 21-40-00).
- (8). Torque above deck coupling nuts **500-600 in. lb. (56.47-67.76 N•m)**.
- (9). Install retained attaching hardware replacing AN743 bracket with MS9592 bracket, NAS603-10P screw/NAS43 spacer with NAS603-7P screw, and two existing clamps with MS21919WCH19 clamps (Ref. CSP-900RMM-2, Section 21-40-00). Torque attaching hardware (Ref. CSP-SPM).
- (10). Perform Heat/Defog System Leak Check (Ref. CSP-900RMM-2, Section 21-40-00).
- (11). Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.



DATE: 26 JULY 1999

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TECHNICAL BULLETIN

DATE: 23 AUGUST 2001

PAGE 1 OF 12

DUAL ESSENTIAL BUS RELAYS MODIFICATION

* Supersedes Technical Bulletin 900-0018R1, dated 30 December 1999. Revised to correct the existing wiring in Figure 2 and to notify operators that the IFR procedures mentioned in paragraph 1.C. have been revised. Aircraft that complied with previous versions of TB900-018, meet the intent of this revision.

1. PLANNING INFORMATION

A. Aircraft Affected:

MD-900 (902 Configuration) helicopters, serial number 0052 thru 0068 and 0070.

B. Assembly/Components Affected By This Notice:

External Power Box Assembly, 900E2750610-117.

C. Reason:

There have been reports of the essential bus relay sticking closed on some MD-900 helicopters that have additional equipment on the essential bus, preventing the ability to disconnect the battery from the essential bus. (Example for IFR equipped helicopters; the previously published RFM "Before Takeoff" procedures require a sequence which may result in the essential bus relay sticking in the closed position. The IFR procedures in IFR RFMS 006-00845-0000, Rev AD and CAT A IFR RFMS 006-00845-0004, Rev AC have been revised, which should remove this occurrence.) Complying with this Technical Bulletin should reduce the occurrence of the relay sticking closed.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to adding a second essential bus relay, connected in parallel with the existing relay to share the load. Additionally, the relays will be wired so that they will close only when; the POWER switch is in the ESNTL position, when there is no external power available and there is no generator power available.

Incorporation of this Bulletin authorizes the use of relay P/N KM-U5N or KM-U5NL-011 as an alternate replacement part for the left essential bus relay, K3, P/N KM-U5NL-014.

E. Time of Compliance

Customer option, at the discretion of the owner/operator.

F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

G. Manpower:

Accomplishment of this Service Bulletin will require approximately seven (7) man-hours on a standard configuration aircraft.

H. Interchangeability:

None

DATE: 23 AUGUST 2001

PAGE 2 OF 12

TECHNICAL BULLETIN

I. Tooling:

N/A

J. Weight and Balance:

+2.8 oz (85 gm) at FS 96.800, LBL 6.000, WL 103.038

K. Electrical Load Data:

Baseline electrical load is reduced by 120 mA for standard operating conditions. Baseline electrical load is increased 120 mA for the emergency condition of dual generator failure.

L. Other Publications Affected:

Rotorcraft Maintenance Manual – Instruments/Electrical/Avionics (CSP-900RMM-3) and Illustrated Parts List (CSP-900IPL-4).

M. Warranty Policy:

N/A

N. Material/Part Availability:

Contact MDHI Field Service Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Relay, 50 amp, 1PST-DB, All Welded, Hermetical	KM-U5NL-014 (Preferred)	1	Leach International 6900 Orangethorpe Ave Buena Park, CA 90622-5032 (714) 736-7598
	KM-U5N (Alternate)*	1	
	KM-U5NL-011 (Alternate)*	1	
Screw, Machine-Aircraft, Pan Head, Cruciform Recess	NAS601-6P	3	MDHI
Washer, Flat-Reduced Outside Diameter	NAS620-6L	3	MDHI
Nut, Self-Locking, Plate, Two Lug, Floating	MS21059L06	3	MDHI
Terminal, Lug, Crimp, AWG 22, Stud 6	MS25036-102	8	MDHI
Terminal, Lug, Crimp, AWG 22, Stud 10	MS25036-103	1	MDHI
Terminal, Lug, Crimp, AWG 10, Stud 10	MS25036-112	2	MDHI
Terminal, Lug, Crimp, AWG 10, Stud 3/8	MS25036-114	1	MDHI
Terminal, Lug, Crimp, AWG 8, Stud 10 (or 8)	MS25036-115	1	MDHI

TECHNICAL BULLETIN

DATE: 23 AUGUST 2001
PAGE 3 OF 12

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Terminal, Lug, Crimp, AWG 8, Stud 1/4	MS25036-116	1	MDHI
Terminal, Lug, Crimp, AWG 22/20, Stud 8	MS25036-149	6	MDHI
Terminal, Lug, Crimp, AWG 22, Stud 1/4	MS25036-150	1	MDHI
Terminal, Lug, Crimp, AWG 10, Stud 8	MS25036-156	8	MDHI
Terminal, Lug, Crimp, AWG 10, Stud 1/4	MS25036-157	1	MDHI
Contact, Socket	1662-202-1631	7	MDHI
Contact, Elec, Connector, Socket, Crimp, Removable	M39029/22-191	2	MDHI
Contact, Socket, 20-24 AWG	M39029/56-351	1	MDHI
Contact, Socket, 20-24 AWG	M39029/5-115	1	MDHI
Grommet, Silicone Rubber	MS35489-6X	1	MDHI
Wire, Elec, Fluoropolymer – Insulated	M22759/43-8-9	AR	Raychem (415) 361-3333 Judd (413) 863-4357
Wire, Elec, Fluoropolymer – Insulated	M22759/43-10-9	AR	Raychem (415) 361-3333 Judd (413) 863-4357
Wire, Elec, Fluoropolymer – Insulated	M22759/43-20-9	AR	Raychem (415) 361-3333 Judd (413) 863-4357
Wire, Elec, Fluoropolymer – Insulated	M22759/43-22-9	AR	Raychem (415) 361-3333 Judd (413) 863-4357
Rivet, Blind-Hollow, Pull-Thru, Countersunk Head	HS5422C125	6	MDHI
Adhesive, two-part epoxy	EA9330-3	AR	MDHI or Commercial Dexter Corp., Hysol Division Pittsburg, CA 91745

DATE: 23 AUGUST 2001

PAGE 4 OF 12

TECHNICAL BULLETIN

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Solder, tin alloy, rosin core	QQ-S-571	AR	Commercial
Sleeving, Protective, Expandable, Insulating	HS5330-1524	AR	MDHI

* These alternates are only allowed with the completion of this Bulletin.

WIRE BUILD TABLE						
Wire No.	Wire Nomenclature	Part No.	Wire Length	Termination		Source
				A	B	
1**	L12C20 EMI 3	M22759/43-20-9	9 in.	M39029/56-351 CONTACT	MS25036-149 LUG	MDHI
2**	L130E22 EMI 3	M22759/43-22-9	13 in.	M39029/22-191 CONTACT	MS25036-149 LUG	MDHI
3**	L13A22 EMI 3	M22759/43-22-9	13 in.	M39029/22-191 CONTACT	MS25036-102 LUG	MDHI
4**	L16A20 EMI 3	M22759/43-20-9	20 in.	M39029/5-115 CONTACT	MS25036-149 LUG	MDHI
5	P222A22 EMI 3	M22759/43-22-9	9 in.	MS25036-150 LUG	1662-202-1631 CONTACT	MDHI
6	P221A8 EMI 3	M22759/43-8-9	9 in.	MS25036-116 LUG	MS25036-115 LUG	MDHI
7	P225A22 EMI 3	M22759/43-22-9	5 in.	MS25036-102 LUG	1662-202-1631 CONTACT	MDHI
8	P225B22 EMI 3	M22759/43-22-9	5 in.	MS25036-102 LUG	1662-202-1631 CONTACT	MDHI
9	P223A22 EMI 3	M22759/43-22-9	5 in.	1662-202-1631 CONTACT	MS25036-149 LUG	MDHI
10	P221B10 EMI 3	M22759/43-10-9	6 in.	MS25036-156 LUG	MS25036-156 LUG	MDHI
11	P226B22 EMI 3	M22759/43-22-9	6 in.	MS25036-102 LUG	MS25036-102 LUG	MDHI

TECHNICAL BULLETIN

DATE: 23 AUGUST 2001

PAGE 5 OF 12

WIRE BUILD TABLE (Cont.)						
Wire No.	Wire Nomenclature	Part No.	Wire Length	Termination		Source
				A	B	
12	P12E22 EMI 3	M22759/43-22-9	6 in.	MS25036-102 LUG	MS25036-102 LUG	MDHI
13	P231A10 EMI 3	M22759/43-10-9	8 in.	MS25036-156 LUG	MS25036-156 LUG	MDHI
14	P224B22 EMI 3	M22759/43-22-9	4 in.	1662-202-1631 CONTACT	MS25036-149 LUG	MDHI
15	P224A22 EMI 3	M22759/43-22-9	6 in.	1662-202-1631 CONTACT	MS25036-149 LUG	MDHI
16	P226A22 EMI 3	M22759/43-22-9	6 in.	1662-202-1631 CONTACT	MS25036-102 LUG	MDHI
17	P230A10 EMI 3	M22759/43-10-9	6 in.	MS25036-156 LUG	MS25036-156 LUG	MDHI
18	P229A10 EMI 3	M22759/43-10-9	9 in.	MS25036-112 LUG	MS25036-156 LUG	MDHI
19	P227A10 EMI 3	M22759/43-10-9	13 in.	MS25036-157 LUG	MS25036-114 LUG	MDHI
20	P228B22 EMI 3	M22759/43-22-9	15 in.	MS25036-103 LUG	SOLDER	MDHI
21	P228C10	M22759/43-10-9	10 in.	MS25036-156 LUG	MS25036-112 LUG	MDHI

** Pull wire through grommet prior to installing lug.

2. ACCOMPLISHMENT INSTRUCTIONS

A. Preparation

- (1). Access the A610 external power box assembly (Ref. Section 96-30-00 of CSP-900RMM-3).

NOTE: Prior to removing the A610 external power box assembly, document any wires or electrical components installed in the A610 to support optional equipment. All optional equipment installed wires and electrical components must be reinstalled in their "before removed" configuration.

- (2). Remove the A610 external power box assembly (Ref. Section 96-30-00 of CSP-900RMM-3).

DATE: 23 AUGUST 2001

PAGE 6 OF 12

TECHNICAL BULLETIN

B. Modify external power box assembly as follows:

(Ref. Figure 1)

- (1). Open A610 External Power Box Assembly (Ref. Section 96-30-00 of CSP-900RMM-3).
- (2). Remove jumper wire P30C10 EMI 3 or alternate HS4836-284302 bus bar between CB1 and CB2.
- (3). Remove wire P30B10 EMI 3 from CB1 to CR4.
- (4). Remove wire P30D10 EMI 3 from CR3 to CR4.
- (5). Remove wire P30A10 EMI 3 from K3-A2 to CR4.
- (6). Remove wire P105A22 EMI 3 from TB2-3 to CB2.
- (7). Remove wire P137A24 EMI 3 from A610-SP1 to K4-2-A3.
- (8). Remove wire P137B24 EMI 3 from A610-SP2 to K4-2-A2.
- (9). Remove wire L130C24 EMI 3 from TB1-1-D to K6-A1.
- (10). Remove wire P18C22 EMI 3 from A610-SP2 to K3-A1.
- (11). Remove wire P137C24 EMI 3 from A610-SP2 to K4-1-X1.
- (12). Remove wire P28A24 EMI 3 from A610-SP1 to K4-1-A3.
- (13). Remove wire P28B24 EMI 3 from A610-SP1 to K1-X1.
- (14). Remove wire P28C24 EMI 3 from K1-A1 to K3-X1.
- (15). Remove wire P18E22 EMI 3 from K4-1-A2 to K3-A1.
- (16). Remove wire P18B10 EMI 3 from K1-A1 to K3-A1.
- (17). Remove wire L16A20 EMI 3 from K6-A2 to J3-1.
- (18). Remove wire L13A22 EMI 3 from K6-X2 to TB1-2-J.
- (19). Remove wire L12C20 EMI 3 from K6-A1 to J2-F.
- (20). Relocate relay, K6, and install new relay, K7.
 - (a). Remove and retain existing relay, K6, and mounting hardware.
 - (b). Locate three each relay mounting holes on top of external power box assembly.
 - (c). Drill three each 0.209 inch (5.31 mm) relay mounting holes with a #4 drill and deburr.
 - (d). Locate six each nut plate attach holes on top of external power box assembly (orientation of the nutplates is optional).
 - (e). Drill six each 0.096 inch (2.38 mm) nut plate attach holes with a #40 drill and deburr.
 - (f). Install three each MS1059L06 nutplates with six each NAS1097AD3 rivets.

TECHNICAL BULLETIN

DATE: 23 AUGUST 2001

PAGE 7 OF 12

- (g). Reinstall relay removed in step (a) on top of external power box assembly with three each NAS601-6P screws and NAS620-6L washers.
- (h). Install KM-U5NL-014 (or alternate) relay, K7, in position where relay, K6, was removed using hardware retained in step (a).
- (i). Change K6 label to K7 and label relocated relay, K6, on top of external power box assembly using permanent ink.
- (21). If installed, remove plug from hole labeled CB3 on side of external power box assembly.
- (22). Install MS35489-6X grommet in hole on side of external power box assembly using EA9330-3 epoxy adhesive per manufacturer's instructions.
- (23). Change "CB3" label below grommet to "HOVER LIGHT" using permanent ink
- (24). Remove diode, CR2, from between terminals, TB2-7 and TB2-8, leaving existing wires intact.
- (25). Fabricate wires in accordance with Wire Build Table and Rotorcraft Maintenance Manual (CSP-900RMM-3).
- (26). Install new wire L12C20 EMI 3 from K6-A1 to J2-F (Ref. Figure 2).
- (27). Install new wire L130E22 EMI 3 from K6-A1 to TB1-1-D.
- (28). Install new wire L13A22 EMI 3 from K6-X2 to TB1-2-J.
- (29). Install new wire L16A20 EMI 3 from K6-A2 to J3-1.
- (30). Install HS5330-1524 expandable sleeving on wires L12C20 EMI 3, L130E22 EMI 3, L13A22 EMI 3 and L16A20 EMI 3 between grommet and hover light relay, K6, on top of external power box assembly.
- (31). Install new wire P222A22 EMI 3 from K1-A1 to K4-1-A2.
- (32). Install new wire P221A8 EMI 3 from K1-A1 to K3-A1.
- (33). Install new wire P225A22 EMI 3 from K1-X1 to K4-2-A3.
- (34). Install new wire P225B22 EMI 3 from K1-X1 to K4-1-A3.
- (35). Install new wire P223A22 EMI 3 from K4-1-X1 to K3-A1.
- (36). Install new wire P221B10 EMI 3 from K3-A1 to K7-A1.
- (37). Install new wire P226B22 EMI 3 from K3-X1 to K7-X1.
- (38). Install new wire P12E22 EMI 3 from K3-X2 to K7-X2.
- (39). Install new wire P231A10 EMI 3 from K3-A2 to CB1 (LINE).
- (40). Install new wire P224B22 EMI 3 from K4-2-B2 to K7-A1.
- (41). Install new wire P224A22 EMI 3 from K4-2-A2 to K7-A1.
- (42). Install new wire P226A22 EMI 3 from K4-2-B3 to K7-X1.
- (43). Install new wire P230A10 EMI 3 from K7-A2 to CB2 (LINE).

DATE: 23 AUGUST 2001

PAGE 8 OF 12

TECHNICAL BULLETIN

- (44). Install new wire P227A10 EMI 3 from K2-A1 to CR4 (+).
- (45). Install new wire P229A10 EMI 3 from CR4 (-) to CB1 (LINE).
- (46). Install new wire P228B22 EMI 3 from CR3 (-) to TB2-3.
- (47). Install new wire P228C10 EMI 3 from CR3 (-) to CB2 (LINE).
- (48). Check wiring in modified external power box assembly as follows:
 - (a). Check for open circuit (>1 megohm) from CB1 (LINE) to CB2 (LINE).
 - (b). Check for open circuit (>1 megohm) from CB2 (LINE) to CB1 (LINE).
 - (c). If open circuit is not indicated in steps (a) and (b) above, check polarity of diode, CR4, and associated wiring.
- (49). Ink stamp with permanent ink **MODIFIED BY TB900-018R1** next to the part number on external power box assembly.
- (50). Close and install the A610 external power box assembly (Ref. Section 96-30-00 of CSP-900RMM-3).

C. Test modified external power box assembly as follows:

- (1). Confirm Pitot Heat OFF and Landing Light OFF. Confirm all CBs are pushed in.
- (2). With battery power only (no ground power or generators), switch POWER to BAT/EXT and confirm IIDS has power.



Fuel shutoff enables fire bottles. Do not move the BOTTLE DISCHARGE switch during the next step.

- (3). Lift Left Fuel Shutoff guard and move switch to LEFT OFF and confirm that IIDS fuel supply display changes from three dashed bars to three stacked bars, indicating fuel valve closed. Return Fuel Shutoff switch to ON and close switch guard.
- (4). Switch LIGHTS on collective grip to HVR. Confirm that Hover Light is **on**. Return LIGHTS switch to OFF.
- (5). Switch POWER to ESNTL and confirm IIDS has power.



Fuel shutoff enables fire bottles. Do not move the BOTTLE DISCHARGE switch during the next step.

- (6). Lift Left Fuel Shutoff guard and move switch to LEFT OFF and confirm that IIDS fuel supply display changes from three dashed bars to three stacked bars, indicating fuel valve closed. Return Fuel Shutoff switch to ON and close switch guard.
- (7). Switch LIGHTS on collective grip to HVR. Confirm that Hover Light is **off**. Return LIGHTS switch to OFF.
- (8). Return POWER switch to OFF position.

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.

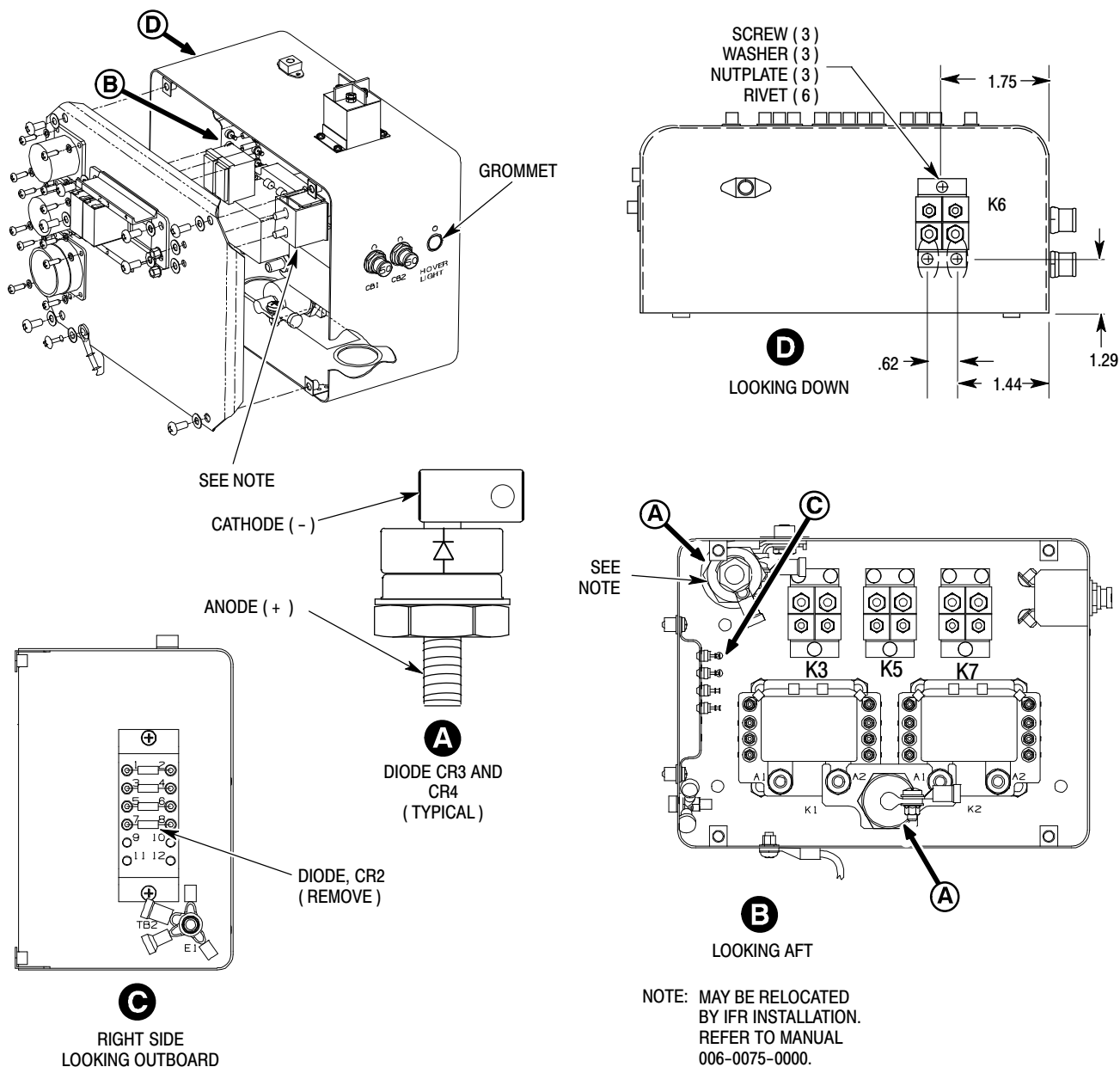
TECHNICAL BULLETIN

DATE: 23 AUGUST 2001

PAGE 9 OF 12

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.



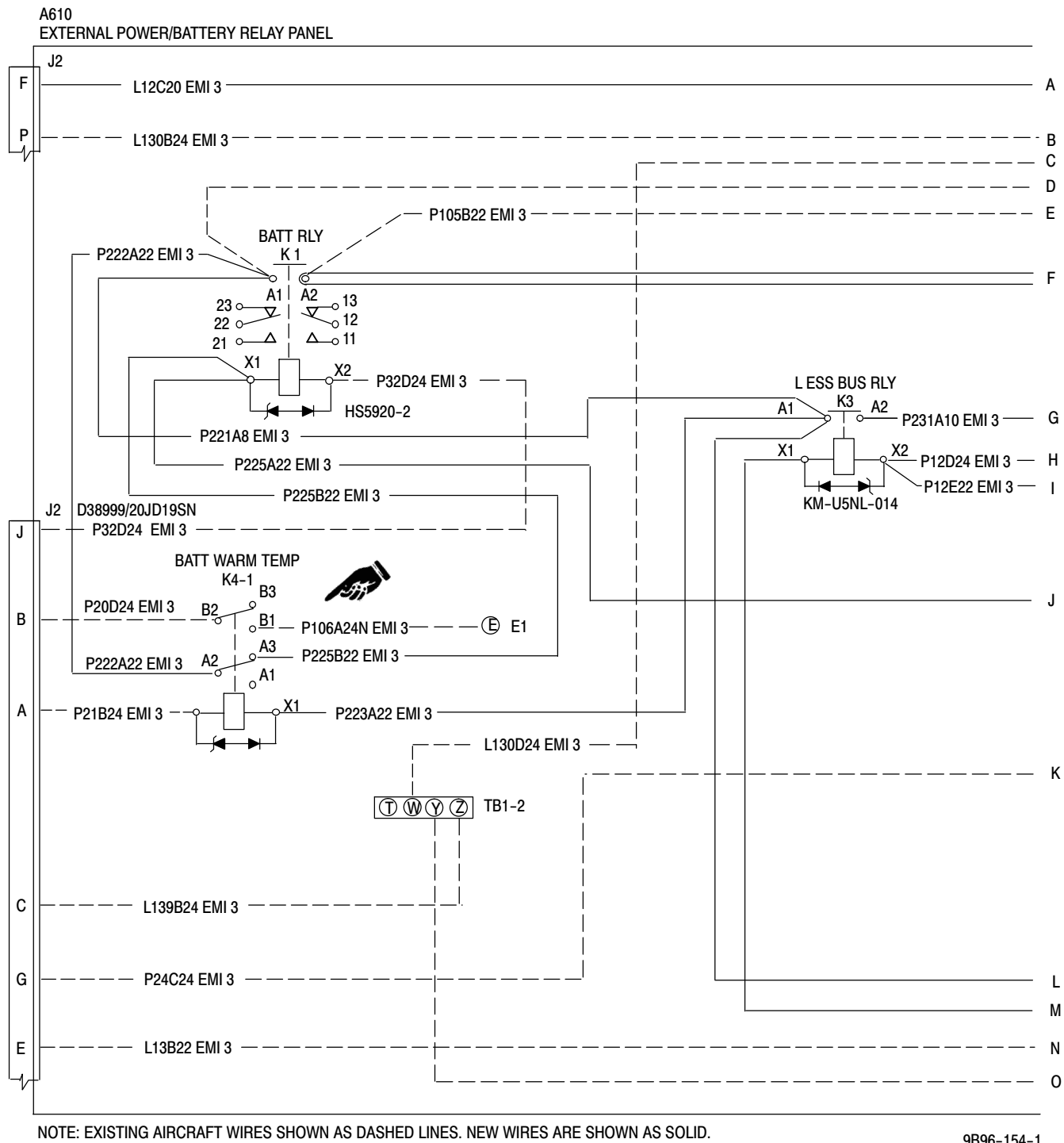
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Figure 1. External Power Box Assembly Modification

DATE: 23 AUGUST 2001

PAGE 10 OF 12

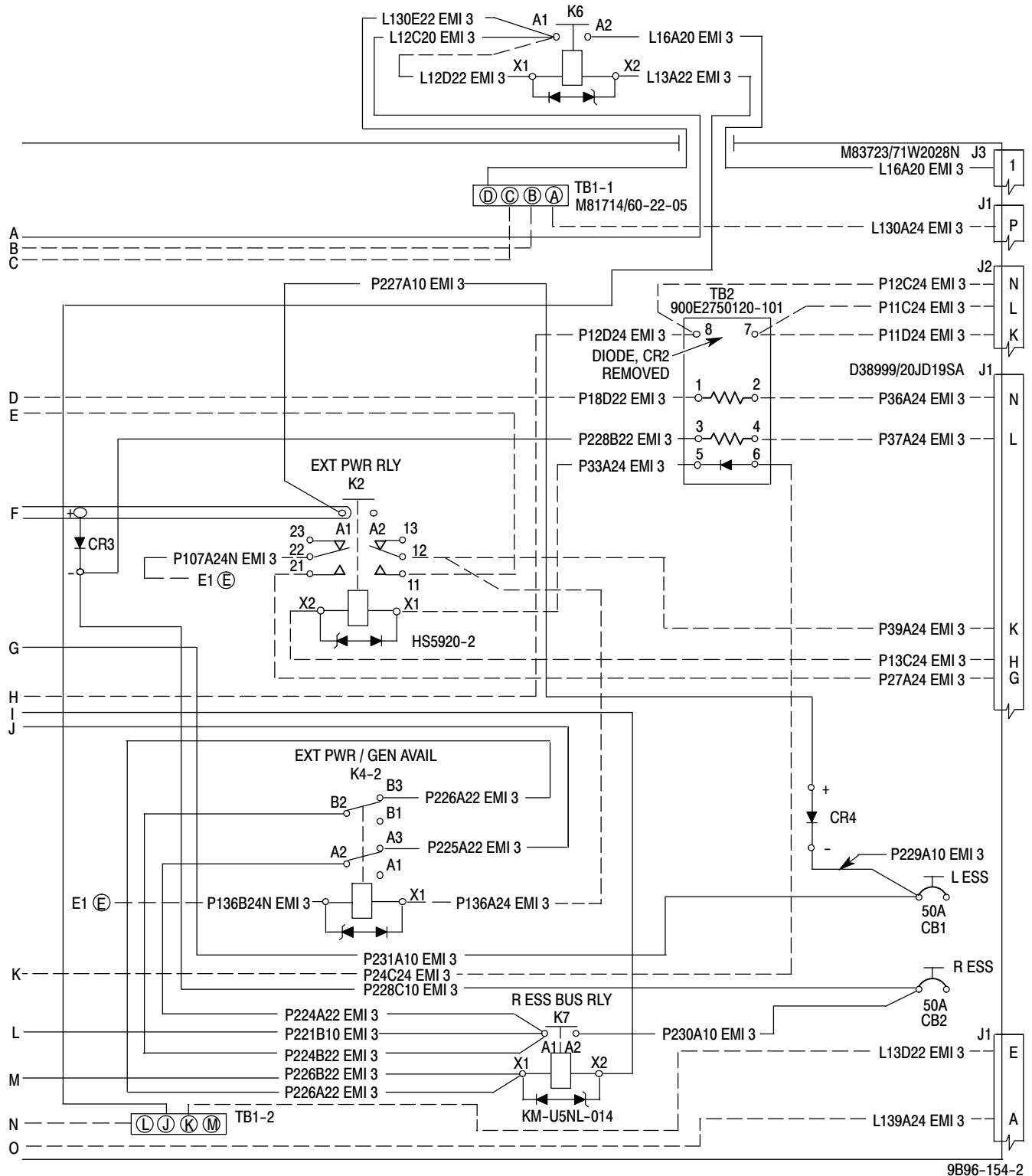
TECHNICAL BULLETIN


Figure 2. External Power Box Assembly Wiring Diagram (Sheet 1 of 2)

TECHNICAL BULLETIN

DATE: 23 AUGUST 2001

PAGE 11 OF 12



9B96-154-2

Figure 2. External Power Box Assembly Wiring Diagram (Sheet 2 of 2)

DATE: 23 AUGUST 2001

PAGE 12 OF 12

TECHNICAL BULLETIN

DUAL ESSENTIAL BUS RELAYS MODIFICATION

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:

TECHNICAL BULLETIN

DATE: 30 AUGUST 2000

PAGE 1 OF 3

RANGE EXTENDER MODIFICATION

1. PLANNING INFORMATION

A. Aircraft Affected:

MD-900 helicopters, serial number 900-00010 thru 900-00082.

B. Assembly/Components Affected By This Notice:

Range Extender P/N 900P3661206-103.

C. Reason:

The notch on the 900P3661206-103 range extender, used to secure the flapper valve chain, frequently breaks the chain and the position of the notch places the chain across the neck opening, blocking it during fueling.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to modifying the range extender by blending the existing notch and adding a new notch on the top inner flange.

E. FAA Approval:

The design engineering aspects of this Technical Bulletin are FAA Approved.

F. Manpower:

One (1) man-hour.

G. Time of Compliance:

Optional, at the discretion of the owner/operator.

H. Interchangeability:

None

I. Material/Part Availability:

Contact MDHI Part Sales Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Chemical Coating, MIL-C-5541, Class 2	Iridite 14-2 Al-Coat	AR	Richardson Company Allied-Kelite Products Division 2400 E. Devon Avenue Des Plains, IL

J. Warranty Policy:

N/A

DATE: 30 AUGUST 2000

PAGE 2 OF 3

TECHNICAL BULLETIN

K. Tooling:

N/A

L. Weight and Balance

N/A

M. Electrical Load Data:

N/A

N. Other Publications Affected:

Rotorcraft Maintenance Manual (CSP-900RMM-2) and Illustrated Parts List (CSP-900IPL-4).

2. ACCOMPLISHMENT INSTRUCTIONS**A. Preparation Instructions**

- (1). Remove range extender (Ref. CSP-900RMM-2, Section 28-00-00, Range Extender Removal).

B. Modification Instructions

(Ref. Figure 1)

- (1). Blend existing notch with 0.13 inch (3.302 mm) radius normal to notch face, as shown.
- (2). Add new notch to dimensions shown.
- (3). Apply chemical coating to reworked areas per manufacturer's instructions.
- (4). Ink stamp new part number, 900P3661206-105, on modified range extender.

C. Completion Instructions

- (1). Install modified range extender (Ref. CSP-900RMM-2, Section 28-00-00, Range Extender Installation).

3. DISPOSITION OF PARTS REMOVED

N/A

4. COMPLIANCE RECORD

Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.

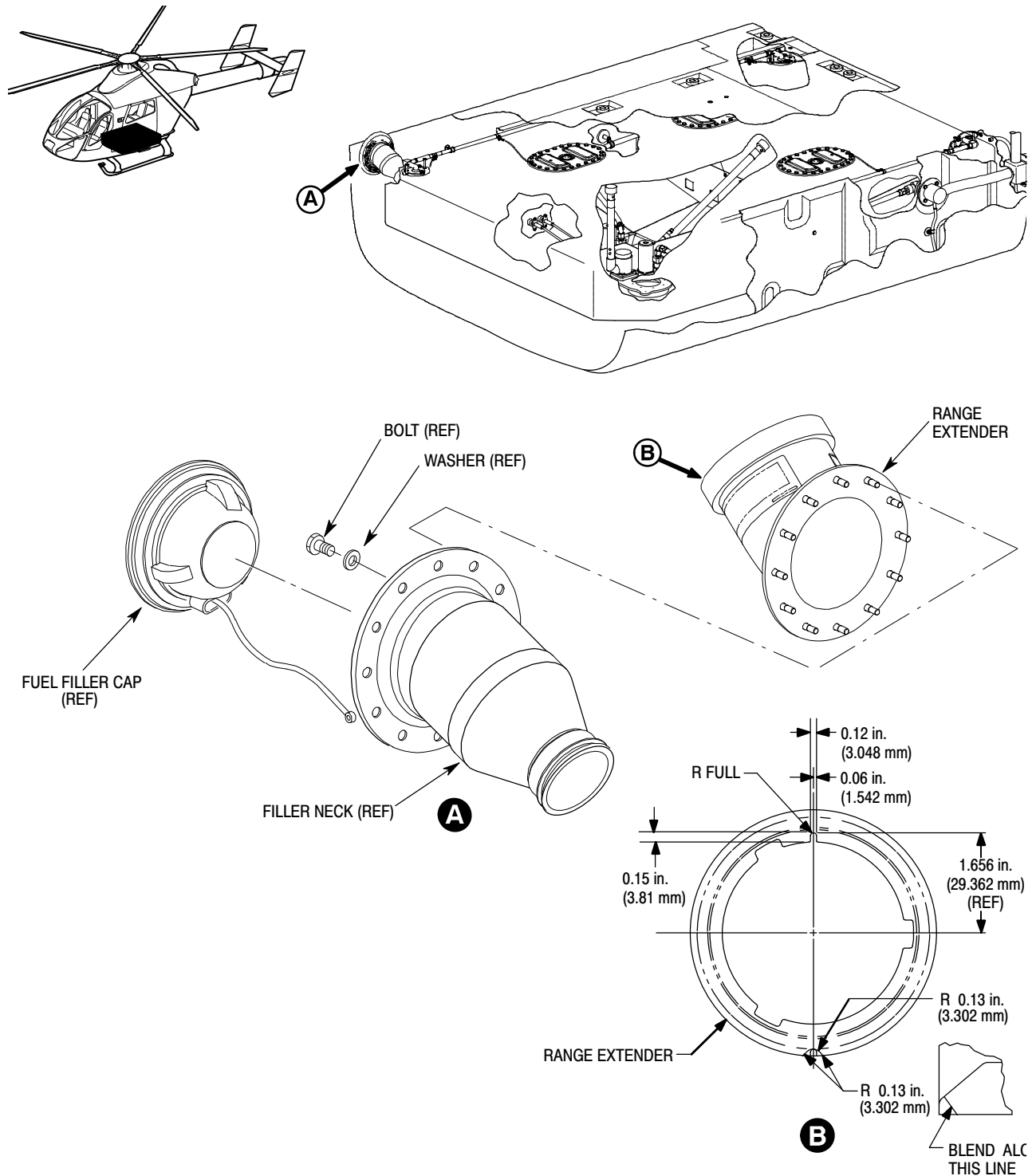
5. POINTS OF CONTACT:

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.

TECHNICAL BULLETIN

DATE: 30 AUGUST 2000

PAGE 3 OF 3



9B28

Figure 1. Range Extender Modification

TECHNICAL BULLETIN

DATE: 2 MAY 2002

PAGE 1 OF 10

* Supersedes TB900-020R1, dated 15 March 2002. Revised to incorporate new part numbers, revise the installation procedure and add electrical bond requirements.

REMOVABLE COPILOT CONTROLS MODIFICATION

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 helicopters, serial number 900-00008 and Subsequent.

B. Assembly/Components Affected By This Notice:

Collective Stick Assembly (P/N 900C3010007-111, -113), Cyclic Stick Assembly (P/N 900C1010002-107, -109, -111).

C. Reason:

MDHI is offering the Removable Copilot Controls Modification, which when completed, will allow a pilot or a mechanic to remove and install the copilot cyclic and collective sticks in a minimal amount of time.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to initial installation of a unique removable copilot cyclic stick on helicopter serial number 900-00008 and subsequent and a unique removable copilot collective stick on helicopter serial number 900-00052 and subsequent. Owners and operators may elect to install the removable copilot cyclic or collective stick or both sticks, depending on helicopter serial number.

Pilots must be familiar with the removal and installation procedures published in the Rotorcraft Flight Manual (RFM). After modification, the copilot collective stick will no longer have throttle controls. The restriction for solo flight from the copilot's seat remains in effect and the unique control sticks have placards for emphasis.

E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

F. Manpower:

5.0 man-hours.

G. Time of Compliance

Customer option, at owner/operator discretion.

H. Interchangeability:

None

DATE: 2 MAY 2002

PAGE 2 OF 10

TECHNICAL BULLETIN

I. Material/Part Availability:

The parts listed below are included in a Kit (P/N TBK-001). Contact MDHI Parts Sales Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Stick Assembly, Copilot Cyclic	900C2012010-101	1	MDHI
Spent Travel Tube	900C2012018-101	2	MDHI
Base Bracket Assembly, Copilot	900C2012007-103	1	MDHI
Plate, Doubler	900F2302014-101	1	MDHI
Stick Assembly, Copilot Collective	900C2012016-103	1	MDHI
Wire Harness – 151, Copilot Collective Controls	900E2760151-101	1	MDHI
Wire Harness – 153, Copilot Collective Interface	900E2760153-101	1	MDHI
Dummy Receptacle	D38999/22FW	1	MDHI
Dust Cap	D38999/33W19R	1	MDHI
Decal, Flight Control	900C4012011-101	2	MDHI
Screw, Pan Head	NAS600-8P	9	MDHI
Washer, Flat	NAS1149DN416K	1	MDHI
Washer, Flat	NAS620-4	8	MDHI
Pin, Cotter	MS24665-134	5	MDHI
Nut	MS21042L04	8	MDHI
Fastener Tape, Loop	DELETED	N/A	N/A
Fastener Tape, Hook	DELETED	N/A	N/A
*Adhesive	DELETED	N/A	N/A
Packing, Preformed, Petroleum Hydraulic Fluid Resistant	M8346/1-125	1	MDHI
Rivet, Solid, Flush Head	NAS1097AD4-3	4	MDHI

TECHNICAL BULLETIN

DATE: 2 MAY 2002

PAGE 3 OF 10

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
*Adhesive, Epoxy (MDM16-1068, Class 12)	EA9321 (MRM010246)	AR	Dexter Adhesive & Coating Systems 2850 Willow Pass Rd. P.O. Box 312 Bay Point, CA 94565-0031 (925) 458-8000 (800) 424-9300
*Chemical Film (MIL-C-5541, Class 1A)	Iridite 14-2 Al-coat	AR	Richardson Co. Allied-Kelite Products Division 2400 E. Devon Avenue Des Plaines, IL
Washer	NAS1149D0432K	6	MDHI
Washer	NAS1149D0416K	2	MDHI
Bolt	NAS6204-17D	1	MDHI
Pin, Cotter	MS24665-134	3	MDHI

* Item is not part of the kit and may be purchased locally from commercial sources.

J. Warranty Policy:

Standard spare parts warranty applies.

K. Tooling:

N/A

L. Weight and Balance:

N/A

M. Electrical Load Data:

N/A

N. Other Publications Affected:

Rotorcraft Maintenance Manual (CSP-900RMM-2, Reissue 1, Revision 11) or later.
 Illustrated Parts List (CSP-900IPL-4, Reissue 2, Revision 5) or later.
 Rotorcraft Flight Manual (CSP-900RFM-1, Reissue 1, Revision 4) or later.
 Rotorcraft Flight Manual (CSP-900ERFM-1, Revision 1) or later.
 Rotorcraft Flight Manual (CSP-902RFM-1, Reissue 1, Revision 5) or later.
 Rotorcraft Flight Manual (CSP-902RFM207E-1, Revision 2) 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.

DATE: 2 MAY 2002

PAGE 4 OF 10

TECHNICAL BULLETIN

2. ACCOMPLISHMENT INSTRUCTIONS

A. Copilot Cyclic Stick Assembly Replacement (Helicopter Serial No. 900-00008 and Subsequent)

(Ref. Figure 1)

- (1). Remove and retain copilot cyclic grip (Ref. CSP-900RMM-2, Section 67-20-00, Cyclic Grip Removal).
- (2). Remove copilot cyclic stick assembly (Ref. CSP-900RMM-2, Section 67-10-00, Pilot Cyclic Stick Assembly Removal).
- (3). Install new copilot cyclic stick assembly (Ref. CSP-900RMM-2, Section 67-10-00, Pilot Cyclic Stick Assembly Installation), except as follows.
 - (a). Attach removable copilot cyclic stick assembly to copilot cyclic base assembly with two expandable diameter bolts (part of new cyclic stick assembly).
 - (b). Attach bonding jumper (part of new cyclic stick assembly) to airframe with one NAS600-8P screw and one NAS1149DN416K washer.
- (4). Install copilot cyclic grip, retained above, on new cyclic stick assembly (Ref. CSP-900RMM-2, Section 67-20-00, Cyclic Grip Installation).

B. Copilot Collective Stick Assembly Replacement (Helicopter Serial No. 900-00052 and Subsequent)

(Ref. Figure 2)

- (1). Remove and retain screw, and clamps securing wire harness to copilot collective stick assembly.
- (2). Remove copilot collective stick assembly (Ref. CSP-900RMM-2, Section 67-10-00, Copilot Collective Control Stick Removal).
- (3). Remove copilot collective control module.
 - (a). Align holes in throttle twist grip as required and remove attachment screw, located at forward end of twist grip. Do not remove screws attaching twist grip.
 - (b). Remove and retain control module.
- (4). Detach electrical connector **P2** from receptacle **J141** and remove wire harness W100.
- (5). Remove interconnect cable assembly from pilot collective stick (Ref. CSP-900RMM-2, Section 67-10-00, Interconnect Cable Assembly Removal).
- (6). Install 2 spent travel tubes on pilot collective stick where interconnect cable assembly was installed. Torque spent travel tubes **30 - 40 in. lbs (3.38 - 4.52 N·m)** beyond run-on (drag) torque, not to exceed **60 in. lb (6.78 N·m)**.
- (7). Install new copilot base bracket assembly.
 - (a). Prepare inner surface of outboard collective bracket assembly to copilot base bracket assembly attach point for class "R" electrical bond (Ref. CSP-SPM).
 - (b). Position copilot base bracket assembly in collective bracket assembly, install bolts, washers, bonding jumper (inboard), and nuts. Torque nuts **30 - 40 in. lbs (3.38 - 4.52 N·m)** beyond run-on (drag) torque, not to exceed **60 in. lb (6.78 N·m)** and install new cotter pins.

TECHNICAL BULLETIN

DATE: 2 MAY 2002

PAGE 5 OF 10

- (c). Environmentally seal bonding jumper using sealant (C216) (Ref. CSP-SPM).
- (d). Install bolt, washers, and nut attaching copilot base bracket assembly to collective link assembly. Torque nut **30 - 40 in. lbs (3.38 - 4.52 N·m)** beyond run-on (drag) torque, not to exceed **60 in. lb (6.78 N·m)** and install new cotter pins.
- (8). Install LH lower interior panel (Ref. CSP-900RMM-2, Section 25-10-00, Lower Panel, Left Hand Installation).

(Ref. Figure 3)

- (9). Modify copilot outboard panel AL129.
 - (a). Position doubler plate on top of panel as shown.
 - (b). Match drill 13 holes from doubler plate into panel and touch up finish with chemical film per manufacturer's instructions.
 - (c). Bond doubler plate to top of panel with epoxy adhesive per manufacturer's instructions. Ensure that holes in doubler plate and panel are aligned. Remove excess adhesive from holes.
 - (d). Install four rivets through panel and doubler plate with flush head on far side.
 - (e). Reidentify modified copilot outboard panel assembly by marking out existing part number and adding new part number 900F2302013-101.

(Ref. Figure 2)

- (f). Attach connector **J532** of wire harness W153 to copilot outboard panel assembly using 4 each NAS600-8P screws, NAS620-4 washers and MS21042L04 nuts.
- (g). Attach dummy receptacle to copilot outboard panel assembly using 4 each NAS600-8P screws, NAS620-4 washers and MS21042L04 nuts.
- (h). Install dust cover on dummy receptacle.
- (10). Route wire harness W153 through floor and attach connector **P544** to receptacle **J141**.
- (11). Install cockpit left floor access panels AL129 and AL138 (Ref. CSP-900RMM-2, Section 53-20-00, Cockpit Outboard Left Floor Panel Installation and Cockpit Floor Access Panels Installation)
- (12). Install new copilot collective stick assembly.
 - (a). Install packing over end of new copilot collective stick assembly. Position packing adjacent to lower surface of flange on stick.
 - (b). Install new copilot collective stick assembly into copilot base bracket assembly.
 - (c). Secure stick assembly to base bracket assembly with quick release pin (part of stick assembly).
 - (d). Install collective control module onto end of copilot collective stick assembly. Align module and install attachment screw. Torque screw.
 - (e). Attach connector **P2** of wire harness W151 to receptacle **J532** of wire harness W153.
 - (f). Route wire harness W151 along collective stick assembly and attach connector **P1** to receptacle **J1** on bottom of collective control module.

DATE: 2 MAY 2002

PAGE 6 OF 10

TECHNICAL BULLETIN

- (g). Secure wire harness W151 to collective stick.
 - 1). Position retained collective clamps on collective stick and wire harness 12.8 inch (325.12 mm) from module end of stick and align as shown.
 - 2). Secure clamps with retained screw.
 - 3). Torque screw **20 - 25 in lbs (2.25 - 2.82 N·m)**.
- (h). DELETED
- (i). DELETED
- (j). Install one flight control decal on side of new copilot collective stick assembly approximately as shown and install second decal on opposite side of stick. Decals must not overhang edges of stick.
- (k). Test collective stick assembly for class “R” electrical bond (Ref CSP-SPM).

3. IDENTIFICATION

N/A

4. DISPOSITION OF PARTS REMOVED

N/A

5. COMPLIANCE RECORD

Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.

TECHNICAL BULLETIN

DATE: 2 MAY 2002

PAGE 7 OF 10

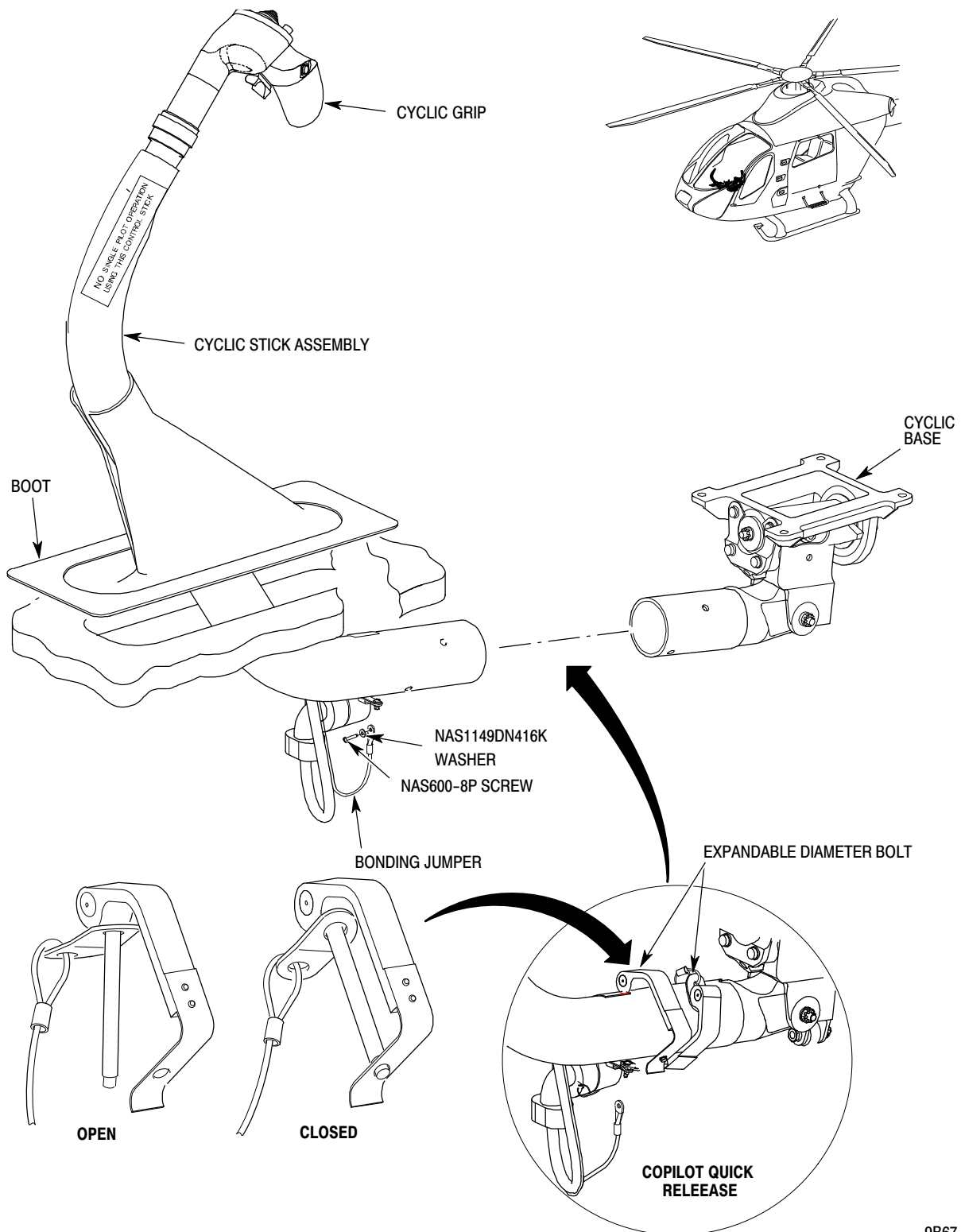


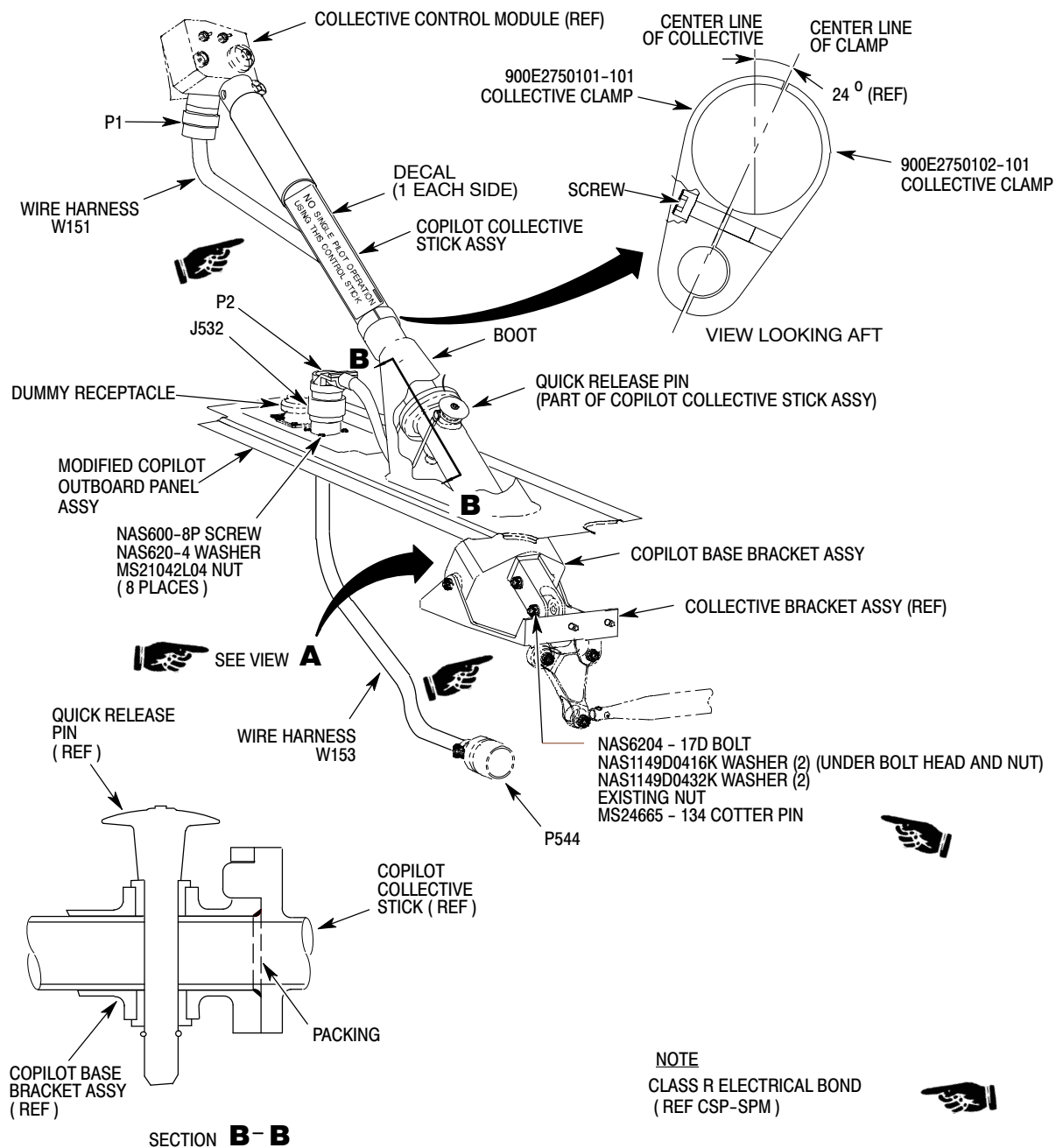
Figure 1. Removable Copilot Cyclic Stick Installation

9B67-168

DATE: 2 MAY 2002

PAGE 8 OF 10

TECHNICAL BULLETIN



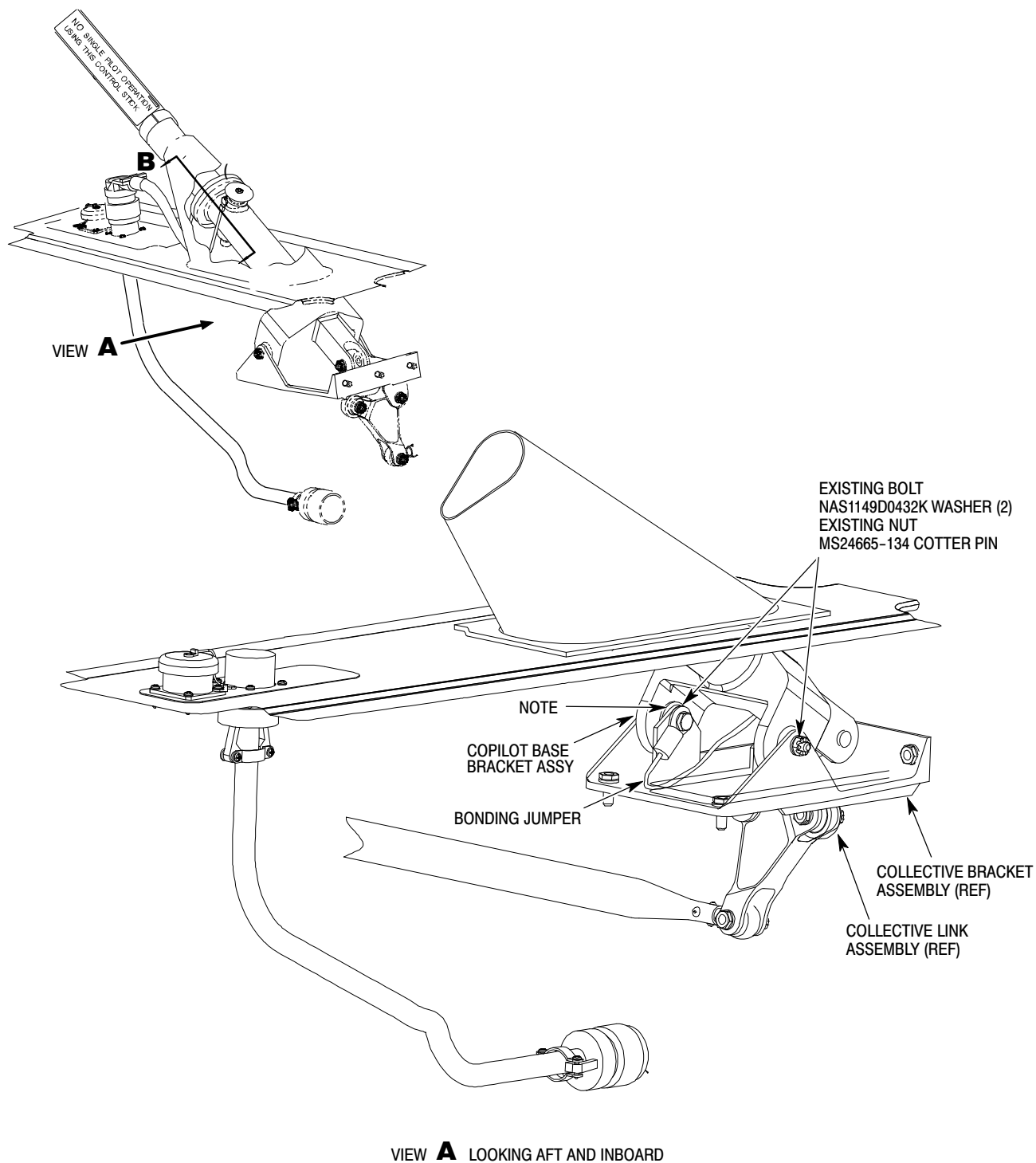
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Figure 2. Removable Copilot Collective Stick Installation (Sheet 1 of 2)

TECHNICAL BULLETIN

DATE: 2 MAY 2002

PAGE 9 OF 10



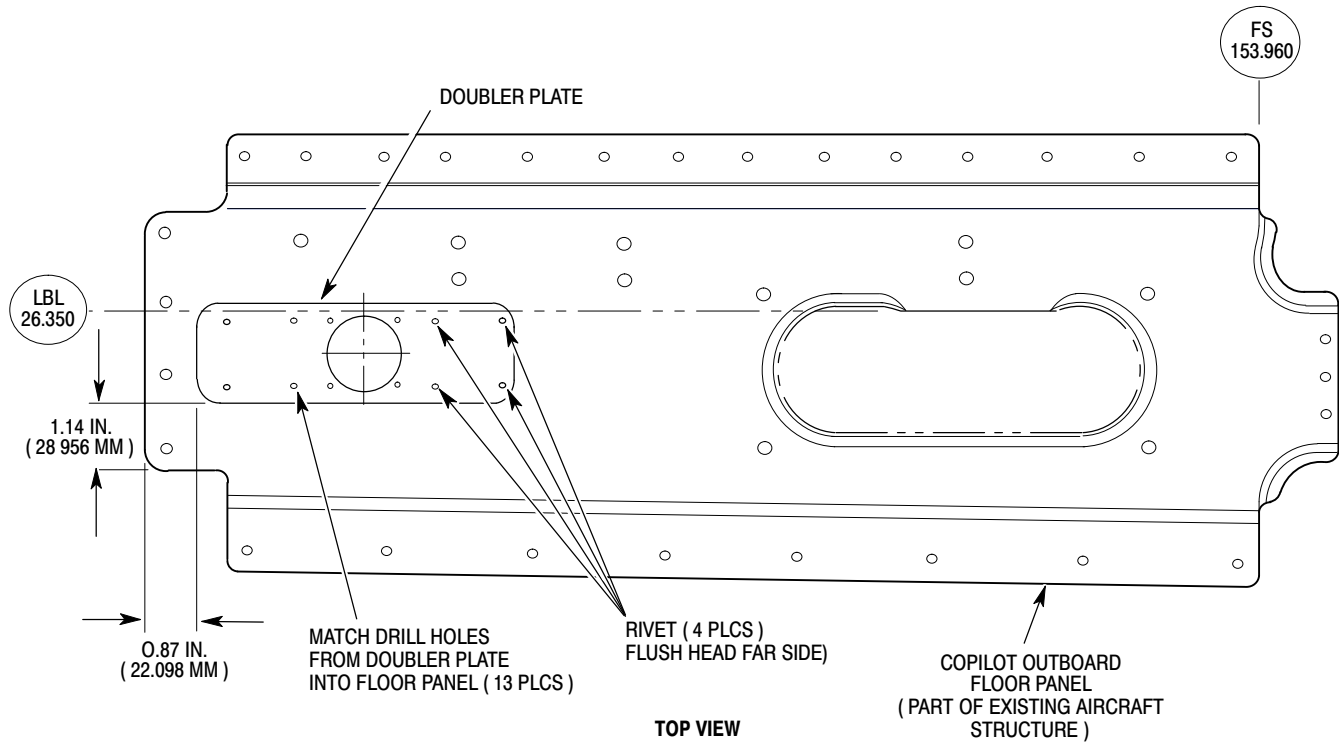
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Figure 2. Removable Copilot Collective Stick Installation (Sheet 2 of 2)

DATE: 2 MAY 2002

PAGE 10 OF 10

TECHNICAL BULLETIN



9B67-173

Figure 3. Copilot Outboard Floor Panel Modification

TECHNICAL BULLETIN

DATE: 26 FEBRUARY 2002

PAGE 1 OF 5

* Supersedes Service Letter SL 900-026, dated 24, January 1997.

CABIN WINDOW EMERGENCY RELEASE COVER MODIFICATION

1. PLANNING INFORMATION

A. Aircraft Affected:

All MD900 helicopters.

B. Assembly/Components Affected By This Notice:

LH Cabin Door Assembly (P/N 900F1305201-105, -107), RH Cabin Door Assembly (P/N 900F1305201-106, -108).

C. Reason:

MDHI is offering the Cabin Window Emergency Release Modification, which when completed, will reduce the possibility of inadvertent operation of the cabin door window jettison system.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to the addition of a clear cover over the cabin door emergency exit pull strap. Instructions are given to fabricate a cover that is attached to the door with screws (Option 1) or with Velcro fasteners (Option 2).

E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

F. Manpower:

3.0 man-hours.

G. Time of Compliance

Customer option, at owner/operator discretion.

H. Interchangeability:

None.

I. Material/Part Availability:

Parts may be purchased from MDHI or locally from commercial sources.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Transparent Acrylic Sheet 1/8" Thick		AR	Commercial
Screw, Plastic, or Nylon, 6-32 0.5 in. (12.7 mm) long. (Option 1)	MS18212-30, or equivalent	6	Commercial

DATE: 26 FEBRUARY 2002

PAGE 2 OF 5

TECHNICAL BULLETIN

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Phosphorescent Label Emergency Exit, (Option 1)		2	Commercial
Decal, or Stencil, No Hand Hold (Option 1)		2	Commercial
Sandpaper, 400 Grit		AR	Commercial
Spade Drill #36 (Option 1)		1	Commercial
Velcro, 2 in. wide, adhesive back, black (Option 2)		48 IN	Commercial
Decal, Emergency Instruction (Option 2)	JEC7221-1	2	MDHI

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

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. Option 1**

(Ref. Figure 1)

(1). Fabricate cover as follows:

- (a). Cut 1/8" Transparent acrylic sheet to dimensions in Figure 1.
- (b). Break all sharp edges with 400 grit or finer sandpaper.
- (c). Drill three #36 holes as shown in NO TAG and deburr.

TECHNICAL BULLETIN

DATE: 26 FEBRUARY 2002

PAGE 3 OF 5

(2). Install cover as follows:

- (a). Remove Emergency Exit label from cabin door.
- (b). Locate cover on door.
 - 1). Place leading edge of cover 0.77 inch (1.95 cm) in front of forward edge of window recess.
 - 2). Align bottom of cover with aluminum interior trim retention extrusion.
- (c). Using cover as template, locate three screw holes in door.
- (d). Drill three holes in cabin door, and interior trim if installed, with #36 spade drill and deburr.
- (e). Tap three holes in door for 6-32 screws.
- (f). Open holes in cover to #28 and deburr.
- (g). Install cover using three plastic screws. Do not over tighten.
- (h). Install Emergency Exit and No Hand Hold labels on cover.

B. Option 2

(Ref. Figure 2)

- (1). Fabricate cover as follows:
 - (a). Cut 1/8" Transparent acrylic sheet to dimensions in Figure 2.
 - (b). Break all sharp edges with 400 grit or finer sandpaper.
 - (c). Trim Velcro to fit and affix to cover as shown.
 - (d). Apply emergency instruction decal to cover as shown.
- (2). Remove emergency instruction decal from cabin door.
- (3). Trim Velcro to fit and affix to door panel as shown.
- (4). Install cover on door by aligning Velcro on cover with Velcro on door panel and pressing cover onto door.

3. IDENTIFICATION

N/A

4. DISPOSITION OF PARTS REMOVED

N/A

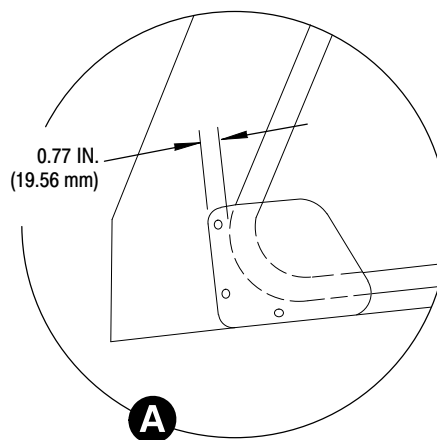
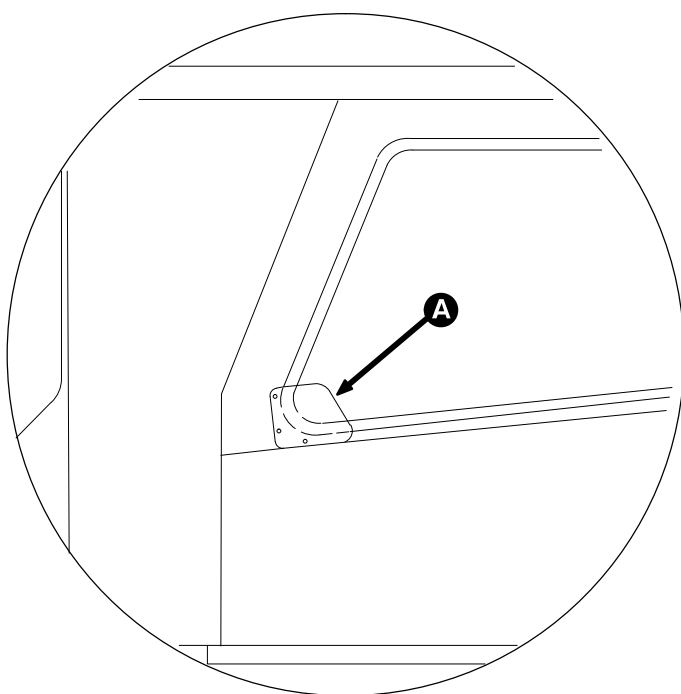
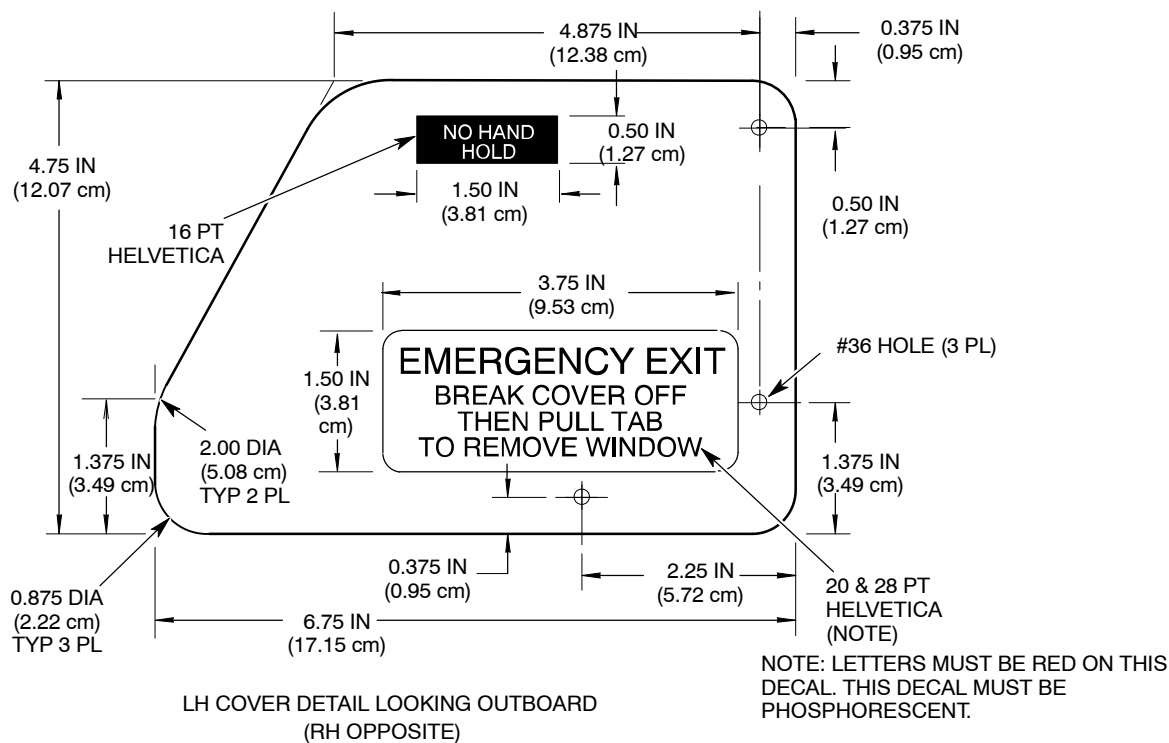
5. COMPLIANCE RECORD

Record compliance to this Service Bulletin in the Compliance Record section of the helicopter Log Book.

DATE: 26 FEBRUARY 2002

PAGE 4 OF 5

TECHNICAL BULLETIN



RH COVER INSTALLATION LOOKING OUTBOARD
(LH OPPOSITE)

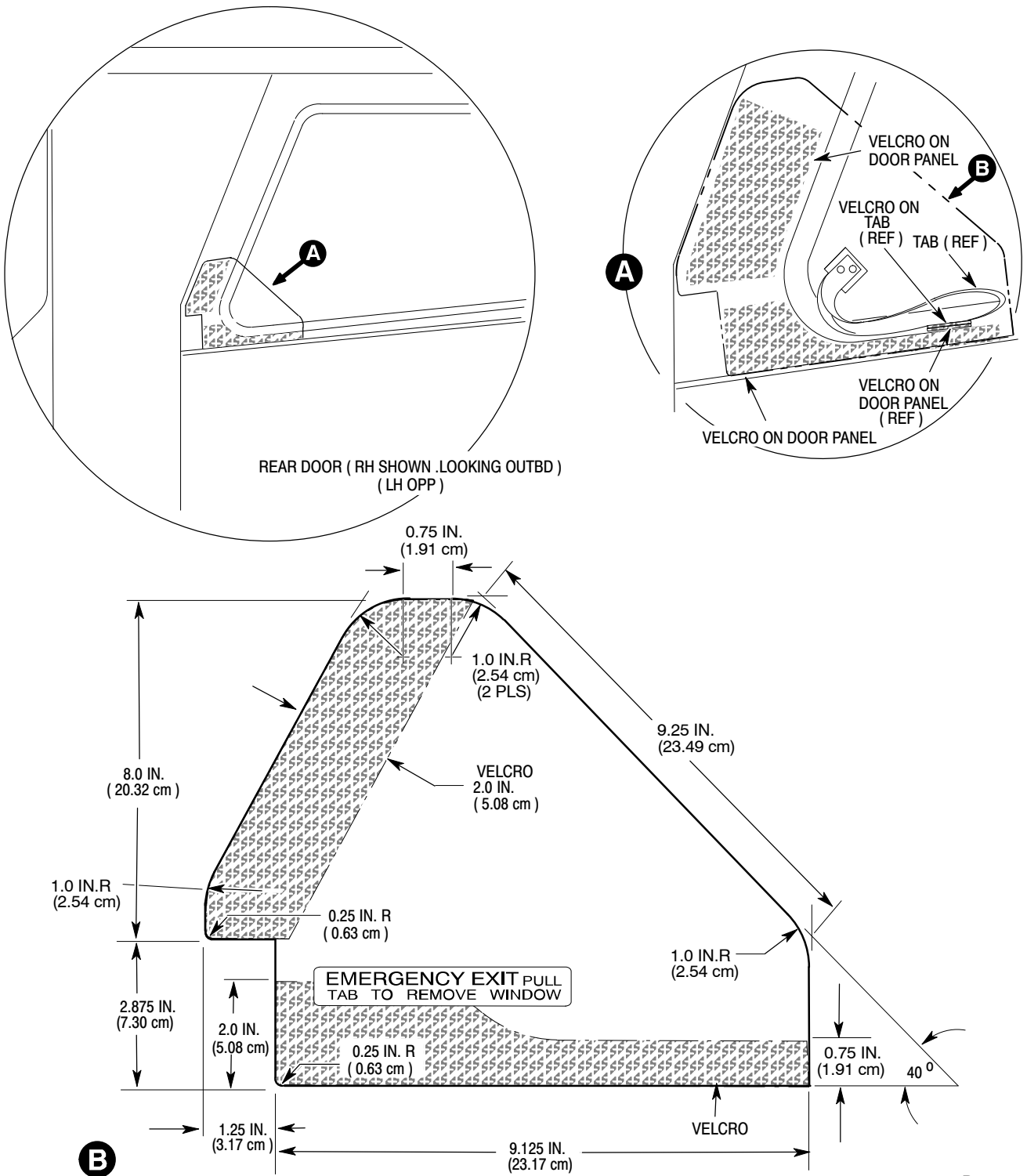
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Figure 1. Cabin Window Emergency Release Cover (Option 1)

TECHNICAL BULLETIN

DATE: 26 FEBRUARY 2002

PAGE 5 OF 5



9B52-172

Figure 2. Cabin Window Emergency Release Cover (Option 2)

TECHNICAL BULLETIN

DATE: 17 JUNE 2002

PAGE 1 OF 6

RAIN GUTTER MODIFICATION

* Supersedes Service Letter SL900-023R1, dated 3 January 1997.

1. PLANNING INFORMATION

A. Aircraft Affected:

All MD900 helicopters.

B. Assembly/Components Affected By This Bulletin:

Track Assembly, LH, Door Upper (P/N 900F2305803-105), Track Assembly, RH, Door Upper (P/N 900F2305803-106).

C. Reason:

Leakage around the upper left and right-hand cabin doors has been reported.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to installation of additional rain gutters to prevent leakage.

E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

F. Manpower:

Eight (8.0) man-hours.

G. Time of Compliance

Customer option, at owner/operator discretion.

H. Interchangeability:

None

I. Material/Part Availability:

Parts/supplies may be purchased from MDHI or locally from commercial sources.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
2024-T3 Aluminum Sheet .025 Thick		AR	Commercial
Primer, Epoxy MIL-P-23377		AR	Commercial
Paint, Top Coat (to Match Modified Area)		AR	Commercial
Sandpaper, 280 Grit or Finer		AR	Commercial

DATE: 17 JUNE 2002

PAGE 2 OF 6

TECHNICAL BULLETIN

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Chemical Film, Iridite or Equivalent		AR	Commercial
Rivet	NAS1919M04S	AR	Commercial
Rivet	MS20426AD3	AR	Commercial
Rivet	MS20426AD3	AR	Commercial
Rivet	MS20470AD3	AR	Commercial
Decal, No Step	MHS5814-12 (or equivalent)	4	MDHI/Commercial

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

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. Prepare Aircraft**

- (1). Remove three vertical blind rivets immediately forward of forward end of door track.
- (2). Remove flush rivets attaching aft door track roller guide.
- (3). Remove any other flush rivets in the door track that would interfere with rain gutter installation.

B. Fabricate rain gutter and Flashing:

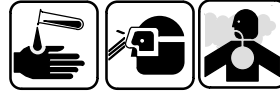
(Ref. Figure 1 and Figure 2)

TECHNICAL BULLETIN

DATE: 17 JUNE 2002

PAGE 3 OF 6

CAUTION: Protective Equipment



- (1). Cut aluminum sheet to match flat patterns.
- (2). Break all sharp edges.

NOTE: Check aircraft for existing hole locations that might interfere with pilot hole locations, and adjust rivet pattern as necessary.

- (3). Locate and drill pilot holes in rain gutter flat pattern.
- (4). Deburr all holes.
- (5). Bend flat patterns to match detail parts.

C. INSTALL RAIN GUTTER AND FLASHING:

(Ref. Figure 1)

- (1). Locate rain gutter on top of door track and drill through any existing holes in door track and cleco in place.
- (2). Drill pilot holes through rain gutter and door track, cleco in place.
- (3). Locate flashing on top of rain gutter aligning front foot over existing three holes in fuselage and placing the inboard edge up under the existing rain gutter.

NOTE: Some hand forming of the flashing is required to make flashing foot contour to fuselage.

- (4). Transfer existing holes from door track, rain gutter, and fuselage to flashing.
- (5). Remove rain gutter and flashing.

NOTE: The three forward rivets attaching the rain gutter to the flashing are not flush rivets.

- (6). Deburr all holes, and countersink all holes in underside of door track to 100°.

CAUTION: Chemical Film



- (7). Apply chemical film to door track rivet holes, rain gutter, and flashing per manufacturers instructions.

CAUTION: Epoxy Primer and Coating



- (8). Paint rain gutter and flashing with primer and allow to dry.

NOTE: Place a bead of sealant under existing rain gutter prior to installation of flashing (Ref. NO TAG view A).

- (9). Rivet rain gutter and flashing to aircraft using same size and type rivets as removed. Install all rivets with wet epoxy primer. All new rivets to remain number three in diameter.

DATE: 17 JUNE 2002
PAGE 4 OF 6

TECHNICAL BULLETIN

CAUTION: Sealing Compound



(Ref. Figure 1)

- (10). Seal all edges with sealant and build a dam of sealant in door track inside flashing overhang.
- (11). Touch up top coat to match aircraft.
- (12). Install NO STEP decal (or equivalent) to upper surface of flashing, two places each side.

3. IDENTIFICATION

N/A

4. DISPOSITION OF PARTS REMOVED

N/A

5. COMPLIANCE RECORD

Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.

TECHNICAL BULLETIN

DATE: 17 JUNE 2002

PAGE 5 OF 6

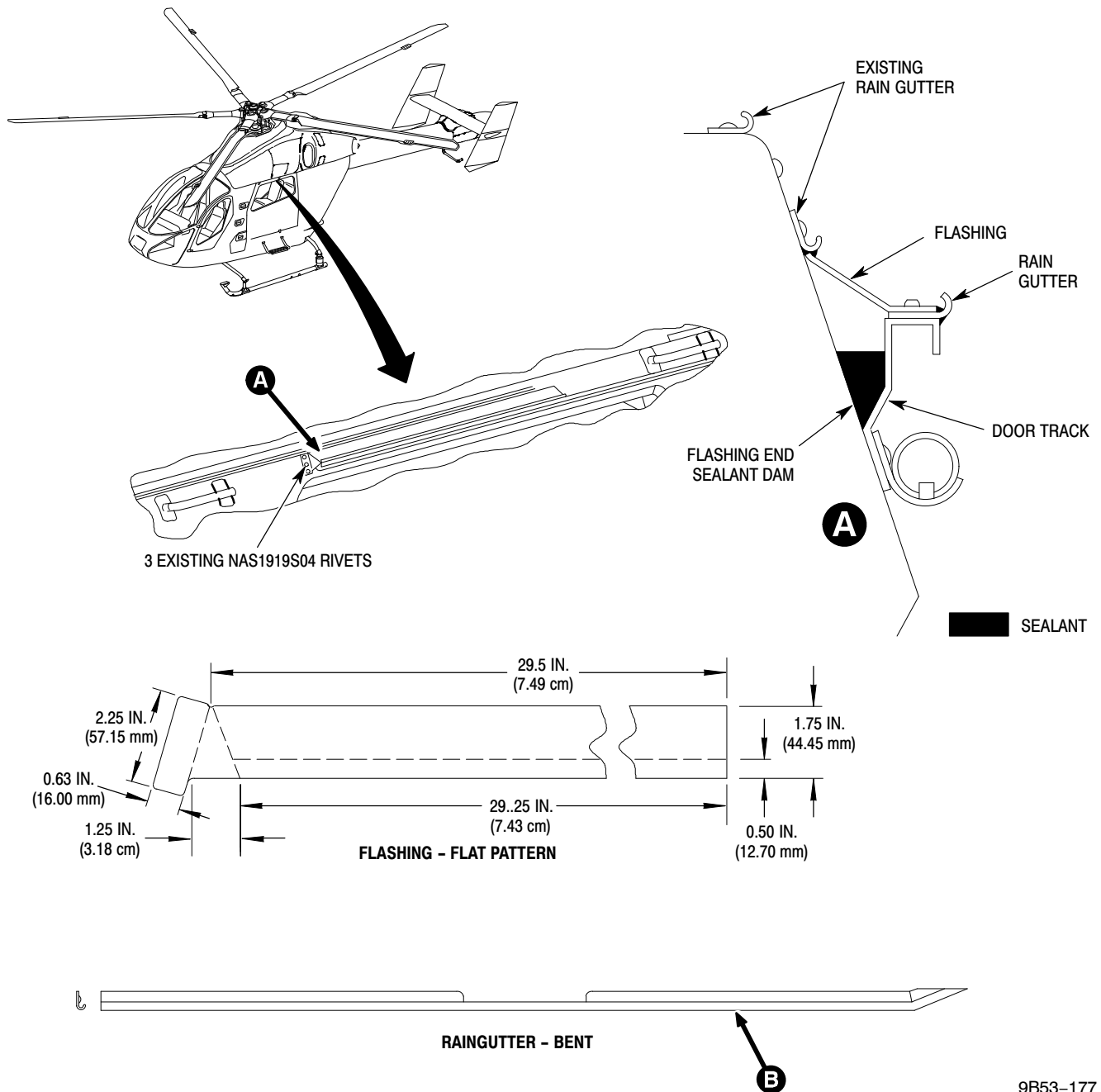


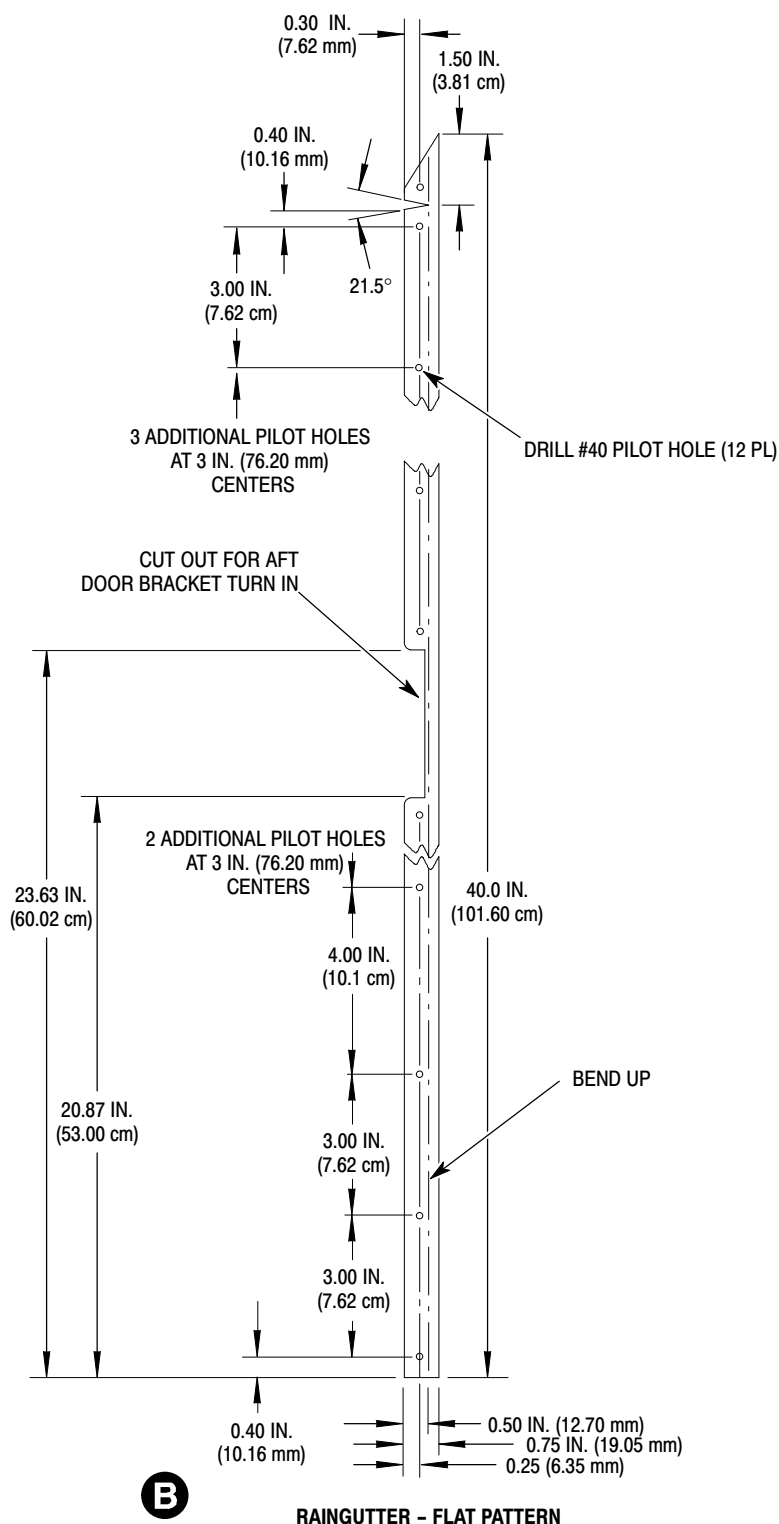
Figure 1. Rain Gutter and Flashing Installation, and Flashing Detail

9B53-177

DATE: 17 JUNE 2002

PAGE 6 OF 6

TECHNICAL BULLETIN



9B53-178

Figure 2. Rain Gutter Flat Pattern

TECHNICAL BULLETIN

DATE: 27 JANUARY 2003

PAGE 1 OF 3

OIL COOLING INLET DUCT MODIFICATION

* Supersedes Service Letter SL900-030, dated 11 April 1997.

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 helicopters, serial numbers 900-00008 thru 900-00089, without roof mounted air conditioning system installed.

MD900 helicopters, serial numbers 900-00077 and subsequent, with roof mounted air conditioning system installed.

B. Assembly/Components Affected By This Bulletin:

Left Side Cooling Inlet Duct (P/N 900D3658050-101, -105, 900P2250348-101), Right Side Cooling Inlet Duct (P/N 900D3658060-101, -105, 900P2250348-102).

C. Reason:

To allow operators to remove debris from in front of the heat exchanger or condenser without removing the cooling inlet ducts.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to adding access holes to the left and right side cooling inlet ducts.

E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

F. Manpower:

4.0 man-hours.

G. Time of Compliance

Customer option, at owner/operator discretion.

H. Interchangeability:

None

I. Material/Part Availability:

Contact MDHI Parts Sales Dept.

PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Hole Plug	11394KM	4	MDHI or Commercial
Sandpaper, #120		AR	Commercial

DATE: 27 JANUARY 2003

PAGE 2 OF 3

TECHNICAL BULLETIN

J. Warranty Policy:

Standard warranty policy applies.

K. Tooling:

1.0 inch (25.4 mm) wood working hole saw.

L. Weight and Balance:

N/A

M. Electrical Load Data:

N/A

N. Other Publications Affected:

Rotorcraft Maintenance Manual (Servicing and Maintenance) (CSP-900RMM-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. Modification**

- (1). Remove forward fairing support assemblies (Ref. CSP-900RMM-2, Section 53-30-00, Forward Fairing Support Assembly Removal).
(Ref. Figure 1)
- (2). Support inboard wall of duct using wood at hole locations. Wood piece should be clamped firmly and be thick enough for adequate support.
- (3). Cut holes using 1.0 inch (25.4 mm) wood working hole saw.
- (4). Remove wood support and use #120 sandpaper to deburr holes. Using sandpaper, open holes as required to allow for plugs to fit.
- (5). Remove all debris and install plugs in holes.
- (6). Install forward fairing support assemblies (Ref. CSP-900RMM-2, Section 53-30-00, Forward Fairing Support Assembly Installation).

3. IDENTIFICATION

N/A

4. DISPOSITION OF PARTS REMOVED

N/A

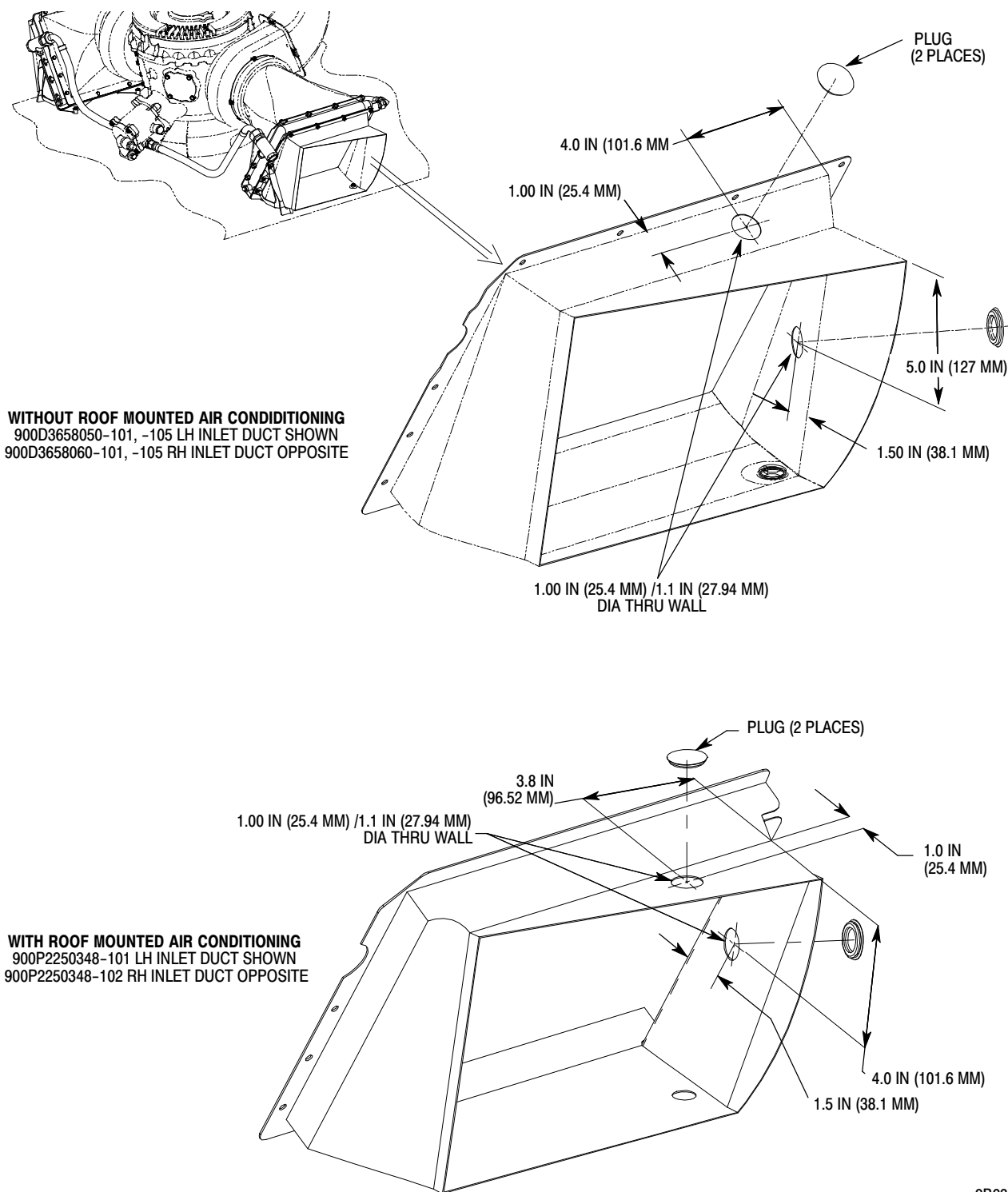
5. COMPLIANCE RECORD

Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.

TECHNICAL BULLETIN

DATE: 27 JANUARY 2003

PAGE 3 OF 3



9B63-187

Figure 1. Oil Cooling Duct Access Holes

TECHNICAL BULLETIN

DATE: 23 APRIL 2003

PAGE 1 OF 4

CABIN DOOR MODIFICATION

1. PLANNING INFORMATION

A. Aircraft Affected:

All MD900 helicopters.

B. Assembly/Components Affected By This Bulletin:

Cabin Door Assembly, LH (P/N 900F7305202-105, -107), Cabin Door Assembly, RH (P/N 900F7305202-106, -108).

C. Reason:

To allow flight with the cabin door(s) open at a sustained speed of up to 100 kts.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to modification of the LH and RH cabin doors to install strengthened upper fittings.

E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

F. Manpower:

6.0 man-hours.

G. Time of Compliance

Customer option, at owner/operator discretion.

H. Interchangeability:

None

I. Material/Part Availability:

Contact MDHI Parts Sales Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Fitting, Upper Cabin Door	900F2305223-111	4	MDHI
Decal, 100 kt Capability	900N2200052-101	4	MDHI
Pin-Rivet, Threaded, Protruding Shear Head, Hex Point	MHS5537V08-4	12	MDHI
Collar-Pin, Rivet, Threaded Al Alloy	MHS5540-08	12	MDHI

DATE: 23 APRIL 2003

PAGE 2 OF 4

TECHNICAL BULLETIN

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Sealant, Conductive (MDM16-1261)	Cho-bond 2165	AR	Chomerics, Inc. 77 Dragon Court Woburn, MA 01801 (781-935-4850)
Cement, Epoxy	EC1300L	AR	3M Co. Bldg. 223-N 3M Center St. Paul MN 55144-1000 (612) 733-1110 (800) 362-3550
Epoxy, Clear	Epibond 1217	AR	Vantico, Inc. 4917 Dawn Avenue East Lansing MI 48823 (800) 367-8793

J. Warranty Policy:

Standard warranty policy applies.

K. Tooling:

N/A

L. Weight and Balance:

MODIFICATION	WEIGHT Pounds (kg)	LONGITUDINAL ARM Inches (cm)	LATERAL ARM Inches (cm)
Cabin Door Modification	0.8 (0.363)	189.35 (480.95)	0 (0)

M. Electrical Load Data:

N/A

N. Other Publications Affected:

Illustrated Parts List (CSP-900IPL-4)

CSP-900RFM-1, Rotorcraft Flight Manual (900 Configuration with PW206A).

CSP-900ERFM-1, Rotorcraft Flight Manual (900 Configuration with PW206E S/N 0041 & 0042).

CSP-900RFM207E-1, Rotorcraft Flight Manual (900 Configuration with PW207E).

CSP-902RFM-1, Rotorcraft Flight Manual (902 Configuration with PW206E).

CSP-902RFM207E-1, Rotorcraft Flight Manual (902 Configuration with PW207E).

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.

TECHNICAL BULLETIN

DATE: 23 APRIL 2003

PAGE 3 OF 4

2. ACCOMPLISHMENT INSTRUCTIONS

A. Modification

- (1). Remove cabin doors (Ref. CSP-900RMM-2, Section 52-00-00, Cabin Door Assembly Removal).
- (2). Remove and retain components from upper door fittings (Ref. CSP-900RMM-2, Section 52-00-00, Door Upper Fitting Components Removal).
- (3). Remove upper door fittings from cabin doors. Retain washers and laminated washers, discard pin rivets and collars.
- (4). Install new upper fittings on cabin doors using new pin rivets and collars and retained washers and laminated washers. Install pin rivets in forward fittings wet with conductive sealant.
- (5). Touch up finish, if required (Ref. CSP-SPM, Section 20-30-00, Application of Epoxy Primer (MIL-P-85582, Type 1, Class 2)).
- (6). Apply topcoat to new upper fittings and touched up areas (Ref. CSP-SPM, Section 20-30-00, Application of Polyurethane Coating (MIL-C-83286) or Application of Finish Enamel Coating (MDM15-1100)).
- (7). Install retained components on upper door fittings (Ref. CSP-900RMM-2, Section 52-00-00, Door Upper Fitting Components Installation).
- (8). Install 100 kt Capability decals.
 - (a). Install one decal on each upper door fitting using epoxy cement per manufacturer's instructions.
 - (b). Apply clear epoxy to placard per manufacturer's instructions.
- (9). Install cabin doors (Ref. CSP-900RMM-2, Section 52-00-00, Cabin Door Assembly Installation).

3. IDENTIFICATION

N/A

4. DISPOSITION OF PARTS REMOVED

Scrap

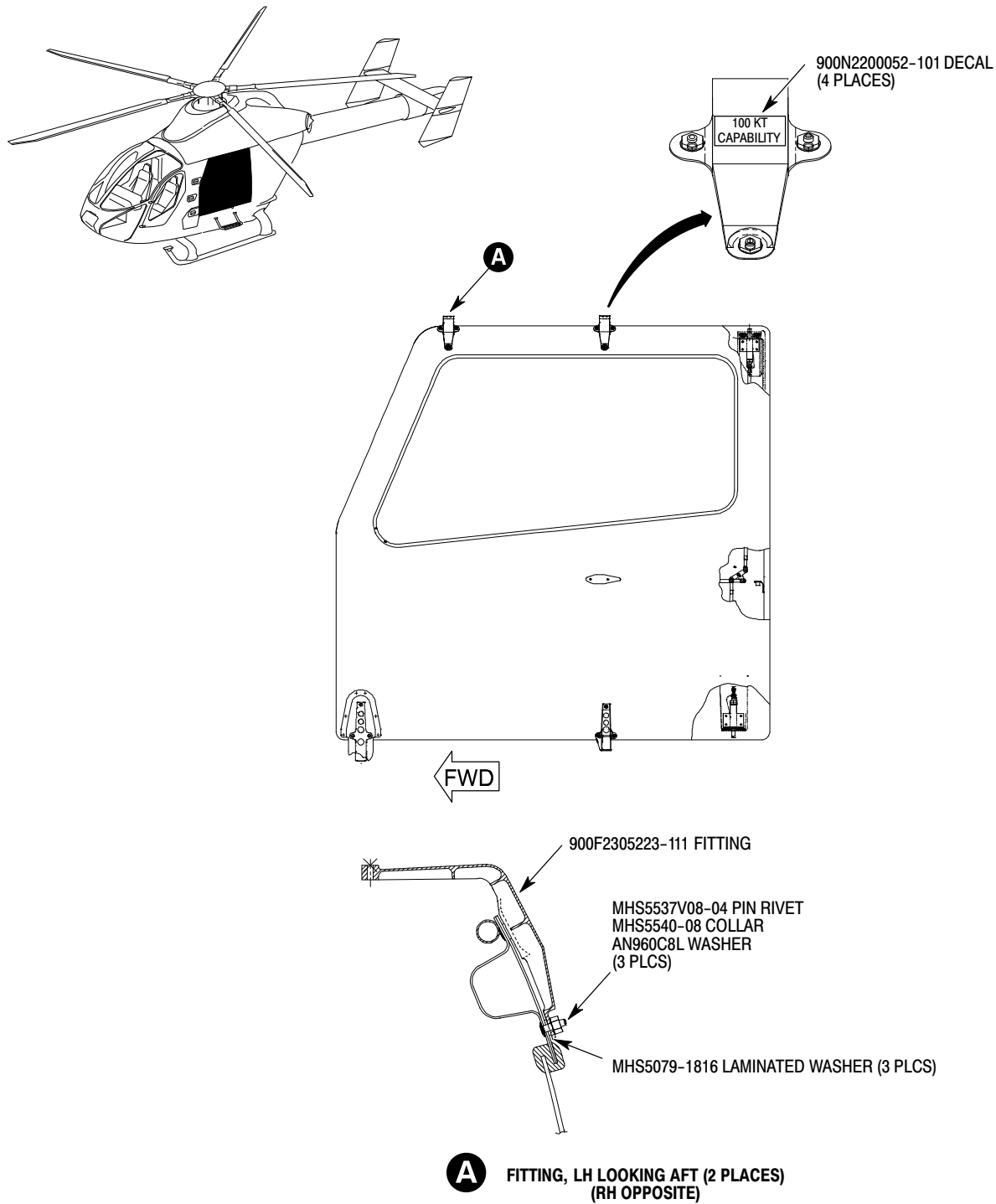
5. COMPLIANCE RECORD

Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.

DATE: 23 APRIL 2003

PAGE 4 OF 4

TECHNICAL BULLETIN



9B52-185

Figure 1. Cabin Door Modification

TECHNICAL BULLETIN

DATE: 14 AUGUST 2003

PAGE 1 OF 15

* Supersedes TB900-025R1, dated 5 May 2003. Revised to correct quantity of replacement parts/supplies, generator TSO approval level and temperature conversion errors, and to extend effectivity, incorporate release of Goodrich Generator Modification Service Bulletin, and add special tools.

GENERATOR COOLING MODIFICATION

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 helicopters serial numbers 900-00008 thru 900-00117 equipped with PW 207E engines. The generator modification described in paragraph 2.C.(2). may only be applied to serial numbers 900-00012, 900-00091, 900-00092, 900-00105, 900-0107, 900-00108.

B. Assembly/Components Affected By This Bulletin:

Swashplate Forward Fairing (P/N 900F2611300-103, 900F2611350-101, -103, 900F6611350-103), Starter Generator (P/N 23081-056).

C. Reason:

To increase the outside air temperature operating envelope to 125° F (51.7° C) at sea level.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to installing generator cooling scoops on the forward swashplate fairing and cooling ducts between the scoops and the starter generators. (Ref. MDHI Modification Drawing 900P5620210-101.)

E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

F. Manpower:

14 man-hours.

G. Time of Compliance

Customer option, at owner/operator discretion. Generators modified per paragraph 2.C.(2) shall be modified to 23081-070 configuration per Goodrich Corp. Power System Service Bulletin 23081-056-24-01 at next major starter/generator maintenance, no later than next overhaul.

H. Interchangeability:

None

I. Material/Part Availability:

Contact MDHI Parts Sales Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Screen, ECS Air Inlet	900F2611304-103	2	MDHI
Scoop, Vent Air Inlet	900P2250101-101	2	MDHI

DATE: 14 AUGUST 2003

PAGE 2 OF 15

TECHNICAL BULLETIN

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Duct, Generator Cooling	900P3620212-101	2	MDHI
Clamp	MS21919WDG48	4	MDHI/Commercial
Washer	NAS1149C0332B	12	MDHI/Commercial
Washer	NAS1149D0332K	12	MDHI/Commercial
Screw	MS51958-68	12	MDHI/Commercial
Clamp	NAS1922-0275-1	2	MDHI/Commercial
Clamp	MS21919WDG24	2	MDHI/Commercial
Clamp	MS21919WDG30	2	MDHI/Commercial
Screw	NAS1801-3-13	4	MDHI/Commercial
Nut	AN315-3R	4	MDHI/Commercial
Nut	MS21042L3	4	MDHI/Commercial
Cloth, Glass, Finished, 120 Style, for Epoxy Laminates (MIL-C-9084, Type 3, Class 2)	MRM011849	288 Sq In.	MDHI or Commercial
Adhesive, Epoxy (MDM16-1068, Class 9B)	EA9394	AR	MDHI or Dexter Adhesive & Coating Systems 2850 Willow Pass Rd P.O. Box 312 Bay Point, CA 94565-0031 (925) 458-8000 (800) 424-9300
Epoxy, Clear	Epibond 1217	AR	Vantico, Inc. 4917 Dawn Avenue East Lansing MI 48823 (800) 367-8793
Primer, Epoxy (MIL-P-85582, T1, Class C2 or MIL-P-23377, T1)		AR	Deft Inc. 17451 Von Karman Avenue Irvine, CA 92614-6295 (800) 544-3338 (949) 474-0400

TECHNICAL BULLETIN

DATE: 14 AUGUST 2003
PAGE 3 OF 15

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Fabric, Plain Weave, Dry Std Mod, Carbon (MDM16-1163, Type 2, Class 1, Grade B)	MRM012116	2016 Sq In.	MDHI or AMOCO Polymer 4500 McGinnis Ferry Rd Alpharetta, GA 30202 (770) 772-8200 Cytec Fiberite Inc. 4300 Jackson St Greenville, TX 75401 (903) 457-8532 Fiberite 501 W. 3rd Street Winona, MN 55987 (507)454-3611
Resin, Epoxy (MDM16-1115, Type 3)	MRM013546 (40 oz or less) Redux 501 (Araldite 501)	1	MDHI or Vantico Inc. 5124 San Fernando Rd Los Angeles, CA 90038 (800) 367-8793
Adhesive/Sealant, RTV, Silicone (MDM16-1118, Type 1, Class 3)	MRM010312 (3 oz tube) Silastic 730	1	MDHI or Dow Corning Midland, MI (517) 496-5900
Sandpaper, 180 grit		AR	MDHI/Commercial
Acetone (O-A-51)		AR	MDHI/Commercial
Sealing Compound (fuel resistant) (MDM16-1097, T2, Class B)		AR	Advanced Chemistry & Technology, Inc 7341 Anaconda Avenue Garden Grove, CA 92841 (714) 373-2837
*Inlet, Air	23081-1092	2	MDHI
**Starter/Generator	23081-070	2	MDHI

* Air Inlets are required only when starter/generators are modified by this Bulletin.

** Existing P/N 23081-056 starter/generators may be modified to P/N 23081-070 by performing Goodrich Corp. Power Systems Service Bulletin 23081-056-24-01 which adds the air inlets.

DATE: 14 AUGUST 2003

PAGE 4 OF 15

TECHNICAL BULLETIN

J. Warranty Policy:

N/A

K. Tooling:

Use of the following tools is optional. Contact MDHI Field Service Department for availability.

TOOLS AND EQUIPMENT	
Nomenclature	Source
Scoop Cutout Location Tool (P/N 900F2611301-107-TDF1-1)	MDHI
Scoop Cutout Location Tool (P/N 900F2611301-107-TDF2-1)	MDHI

L. Weight and Balance:

N/A

M. Electrical Load Data:

N/A

N. Other Publications Affected:

Rotorcraft Maintenance Manual (CSP-900RMM-2)
 Illustrated Parts List (CSP-900IPC-4)
 Rotorcraft Flight Manual (900 Config w/ PW207E) (CSP-900RFM207E-1)
 Rotorcraft Flight Manual (902 Config w/ PW207E) (CSP-902RFM207E-1)

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. Modify Swashplate Forward Fairing Assembly 900F2611300-103)**

(Ref. Figure 1)

- (1). Remove swashplate forward fairing (Ref. CSP-900RMM-2, Section 53-30-00, Swashplate Forward Fairing Assembly Removal).



Use care when removing inner skin and honeycomb from fairing to prevent damage to outer skin.

- (2). Remove inner skin and honeycomb from fairing, as shown in Section B-B.
- (3). Pot area with epoxy adhesive per manufacturer's instructions.
- (4). Sand reworked area with 180 grit sandpaper.

TECHNICAL BULLETIN

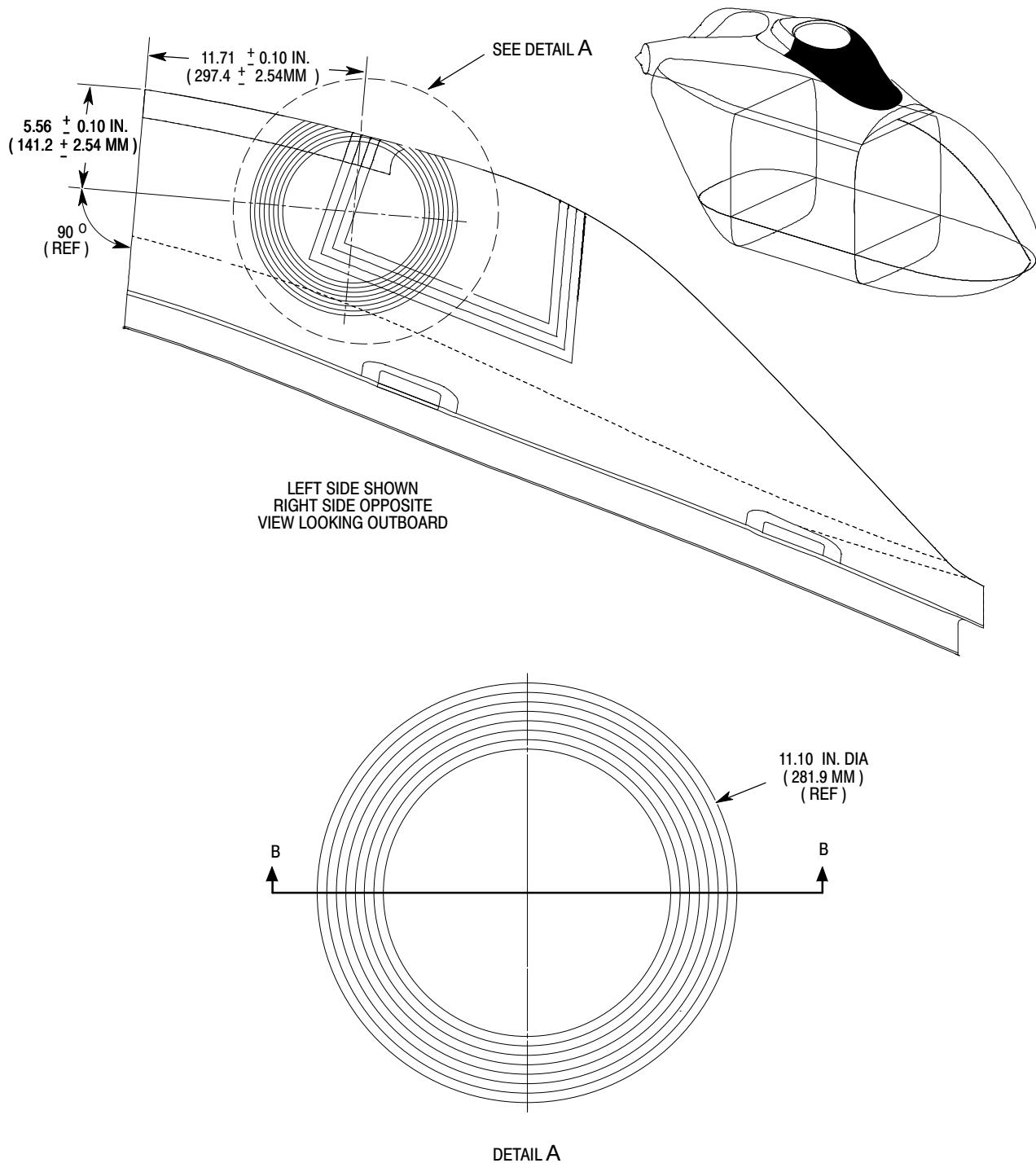
DATE: 14 AUGUST 2003

PAGE 5 OF 15

- (5). Solvent wipe reworked area with acetone until no residue is present on clean cloth.
- (6). Cut seven pieces of carbon fabric (ply numbers -281 through -293) and one piece of glass cloth (ply number -295) to dimensions shown in Figure 1, Section B-B.
- (7). Prepare epoxy resin per manufacturer's instructions.
- (8). Wet layup each ply in order and orientation shown.
- (9). Vacuum bag and apply **20-29 in. HG (63-91 kPa)**.
- (10). Cure for 12 hours at room temperature (**80°F ± 10°F (26.6°C ± 6°C)**).

DATE: 14 AUGUST 2003

PAGE 6 OF 15

TECHNICAL BULLETIN

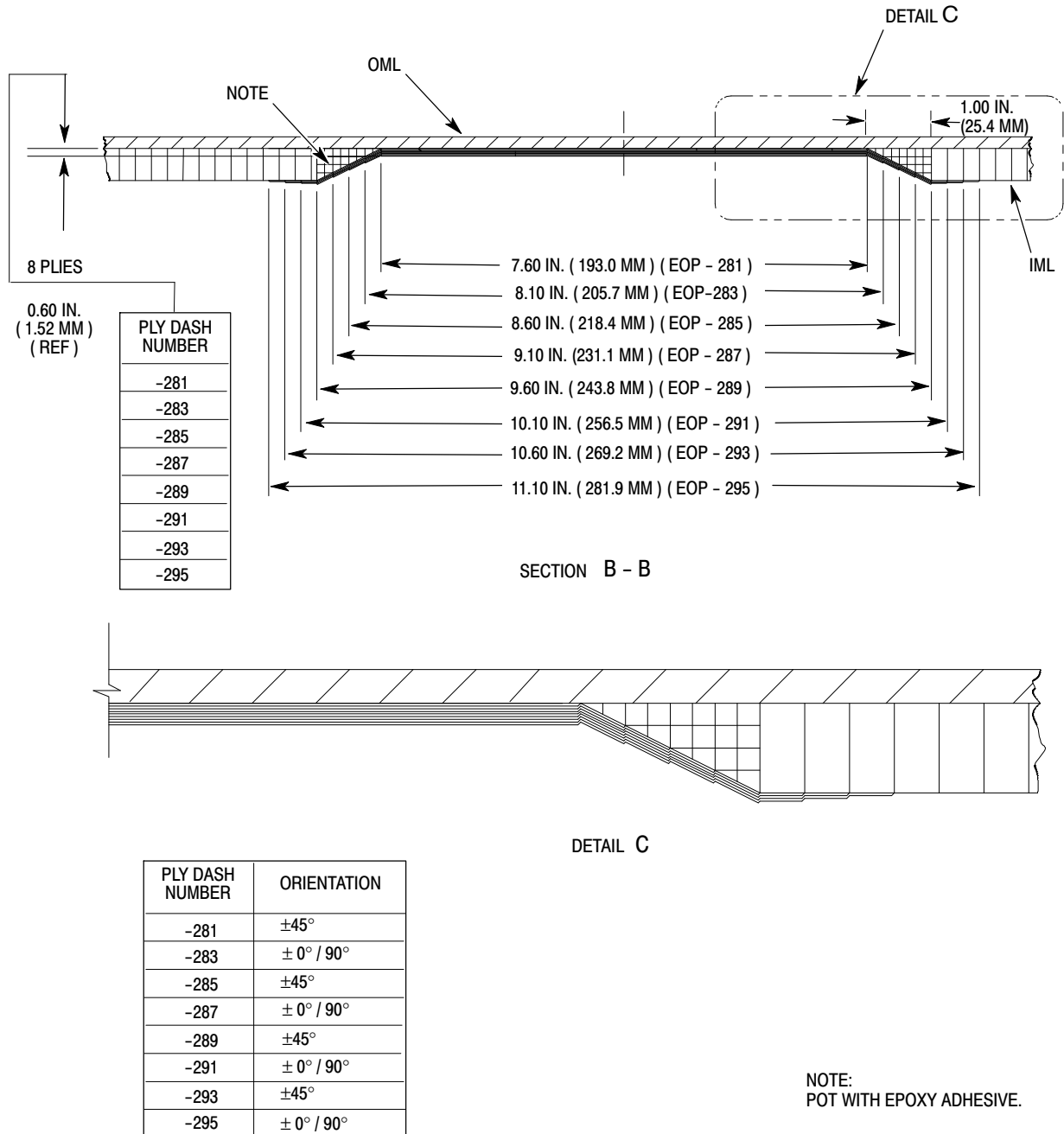
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**Figure 1. Swashplate Forward Fairing (P/N 900F2611300-103) Modification
(Sheet 1 of 2)**

TECHNICAL BULLETIN

DATE: 14 AUGUST 2003

PAGE 7 OF 15



9B71-180-2

Figure 1. Swashplate Forward Fairing (P/N 900F2611300-103) Modification (Sheet 2 of 2)

DATE: 14 AUGUST 2003

PAGE 8 OF 15

TECHNICAL BULLETIN

B. Modify Swashplate Forward Fairing Assembly 900F2611350-101, -103, 900F6611350-103)

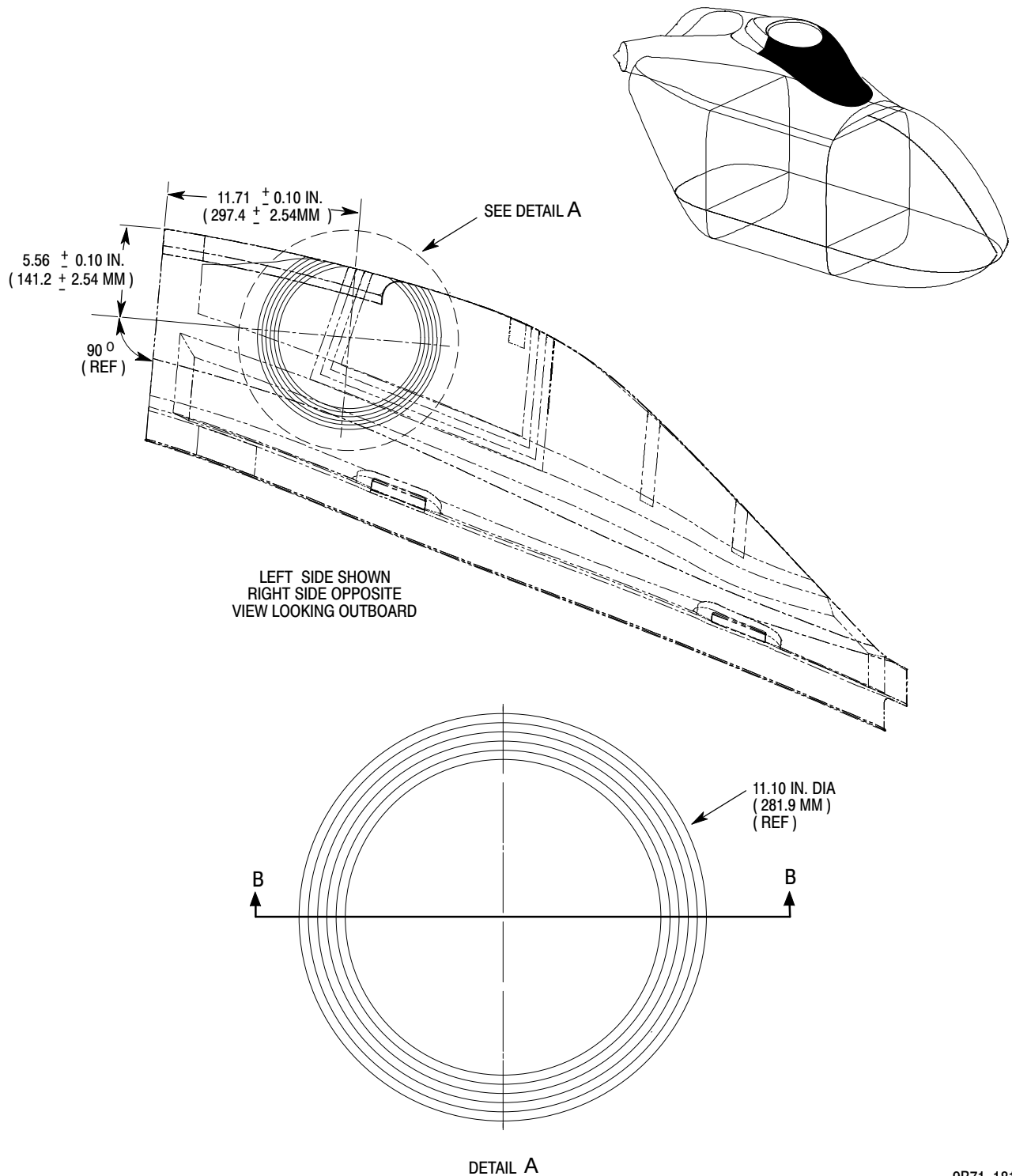
(Ref. Figure 2)

- (1). Remove swashplate forward fairing (Ref. CSP-900RMM-2, Section 53-30-00, Swashplate Forward Fairing Assembly Removal).
- (2). Sand rework area with 180 grit sandpaper.
- (3). Solvent wipe rework area with acetone until no residue is present on clean cloth.
- (4). Cut five pieces of carbon fabric (ply numbers -261 through -269) and one piece of glass cloth (ply number -271) to dimensions shown in Figure 2, Section B-B.
- (5). Prepare epoxy resin per manufacturer's instructions.
- (6). Wet layup each ply in order and orientation shown.
- (7). Vacuum bag and apply **20-29 in. HG (63-91 kPa)**.
- (8). Cure for 12 hours at room temperature (**80°F ± 10°F (26.6°C ± 6°C)**).

TECHNICAL BULLETIN

DATE: 14 AUGUST 2003

PAGE 9 OF 15



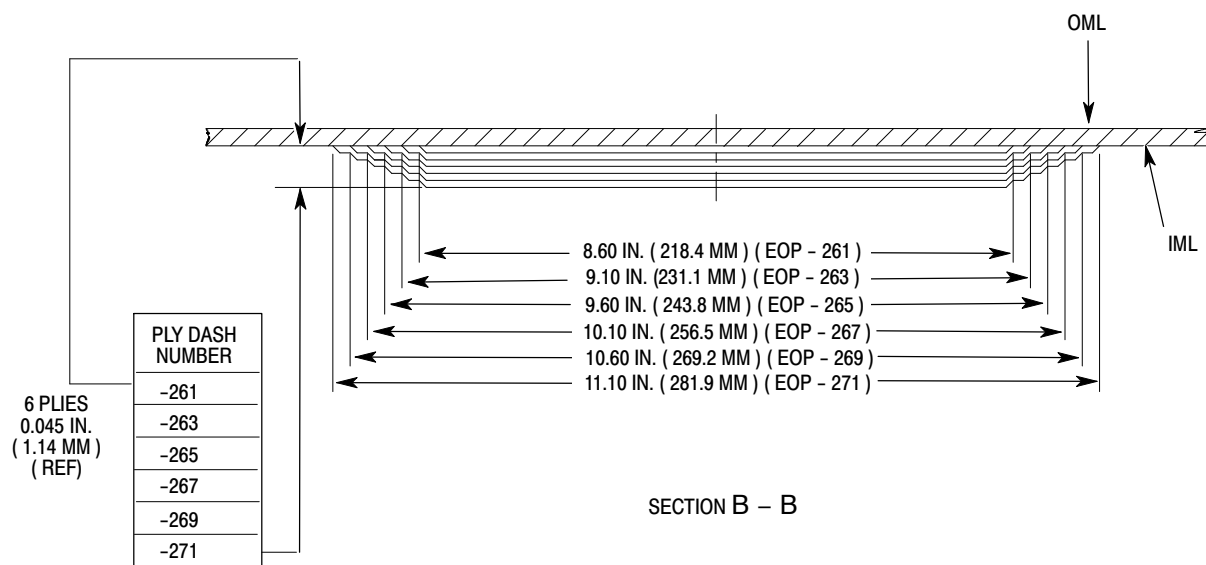
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**Figure 2. Swashplate Forward Fairing (P/N 900F2611350-101, -103, 900F6611350-103)
Modification (Sheet 1 of 2)**

DATE: 14 AUGUST 2003

PAGE 10 OF 15

TECHNICAL BULLETIN



PLY DASH NUMBER	ORIENTATION
-261	±45°
-263	± 0° / 90°
-265	±45°
-267	± 0° / 90°
-269	±45°
-271	± 0° / 90°

9B71-181-2

Figure 2. Swashplate Forward Fairing (P/N 900F2611350-101, -103, 900F6611350-103) Modification (Sheet 2 of 2)

TECHNICAL BULLETIN

DATE: 14 AUGUST 2003

PAGE 11 OF 15

C. Replace or Modify Starter/Generators

NOTE: The existing starter/generators must either be replaced or modified, as described below.

- (1). Replace starter/generators.
 - (a). Remove P/N 23081-056 starter/generators (Ref. CSP-900RMM-2, Section 71-00-00, Starter/Generator Removal).
 - (b). Install P/N 23081-070 starter/generators (Ref. CSP-900RMM-2, Section 71-00-00, Starter/Generator Installation).
- (2). Modification to existing starter/generators, if P/N 23081-070 starter/generators are not available. The modification described below, that is done in advance of the manufacturer's TSO-C56 FAA updated approval, is limited to Model 900 serial numbers 00012, 00091, 00092, 0105, 0107, and 0108 ONLY.
 - (a). Remove engine cowling assemblies L260 and R260 (Ref. CSP-900RMM-2, Section 53-30-00, Engine Cowl Assembly Removal).
 - (b). Remove and retain screws holding existing P/N 23081-1571 air inlet to each starter/generator and remove air inlet.
 - (c). Install new P/N 23081-1092 air inlet on each starter/generator using retained screws.
 - (d). Identify modified starter/generators.
 - 1). Permanent mark starter/generator housing with the following: "MODIFIED IAW MDHI TB900-025".
 - 2). Seal marking with clear epoxy per manufacturer's instructions.
 - 3). At next major starter/generator maintenance, no later than next overhaul, modify starter/generator to TSO-C56 FAA approved 23081-070 configuration in accordance with Goodrich Corp. Power Systems Service Bulletin 23081-056-24-01.
 - (e). Install engine cowling assemblies L260 and R260 (Ref. CSP-900RMM-2, Section 53-30-00, Engine Cowl Assembly Installation).

D. Cut Holes in Modified Swashplate Forward Fairing Assemblies

(Ref. Figure 3)

NOTE: Cutouts for cooling ducts may be located as shown in Figure 3, View E or by using scoop cutout location tools (P/N 900F2611301-107-TDF1-1 and 900F2611301-107-TDF2-1).

- (1). After layup has cured, locate and trim cooling duct cutouts on fairing.
- (2). Match drill cooling duct attachment holes in fairing.
- (3). Edge seal with adhesive/sealant.
- (4). Apply epoxy primer to reworked area.
- (5). Permanent mark modified swashplate forward fairing assemblies adjacent to part number with the following: "MODIFIED IAW MDHI TB900-025".
- (6). Seal marking with clear epoxy per manufacturer's instructions.

DATE: 14 AUGUST 2003

PAGE 12 OF 15

TECHNICAL BULLETIN

E. Install Cooling Ducts

NOTE: The following steps apply to both left and right cooling ducts.

- (1). Place cooling duct in position as shown. Route duct to clear rotating swashplate travel and mark low point of duct.
- (2). Remove duct.
- (3). Insert block of wood inside of duct at marked low point.
- (4). Punch a **0.38 in. (9.6 mm)** hole in duct to prevent water build up.
- (5). Remove block of wood.
- (6). Place cooling duct in position as shown.
- (7). Install one NAS1922-0275-1 clamp on aft end of cooling duct.
- (8). Install aft end of cooling duct on starter/generator air inlet and secure with clamp.
- (9). Install swashplate forward fairing, except do not install forward access doors, L155 and R155, and transmission access doors, L210 and R210 (Ref. CSP-900RMM-2, Section 53-30-00, Swashplate Forward Fairing Assembly Installation).
- (10). Position scoop on fairing as shown and match drill six holes in scoop.
- (11). Paint scoop and visible portion of duct flange to match aircraft color.
- (12). Insert six MS51958-68 screws with six NAS1149C0332B washers into holes in fairing from outside of fairing.
- (13). Position scoop, screen and cooling duct flange on fairing from inside and tighten screws. Ensure that scoop fits flush with inside of fairing.
- (14). Secure cooling duct to struts with MS21919WDG48, MS21919WDG30 and MS21919WDG24 clamps, NAS1801-3-13 screws, NAS1149D0332K washers, AN315-3R nuts and MS21042L3 nuts, as shown.
- (15). Fillet seal fairing, scoop and duct, as required, with sealing compound per manufacturer's instructions.

3. IDENTIFICATION

Identify modified starter/generators as directed in the Accomplishment Instructions in this Bulletin.

4. DISPOSITION OF PARTS REMOVED

N/A

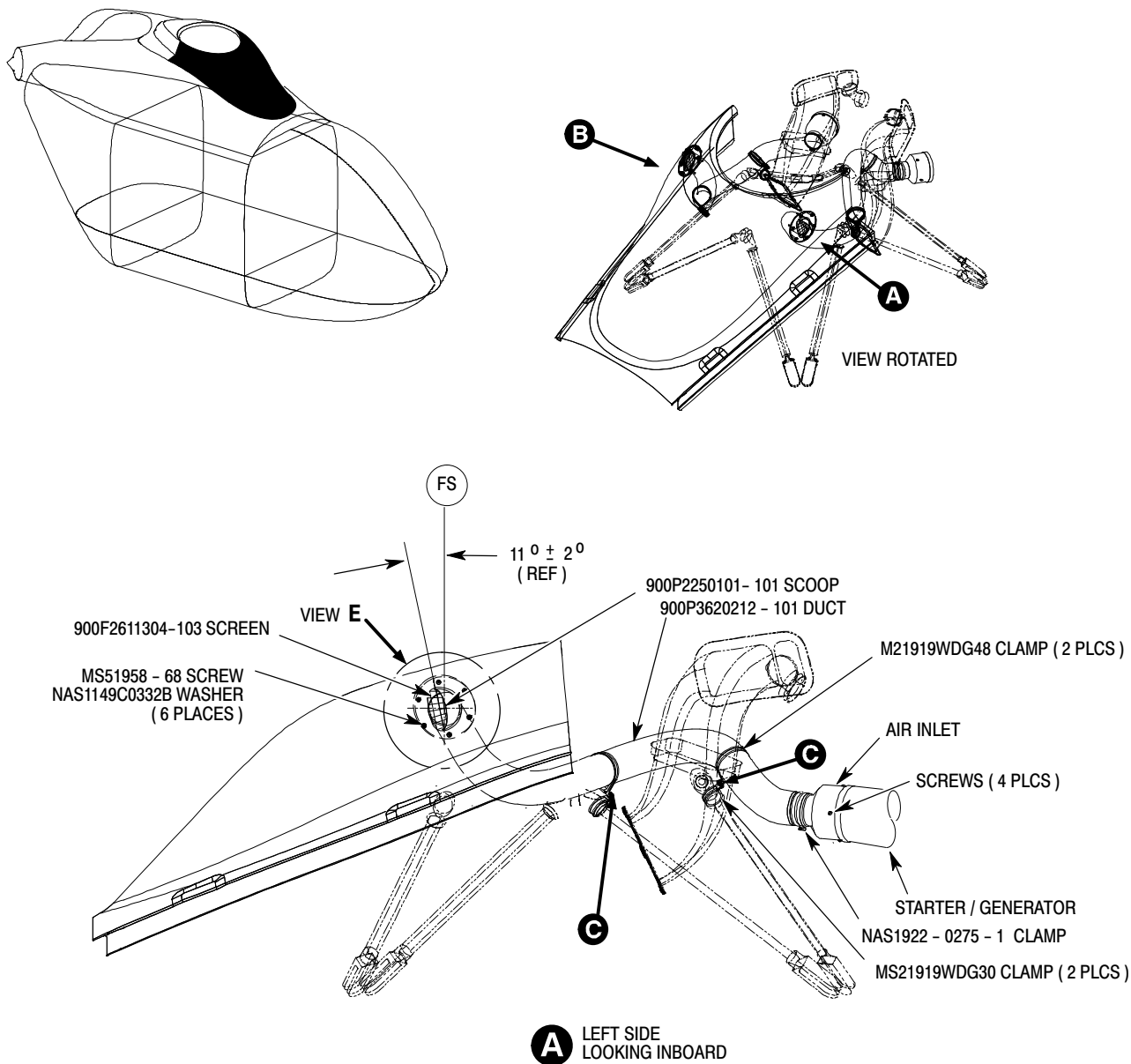
5. COMPLIANCE RECORD

Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.

TECHNICAL BULLETIN

DATE: 14 AUGUST 2003

PAGE 13 OF 15



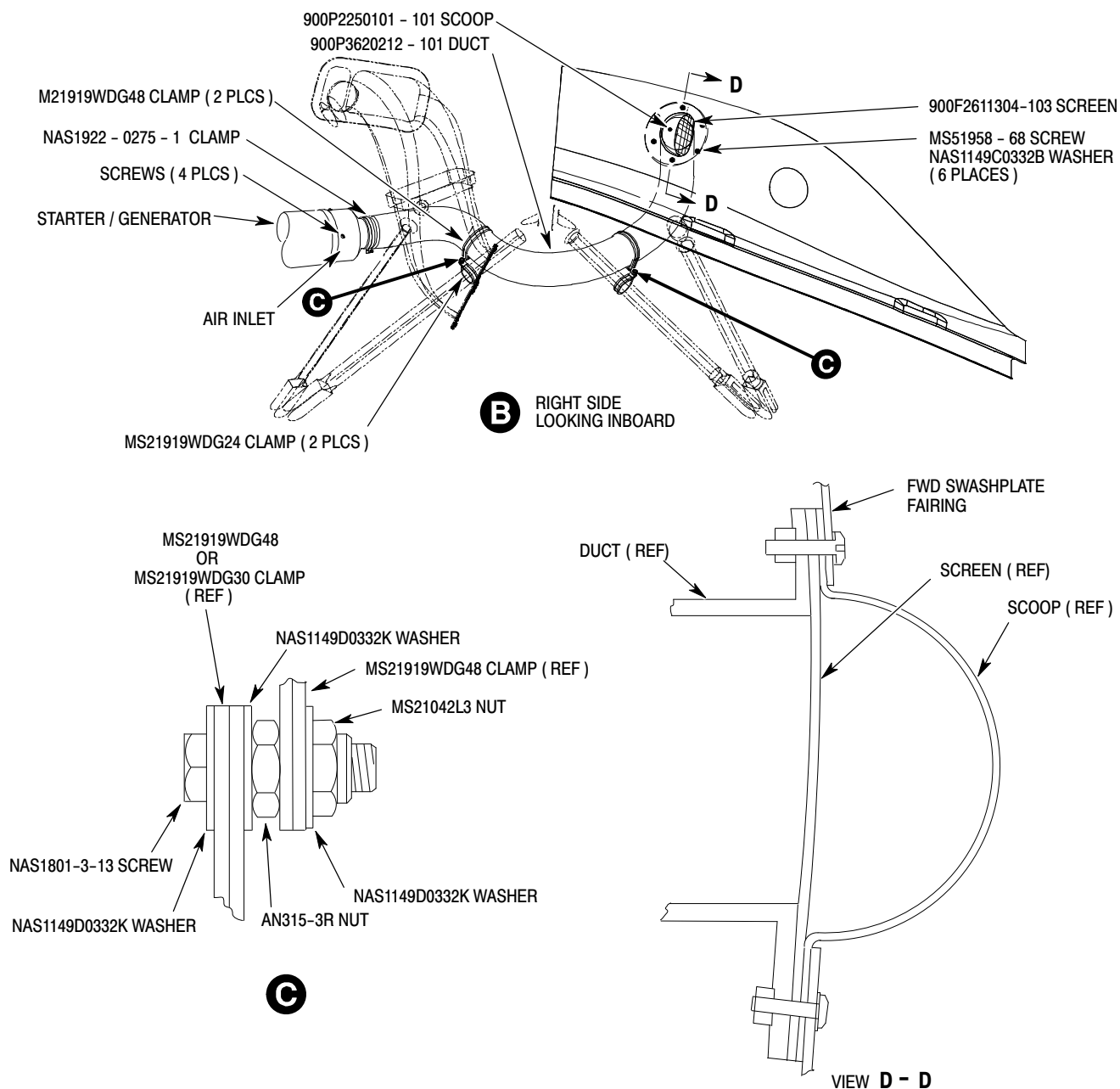
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Figure 3. Installation of Cooling Ducts (Sheet 1 of 3)

DATE: 14 AUGUST 2003

PAGE 14 OF 15

TECHNICAL BULLETIN



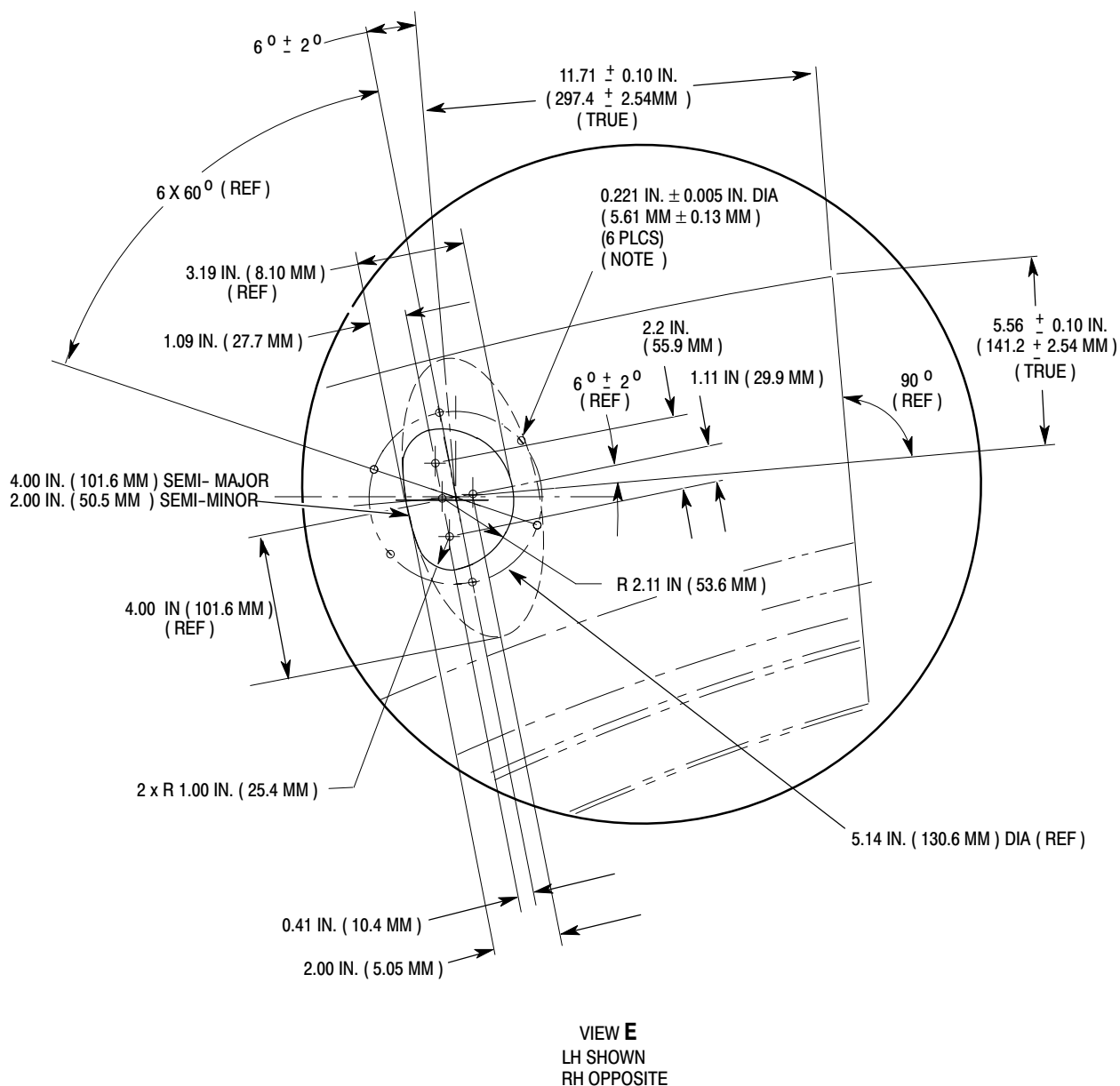
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Figure 3. Installation of Cooling Ducts (Sheet 2 of 3)

TECHNICAL BULLETIN

DATE: 14 AUGUST 2003

PAGE 15 OF 15



NOTE: MATCH DRILL TO GENERATOR
COOLING DUCT (P/N 900P3620212-101)

9B71 - 182 - 3

Figure 3 Installation of Cooling Ducts (Sheet 3 of 3)

TECHNICAL BULLETIN

DATE: 27 MAY 2003

PAGE 1 OF 2

SUPPLEMENTAL FUEL CELL (CHECK VALVE) MODIFICATION

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 helicopters, serial numbers 900-00015, 900-00041, 900-00042, 900-00047, 900-00052, 900-00071, 900-00077, 900-00082, 900-00083, 900-00086, 900-00087, 900-00088, 900-00091, 900-00092, 900-00093, 900-00094, 900-00095, 900-00096, 900-00097, 900-00098, 900-00099, 900-00104, 900-00105, 900-00107, 900-00108, and 900-00113.

B. Assembly/Components Affected By This Bulletin:

Supplemental Fuel Cell Installation (P/N 900PG663000-101).

C. Reason:

There have been field reports of uncommanded fuel transfer from the supplemental fuel cell to the main fuel tank.

Failure to comply with this Bulletin may result in fuel transfer from the supplemental fuel cell to the main fuel tank when the transfer pump is off.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to installation of a check valve inside of the supplemental fuel cell.

E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

F. Manpower:

2.5 man-hours.

G. Time of Compliance

Customer option, at owner/operator discretion.

H. Interchangeability:

None

I. Material/Part Availability:

Contact MDHI Parts Sales Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Washer, Flat	NAS1149D1216J	3	MDHI
Washer, Flat	NAS1149D1290J	1	MDHI

DATE: 27 MAY 2003

PAGE 2 OF 2

TECHNICAL BULLETIN

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Valve, Check	859A-8TB	1	MDHI
Hose, Pump to Aux Cell Outlet	900PG663006-103	1	MDHI
Packing, Preformed	MS29512-08	1	MDHI
Packing, Preformed, Hydrocarbon Fuel Res, O-Ring	MS29513-270	1	MDHI

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:

Illustrated Parts List (CSP-900IPL-4)
 Rotorcraft Maintenance Manual (CSP-900RMM-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. Supplemental Fuel Check Valve Modification**

- (1). Install check valve, hose, washers and packings in supplemental fuel cell (Ref. CSP-900RMM-2, Section 28-10-00, Supplemental Fuel Check Valve Modification).

3. IDENTIFICATION

N/A

4. DISPOSITION OF PARTS REMOVED

Scrap

5. COMPLIANCE RECORD

Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.

TECHNICAL BULLETIN

DATE: 06 MARCH 2008

PAGE 1 OF 6

* Supersedes Technical Bulletin TB900-027, dated 23 June 2006. Revised to change aircraft affected, warranty policy, replacement parts/supplies, to show the different configurations of the external power box assembly, correct references, and add compliance recording form. Aircraft that are in compliance with Technical Bulletin TB900-027 meet the intent of this revision.

ELECTRICAL NOISE SUPPRESSION MODIFICATION

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 helicopters, serial numbers 900-00008 thru 900-00124.

B. Assembly/Components Affected By This Bulletin:

Battery/Ext Power Relay Assembly (P/N 900E2750614-101, -103), Hover/Landing Light Relay Assembly (P/N 900E2750615-101), External Power Box Assembly (P/N 900E2750610-117, -119) with MS24166-D2 relay installed, and Forward Equipment Installation (P/N 900E7750011-101).

C. Reason:

Electromagnetic Interference (EMI) affecting a customer optional, non flight essential electronic display system in an MD900 helicopter has been reported. The source of the EMI has been identified as a relay in the hover/landing light relay assembly. The same type of relay is used in other helicopter systems. This Bulletin adds electrical noise suppression to the subject relays.

Failure to comply with this Bulletin may result in EMI affecting any temporary electronic equipment that involves the use of low level signal wiring, especially life support medical equipment.

D. Description:

Procedures in this Bulletin provide owners and operators with information pertaining to installation of a transorb across the coil of the affected relays.

E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

F. Manpower:

Helicopters with forward battery installation: 1 man-hour for one transorb, 2 man-hours for two transorbs, and 5 man-hours for five transorbs.

Helicopters with aft battery installation: 4 man-hours.

G. Time of Compliance

Customer option, at owner/operator discretion. MDHI highly recommends that this modification be accomplished.

H. Interchangeability:

None

DATE: 06 MARCH 2008

PAGE 2 OF 6

TECHNICAL BULLETIN

I. Material/Part Availability:

Contact MDHI Warranty and Repair Department.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Transzorb Assembly	TB900-027-1	As Necessary	MDHI

J. Warranty Policy:

The MDHI Warranty and Repair Dept. will provide all parts at no cost to the operator. MDHI will also provide, to authorized Service Centers, up to 5 hours of labor warranty (spares credit) for transzorb installation.

Submit to MDHI Warranty and Repair Department, the "Bulletin Compliance Recording Form" completed and signed with the part invoice attached, within 30 days after accomplishing this Technical Bulletin or no later than 31 May 2008.

K. Tooling:

N/A

L. Weight and Balance:

N/A

M. Electrical Load Data:

N/A

N. Other Publications Affected:

Illustrated Parts List (CSP-900IPL-4)
 Rotorcraft Maintenance Manual (CSP-900RMM-3)

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. External Power Box Assembly (A610) Modification (Serial Numbers 900-00052 thru 900-00124).

NOTE:

- The external power box assembly (A610) is used with the forward battery installation.
- There are three different external power box assembly configurations. The three configurations are with no MS24166-D2 relay, one MS24166-D2 relay, or four MS24166-D2 relays.

- (1). Look at the external power box assembly to find if transzorbs are necessary (Ref. Figure 1).

NOTE:

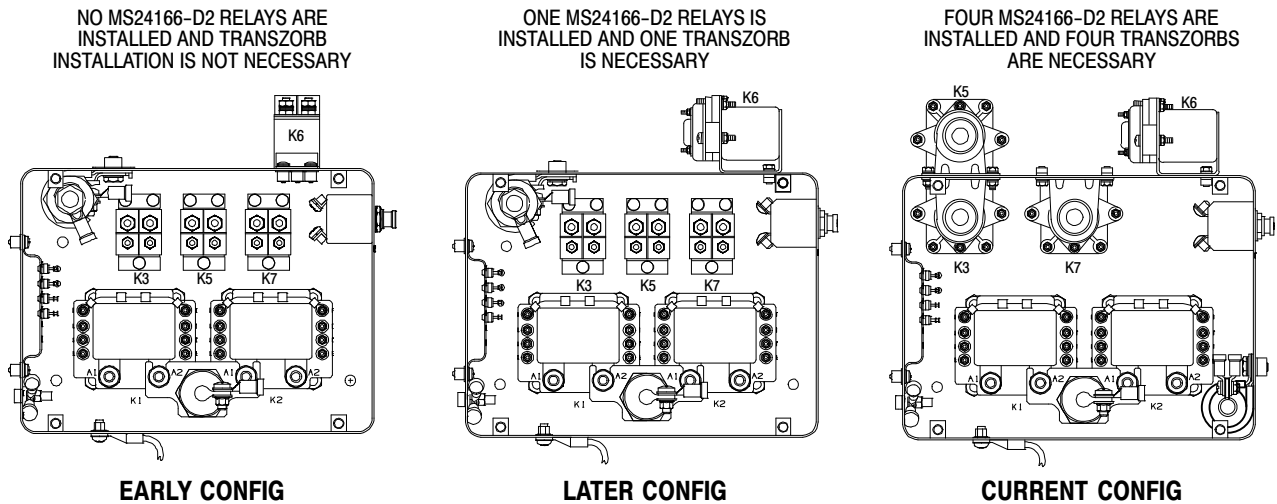
- Transzorbs are not necessary for the **EARLY CONFIG** external power box assembly.
- It is not necessary to remove the external power box assembly if it is the **LATER CONFIG**.

TECHNICAL BULLETIN

DATE: 06 MARCH 2008

PAGE 3 OF 6

- (2). If necessary, remove external power box assembly (Ref. CSP-900RMM-3, Section 96-00-00, External Power Box Assembly Removal).
- (3). Find relays K3, K5, K6, and K7 and if necessary, install transzorb on relay (Ref. Figure 2).
- (4). If necessary, install external power box assembly (Ref. CSP-900RMM-3, Section 96-00-00, External Power Box Assembly Installation).



9B96-194

Figure 1. External Power Box Assembly Relay Configurations

B. Hover/Landing Light Relay Assembly (A615) Modification (Serial Numbers 900-00052 thru 900-00124).

NOTE: The hover/landing light relay assembly (A615) is used with the aft battery installation.

- (1). Verify all power is removed from helicopter (Ref. CSP-900RMM-3, Section 96-00-00, Power Off (Removal)).
- (2). Remove access panel AR129 (Ref. CSP-900RMM-2, Section 53-20-00, Cockpit Outboard Right Floor Panel Removal).
- (3). Remove hover/landing light relay assembly cover (Ref. CSP-900RMM-3, Section 96-40-00, Hover/Landing Light Relay Assembly).
- (4). Locate relays K1 and K2 and install transzorb on each relay (Ref. Figure 2).
- (5). Install hover/landing light relay assembly cover (Ref. CSP-900RMM-3, Section 96-40-00, Hover/Landing Light Relay Assembly).
- (6). Install access panel AR129 (Ref. CSP-900RMM-2, Section 53-20-00, Cockpit Outboard Right Floor Panel Installation).

C. External Power Relay Assembly (A614) Modification (Serial Numbers 900-00052 thru 900-00124).

NOTE: The external power relay assembly (A614) is used with the aft battery installation.

DATE: 06 MARCH 2008

PAGE 4 OF 6

TECHNICAL BULLETIN

- (1). Verify all power is removed from helicopter (Ref. CSP-900RMM-3, Section 96-00-00, Power Off (Removal)).
- (2). Open baggage compartment door.
- (3). Remove external power relay assembly cover (Ref. CSP-900RMM-3, Section 96-00-00, External Power Relay Assembly).
- (4). Locate relays K3 and K4 and install transzorb on each relay (Ref. Figure 2).
- (5). Install external power relay assembly cover (Ref. CSP-900RMM-3, Section 96-00-00, External Power Relay Assembly).
- (6). Close baggage compartment door.

D. K100 Power Relay Modification (Serial Numbers 900-00008 thru 900-00124).

- (1). Verify all power is removed from helicopter (Ref. CSP-900RMM-3, Section 96-00-00, Power Off (Removal)).

NOTE: The K100 power relay is installed on the Sta. 155 bulkhead above the copilot's seat (Ref. CSP-900RMM-3, Section 96-00-00, K100 Power Relay).

- (2). Remove bulkhead cover to access K100 power relay.
- (3). Install transzorb on K100 relay (Ref. Figure 2).
- (4). Install bulkhead cover.
- (5). Restore power to helicopter (Ref. CSP-900RMM-3, Section 96-00-00, Restore Power).

3. IDENTIFICATION

N/A

4. DISPOSITION OF PARTS REMOVED

N/A

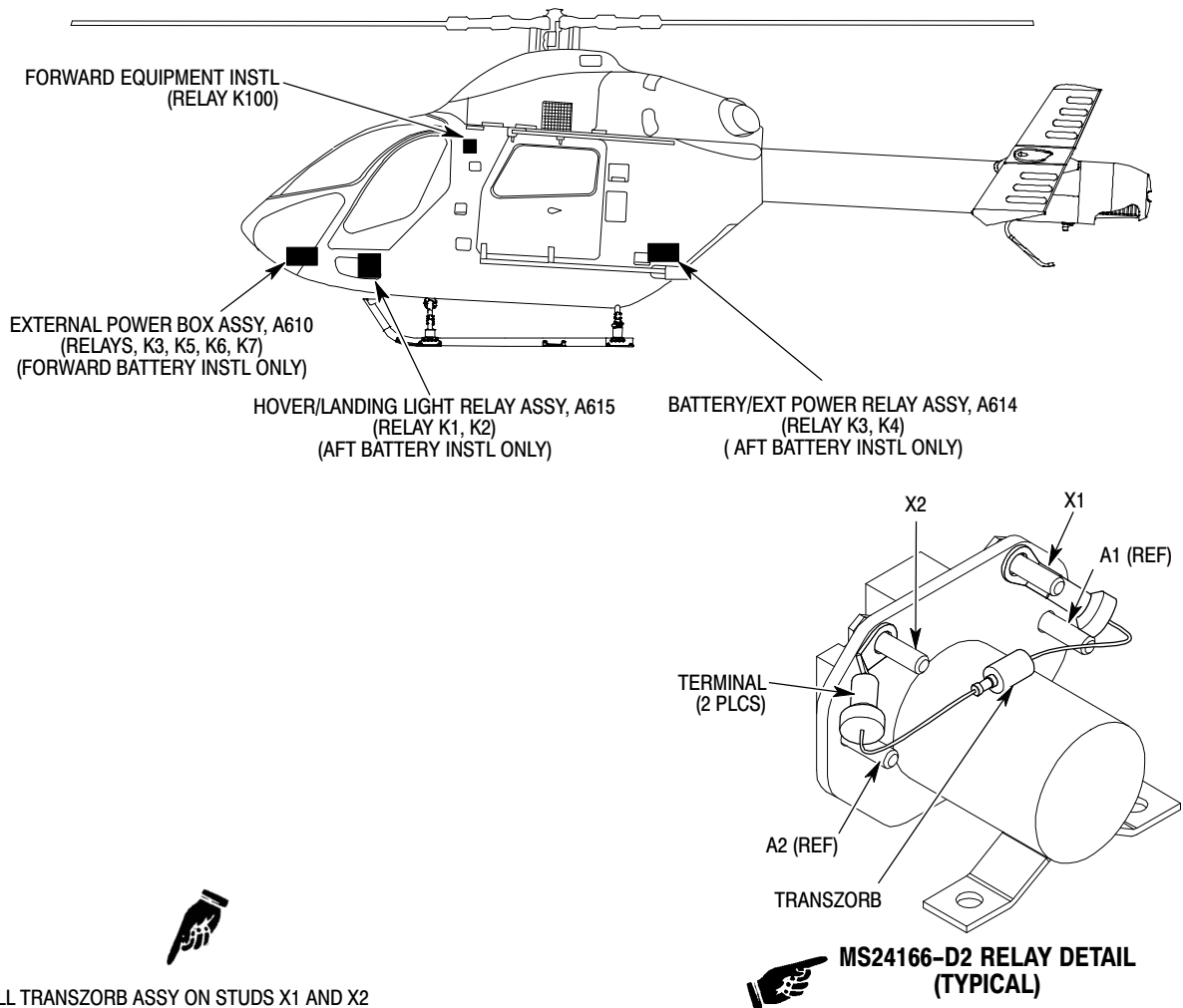
5. COMPLIANCE RECORD

Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.

TECHNICAL BULLETIN

DATE: 06 MARCH 2008

PAGE 5 OF 6



NOTES:

1. INSTALL TRANSZORB ASSY ON STUDS X1 AND X2
2. DO NOT BEND TERMINALS MORE THAN 90 DEGREES.
3. TRANSZORB CAN BE INSTALLED IN EACH OF THE TWO DIRECTIONS.

9B96-193A

Figure 2. Electrical Noise Suppression Modification

DATE: 06 MARCH 2008

PAGE 6 OF 6

TECHNICAL BULLETIN

Bulletin Compliance Recording Form

Technical Bulletin TB900-027R1, Electrical Noise Suppression Modification

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 inform you that the Technical Bulletin has been complied with as indicated below:

Customer/Operator Name: _____

Aircraft Serial No: _____

Address: _____

Phone: _____

Helicopter Total Time: _____ Date: _____

Location: _____

Signature of Person Confirming Compliance: _____

TECHNICAL BULLETIN

DATE: 20 DECEMBER 2007

PAGE 1 OF 6

MD900 (900 CONFIGURATION) TO MD900 (902 CONFIGURATION WITH PW207E ENGINES) CHANGE (REF. MOD MD9000700001)

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 helicopters serial number 900-00010 thru 900-00051.

B. Assembly/Components Affected By This Bulletin:

All installed configurations of the assembly/components that follow:

900P1600111 Left Engine Build-Up Assembly, 900P1600211 Right Engine Build-Up Assembly, 90007601100 Left Engine Build-Up Installation, 90007600200 Right Engine Build-Up Installation, 900P7621001 Inlet Panel Installation or 900F7337000 Inlet Installation - IPS Inlet, 900P7750610 Left Electronic Engine Control (EEC) Installation, 900P7750620 Right EEC Installation, 900P7750701 Ignitor Box Installation, 900P7660800 Engine Drain Installation, 900A3720002 Integrated Instrument Display System (IIDS), 900E2720604 Engine/Fuel Control Panel, 900P7663000 Fuel Supply System Installation, Fuel Cell Buildup Installation, 900P1660101 or 900P1660102 Fuel Cell Buildup Assembly, 900E2760143 Left EEC Wire Harness, 900E2760142 Right EEC Wire Harness, 900E2760123 Left Engine Control Wire Harness, 900E2760122 Right Engine Control Wire Harness, 900E2760131 Left Engine Indication Wire Harness, 900E2760132 Right Engine Indication Wire Harness, 900E2760125 Left Utility Systems Wire Harness, 900E2760124 Right Utility Systems Wire Harness, 900E2760127 Left Boost/Forward Fuel Probe Wire Harness, 900E2760136 Instrument Lights Wire Harness, 900E2760312 Inlet Particle Separator Wire Harness, 900E2750610 External Power Box, 900E2720601 Essential Circuit Breaker Panel, 900E2750620 Electrical Load Center, 900E2750612 Forward Interconnect Panel, 900C3010050 Collective Control Module, 900C7012008 Dual Pilot Directional Controls Installation, and 900E7750005-101 Hover/Landing Light Installation.

C. Reason:

To permit owners/operators of MD900 - 900 configuration (900 CONFIG) helicopters to change their helicopter to the MD900 - 902 configuration (902 CONFIG) with PW207E engines.

D. Description:

Procedures in this bulletin and MOD MD9000700001 give owners and operators of 900 CONFIG helicopters instructions to change their helicopter to the 902 CONFIG with PW207E engines. The #1 attitude gyro system, fire extinguisher system, and GO/NO-GO take off timer must be installed. The systems and components shown in Assembly/Components Affected By This Bulletin must also be changed as part of this modification. This change must be done with MD Helicopters Field Service Engineering approval.

E. Time of Compliance:

Optional, owner/operator selection.

F. FAA Approval:

The technical design data in this bulletin is FAA Approved.

DATE: 20 DECEMBER 2007

PAGE 2 OF 6

TECHNICAL BULLETIN

G. Classification:

This modification is a major alteration.

H. Manpower:

600-800 manhours for this modification.

I. Interchangeability:

None

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:

Refer to MOD MD9000700001.

L. Warranty Policy:

N/A

M. Tooling:

N/A

N. Weight and Balance:

Refer to MOD MD9000700001.

O. Electrical Load Data:

Refer to MOD MD9000700001.

P. Other Publications Affected:

Rotorcraft Maintenance Manual CSP-900RMM-2 and CSP-900RMM-3, and Illustrated Parts List CSP-900IPL-4.

2. APPROVAL FOR CHANGE

NOTE: Before you can make this change to the helicopter, approval for change on the bulletin completed record must be completed and approved.

- (1). MDHI field service engineering will do a complete visual inspection of the helicopter and an inventory of installed components and systems to make sure this change can be done to the helicopter.
 - (a). MDHI field service engineering will make sure the condition and configuration of the helicopter is correctly recorded in the engine and rotorcraft logbooks.
 - (b). MDHI field service engineering will examine the rotorcraft logbook to make sure all applicable MDHI service bulletins and Federal Aviation Authority (FAA) Airworthiness Directives (AD) or equivalent local aviation authority directives applicable to the helicopter have been completed.
 - (c). MDHI field service engineering will make a list of all Supplemental Type Certificate (STC) and field approved systems and components installed on the helicopter. MDHI field service engineering will send the list and all records related to all STC and field approved systems and components installed on the helicopter to MDHI engineering for inspection and approval. The list and records will be examined to make sure STC or field approved installations will not have an unwanted effect on the change from 900 CONFIG to 902 CONFIG with PW207E engines.

TECHNICAL BULLETIN

DATE: 20 DECEMBER 2007

PAGE 3 OF 6

- (2). If the MDHI inspection shows that STC or field approved installations can have an unwanted effect on the change from 900 CONFIG to 902 CONFIG with PW207E engines or the change from 900 CONFIG to 902 CONFIG with PW207E engines can have an unwanted effect on the STC or field approved installation, it will be necessary for the helicopter owner or repair station to make the necessary corrections to remove the unwanted effect.
- (3). All helicopter defects found will be corrected before the change from 900 CONFIG to 902 CONFIG with PW207E engines is complete.
- (4). All records (which can include ground or flight tests) related to STC and/or field approved installations and/or corrections must have been approved by the applicable civil aviation authority engineering or applicable civil aviation authority Designated Engineering Representative (DER) (if delegated).

3. ACCOMPLISHMENT INSTRUCTIONS – CHANGE

Refer to MOD MD9000700001 for the accomplishment instructions of this technical bulletin.

4. IDENTIFICATION

The 900 CONFIG to 902 CONFIG change does not change the helicopter model or serial number.

5. DISPOSITION OF PARTS REMOVED

N/A

6. MAKE A RECORD

Make a record in the Compliance Record section of the Rotorcraft Log Book that this technical bulletin and MOD MD9000700001 have been completed.

Make a note in the Rotorcraft Log Book as follows: The MDHI electrical systems, fuel system and related subsystems, and engine installation and related subsystems must be maintained to maintenance instructions for MD900 (**902 CONFIG**) with PW207E engines serial number 900-00121. All components and systems not changed by TB900-028 must be maintained to maintenance instructions applicable to the helicopter before TB900-028 was completed.

DATE: 20 DECEMBER 2007

PAGE 4 OF 6

TECHNICAL BULLETIN

Bulletin Completed Record

Technical Bulletin TB900-028 and MOD MD9000700001, MD900 – 900 Configuration to MD900 – 902 Configuration With PW207E Engines Change

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:

Owner/Operator:_____

Helicopter Serial No:_____

Address:_____

Phone:_____

Fax:_____

E-mail address:_____

Request For Approval (must be completed before start of modification)

Helicopter Total Time:_____

Date:_____

Location:_____

Approval For Change Completed

Helicopter Total Time:_____

Date:_____

Location:_____

Inspection and configuration inventory complete:_____

All service bulletins and AD complete:_____

TECHNICAL BULLETIN

DATE: 20 DECEMBER 2007

PAGE 5 OF 6

List of and all records related to all STC and field approved systems and components installed on the helicopter sent to MDHI engineering for inspection and approval:_____

List of STC and field approved systems and components examined by MDHI engineering to make sure they will not have an unwanted effect on the 900 CONFIG to 902 CONFIG change or the 900 CONFIG to 902 CONFIG change can have an unwanted effect on the STC or field approved installation:_____

Dear Sir:

This is to tell you that this technical bulletin has been completed as shown below:

Change Completed

Helicopter Total Time:_____

Date:_____

Location:_____

Inspection of rotorcraft logbook and engine logbook to make sure all data has been recorded:_____

This bulletin and MOD MD9000700001 are complete:_____

DATE: 20 DECEMBER 2007
PAGE 6 OF 6

TECHNICAL BULLETIN

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TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 1 OF 48

* Supersedes Technical Bulletin TB900-029, dated 9 February 2008. Revised to replace the current refrigerant compressor assembly, Part No. 900P3250303-105, with an improved 12-Volt clutch refrigerant compressor assembly, PN 900P1250401-105. Operators who completed TB900-029 have no further action, until the old compressor must be replaced because of age, damage, or other removal from service.

UPPER DECK AIR-CONDITIONING SYSTEM INSTALLATION

1. PLANNING INFORMATION

A. Aircraft Affected:

All MD900 Rotorcraft, Serial Number (SN) 900-00010 thru 900-00141

B. Assembly/Components Affected By This Notice:

900D7650002-101 Cooling System Components Installation
900E7760304-101 W304 Condenser Fan Wire Harness Installation
900E7760306-101 W306 Vent Fan Wire Harness Installation
900H7801501-101 and 900H7801501-103 Dual Hydraulic System Installation
900H7801509-101 Dual Hydraulic System Hand Pump Installation
900P1250401-105 12V Clutch Refrigerant Compressor Assembly
900P5250004 12Vdc Refrigerant Compressor Modification
900P7250102-101 Foundation Vent System Installation
900P7250103-101 Basic Vent System Installation
900P7250104-101 Vent System Cover Installation
900P7250302-101 Vapor Cycle Cooling System Installation (EARLY CONFIG)
900P7250303-101 and -103 Air-Conditioning Compressor Installation
900P7601010-101 Right-Hand (RH) Basic Engine Build-Up Cover/Plug Alt. Installation

C. Reason:

To increase crew and passenger comfort during operations in a high-temperature environment.

This modification is a major alteration.

D. Description:

Procedures in this bulletin give owners and operators instructions to install an upper deck air-conditioning system. To install the upper deck air-conditioning system, the helicopter must have PW207E engines installed.

E. Time of Compliance:

Optional, owner/operator selection.

F. FAA Approval:

The technical design data in this bulletin is FAA-approved.

G. Manpower:

Compliance with this bulletin will be approximately 210 man-hours.

DATE: 11 FEB 2022

PAGE 2 OF 48

TECHNICAL BULLETIN

H. Interchangeability:

None

I. Points of Contact: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>

NOTE: The kits contain all the parts necessary to do this installation. The kit part numbers are shown in the Parts tables. ITEM in the Figure Legend, refers to the Item column in the Parts tables (for example: Item 1-1 is Item 1 of Table 1). Supplies necessary to do this modification are shown in the Supplies table. Sources for supplies are in CSP-SPM, Section 91-00-00.

PARTS			
Nomenclature	Part No.	Qty.	Source
Heat Exchanger Attach Point Modification and Condenser Installation Kit (Ref. Table 1 for parts list) (Note (11))	TBK900-029-1	1	MDHI
Condensate Drain Installation Kit (Ref. Table 2 for parts list) (Note (12))	TBK900-029-2	1	MDHI
Receiver Dehydrator Bracket Doubler Kit (Ref. Table 3 for parts list) (Note (11))	TBK900-029-3	1	MDHI
Installation Kit For Helicopters with Vent System Installed (Ref. Table 4 for parts list)	TBK900-029-4	1	MDHI
Installation Kit For Helicopters With Lower Fuselage Air-Conditioning Installed, Rotorcraft SN 900-00010 thru 900-00051 (Ref. Table 5 for parts list)	TBK900-029-5	1	MDHI
Installation Kit For Helicopters With Lower Fuselage Air Conditioning Installed, Rotorcraft SN 900-00052 thru 900-00080 (Ref. Table 6 for parts list)	TBK900-029-6	1	MDHI
Seal Open Holes in Upper Deck Kit, Rotorcraft SN 900-00010 thru 900-00109 (Ref. Table 7 for parts list)	TBK900-029-7	1	MDHI
Hydraulic Tube Routing Change Kit, Rotorcraft SN 900-00010 thru 900-00051 Without Optional Hydraulic Hand Pump Installed (Ref. Table 8 for parts list)	TBK900-029-8	1	MDHI
Hydraulic Tube Routing Change Kit, Rotorcraft SN 900-00010 thru 900-00051 with Optional Hydraulic Hand Pump Installed (Ref. Table 9 for parts list)	TBK900-029-9	1	MDHI
12Vdc Refrigerant Compressor Modification, Rotorcraft SN 900-00010 thru 900-00141 (Ref. Table 10 for parts list)	TBK900-029-10	1	MDHI

TECHNICAL BULLETIN

DATE: 11 FEB 2022
PAGE 3 OF 48

PARTS (Cont.)			
Nomenclature	Part No.	Qty.	Source
Evaporator Assembly (Note (13))	900P3250325-105	1	MDHI
Thermostatic Switch (Note (13))	270-53 or A10-7040-30	1	MDHI
Heat Exchanger Assembly (Note (14))	900D3658501-103	2	MDHI
Packing, O-Ring (Note (14))	AS3208-12	4	MDHI
Hose, Oil In (Note (14))	900D3409527-101	1	MDHI
Hose, Oil In (Note (14))	900D3409527-104	1	MDHI
Duct, Fan to Evaporator, Flexible (Note (15))	900P3250391-103	1	MDHI
Screw, Hexagon Head, Full-Thread (Note (15))	NAS1801-3-9	10	MDHI
Washer, Duct, Fan to Evaporator, Flexible (Note (15))	NAS1149D0332J	10	MDHI

NOTES:

- (11) Necessary for all rotorcraft.
- (12) Necessary for rotorcraft that had the vent system installed and rotorcraft, SN 900-00010 thru 900-00051, that had a lower air-conditioning system installed and not installed before this installation.
- (13) Necessary for rotorcraft, SN 900-00010 thru 900-00018, if lower fuselage air-conditioning was installed.
- (14) Necessary for rotorcraft, SN 900-00010 thru 900-00018, if not installed before this installation.
- (15) Necessary for rotorcraft, SN 900-00010 and 900-00011, if lower fuselage air-conditioning was installed.

Table 1. Heat Exchanger Attach Point Modification and Condenser Installation Kit TBK-029-1				
Item	Nomenclature	Part No.	Qty.	Source
1-1	Radius Block, Forward, Mount	900P2250322-101	2	MDHI
1-2	Radius Block, Aft, Left, Mount	900P2250324-101	1	MDHI
1-3	Radius Block, Aft, Right, Mount	900P2250324-102	1	MDHI
1-4	Rivet, Solid, Universal Head	MS20470AD4-6-5	6	MDHI
1-5	Rivet, Solid, Universal Head	MS20470AD4-6	4	MDHI
1-6	Duct, Cooling, Inlet, Left Side	900P2250348-101	1	MDHI
1-7	Duct, Cooling, Inlet, Right Side	900P2250348-102	1	MDHI

DATE: 11 FEB 2022

PAGE 4 OF 48

TECHNICAL BULLETIN

Table 1. Heat Exchanger Attach Point Modification and Condenser Installation Kit TBK-029-1 (Cont.)

Item	Nomenclature	Part No.	Qty.	Source
1-8	Left Condenser	900P3250301-101	1	MDHI
1-9	Right Condenser	900P3250301-102	1	MDHI
1-10	Mount, Aft, Left-Heat Exchanger	900P2250349-101	1	MDHI
1-11	Mount, Aft, Right-Heat Exchanger	900P2250349-102	1	MDHI
1-12	Grommet, Synthetic Rubber Hot Oil and Coolant Resistant	MS35489-149	4	MDHI
1-13	Bolt, Full Threaded, 160 KSI Steel, Drilled Head	NAS563-15	44	MDHI
1-14	Washer, Countersunk	MS21299C3	8	MDHI
1-15	Bolt, Tension, Long-Thread	NAS6603-5	20	MDHI
1-16	Bolt, Full Threaded, 160 KSI Steel, Drilled Head	NAS563-17	8	MDHI
1-17	Washer, Flat	NAS1149F0332P	72	MDHI
1-18	Bolt, Tension, Long-Thread	NAS6603-20	4	MDHI
1-19	Bolt, Tension, Close Tolerance, Short-Thread	NAS6203-11	4	MDHI

Table 2. Condensate Drain Installation Kit TBK-029-2

Item	Nomenclature	Part No.	Qty.	Source
2-1	Gasket, Drain	900P2250375-101	1	MDHI
2-2	Grommet, Synthetic Rubber Hot Oil and Coolant Resistant	MS35489-20	1	MDHI
2-3	Washer, Flat Reduced Outer Diameter	NAS620-6	8	MDHI
2-4	Screw, Panhead	NAS601-7P	4	MDHI
2-5	Nut, Self-Locking, 450F (232C), Ring Base	MS21042-06	4	MDHI
2-6	Tubing, Flexible, Fuel Resistant, Plastic, Tygon	MHS4546-6	96 inches (2.44 m)	MDHI
2-7	Drain Cup	900H2807076-103	1	MDHI
2-8	Screen, Drain	900H2807001-101	1	MDHI
2-9	Clamp, Loop, Plastic, Wire Support	MS25181-F8	3	MDHI
2-10	Screw, Hexagon Head, Recessed, Full Thread	NAS1096-3-10	1	MDHI

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 5 OF 48

Table 2. Condensate Drain Installation Kit TBK-029-2 (Cont.)

Item	Nomenclature	Part No.	Qty.	Source
2-11	Screw, Hexagon Head, Recessed, Full Thread	NAS1096-3-24	2	MDHI
2-12	Grommet	MS21266-1N	4	MDHI

Table 3. Receiver Dehydrator Bracket Doubler Installation Kit TBK-029-3

Item	Nomenclature	Part No.	Qty.	Source
3-1	Receiver Dehydrator Bracket Forward Doubler	900P2250320-101	1	MDHI
3-2	Receiver Dehydrator Bracket Aft Doubler	900P2250310-101	1	MDHI
3-3	Rivet, Solid, Universal Head	MS20470AD4-4-5	11	MDHI

Table 4. Installation Kit for Helicopters with Vent System Installed TBK-029-4

Item	Nomenclature	Part No.	Qty.	Source
4-1	Evaporator Fan	900P3250333-105	1	MDHI
4-2	Screw, Hexagon Head, Full-Thread	NAS1801-3-8	14	MDHI
4-3	Screw, Hexagon Head, Full-Thread	NAS1801-3-7	11	MDHI
4-4	Washer, Flat	NAS1149D0332J	43	MDHI
4-5	Duct Assembly, Three-Way Valve	900P3250108-101	1	MDHI
4-6	Clamp, V-Band, Three-Way Valve	900P3250173-101	1	MDHI
4-7	Cable Bracket	900P2250171-103	1	MDHI
4-8	Grommet, Plastic, Split	NAS557-8A	1	MDHI
4-9	Grommet, Plastic Edging	MS21266-1N	1	MDHI
4-10	Cable, Three Way Valve	900P3250170-101	1	MDHI
4-11	Screw, Hexagon Head, Full-Thread	NAS1801-3-9	34	MDHI
4-12	Washer, Flat	NAS1149D0332K	2	MDHI
4-13	Pin, Cotter	MS24665-69	1	MDHI
4-14	Duct, Water Separator to Valve	900P3250359-101	1	MDHI
4-15	Clamp, Hose, Band, Tangential Worm	NAS1922-0400-1	2	MDHI
4-16	Duct, Bulkhead to Valve	900P3250393-105	1	MDHI
4-17	Screw, Hexagon Head, Full-Thread	NAS1801-3-10	14	MDHI

DATE: 11 FEB 2022

PAGE 6 OF 48

TECHNICAL BULLETIN

Table 4. Installation Kit for Helicopters with Vent System Installed TBK-029-4 (Cont.)

Item	Nomenclature	Part No.	Qty.	Source
4-18	Nut, Self-Locking, 450F (232C), Ring Base	MS21042L3	18	MDHI
4-19	Duct, Fan to Evaporator, Flexible	900P3250391-103	1	MDHI
4-20	Washer, Flat	NAS1149D0363J	56	MDHI
4-21	Duct, Evaporator to Deck	900P3250392-103 or 900P3250392-101	1	MDHI
4-22	Shroud, Outlet	900P3250395-105	1	MDHI
4-23	Thermostatic Switch	270-53 or A10-7040-30	1	MDHI
4-24	Grommet, Synthetic Rubber Hot Oil and Coolant Resistant	MS35489-1	1	MDHI
4-25	Screw, Hexagon Head, Full-Thread	NAS1801-3-11	6	MDHI
4-26	Hose Clamp, Band, Tangential Worm	NAS1922-0350-1	1	MDHI
4-27	Evaporator Assembly	900P3250325-105	1	MDHI
4-28	Foam Tape, 0.250-Inch-Thick, 2.50-Inch-Wide	MDM16-1124* B4504MR250W2R50 3M 4504	100 inches (2.54 m)	MDHI
4-29	Tape, Glass Fabric, Aluminized 2.00-Inch-Wide	MDM15-1182* W2R00	226 inches (5.74 m)	MDHI
4-30	Gasket, Shroud	900P2250331-101	2	MDHI
4-31	Shroud, Inlet	900P3250385-105	1	MDHI
4-32	Hose Clamp, Band, Tangential Worm	NAS1922-0450-1	1	MDHI
4-33	Bracket, Receiver Dehydrator	900P2250302-101	1	MDHI
4-34	Receiver Dehydrator	088016-01	1	MDHI
4-35	Hose Clamp, Band, Tangential Worm	NAS1922-0275-1	2	MDHI
4-36	Compressor Assembly, Refrigerant, 12V Clutch	900P1250401-105	1	MDHI
4-37	Washer, Flat	NAS1149F0532P	4	MDHI
4-38	Nut, Self-Locking, 450F (232C), Ring Base	MS21042-5	4	MDHI
4-39	Union, Flared Tube	AS5174D0404	1	MDHI
4-40	Hose, Air-Conditioning Pad Drain	900P3600850-101	1	MDHI

TECHNICAL BULLETIN

DATE: 11 FEB 2022
PAGE 7 OF 48

Table 4. Installation Kit for Helicopters with Vent System Installed TBK-029-4 (Cont.)				
Item	Nomenclature	Part No.	Qty.	Source
4-41	Tube Assembly, Oil Drain, Upper	900P2600841-101	1	MDHI
4-42	Tube Assembly, Oil Drain, Lower	900P2600842-101	1	MDHI
4-43	Tee, Flared Tube	AS1035W040404	1	MDHI
4-44	Union, Flared Tube, 0.750-Inch-Diameter, Lip Seal	MHS5741-12	2	MDHI
4-45	Packing, O-Ring	AS3208-12	1	MDHI
4-46	Adapter Assembly, Flared with Seal Ring	AFP2029-1008A	3	MDHI
4-47	Flare Gasket	PB25-G 3/8"	3	MDHI
4-48	Tube Assembly, Evaporator to Sight Glass	900P2250356-101	1	MDHI
4-49	Sight Glass	SG204	1	MDHI
4-50	Flare Gasket	PB25-G 1/2"	2	MDHI
4-51	Flexible Cellular Material, Expanded Rubber	ASTM D 1056* T2CAG1NR75PR25	100 inches (2.54 m)	MDHI
4-52	Tube Assembly, ECS, Evaporator to Mid-Section	900P2250346-101	1	MDHI
4-53	Tube Assembly, ECS, Mid-Section to Low Pressure Switch Fitting	900P2250347-101	1	MDHI
4-54	Tube Assembly, Sight Glass to Mid-Section	900P2250354-101	1	MDHI
4-55	Union, Flared Tube, 0.500-Inch-Diameter, Lip Seal	MHS5741-8	1	MDHI
4-56	Tube Assembly, Mid-Section to Receiver Dehydrator	900P2250344-101	1	MDHI
4-57	Tube Assembly, Left Condenser to Tee	900P2250338-101	1	MDHI
4-58	Tee, Flared Tube	AS1035W080808	2	MDHI
4-59	Tube Assembly, Left Tee to Right Condenser	900P2250336-101	1	MDHI
4-60	Tube Assembly, High Pressure Switch to Left Condenser	900P2250332-101	1	MDHI
4-61	Tee, Tube, Flared, Swivel Nut on Side	MHS5818-08-D	1	MDHI
4-62	Tube Assembly, Tee to Pressure Switch	900P2250316-101	1	MDHI
4-63	Hose Assembly, Compressor Out	900P3250350-101	1	MDHI
4-64	Tube Assembly, Right Condenser to Tee	900P2250340-101	1	MDHI

DATE: 11 FEB 2022

PAGE 8 OF 48

TECHNICAL BULLETIN

Table 4. Installation Kit for Helicopters with Vent System Installed TBK-029-4 (Cont.)

Item	Nomenclature	Part No.	Qty.	Source
4-65	Tube Assembly, Receiver Dehydrator to Tee	900P2250343-101	1	MDHI
4-66	Fitting Assembly with Seal	MHS5926-12	1	MDHI
4-67	Hose Assembly, Inlet	900P3250337-103	1	MDHI
4-68	Clamp, Loop, Cushioned	AS21919WDG24	3	MDHI
4-69	Clamp, Loop, Cushioned	AS21919WDG11	1	MDHI
4-70	Screw, Hexagon Head, Recessed, Full Thread	NAS1096-3-10	8	MDHI
4-71	Clamp, Loop, Cushioned	AS21919WDG8	6	MDHI
4-72	Clamp, Loop, Cushioned	AS21919WDG15	2	MDHI
4-73	Clamp, Loop, Cushioned	AS21919WDG19	4	MDHI
4-74	Bracket, Support Clamp	AN743-13	3	MDHI
4-75	Bracket, Angle, with Locknut	MHS4592-2D6-6	2	MDHI
4-76	Bracket, Angle, with Locknut	MHS4592-2D6-10	2	MDHI
4-77	Rivet, Solid, Universal Head	MS20470AD4-5	8	MDHI
4-78	Rivet, Solid, Universal Head	MS20470AD4-5-5	6	MDHI
4-79	Switch, Gauge, High Pressure	900P3250342-101 900P3250342-103	1	MDHI
4-80	Packing, O-Ring, Fluorocarbon Elastomer	AS3208-05	1	MDHI
4-81	Switch, Low Pressure	900P3250309-103	1	MDHI
4-82	Hose Clamp, Band, Tangential Worm	NAS1922-0100-1	1	MDHI
4-83	Contact, Electrical, Connector, Socket	M39029/22-193	1	MDHI
4-84	Evaporator Fan Wire Harness W305	900E2760305-107	1	MDHI
4-85	Mount, Anchor, Tie Wire and Cable	MHS4271-1	1	MDHI
4-86	Strap, Tie Down, Electrical	MS3367-4-0	1	MDHI
4-87	Nipple, Electrical Terminal	MS25171-1S	2	MDHI
4-88	Clamp, Cushioned, Loop, Lightened, Self-Retaining	MHS5773DC03NB	1	MDHI

TECHNICAL BULLETIN

DATE: 11 FEB 2022
PAGE 9 OF 48

Table 5. Installation Kit for Helicopters with Lower Fuselage Air-Conditioning Installed, Helicopter SN 900-00010 thru 900-00051 TBK-029-5				
Item	Nomenclature	Part No.	Qty.	Source
5-1	Rivet, Solid, Universal Head	MS20470AD4-4	2	MDHI
5-2	Rivet, Solid, Universal Head	MS20470AD4-4-5	4	MDHI
5-3	Shroud, Outlet	900P3250395-105	1	MDHI
5-4	Grommet, Synthetic Rubber Hot Oil and Coolant Resistant	MS35489-1	1	MDHI
5-5	Screw, Hexagon Head, Full-Thread	NAS1801-3-8	10	MDHI
5-6	Washer, Flat	NAS1149D0363J	47	MDHI
5-7	Nut, Self-Locking, 450F (232C), Ring Base	MS21042L3	11	MDHI
5-8	Screw, Hexagon Head, Full-Thread	NAS1801-3-11	6	MDHI
5-9	Washer, Flat	NAS1149D0332J	5	MDHI
5-10	Hose Clamp, Band, Tangential Worm	NAS1922-0350-1	1	MDHI
5-11	Foam Tape, 0.250-Inch-Thick, 2.50-Inch-Wide	MDM16-1124* B4504MR250W2R50 3M 4504	100 inches (2.54 m)	MDHI
5-12	Tape, Glass Fabric, Aluminized 2.00-Inch-Wide	MDM15-1182* W2R00	226 inches (5.74 m)	MDHI
5-13	Gasket, Shroud	900P2250331-101	2	MDHI
5-14	Screw, Hexagon Head, Full-Thread	NAS1801-3-9	21	MDHI
5-15	Shroud, Inlet	900P3250385-105	1	MDHI
5-16	Hose Clamp, Band, Tangential Worm	NAS1922-0450-1	1	MDHI
5-17	Bracket, Receiver Dehydrator	900P2250302-101	1	MDHI
5-18	Receiver Dehydrator	088016-01	1	MDHI
5-19	Hose Clamp, Band, Tangential Worm	NAS1922-0275-1	2	MDHI
5-20	Union, Flared Tube, 0.750-Inch-Diameter, Lip Seal	MHS5741-12	2	MDHI
5-21	Packing, O-Ring	AS3208-12	1	MDHI
5-22	Adapter Assembly, Flared with Seal Ring	AFP2029-1008A	3	MDHI
5-23	Flare Gasket	PB25-G 3/8"	3	MDHI

DATE: 11 FEB 2022

PAGE 10 OF 48

TECHNICAL BULLETIN

Table 5. Installation Kit for Helicopters with Lower Fuselage Air-Conditioning Installed, Helicopter SN 900-00010 thru 900-00051 TBK-029-5 (Cont.)

Item	Nomenclature	Part No.	Qty.	Source
5-24	Tube Assembly, Evaporator to Sight Glass	900P2250356-101	1	MDHI
5-25	Sight Glass	SG204	1	MDHI
5-26	Flare Gasket	PB25-G 1/2"	2	MDHI
5-27	Flexible Cellular Material, Expanded Rubber	ASTM D1056* T2CAG1NR75PR25	100 inches (2.54 m)	MDHI
5-28	Tube Assembly, ECS, Evaporator to Mid-Section	900P2250346-101	1	MDHI
5-29	Tube Assembly, ECS, Mid Section to Low Pressure Switch Fitting	900P2250347-101	1	MDHI
5-30	Tube Assembly, Sight Glass to Mid-Section	900P2250354-101	1	MDHI
5-31	Union, Flared Tube, 0.500-Inch-Diameter, Lip Seal	MHS5741-8	1	MDHI
5-32	Tube Assembly, Mid Section to Receiver Dehydrator	900P2250344-101	1	MDHI
5-33	Tube Assembly, Left Condenser to Tee	900P2250338-101	1	MDHI
5-34	Tee, Flared Tube	AS1035W080808	2	MDHI
5-35	Tube Assembly, Left Tee to Right Condenser	900P2250336-101	1	MDHI
5-36	Tube Assembly, High Pressure Switch to Left Condenser	900P2250332-101	1	MDHI
5-37	Tee, Tube, Flared, Swivel Nut on Side	MHS5818-08-D	1	MDHI
5-38	Tube Assembly, Tee to Pressure Switch	900P2250316-101	1	MDHI
5-39	Hose Assembly, Compressor Out	900P3250350-101	1	MDHI
5-40	Tube Assembly, Right Condenser to Tee	900P2250340-101	1	MDHI
5-41	Tube Assembly, Receiver Dehydrator to Tee	900P2250343-101	1	MDHI
5-42	Fitting Assembly With Seal	MHS5926-12	1	MDHI
5-43	Clamp, Loop, Cushioned	AS21919WDG24	2	MDHI
5-44	Clamp, Loop, Cushioned	AS21919WDG11	1	MDHI
5-45	Screw, Hexagon Head, Recessed, Full Thread	NAS1096-3-10	7	MDHI
5-46	Clamp, Loop, Cushioned	AS21919WDG8	6	MDHI
5-47	Clamp, Loop, Cushioned	AS21919WDG15	2	MDHI

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 11 OF 48

Table 5. Installation Kit for Helicopters with Lower Fuselage Air-Conditioning Installed, Helicopter SN 900-00010 thru 900-00051 TBK-029-5 (Cont.)				
Item	Nomenclature	Part No.	Qty.	Source
5-48	Clamp, Type, Cushioned	AS21919WDG19	4	MDHI
5-49	Bracket, Angle, with Locknut	MHS4592-2D6-6	2	MDHI
5-50	Bracket, Angle, with Locknut	MHS4592-2D6-10	1	MDHI
5-51	Rivet, Solid, Universal Head	MS20470AD4-5	2	MDHI
5-52	Rivet, Solid, Universal Head	MS20470AD4-5-5	4	MDHI
5-53	Packing, O-Ring, Fluorocarbon Elastomer	AS3208-05	1	MDHI
5-54	Clamp, Hose, Band, Tangential Worm	NAS1922-0100-1	1	MDHI
5-55	Button, Plug	MHS4248C48A	2	MDHI

Table 6. Installation Kit for Helicopters With Lower Fuselage Air Conditioning Installed, Helicopter Serial Number 900-00052 Thru 900-00080 TBK-029-6				
Item	Nomenclature	Part No.	Qty.	Source
6-1	Rivet, Solid, Universal Head	MS20470AD4-4	2	MDHI
6-2	Rivet, Solid, Universal Head	MS20470AD4-4-5	4	MDHI
6-3	Bracket, Receiver Dehydrator	900P2250302-101	1	MDHI
6-4	Screw, Hexagon Head, Full-Thread	NAS1801-3-8	4	MDHI
6-5	Washer, Flat	NAS1149D0363J	15	MDHI
6-6	Nut, Self-Locking, 450F (232C), Ring Base	MS21042L3	8	MDHI
6-7	Receiver Dehydrator	088016-01	1	MDHI
6-8	Hose Clamp, Band, Tangential Worm	NAS1922-0275-1	2	MDHI
6-9	Tube Assembly, Evaporator to Sight Glass	900P2250356-101	1	MDHI
6-10	Sight Glass	SG204	1	MDHI
6-11	Flare Gasket	PB25-G 1/2"	2	MDHI
6-12	Flexible Cellular Material, Expanded Rubber	ASTM D 1056* T2CAG1NR75PR25	100 inches (2.54 m)	MDHI
6-13	Tube Assembly, ECS, Evaporator to Mid-Section	900P2250346-101	1	MDHI

DATE: 11 FEB 2022

PAGE 12 OF 48

TECHNICAL BULLETIN

Table 6. Installation Kit for Helicopters With Lower Fuselage Air Conditioning Installed, Helicopter Serial Number 900-00052 Thru 900-00080 TBK-029-6 (Cont.)

Item	Nomenclature	Part No.	Qty.	Source
6-14	Tape, Glass Fabric, Aluminized 2.00-Inch-Wide	MDM15-1182* W2R00	226 inches (5.74 m)	MDHI
6-15	Tube Assembly, ECS, Mid-Section to Low Pressure Switch Fitting	900P2250347-101	1	MDHI
6-16	Tube Assembly, Sight Glass to Mid-Section	900P2250354-101	1	MDHI
6-17	Union, Flared Tube, 0.50-Inch-Diameter, Lip Seal	MHS5741-8	1	MDHI
6-18	Tube Assembly, Mid Section to Receiver Dehydrator	900P2250344-101	1	MDHI
6-19	Adapter Assembly, Flared with Seal Ring	AFP2029-1008A	2	MDHI
6-20	Flare Gasket	PB25-G 3/8"	2	MDHI
6-21	Tube Assembly, Left Condenser to Tee	900P2250338-101	1	MDHI
6-22	Tee, Flared Tube	AS1035W080808	2	MDHI
6-23	Tube Assembly, Left Tee to Right Condenser	900P2250336-101	1	MDHI
6-24	Tube Assembly, High-Pressure Switch to Left Condenser	900P2250332-101	1	MDHI
6-25	Tee, Tube, Flared, Swivel Nut on Side	MHS5818-08-D	1	MDHI
6-26	Tube Assembly, Tee-to-Pressure Switch	900P2250316-101	1	MDHI
6-27	Hose Assembly, Compressor Out	900P3250350-101	1	MDHI
6-28	Tube Assembly, Right Condenser to Tee	900P2250340-101	1	MDHI
6-29	Tube Assembly, Receiver Dehydrator to Tee	900P2250343-101	1	MDHI
6-30	Union, Flared Tube, 0.750-Inch-Diameter, Lip Seal	MHS5741-12	1	MDHI
6-31	Fitting Assembly With Seal	MHS5926-12	1	MDHI
6-32	Clamp, Loop, Cushioned, Support	AS21919WDG24	2	MDHI
6-33	Clamp, Loop, Cushioned	AS21919WDG11	1	MDHI
6-34	Screw, Hexagon Head, Recessed, Full Thread	NAS1096-3-10	7	MDHI
6-35	Clamp, Loop, Cushioned	AS21919WDG8	6	MDHI
6-36	Clamp, Loop, Cushioned	AS21919WDG15	2	MDHI
6-37	Screw, Hexagon Head, Full-Thread	NAS1801-3-9	1	MDHI

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 13 OF 48

Table 6. Installation Kit for Helicopters With Lower Fuselage Air Conditioning Installed, Helicopter Serial Number 900-00052 Thru 900-00080 TBK-029-6 (Cont.)				
Item	Nomenclature	Part No.	Qty.	Source
6-38	Clamp, Loop, Cushioned	AS21919WDG19	4	MDHI
6-39	Bracket with Locknut, Angle	MHS4592-2D6-6	2	MDHI
6-40	Bracket with Locknut, Angle	MHS4592-2D6-10	1	MDHI
6-41	Rivet, Solid, Universal Head	MS20470AD4-5	2	MDHI
6-42	Rivet, Solid, Universal Head	MS20470AD4-5-5	4	MDHI
6-43	Packing, O-Ring, Fluorocarbon Elastomer	AS3208-05	1	MDHI
6-44	Clamp, Hose, Band, Tangential Worm	NAS1922-0100-1	1	MDHI
6-45	Button, Plug	MHS4248C48A	2	MDHI

Table 7. Seal Open Holes in Upper Deck Kit Helicopter Serial Number 900-00010 thru 900-00109 TBK-029-7				
Item	Nomenclature	Part No.	Qty.	Source
7-1	Screw, Hexagon Head, Full-Thread	NAS1801-3-7	5	MDHI
7-2	Packing with Retainer	NAS1523AA3E	5	MDHI
7-3	Screw, Hexagon Head, Full-Thread	NAS1801-4-7	1	MDHI
7-4	Packing With Retainer	NAS1523AA4E	1	MDHI
7-5	Tape, Aluminum Foil, Pressure-Sensitive	MDM15-1195* Type 1, Class 1, Grade B	4 inches (102 mm)	MDHI

Table 8. Hydraulic Tube Routing Change Kit Helicopter Serial Number 900-00010 thru 900-00051 without Optional Hydraulic Hand Pump Installed TBK-029-8				
Item	Nomenclature	Part No.	Qty.	Source
8-1	Tube, Assembly, Hydraulic – System 2 GSE Pressure	900H2801710-105	1	MDHI
8-2	Tube, Assembly, Hydraulic – System 2 GSE Pressure 2	900H2801711-101	1	MDHI
8-3	Tube, Assembly, Hydraulic – System 2 GSE Return	900H2801780-101	1	MDHI
8-4	Tube, Assembly, Hydraulic – System 2 GSE Return 2	900H2801781-105	1	MDHI

DATE: 11 FEB 2022

PAGE 14 OF 48

TECHNICAL BULLETIN

Table 8. Hydraulic Tube Routing Change Kit Helicopter Serial Number 900-00010 thru 900-00051 without Optional Hydraulic Hand Pump Installed TBK-029-8 (Cont.)

Item	Nomenclature	Part No.	Qty.	Source
8-5	Tube, Assembly, Hydraulic – System 2 GSE Return From Panel	900H2801770-107	1	MDHI
8-6	Tube, Assembly, Hydraulic – System 1 GSE Return	900H2801750-101	1	MDHI
8-7	Tube, Assembly, Hydraulic – System 1 GSE Return	900H2801760-103	1	MDHI
8-8	Union, Permaswage	MHS4517-4	4	MDHI
8-9	Clamp Block, Hydraulic – 0.250-Inch Tubing	900H3802005-101	1	MDHI
8-10	Washer, Flat	NAS1149D0332K	10	MDHI
8-11	Bolt, Tension, Long-Thread	NAS6603-20	5	MDHI
8-12	Clamp, Loop Type, Cushioned, Support	AS21919WDF5	4	MDHI
8-13	Screw, Hexagon Head, Recessed, Full Thread	NAS1096-3-10	2	MDHI
8-14	Spacer, Sleeve – Screw and Bolt	NAS43HT3-8	2	MDHI
8-15	Screw, Hexagon Head, Recessed, Full Thread	NAS1096-3-12	2	MDHI
8-16	Spacer, Sleeve – Screw and Bolt	NAS43HT3-16	2	MDHI
8-17	Clamp Block, Hydraulic – 0.250-Inch Tubing	900H3801003-101	3	MDHI
8-18	Bolt, Tension, Long-Thread	NAS6603-30	1	MDHI
8-19	Clamp Block, Hydraulic – 0.250-Inch Tubing	900H3801005-101	1	MDHI

Table 9. Hydraulic Tube Routing Change Kit Helicopter Serial Number 900-00010 thru 900-00051 with Optional Hydraulic Hand Pump Installed TBK-029-9

Item	Nomenclature	Part No.	Qty.	Source
9-1	Tube, Assembly, Hydraulic – System 2 GSE Pressure	900H2801710-105	1	MDHI
9-2	Tube, Assembly, Hydraulic – System 2 GSE Pressure 2	900H2801711-101	1	MDHI
9-3	Tube, Assembly, Hydraulic – System 2 GSE Return	900H2801780-101	1	MDHI
9-4	Tube, Assembly, Hydraulic – System 2 GSE Return 2	900H2801781-105	1	MDHI
9-5	Tube, Assembly, Hydraulic – System 2 GSE Return from Panel	900H2801770-107	1	MDHI

TECHNICAL BULLETIN

DATE: 11 FEB 2022
PAGE 15 OF 48

Table 9. Hydraulic Tube Routing Change Kit Helicopter Serial Number 900-00010 thru 900-00051 with Optional Hydraulic Hand Pump Installed TBK-029-9 (Cont.)				
Item	Nomenclature	Part No.	Qty.	Source
9-6	Tube, Assembly, Hydraulic – System 1 GSE Return	900H2801750-101	1	MDHI
9-7	Tube, Assembly, Hydraulic – System 1 GSE Return	900H2801760-103	1	MDHI
9-8	Union, Permaswage	MHS4517-4	2	MDHI
9-9	Clamp Block, Hydraulic – 0.250-Inch Tubing	900H3802005-101	1	MDHI
9-10	Washer, Flat	NAS1149D0332K	10	MDHI
9-11	Bolt, Tension, Long-Thread	NAS6603-20	5	MDHI
9-12	Clamp, Loop Type, Cushioned, Support	AS21919WDF5	4	MDHI
9-13	Screw, Hexagon Head, Recessed, Full Thread	NAS1096-3-10	2	MDHI
9-14	Spacer, Sleeve – Screw and Bolt	NAS43HT3-8	2	MDHI
9-15	Screw, Hexagon Head, Recessed, Full Thread	NAS1096-3-12	2	MDHI
9-16	Spacer, Sleeve – Screw and Bolt	NAS43HT3-16	2	MDHI
9-17	Tube Assembly, Hydraulic – System 1, Hand Pump Fill	900H2801800-101	1	MDHI
9-18	Tube Assembly, Hydraulic – System 2, Hand Pump Fill	900H2801810-105	1	MDHI
9-19	Tee, Permaswage	MHS4524-4	2	MDHI
9-20	Clamp Block, Hydraulic – 0.250-Inch Tubing	900H3801003-101	3	MDHI
9-21	Bolt, Tension, Long-Thread	NAS6603-30	1	MDHI
9-22	Clamp Block, Hydraulic – 0.250-Inch Tubing	900H3801005-101	1	MDHI

Table 10. 12Vdc Clutch Refrigerant Compressor Installation Modification, SN 900-00010 thru 900-00141, TBK-029-10				
Item	Nomenclature	Part No.	Qty.	Source
10-1	Bracket Assembly, Resistor	900P2250454-103	1	MDHI
10-2	Resistor, 3-Ohm 100W (W305 R1)	HS100 3R F	1	MDHI
10-3	Washer, Flat	NAS1149D0332J	4	MDHI
10-4	Screw, Hexagon Head, Full Thread	NAS1801-3-8	4	MDHI

DATE: 11 FEB 2022

PAGE 16 OF 48

TECHNICAL BULLETIN

**Table 10. 12Vdc Clutch Refrigerant Compressor Installation Modification,
SN 900-00010 thru 900-00141, TBK-029-10 (Cont.)**

Item	Nomenclature	Part No.	Qty.	Source
10-5	Washer, Flat	NAS1149DN816K	4	MDHI
10-6	Screw, Panhead	NAS602-8P	4	MDHI
10-7	Wire, Electrical, Insulated	M22759/43-20-9	256 inches (6.50 m)	MDHI
10-8	Terminal, Lug, Ring-Tongue	MS25036-102	2	MDHI
10-9	Sleeving, Expandable	MHS5330-1531	AR	MDHI
10-10	Marker, Small Cable	MHS4910-1001	2	MDHI
10-11	Junction Splice, Wire In-Line (W305 SP1)	M81714/65-16-1	1	MDHI
10-12	Marker, Large Cable	MHS4910-1002	1	MDHI
10-13	Screw, Panhead	NAS600-5P	2	MDHI
10-14	Nut, Self-Locking, 450F (232C), Ring Base	MS21042L04	2	MDHI

Supplies (Ref. CSP-SPM)

Item	Nomenclature	Part No.	Qty.	Source
S-1	Sealant, Fuel-Resistant (C216)	SAE AMS-S-8802, Type 2, Class B, Grade 1/2	19 oz (0.562 liter)	Commercial
S-2	Epoxy Primer (C318)	MIL-PRF-23377, Type 1, Class C; or MIL-PRF-23377, Type 2, Class C	As Necessary	Commercial
S-3	Chemical Coating (C316)	Iridite 14-2	As Necessary	Commercial
S-4	Epoxy Adhesive (C402)	Hysol EA 9330.3	1 oz (29.6 ml)	Commercial
S-5	Oil, Daphne, Hermetic, R-134A (C117)	RG20, RS20, or Daphne Hermetic Oil PR (DHPR)	3 oz (88.7 ml)	Commercial
S-6	Isopropyl Alcohol (C419)	ASTM D770	As Necessary	Commercial

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 17 OF 48

Supplies (Ref. CSP-SPM) (Cont.)				
Item	Nomenclature	Part No.	Qty.	Source
S-7	Fluorosilicone Compound (C222)	Silastic 730	1 oz (29.6 ml)	Commercial
S-8	Lockwire (C701)	MS20995C20	As Necessary	Commercial
S-9	Lockwire (C702)	MS20995C32	As Necessary	Commercial
S-10	Sealant (C211)	MDM16-1097, Type 3, Class B, Grade 1/2	1 oz (29.6 ml)	Commercial
S-11	Compound, Heat-Sink, Silicone	MIL-DTL-47113; M47113-1	As Necessary	Commercial

K. Warranty Policy:

N/A

L. Disposition of Parts Removed:

N/A

M. Tooling:

N/A

N. Weight and Balance:

This modification and installation changes the rotorcraft weight and balance:

Helicopter Configuration	Add/Subtract	Weight (lb)	Moment (in-lb)
For helicopters that had a vent system installed:	Add	68.29	13114
For helicopters SN 900-00010 thru 900-00076, 900-00079, and 900-00080 that had lower fuselage air conditioning system installed:	Subtract	18.77	5254

O. Electrical Load Data:

An increase of 1.3 amperes.

P. Other Publications Affected:

CSP-900RMM-2 Rotorcraft Maintenance Manual – Servicing and Maintenance

CSP-900IPL-4 Illustrated Parts List

Q. Referenced Publications:

Refer to the latest revision of these publications for procedures and additional information:

DATE: 11 FEB 2022

PAGE 18 OF 48

TECHNICAL BULLETIN

Service Bulletin SB900-037 Condenser Fan EMI Filter Installation

Service Letter SL900-035 Vent System Air Duct / Additional Air Outlets Installation

TB900-051 Modification for the 12-Volt Clutch Refrigerant Compressor Assembly Installation

CSP-RLB Rotorcraft Log Book

CSP-SPM Standard Practice Manual

CSP-900RMM-2 Rotorcraft Maintenance Manual – Servicing and Maintenance

CSP-900RMM-3 Rotorcraft Maintenance Manual – Instruments / Electrical / Avionics

CSP-900IPL-4 Illustrated Parts List

2. ACCOMPLISHMENT INSTRUCTIONS

NOTE: If helicopters, SN 900-00010 thru 900-00038, did not have the SL900-035 Vent System Air Duct/Additional Air Outlets Installation done, do the SL900-035 modification.

A. Removal:

NOTE: Use Kit TBK900-029-5 and TBK900-029-6 (Table 5 and Table 6).

- (1). Remove cabin roof acoustic insulation. (Ref. CSP-900RMM-2, Section 25-20-00)
- (2). Remove transmission lubrication cooling system left and right heat exchangers. (Ref. CSP-900RMM-2, Section 63-21-00)
- (3). If helicopter serial number is 900-00010 thru 900-00018 and does not have 900D3658501-103 transmission oil coolers installed, remove left and right transmission oil in hose. (Ref. CSP-900RMM-2, Section 63-21-00)
- (4). If vent system is installed, do these steps:
 - (a). Remove the vent system water separator to valve flexible duct. (Ref. CSP-900RMM-2, Section 21-20-00)
 - (b). Remove the vent system roof deck duct. (Ref. CSP-900RMM-2, Section 21-20-00)
 - (c). Remove the vent system recirculating fan. (Ref. CSP-900RMM-2, Section 21-20-00)
 - (d). Remove the vent system forward and aft recirculating fan brackets. (Ref. CSP-900RMM-2, Section 21-20-00)
 - (e). Remove the vent system cover. (Ref. CSP-900RMM-2, Section 21-20-00)

NOTE: Do not fully tighten vent fan wire harness support clamps, evaporator fan wire harness will be installed in the same clamps in a later procedure.

- (f). Remove vent fan Wire Harness W306. (Ref. CSP-900RMM-3, Section 98-30-00)
- (5). If lower fuselage air-conditioning system is installed, do these steps:
 - (a). Recover refrigerant from the air-conditioning system. (Ref. CSP-900RMM-2, Section 12-00-00)

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 19 OF 48



Immediately install caps or plugs on removed components to prevent contamination.

NOTE: Do not remove condenser stand, condenser inlet screen, condenser exhaust frame, or condenser exit screen.

- (b). Remove condenser, condenser transition duct, condenser scoop shim, and condenser scoop. (Ref. CSP-900RMM-2, Section 21-50-00)
- (c). Remove condenser fan Wire Harness W304 and EMI filters. (Ref. CSP-900RMM-3, Section 98-30-00, CSP-SPM, and SB900-037)
- (d). Remove keel beam to condenser and condenser to keel beam tubes and fittings. (Ref. CSP-900RMM-2, Section 21-50-00)
- (e). Remove keel beam to floor and floor to keel beam tubes and fittings. (Ref. CSP-900RMM-2, Section 21-50-00)
- (f). Remove baggage closet tubes and fittings. (Ref. CSP-900RMM-2, Section 21-50-00)
- (g). Remove baggage closet to deck and deck to baggage closet tubes. (Ref. CSP-900RMM-2, Section 21-50-00)
- (h). Remove deck to receiver dehydrator hose. (Ref. CSP-900RMM-2, Section 21-50-00)
- (i). Remove compressor out hose. (Ref. CSP-900RMM-2, Section 21-50-00)
- (j). Remove baggage closet to deck and deck to baggage closet bulkhead elbows. (Ref. CSP-900RMM-2, Section 21-50-00)
- (k). Install plug buttons (Item 5-55 or Item 6-45) in holes where bulkhead elbows were removed.

Sealant, Fuel Resistant (C216)



- (l). Mix sealant (Item S-1). (Ref. the manufacturer instructions)
- (m). Environmentally seal plug buttons with sealant (Item S-1). (Ref. CSP-SPM)
- (n). Remove receiver dehydrator to high pressure switch tube. (Ref. CSP-900RMM-2, Section 21-50-00)
- (o). Remove receiver dehydrator and bracket. (Ref. CSP-900RMM-2, Section 21-50-00)
- (p). Remove high-pressure switch to mid-section tube. (Ref. CSP-900RMM-2, Section 21-50-00)
- (q). Remove ECS mid-section to low-pressure switch tube (Ref. CSP-900RMM-2, Section 21-50-00)
- (r). Remove mid-section to evaporator tube (Ref. CSP-900RMM-2, Section 21-50-00)
- (s). Remove ECS evaporator to mid-section tube. (Ref. CSP-900RMM-2, Section 21-50-00)

DATE: 11 FEB 2022

PAGE 20 OF 48

TECHNICAL BULLETIN

- (t). Remove clamp support bracket at FS 210.3 and LBL 15.6.
- (u). Remove clamp support bracket at FS 212.8 and LBL 7.3.
- (v). Remove clamp support bracket at FS 211.5 and RBL 8.1.
- (w). Install rivets (Item 5-1 or 6-1 and 5-2 or 6-2) in holes where clamp support bracket attach rivets were installed.
- (x). For helicopters, SN 900-00010 thru 900-00051, do these steps:
 - 1). Remove outlet shroud. (Ref. CSP-900RMM-2, Section 21-50-00)
 - 2). For helicopters, SN 900-00010 thru 900-00018, remove evaporator and discard. (Ref. CSP-900RMM-2, Section 21-50-00)
 - 3). For helicopters, SN 900-00010 thru 900-00018, remove compressor. (Ref. CSP-900RMM-2, Section 21-50-00)
 - 4). For helicopters, SN 900-00019 thru 900-00051, remove evaporator and keep for installation in a later step. (Ref. CSP-900RMM-2, Section 21-50-00)
 - 5). For helicopters, SN 900-00019 thru 900-00051, do the evaporator internal and external cleaning procedures. (Ref. CSP-SPM, Section 20-20-00)
 - 6). Remove inlet shroud. (Ref. CSP-900RMM-2, Section 21-50-00)
- (y). For helicopters, SN 900-00010 or 900-00011, remove fan to evaporator flexible duct. (Ref. CSP-900RMM-2, Section 21-50-00)

B. Change Hydraulic System Tube Routing Helicopter, SN 900-00010 thru 900-00051:

NOTE: Use Kit TBK-029-8 or TBK-029-9 (Table 8 or Table 9).

(Ref. Figure 1 and Figure 2)

- (1). Remove hydraulic tubes:
 - (a). Remove bolts (2), washers (3), and clamp blocks (4).
 - (b). Remove screws (11), washers (12), clamps (13), and spacers (14).
 - (c). For helicopters, SN 900-00014 thru 900-00051: remove bolts (15), washers (16), and clamp block (17).



Immediately install caps on open hydraulic fittings to prevent contamination.

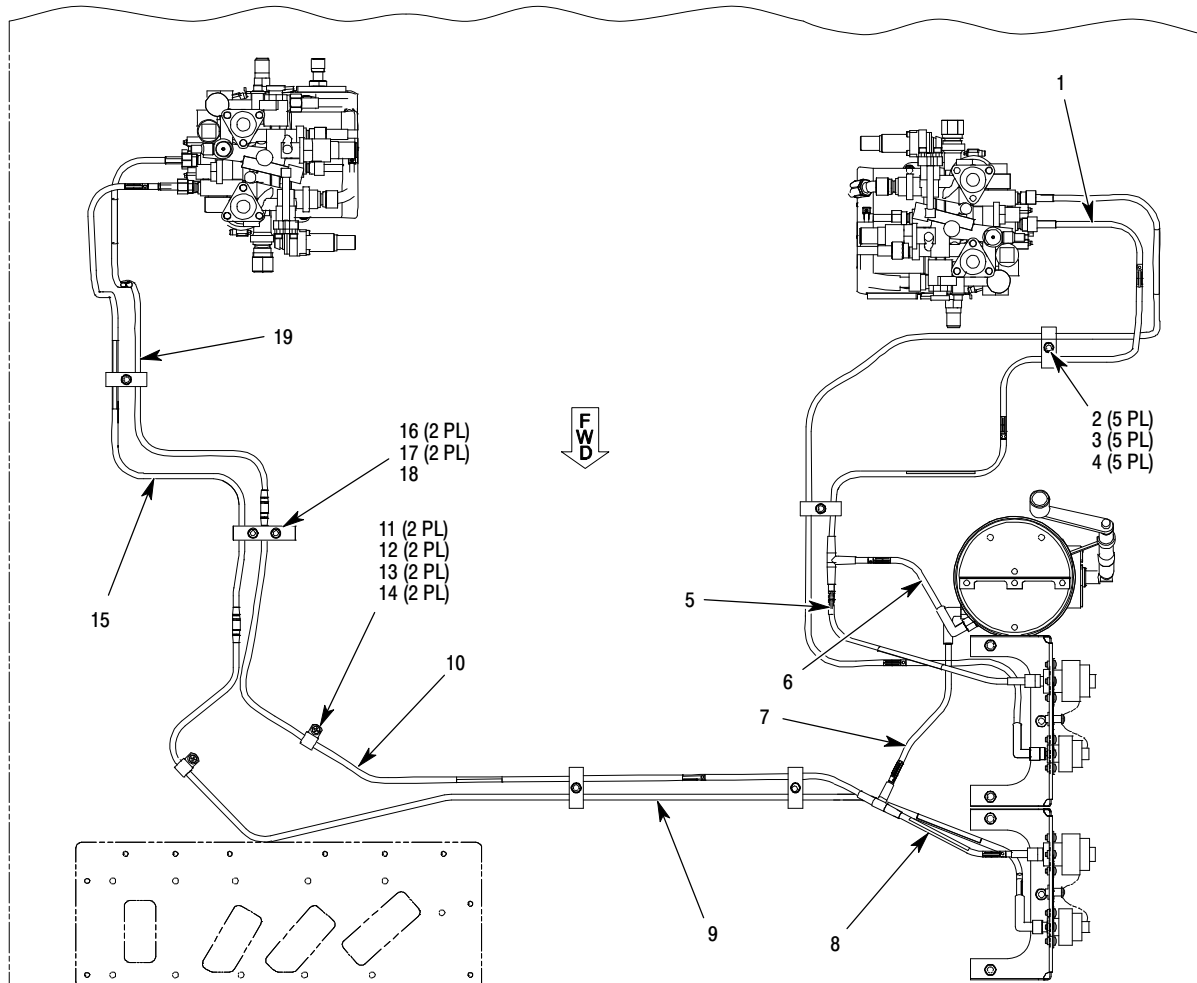
NOTE: If necessary, cut hydraulic tubes to remove.

- (d). If optional hydraulic system hand pump is installed, remove System 1 hydraulic tubes (1, 5, 6).
- (e). If optional hydraulic system hand pump is not installed, remove System 1 hydraulic tubes (1, 5).
- (f). If optional hydraulic system hand pump is installed, remove System 2 hydraulic tubes (7, 8, 10, 19).
- (g). If optional hydraulic system hand pump is not installed, remove System 2 hydraulic tubes (8, 10, 19).

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 21 OF 48



VIEW LOOKING DOWN
AT UPPER DECK

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- | | |
|---|--|
| 1. HYDRAULIC SYSTEM 1 GSE RETURN TUBE | 11. SCREW |
| 2. BOLT | 12. WASHER |
| 3. WASHER | 13. LOOP CLAMP |
| 4. CLAMP BLOCK | 14. SPACER |
| 5. HYDRAULIC SYSTEM 1 GSE RETURN TUBE | 15. BOLT |
| 6. HYDRAULIC SYSTEM 1 HAND PUMP FILL TUBE, OPTIONAL | 16. WASHER |
| 7. HYDRAULIC SYSTEM 2 HAND PUMP FILL TUBE, OPTIONAL | 17. CLAMP BLOCK |
| 8. HYDRAULIC SYSTEM 2 GSE RETURN TUBE | 18. HYDRAULIC SYSTEM 2 GSE PRESSURE TUBE |
| 9. HYDRAULIC SYSTEM 2 GSE PRESSURE TUBE | 19. HYDRAULIC SYSTEM 2 GSE RETURN TUBE |
| 10. HYDRAULIC SYSTEM 2 GSE RETURN TUBE | |

Figure 1. Hydraulic Tube Removal

DATE: 11 FEB 2022

PAGE 22 OF 48

TECHNICAL BULLETIN

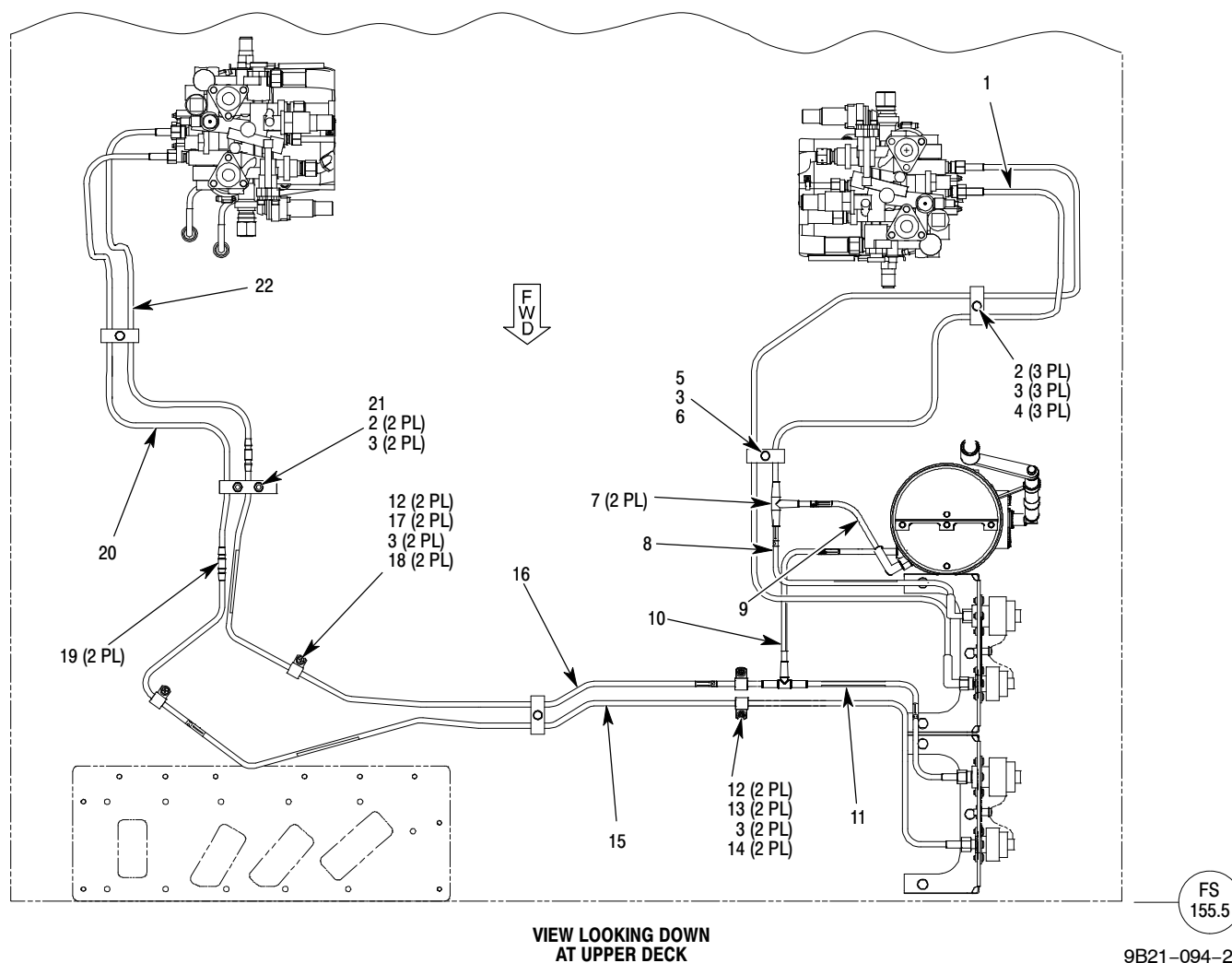


Figure 2. Hydraulic Tube Installation

(h). Remove System 2 hydraulic tubes (9, 18).

(2). Install new hydraulic tubes:

(a). If optional hydraulic hand pump is installed:

1). Put Hydraulic System 1 return tube (1), Hydraulic System 1 return tube (8), hydraulic system 1 hand pump fill tube tube (9), and tee (7) in their installed positions.

2). Swage tee (7). (Ref. CSP-SPM, Section 20-80-00)

(b). If optional hydraulic hand pump is not installed:

1). Put Hydraulic System 1 return tube (1), Hydraulic System 1 return tube (8), and union (7) in their installed positions.

2). Swage union (7). (Ref. CSP-SPM, Section 20-80-00)

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 23 OF 48

Legend (Ref. Figure 2)

- | | |
|--|--|
| 1. HYDRAULIC SYSTEM 1 GSE RETURN TUBE ITEM 8-6 OR 9-6 | 12. LOOP CLAMP ITEM 8-12 OR 9-12 |
| 2. BOLT ITEM 8-11 OR 9-11 | 13. SCREW ITEM 8-13 OR 9-13 |
| 3. WASHER ITEM 8-10 OR 9-10 | 14. SPACER ITEM 8-14 OR 9-14 |
| 4. CLAMP BLOCK ITEM 8-17 OR 9-20 | 15. HYDRAULIC SYSTEM 2 GSE PRESSURE TUBE ITEM 8-1 OR 9-1 |
| 5. BOLT ITEM 8-18 OR 9-21 | 16. HYDRAULIC SYSTEM 2 GSE RETURN TUBE ITEM 8-4 OR 9-4 |
| 6. CLAMP BLOCK ITEM 8-19 OR 9-22 | 17. SCREW ITEM 8-15 OR 9-15 |
| 7. UNION ITEM 8-8 OR TEE ITEM 9-19 | 18. SPACER ITEM 8-16 OR 9-16 |
| 8. HYDRAULIC SYSTEM 1 GSE RETURN TUBE ITEM 8-7 OR 9-6 | 19. UNION ITEM 8-8 OR 9-8 |
| 9. HYDRAULIC SYSTEM 1 HAND PUMP FILL TUBE, OPTIONAL ITEM 9-17 | 20. HYDRAULIC SYSTEM 2 GSE PRESSURE TUBE ITEM 8-2 OR 9-2 |
| 10. HYDRAULIC SYSTEM 2 HAND PUMP FILL TUBE, OPTIONAL ITEM 9-18 | 21. CLAMP BLOCK ITEM 8-9 OR 9-9 |
| 11. HYDRAULIC SYSTEM 2 GSE RETURN TUBE ITEM 8-5 OR 9-5 | 22. HYDRAULIC SYSTEM 2 GSE RETURN TUBE ITEM 8-3 OR 9-3 |

(c). If the optional hydraulic hand pump is installed;

- 1). Put Hydraulic System 2 return tube (11), hydraulic System 2 return tube (16), hydraulic System 2 return tube (22), hydraulic system 2 hand pump fill tube (10), tee (7), and union (19) in their installed positions.
- 2). Swage tee (7) and union (19). (Ref. CSP-SPM, Section 20-80-00)

(d). If the optional hydraulic hand pump is not installed:

- 1). Put Hydraulic System 2 return tube (11), Hydraulic System 2 return tube (16), Hydraulic System 2 return tube (22), and unions (7, 19) in their installed positions.
- 2). Swage unions (7, 19). (Ref. CSP-SPM, Section 20-80-00)

(e). Put Hydraulic System 2 pressure tube (15), Hydraulic System 2 pressure tube (20), and union (19) in their installed positions.

- 1). Swage union (19). (Ref. CSP-SPM, Section 20-80-00)

(f). Install clamp blocks (4, 6), washers (3), and bolts (2, 5).

- 1). Tighten bolts until upper and lower clamp block cushions touch.
- 2). Tighten bolts tighten one to two turns more.

(g). Install spacers (14), clamps (12), washers (3), and screws (13).

- 1). Torque screws (13).

(h). Install spacers (18), clamps (12), washers (3), and screws (17).

- 1). Torque screws (17).

DATE: 11 FEB 2022

PAGE 24 OF 48

TECHNICAL BULLETIN

- (i). Install clamp block (21), washers (3), and bolts (2).
 - 1). Tighten bolts (2) until upper and lower clamp block cushions touch.
 - 2). Tighten bolts (2) one to two turns more.

C. Heat Exchanger Mount Attach Point Modification:

NOTE: Use Kit TBK900-029-1 (Table 1).

(Ref. Figure 3)

Protective Equipment



- (1). Remove rivets and nutplates that attach heat exchanger mounts.
- (2). Align radius block (2, 3, 5) attach hole with heat exchanger attach hole in upper deck with chamfer on radius block inboard.
- (3). Make marks at forward and aft end of radius blocks (2, 3, 5).
- (4). Remove radius blocks (2, 3, 5).
- (5). Remove rivets in upper deck where radius blocks are installed.
- (6). Align radius block attach hole with heat exchanger attach hole in upper deck with chamfer on radius block inboard.
- (7). Drill rivet holes in radius blocks with a Number 30 (3.26 mm) drill.
- (8). Remove radius blocks.
- (9). Deburr the holes.

Primer, Epoxy (C317)

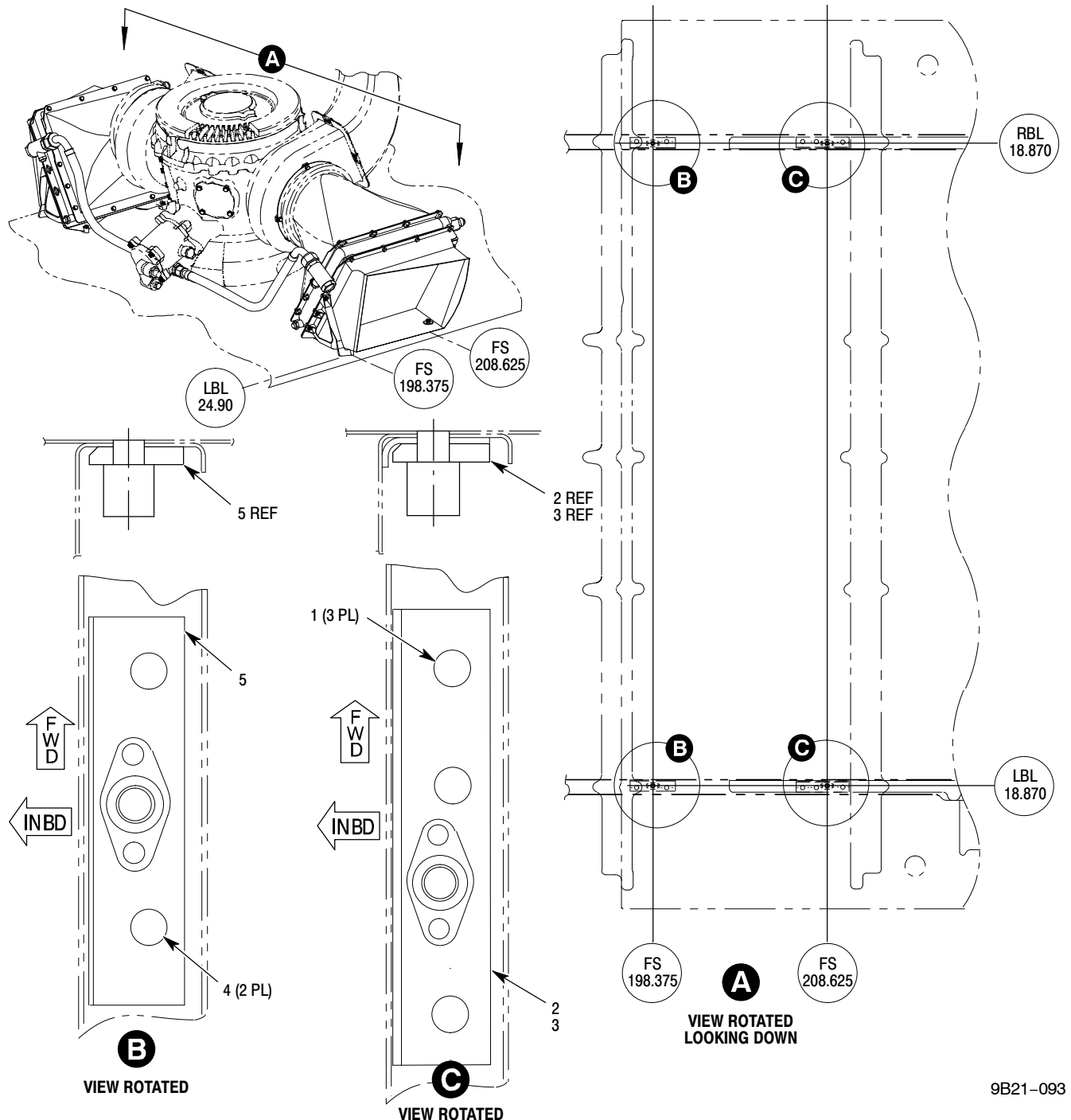


- (10). Wet install ten rivets (1, 4) with primer (Item S-2) through upper deck and radius blocks (2, 3, 5).
- (11). For helicopters, SN 900-00010 thru 900-00018, install:
 - (a). New heat exchangers
 - (b). New left and right oil in hose
 - (c). Left and right aft heat exchanger mount (Item 1-10 and 1-11)
 - (d). Left and right condenser (Item 1-8 and 1-9)
 - (e). Left and right cooling duct (Item 1-6 and 1-7)
 - (f). Grommets (Item 1-12)

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 25 OF 48



- | | |
|--------------------------------------|------------------------------------|
| 1. RIVET (ITEM 1-4) | 4. RIVET (ITEM 1-5) |
| 2. LEFT AFT RADIUS BLOCK (ITEM 1-2) | 5. FORWARD RADIUS BLOCK (ITEM 1-1) |
| 3. RIGHT AFT RADIUS BLOCK (ITEM 1-3) | |

Figure 3. Heat Exchanger Attach Point Modification

DATE: 11 FEB 2022

PAGE 26 OF 48

TECHNICAL BULLETIN

- (g). Bolts (Items 1-13, 1-15, 1-16, 1-18)
- (h). Washers (Items 1-14, 1-17, 1-19)
- (i). Ref. CSP-900RMM-2, Section 63-21-00

■ (12). For helicopters, SN 900-00019 thru 900-00141, install:

- (a). Removed heat exchangers
- (b). Left and right aft heat exchanger mounts (Items 1-10, 1-11)
- (c). Left and right condensers (Items 1-8, 1-9)
- (d). Left and right cooling ducts (Items 1-6, 1-7)
- (e). Grommets (Item 1-12)
- (f). Bolts (Items 1-13, 1-15, 1-16, 1-18, 1-19)
- (g). Washers (Items 1-14, 1-17)
- (h). Ref. CSP-900RMM-2, Section 63-21-00

D. Condensate Drain Installation Helicopter, SN 900-00010 thru 900-00051:

NOTE: Use Kit TBK900-029-2 (Table 2).

NOTE: Install condensate drain if vent system was installed or helicopter serial number is 900-00010 thru 900-00051.

(Ref. Figure 4)

- (1). Remove interior trim sufficiently to get access to area below forward upper deck and forward left side fuselage. (Ref. CSP-900RMM-2, Section 25-20-00)
- (2). Install grommet (1) on four holes in fuselage that flexible plastic tubing (2) will go through:

Alcohol, Isopropyl (C419)



- (a). Clean surfaces of fuselage and grommets with isopropyl alcohol (Item S-6).
 - 1). Let surfaces dry in the air for **15 minutes minimum**.

Adhesive, Epoxy (C402)



- (b). Mix epoxy adhesive (Item S-4). (Ref. the manufacturer instructions)
- (c). Apply epoxy adhesive (Item S-4) to inner side of grommets (1).
- (d). Install grommets (1) on holes in fuselage.

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 27 OF 48

- (e). Cure epoxy adhesive (Item S-4). (Ref. the manufacturer instructions)
- (3). Increase dimension of hole in lower fuselage:
 - (a). Remove grommet (3) from hole in lower fuselage.
 - (b). Make a **1.06 to 1.09 inch (26.9 to 27.7 mm)** dimension mark on the fuselage for the hole.
 - (c). Align the mark and hole aft edges.

Protective Equipment



- (d). Increase the dimension of the hole in the lower fuselage from **1.06 to 1.09 inch (26.9 to 27.7 mm)** with a rotary file or equivalent.

CAUTION

- Do not sand into or expose graphite/epoxy fibers.
- Do not use aluminum oxide abrasives on graphite/epoxy materials.
- (e). Smooth edges of hole with 180 grit or finer sandpaper.

Primer, Epoxy (C317)



- (f). Touch up hole with primer (Item S-2).
- (g). Touch up paint to agree with adjacent area. (Ref. CSP-SPM, Section 20-30-00)
- (4). Install new grommet (3) in hole in lower fuselage.
- (5). Make a mark at FS 161.86 and LBL 9.00 on upper deck.
- (6). Drill a pilot hole at mark with a No. 40 (2.49 mm) drill.
- (7). Increase dimension of pilot hole **1.140 to 1.160 inch (28.96 to 29.46 mm)**.
- (8). Align drain cup (7) center with hole center
- (9). Make a mark at four drain cup attach hole locations.
- (10). Remove drain cup.
- (11). Drill a pilot hole at each of the four marks with a No. 40 (2.49 mm) drill.
- (12). Increase dimension of four pilot holes with a No. 27 (3.66 mm) drill.
- (13). Deburr the holes.

Sealant, Fuel Resistant (C216)



- (14). Mix sealant (Item S-1). (Ref. the manufacturer instructions)

DATE: 11 FEB 2022

PAGE 28 OF 48

TECHNICAL BULLETIN

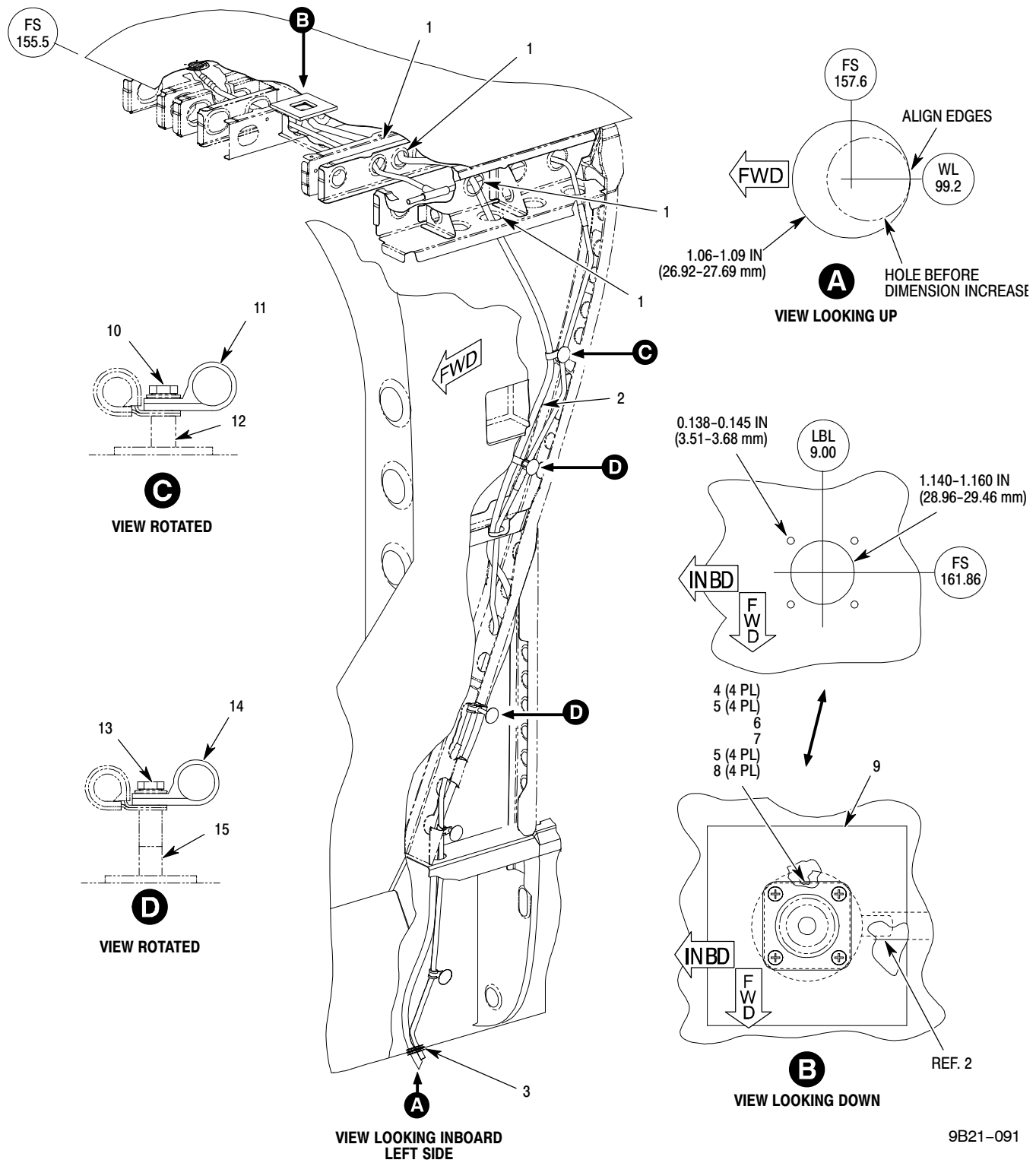


Figure 4. Condensate Drain Installation

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 29 OF 48

Legend (Ref. Figure 4)

- | | |
|-------------------------------------|--------------------------|
| 1. GROMMET ITEM 2-12 | 9. DRAIN GASKET ITEM 2-1 |
| 2. FLEXIBLE PLASTIC TUBING ITEM 2-6 | 10. SCREW ITEM 2-10 |
| 3. GROMMET ITEM 2-2 | 11. CLAMP ITEM 2-9 |
| 4. SCREW ITEM 2-4 | 12. STUD |
| 5. WASHER ITEM 2-3 | 13. SCREW ITEM 2-11 |
| 6. DRAIN SCREEN ITEM 2-8 | 14. CLAMP ITEM 2-9 |
| 7. DRAIN CUP ITEM 2-7 | 15. STUD |
| 8. NUT ITEM 2-5 | |

-
- (15). Apply sealant (Item S-1) on upper surface of drain cup (7).
 - (16). Put drain screen (6) on top of drain cup (7).
 - (17). Apply more sealant on upper surface of drain screen (6).
 - (18). Put drain cup (7) and drain screen (6) in their installed position under upper deck.
 - (19). Install screws (4), washers (5), and nuts (8).
 - (a). Torque nuts **12 to 15 inch-pounds (1.36 to 1.69 Nm)**.
 - (20). Put flexible plastic tubing (2) in its installed position.
 - (21). Connect flexible plastic tubing (2) to drain cup (7).
 - (22). Safety flexible plastic tubing (2) to drain cup (7) with lockwire (Item S-8).
 - (23). Remove screw (10).

NOTE: Before you torque screws, turn clamps to give smooth routing of flexible plastic tubing.

- (24). Install clamp (11) and longer screw (10).
 - (a). Torque screw.
- (25). Remove screws (13).
- (26). Install clamps (14) and longer screws (13).
 - (a). Torque screws.
- (27). Cut flexible plastic tubing (2) at a forty-five degree angle **1.25-1.75 inch (31.75-44.45 mm)** from outer side of fuselage.
- (28). Cut so opening on end of tubing points aft.

Alcohol, Isopropyl (C419)



- (a). Clean surfaces of fuselage and drain gasket (9) with isopropyl alcohol (Item S-6).
 - 1). Let surfaces dry in the air for **15 minutes minimum**.

DATE: 11 FEB 2022

PAGE 30 OF 48

TECHNICAL BULLETIN

Fluorosilicone Compound (C222)



(29). Apply fluorosilicone compound (Item S-7) on bottom of drain gasket (9).

(30). Align center of drain gasket (9) and drain cup (7).

(31). Install gasket (9).

E. Seal Open Holes in Upper Deck Helicopter, SN 900-00010 thru 900-00109:

NOTE: Use Kit TBK-029-7 (Table 7).

(Ref. Figure 5)

Alcohol, Isopropyl (C419)



(1). Clean surface of upper deck where screws (11, 13) and packing with retainers (12, 14) will be installed with isopropyl alcohol (Item S-6).

(a). Let surfaces dry in the air for **15 minutes minimum**.

(2). Clean aft surface of FS 155.5 frame where aluminum tape (24) will be installed with isopropyl alcohol (Item S-6).

(a). Let surfaces dry in the air for **15 minutes minimum**.

(3). Install screws (11, 13) and packing with retainers (12, 14).

(a). Torque screws.

(4). Cut aluminum foil tape (24) into two **0.75 inch (19 mm)** round pieces.

(5). Install aluminum foil tape (24) to aft surface of FS 155.5 frame.

Sealant, Fuel Resistant (C216)



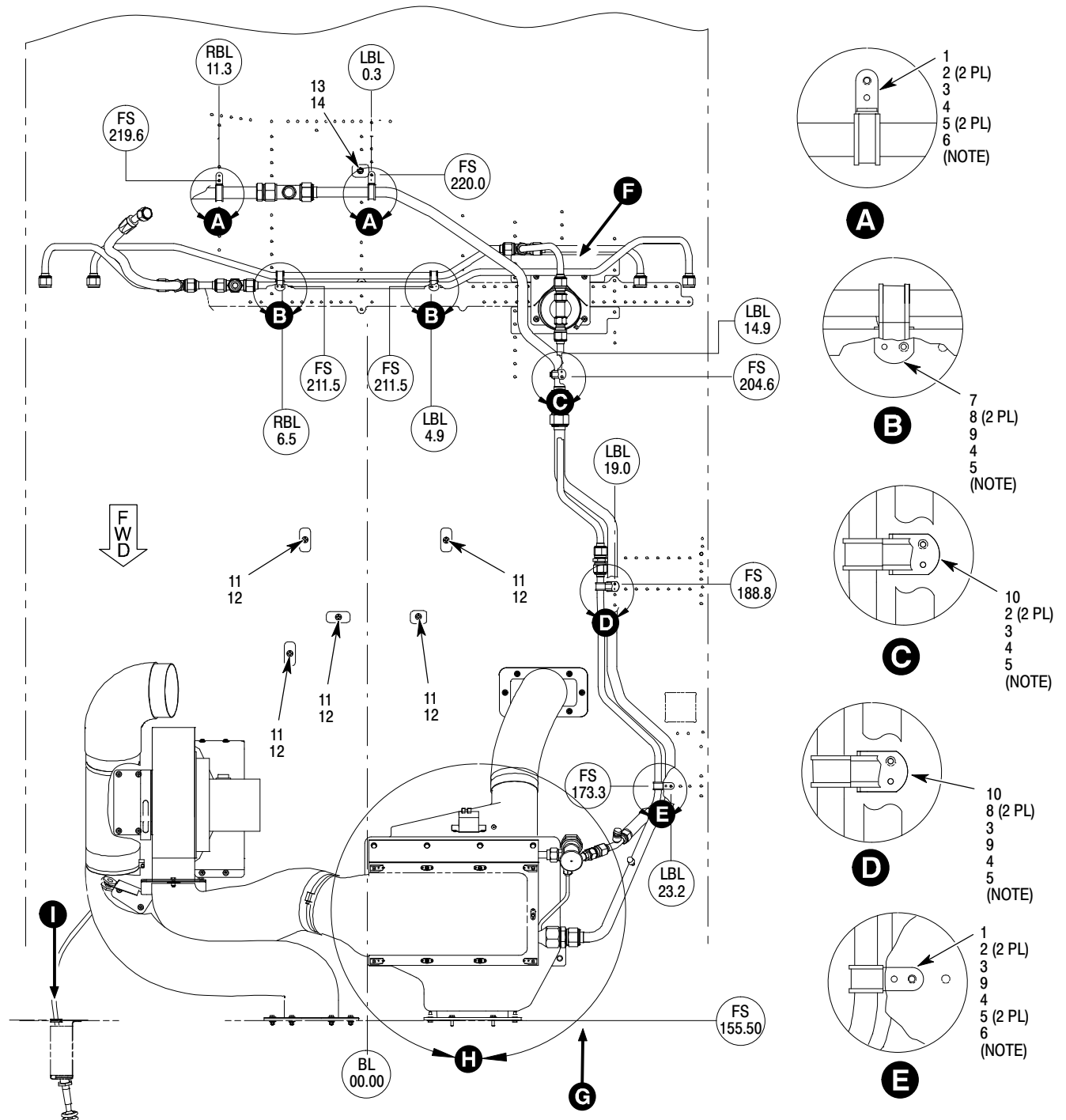
(6). Mix sealant (Item S-1). (Ref. the manufacturer instructions)

(7). Apply sealant (Item S-1) to full surface of aluminum foil tape and on FS 155.5 frame **0.13 inch (3.3 mm)** around the edge of the aluminum foil with a thickness of **0.015 to 0.030 inch (0.38 to 0.76 mm)**.

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 31 OF 48



NOTE: INSTALL BRACKETS TO GET NECESSARY CLEARANCE AND A MINIMUM LOAD ON TUBES. MOVEMENT OF BRACKETS ONE UPPER DECK RIVET SPACE OR ONE BRACKET SPACE IS PERMITTED. MAXIMUM PERMITTED BRACKET MOVEMENT 0.5 INCH (12.7 MM).

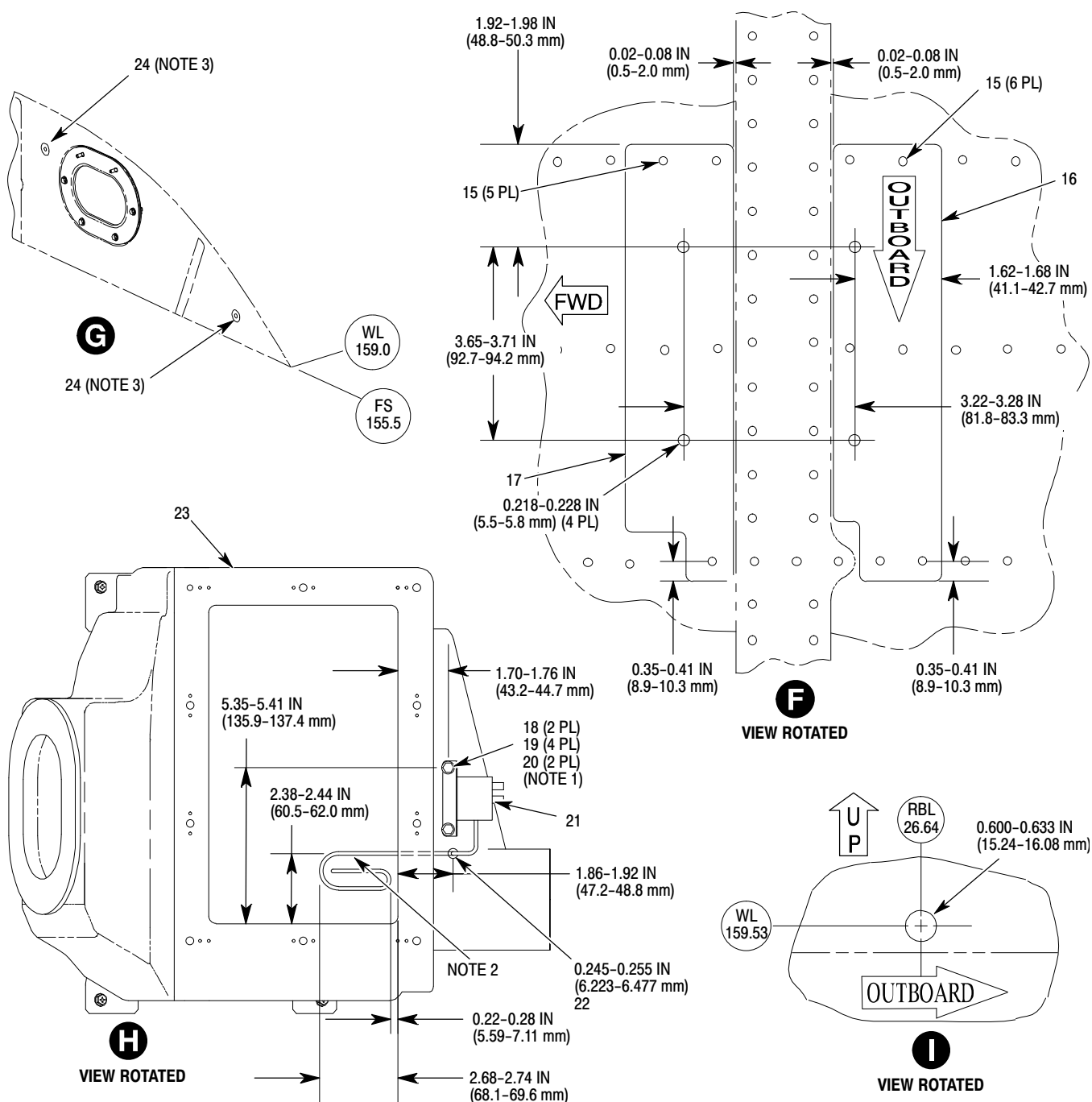
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Figure 5. Upper Deck Air-Conditioning System Installation (Sheet 1 of 2)

DATE: 11 FEB 2022

PAGE 32 OF 48

TECHNICAL BULLETIN



NOTES:

1. DRILL HOLES TO AGREE WITH HOLES IN THERMOSTATIC SWITCH.
2. INSTALL TEMPERATURE SENSING PROBE APPROXIMATELY AS SHOWN. PROBE MUST BE 0.0-0.2 IN (0.0-5.0 mm) BELOW EVAPORATOR ATTACH SURFACE.
3. APPLY 0.75 IN (19mm) DISK OF ALUMINUM FOIL TAPE TO AFT SIDE OF FS 155.5 FRAME ON OPEN TOOLING HOLES. APPLY SEALANT ON FULL SURFACE OF DISK AND ON FRAME 0.13 IN (3.3 mm) AROUND EDGE OF DISK WITH A

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Figure 5. Upper Deck Air-Conditioning System Installation (Sheet 2 of 2)

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 33 OF 48

Legend (Ref. Figure 5)

- | | |
|--|---|
| 1. SUPPORT CLAMP BRACKET (ITEM 4-74) | 13. SCREW (ITEM 7-3) |
| 2. RIVET (ITEM 4-77 OR 5-51 OR 6-41) | 14. PACKING WITH RETAINER (ITEM 7-4) |
| 3. CLAMP (ITEM 4-73 OR 5-48 OR 6-37) | 15. RIVET (ITEM 3-3) |
| 4. SCREW (ITEM 4-70 OR 5-45 OR 6-34) | 16. RECEIVER DEHYDRATOR BRACKET AFT DOUBLER (ITEM 3-2) |
| 5. WASHER (ITEM 4-20 OR 5-6 OR 6-5) | 17. RECEIVER DEHYDRATOR BRACKET FORWARD DOUBLER (ITEM 3-1) |
| 6. NUT (ITEM 4-18 OR 5-7 OR 6-6) | 18. SCREW (ITEM 4-2 AND 5-5) |
| 7. ANGLE BRACKET WITH LOCKNUT (ITEM 4-75 OR 5-49 OR 6-39) | 19. WASHER (ITEM 4-20 AND 5-6) |
| 8. RIVET (ITEM 4-78 OR 5-52 OR 6-42) | 20. NUT (ITEM 4-18 AND 5-7) |
| 9. CLAMP (ITEM 4-71 OR 5-46 OR 6-35) | 21. THERMOSTATIC SWITCH (ITEM 4-23) OR THERMOSTATIC SWITCH REMOVED BEFORE |
| 10. ANGLE BRACKET WITH LOCKNUT (ITEM 4-76 OR 5-50 OR 6-40) | 22. GROMMET (ITEM 4-24 AND 5-4) |
| 11. SCREW (ITEM 7-1) | 23. OUTLET SHROUD (ITEM 4-22 AND 5-3) |
| 12. PACKING WITH RETAINER (ITEM 7-2) | 24. ALUMINUM FOIL TAPE (ITEM 7-5) |

F. Install Receiver Dehydrator Bracket Doublers:

NOTE: Use Kit TBK900-029-3 (Table 3).

(Ref. Figure 5)

- (1). Find location of receiver dehydrator bracket forward (17) and aft (16) doublers.

Protective Equipment



- (2). Remove rivets from upper deck where receiver dehydrator bracket forward (17) and aft (16) doublers will be installed.
- (3). Put receiver dehydrator bracket forward doubler (17) in its installed position.
- (4). Transfer hole location where rivets were removed to receiver dehydrator bracket forward doubler (17).
- (5). Remove doubler.
- (6). Put receiver dehydrator bracket aft doubler (16) in its installed position.
- (7). Transfer hole location where rivets were removed to receiver dehydrator bracket aft doubler (16).
- (8). Remove doubler.
- (9). Drill pilot holes at the eleven rivet hole locations in the two doublers with a No. 40 (2.49 mm) drill.

DATE: 11 FEB 2022

PAGE 34 OF 48

TECHNICAL BULLETIN

- (10). Increase dimension of eleven pilot holes with a No. 30 (3.26 mm) drill.
- (11). Deburr holes.
- (12). Put receiver dehydrator bracket forward (17) and aft (16) doublers in their installed position.
 - (a). Temporarily attach with Clecros.
- (13). Find location of receiver dehydrator bracket attach holes with the receiver dehydrator bracket.
- (14). Drill four pilot holes at receiver dehydrator bracket attach hole locations through the two doublers and upper deck with a No. 40 (2.49 mm) drill.
- (15). Increase dimension of four pilot holes with a No. 2 (5.61 mm) drill.
- (16). Remove receiver dehydrator bracket forward (17) and aft (16) doublers.
- (17). Deburr the holes.

Chemical Coating (C233)



- (18). Touch up holes with chemical coating (Item S-3).

Primer, Epoxy (C317)



- (19). Touch up holes with primer (Item S-2).
- (20). Apply a thin layer of primer (Item S-2) on rivets (15).
- (21). Wet install receiver dehydrator bracket forward (17) and aft (16) doublers with rivets (15).

G. Installation:

NOTE: Use Kit TBK900-029-4 or TBK900-029-5 or TBK900-029-6 (Table 4 or Table 5 or Table 6).

(Ref. Figure 5)

- (1). For helicopters that had vent system installed, do these steps:
 - (a). Remove forward attach bolt and washer from water separator. (Ref. CSP-900RMM-2, Section 21-20-00)
 - (b). Prepare mating surface of evaporator fan and upper deck for electrical bond. (Ref. CSP-SPM, Section 20-50-00)

NOTE: Put evaporator fan between forward leg of water separator and attach bracket.

- (c). Install evaporator fan (Item 4-1), screws (Items 4-2, 4-3), and washers (Item 4-4). (Ref. CSP-900RMM-2, Section 21-50-00)

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 35 OF 48

- (d). Test evaporator fan for Class R electrical bond. (Ref. CSP-SPM, Section 20-60-00)
- (e). Install three-way valve (Item 4-5) and V-band clamp (Item 4-6). (Ref. CSP-900RMM-2, Section 21-50-00)
- (f). Install cable bracket (Item 4-7), screws (Item 4-2), and washers (Item 4-4). (Ref. CSP-900RMM-2, Section 21-50-00)
- (g). Install split grommet (Item 4-8), three-way valve cable (Item 4-10), screws (Item 4-11), washers (Item 4-4), washers (Item 4-12), and cotter pin (Item 4-13). (Ref. CSP-900RMM-2, Section 21-50-00)

Adhesive, Epoxy (C402)



- (h). Bond with epoxy adhesive (Item S-4) approximately **0.7 inch (18 mm)** of grommet (Item 4-9) on right forward access door forward bracket adjacent to three-way valve cable. (Ref. the manufacturer instructions)
- (i). Install water separator to valve duct (Item 4-14) and clamp (Item 4-15). (Ref. CSP-900RMM-2, Section 21-50-00)
- (j). Install bulkhead to valve duct (Item 4-16), screws (Item 4-17), washers (Item 4-4), nuts (Item 4-18), and clamp (Item 4-15). (Ref. CSP-900RMM-2, Section 21-50-00)
- (k). Install evaporator to deck duct (Item 4-21), screws (Item 4-17), and washers (Item 4-20). (Ref. CSP-900RMM-2, Section 21-50-00)
- (l). Install fan to evaporator flexible duct (Item 4-19), screws (Item 4-11), and washers (Item 4-4). (Ref. CSP-900RMM-2, Section 21-50-00)
- (m). Install compressor (Item 4-36), washers (Item 4-37), and nuts (Item 4-38). (Ref. CSP-900RMM-2, Section 21-50-00)
- (n). Install union (Item 4-39), hose (Item 4-40), tubes (Items 4-41, 4-42), and tee (Item 4-43). (Ref. CSP-900RMM-2, Section 21-50-00)
- (2). For helicopters, SN 900-00010 and 900-00011, that had the lower fuselage air-conditioning system installed do this step:
 - (a). Install new fan to evaporator flexible duct, screws, and washers. (Ref. CSP-900RMM-2, Section 21-50-00)
- (3). For helicopters, SN 900-00010 and 900-00018, that had the lower fuselage air-conditioning system installed do this step:
 - (a). Install a new compressor. (Ref. CSP-900RMM-2, Section 21-50-00)
- (4). For helicopters, SN 900-00010 thru 900-00051, that had the vent system installed and helicopters that had lower fuselage air-conditioning system installed, do these steps:
 - (a). Find location of hole in outlet shroud (23) for installation of grommet (22).

DATE: 11 FEB 2022

PAGE 36 OF 48

TECHNICAL BULLETIN

Protective Equipment



- (b). Drill a pilot hole with a No. 40 (2.49 mm) drill in outlet shroud (23) at the location where grommet (22) will be installed.
- (c). Increase the dimension of the pilot hole with a No. 30 (3.26 mm) drill.
- (d). Carefully increase the dimension of the pilot hole with a 0.25-inch drill.
- (e). Smooth the edges of the hole with 180 grit or finer sandpaper.
- (f). Install grommet (22) in outlet shroud (23).
- (g). Find location of hole in outlet shroud (23) for installation of thermostatic switch (21) inner attach screw (18).
- (h). Drill a pilot hole with a No. 40 (2.49 mm) drill in outlet shroud (23) at location where inner screw (18) will be installed.
- (i). Increase the dimension of the pilot hole with a No. 30 (3.26 mm) drill.
- (j). Carefully increase the dimension of the pilot hole with a No. 11 (4.85 mm) drill.
- (k). Smooth the edges of the hole with 180 grit or finer sandpaper.
- (l). Put temperature sensing probe of thermostatic switch (21) through grommet (22).
- (m). Align inner hole in thermostatic switch (21) with hole drilled in outlet shroud (23) in Step (h).
- (n). Make a mark for the location of thermostatic switch (21) outer attach screw (18). Remove thermostatic switch.
- (o). Drill a pilot hole with a No. 40 (2.49 mm) drill in outlet shroud (23) at location where outer screw (18) will be installed.
- (p). Increase dimension of pilot hole with No. 30 (3.26 mm) drill.
- (q). Carefully increase dimension of pilot hole with a No. 11 (4.85 mm) drill.
- (r). Smooth edges of hole with 180 grit or finer sandpaper.
- (s). Put temperature sensing probe of thermostatic switch (21) through grommet (22).
- (t). Install screws (18), washers (19), and nuts (20). (Ref. CSP-900RMM-2, Section 21-50-00)
- (u). Bend temperature sensing probe approximately as shown. (Ref. Figure 5, View H)
 - 1). Probe must be **0.0 to 0.2 inch (0 to 5 mm)** below evaporator attach surface.
- (v). Remove bulkhead plenum assembly. (Ref. CSP-900RMM-2, Section 21-20-00)
- (w). Remove four lower nutplates from bulkhead plenum assembly.
- (x). Install bulkhead plenum assembly, outlet shroud (Item 4-22 or 5-3), screws (Item 4-2 and 4-25 or 5-5 and 5-8), and washers (Item 4-4 and 4-20 or 5-9 and 5-6). (Ref. CSP-900RMM-2, Section 21-20-00 and 21-50-00)

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 37 OF 48

- (y). Connect evaporator to deck duct to outlet shroud with clamp (Item 4-26 or 5-10). (Ref. CSP-900RMM-2, Section 21-50-00)
- (z). Wind one layer of foam tape (Item 4-28 or 5-11) around evaporator (Item 4-27 or evaporator removed before) between the two attach flanges.
- (aa). Apply glass fabric tape (Item 4-29 or 5-12) around evaporator (Item 4-27 or evaporator removed before) between the two attach flanges on the foam tape.

NOTE: Helicopters, SN 900-00010 thru 900-00018, must also install a new evaporator.

- (ab). Install evaporator (Item 4-27 or evaporator removed before), shroud gaskets (Item 4-30 or 5-13), inlet shroud (Item 4-31 or 5-15), screws (Item 4-11 or 5-14), and washers (Item 4-20 or 5-6). (Ref. CSP-900RMM-2, Section 21-50-00)
- (ac). Connect fan to evaporator duct to inlet shroud with clamp (Item 4-32 or 5-16). (Ref. CSP-900RMM-2, Section 21-50-00)
- (ad). Remove Teflon seal from one end of one union (Item 4-44 or 5-20).
- (ae). Install packing (Item 4-45 or 5-21) on end of union (Item 4-44 or 5-20) without the Teflon seal.

NOTE: To prevent leakage, apply Daphne hermetic oil (Item S-5) to all fitting threads before installation.

Oil, Daphne Hermetic (R-134A) (C117)



- (af). Install union (Item 4-44 or 5-20) in evaporator (Item 4-27 or evaporator removed before), install end with packing into evaporator. (Ref. CSP-900RMM-2, Section 21-50-00)
- (ag). Install adapter (Item 4-46 or 5-22) and flare gasket (Item 4-47 or 5-26) on evaporator (Item 4-27 or evaporator removed before). (Ref. CSP-900RMM-2, Section 21-50-00)
- (5). For all helicopters, do these steps:
 - (a). Install receiver dehydrator bracket (Item 4-33 or 5-17 or 6-3), screws (Item 4-2 or 5-5 or 6-4), washers (Item 4-20 or 5-6 or 6-5), and nut (Item 4-18 or 5-7 or 6-6). (Ref. CSP-900RMM-2, Section 21-50-00)

NOTE: Do not fully tighten the clamps (Item 4-35 or 5-19 or 6-8) at this time.

- (b). Install receiver dehydrator (Item 4-34 or 5-18 or 6-7) and clamps (Item 4-35 or 5-19 or 6-8). (Ref. CSP-900RMM-2, Section 21-50-00)

NOTE: To prevent leakage, apply Daphne hermetic oil (Item S-5) to all fitting threads before installation.

Oil, Daphne Hermetic (R-134A) (C117)



- (c). Install evaporator to sight glass tube (Item 4-48 or 5-24 or 6-9), sight glass (Item 4-49 or 5-25 or 6-10), and flare gasket (Item 4-50 or 5-26 or 6-11). (Ref. CSP-900RMM-2, Section 21-50-00)

DATE: 11 FEB 2022

PAGE 38 OF 48

TECHNICAL BULLETIN

- (d). Wind expanded rubber (Item 4-51 or 5-27 or 6-12) around ECS evaporator to mid-section tube (Item 4-52 or 5-28 or 6-13). Start expanded rubber at aft end of tube and end expanded rubber **12 inch (305 mm)** from forward end of tube.
 - (e). Apply glass fabric tape (Item 4-29 or 5-12 or 6-14) around ECS evaporator to mid-section tube on expanded rubber.
 - 1). Apply glass fabric tape to the full length of expanded rubber.
 - (f). Wind expanded rubber (Item 4-51 or 5-27 or 6-12) around ECS mid-section to low pressure switch fitting tube (Item 4-53 or 5-29 or 6-15).
 - 1). Apply expanded rubber on full length of tube.
 - (g). Apply glass fabric tape (Item 4-29 or 5-12 or 6-14) around ECS mid-section to low pressure switch fitting tube on expanded rubber.
 - 1). Apply glass fabric tape to the full length of expanded rubber.
 - (h). Install sight glass to mid-section tube (Item 4-54 or 5-30 or 6-16), union (Item 4-55 or 5-31 or 6-17), mid-section to receiver dehydrator tube (Item 4-56 or 5-32 or 6-18), adapter (Item 4-46 or 5-22 or 6-19), and flare gasket (Item 4-47 or 5-23 or 6-20). (Ref. CSP-900RMM-2, Section 21-50-00)
 - (i). Install left condenser to tee tube (Item 4-57 or 5-33 or 6-21), left tee (Item 4-58 or 5-34 or 6-22), and left tee to right condenser tube (Item 4-59 or 5-35 or 6-23). (Ref. CSP-900RMM-2, Section 21-50-00)
 - (j). Install high pressure switch to left condenser tube (Item 4-60 or 5-36 or 6-24), tee (Item 4-61 or 5-37 or 6-25), tee to pressure switch tube (Item 4-62 or 5-38 or 6-26), tee (Item 4-58 or 5-34 or 6-22), right condenser to right tee tube (Item 4-64 or 5-40 or 6-28), receiver dehydrator to tee tube (Item 4-65 or 5-41 or 6-29), adapter (Item 4-46 or 5-22 or 6-19), flare gasket (Item 4-47 or 5-23 or 6-20), and hose (Item 4-63 or 5-39 or 6-27). (Ref. CSP-900RMM-2, Section 21-50-00)
 - (k). Install clamps (Item 4-68 or 5-43 or 6-32 and 4-69 or 5-44 or 6-33), screws (Item 4-11 or 5-14 or 6-34), washers (Item 4-20 or 5-6 or 6-5), and nuts (Item 4-18 or 5-7 or 6-6). (Ref. CSP-900RMM-2, Section 21-50-00)
 - (l). Install ECS evaporator to mid-section tube (Item 4-52 or 5-28 or 6-13), union (Item 4-44 or 5-20 or 6-30), ECS mid-section to low pressure switch fitting tube (Item 4-53 or 5-29 or 6-15), fitting (Item 4-66 or 5-42 or 6-31), and hose (Item 4-67) or hose removed before. (Ref. CSP-900RMM-2, Section 21-50-00)
 - (m). Install clamps (Item 4-68 or 5-43 or 6-32 and Item 4-72 or 5-47 or 6-36), screws (Item 4-11 or 5-14 or 6-37), washers (Item 4-20 or 5-6 or 6-5), and nuts (Item 4-18 or 5-7 or 6-6). (Ref. CSP-900RMM-2, Section 21-50-00)
- (6). For helicopters that had the vent system installed:
- (a). Install clamps (3, 9), screws (4), washers (5), nuts (6) and brackets (1, 10) at locations **A**, **D**, and **E**. (Ref. CSP-900RMM-2, Section 21-50-00)
- (7). For helicopters that had lower fuselage air-conditioning system installed:
- (a). Install clamps (3, 9), screws (4), washers (5), and nuts (6) at locations **A**, **D**, and **E**. (Ref. CSP-900RMM-2, Section 21-50-00)

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 39 OF 48

(8). For all helicopters, do these steps:

- (a). Install clamps (3, 9), screws (4), washers (5), and brackets (7, 10) at locations **B** and **C**. (Ref. CSP-900RMM-2, Section 21-50-00)

NOTE:

- Install brackets to get necessary clearance and a minimum load on tubes.
 - Movement of brackets one upper deck rivet space or one bracket space is permitted.
 - Maximum bracket movement **0.50 inch (12.7 mm)**.
- (b). Make a mark on the rivets in upper deck to be removed to install brackets (7, 10) at locations **B** and **C**.
 - (c). Remove screws, washers, clamps, and nuts from brackets that are not attached to upper deck.



Immediately install caps or plugs on removed or disconnected tubes, fittings, or components to prevent contamination.

- (d). Remove tubes and fittings as necessary to remove rivets with marks
- (e). Install brackets (7, 10). (Ref. CSP-900RMM-2, Section 21-50-00)

Protective Equipment



- (f). Remove rivets in upper deck with marks with a No. 30 (3.26 mm) drill.

Primer, Epoxy (C317)



- (g). Install brackets (1, 7, 10) and rivets (2, 8), wet install rivets with primer (Item S-2).

Sealant, Fuel Resistant (C216)



- (h). Mix sealant (Item S-1). (Ref. the manufacturers instructions)
- (i). Environmentally seal brackets and rivets to upper deck. (Ref. CSP-SPM, Section 20-50-00)
- (j). Install tubes and fittings removed to install brackets. (Ref. CSP-900RMM-2, Section 21-50-00)
- (k). Install screws, washers, clamps, and nuts removed to install brackets. (Ref. CSP-900RMM-2, Section 21-50-00)
- (l). Tighten clamps (Item 4-35 or 5-19 or 6-8) on receiver dehydrator (Item 4-34 or 5-18 or 6-7). (Ref. CSP-900RMM-2, Section 21-50-00)

DATE: 11 FEB 2022

PAGE 40 OF 48

TECHNICAL BULLETIN

- (m). Install high pressure switch (Item 4-79) or high pressure switch removed before. (Ref. CSP-900RMM-2, Section 21-50-00)
- (n). Install packing (Item 4-80 or 5-53 or 6-43) on low pressure switch (Item 4-81) or low pressure switch removed before. (Ref. CSP-900RMM-2, Section 21-50-00)
- (o). Install low pressure switch (Item 4-81) or low pressure switch removed before. (Ref. CSP-900RMM-2, Section 21-50-00)
- (p). Install evaporator temperature sensing element against bare tube wall of ECS evaporator to mid-section tube (Item 4-52 or 5-28 or 6-13) with clamp (Item 4-82 or 5-54 or 6-44).
 - 1). Install temperature sensing element no more than **12 inch (305 mm)** from forward end of tube. (Ref. CSP-900RMM-2, Section 21-50-00)
- (q). Wind expanded rubber (Item 4-51 or 5-27 or 6-12) around ECS evaporator to mid-section tube (Item 4-52 or 5-28 or 6-13), evaporator temperature sensing element, and clamp (Item 4-82 or 5-54 or 6-44).
- (r). Apply glass fabric tape (Item 4-29 or 5-12 or 6-14) around ECS evaporator to mid-section tube on expanded rubber.
 - 1). Apply glass fabric tape to the full length of expanded rubber.

H. If Vent System was Installed, Install Evaporator Fan Wire Harness W305:

■ **NOTE:** Use Kits TBK900-029-4 (Table 4) and TBK900-029-10 (Table 10).

(Ref. Figure 6)

- (1). Install evaporator fan Wire Harness W305 (3) on upper deck. Install in clamps where vent fan Wire Harness W306 was installed and in clamps that support transmission sensors Wire Harness W129. (Ref. CSP-900RMM-3, Section 98-30-00, and CSP-SPM, Section 20-60-00)

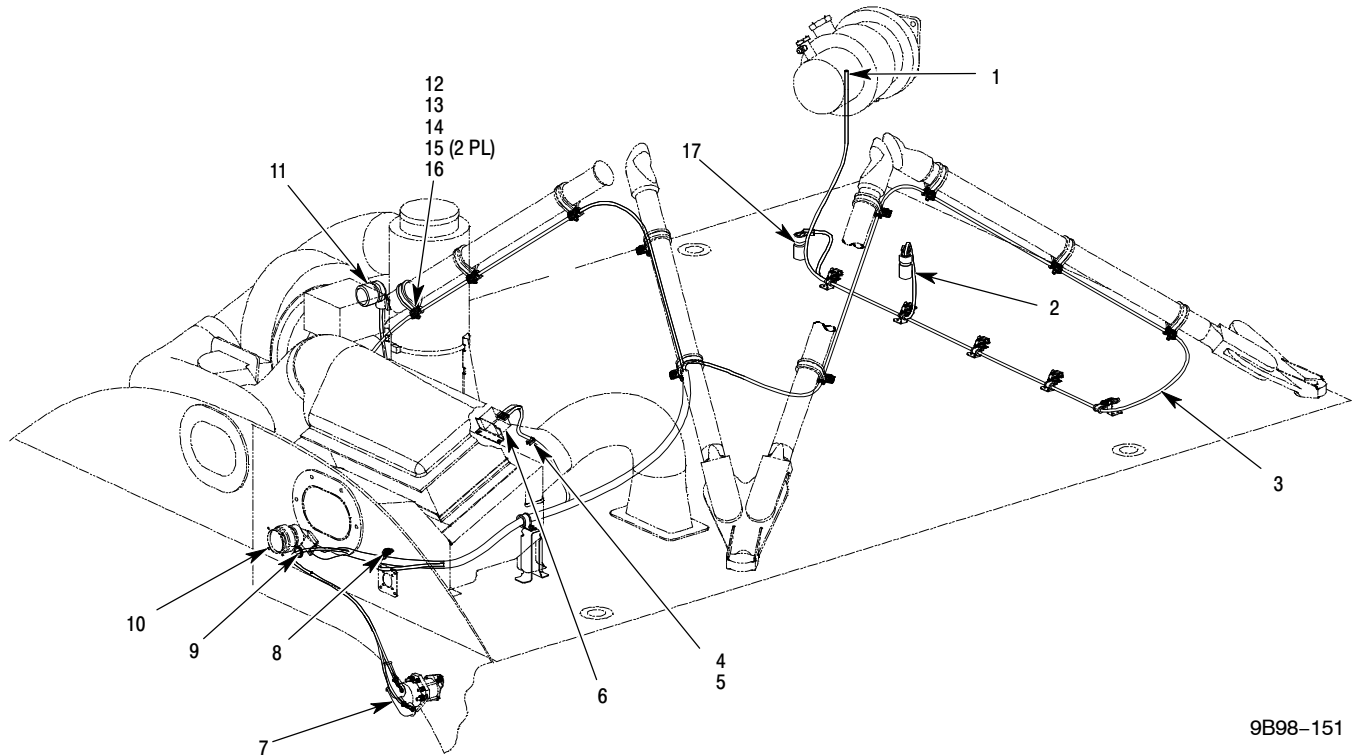
■ **NOTE:** Modify the installation of Wire Harness W305 (ref. Procedure I.).

- (2). Install clamps (12, 13), screw (14), washers (14), and nut (16).
 - (a). Torque nut (16).
- (3). Connect Electrical Connector P503 (2) to the low-pressure switch.
- (4). Connect Electrical Connector P502 (17) to the high-pressure switch.
- (5). Connect electrical connectors to thermostatic switch (6).
- (6). Connect Electrical Connector P516 (11) to the evaporator fan.
- (7). Install electrical contact (1) and connect wire to air conditioning compressor. (Ref. CSP-SPM, Section 20-60-00)
- (8). Install anchor mount (4) approximately as shown:
 - (a). Make the mating surface of the anchor mount and outlet shroud rough with 180 grit or finer sandpaper.

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 41 OF 48



9B98-151

- | | |
|---|-------------------------------|
| 1. ELECTRICAL CONTACT SOCKET (ITEM 4-83) | 10. ELECTRICAL CONNECTOR P155 |
| 2. ELECTRICAL CONNECTOR P503 | 11. ELECTRICAL CONNECTOR P516 |
| 3. EVAPORATOR FAN WIRE HARNESS W305 (ITEM 4-84) | 12. CLAMP (ITEM 4-88) |
| 4. ANCHOR MOUNT (ITEM 4-85) | 13. CLAMP (ITEM 4-68) |
| 5. TIE DOWN STRAP (ITEM 4-86) | 14. SCREW (ITEM 4-70) |
| 6. THERMOSTATIC SWITCH | 15. WASHER (ITEM 4-4) |
| 7. K100 RELAY NIPPLE (ITEM 4-87) | 16. NUT (ITEM 4-18) |
| 8. GS400 | 17. ELECTRICAL CONNECTOR P502 |
| 9. GROMMET | |

Figure 6. Evaporator Fan Wire Harness W305 Installation

Alcohol, Isopropyl (C419)



- (b). Clean surfaces of anchor mount and outlet shroud with isopropyl alcohol (Item S-6).
- 1). Let surfaces dry in the air for **15 minutes minimum**.

DATE: 11 FEB 2022

PAGE 42 OF 48

TECHNICAL BULLETIN

Adhesive, Epoxy (C402)



- (c). Bond anchor mount on outlet duct with epoxy adhesive (Item S-4). (Ref. The manufacturer instructions)
- (9). After adhesive has cured, install tie down strap (5) through anchor mount (4) and around evaporator Wire Harness W305.
- (10). Disconnect Electrical Connector P155.
- (11). Remove sealing plugs and electrical contacts from connector location C, D, E, and F. (Ref. CSP-SPM, Section 20-60-00)
- (12). Install H12C20 EMI 3 into P155 location C. (Ref. CSP-SPM, Section 20-60-00)
- (13). Install H8D22 EMI 3 into P155 location D. (Ref. CSP-SPM, Section 20-60-00)
- (14). Install H2F22 EMI 3 into P155 location E. (Ref. CSP-SPM, Section 20-60-00)
- (15). Install H18C20 EMI 3 into P155 location F. (Ref. CSP-SPM, Section 20-60-00)
- (16). Connect Electrical Connector P155.
- (17). Connect wires H16A12N EMI 3 and H17A12N EMI 3 to **GS400** (8).
- (18). Test **GS400** for a Class R electrical bond. (Ref. CSP-SPM, Section 20-60-00)
- (19). Environmentally seal **GS400**. (Ref. CSP-SPM, Section 20-50-00)
- (20). Put wires H7C12 EMI 3 and H5C12 EMI 3 through grommet (9).
- (21). Environmentally seal grommet and wires. (Ref. CSP-SPM, Section 20-50-00)
- (22). Put nipple (7) on wire H7C12 EMI 3 and connect to K100 Relay Terminal A1.
- (23). Put nipple (7) on wire H5C12 EMI 3 and connect to K100 Relay Terminal B1.

I. Installation of the 12V Refrigerant Compressor Modification

NOTE: The 12V Clutch Refrigerant Modification must be used with the 12V clutch refrigerant compressor assembly (Item 4-36).

(Ref. TBK-029-10, Table 10)

(Ref. Figure 7)

Power Off



- (1). Make sure the new compressor (1, Item 4-36) is installed. (Ref. CSP-900RMM-2, 21-50-00, Removal and Installation)
- (2). Apply a thin layer of silicon heat-sink compound (S-11) to the mating surfaces between bracket (2, Item 10-1) and Resistor W305 R1 (3, Item 10-2) and between bracket (2) and evaporator fan (4).

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 43 OF 48

- (3). Install bracket (2) with washers (5, Item 10-3) and hex-head screws (6, Item 10-4).

Sealant, Fuel Resistant (C216)



- (a). Apply a layer of sealing compound (S-1) to the hex-head screws and washers and adjacent areas of the bracket.
 - (b). Apply a layer of sealing compound (S-1) to the mating and adjacent areas of bracket and evaporator fan.
- (4). Install Resistor W305 R1 (3) on bracket (2) with washers (7, Item 10-5) and panhead screws (8, Item 10-6).

Sealant, Fuel Resistant (C216)



- (a). Apply a layer of sealing compound (S-1) to the panhead screws and washers and adjacent areas of Resistor W305 R1.
 - (b). Apply a layer of sealing compound (S-1) to the mating and adjacent areas of Resistor W305 R1 and bracket.
- (5). Make Wire H12D20 EMI 3 (ref. Table 11):
- (a). Make a new Wire H12D20 EMI 3 (ref. Table 11):
 - 1). Make the new Wire H12D20 EMI 3 with wire (9, Item 10-7), ring-tongue lug (10, Item 10-8), Splice W305 SP1 (13, Item 10-11), sleeving (11, Item 10-9), and small marker (12, Item 10-10).

NOTE: Splice W305 SP1 has two M39029/22-103 sockets.

- (b). Replace the old marker for Wire Harness W305 with large marker (14, Item 10-12).

Table 11. New Wire List for Wire Harness W305

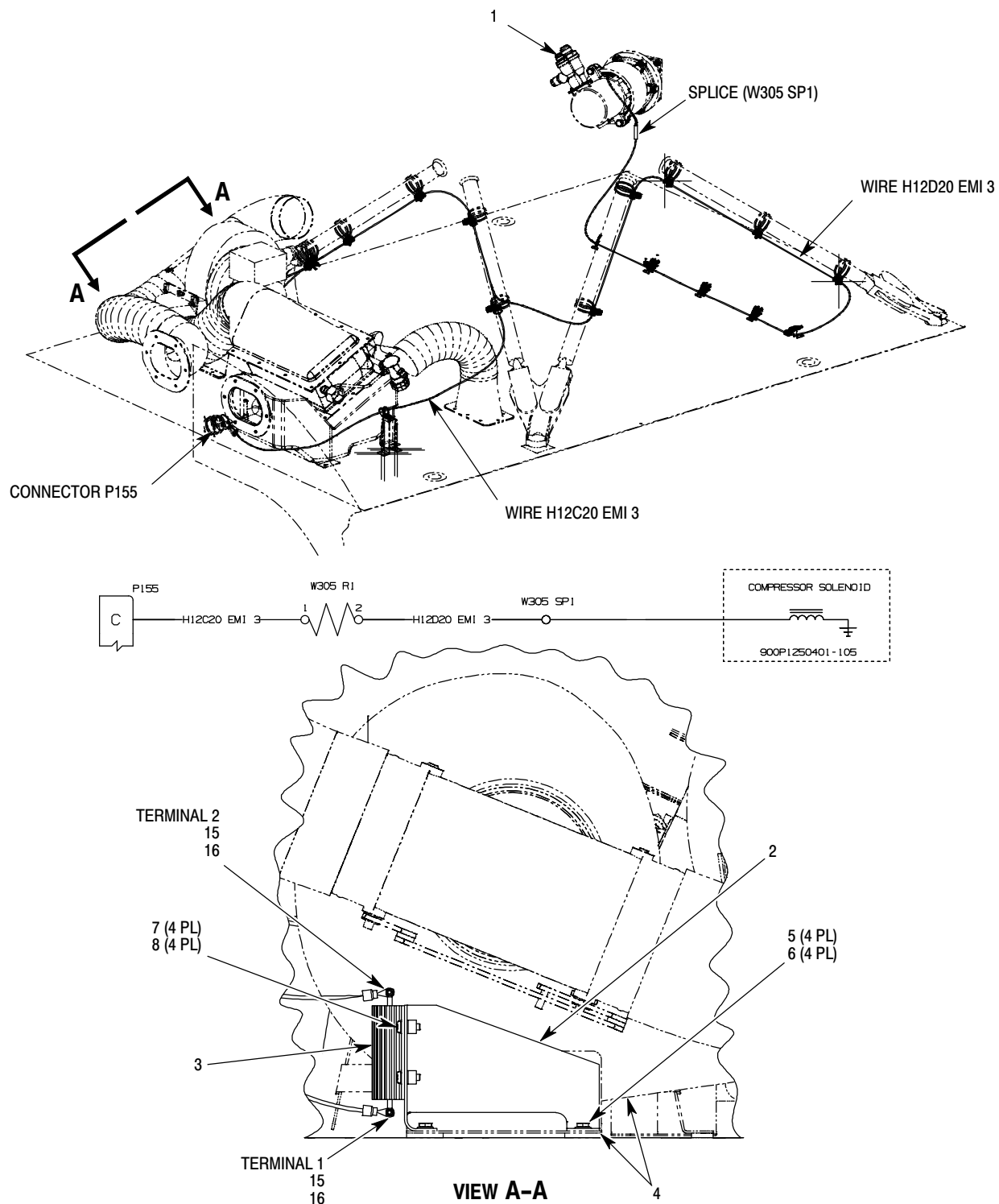
W305 Wire Number	Length, inch (cm)	Size	Type Code	From			To		
				Ref. Des.	Lug	Term. Code	Ref. Des.	Lug	Term. Code
H12C20 EMI 3 (Mod)	90 (228.6)	20	SY	P155	917	C	W305 R1	102	1
H12D20 EMI 3	166 (421.64)	20	SY	W305 R1	102	2	W305 SP1	906	

- (6). Modify Wire H12C20 EMI 3:
- (a). Disconnect one end of Wire H12C20 EMI 3 from W305 SP1 terminal.
 - (b). Trim Wire H12C20 EMI 3 as necessary to get a length of 90 inches (228.6 cm).

DATE: 11 FEB 2022

PAGE 44 OF 48

TECHNICAL BULLETIN



9b98-171

Figure 7. Installation of the Resistor Bracket Assembly

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 45 OF 48

Legend (Ref. Figure 7)

- | | |
|---------------------------------|----------------------------------|
| 1. 12V COMPRESSOR (ITEM 4-36) | 9. WIRE (ITEM 10-7) |
| 2. BRACKET (ITEM 10-1) | 10. RING-TONGUE LUG (ITEM 10-8) |
| 3. RESISTOR W305 R1 (ITEM 10-2) | 11. SLEEVING (ITEM 10-9) |
| 4. EVAPORATOR FAN | 12. SMALL MARKER (ITEM 10-10) |
| 5. WASHER (ITEM 10-3) | 13. SPLICE W305 SP1 (ITEM 10-11) |
| 6. HEX-HEAD SCREW (ITEM 10-4) | 14. LARGE MARKER (ITEM 10-12) |
| 7. WASHER (ITEM 10-5) | 15. PANHEAD SCREW (ITEM 10-13) |
| 8. PANHEAD SCREW (ITEM 10-6) | 16. NUT (ITEM 10-14) |

(c). Install a new terminal on Wire H12C20 EMI 3 at W305 R1 (ref. Table 11).

- 1). Install a ring-tongue lug (10, Item 10-8), sleeving (11, Item 10-9), and small marker (12, Item 10-10).

(d). Install Wire H12C20 EMI 3 with the routing of Wire Harness W305.

(e). Install removed end of modified Wire H12C20 EMI 3 to Terminal 1 of Resistor W305 R1 (3, Item 10-2).

(7). Install Wire H12D20 EMI 3:

- (a). Connect the end of Wire H12D20 EMI 3 to Terminal 2 of Resistor W305 R1 (3, Item 10-2).
- (b). Connect the other end of Wire H12D20 EMI 3 and the electrical lead of compressor (1, Item 4-38) to Splice W305 SP1 (13, Item 10-11).
- (c). Install Wire H12D20 EMI 3 with the routing of Wire Harness W305.

J. Servicing and Completion:

- (1). Do the servicing of the No. 1 and No. 2 hydraulic systems. (Ref. CSP-900RMM-2, Section 12-00-00)

NOTE: During the hydraulic system pressure leak test, increase hydraulic pressure to **1000 psig (6895 kPa)**.

- (2). Do the hydraulic system pressure leak test. (Ref. CSP-900RMM-2, Section 29-00-00)
- (3). Do the air-conditioning system CURRENT CONFIG servicing. (Ref. CSP-900RMM-2, Section 12-00-00)
- (4). Do an operational check of the air-conditioning system:

NOTE: Do this operational check when the external air temperature is more than **60F (15.6C)**.

- (a). Connect the refrigerant recovery and recycling station to the air-conditioning system. (Ref. CSP-900RMM-2, Section 12-00-00)

DATE: 11 FEB 2022

PAGE 46 OF 48

TECHNICAL BULLETIN



Only start and operate the helicopter engines with a qualified mechanic or pilot.

- (b). Start the right engine and operate at idle. (Ref. CSP-900RFM207E-1 or CSP-902RFM207E-1)
- (c). Set the **AC/Vent** switch to **COOL LOW**.
 - 1). Make sure the compressor operates:
 - a). Feel the suction line with your hand.
 - b). The suction line must become cold.
 - 2). Make sure there is air flow from all ten gaspers.
- (d). Set the **AC/Vent** switch to **COOL HIGH**.
 - 1). Make sure there is an increase in the air-flow rate.
- (e). After **10 minutes**, continue the procedure.
- (f). Make sure the air temperature from gaspers is **30F (16.7C) minimum** less than air temperature at air plenum duct inlet, or the gasper outlet temperature is less than **50F (10C)**.
- (g). Make sure when the system pressures are stable:
 - 1). The low-side pressure is less than **50 psig (344.7 kPa)**.
 - 2). The high-side pressure is less than **250 psig (1723.7 kPa)**.
- (h). If the dew point temperature is more than **55F (12.8C)**, make sure water comes out of the condensate drain.

NOTE: It is possible that when external air temperature is more than **105F (40.6C)** and relative humidity is more than **20 percent**, the compressor will not cycle OFF.

- (i). Make sure the compressor cycles at an interval of **ten (10) minutes minimum**.

NOTE: Compressor cycling can cause a decrease in high-side pressure and an increase in low-side pressure.

- (5). Install or close all the access panels and fairings that were removed. (Ref. CSP-900RMM-2, Section 06-00-00)

3. COMPLIANCE RECORD

- (1). Record compliance to this Technical Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) 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.

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 47 OF 48

TB900-029R1 Completed Record

Upper Deck Air-Conditioning System Installation

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: _____	Rotorcraft Serial No: _____
Address: _____ _____ _____ _____	Rotorcraft Total Time: _____ Date: _____ Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete: _____

(Signature)

(Print Name)

(Title)

Comments: _____

DATE: 11 FEB 2022

PAGE 48 OF 48

TECHNICAL BULLETIN

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TECHNICAL BULLETIN

DATE: 19 FEBRUARY 2008

PAGE 1 OF 4

SUPPLEMENTAL FUEL SYSTEM INSTALLATION (REF. MOD MD9000700003)

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 helicopters, serial number 900-000010 thru 900-999999.

B. Assembly/Components Affected By This Notice:

All installed configurations of the assembly/components that follow:

900F1307000 general tub assembly, 900F2305507 right outboard baggage floor panel, 900P7661000 fuel cell buildup installation, 900P7662000 fuel vent system installation, 900E7750012 aft electrical equipment installation, 900P7663000 fuel supply system installation, 900N7723010 single pilot instrument panel installation, 900N7723020 dual pilot instrument panel installation, 900E7750014 ground module installation, 900E2760125 left utility systems wire harness W125, 900E2760124 right utility systems wire harness W124.

C. Reason:

Owner/Operators can install the supplemental fuel system in their helicopter. The supplemental fuel system adds 29.4 U.S. gallons of usable fuel to the helicopter.

D. Description:

Procedures in this bulletin give owners and operators data for the installation of the optional supplemental fuel system. You must have MD Helicopters Field Service Engineering approval before you can do this installation. The supplemental fuel system can not be installed if the lower fuselage air conditioning system is installed.

This bulletin is separated into three parts; structural provisions, electrical change, and supplemental fuel system installation.

Structural provisions includes: Changes to FS 230.5 frame for fuel transfer hose.

Installation of supplemental fuel tank structural and foam support. Changes to boat tail tub and right keel beam for the supplemental fuel tank filler. Changes to boat tail tub for supplemental fuel tank filler ground receptacle and supplemental fuel tank drain.

Installation of a vapor seal in area under baggage floor. Changes to aft vent tube, aft left main fuel cell access cover, and right outboard baggage floor panel.

NOTE: Helicopters with 900F7308463 aft equipment shelf installed, can move strobe light power supply to aft equipment shelf.

Electrical changes include: Move strobe light power supply to new location. Move GS300 new location and remove TB301. Installation of supplemental fuel system fuel quantity indicator, fuel transfer switch, fuel transfer indication lamp, related placards, and two circuit breakers in A620 electrical load center. Make and install supplemental fuel system interconnect wires.

Supplemental fuel system installation includes: Installation of supplemental fuel tank, fuel filler, fuel transfer system, and fuel quantity transmitter.

E. Time of Compliance:

Optional, owner/operator selection.

F. FAA Approval:

The technical design data of this bulletin is FAA approved.

DATE: 19 FEBRUARY 2008

PAGE 2 OF 4

TECHNICAL BULLETIN

G. Classification:

This bulletin is a major alteration.

H. Manpower:

250 man-hours.

I. Interchangeability:

None

J. Disposition of Parts Removed:

N/A

K. 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.

L. Material/Part Availability:

Refer to MOD MD9000700003.

M. Warranty Policy:

N/A

N. Tooling:

N/A

O. Weight and Balance:

Refer to MOD MD9000700003.

P. Electrical Load Data:

Refer to MOD MD9000700003.

Q. Other Publications Affected:

Rotorcraft Flight Manual CSP-900RFM206A-1, Rotorcraft Flight Manual CSP-900RFM206E-1, Rotorcraft Flight Manual CSP-900RFM207E-1, Rotorcraft Flight Manual CSP-902RFM206E-1, Rotorcraft Flight Manual CSP-902RFM207E-1, Rotorcraft Maintenance Manual CSP-900RMM-2, CSP-900RMM-3, Standard Practices Manual CSP-SPM, and Illustrated Parts List CSP-900IPL-4 have been revised for this optional installation.

2. APPROVAL FOR INSTALLATION

Before you can install the supplemental fuel system, approval for installation on the bulletin completed record must be completed and approved by MDHI Field Service Engineering.

3. ACCOMPLISHMENT INSTRUCTIONS – INSTALLATION

Refer to MOD MD9000700003 for the accomplishment instructions of this technical bulletin.

4. DISPOSITION OF PARTS REMOVED

N/A

5. MAKE A RECORD

Make a record in the Compliance Record section of the Rotorcraft Log Book that this technical bulletin and MOD MD9000700003 have been completed.

TECHNICAL BULLETIN

DATE: 19 FEBRUARY 2008

PAGE 3 OF 4

Bulletin Completed Record

Technical Bulletin TB900-030 and MOD MD9000700003, Supplemental Fuel System Installation

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:

Owner/Operator:_____

Helicopter Serial No:_____

Address:_____

Phone:_____

Fax:_____

E-mail address:_____

Request For Approval (must be completed before start of installation)

Helicopter Total Time:_____

Date:_____

Location:_____

Approval For Installation Completed

Signature:_____

Print Name:_____

Date:_____

Title:_____

DATE: 19 FEBRUARY 2008

PAGE 4 OF 4

TECHNICAL BULLETIN

Dear Sir:

This is to tell you that this technical bulletin has been completed as shown below:

Installation Completed

Helicopter Total Time: _____

Date: _____

Location: _____

This bulletin and
MOD MD9000700003 are complete: _____

(Signature)

(Print Name)

(Title)

TECHNICAL BULLETIN

DATE: 02 NOVEMBER 2009

PAGE 1 OF 13

MD900 (902 CONFIGURATION) PW206E TO PW207E ENGINE CONVERSION MODIFICATION

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 (902 Configuration) helicopters serial numbers 900-00052 thru 900-00076, 900-00079, 900-00080 equipped with PW206E engines.

B. Assembly/Components Affected By This Bulletin:

900P1600111 And 900P1600211 Engine Build-Up Assembly, Integrated Instrument Display System (IIDS) (P/N 900A3720002-109, 900A3720002-119), Electronic Engine Control (EEC) (P/N 3043845-01, 3043845-02), Igniter Box (P/N 3039488, 3121148-01, 3043937-01), Forward Interconnect Panel Wire Harness (P/N 900E2760612), LH Engine Controls Wire Harness (P/N 900E2760123), RH Engine Controls Wire Harness (P/N 900E2760122).

C. Reason:

To allow owners/operators of MD900 (902 Configuration) helicopters equipped with PW206E engines to convert to PW207E engines.

D. Description:

Procedures in this Bulletin provide owners and operators instructions to change MD900 (902 Configuration) helicopters equipped with PW206E engines to PW207E engines. This modification must be accomplished with MD Helicopters Field Service Engineering approval. In addition to replacing the engines (including EECs and Igniter Boxes), the changes listed below are required as part of this modification.

- Modify the forward interconnect panel wire harness, W612 and the LH and RH engine controls wire harnesses, W123 and W122.
- Replace the IIDS.
- Remove the engine wet combustor drain line (and fuel catch can, if installed).

E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

F. Manpower:

60 man-hours.

G. Time of Compliance

Customer option, at owner/operator discretion.

H. Interchangeability:

None

I. Material/Part Availability:

DATE: 02 NOVEMBER 2009

PAGE 2 OF 13

TECHNICAL BULLETIN

MOD – PW207E Engine Conversion 90005000058–101			
Part Number	Nomenclature	Quantity	Source
AS3492–01	Gasket	3 EA	MDHI
MDM16–1191 (MIL–S–38249) (Pro Seal 700)	Compound Sealing Fire Proof	3 OZ	MDHI or Commercial
M22759/43–22–9	Wire, 22AWG, Cond–1	8 FT	MDHI
M22759/35–24–9	Wire, 24AWG, Cond–1	128 FT	MDHI
M39029/22–191	Contact, Socket	6 EA	MDHI
M39029/58–360	Contact, Pin, 5Z22	6 EA	MDHI
M39029/56–348	Contact Socket, 5Z22	6 EA	MDHI
M39029/56–351	Contact Socket, 5Z20	6 EA	MDHI
900A3720002–121*	IIDS ASSY.	1 EA	MDHI
M83248/1–020	O–Ring	2 EA	MDHI
AS3208–04	Packing Preformed	2 EA	MDHI
MS20995C20	Lock Wire	5 FT	MDHI or Commercial
MS20995C32	Lock Wire	6 FT	MDHI or Commercial
M4610631ARN	Adhesive Silicone	1 OZ	MDHI or Commercial
MDM4–1078T11 or MDM4–1078T3 (MIL–L–23398)	Solid Film Lubricant	1 OZ	MDHI or Commercial
MIL–I–23594	Electrical Tape, TYI, CL4, .75W	2 FT	MDHI or Commercial
PW207E**	Engine, Turboshaft PW207E	2 EA	MDHI or Commercial
SS–51043	Plug Button	2 EA	MDHI
NAS1096–3–14	Screw	6 EA	MDHI
900P3660811–101	Hose, Forward Engine Drain	2 EA	MDHI
900G9720008–101	IIDS Ground Based Maintenance Computer Software CD–ROM	1 EA	MDHI

TECHNICAL BULLETIN

DATE: 02 NOVEMBER 2009

PAGE 3 OF 13

MOD – PW207E Engine Conversion 90005000058–101 (Cont.)			
Part Number	Nomenclature	Quantity	Source
900P2630115–106***	Primary Exhaust Nozzle Assembly Right Hand	1 EA	MDHI
900P2630115–105***	Primary Exhaust Nozzle Assembly Left Hand	1 EA	MDHI

*Customers will send in their current version of IIDS to be updated to the –121 version by MDHI. Contact MDHI Field Service Engineering.

**Customers will contact Pratt & Whitney to exchange the PW206E engines for the PW207E engines. Contact MDHI Field Service Engineering.

*** Customers that have the the 900P2630115–106 and/or the 900P2630115–105 primary exhaust nozzle assemblies should have those items removed from their conversion kit. Contact MDHI Field Service Engineering.

J. Warranty Policy:

Standard warranty policy applies.

K. Tooling:

TOOLS AND EQUIPMENT	
Nomenclature	Source
Engine Sling T402	MDHI
Engine Maintenance Stand T404	MDHI
Strap Wrench, Mini T2016	MDHI
Inspection Gauge (Engine Alignment) T401	MDHI

L. Weight and Balance:

The weight & balance procedure will be performed as a part of this Bulletin.

M. Electrical Load Data:

N/A

N. Other Publications Affected:

Rotorcraft Maintenance Manual (Servicing and Maintenance) (CSP-900RMM-2)
Rotorcraft Maintenance Manual (Instruments - Electrical - Avionics) (CSP-900RMM-3)
Illustrated Parts List (CSP-900IPC-4)
Rotorcraft Flight Manual (902 Configuration with PW207E) (CSP-902RFM207E-1)

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

DATE: 02 NOVEMBER 2009

PAGE 4 OF 13

TECHNICAL BULLETIN

2. ACCOMPLISHMENT INSTRUCTIONS

NOTE: Part A. Preparation must be completed and approved before performing any work in Part B. Modification.

A. Preparation

- (1). MDHI field service engineering will do a complete visual inspection of the helicopter and an inventory of installed components and systems to make sure this change can be done to the helicopter.
 - (a). MDHI Field Service Engineering will make sure the condition and configuration of the helicopter is correctly recorded in the engine and rotorcraft logbooks.
 - (b). MDHI Field Service Engineering will examine the rotorcraft logbook to make sure all applicable MDHI service bulletins and Federal Aviation Authority (FAA) Airworthiness Directives (AD) or equivalent local aviation authority directives applicable to the helicopter have been completed.
 - (c). MDHI field service engineering will make a list of all Supplemental Type Certificate (STC) and field approved systems and components installed on the helicopter. MDHI field service engineering will send the list and all records related to all STC and field approved systems and components installed on the helicopter to MDHI Engineering for inspection and approval. The list and records will be examined to make sure STC or field approved installations will not have an unwanted effect on the change from PW206E engines to PW207E engines.
- (2). If the MDHI inspection shows that STC or field approved installations can have an unwanted effect on the change from PW206E engines to PW207E engines, it will be necessary for the helicopter owner or repair station to make the necessary corrections to remove the unwanted effect.
- (3). All helicopter defects found will be corrected before the change from PW206E engines to PW207E engines is complete.
- (4). All records (which can include ground or flight tests) related to STC and/or field approved installations and/or corrections must have been approved by the applicable civil aviation authority engineering or applicable civil aviation authority Designated Engineering Representative (DER) (if delegated).

B. Modification

NOTE: Accurate records are required to document the removal and installation of the various helicopter components. Standard inspections and recording of replacement part serial numbers and critical torques, etc., are required.

- (1). Preserve engines in accordance with engine manual (Ref. Sec 01-00-00).
- (2). Download IIDS data (Ref. Ground Based Maintenance Computer (GBMC) User Guide, CSP-900RMM-2 S2).
- (3). Remove LH and RH primary exhaust nozzle assemblies (Ref. CSP-900RMM-2, Section 78-00-00, Engine Exhaust).
- (4). Remove engine cowling assembly L260 and R260 (Ref. CSP-900RMM-2 Section 53-30-00 and CSP-900RMM-2, Section 71-00-00, Engine Removal).

TECHNICAL BULLETIN

DATE: 02 NOVEMBER 2009

PAGE 5 OF 13

- (5). Remove LH and RH engines (Ref. CSP-900RMM-2, Section 71-00-00, Engine Removal).
- (6). Strip down LH and RH engines (Ref. CSP-900RMM-2, Section 71-00-00, Engine Strip down).
- (7). Prepare LH and RH engines for shipment (Ref. Pratt & Whitney Canada Maintenance Manual).
- (8). Make appropriate Engine Logbook entries and revise Rotorcraft Log Book Installed Component Record to indicate engine removals from helicopter.
- (9). Remove IIDS (Ref. CSP-900RMM-2, Section 95-30-00, Integrated Instrument Display System (IIDS) Removal).
- (10). Revise Rotorcraft Log Book Installed Components Record to indicate IIDS removal and revise IIDS Data Log at rear of Rotorcraft Log Book.
- (11). Do a PW206A/E to PW207E Engine Drain Modification.

NOTE: Use Table MOD - PW207E Engine Conversion 90005000058-101. (Ref. page 2 and 3 of this Technical Bulletin)

- (a). If installed, remove the two fuel catch cans, related hoses, related fittings, ground jumper, and related hardware (Ref. CSP-900RMM-2, Section 71-70-00).
- (b). Remove the two aft engine drain hoses, combustor drain tube assemblies, and related hardware (Ref. CSP-900RMM-2, Section 71-70-00).
- (c). Install screws and washers that attach upper deck drain tubing. Replace six screws in six lower adhesive bonded standoffs (three each side) with new screws (P/N NAS1096-3-14) (Ref. CSP-900RMM-2, Section 71-70-00).
- (d). Remove the two aft bulkhead unions, nuts, and washers from upper deck (Ref. CSP-900RMM-2, Section 71-70-00).

Solvent Cleaner (C429)



- (e). Clean upper deck where the two aft bulkhead unions were removed, use solvent cleaner.
- (f). Install plug buttons (P/N SS-51043) in the two locations where aft bulkhead unions were removed.

Sealing Compound (C215)



- (g). Apply a fillet seal on plug buttons, use fireproof sealing compound (P/N MDM16-1191) (Ref. CSP-SPM, Section 20-50-00).
- (h). If catch cans were installed, remove the two forward engine drain hoses between upper deck and fuel vapor shroud drain hose tee (Ref. CSP-900RMM-2, Section 71-70-00).

DATE: 02 NOVEMBER 2009

PAGE 6 OF 13

TECHNICAL BULLETIN

- (i). If catch cans were installed, install new forward engine drain hoses (P/N 900P3660811-101) between upper deck and fuel vapor shroud drain tee (Ref. CSP-900RMM-2, Section 71-70-00).
- (12). Build up LH PW207E engine (Ref. CSP-900RMM-2, Section 71-00-00, Engine Buildup).
- (13). Install LH PW207E engine (Ref. CSP-900RMM-2, Section 71-00-00, Engine Installation).
- (14). Revise Installed Component Record in Rotorcraft Log Book and make appropriate entry in Engine Log Book.
- (15). Build up RH PW207E engine (Ref. CSP-900RMM-2, Section 71-00-00, Engine Buildup).
- (16). Install RH PW207E engine (Ref. CSP-900RMM-2, Section 71-00-00, Engine Installation).
- (17). Revise Installed Component Record in Rotorcraft Log Book and make appropriate entry in Engine Log Book.
- (18). Do a PW206A/E to PW207E Engine Control Modification.

NOTE: This Modification Is Not Required For serial Numbers 900-00079 And 900-00080. They Are Already Wired To Accept PW207E Engines.

- (a). Remove wires as indicated in Table 1, if wires are installed in helicopter.
- (b). Identify new wire segments (Ref. CSP-900RMM-3, Section 98-30-00, 98-40-00, 98-50-00, and CSP-SPM, Section 20-60-00).
- (c). Assemble wire harness per interconnect drawings pages 8 and 9 with best shop and maintenance practices.(Ref. CSP-900RMM-3, Section 98-30-00, 98-40-00, 98-50-00, and CSP-SPM, Section 20-60-00).
- (d). Wire harness routing at installer's discretion.(Ref. CSP-900RMM-3, Section 98-30-00, 98-40-00, 98-50-00, and CSP-SPM, Section 20-60-00).
- (e). Terminate contacts (Ref. CSP-900RMM-3, Section 98-30-00, 98-40-00, 98-50-00, and CSP-SPM, Section 20-60-00).
- (f). Insert contacts (Ref. CSP-900RMM-3, Section 98-30-00, 98-40-00, 98-50-00, and CSP-SPM, Section 20-60-00).
- (g). Continuity test all electrical modification (Ref. CSP-900RMM-3, Section 98-30-00, 98-40-00, 98-50-00, and CSP-SPM, Section 20-60-00).
- (h). Wires indicated with dashed lines are installed on baseline aircraft.

NOTE: Optional: Wires from wire harness W122 and W123 can be capped and stowed on both ends of the wire (Ref. CSP-900RMM-3, Section 98-30-00, 98-40-00, 98-50-00, and CSP-SPM, Section 20-60-00) and left in the wire harness. Do not cut.

TECHNICAL BULLETIN

DATE: 02 NOVEMBER 2009

PAGE 7 OF 13

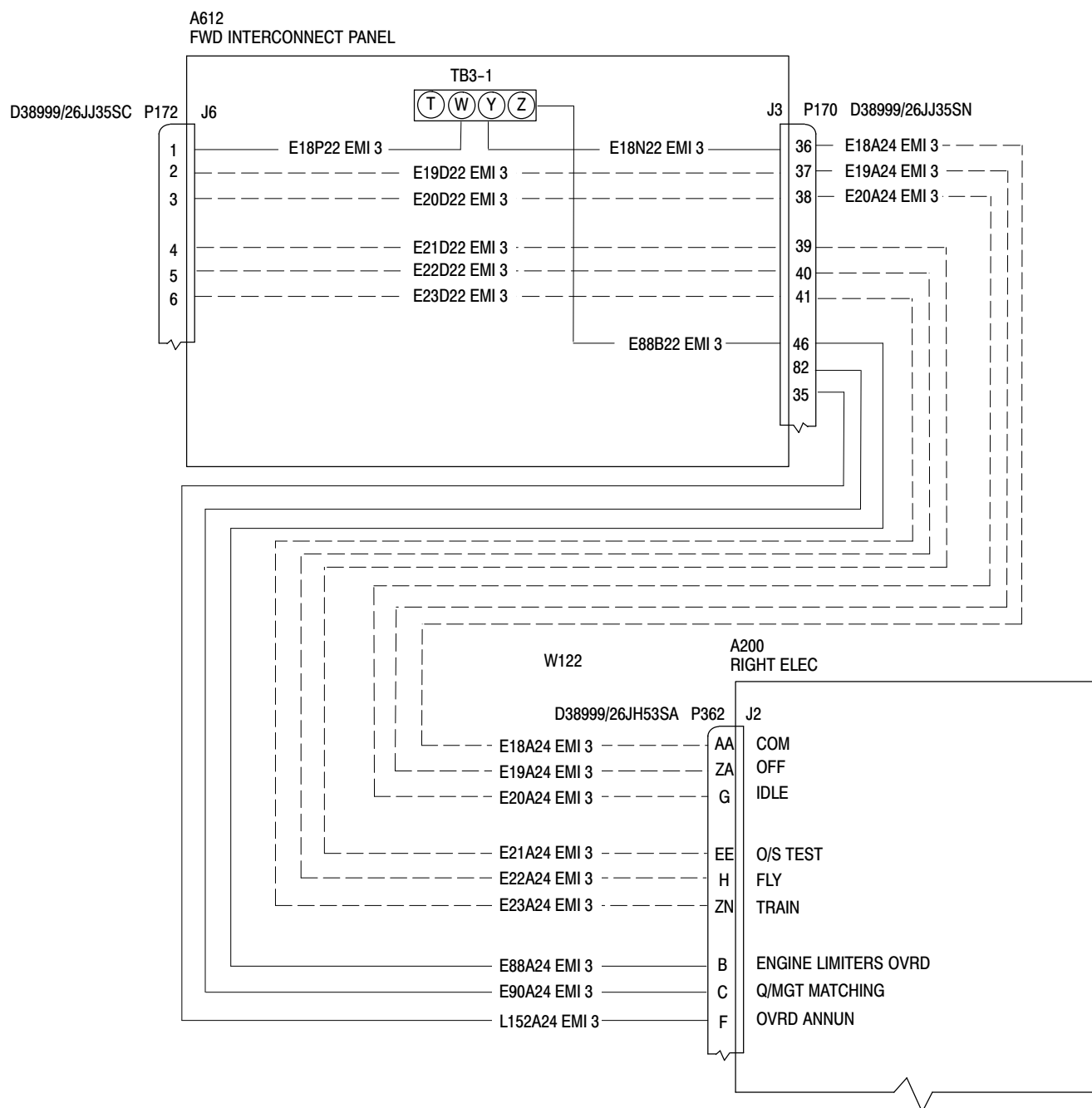
Table 1.

W612 WIRE HARNESS		
REMOVE AND DISCARD THE FOLLOWING WIRES		
From	TO	WIRE ID
J1-37	J2-1	E1E22 EMI 3
J3-36	J6-1	E18E22 EMI 3
J1-SH12	J1-SH13	E7E24 EMI 3
J2-SH4	J2-SH5	E7G24 EMI 3
J3-SH17	J3-SH18	E25E24 EMI 3
J6-SH4	J6-SH5	E25G24 EMI 3
J1-18	TB2-6-Z	E280B24 EMI 3
J1-59	TB3-2-E	L48B24 EMI 3
J3-46	K1-5-A2	E79B22 EMI 3
J6-SH4	TB3-1-E	L45B24 EMI 3
W122 WIRE HARNESS		
REMOVE AND DISCARD THE FOLLOWING WIRES		
From	TO	WIRE ID
P170-35	P105-ZP	L45A24 EMI 3
P170-46	P150-A	E79A22 EMI 3
W123 WIRE HARNESS		
REMOVE AND DISCARD THE FOLLOWING WIRES		
From	TO	WIRE ID
P171-18	P102-35	E280A24 EMI 3
P171-59	P104-ZP	L48A22 EMI 3

DATE: 02 NOVEMBER 2009

PAGE 8 OF 13

TECHNICAL BULLETIN

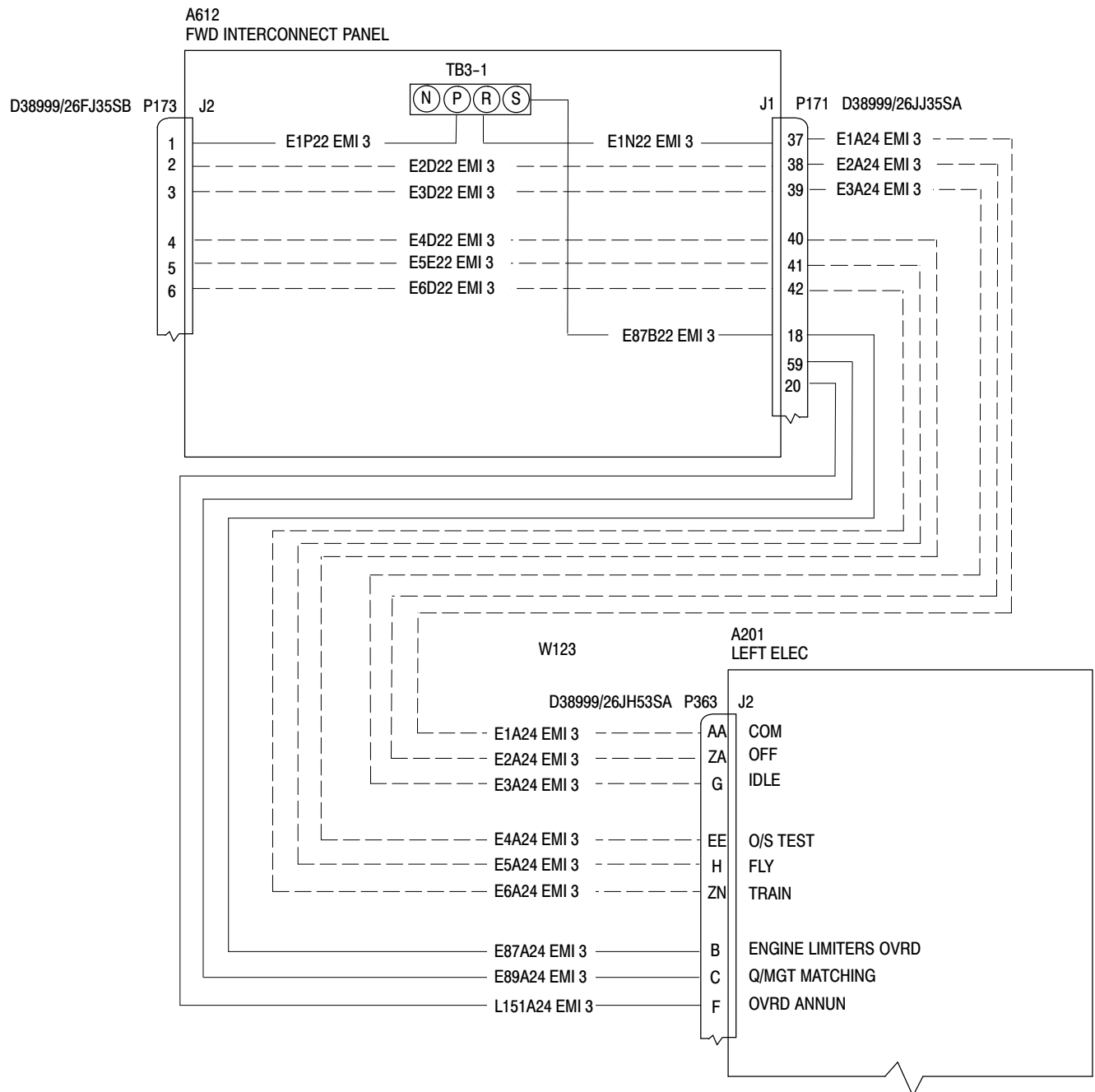


9b98-152

TECHNICAL BULLETIN

DATE: 02 NOVEMBER 2009

PAGE 9 OF 13



9b98-153

DATE: 02 NOVEMBER 2009

PAGE 10 OF 13

TECHNICAL BULLETIN

- (19). Install new EECs (P/N 3055498-01) and record EEC serial numbers (Ref. CSP-900RMM-2, Section 76-00-00, EEC Installation).
- (20). Remove existing ignitor boxes (Ref. CSP-900RMM-2, Section 71-00-00, Ignitor Box Removal).
- (21). Install new igniter boxes (P/N 3043937-03) and record ignitor box serial numbers (Ref. CSP-900RMM-2, Section 71-00-00, Ignitor Box Installation).
- (22). Install primary exhaust nozzle assembly (P/N 900P2630115-105 & 900P2630115-106) (Ref. CSP-900RMM-2, Section 78-00-00, Engine Exhaust).
- (23). Install engine cowling assembly L260 and R260 (Ref. CSP-900RMM-2 Section 53-30-00)
- (24). Install IIDS.
 - (a). Install new IIDS, P/N 900A3720002-121 (Ref. CSP-900RMM-2, Section 95-30-00, Integrated Instrument Display System (IIDS) Installation).
 - (b). Do an IIDS Initialization (Ref. CSP-900RMM-2, Section 95-30-00).

NOTE: GBMC software P/N 900G9720008-101 is required to upload data to the new IIDS.

- (c). Upload IIDS data (Ref. Ground Based Maintenance Computer (GBMC) User Guide, CSP-900RMM-2 S3).
- (d). Revise Rotorcraft Log Book Installed Components Record to indicate IIDS installation and revise IIDS Data Log at rear of Rotorcraft Log Book.
- (25). Do a weight & balance (Ref. CSP-900RMM-2, Section 08-10-00, Weighing and Balancing).

C. Completion

NOTE:

- There is no change in the approved life of any MD900 life-limited component due to the PW206E to PW207E engine conversion.
 - Existing MD900 Service Letters and Technical Bulletins are still applicable to the helicopter, as required.
 - New Service Bulletins and ADs for the MD900 are applicable, as required.
- (1). MDHI Field Service Engineering will review the Helicopter Logbook, Engine Logbook and technical data to assure the helicopter has been converted in accordance with this technical bulletin.
 - (2). Replace existing Rotorcraft Flight Manual with new Rotorcraft Flight Manual (RFM) CSP-902RFM207E-1 and ensure that the following are transferred to the RFM.
 - (a). Weight & balance data.
 - (b). FAA Form 337s.
 - (c). Rotorcraft Flight Manual Supplements.
 - (3). Do a Wet motor run and Dry motor run (Ref. RFM 01-00-00 TBL 201)

TECHNICAL BULLETIN

DATE: 02 NOVEMBER 2009

PAGE 11 OF 13

- (4). Do a Powerplant Operational Test (Ref. CSP-900RMM-2, Section 71-00-00).
- (5). Do a maintenance operational check flight using MD900 Production Flight Test Procedure and Check Off List (P/N 9000D000020).
- (6). If required, set oil pressure IAW Pratt and Whitney Canada maintenance manual and CMM 71-00-00 Adjustment/Test.

3. IDENTIFICATION

The engine conversion does not result in a helicopter model change; the helicopter serial number does not change.

4. DISPOSITION OF PARTS REMOVED

N/A

5. COMPLIANCE RECORD

Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book. Submit Compliance Forms to MDHI Field Service Engineering.

DATE: 02 NOVEMBER 2009

PAGE 12 OF 13

TECHNICAL BULLETIN

PW206E TO PW207E ENGINE CONVERSION MODIFICATION COMPLIANCE RECORDING FORM

Owner/Operator: _____ Helicopter Serial Number: _____

Address: _____ Helicopter Total Time: _____

Phone Number: _____ DATAFAX: _____

Signature and Date

PRE MODIFICATION

Visual inspection and configuration inventory completed. _____

All Service Bulletins and Airworthiness Directives
complied with. _____List of STCs and/or Field Approvals compiled and forwarded
to MDHI Engineering (attach list). _____List of STCs and/or Field Approvals reviewed by MDHI
Engineering to verify that STCs and Field Approvals
do not have an adverse affect on the engine conversion
Type Design and are compatible with other modifications. _____List of STCs and/or Field Approvals with any required
substantiation and/or corrective action approved by FAA
Engineering or FAA DER (if delegated). _____

POST MODIFICATION

Helicopter and engine logbooks reviewed to verify that
all required information has been entered. _____The modification is completed in accordance with PW206E
to PW207E Engine Conversion Report (P/N 9000R000194)
and PW206E to PW207E Engine Conversion Mod drawing
(P/N 90005000058). _____

TECHNICAL BULLETIN

DATE: 02 NOVEMBER 2009

PAGE 13 OF 13

PW206E TO PW207E ENGINE CONVERSION MODIFICATION PARTS REPLACEMENT RECORD

Part Nomenclature	Removed Part		Installed Part	
	Part Number	Serial No.	Part Number	Serial No.
LH Engine	PW206E		PW207E	
RH Engine	PW206E		PW207E	
IIDS	900A3720002- _ _ _		900A3720002-121	
LH EEC	3043845- _ _		3055498-01	
RH EEC	3043845- _ _		3055498-01	
LH Igniter Box			3043937-03	
RH Igniter Box			3043937-03	

TECHNICAL BULLETIN

DATE: 02 FEBRUARY 2010

PAGE 1 OF 12

VSCS TEST BOX

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 helicopters, serial number 900-000008 and subsequent rotorcraft.
600N helicopters with YSAS computer and all 500N helicopters.

B. Assembly/Components Affected By This Notice:

500N9701-13 stabilizer test box.

C. Reason:

Owner/Operators can make a VSCS test box to use on their helicopters.

D. Description:

Procedures in this bulletin give owners and operators data on how to make a VSCS test box to do an operational rigging check of the VSCS system on their helicopter.

E. Time of Compliance:

Optional, owner/operator selection.

F. Manpower:

8 man-hours.

G. Interchangeability:

None

H. Disposition of Parts Removed:

N/A

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:

Talk to MDHI part sales. Most parts can be bought commercially.

Table 1: Parts and Supplies				
Item No.	Nomenclature	Part No.	Qty.	Source
1	Box	ANS-QQ-A-250/2 or MHS4870-8	1	MDHI or Commercial
2	Lid (Necessary for MHS4870 box)	ANS-QQ-A-250/2 or MHS4871-4	1	MDHI or Commercial
3	Banana Jack	01-1042-1-0212	8	Commercial
4	Switch (S1)	MS24523-21	1	Commercial

TECHNICAL BULLETIN

Table 1: Parts and Supplies (Cont.)

Item No.	Nomenclature	Part No.	Qty.	Source
5	Switch (S2)	MS24523-22	1	Commercial
6	Banana Jack	01-1042-1-0210	1	Commercial
7	Electrical Connector (J2)	MS27656E17B35S	1	Commercial
8	Bushing (J2)	10-230935-183	1	Commercial
9	Screw (J2)	NAS600-6	4	Commercial
10	Washer (J2)	AN960KD4L or NAS1149DN416K (ALTN)	4	Commercial
11	Nut (J2)	MS21042-04	4	Commercial
12	Wire	M22759/34-22-9	AR	Commercial
13	Lug, Crimp (J2)	MS25036-101	7	Commercial
14	Seal Plug (J2, P2)	MS27488-22-1	77	Commercial
15	Electrical Contact, Socket (J2)	M39029/56-348	22	Commercial
16	Electrical Connector (J1)	D38999/20WH53PN	1	Commercial
17	Backshell (J1)	M85049/38S23W	1	Commercial
18	Bushing (J1, P1)	10-036565-203	2	Commercial
19	Seal Plug (J1, P1)	MS27488-20-1	48	Commercial
20	Electrical Contact, Pin (J1)	M39029/58-363	41	Commercial
21	Sleeving 0.5 in. (12.7 mm)	MHS5330-1531 or equivalent	AR	MDHI or Commercial
22	Electrical Connector (P2)	MS27467E17B35P	1	Commercial
23	Backshell (P2)	M85049/49-2-16W	1	Commercial
24	Bushing (P2)	MS3420-10	1	Commercial
25	Electrical Contact, Pin (P2)	M39029/58-360	33	Commercial
26	Electrical Connector (P1)	D38999/26WH53SN	1	Commercial
27	Backshell (P1)	M85049/38S23W	1	Commercial
28	Electrical Contact, Socket (P1)	M39029/56-351	41	Commercial

TECHNICAL BULLETIN

DATE: 02 FEBRUARY 2010

PAGE 3 OF 12

Table 1: Parts and Supplies (Cont.)				
Item No.	Nomenclature	Part No.	Qty.	Source
29	Screw (Necessary for MHS4870 box)	NAS603-8P	4	Commercial
30	Washer (Necessary for MHS4870 box)	AN960KD8L or NAS1149DN816K	4	Commercial
31	Bracket (Necessary for MHS4870 box)	MHS4592-1D6-8 or equivalent	4	MDHI or Commercial
32	Rivet (Necessary for MHS4870 box)	MS2047AD4-4	8	Commercial
33	Electrical Contact, Pin	M39029/31-228	2	Commercial
34	Electrical Contact, Pin	M39029/31-240	22	Commercial
35	Electrical Connector (J1)	MS3120F20-39P	1	Commercial
36	Electrical Contact, Socket	M39023/32-247	2	Commercial
37	Electrical Contact, Socket	M39023/32-259	28	Commercial
38	Electrical Connector (P1)	MS3126F20-39S		Commercial
39	2C Cable	M27500-22SD2T23	AR	Commercial
40	Splice, Shield, Solder	M83519/2-3	8	Commercial
41	Electrical Connector (P2)	MS27467E17B35P	1	Commercial
42	3C Cable	M27500-22SD3T23	AR	Commercial

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:

N/A.

TECHNICAL BULLETIN

2. ACCOMPLISHMENT INSTRUCTIONS

A. Assemble VSCS Test Box

(Ref. Table 1, Figure 1 and 2)

- (1). Make box (1) and cover (2) to dimensions shown in Figure 1 or get from electrical supply company.
- (2). Put marks on the cover (2) to show position of holes for banana jacks (3) and (6), switches (4) and (5) and electrical connector (7).
- (3). Drill nine holes for banana jacks (3) and (6) with **0.3125-0.3135 in. (7.94-8 mm)** drill.
- (4). Drill two holes for switches (4) and (5) with **0.42-0.48 in. (10.67-12.19 mm)** drill.
- (5). Drill two tab holes for switches (4) and (5) with **0.120-0.140 in. (3.05-3.56 mm)** drill.
- (6). Drill hole for electrical connector (7) with **0.97-1.03 in. (24.7-26.2 mm)** drill or hole saw.
- (7). Put marks on the cover (2) to show position of holes for screws (9), use electrical connector (7) for hole locations.
- (8). Drill four holes for screws (9) with **0.125 in. (3.18 mm)** drill.
- (9). Deburr holes.
- (10). Install switches (4) and (5) in cover (2).
- (11). Install banana jacks (3) and (6) in cover (2).
- (12). Identify the banana jacks (3) and (6) and switches (4) and (5) on cover (2), use permanent ink.

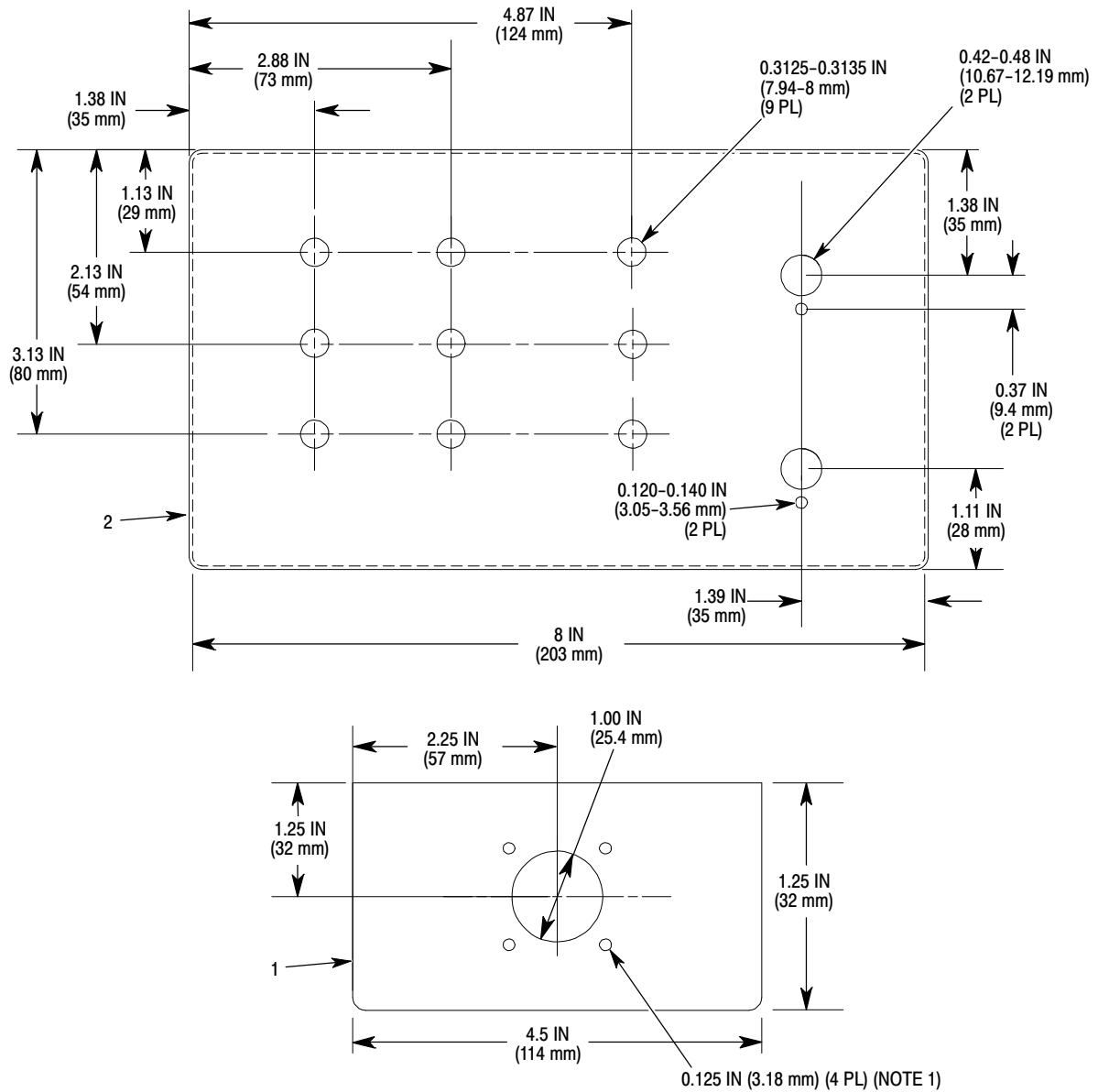
NOTE: Make sure wires (12) are long enough to install electrical connector (7) in box (1) before you install cover (2).

- (13). Install wires (12) between switches (4) and (5), banana jacks (3) and (6), and electrical connector (7) (Ref. CSP-SPM, Section 20-60-00).
- (14). Install electrical connector (7), screws (9), washers (10) and nuts (11). Torque nuts.
- (15). Install cover (2) on box (1).

TECHNICAL BULLETIN

DATE: 02 FEBRUARY 2010

PAGE 5 OF 12



TEST BOX DIMENSIONS

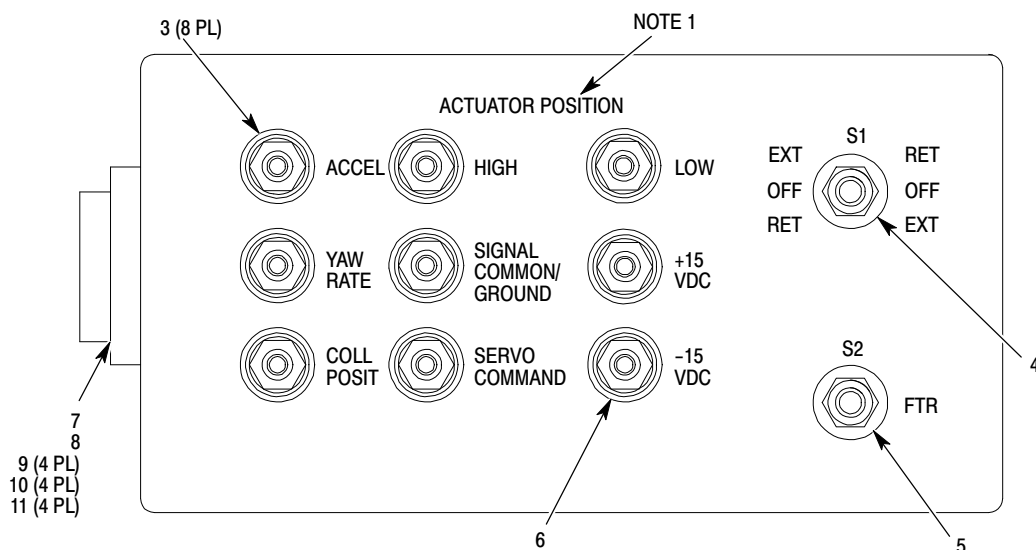
NOTES:

1. DRILL TO MATCH HOLES IN ELECTRICAL CONNECTOR.
2. MAKE BOX AND COVER FROM 0.040 IN (1.016 mm) ALUMINUM ALLOY OR EQUIVALENT. OR GET FROM ELECTRONIC SUPPLY COMPANY.

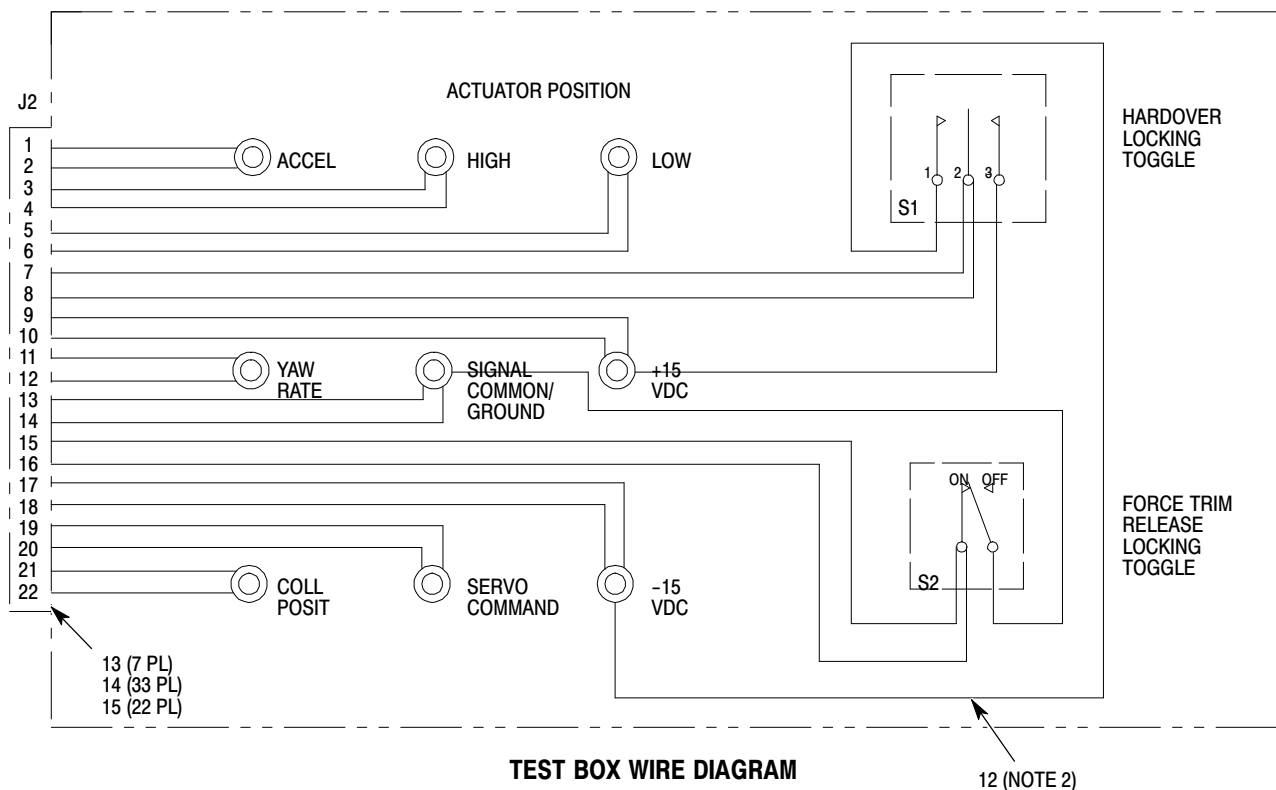
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Figure 1. VSCS Test Box

TECHNICAL BULLETIN



ELECTRICAL COMPONENT INSTALLATION



NOTES:

1. IDENTIFY AS SHOWN, USE PERMANENT INK.
2. LENGTH AS NECESSARY.

9B67-174-2

Figure 2. VSCS Test Box

TECHNICAL BULLETIN

TB900-032

TB600N-008

TB500N-004

DATE: 02 FEBRUARY 2010

PAGE 7 OF 12

B. Assemble 500N/600N Test Wire Harness

(Ref. Table 1 and Figure 3)

NOTE: Install sleeving (21) on wires (Ref. CSP-SPM, Section 20-60-00) as necessary.

(1). Make MD500N/600N test wire harness as follows:

- (a). Make wires that connect J1 (32) and P1 (38).
 - 1). Cut wires to **14 in. (356 mm)**.
 - 2). Install electrical contact (34) on one end of wire (Ref. CSP-SPM, Section 20-60-00).
 - 3). Install electrical contact (37) on other end of wire (Ref. CSP-SPM, Section 20-60-00).
- (b). Put wire ends with electrical contact (34) in J1 (32) (Ref. CSP-SPM, Section 20-60-00).
- (c). Put wire ends with electrical contact (37) in P1 (38) (Ref. CSP-SPM, Section 20-60-00).
- (d). Break out the 10 wires for P2 (41) approximately **7 in. (178mm)** from P1 (38).

(2). Make wires that connect to P2 (41) as follows:

- (a). Cut wires to **7 ft. (2.134m)**.
 - 1). Install electrical contacts (34) and (36) on one end of wire (Ref. CSP-SPM, Section 20-60-00).
 - 2). Install electrical contact (25) on other end of wire (Ref. CSP-SPM, Section 20-60-00).
- (b). Put wire ends with electrical contact (34) in J1 (32) (Ref. CSP-SPM, Section 20-60-00).
- (c). Put wire ends with electrical contact (36) in P1 (38) (Ref. CSP-SPM, Section 20-60-00).
- (d). Put wire ends with electrical contact (25) in P2 (41) (Ref. CSP-SPM, Section 20-60-00).
- (e). Label wire harness (500N9701-7).

TECHNICAL BULLETIN

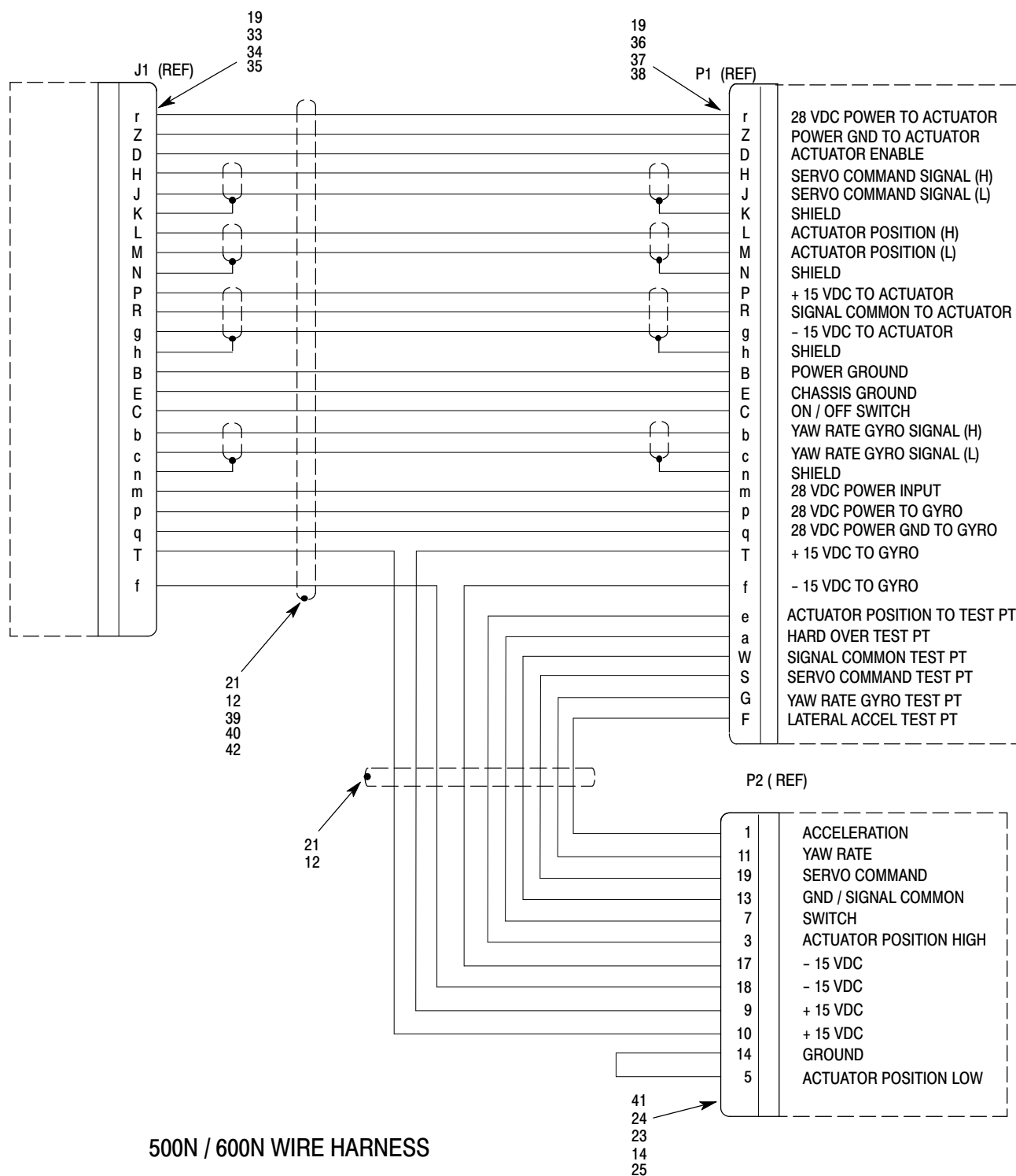


Figure 3. VSCS Test Harness 500N9701-7

TECHNICAL BULLETIN

TB900-032

TB600N-008

TB500N-004

DATE: 02 FEBRUARY 2010

PAGE 9 OF 12

C. Assemble MD 900 Test Wire Harness

(Ref. Table 1 and Figure 4 VSCS Test Box)

NOTE: Install sleeving (21) on wires (Ref. CSP-SPM, Section 20-60-00) as necessary.

(1). Make MD900 test wire harness as follows:

(a). Make wires that connect electrical connector J1 (16) and P1 (26).

1). Cut wires to **24 in. (610 mm)**.

2). Install electrical contact (20) on one end of wire (Ref. CSP-SPM, Section 20-60-00).

3). Install electrical contact (28) on other end of wire (Ref. CSP-SPM, Section 20-60-00).

(b). Put wire ends with electrical contact (20) in J1 (16) (Ref. CSP-SPM, Section 20-60-00).

(c). Put wire ends with electrical contact (28) in P1 (26) (Ref. CSP-SPM, Section 20-60-00).

(d). Make wires that connect J1 (16) and P2 (22).

1). Cut wires to **40 in. (1016 mm)**.

2). Install electrical contact (20) on one end of wire (Ref. CSP-SPM, Section 20-60-00).

3). Install electrical contact (25) on other end of wire (Ref. CSP-SPM, Section 20-60-00).

(e). Put wire ends with electrical contact (20) in J1 (16) (Ref. CSP-SPM, Section 20-60-00).

(f). Put wire ends with electrical contact (25) in P2 (22) (Ref. CSP-SPM, Section 20-60-00).

(g). Make wires that connect P1 (26) and P2 (22).

1). Cut wires to **40 in. (1016 mm)**.

2). Install electrical contact (28) on one end of wire (Ref. CSP-SPM, Section 20-60-00).

3). Install electrical contact (25) on other end of wire (Ref. CSP-SPM, Section 20-60-00).

(h). Put wire ends with electrical contact (28) in P1 (26) (Ref. CSP-SPM, Section 20-60-00).

(i). Put wire ends with electrical contact (25) in P2 (22) (Ref. CSP-SPM, Section 20-60-00).

(j). Label wire harness (500N9701-9)

TECHNICAL BULLETIN

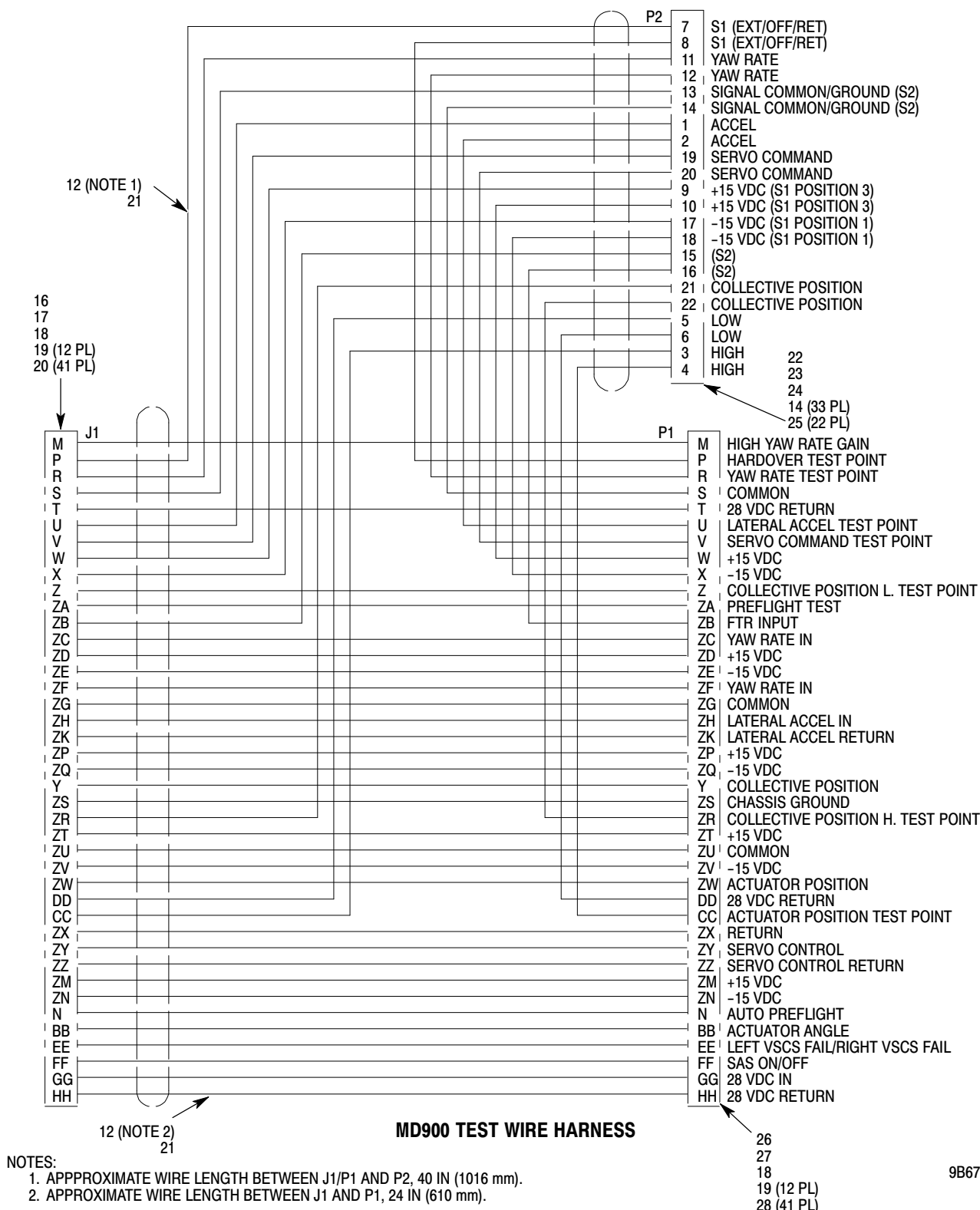


Figure 4. VSCS Test Harness 500N9701-9



TECHNICAL BULLETIN

TB900-032

TB600N-008

TB500N-004

DATE: 02 FEBRUARY 2010

PAGE 11 OF 12

3. DISPOSITION OF PARTS REMOVED

N/A

4. MAKE A RECORD

N/A

TB900-032
TB600N-008
TB500N-004

DATE: 02 FEBRUARY 2010
PAGE 12 OF 12



TECHNICAL BULLETIN

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TECHNICAL BULLETIN

DATE: 20 APRIL 2021

PAGE 1 OF 26

* Supersedes Technical Bulletin TB900-033R2, dated 25 June 2010. Revised to define the area of cracking and the repair procedures. Rotorcraft that are in compliance with TB900-033, TB900-033R1, or TB900-033R2 meet the intent of this revision.

OPTIONAL PREVENTATIVE MODIFICATION/REPAIR OF THE ROOF RIB

1. PLANNING INFORMATION

A. Rotorcraft Affected:

All MD900 helicopters, serial numbers 900-00008 thru 900-00140. Serial numbers 900-00141 and subsequent will have the intent of this bulletin completed before delivery.

B. Assembly/Components Affected By This Notice:

LH Aft Roof Beam Rib, 900F2306456-103
RH Aft Roof Beam Rib, 900F2306456-104
Aft Roof Rib Fuselage Rework 900F7911639

C. Reason:

Cracks have been reported in the installed roof beam rib, on the inboard and outboard sides of the ribs and along the top flange of the ribs. The cracks are from **0.25 to 1.50 inch (6.4 to 38.1 mm) long** and are found to begin in the upper bend radius between the inboard flange and the web of the rib (ref. Figure 1).

D. Description:

The information in this bulletin gives owners and operators instructions to install doublers and angles to reinforce and repair the roof rib bracket. Procedures in this technical bulletin can be used as a preventative measure to prevent cracks in the rib or as a repair to reinforce the bracket once a crack has begun.

NOTE: The crack repair in this technical bulletin is optional, provided a known crack is repaired with another permitted method.

E. Time of Compliance:

Optional, owner/operator selection. This modification is an optional repair.

F. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

G. Manpower:

Sixteen (16.0) man-hours

H. Interchangeability:

None

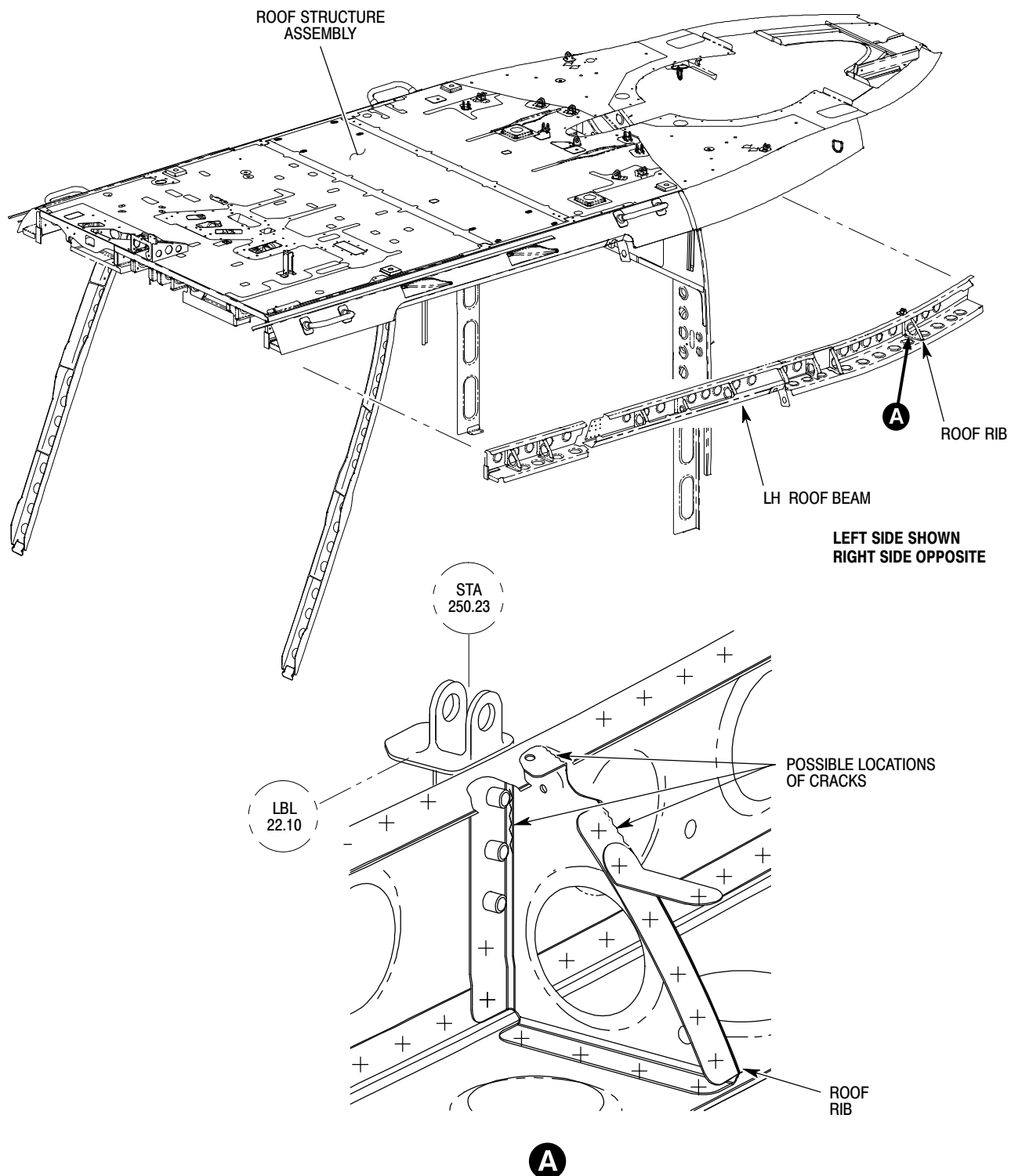
I. Points of Contact:

Contact MDHI Field Service at: <https://www.mdhelicopters.com/contact.html>

DATE: 20 APRIL 2021

PAGE 2 OF 26

TECHNICAL BULLETIN



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Figure 1. Location of Cracks in the Roof Rib Installation (Typical, Both Sides)

TECHNICAL BULLETIN

DATE: 20 APRIL 2021

PAGE 3 OF 26

J. Material/Part Availability:

Contact MDHI Spares Sales for parts availability at:

<https://www.mdhelicopters.com/contact.html>

Ref. CSP-SPM, Section 91-00-00, for the item numbers and manufacturer / supplier for consumable materials/supplies.

REPLACEMENT PARTS/SUPPLIES				
Item	Nomenclature	Part No.	Qty.	Source
1	Left-Hand (LH) Angle	900F7911639-103	1	MDHI
2	Right-Hand (RH) Angle	900F7911639-104	1	MDHI
3	Deleted	--	--	--
4	Deleted	--	--	--
5	Deleted	--	--	--
6	Swage-Lock Pin	MHS5815-0503AC	4	MDHI
6	Pin-Rivet	MHS5714-5-03 (Alternate)	4	MDHI
7	Swage-Lock Collar	MHS5816-05	7	MDHI
7	Pin-Rivet Collar	MHS5583-5 (Alternate)	7	MDHI
8	Pin-Rivet	MHS5815-05125AC	4	MDHI
9	Rivet, Solid, Universal Head	MS20470AD3	4	Commercial
10	Rivet, Solid, Universal Head	MS20470AD4	13	Commercial
11	Rivet, Blind, Bulbed, Protruding Head	NAS1919M04S01	AR	Commercial
12	Rivet, Blind, Bulbed, Protruding Head	NAS1919M04S02	AR	Commercial
13	Rivet, Blind, Bulbed, Protruding Head	NAS1919M05S03	AR	Commercial
14	Rivet, Blind, Bulbed, 100-Degree Flush Head	NAS1921M05S03	AR	Commercial
C215	Fireproof Sealing Compound	Pro-Seal 700	AR	Commercial
C241	Alodine	Alodine 1201	AR	Commercial
C307	Epoxy Primer	513X390 MIL-PRF-23377, Type 2, Class 2	AR	Commercial
C308	Primer	MIL-PRF-23377: Type 1, Class 1 or 2 or Type 2, Class 1 or 2	AR	Commercial
C316	Chemical Film	Iridite 14-2	AR	Commercial

DATE: 20 APRIL 2021

PAGE 4 OF 26

TECHNICAL BULLETIN

REPLACEMENT PARTS/SUPPLIES (Cont.)				
Item	Nomenclature	Part No.	Qty.	Source
C402	Epoxy Adhesive	Hysol® EA 9330.3	AR	Commercial
C411	Epoxy Adhesive	BR95 Hysol® EA 9321	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-900RMM-2 Rotorcraft Maintenance Manual

CSP-900IPL-4 Illustrated Parts List

CSP-900SRM-6 Structural Repair Manual

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-SPM Standard Practice Manual

CSP-900RMM-2 Rotorcraft Maintenance Manual

CSP-900IPL-4 Illustrated Parts List

CSP-900SRM-6 Structural Repair Manual

TECHNICAL BULLETIN

DATE: 20 APRIL 2021

PAGE 5 OF 26

2. ACCOMPLISHMENT INSTRUCTIONS

A. Prepare Rotorcraft

NOTE: Angle installation instructions are the same for left and right hand sides.

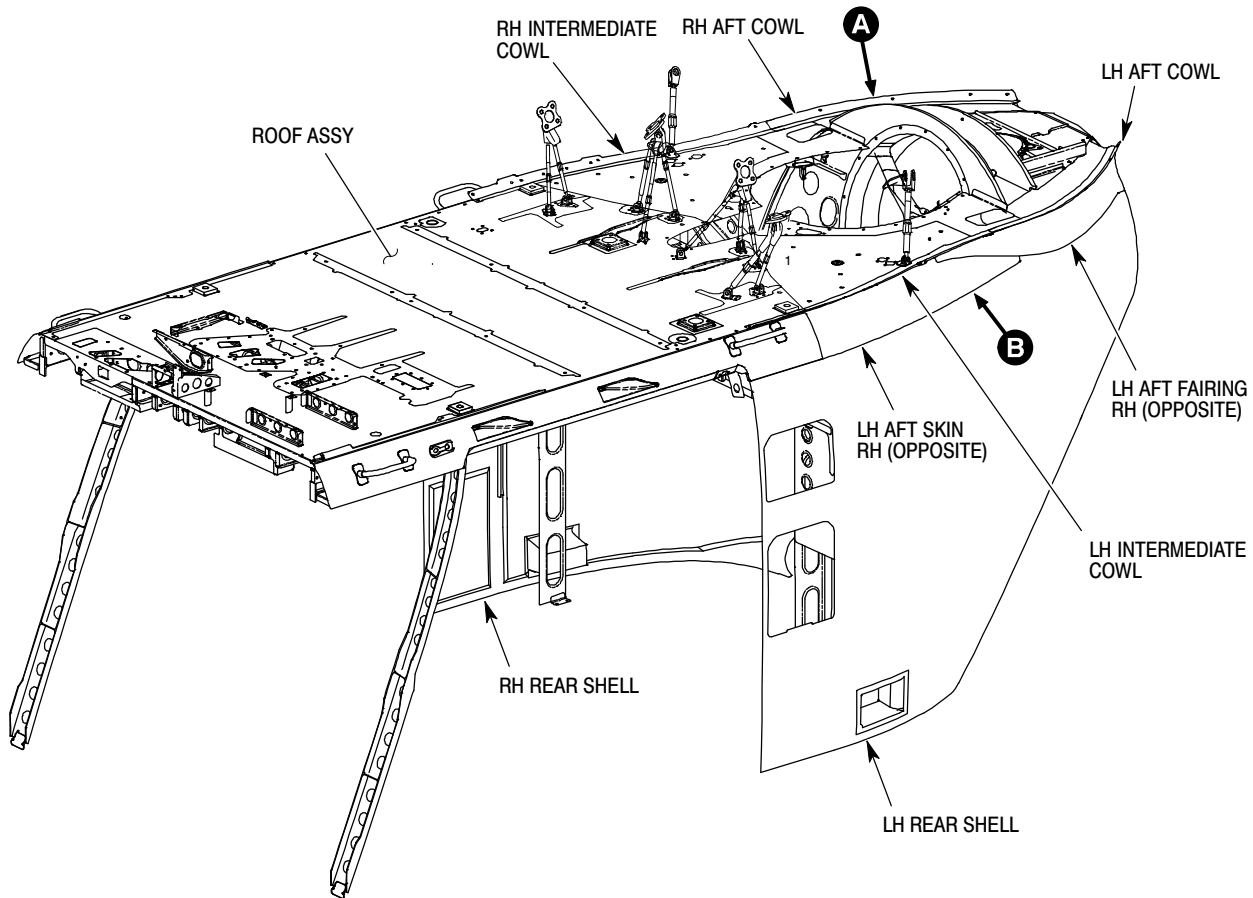
(Ref. Figure 2)

- (1). Remove the left or right Cabin Door L166 or R166. (Ref. CSP-900RMM-2, 52-00-00)
- (2). Remove the left or right upper horizontal cabin door track.
- (3). Open or remove the left or right Access Panel L210 or R210. (Ref. CSP-900RMM-2, 06-00-00)
- (4). Remove the left or right Access Panel L220 or R220. (Ref. CSP-900RMM-2)
- (5). Remove the left or right Access Panel L260 or R260.
- (6). Remove the left or right Access Panel L270 or R270.
- (7). Remove cargo compartment linings and panels to access the roof beam installation structure.
- (8). Remove other equipment as necessary for more access.
- (9). Remove rivets (12) and the LH or RH aft cowl.
- (10). Remove rivets (12) and the LH or RH intermediate cowl.
- (11). Remove rivets (12, 13) and the LH or RH aft fillet fairing.
- (12). Remove rivets (12) and the LH or RH aft skin.
- (13). Remove pin-rivets (6, 7), rivets (9, 10), the LH or RH roof rib, and engine mount fitting (PN 900F23065570-101).

DATE: 20 APRIL 2021

PAGE 6 OF 26

TECHNICAL BULLETIN



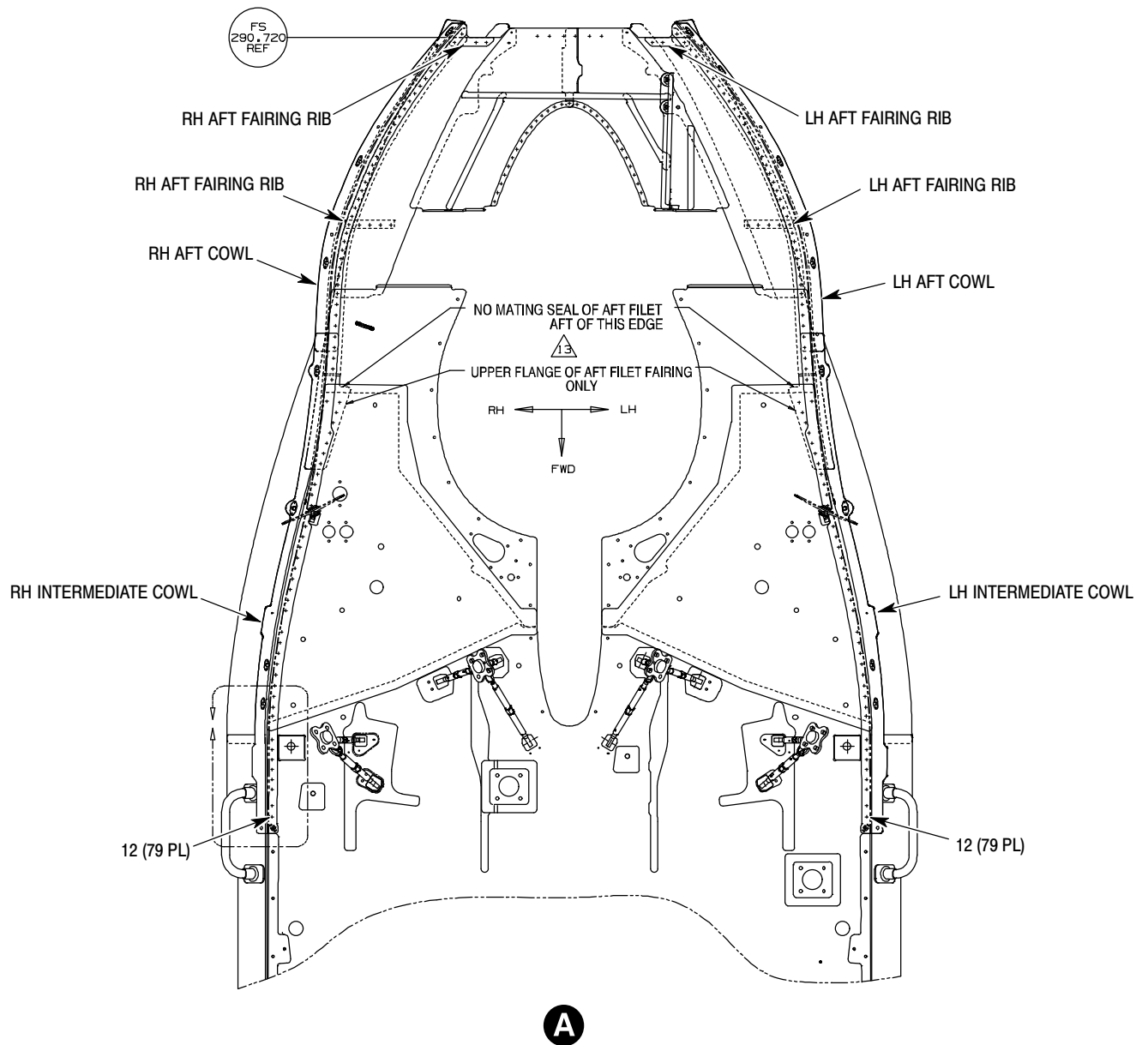
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Figure 2. Removal of the Fairings and Skins (Sheet 1 of 3)

TECHNICAL BULLETIN

DATE: 20 APRIL 2021

PAGE 7 OF 26



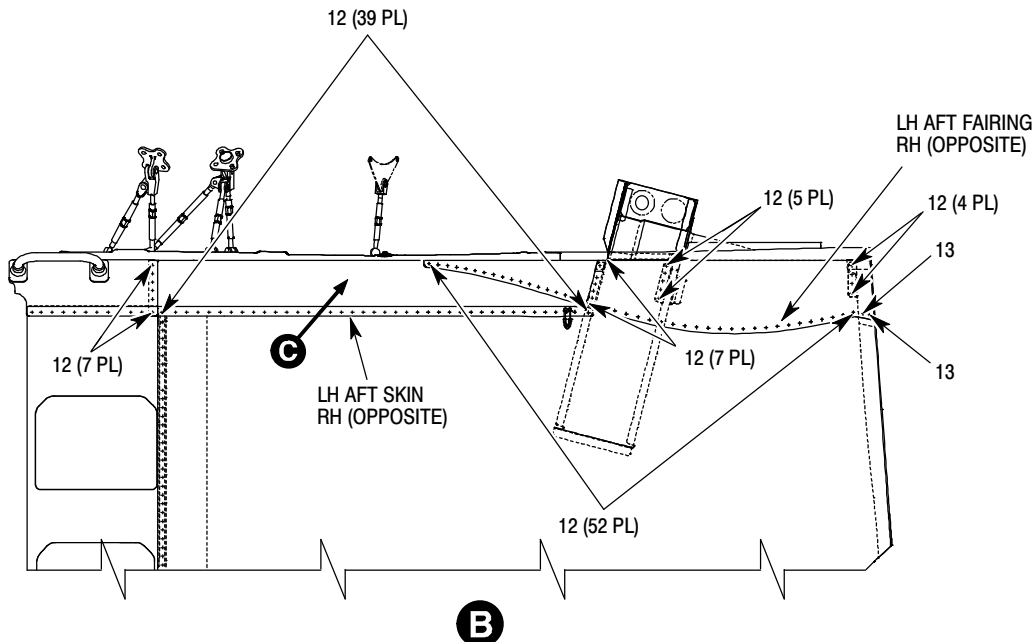
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Figure 2. Removal of the Fairings and Skins (Sheet 2 of 3)

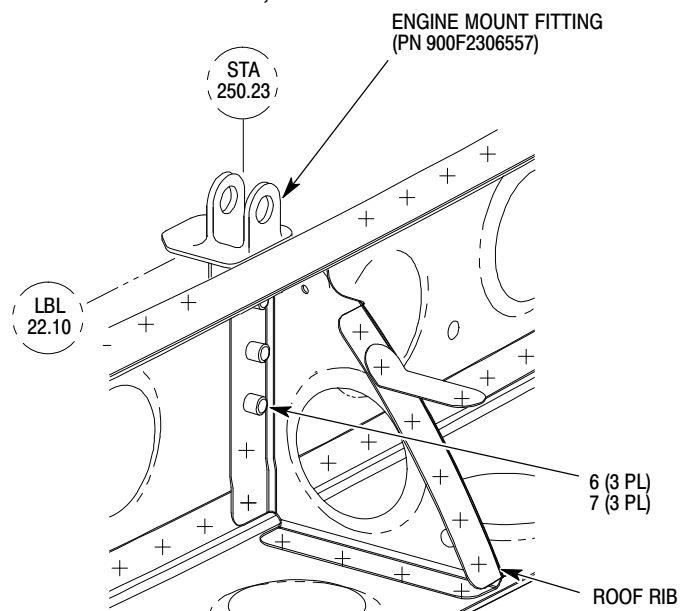
DATE: 20 APRIL 2021

PAGE 8 OF 26

TECHNICAL BULLETIN



B
SIDE VIEW
 LH SHOWN, RH OPPOSITE



C LH SHOWN
 RH OPPOSITE

9b53-192

Figure 2. Removal of the Fairings and Skins (Sheet 3 of 3)

TECHNICAL BULLETIN

DATE: 20 APRIL 2021

PAGE 9 OF 26

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DATE: 20 APRIL 2021

PAGE 10 OF 26

TECHNICAL BULLETIN

B. Modify a Roof Rib

(Ref. Figure 3)

- (1). Make a cut at the inner mold line (IML) to remove the top flange.
- (2). Make two **0.15 inch (3.8 mm)** fillet on each edge of the cut flange.
- (3). Apply corrosion protection to all surfaces. (Ref. CSP-SPM, 20-40-00, Procedure 8.A.)
- (4). Apply primer (C308) to all surfaces. (Ref. CSP-SPM, 20-30-00, Procedure 2.C.)

C. Make a New Roof Rib

(Ref. Figure 3)



Do not locate or drill holes in the rib flanges. This will be done during installation of the rib in the rotorcraft.

- (1). Make new roof rib with **0.040-inch-thick** 2024-T4 (or 2024-T3) sheet. (Ref. SAE AMS-QQ-A-250/5)

NOTE: Use the old roof rib as a pattern to create the new roof rib.

- (a). Use the dimensions in Figure 3.
- (b). Do not drill out the holes.
- (2). Make a cut along the IML to remove the top flange.
- (3). Make two **0.15 inch (3.8 mm)** fillets on each corner of the cut flange.
- (4). Apply corrosion protection to all surfaces. (Ref. CSP-SPM, 20-40-00, Procedure 8.A.)
- (5). Apply primer (C308) to all surfaces. (Ref. CSP-SPM, 20-30-00, Procedure 2.C.)
- (6). Identify the new rib as TB900033-103 (left rib) or TB900033-104 (right rib) with a permanent marker (C829).

TECHNICAL BULLETIN

DATE: 20 APRIL 2021

PAGE 11 OF 26

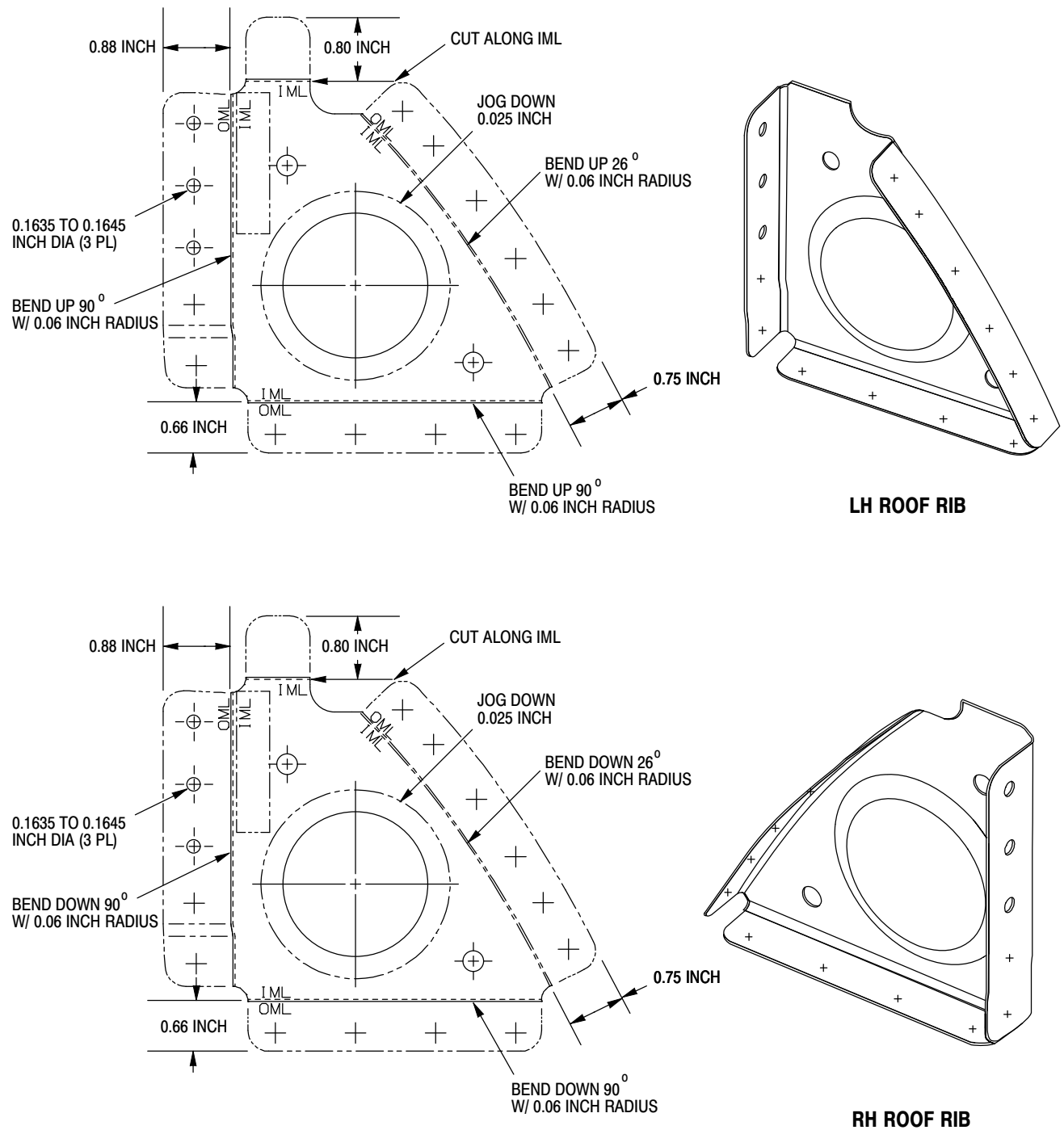


Figure 3. Make or Modify a Roof Rib

DATE: 20 APRIL 2021

PAGE 12 OF 26

TECHNICAL BULLETIN

D. Make Angle 1

(Ref. Figure 4)



Do not locate or drill holes in Angle 1. This will be done during installation in the rotorcraft.

- (1). Make Angle 1 with **0.040-inch-thick** 2024-T4 (or 2024-T3) sheet. (Ref. SAE AMS-QQ-A-250/5)
 - (a). Use the dimensions in Figure 4.
 - (b). Drill two pilot holes.
 - (c). Do not drill out the other holes.

- (2). Apply corrosion protection to all surfaces. (Ref. CSP-SPM, 20-40-00, Procedure 8.A.)

Primer (C308)

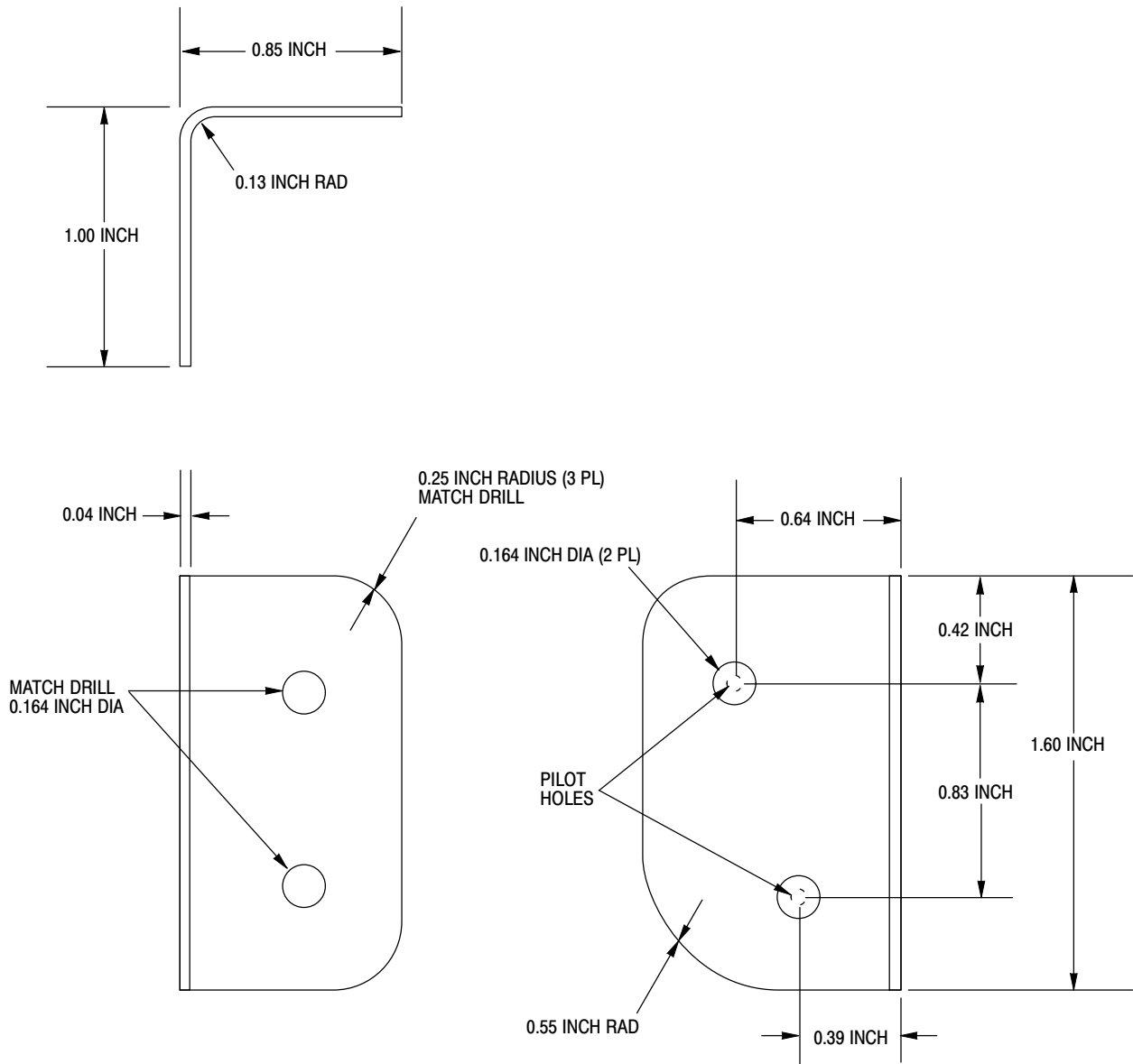


- (3). Apply primer (C308) to all surfaces. (Ref. CSP-SPM, 20-30-00, Procedure 2.C.)
- (4). Identify the new part as ANGLE 1 with a permanent marker (C829).

TECHNICAL BULLETIN

DATE: 20 APRIL 2021

PAGE 13 OF 26



9B53-185

Figure 4. Angle 1 Dimensions

DATE: 20 APRIL 2021

PAGE 14 OF 26

TECHNICAL BULLETIN

E. Make Angle 2

(Ref. Figure 5)



Do not locate or drill holes in Angle 2. This will be done during installation in the rotorcraft.

- (1). Make Angle 2 with **0.040-inch-thick** 2024-T4 (or 2024-T3) sheet. (Ref. SAE AMS-QQ-A-250/5)
 - (a). Use the dimensions in Figure 5.
 - (b). Drill two pilot holes.
 - (c). Do not drill out the other holes.

- (2). Apply corrosion protection to all surfaces. (Ref. CSP-SPM, 20-40-00, Procedure 8.A.)

Primer (C308)

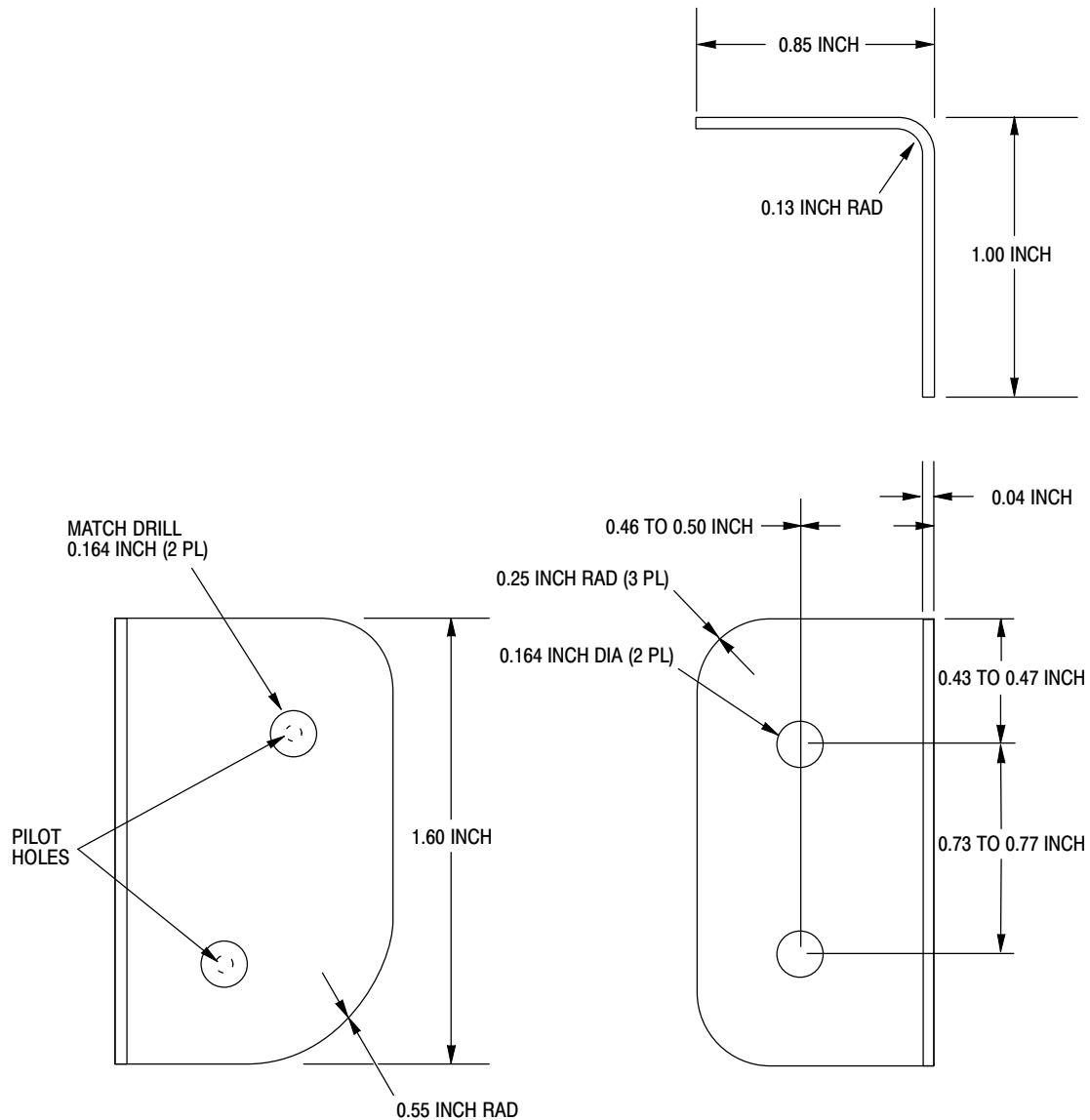


- (3). Apply primer (C308) to all surfaces. (Ref. CSP-SPM, 20-30-00, Procedure 2.C.)
- (4). Identify the new part as ANGLE 2 with a permanent marker (C829).

TECHNICAL BULLETIN

DATE: 20 APRIL 2021

PAGE 15 OF 26



9B53-186

Figure 5. Angle 2 Dimensions

DATE: 20 APRIL 2021

PAGE 16 OF 26

TECHNICAL BULLETIN

F. Make Doubler 1

(Ref. Figure 6)



Do not locate or drill holes in Doubler 1. This will be done during installation in the rotorcraft.

- (1). Make Doubler 1 with **0.040-inch-thick** 2024-T4 (or 2024-T3) sheet. (Ref. SAE AMS-QQ-A-250/5)
 - (a). Use the dimensions in Figure 6.
- (2). Apply corrosion protection to all surfaces. (Ref. CSP-SPM, 20-40-00, Procedure 8.A.)

Primer (C308)



- (3). Apply primer (C308) to all surfaces. (Ref. CSP-SPM, 20-30-00, Procedure 2.C.)
- (4). Identify the new part as DOUBLER 1 with a permanent marker (C829).

G. Make Doubler 2

(Ref. Figure 7)

- (1). Make Doubler 2 with **0.032-inch-thick** 2024-T4 (or 2024-T3) sheet. (Ref. SAE AMS-QQ-A-250/5)
 - (a). Use the dimensions in Figure 7.

NOTE: The dimensions in Figure 7 can be changed for a better fit with the repair area, as can the contour with the rotorcraft structure. Ref. Figure 9 for the installation area.

- (2). Apply corrosion protection to all surfaces. (Ref. CSP-SPM, 20-40-00, Procedure 8.A.)

Primer (C308)

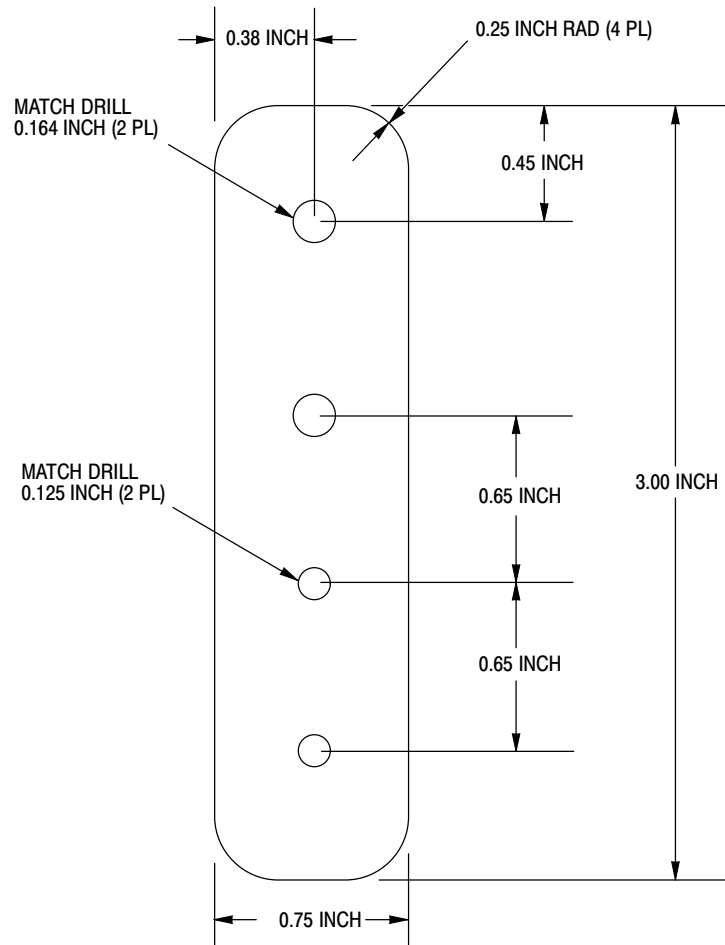


- (3). Apply primer (C308) to all surfaces. (Ref. CSP-SPM, 20-30-00, Procedure 2.C.)
- (4). Identify the new part as DOUBLER 2 with a permanent marker (C829).

TECHNICAL BULLETIN

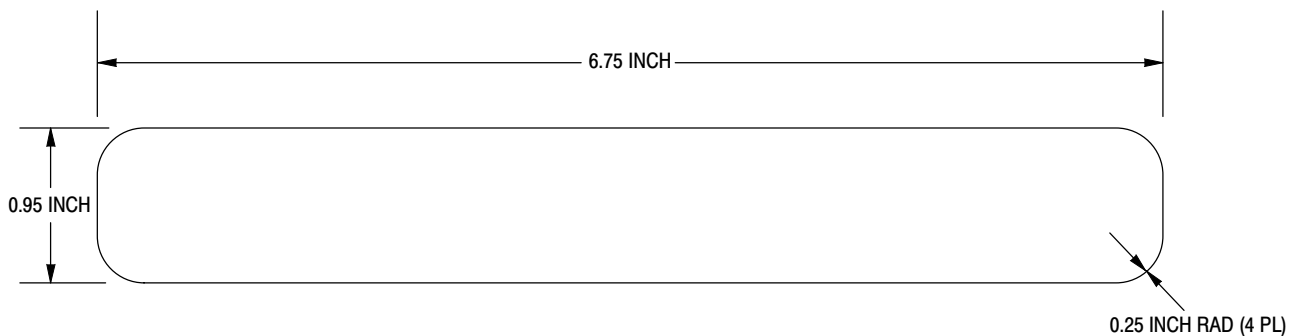
DATE: 20 APRIL 2021

PAGE 17 OF 26



9B53-187

Figure 6. Doubler 1 Dimensions



9B53-188

Figure 7. Doubler 2 Dimensions

DATE: 20 APRIL 2021

PAGE 18 OF 26

TECHNICAL BULLETIN

H. Install Doubler 2

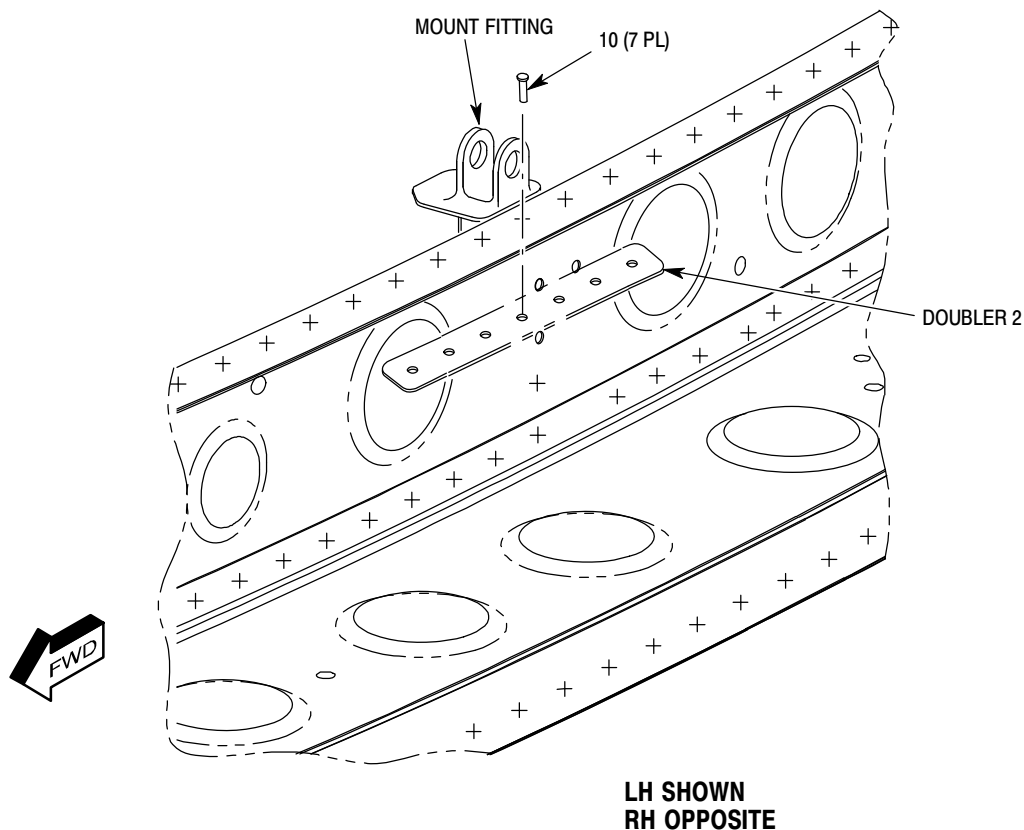
(Ref. Figure 8)

- (1). Slide Doubler 2 in position in the gap between the top of the roof rib and angles 1 and 2 and the roof beam.
 - (a). Make sure there are at least 3 rivet holes on each side of the damaged area.
 - (b). Remove the 7 installed rivets.
- (2). Match drill holes in Doubler 2 with the holes in the flange of the roof structure.
 - (a). The rivet holes must be two diameters plus **0.03 inch (0.76 mm) minimum** from the edge of Doubler 2.
 - (b). Clean and deburr all the holes in Doubler 2 and the flange.
 - (c). Apply corrosion protection to all bare surfaces of Doubler 2 and the flange. (Ref. CSP-SPM, 20-40-00, Procedure 8.A.)

Primer (C308)



- (3). Apply primer (C308) to all surfaces. (Ref. CSP-SPM, 203-30-00, Procedure 2.C.)



9b53-194

Figure 8. Installation of Doubler 2

TECHNICAL BULLETIN

DATE: 20 APRIL 2021

PAGE 19 OF 26

- (a). Let the primer dry.

Acetone (C436)



- (b). Clean all mating surfaces with acetone (C436) and non-lint cloth (C802).

- (c). Let the surfaces dry for **15 minutes minimum**.

- (4). Install Doubler 2 in frame with temporary fasteners.

Primer (C308)



- (5). Wet install rivets (MS20470AD4) with primer (C308) in frame and Doubler 2.

I. Installation of the Angles and Roof Rib

(Ref. Figure 9 and Figure 10)

NOTE: If a crack of **1.50 inch (38.1 mm)** or less is present, stop drill (ref. FAA AC 43.13-1B), deburr, and conversion coat all exposed aluminum. For cracks that are more than **1.50 inch (38.1 mm)** replace with a modified roof rib (ref. procedures B. or C.).

- (1). Remove the fasteners and rivets that attach Mount Fitting (900F2306557) and the roof rib to the roof structure (ref. Figure 9).
 - (a). Discard a roof rib that cannot be modified.
- (2). Temporarily install the modified or new roof rib with temporary fasteners.
- (3). Install Angle 1:
 - (a). Put Angle 1 in the installed position and manually hold in place.
 - (b). Use the pilot holes in Angle 1 as a guide to drill **0.169 to 0.175 inch (4.29 to 4.45 mm)** diameter holes thru Angle 1 and Roof Rib (900F2306456).
 - (c). Install a temporary fastener to hold the angle in place.
- (4). Use the holes in Mount Fitting (900F2306557) as a guide to drill full size holes (the same diameter as the existing holes) through Angle 1 (ref. Figure 9).
- (5). Clean and deburr all the holes in Angle 1 and Mount Fitting.

DATE: 20 APRIL 2021

PAGE 20 OF 26

TECHNICAL BULLETIN

Sealing Compound (C206)



Alodine (C241)



Chemical Film (C316)



- (6). Apply sealing compound (C206), alodine (C241), or chemical film (C316) on all exposed aluminum. (Ref. CSP-SPM, Sections 20-20-00 and 91-00-00, Table 201)
- (7). Install Angle 1 and Roof Rib to Mount Fitting with pin-rivets (6) and collars (7). (Ref. CSP-SPM, Sections 20-10-00)(Ref. Figure 9)

NOTE: MHS5714-5-03 pin-rivets (6) are to be used with MHS5583-5 collars (7). As necessary, the pin-rivets can be installed in either direction for easy installation.

Adhesive, Epoxy (C402)



Adhesive, Epoxy (C411)



- (8). Apply epoxy adhesive (C402) or epoxy adhesive (C411) to the mating surfaces of the angle.

Primer, Epoxy (C307)



- (a). Wet install pin-rivets (6) and collars (7) with epoxy primer (C307). (Ref. CSP-SPM, Section 20-30-00)

Primer (C308)

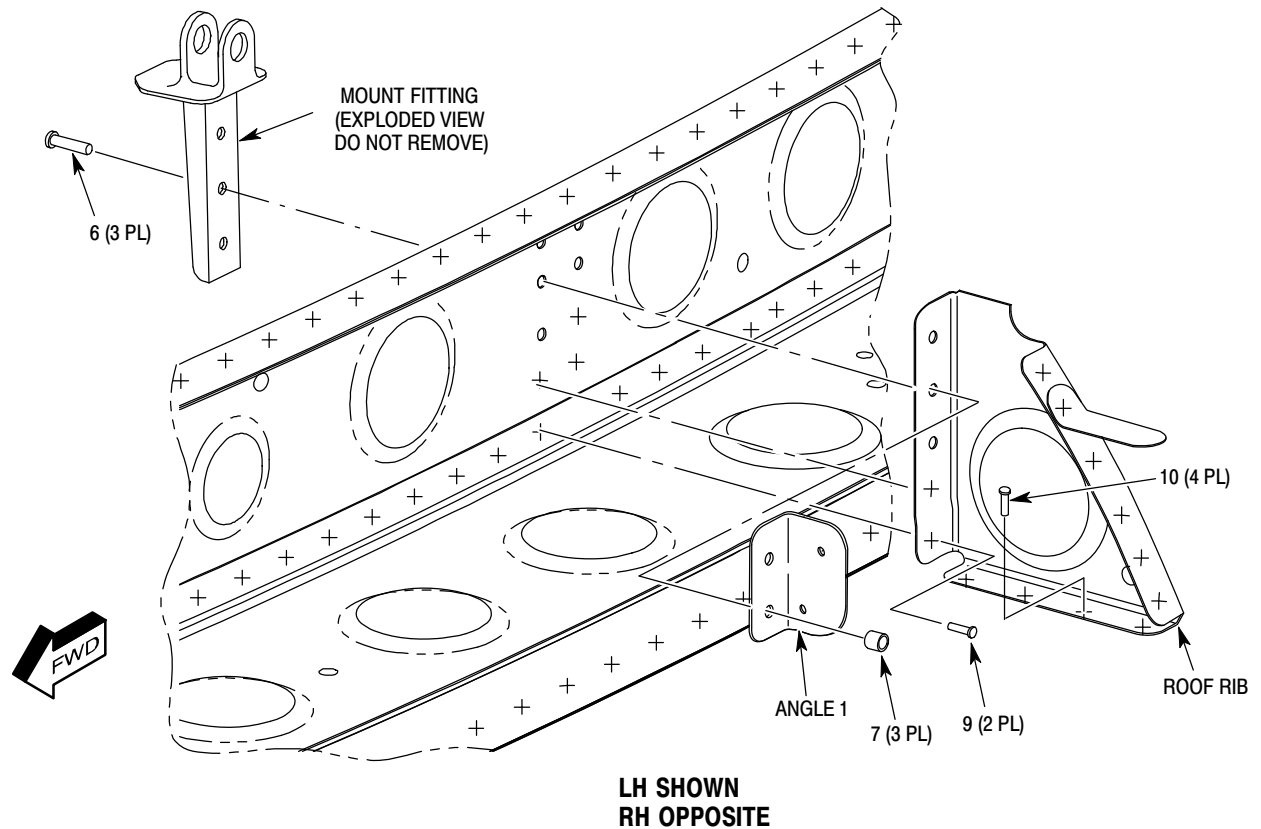


- (b). Wet install rivets (9, 10) in Roof Rib and roof beam with primer (C308).

TECHNICAL BULLETIN

DATE: 20 APRIL 2021

PAGE 21 OF 26



9b53-193-1

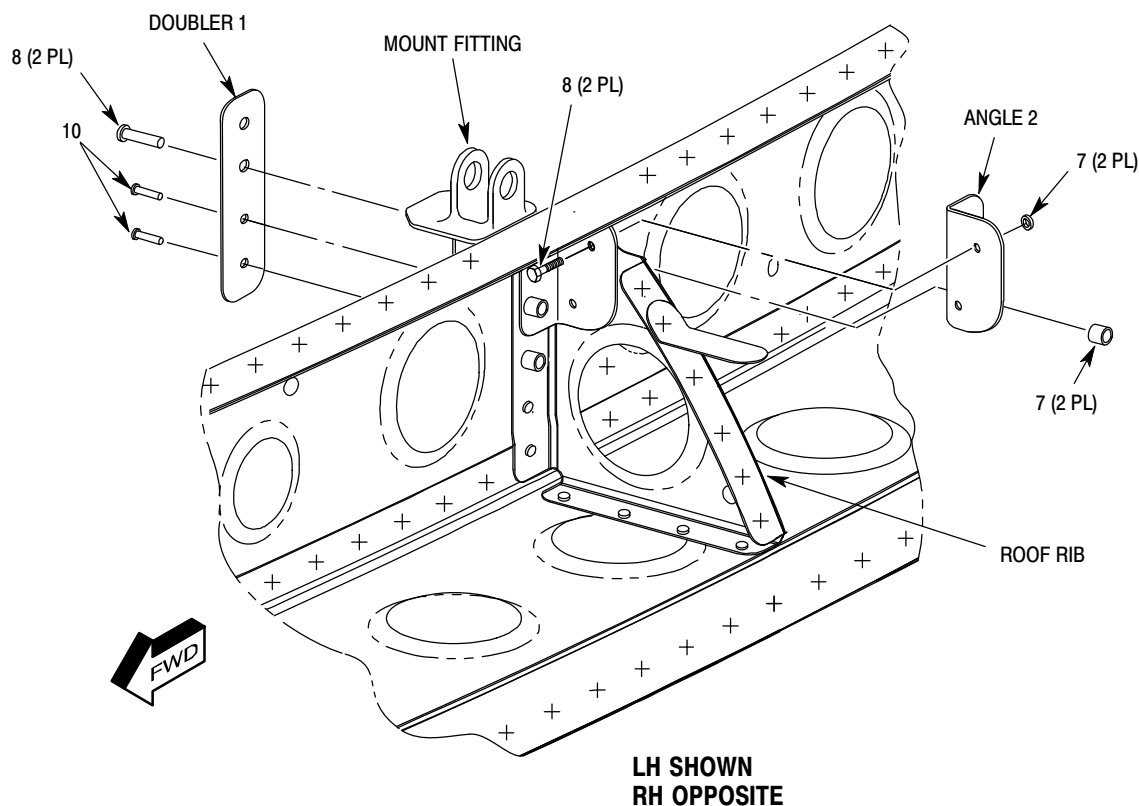
Figure 9. Installation of a Roof Rib

- (c). Remove unwanted epoxy adhesive (C402) or epoxy adhesive (C411) squeeze out (ref. Step (8)).
- (9). Put Angle 2 in position with the Roof Rib and roof beam. (Ref. Figure 10)
 - (a). Lay up Doubler 1 on the inboard side of the roof beam aft of the Mount Fitting.
 - (b). Match drill pilot holes in Doubler 1 to the roof beam and Angle 2.
 - (c). Match drill pilot holes in Angle 1 to Angle 2.
 - (d). Drill to increase the diameters of the pilot holes in Angle 1, Roof Rib, and Angle 2 to install pin-rivets (8).

DATE: 20 APRIL 2021

PAGE 22 OF 26

TECHNICAL BULLETIN



9b53-193-2

Figure 10. Installation of Doubler 1 and Angle 2

Adhesive, Epoxy (C402)



Adhesive, Epoxy (C411)



- (10). Apply epoxy adhesive (C402) or epoxy adhesive (C411) to the mating surfaces of Angle 2 and Doubler 1.
- (11). Install Doubler 1 and Angle 2 on roof beam with pin-rivets (8) and collars (7).
- (12). Install Doubler 1 to roof beam with solid rivets (10).
- (13). Install Angle 2 to Roof Rib and Angle 1 with pin-rivets (8) and collars (7).
- (14). If necessary, remove unwanted conversion coat and sealant. (Ref. CSP-SPM, Section 20-20-00)

TECHNICAL BULLETIN

DATE: 20 APRIL 2021

PAGE 23 OF 26

J. Job Close-Up

- (1). Clean the work area of unwanted material.

Primer (C308)



- (2). Install the LH or RH aft skin with rivets (12, Figure 2) wet with primer (C308).
- (3). Install the LH or RH aft fillet fairing with rivets (12) wet with primer (C308).
- (4). Install the aft fillet fairing to the tailboom attach ring with rivets (13) wet with primer (C308).
- (5). Install the LH or RH intermediate cowl:

Sealing Compound (C215)



- (a). Apply sealing compound (C215) to the mating surfaces of the intermediate cowl with the roof.

Primer (C308)



- (b). Install the intermediate cowl with rivets (12) wet with primer (C308).
- (6). Install the LH or RH aft cowl:

Sealing Compound (C215)



- (a). Apply sealing compound (C215) to the mating surfaces of the aft cowl with the roof.

Primer (C308)



- (b). Install the aft cowl with rivets (12) wet with primer (C308).
- (7). Install the left or right upper horizontal cabin door track. (Ref. CSP-900RMM-2, 52-00-00)
- (8). Install Cabin Door L166 or R166.
- (9). Clean the area with best shop practices. (Ref. CSP-SPM, Section 20-20-00)

DATE: 20 APRIL 2021

PAGE 24 OF 26

TECHNICAL BULLETIN

Primer (C308)



(10). Touchup bare metal on the fuselage with primer (C308).

(11). Apply primer (C308) on rivet heads.

K. Compliance Record

- (1). Record compliance to this Technical Bulletin with the Compliance Record Log. (Ref. CSP-RLB, CSP-RLB-L8)
- (2). Show compliance with this Technical 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 email a scanned copy of the Bulletin Completed Record to your MDHI Field Service Representative.

TECHNICAL BULLETIN

DATE: 20 APRIL 2021

PAGE 25 OF 26

Technical Bulletin TB900-033R3 Completed Record

OPTIONAL PREVENTATIVE MODIFICATION/REPAIR OF THE ROOF BRACKET

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: _____	Rotorcraft Serial No: _____
Address: _____ _____ _____ _____	Rotorcraft Total Time: _____ Date: _____ Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete: _____

(Signature)

(Print Name)

(Title)

Comments: _____

DATE: 20 APRIL 2021

PAGE 26 OF 26

TECHNICAL BULLETIN

Technical Bulletin TB900-033R3, OPTIONAL PREVENTATIVE MODIFICATION/REPAIR OF THE ROOF RIB

Parts Request Form: Please fill in the information and mail or email this form to MDHI.

Helicopter Serial No.: _____

Helicopter Total Time: _____

Date: _____

Parts Required:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Part Serial No. (if required):

Ship to: **Company:** _____

Address: _____

City: _____

State/Province: _____

Zip/Postal Code: _____

Country: _____

TECHNICAL BULLETIN

DATE: 9 FEBRUARY 2011

PAGE 1 OF 16

*Supersedes Technical Bulletin TB900-034, dated 25 June 2010. Revised to add and change part numbers for replacement parts and supplies and to change rework instructions.

THRUSTER ASSEMBLY MODIFICATION

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 helicopter serial numbers (SNs) 900-00008 thru 900-00036 (if SB900-023 was completed), and 900-00037 thru 900-00139. This change has been implemented on new production aircraft, SNs 900-000140 and subsequent.

B. Assembly/Components Affected By This Bulletin:

900F5421510-119 Modified Thruster Assembly

900F5421510-121 Modified Thruster Assembly

90001420102-107 Thruster Buildup Assembly

90001420102-109 Thruster Buildup Assembly

C. Reason:

To give owners and operators procedures to add bearings to the thruster buildup. An increase in the number of bearings reduces contact pressure against the race of the rotating cone during operation and will reduce wear of the rotating cone raceway. Different mission profiles and maneuver tendencies will cause some operators to benefit more than others as a result of this change. For this reason, this modification is optional.

D. Description:

Procedures in this Bulletin provide owners and operators instructions to modify the thruster buildup assembly to a 90001420102-111 thruster buildup assembly. Eight bearings are added to the stationary thruster and 8 bearings are relocated.

E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

F. Manpower:

Eight (8) man-hours.

G. Time of Compliance

Customer option, at owner/operator discretion.

H. Interchangeability:

None.

I. 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

DATE: 9 FEBRUARY 2011

PAGE 2 OF 16

TECHNICAL BULLETIN

J. Material/Part Availability:

Removed control bearings and bolts can be used again.

REPLACEMENT PARTS / SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Bearing, Control	CEKP3AR11-2	8 to 24	MDHI
Bolt, Titanium	MHS5555V3-7 (Truss Head) NAS673V7 (Alternative) (Hex Head)	8 to 24	MDHI
Cloth, Crocus	ANSI-B74.18	AR	Commercial
Cloth, Lint-Free	MIL-DTL-24671	AR	Commercial
Cloth, Black Carbon, Plain Weave	MRM012116 (32 inch ² (206 cm ²))	AR	MDHI
Fiberglass	AMC-C-9084, Type III, Class 12 or Type 8A, Class 12	AR	Commercial
Glue, Super	MIL-A-46050, Type II, Class 2 (C442)	AR	Commercial
Lockwire	MS20995C32 (C702)	AR	Commercial
Nutplate, Self-Locking, Plate, Corner, Reduced Rivet	MS21074-3	16	Commercial
Peel Ply	Release Ply C (Preferred) Release Ply G (Alternative)	AR	Airtech International Inc. (MS1), 5700 Skylab Rd., Huntington Beach, CA 92647 Telephone: 714-899-8100
Primer	MIL-PRF-23377, Type I, Class 1 (PN 513X390) (C310)	AR	PRC-Desoto International Inc. (MS15), 5454 San Fernando Rd., Glendale, CA 91203 Telephone: 818-240-2060 Crown Metro Inc. (MS17), PO Box 5857, Greenville, SC 29606 Telephone: 864-299-1331 The Sherwin-Williams Co. (MS55), 101 Prospect Ave. NW, Cleveland, OH 44115 Telephone: 800-515-4825

TECHNICAL BULLETIN

DATE: 9 FEBRUARY 2011

PAGE 3 OF 16

REPLACEMENT PARTS / SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Release Agent, Fluorocarbon	Sprayon® P00311 (C235) REN RP 79-2 (C235)	AR	The Sherwin-Williams Co. (MS55), 101 Prospect Ave. NW, Cleveland, OH 44115 Telephone: 800-515-4825
Release Film	A4000	AR	Airtech International Inc. (MS1), 5700 Skylab Rd., Huntington Beach, CA 92647 Telephone: 714-899-8100
Resin, Epoxy	Araldite® 501 (C504)	AR	Huntsman Advanced Materials, 8600 Gosling Rd., The Woodlands, TX 77380 Telephone: 281-719-6000
Rivet, Blind – Hollow: Pull Thru, Countersunk Head	MHS5422C3125	32	MDHI
Sandpaper, Non-Aluminum Oxide (180-Grit or Finer)		AR	Commercial
Sealant, Conductive	Cho-Bond 2165 (C229)	AR	Chomerics, Inc. (MS12), 77 Dragon Court, Woburn, MA 48823 Telephone: 781-935-4850
Solvent Cleaner	Desoclean 45 020X413 (C429)	AR	PRC-Desoto International Inc. (MS15), 5454 San Fernando Rd., Glendale, CA 91203 Telephone: 818-240-2060
Washer, Flat	NAS1149C0332R	16 to 48	Commercial
Washer, Flat	NAS1149C0363R	24	Commercial

K. Warranty Policy:

Standard warranty policy applies.

DATE: 9 FEBRUARY 2011

PAGE 4 OF 16

TECHNICAL BULLETIN

L. Tooling:

TOOLS AND EQUIPMENT	
Nomenclature	Source
C-clamps	Commercial
MD900 Stationary Thruster Bearing Hole Location Tool (PN 900F2421510-107-DJ1)	MDHI
Nutplate Jig	Locally Made

M. Weight and Balance:

This modification will add:

- 0.30 lb (0.14 kg) to the weight,
- 455 inches (1155.7 cm) to the longitudinal arm, and
- 137 in-lb (15.5 Nm) to the longitudinal moment.

N. Electrical Load Data:

N/A

O. Other Publications Affected:

CSP-SPM Standard Practices Manual
 CSP-900RMM-2 Rotorcraft Maintenance Manual – Servicing and Maintenance
 CSP-900IPL-4 Illustrated Parts List

P. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-SPM Standard Practices Manual
 CSP-900RMM-2 Rotorcraft Maintenance Manual – Servicing and Maintenance
 CSP-900IPL-4 Illustrated Parts List
 SB900-023 Thruster Rotating Cone/Control Bearings Modifications
 SL900-068 Thruster Assembly Washer Modification

TECHNICAL BULLETIN

DATE: 9 FEBRUARY 2011

PAGE 5 OF 16

2. ACCOMPLISHMENT INSTRUCTIONS

A. Preparation

- (1). Remove the SL8 and SR8 thruster extension fairing assemblies (ref. CSP-900RMM-2, 53-40-00, Maintenance Practices, and Figure 1).
- (2). Remove the thruster rotating cone cover (ref. CSP-900RMM-2, 67-20-00, Removal/Installation).
- (3). Remove the rotating cone assembly (ref. CSP-900RMM-2, 67-20-00, Removal/Installation).
- (4). Examine the bearing track surface on the inside of the bearing race of the rotating cone assembly (1) for cracks and too much wear.
 - (a). The maximum wear depth that is permitted is **0.001 to 0.003 inch (0.03 to 0.08 mm)** (ref. CSP-900RMM-2, 67-20-00, Inspection/Test/Rigging).
 - 1). If the wear is in the specified limit, blend wear indentations or sharp edges with a crocus cloth.
 - 2). If the wear is more than the specified limit, replace the bearing race of the rotating cone assembly (1) (ref. CSP-900RMM-2, 67-20-00, Removal/Installation).
 - (b). Replace the bearing race of the rotating cone assembly (1) if there are cracks (ref. CSP-900RMM-2, 67-20-00, Removal/Installation).

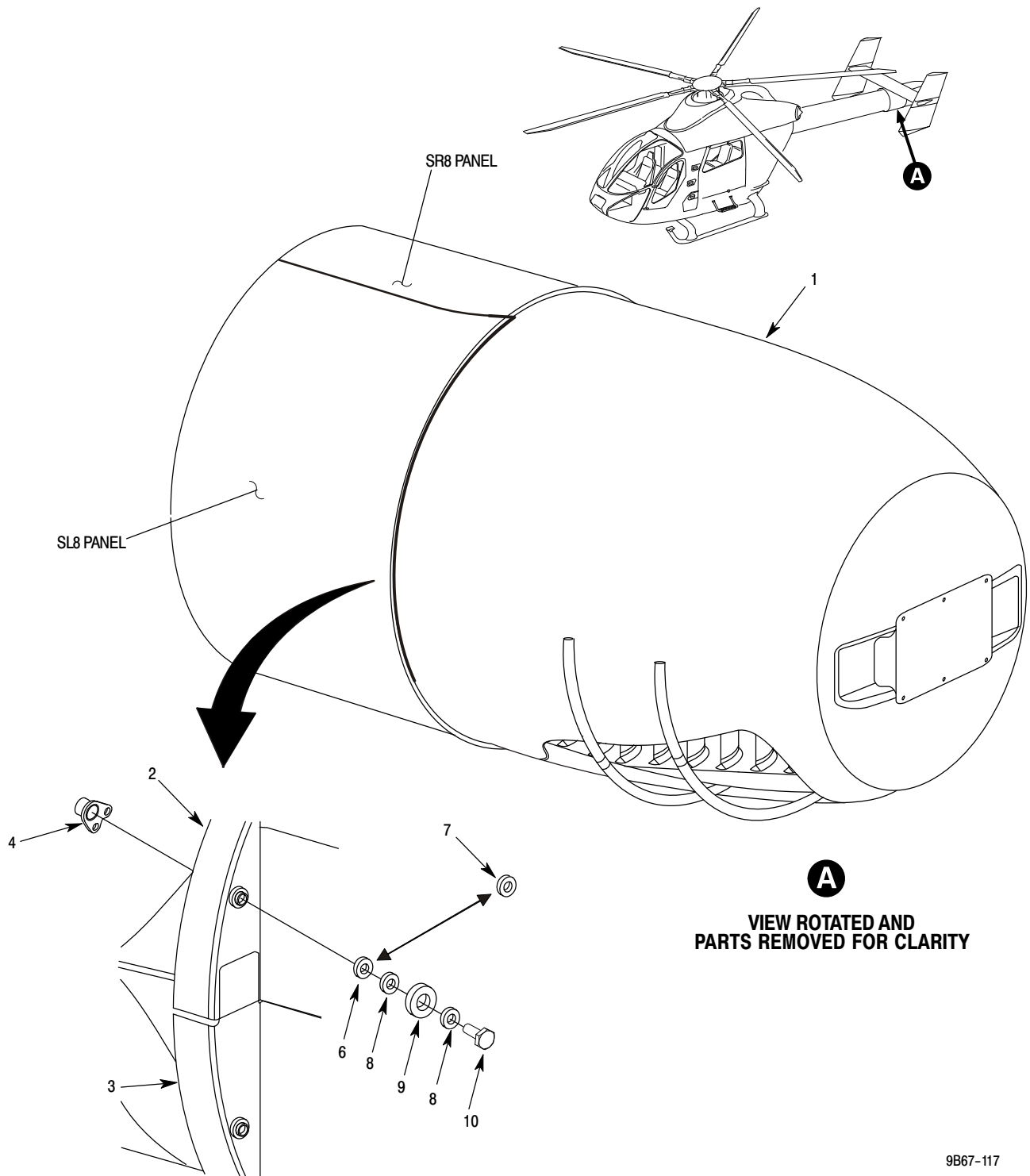
Legend (Ref. Figure 1)

1. ROTATING CONE ASSY
2. UPPER BULKHEAD ASSY
3. LOWER BULKHEAD ASSY
4. NUTPLATE
5. RIVET
6. NYLON WASHER
7. CRES WASHER
8. FLAT WASHER
9. CONTROL BEARING
10. BOLT

DATE: 9 FEBRUARY 2011

PAGE 6 OF 16

TECHNICAL BULLETIN



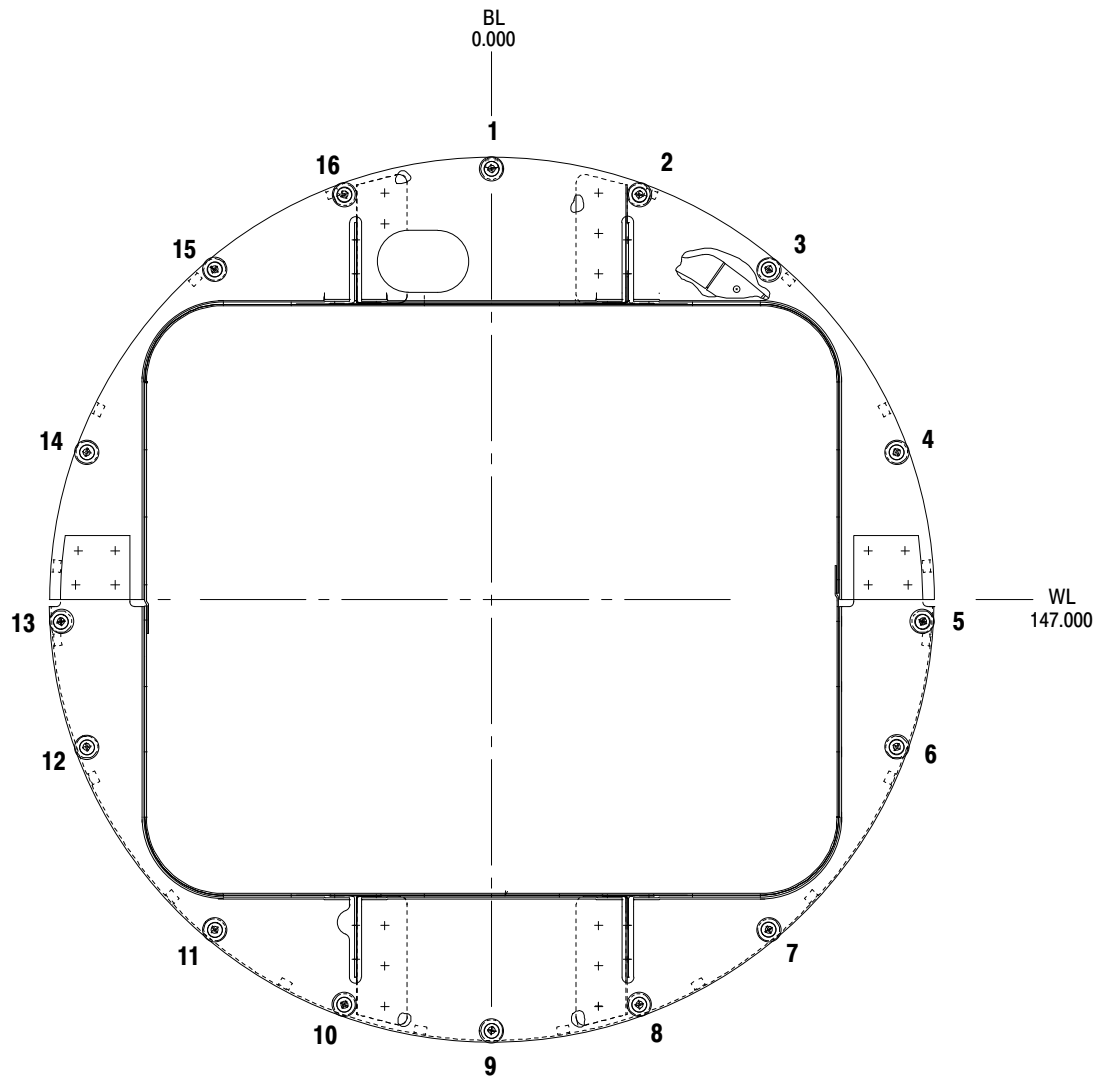
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Figure 1. Thruster Assembly

TECHNICAL BULLETIN

DATE: 9 FEBRUARY 2011

PAGE 7 OF 16



9b67-175

Figure 2. Location of 16 Control Bearings

DATE: 9 FEBRUARY 2011

PAGE 8 OF 16

TECHNICAL BULLETIN

B. Rework Instructions

- (1). Remove bolts (10), control bearings (9), flat washers (8), and nylon washers (6) at locations 2, 4, 6, 8, 10, 12, 14, and 16 (ref. Figure 2).



The rivets and nutplates at locations 2, 4, 6, 8, 10, 12, 14, and 16 must be removed and discarded. Unrestrained and installed nutplates can cause foreign object damage (FOD).

- (2). Remove rivets (5) and nutplates (4) at locations 2, 4, 6, 8, 10, 12, 14, and 16.

- (a). Discard rivets (5) and nutplates (4).

- (3). Repair holes from removed nutplates:

NOTE: The lower and upper bulkhead assemblies (2, 3) are 5-harness satin 40% epoxy-resin-impregnated standard modulus carbon-fiber-reinforced fabric structures.

- (a). Lightly sand holes to remove loose fibers.
 - (b). Lightly abrade both sides of the surface around the holes with 180-grit or finer sandpaper.

Solvent Cleaner (C429)



- (c). Wipe the surfaces with solvent cleaner (C429) until there is no evidence of residue on a clean cloth (C802).

- 1). Let the area dry for 15 minutes minimum.

- (d). Deleted.

- 1). Deleted.

Resin, Epoxy (C504)



- (e). Put **1.00-inch (25.4 mm) diameter** patches of black carbon plain weave cloth on one side of the area to be repaired with epoxy resin (C504).

- 1). Make sure both rivet holes and the bolt hole are covered.

Resin, Epoxy (C504)



- (f). Put **1.25-inch (31.8 mm) diameter** patches of **0.120-inch (30.5 mm) thick** fiberglass over the black carbon patches with epoxy resin (C504).

- (g). Put a layer of Peel Ply over the black carbon patches and fiberglass.

TECHNICAL BULLETIN

DATE: 9 FEBRUARY 2011

PAGE 9 OF 16

- (h). Put release film over the black carbon patches, fiberglass, and Peel Ply.

Resin, Epoxy (C504)



- (i). Fill holes with epoxy resin (C504) mixed with milled carbon fibers (20 percent maximum by weight).

Resin, Epoxy (C504)



- (j). Put **1.00-inch (25.4 mm) diameter** patches of black carbon plain weave cloth on the other side of the repair area with epoxy resin (C504).

- 1). Make sure both rivet holes and the bolt hole are covered.

Resin, Epoxy (C504)



- (k). Put **1.25-inch (31.8 mm) diameter** patches of **0.120-inch (30.5 mm) thick** fiberglass over the black carbon patches with epoxy resin (C504).

- (l). Put a layer of Peel Ply over the black carbon patches and fiberglass.

- (m). Put release film over the black carbon patches, fiberglass, and Peel Ply.

- (n). Install small flat aluminum pieces on the release film on both sides with C-clamps (lightly tightened).

Solvent Cleaner (C429)



- (o). Immediately clean unwanted material from parts and tools with solvent cleaner (C429).

NOTE: Clean unwanted material from parts and tools before you let the mixture cure.

- (p). Let mixture cure for 24 hours at ambient temperature.

NOTE: Ambient temperatures must be more than **60F (16C)**. For best results, the ambient temperature is **70 to 90F (21 to 32C)**.

- (q). Deleted.

- (r). Deleted.

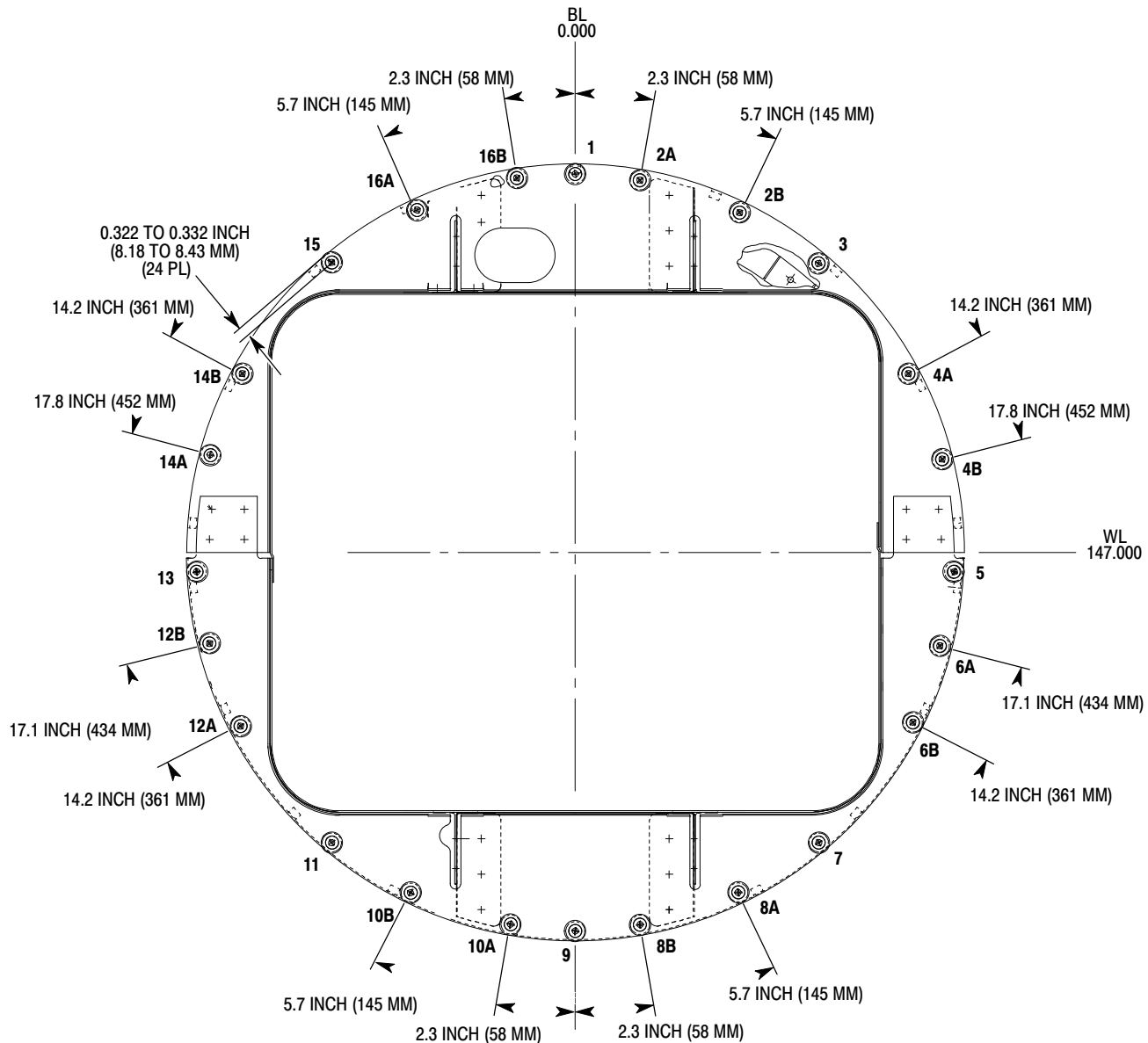
- (s). Deleted.

- (t). Deleted.

DATE: 9 FEBRUARY 2011

PAGE 10 OF 16

TECHNICAL BULLETIN



9b67-176

Figure 3. Location of 24 Control Bearings

TECHNICAL BULLETIN

DATE: 9 FEBRUARY 2011

PAGE 11 OF 16

- (u). Deleted.
- (v). Remove C-clamps and aluminum pieces.
- (w). Remove Peel Ply.
- (x). Lightly abrade with 180-grit or finer sandpaper both sides of the repaired areas until flat and uniform.

Solvent Cleaner (C429)



- (y). Wipe the surfaces with solvent cleaner (C429) until there is no evidence of residue on a clean cloth (C802).
 - 1). Let the area dry for 15 minutes minimum.
- (z). Deleted.
- (aa). Deleted.
- (4). Find new bolt holes at locations 2A, 2B, 4A, 4B, 6A, 6B, 8A, 8B, 10A, 10B, 12A, 12B, 14A, 14B, 16A, and 16B (ref. Fig. 3) with MD900 stationary thruster bearing hole location tool (PN 900F2421510-107-DJ1), tape measure, and C-clamps. (Ref. Figure 3 and Figure 4.)
- (5). Drill 16 **0.190 to 0.193 inch (4.83 to 4.90 mm) diameter** bolt holes with MD900 stationary thruster bearing hole location tool (PN 900F2421510-107-DJ1), C-clamps and a spade bit at locations 2A, 2B, 4A, 4B, 6A, 6B, 8A, 8B, 10A, 10B, 12A, 12B, 14A, 14B, 16A, and 16B. (Ref. Figure 4.)
 - (a). Deburr the holes.
- (6). Drill 32 holes for the nutplate rivets with a nutplate jig and **0.098 inch (2.5 mm)** or #40 drill with a spade bit.
 - (a). Deburr the holes.

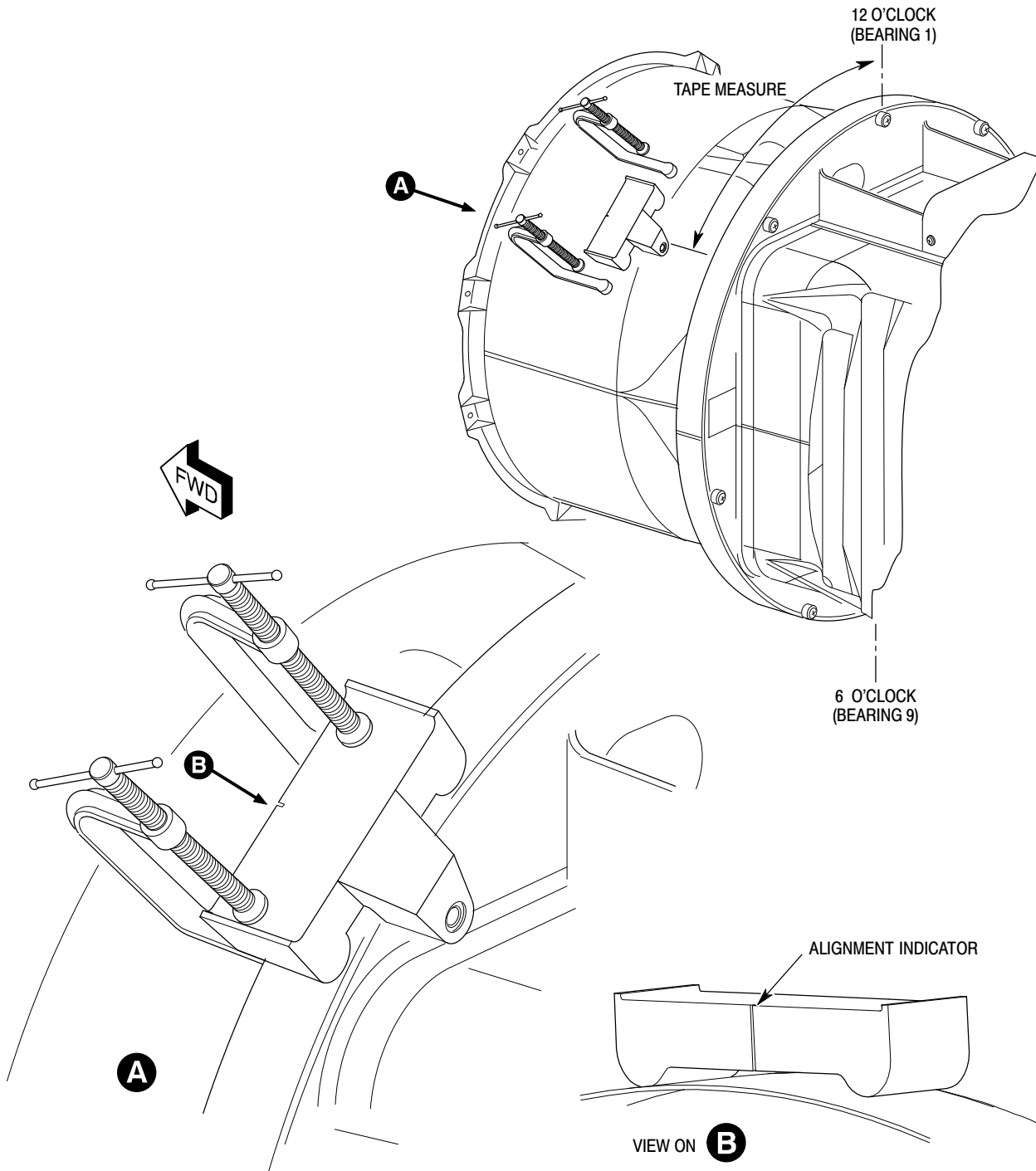
Primer (C310)



- (7). Wet install rivets (5) with primer (C310) and nutplates (4).

DATE: 9 FEBRUARY 2011
PAGE 12 OF 16

TECHNICAL BULLETIN



9b98-165

Figure 4. Find And Drill New Holes With The Location Tool

TECHNICAL BULLETIN

DATE: 9 FEBRUARY 2011

PAGE 13 OF 16

- (8). Install CRES washers (7), flat washers (8), control bearings (9), and bolts (10) at locations 2A, 2B, 4A, 4B, 6A, 6B, 8A, 8B, 10A, 10B, 12A, 12B, 14A, 14B, 16A, and 16B.
 - (a). Torque bolts **15 to 20 in-lb (1.7 to 2.3 Nm)**.
 - (b). If necessary, to remove remaining axial play of the stack-up, torque bolts to **24 in-lb (2.7 Nm)** maximum.

NOTE: If SL900-068 has been done, Step (9). is not necessary.

- (9). Remove and replace nylon washers (6) with CRES washers (7) at locations 1, 3, 5, 7, 9, 11, 13, and 15 (ref. Figure 1 and Figure 3).
 - (a). Remove bolts (10), control bearings (9), flat washers (8), and nylon washers (6).
 - 1). Discard nylon washers (6).
 - (b). Install CRES washers (7), flat washers (8), control bearings (9), and bolts (10).
 - 1). Torque bolts (10) **15 to 20 in-lb (1.7 to 2.3 Nm)**.
 - 2). If necessary, to remove remaining axial play of the stack-up, torque bolts (10) to **24 in-lb (2.7 Nm)** maximum.
- (10). Make sure the control bearing installations are free of contamination and debris.
- (11). Examine all control bearings (9) for smooth movement.
 - (a). Replace control bearings (9) that catch or rub during movement.
- (12). Examine all control bearings (9) for corrosion, flat spots, and play.
 - (a). Replace control bearings (9) with corrosion.
 - (b). Replace control bearings (9) that are visually out of round.
 - (c). Replace control bearings (9) with flat spots wider than **0.100 inch (2.54 mm)**.
 - (d). Replace control bearings (9) with axial and/or radial play more than **0.003 inch (0.08 mm)**.
- (13). Identify the modified thruster buildup assembly near the old part number as 90001420102-111 "TB900-034" with permanent ink in a contrasting color.

C. Job Close-Up

- (1). Install the rotating cone assembly (ref. CSP-900RMM-2, 67-20-00, Removal/Installation).
- (2). Install the thruster rotating cone cover (ref. CSP-900RMM-2, 67-20-00, Removal/Installation).
- (3). Install the SL8 and SR8 thruster extension fairing assemblies (ref. CSP-900RMM-2, 53-40-00, Maintenance Practices).



Do not move the rotating cone assembly more than one-half left or one-half right open.

- (4). Slowly turn the rotating cone assembly by hand to make sure it moves freely thru its full range of travel.

DATE: 9 FEBRUARY 2011

PAGE 14 OF 16

TECHNICAL BULLETIN

D. Compliance Record

- (1). Record compliance to this Technical 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.

TECHNICAL BULLETIN

DATE: 9 FEBRUARY 2011

PAGE 15 OF 16

Bulletin Completed Record

TB900-034R1 – Thruster Assembly Modification

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

Dear Sir:

This is to tell you that this Technical Bulletin has been completed as follows:

Owner /Operator: _____	Helicopter Serial No: _____
Address: _____	Helicopter Total Time: _____
_____	Date: _____
_____	Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete:

_____ (Signature)

_____ (Print Name)

_____ (Title)

Comments: _____

DATE: 9 FEBRUARY 2011
PAGE 16 OF 16

TECHNICAL BULLETIN

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TECHNICAL BULLETIN

DATE: 29 JULY 2010

PAGE 1 OF 6

MODIFICATION OF UPPER DAMPER CAP

1. PLANNING INFORMATION

A. Aircraft Affected:

All MD900 helicopters, serial numbers 900-00008 thru 900-00124.

Serial numbers 900-00125 and subsequent will have the intent of this bulletin done before delivery.

B. Assembly/Components Affected By This Bulletin:

Damper Cap, Upper, Main Rotor Hub (900R2100005-105)

Damper Cap, Upper, Main Rotor Hub (900R2100005-107)

C. Reason:

The latest configuration of the upper damper cap (900R2100005-109) has been trimmed on one surface for use on the latest pitchcase configuration (900R1102000-109). The new damper cap may be used on existing pitchcases. However, -105 and -107 damper caps may not be used on the latest (-109) pitchcase.

D. Description:

Procedures in this bulletin give owners and operators information to modify the old style upper damper caps for use on later configuration pitchcases. Upper damper caps modified by this bulletin may be used on early configuration pitchcases as noted in CSP-900IPL-4, Section 62-20-00, Figure 1.

E. Time of Compliance

Customer option, at owner/operator discretion, prior to the use of 900R1102000-109 pitchcases.

F. FAA Approval:

The technical design aspects of this Bulletin are FAA approved.

G. Manpower:

Compliance with this bulletin will be approximately 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.

DATE: 29 JULY 2010

PAGE 2 OF 6

TECHNICAL BULLETIN

J. Material/Part Availability:

Contact MDHI Field Service Department. **800-388-3378 Phone (U.S. and Canada)**
480-346-6387 Phone (International) 480-346-6813 Fax.

NOTE: Ref. CSP-SPM, Section 91-00-00.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Primer (C308)	MIL-PRF-23377	AR	Commercial or MDHI
Corrosion Protection (C241)	MIL-DTL-81706	AR	Commercial or MDHI
Finish Enamel (C302)	FED-STD-595 Black #17925	AR	Commercial or MDHI

K. Warranty Policy:

N/A

L. Disposition of Parts Removed:

Rework

M. Tooling:

N/A

N. Weight and Balance:

N/A

O. Electrical Load Data:

N/A

P. Other Publications Affected:

CSP-900IPL-4 Illustrated Parts List

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:
CSP-SPM, Standard Practice Manual
CSP-900RMM-2, Rotorcraft Maintenance Manual

2. ACCOMPLISHMENT INSTRUCTIONS

NOTE: Damper cap is machined from 6061-T651 aluminum alloy.

A. Preparation

- (1). Identify damper cap. (Ref. CSP-900RMM-2, Section 62-20-00 and CSP-900IPL-4, Section 62-20-00.)

TECHNICAL BULLETIN

DATE: 29 JULY 2010

PAGE 3 OF 6

- (2). Remove main rotor hub upper damper cap. (Ref. CSP-900RMM-2, Section 62-20-00.)

B. Modification

NOTE: Refer to template (Figure 1 and 2)

- (1). Machine damper cap to the 900R2100005-109 configuration. Smooth surface to RMS125.
- (2). Break sharp edges to a radius of 0.010-0.020 inch (0.25-0.51 mm).
- (3). Fluorescent penetrant inspect machined areas. Refer to manufacturer instructions for equipment and materials.
- (4). Touch up machined areas with chemical film treatment (C241). (Ref. CSP-SPM, Section 20-40-00.)
- (5). Apply primer (C308) to the machined area only. (Ref. CSP-SPM, Section 20-30-00.)
- (6). Apply finish enamel (C302) to the machined area only. Refer to manufacturer instructions. Apply to a thickness of 0.0014-0.0020 inch (0.036-0.051 mm).
- (7). Re-identify modified damper cap. Remove or cross-out -105 or -107 identification and permanent ink stamp or mark as -109.
- (8). Use a permanent ink stamp or marker to revise the damper cap serial number. Add the Technical Bulletin number to the end of the serial number.

C. Job Close-Up

- (1). Install main rotor hub upper damper cap. (Ref. CSP-900RMM-2, Section 62-20-00.)
- (2). Clean and remove work area of all FOD using best shop practices.

D. Compliance Record

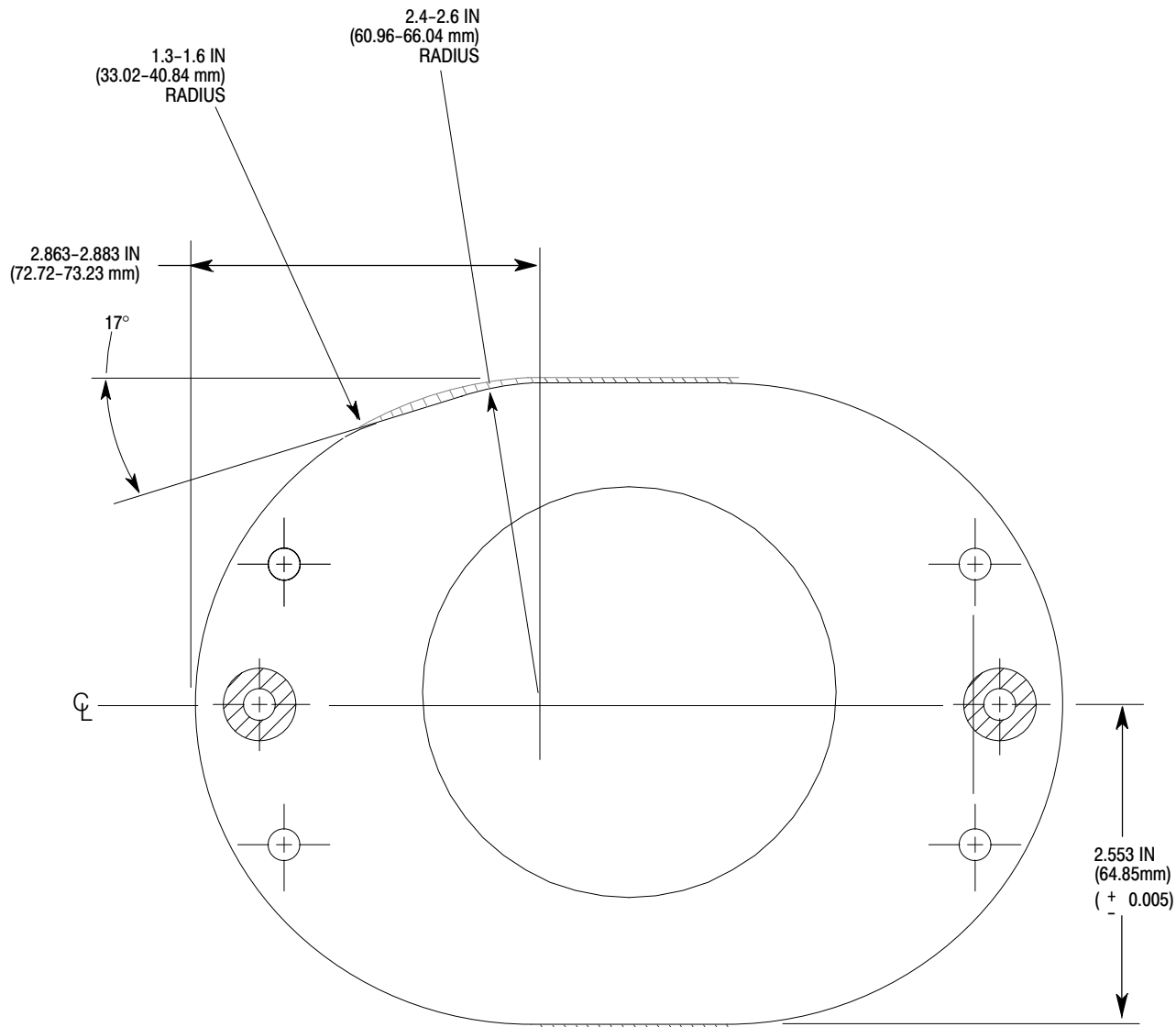
- (1). Record compliance to this Technical Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MHDI Field Service Department.
- (3). Fill out a new component card(s) or revise the existing card(s) to show the new serial number.

NOTE: There are no changes in life limit hours of damper cap. Hours from old damper cap transfer to new damper cap.

DATE: 29 JULY 2010

PAGE 4 OF 6

TECHNICAL BULLETIN



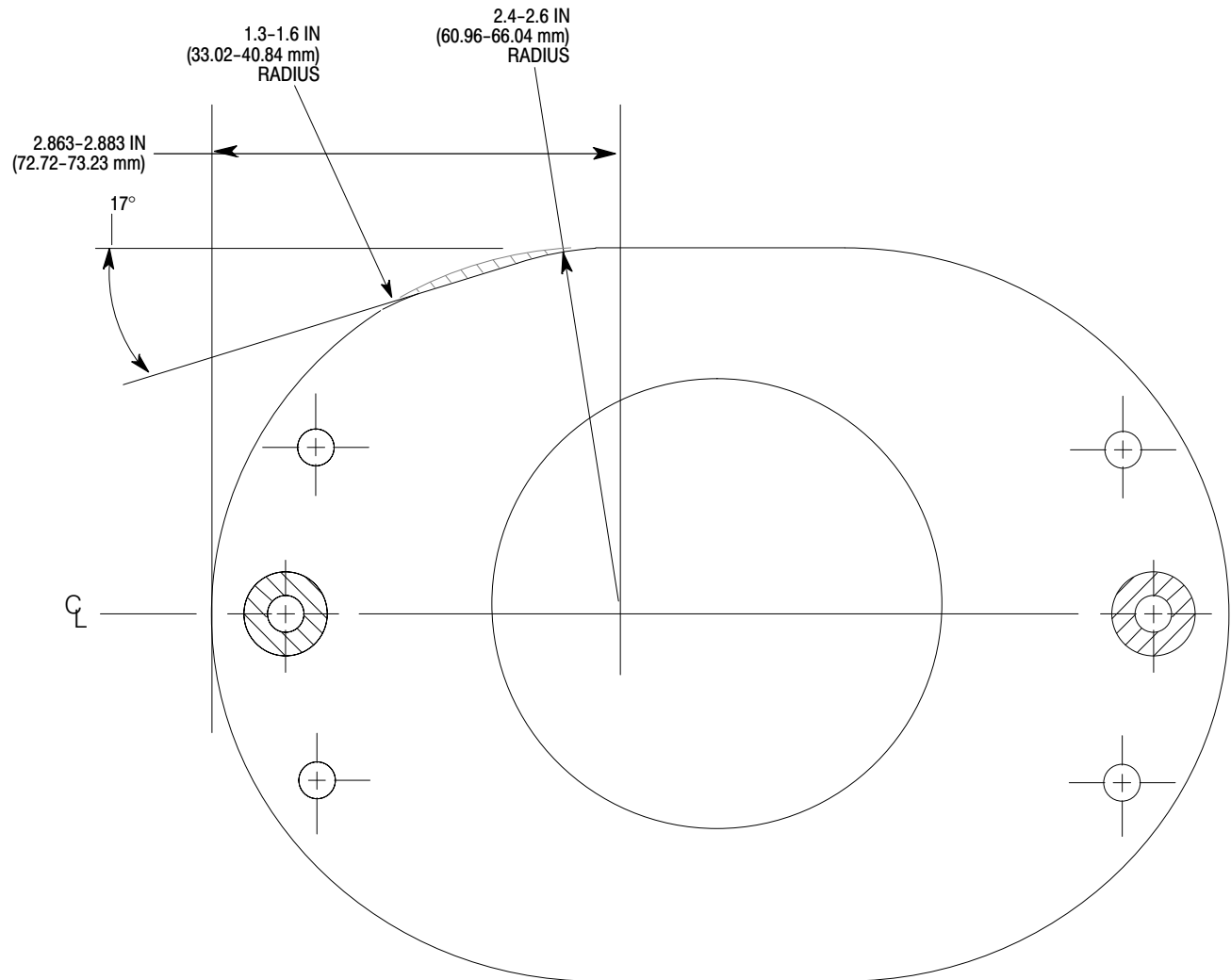
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Figure 1. Upper Damper Cap Modification From 900R2100005-105 To 900R2100005-109

TECHNICAL BULLETIN

DATE: 29 JULY 2010

PAGE 5 OF 6



9B98-160

Figure 2. Upper Damper Cap Modification From 900R2100005-107 To 900R2100005-109

DATE: 29 JULY 2010

PAGE 6 OF 6

TECHNICAL BULLETIN

Bulletin Completed Record

MODIFICATION OF UPPER DAMPER CAP

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

Dear Sir:

This is to tell you that this Technical Bulletin has been completed as follows:

Owner /Operator: _____	Helicopter Serial No: _____
Address: _____	Helicopter Total Time: _____
_____	Compliance Date: _____
_____	Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete:

(Signature)_____
(Print Name)_____
(Title)

Comments: _____

TECHNICAL BULLETIN

DATE: 25 SEPTEMBER 2015

PAGE 1 OF 6

REMOVE AND REPLACE THE FS401.73 CABLE ATTACHMENT BRACKET ASSEMBLY

1. PLANNING INFORMATION

A. Rotorcraft Affected:

MD900 rotorcraft, serial numbers (SNs) 900-00008 thru 900-00140. This change has been implemented for new production rotorcraft, SNs 900-00141 and subsequent.

B. Assembly/Components Affected By This Bulletin:

900C2010240-101/-103/-105 FS401.73 Cable Attachment Bracket Assembly

C. Reason:

Product improvement: the new thruster cable attach bracket can be removed and replaced without the removal of the cable assembly, Part No. (PN) 900C3010045-105, or the horizontal stabilizer.

D. Description:

Procedures in this bulletin give owners and operators information to remove and replace the current cable bracket assembly with an improved design.

E. Time of Compliance

Customer option, at owner/operator discretion.

F. FAA Approval:

The technical design aspects of this bulletin are FAA approved.

G. Manpower:

Compliance with this bulletin will be approximately 12 man-hours.

H. Interchangeability:

900C2010241-109 replaces the 900C2010240-101/-103/-105 and is one-way interchangeable.

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 the 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-SPM, Section 91-00-00, for the item numbers and manufacturer / supplier numbers.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
FS401.73 Cable Attachment Bracket	900C2010241-109	1	MDHI
Doubler Assembly	900C2010260-101	2	MDHI

DATE: 25 SEPTEMBER 2015

PAGE 2 OF 6

TECHNICAL BULLETIN

REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
Lock Plate	900C2010259-103	1	MDHI
Flat Washer	NAS1149D0363K	8	MDHI
Nut, Self-Locking, Reduced Hexagon, Ring Base	MS21043-3	2	MDHI
Screw, Cap, Socket Head	NAS1351-3-12P	2	MDHI
Screw, Machine — Pan Head, Structural, Cross Recessed	MS27039C1-10	4	MDHI
Adhesive Epoxy (C411)	BR95 or Hysol® EA 9321	AR	MS16 or MS36

K. Warranty Policy:

Standard warranty policy applies (ref. CSP-A-2).

L. Disposition of Parts Removed:

Scrap the removed cable bracket assembly and attaching hardware.

M. Tooling:

N/A

N. Weight and Balance:

N/A

O. Electrical Load Data:

N/A

P. Other Publications Affected:

CSP-900RMM-2 Rotorcraft Maintenance Manual — Servicing and Maintenance

CSP-900IPL-4 Illustrated Parts List

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-SPM Standard Practice Manual

CSP-900RMM-2 Rotorcraft Maintenance Manual — Servicing and Maintenance

CSP-900IPL-4 Illustrated Parts List

TECHNICAL BULLETIN

DATE: 25 SEPTEMBER 2015

PAGE 3 OF 6

2. ACCOMPLISHMENT INSTRUCTIONS

A. Removal of the Old Cable Bracket Assembly

- (1). Remove the rotating cone (ref. CSP-90RMM-2, Section 67-20-00, Anti-Torque / Directional Flight Controls — Removal / Installation).
- (2). Remove the thruster.
- (3). Remove the thruster extension.
- (4). Remove the empennage (ref. Section 53-55-00, Empennage — Removal / Installation).
- (5). Remove the old cable bracket assembly:
 - (a). Cut the old cable bracket assembly from around the forward directional control cable (5).
 - (b). Discard the cable bracket assembly.

B. Installation of the New Cable Bracket

(Ref. Figure 1)

Adhesive, Epoxy (C411)



- (1). Apply a thin layer of epoxy adhesive (C411) to doubler assemblies (2).
 - (a). The bond line must be between **0.005 to 0.030 inch (0.13 to 0.76 mm)**.
- (2). Install bracket (1) with doubler assemblies (2), washers (3), and bolts (4).
- (3). Install cable assembly (5) to bracket (1) with lock plate (6), washers (7), cap screws (8), and nuts (9).

C. Job Close-Up

- (1). Install the empennage (ref. CSP-900RMM-2, Section 53-55-00, Empennage — Removal / Installation).
- (2). Install the thruster extension (ref. Section 67-20-00, Anti-Torque / Directional Flight Controls — Removal / Installation).
- (3). Install the thruster.
- (4). Install the rotating cone.
- (5). Do an Anti-Torque / Directional Control System Travel / Rigging Check (ref. Section 67-20-00, Anti-Torque / Directional Flight Controls — Inspection / Test / Rigging).

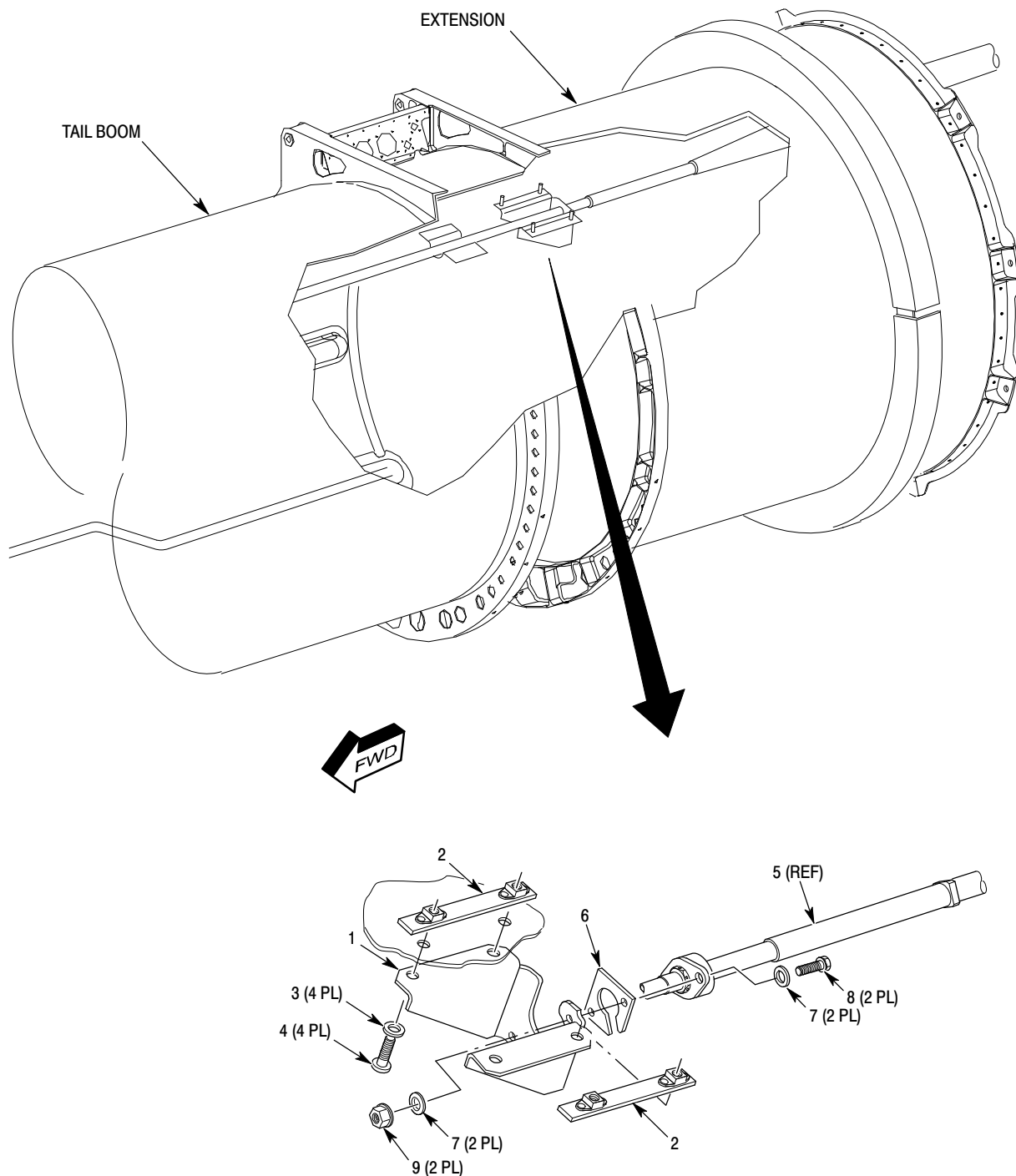
D. Compliance Record

- (1). Record compliance to this Technical 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.

DATE: 25 SEPTEMBER 2015

PAGE 4 OF 6

TECHNICAL BULLETIN

9b98-16
1**Figure 1. Installation of the Cable Bracket**

TECHNICAL BULLETIN

DATE: 25 SEPTEMBER 2015

PAGE 5 OF 6

Legend (Ref. Figure 1)

- | | |
|---|---------------|
| 1. BRACKET (REF. IPL, 53-40-10, FIG. 1) | 6. LOCK PLATE |
| 2. DOUBLER ASSEMBLY | 7. WASHER |
| 3. WASHER | 8. CAP SCREW |
| 4. MACHINE SCREW | 9. NUT |
| 5. CABLE ASSEMBLY | |
-

DATE: 25 SEPTEMBER 2015

PAGE 6 OF 6

TECHNICAL BULLETIN

TB900-036 Completed Record

REMOVE AND REPLACE THE FS401.73 CABLE ATTACHMENT BRACKET 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

Dear MDHI Employee:

This is to tell you that this Technical Bulletin has been completed as follows:

Owner /Operator: _____	Rotorcraft Serial No: _____
Address: _____	Rotorcraft Total Time: _____
_____	Compliance Date: _____
_____	Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete: _____

(Signature)

(Print Name)

(Title)

Comments: _____

TECHNICAL BULLETIN

DATE: 26 JULY 2010

PAGE 1 OF 6

* Supersedes SL900-016, dated 14 AUG 1996. Revised to correct REPLACEMENT PARTS/SUPPLIES Table.

SECONDARY EJECTOR OIL BREATHER FITTING MODIFICATION

1. PLANNING INFORMATION

A. Aircraft Affected:

All MD900 Helicopters.

B. Assembly/Components Affected By This Notice:

900F5331230-101 Secondary Ejector, LH

900F5331230-102 Secondary Ejector, RH

C. Reason:

MDHI has developed a modification to the engine exhaust secondary ejector oil breather fitting to eliminate engine oil seeping back into the engine compartment and aft cowlings from the engine oil breather tube. This procedure is provided to allow operators to do this modification. There have been part changes since SL900-016.

D. Description:

Procedures in this Bulletin provide owners and operators with instructions to modify the oil breather fitting of the secondary ejector. This technical bulletin supersedes and replaces SL900-016.

E. Time of Compliance:

Customer option, at owner/operator discretion. Previous compliance to SL900-016 meets the intent of this Technical Bulletin.

F. Classification:

Compliance with this Bulletin is a minor alteration.

G. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

H. Manpower:

Compliance with this bulletin will be approximately 6 man-hours.

I. Interchangeability:

None

J. Disposition of Parts Removed:

N/A

K. Warranty Policy:

Standard warranty policy applies.

DATE: 26 JULY 2010

PAGE 2 OF 6

TECHNICAL BULLETIN

L. Tooling:

N/A

M. Weight and Balance:

N/A

N. Electrical Load Data:

N/A

O. Compliance Record:

Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.

P. Other Publications Affected:

CSP-900RMM-2 Rotorcraft Maintenance Manual – Servicing and Maintenance

CSP-900IPL-4 Illustrated Parts List

Q. 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.

R. Material/Part Availability:

REPLACEMENT PARTS/SUPPLIES				
Item No	Nomenclature	Part No.	Qty.	Source
1	Tube	900F5331230-11	2	MDHI
2	Pin – Spring	MS171534	2	MDHI
3	Sealing Compound, Fireproof	MIL-S-38249, MDM16-1191 RM011316	A/R	Commercially Available Pro-Seal 700.

Contact MDHI Field Service Dept.

2. ACCOMPLISHMENT INSTRUCTIONS

NOTE: This procedure refers to maintenance tasks, standard practices and consumable materials contained in the MD900 Rotorcraft Maintenance Manual (CSP-900RMM-2).

A. Prepare Aircraft

- (1). Remove left and right hand exhaust ejector cowl assemblies (L270, R270) (Ref. CSP-900RMM-2, Section 53-30-00).
- (2). Disconnect left and right engine oil breather hoses at fitting on secondary ejector weldment assembly (Ref. CSP-900RMM-2, Section 79-00-00).

TECHNICAL BULLETIN

DATE: 26 JULY 2010

PAGE 3 OF 6

- (3). Apply sealant (3) (C215). (Ref. CSP-900RMM-2, Section 20-50-00, and CSP-SPM, Section 20-30-00).
 - (a). Apply to inside diameter of existing nipple at mating surface bead location with a quantity which will contact the tube outside diameter upon installation. Remove excess sealant.
 - (b). Apply a bead of sealant around outside diameter at tube (1) to nipple edge. (Ref. Figure 1, item 3).

B. Modification Steps

NOTE: Ref. Figure 1. Incorrect orientation of tube will pressurize engine gearbox.

- (1). Install tube (1). The 45 degree angle mouth must be positioned to face aft toward ejector outlet.
- (2). Install pin (2).
 - (a). Drill 0.122 to 0.128 inch (3.1 to 3.25 mm) diameter hole through wall of fitting and tube (orientation around outside diameter is optional) on tube centerline and to dimensions shown.
 - (b). Install (press fit) pin (2) until it bottoms out on tube inside diameter.

NOTE: If necessary open hole to the minimum diameter to install pin (2).

- (c). Grind off end of pin (2) flush to bead of fitting.

C. Job Close-Up

- (1). Connect left and right engine oil breather hoses at fitting on secondary ejector weldment assembly (Ref. CSP-900RMM-2, Section 79-00-00).
- (2). Install left and right hand exhaust ejector cowl assemblies (L270, R270) (Ref. CSP-900RMM-2, Section 53-30-00).
- (3). Clean work area with best shop practices.

D. Compliance Record

- (1). Record compliance to this Technical 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.

DATE: 26 JULY 2010

PAGE 4 OF 6

TECHNICAL BULLETIN

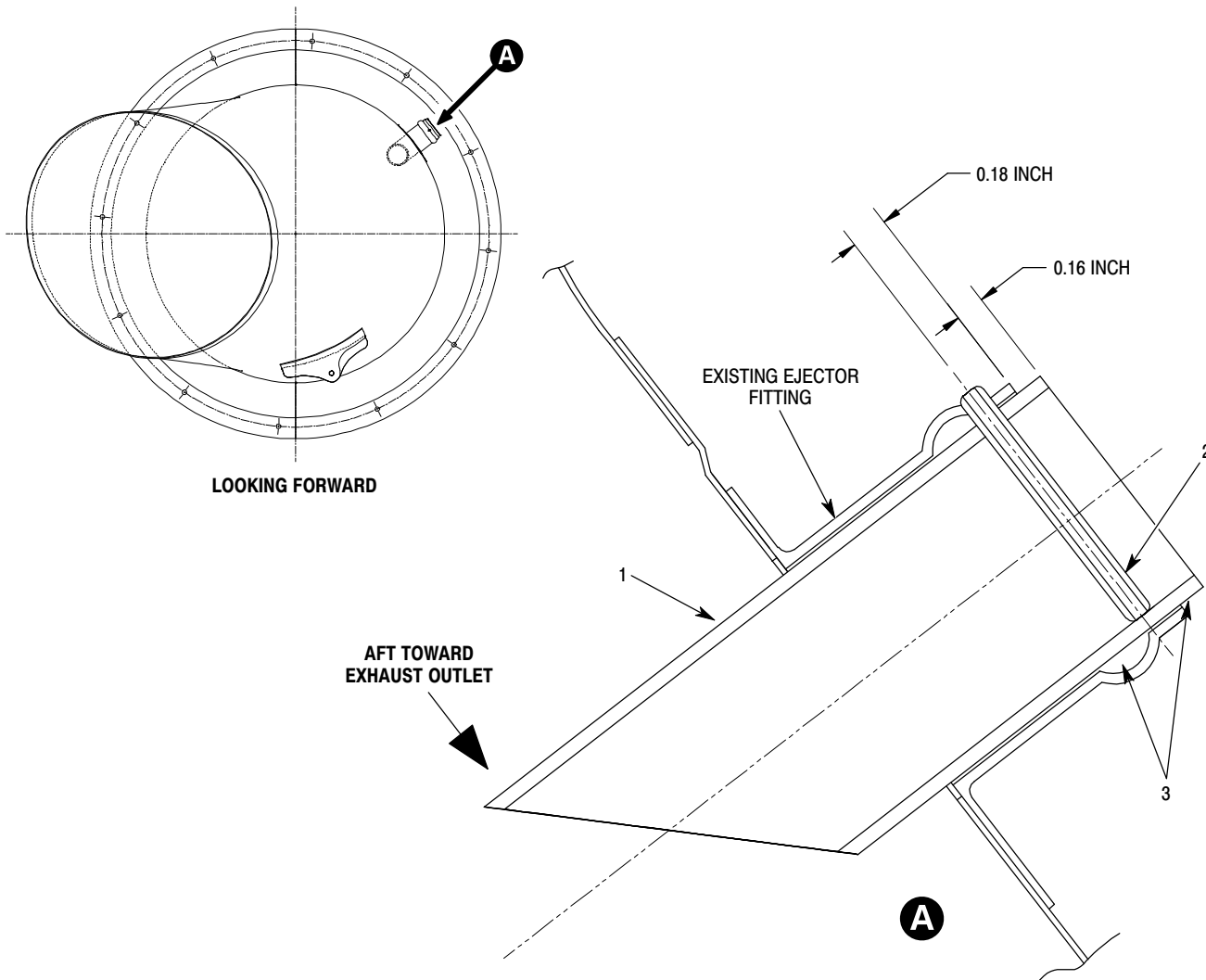


Figure 1. Ejector Fitting Modification

TECHNICAL BULLETIN

DATE: 26 JULY 2010

PAGE 5 OF 6

Bulletin Completed Record

SECONDARY EJECTOR OIL BREATHER FITTING MODIFICATION

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

Dear MDHI Employee:

This is to tell you that this Technical Bulletin has been completed as follows:

Owner /Operator: _____	Helicopter Serial No: _____
Address: _____ _____ _____	Helicopter Total Time: _____ Compliance Date: _____
Phone: _____	Location: _____
E-mail: _____	

This bulletin is complete: _____

(Signature)

(Print Name)

(Title)

Comments: _____

TECHNICAL BULLETIN

TECHNICAL BULLETIN

DATE: 1 JULY 2021

PAGE 1 OF 14

UNIVERSAL NOSE MOUNT INSTALLATION

1. PLANNING INFORMATION

A. Rotorcraft Affected:

MD900 helicopters, serial numbers (SNs) 900-0008 and subsequent.

B. Assembly/Components Affected By This Bulletin:

900F7309080-101 Universal Nose Mount Installation

C. Reason:

The universal nose mount will give owners/operators improved mounting flexibility for forward-looking infrared (FLIR) systems, radars, communications, or cameras.

D. Description:

The universal nose mount assembly (900F7309080-101) is made of these major parts:

- A chin adapter (900F2309080-101) which mounts to the airframe plough beams.
- An adapter plate (900F2309082-101) which mounts to the chin adapter.
- The plow beams, caps, angle splices, and the chin doubler.

External systems are attached to the adapter plate. The mount assembly is designed and approved to accommodate three types of electro-optic and thermal imaging payloads: FLIR systems LEO II, and Wescam 16DS-M and M12-DS200.

E. Time of Compliance

Customer option, at owner/operator discretion.

F. FAA Approval:

The technical design aspects of this bulletin are FAA-approved.

G. Labor Hours:

Compliance with this bulletin will be approximately five (5) labor 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				
Item	Nomenclature	Part No.	Qty.	Source
1	Adapter, Chin	900F2309080-101	1	MDHI
2	Cap, Lower-Plow Beam, LH	900F2309081-101	1	MDHI

DATE: 1 JULY 2021

PAGE 2 OF 14

TECHNICAL BULLETIN

REPLACEMENT PARTS/SUPPLIES (Cont.)				
Item	Nomenclature	Part No.	Qty.	Source
3	Cap, Lower-Plow Beam, RH	900F2309081-102	1	MDHI
4	Plate, Adapter	900F2309082-101	1	MDHI
5	Angle, Splice, LH	900F2309083-101	1	MDHI
6	Angle, Splice, RH	900F2309083-102	1	MDHI
7	Doubler, Chin Angle	900F2309084-101	1	MDHI
8	Nutplate, Self-Locking, Two-Lug, Floating	MS21059L08	14	MDHI
9	Nutplate, Self-Locking, Two-Lug, Floating	MS21060-3	14	MDHI
10	Screw, Flat Countersunk Head	MS24694-C53	12	MDHI
11	Bolt, Panhead, Short-Thread	NAS7902A05	21	MDHI
12	Bolt, Panhead, Short-Thread	NAS7902A06	4	MDHI
13	Packing with Retainer	NAS1523C08B	25	MDHI
14	Rivet, Blind, Flush Head	MS20605R3W3	56	MDHI
15	Rivet, Blind, Bulbed, Flush Head	NAS1921M05S04	4	MDHI
16	Rivet, Blind, Bulbed, Flush Head	NAS1921M05S06	4	MDHI
17	Rivet, Solid, Universal Head	MS20470AD5-4	16	MDHI
18	Rivet, Solid, Universal Head	MS20470AD5-3	48	MDHI
19	Plough Beam, Lower Cap Angle	900F2307087	(Ref.)	MDHI
20	Silicone Rubber Sponge	AMS3195*MR060	AR	MDHI
21	Seal Land	900F2309085-101	1	MDHI
22	Rivet, Solid, Countersunk Head	MS20426T2-4	1	MDHI
23	Rivet, Solid, Universal Head	MS20470AD4-2	2	MDHI
24	Jumper, Bonding, Electrical	MHS5797-6	2	MDHI
25	Bolt, Panhead, Short-Thread	NAS7903A04	2	MDHI
26	Washer, Flat	NAS1149C0332R	4	MDHI

TECHNICAL BULLETIN

DATE: 1 JULY 2021

PAGE 3 OF 14

REPLACEMENT PARTS/SUPPLIES (Cont.)				
Item	Nomenclature	Part No.	Qty.	Source
27	Nut, Self-Locking, Ring Base	MS21042-3	2	MDHI
28	Rivet, Blind, Bulbed, Flush Head	NAS1921B04S03	34	MDHI
29	Optional Equipment Manual and Parts List for Model MD900 Helicopter – Universal Nose Mount	CSP-900-S1	1	MDHI
C216	Fuel Resistant Sealant	MIL-S-8802, Type 2, Class B, Grade 1 and 2	AR	Commercial
C231	Epoxy Primer	MIL-PRF-23377, Type 1, Class 1	AR	Commercial
C316	Chemical Film	MIL-DTL-81706, Type 1, Class 1A	AR	Commercial

K. Warranty Policy:

Standard warranty policy applies.

L. Disposition of Parts Removed:

N/A

M. Tooling:

N/A

N. Weight and Balance:

The universal nose mount installation will add **10.4 pounds (4.717 kg)**, increase the arm by **86.47 inches (219.6 cm)**, and the moment by **899.33 inch-pounds (101.61 Nm)**.

O. Electrical Load Data:

N/A

P. Other Publications Affected:

N/A

Q. Reference Publications:

CSP-SPM Standard Practices Manual

CSP-900-S1 Universal Nose Mount

CSP-900RMM-2 Rotorcraft Maintenance Manual – Servicing and Maintenance

CSP-900IPC-4 Illustrated Parts Catalog

DATE: 1 JULY 2021

PAGE 4 OF 14

TECHNICAL BULLETIN

2. ACCOMPLISHMENT INSTRUCTIONS

A. Removal

- (1). Remove N82 Panel. (Ref. CSP-RMM-2, 06-00-00)
- (2). Remove N106 Panel. (Ref. CSP-RMM-2, 06-00-00)

B. Modification

(Ref. Figure 1)

Protective Equipment

**Do not cut away the carbon-fiber nose skin.**

- (1). Remove the rivets and forward parts of left-hand (LH) and right-hand (RH) plough beam angles (19) from FS 102.44 of the nose structure. (Ref. View A)

(Ref. Figure 2)

- (2). Prepare the nose structure:
 - (a). Match drill **0.161 to 0.166 inch (4.09 to 4.21 mm)** holes thru LH lower-plow beam cap (2) with holes in nose structure for rivets (17, 18).
 - (b). Match drill **0.161 to 0.166 inch (4.09 to 4.21 mm)** holes thru RH lower-plow beam cap (3) with holes in nose structure for rivets (17, 18).

NOTE: Trim as necessary to get a clearance for LH splice angle (5) and RH splice angle (6).

- (c). Match drill **0.161 to 0.166 inch (4.09 to 4.21 mm)** holes thru LH splice angle (5) with holes in nose structure for rivets (17, 18).
- (d). Match drill **0.161 to 0.166 inch (4.09 to 4.21 mm)** holes thru RH splice angle (6) with holes in structure for rivets (17, 18).
- (e). Match drill **0.161 to 0.166 inch (4.09 to 4.21 mm)** holes thru the bottom angle of chin angle doubler (7) with holes in nose structure for rivets (17).
- (f). Match drill **0.128 to 0.133 inch (3.25 to 3.37 mm)** holes thru LH lower-plow beam cap (2) and RH lower-plow beam cap (3) for rivets (23, 28).
- (g). Match drill **0.169 to 0.175 inch (4.29 to 4.44 mm)** holes thru skin, plow beam caps (2, 3), and splice angles (5, 6) for nutplates (8).
- (h). Deburr the holes.

Chemical Film (C316)

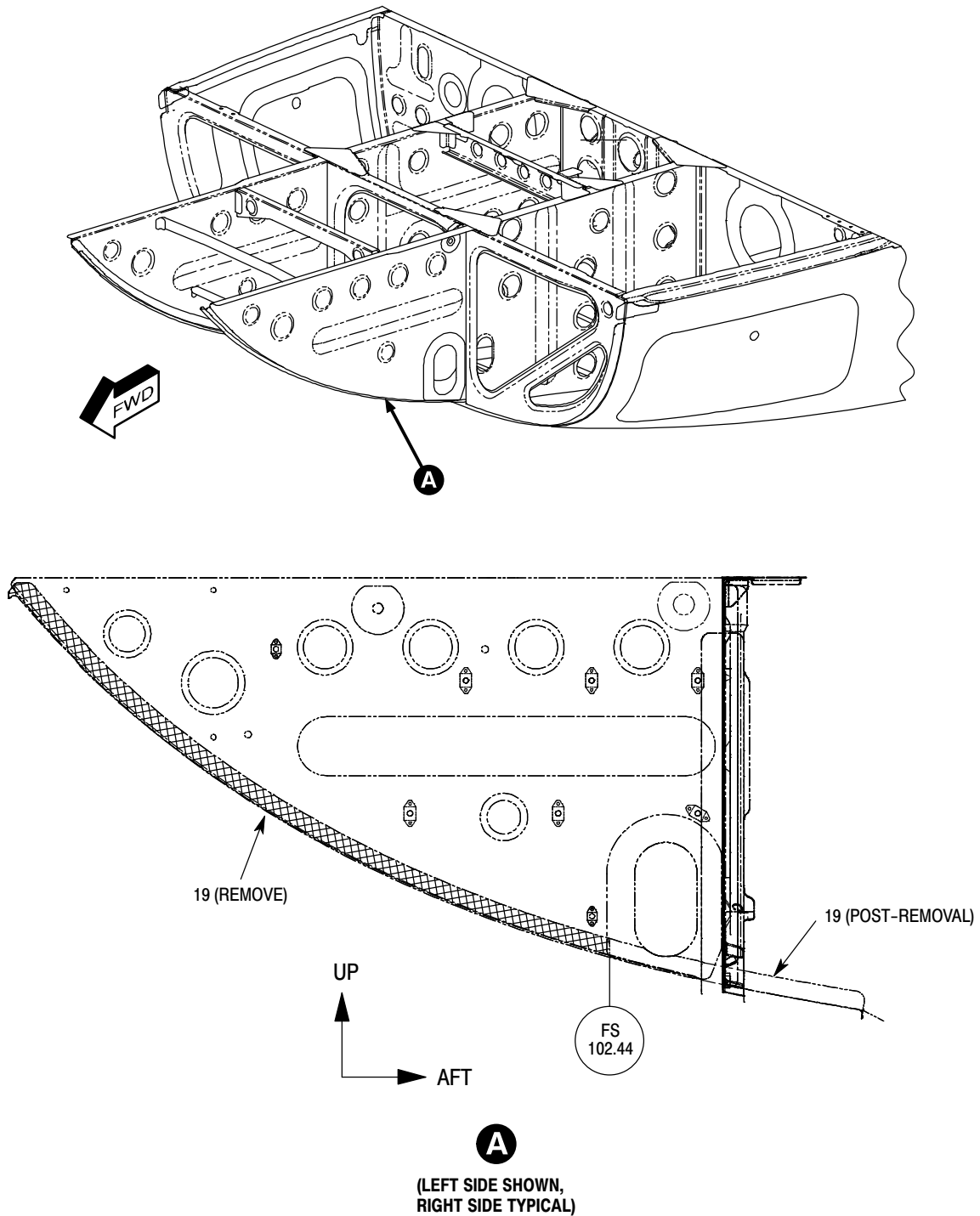


- (3). Do a surface touch-up treatment of the holes and adjacent and removed surfaces with chemical film (C316). (Ref. CSP-SPM, 20-40-00)

TECHNICAL BULLETIN

DATE: 1 JULY 2021

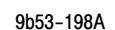
PAGE 5 OF 14



9b53-196

Figure 1. Removal of the Plough Beams

TECHNICAL BULLETIN



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TECHNICAL BULLETIN

DATE: 1 JULY 2021

PAGE 7 OF 14

- (4). Prepare LH lower-prow beam cap (2), RH lower-prow beam cap (3), LH splice angle (5), and RH splice angle (6) for a Class R electrical bond and seal with the fuselage. (Ref. CSP-SPM, 20-50-00)
- (5). Wet install LH lower-prow beam cap (2), RH lower-prow beam cap (3), LH splice angle (5), and RH splice angle (6) with rivets (15, 16, 17, 18, 23, 28).

Epoxy Primer (C231)



- (6). Wet install nutplates (8) and rivets (14) on cap (2, 3), splice angles (5, 6), and lower skin with epoxy primer (C231). (Ref. CSP-SPM, 91-00-00)
 - (7). Wet install nutplates (8) and rivets (14) on chin angle doubler (7) with epoxy primer (C231). (Ref. CSP-SPM, 91-00-00)
 - (8). Wet install chin angle doubler (7) with rivets (17).
 - (9). As necessary, do a paint repair. (Ref. CSP-SPM, 20-30-00)
- (Ref. Figure 3)
- (10). Prepare chin adapter (1):

- (a). Match drill **0.169 to 0.175 inch (4.29 to 4.45 mm)** holes thru chin adapter (1) with the holes in the nose structure. (Ref. Diameter A)

NOTE: The countersunk holes in the face of the adapter plate must be on the outside.

- (b). Match drill **0.191 to 0.197 inch (4.85 to 5.00 mm)** holes thru chin adapter (1) with the holes in adapter plate (4). (Ref. Diameter B)
 - (c). Match drill **0.218 to 0.221 inch (5.54 to 5.61 mm)** holes thru chin adapter (1) with the holes in adapter plate (4). (Ref. Diameter C)

Chemical Film (C316)

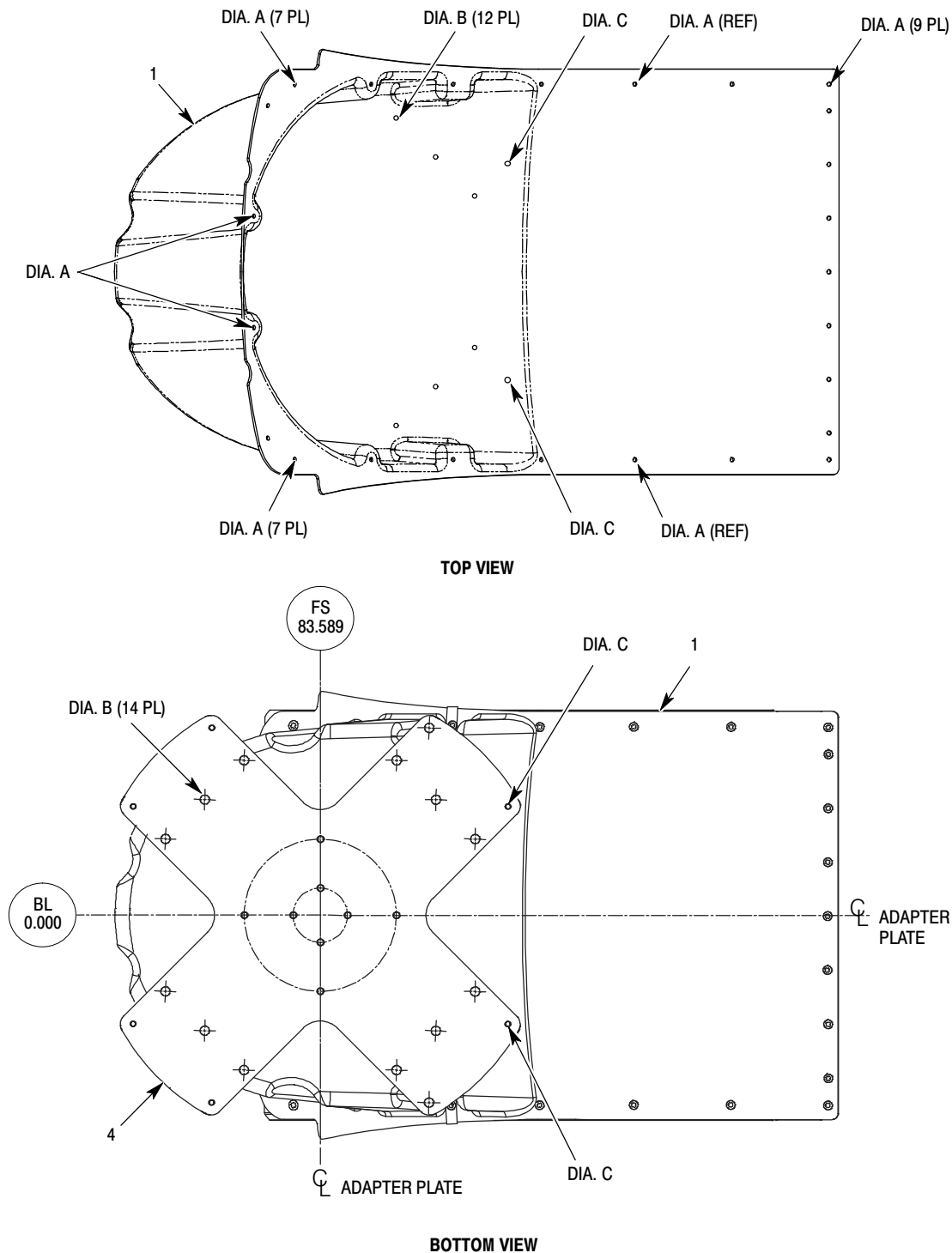


- (d). Do a surface touch-up treatment of the holes and adjacent and removed surfaces with chemical film (C316). (Ref. CSP-SPM, 20-40-00)
 - (e). Deburr the holes.

DATE: 1 JULY 2021

PAGE 8 OF 14

TECHNICAL BULLETIN



9b53-197

Figure 3. Match Drill the Chin Adapter

TECHNICAL BULLETIN

DATE: 1 JULY 2021

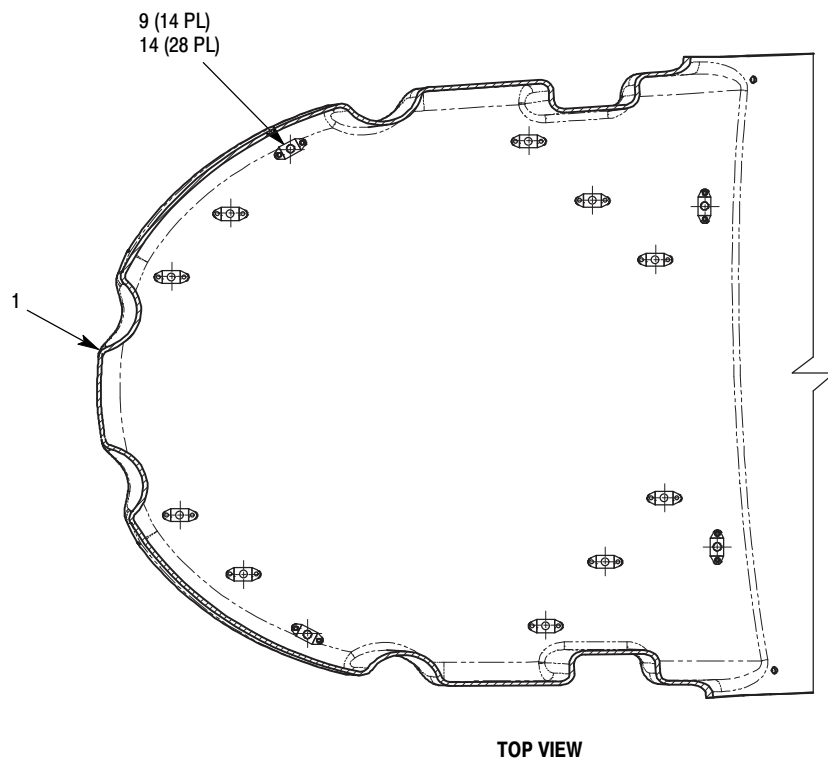
PAGE 9 OF 14

(Ref. Figure 4)

Epoxy Primer (C231)



- (f). Wet install nutplates (9) with rivets (14) on the top (or inside) of chin adapter (1).
- (g). As necessary, do a paint repair. (Ref. CSP-SPM, 20-30-00)



9b53-198

Figure 4. Install Nutplates on Chin Adapter

DATE: 1 JULY 2021

PAGE 10 OF 14

TECHNICAL BULLETIN

C. Installation of the Universal Nose Mount

(Ref. Figure 5)

(1). Install seal land (21):

(a). Trim seal land (21) to fit with chin adapter (1) and chin angle doubler (7).

Sealant, Fuel Resistant (C216)



(b). Bond silicone rubber sponge (20) to chin angle doubler (7) and seal land (21) with sealant (C216). (Ref. CSP-SPM, 20-50-00)

(c). Bond seal land (21) to chin adapter (1) with sealant (C216). (Ref. CSP-SPM, 20-50-00)

Epoxy Primer (C231)



(d). Wet install countersunk rivet (22) thru chin adapter (1) and seal land (21) with epoxy primer (C231).

(2). Prepare LH lower-plow beam cap (2), RH lower-plow beam cap (3), and both electric bonding jumpers (24) for a Class R electrical bond and seal with adapter plate (4). (Ref. CSP-SPM, 20-50-00)

(3). Install chin adapter (1) on rotorcraft:

(a). Install bolts (12) and retainers with packing (13).

(b). Loosely install electric bonding jumpers (24) in chin adapter (1) and rotorcraft with bolts (11) and retainers with packing (13).

(c). Install bolts (11) and retainers with packings (13).

(4). Install adapter plate (4) on chin adapter (1) with screws (10).

(a). Install the bottom of electric bonding jumpers (24) in adapter plate (4) with washers (26), bolts (25), and nuts (27). (Ref. Figure 5, View G)

(b). Tighten bolts (11) at top of electric bonding jumpers (24) and chin adapter (1)

(5). Torque screws (10) and bolts (11, 12). (Ref. CSP-SPM, 20-10-00)

(6). Test adapter plate (4) for an electrical bond, Class R. (Ref. CSP-SPM, 20-50-00)

TECHNICAL BULLETIN

DATE: 1 JULY 2021

PAGE 11 OF 14

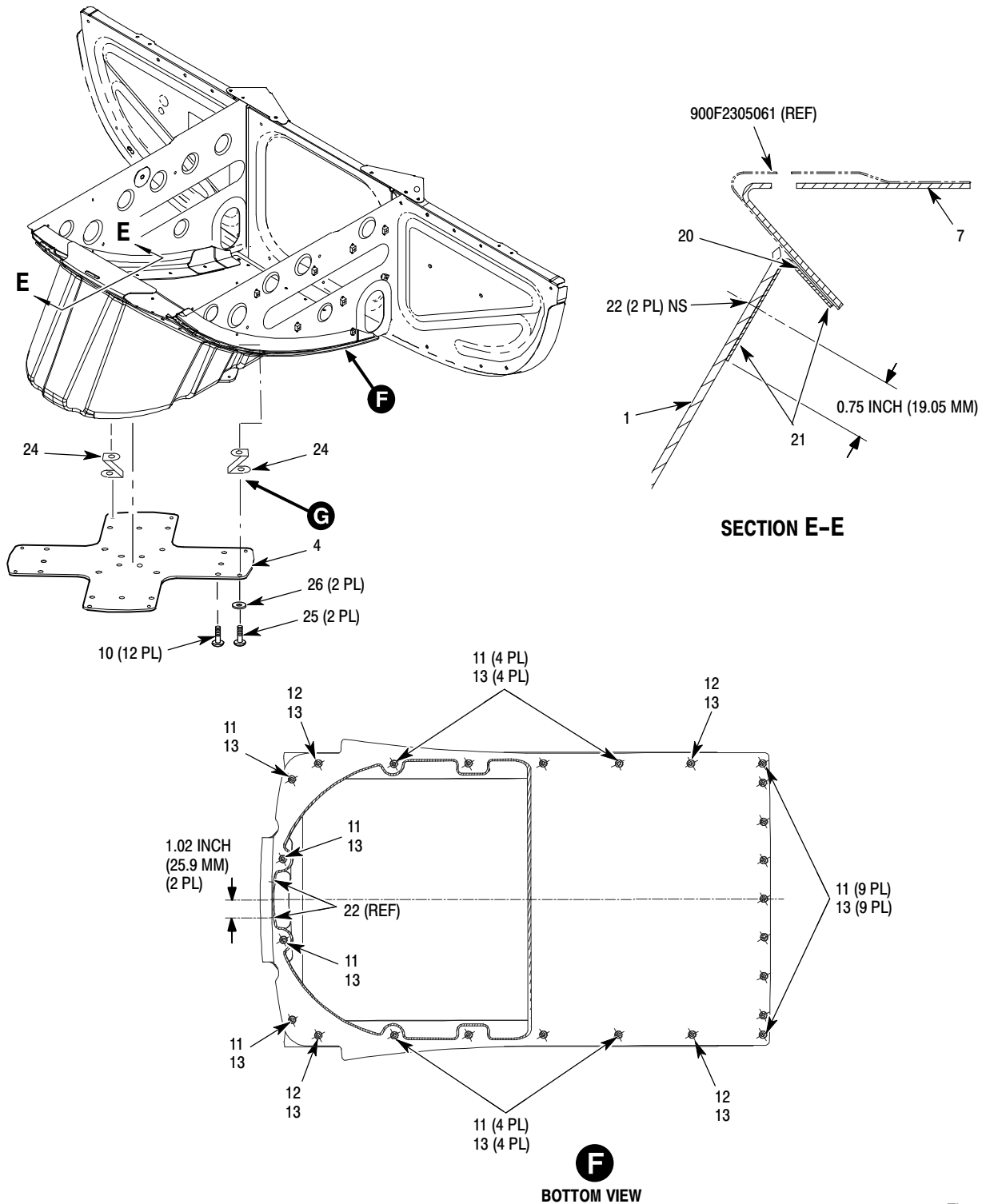
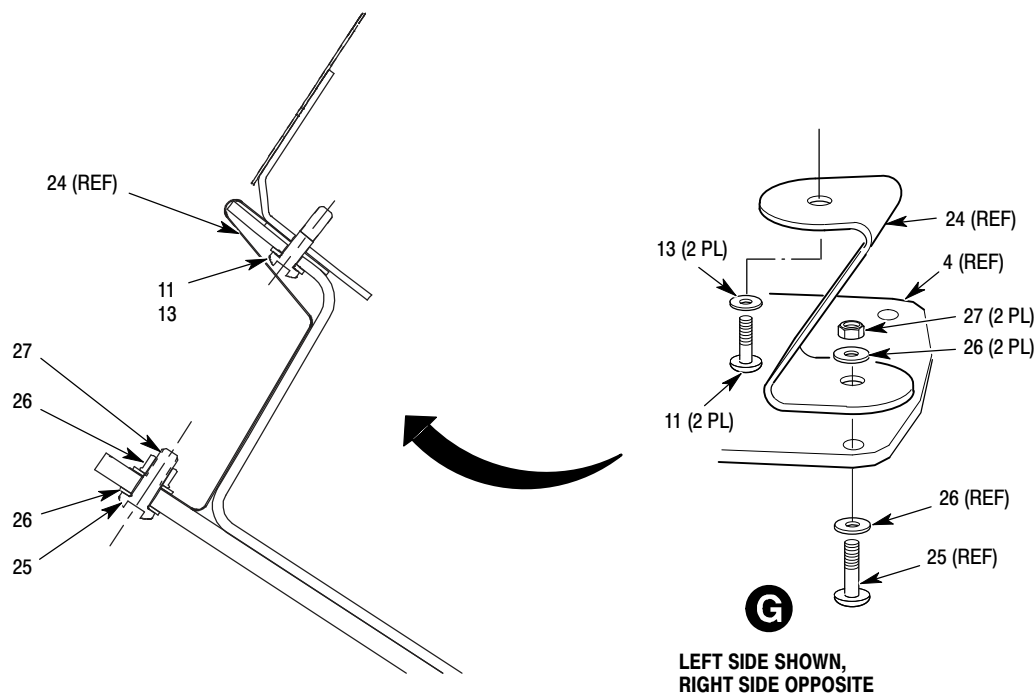


Figure 5. Install the Universal Nose Mount (Sheet 1 of 2)

DATE: 1 JULY 2021

PAGE 12 OF 14

TECHNICAL BULLETIN



Tb900038-05-2

Figure 5. Install the Universal Nose Mount (Sheet 2 of 2)

D. 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.

E. Compliance Record

- (1). Record compliance to this Technical Bulletin in the Compliance Record Log (ref. CSP-RLB-L8), Rotorcraft Log Book CSP-RLB.
- (2). Show compliance with this Technical 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.

TECHNICAL BULLETIN

DATE: 1 JULY 2021

PAGE 13 OF 14

TB900-038 Completion Record UNIVERSAL NOSE MOUNT INSTALLATION

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: _____

DATE: 1 JULY 2021

PAGE 14 OF 14

TECHNICAL BULLETIN

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TECHNICAL BULLETIN

DATE: 31 JULY 2012

PAGE 1 OF 5

MODIFICATION OF MAIN ROTOR UPPER HUB ASSEMBLY 900R2101006-105, -107, AND -109 (REF. MOD MD9001100001)

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 helicopters and all spares.

B. Assembly/Components Affected By This Bulletin:

Main Rotor Upper Hub Assembly 900R2101006-105, -107, and -109.

C. Reason:

The latest configuration of the Main Rotor Upper Hub Assembly (900R2101006-111) has material removed at bolt holes to increase clearance for pitch cases. Not performing this Bulletin may result in contact damage to the pitch cases and depending on extent of damage, replacement of pitch cases.

D. Description:

Procedures in this Bulletin give owners and operators information on where to send 900R2101006-105, 107 and 109 Upper Main Rotor Hub for modification.

E. Time of Compliance

Customer option, at owner/operator discretion.

F. FAA Approval:

The technical design aspects of this Bulletin are FAA approved.

G. Manpower:

Compliance with this bulletin will be approximately 60 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 Field Service Department. 800-388-3378 Phone (U.S. And Canada) 480-346-6387 Phone (International) 480-346-6813 Fax.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Bolt, Tension, Flange Head, Double Hexagon	MHS5482-6-46	10	MDHI

DATE: 31 JULY 2012

PAGE 2 OF 5

TECHNICAL BULLETIN

K. Warranty Policy:

Standard warranty policy applies.

L. Disposition of Parts Removed:

Rework.

M. Tooling:

N/A

N. Weight and Balance:

N/A

O. Electrical Load Data:

N/A

P. Other Publications Affected:

CSP-900IPL-4 Illustrated Parts List

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-SPM, Standard Practice Manual

CSP-900RMM-2, Rotorcraft Maintenance Manual

CSP-900IPL-4 Illustrated Parts List

2. ACCOMPLISHMENT INSTRUCTIONS**A. Preparation**

- (1). Remove Main Rotor Hub Assembly from Aircraft (ref. CSP-900RMM-2, 62-20-00).
- (2). Remove Upper Main Rotor Hub Assembly from Main Rotor Hub Assembly (ref. CSP-900RMM-2, 62-20-00).

B. Modification

- (1). Ship Main Rotor Hub to:
Able Engineering
2920 East Chambers Street
Phoenix, Arizona 85040
(602) 304-1227 Phone
(602) 304-1277 Fax
Contact: kathryn.miller@ableengineering.com

Aerospace Surface Treatment Ltd (AST)

Unit 2Dunmow Road
Birchanger
Bishops Stortford
Hertfordshire
CM23 5RG
United Kingdom
Tel: 44 1279 657691
Contact: Brain Lake
E-mail: lakebri@ntlworld.com

TECHNICAL BULLETIN

DATE: 31 JULY 2012

PAGE 3 OF 5

C. Job Close-Up

- (1). Assemble Main Rotor Hub Assembly with TB900-039 Upper Main Rotor Hub Assembly and MHS5482-6-46 bolts (in place of MHS5482-6-50) (ref. CSP-900RMM-2, 62-20-00).
- (2). Install Main Rotor Hub Assembly onto Aircraft (ref. CSP-900RMM-2, 62-20-00).

D. Compliance Record

- (1). Record compliance to this Technical 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.

DATE: 31 JULY 2012

PAGE 4 OF 5

TECHNICAL BULLETIN

TB900-039 Completed Record

MODIFICATION OF MAIN ROTOR UPPER HUB ASSEMBLY 900R2101006-105, -107, AND -109 (REF. MOD MD9001100001)

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

Dear MDHI Employee:

This is to tell you that this Technical Bulletin has been completed as follows:

Owner	Helicopter
/Operator: _____	Serial No: _____
Address: _____	Helicopter
_____	Total Time: _____
_____	Compliance
_____	Date: _____
Phone: _____	Location: _____
E-mail: _____	

This bulletin is complete:

 (Signature)

 (Print Name)

 (Title)

Comments: _____

TECHNICAL BULLETIN

DATE: 31 JULY 2012

PAGE 5 OF 5

MODIFICATION OF MAIN ROTOR UPPER HUB ASSEMBLY 900R2101006-105, -107, AND -109 (REF. MOD MD9001100001)

Serial number of removed Main Rotor Upper Hub and TTSN:

(S/N) (Time)

TECHNICAL BULLETIN

DATE: 20 DECEMBER 2017

PAGE 1 OF 16

* Supersedes Technical Bulletin TB900-040, dated 22 November 2011. Revised to add new fairings with a better fit, revise procedures, and an alternative pin location. Rotorcraft that are in compliance with TB900-040 and meet the intent of this revision have no additional action.

ELECTRICAL MODIFICATION, LED STROBE

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 helicopters, serial numbers 900-000008 thru 900-000139.

B. Assembly/Components Affected By This Bulletin:

900E3720013-105, Lighting Control Edge Light Panel

C. Reason:

Upgraded LED Strobe and Position lights are available.

D. Description:

Procedures in this Bulletin give owners and operators information to modify existing rotorcraft for installation of an updated LED Strobe/Position Light.

E. Time of Compliance

Customer option, at owner/operator discretion.

F. FAA Approval:

The technical design aspects of this Bulletin are FAA approved.

G. Manpower:

Compliance with this bulletin will be approximately 19 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: 20 DECEMBER 2017

PAGE 2 OF 16

TECHNICAL BULLETIN

J. Material/Part Availability:

Contact MDHI Field Service Department or MDHI Spare Sales Department.

REPLACEMENT PARTS/SUPPLIES				
Item No	Nomenclature	Part No.	Qty.	Source
KIT	These parts are included in this KIT.	TBK900-040	A/R	MDHI
1	• Lighting Control Edge Light Panel	900E3720013-105	1	MDHI
2	• Contact, 16GA, 20-24AWG	1662-202-1631	4	MDHI
3	• Upper & Lower Anti Collision Light	369D24142-1	2	MDHI
4	• Upper & Lower AFT Position Light, White	900E3753320-101	4	MDHI
5	• LH Position Light, Red	900E3753321-101	1	MDHI
6	• RH Position Light, Green	900E3753322-101	1	MDHI
7	• Adapter Kit, Anti-Collision Light	369D24142-3	2	MDHI
8	• Contact, Pin	M39029/58-363	12	MDHI
9	• Contact, Socket	M39029/56-351	9	MDHI
10	• Contact, Socket, Module	M39029/22-192	9	MDHI
11	• Terminal Lug, Ring, Red	MS25036-102	2	MDHI
12	• Switch, Toggle, Sealed	MS27407-1	1	MDHI
13	• Wire, Single Conductor, 20GA	M22759/43-20-9	AR	MDHI
14	• Plug, Button, Nylon	MHS5884-0437	2	MDHI
15	• Plug, Sealing, Size 22, Black	MS27488-22-1	1	MDHI
16	• Plug, Sealing, Size 20, Red	MS27488-20-1	10	MDHI
17	• Left-Hand (LH) Forward Fairing	900F2342026-103	1	MDHI
18	• Right-Hand (RH) Forward Fairing	900F2342028-103	1	MDHI

K. Warranty Policy:

Standard warranty policy applies.

L. Disposition of Parts Removed:

N/A

M. Tooling:

N/A

TECHNICAL BULLETIN

DATE: 20 DECEMBER 2017

PAGE 3 OF 16

N. Weight and Balance:

N/A

O. Electrical Load Data:

N/A

P. Other Publications Affected:

CSP-900RMM-2 Rotorcraft Maintenance Manual — Servicing and Maintenance

CSP-900RMM-3 Rotorcraft Maintenance Manual — Instruments / Electrical / Avionics

CSP-900IPL-4 Illustrated Parts List

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-SPM Standard Practice Manual

CSP-900RMM-3 Rotorcraft Maintenance Manual — Instruments / Electrical / Avionics

DATE: 20 DECEMBER 2017

PAGE 4 OF 16

TECHNICAL BULLETIN

2. ACCOMPLISHMENT INSTRUCTIONS

A. Preparation

- (1). Ground the aircraft (ref. CSP-SPM, Section 20-60-00).

B. (SNs 00008 thru 00124) — Modification of Lighting Control Panel A602

■ **NOTE:** Deleted.

- (1). Disassemble Lighting Control Panel A602:
 - (a). Remove Lighting Control Panel A602 from the aircraft.
 - (b). Remove the lighting control edge light plate from the panel assembly.

NOTE: Save the mounting hardware and control knobs for reuse.

NOTE: Protect the wires for reuse.

- (c). Disconnect the wires from S6-2 and S6-3.
- (d). Remove the strobe light switch.
- (2). Assemble Lighting Control Panel A602:
 - (a). Install a new strobe light switch (12) in Position S6.
 - (b). Install new wire segments with two contact pins (8), two red ring terminal lugs (11), and 20-gauge conductor single wire (13) as necessary.

WIRE ID	FROM	TERM	TO	TERM
L20D20 EMI 3	J2	R	S6	6
L20E20 EMI 3	J1	B	S6	5

■ **NOTE:** If a Terminal B is taken, use Terminal E.

- (c). Terminate the wires disconnected during disassembly.
- (d). Assemble Lighting Control Panel A602.
- (e). Install the lighting control edge light panel (1).
- (f). Install the previously removed control knobs.

WIRE ID	FROM	TERM	TO	TERM
L5A20 EMI 3	J2	ZE	S6	3
L9C20 EMI 3	J1	X	S6	2

TECHNICAL BULLETIN

DATE: 20 DECEMBER 2017

PAGE 5 OF 16

C. (SNs 00125 thru 00139) — Modification of Lighting Control Panel A602

NOTE: Deleted.

- (1). Disassemble Lighting Control Panel A602.
 - (a). Remove Lighting Control Panel A602 from aircraft.
 - (b). Remove the lighting control edge light plate from the panel assembly.

NOTE: Save the mounting hardware and control knobs for reuse.

- (2). Assemble Lighting Control Panel A602.
 - (a). Identify the existing wire segments (ref. CSP-SPM, Section 20-60-00).
 - (b). Assemble Lighting Control Panel A602.
 - (c). Install the lighting control edge light panel (1).
 - (d). Install the previously removed control knobs.

WIRE ID	FROM	TERM	TO	TERM
Was: L221C20 EMI 3	J1	B	S6	5
Is: L20E20 EMI 3	J1	B	S6	5
Was: L221D20 EMI 3	J2	R	S6	6
Is: L20D20 EMI 3	J2	R	S6	6

NOTE: If Terminal B is taken, use Terminal E.

DATE: 20 DECEMBER 2017

PAGE 6 OF 16

TECHNICAL BULLETIN

D. (SNs 00008 thru 00139) — Modification of the Cabin Wire Harness and Removal of the Light Power Supply Removal:

NOTE: For aircraft with a supplemental fuel system (900EG336000) installed, locate, and remove the relocated strobe light power supply and the attaching hardware per this modification.

NOTE: Deleted.

(1). Remove the strobe light power supply:

- (a). Remove strobe light power supply (A309) and ground strap.
- (b). Cap and stow connectors P357, P358, and P359 (ref. CSP-SPM, Section 20-60-00).
- (c). Touch up bare metal surfaces (ref. CSP-SPM, Section 20-30-00 and 20-40-00, Finish 11LA).

(2). Modify the wire harness:

- (a). Locate connector W124 P116 in the center console, de-pin this wire segment: W124 P116-ZE, Wire ID L5B20 EMI 3, and cap and stow (ref. CSP-SPM, Section 20-60-00).
- (b). Locate and disconnect W133 P309 connector (NOTAR Fan Frame).
- (c). Locate W124 J309 and de-pin 3/C shielded wire from positions A, B, C, J, K and L, with shield terminations.
 - 1). Cap and stow shielded wires (ref. CSP-SPM, Section 20-60-00).
- (d). Locate GS306-A and de-pin Wire L7A20N (W124).
 - 1). Cap and stow Wire L7A20N (ref. CSP-SPM, Section 20-60-00).

(3). Installation of new wire segments (ref. Interconnect) use 20-gage single conductor wire (13).

NOTE: Lengths are reference for cut and code operations only.

WIRE ID	FROM	TERM	LUG	TO	TERM	LUG	LENGTH
L20C20 EMI 3	P116	R	(9)	TB302-2	K	(10)	300 inch
L5B20 EMI 3	P116	ZE	(9)	TB302-2	G	(10)	300 inch
L20F20N EMI 3	P129	B	(9)	GS102	L	(10)	70 inch
L5C20N EMI 3	J309	J	(9)	TB302-2	H	(10)	100 inch
L19B20N EMI 3	J309	K	(9)	GS306	A	(10)	60 inch
L20B20 EMI 3	J309	L	(9)	TB302-2	M	(10)	60 inch
L23B20 EMI 3	J309	C	(9)	TB302-2	L	(10)	60 inch
L22B20N EMI 3	J309	B	(9)	GS304	K	(10)	60 inch
L5E20 EMI 3	J309	A	(9)	TB302-2	J	(10)	60 inch

- (a). Fabricate wire segments with the existing harnesses (ref. CSP-SPM, Section 20-60-00).
- (b). Mark wire segments, including EMI categories (ref. CSP-SPM, Section 20-60-00).

TECHNICAL BULLETIN

DATE: 20 DECEMBER 2017

PAGE 7 OF 16

- (c). Rout the wire segments with the existing harnesses.
- (d). Terminate socket contact (9) (ref. CSP-SPM, Section 20-60-00).
- (e). Terminate module socket contact (10) (ref. CSP-SPM, Section 20-60-00).
- (f). Reconnect W133 P309 (ref. CSP-SPM, Section 20-60-00).

E. (SNs 00008 thru 00124) — Removal of the White Strobe Light Option and Associated Cabin/Cockpit Wiring

NOTE: Deleted.

- (1). Locate and remove the white strobe light switch located in the center console.
- (2). Locate and remove the white strobe power supply and attaching hardware located on the right-hand plow beam.
- (3). Locate, cap and stow connectors P357A, P358A, and P359A (ref. CSP-SPM, Section 20-60-00).
- (4). Locate, cap and stow these wire segments (ref. CSP-SPM, Section 20-60-00):

WIRE ID	FROM	TERM	TO	TERM
L201B20N EMI 3	GS304	H	LT SWITCH	COM
L201A20 EMI 3	LT SWITCH	ON	P358A	B
L200B20 EMI 3	W123 or P377	ZM	P358A	A
L202A20 White EMI 4	W124 or J309	Z	P359A	A
L203A20 Blue EMI 4	W124 or J309	ZC	P359A	C
L208D20 EMI 4	W124 or J309	SHIELD	CASE	
L204A20 EMI 4	W125 or J315	T	P359A	B
L205A20 White EMI 4	W125 or J315	G	P357A	A
L206A20 Blue EMI 4	W125 or J315	H	P357A	C
L207A20 Orange EMI 4	W125 or J315	M	P357A	B
L210D20 EMI 4	W125 or J315	SHIELD	CASE	
L209D20 EMI 4	W125 or J315	SHIELD	CASE	

- (5). Install sealing plugs in these connector cavities:

CONNECTOR	TERM	SEALING PLUG
GS304	H	(15)
J309	Z, ZC	(16) 2 each
J315	T, G, H, M	(16) 4 each
P377	ZM	(16)

DATE: 20 DECEMBER 2017

PAGE 8 OF 16

TECHNICAL BULLETIN

F. (SNs 00125 thru 00139) — Removal of the White Strobe Light Option and Associated Cabin/Cockpit Wiring

NOTE: Deleted.

- (1). Locate and remove the white strobe light switch located in the center console.
- (2). Locate and remove the white strobe power supply and attaching hardware located on the right-hand plow beam.
- (3). Locate, cap, and stow connectors P357A, P358A, and P359A (ref. CSP-SPM, Section 20-60-00).
- (4). Locate, cap, and stow these wire segments (ref. CSP-SPM, Section 20-60-00):

WIRE ID	FROM	TERM	TO	TERM
L22A20N EMI 3	GS304	H	P358A	B
L221E20 EMI 3	W124 or P116	R	P358A	A
L221B20 EMI 3	W125 or P379	K	W125 P129	B
L222A20 White EMI 4	W124 or J309	Z	P359A	A
L233A20 Blue EMI 4	W124 or J309	ZC	P359A	C
L228D20 EMI 4	W124 or J309	SHIELD	CASE	
L224A20 EMI 4	W125 or J315	T	P359A	B
L225A20 White EMI 4	W125 or J315	G	P357A	A
L226A20 Blue EMI 4	W125 or J315	H	P357A	C
L227A20 Orange EMI 4	W125 or J315	M	P357A	B
L231A20 EMI 4	W125 or J315	SHIELD	CASE	
L229D20 EMI 4	W125 or J315	SHIELD	CASE	

- (5). Install sealing plugs in these connector cavities:

CONNECTOR	TERM	SEALING PLUG
GS304	H	(15)
J309	Z, ZC	(16) 2 each
J315	T, G, H, M	(16) 4 each
P379	K	(16)

TECHNICAL BULLETIN

DATE: 20 DECEMBER 2017

PAGE 9 OF 16

G. (SNs 00008 thru 00139) — Modification of the Tailboom/Empennage Wire Harness and Replacement of the Navigation Light

NOTE: Deleted.

- (1). Modify the wire harness:
 - (a). Locate and disconnect W134 P310.
 - (b). De-pin and remove wires at W134 P310 H, J, K, L, T and shield termination.
 - (c). De-pin wires at W134 SP1 and SP2 leading to right position light (DS302).
 - (d). De-pin wires at W134 SP3 and SP4 leading to left position light (DS303).

NOTE: If White Strobe Lights are installed, de-pin and remove these wires:
W134 P310 Y, X and shield termination.
W145 P317 T, G, H, M and shield terminations.
Install (16) in each vacated connector cavity.

- (2). Remove the navigation light:
 - (a). Remove DS302 (right-hand position light) and DS303 (left-hand position light).
 - (b). Remove the old LH and RH forward fairings (ref. CSP-900RMM-2, Section 53-55-00, Removal / Installation)
 - (c). Remove DS304 (upper AFT position light) and DS306 (upper anti-collision light).
 - (d). Locate and disconnect A677 J1 (mates with W133 P313).
 - (e). Disassemble and de-pin connector-save for reuse.
 - (f). Remove DS305 (lower anti-collision light) and DS307 (lower AFT position light).
- (3). Install the new navigation lighting:
 - (a). Install the new LH and RH forward fairings (17, 18) (ref. CSP-900RMM-2, Section 53-55-00, Removal / Installation)
 - (b). Right position light, green (6) (DS302).
 - (c). Left position light, red (5) (DS303).
 - (d). Upper and lower AFT position light, white (4) (DS304, DS307).
 - (e). Upper and lower anti-collision light (3) and (7) (DS306, DS305).

WARNING Do not cut the vendor-furnished wires.
Loop and stow, as necessary.

- (4). Terminate the wires at W134 P310 and A677 J1 (ref. Figure 1):
 - (a). Route wire from navigation lights to termination points (ref. CSP-SPM, Section 20-60-00).
 - (b). Terminate navigation wires.
 - (c). Dress wires to prevent chaffing.

DATE: 20 DECEMBER 2017

PAGE 10 OF 16

TECHNICAL BULLETIN

H. (SNs 00008 thru 00124) — Removal and Identification of Existing Lighting Circuit Breakers

NOTE: Deleted.

- (1). Locate CB22 and CB53 on Electrical Load Center A620.
- (2). Remove the 5A circuit breaker at Position CB53.
 - (a). Discard the removed circuit breaker.
- (3). Cap and stow these wires (ref. CSP-SPM, Section 20-60-00):

WIRE ID	FROM	TERM	TO	TERM
L200A20 EMI 3	BAT BUS	3	CB53	1
JUMPER, 20AWG	CB53	2	W620 J3	ZM

- (4). Install nylon button plug (14) in Position CB53.
- (5). Install red size 20 sealing plug (16) in Position J3-ZM.
- (6). At Position CB53 cover the present nomenclature.
 - (a). Finish DA (ref. CSP-SPM, Section 20-30-00).
- (7). At Position CB22 cover the present nomenclature.
 - (a). Finish DA (ref. CSP-SPM, Section 20-30-00).
- (8). Identify CB22 as "STROBE" (ref. CSP-SPM, Section 20-60-00).

I. (SNs 00125 thru 00139) — Removal and Identification of Existing Lighting Circuit Breakers

NOTE: Deleted.

- (1). Locate CB22 and CB24 on Electrical Load Center A620.
- (2). Remove 7.5A circuit breaker at Position CB24 and discard.
- (3). Cap and stow these wires (ref. CSP-SPM, Section 20-60-00):

WIRE ID	FROM	TERM	TO	TERM
L220A20 EMI 3	BAT BUS	3	CB24	1
L221A20 EMI 3	CB24	2	W620 J5	K

- (4). Install nylon button plug (14) in Position CB24.
- (5). Install red size 20 sealing plug (16) in Position J5-K.
- (6). At Position CB24 cover the present nomenclature.
 - (a). Finish DA (ref. CSP-SPM, Section 20-30-00).
- (7). At Position CB22 cover the present nomenclature.
 - (a). Finish DA (ref. CSP-SPM, Section 20-30-00).

TECHNICAL BULLETIN

DATE: 20 DECEMBER 2017

PAGE 11 OF 16

- (8). Identify CB22 as “STROBE” (ref. CSP-SPM, Section 20-60-00).

J. (SNs 00125 thru 00139) — Identification of Existing Lighting Circuit Breakers:

NOTE: Deleted.

- (1). Locate CB22 and CB24 on the electrical load center (A620).
- (2). At Position CB24 cover the present nomenclature.
 - (a). Finish DA (ref. CSP-SPM, Section 20-30-00).
- (3). At Position CB22 cover the present nomenclature.
 - (a). Finish DA (ref. CSP-SPM, Section 20-30-00).
- (4). Identify CB22 as “STROBE” (ref. CSP-SPM, Section 20-60-00).
- (5). Install nylon button plug (14) in Position CB24.

K. Inspection and Tests

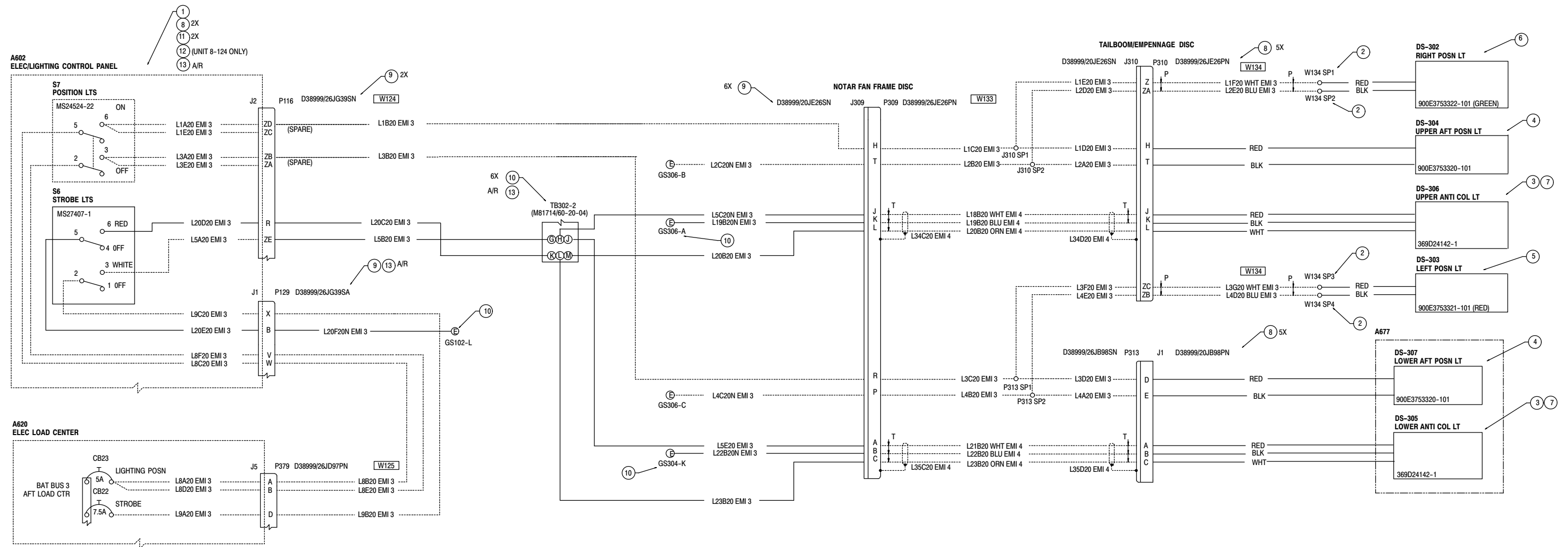
- (1). Do the Electrical Load Center (A620) Inspection (ref. CSP-900RMM-3, Section 96-00-00, Inspection / Test).
- (2). Do the Exterior Lighting System Inspection (ref. CSP-900RMM-3, Section 96-40-00, Inspection / Test).
- (3). Do the Exterior Lighting System Test (ref. CSP-900RMM-3, Section 96-40-00, Inspection / Test).

DATE: 20 DECEMBER 2017

PAGE 12 OF 16

TECHNICAL BULLETIN

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NOTES:

1. DASHED LINES INDICATE EXISTING WIRES OR EQUIPMENT.
2. BOLD LINES INDICATE NEW WIRE SEGMENTS PER THIS MODIFICATION DRAWING.

Figure 1.



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TECHNICAL BULLETIN

DATE: 20 DECEMBER 2017

PAGE 15 OF 16

L. Job Close-Up

- (1). Close access door or panel.
- (2). Clean work area and check for FOD.

M. Compliance Record

- (1). Record compliance to this Technical 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.

DATE: 20 DECEMBER 2017

PAGE 16 OF 16

TECHNICAL BULLETIN

TB900-040R1 Completed Record

ELECTRICAL MODIFICATION, LED STROBE

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

Dear MDHI Employee:

This is to tell you that this Technical Bulletin has been completed as follows:

Owner	Helicopter
/Operator: _____	Serial No: _____
Address: _____	Helicopter
_____	Total Time: _____
_____	Compliance
_____	Date: _____
Phone: _____	Location: _____
E-mail: _____	

This bulletin is complete: _____

(Signature)

(Print Name)

(Title)

Comments: _____

TECHNICAL BULLETIN

DATE: 09 MARCH 2012

PAGE 1 OF 4

REMOVE AND REPLACE THE TAILBOOM ATTACHMENT RING

1. PLANNING INFORMATION

A. Rotorcraft Affected:

MD900 helicopters, serial numbers (SNs) 900-00008 and subsequent.

B. Assembly/Components Affected By This Bulletin:

900F1306000-111/-113/-115/-117/-119/-121/-123 Roof Assembly

900F2306662-105 NOTAR® Fan Duct Assembly

900F2306681-103 Tailboom Attachment Ring

C. Reason:

It is possible for the tailboom attachment ring to corrode. A corroded tailboom attachment ring can be removed and replaced with a new tailboom attachment ring.

D. Description:

Procedures in this Bulletin give owners and operators information to send the rotorcraft to an approved service center to have the tailboom attachment ring removed and replaced. The tailboom attachment ring, Part Number (PN) 900F2306681-103, is a component of the NOTAR® fan aft duct assembly, PN 900F2306662-105. The duct assembly is a subassembly of the roof assembly, PN 900F1306000-111/-113/-115/-117/-119/-121/-123.

E. Time of Compliance

Customer option, at owner/operator discretion.

F. FAA Approval:

The technical design aspects of this Bulletin are FAA approved.

G. Manpower:

N/A

H. Interchangeability:

N/A

I. Points of Contact:

For further assistance, contact the MDHI Field Service Department.
Telephone: 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

J. Material/Part Availability:

Contact the MDHI Spare Sales Department for parts availability.
Telephone: 1-800-388-3378 or 480-346-6540. DATAFAX: 480-346-6821.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Tailboom Attachment Ring	900F2306681-103	1	MDHI

DATE: 09 MARCH 2012

PAGE 2 OF 4

TECHNICAL BULLETIN

K. Warranty Policy:

Standard warranty policy applies.

L. Disposition of Parts Removed:

Scrap the removed tailboom attachment ring.

M. Tooling:

N/A

N. Weight and Balance:

N/A

O. Electrical Load Data:

N/A

P. Other Publications Affected:

None.

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-SPM Standard Practice Manual

CSP-900RMM-2 Rotorcraft Maintenance Manual - Servicing and Maintenance

CSP-900IPL-4 Illustrated Parts List

CSP-900MOD MD9001100002 Modification Instructions for Tailboom Attachment Ring Replacement

2. ACCOMPLISHMENT INSTRUCTIONS

A. Inspection

- (1). If corrosion of the tailboom attachment ring is found during scheduled or unscheduled inspections, and the corrosion cannot be repaired by standard practices, the tailboom attachment ring can be removed and replaced with a satisfactory ring.

B. Repair

- (1). Send the rotorcraft to an MDHI-approved Service Center that is authorized to do this repair. Contact the MDHI Field Service Department for the approved Service Centers.

C. Compliance Record

- (1). Record compliance to this Technical 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.

TECHNICAL BULLETIN

DATE: 09 MARCH 2012

PAGE 3 OF 4

Bulletin Completed Record

TB900-041 — Remove and Replace the Tailboom Attachment Ring

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

Dear MDHI Employee:

This is to tell you that this Technical Bulletin has been completed as follows:

Owner /Operator: _____	Helicopter Serial No: _____
Address: _____	Helicopter Total Time: _____
_____	Compliance Date: _____
_____	Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete: _____

(Signature)

(Print Name)

(Title)

Comments: _____

DATE: 09 MARCH 2012

PAGE 4 OF 4

TECHNICAL BULLETIN

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TECHNICAL BULLETIN

DATE: 25 OCTOBER 2012

PAGE 1 OF 6

REPAIR FOR THE UPPER FLANGE BOLT HOLES IN THE MAIN ROTOR UPPER HUB ASSEMBLY

1. PLANNING INFORMATION

A. Aircraft Affected:

All MD900 rotorcraft with main rotor upper hub assembly, part no. (PN) 900R2101006-105 / -107 / -109 / -111, installed or in spares inventory.

B. Assembly/Components Affected By This Bulletin:

Main Rotor Upper Hub Assembly, PN 900R2101006-105 / -107 / -109 / -111

Main Rotor Upper Hub, PN 900R2101000-105 / -107 / -109 / -111

C. Reason:

During scheduled inspections of the main rotor hub assembly, it is possible to find a small crack(s) in the bolt holes of the upper flange of the main rotor upper hub assembly. This flange mates with the main rotor drive plate.

D. Description:

Procedures in this Bulletin give owners and operators information to examine the main rotor upper hub assembly for cracks and to have MD Helicopters field service representatives remove (drill out) cracks in a damaged hub assembly, or to increase fatigue resistance in a good hub assembly. By machining the ten (10) bolt holes in the upper flange of the upper hub assembly and the installation of ten (10) bushings, cracks can be removed (drilled out) and the fatigue resistance increased. This Bulletin can be done with the hub assembly installed on, or removed from, the rotorcraft.

E. Time of Compliance

Customer option, at owner/operator discretion.

MDHI will provide the bushings and a team to do this repair, if the repair is scheduled within one (1) year of the date of this bulletin. Owners and operators are responsible for the disassembly and assembly necessary to do this repair.

F. FAA Approval:

The technical design aspects of this Bulletin are FAA approved.

G. Manpower:

Three (3) man-hours to do the visual inspections.

H. Interchangeability:

None.

I. Points of Contact:

For further assistance, contact the MDHI Field Service Department.

Telephone: 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

DATE: 25 OCTOBER 2012

PAGE 2 OF 6

TECHNICAL BULLETIN

J. Material / Part Availability:

Owners / operators who comply with this Bulletin will receive the bushings at no cost.

Contact the MDHI Spare Sales Department for parts availability.

Telephone: 1-800-388-3378 or 480-346-6540. DATAFAX: 480-346-6821.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Bushing	FMB-1534-45010B or FMB-1534-45010C	10	MDHI

K. Warranty Policy:

Standard warranty policy applies (ref. CSP-A-2, MD Helicopters Limited Warranties).

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-SPM Standard Practice Manual

CSP-900RMM-2 Rotorcraft Maintenance Manual - Servicing and Maintenance

CSP-900IPL-4 Illustrated Parts List

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-SPM Standard Practice Manual

CSP-900RMM-2 Rotorcraft Maintenance Manual - Servicing and Maintenance

CSP-900IPL-4 Illustrated Parts List

SB900-072R1, Main Rotor Hub Inspection and Torque Check

TB900-039, Modification of Main Rotor Upper Hub Assembly, 900R2101006-105, -107,
and -109

TECHNICAL BULLETIN

DATE: 25 OCTOBER 2012

PAGE 3 OF 6

2. ACCOMPLISHMENT INSTRUCTIONS

A. Preparation

(Ref. Figure 1)

- (1). If necessary, disassemble the main rotor system to access the drive plate bolt holes and mating surface of the main rotor upper hub assembly (ref. CSP-900RMM-2, Section 62-20-00).

NOTE: Do an inspection of hub assemblies installed on the rotorcraft or in stores.

- (2). Examine the ten (10) drive plate bolt holes and mating surface of the adjacent flange of the hub assembly for cracks with a light and 10X or higher magnification glass.
 - (a). If there are cracks at the bolt holes and adjacent surfaces, do the repair (ref. Procedure B).
 - (b). If there is no damage, do Procedure B to do the repair or do Procedure C if you do not want to do the repair.
- (3). Remove the main rotor drive shaft from the rotorcraft (ref. CSP-900RMM-2, Section 63-10-00) to do the repair.
- (4). If necessary, remove the main rotor upper hub assembly from the rotorcraft (ref. CSP-900RMM-2, Section 62-20-00).

NOTE: The hub assembly can be repaired on the rotorcraft or in the shop.

B. Repair

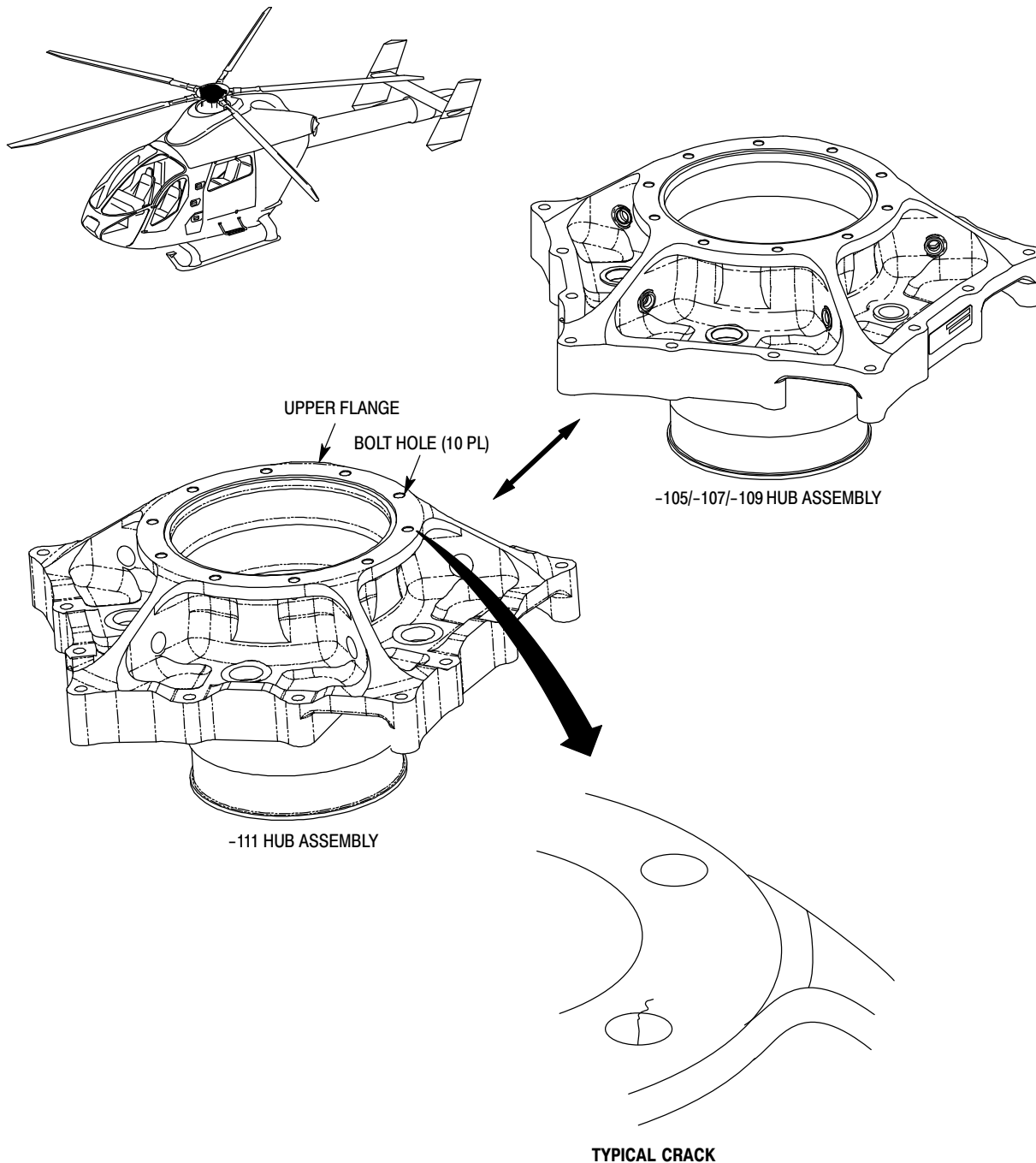
- (1). Contact the MDHI Field Service Department to have an authorized mechanic come to your shop to do this repair.
- (2). Remove paint and primer from the upper flange of the hub assembly (ref. CSP-SPM, Section 20-40-00).
- (3). Do a dye penetrant inspection of the ten (10) bolt holes on the upper flange (ref. CSP-SPM, Section 20-90-00).
 - (a). Scrap the hub assembly, if a crack on the flange face is more than **0.0604 inch (1.534 mm)** as measured from the edge of the bolt hole.
 - (b). If the crack on the flange face is less than **0.0604 inch (1.534 mm)** as measured from the edge of the bolt hole, the hub assembly can be repaired.
- (4). Do the repair.
- (5). A repaired hub assembly is shown with a permanent ink stamp or permanent marker (ref. Figure 2).

C. Job Close-Up

- (1). As necessary, install the hub assembly (ref. CSP-900RMM-2, Section 62-20-00) or the main rotor drive shaft (ref. CSP-900RMM-2, Section 63-10-00) on the rotorcraft.
- (2). Do the necessary inspections and tests.
- (3). Return the rotorcraft to service after the successful completion of installation, inspection, and test of the hub assembly.

DATE: 25 OCTOBER 2012
PAGE 4 OF 6

TECHNICAL BULLETIN



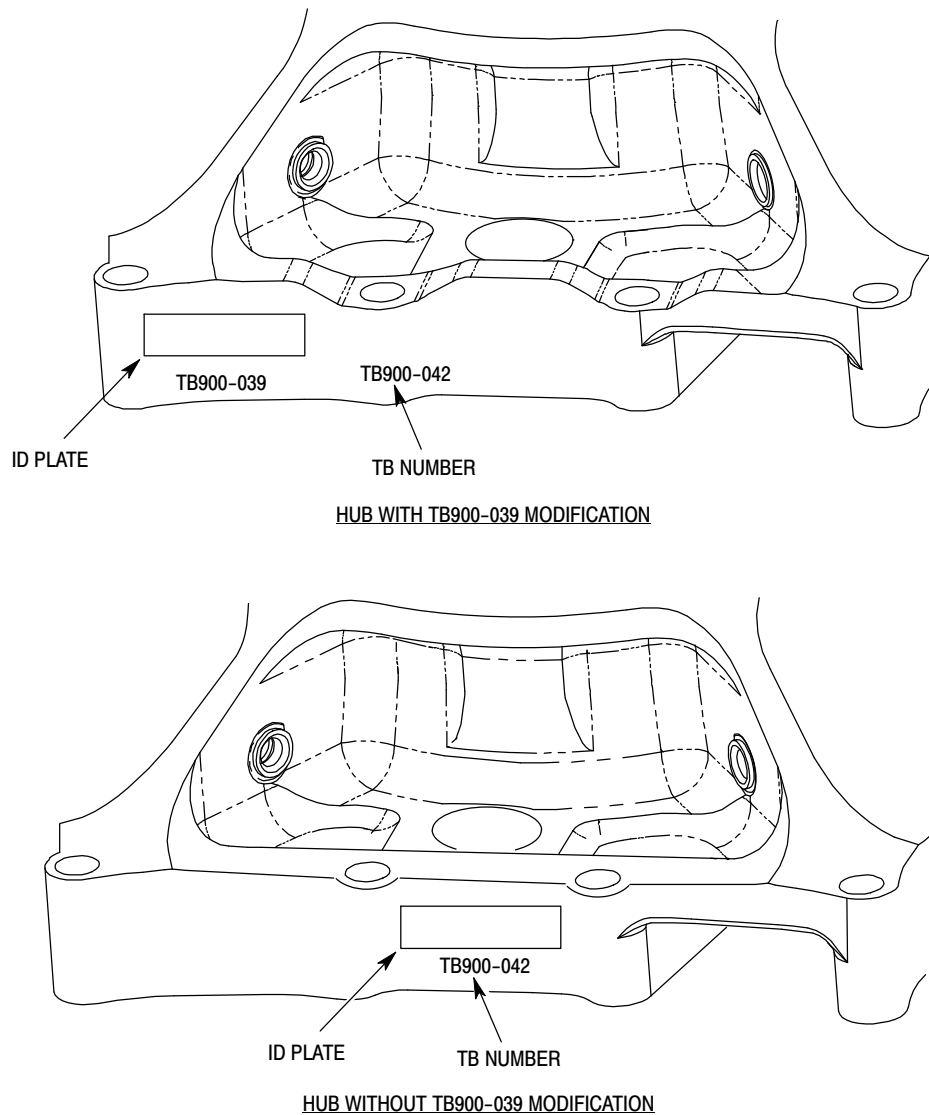
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Figure 1. Upper Flange of the Main Rotor Upper Hub Assembly

TECHNICAL BULLETIN

DATE: 25 OCTOBER 2012

PAGE 5 OF 6



9b62-112

Figure 2. Identification Plate and TB Number Placement

D. Compliance Record

- (1). Record compliance to this Technical 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.

DATE: 25 OCTOBER 2012

PAGE 6 OF 6

TECHNICAL BULLETIN

TB900-42 Completed Record

Repair for the Upper Flange Bolt Holes in the Main Rotor Hub 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

Dear MDHI Employee:

This is to tell you that this Technical Bulletin has been completed as follows:

Owner /- Operator:	_____	Rotorcraft Serial No:	_____
Address:	_____	Rotorcraft Total Time:	_____
	_____	Compliance Date:	_____
	_____	Location:	_____
Phone:	_____	Hub Part No.:	_____
E-mail:	_____	Hub Serial No.:	_____

This bulletin is complete:

 (Signature)

 (Print Name)

 (Title)

Comments: _____

TECHNICAL BULLETIN

DATE: 8 APRIL 2013

PAGE 1 OF 6

MODIFICATION OF THE NACA INLET DOOR PANEL ASSEMBLY

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 rotorcraft, serial numbers (SNs) 900-00052 thru 900-00139, and MD900 rotorcraft that have completed Technical Bulletin TB900-004 or TB900-028.

B. Assembly/Components Affected By This Bulletin:

900E2720603-103 NACA Inlet Door Panel Assembly

MS24524-23 Environmentally Sealed, Two-Pole, Toggle Switch

C. Reason:

During flight in snow conditions, the NACA inlet doors are to be closed to prevent the ingress of snow into the engine inlets. This modification replaces the MS24524-23 toggle switch with a MS24659-23F toggle switch that has a detent (a catch or pawl) which will lock the OVERRIDE (CLOSED) switch position for the closed inlet door to make sure the switch cannot be accidentally put in the NORMAL (OPEN) position.

D. Description:

Procedures in this Bulletin give owners and operators information to modify the 900E2720603-103 NACA inlet door panel assembly to the 900E2720603-105 configuration.

E. Time of Compliance

Customer option, at owner/operator discretion.

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-hours.

H. Interchangeability:

None.

I. Points of Contact:

For further assistance, contact the MDHI Field Service Department.

Telephone: 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

J. Material/Part Availability:

Contact the MDHI Spare Sales Department for parts availability.

Telephone: 1-800-388-3378 or 480-346-6540. DATAFAX: 480-346-6821.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Toggle Switch, Two-Pole, Environmentally Sealed, Lever Locked (Switch S1)	MS24659-23F	1	MDHI

DATE: 8 APRIL 2013

PAGE 2 OF 6

TECHNICAL BULLETIN

K. Warranty Policy:

Standard warranty policy applies (ref. CSP-A-2, MD Helicopters Limited Warranties).

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-902RFM206E-1 Rotorcraft Flight Manual

CSP-902RFM207E-1 Rotorcraft Flight Manual

CSP-900RMM-3 Rotorcraft Maintenance Manual - Instruments-Electrical-Avionics

CSP-900IPL-4 Illustrated Parts List

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-SPM Standard Practice Manual

CSP-902RFM206E-1 Rotorcraft Flight Manual

CSP-902RFM207E-1 Rotorcraft Flight Manual

CSP-900RMM-3 Rotorcraft Maintenance Manual - Instruments-Electrical-Avionics

CSP-900IPL-4 Illustrated Parts List

TB900-004, Modification Instructions for NACA Inlet Assembly Installation

TB900-028, MD900 (900 Configuration) to MD900 (902 Configuration with PW207E Engines) Change

TECHNICAL BULLETIN

DATE: 8 APRIL 2013

PAGE 3 OF 6

2. ACCOMPLISHMENT INSTRUCTIONS

A. Preparation

Power Off



- (1). Make sure all electrical power to the rotorcraft is OFF (ref. CSP-900RMM-3, Section 96-00-00).
- (2). Loosen fasteners (1) to remove panel assembly (2) (ref. Figure 1).
- (3). Make sure that each wire connected to Switch S1 (7) is identified or put a tag on each wire with the Switch S1 terminal number.

B. Modification

- (1). Disconnect the wires from Switch S1 (7).
- (2). Remove the MS24524-23 Switch S1 (7) from panel assembly (2) (ref. CSP-SPM, Section 20-60-00).
- (3). Install a new MS24659-23F Switch S1 (7) in panel assembly (2).
- (4). Connect the wires to Switch S1 (7) (ref. Figure 1).
- (5). Do an Open Circuit Condition Test (ref. CSP-SPM, 20-60-00).
- (6). If installed, remove the wire tags.
- (7). If the panel assembly was modified from stores or will be put on the shelf, bag and tag the panel assembly as 900E2720603-105 (use best shop practices).
- (8). Install panel assembly (2) with fasteners (1) (ref. Figure 1).

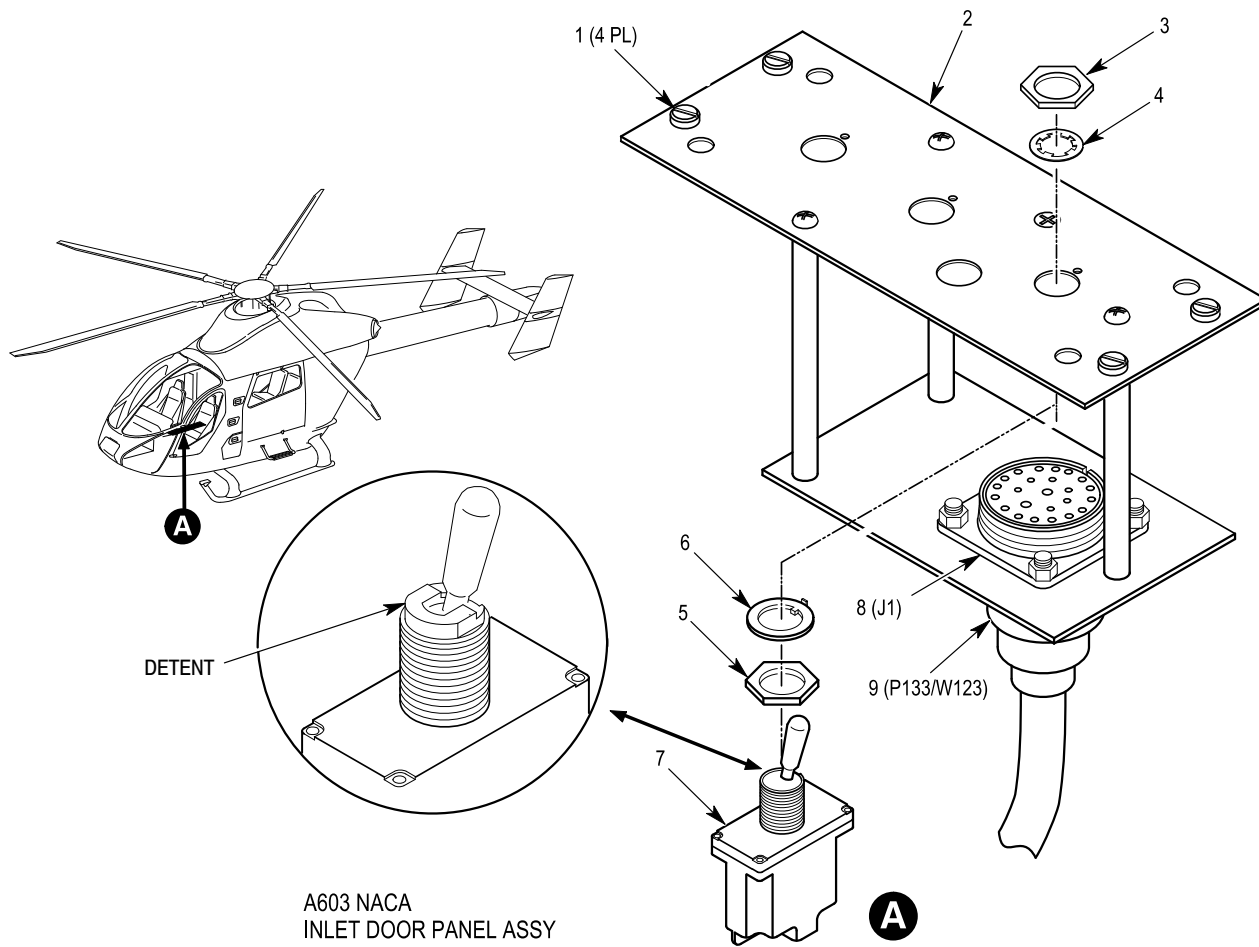
C. Compliance Record

- (1). Record compliance to this Technical Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete the Bulletin Completed Record form (attached) and FAX or e-mail it to the MDHI Field Service Department.

DATE: 8 APRIL 2013

PAGE 4 OF 6

TECHNICAL BULLETIN



9b96-201

Figure 1. NACA Inlet Door Panel Assembly and Electrical Schematic

TECHNICAL BULLETIN

DATE: 8 APRIL 2013

PAGE 5 OF 6

Legend (Ref. Figure 1)

1. FASTENER (REF. IPL, 96-00-02, FIG. 1)
 2. PANEL ASSEMBLY
 3. JAM NUT
 4. LOCKWASHER
 5. JAM NUT
 6. KEY WASHER
 7. SWITCH S1
 8. RECEPTACLE J1
 9. ELECTRICAL CONNECTOR P133 (REF. 98-00-00, FIG. 1)
-

DATE: 8 APRIL 2013

PAGE 6 OF 6

TECHNICAL BULLETIN

TB900-043 Completed Record

Modification of the NACA Inlet Door Panel 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

Dear MDHI Employee:

This is to tell you that this Technical Bulletin has been completed as follows:

Owner /Operator: _____	Rotorcraft Serial No: _____
Address: _____ _____ _____ _____	Rotorcraft Total Time: _____ Compliance Date: _____ Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete: _____

(Signature)

(Print Name)

(Title)

Comments: _____

TECHNICAL BULLETIN

DATE: 29 OCTOBER 2013

PAGE 1 OF 4

* Supersedes Technical Bulletin TB900-044, dated 15 March 2013. Changes rotorcraft serial number effectivity.

INCREASE OF OPERATIONAL WEIGHT LIMIT TO 6770 LB (3070.82 KG)

1. PLANNING INFORMATION

A. Aircraft Affected:

MD900 rotorcraft that have incorporated Technical Bulletin TB900-031 (PW206E to PW207E Engine Conversion), and MD900 (902 configuration) rotorcraft serial numbers (SNs) thru 900-00140, with Pratt & Whitney PW207E turbine engines installed.

B. Assembly/Components Affected By This Bulletin:

MHS5949A02, MHS5949A09, MHS5949A12 V_{NE} Card MD900 Cockpit Information 900N2726005-101 V_{NE} Card Decal

C. Reason:

To authorize owners and operators to operate specific SN rotorcraft equipped with PW207E turbine engines at an increased operational weight limit.

D. Description:

Procedures in this Bulletin give owners and operators information to increase the operational weight limit of MD Explorer rotorcraft with PW207E turbine engines installed, rotorcraft flight manual (RFM) supplement assigned, and a 6770 lb (3070.82 kg) V_{NE} Card.

E. Time of Compliance

Customer-purchased option, at owner/operator discretion.

F. FAA Approval:

The technical design aspects of this Bulletin are FAA approved.

G. Manpower:

Compliance with this bulletin will be approximately 0.5 man-hours.

H. Interchangeability:

None.

I. Points of Contact:

For further assistance, contact the MDHI Field Service Department.
Telephone: 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

DATE: 29 OCTOBER 2013

PAGE 2 OF 4

TECHNICAL BULLETIN

J. Material/Part Availability:

Contact the MDHI Spare Sales Department for parts availability.
 Telephone: 1-800-388-3378 or 480-346-6540. DATAFAX: 480-346-6821.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
MD900 Kit	900KIT006770-207	1	MDHI
• RFM Supplement (SN Specific)	CSP-900RFM207E-S3	1	MDHI
• V _{NE} Card	MHS5949A14	1	MDHI
MD902 Kit	902KIT006770-207	1	MDHI
• RFM Supplement (SN Specific)	CSP-902RFM207E-S3	1	MDHI
• V _{NE} Card	MHS5949A14	1	MDHI

K. Warranty Policy:

Standard warranty policy applies.

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-900RMM-2 Rotorcraft Maintenance Manual – Servicing and Maintenance

CSP-900IPL-4 Illustrated Parts List

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-900RFM207E-1 Rotorcraft Flight Manual

CSP-902RFM207E-1 Rotorcraft Flight Manual

CSP-900RMM-2 Rotorcraft Maintenance Manual – Servicing and Maintenance

CSP-900IPL-4 Illustrated Parts List

TECHNICAL BULLETIN

DATE: 29 OCTOBER 2013

PAGE 3 OF 4

2. ACCOMPLISHMENT INSTRUCTIONS

A. Modification

- (1). Remove the old V_{NE} Card from the clips on the support in the cockpit (ref. CSP-900RMM-2, Chapter 11-00-00).
- (2). Install the new V_{NE} Card (PN MHS5949A14) in the clips on the support.

B. Compliance Record

- (1). Record compliance to this Technical 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.

DATE: 29 OCTOBER 2013

PAGE 4 OF 4

TECHNICAL BULLETIN

TB900-044R1 Completed Record

Increase of Operational Weight Limit to 6770 lb (3070.82 kg)

MD Helicopters, Inc.
 Field Service Department
 4555 E. McDowell Road
 Mesa, AZ 85215-9734

800-388-3378 Phone (US 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

Dear MDHI Employee:

This is to tell you that this Technical Bulletin has been completed as follows:

Owner	Rotorcraft
/Operator: _____	Serial No: _____
Address: _____	Rotorcraft
_____	Total Time: _____
_____	Compliance
_____	Date: _____
Phone: _____	Location: _____
E-mail: _____	

This bulletin is complete: _____

(Signature)

(Print Name)

(Title)

Comments: _____

TECHNICAL BULLETIN

DATE: 13 JUNE 2014

PAGE 1 OF 6

MODIFICATION OF THE PITCHCASE ASSEMBLIES

1. PLANNING INFORMATION

A. Aircraft Affected:

All MD900 rotorcraft, serial numbers (SNs) 900-00008 thru 900-00140, and all spares inventory.

B. Assembly/Components Affected By This Bulletin:

900R1102000-107 Pitchcase Assembly
900R2102001-107 Machined Pitchcase

C. Reason:

It is possible for the pitchcase and upper damper cap to touch one of the bolts that attach the lower hub to the upper hub while the rotorcraft is in-flight. This causes small fractures on the pitchcase upper inboard edge which results in a small decrease in pitchcase strength. The pitchcase carbon fibers in the fractured area are then open to moisture. In addition, the edge of the upper damper cap can be damaged.

D. Description:

Procedures in this bulletin give owners and operators information to change 900R2102001-107 machined pitchcases to 900R2102001-109 machined pitchcases. Approximately 0.080 inch (2.03 mm) will be removed from the upper inboard edge (ref. Figure 1). The pitchcases must be sent to MD Helicopters, Inc., for modification. A 900R1102001-109 pitchcase assembly must be installed on the rotorcraft with a 900R2100005-109 upper damper cap (ref. TB900-035).

E. Time of Compliance:

Customer option, at owner/operator discretion.

F. FAA Approval:

The technical design aspects of this bulletin are FAA Approved.

G. Manpower:

Compliance with this bulletin will be approximately 2.5 man-hours for each pitchcase assembly.

H. Interchangeability:

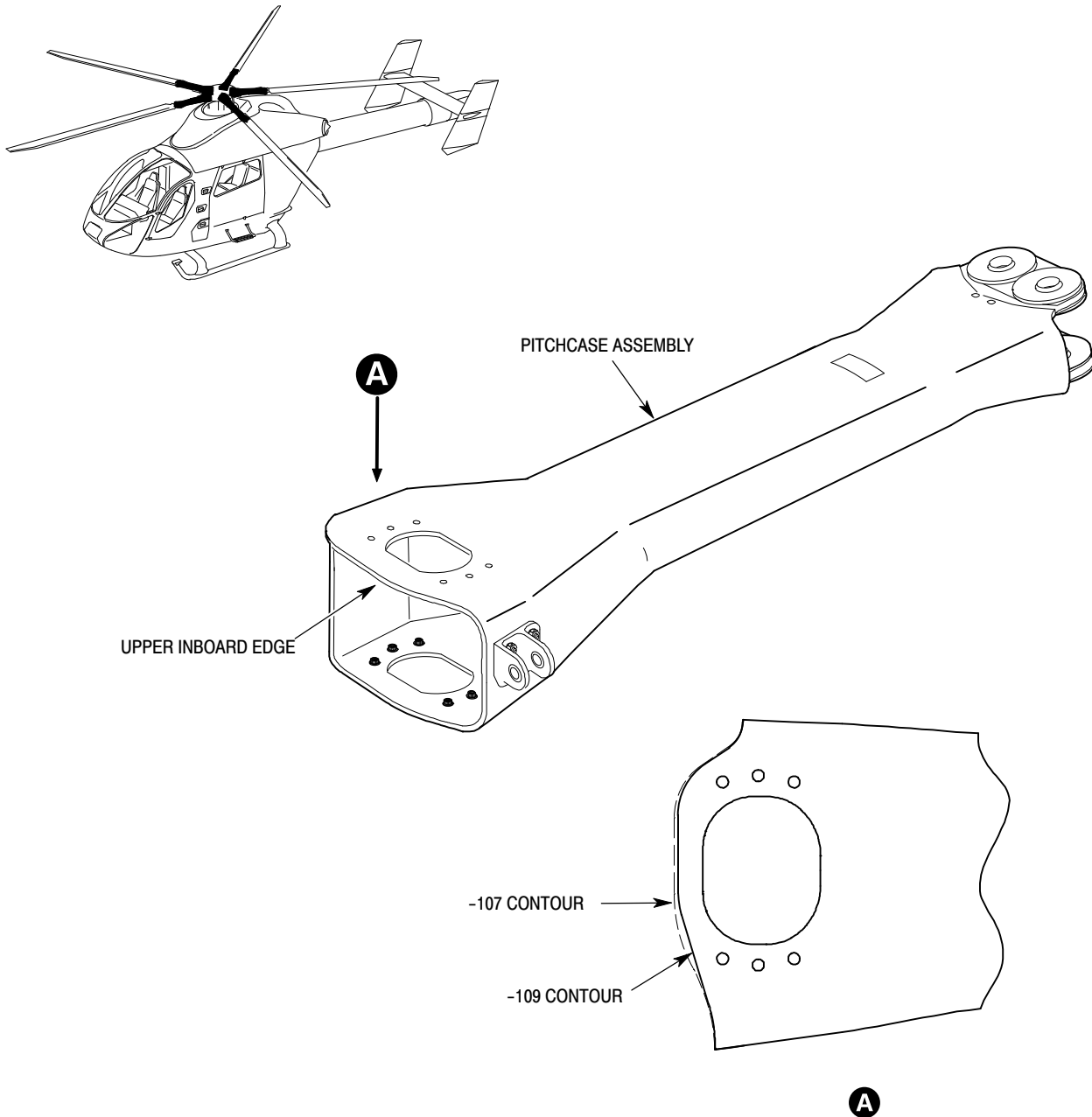
None

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: 13 JUNE 2014
PAGE 2 OF 6

TECHNICAL BULLETIN



9b62-113

Figure 1. Pitchcase Modification

TECHNICAL BULLETIN

DATE: 13 JUNE 2014

PAGE 3 OF 6

J. Material/Part Availability:

Contact the 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
Pitchcase Assembly	900R1102000-109	5	MDHI

K. Warranty Policy:

Standard warranty policy applies (ref. CSP-A-2).

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:

Return to MDHI for modification with a completed Service Operation Report (SOR).

M. Tooling:

N/A

N. Weight and Balance:

N/A

O. Electrical Load Data:

N/A

P. Other Publications Affected:

CSP-900IPL-4 Illustrated Parts List

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-SPM Standard Practice Manual

CSP-900RMM-2 Rotorcraft Maintenance Manual - Servicing and Maintenance

CSP-900IPL-4 Illustrated Parts List

SB900-112 Main Rotor Upper Hub and Drive Plate Inspection

SB900-117 Eddy Current Inspection of the Main Rotor Lower Hub Assembly

SB900-122 One-Time Eddy Current Inspection of the Main Rotor Upper Hub Assembly

TB900-035 Modification of Upper Damper Cap

TB900-039 Modification of the Main Rotor Upper Hub Assembly 900R2101006-105, -107, and -109

TB900-042 Repair for the Upper Flange Bolt Holes in the Main Rotor Upper Hub Assembly

DATE: 13 JUNE 2014
PAGE 4 OF 6

TECHNICAL BULLETIN

2. ACCOMPLISHMENT INSTRUCTIONS

A. Preparation

- (1). Remove 900R1102000-107 pitchcase assemblies from the main rotor assembly (ref. CSP-900RMM-2, Section 62-20-00) or from stores inventory.

B. Modification

- (1). Send the pitchcase assemblies to MDHI for modification with a completed SOR form.

C. Job Close-Up

NOTE: It is permitted to mix 900R1102000-107 and -109 pitchcase assemblies on the main rotor assembly. However, 900R2100005-109 upper damper caps must be used with 900R1102000-109 pitchcase assemblies.

- (1). Install 900R1102000-109 pitchcase assemblies on the main rotor assembly (ref. CSP-900RMM-2, Section 62-20-00 and Section 62-10-00).

D. Compliance Record

- (1). Make a record in the Compliance Record section of the Rotorcraft Log Book that this bulletin is completed.
- (2). Complete Bulletin Completed Record form (attached) and FAX or e-mail to MDHI Field Service Department.

TECHNICAL BULLETIN

DATE: 13 JUNE 2014

PAGE 5 OF 6

TB900-045 Completed Record

Modification of the Pitchcase Assemblies

MD Helicopters, Inc.
Field Service Department
4555 East McDowell Road
Mesa, AZ 85215-9734

800-388-3378 Phone (USA 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

Dear MDHI Employee:

This is to tell you that this Technical Bulletin has been completed as follows:

Owner /Operator: _____	Rotorcraft Serial No: _____
Address: _____	Rotorcraft Total Time: _____
_____	Compliance Date: _____
_____	Location: _____
Phone: _____	Pitchcase SN: _____
E-mail: _____	_____

This bulletin is complete:

_____ (Signature)

_____ (Print Name)

_____ (Title)

Comments: _____

DATE: 13 JUNE 2014
PAGE 6 OF 6

TECHNICAL BULLETIN

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TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 1 OF 44

* Supersedes Technical Bulletin TB900-046, Revision 1, dated 25 February 2019. Revised to correct an error in a drilled hole dimension. Rotorcraft that are in compliance with TB900-046 and meet the intent of this revision have no additional action.

INSTALLATION OF THE SEAT TRACKS

1. PLANNING INFORMATION

A. Aircraft Affected:

All MD900 Rotorcraft

B. Assembly/Components Affected By This Bulletin:

900F1307000- 109/- 111/- 113/- 115/- 117/- 119/- 121/- 123 Tub General Assembly

900F2305312- 103 Forward Cabin Floor Panel Assembly (Access Panel A160)

900F2305320- 103 Center Cabin Floor Assembly (Access Panel A170)

900F2305334- 103 Aft Cabin Floor Panel Assembly (Access Panel A217)

900F2305350- 103/- 105 Cabin Outboard LH Floor Assembly (Access Panel AL165)

900F2305350- 104/- 106 Cabin Outboard RH Floor Assembly (Access Panel AR165)

C. Reason:

To install doubler assemblies and seat tracks to support the installation of up to six (6) crash-worthy Fisher cabin interior seats (9608 Series).

D. Description:

Procedures in this Bulletin give owners and operators information to modify the tub assembly, install doubler assemblies below the cabin floor, and install seat tracks for the passenger seats.

E. Time of Compliance

Customer option, at owner/operator discretion.

F. FAA Approval:

The technical design aspects of this Bulletin are FAA approved.

G. Manpower:

Compliance with this bulletin will be approximately 40 man- hours.

H. Interchangeability:

None.

I. Points of Contact:

For further assistance, contact the MD Helicopters Field Service Department.
Telephone: 1- 800- 388- 3378 or 480- 346- 6387. DATAFAX: 480- 346- 6813.

J. Material/Part Availability:

Contact the MD Helicopters Spare Parts (MDHSP) Sales Department for parts availability.
Telephone: 1- 800- 388- 3378 or 480- 346- 6540. DATAFAX: 480- 346- 6821.

DATE: 8 DECEMBER 2022

PAGE 2 OF 44

TECHNICAL BULLETIN

If your MD Explorer is between serial numbers 00008 thru 00051 (900 Configuration) order these parts to modify the general tub assembly:

PARTS FOR THE 900 CONFIGURATION TUB MOD				
Item	Nomenclature	Part No.	Qty.	Source
1	Bracket	HD900- 50- 6015- 01	1	MDHSP
2	Bracket	HD900- 50- 6015- 02	1	MDHSP
3	Mounting Angle	HD900- 50- 6015- 03	1	MDHSP
4	Mounting Angle	HD900- 50- 6015- 04	1	MDHSP
5	Mounting Angle	HD900- 50- 6015- 05	1	MDHSP
6	Mounting Angle	HD900- 50- 6015- 06	1	MDHSP
7	Bracket	HD900- 50- 6015- 07	1	MDHSP
8	Bracket	HD900- 50- 6015- 08	1	MDHSP
9	Mounting Angle	HD900- 50- 6015- 09	2	MDHSP
10	Bracket	HD900- 50- 6015- 10	1	MDHSP
11	Bracket	HD900- 50- 6015- 11	1	MDHSP
12	Mounting Angle	HD900- 50- 6015- 12	1	MDHSP
13	Mounting Angle	HD900- 50- 6015- 13	1	MDHSP
14	Mounting Angle	HD900- 50- 6015- 14	1	MDHSP
15	Mounting Angle	HD900- 50- 6015- 15	1	MDHSP
16	U- Channel	HD900- 50- 6015- 16	2	MDHSP
17	Mounting Angle	HD900- 50- 6015- 17	2	MDHSP
18	Mounting Angle	HD900- 50- 6015- 18	2	MDHSP
19	Shim	HD900- 50- 6015- 19	2	MDHSP
20	Shim	HD900- 50- 6015- 22	2	MDHSP
21	Insert, Helical Coil	MS124655	2	MDHSP
22	Insert	80- 004- 2- 8	12	MDHSP
23	Nutplate, Self- Locking, Two Lug	MS21069L3	10	MDHSP
24	Nutplate, Self- Locking, Corner	MS21073L3	8	MDHSP
25	Rivet, Blind	CR2662- 03- 04	12	MDHSP

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 3 OF 44

PARTS FOR THE 900 CONFIGURATION TUB MOD (Cont.)				
Item	Nomenclature	Part No.	Qty.	Source
26	Rivet, Blind	CR3213- 4- 3	30	MDHSP
27	Rivet, Blind	CR3553- 4- 4	12	MDHSP
28	Rivet, Blind	CR3553- 4- 5	16	MDHSP
29	Rivet, Universal Head	CCR264SS3- 3	4	MDHSP
30	Rivet, Universal Head	CCR264SS3- 4	8	MDHSP
31	Rivet, Solid, Countersunk 100 Degree, Precision Head	MS20426AD3- 2	12	MDHSP
32	Rivet, Solid, Countersunk 100 Degree, Precision Head	MS20426AD3- 4	28	MDHSP
33	Rivet, Solid Universal Head	MS20470AD5- 7	8	MDHSP
34	Rivet, Solid Universal Head	MS20470T5- 8	16	MDHSP
35	Washer, Flat	AN960PD8L	32	MDHSP
36	Washer, Flat	AN960PD10L	12	MDHSP
37	Screw, Machine, Panhead, Cross- Recessed	MS27039- 0808	16	MDHSP
38	Screw, Machine, Panhead, Cross- Recessed	MS27039C1- 07	12	MDHSP
39	Screw, Machine, Flat Countersunk Head	MS24694S51	6	MDHSP
40	Nut, Self- Locking, Ring Base	MS21042L08	16	MDHSP

DATE: 8 DECEMBER 2022

PAGE 4 OF 44

TECHNICAL BULLETIN

If your MD Explorer is between serial numbers 00052 and subsequent (902 Configuration) order these parts to modify the general tub assembly:

PARTS FOR THE 902 CONFIGURATION TUB MOD				
Item	Nomenclature	Part No.	Qty.	Source
1	Bracket	HD900-50-6015-01	2	MDHSP
2	Bracket	HD900-50-6015-02	2	MDHSP
3	Bracket	HD900-50-6015-10	1	MDHSP
4	Bracket	HD900-50-6015-11	1	MDHSP
5	Mounting Angle	HD900-50-6015-12	1	MDHSP
6	Mounting Angle	HD900-50-6015-13	1	MDHSP
7	Mounting Angle	HD900-50-6015-14	1	MDHSP
8	Mounting Angle	HD900-50-6015-15	1	MDHSP
9	U-Channel	HD900-50-6015-16	2	MDHSP
10	Mounting Angle	HD900-50-6015-17	2	MDHSP
11	Mounting Angle	HD900-50-6015-18	2	MDHSP
12	Shim	HD900-50-6015-19	2	MDHSP
13	Mounting Angle	HD900-50-6015-23	2	MDHSP
14	Mounting Angle	HD900-50-6015-24	2	MDHSP
15	Support Angle	HD900-50-6015-25	2	MDHSP
16	Support Angle	HD900-50-6015-26	2	MDHSP
17	Insert, Helical Coil	MS124655	2	MDHSP
18	Insert	80-004-2-8	12	MDHSP
19	Nutplate, Self-Locking, Two Lug	MS21069L3	10	MDHSP
20	Nutplate, Self-Locking, Corner	MS21073L3	8	MDHSP
21	Rivet, Blind	CR2662-03-04	12	MDHSP
22	Rivet, Blind	CR3213-4-3	30	MDHSP
23	Rivet, Blind	CR3553-4-4	12	MDHSP
24	Rivet, Blind	CR3553-4-5	16	MDHSP
25	Rivet, Universal Head	CCR264SS3-3	4	MDHSP

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 5 OF 44

PARTS FOR THE 902 CONFIGURATION TUB MOD (Cont.)				
Item	Nomenclature	Part No.	Qty.	Source
26	Rivet, Universal Head	CCR264SS3- 4	8	MDHSP
27	Rivet, Solid, Countersunk 100 Degree, Precision Head	MS20426AD3- 2	12	MDHSP
28	Rivet, Solid, Countersunk 100 Degree, Precision Head	MS20426AD3- 4	28	MDHSP
29	Rivet, Solid Universal Head	MS20470T5- 8	16	MDHSP
30	Washer, Flat	AN960PD8L	48	MDHSP
31	Washer, Flat	AN960PD10L	12	MDHSP
32	Screw, Panhead	MS27039- 0808	24	MDHSP
33	Screw, Panhead	MS27039C1- 07	4	MDHSP
34	Screw, Flat Countersunk Head	MS24694S51	6	MDHSP
35	Nut, Self- Locking, 800F (232C), Ring Base	MS21042L08	24	MDHSP
36	Stud	HL40- 6- 5	24	MDHSP
37	Collar	HL70- 6	24	MDHSP

DATE: 8 DECEMBER 2022

PAGE 6 OF 44

TECHNICAL BULLETIN

Order these parts to install the seat tracks:

PARTS FOR THE SEAT TRACK INSTALLATION				
Item	Nomenclature	Part No.	Qty.	Source
1	Doubler Assembly	HD900- 50- 6015- 27	2	MDHSP
2	Doubler Assembly	HD900- 50- 6015- 28	2	MDHSP
3	Seat Track	HD900- 73- 6000- 01	2	MDHSP
4	Seat Track	HD900- 73- 6000- 02	2	MDHSP
5	Insert	HDSTD- 97- 6021- 01	48	MDHSP
6	Insert	80- 004- 3- 12	8	MDHSP
7	Nutplate, Self- Locking, Two Lug	MS21069L3	24	MDHSP
8	Rivet, Solid, Countersunk 100 Degree, Precision Head	MS20426AD3- 4	48	MDHSP
9	Rivet, Solid, Universal Head	MS20470AD4- 2	6	MDHSP
10	Screw, Flat Countersunk Head	MS24694C51	12	MDHSP
11	Screw, Flat Countersunk Head	MS24694C98	48	MDHSP
12	Screw, Flat Countersunk Head	MS24694S56	24	MDHSP
13	Screw, Flat Countersunk Head	MS24694S59	6	MDHSP
14	Screw, Panhead	MS27039C1- 04	2	MDHSP
15	Screw, Panhead	MS27039C1- 10	8	MDHSP

Ref. CSP- SPM, Section 91- 00- 00, for the item numbers in the Nomenclature column and manufacturer / supplier numbers in the Source column.

MATERIAL	
Nomenclature	Source
Adhesive, Epoxy (Hysol® EA 9321 (C411))	MS36
Sandpaper, 80- Grit	Commercially Available
Sealing Compound, Temperature- Resistant (MIL- S- 8802)	Commercially Available
Shim No. 1 - 3.75 inch by 0.75 inch by 0.02 inch (95.3 mm by 19.1 mm by 0.5 mm) 2024- T3 Aluminum Alloy	Locally Made

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 7 OF 44

MATERIAL (Cont.)	
Nomenclature	Source
Shim No. 2 - 4.50 inch by 1.35 inch by 0.02 inch (114.3 mm by 34.3 mm by 0.5 mm) 2024-T3 Aluminum Alloy	Locally Made
Tape, Glass Cloth, Polytetrafluoroethylene (PTFE), 1 inch (25 mm) (3M™ 5453-1)	MS62

K. Warranty Policy:

Standard warranty policy applies (ref. CSP-A-2).

L. Disposition of Parts Removed:

N/A

M. Tooling:

N/A

N. Weight and Balance:

Changes to the weight and balance are:

Weight and Balance					
Item	Weight, lb (kg)	Lateral		Longitudinal	
		Arm, inch (cm)	Moment, in-lb (Nm)	Arm, inch (cm)	Moment, in-lb (Nm)
Seat Track, Forward	6.6 (2.99)	0	0	172.4 (437.9)	1338 (151.17)
Seat Track, Aft	6.6 (2.99)	0	0	213.6 (542.5)	1410 (159.31)

O. Electrical Load Data:

N/A

P. Other Publications Affected:

CSP-900RMM-2 Rotorcraft Maintenance Manual — Servicing and Maintenance

CSP-900IPL-4 Illustrated Parts List

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-SPM Standard Practices Manual

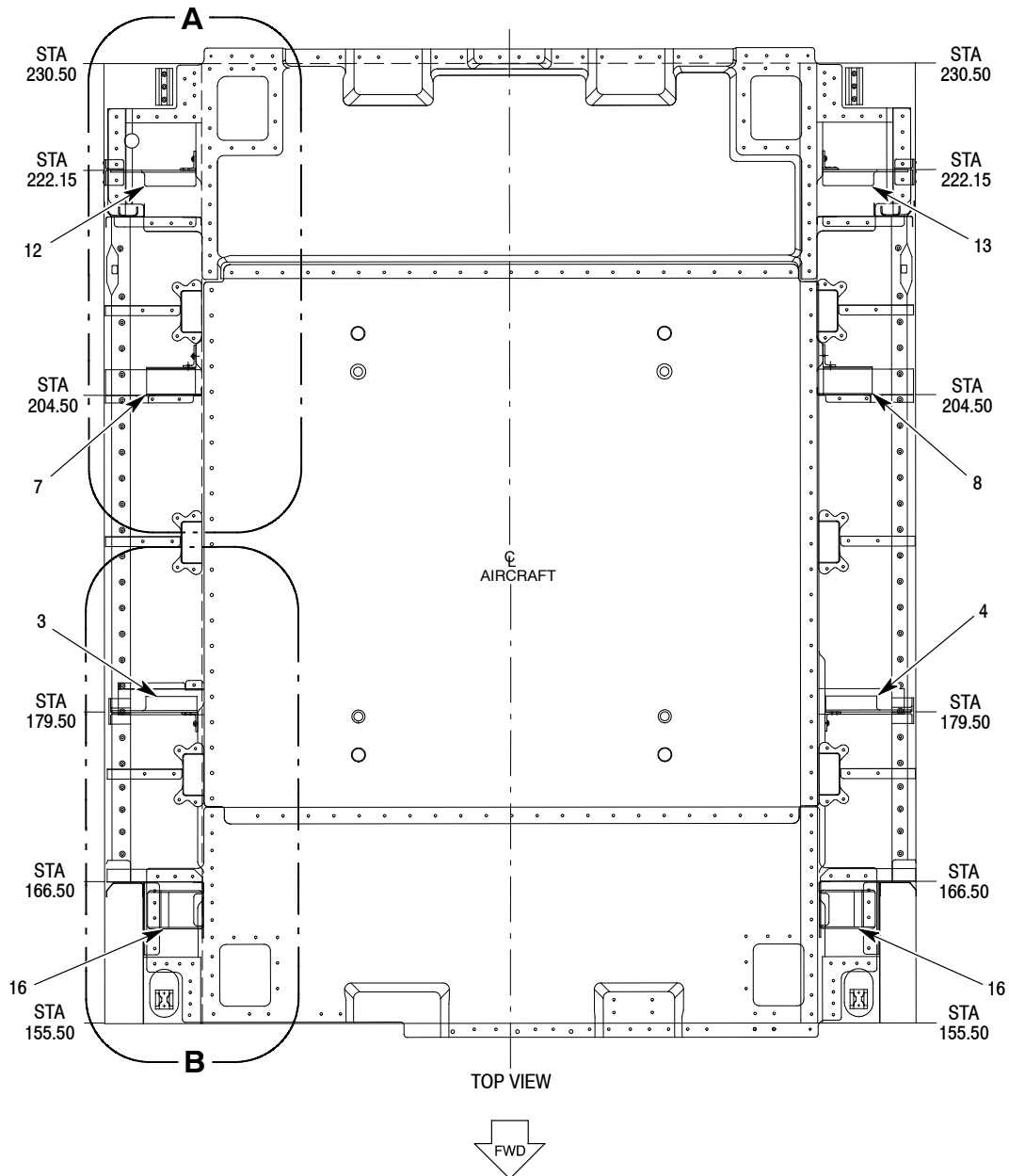
CSP-900RMM-2 Rotorcraft Maintenance Manual — Servicing and Maintenance

CSP-900IPL-4 Illustrated Parts List

DATE: 8 DECEMBER 2022

PAGE 8 OF 44

TECHNICAL BULLETIN



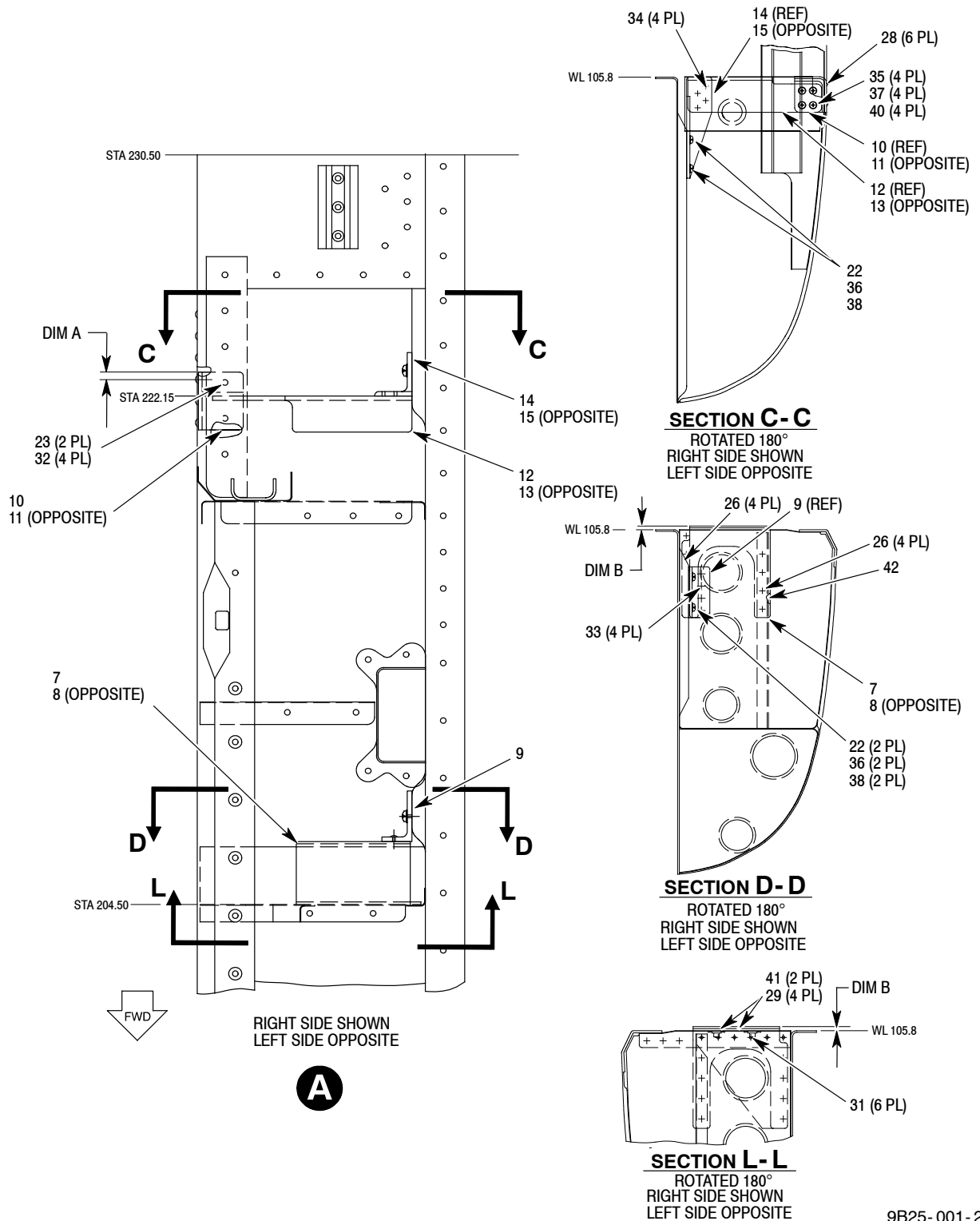
9B25-001-1

**Figure 1. Modification of the 900 Configuration (SNs 00008 Thru 00051)
Tub Assembly (Sheet 1 of 3)**

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 9 OF 44



9B25-001-2

Figure 1. Modification of the 900 Configuration Tub Assembly (Sheet 2 of 3)

DATE: 8 DECEMBER 2022

PAGE 10 OF 44

TECHNICAL BULLETIN

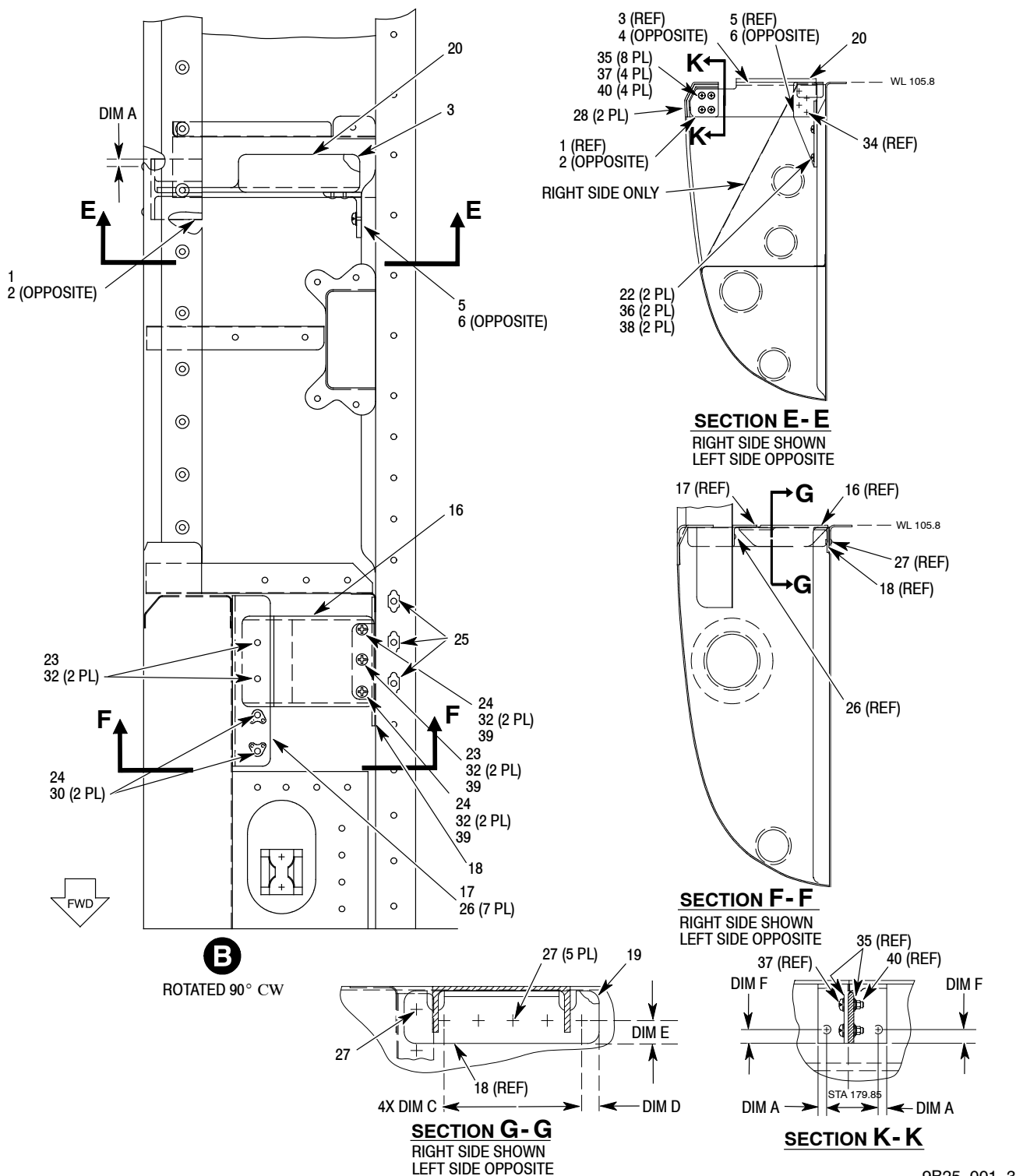


Figure 1. Modification of the 900 Configuration Tub Assembly (Sheet 3 of 3)

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 11 OF 44

Legend (Ref. Figure 1)

DIMENSION A = 0.25 INCH (6.4 MM)	19. SHIM
DIMENSION B = 0.188 INCH (4.78 MM)	20. SHIM
DIMENSION C = 0.75 INCH (19.2 MM), 3.00 INCH (76.2 MM) TOTAL	21. HELICAL COIL INSERT
DIMENSION D = 0.38 INCH (9.7 MM)	22. INSERT
DIMENSION E = 0.50 INCH (12.7 MM)	23. NUTPLATE
DIMENSION F = 0.40 INCH (10.2 MM)	24. CORNER NUTPLATE
1. BRACKET	25. RIVET
2. BRACKET	26. RIVET
3. MOUNTING ANGLE	27. RIVET
4. MOUNTING ANGLE	28. RIVET
5. MOUNTING ANGLE	29. RIVET
6. MOUNTING ANGLE	30. RIVET
7. BRACKET	31. RIVET
8. BRACKET	32. RIVET
9. MOUNTING ANGLE	33. RIVET
10. BRACKET	34. RIVET
11. BRACKET	35. WASHER
12. MOUNTING ANGLE	36. WASHER
13. MOUNTING ANGLE	37. SCREW
14. MOUNTING ANGLE	38. SCREW
15. MOUNTING ANGLE	39. SCREW
16. U-CHANNEL	40. NUT
17. MOUNTING ANGLE	41. EXISTING NUTPLATE
18. MOUNTING ANGLE	42. SHIM NO. 1

2. ACCOMPLISHMENT INSTRUCTIONS

A. Modification of the 900 Configuration Tub Assembly

NOTE: The 900 configuration rotorcraft are serial numbers 00008 thru 00051.

(Ref. Figure 1)

- (1). Install brackets (10, 11), and mounting angles (12, 13, 14, 15) (ref. Detail A and Section C-C):
 - (a). Remove existing nutplates and rivets where new nutplates (23) and rivets (32) will be installed.
 - (b). Set brackets (10, 11) in position.
 - (c). Match drill holes in brackets (10, 11) for nutplates (23) and rivets (32).
 - (d). Install nutplates (23) on brackets (10, 11) with rivets (32).
 - (e). Install brackets (10, 11) on mounting angles (12, 13) with washers (35), screws (37), and nuts (40).

DATE: 8 DECEMBER 2022

PAGE 12 OF 44

TECHNICAL BULLETIN

- (f). Match drill holes in mounting angles (12, 13) and mounting angles (14, 15) for rivets (34).
- (g). Install mounting angles (14, 15) on mounting angles (12, 13) with rivets (34).
- (h). Put assembled brackets and mounting angles (10, 12, 14) (11, 13, 15) in place for installation.
 - 1). Match drill holes in brackets (10, 11) and the outboard bulkhead for rivets (28).
 - 2). If necessary, do a spot- face of the interior surface of brackets (10, 11).



Do not drill completely thru the fuel cell bulkhead. Damage to the fuel cell can occur. The holes must not be longer than the inserts.

- 3). Match drill holes in mounting angles (14, 15) and the fuel cell wall for inserts (22).

Adhesive, Epoxy (C411)



- 4). Apply epoxy adhesive (C411) on inserts (22).
- 5). Install inserts (22).
- (i). Install tape on mounting angles (14, 15) to the mating surfaces with the fuel cell bulkhead.

Adhesive, Epoxy (C411)



- (j). Apply epoxy adhesive (C411) on mounting angles (10, 11) to the mating surfaces with the outboard bulkhead.
- (k). Install assembled brackets and mounting angles (10, 12, 14) (11, 13, 15) with washers (36) and screws (38), and rivets (28).
- (2). Install brackets (7, 8) and mounting angles (9) (ref. Detail A and sections D- D and L- L):
 - (a). Remove the old rivets where new rivets (26, 31) will go.
 - (b). Remove nutplates (41) and old rivets.
 - (c). Match drill brackets (7, 8) to old rivet holes.
 - (d). Match drill mounting angles (9) to brackets (7, 8).
 - (e). Install nutplates (41) on brackets (7, 8) with rivets (29).



Do not drill completely thru the fuel cell bulkhead. Damage to the fuel cell can occur. The holes must not be longer than the inserts.

- (f). Match drill holes in mounting angles (9) and the fuel cell wall for inserts (22).

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 13 OF 44

Adhesive, Epoxy (C411)



- (g). Apply epoxy adhesive (C411) on inserts (22).
- (h). Install inserts (22).
- (i). Install tape on mounting angles (9) to the mating surfaces with the fuel cell bulkhead.
- (j). Install brackets (7, 8) and mounting angles (9) with rivets (26, 31, 33).
- (3). Install shims (20), brackets (1, 2), mounting angles (3, 4, 5, 6) (ref. Detail B and sections E- E and K- K):
 - (a). Remove existing nutplates and rivets where helical coil inserts (21) will be installed.
 - (b). Set brackets (1, 2) in position.
 - (c). Match drill holes in brackets (1, 2) for helical coil inserts (21).
 - (d). Install helical coil inserts (21) on brackets (1, 2).
 - (e). Install brackets (1, 2) on mounting angles (3, 4) with washers (35), screws (37), and nuts (40).
 - (f). Match drill holes in mounting angles (3, 4) and mounting angles (5, 6) for rivets (34).
 - (g). Install mounting angles (5, 6) on mounting angles (3, 4) with rivets (34).
 - (h). Put assembled brackets and mounting angles (1, 3, 5) (2, 4, 6) in place for installation.
 - 1). Match drill holes in brackets (1, 2) and the outboard bulkhead for rivets (28).
 - 2). If necessary, do a spot- face of the interior surface of brackets (1, 2).



Do not drill completely thru the fuel cell bulkhead. Damage to the fuel cell can occur. The holes must not be longer than the inserts.

- 3). Match drill holes in mounting angles (5, 6) and the fuel cell wall for inserts (22).

Adhesive, Epoxy (C411)



- 4). Apply epoxy adhesive (C411) on inserts (22).
- 5). Install inserts (22).
- (i). Install tape on mounting angles (3, 4) to the mating surfaces with the fuel cell bulkhead.

Adhesive, Epoxy (C411)



- (j). Apply epoxy adhesive (C411) on mounting angles (5, 6) to the mating surfaces with the outboard bulkhead.

DATE: 8 DECEMBER 2022

PAGE 14 OF 44

TECHNICAL BULLETIN

- (k). Install assembled brackets and mounting angles (1, 3, 5) (2, 4, 6) with washers (36) and screws (38), and rivets (28).
- (4). Install u- channels (16) and mounting angles (17, 18) (ref. Detail B and sections F- F and G- G):
 - (a). Remove the old floor support angles and rivets where new mounting angles (17) will be installed.
 - (b). Match drill mounting angles (17) to old nutplate holes.
 - (c). Match drill mounting angles (17) to old rivet holes.
 - (d). Match drill mounting angles (17) and u- channels (16).
 - (e). Install nutplates (23) with rivets (32) on mounting angle (17).
 - (f). Match drill mounting angles (18) to u- channels (16).
 - (g). Install nutplates (23) and corner nutplates (24) with rivets (32) on mounting angles (18).
 - (h). Install mounting angles (17) with rivets (26).
 - (i). Install corner nutplates (24) with rivets (30) on mounting angles (17).
 - (j). Remove dome nutplates and old rivets.



Be careful as you drill the holes in the fuel cell bulkhead. Do not make a hole in the fuel cell.

- (k). Match drill mounting angles (18) and drill shims (19) to the rivet holes in the fuel cell bulkhead.
 - 1). As necessary, trim shims (19) for correct installation with mounting angles (18).
- (l). Install tape on the mating surfaces with the fuel cell bulkhead of shims (19).

Adhesive, Epoxy (C411)



- (m). Apply epoxy adhesive (C411) to rivet holes and rivets (27).
- (n). Install mounting angles (18) and shims (19) with rivets (27) wet with epoxy adhesive (C411).
- (o). Apply sealing compound (MIL- S- 8802) on the fuel cell side of rivets (27).
- (p). Install dome nutplates with rivets (25).
- (q). Install u- channels (16) with screws (39).

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

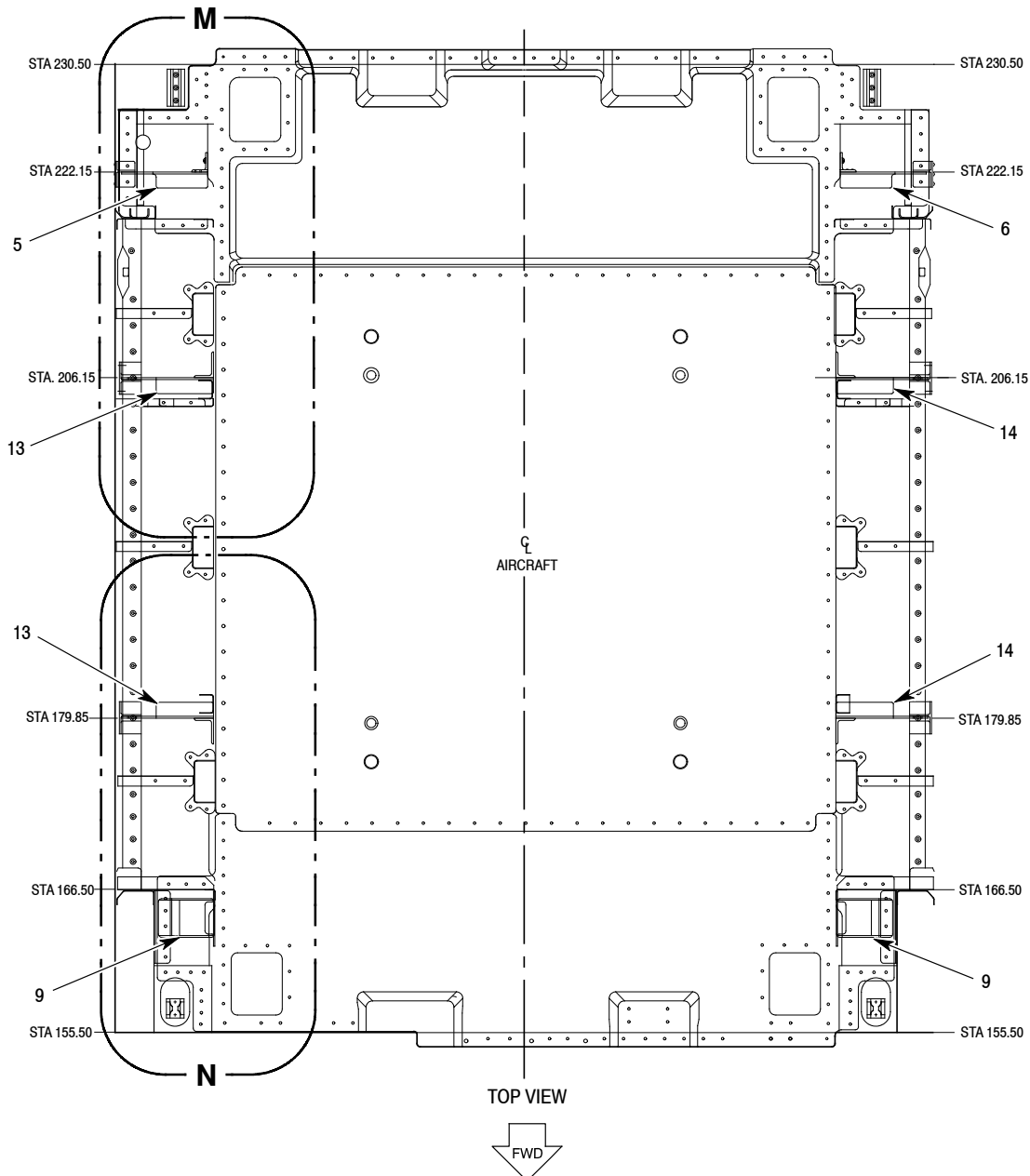
PAGE 15 OF 44

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DATE: 8 DECEMBER 2022

PAGE 16 OF 44

TECHNICAL BULLETIN



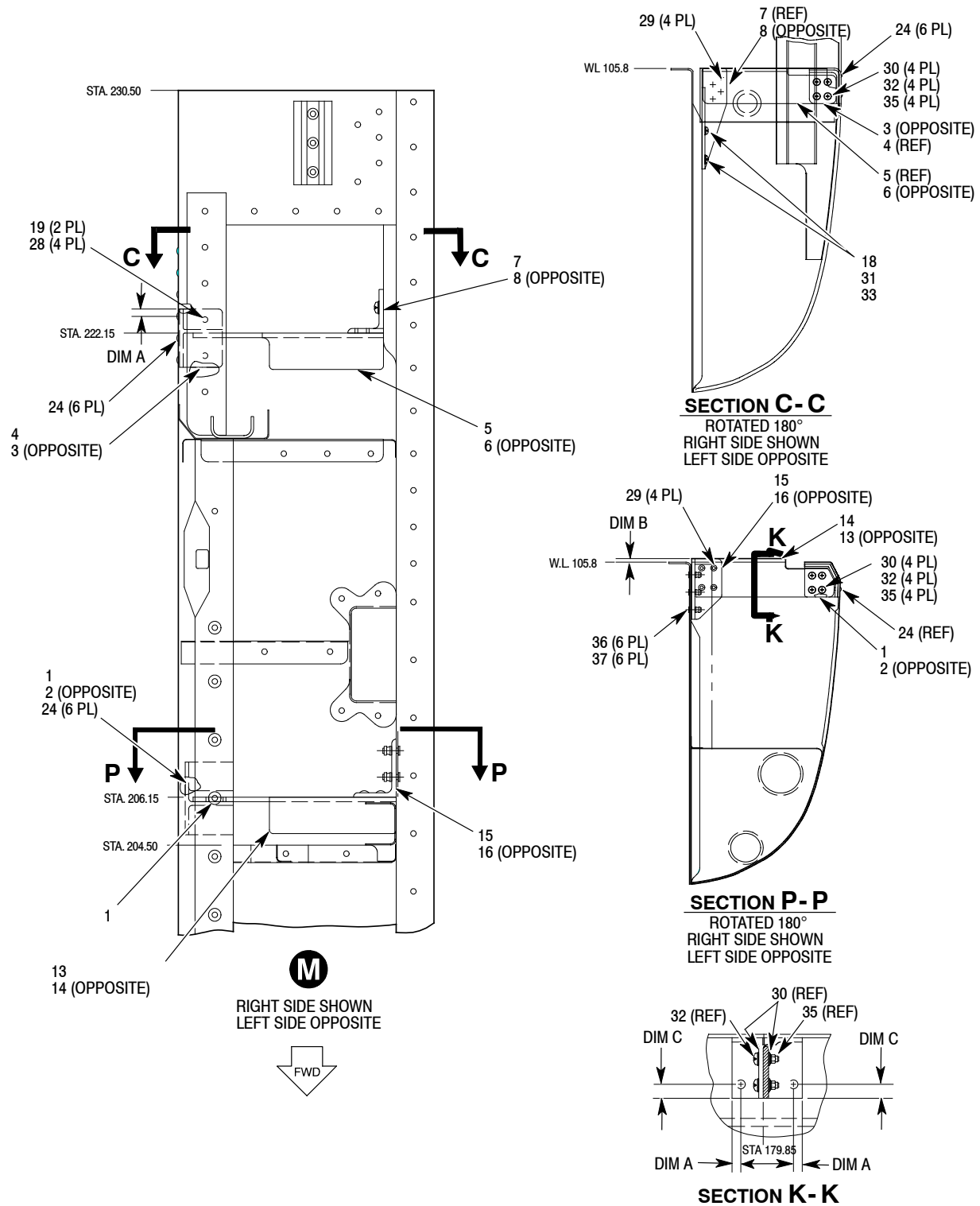
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**Figure 2. Modification of the 902 Configuration (SNs 00052 and Subsequent)
Tub Assembly (Sheet 1 of 3)**

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 17 OF 44



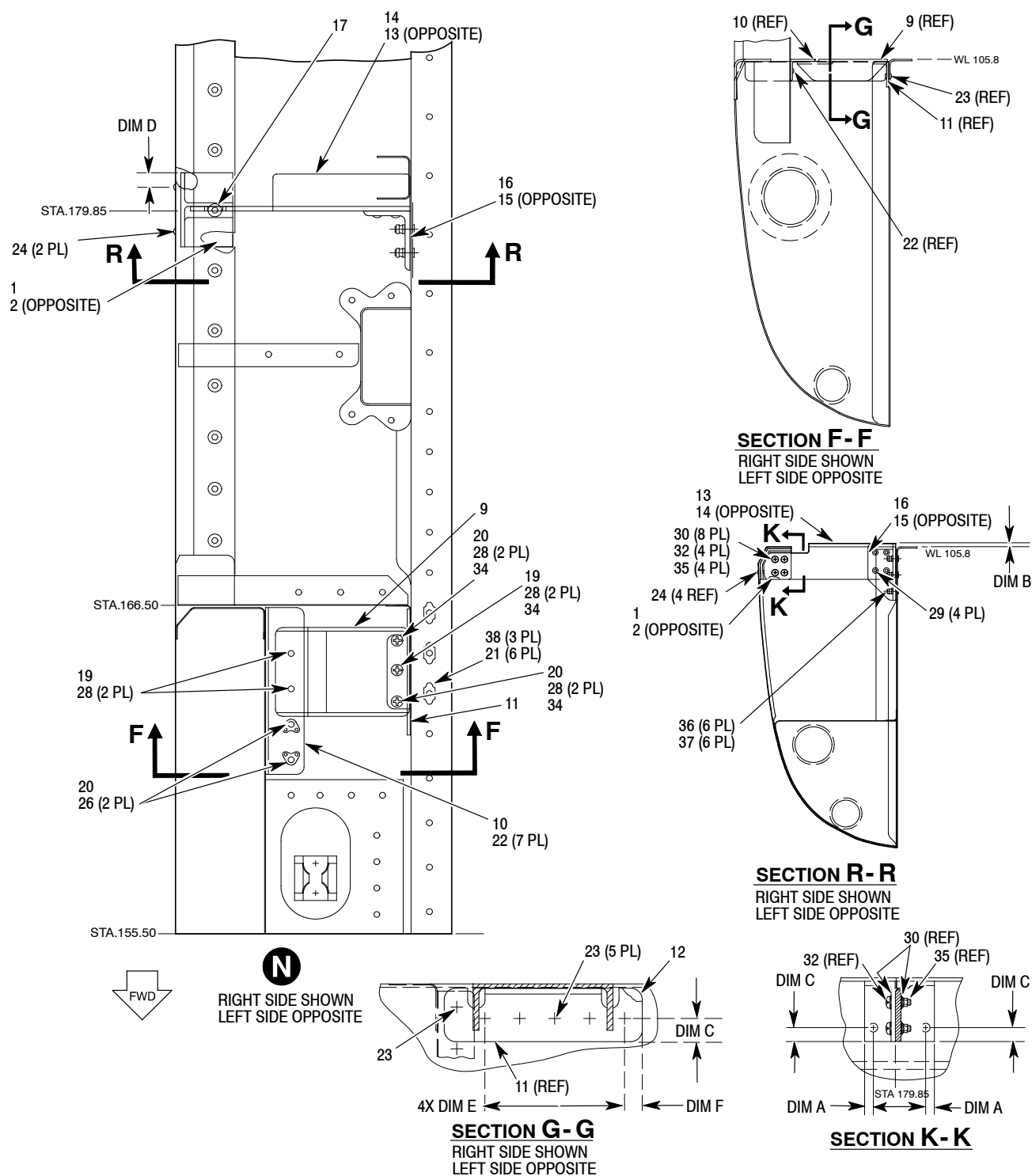
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Figure 2. Modification of the 902 Configuration Tub Assembly (Sheet 2 of 3)

DATE: 8 DECEMBER 2022

PAGE 18 OF 44

TECHNICAL BULLETIN



9B25-002-3

Figure 2. Modification of the 902 Configuration Tub Assembly (Sheet 3 of 3)

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 19 OF 44

Legend (Ref. Figure 2)

DIMENSION A = 0.25 INCH (6.4 MM)	17. HELICAL COIL INSERT
DIMENSION B = 0.19 INCH (4.8 MM)	18. INSERT
DIMENSION C = 0.40 INCH (10.2 MM)	19. NUTPLATE
DIMENSION D = 0.48 INCH (12.2 MM)	20. CORNER NUTPLATE
DIMENSION E = 0.75 INCH (19.2 MM), 3.00 INCH (76.2 MM) TOTAL	21. RIVET
DIMENSION F = 0.38 INCH (9.7 MM)	22. RIVET
1. BRACKET	23. RIVET
2. BRACKET	24. RIVET
3. BRACKET	25. RIVET
4. BRACKET	26. RIVET
5. MOUNTING ANGLE	27. RIVET
6. MOUNTING ANGLE	28. RIVET
7. MOUNTING ANGLE	29. RIVET
8. MOUNTING ANGLE	30. WASHER
9. U-CHANNEL	31. WASHER
10. MOUNTING ANGLE	32. SCREW
11. MOUNTING ANGLE	33. SCREW
12. SHIM	34. SCREW
13. MOUNTING ANGLE	35. NUT
14. MOUNTING ANGLE	36. STUD
15. SUPPORT ANGLE	37. COLLAR
16. SUPPORT ANGLE	

B. Modification of the 902 Configuration Tub Assembly

NOTE: The 902 configuration rotorcraft are serial numbers 00052 and subsequent.

(Ref. Figure 2)

- (1). Install brackets (3, 4), and mounting angles (5, 6, 7, 8) (ref. Detail M and Section C-C):
 - (a). Remove existing nutplates and rivets where new nutplates (19) and rivets (28) will be installed.
 - (b). Set brackets (3, 4) in position.
 - (c). Match drill holes in brackets (3, 4) for nutplates (19) and rivets (28).
 - (d). Install nutplates (19) on brackets (3, 4) with rivets (28).
 - (e). Install brackets (3, 4) on mounting angles (5, 6) with washers (30), screws (32), and nuts (35).
 - (f). Match drill holes in mounting angles (5, 6) and mounting angles (7, 8) for rivets (29).
 - (g). Install mounting angles (7, 8) on mounting angles (5, 6) with rivets (29).
 - (h). Put assembled brackets (3, 5, 7) and mounting angles (4, 6, 8) in place for installation.
 - 1). Match drill holes in brackets (3, 4) and the outboard bulkhead for rivets (24).
 - 2). If necessary, do a spot-face of the interior surface of brackets (3, 4).

DATE: 8 DECEMBER 2022

PAGE 20 OF 44

TECHNICAL BULLETIN



Do not drill completely thru the fuel cell bulkhead. Damage to the fuel cell can occur. The holes must not be longer than the inserts.

- 3). Match drill holes in mounting angles (7, 8) and the fuel cell wall for inserts (18).

Adhesive, Epoxy (C411)



- 4). Apply epoxy adhesive (C411) on inserts (18).

- 5). Install inserts (18).

- (i). Install tape on mounting angles (7, 8) to the mating surfaces with the fuel cell bulkhead.

Adhesive, Epoxy (C411)



- (j). Apply epoxy adhesive (C411) on mounting angles (3, 4) to the mating surfaces with the outboard bulkhead.
 - (k). Install assembled brackets (3, 5, 7) and mounting angles (4, 6, 8) with washers (31) and screws (33), and rivets (24).
- (2). Install brackets (1, 2), mounting angles (13, 14), and support angles (15, 16) (ref. Detail M and sections P- P and K- K).
 - (a). Remove existing nutplates and rivets where helical coil inserts (17) will be installed.
 - (b). Set brackets (1, 2) in position.
 - (c). Match drill holes in brackets (1, 2) for helical coil inserts (17).
 - (d). Install helical coil inserts (17) on brackets (1, 2).
 - (e). Install brackets (1, 2) on mounting angles (13, 14) with washers (30), screws (32), and nuts (35).
 - (f). Match drill holes in mounting angles (13, 14) and support angles (15, 16) for rivets (29).
 - (g). Install support angles (15, 16) on mounting angles (13, 14) with rivets (29).
 - (h). Put assembled brackets, mounting angles, and support angles (1, 13, 15) (2, 14, 16) in place for installation.
 - 1). Match drill holes in brackets (1, 2) and the outboard bulkhead for rivets (24).
 - 2). If necessary, do a spot- face of the interior surface of brackets (1, 2).



Carefully drill thru the fuel cell bulkhead. Damage to the fuel cell can occur.

- 3). Match drill holes in support angles (15, 16) and the fuel cell wall for studs (36).

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 21 OF 44

- (i). Ream the holes for studs (36) **0.1853 to 0.1873 inch (4.707 to 4.757 mm)**.
- (j). Install tape on support angles (15, 16) to the mating surfaces with the fuel cell bulkhead.

Adhesive, Epoxy (C411)



- (k). Apply epoxy adhesive (C411) on mounting angles (13, 14) to the mating surfaces with the fuel cell bulkhead.
- (l). Install assembled brackets, mounting angles, and support angles (1, 13, 15) (2, 14, 16) with washers (31) and screws (33), and rivets (24).

Adhesive, Epoxy (C411)



- (m). Apply epoxy adhesive (C411) on studs (36).
- (n). Install studs (36) and collars (37).
- (3). Install brackets (1, 2), mounting angles (13, 14), and support angles (15, 16) (ref. Detail N and sections R- R and K- K).
 - (a). Remove existing nutplates and rivets where helical coil inserts (17) will be installed.
 - (b). Set brackets (1, 2) in position.
 - (c). Match drill holes in brackets (1, 2) for helical coil inserts (17).
 - (d). Install helical coil inserts (17) on brackets (1, 2).
 - (e). Install brackets (1, 2) on mounting angles (13, 14) with washers (30), screws (32), and nuts (35).
 - (f). Match drill holes in mounting angles (13, 14) and support angles (15, 16) for rivets (29).
 - (g). Install support angles (15, 16) on mounting angles (13, 14) with rivets (29).
 - (h). Put assembled brackets, mounting angles, and support angles (1, 13, 15) (2, 14, 16) in place for installation.
 - 1). Match drill holes in brackets (1, 2) and the outboard bulkhead for rivets (24).
 - 2). If necessary, do a spot- face of the interior surface of brackets (1, 2).



Carefully drill thru the fuel cell bulkhead. Damage to the fuel cell can occur.

- 3). Match drill holes in support angles (15, 16) and the fuel cell wall for studs (36).
- (i). Ream the holes for studs (36) **0.1853 to 0.1873 inch (4.707 to 4.757 mm)**.

DATE: 8 DECEMBER 2022

PAGE 22 OF 44

TECHNICAL BULLETIN

- (j). Install tape on support angles (15, 16) to the mating surfaces with the fuel cell bulkhead.

Adhesive, Epoxy (C411)



- (k). Apply epoxy adhesive (C411) on mounting angles (13, 14) to the mating surfaces with the fuel cell bulkhead.
- (l). Install assembled brackets, mounting angles, and support angles (1, 13, 15) (2, 14, 16) with rivets (24).

Adhesive, Epoxy (C411)



- (m). Apply epoxy adhesive (C411) on studs (36).
- (n). Install studs (36) and collars (37).
- (4). Install u- channels (9) and mounting angles (10, 11) (ref. Detail N and sections F- F and G- G):
- (a). Remove the old floor support angles and rivets where new mounting angles (10) will be installed.
 - (b). Match drill mounting angles (10) to old nutplate holes.
 - (c). Match drill mounting angles (10) to old rivet holes.
 - (d). Match drill mounting angles (10) and u- channels (9).
 - (e). Install nutplates (19) with rivets (32) on mounting angle (10).
 - (f). Match drill mounting angles (11) to u- channels (9).
 - (g). Install nutplates (19) and corner nutplates (20) with rivets (28) on mounting angles (11).
 - (h). Install mounting angles (10) with rivets (22).
 - (i). Install corner nutplates (20) with rivets (26) on mounting angles (10).
 - (j). Remove dome nutplates and old rivets.



Be careful as you drill the holes in the fuel cell bulkhead. Do not make a hole in the fuel cell.

- (k). Match drill mounting angles (11) and drill shims (12) to the rivet holes in the fuel cell bulkhead.
- 1). As necessary, trim shims (12) for correct installation with mounting angles (11).
- (l). Install tape on the mating surfaces with the fuel cell bulkhead of shims (12).

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 23 OF 44

Adhesive, Epoxy (C411)

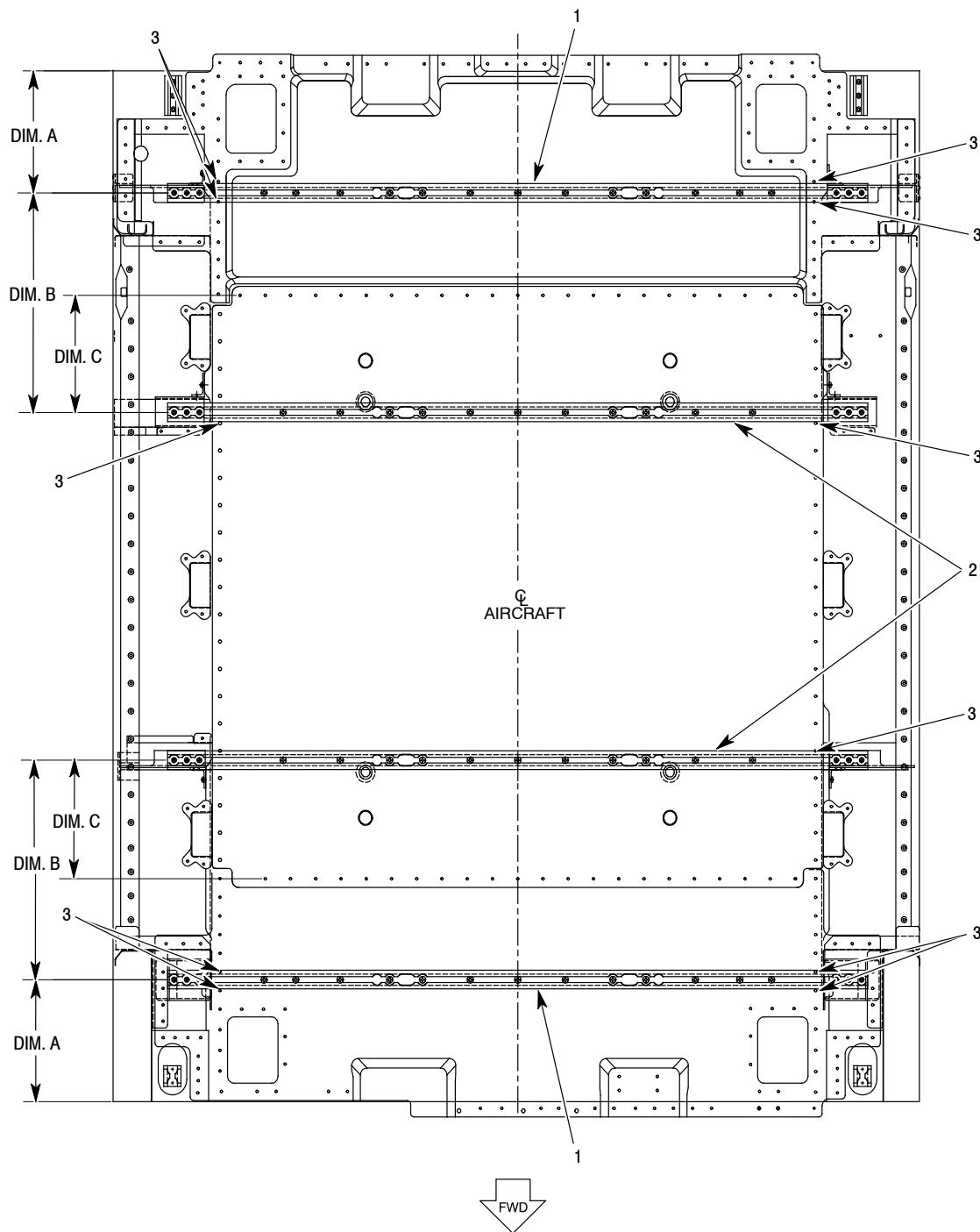


- (m). Apply epoxy adhesive (C411) to rivet holes and rivets (23).
- (n). Install mounting angles (11) and shims (12) with rivets (23) wet with epoxy adhesive (C411).
- (o). Apply sealing compound (MIL-S-8802) on the fuel cell side of rivets (23).
- (p). Install dome nutplates with rivets (21).
- (q). Install u-channels (9) with screws (34).

DATE: 8 DECEMBER 2022

PAGE 24 OF 44

TECHNICAL BULLETIN



9B25-003

Figure 3. Installation Position the Seat Tracks

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 25 OF 44

Legend (Ref. Figure 3)

DIMENSION A = 8.90 INCH (22.61 CM) REFERENCE

DIMENSION B = 16.00 INCH (40.64 CM)

DIMENSION C = 8.67 INCH (22.02 CM)

1. SEAT TRACK (HD900-73-6000-01)

2. SEAT TRACK (HD900-73-6000-02)

3. SCREW

C. Preparation for the Seat Track Installation

(Ref. Figure 3)

- (1). Locate the positions of both sets of seat tracks (1, 2) on the cabin floor.
 - (a). Remove screws (3) that are an interference to the flush installation of seat tracks (1, 2).
 - (b). Keep a distance of **15.98 to 16.02 inch (405.89 to 406.91 mm)** between the centerlines of seat tracks (1, 2).
 - (c). The **0.790 inch (20.07 mm)** holes on each seat track must be square and parallel with each other within **±0.02 inch (0.5 mm)** over the entire length of the tracks.



Do not drill completely thru the cabin floor. Damage to the fuel cell or components can occur.

- (2). Use the tracks as a guide to match drill thru the top skin of the cabin floor.



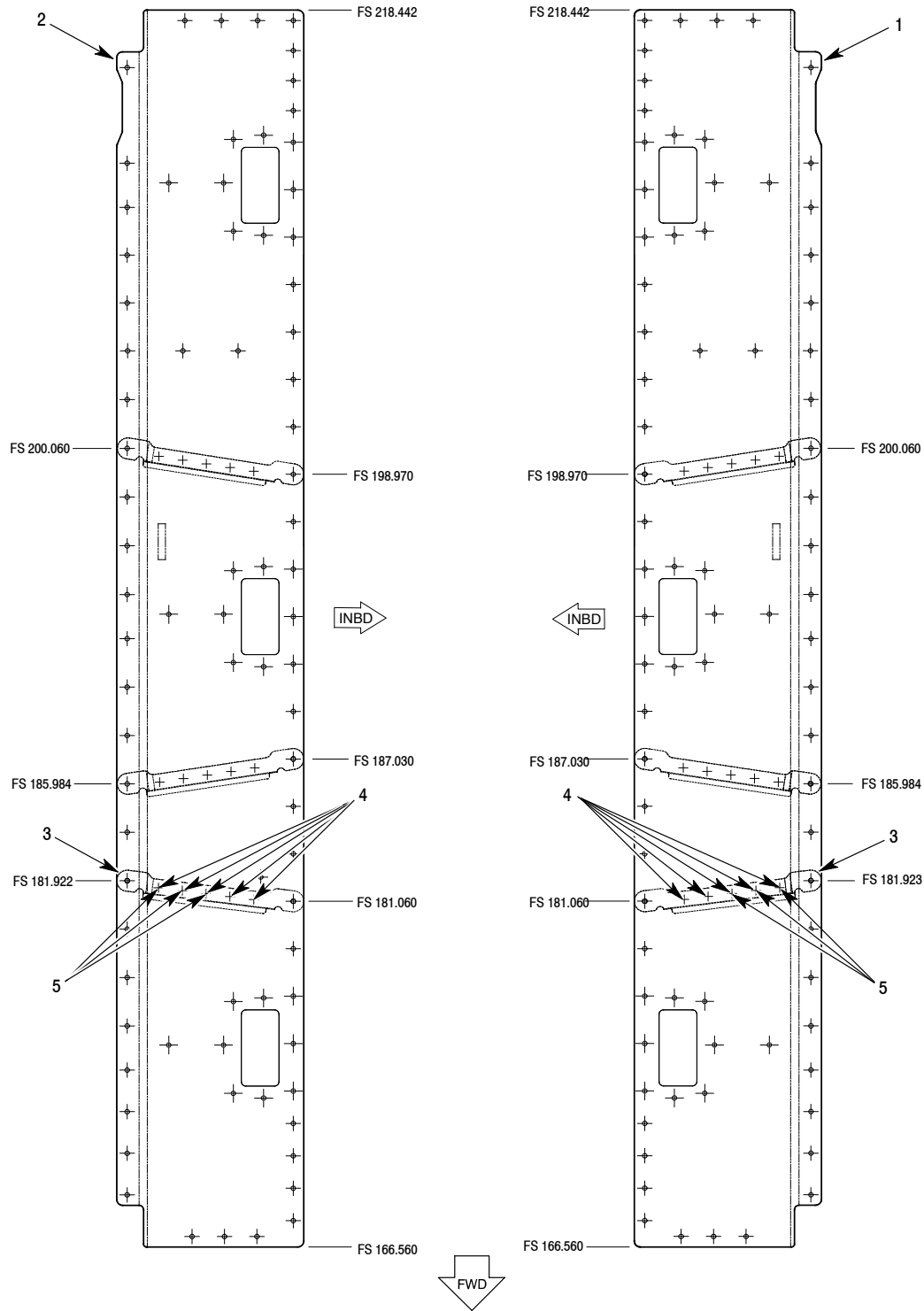
Defuel the rotorcraft (ref. CSP-900RMM-2, Chapter 12) before you remove access panels AL155, AR155, AL165, AR165, AL230, and AR230. Damage to the structure can occur if you remove these panels with fuel in the rotorcraft.

- (3). Remove access panels A160, A170, A217, AL155, AR155, AL165, AR165, AL230, and AR230 (ref. CSP-900RMM-2, Chapter 6, and Chapter 53, Section 53-20-00).

DATE: 8 DECEMBER 2022

PAGE 26 OF 44

TECHNICAL BULLETIN



9B25-004

Figure 4. Modification of Access Panels AL165 and AR165

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 27 OF 44

Legend (Ref. Figure 4)

- | | |
|-----------------------|-----------------------------|
| 1. ACCESS PANEL AL165 | 4. OLD RIVET |
| 2. ACCESS PANEL AR165 | 5. NEW RIVET (MS20470AD4-2) |
| 3. STIFFENER | |

D. Modification of Access Panels AL165 and AR165 (900 Configuration Only)

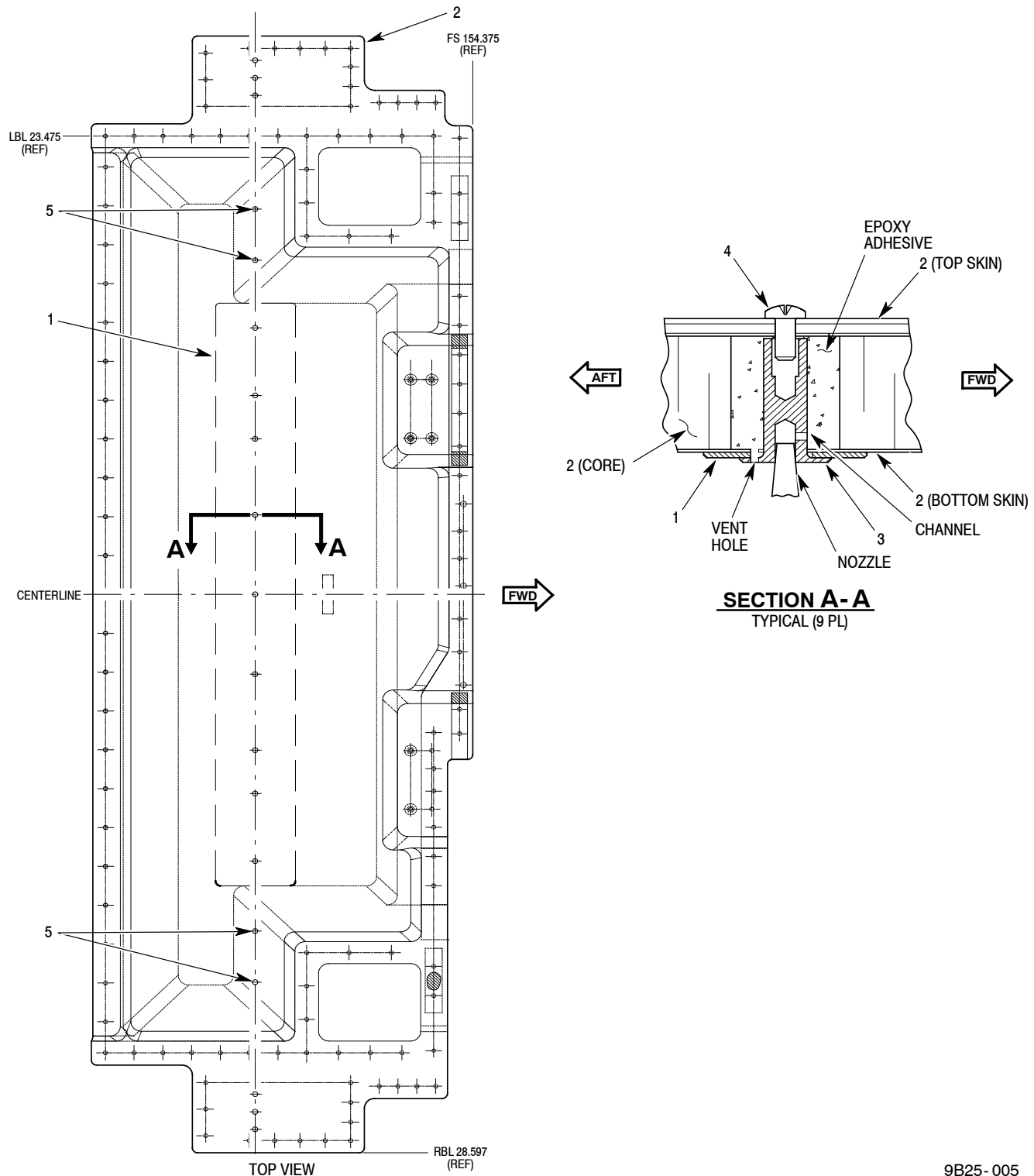
(Ref. Figure 4)

- (1). Remove stiffeners (3) and old rivets (4) from access panels AL165 and AR165 (1, 2).
- (2). Install stiffeners (3) with rivets (5) in the three most outboard places.

DATE: 8 DECEMBER 2022

PAGE 28 OF 44

TECHNICAL BULLETIN



9B25-005

Figure 5. Modification of Access Panel A160

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 29 OF 44

Legend (Ref. Figure 5)

- | | |
|--|-------------------------|
| 1. DOUBLER ASSEMBLY (HD900-50-6015-28) | 4. SHORT SCREW |
| 2. ACCESS PANEL A160 | 5. INSERT (80-004-3-12) |
| 3. INSERT (HDSTD-97-6021-01) | |

E. Modification of Access Panel A160

(Ref. Figure 5)

- (1). Make the bottom surface of Access Panel A160 (2) that mates with doubler assembly (1) lightly rough with 80- grit sandpaper.
- (2). Apply a **0.015 to 0.040 inch (0.38 to 1.02 mm) thick** layer of epoxy adhesive (C411) on the fiberglass side of doubler assembly (1) (ref. manufacturer instructions).
- (3). Install doubler assembly (1) with the fiberglass side up on the bottom side of Access Panel A160 (2) where the taper begins.
 - (a). Make sure the fiberglass side is against the bottom of Access Panel A160.
 - (b). Let the epoxy adhesive (C411) dry (ref. manufacturer instructions).
- (4). Match drill the holes for the seat track thru the bottom skin of Access Panel A160 (2) and doubler assembly (1) with a drill guide (ref. CSP- SPM, Section 20- 70- 00).
 - (a). Open the holes in the top skin of Access Panel A160 (2) to **0.257 inch (6.53 mm) diameter**.
 - (b). Open the holes in the bottom skin of doubler assembly (1) and Access Panel A160 (2) to **0.563 inch (14.30 mm) diameter**.



Use a drill guide and a drill stop to remove the material between the skins of Access Panel A160. Damage to the skins can occur.

- (5). Remove the Nomex® core of Access Panel A160 (2) at each hole for doubler assembly (1).
 - (a). Remove the core material to **0.06 inch (1.5 mm)** away from the top and bottom skins.
 - (b). Remove **1.2 to 1.3 inch (30 to 33 mm) diameter** of the core material.
- (6). Temporarily install inserts (3).
 - (a). Turn inserts (3) so that the vent holes are in the aft position.
 - (b). Match drill holes for the vents thru doubler assembly (1) and Access Pane A160 (2).
- (7). Install inserts (3) (ref. Section A- A).
 - (a). Align the vent holes of doubler assembly (1), access panel (2), and inserts (3).
 - (b). Tighten inserts (3) against the surface of doubler assembly (1) with short screws (4).
 - (c). Put the panel in a vertical position so that the vent holes are at the top.
 - (d). Put epoxy adhesive (C411) in the center hole of the inserts with a modified nozzle.

NOTE: Change the nozzle so that it has a tight fit in the hole of insert (3) but does not block the channel.

DATE: 8 DECEMBER 2022

PAGE 30 OF 44

TECHNICAL BULLETIN

- (e). Let epoxy adhesive (C411) cure for **8 hours**.
- (8). Install inserts (5) with epoxy adhesive (C411).

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 31 OF 44

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DATE: 8 DECEMBER 2022

PAGE 32 OF 44

TECHNICAL BULLETIN

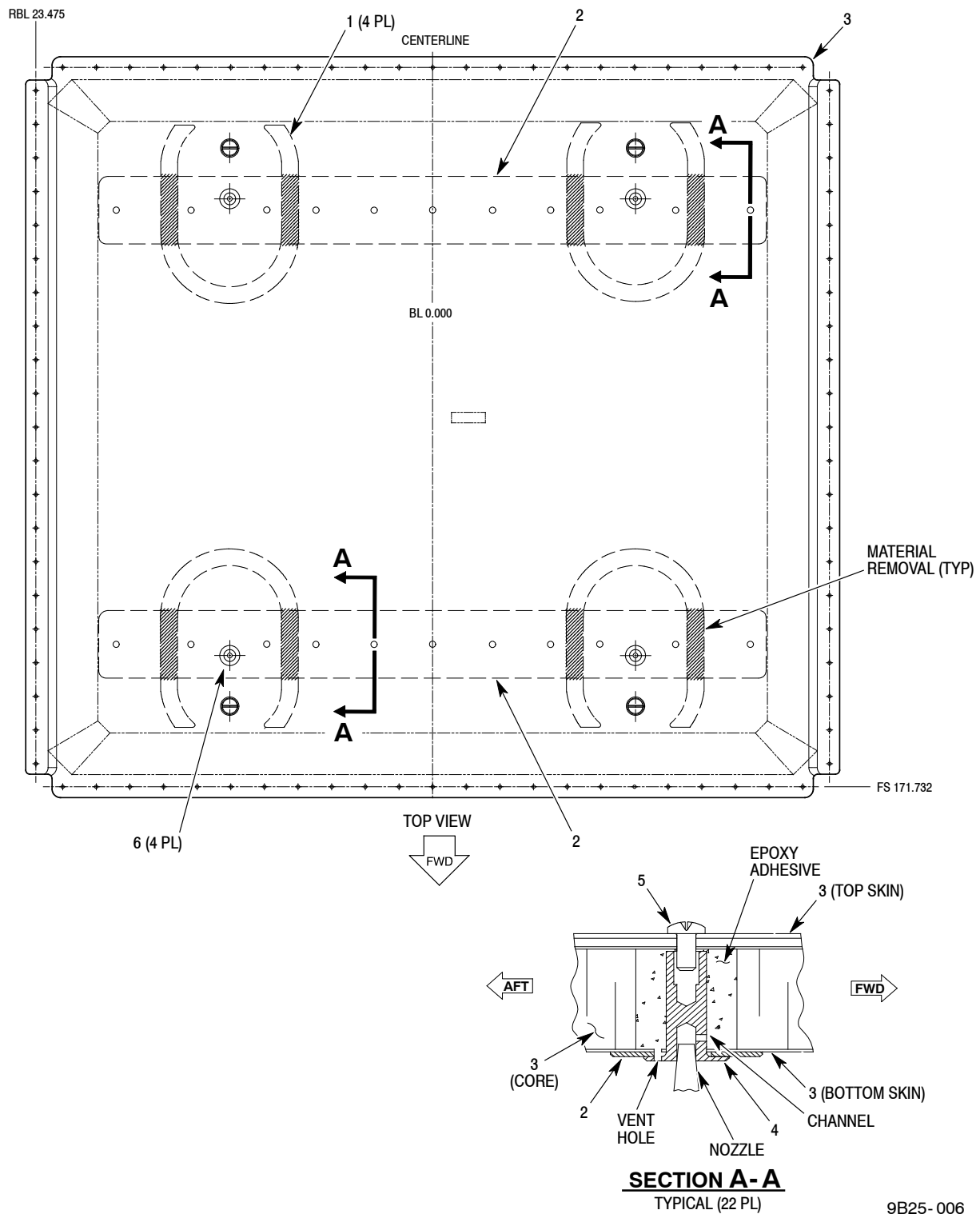


Figure 6. Modification of Access Panel A170

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 33 OF 44

Legend (Ref. Figure 6)

- | | |
|--|------------------------------|
| 1. RUB STRIP | 4. INSERT (HDSTD-97-6021-01) |
| 2. DOUBLER ASSEMBLY (HD900-50-6015-27) | 5. SHORT SCREW |
| 3. ACCESS PANEL A170 | 6. VAPOR PLUG |

F. Modification of Access Panel A170

(Ref. Figure 6)

- (1). Cut and remove the areas of rub strips (1) that are under the installation position of doubler assemblies (2).

NOTE: The rub strip is made of **0.16 inch (4.1 mm) thick** 2024- T3 aluminum alloy and is installed on floor panel with epoxy adhesive (C411).

- (2). Cut and remove the areas of doubler assemblies (2) that cover vapor plugs (6).
- (3). Make the bottom surface of Access Panel A170 (3) that mates with doubler assemblies (2) lightly rough with 80- grit sandpaper.
- (4). Apply a **0.015 to 0.040 inch (0.38 to 1.02 mm) thick** layer of epoxy adhesive (C411) on the fiberglass side of doubler assemblies (2) (ref. manufacturer instructions).
- (5). Install doubler assemblies (2) with the fiberglass side up on the bottom side of Access Panel A170 (3) where the taper begins.
 - (a). Make sure the fiberglass side is against the bottom of Access Panel A170.
 - (b). Let the epoxy adhesive (C411) dry (ref. manufacturer instructions).
- (6). Match drill the holes for the seat track thru the bottom skin of Access Panel A170 (3) and doubler assemblies (2) with a drill guide (ref. CSP- SPM, Section 20- 70- 00).
 - (a). Open the holes in the top skin of Access Panel A170 (3) to **0.257 inch (6.53 mm) diameter**.
 - (b). Open the holes in the bottom skin of doubler assemblies (2) and Access Panel A170 (3) to **0.563 inch (14.30 mm) diameter**.



Use a drill guide and a drill stop to remove the material between the skins of Access Panel A170. Damage to the skins can occur.

- (7). Remove the Nomex® core of Access Panel A170 (3) at each hole for doubler assemblies (2).
 - (a). Remove the core material to **0.06 inch (1.5 mm)** away from the top and bottom skins.
 - (b). Remove **1.2 to 1.3 inch (30 to 33 mm) diameter** of the core material.
- (8). Temporarily install inserts (4).
 - (a). Turn inserts (4) so that the vent holes are in the aft position.
 - (b). Match drill holes for the vents thru doubler assemblies (2) and Access Panel A170 (3).

DATE: 8 DECEMBER 2022

PAGE 34 OF 44

TECHNICAL BULLETIN

- (9). Install inserts (4) (ref. Section A-A).
 - (a). Align the vent holes of doubler assemblies (2), Access Panel A170 (3), and inserts (4).
 - (b). Tighten inserts (4) against the surface of doubler assemblies (2) with short screws (5).
 - (c). Put the panel in a vertical position so that the vent holes are at the top.
 - (d). Put epoxy adhesive (C411) in the center hole of the inserts with a modified nozzle.

NOTE: Change the nozzle so that it has a tight fit in the hole of insert (4) but does not block the channel.

- (e). Let epoxy adhesive (C411) cure for **8 hours**.

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

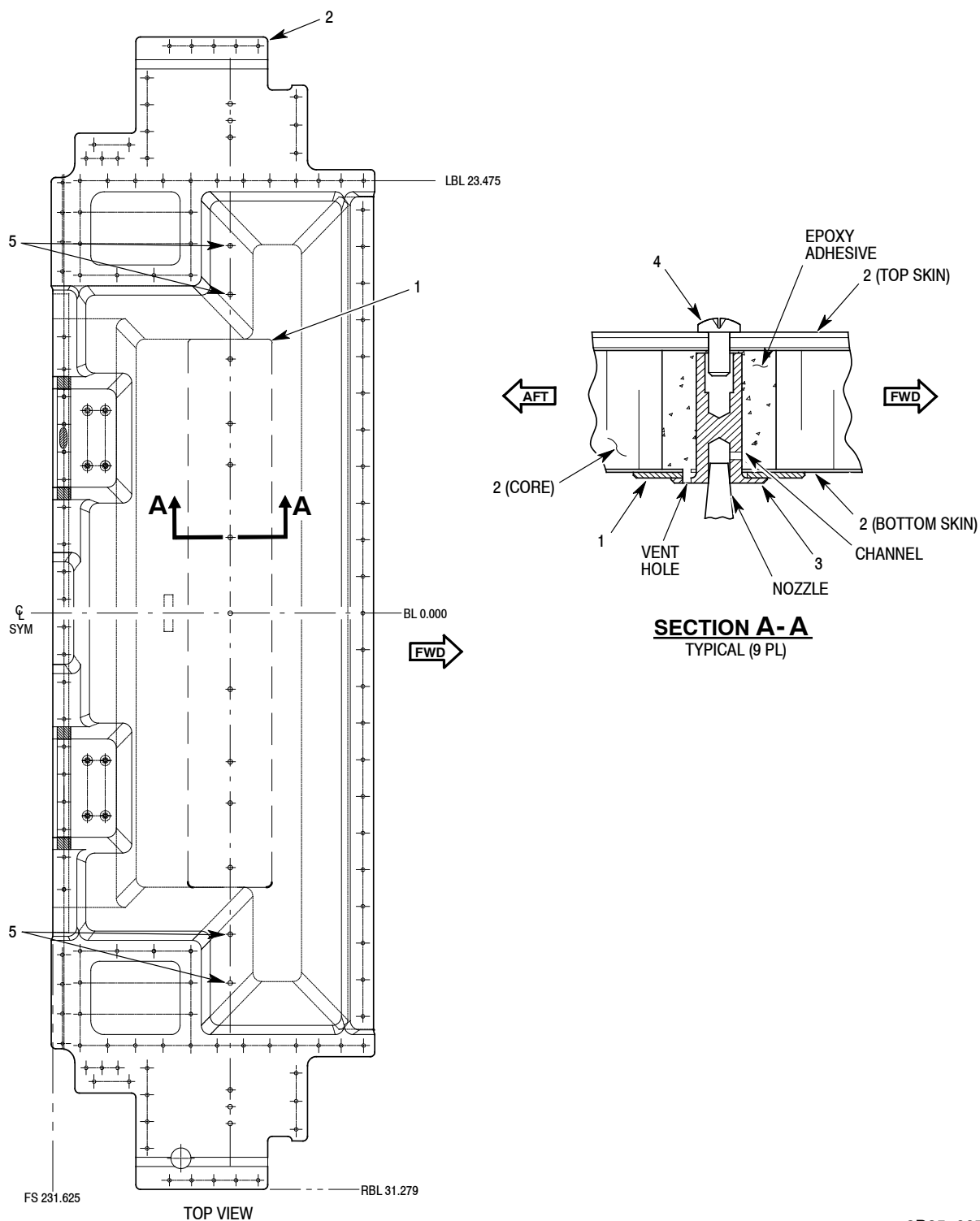
PAGE 35 OF 44

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DATE: 8 DECEMBER 2022

PAGE 36 OF 44

TECHNICAL BULLETIN



9B25-007

Figure 7. Modification of Access Panel A217

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 37 OF 44

Legend (Ref. Figure 7)

- | | |
|--|-------------------------|
| 1. DOUBLER ASSEMBLY (HD900-50-6015-28) | 4. SHORT SCREW |
| 2. ACCESS PANEL A217 | 5. INSERT (80-004-3-12) |
| 3. INSERT (HDSTD-97-6021-01) | |

G. Modification of Access Panel A217

(Ref. Figure 7)

- (1). Make the bottom surface of Access Panel A217 (2) that mates with doubler assembly (1) lightly rough with 80- grit sandpaper.
- (2). Apply a **0.015 to 0.040 inch (0.38 to 1.02 mm) thick** layer of epoxy adhesive (C411) on the fiberglass side of doubler assembly (1) (ref. manufacturer instructions).
- (3). Install doubler assembly (1) with the fiberglass side up on the bottom side of Access Panel A217 (2) where the taper begins.
 - (a). Make sure the fiberglass side is against the bottom of Access Panel A217.
 - (b). Let the epoxy adhesive (C411) dry (ref. manufacturer instructions).
- (4). Match drill the holes for the seat track thru the bottom skin of Access Panel A217 (2) and doubler assembly (1) with a drill guide (ref. CSP- SPM, Section 20- 70- 00).
 - (a). Open the holes in the top skin of Access Panel A217 (2) to **0.257 inch (6.53 mm) diameter**.
 - (b). Open the holes in the bottom skin of doubler assembly (1) and Access Panel A217 (2) to **0.563 inch (14.30 mm) diameter**.



Use a drill guide and a drill stop to remove the material between the skins of Access Panel A217. Damage to the skins can occur.

- (5). Remove the Nomex® core of Access Panel A217 (2) at each hole for doubler assembly (1).
 - (a). Remove the core material to **0.06 inch (1.5 mm)** away from the top and bottom skins.
 - (b). Remove **1.2 to 1.3 inch (30 to 33 mm) diameter** of the core material.
- (6). Temporarily install inserts (3).
 - (a). Turn inserts (3) so that the vent holes are in the aft position.
 - (b). Match drill holes for the vents thru doubler assembly (1) and Access Pane A217 (2).
- (7). Install inserts (3) (ref. Section A- A).
 - (a). Align the vent holes of doubler assembly (1), access panel (2), and inserts (3).
 - (b). Tighten inserts (3) against the surface of doubler assembly (1) with short screws (4).
 - (c). Put the panel in a vertical position so that the vent holes are at the top.
 - (d). Put epoxy adhesive (C411) in the center hole of the inserts with a modified nozzle.

NOTE: Change the nozzle so that it has a tight fit in the hole of insert (3) but does not block the channel.

DATE: 8 DECEMBER 2022

PAGE 38 OF 44

TECHNICAL BULLETIN

- (e). Let epoxy adhesive (C411) cure for **8 hours**.
- (8). Install inserts (5) with epoxy adhesive (C411).

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

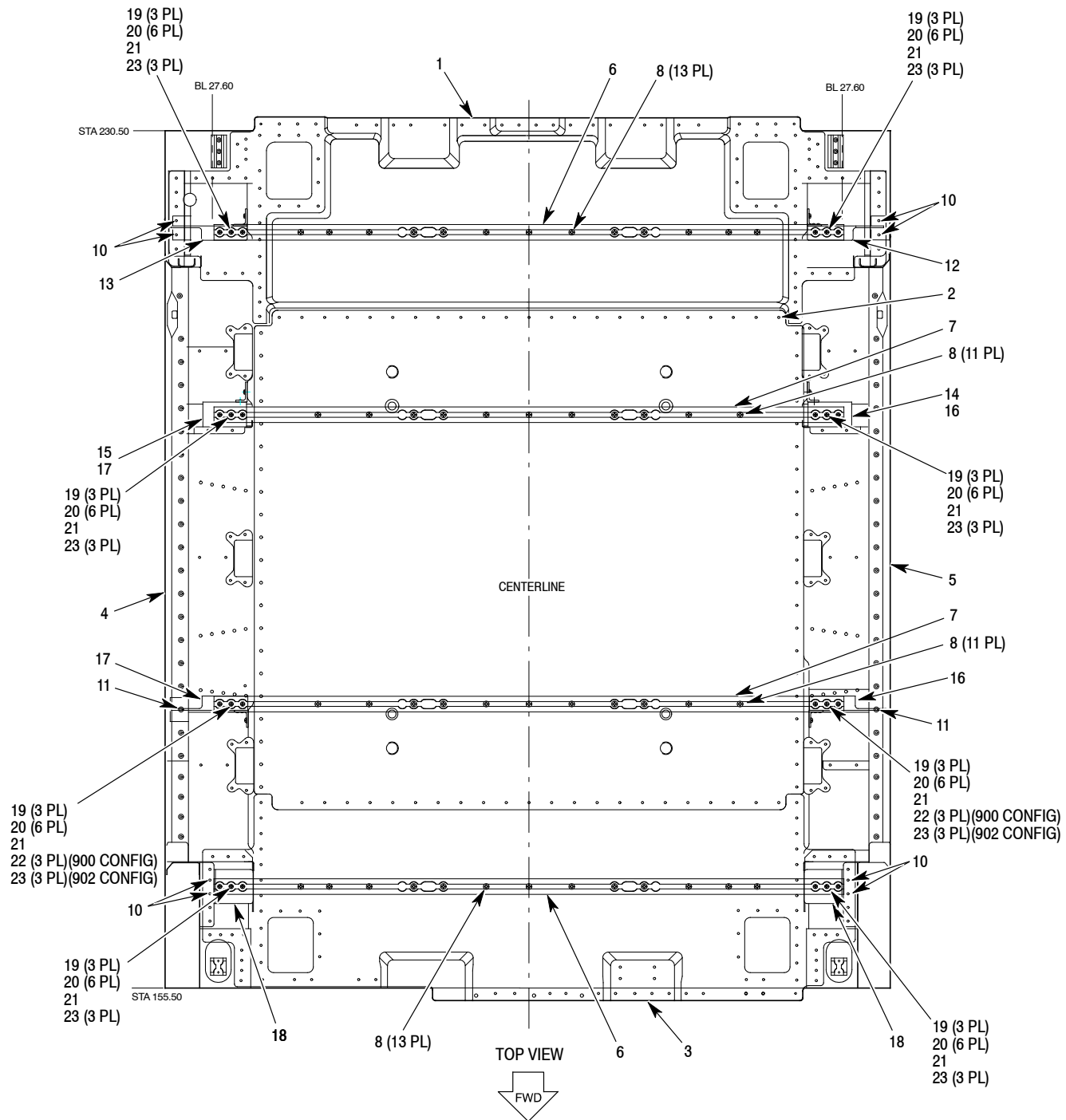
PAGE 39 OF 44

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DATE: 8 DECEMBER 2022

PAGE 40 OF 44

TECHNICAL BULLETIN



9B25-00

Figure 8. Installation of the Seat Tracks

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 41 OF 44

Legend (Ref. Figure 8)

- | | |
|-------------------------------------|---|
| 1. ACCESS PANEL A217 | 13. MOUNTING ANGLE |
| 2. ACCESS PANEL A170 | 14. BRACKET (900 CONFIGURATION) |
| 3. ACCESS PANEL A160 | 15. BRACKET (900 CONFIGURATION) |
| 4. ACCESS PANEL AR165 | 16. MOUNTING ANGLE |
| 5. ACCESS PANEL AL165 | 17. MOUNTING ANGLE |
| 6. SEAT TRACK (HD900- 73- 6000- 01) | 18. U- CHANNEL |
| 7. SEAT TRACK (HD900- 73- 6000- 02) | 19. NUTPLATE (MS21069L3) |
| 8. SCREW (MS24694C98) | 20. RIVET (MS20426AD3- 4) |
| 9. SCREW (MS34694C51) | 21. SHIM NO. 2 |
| 10. SCREW (MS27039C1- 10) | 22. SCREW (MS24694S59 - 900 CONFIG. ONLY) |
| 11. SCREW (MS27039C1- 04) | 23. SCREW (MS24694S56) |
| 12. MOUNTING ANGLE | |

H. Installation of the Seat Tracks

(Ref. Figure 8)

- (1). Install access panels A217 (1), A170 (2), A160 (3), AR165 (4), and AL165 (5) (ref. CSP- 900RMM- 2, Section 53- 20- 00).
- (2). Install seat tracks (6, 7) with screws (8) on access panels A217 (1), A160 (2), and A170 (3) (ref. Figure 8).
 - (a). Replace the screws in the access panels that have an interference with the seat tracks with screws (9).
 - (b). Replace old screws with new screws (10, 11).
- (3). Match drill the three holes at the end of each seat track with access panels AR165 and AL165 (4, 5) and mounting angles (12, 13), brackets (14, 15) or mounting angles (16, 17), and u- channels (18).
- (4). Remove seat tracks (6, 7) and screws (8).
- (5). Remove access panels AL165 (5), AR165 (4), A160 (3), A170 (2), and A217 (1) (ref. CSP- 900RMM- 2, Section 53- 20- 00).
- (6). Install nutplates (19) with rivets (20) on mounting angles (12, 13), brackets (14, 15) or mounting angles (16, 17), and u- channels (18) (ref. Figure 8).
- (7). Apply a layer of epoxy adhesive (C411) on the top (mating) surfaces of mounting angles (12, 13), brackets (14, 15) or mounting angles (16, 17), and u- channels (18).
- (8). Install access panels A217 (1), A170 (2), A160 (3), AR165 (4), and AL165 (5) (ref. CSP- 900RMM- 2, Section 53- 20- 00).
- (9). Apply a layer of epoxy adhesive (C411) on the bottom (mating) surfaces of seat tracks (6, 7) and shims (21).
- (10). Install seat tracks (6, 7), shims (21), and screws (8, 22, 23).

DATE: 8 DECEMBER 2022

PAGE 42 OF 44

TECHNICAL BULLETIN

I. Compliance Record

- (1). Record compliance to this Technical Bulletin in the Compliance Record section of the Rotorcraft Log Book.
- (2). Complete the Bulletin Completed Record form (attached) and FAX or e-mail to MD Helicopters Field Service Department.

TECHNICAL BULLETIN

DATE: 8 DECEMBER 2022

PAGE 43 OF 44

TB900-046 Completion Record

Installation of the Seat Tracks

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 email or speak to your Field Service Representative

Owner /Operator: _____	Rotorcraft Serial No: _____
Address: _____ _____ _____	Rotorcraft Total Time: _____ Compliance Date: _____
Phone: _____	Location: _____
E-mail: _____	

This bulletin is complete:

(Signature)

(Print Name)

(Title)

Comments: _____

DATE: 8 DECEMBER 2022

PAGE 44 OF 44

TECHNICAL BULLETIN

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TECHNICAL BULLETIN

DATE: 17 DECEMBER 2015

PAGE 1 OF 6

INSTALLATION OR MODIFICATION FOR A NEW CARGO HOOK

1. PLANNING INFORMATION

A. Rotorcraft Affected:

All MD900 rotorcraft

B. Assembly/Components Affected By This Bulletin:

900C7010032-101 Pilot Cargo Hook Mechanical Release Installation
900F3304201-101 or 51A00-1 Cargo Hook
900F7304200-101 Cargo Hook Installation

C. Reason:

The cargo hook made by Klune Industries (MDHI Part No. [PN] 900F3304201-101 / Klune PN 51A00-1) is no longer supported. This technical bulletin lets owners and operators use a cargo hook made by Onboard Systems (Onboard Systems PN 210-296-00).

D. Description:

Procedures in this Bulletin give owners and operators information to order an installation or modification kit for the new cargo hook. The kits include the cargo hook, load cell assembly, structural adapter assembly to interface with the current suspension cables, an external electrical release harness to interface with the rotorcraft cargo hook wiring, and a backup hydraulic release system.

Rotorcraft with a 900F3304201-101 or 51A00-1 cargo hook already installed can modify the cargo hook system to install a 210-296-00 cargo hook.

E. Time of Compliance

Customer option, at owner/operator discretion.

F. FAA Approval:

The technical design aspects of this Bulletin are FAA approved.

G. Manpower:

Compliance with this bulletin will be approximately three (3) man-hours.

H. Interchangeability:

None.

I. Points of Contact:

For further assistance, contact the MDHI Field Service Department.
Telephone: 1-800-388-3378 or 480-346-6387. DATAFAX: 480-346-6813.

DATE: 17 DECEMBER 2015

PAGE 2 OF 6

TECHNICAL BULLETIN

J. Material/Part Availability:

Contact the 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
Cargo Hook, New Installation Kit	TBK900-049-101	1	MDHI
♦ Cargo Hook Fixture Provisions Modification	90005004500-105	1	MDHI
♦ ♦ Load Indicator Installation	90005004500-111	1	MDHI
♦ ♦ Wire Harness	90005004500-113	1	MDHI
♦ ♦ Pilot Cargo Hook Mechanical Release Installation	900C7010032-101	1	MDHI
♦ ♦ W314 Wire Harness Installation	900F7760314-101	1	MDHI
♦ Cargo Hook Assembly	90005004500-107	1	MDHI
♦ Rotorcraft Flight Manual Supplement	CSP-900/902RFM-S1	1	MDHI
♦ Rotorcraft Maintenance Manual Supplement	CSP-900-S8	1	MDHI
Cargo Hook, Modification Kit	TBK900-049-103	1	MDHI
♦ Cargo Hook Assembly Modification	90005004500-109	1	MDHI
♦ Load Indicator Installation	90005004500-111	1	MDHI
♦ Wire Harness	90005004500-113	1	MDHI
♦ Rotorcraft Flight Manual Supplement	CSP-900/902RFM-S1	1	MDHI
♦ Rotorcraft Maintenance Manual Supplement	CSP-900-S8	1	MDHI

K. Warranty Policy:

Standard warranty policy applies (ref. CSP-A-2).

The hours in Manpower (ref. Paragraph G.) are an estimate, and are not reimbursable, unless specified in the Warranty Policy (ref. CSP-A-2).

L. Disposition of Parts Removed:

N/A

M. Tooling:

N/A

N. Weight and Balance:

N/A

TECHNICAL BULLETIN

DATE: 17 DECEMBER 2015

PAGE 3 OF 6

O. Electrical Load Data:

N/A

P. Other Publications Affected:

CSP-SPM Standard Practice Manual

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

SB900-052, Cargo Hook Shorting Plug Installation

SB900-073, Cargo Hook Installation and Aft Saddle Assemblies Inspection and Replacement of Aft Saddle Assemblies

TB900-044, Increase of Operational Weight Limit to 6700 lb (3071 kg)

CSP-900RFM206A-1 Rotorcraft Flight Manual

CSP-900RFM206E-1 Rotorcraft Flight Manual

CSP-900RFM207E-1 Rotorcraft Flight Manual

CSP-902RFM206E-1 Rotorcraft Flight Manual

CSP-902RFM207E-1 Rotorcraft Flight Manual

CSP-900/902RFM-S1 Rotorcraft Flight Manual Supplement — Cargo Hook

CSP-SPM Standard Practice Manual

CSP-900RMM-2 Rotorcraft Maintenance Manual — Servicing and Maintenance

CSP-900RMM-3 Rotorcraft Maintenance Manual — Instruments-Electrical-Avionics

CSP-900IPL-4 Illustrated Parts List

CSP-900-S8 Rotorcraft Maintenance Manual Supplement — Cargo Hook

DATE: 17 DECEMBER 2015

PAGE 4 OF 6

TECHNICAL BULLETIN

2. ACCOMPLISHMENT INSTRUCTIONS

A. Installation / Modification

- (1). For a rotorcraft that does not have a cargo hook setup installed, order the Cargo Hook Installation Kit TBK900-049-101.
 - (a). Follow the instructions of CSP-900-S8 to install the cargo hook.
 - (b). Put the Rotorcraft Flight Manual Supplement in your RFM.
- (2). For a rotorcraft that does have a cargo hook installed, order the Cargo Hook Modification Kit TBK900-049-103.
 - (a). Follow the instructions of CSP-900-S8 to modify the system to install the new cargo hook.
 - (b). Put the Rotorcraft Flight Manual Supplement in your RFM.

B. Compliance Record

- (1). Record compliance to this Technical 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.

TECHNICAL BULLETIN

DATE: 17 DECEMBER 2015

PAGE 5 OF 6

TB900-049 Completion Record

Installation or Modification for a New Cargo Hook

MD Helicopters, Inc.
Field Service Department
4555 East McDowell Road
Mesa, AZ 85215-9734

800-388-3378 Phone (USA 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

Dear MDHI Employee:

This is to tell you that this Technical Bulletin has been completed as follows:

Owner /Operator: _____	Rotorcraft Serial No: _____
Address: _____	Rotorcraft Total Time: _____
_____	Compliance Date: _____
_____	Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete:

_____ (Signature)

_____ (Print Name)

_____ (Title)

Comments: _____

DATE: 17 DECEMBER 2015
PAGE 6 OF 6

TECHNICAL BULLETIN

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TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 1 OF 8

MODIFICATION FOR THE 12-VOLT CLUTCH REFRIGERANT COMPRESSOR ASSEMBLY INSTALLATION

1. PLANNING INFORMATION

A. Rotorcraft Affected:

MD900 Rotorcraft serial numbers (SN) 900-00019 thru 900-00141 that have the optional Air Conditioning System Installation

B. Assembly/Components Affected By This Bulletin:

900P5250004 12Vdc Refrigerant Compressor Modification
900P7250303-101 Air-Conditioning Compressor Installation

C. Reason:

To allow the use of a new 12V clutch refrigerant compressor assembly (900P1250401-105) in the MD900 air-conditioning system with a modification of the current installation.

This modification is a major alteration.

D. Description:

Procedures in this Bulletin give owners and operators information to install the provisions for the 12V refrigerant compressor in MD900 rotorcraft already equipped with the optional air-conditioning system installation.

E. Time of Compliance

Customer option, at owner/operator discretion. Completion of this bulletin is a prerequisite for installation of the 900P1250401 compressor.

F. FAA Approval:

The technical design aspects of this Bulletin are FAA approved.

G. Manpower:

Compliance with this bulletin will be approximately eight (8) 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>

DATE: 11 FEB 2022

PAGE 2 OF 8

TECHNICAL BULLETIN

Ref. CSP-SPM, Section 91-00-00, for the item numbers and manufacturer / supplier numbers.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Modification Kit for the 12V Compressor	TBK900-051-001	1	MDHI
• Air-Conditioning Resistor Bracket Assembly	900P2250454-103	1	MDHI
• Three-Ohm 100 Watt Resistor (W305 R1)	HS100 3R F	1	MDHI
• Wire, Electrical, Insulated	M22759/43-20-9	166 inch (4.22 m)	MDHI
• Compound, Heat-Sink	M47113-1	AR	MDHI
• Junction, Splice (W305 SP1)	M81714/65-16-1	1	MDHI
• Marker, Cable, Small	MHS4910-1001	2	MDHI
• Marker, Cable, Large	MHS4910-1002	1	MDHI
• Sleeving, Protective, Insulation	MHS5330-1531	AR	MDHI
• Nut, Self-Locking, 450F (232C), Ring Base	MS21042L04	2	MDHI
• Terminal, Lug, Ring-Tongue	MS25036-102	2	MDHI
• Screw, Panhead	NAS600-5P	2	MDHI
• Screw, Panhead	NAS602-8P	4	MDHI
• Screw, Hexagon Head, Full Thread	NAS1801-3-8	4	MDHI
• Washer, Flat, Reduced Outside Diameter	NAS620-4L	2	MDHI
• Washer, Flat	NAS1149DN816K	4	MDHI
• Washer, Flat	NAS1149D0332J	4	MDHI
• Component Maintenance Manual with Illustrated Parts List	CSP-900CMM-2	1	MDHI
Compound, Fuel-Resistant Sealing (C216)	SAE AMS-S-8802 Type II, Class B, Grade 1/2	AR	MS63

K. Warranty Policy:

Standard warranty policy applies.

L. Disposition of Parts Removed:

N/A

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 3 OF 8

M. Tooling:

N/A

N. Weight and Balance:

This modification changes the rotorcraft weight and balance:

Weight and Balance					
Item	Weight, lb (kg)	Lateral		Longitudinal	
		Arm, inch (cm)	Moment, inch-lb (Nm)	Arm, inch (cm)	Moment, inch-lb (Nm)
Wiring	0.81 (0.37)	4.0 (10.16)	0.4 (1.02)	192.3 (488.44)	155.8 (693.03)
Total	0.81 (0.37)	4.0 (10.16)	0.4 (1.02)	192.3 (488.44)	155.8 (693.03)

O. Electrical Load Data:

An increase of 1.3 amperes.

P. Other Publications Affected:

CSP-SPM Standard Practice Manual

CSP-900RFM206A-1 Rotorcraft Flight Manual

CSP-900RFM206E-1 Rotorcraft Flight Manual

CSP-900RFM207E-1 Rotorcraft Flight Manual

CSP-902RFM206E-1 Rotorcraft Flight Manual

CSP-902RFM207E-1 Rotorcraft Flight Manual

CSP-900RMM-2 Rotorcraft Maintenance Manual - Servicing and Maintenance

CSP-900RMM-3 Rotorcraft Maintenance Manual - Instruments-Electrical-Avionics

CSP-900IPL-4 Illustrated Parts List

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

TB900-029 Upper Deck Air-Conditioning System Installation

CSP-SPM Standard Practice Manual

CSP-900RMM-2 Rotorcraft Maintenance Manual - Servicing and Maintenance

CSP-900RMM-3 Rotorcraft Maintenance Manual - Instruments-Electrical-Avionics

CSP-900IPL-4 Illustrated Parts List

DATE: 11 FEB 2022

PAGE 4 OF 8

TECHNICAL BULLETIN

2. ACCOMPLISHMENT INSTRUCTIONS

A. Preparation

Power Off



- (1). Remove electrical power from the rotorcraft. (Ref. CSP-900RMM-3, 96-00-00, Maintenance Practices, Procedure 1.A. Disconnect Electrical Power)
- (2). Remove L155 LH, R155 RH, and R210 access doors. (Ref. CSP-900RMM-2, 06-00-00)

B. Modification

- (1). Remove the installed screws and washers from the evaporator fan. (Ref. CSP-900RMM-2, 21-50-00, Removal and Installation, 21-50-00, Procedure 4.)
- (2). Apply a thin layer of heat-sink compound to the mating surfaces between bracket (2) and Resistor W305 R1 (3) and between bracket (2) and evaporator fan (4).
- (3). Install bracket (2) with washers (5) and hex-head screws (6).

Sealant, Fuel Resistant (C216)



- (a). Apply a layer of sealant (C216) to hex-head screws (6) and washers (5) and adjacent areas of bracket (2).
- (b). Apply a layer of sealant (C216) to the mating and adjacent areas of bracket (2) and evaporator fan (4).
- (4). Install Resistor W305 R1 (3) on bracket (2) with washers (7) and panhead screws (8).

Sealant, Fuel Resistant (C216)



- (a). Apply a layer of sealant (C216) to panhead screws (8) and washers (7) and adjacent areas of Resistor W305 R1 (3).
- (b). Apply a layer of sealant (C216) to the mating and adjacent areas of Resistor W305 R1 (3) and bracket (2).
- (5). Make Wire H12D20 EMI 3 (ref. Table 1):

- (a). Make the new Wire H12D20 EMI 3 with wire (9), ring-tongue lug (10), Splice W305 SP1 (13), sleeving (11), and small marker (12).

NOTE: Splice W305 SP1 has two M39029/22-103 sockets.

- (b). Replace the old marker for Wire Harness W305 with large marker (14).

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 5 OF 8

Table 1. New Wire List for Wire Harness W305

W305 Wire Number	Length, inch (cm)	Size	Type Code	From			To		
				Ref. Des.	Lug	Term. Code	Ref. Des.	Lug	Term. Code
H12C20 EMI 3 (Mod)	90 (228.6)	20	SY	P155	917	C	W305 R1	102	1
H12D20 EMI 3	166 (421.64)	20	SY	W305 R1	102	2	W305 SP1	906	

(6). Modify Wire H12C20 EMI 3:

- (a). Disconnect one end of Wire H12C20 EMI 3 from W305 SP1 terminal.
- (b). Trim Wire H12C20 EMI 3 as necessary to get a length of 90 inches (228.6 cm).
- (c). Install a new terminal on Wire H12C20 EMI 3 at W305 R1 (ref. Table 1):
 - 1). Install a ring-tongue lug (10), sleeving (11), and small marker (12).
- (d). Install Wire H12C20 EMI 3 with the routing of Wire Harness W305.
- (e). Install removed end of modified Wire H12C20 EMI 3 to Terminal 1 of Resistor W305 R1 (3).

(7). Install Wire H12D20 EMI 3:

- (a). Connect the end of Wire H12D20 EMI 3 to Terminal 2 of Resistor W305 R1 (3).
- (b). Connect the other end of Wire H12D20 EMI 3 and the electrical lead of compressor (1) with Splice W305 SP1 (13).
- (c). Install Wire H12D20 EMI 3 with the routing of Wire Harness W305.

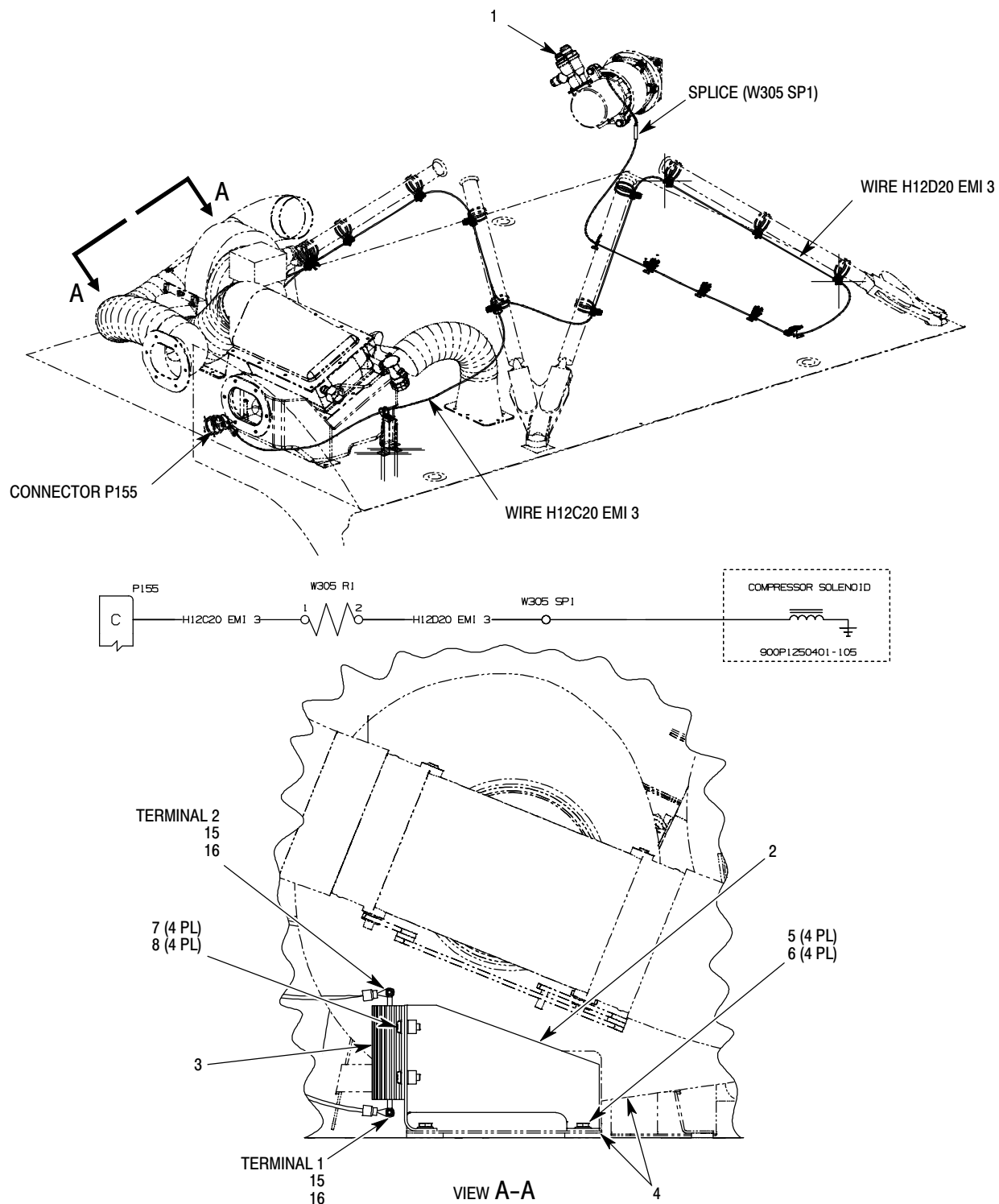
C. Job Close-Up

- (1). Make sure that all tools, equipment, and loose objects are removed from the upper deck and engine compartment.
- (2). Make sure that the work area is clean.
- (3). Install R210, R155 RH, and L155 LH access doors (ref. CSP-900RMM-2, 06-00-00).
- (4). Service the AC system. (Ref. CSP-900RMM-2, 12-00-00, Maintenance Practices, Procedure 1.C., R-134A AC System Servicing)

DATE: 11 FEB 2022

PAGE 6 OF 8

TECHNICAL BULLETIN



9b98-171

Figure 1. Installation of the Resistor Bracket Assembly and Compressor

TECHNICAL BULLETIN

DATE: 11 FEB 2022

PAGE 7 OF 8

Legend (Ref. Figure 1)

- | | |
|---------------------|---------------------|
| 1. 12V COMPRESSOR | 9. WIRE |
| 2. BRACKET | 10. RING-TONGUE LUG |
| 3. RESISTOR W305 R1 | 11. SLEEVING |
| 4. EVAPORATOR FAN | 12. SMALL MARKER |
| 5. WASHER | 13. SPLICE W305 SP1 |
| 6. HEX-HEAD SCREW | 14. LARGE MARKER |
| 7. WASHER | 15. PANHEAD SCREW |
| 8. PANHEAD SCREW | 16. NUT |
-

D. Compliance Record

- (1). Record compliance to this Technical Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) Rotorcraft Log Book CSP-RLB.
- (2). Show compliance with this Technical 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.

DATE: 11 FEB 2022

PAGE 8 OF 8

TECHNICAL BULLETIN

TB900-051 Completion Record

Modification for the the 12-Volt Clutch Refrigerant Compressor Assembly

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.

Dear MDHI Employee:

This is to tell you that this Technical Bulletin has been completed:

Owner /Operator: _____	Rotorcraft Serial No: _____
Address: _____ _____ _____ _____	Rotorcraft Total Time: _____ Compliance Date: _____ Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete:

(Signature)_____
(Print Name)_____
(Title)

Comments: _____

TECHNICAL BULLETIN

DATE: 12 DECEMBER 2022

PAGE 1 OF 8

* Supersedes Technical Bulletin TB900-053, dated 19 September 2022. Revised to add PN 141852-1022 and correct instructions. There is no action required for helicopters that are in compliance with the original issue of this technical bulletin.

REPLACEMENT OF ATTITUDE AND HEADING REFERENCE SYSTEM (AHRS) LCR-92S WITH LCR-100

1. PLANNING INFORMATION

A. Rotorcraft Affected:

All MD900 rotorcraft

B. Assembly/Components Affected By This Bulletin:

LCR-92S AHRS, Part No. (PN) 141852-1011 or 141852-1022.

C. Reason:

The LCR-92S AHRS has not been made since 2007 and is no longer supported by the manufacturer, Northrup-Grumman, but the LCR-100 AHRS can be installed to replace LCR-92S. The LCR-100 is mechanically identical to the LCR-92S, but must be configured to specific applications.

Failure to comply with this bulletin can cause a helicopter with an old, nonrepairable LCR-92S to become AOG (aircraft on ground).

D. Description:

Procedures in this Bulletin give owners and operators information to replace a LCR-92S AHRS with a LCR-100 AHRS. The No. 2 AHRS is optional and only installed with the four-tube configuration.

E. Time of Compliance

Customer option, at owner/operator discretion.

F. FAA Approval:

The technical design aspects of this bulletin are FAA-approved.

G. Labor Hours:

Compliance with this bulletin will be approximately two (2) labor hours.

H. Interchangeability:

None.

I. Points of Contact:

For further assistance, contact MD Helicopters Field Service at:
<https://www.mdhelicopters.com/contact.html>

DATE: 12 DECEMBER 2022

PAGE 2 OF 8

TECHNICAL BULLETIN

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.	2-Tube Config. Qty.	4-Tube Config. Qty.	Source
LCR-100 AHRS	145130-6000	1	2	Commercial
Calibration Prom	124282-0000	1	2	Commercial
Mounting Tray with Fan	144200-0000	1	2	Commercial

K. Warranty Policy:

Contact MD Helicopters 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.

Labor allowance will not be given for this installation.

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

P. Other Publications Affected:

CSP-RLB Rotorcraft Logbook

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-900RMM-2 Rotorcraft Maintenance Manual - Servicing and Maintenance

CSP-900RMM-3 Rotorcraft Maintenance Manual - Instruments-Electrical-Avionics

CSP-900IPL-4 Illustrated Parts List

Honeywell IFR STC SR00436WI-D

Installation Manual 006-00750-0000 KFC 900 AFCS and IFR Avionics

KFC 900 Rotorcraft Flight Manual Supplement (RFMS)

300-05647-0024 Two-Tube CNI Harness Assembly

300-05647-0001 Four-Tube CNI Harness Assembly

TECHNICAL BULLETIN

DATE: 12 DECEMBER 2022

PAGE 3 OF 8

2. ACCOMPLISHMENT INSTRUCTIONS

A. Preparation

- (1). Disconnect the electrical power. (Ref. CSP-900RMM-3, Chapter 96)
- (2). Remove access doors and panels as necessary. (Ref. CSP-900RMM-2, Chapter 06)

B. Modification for the Two-Tube Configuration

(Ref. Figure 1, Figure 2, and Figure 3)

- (1). Remove the LCR-92S AHRS 1.
- (2). Install a LCR-100 AHRS with calibration proms and mounting trays with fans.
- (3). Remove wire 1AHRS-106A22 from 1P921, pin 15 and 1P924, pin 36.
- (4). Rework 1P924. Remove wire from 1P924, pin 13 and reinstall on 1P924, pin 23.
- (5). Do a test of the system. (Ref. 006-00750-0000, 3. Post Installation Checkout)

C. Modification for the Four-Tube Configuration

(Ref. Figure 1, Figure 2, Figure 3, and Figure 4)

- (1). Remove the LCR-92S AHRS 1.
- (2). Install a LCR-100 AHRS with calibration proms and mounting trays with fans.
- (3). Remove wire 1AHRS-106A22 from 1P921, pin 15 and 1P924, pin 36.
- (4). Rework 1P924. Remove wire from 1P924, pin 13 and reinstall on 1P924, pin 23.
- (5). Remove the LCR-92S AHRS 2.
- (6). Install a LCR-100 AHRS with calibration proms and mounting trays with fans.
- (7). Remove wire 2AHRS-106A22 from 2P921, pin 15 and 2P924, pin 36.
- (8). Rework 2P924. Remove wire from 2P924, pin 13 and reinstall on 2P924, pin 23.
- (9). Do a test of the system. (Ref. 006-00750-0000, 3. Post Installation Checkout)

D. Job Close-Up

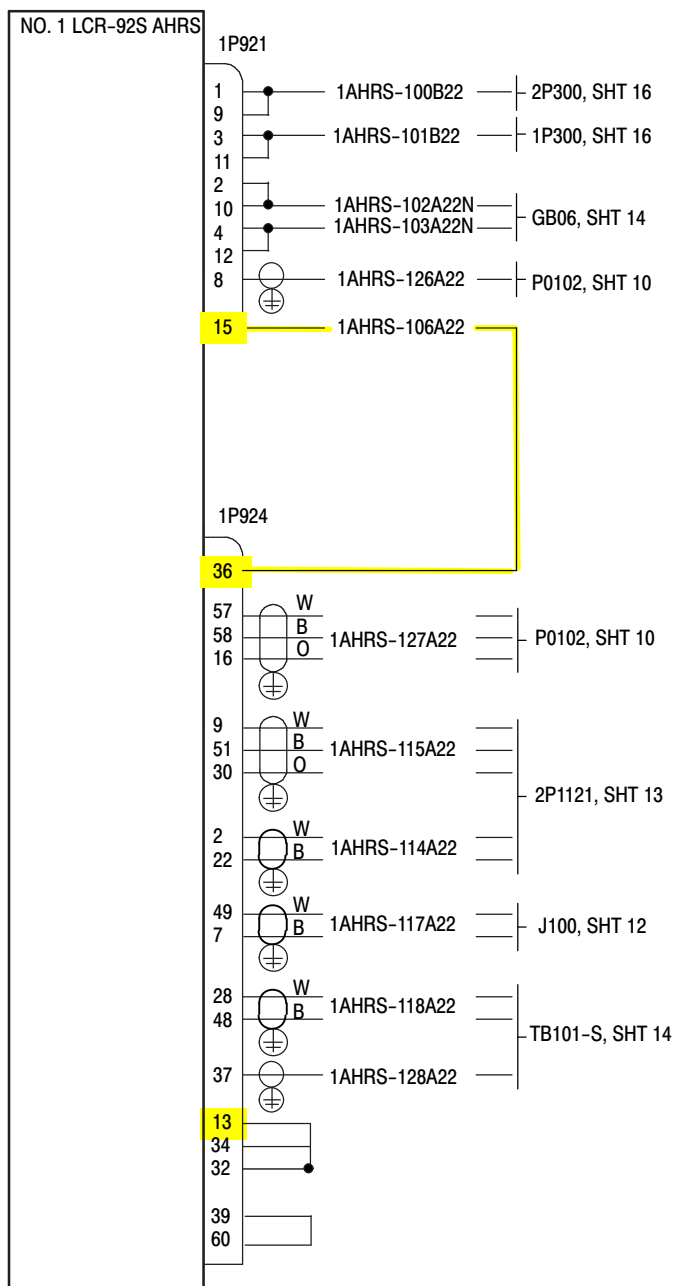
- (1). Make sure that all tools, equipment, and loose objects are removed from the (work area).
- (2). Make sure that the work area is clean.
- (3). Install (removed) access doors / panels. (Ref. CSP-900RMM-2, Chapter 06)

DATE: 12 DECEMBER 2022

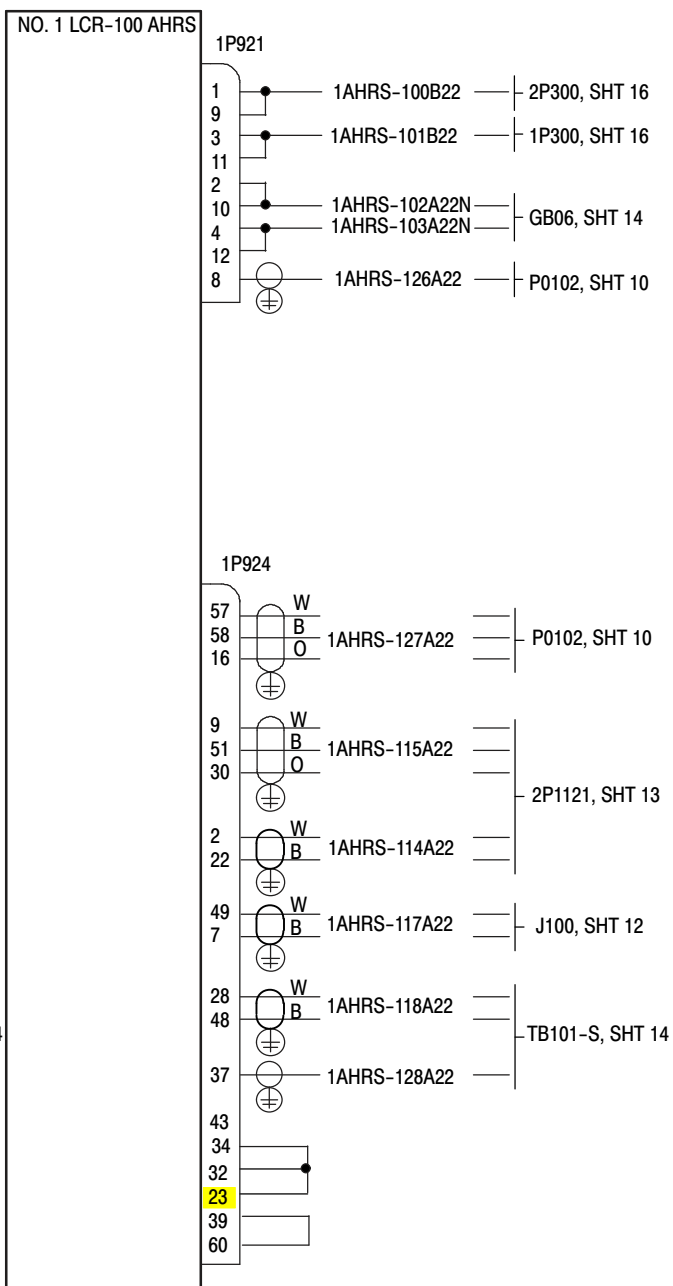
PAGE 4 OF 8

TECHNICAL BULLETIN

WAS:



IS:



006-05647-01

Figure 1. Modification for the LCR-100 Two-Tube AHRS No. 1

TECHNICAL BULLETIN

DATE: 12 DECEMBER 2022

PAGE 5 OF 8

COMMUNICATION/NAVIGATION/IDENTIFICATION	
KA 33 OR KA 33	071-04037-0003 071-4037-00
KA 44B OR KA 44B	071-01234-0000 071-1234-00

MECHANICAL GYRO SYSTEM	
KMT 112 OR KMT 112	071-01052-0000 071-1052-00

006-00750-02

Figure 2. Revision of Table A-1

ATTITUDE AND HEADING REFERENCE SYSTEM		NOTES
LCR-92S OR LCR-100	124282 124282-0000	#
LCR-92S OR LCR-100	140691 144200-0000	#
LCR-92S OR LCR-100	141852-1022 OR 141852-1011 145130-6000	#

AHRS COMPONENTS MUST BE USED IN SETS, ALL LCR-92 OR LCR-100.

006-00750-03

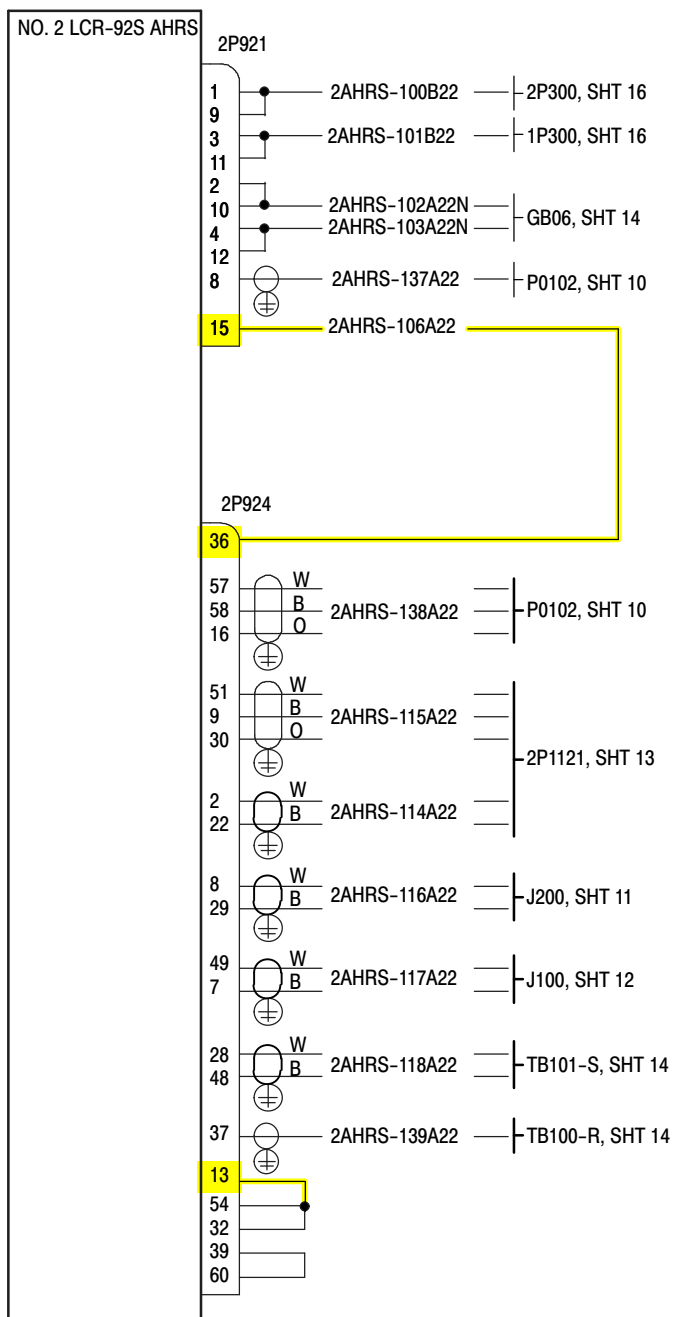
Figure 3. Revision of Table A-2

DATE: 12 DECEMBER 2022

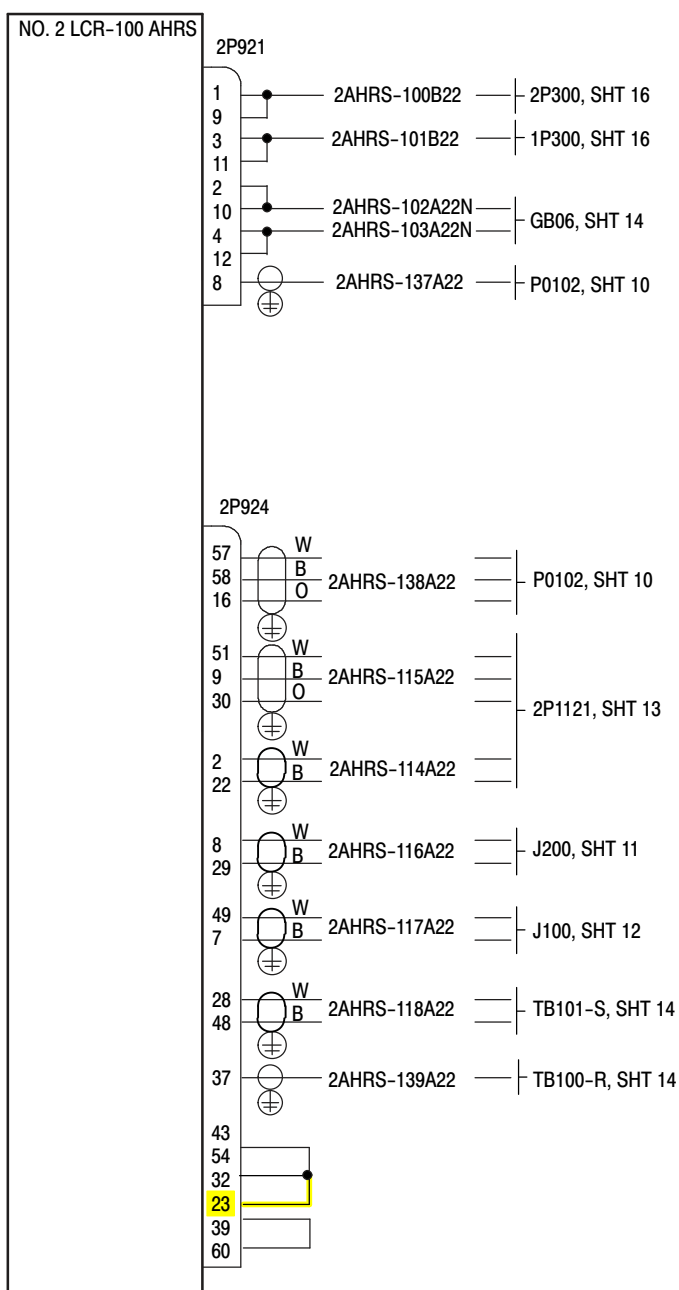
PAGE 6 OF 8

TECHNICAL BULLETIN

WAS:



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006-00750-01

Figure 4. Modification for the LCR-100 Four-Tube AHRS No. 2

TECHNICAL BULLETIN

DATE: 12 DECEMBER 2022

PAGE 7 OF 8

E. Compliance Record

- (1). Record compliance to this Technical Bulletin in the Compliance Record Log. (Ref. CSP-RLB-L8, Rotorcraft Log Book CSP-RLB)
- (2). Show compliance with this Technical 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 MD Helicopters Field Service Representative.

DATE: 12 DECEMBER 2022

PAGE 8 OF 8

TECHNICAL BULLETIN

TB900-053 Completion Record

REPLACEMENT OF ATTITUDE AND HEADING REFERENCE SYSTEM (AHRS) LCR-92S WITH LCR-100

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 email or speak to your Field Service Representative

Owner /Operator: _____	Rotorcraft Serial No: _____
Address: _____ _____ _____ _____	Rotorcraft Total Time: _____ Compliance Date: _____ Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete: _____

(Signature)

(Print Name)

(Title)

Comments: _____

TECHNICAL BULLETIN

DATE: 16 JUNE 2022

PAGE 1 OF 10

INSTALLATION OF A DUAL SYSTEM HYDRAULIC HAND PUMP

1. PLANNING INFORMATION

A. Rotorcraft Affected:

All MD900 rotorcraft

B. Assembly/Components Affected By This Bulletin:

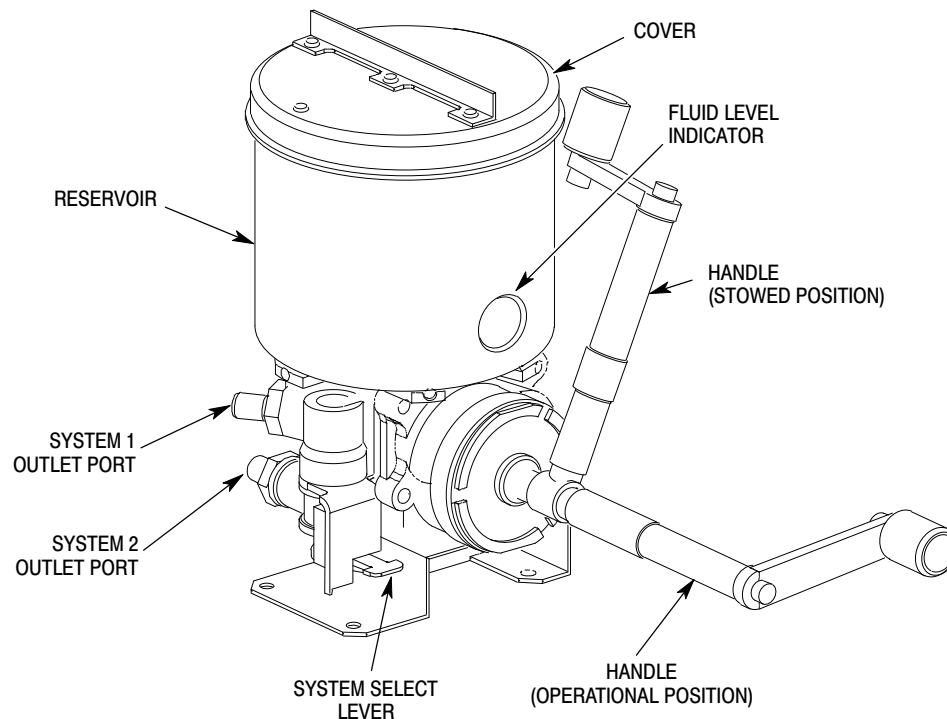
Part No. (PN) 900H7801501-101/-103 Hydraulic System Installation
PN 900H7801509-101 Dual Hydraulic System Hand Pump Installation
PN 900H3821503-101 Dual Hydraulic System Hand Pump

C. Reason:

A dual hydraulic system hand pump is available to install on the rotorcraft. (Ref. Figure 1)
This is a factory option, but this bulletin will permit operators to install the hand pump.
The hand pump will give operators the capability to pump fluid into the manifold / reservoir without a ground support unit.

D. Description:

Procedures in this Bulletin give owners and operators information to install the optional dual hydraulic system hand pump, PN 900H3821503-101.



900055-001

Figure 1. Optional Dual Hydraulic System Hand Pump

DATE: 16 JUNE 2022

PAGE 2 OF 10

TECHNICAL BULLETIN

E. Time of Compliance

Customer option, at owner/operator discretion.

F. FAA Approval:

The technical design aspects of this bulletin are FAA-approved.

G. Labor Hours:

Compliance with this bulletin will be approximately 8.0 labor 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>

Ref. CSP-SPM, 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
Dual System Hydraulic Hand Pump	900H3821503-101	1	MDHI
Hand Pump Fill System 1 Hydraulic Tube Assembly	900H2801800-101	1	MDHI
Hand Pump Fill System 2 Hydraulic Tube Assembly	900H2801810-105	1	MDHI
Permaswage Tee	MHS4524-4	2	MDHI
Flat Washer	AN960KD416L or NAS1149D0416K	4	MDHI
Short-Thread Tension Bolt	NAS6204-4	4	MDHI
Hydraulic Fluid, Fire-Resistant, Synthetic Hydrocarbon Base (NATO Code H-537)	MIL-PRF-83282 (C112 Hydraulic Fluid)	10 oz (0.295 liter)	Commercial

K. Warranty Policy:

Contact MDHI Warranty for prices, orders, availability, and service at:

<https://www.mdhelicopters.com/contact.html>.

Standard warranty policy applies.

TECHNICAL BULLETIN

DATE: 16 JUNE 2022

PAGE 3 OF 10

Additional discrepancies found over and above the specified warranty coverage is the responsibility of the customer.

Labor allowance will not be given for this installation.

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:**

Contact MDHI Spares Sales for parts availability at:
<https://www.mdhelicopters.com/contact.html>.

Ref. CSP-SPM, 91-00-00, for the item and manufacturer / supplier numbers.

TOOLS AND EQUIPMENT	
Nomenclature (Item)	Description / Source (Manufacturer)
Contamination Sampling and Analysis Equipment	Able to count particulate matter in the 5 to 10, 10 to 25, and 25 to 100+ micron ranges (Ref. SAE ARP598, latest revision)
Hydraulic Fluid Flow (Mule) Machine (T2001)	0 to 1000 psig with a flow rate to 2.2 gpm with HS4730-4 and HS4730-8-4 couplings to connect to the ground support equipment (GSE) pressure (-4) and return (-8-4) couplings
Hydraulic Fluid Pressure Hand Pump	2000 psig with HS4730-4 and HS4730-8-4 couplings to connect to the ground support equipment (GSE) pressure (-4) and return (-8-4) couplings
Jumper Assembly	To connect GSE pressure line from the reservoir to the hand-pump line to flush and do a proof-pressure test
MS Plug	To cap GSE return line from the reservoir to the hand-pump line to flush and do a proof-pressure test
Permaswage D10000 Series Swage Tools	PCC Fluid Fittings, 14800 South Figueroa Street, Gardena, California 90248 USA Phone: 1-310-323-6200 Website: pccfluidfittings.com
Permaswage D12200 and DLT-Series Swage Tools	

N. **Weight and Balance:**

This installation changes the rotorcraft weight and balance:

Weight and Balance					
Item	Weight, lb (kg)	Lateral		Longitudinal	
		Arm, inch (cm)	Moment, in-lb (Nm)	Arm, inch (cm)	Moment, in-lb (Nm)
900H7801509-101	6.4 (2.90)	-18.2 (46.228)	-117 (-13.22)	173.4 (440.436)	1110 (125.41)

DATE: 16 JUNE 2022

PAGE 4 OF 10

TECHNICAL BULLETIN

O. Electrical Load Data:

N/A

P. Other Publications Affected:

CSP-900IPC-4 Illustrated Parts Catalog

Q. Reference Publications:

Refer to the latest revision of these publications for procedures and additional information:

CSP-SPM Standard Practice Manual

CSP-900RMM-2 Rotorcraft Maintenance Manual – Servicing and Maintenance

CSP-900IPC-4 Illustrated Parts Catalog

TECHNICAL BULLETIN

DATE: 16 JUNE 2022

PAGE 5 OF 10

2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 2)

A. Preparation

- (1). Open Access Door L155. (Ref. CSP-900RMM-2, Chapter 06)
- (2). Prepare the mating bond surfaces for a Class S, Static Charge, for the hand pump installation. (Ref. CSP-SPM, 20-50-00, Table 201. Bonding Classes)
- (3). Install a shop towel or pan below the work area to catch hydraulic fluid drips and spills.

B. Installation

- (1). Install hand pump (1) on the upper deck with washers (3) and bolts (2).
 - (a). Torque bolts (2) **70 to 90 inch-pounds (7.91 to 10.16 Nm)**.
- (2). Do a Class S electrical bond test. (Ref. CSP-SPM, 20-50-00, Table 201. Bonding Classes)
 - (a). The DC resistance between the bonded hand pump and the roof structure must be **1.000 ohms maximum**.
- (3). Seal hand pump (1) with sealant (AMS-S-8802, Type II, Class B). (Ref. CSP-SPM, 20-50-00, 2.A. Faying Surface Sealing, and 2.D. Mechanical Fastener Sealing)
- (4). Install tee (4) in System 1 (Ref. CSP-SPM, 20-80-00, 1.A. Permaswage Fittings Installation):
 - (a). Install tee (4) in System 1 hydraulic tube (5).
 - (b). Install tee (4) in System 1 ground support equipment (GSE) return tube (6).
 - (c). Install System 1 hydraulic tube (5) on hand pump (1).
 - (d). Torque the connection of System 1 hydraulic tube (5) and hand pump (1) **135 to 145 inch-pounds (15.24 to 16.38 Nm)**.
- (5). Install tee (4) in System 2 (Ref. CSP-SPM, 20-80-00, Permaswage Fittings Installation):
 - (a). Install tee (4) in System 2 hydraulic tube (7).
 - (b). Install tee (4) in System 2 GSE return tube (8).
 - (c). Install System 2 hydraulic tube (7) on hand pump (1).

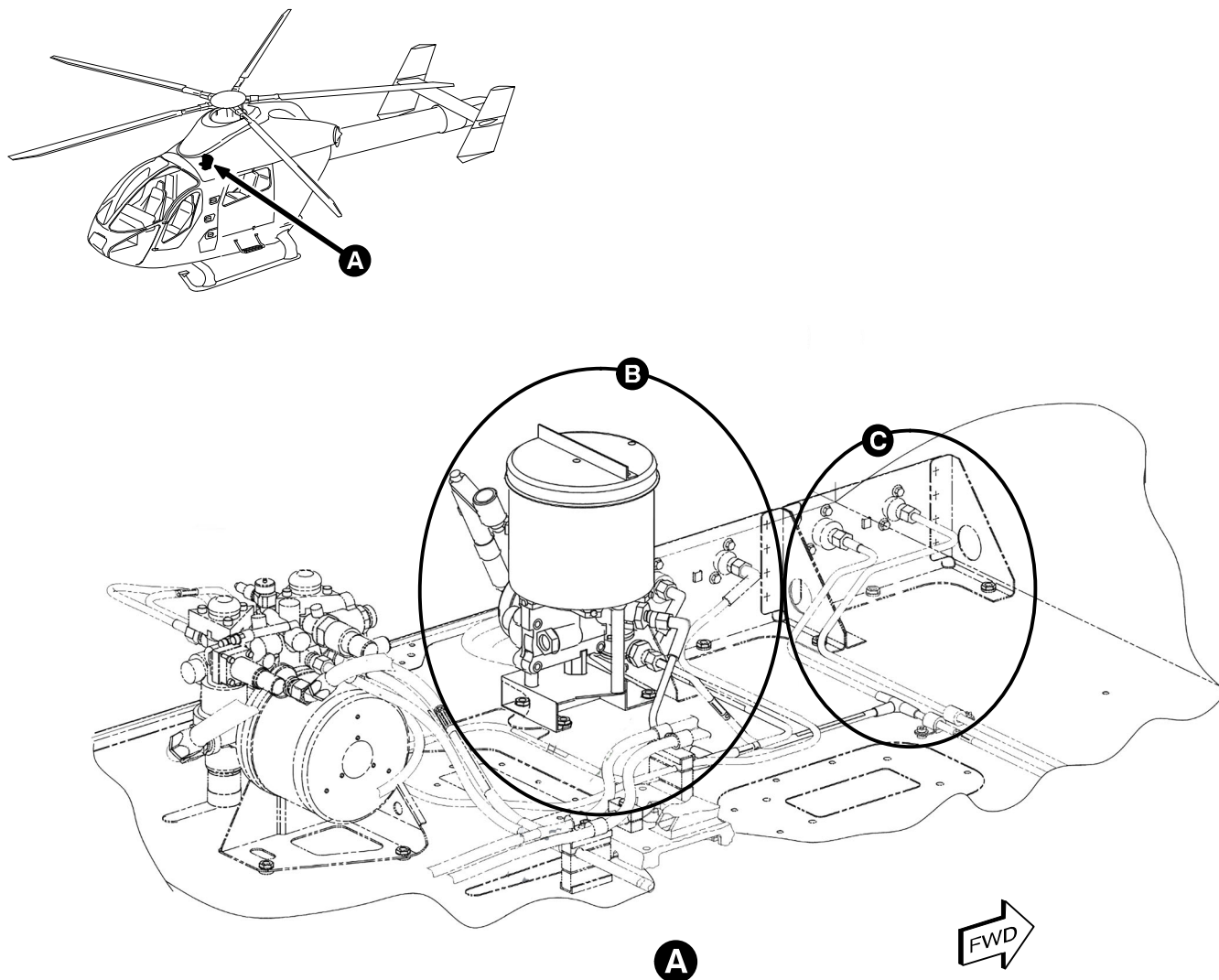
NOTE: The movement of the hand pump outlet port valve for System 2 is normal and by design.

- (d). Torque the connection of System 2 hydraulic tube (7) and hand pump (1) **135 to 145 inch-pounds (15.24 to 16.38 Nm)**.
- (6). Do a final inspection of the installation.
 - (a). Examine the swage connections. (Ref. CSP-SPM, 20-80-00, 1.A. Permaswage Fittings Installation)

DATE: 16 JUNE 2022

PAGE 6 OF 10

TECHNICAL BULLETIN



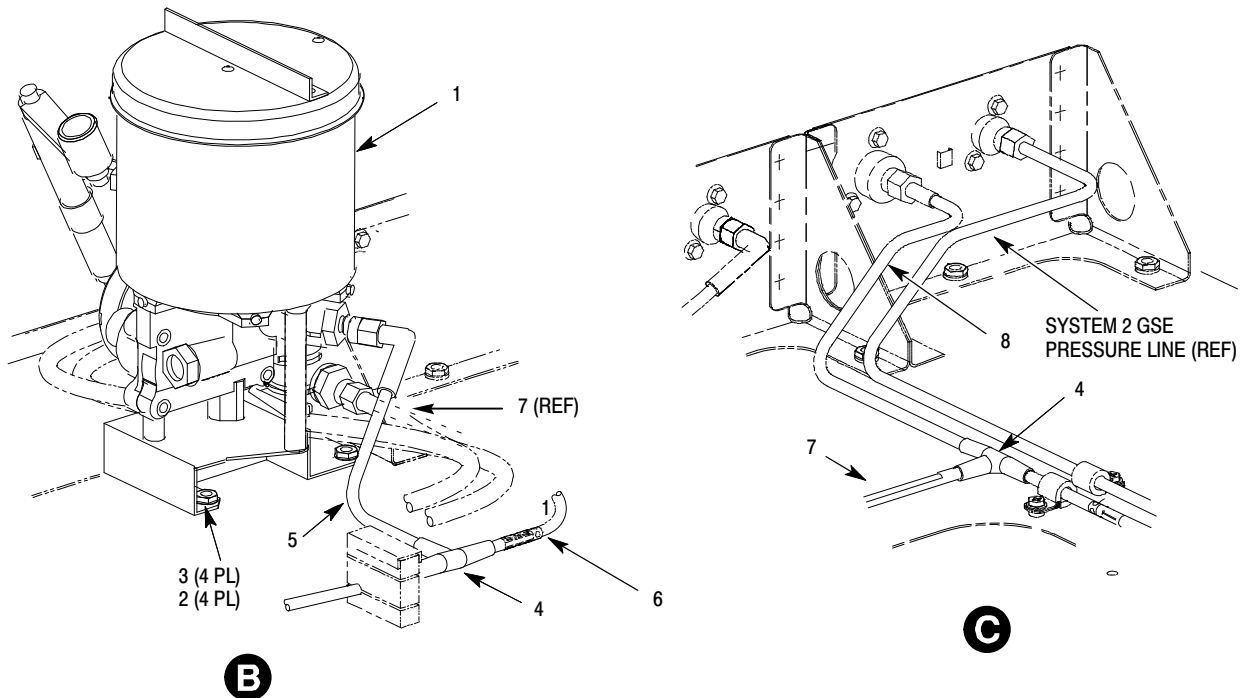
900055-003A

Figure 2. Installation of the Dual System Hydraulic Hand Pump (Sheet 1 of 2)

TECHNICAL BULLETIN

DATE: 16 JUNE 2022

PAGE 7 OF 10



900055-003B

- | | |
|--------------|-----------------------------|
| 1. HAND PUMP | 5. SYSTEM 1 HYDRAULIC TUBE |
| 2. BOLT | 6. SYSTEM 1 GSE RETURN TUBE |
| 3. WASHER | 7. SYSTEM 2 HYDRAULIC TUBE |
| 4. TEE | 8. SYSTEM 2 GSE RETURN TUBE |

Figure 2. Installation of the Dual System Hydraulic Hand Pump (Sheet 2 of 2)

C. Pressure Leak Test

(Ref. Figure 3)

- (1). Fill the system with hydraulic fluid (C112).
- (2). Connect jumpers.
- (3). Install the plugs.
- (4). Do a pressure leak test for System 1. (Ref. SAE AMS2615, Hydraulic Pressure Testing, latest revision)
 - (a). Connect the pressure source to the GSE pressure port for System 1.
 - (b). Test to **1000 psi (6894.75 kPa) minimum**.
 - (c). After **3 minutes** of the application of the proof pressure, examine System 1 for leaks or seeps at all swages, fittings, plugs, and jumpers.
 - (d). Examine tubes for damage.
 - (e). No external leakage or damage is permitted.

DATE: 16 JUNE 2022

PAGE 8 OF 10

TECHNICAL BULLETIN

- (5). Do a pressure leak test for System 2. (Ref. CSP-900RMM-2, 29-00-00, 1.B. Hydraulic System Pressure Leak Test)
 - (a). Connect the pressure source to the GSE pressure port for System 2.
 - (b). Test to **1000 psi (6894.75 kPa) minimum**.
 - (c). After **3 minutes** of the application of the proof pressure, examine System 2 for leaks or seeps at all swages, fittings, plugs, and jumpers.
 - (d). Examine tubes for damage.
 - (e). No external leakage or damage is permitted.

D. System Flush

- (1). Connect the GSE pressure and return ports to a hydraulic pressure source.
- (2). Flush System 1 at **500 psig (3447.37 kPa)** for **3 minutes** with jumpers and plugs.
- (3). Flush System 2 at **500 psig (3447.37 kPa)** for **3 minutes** with jumpers and plugs.

E. Functional Test

- (1). Fill the reservoir of the hand pump with hydraulic fluid (C112).
- (2). Open the reservoir bleed valve to bleed each manifold reservoir for systems 1 and 2 to the REFILL line on the sight gauge.
- (3). Set the system select valve to a force not more than **6 pounds-force (26.26 N)** for System 1.
- (4). Turn the hand pump handle no more than **6 times**, with a force not more than **10 pounds-force (44.48 N)** until the System 1 reservoir is full.
- (5). Set the system select valve to a force not more than **6 pounds-force (26.26 N)** for System 2.
- (6). Turn the hand pump handle no more than **6 times**, with a force not more than **10 pounds-force (44.48 N)** until the System 2 reservoir is full.

TECHNICAL BULLETIN

DATE: 16 JUNE 2022

PAGE 9 OF 10

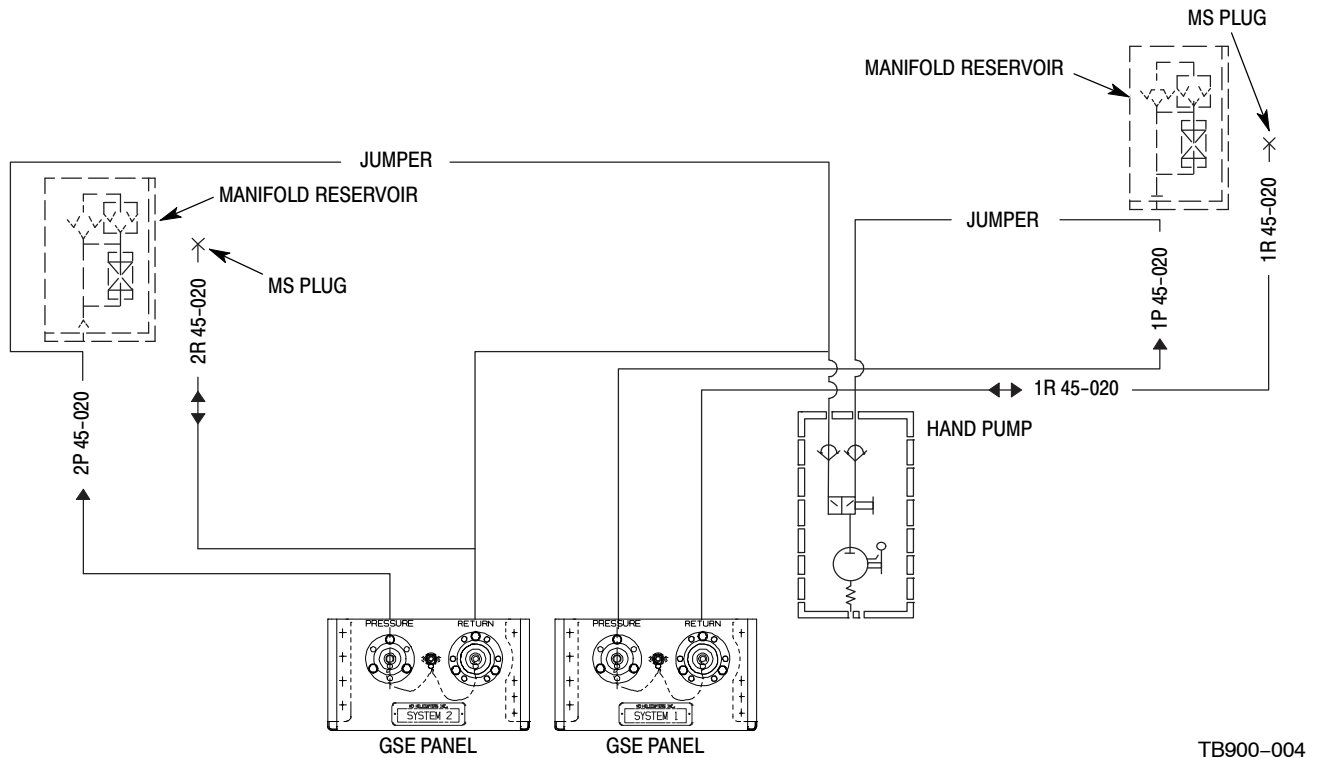


Figure 3. Test Setup

F. 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). Close Access Door L155. (Ref. CSP-900RMM-2, Chapter 06)

G. Compliance Record

- (1). Record compliance to this Technical Bulletin in the Compliance Record Log (ref. CSP-RLB-L8) Rotorcraft Log Book CSP-RLB.
- (2). Show compliance with this Technical 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.
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DATE: 16 JUNE 2022

PAGE 10 OF 10

TECHNICAL BULLETIN

TB900-055 Completion Record

Installation of a Dual System Hydraulic Hand Pump

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: _____	Rotorcraft Serial No.: _____
Address: _____ _____ _____ _____	Rotorcraft Total Time: _____ Compliance Date: _____ Location: _____
Phone: _____	
E-mail: _____	

This bulletin is complete: _____

(Signature)

(Print Name)

(Title)

Comments: _____

