



TECHNICAL BULLETIN

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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 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) 891-6342. DATAFAX: (480) 891-6782.

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

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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



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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

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2. ACCOMPLISHMENT INSTRUCTIONS

A. Upper Deck Preparation:

(Ref. Figure 1)

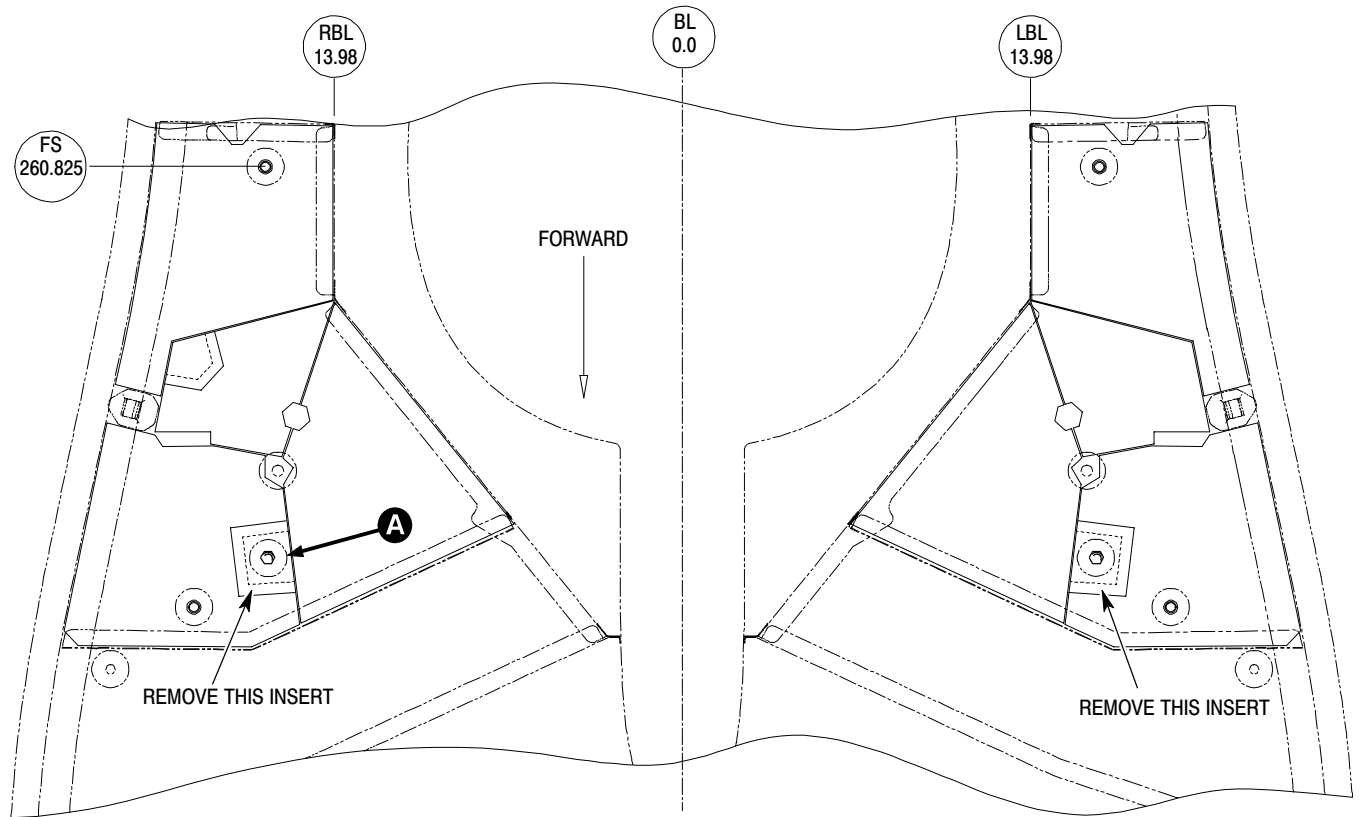


Prior to removing the A620 electrical load center note the location of any option installed electrical components or wiring. Ensure all electrical components and wiring are re-installed/re-connected at completion of modification.

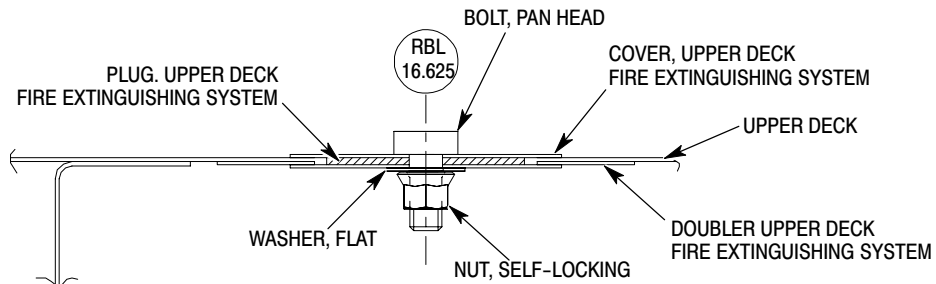
- (1). Remove A620 electrical load center (Ref. CSP-900RMM-3).
- (2). Remove left engine cowling L260 and right engine cowling R260 (Ref. CSP-900RMM-2).
- (3). Remove left and right forward outboard engine deck insulation to expose upper deck plug, fire extinguishing system.
- (4). Remove insert from 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.

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LOOKING DOWN AT UPPER DECK



PLUG INSTALLATION, UPPER DECK
RIGHT SHOWN, TYPICAL



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Figure 1. Upper Deck Preparation

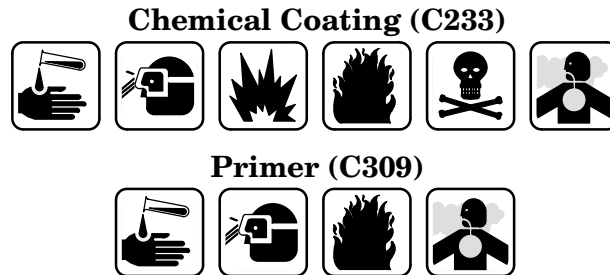
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B. Fire Extinguisher Installation:

(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.



- (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).

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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.

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- (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.

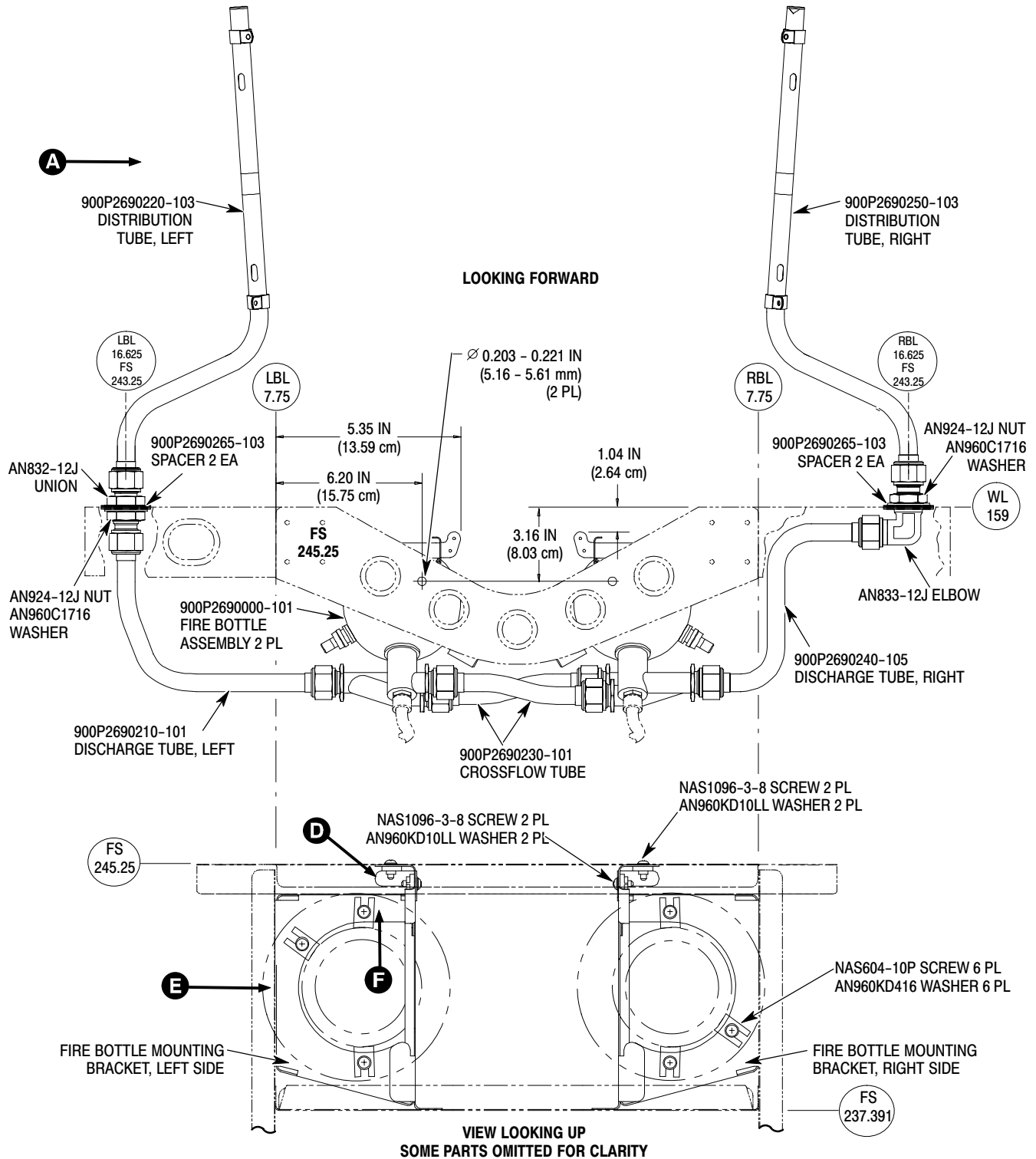
Primer (C309)



- (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).

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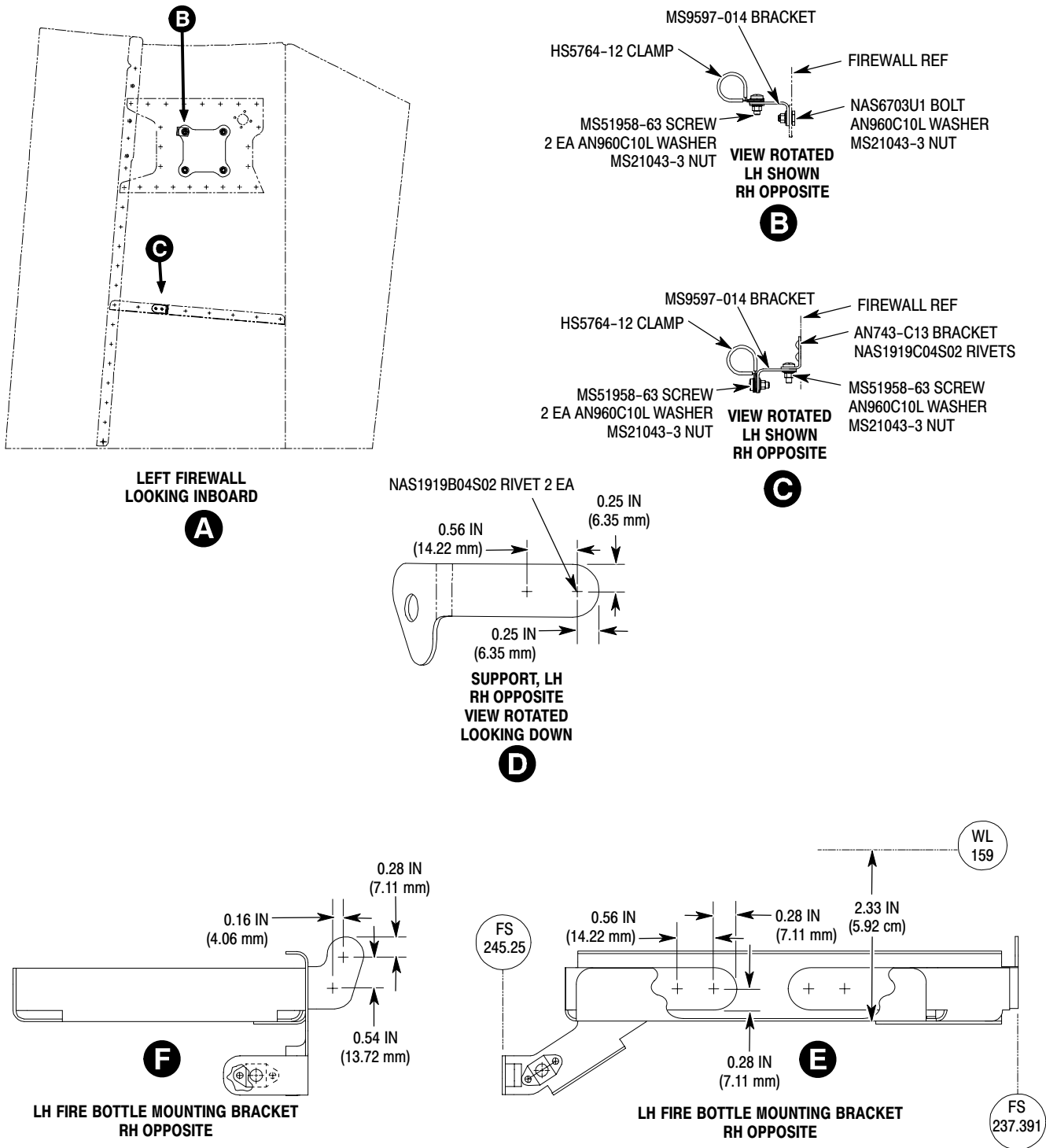


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Figure 2. Fire Extinguisher Installation (Sheet 1 of 2)

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

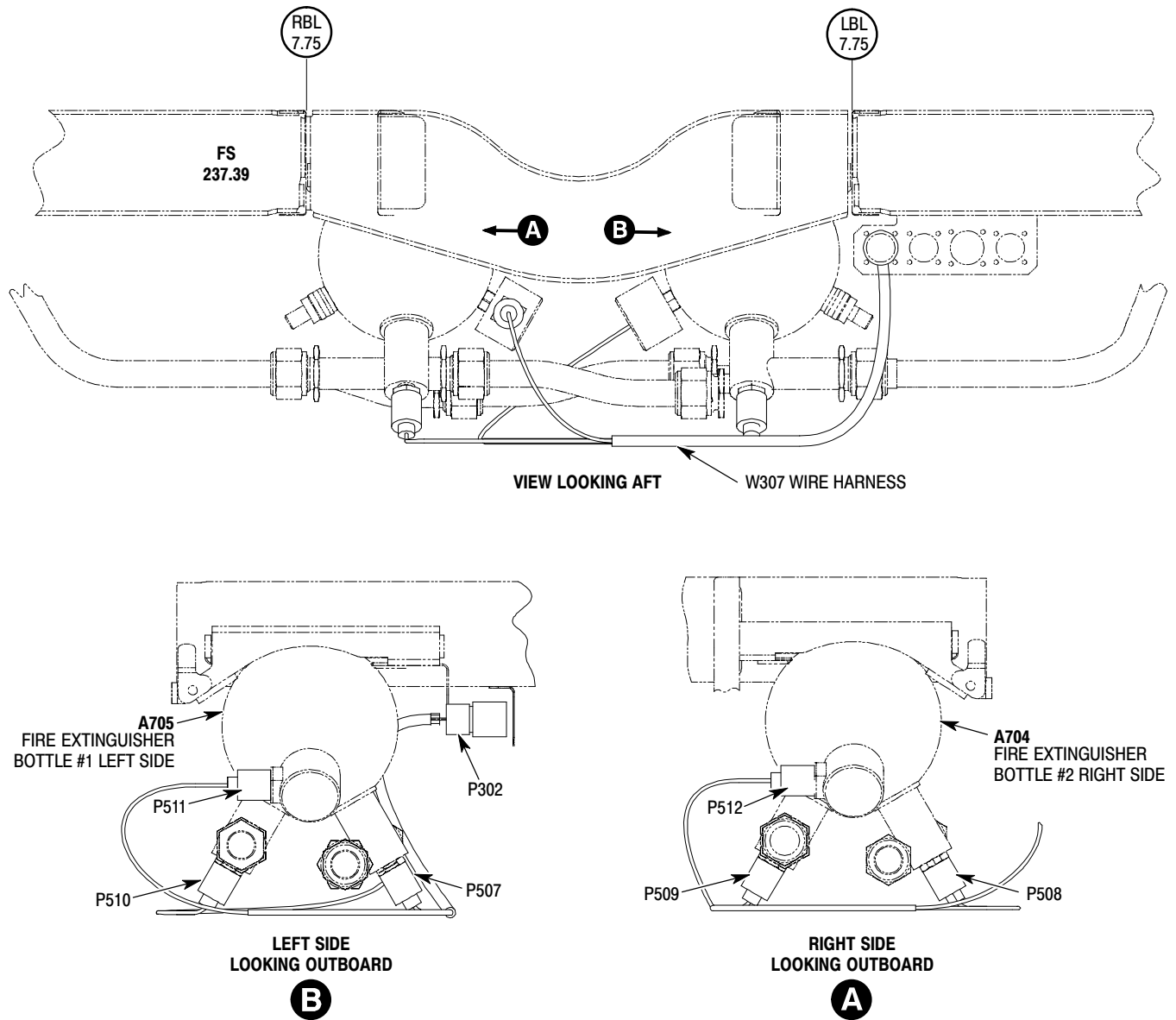
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C. Installation, W307 Wire Harness:

(Ref. Figure 3)

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



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Figure 3. Wire Harness W307 Installation

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D. Installation, Fire Bottle Discharge Switch:

(Ref. Figure 4)

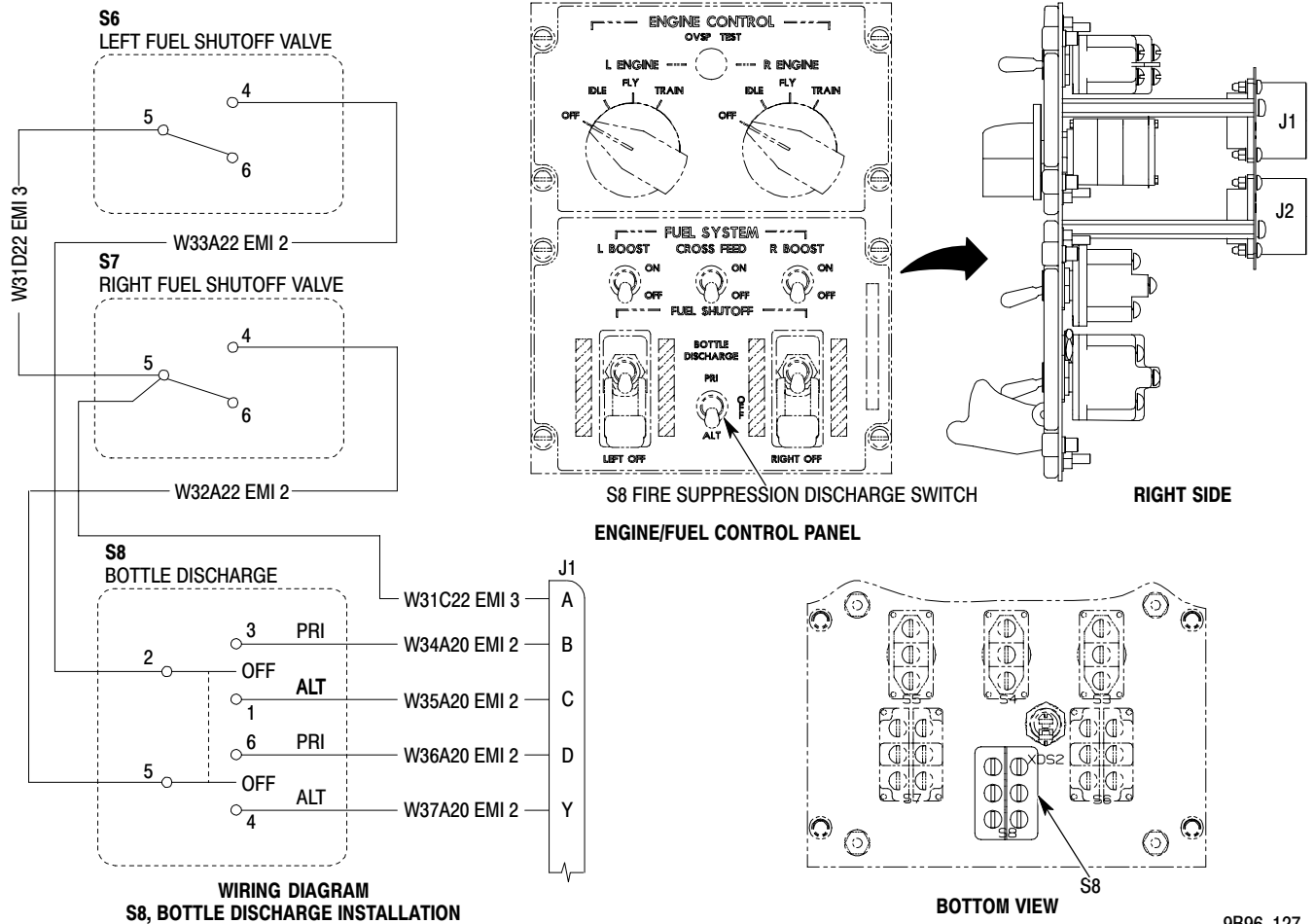
- (1). Fabricate wires in accordance with wire build table and CSP-900RMM-3.

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.

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Figure 4. Fire Bottle Discharge Switch (S8) Installation



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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: