

**TECHNICAL BULLETIN**  
**Bell Helicopter** **TEXTRON**

A Subsidiary of Textron Inc.

No. 222-04-172  
Date Oct 28, 2004  
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DATE
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**MODEL AFFECTED:** 222B

**SUBJECT:** BULKHEAD STA. 270, IMPROVEMENT OF

**HELICOPTERS AFFECTED:** Model 222B helicopters serial number 47131 through 47155

**COMPLIANCE:** Bell Helicopter recommends accomplishment of this bulletin

**DESCRIPTION:**

Field reports have been received on cracking of the bulkhead P/N 222-031-505-001 at Sta 270. The cracks in the bulkhead were found in the area of the left hand nodal beam support fitting P/N 222-031-592.

This bulletin introduces a reinforcement to the left hand side of bulkhead P/N 222-031-505-001. A doubler assembly and an angle will be added to the L.H. aft side of the bulkhead.

This bulletin does not apply to bulkheads with existing cracks in nodal beam support area or to aircraft that have been issued an approved Bell Helicopter repair for bulkhead 222-031-505-001. This bulletin also does not apply to aircraft that have a spliced repair using P/N 222-031-505-101 bulkhead.

**APPROVAL:**

The engineering design aspects of this bulletin are Transport Canada approved.

**MANPOWER:**

Approximately 30 man-hours are required to complete this bulletin. Man-hours are based on hands-on time, and may vary with personnel and facilities available.

**MATERIALS:****Required Material:**

The following material is required for the accomplishment of this bulletin and may be obtained through your Bell Helicopter Textron Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>
222-031-701-101	Doubler Assembly	1
222-031-701-119	Angle	1
222-031-519-115	Shim	1
222-031-519-117	Shim	1
MS20470AD4-7	Rivet	2
MS20470AD5-8	Rivet	17
MS20426AD5-8	Rivet	1
100-048-5-3	Pin	12
100-048-5-4	Pin	6
100-048-6-4	Pin	13
100-048-6-5	Pin	2
100-048-6-6	Pin	6
100-048-6-7	Pin	4
100-048-8-3	Pin	12
100-048-8-8	Pin	4
30-015-5	Collar	18
30-015-6	Collar	25
30-015-8	Collar	16
NAS6604-5	Bolt	2
NAS6604-7	Bolt	2
NAS1149DO463J	Washer	4
MS21042L4	Nut	4

**Consumable Material:**

The following material is required to accomplish this bulletin, however this is considered consumable material (bench stock) and may not require ordering, depending on the operators consumable material stock levels. This material may be obtained from your Bell Helicopter Textron Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>	<u>reference</u>
GSC377 (Mil-P-23377)	Epoxy primer	1	C-204
MIL-PRF-81733 TYII	Sealant	1	C-392

**SPECIAL TOOLS:**

None required

**WEIGHT AND BALANCE:**

Not affected

**ELECTRICAL LOAD DATA:**

Not affected

**REFERENCES:**

BHT-222/222B-MM-1  
BHT-222B-IPB

**PUBLICATIONS AFFECTED:**

None.

**ACCOMPLISHMENT INSTRUCTIONS:**

1. Remove necessary components to gain access to left hand nodal beam support fitting 222-031-592. Remove aircraft interior on lower side of bulkhead 222-031-505-001 at station 270.0.
2. Disconnect all electrical power.
3. Remove panels from inside cabin area on lower side of bulkhead at Sta.270. Refer to BHT-222/222B-MM-1 and BHT-222B-IPB.

**CAUTION**

Do not mix or destroy shims between fitting 222-031-592 and bulkhead 222-031-505-001.

4. Remove fitting 222-031-592 from the upper surface of bulkhead 222-031-505-001. Retain shims 222-031-519-115 / -117 for reinstallation. Damaged shims should be measured and new shims prepared of same thickness. Refer to Manual BHT-222/222B-MM-1 and BHT-222B-IPB for location.
5. To gain better access, it may be required to mark, disconnect electrical wires and remove components on aft side of bulkhead 222-031-505-001. Refer to figure 2 (sheets 1,2) for location.

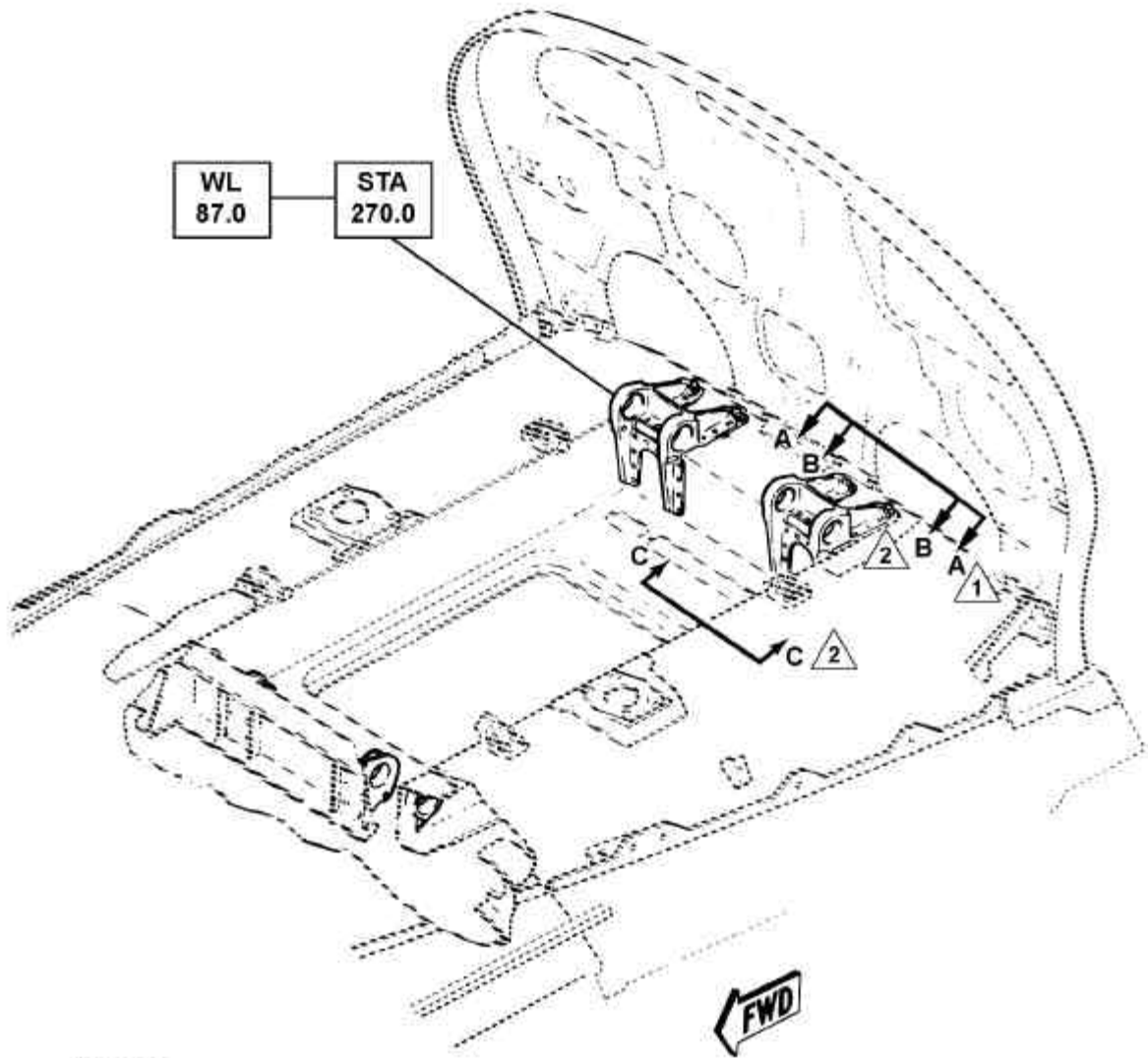
6. Clean forward and aft surfaces of bulkhead 222-031-505-001. Refer to figure 1, 2 (sheets 1,2). Inspect bulkhead 222-031-505-001 using fluorescent penetrant at all fastener holes common to fitting 222-031-592. Refer to BHT-ALL-SPM for inspection process.

**-NOTE-**

Doubler assembly 222-031-701-101 will be installed on the aft side of bulkhead at Sta.270 and access will be through the panel on the bottom side of bulkhead 222-031-505-001 at Sta 270.

7. Remove rivets in vertical flanges on aft side of bulkhead 222-031-505-001. Refer to figure 2 (sheet 2, 3) for location of fasteners to be removed.
8. Locate doubler 222-031-701-101 on aft side of bulkhead, hold firmly in place and drill through pilot holes in doubler into bulkhead. Hold in place using clecos or other sheet metal fasteners. Refer to figure 2 (sheets 1,2).
9. Position angle 222-031-701-119 on aft side of doubler 222-031-701-101 and against vertical flange. Back drill into angle from pilot holes in doubler and existing holes in vertical flange as shown in figure 2 (sheets 2, 3).
10. Drill through existing holes in bulkhead 222-031-505-001, common to fitting 222-031-592, into doubler 222-031-701-101. It is recommended to use locally fabricated drill bushing when drilling through existing holes.
11. Enlarge fastener holes to full size. Do not damage existing holes. Refer to figure 2 (sheets 2, 3) for fastener size.
12. Remove doubler assembly 222-031-701-101, angle 222-031-701-119 and clean area. Debur all new holes.
13. Prepare and prime all bare metal areas using C-204. Refer to BHT-ALL-SPM for procedures.
14. Prepare to install doubler assembly 222-031-701-101 and angle 222-031-701-119. Apply a thin layer of sealant C-392 to faying surface. Install doubler and angle 222-031-701-119 and secure in place using fasteners called out in figure 2 (sheets 2, 3).

15. Prepare to install nodal beam fitting 222-031-592. Ensure original shim thickness and location is maintained. Install fasteners wet using primer MIL-P-23377, (do not use prime MIL-P-85582 for wet install). Refer to figure 2 (sheet 3) for fastener call out.
16. Seal all edges around fitting 222-031 592 using C-392.
17. Reinstall electrical wires and components that were removed for convenience. Reinstall access panel on lower side of bulkhead 222-031-505-001.
18. Re-install all parts that were removed for this bulletin.
19. Annotate records to reflect accomplishment of this bulletin.
20. Return helicopter to flight status.



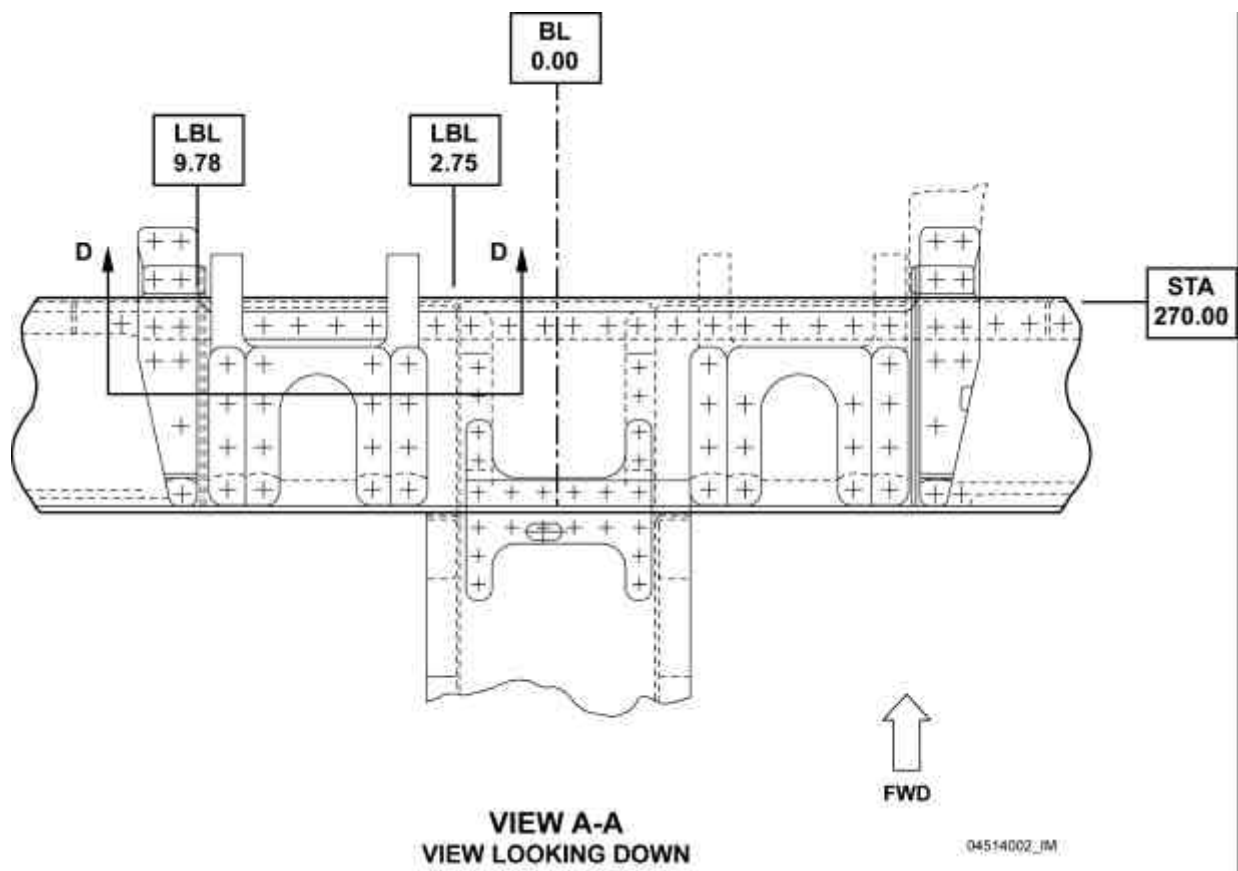
**NOTES**

- 1** See figure 2 for modification of bulkhead P/N 222-031-505-001.
- 2** See figure 3 for support P/N 222-031-592 installation, fastener call-out.

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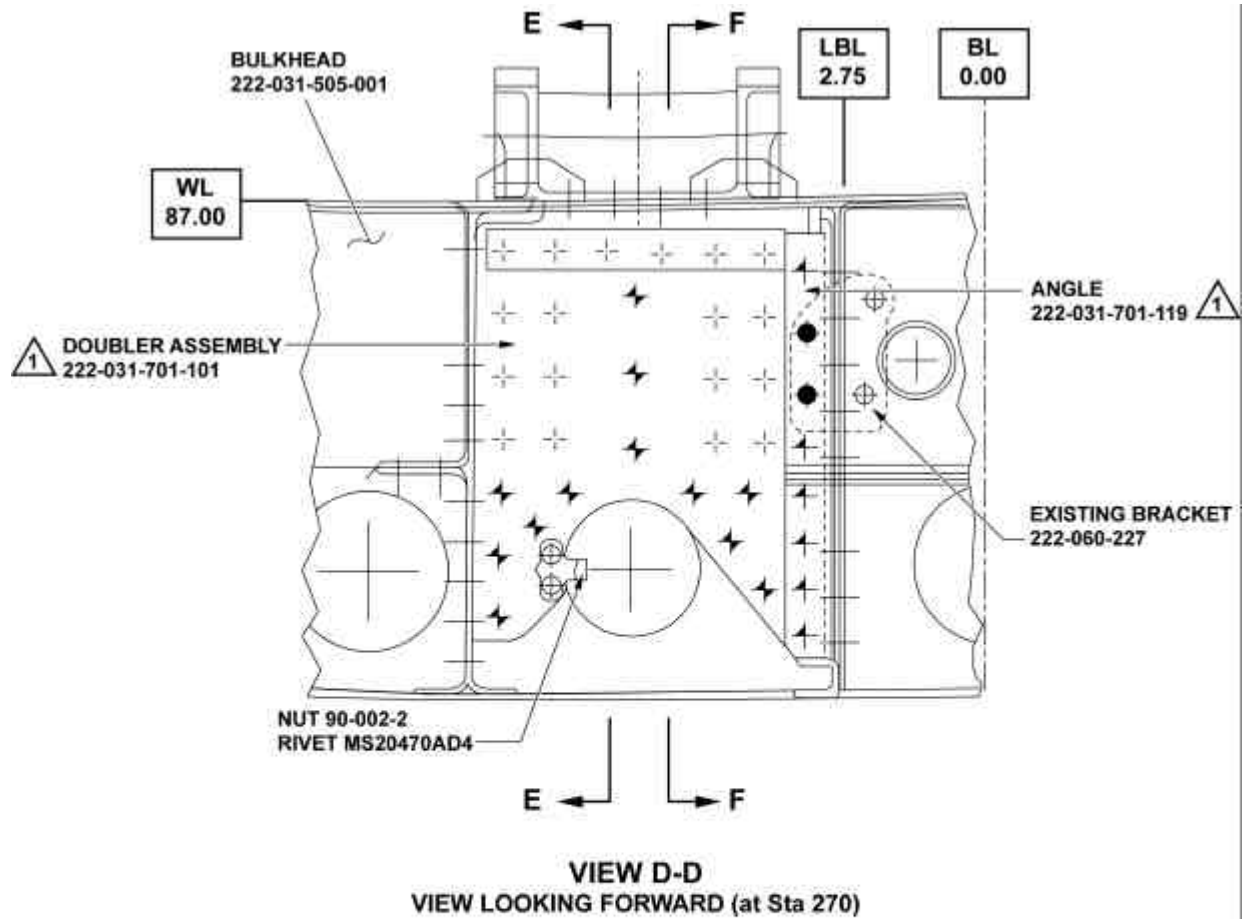
**Location of Bulkhead P/N 222-031-505-001**

**Figure 1**



Modification to L.H. Side of Bulkhead P/N 222-031-505-001

Figure 2 (sheet 1 of 3)



**LEGEND:**

- ✦ Existing fasteners, see Figure 3
- ⚡ Added fasteners P/N 100-048-5-3
- ✦ Added fasteners P/N 100-048-5-4
- ⊕ Bolt NAS6604-5, washer NAS1149DO463J, nut MS21042L4
- Bolt NAS6604-7, washer NAS1149DO463J, nut MS21042L4

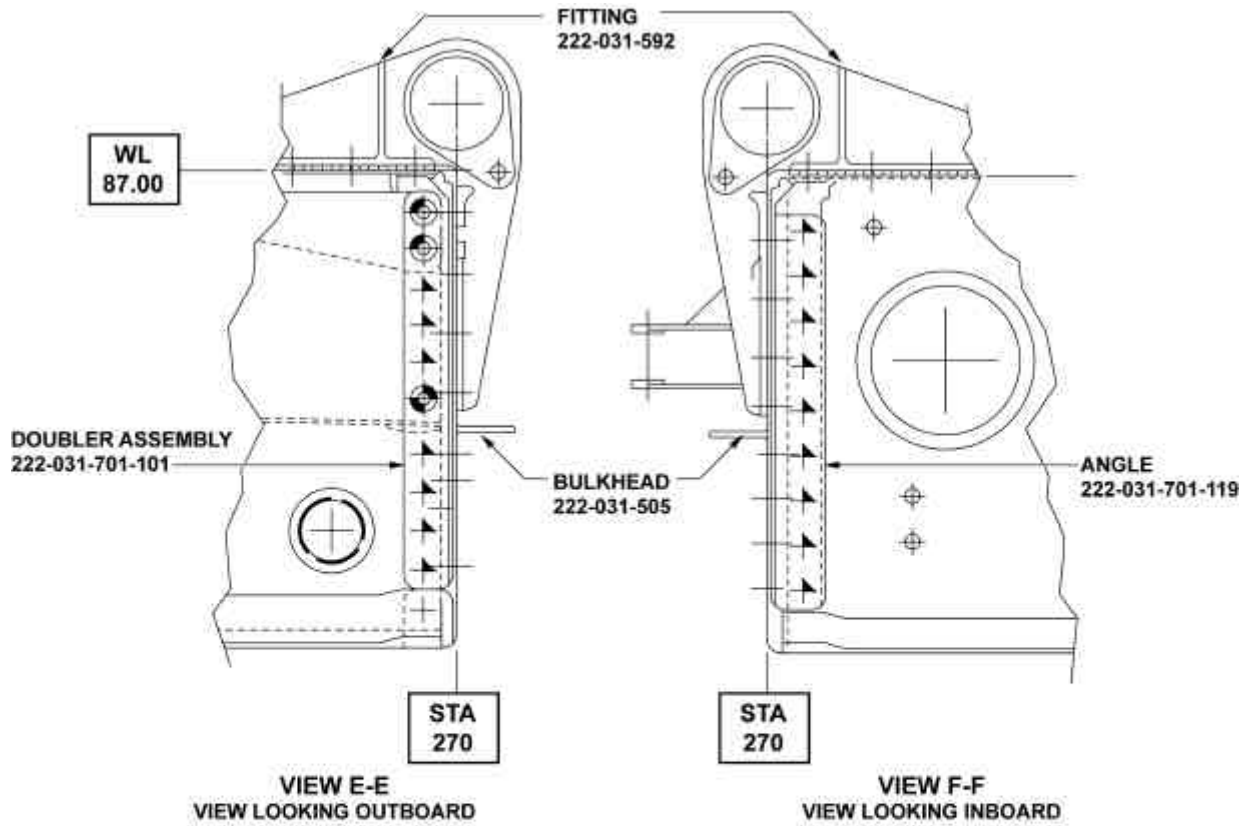
**NOTE:**

- ⚠ Seal faying surfaces using C-392.




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**Bulkhead P/N 222-031-505-001, Post Mod**

**Figure 2 (sheet 2 of 3)**



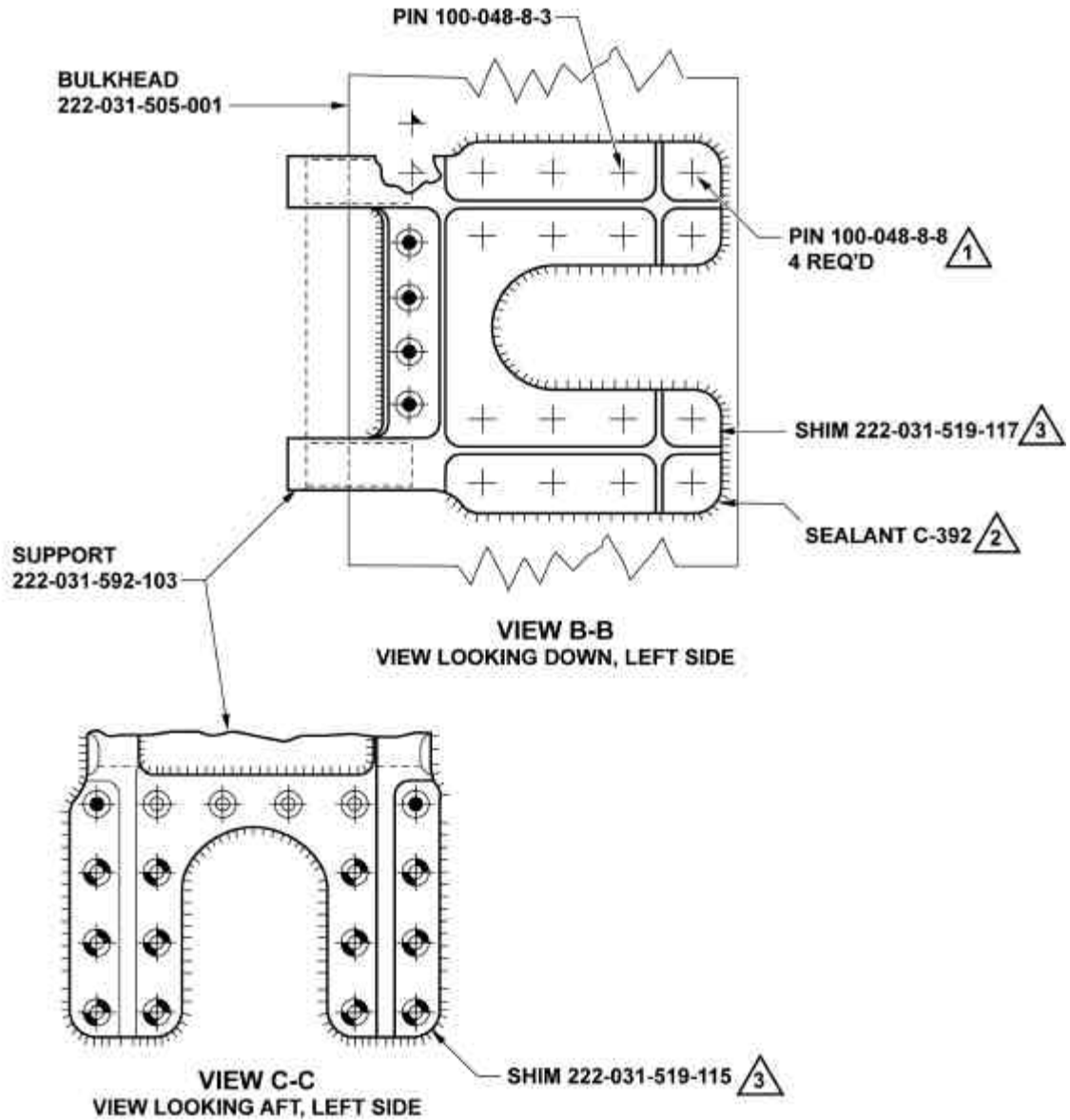
LEGEND:

-  Rivet MS20470AD5
-  Pin 100-048-6-5 with collar 30-015-6
-  Pin 100-048-6-4 with collar 30-015-6

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Bulkhead P/N 222-031-505-001, Fastener Installation, Post Mod

Figure 2 (sheet 3 of 3)



**LEGEND:**

- + Existing fasteners
- ✚ Rivet MS20470AD5
- ✚ Rivet MS20426AD5
- ⊙ Pin 100-048-6-4 with collar 30-015-6
- ⊙ Pin 100-048-6-6 with collar 30-015-6
- ⊙ Pin 100-048-6-7 with collar 30-015-6

**NOTES**

- ① Wet install all pins using primer MIL-P-23377.
- ② Seal all edges using MIL-PRF-81733.
- ③ Wet install shims using primer MIL-P-23377.

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**Support Installation P/N 222-031-592**

**Figure 3**