

# TECHNICAL BULLETIN

NO. 214-93-74  
DATE 3-29-93  
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**Bell Helicopter** **TEXTRON**

A Subsidiary of Textron Inc

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DATE
REV.

**MODEL AFFECTED:** 214B/214B-1 Helicopters

**SUBJECT:** MODIFICATION OF AFT ENGINE MOUNT SUPPORT U CHANNEL

**HELICOPTERS AFFECTED:** All Model 214B and 214B-1 helicopters S/N 28001 through 28034 and 28036 and subsequent.

214B helicopter S/N 28035 had the intent of this bulletin incorporated prior to delivery.

**COMPLIANCE:** At customer's option

**DESCRIPTION:**

Operators have reported cracks in the aft engine mount support U channel in the area where the channel is tied to the main beam caps.

This technical bulletin will provide a modification at BL 14.00 to reinforce the U channel attachment at the main beam caps.

**FAA APPROVAL:**

The Engineering Design aspects of this bulletin are FAA/DER approved.

**MANPOWER:**

It is estimated that approximately 12 manhours will be required to accomplish this bulletin. Manhours are based on "hands-on" time and may vary with manpower and facilities available to the operator.

**MATERIALS:**

The following materials will be available through normal authorized BHTI Supply Outlets:

78N1 28913

AN APPROPRIATE ENTRY SHOULD BE MADE IN THE AIRCRAFT LOG BOOK UPON ACCOMPLISHMENT  
IF OWNERSHIP OF AIRCRAFT HAS CHANGED PLEASE FORWARD TO NEW OWNER

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>
214-961-146-0155	stiffener	2 ea.
214-961-146-101	Clip	4 ea.
MS20427M4C5	Rivet	2 ea.
MS20470E6-5	Rivet	16 ea.
MS20615-4MP8	Rivet	12 ea.
MS20615-4MP9	Rivet	4 ea.
100-049-6-5	Hi-Lok	40 ea.
30-017-6	Collar	40 ea.
Magnobond 6398 50 GM	Adhesive	1 ea.
MILSS802CLB2 80Z KIT	Sealant	1 ea.

**SPECIAL TOOLS:**

LTCT1477 Engine Lifting Sling

**WEIGHT AND BALANCE:**

Compliance with this bulletin affects the weight and balance of the helicopter as shown in the following chart. Adjust ballast as necessary, to return helicopter empty weight within allowable center-of-gravity limits.

	<b>WEIGHT (POUNDS)</b>	<b>LOCATION (INCHES)</b>	<b>MOMENT (INCH-POUNDS)</b>
<b>LONGITUDINAL</b>	+0.25	FS 200.0	50

**ELECTRICAL LOAD DATA:**

Not affected

**REFERENCES:**

Model 214B/B1 Maintenance Manual, BHT 214B-MM-1  
Model 214B/B1 CR&O Manual, BHT-214B-CR&O-1  
Textron Lycoming T5508D Maintenance Manual No. T5508.2

**PUBLICATIONS AFFECTED:**

None

ACCOMPLISHMENT INSTRUCTIONS:

**NOTE**

Refer to the Maintenance and Overhaul Manuals for detailed instructions on removal and reinstallation of helicopter components.

1. Prior to rework, remove the following components: the upper engine cowling, upper tail pipe cowling and ejector, lower tailpipe cowling, and door assembly P/N 205-030-417. (Antenna access).
2. Attach the engine lifting sling, P/N LTCT14700 to the engine.
3. Attach a hoist to the engine sling, and support the aft end of the engine (DO NOT LIFT THE ENGINE).

**NOTE**

The procedure below is for the LH BL 14.00 attachment. The RH BL 14.00 procedure is identical.

**NOTE**

It is recommended that this modification be accomplished one side at a time to prevent misalignment of the U channel installation.

4. Refer to Figure 1. Remove 2 existing clips at Sta. 200.75 which attach the aft engine mount support U channel to the left BL 14.00 main beam cap. Discard clips.
5. Remove vertical fasteners which attach the U channel to the engine deck from LH BL 14.00 inboard approximately 4.5 inches.
6. Nest the P/N 214-961-146-015 stiffener inside the U channel as shown.
  - a. Fabricate a filler (.032 thick 2024T3 1.20 x 1.180) and locate as shown.
  - b. Refer to View A. Measure gap between the -015 stiffener and U channel.
    1. If total gap exceeds .010 symmetrically shim the vertical legs of the -015 stiffener to achieve a gap of 0.010 or less.
    2. Locally fabricate shims from 2024T3 aluminum.

7. Temporarily locate P/N 214-961-146-015 stiffener, the filler and (if required) shims and the P/N 214-961-146-101 clips.
8. Pickup existing fastener holes in the main beam cap and in the engine deck.
9. Layout and drill new fastener holes in the clip, U channel, stiffener and, if required, shims.
10. Disassemble and deburr all holes.
11. The filler and (if required) shims will be bonded:
  - a. Clean the P/N 214-961-146-015 stiffener, filler and shims with cheesecloth dampened with Methyl-Ethyl-Ketone (MEK).

**NOTE**

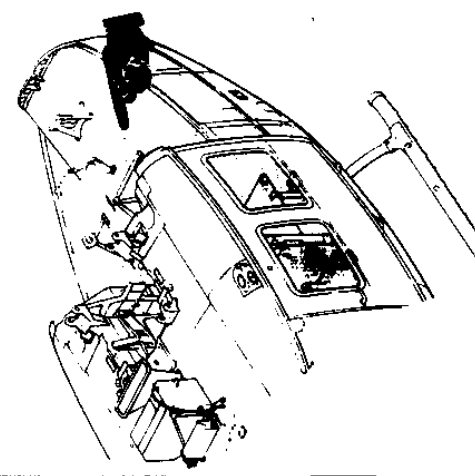
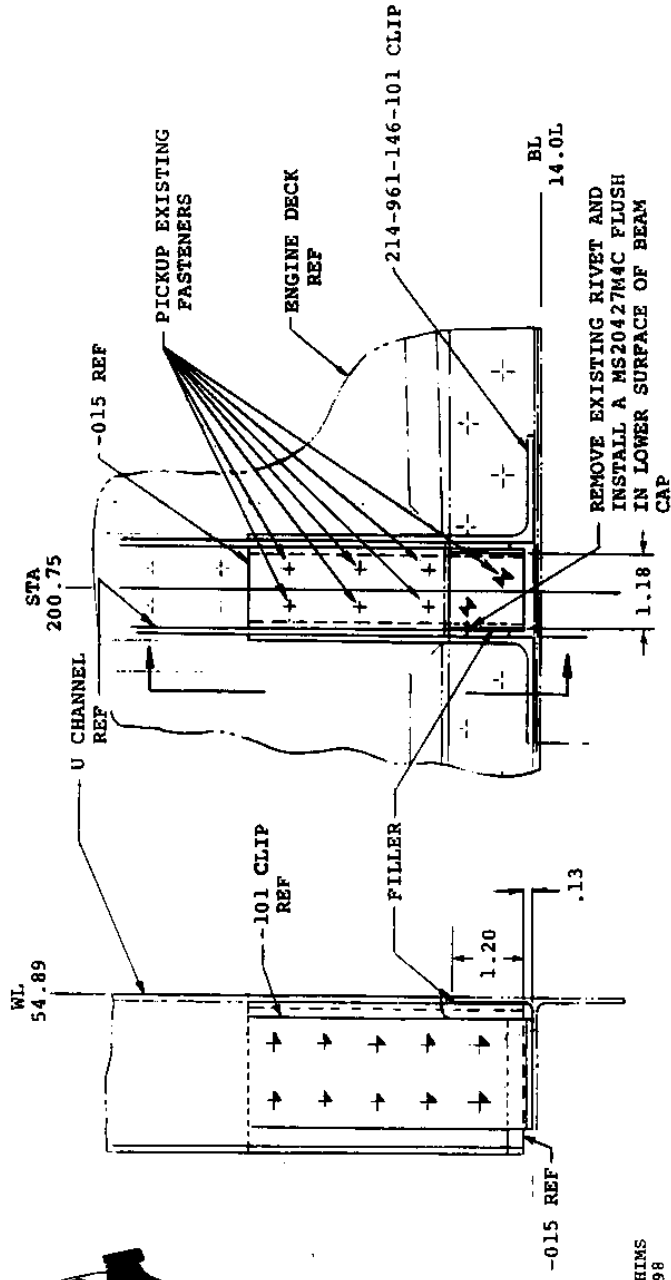
Part is clean when MEK is dried from surface with clean white cheesecloth and cheesecloth is not stained.

- b. Bond filler and shims to P/N 214-961-146-015 stiffener using Magnobond 6398 adhesive. Allow to cure.

**NOTE**

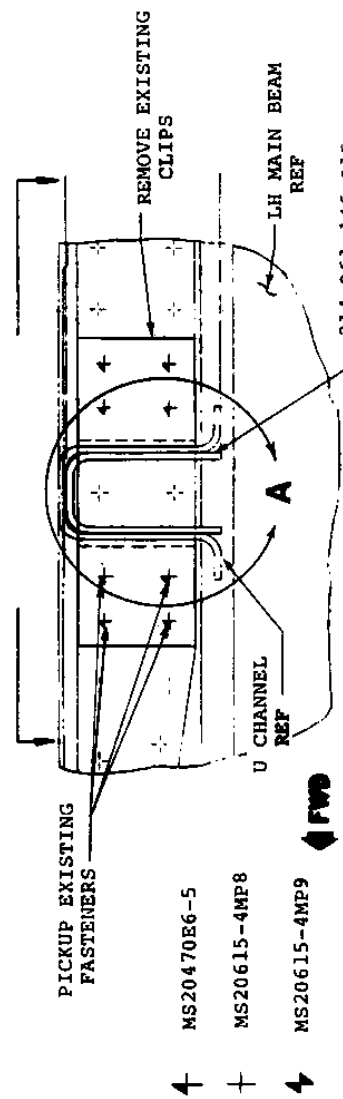
Install all fasteners with wet adhesive, Magnobond 6398.

12. Apply sealant, MIL-S-8802, to faying surfaces of clips P/N 214-961-146-101, and stiffener, P/N 214-961-146-015; and install with fasteners indicated while sealant is wet. Allow to cure.
3. Prime modified area with Epoxy Polyamide Primer MIL-P-23377.
14. Repeat Steps 1 through 13 above for right hand side.

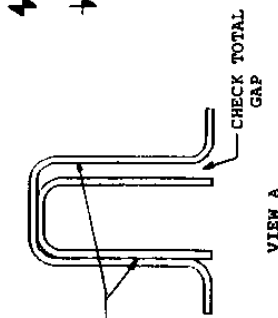


NOTES:

1. INSTALL FILLER AND (IF REQUIRED) SHIMS TO THE STIFFENER WITH MAGNOBOND 6398 ADHESIVE.
2. APPLY SEALANT, MIL-S-8802, TO FAYING SURFACES OF CLIPS AND STIFFENER AND INSTALL WHILE SEALANT IS WET.
3. INSTALL ALL FASTENERS WITH WET ADHESIVE, MAGNOBOND 6398.



SHIM SYMMETRICALLY IF TOTAL GAP IS GREATER THAN 0.010



VIEW LOOKING INBOARD LH SIDE (RH OPPOSITE)

FIGURE 1