

ALERT SERVICE BULLETIN

Bell Helicopter **TEXTRON**
A Subsidiary of Textron Inc.

NO. 412-01-109

DATE 04-25-01

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DATE

REV

MODEL AFFECTED: 412EP

SUBJECT: INTERFERENCE BETWEEN THE DUAL-LAMP SEARCHLIGHT AND FLIGHT CONTROLS, MODIFICATION TO CORRECT

HELICOPTERS AFFECTED: Model 412EP helicopters serial number 36226 and 36230 through 36235.

COMPLIANCE: No later than April 30, 2002

DESCRIPTION:

When the NVG-compatible (Night Vision Goggles) dual-lamp searchlight P/N 1286-1 or 930-500-50-1 is installed in lieu of the standard searchlight, interference may occur with the pilot cyclic controls, when the searchlight is fully retracted. The subject searchlight is larger than the original. The light assembly includes two opposed lamps, on one of which is mounted an infrared filter. This bulletin explains how to relocate the searchlight by 0.56-in. to the left, away from the flight control components. This bulletin modifies aircraft on which Bell Helicopter Textron has installed this searchlight.

APPROVAL:

The engineering design aspects of this bulletin are FAA/DER approved.

MANPOWER:

Approximately 20 man-hours are required to complete this bulletin. Man-hours are based on hands-on time, and may vary with personnel and facilities available.

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

WARRANTY:

Owners/operators of 412 helicopters who comply with the instructions outlined in this bulletin are eligible for a special 100% warranty credit toward the purchase of the part contained in the "Required Material" section of this bulletin.

To receive this credit:

- Customers must order the replacement parts from an approved BHTI supply source.
- Comply with the instructions outlined in this bulletin no later than April 30, 2002.
- Send a completed malfunction Report (MR) to BHT Warranty Administration. A copy of the invoice referencing parts used to accomplish this bulletin must be attached to the Malfunction Report.
- Customers who fail to comply with the instructions in this bulletin after April 30, 2002 are not eligible for the special warranty credit provisions listed above.

MATERIAL:

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>
205-032-159-103	Doubler	1

Consumable Material:

The following material is required to accomplish this bulletin, but may not require ordering, depending on the operator's consumable material stock levels. This material may be obtained through your Bell Helicopter Textron Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>	<u>Reference</u>
M7885/6-6-02	Rivet	6	
M7885/8-6-02	Rivet	1	
MILC81706 CL1A FORM11	Chemical Film Treatment	A/R	C-100
MILP23377CL2 KIT	Primer	A/R	C-204
MILS81733TY II-2 4OZ	Sealant	A/R	C-392
MS20426AD3-4	Rivet	5	
MS20426AD4-4	Rivet	1	
MS20470AD4-2	Rivet	62	

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>	<u>Reference</u>
MS20470AD4-3	Rivet	7	
MS20470AD6-2 (see note 1)	Rivet	2	
Locally procured material to fabricate (qty 2) spacers, a doubler and a filler:			
	- 1.0 x 4.3 x 0.125 in. 2024-T3 QQ-A-250/5 aluminum		
	- 8.5 x 13.25 x 0.040 in. 7075-T6 QQ-A-250/13 aluminum		

Note 1: As an alternate, MS20470AD6-4 rivet may be ordered and cut to length.

SPECIAL TOOLS:

None required

WEIGHT AND BALANCE:

Not affected

ELECTRICAL LOAD DATA:

Not affected

REFERENCES:

BHT-412-IPB Illustrated Parts Breakdown

BHT-412-MM Maintenance Manual

BHT-412-CR&O Component Repair and Overhaul Manual

PUBLICATIONS AFFECTED:

BHT-412-IPB Illustrated Parts Breakdown

ACCOMPLISHMENT INSTRUCTIONS:

1. Make helicopter safe for maintenance (disconnect battery).
2. Remove pilot seat (refer to maintenance manual).
3. Remove access panel P/N 212-030-250-001 under pilot seat.

4. Remove control panels from the pedestal as required to get access to the inboard side of the right-hand main beam (Buttock Line 14) at Fuselage Station 40 through the pedestal structure.
5. Disconnect and remove the dual-lamp searchlight. Retain hardware for re-installation.
6. Inspect control tube P/N 204-001-011-013 and attaching hardware for any damage caused by an interference with the searchlight, in accordance with Component Repair & Overhaul Manual. Repair or replace as required. The following steps must be accomplished even if no damage is found on the control tube and attaching hardware.
7. Remove doubler P/N 205-032-159-025 and spacers from the forward portion of the searchlight opening.
8. Layout and enlarge the searchlight opening in accordance with Figure 1.
9. Fabricate spacers (2) & (3), filler (4) and doubler (5) as per Figure 2.
10. Install spacers (2) & (3) on doubler P/N 205-032-159-103 (1) in accordance with Figure 3, (with countersink (CSK) on both sides).

- NOTE -

There are six holes noted B on Figure 3; five are forward of the opening and one is aft of the opening. Out of the five holes that are forward of the opening, one is already drilled. Verify for a minimum edge distance of twice the rivet diameter (2D) after final trim.

11. Position filler (4), doubler assembly (1) on the topside of the skin and doubler (5) on the bottom side of the skin. Pilot-drill in accordance with Figure 3 except for holes noted (note B). Attach with clecos.
12. Cut the new searchlight opening and drill (qty 4) attaching holes in accordance with Figure 4.
13. Drill (qty 6) holes (noted B on Figure 3), maintaining a minimum edge distance of 2D and open all rivet holes to final size.
14. Remove all parts, deburr, treat with chemical treatment (C-100) and apply primer (C-204).
15. Install all parts in accordance with Figure 3.

16. Clean area including the area inboard of BL 14.
17. Apply a bead of sealant MIL -S-81733, Type II (C-392) at the periphery of doubler (5).
18. Allow sealant to cure and refinish.
19. Re-install searchlight.
20. Re-install control panels on the pedestal as required.
21. Perform a functional check of the searchlight.
22. Re-install panel P/N 212-030-250-001 and pilot seat (refer to maintenance manual).
23. Reconnect battery.
24. Make helicopter ready for flight.
25. Make an entry in helicopter historical records indicating compliance with this bulletin.

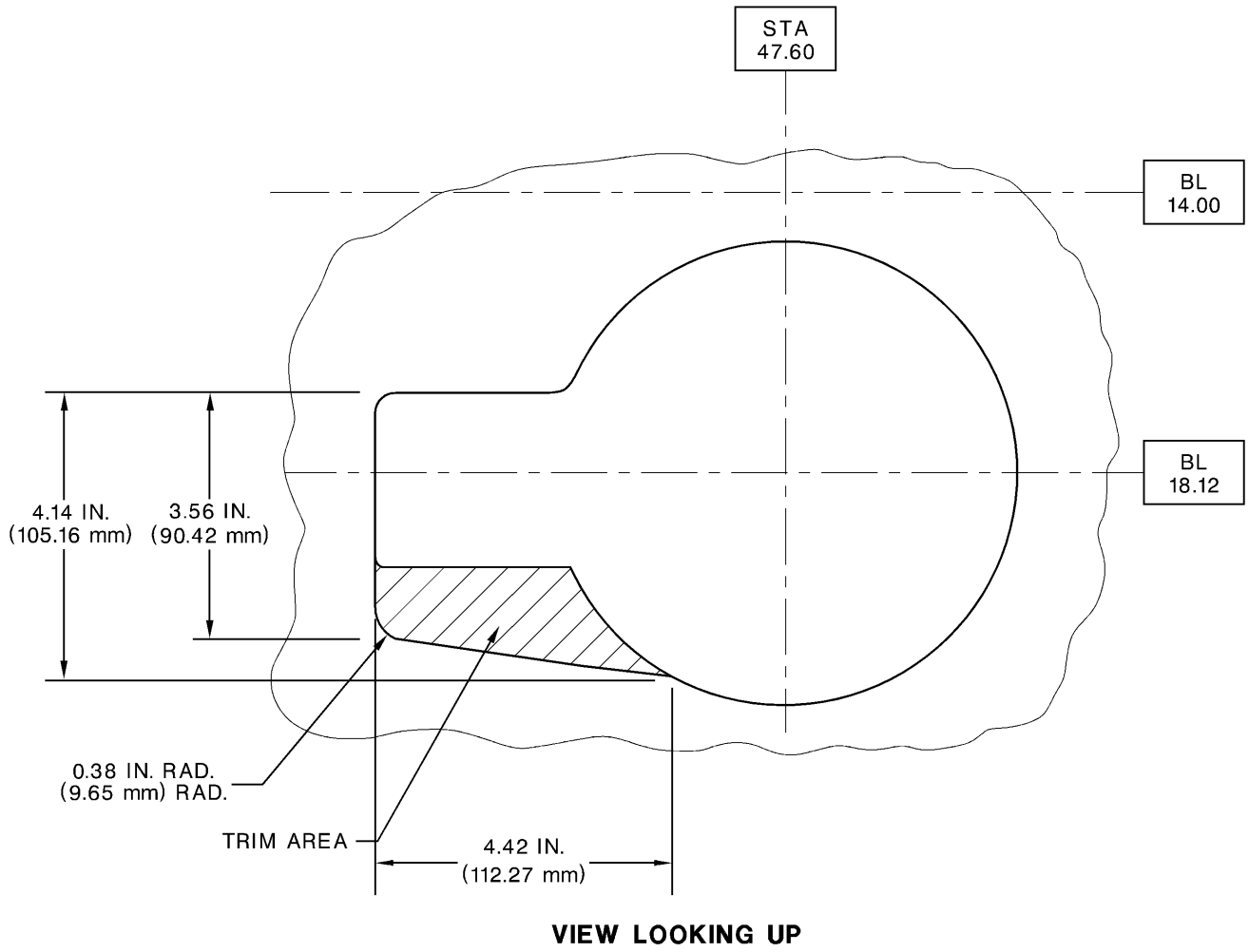
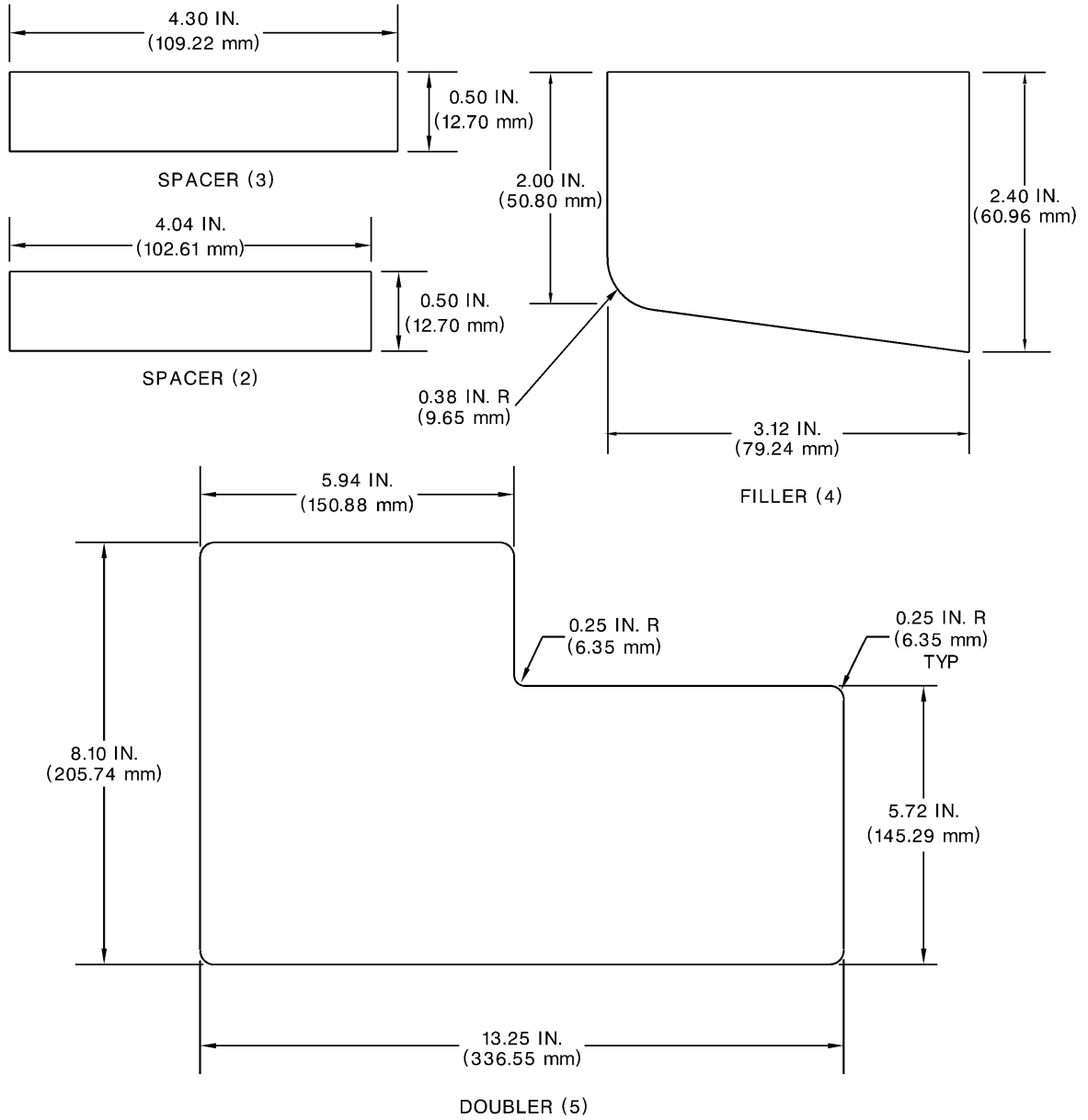


FIGURE 1



LEGEND

1. (2) (3) Spacers: 2024-T3 QQ-A-250/5
2. (4) Filler and (5) Doubler: 7075-T6 QQ-A-250/13

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FIGURE 2

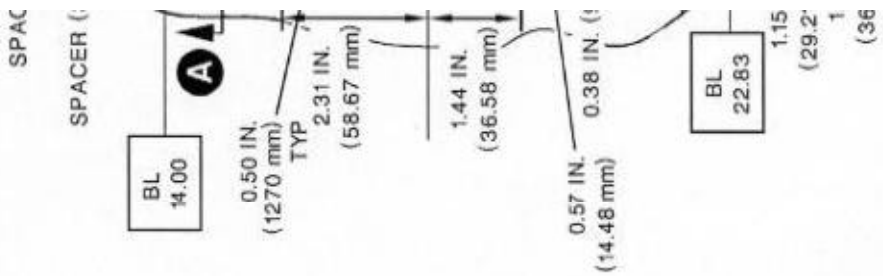
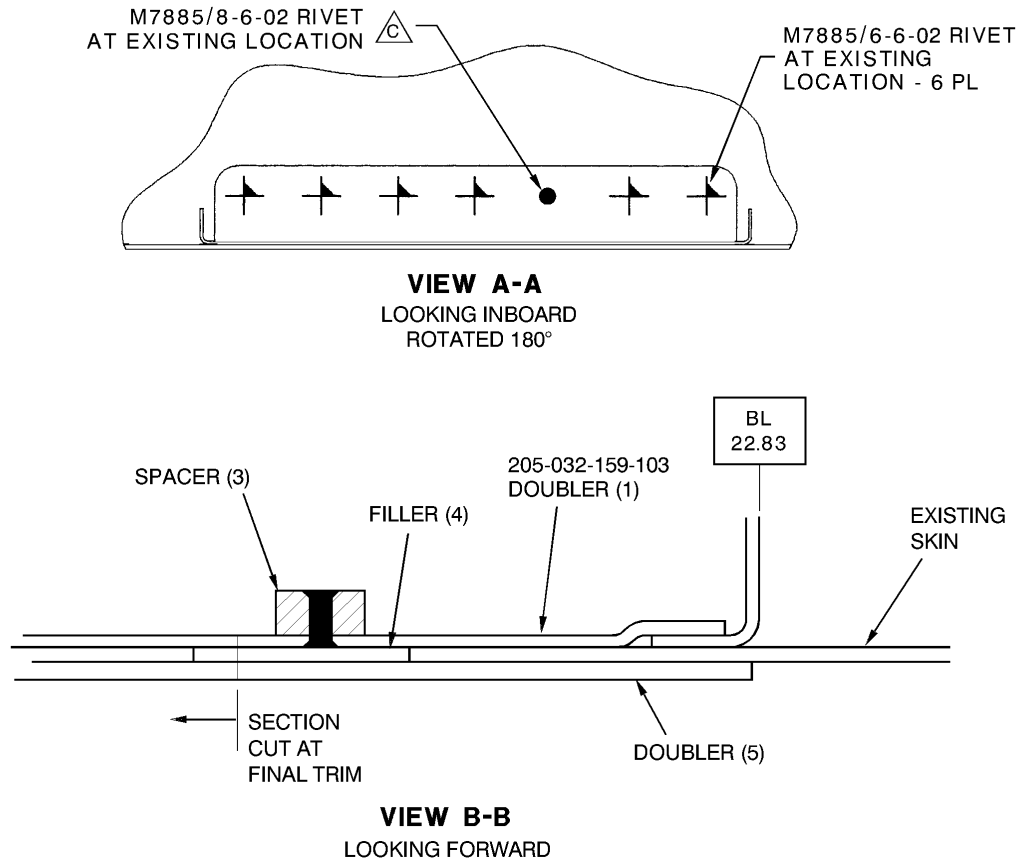


FIGURE 3 (Sheet 1)



LEGEND

- △ SEAL HOLES IN SKIN WITH SEALANT (C-392)
- △ DO NOT DRILL AT THIS TIME. INSURE AN EDGE DISTANCE OF 2D AFTER FINAL TRIM
- △ WET INSTALL WITH SEALANT (C-392)
- D. EXACT LOCATION OF FASTENERS MAY VARY AS LONG AS:
NUMBER OF FASTENERS, 2D OF EDGE DISTANCE AND 4D OF PITCH IS RESPECTED
- ✱ MS20470AD6-2 RIVET TO PLUG EXISTING HOLES
- ✚ MS20470AD4 RIVET NEW LOCATIONS TYP
- ✚ MS20426AD3 RIVET CSK FAR SIDE CSK 0.025 DEEP NEAR SIDE & MACHINE FLUSH THROUGH 205-032-159-103 DOUBLER AND SPACERS ONLY - 5 PL
- ✚ MS20470AD4 RIVET EXISTING LOCATIONS EXCEPT AS SHOWN
- ✚ MS20426AD-4 RIVET CSK FAR SIDE CSK 0.025 DEEP NEAR SIDE & MACHINE FLUSH

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FIGURE 3 (Sheet 2)

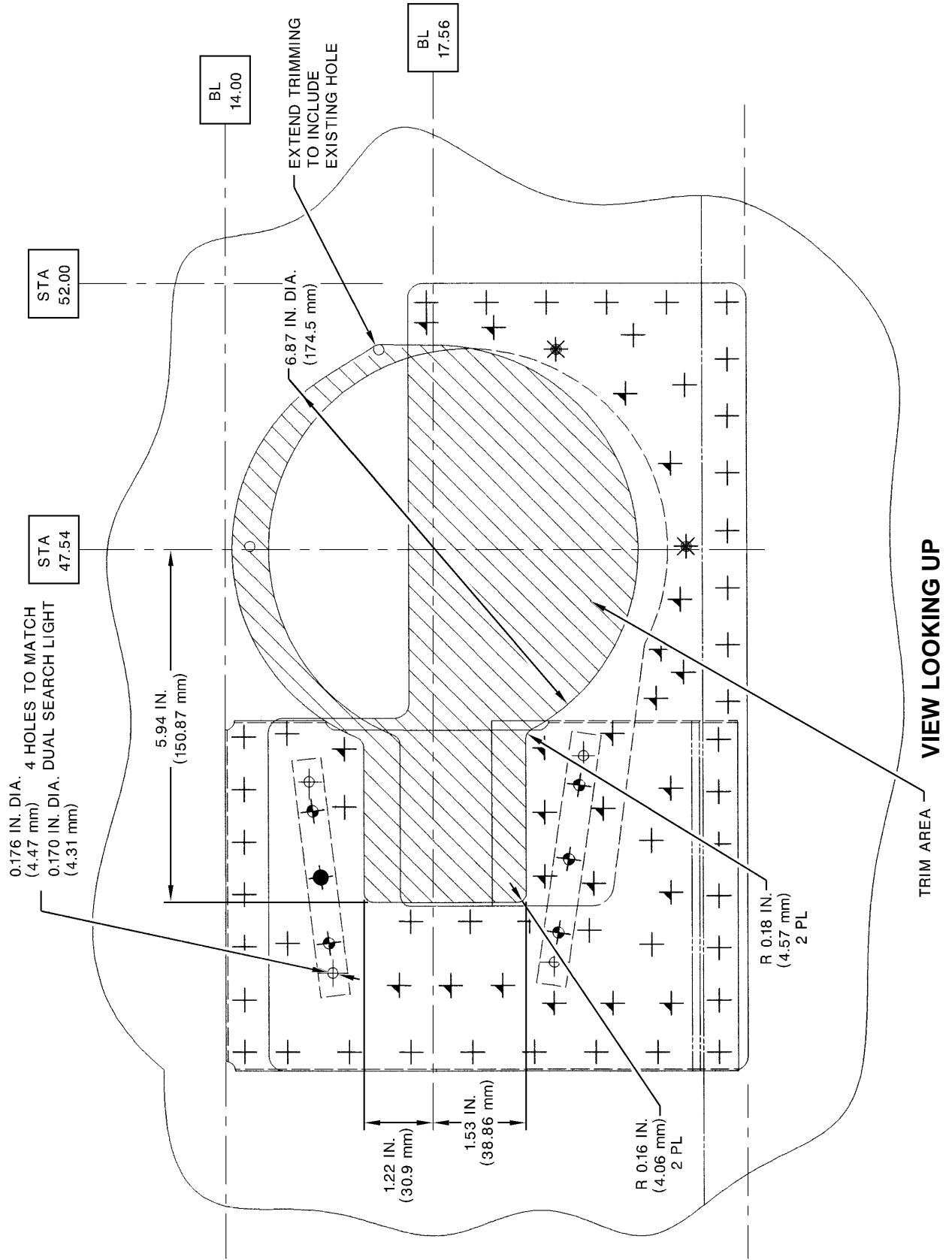


FIGURE 4