



A Textron Company

ALERT SERVICE BULLETIN

ASB UH-1H-23-22

31 October 2023

MODEL AFFECTED: UH-1H

SUBJECT: TENSION ROD ASSEMBLY P/N 205-030-249-009 OR 205-030-249-013, INSPECTION OF.

HELICOPTERS AFFECTED: All Fielded Helicopters.

COMPLIANCE:

PART I: Within the next 300 flight hours or 90 days whichever comes first after the release date of this bulletin.

PART II: Within the next 600 flight hours or 12 months whichever comes first after accomplishment of PART I.

DESCRIPTION:

Bell has found that tension rod assembly 205-030-249-009 or 205-030-249-013 may have been over trimmed during installation to eliminate a fouling condition between the rod ends and the attaching structure. It is also possible that in some cases, the rod ends have not been trimmed sufficiently to obtain proper clearance.

PART I of this bulletin mandates one-time inspection of the tension rod assembly installation. Low clearance condition between the tension rod assembly rod ends and the attaching structure will require accomplishment of PART II of this bulletin.

PART II provides instructions to rework either the tension rod end or attaching structure if a low clearance condition exists.

APPROVAL:

The engineering design aspects of this bulletin are Bell Engineering approved.

CONTACT INFO:

For any questions regarding this bulletin, please contact:

Bell MTS-Medium Engineering
Tel: 1-817-280-3548 / mts-medium@bellflight.com

MANPOWER:

There is no man-hour estimate associated with this bulletin.

WARRANTY:

There is no warranty credit applicable for parts or labor associated with this bulletin.

MATERIAL:

Required Material:

None required.

Consumable Material:

The following material may be required to accomplish this bulletin, but may not require ordering, depending on the operator's consumable material stock levels.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>	<u>NSN</u>
MIL-DTL-81706, TYI, CL1A, FIII	Chemical Conversion Film	A/R (1)	8030-00-142-9272
MIL-PRF-23377, TYI or II, C1 or C2	Primer, Epoxy Polyamide	A/R (1)	8010-01-528-4864

Notes:

1. Or equivalent.

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

TM 55-1520-210-23-1; UH-1H Maintenance Manual.

TM 55-1520-210-23P-1; UH-1H Illustrated Parts Breakdown, Figure 68, Item 82.

PUBLICATIONS AFFECTED:

None affected.

ACCOMPLISHMENT INSTRUCTIONS:**PART I: Tension rod assembly inspection.**

1. Prepare the helicopter for maintenance and gain access to the tension rod assembly.

CAUTION

Prior to removal of the tension rod assembly attachment bolts, ensure the tailboom is properly supported.

2. Inspect the forward end (upper attachment location) of the tension rod assembly as follows:
 - a. Inspect the outboard side of the tension rod assembly rod end for a possible over trimmed condition. Minimum acceptable radius dimension measured from the bolt hole center is 0.360-inch (9.14 mm) edge distance (E.D.) (Figure 1). Removal of the attachment bolt may be required to perform this measurement. Record findings. During reinstallation of hardware, if required, tighten the nuts IAW appropriate instructions. [QA]

- b. Check for fouling or low clearance conditions between the rod end and the structure (cap, web, angle). Minimum acceptable clearance is 0.020-inch (0.51 mm) (Figure 1). Record findings.
3. Inspect the aft end (lower attachment location) of the tension rod assembly as follows:
 - a. Inspect both sides of the tension rod assembly rod end for a possible over trimmed condition. Minimum acceptable radius dimension measured from the bolt hole center is 0.360-inch (9.14 mm) edge distance (E.D.) (Figure 2 and 3). Removal of the attachment bolt may be required to perform this measurement. Record findings. During reinstallation of hardware, if required, tighten the nuts IAW appropriate instructions. [QA]
 - b. Check for fouling or low clearance conditions between the rod end and the structure (cap, web) on the outboard side and the fillet radius on the inboard side of the fitting. Minimum acceptable clearance is 0.020-inch (0.51 mm) (Figures 2 and 3). Record findings.
4. Following the inspections performed in steps 2 and 3, accomplish one of the following actions:
 - a. If no over trimmed conditions were found and there are no low clearance or fouling conditions, clean and secure all inspection/working areas and make an entry in the helicopter logbook and historical service records indicating findings and compliance with this Alert Service Bulletin. [QA]
 - b. If one or both rod ends have been over trimmed, contact Bell MTS-Medium Engineering for further instruction.
 - c. If no over trim conditions were found but there is a fouling or a low clearance condition, accomplish PART II.

PART II: Rework of tension rod assembly and/or structure.

CAUTION

Prior to removal of the tension rod assembly attachment bolts, ensure the tailboom is properly supported.

1. If a fouling or a low clearance condition exists, the tension rod assembly may have been incorrectly installed. Prior to trimming the rod ends, remove the tension rod assembly (step 1.a.) and try different orientations by rotating and/or switching ends to obtain the best possible fit (Figure 4). If proper clearance dimensions as defined in PART I cannot be met, proceed with step 3.

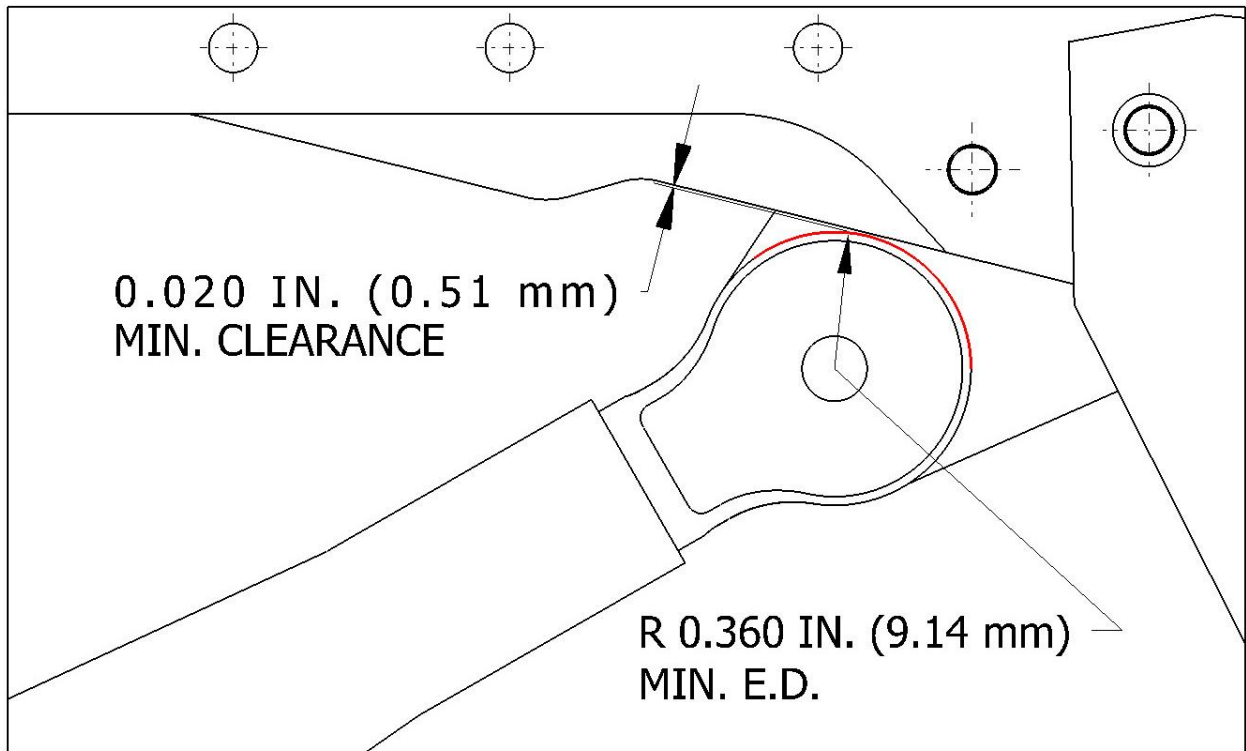
- a. Removal of tension rod assembly:
 - (1) Remove the nut, bolt, and washers from the aft end of the tension rod assembly.
 - (2) Remove the nut, bolt, washers, and tension rod assembly from the bulkhead attachment point.
2. If it is established that the root cause of the fouling or low clearance condition is the incorrect installation of the tension rod assembly, reinstall correctly (step 2.a.) and then proceed with step 8.
 - a. Installation of the tension rod assembly.
 - (1) Install the tension rod assembly on the bulkhead attachment point with the bolt, washers, and nut.
 - (2) Install the aft end of the tension rod assembly with the bolt, washers, and nut. Tighten the nuts IAW appropriate instructions.

-NOTE-

It is acceptable to remove material from the rod ends and/or the structure attachment fittings provided the inspection criteria defined in PART I are respected (Figures 1, 2, and 3).

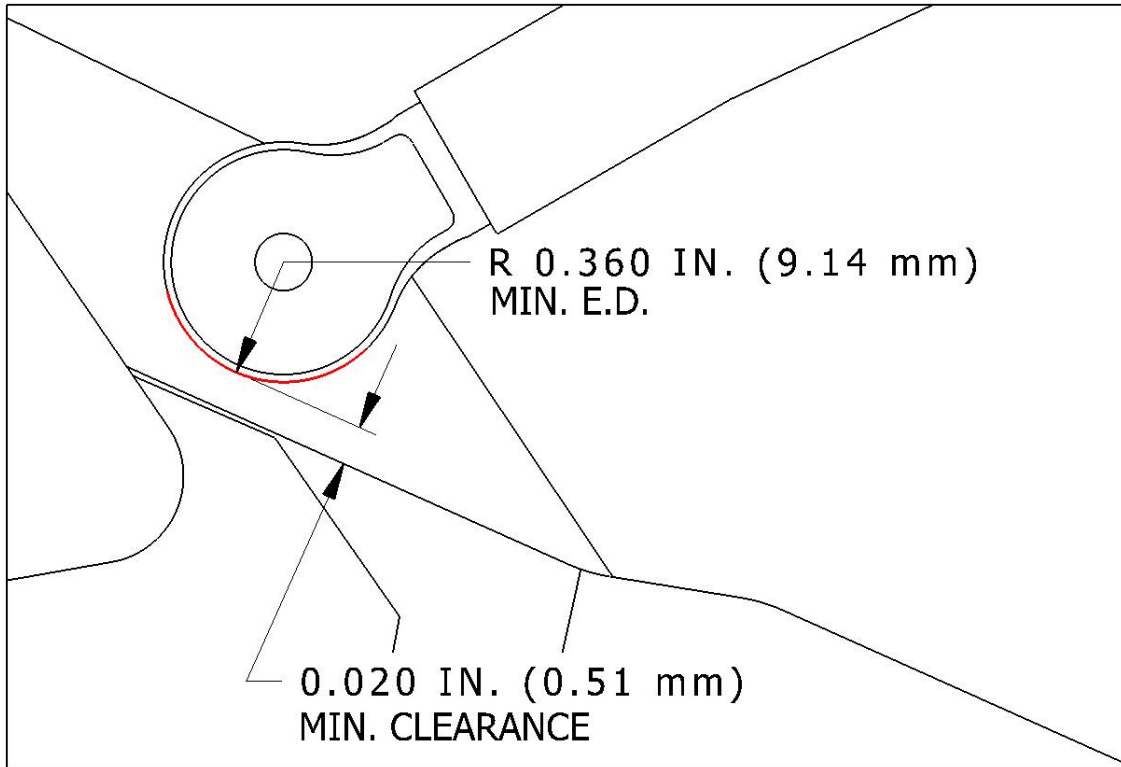
3. Temporarily reinstall tension rod assembly. Mark the minimum material removal required on the affected rod end and/or structure attachment points to obtain the required clearance. (Figure 5 for the upper bolt. Figures 6 and 7 for the lower bolt.)
4. Remove the tension rod assembly (step 1.a.).
5. Trim and deburr previously marked material on the affected rod end and/or structure attachment fitting. Ensure the inspection criteria defined in **PART I** are respected (Figures 1, 2, and 3).
6. Apply chemical film and one coat of epoxy polyamide primer to the reworked area.
7. Install the tension rod assembly (step 2.a.).
8. Make an entry in the helicopter logbook and historical service records indicating compliance with this Alert Service Bulletin.

FIGURE 1. Inspection requirements.



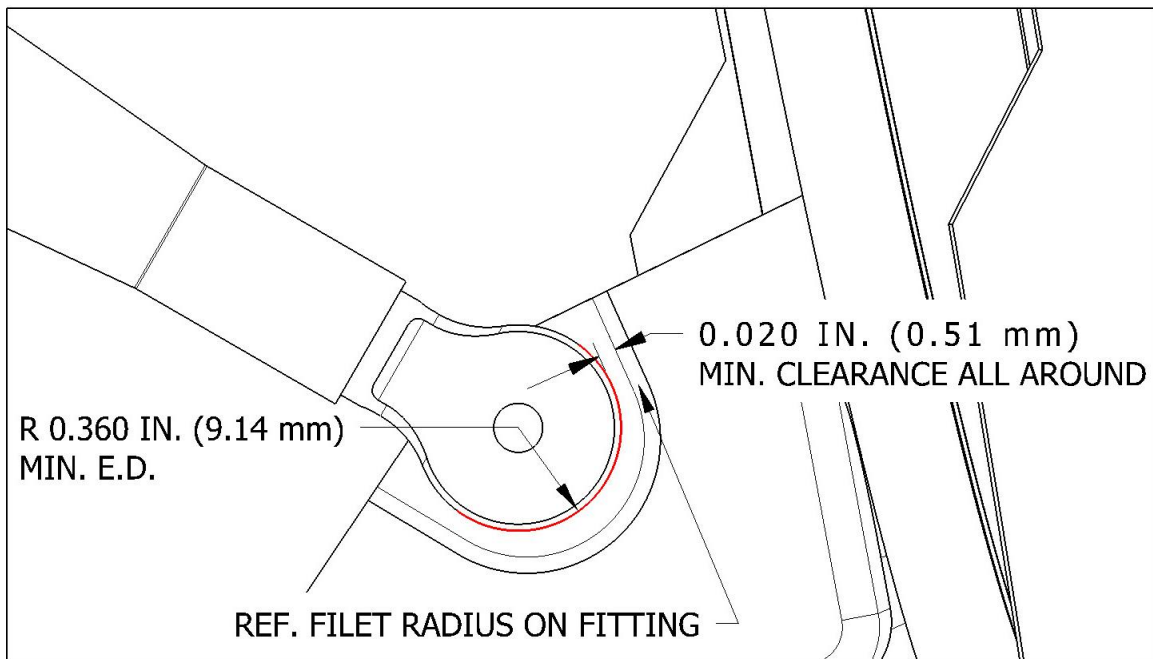
LOOKING INBOARD ON UPPER ATTACHMENT

FIGURE 2. Inspection requirements



LOOKING INBOARD ON LOWER ATTACHMENT

FIGURE 3. Inspection requirements



LOOKING OUTBOARD ON LOWER ATTACHMENT

FIGURE 4. Tension rod assembly proper installation verification.

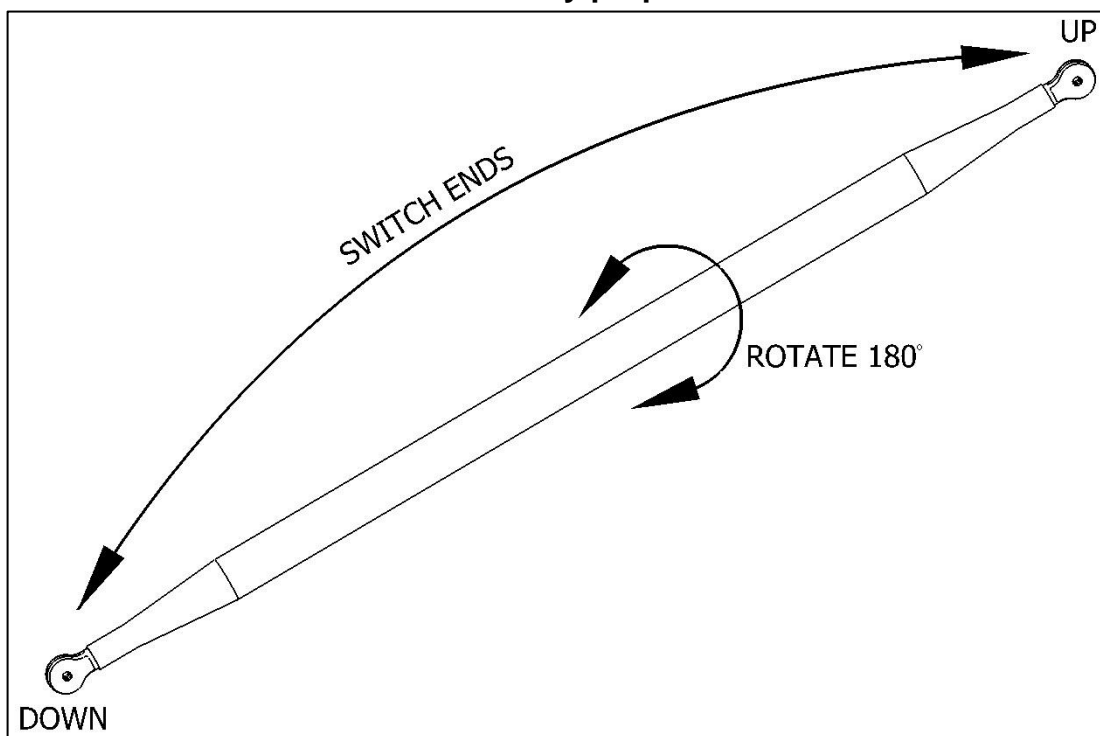


FIGURE 5. Rework requirements
KEEP 0.280 IN. (7.11 mm) MIN. E.D.
FOR FASTENERS (CAP, WEB, ANGLE)

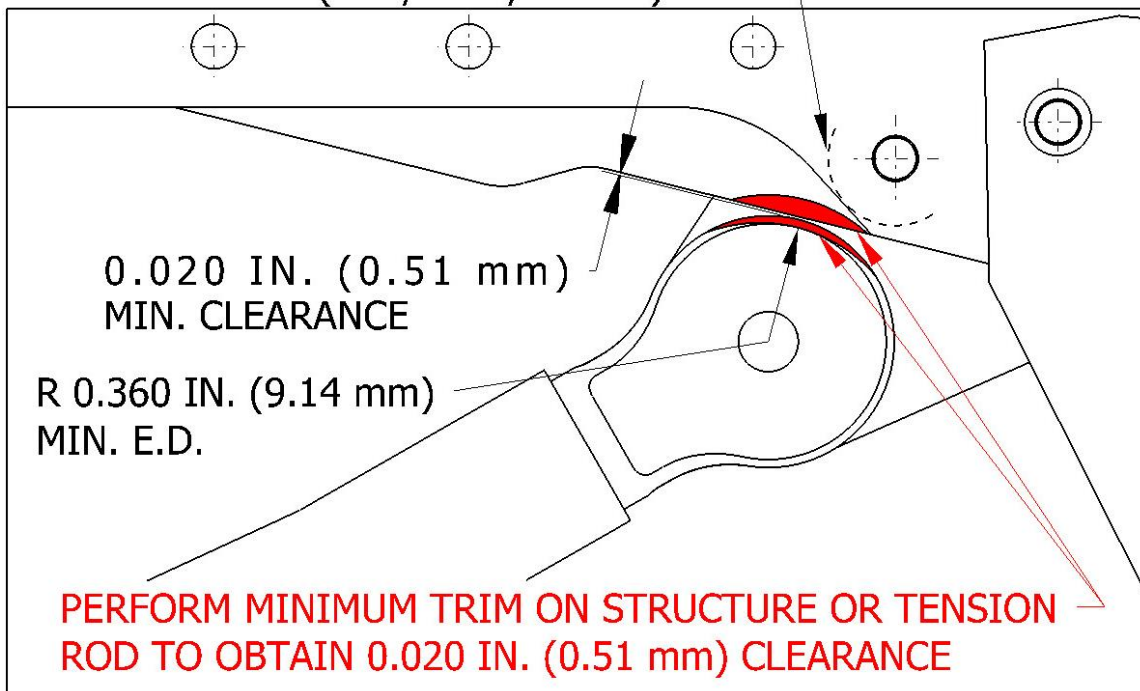
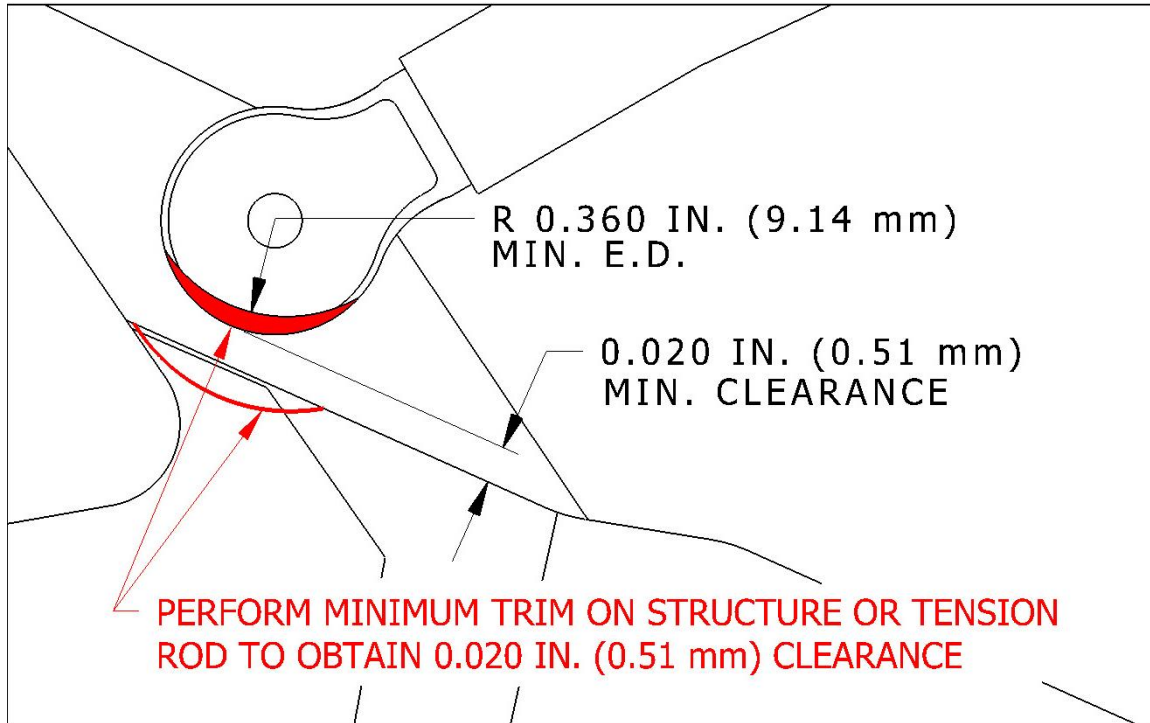
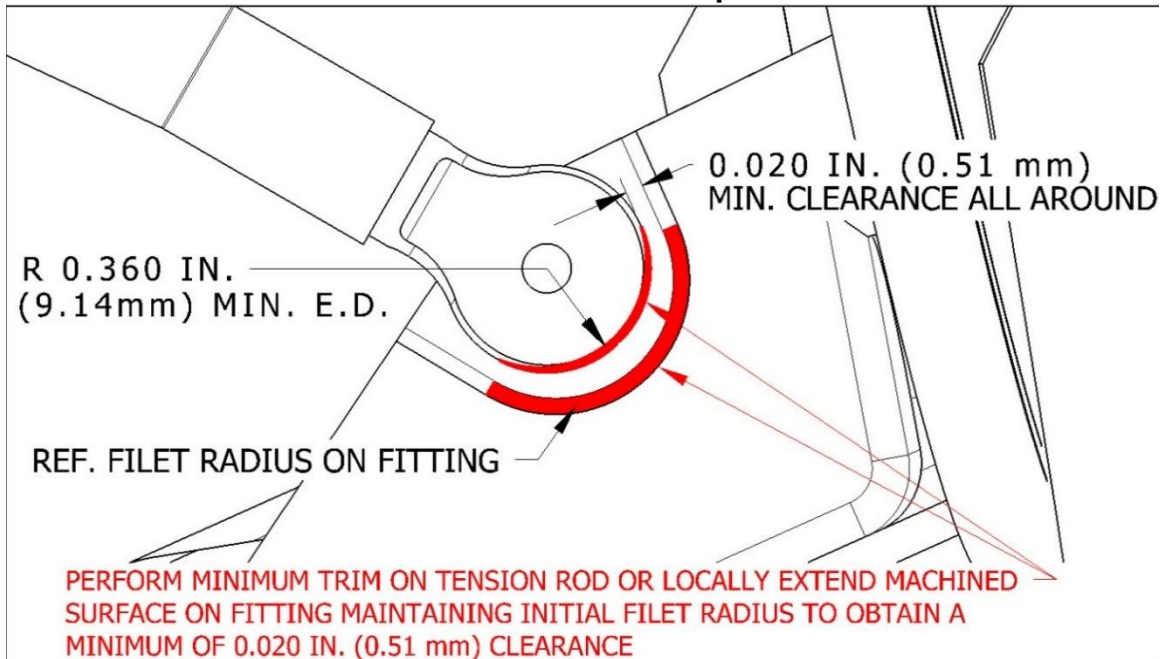


FIGURE 6. Rework requirements



LOOKING INBOARD ON LOWER ATTACHMENT

FIGURE 7. Rework requirements



LOOKING OUTBOARD ON LOWER ATTACHMENT