



A Textron Company

## **ALERT SERVICE BULLETIN**

**205B-23-74**

14 September 2023

**MODEL AFFECTED:** 205B

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

**HELICOPTERS AFFECTED:** Serial numbers 30066, 30166, 30188 and 30297.

**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 depending on helicopter serial number 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 FAA approved for FAA certified helicopters as listed in the applicable Type Certificate Data Sheet. For non FAA certified helicopters, the engineering design aspects of this bulletin are Bell Engineering approved.

**CONTACT INFO:**

For any questions regarding this bulletin, please contact:

Bell Product Support Engineering  
Tel: 1-450-437-2862 / 1-800-363-8023 / productsupport@bellflight.com

**MANPOWER:**

Approximately 0.5 man-hour is required to accomplish **PART I** of this bulletin, 3.5 man-hours to accomplish **PART II**. This estimate is based on hands-on time and may vary with personnel and facilities available.

**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 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 Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>	<u>Reference *</u>
2100-00345-00	Chemical film (Alodine)	A/R	C-100
2230-00559-00	Primer, Epoxy Polyamide	A/R	C-204 (1)

\* C-XXX numbers refer to the consumables list in the BHT-ALL-SPM, Standard Practices Manual

**NOTE 1:** Waterborne Epoxy Primer (C-246) may be use as an alternate.

**SPECIAL TOOLS:**

None required.

**WEIGHT AND BALANCE:**

Not affected.

**ELECTRICAL LOAD DATA:**

Not affected.

**REFERENCES:**

BHT-205A1-IPB Illustrated Parts Breakdown, Chapter 53.

**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.
  - 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.
  - 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, make an entry in the helicopter logbook and historical service records indicating findings and compliance with this Alert Service Bulletin.
  - b. If one or both rod ends have been over trimmed, contact Bell Product Support Engineering.
  - 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 7). 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 and 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.

-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 4,5 and 6).

3. Reinstall tension rod assembly (step 2.a.), mark the minimum material removal required on the affected rod end and/or or structure attachment points to obtain the required clearance.

**CAUTION**

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

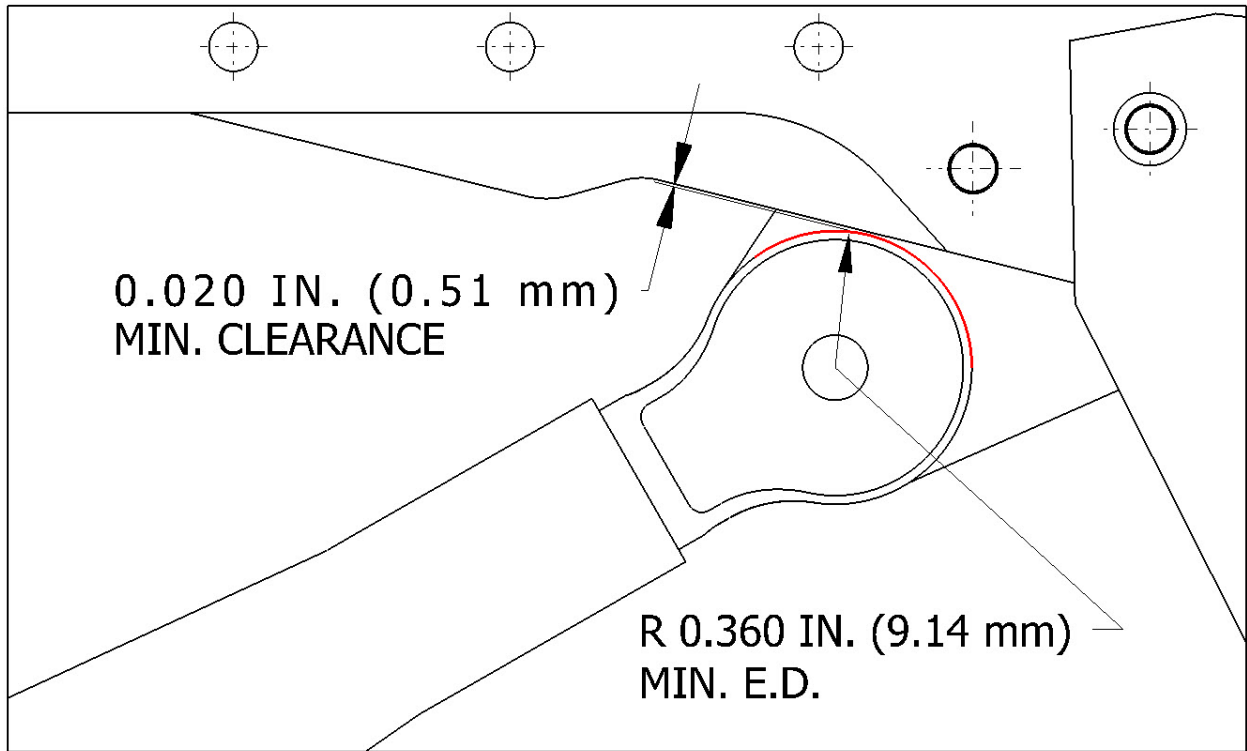
4. Remove the tension rod assembly (step 1.a.).

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 4,5 and 6).

6. Apply chemical film (C-100) and one coat of epoxy polyamide primer (C-204) to the reworked area.

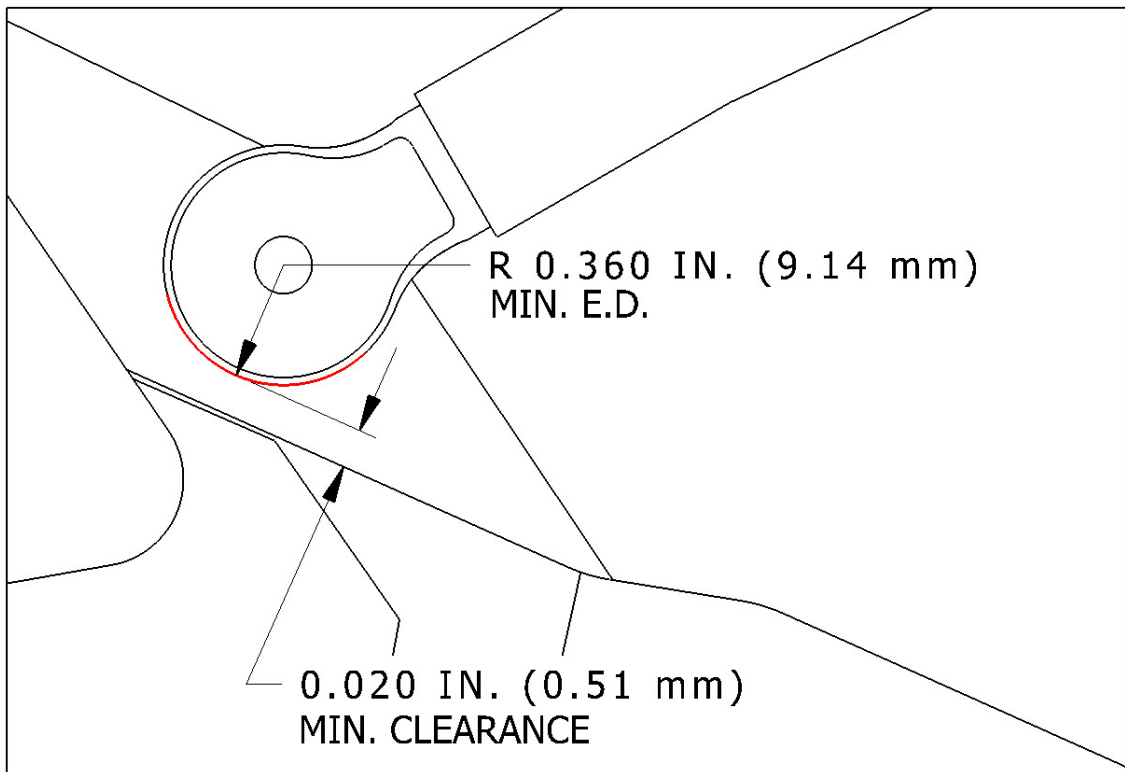
7. Install the tension rod assembly (step 2.a.).

8. Make an entry in the helicopter logbook and historical service records indicating compliance with this Alert Service Bulletin.



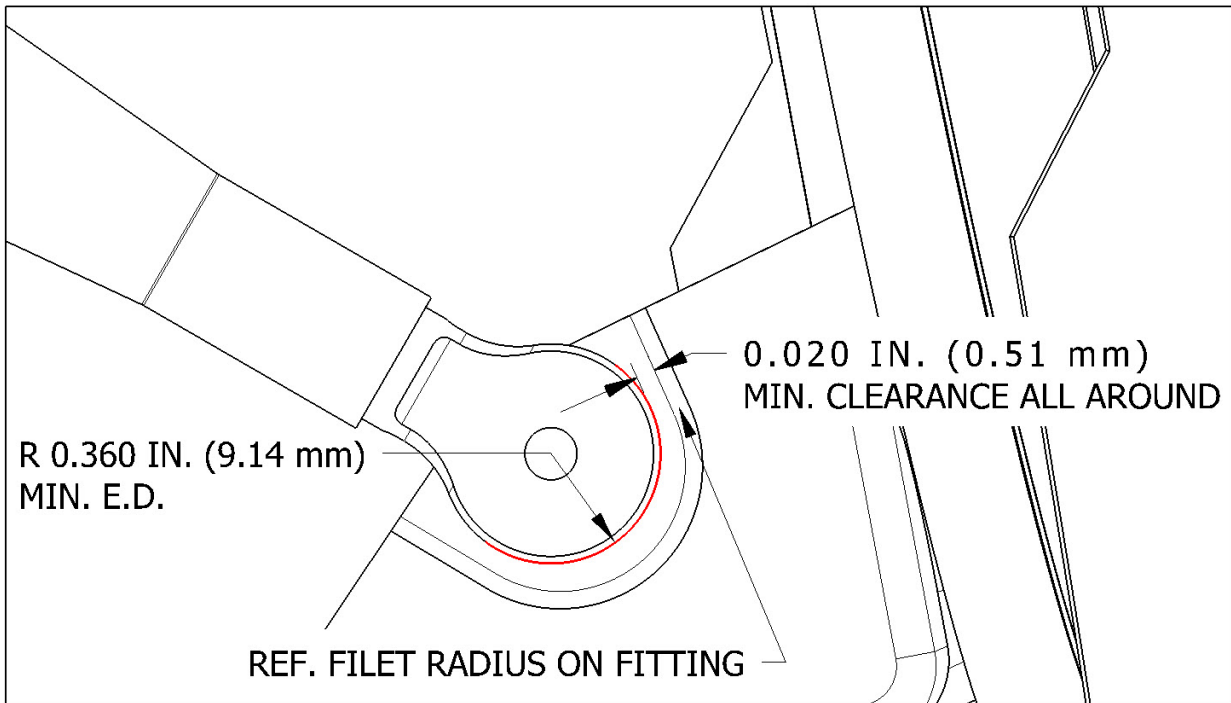
LOOKING INBOARD ON UPPER ATTACHMENT

Figure 1. Inspection requirements.



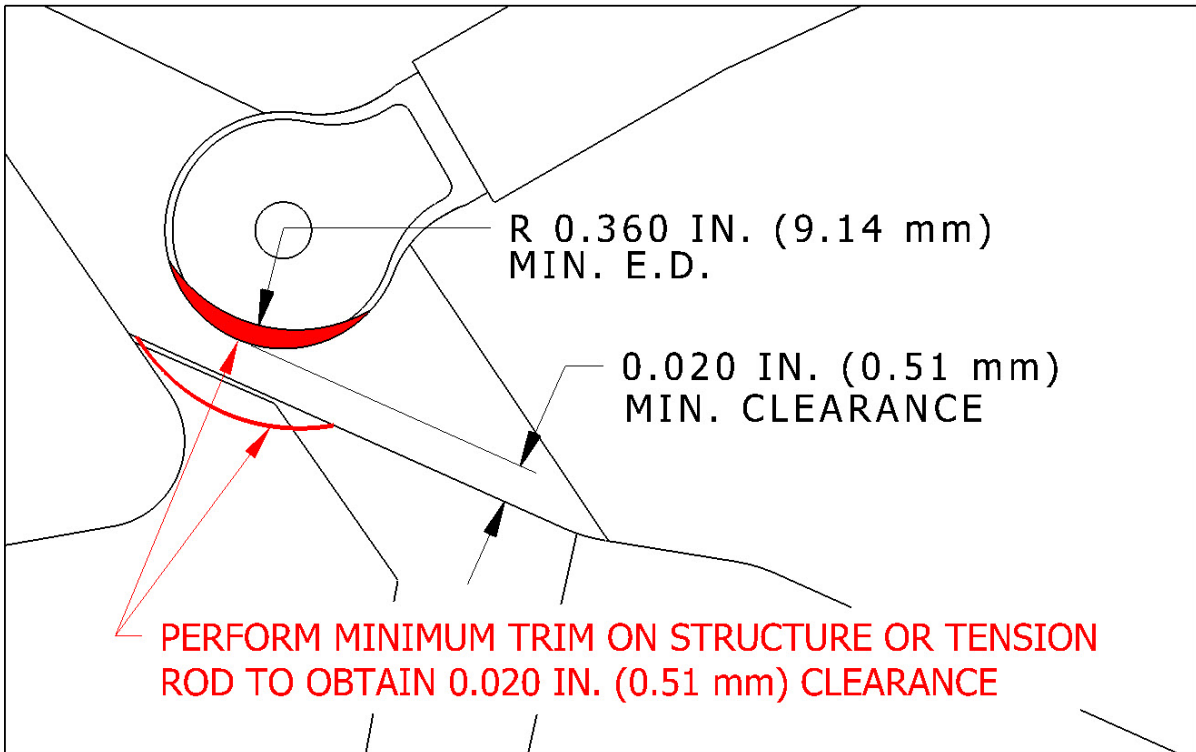
LOOKING INBOARD ON LOWER ATTACHMENT

Figure 2. Inspection requirements



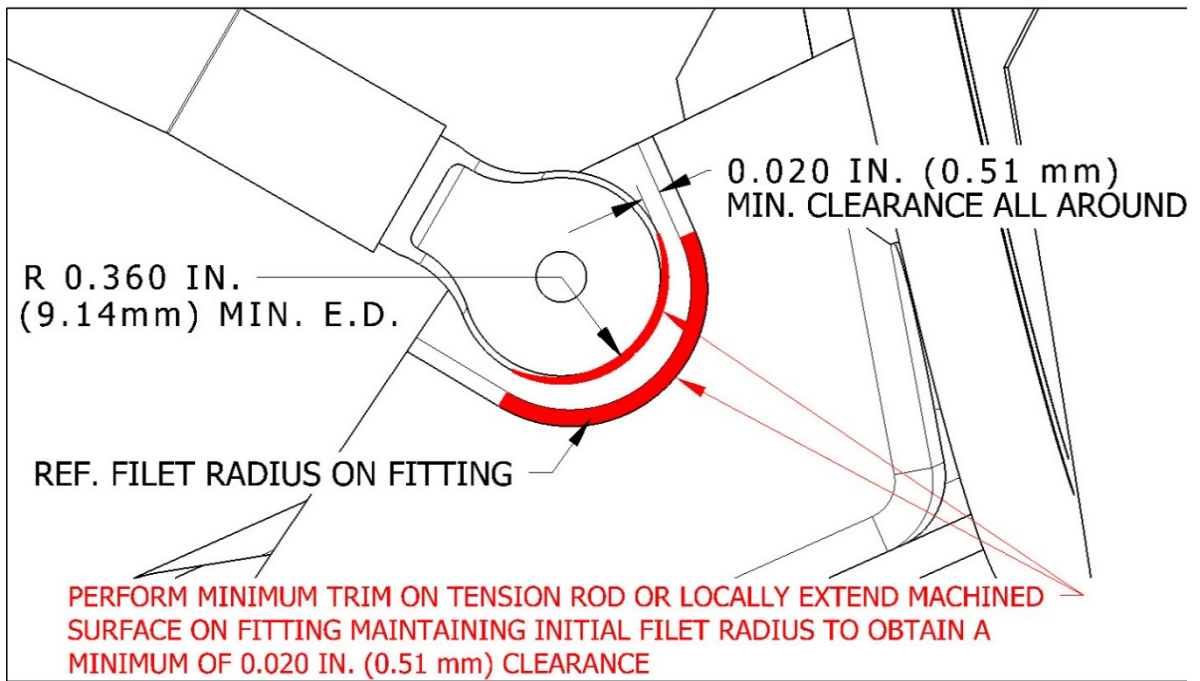
LOOKING OUTBOARD ON LOWER ATTACHMENT

Figure 3. Inspection requirements



LOOKING INBOARD ON LOWER ATTACHMENT

Figure 4. Rework requirements



LOOKING OUTBOARD ON LOWER ATTACHMENT  
Figure 5. Rework requirements

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

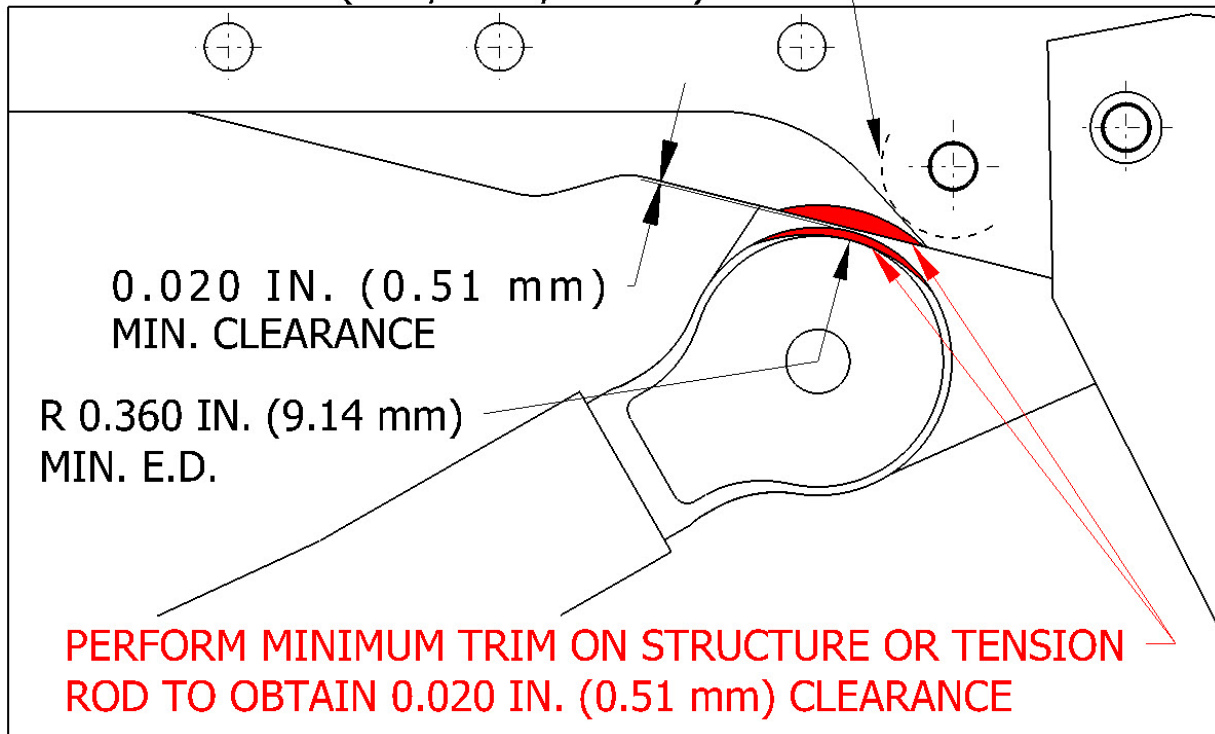


Figure 6. Rework requirements



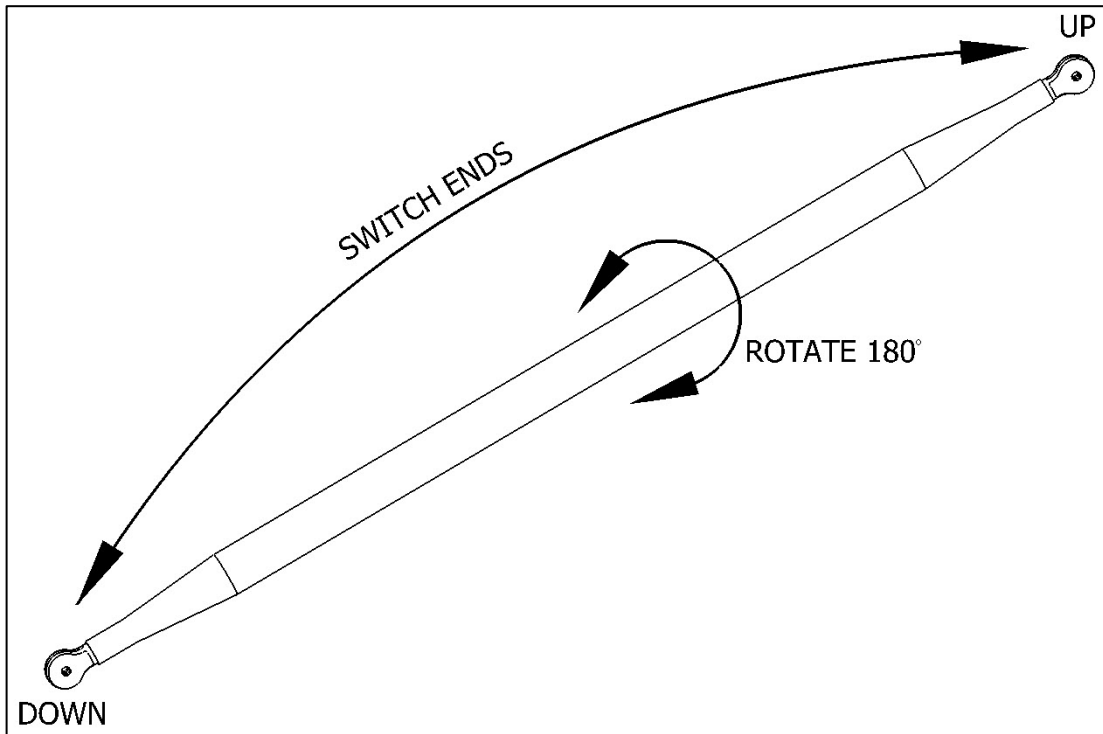


Figure 7. Tension rod assembly proper installation verification.