



SERVICE DIRECTIVE BULLETIN

SERVICE DIRECTIVE BULLETIN NO. 0127

Revision 2

Page 1 of 6

DATE: June 20, 2018

1. SUBJECT: Rod End Inspection

2. MODEL: F-28, F-28A, F-28C, F-28C-2, F-28C-2R, F-28F, F-28F-R, 280, 280C, 280F,
 280FX

3. EFFECTIVITY: All S/N

4. BACKGROUND:

Enstrom has received a report of a failed rod end bearing assembly of one of the hydraulic damper assemblies of the main rotor system. Analysis of the rod end revealed corrosion in the root of the threads.

This Service Directive Bulletin (SDB) requires an inspection for corrosion in the roots of the threads of the rod end bearing assembly installed in the main rotor hydraulic damper assemblies and the rod end bearing assembly installed in the belt tension shaft assembly.

5. COMPLIANCE:

If previously complied with upon the initial release of this SDB or if the rod end is new, at the next scheduled 100 hour/annual inspection, inspect all damper and belt tension shaft rod end bearing assemblies for corrosion in accordance with paragraph 6.

If not previously complied with upon the initial release of this SDB, within 5 hours time-in-service, inspect all damper and belt tension shaft rod end bearing assemblies for corrosion in accordance with paragraph 6.

Refer to paragraph 7 for all applicable rod end bearing assemblies. See also paragraph 13 regarding repetitive action.

6. INSPECTION:

NOTE

**Perform all maintenance in accordance with the applicable F-28/280
Maintenance Manual (MM).**

June 20, 2018

- 6.1 Remove the damper assembly and remove the rod end assembly (3 total rod end assemblies).

NOTE

Installation Reference: F-28/280 Series IPC Figure 4-3; Assembly Reference: F-28/280 Series IPC Figure 4-4

- 6.1.1 For P/N 28-14264 damper assemblies, refer to the applicable steps in SIL 0075A.
 - 6.1.2 For all F-28A/C and 280/C models equipped with P/N 28-14375 damper assemblies, refer to the applicable steps in SIL 0115.
 - 6.1.3 For all F-28F/280F/FX models equipped with P/N 28-14375 damper assemblies, refer to MM paragraph 9-1, C, 3 and MM paragraph 9-5, G, (2) and (3).
 - 6.1.4 If the rod end and piston rotate together, use tool T-0005 to hold the piston.
- 6.2 Remove the rod end assembly from the belt tension shaft assembly.

NOTE

Assembly Reference: F-28/280 Series IPC Figure 5-3 or F-28F/280F Series MM Figure 11-16.

- 6.2.1 Disengage the clutch.
 - 6.2.2 Remove the cowling.
 - 6.2.3 Disconnect the rod end from the bellcrank.
 - 6.2.4 Pivot the idler pulley support to allow the rod end to clear the bellcrank.
 - 6.2.5 Remove the safety device and loosen the jam nut.
- 6.3 Turn the jam nut down to enable inspection of 1-inch of thread length from the shank of the banjo.
 - 6.4 Using a bright light source and magnifying glass (10X or greater), inspect for corrosion in the root of the thread (Figure 1c).

NOTE

Remove any grime from the thread root with a non-metallic brush, pick, or similar tool.

June 20, 2018

6.4.1 If corrosion is evident, replace the rod end before further flight.

6.4.1.1 Replace with an airworthy rod end treated with a corrosion inhibitor prior to installation (refer to paragraph 7 for parts). Apply the corrosion inhibitor in accordance with paragraph 6.5.

6.4.2 If no corrosion is evident, proceed to step 6.5.

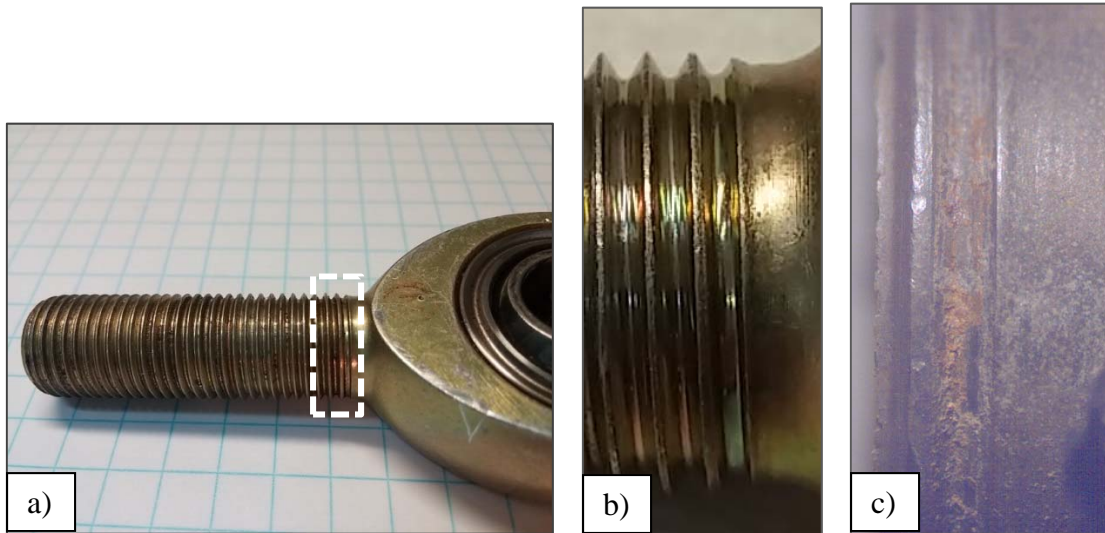


Figure 1. a) Rod end assembly (removed for clarity), area within the box is representative of photo b) and c) area); b) Airworthy rod end (as installed); c) unairworthy rod end with thread root corrosion

NOTE

Refer to the Repetitive Action requirements (paragraph 13) prior to selecting or applying a corrosion inhibitor.

6.5 Apply corrosion inhibitor to the entire thread length of the rod end.

6.5.1 Approved corrosion inhibitors include:

6.5.1.1 MIL-PRF-23377 Type I Class C2 Epoxy Primer

6.5.1.2 MIL-PRF-23377 Type I Class N Epoxy Primer

6.5.1.3 ACF-50, or equivalent

CAUTION

Do not allow the epoxy primer to dry prior to assembly of the rod end.

CAUTION

Mask the bearing area prior to applying corrosion inhibitor to avoid damaging the bearing.

NOTE

Follow the manufacturer's instructions for corrosion inhibitor application.

6.5.2 Remove the jam nut to expose all the threads.

6.5.3 Refer to the manufacturer's instructions for application.

6.6 Rod end assembly:

6.6.1 Install the jam nut.

NOTE

Installing the nut will tend to wipe away inhibitor that was freshly applied. Re-apply to ensure complete coverage.

6.6.2 Re-apply corrosion inhibitor to the threads below the jam nut, as required.

6.6.3 Hydraulic Damper Assembly: Proceed to step 6.7.

6.6.4 Belt Tension Shaft Assembly: Proceed to step 6.8.

6.7 Hydraulic damper assembly installation.

6.7.1 For P/N 28-14264 damper assemblies, refer to the applicable steps in SIL 0075A.

6.7.2 For all F-28A/C and 280/C models equipped with P/N 28-14375 damper assemblies, refer to the applicable steps in SIL 0115.

June 20, 2018

6.7.3 For all F-28F/280F/FX models equipped with P/N 28-14375 damper assemblies:

6.7.3.1 Refer to MM paragraph 9-5, I, (21) to assemble the damper assembly.

6.7.3.2 Refer to MM paragraph 9-1, H, to install the damper assembly.

6.7.4 Re-apply corrosion inhibitor to the threads above the jam nut, as required.

6.8 Rod end assembly and installation for the belt tension shaft assembly:

6.8.1 Install the jam nut.

NOTE

Installing the nut will tend to wipe away inhibitor that was freshly applied. Re-apply to ensure complete coverage.

6.8.2 Re-apply corrosion inhibitor to the threads below the jam nut, as required.

6.8.3 Turn the rod end into the shaft until a measurement from the outboard edge of the idler yoke to the centerline of the rod end uni-ball is 6.75 inches.

6.8.4 Place spacer in the rod end.

6.8.5 Install the rod end and chamfered washers into the bellcrank with bolt, washer, and nut hardware. Install hardware only finger tight until clutch engagement rigging is checked.

6.8.4.1 Refer to SIL 0152 for rigging and adjustment procedures.

6.8.6 Verify the rod end attachments are secure.

6.8.6.1 Verify jam nut torque 290-410 in-lb.

6.8.6.2 Re-apply corrosion inhibitor to the threads above the jam nut, as required.

6.8.6.3 Verify safety devices and cotter pins are installed, as applicable.

6.8.7 Install the cowling.

6.9 Perform a maintenance ground run in accordance with F-28F/280F Series MM paragraph 4-65.

7. PARTS:

7.1 If replacing a rod end in the **hydraulic damper assembly**:

Description	Acceptable Part Number (Source)	Quantity
Rod End Bearing Assembly	ECD091-1 (Enstrom)	3 (A/R)

7.2 If replacing a rod end in the **belt tension shaft assembly**:

Description	Acceptable Part Numbers (Source)	Status	Quantity
Rod End Bearing Assembly	ECD091-1 (Enstrom)	Active	1
	09455-01-824-08E-011 (RBC Transport Dynamics)	Active	1
	MTK8 (RBC Hiem)	Active	1
	ASMK8T (Aurora)	Active	1
	01-824-08E-011 (Transport Dynamics)	Inactive	1
	M81935/1-08K	Active	1
	MS21242S8K*	Inactive	1
* Superseded by M81935/1-08K			

8. SPECIAL TOOLS: Tool T-0005

NOTE

A 5/8" tappet wrench may be used in lieu of T-0015, referenced in SIL 0075 and SIL 0115 (ref. 6.1.1 and 6.1.2).

9. MAN-HOURS: Inspection – 2 hours

10. WARRANTY: Per Enstrom Helicopter Warranty policy

11. WEIGHT CHANGE: N/A

12. LOG BOOK ENTRY: Enter compliance with this SDB in the aircraft maintenance records.

13. REPETITIVE ACTION:

13.1 If corrosion inhibitor such as ACF-50 (or equivalent) was applied upon re-assembly, inspect the rod end threads for corrosion in accordance with paragraph 6 every bi-annual inspection.

13.2 If MIL-PRF-23377 Type I Class 2C or Class N Epoxy Primer was applied upon re-assembly, no repetitive action is required.