



## SERVICE DIRECTIVE BULLETIN

SERVICE DIRECTIVE BULLETIN NO. 0088

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DATE: May 28, 1997

1. SUBJECT: Cracks in Lower Swashplate Universal Housing, Part Number 28-16119-1
2. MODEL: F28A, 280, F28C, 280C, F28F, 280F, and 280FX
3. EFFECTIVITY: F28A, 280, F28C, 280C, and 280F; All Serial Numbers  
F28F; Serial Number 808 and prior  
280FX; Serial Number 2079 and prior

### NOTE

Aircraft equipped with lower swashplate universal housings, P/N 28-16119-1, identified by the following serial numbers: 11-893-88H, 13-965-91H, 13-970-91H, 13-972-91H, 13-982-91H, 13-995-91H, 13-1001-91H, 13-1005-91H, and 14-1021-96H & subsequent, and lower swashplate universal housings, P/N 28-16119-3, are exempt from this Service Directive Bulletin.

4. BACKGROUND:

Enstrom has received reports of cracks developing in the lower swashplate universal housing. The cracks occur at the top of the thin web located between the mounting lugs for the universal shaft and the rod end bearings commonly referred to as "dog leg bearings" (See Figure 1).

Investigation revealed that the cracks are stress relieving in nature due to the thin web. The cracks do not propagate to critical areas of the lower swashplate universal housing. There has never been an in-service failure of the lower swashplate universal housing due to cracks.

The machining process for the lower swashplate universal housing has been modified to eliminate the thin web in all new lower swashplate universal housings, P/N 28-16119-3.

5. COMPLIANCE:

Within 25 hours time in service or at the next 100 hour/annual inspection, which ever occurs first, visually inspect the lower swashplate universal housing in accordance with (I/A/W) paragraph 5.1 of this service directive.

5.1. METHOD OF COMPLIANCE:

a. Remove the upper engine access panel from the right side of the aircraft to gain access to the lower swashplate assembly.

b. Using a suitable light source and a 10X magnifying glass, visually inspect the web area between the universal shaft and rod end bearing mounting lugs for cracks (See Figure 2).

1. If no cracks are found, return the aircraft to service.

2. If cracks are found, remove the lower swashplate assembly and either remove the crack by filing down the web as noted in Figure 3 or replace the cracked lower swashplate universal housing with a new housing, P/N 28-16119-3. Notify Enstrom Customer Service of all cracked swashplate assemblies by serial number. Return all cracked assemblies that are replaced to Enstrom Customer Service.

3. If cracks are not obvious but indications are suspected, remove the lower swashplate assembly and inspect using the dye penetrant method. If cracks are found, refer to paragraph 5.1.b.2. If no cracks are found, the part may either be returned to service per paragraph 5.1.b.1 or modified per paragraph 5.1.b.2.

**NOTE**

Refer to the appropriate aircraft maintenance manual for lower swashplate assembly removal, overhaul, and installation instructions.

5.2. PARTS:

<u>DESCRIPTION</u>	<u>OLD PART NUMBER</u>	<u>NEW PART NUMBER</u>
Lower Universal Housing	28-16119-1	28-16119-3

6. SPECIAL TOOLS: None

## 7. MAN-HOURS:

One-half man-hour per visual inspection. 3.5 man-hours per dye penetrant inspection. 7 man-hours per modification or replacement of the lower universal housing.

## 8. WARRANTY: Per Enstrom Warranty Policy.

## 9. WEIGHT CHANGE: None

## 10. LOG BOOK ENTRY:

Enter compliance with this Service Directive Bulletin. Enter the method of compliance; return to service, modification, or replacement of the lower swashplate universal housing. Update the component records as applicable if the lower swashplate universal housing was replaced.

## 11. REPETITIVE INSPECTIONS:

Repeat the inspection procedure in paragraph 5.1 every 100 hour/annual inspection, and anytime the lower swashplate assembly is removed from the aircraft until the lower swashplate universal housing is either modified per paragraph 5.1.b.2 or replaced with a new lower swashplate universal housing, P/N 28-16119-3.

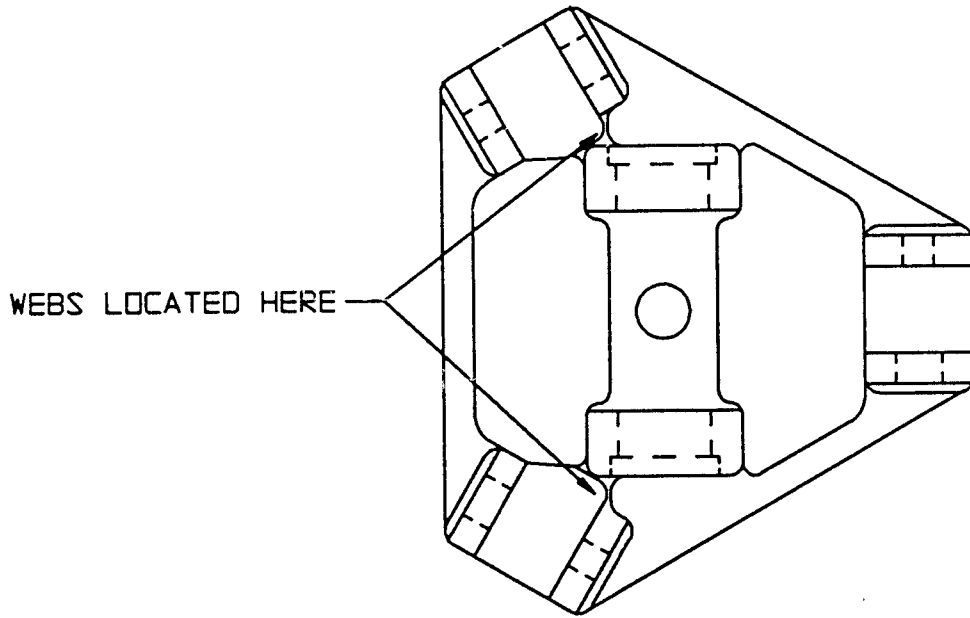


FIGURE 1

INSPECT WEB FOR  
CRACKS ( 2 PLACES )

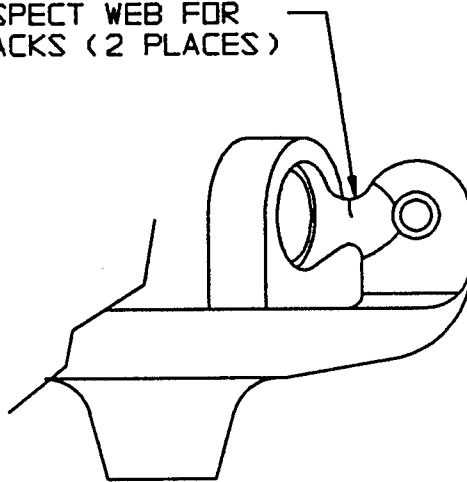


FIGURE 2

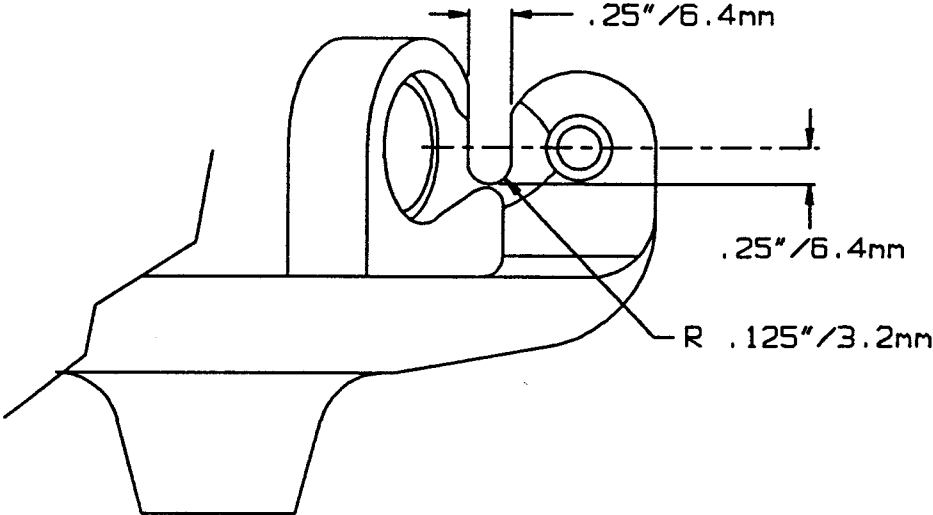


FIGURE 3