ENSTROM HELICOPTER CORPORATION

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SERVICE DIRECTIVE BULLETIN

DATE: May 28, 1997

1.   SUBJECT: Cracks in Lower Swashplate Universal Housing, Part Number 4140535-11

2.   MODEL: TH-28 and 480

3.   EFFECTIVITY: TH-28; Serial Numbers 3004 and 3006
          480; Serial Numbers 5001 through 5022

NOTE

Aircraft equipped with lower swashplate universal housings, P/N 4140535-11, identified by the following serial numbers: 11-893-88H, 13-965-91H, 13-967-91H, 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 4140535-13, are exempt from this Service Directive Bulletin.

4.   BACKGROUND:

Enstrom has received reports of cracks developing in the lower swashplate universal housing installed in F28F/280FX model helicopters. The universal housings used in the TH-28/480 are manufactured using the same castings and machining process as the universal housing used in the F28F/280FX. 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 a crack or failure of the lower swashplate universal housing, P/N 414535-11, in service.

The machining process for the lower swashplate universal housing has been modified to eliminate the thin web in new lower swashplate universal housings, P/N 4140535-13.

5.   COMPLIANCE:

Within the next 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 paragraph 5.1.

Replace the lower swashplate universal housing during the next overhaul of the lower swashplate assembly with a new lower swashplate universal housing, P/N 4140535-13.

5.1.   METHOD OF COMPLIANCE:

a.   Open the engine access panel on either 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.

NOTE

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

2.   If cracks are found, remove the lower swashplate assembly and replace the cracked lower swashplate universal housing with a new housing, P/N 4140535-13.

5.2.   PARTS:

DESCRIPTION	PART NUMBER	QUANTITY
Lower Swashplate Universal Housing	4140535-13	1 Ea
DU Bushing	08-DU-08	4 Ea
Lower Swashplate Thrust Washer	28-16263-5	4 Ea

5.3.   DISPOSITION OF PARTS:

Return all lower swashplate universal housings replaced as a result of this Service Directive Bulletin to Enstrom Customer Service.

6.   SPECIAL TOOLS:

T-0016 - Lower Swashplate Gimbal Tool
T-0100-1 - Swashplate Bushing Installation Tool

7.   MAN-HOURS: One-half man-hour per visual inspection.

8.   WARRANTY:

The replacement parts listed in paragraph 5.2. will be provided free of charge.

9.   WEIGHT CHANGE: None

10.   LOG BOOK ENTRY:

Enter compliance with this Service Directive Bulletin. Enter the method of compliance; visual inspection or replacement of the lower swashplate universal housing. Update the component records as applicable when the lower swashplate universal housing was replaced.

11.   REPETITIVE INSPECTIONS:

Inspect the lower swashplate universal housing, P/N 4140535-11, in accordance with paragraph 5.1. every 100 hour/annual inspection. Installation of the new lower swashplate universal housing, P/N 4140535-13, terminates the inspection requirements of this Service Directive Bulletin.
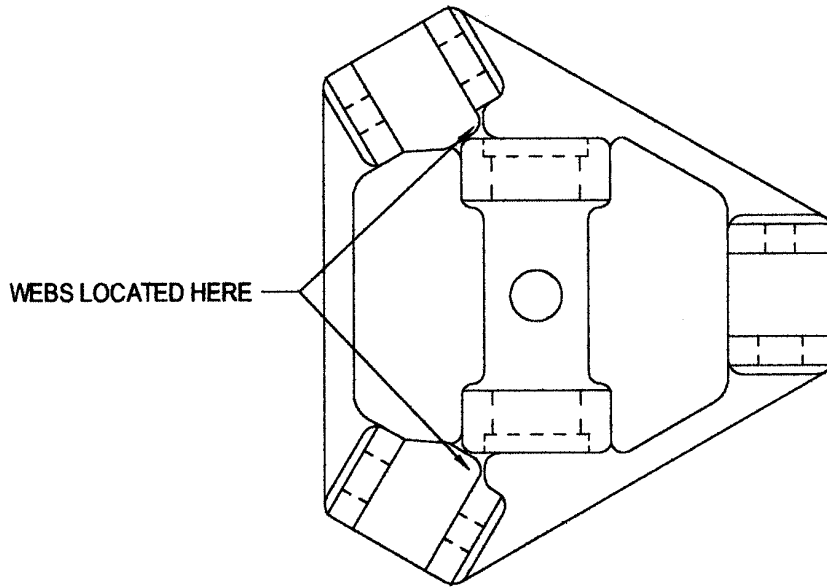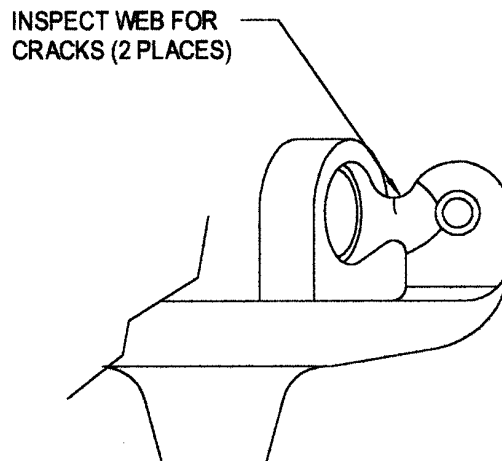
WEBS LOCATED HERE ⎯

FIGURE 1

INSPECT WEB FOR ⎯
CRACKS (2 PLACES)

FIGURE 2