

SERVICE LETTER #36

DATE: 5 October 1990
TO: All R22 Owners and Service Centers
SUBJECT: Alignment of Fan Shaft Bearing Housing
ROTORCRAFT AFFECTED: All R22 Helicopters

BACKGROUND: Premature failure of fan shaft bearing or failure of bearing housing mounting brackets on fan scroll can result if bearing housing is misaligned.

COMPLIANCE PROCEDURE:

Check alignment of fan shaft bearing housing and its mounting brackets on fiberglass scroll as follows:

1. With scroll still installed, remove two AN3-41A bolts from the fan shaft bearing housing. (Caution: Be sure clutch is disengaged.)
2. Tap scroll in several places near bearing to allow scroll to move to its unloaded, free standing position.
3. Measure and record the gap, if any, between scroll and fan shaft bearing, see figure. Gap is accessible from bottom and should be measured at right and left side of bearing. Also, check for cracks or loose rivets.

If gaps exist that are less than .05 inch and there are no cracks or loose rivets, reinstall AN3-41A bolts. No further service is necessary.

If loose rivets are found, repair per SB-44.

If gaps are .05 inch or more, shimming is required between scroll and A185 brackets as follows:

- a. Remove centrifugal blower and scroll per R22 Maintenance Manual, Section 6.210.
- b. Drill out rivets which mount A185-1, -2 and -5 brackets to scroll in those areas where shimming is required.
- c. To fabricate shims, cut and drill 2024-T3 aluminum sheet, thickness .032 inch, to match A185-3 and -4 plates. Additional A185-3 and -4 plates may be obtained from RHC to use as shims if desired. Install shims to fill gaps between A185 brackets and scroll.
- d. If gap is larger on one side than the other, the larger gap may have up to two more shims than the opposite side. A maximum of five shims may be added at any corner.

(over)

- e. Reinstall A185-3 and -4 plates inside scroll using MS20470AD5 (5/32 diameter) rivets to rivet the A185 plates, scroll, shims and A185 brackets together.
- f. Reinstall centrifugal blower and scroll per R22 Maintenance Manual Section 6.220, but before torquing blower nut, check for clearance between the blower and scroll by holding blower forward and rotating it on fan shaft by hand. If any indication of contact between scroll and blower occurs, remove scroll and adjust shims as required to provide clearance.
- g. Reinstall blower nut and roll pin per R22 Maintenance Manual Section 6.220. Double check blower clearance by cranking engine with lower spark plugs removed.
- i. Using RHC B270-4 sealant or standard silicone type sealant, fill gaps between fan shaft bearing block and scroll, to prevent excessive cooling air loss.

