

**R22**

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**SERVICE BULLETIN #73**

**DATE:** 15 March 1994

**TO:** R22 Owners and Operators

**SUBJECT:** Inspection of A947-1 Forward Flexplate

**ROTORCRAFT AFFECTED:** All R22 Helicopters equipped with A947-1 Rev A thru D or A193-1 flexplates which have been in service over two years or over 500 flight hours as of 15 March 1994.

**TIME OF COMPLIANCE:** Within 25 flight hours after receiving this bulletin or by 15 April 1994, whichever occurs first. Thereafter, examine flexplates during 100 hour/annual inspections as outlined in the Maintenance Manual. Note: Change 14 to the Maintenance Manual incorporates additional inspection requirements pertaining to the forward flexplate.

**BACKGROUND:** Despite no prior history of such failures, there have been three recent reports of forward flexplate failures in Australia and New Zealand. The most likely cause of premature flexplate failure would be repeated overtorquing of the drive system possibly combined with high misalignment and nicks or corrosion on the flexplate edges. Failure of the forward flexplate could result in catastrophic failure of the main rotor drive and possible rupture of the fuel tanks.

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**COMPLIANCE PROCEDURE:**

(Reference R22 Maintenance Manual Change 14 dated 14 Mar 94)

- 1) With clutch disengaged, support the forward end of the A166-1 clutch shaft and remove the A947-1 forward flexplate, recording any shim locations for reinstallation. Scrap and replace any forward flexplate not having 8 bonded washers (2 per arm).
- 2) Clean the flexplate with solvent and a soft rag. Remove any loose paint. Paying particular attention to the edges, inspect the flexplate for nicks, corrosion, and cracks using a 7X to 10X magnifier.
- 3) Repair damage per R22 Maintenance Manual Figure 2-3. If damage cannot be removed within the rework limits then scrap and replace the flexplate.

TECHNICAL REQUIREMENTS FAA APPROVED

(OVER)

- 4) Paint bare edge areas with an even coat of zinc-chromate or epoxy primer.
- 5) Reinstall A947-1 forward flexplate and any shims. If flexplate has been replaced, shim intermediate flexplate per Section 7.330. Remove clutch shaft support and torque fasteners per Section 1.320.
- 6) Check sheave alignment per Section 7.230.
- 7) Check clutch shaft angle per Section 7.240.
- 8) Record one-time compliance with this Service Bulletin in the aircraft's maintenance records (log books).

**NOTE:** Advise pilots and/or operators of the R22 that repeated overtorquing (exceeding MAP limits) could result in failure of the forward flexplate.