

SERVICE BULLETIN #28

Date: 22 February 1983

To: All Owners and Operators of Robinson R22 Helicopters

Subject: Inspections of Lower Actuator Bearing A181-1

Rotorcraft Affected: R22 Helicopters S/N 0002 thru S/N 0380

Time for Compliance: Within the next 10 flight hours or prior to March 15, 1983, whichever occurs first.

Background: Several A181-1 lower actuator bearings have failed prematurely. Failure of this bearing in-flight could lead to failure of the main drive system and result in a serious accident.

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Compliance Procedure:

Prior to the next 10 hours of flight, perform the inspection described in A below. After completing inspection, instruct all R22 pilots to perform the daily preflight check given in B below. Inspection C need only be performed if an indication of possible bearing failure is detected when completing inspection A. Inspection A must also be performed at each 100 hour inspection.

A. Bearing Inspection by A&P Mechanic

1. Record Telatemp reading. If Telatemp reading is 160°F, or above, and is 20°F or more higher than the Telatemp reading on the upper bearing housing, perform teardown inspection C. (If the condition of the Telatemps is questionable, replace both Telatemps and recheck after 30 minute hover.) If Telatemp is below 160°F or within 10°F of upper Telatemp, complete items 2 thru 4.
2. Wipe all dirt and grease off bearing seals and housing.
3. Inspect bearing seal for any sign of damage or surface discontinuities. If seal is dented, cut, displaced, or shows any other indication of damage, perform teardown inspection C.
4. Replace Telatemps on both upper and lower actuator bearing housings. Install Telatemps on both sides of the lower bearing housing with a line drawn between 150°F and 160°F. Install with the 140°F end up.

B. Daily Pre-Flight Check By Pilot

1. Check the temperatures recorded by the Telatemp on the upper and both sides of the lower actuator bearing housings.
2. Check the visible portion of the bearing seals for damage or discontinuities.
3. If seal damage is found or the lower bearing temperature is 160°F or higher and exceeds the upper bearing temperature by 20°F or more, repeat inspection A and, if necessary, teardown inspection C.

C. Teardown Bearing Inspection By A&P Mechanic

If inspection A indicates a possible bearing failure, perform the following:

1. With clutch disengaged, remove the scroll and cooling fan per Section 6.210 of the R22 Maintenance Manual.
2. Disconnect the lower end of the actuator from the A181-1 Bearing Housing.
3. Using fingertips, rotate the bearing housing and check for sound or feel of any roughness, scraping, or looseness. Visually inspect bearing for seal damage, loss of lubrication, or signs of heat damage.
4. If any indication of impending bearing failure is found, replace the A007-3 Shaft and Bearing Assembly. Torque bolts per Section 1.320. (To save the expense of a new shaft, the assembly may be returned to RHC for replacement of the A181-1 Bearing Assembly.)
5. Reconnect lower end of actuator to A181-1 Bearing Housing.
6. Reinstall cooling fan and shroud per Section 6.220.
7. Check vee-belt tension and clutch engagement time per Sections 7.282 and 7.283.
8. Install new Telatemp on upper bearing housing and both sides of lower bearing housing. Draw line between 150°F and 160°F on lower Telatemp and install the 140°F end up.

