



17716 48th Drive NE
ARLINGTON, WASHINGTON 98223
FAA-PMA FACILITY #PQ111NM

Service Bulletin Fuel Systems

Bulletin No.: PRS-109

Revision No.: 1

Date: 11-5-15

Subject: Idle Valve Thrust Washer Wear on Robinson R44 II Helicopters

Purpose: To provide inspection instructions for RSA-10AD1 fuel injection servos installed on Robinson R44 II helicopters.

Revision 1: Provides instructions for terminating action.

- A. **EFFECTIVITY:** This service information letter is applicable to RSA-10AD1® fuel injection servos installed on Robinson R44 II helicopters.
- B. **REASON:** A number of RSA-10AD1® servos installed on Robinson R44 II helicopters in New Zealand have been found to contain P/N 367757 thrust washers in the idle valve lever assembly which are reported to exhibit unusual wear at mid life. This wear has been associated with organic fuel contamination by laboratory analysis. On one aircraft the contamination caused debris which was reported to migrate downstream to the fuel nozzle. Investigation by Precision Airmotive has discovered a similar situation present in some returned R44 II like servo cores.

C. **COMPLIANCE:**

- i. Every 500 hours inspect idle lever assembly thrust washer per paragraph iii below.
- ii. If the throttle control movement becomes excessively stiff at any time between the 500 hour inspections, check idle lever with linkage disconnected for stiffness before removing valve. If the stiffness is not associated with the idle valve, repair throttle or linkage as required. If the idle lever is the source of stiffness, inspect the idle lever assembly, per paragraph iii below.

iii. **NOTE: THE FOLLOWING REPAIR SHOULD ONLY BE ACCOMPLISHED IAW THE FOLLOWING INSTRUCTIONS AND THE CURRENT APPLICABLE PRECISION AIRMOTIVE COMPONENT MAINTENANCE MANUAL (CMM).**

Measure the length of the idle mixture link from center of pin to center of pin and make note of this dimension. Note position of lever and location of flat and spring washers on linkage pins. Disconnect the idle mixture linkage at the idle lever by removing the cotter pin; be sure to save the flat washers and spring washers for reassembly. Remove the lock wire from the idle valve retention screws. Pull the assembly from the servo. Slide the bushing toward the lever to expose the thrust washer. Move the thrust washer away from the bushing and flange and inspect for any loose material. There may be some assembly grease present on the shaft, remove this with a lint free cloth and do not apply any lubricant to this area. If contamination is observed, see Photo 1 below, remove servo and send to repair station for disassembly and cleaning. If no contamination is observed, re-assemble unit as described below.



Photo 1

- D. **REASSEMBLY:** Inspect O-ring on bushing for damage, if damaged, replace O-ring. Apply a small amount of light oil to the O-ring on the bushing, bore, and the face of the valve plate. Insert the idle lever assembly into the servo and start the screws that hold the assembly to the servo. Carefully advance the bolt and screw a few turns at a time alternating between them to prevent binding of the assembly. Torque screws to 15-20 lbs/in. The lever should feel smooth when turning by hand. Install lock wire on the screws. Re-attach the idle mixture link to idle lever making sure it is set to the same length as measured before removal, nominal setting is 2.84" center to center. Install spring washer, flat washer, and cotter pin. Install helical extension spring between the heads of the pins behind thumb wheel. For additional assembly information see Precision Airmotive RSA-10AD1® component maintenance manual, P/N 15-433D. If subsequent idle mixture adjustments are required, see Precision Airmotive Service Information Letter SIL RS-67.

Part Numbers (if required, all P/Ns Precision Airmotive, except AN-960 washer):

Large flat washer – AN 960-416L
Small flat washer, – 911242
Large spring washer - P19821
Small spring washer – 177718
cotter pin (7/16 x 3/64) - 901200
O-ring, bushing – 951400

- E. Terminating Action:** Installing idle and mixture valve kit P/N 2576659 per SB PRS-110 eliminates continued inspections described above. Installation of this kit is indicated by the servo data tag marked in the upper right quadrant with the letter “B” as shown in the red circle in Photo 2. When the installation is accomplished by Precision Airmotive LLC, an “IC” number, shown on the data tag, of 9 or higher indicates compliance with this bulletin.

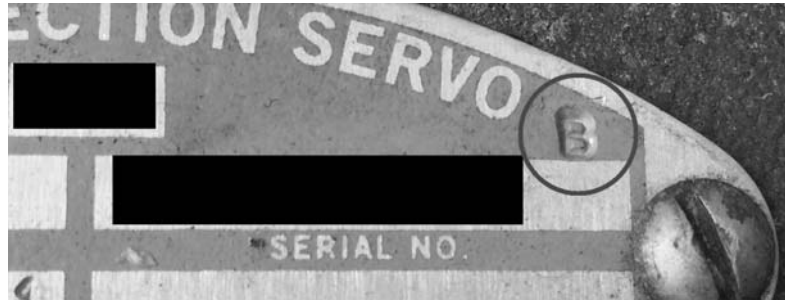


Photo 2

Contact Information: Precision Airmotive LLC
Product Support Department
(360) 651-8282
www.precisionairmotive.com