

# Tail Rotor Gear Box Seal Replacement Input Shaft and Output Shaft Seals

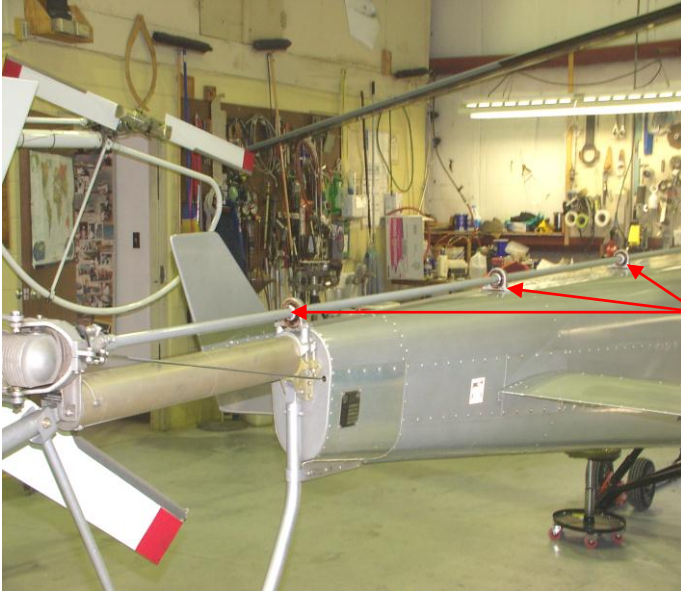
## Table of Contents

- A. List of Materials and Shop Tools.
- B. Special Tool, Slap Hammer.
- C. Picture of Disassembly Parts and Numbers
- D. Removing and Installing Input Shaft Seal.
- E. Removing and Installing Output Shaft Seal.

### A. Materials and Shop Tools

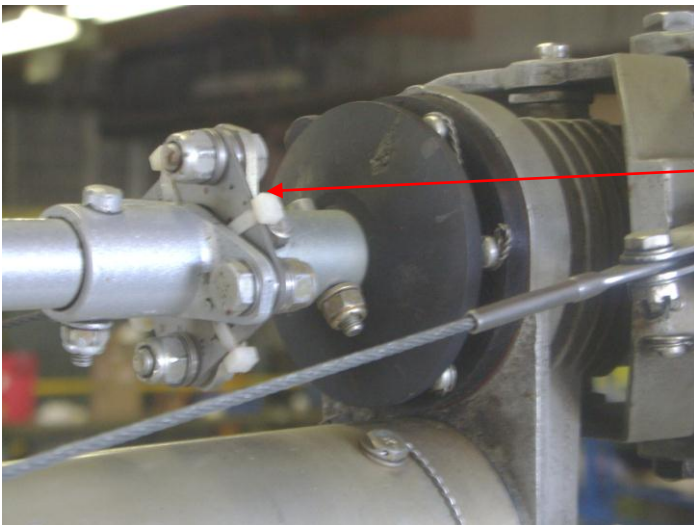
- 1. Basic Hand Tools.
- 2. Torque Wench, [inch pounds], and Slap Hammer.
- 3. Safety Wire, .032.
- 4. Cleaner/Primer, ProLock Brand 7649 Lock Tight.
- 5. Loctite-277, [Red]
- 6. Lubricate- [STP and Oil Mixture]
- 7. Tail Rotor Transmission oil. [MIL 2105 Mobil-1 [75W-90]

#### D. Removing and Installing Input Shaft Seal.

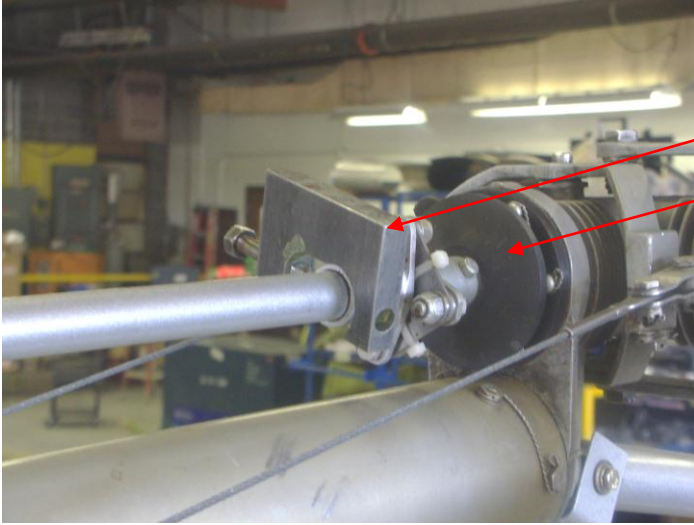


1. Remove bottom plug, and drain the oil from the tail rotor transmission.

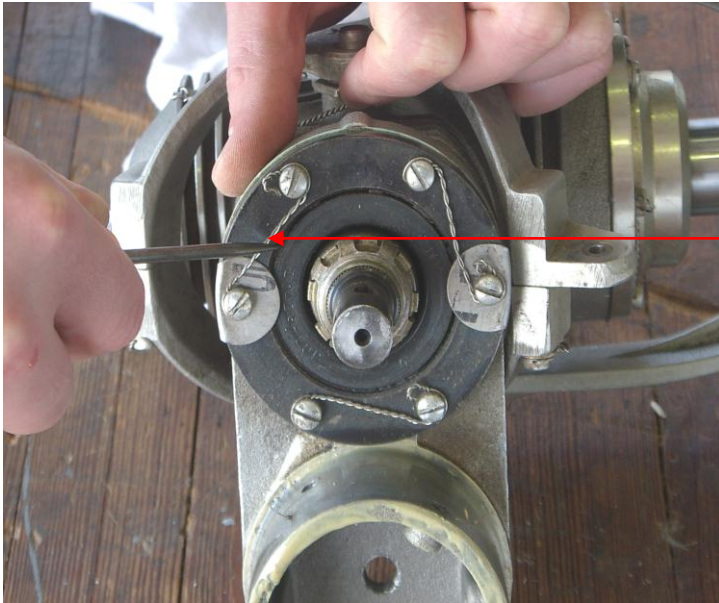
2. Remove all the hardware and shims on the last three hanger bearings. NOTE: Very important to keep all the hardware and shims, and bolts with each bearing.



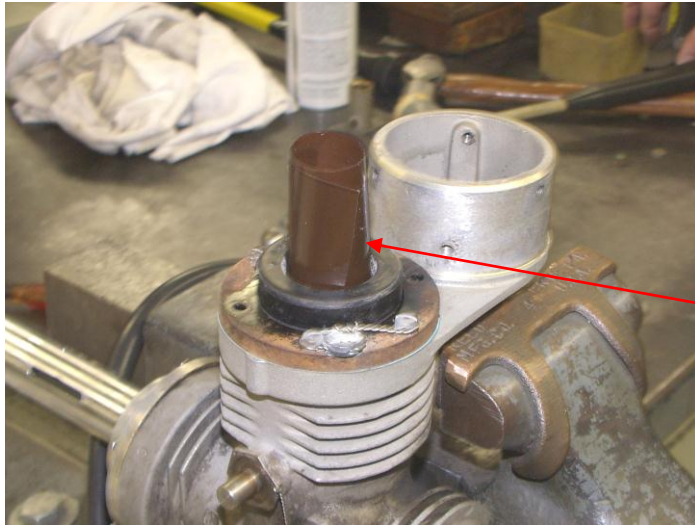
3. Remove the flex coupling. NOTE: Keep all the hardware, washers, spacers and bolts with the flex coupling. CAUTION: Very important to keep the hardware and spacers going in the same direction when installing the flex coupling.



4. Remove the taper pin, [AN386-2-8] next to the rain slinger, using [T-0092]. Also at this time remove the rain slinger, [28-16399-11].  
NOTE: Do not remove the lead seal from the input shaft assembly. Removal of seal will void the warranty on the tail rotor transmission.



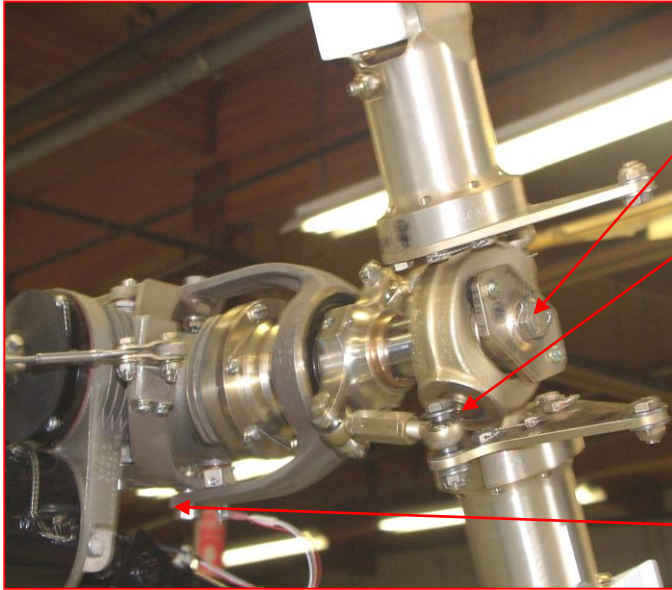
5. Remove the seal retaining ring, [N-5000-206-PP] or two retaining tabs. Using an awl or small screw driver, carefully remove the input shaft seal, [1539-001]. NOTE: Note the part number on the seal. Use the same part number for the seal, when installing the new seal.  
**Do not remove all the screws and the bearing retainer.**



6. Clean the tail rotor transmission seal surface and the O.D. of the new seal with cleaner/ primer, or other suitable solvent. Apply a small amount of Loctite-277, Red sealant to the seal and lubricate [STP and oil mixture], the seal lip and install the seal. Use shim stock wrapped around the input nut to protect the seal lip during installing. Use a soft mallet, and a drift to tap in seal

7. Install the retaining ring [N5000-206-PP] or the retaining tabs. Torque the screws to 25in lbs., and lock wire if using the retaining tabs. Install the rubber slinger. Install the taper pin [AN386-2-8A] in input shaft, and torque the taper pin to 25in lbs. Install flex coupling. Make sure all the hardware, spacers, and washers are installed in the same way they were remove. Re-install the three hanger bearings, using the same shims, and spacers, and bolts, for each hanger bearing. Torque to 35in lbs. Service the tail rotor transmission using [MIL 2105 Mobil 1], [75W-90].

## E. Removing and Installing Output Shaft Seal.

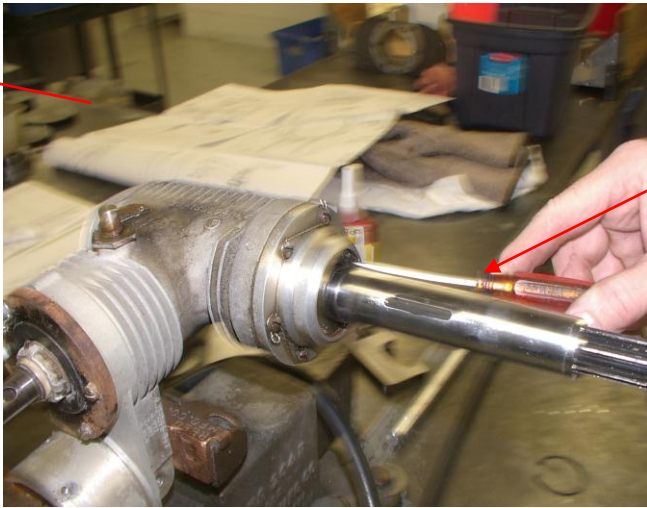


1. Pull bottom drain plug, and drain tail rotor transmission. Remove safety wire on retention bolt on tail rotor blade assembly, and remove cotter keys and bolts from tail rotor pitch lengths, and retention bolt, remove tail rotor blade assembly. NOTE: Keep all washers and spacers together on the bolts. These will be use again on installation of the tail rotor blade assembly. Remove both cotter keys and bolts, and spacers on tail rotor rotating control assembly, and remove tail rotor rotating control from gear box. NOTE: Keep all washers, spacers, and bolts together. These will be re-use when re-installing hardware.

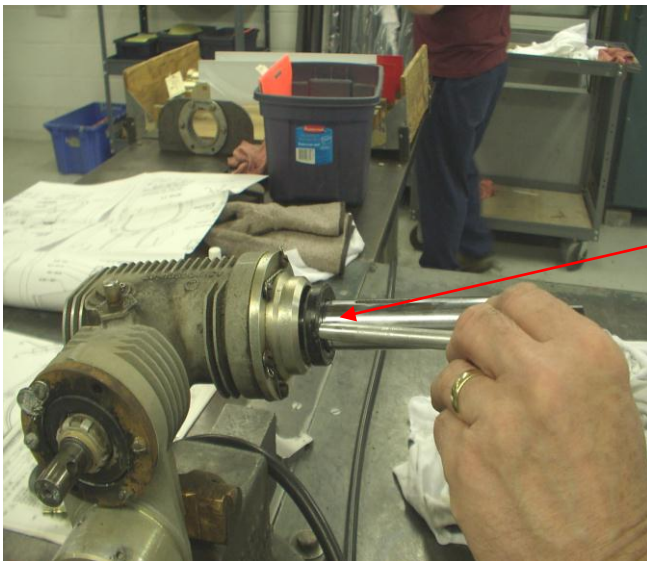




2. Index a mark on the sleeve [28-13511-1], as it is installed on the output shaft. If you have to remove sleeve to replace output seal, this sleeve has to be install in the same location, reference to the index mark you made,



3. Remove the retaining ring, [N50000-175], from the output shaft seal. Using an awl or a small screw driver, carefully remove the seal, [9276]. NOTE: Note the part number on the seal. Use the same part number to replace seal.



4. Lubricate the lip of the new seal, [9276], with [STP and oil mixture], and install new the seal. Use a soft mallet and a drift to set the new seal in place. NOTE: If sleeve was not remove, be very careful when sliding seal over the sleeve, not to tear the lip of the seal. Reinstall the retaining ring, [N50000-175]. CAUTION: If the sleeve was remove, line up index mark, and use a soft mallet, and tap on sleeve to output shaft. Be careful not to tear the new seal.

5. Reinstall tail rotor rotating control assembly, using same hardware, spacers, and washers as before. Use new cotter pins. Use standard torque. Reinstall tail rotor blade assembly, and pitch length controls, using same spacers and washers and bolts, in the same direction they came off. Use standard torque, and new cotter pins. Torque the retention bolt, on the tail rotor blade assembly, to 300in lbs., and safety wire bolt using .032 safety wire.

6. Install bottom plug, and service tail rotor transmission, using [MIL-2105 Mobil-1, 75W-90]. Safety wire plug, using .032 safety wire.