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Cover Assembly 2543133HT

For Model Eligibility, Please visit us at www.hyetechLLc.com

SUBJECT: Removal, cleaning, inspection, repair, & installation procedures for 2543133HT – Cover Assembly – Power Turbine Governor.

COMPLIANCE: Any time the cover is removed, refer to the following inspection & rework limits.

NOTES: Refer to OEM's published for data engine operation.

Standard shop practices may be substituted for materials and procedures referenced herein provided they have been demonstrated as effective and safe for use with these parts or their OEM and other FAA approved equivalents.

1.1 REMOVAL – *(Please also refer to OEM published instructions)*

1.2 Remove the P.T. Governor assembly in accordance with the manufacturer's instructions.

1.3 Disassemble the P.T. Governor assembly in accordance with the manufacturer's instructions.

1.4 ***If cover is to be overhauled, remove & replace 2539533HT & 2539179HT bushings.*** It is optional to use 2539533-1HT or 2539179-1HT if necessary.

/ ***NOTE: USE OF OEM OR OTHER FAA APPROVED REPLACEMENT BUSHINGS ARE PREMISSIBLE.***

2.0 CLEANING – *(Please also refer to OEM published instructions)*

2.1 After disassembly, clean the governor cover using a MIL-PRF-680 (type II or III) degreasing solvent & MIL-PRF-7024 (type II) calibration fluid. Both should be run through a 10 micron filter. The solvent may be applied with a spray/rinse gun between 15-20 psig. ***DO NOT USE ANY BRUSHES WHERE BRISTLES CAN BECOME DISLODGED THEREBY BLOCKING THE SMALL PASSAGES & OPENINGS.***

2.2 Reverse flush all the internal openings & passages. Then drain all excess cleaning solvents.

2.3 Dry cover with filtered, compressed air at no more than 30 psig.

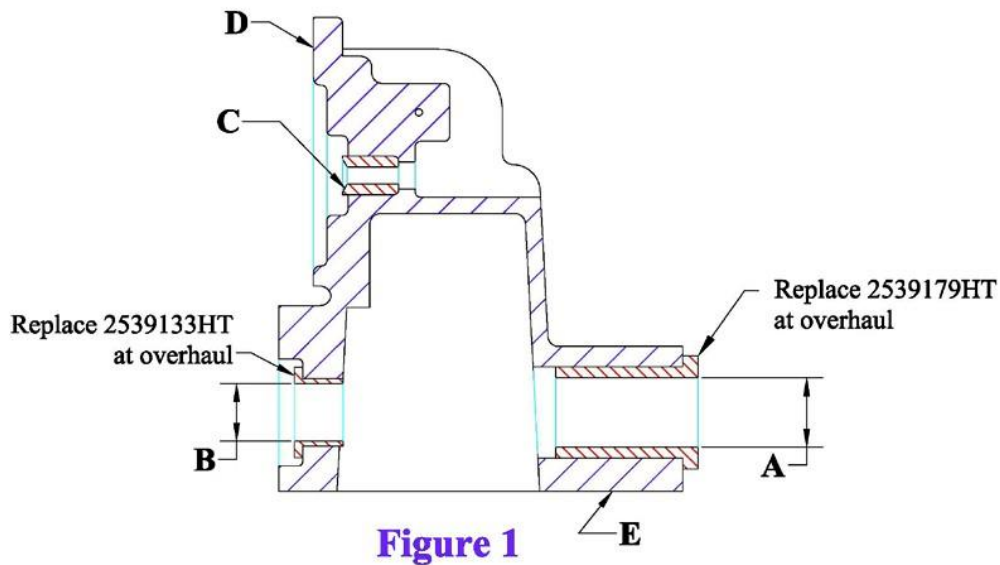


3.0 INSPECTION – (Please also refer to OEM published instructions)

Table 1
(Refer to Figure 1)

Inspect	Repair Limits	Corrective Action
Crack indications. (FPI per ASTM E1417).	None permitted.	Replace Cover.
Item A 2539179HT Bushing I.D. for wear.	I.D. not to exceed .3825 inch. (9.7155 mm). <u>REPAIR LIMIT ONLY.</u> Bushing to be replaced 100% at overhaul.	Replace bushing in accordance with Repair Section 4.1
Item B 2539133HT Bushing I.D. for wear.	I.D. not to exceed .3196 inch. (8.1178 mm). <u>REPAIR LIMIT ONLY.</u> Bushing to be replaced 100% at overhaul.	Replace bushing in accordance with Repair Section 4.1
Surface C (2523280HT) Regulator Valve for nicks, grooves and/or scratches.	No nicks, grooves and/or scratches permitted on the valve seat.	Replace valve seat in accordance with Repair Section 4.2
Regulator cover mating surface D for raised metal and flatness.	No raised metal permitted. Surface must be flat within .002 inch (.0508mm).	Remove any raised metal in accordance with Repair Section 4.3 & 4.4. Restore corrosion resistance in accordance with MIL-C-5541, Class 1A. Lightly lap until surface is flat within .002 inch (.0508mm). DO NOT USE BELT SANDER. Restore corrosion resistance in accordance with MIL-C-5541, Class 1A.

Inspect	Repair Limits	Corrective Action
Cover mating surface E for nicks and/or raised metal.	No raised metal permitted.	Remove any raised metal in accordance with Repair Section 4.3 & 4.4. Restore corrosion resistance in accordance with MIL-C-5541, Class 1A.
Stripped identification plate screw threads	Not Applicable	Refer to Repair Section 4.5
Inserts 342427 & throttle stop inserts 3591-3CN9/32 (alt to 331998).	Inserts must be secure & provide 2-13 lb-in running torque on threaded components when lubricated with DOD-L-25681 (Molybdenum disulfide)	Replace inserts.
Damage to pin 951190HT	Pin must be straight, undamaged & secure in cover.	Remove damaged and/or loose pin. FPI pin hole location to verify that damage to the pin did not result in cracks to the pin hole location. Install new 951190HT Pin.





4.1 REPAIR – (Please also refer to OEM published instructions)

PLEASE NOTE THAT 2539179HT & 2539133HT BUSHINGS ARE TO BE REPLACED 100% AT OVERHAUL

4.2 **Throttle Shaft Bushing Replacement**

- a) Press the worn bushings from the cover assembly with the aid of a suitable arbor press & drift.
- b) Press the new bushing into place with 2550946 mandrel until the bushing shoulder is tight against body as shown in Figure 2. Replacement bushing must provide a .0005 - .002 inch (.0127 - .0510 mm) press fit. 2539179-1HT, -2HT & 2539533-1HT, -2HT are available if standard size 2539179HT & 2539533HT do not provide a suitable press fit.
- c) Using step reamer 2550140, ream the bushings to the final dimensions shown in Figure 2.
- d) After completion of reaming operations, clean the I.D. of the bushings using a clean swab & clean oil (conforming to MIL-PRF-23699).
- e) After bushing replacement inspect cover assembly using fluorescent Penetrant inspection procedure. Inspect for cracks caused by bushing replacement procedures (refer to OEM CMM 'CHECK' section). Replace cover if cracks are present.
- f) Cut wicks to the appropriate lengths & saturate with clean oil (conforming to MIL-PRF-23699). Insert wicks into bushing until installation of throttle shaft.

4.3 **Valve Seat Replacement**

- a) Press damaged valve seat out of cover assembly using a .130 inch (± .005 inch) diameter drift.
- b) Press the new 2523280HT valve seat into cover assembly using a 3/8 inch diameter socket adapter and an arbor press until fully seated as shown in Figure 2 (special tooling for this operation is available - please contact HYE-Tech for more information). Replacement valve seat must provide a .0005 - .0020 inch (.0127 - .0510 mm) press fit. 2523281HT, 2523282HT & 2523283HT are available if standard size 2523280HT does not provide a suitable press fit.

/ ***NOTE: USE OF OEM OR OTHER FAA APPROVED REPLACEMENT VALVE SEATS ARE PERMISSIBLE.***

- c) Perform a dye Penetrant inspection in accordance with ASTM E1417. Inspect for cracks in the seat caused during installation. Remove & replace seat if any cracks are evident. **NO CRACKS ARE PERMITTED.**

4.4 **Repair of Scratches, Nicks & Burrs**

- a) Protect adjacent, undamaged surfaces when removing burrs and/or repairing nicks & scratches. To prevent contamination of metal and/or polishing residues, mask and/or plug all passage openings.
- b) Using an Arkansas stone, carefully remove nicks & burrs from noncritical or non-operating surfaces.
- c) Remove scratches, nicks & burrs from sealing areas as follows:

CAUTION: WHEN MAKING REPAIRS, DO NOT DAMAGE FACE SEALING SURFACES. THESE SURFACES MUST REMAIN UNIFORMLY FLAT & SMOOTH TO ENSURE PROPER SEALING.

- 1) For initial removal of raised metal around any nicks & burrs, use a non-metallic & non-woven abrasive mat, (A-A-58054, Type I, Grade II) or 180 – 240 grit silicon carbide abrasive paper (ANSI B74.18).
- 2) Shallow scratches located in the face sealing surfaces, are to be blended by carefully polished into adjacent areas. After completing polishing, the surface smoothness of these areas shall be equivalent to the smoothness of the adjacent and undamaged sealing surfaces.
- 3) To provide a finished sealing surface, the areas from which metal was removed shall be polished by using a 400 grit then 800 grit, silicon carbide abrasive paper (ANSI B74.18).
- 4) After polishing, clean all residues in accordance with the OEM CMM ‘CLEANING’ section for procedures & precautions.

4.5 **Repair of Damaged Packing Seal Areas**

- a) To prevent contamination of metal and/or polishing residues, mask and/or plug all passage openings.
- b) Use a non-metallic & non-woven abrasive mat, (A-A-58054, Type I, Grade II) or 180 – 240 grit silicon carbide abrasive paper (ANSI B74.18) for initial removal of raised metal around any nicks & burrs
- c) To provide a finished sealing surface, the areas from which metal was removed shall be polished by using a 400 grit then 800 grit, silicon carbide abrasive paper (ANSI B74.18).
- d) After polishing, clean all residues in accordance with the OEM CMM ‘CLEANING’ section for procedures.
- e) Using the appropriate size tap, chase threads from damaged threaded holes to remove any raised metal or burrs. Flush all repaired openings to remove all loose material. Refer to the OEM CMM ‘CLEANING’ section for procedures.

4.6 **Identification Plate Screw Hole Repair**

- a) Stripped or damaged ID Plate screw holes can be repaired by applying putty to the screws.
- b) Clean the MS24621-7 (Alt 186739) screws & threaded holes per the OEM CMM 'CLEANING' section.
- c) Mix a small amount of Devcon Aluminum Putty (F) per the manufacturer's instructions.

WARNING: PRIOR TO USE, READ & TAKE NECESSARY SAFETY PRECAUTIONS PUBLISHED BY THE MANUFACTURER.

- d) Apply an ample amount of putty to the threads of the screws & assemble the ID plate to the cover assembly. Install the screws.
- e) Use isopropyl alcohol (TT-I-735) to remove excess adhesive from ID plate & screws.
- f) Allow 2 hours at ambient temperature for putty to cure.

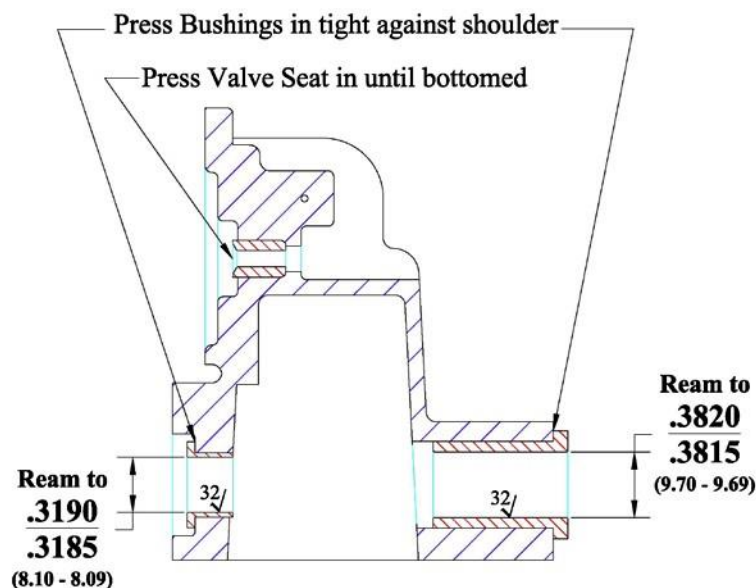


Figure 2

5.0 **Assembly & Installation**

The 2543133HT Cover is eligible for installation on many different Honeywell Power Turbine Governor Models. To ensure that proper assembly, installation & testing procedures are applied, please refer to the applicable OEM model CMM for specific instructions & procedures.