



Maxwell Propulsion Systems, Inc.

Super Novo Vias

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Removal and Installation of Transmission Seal

Removal

- Remove the six cotter pins and six AN5 bolts and nuts that hold the prop extension to the prop shaft.
- Remove the prop, making sure to not break the brushes on the brush assembly.
- To remove the transmission fluid:
 - Remove fill plug on the top of the A30 or A40,
 - Remove both drain plugs. (One is on the bottom of the A30/A40; the other is on the bottom of the gear cover.)
- Disconnect/remove the:
 - Starter cable,
 - Starter solenoid wire,
 - Transmission temp sender wire,
 - EGT wires,
 - Landing light wires, and
 - Ignition pickup wires.
- To remove the PTO cover (the aluminum cover under the A30/A40 with three socket head Allen screws.) turn the socket Allen head bolt counter clockwise.
- To remove the pinion gear:
 - Use the pinion gear removal tool, (available from MPS for \$20.00 + shipping.)
 - Tread the tool into the pinion gear;
 - Thread the bolt into the tool using the bolt to push against the input shaft as a jacking screw.
 - As soon as the pinion gear releases, STOP. Do not pull the pinion gear through the gear cover.
 - After ensuring the pinion gear is released from the input shaft, unthread the tool.
- Remove the four 10mm bolts at each corner of the transmission interface plate.
- Remove the transmission by either using:
 - A slide hammer in the end of the prop shaft or
 - A large plastic dead blow hammer hitting the back side of the prop shaft.

CAUTION: Since there are alignment pins on the left and right side of the engine bell housing, make sure to remove the transmission interface plate squarely.
- Place the transmission on the bench with the rear of the transmission plate facing you.
- To remove the oil seal:
 - Use a small flat head screw driver to remove the oil seal retaining ring.
 - Cover the shaft of a large flat head screw driver with a rag and pry out the oil seal. Take care not to scrap the walls of the aluminum bore.
 - Clean the aluminum bore with acetone to remove any oil.

Installation

- To install the new oil seal:
 - Use a tool the same size as the seal to tap it in until it bottoms out, making sure it goes in straight.
 - Clean the retaining ring and re-install.
 - Wipe the surface of the engine and rear surface of the transmission with acetone.
 - Inspect the input shaft to ensure there are not any burrs on it.
 - Apply a small amount of oil or seal lube on the seal lip and input shaft.
- To re-install the transmission onto the engine:
 - Pick up the transmission and place it onto the engine making sure the seal goes onto the input shaft straight. Note: Do not rest the weight of the transmission on the seal.
 - Use a large soft hammer over the alignment pins in the interface plate. Make sure the interface goes on straight until it stops.
 - Install the four 10mm bolts using 271 Loctite and torque to 41 foot pounds.
 - Install the pinion gear bolt with washer using anti-seize on the threads; torque to 50 foot pounds.
- Clean the PTO cover and install using thread sealant with Teflon. Torque to 36 inch pounds.
- Install drain plugs using thread sealant with Teflon and tighten.
- Use a small funnel and held above the fill hole to allow the air to escape; fill the A30/A40 with Castrol 30W oil. *Note: A30 uses 650cc A40 uses 850cc.*
- Use thread sealant with Teflon and tighten.
- Reconnect cables/wires
 - Starter cable, torque to 13 foot pounds.
 - Starter solenoid wire,
 - Transmission temp sender wire,
 - EGT wires,
 - Landing light wires.
- Install the ignition pickup bracket,
 - Make sure the trigger wheel is aligned with the pickup.
 - Space the gap of the pickup to the trigger wheel to .010 to .015; use 268 Loctite and torque to 26 inch pounds.
 - Connect ignition pickup wires.
- Install the prop to the prop shaft, making sure not to break the brushes.
- Replace clamping hardware and tighten bolts, making sure the holes on the castle nuts are aligned.
- Install 6 new cotter pins.
- Wipe down and inspect everything before running.