

SP Tractor Driveline Removal & Installation

Non Telescoping Driveline Removal:

1. Remove the fan shield from around the driveline.
2. Remove driveline retaining U-bolt.
3. Bend away metal tabs on the bolts connecting the U-joint and engine adapter plate. Loosen all four bolts.

NOTE: Removal of the 4 bolts will not be possible until engine adapter plate is removed.

4. Remove 8 bolts (**M**) holding engine adapter plate (**E**) to the flywheel.

NOTE: For Isuzu equipped machines you will need to remove the tachometer sensor that bolted to the tractor frame. See top of page 2 for instructions.

- 5) Push engine adapter plate (**E**) and driveline further onto gearbox input shaft, (Figure 2)
6. Swing engine adapter plate away from the engine. If required remove engine adapter plate (**E**) from driveline for extra clearance.
7. Remove driveline off of gearbox input shaft.

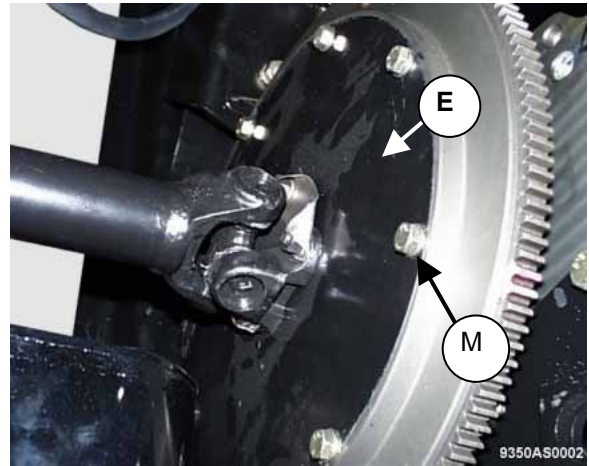


Figure 1: Adapter Plate Hardware Removal



Figure 2: Shifting Driveline Over

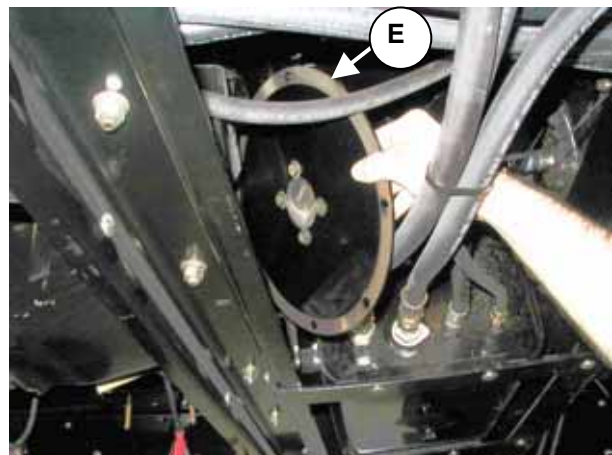


Figure 3: Adapter plate and Driveline removal

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Tachometer Sensor Removal : (Isuzu Only)

Removal

Loosen and remove the double nut (C) from the magnetic sensor (A) and slide the sensor out of the mounting bracket (B). Cover the magnetic sensor in order to prevent it from being damage and position it under the frame in a location where the lead wires to interfere with the removal of the bevel gearbox.

Reassembly

When reinstalling the sensor make sure to set the gap (D) between the pickup head and the fly wheel bolts to 0.8mm (0.03 inch).

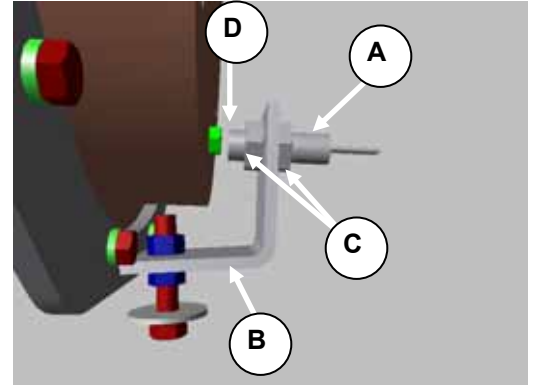


Figure 4: Tachometer Sensor Removal

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Installation of Telescoping Driveline:

Note: If the gearbox does not have a cross drilled hole or a threaded hole in the input shaft, DO NOT USE THIS KIT. You must order MacDon driveline #45594.

Gearbox Style: MD 45968 & 111958

- 1) If the gearbox does not have a cross drilled hole but has a threaded hole:
 - a. Install fan using existing hardware (**W**) and torque to 15-20 ft/lbs (20-30 Nm).
 - b. Slide the fan end of the driveline onto the gearbox shaft.
 - c. Apply Loctite 243 to bolt (**Y**) (M10x1.5 x 25 GR 8.8) and install along with washer to the end of the gearbox shaft. Torque the bolt to 37 ft-lbs (50 Nm).

- 2) Install the other half of the driveline to the flywheel adapter plate.

Note: Make sure to properly torque the 4 bolts (**F**) from U-joint to plate to 40-45 ft-lbs (54-61 Nm) **before** bolting adapter plate to flywheel. Bend metal tabs over to prevent bolts loosening.

- 3) Bolt the adapter plate to the flywheel, and torque the bolts (**M**) to: 33-37 ft-lbs (45-50 Nm) (Figure1)
- 4) Reinstall the U-bolt and fan shield that were removed during steps 1 and 2 on page 1.
- 5) Grease the driveline (3 grease fittings).

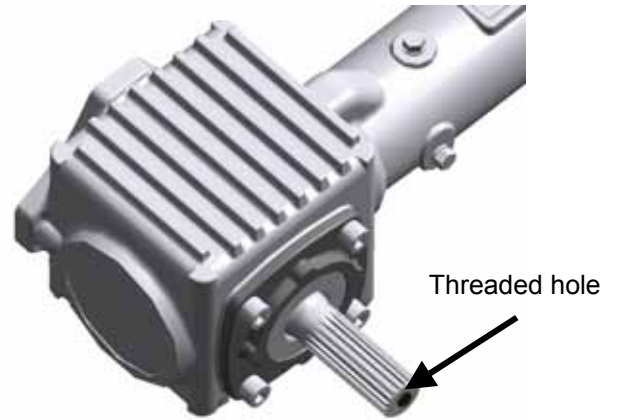


Figure 5: Gearbox **MD#45968 OR 111958** with threaded hole

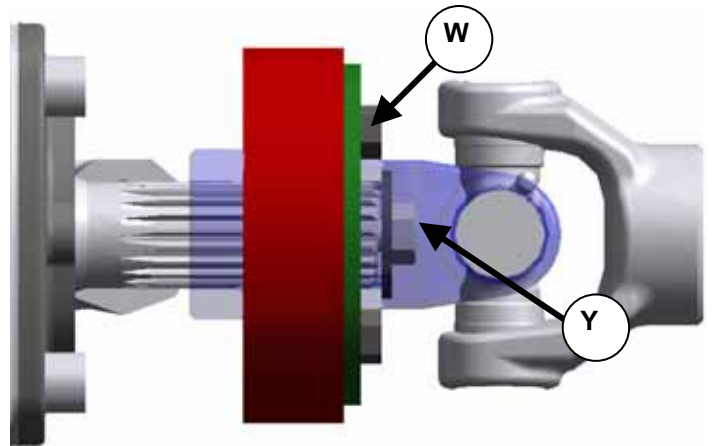


Figure 6: Fan Pre-Assembled for Installation

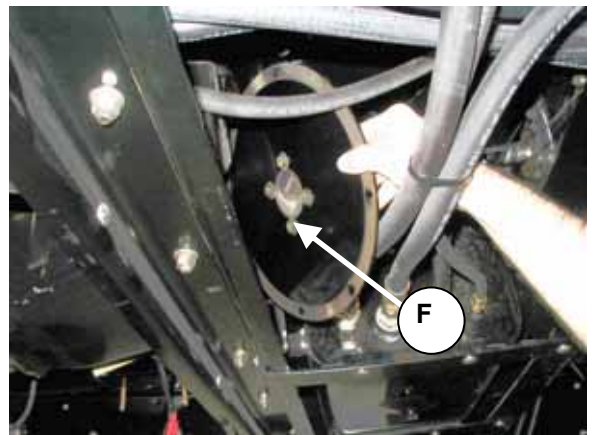


Figure 7: Installing Engine Adapter Plate

SP Tractor Driveline Removal & Installation

Installation of Telescoping Driveline:

Gearbox Style: MD 167001

- 1) If the gearbox has a cross drilled hole:
 - a. Slip the fan & disc loosely over the yoke and slide the yoke onto the shaft, aligning the cross drilled holes

Note: If holes do not align rotate yoke ½ turn and reinstall.

- b. Tilt the fan at an angle and install bolt (Q) before straightening out fan. Install nut and tighten securely.
 - c. Install fan using existing hardware (W) and torque to 15-20 ft/lbs (20-30 Nm).
 - 2) Install the other half of the driveline to the flywheel adapter plate.
- Note:** Make sure to properly torque the 4 bolts (F) from U-joint to plate to 40-45 ft-lbs (54-61 Nm) **before** bolting adapter plate to flywheel. Bend metal tabs over to prevent bolts loosening.
- 3) Bolt the adapter plate to the flywheel, and torque the bolts (M) to: 33-37 ft-lbs (45-50 Nm). (Figure1)
 - 4) Reinstall the U-bolt & fan shield that were removed during steps 1 and 2 on page 1.
 - 5) Grease the driveline (3 grease fittings).

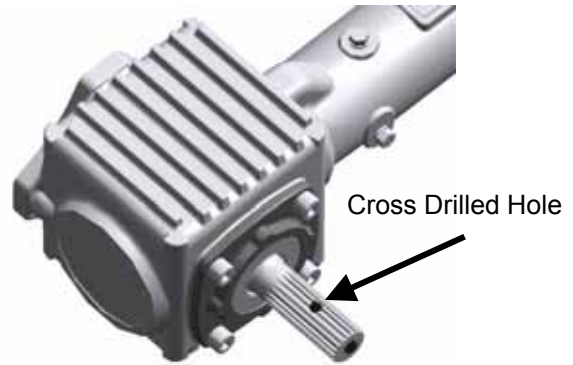


Figure 8: Gearbox MD#167001 with cross drilled shaft

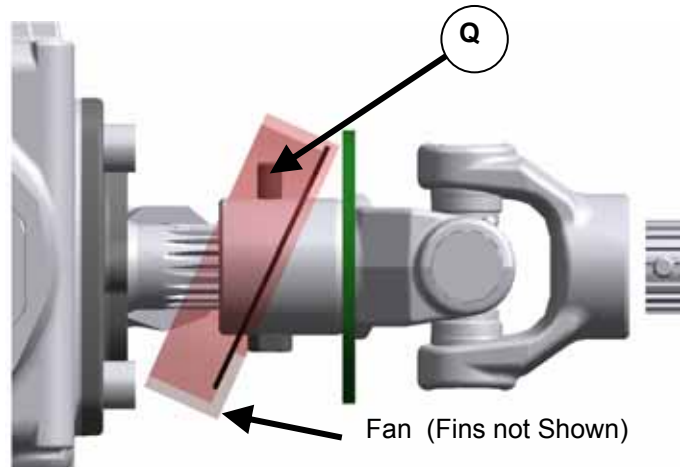


Figure 10: Fan Tilted for Installation

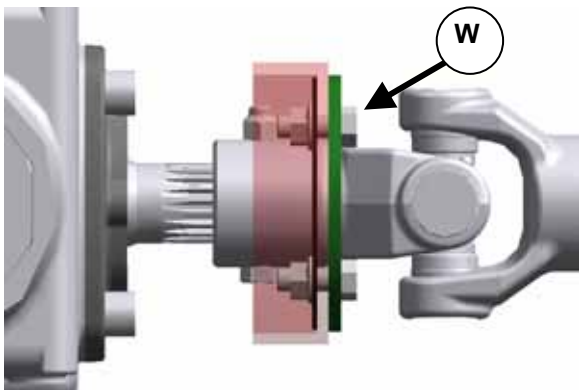


Figure 11: Fan and Driveline Bolt Installation

Bolt Torques:

- Fan bolts: 15-20 ft-lbs (20-30 Nm), do not over torque, as this may cause disc and fan to distort.
- Bolts from universal joint to adapter plate: 40-45 ft-lbs (54-61 Nm)
- Bolts holding adapter plate to flywheel: 33-37 ft-lbs (45-50 Nm)
- Bolt holding Driveline to bevel gearbox: 37 ft-lbs (50 Nm)

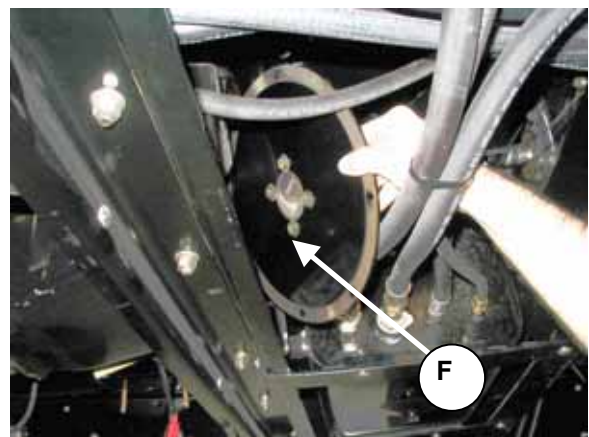


Figure 12: Engine Adapter Plate Installation