

COOLING FAN (CONT'D)

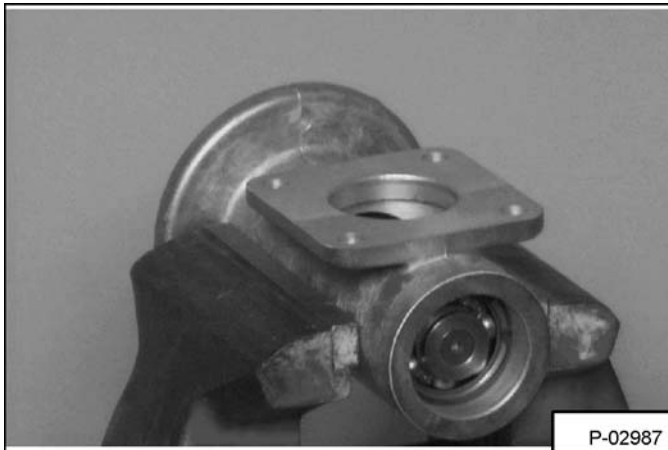
Gearbox Checking Backlash

NOTE: For procedures requiring the use of LOCTITE #518 adhesive, thoroughly clean and dry affected parts before the application of LOCTITE #518.

The backlash tolerance between the gears should be 0.005-0.008 inch (0,127-0,203 mm).

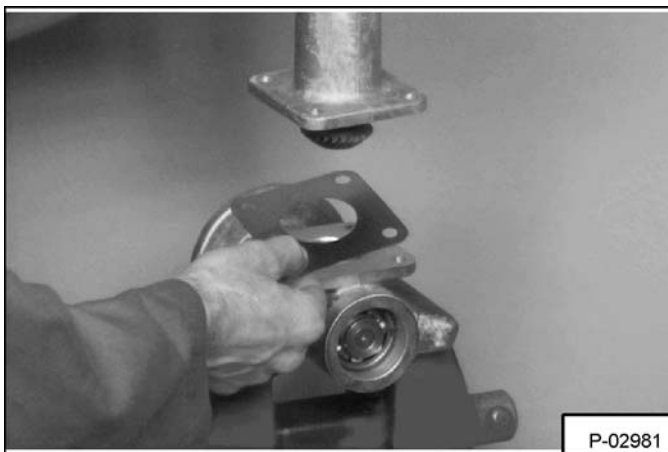
To check the gear backlash use the following procedure:

Figure 70-60-53



Put the short housing in a vise, square flange facing up as shown [Figure 70-60-53].

Figure 70-60-54

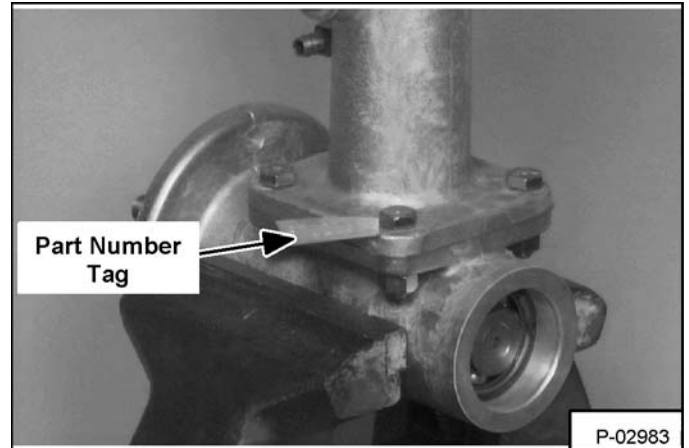


Install the same size and number of square shims (if present during disassembly) between the two housings [Figure 70-60-54].

Set the long housing on the short housing with the sealant (LOCTITE #518) which is a gasket eliminator that cures to flexible seal between the mounting surfaces.

NOTE: If square shims are used, put a small amount of (LOCTITE #518) on both sides of all shims.

Figure 70-60-55

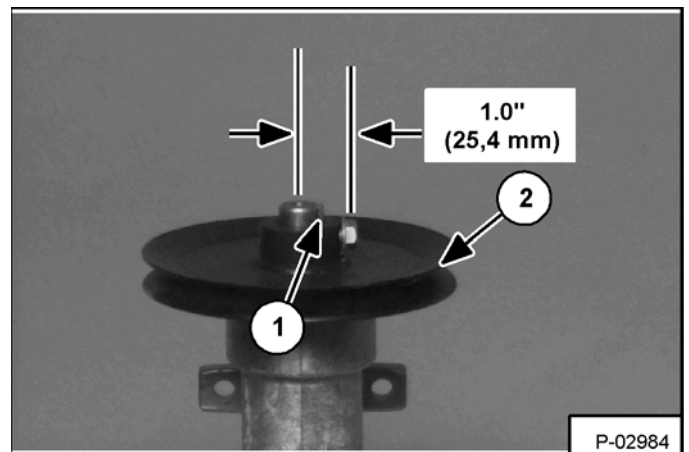


Install the four mounting bolts through the flange holes [Figure 70-60-55].

Install the part number tag [Figure 70-60-55].

Install and tighten the nut to 25-28 ft.-lbs. (34-38 Nm) torque.

Figure 70-60-56



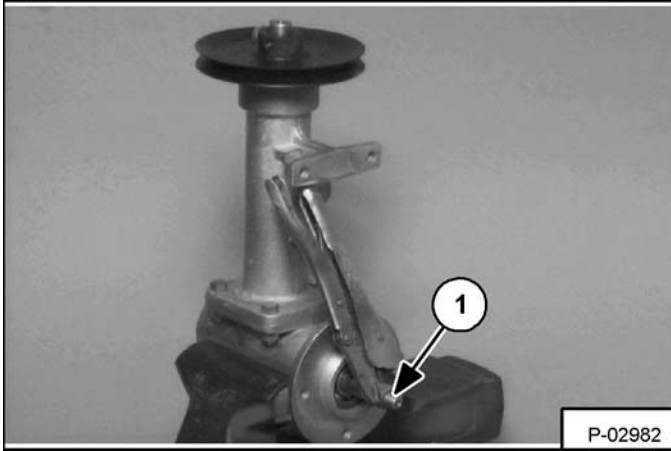
Install the long key (Item 1) [Figure 70-60-56] and the pulley (Item 2) [Figure 70-60-56].

Install a bolt in the set screw hole to maintain a 1.0 inch (25,4 mm) distance from the shaft center to the bolt head (to be used with a dial indicator) [Figure 70-60-56].

COOLING FAN (CONT'D)

Gearbox Checking Backlash (Cont'd)

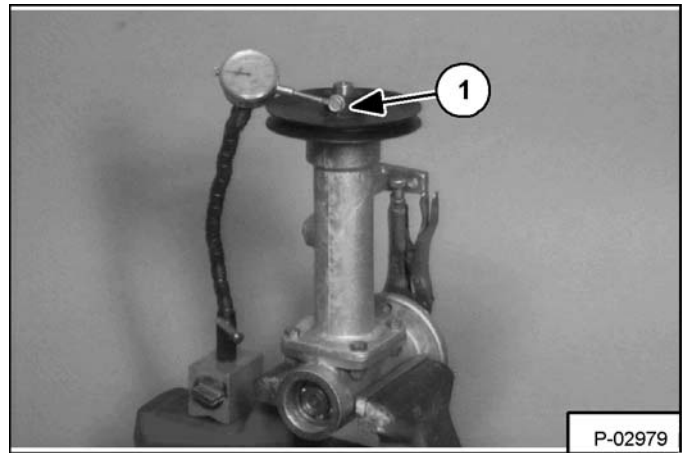
Figure 70-60-57



Put the fan nut (Item 1) [Figure 70-60-57] on the shaft and tighten snugly.

Install a locking pliers on the fan nut and support the handle against the long housing [Figure 70-60-57].

Figure 70-60-58



Using a magnetic based dial indicator mounted on a bench vise, touch the dial stem on the bolt (Item 1) [Figure 70-60-58].

Hold the locking pliers against the long housing and rotate the pulley back and forth to read the dial gauge [Figure 70-60-58].

If the backlash is GREATER than 0.008 inch (0,203 mm), do the following:

1. Remove a square shim(s) (if present) between the two housings.
2. Remove a large shim(s) from the tapered end of the short shaft and add a small shim (s) of the same thickness between the bearing and the gear on the screw end of the shaft.

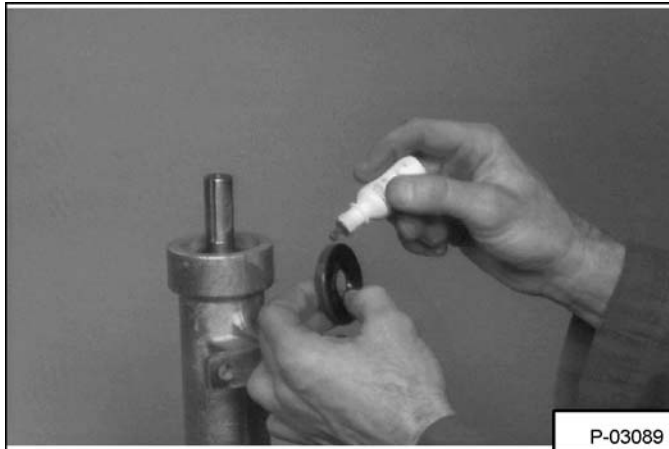
If the backlash is LESS than 0.005 inch (0,127 mm) do the following:

1. Add a square shim(s) between the two housings.
2. Remove a small shim(s) between the bearing and the gear on the screw end of the short shaft and add a large shim(s) of the same thickness between the snap ring and the bearing on the tapered end of the shaft.

COOLING FAN (CONT'D)

Gearbox Checking Backlash (Cont'd)

Figure 70-60-59



When the backlash is correct, install the seals, cap and gear oil as follows:

Remove the bolts from the flanges and separate the two housings.

Put liquid adhesive (LOCTITE #242) on the outside diameter of the seal(s) [Figure 70-60-59].

Figure 70-60-60

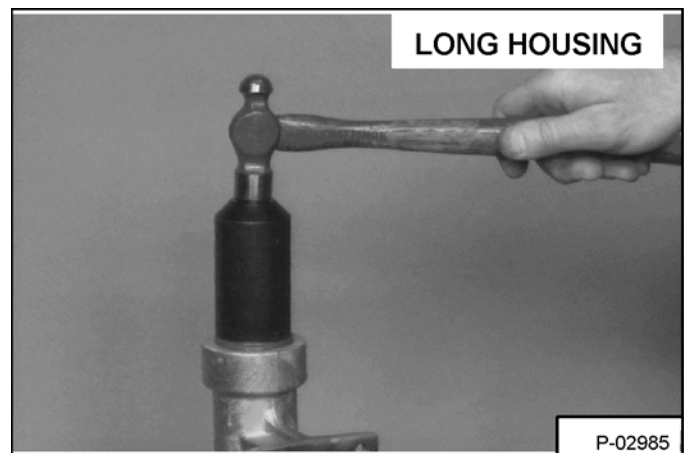
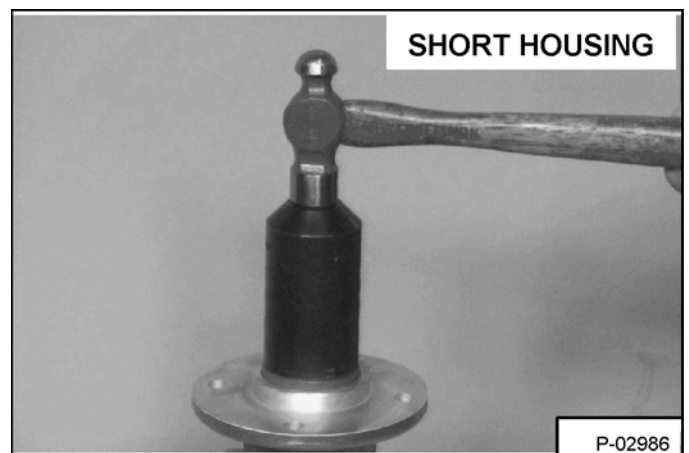


Figure 70-60-61



Install the seal(s) flush with the housing surface [Figure 70-60-60] & [Figure 70-60-61].

Clean any oil from the flange surface.

Install the long housing on the short housing flange.

Install the four bolts and part number tag.

Install and tighten the nuts to 25-28 ft.-lbs. (34-38 Nm) torque.

NOTE: When filling the fan gearbox with oil, be sure the level does not go above the top of the shaft in the gearbox. Use a light colored 90W gear lube.



Bobcat®

ENGINE COMPONENTS AND TESTING

Compression Checking

The tools listed will be needed to do the following procedure:

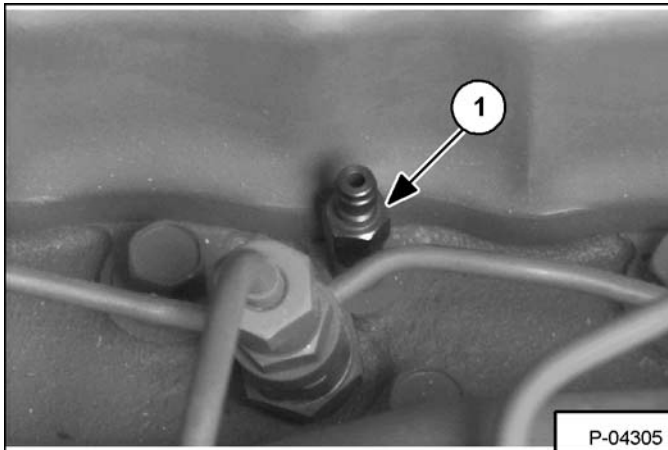
MEL10630 - Engine Compression Kit

MEL1352 - Compression Adapter

The engine must be at operating temperature.

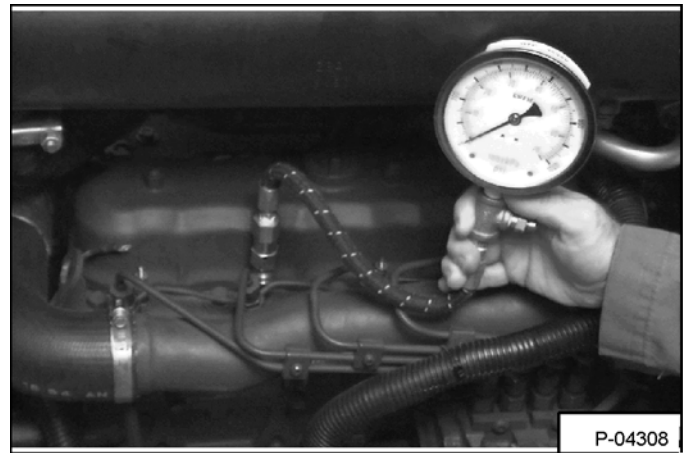
Remove the glow plugs. (See Glow Plugs Removal And Installation on Page 70-70-3.)

Figure 70-70-1



Install the correct compression adapter (Item 1) **[Figure 70-70-1]** into the cylinder head.

Figure 70-70-2



Connect the compression gauge to the adapter **[Figure 70-70-2]**.

Make sure the engine speed control is fully backward (engine idle).

Disconnect the fuel stop solenoid.

Crank the engine with the starter at 200-300 RPM.

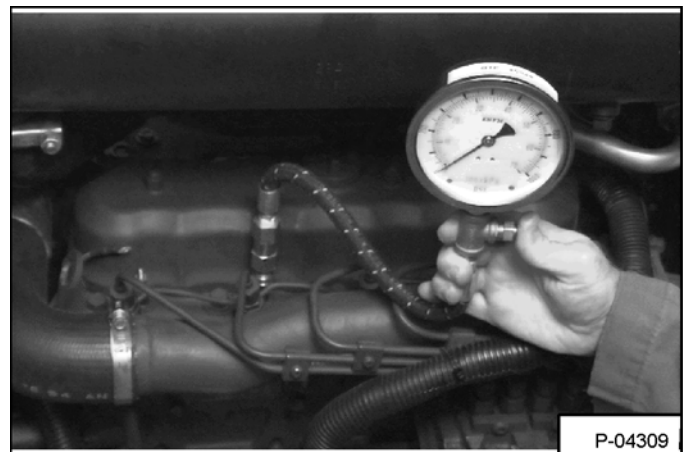
If the measurement is below the allowable limit, check the cylinder, piston ring, top clearance, valve and cylinder head.

Compression Pressure should be 412-469 PSI (2840-3233 kPa)

Allowable Limit (minimum) is 327 PSI (2255 kPa)

No more than 10% variance among cylinders.

Figure 70-70-3



Push the button on the compression gauge to release pressure **[Figure 70-70-3]**.

Connect the fuel stop solenoid.

ENGINE COMPONENTS AND TESTING (CONT'D)

Glow Plugs Checking

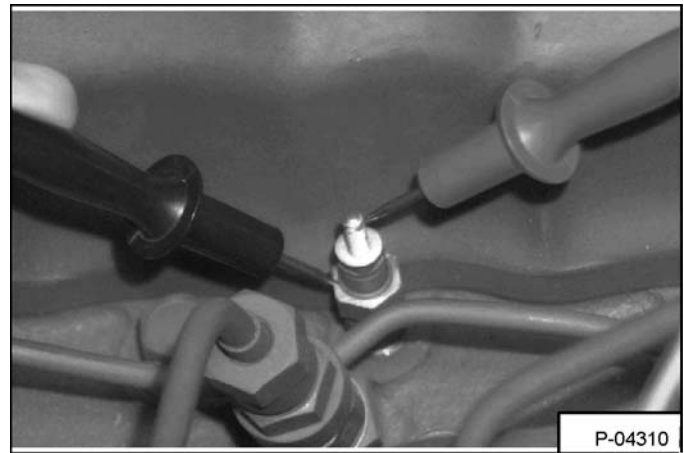
Figure 70-70-4



Disconnect the glow plug cables and leads.

Use an ohmmeter to check the glow plugs **[Figure 70-70-4]**.

Figure 70-70-5



Touch one probe to the end of the glow plug and the other probe to the body of glow plug **[Figure 70-70-5]**.

The reading must be between 1 and 2 ohms **[Figure 70-70-4]**. If the resistance is infinite, the coil of the glow plug is broken.

Repeat the procedure for each glow plug.