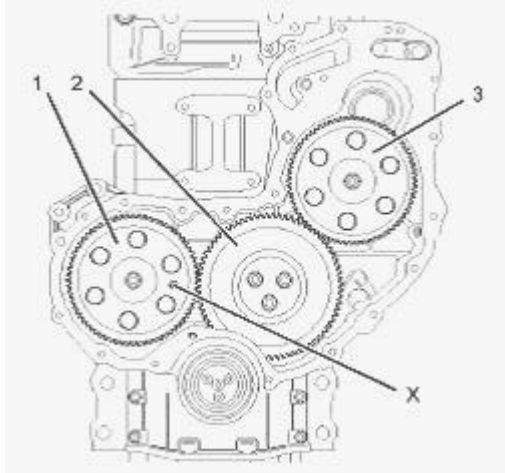


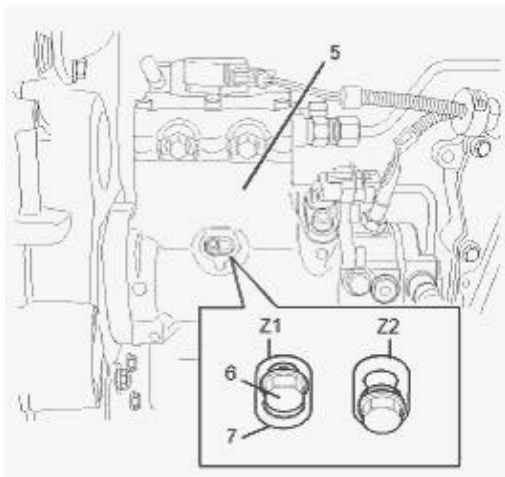
# 1106 Perkins motor - Fuel Injection Pump Gear (Remove and install)

## Removal Procedure

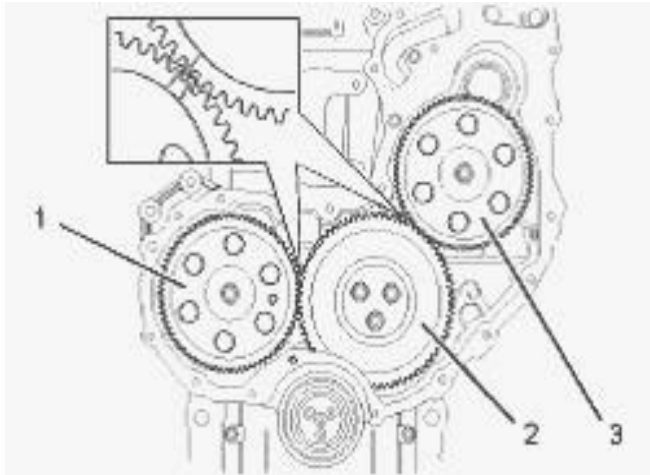


Use Tooling in order to rotate the crankshaft so that number one piston is at top dead center on the compression stroke. Install Tooling through the hole (X) in the camshaft gear (1) into the front housing. Use Tooling in order to lock the camshaft in the correct position.

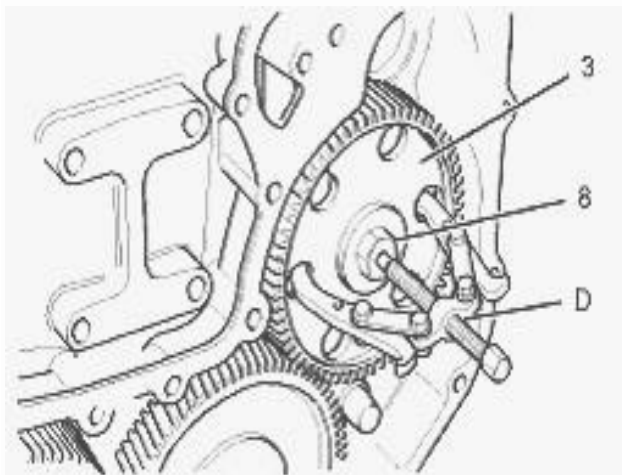
Remove the plug (4) from the cylinder block. Install Tooling into the hole (Y) in the cylinder block. Use Tooling in order to lock the crankshaft in the correct position. Do not use excessive force to install Tooling. Do not use Tooling to hold the crankshaft during repairs.



Apply sufficient pressure to the fuel injection pump gear (3) in a counterclockwise direction in order to remove the backlash. Lock the fuel injection pump (5) in this position. In order to lock the fuel injection pump (5), loosen the locking screw (6) in the fuel injection pump. Slide the spacer (7) into position (Z). Tighten the locking screw (6) against the shaft of the fuel injection pump to a torque of 9 Nm (80 lb in).



Alignment of timing marks - Mark the gears (1), (2) and (3). Identification will ensure that the gears can be installed in the original alignment. Loosen the nut (8) for the fuel pump gear (3).



Install Tooling through two opposite holes in the fuel pump gear (3). Tighten Tooling until the fuel pump gear (3) is released. Remove Tooling from the fuel pump gear (3). Remove the nut (8) and washer from the fuel pump gear (3). Remove the fuel pump gear.

### **Installation Procedure**

Ensure that number one piston is at top dead center on the compression stroke. Ensure that Tooling is installed in hole (Y) in the cylinder block. Use Tooling in order to lock the crankshaft in the correct position.

Ensure that Tooling is installed into the hole (X) in the camshaft gear (1). Ensure that the shaft (9) of the fuel injection pump is clean and free from damage. Ensure that the fuel injection pump is locked in the correct position. Ensure that the fuel pump gear is clean and free from wear or damage. If necessary, replace the fuel pump gear.

Install the fuel pump gear (3) to the shaft (9) of the fuel injection pump. Ensure that

the timing marks on the gears (2) and (3) are in alignment and that the mesh of the gears is correct.

Install a new spring washer (10) and install the nut (8) to the shaft (9) of the fuel injection pump. Apply sufficient pressure to the fuel injection pump gear (3) in a counter clockwise direction in order to remove the backlash. Tighten the nut (8) to a torque of 25 Nm (18 lb ft). Unlock the fuel injection pump (5). In order to unlock the fuel injection pump (5), loosen the locking screw (5) in the fuel injection pump.

Slide the spacer (7) into position (Z1). Tighten the locking screw (6) against the spacer to a torque of 9 Nm (80 lb in). This will prevent the locking screw from tightening against the shaft of the fuel injection pump. Remove Tooling. Install the plug (4) into hole (Y) in the cylinder block. Tighten the nut (8) to a torque of 90 Nm (66.4 lb ft).

Checking backlash - Ensure that the backlash for the gears (2) and (3) is within specified values. Lubricate the teeth of the gears with clean engine oil. Install the front cover.