



Service Repair Manual

Models

312B and 312B L Excavator

Product: EXCAVATOR

Model: 312B L EXCAVATOR 2KW

Configuration: 312B & 312B L Excavators 2KW00001-UP (MACHINE) POWERED BY 3054 Engine

Disassembly and Assembly 3054 Engine for Caterpillar Built Machines

Media Number -SEN6241-13

Publication Date -01/08/2008

Date Updated -04/08/2008

i02253357

Gear Group (Front) - Remove

SMCS - 1206-011

Removal Procedure

Table 1

| Required Tools | | | |
|----------------|-------------|------------------|-----|
| Tool | Part Number | Part Description | Qty |
| A | 8S-2264 | Puller Group | 1 |
| B | 173-9774 | Wrench Bit | 1 |

Start By:

- A. Remove the front cover. Refer to Disassembly and Assembly, "Front Cover - Remove".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

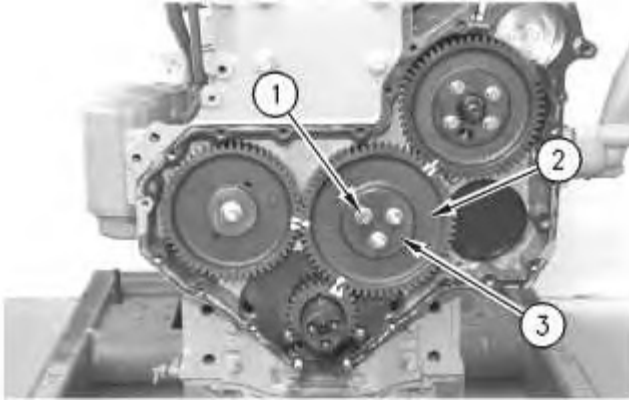


Illustration 1

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Note: It may be necessary to pin the fuel pump in order to maintain the correct timing. Refer to Disassembly and Assembly, "Fuel Injection Pump - Remove" for the correct procedure.

1. Align the timing marks on the crankshaft gear, the camshaft gear, and the idler gear, as shown.
2. Remove bolts (1) from idler gear (2) .
3. Remove idler gear (2) and retainer plate (3) .



Illustration 2

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4. Remove bushing (4) from idler gear (2) , if necessary.
5. Remove the bushing with a suitable puller. If the bushing cannot be removed with a puller, grind the face off of one bushing. The remainder of the bushing can then be removed with a press.

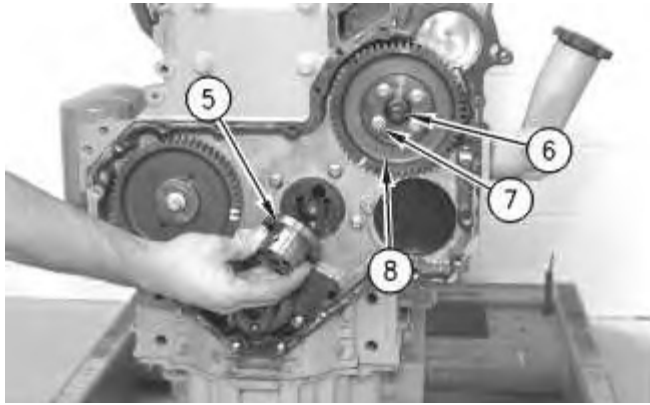


Illustration 3

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6. Remove idler gear hub (5) from the cylinder block.
7. Remove nut (6) and the spring washer from fuel injection pump gear (8) .
8. Remove bolts (7) from fuel injection pump gear (8) .

Note: Some fuel injection pump gears may have a tamper proof torx screw in place of one of the four bolts. Use Tooling (B) to remove the tamper proof torx screw, if necessary.

9. Use Tooling (A) to remove fuel injection pump gear (8) .

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Gear Group (Front) - Install

SMCS - 1206-012

Installation Procedure

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

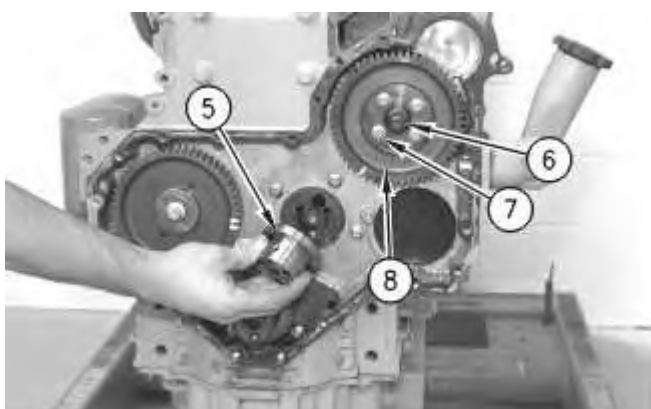


Illustration 1

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1. Install fuel injection pump gear (8) on the engine.
2. Install bolts (7) on fuel injection pump gear (8).

3. Install nut (6) and the spring washer on fuel injection pump gear (8). Tighten the nut to a torque of 80 N·m (59 lb ft).
4. Install idler gear hub (5) on the engine.

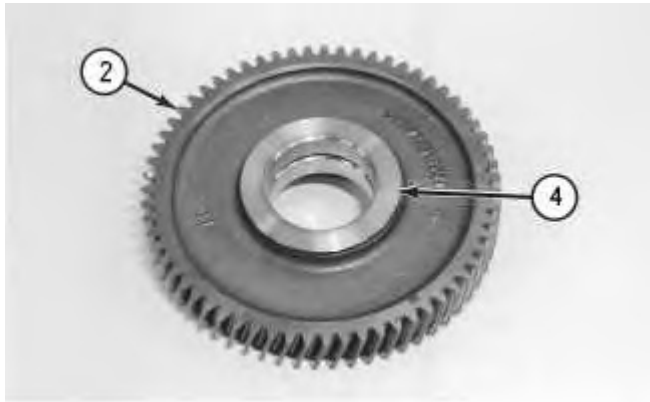


Illustration 2

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5. Use a suitable press to install new bushings (4) into idler gear (2).
6. Machine the bores for clearance on idler gear hub (5). The bore should have a clearance of 0.04 to 0.010 mm (0.0016 to 0.0039 inch) on idler gear hub (5). The bore can have a diameter of 57.14 to 57.18 mm (2.250 to 2.251 inch).
7. Machine the front faces of the bushings for the end play of idler gear (2). The gear and the bushings can have a thickness of 30.14 to 30.16 mm (1.186 to 1.187 inch).

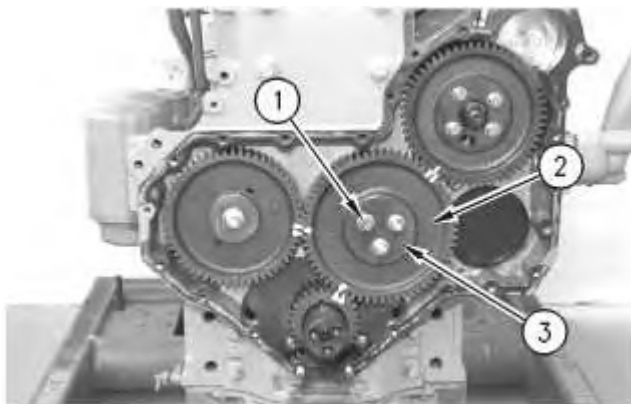


Illustration 3

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8. Install idler gear (2) and retainer plate (3) on the engine.

Note: Ensure that the timing marks on the camshaft gear, the crankshaft gear, and the idler gear are aligned.

9. Install bolts (1) on idler gear (2). Tighten the bolts to a torque of 44 N·m (32 lb ft).
10. Check the end play of idler gear (2). Idler gear (2) should have end play of 0.10 to 0.20 mm (0.004 to 0.008 inch).

11. Check the backlash between the camshaft gear and idler gear (2). The gears must have a minimum backlash of 0.08 mm (0.003 inch).

End By:

- a. Install the front cover. Refer to Disassembly and Assembly, "Front Cover - Install".

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