



Service Repair Manual

Models

438B BACKHOE LOADER

Product: BACKHOE LOADER

Model: 438B BACKHOE LOADER 3KK

Configuration: 428B BACKHOE LOADER 3KK00001-02999 (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

i01744102

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.

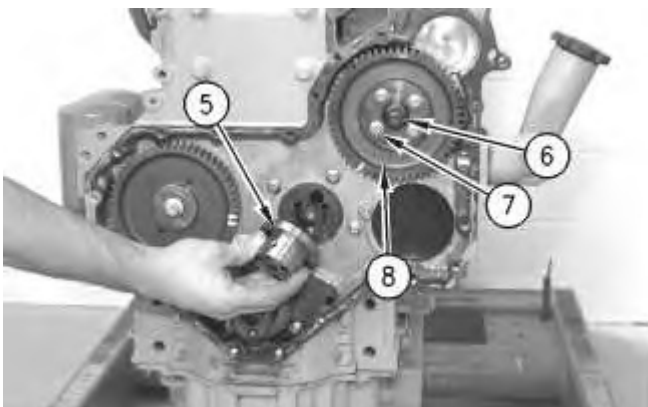


Illustration 1

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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.

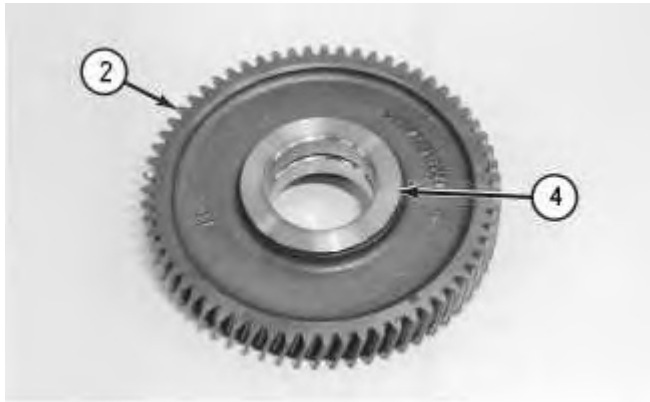


Illustration 2

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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).

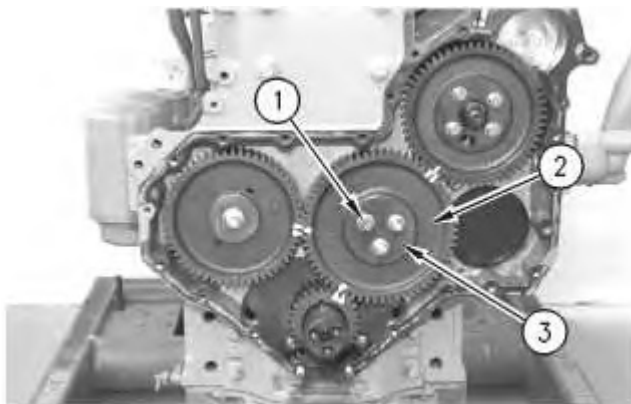


Illustration 3

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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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Disassembly and Assembly 3054 Engine for Caterpillar Built Machines

Media Number -SEN6241-13

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i01744128

Housing (Front) - Remove

SMCS - 1151-011

Removal Procedure

Start By:

- a. Remove the engine oil pan. Refer to Disassembly and Assembly, "Engine Oil Pan - Remove and Install".
- b. Remove the front gear group. Refer to Disassembly and Assembly, "Gear Group (Front) - Remove".
- c. Remove the camshaft gear. Refer to Disassembly and Assembly, "Camshaft Gear - Remove and Install".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

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