



Service Repair Manual

Model

438D BACKHOE LOADER

Product: BACKHOE LOADER

Model: 438D BACKHOE LOADER BPN

Configuration: 438D Backhoe Loader BPN00001-00475 (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

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Engine Oil Pump - Remove

SMCS - 1304-011

Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-1855	Retaining Ring Pliers	1
B	9U-6282	Torque Wrench Extension	1

Start By:

- A. Remove the engine oil pan. Refer to Disassembly and Assembly, "Engine Oil Pan - Remove and Install".
- B. Remove the front housing. Refer to Disassembly and Assembly, "Housing (Front) - Remove".

Note: The engine oil pump is mounted on the No. 1 crankshaft main bearing cap. The engine oil pump can be removed without removing the front housing if the No. 1 crankshaft main bearing cap is removed. Use Tool (B) in order to remove the No. 1 crankshaft main bearing cap. The engine oil pump is then removed from the No. 1 crankshaft main bearing cap.

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.

Refer to Special Publication, NENG2500, "Caterpillar Tools and Shop Products Guide" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.



Illustration 1

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1. Remove two bolts (1) that fasten the strainer and suction pipe to the engine oil pump.
 2. Remove bolt (2) that holds the strainer in position.
 3. Remove the strainer, suction pipe (3), and the gasket from the engine.
 4. Remove the engine oil relief valve. Refer to the Disassembly and Assembly Module, "Engine Oil Relief Valve - Remove".
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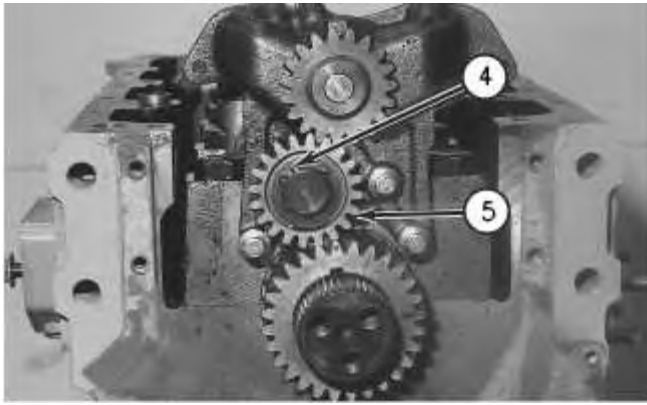


Illustration 2

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5. Use Tool (A) to remove retaining ring (4) from the idler gear shaft.
6. Remove idler gear (5) from the idler gear shaft. Inspect the idler gear shaft for wear or damage. If the idler gear shaft is worn or damaged, use a new part for replacement. Use a suitable press to remove the idler gear shaft from the No. 1 main bearing cap.

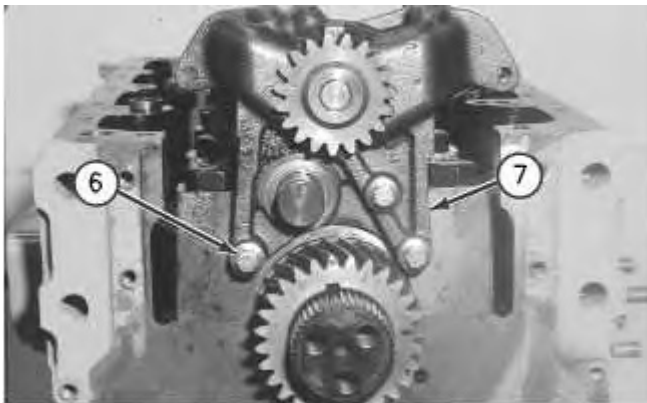


Illustration 3

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7. Remove three bolts (6) from the No. 1 main bearing cap.
8. Remove engine oil pump (7) from the engine.

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i01052799

Engine Oil Pump - Install

SMCS - 1304-012

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-1855	Retaining Ring Pliers	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

NOTICE

If any of the parts on the engine oil pump are worn or damaged, the entire pump must be replaced.

Note: If the No. 1 crankshaft main bearing cap was removed, install the No. 1 crankshaft main bearing cap with the engine oil pump. Tighten the bolts for the No. 1 crankshaft main bearing cap to a torque of 265 N·m (195 lb ft).

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