

## **Disassembly and Assembly 3054C Engines for Caterpillar Built Machines**

Media Number -SEN5069-18

Publication Date -01/05/2015

Date Updated -19/09/2018

i02293101

# **Engine Oil Pump - Remove - Engines Without a Balancer**

SMCS - 1304-011

## **Removal Procedure**

### **Start By:**

- a. Remove the oil pan. Refer to Disassembly and Assembly, "Engine Oil Pan - Remove and Install".

**Note:** This procedure is for the removal of the engine oil pump on engines that are not equipped with a balancer. Refer to this Disassembly and Assembly Manual, "Balancer Group - Remove" for information on the removal of the engine oil pump on engines that are equipped with a balancer.

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### **NOTICE**

**Keep all parts clean from contaminants.**

**Contaminants may cause rapid wear and shortened component life.**

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### **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, "Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Cat products.

Dispose of all fluids according to local regulations and mandates.

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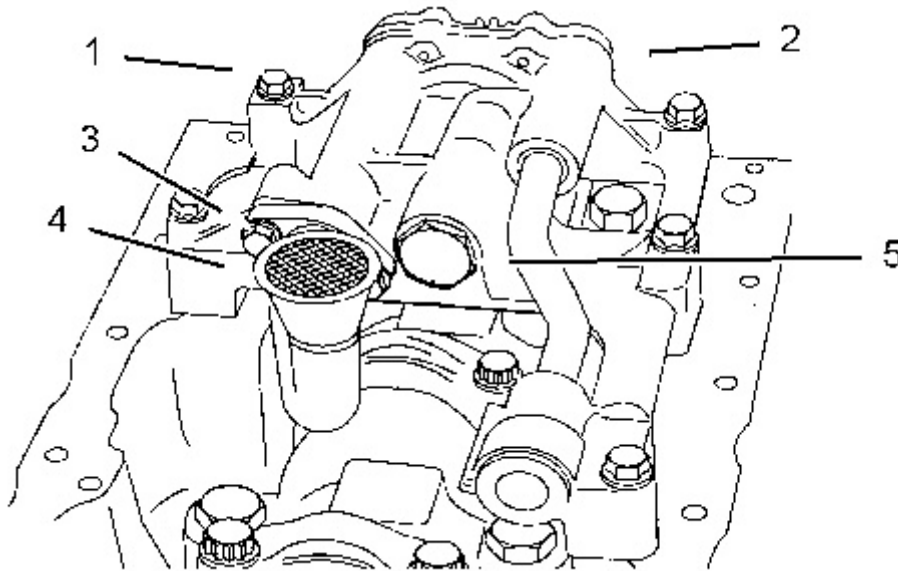


Illustration 1

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1. Remove the setscrews (3) and the suction pipe (4).
2. Remove the setscrews (1). Remove the assembly of the engine oil pump (2) from the cylinder block.

 **WARNING**

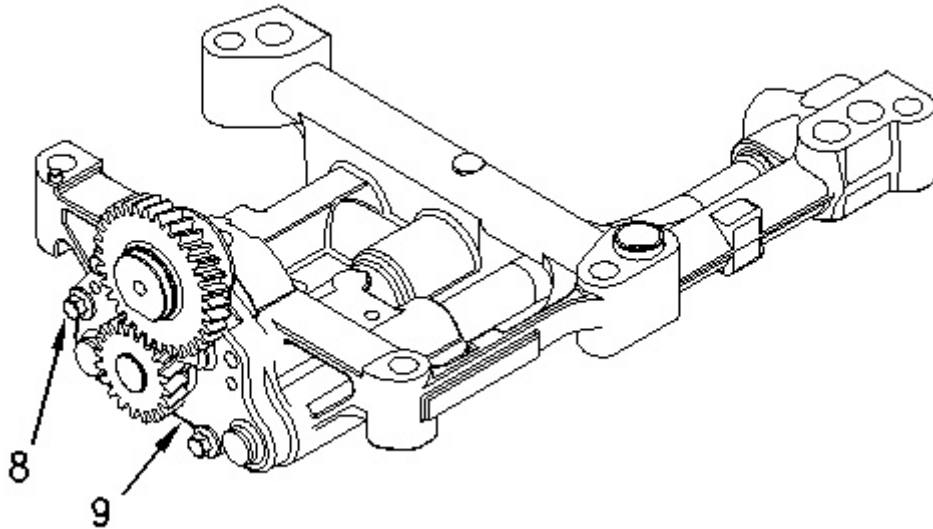
**Personal injury can result from being struck by parts propelled by a released spring force.**

**Make sure to wear all necessary protective equipment.**

**Follow the recommended procedure and use all recommended tooling to release the spring force.**

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3. If necessary, remove the pressure relief valve (5) from the assembly of the engine oil pump (4). Refer to this Disassembly and Assembly Manual, "Engine Oil Relief Valve - Remove and Install".
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Illustration 2

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4. Remove the setscrews (8). Remove engine oil pump (9).
5. If necessary, remove the setscrews and remove the front cover assembly from the engine oil pump (7) in order to inspect the components within the engine oil pump.

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## **Disassembly and Assembly 3054C Engines for Caterpillar Built Machines**

Media Number -SEN5069-18

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i02293102

# **Engine Oil Pump - Install - Engines Without a Balancer**

SMCS - 1304-012

## **Installation Procedure**

**Note:** This procedure is for the installation of the engine oil pump on engines that are not equipped with a balancer. Refer to this Disassembly and Assembly Manual, "Balancer Group - Install" for information on the installation of the engine oil pump on engines that are equipped with a balancer.

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### **NOTICE**

**Keep all parts clean from contaminants.**

**Contaminants may cause rapid wear and shortened component life.**

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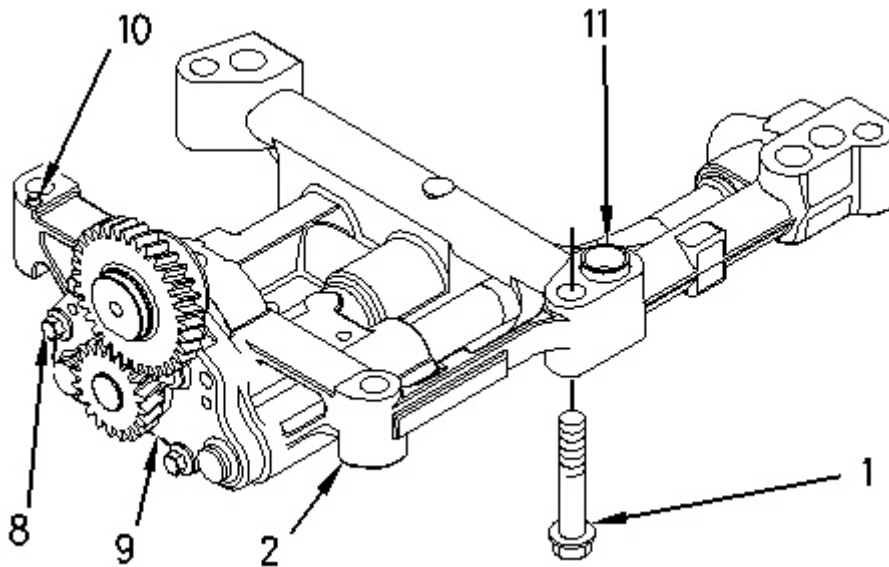
### **NOTICE**

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

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1. Clean all of the internal components of the oil pump if the front cover of the oil pump was previously removed in order to inspect the internal components. Check the internal components for wear and for other damage. Check the clearance between the outer rotor of the oil pump and the oil pump body. Check the clearance between the outer rotor and the inner rotor. Check the end play movement of the rotor. Refer to the Systems Operation/Testing and Adjusting Manual, "Engine Oil Pump - Inspect". Replace the engine oil pump if any of the components are worn or damaged.

2. Lubricate the inner rotor and the outer rotor of the engine oil pump with clean engine lubricating oil. Install the front cover of the engine oil pump onto the body of the oil pump. Install the setscrews and tighten the setscrews in order to secure the front cover to the body.



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Illustration 1

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3. Install the engine oil pump (9) into the assembly of the engine oil pump (2). Install the setscrews (8). Tighten the setscrews to a torque of 9 N·m (80 lb in).
  4. Fill engine oil pump (9) with clean engine oil.
  5. Position the assembly of the engine oil pump (2) against the cylinder block. Ensure that dowel pin (10) and hollow dowel (11) are correctly located in the cylinder block.
  6. Install the setscrews (1). Tighten the setscrews to a torque of 44 N·m (32 lb ft).
  7. Check the backlash between the idler gear of the oil pump and the crankshaft gear. Refer to the Specifications Manual, "Gear Group - Front" for further information.
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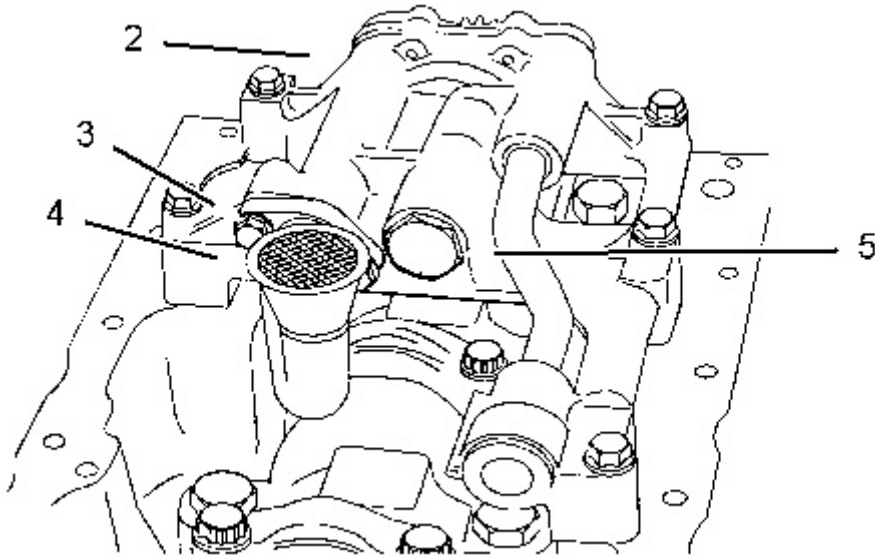


Illustration 2

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**⚠ WARNING**

**Improper assembly of parts that are spring loaded can cause bodily injury.**

**To prevent possible injury, follow the established assembly procedure and wear protective equipment.**

8. If the pressure relief valve (5) was removed, install the pressure relief valve. Refer to this Disassembly and Assembly Manual, "Engine Oil Relief Valve - Remove and Install" for further information.
9. Position the suction pipe (4) and install the setscrews (3).

**End By:**

- a. Install the oil pan. Refer to Disassembly and Assembly, "Engine Oil Pan - Remove and Install".

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