

Product: EXCAVATOR

Model: 312B L EXCAVATOR 8JR

Configuration: 312B & 312B L TRACK-TYPE EXCAVATORS 8JR00001-UP (MACHINE) POWERED BY 3064 ENGINE

## Disassembly and Assembly 3064 and 3066 Engines for Caterpillar Built Machines

Media Number -SEN5553-10

Publication Date -01/05/2012

Date Updated -15/05/2012

i01146555

# Engine Oil Pump - Install

SMCS - 1304-012

## Installation Procedure

Table 1

| Required Tools |             |                  |     |
|----------------|-------------|------------------|-----|
| Tool           | Part Number | Part Description | Qty |
| A              | 1P-0510     | Driver Group     | 1   |

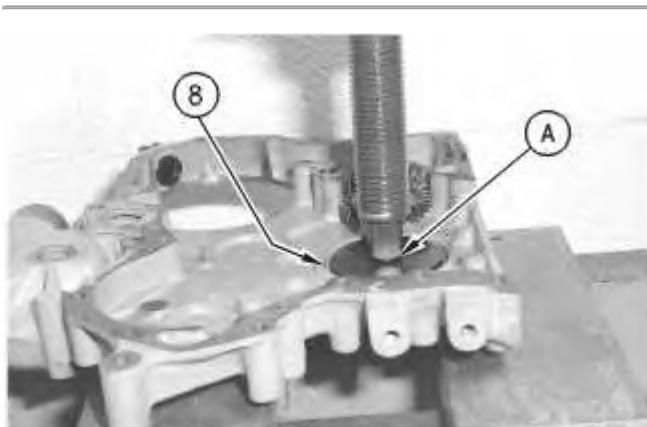
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### NOTICE

**Keep all parts clean from contaminants.**

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

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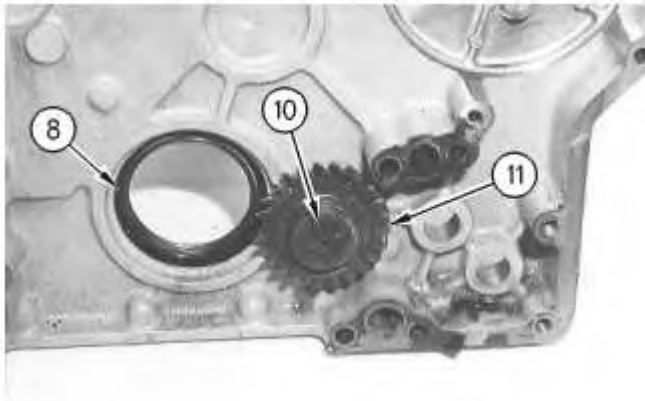


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Illustration 1

g00646132

1. Use Tool (A) to install the front oil seal (8) (not shown).



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Illustration 2

g00607962

2. Lower the temperature of the spindle (10). Install spindle (10) and idler gear (11) as an assembly in the front housing.

**Note:** The temperature of the spindle is lowered in order to ease the installation of the spindle in the front housing.



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Illustration 3

g00607955

3. Install set screw (9) in the front housing.
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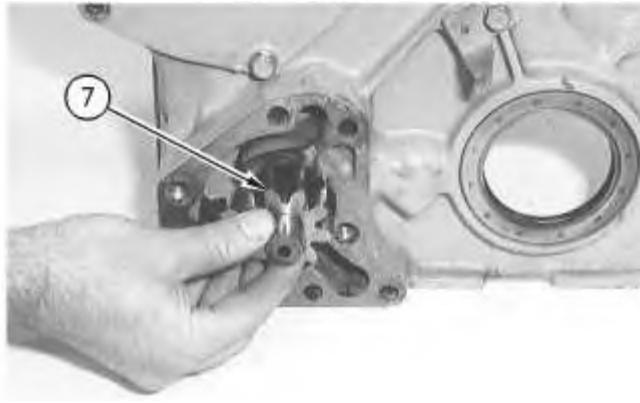


Illustration 4

g00607885

4. Lower the temperature of the drive gear assembly. Install drive gear (7) in the front housing.

**Note:** The temperature of the drive gear assembly is lowered in order to ease the installation of the drive gear assembly in the front housing.

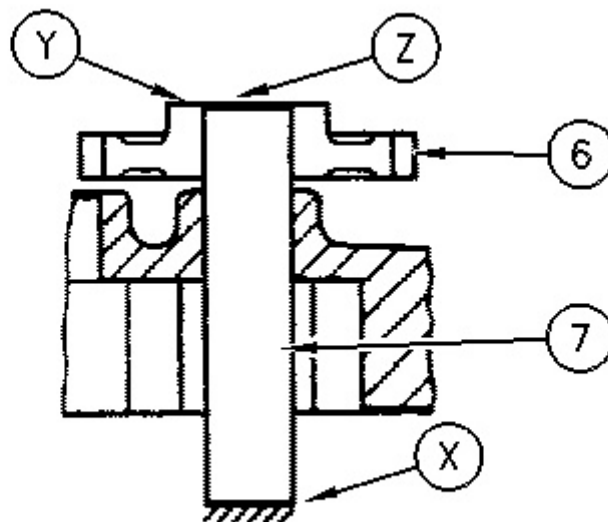


Illustration 5

g00608012

**! WARNING**

**Always wear protective gloves when handling parts that have been heated.**

- Heat the oil pump gear up to 180 to 220 °C (356 to 428 °F). Support end (X) of the shaft (7) (drive gear). Install oil pump gear (6) onto the shaft. The end of the gear (Z) should be flush with the end of the shaft (Y) .

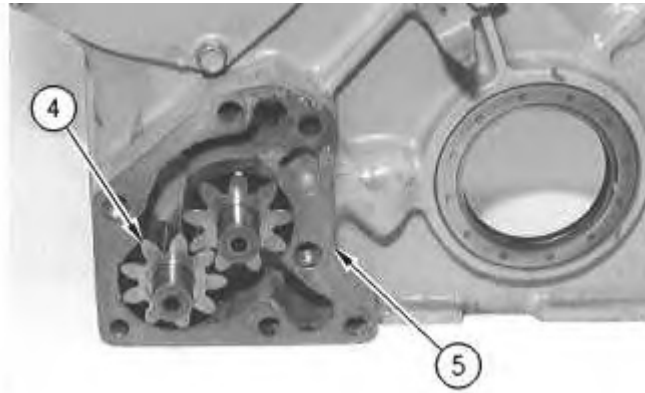


Illustration 6

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- Install driven gear (4) into the front housing (slip fit).

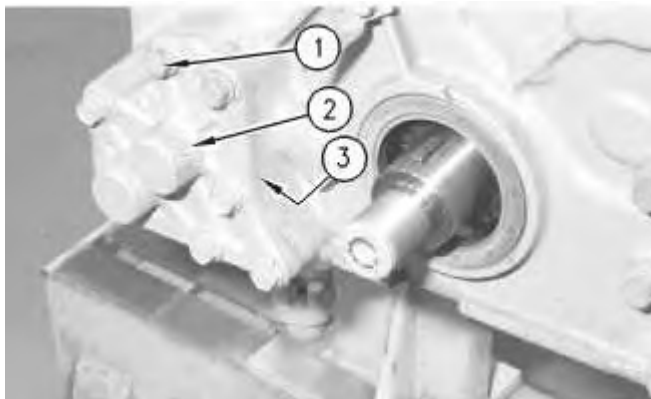


Illustration 7

g00607826

- Place gasket (3) and cover (2) in position on the front housing.

**Note:** Ensure that the old gasket material is removed from the mating surfaces.

- Install the washer and bolt (1) that secures the cover to the front housing. Tighten bolt (1) to a torque of  $34 \pm 5$  N·m ( $25 \pm 4$  lb ft).

Refer to the Specifications Module, "Engine Oil Pump" for more information on the engine oil pump.

**End By:** Install the front housing. Refer to Disassembly and Assembly, " Housing (Front) - Install".

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i01149671

# **Water Pump - Remove**

SMCS - 1361-011

## **Removal Procedure**

### **Start By:**

- A. Remove V-belts. Refer to Disassembly and Assembly, "V-Belts - Remove and Install".



**WARNING**

**At operating temperature, the engine coolant is hot and under pressure.**

**Steam can cause personal injury.**

**Check the coolant level only after the engine has been stopped and the filler cap is cool enough to touch with the bare hand.**

**Remove the filler cap slowly to relieve pressure.**

**Cooling system conditioner contains alkali. Avoid contact with skin and eyes to prevent personal injury.**

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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, "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.**

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1. Drain the coolant from the cooling system into a suitable container for storage or disposal.

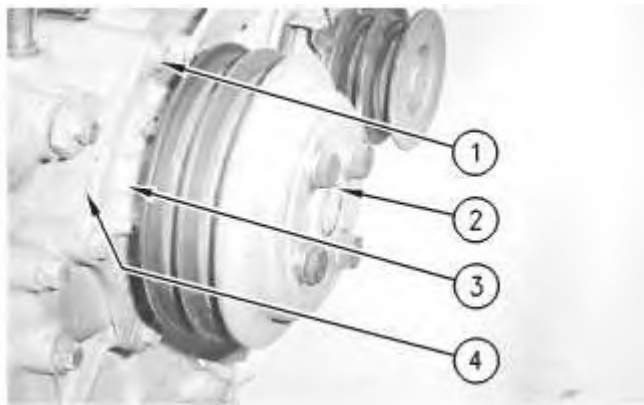


Illustration 1

g00609950

2. Remove four bolts (1) that secure the water pump to the engine.
  3. Remove water pump pulley (2) and water pump (3) as an unit from the engine.
  4. Remove O-ring (4) (not shown) from water pump (3). Discard the old O-ring.
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Publication Date -01/05/2012

Date Updated -15/05/2012

i01566087

### Water Pump - Disassemble

SMCS - 1361-015

### Disassembly Procedure

Table 1

| Required Tools |             |                       |     |
|----------------|-------------|-----------------------|-----|
| Tool           | Part Number | Part Description      | Qty |
| A              | 1P-2321     | Combination Puller    | 1   |
| B              | 1P-1861     | Retaining Ring Pliers | 1   |
| C              | 1P-0510     | Driver Group          | 1   |

#### Start By:

- A. Remove the water pump. Refer to Disassembly and Assembly, "Water Pump - Remove".

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#### NOTICE

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**Always wear protective gloves when handling parts that have been heated.**

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**Note:** If the water pump is heated up to 80 °C (176 °F), the components can be easily removed.

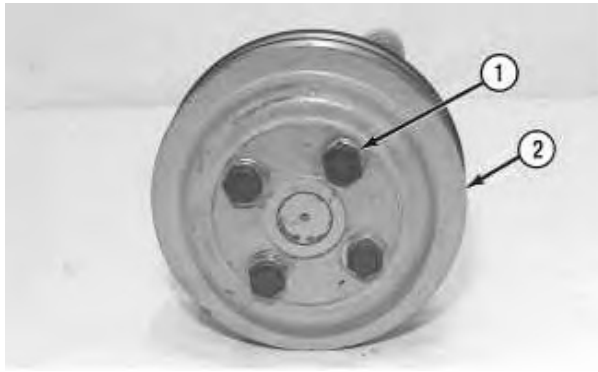


Illustration 1

g00610108

1. Remove four bolts (1) and the washers that secure the water pump pulley to the water pump.
2. Remove water pump pulley (2) from the water pump.

**Note:** Check the groove for the V-belt of the water pump pulley for wear and damage. Replace the water pump pulley, if necessary.

**Note:** Use Tool (C) during disassembly procedures of the water pump, which require the use of a press or a hammer.

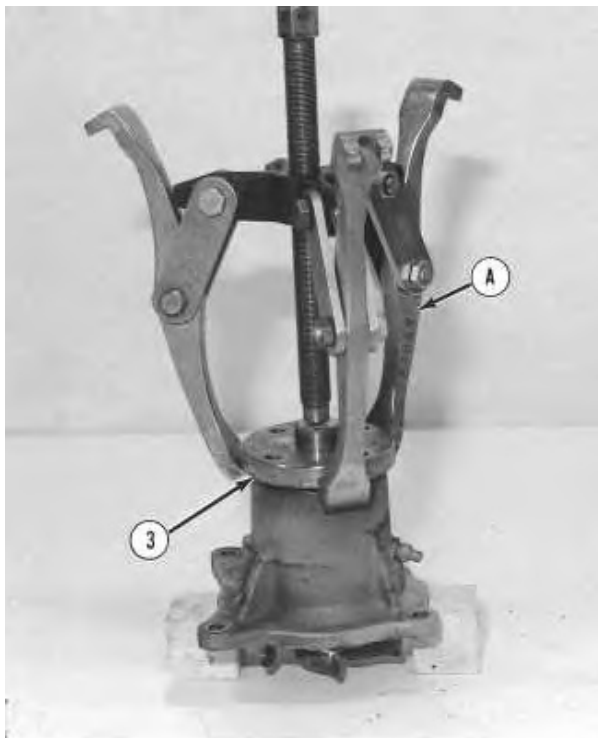


Illustration 2

g00610120

3. Use Tool (A) to remove flange (3) from the water pump.
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