

Product: VIBRATORY COMPACTOR

Model: CB-334E VIBRATORY COMPACTOR C4X

Configuration: CB-334E,CB-335E Vibratory Compactor C4X00001-UP (MACHINE) POWERED BY 3024C Engine

Disassembly and Assembly 3024C Engine for Caterpillar Built Machines

Media Number -SEN5006-04

Publication Date -01/01/2009

Date Updated -16/01/2009

i02399591

Engine Oil Pump - Remove

SMCS - 1304-011

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 housing. Refer to Disassembly and Assembly, "Housing (Front) - Remove".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

NOTICE

**If the front housing is not installed, do not turn the crankshaft.
Damage to the engine may occur.**

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 Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

Engine Oil Pump

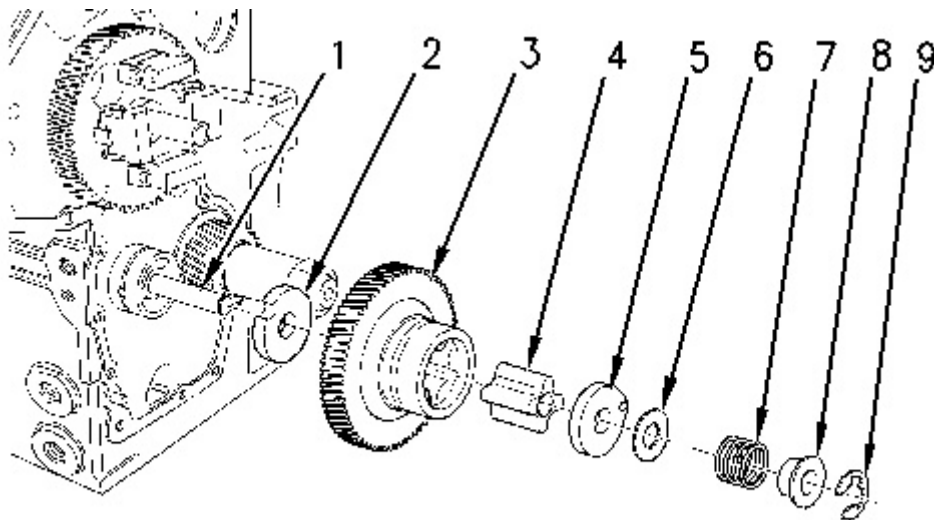


Illustration 1

g00825411

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.

1. Remove retaining ring (9) that retains idler gear (3) on idler hub (1) .
 2. Remove the following items from idler hub (1) :
 - Collar (8)
 - Spring (7)
 - Shim (6)
 - Oil pump cover (5)
 - Inner rotor (4)
 3. Remove idler gear (3) from idler hub (1) .
 4. Remove thrust washer (2) from idler hub (1) .
 5. Inspect all the components for wear or damage. If components are worn or damaged, use new parts for replacement.
- Note:** Refer to Specifications, "Engine Oil Pump" for more information.
6. If the engine oil pump has excessive buildup of sludge, inspect the oil strainer. The oil strainer can be removed by using the following procedure:
 - a. Remove the engine oil pan. Refer to Disassembly and Assembly, "Engine Oil Pan - Remove and Install".

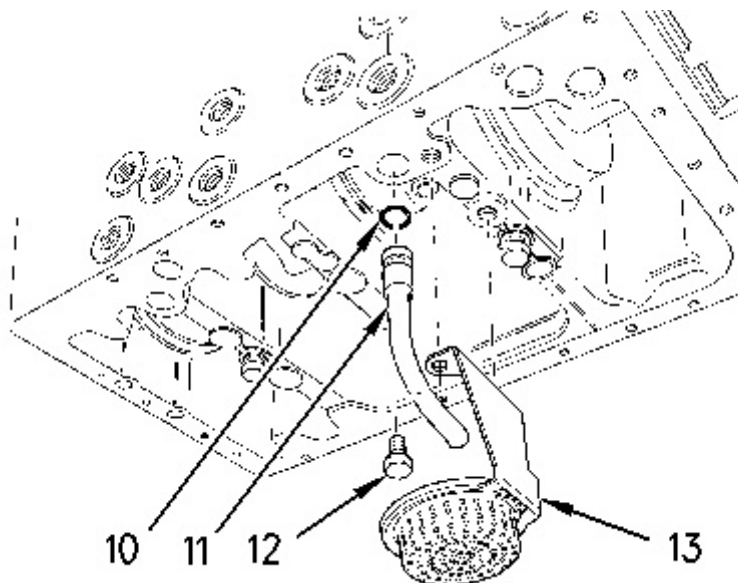


Illustration 2

g00825406

- b. Remove bolts (12) and oil strainer (13) from the cylinder block. Inspect the oil strainer for damage. If the oil strainer is damaged, use a new part for replacement.
- c. Remove tube assembly (11) from the cylinder block.

- d. Remove O-ring seal (10) from the tube assembly. Inspect the O-ring seal for wear or damage. If the O-ring seal is worn or damaged, use a new part for replacement.

Idler Hub

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-0074	Slide Hammer Puller	1

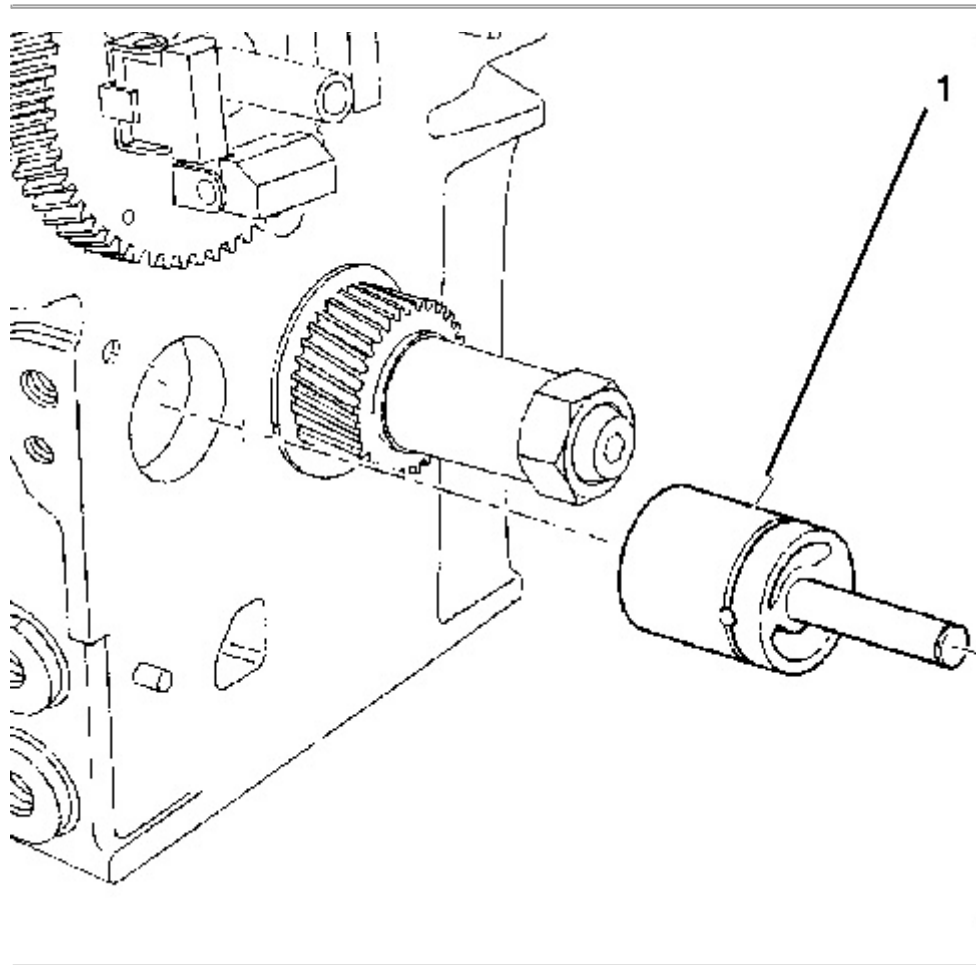


Illustration 3

g01037604

1. Use Tooling (A) to remove idler hub (1) from the cylinder block.

Product: VIBRATORY COMPACTOR

Model: CB-334E VIBRATORY COMPACTOR C4X

Configuration: CB-334E,CB-335E Vibratory Compactor C4X00001-UP (MACHINE) POWERED BY 3024C Engine

Disassembly and Assembly 3024C Engine for Caterpillar Built Machines

Media Number -SEN5006-04

Publication Date -01/01/2009

Date Updated -16/01/2009

i03121381

Engine Oil Pump - Install

SMCS - 1304-012

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
B	8T-5096	Dial Indicator Test Group	1
C ⁽¹⁾	256-4864	Alignment Tool	
C ⁽²⁾	241-4232	Alignment Tool	1
D	1S-0257	Ball Peen Hammer	1
E	1P-0808	Multipurpose Grease	1

⁽¹⁾ 3003 engines

⁽²⁾ 3013, 3014 and 3024 engines

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

NOTICE

**If the front housing is not installed, do not turn the crankshaft.
Damage to the engine may occur.**

Idler Hub

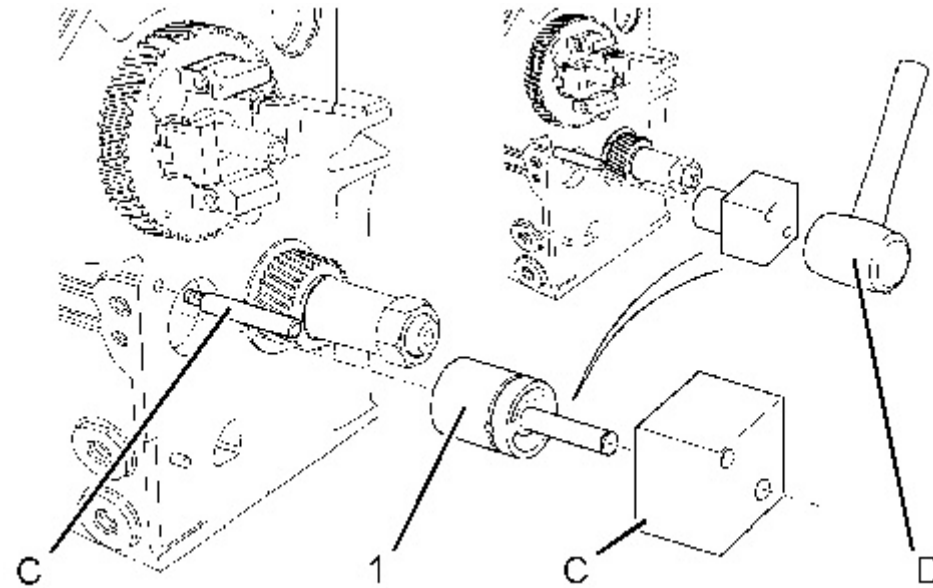


Illustration 1

g01198501

1. Use Tooling (C) and Tooling (D) to install idler hub (1) in the cylinder block.

Engine Oil Pump

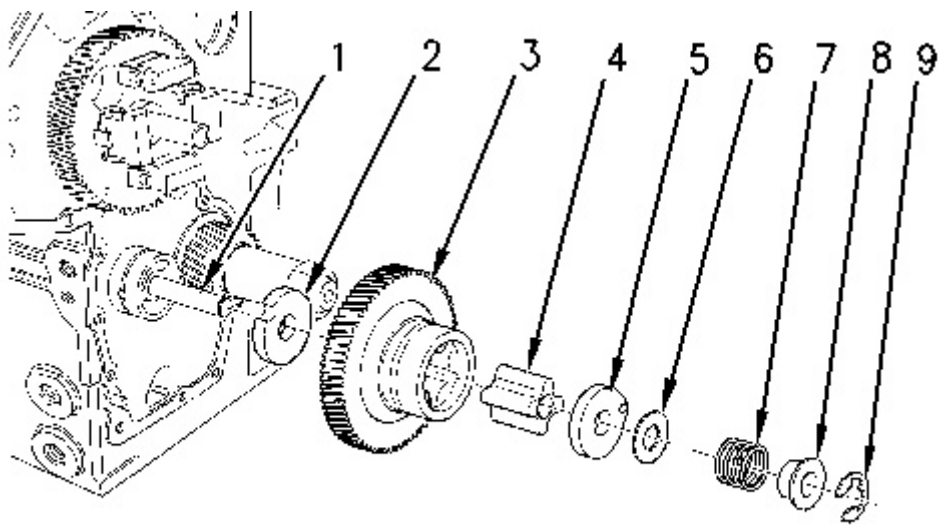


Illustration 2

g00825411

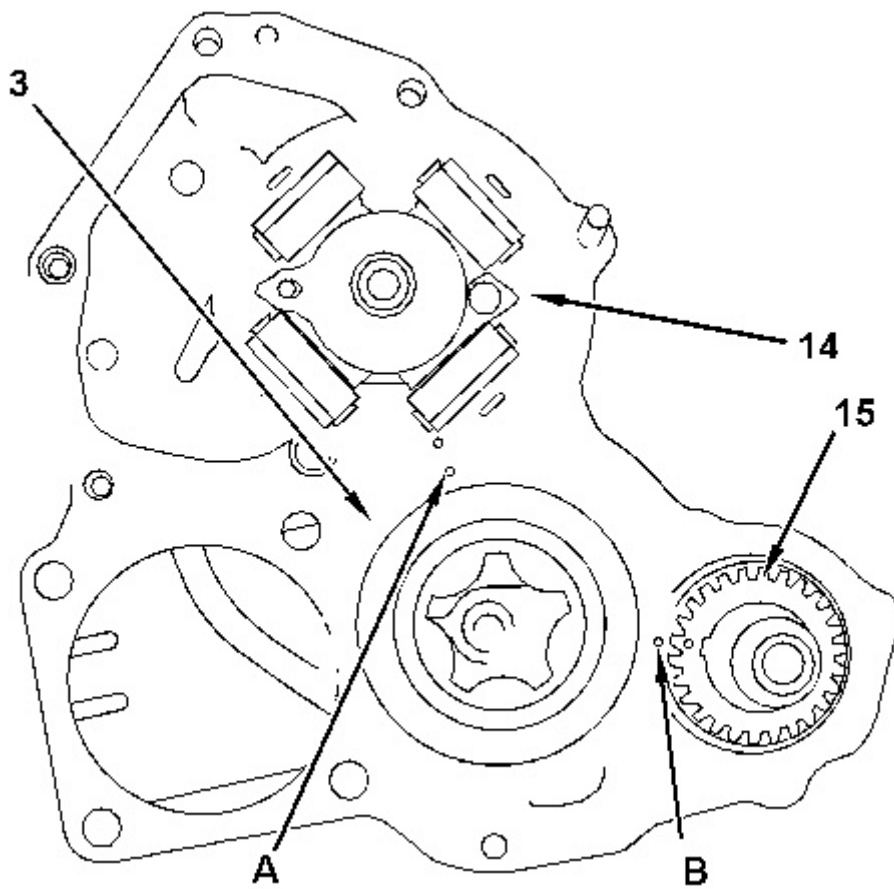


Illustration 3

g01037617



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.

1. Apply Tooling (E) to the faces of inner rotor (4) and to the vanes of idler gear (3) .
2. Align Timing Marks (A) and (B) that are on idler gear (3) with the respective timing marks on gears (14) and (15) . Install idler gear (3) on idler hub (1) .
3. Install inner rotor (4) in idler gear (3) .



Personal injury can result from the release of the spring force.

The drive shaft, the piston, and the drive gear are under spring force.

Use a press to slowly release the spring force before the components are removed.

4. Install the following items on idler hub (1) :
 - Oil pump cover (5)
 - Shim (6)
 - Spring (7)
 - Collar (8)
 5. Install retaining ring (9) on idler hub (1) .
 6. Use Tooling (B) in order to measure the end play of the engine oil pump. Refer to Specifications, "Engine Oil Pump".
 7. If the oil strainer was removed, use the following procedure for installation:
-

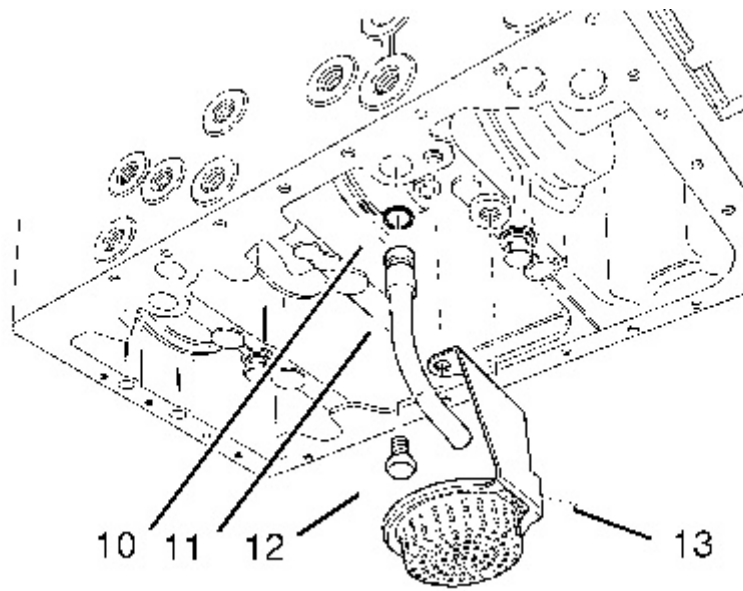


Illustration 4

g01037619

- a. Install O-ring seal (10) on tube assembly (11) .
- b. Install tube assembly (11) in the cylinder block.
- c. Install oil strainer (13) on the cylinder block and tighten bolts (12) to a torque of 11 N·m (97 lb in).

End By:

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

Product: VIBRATORY COMPACTOR

Model: CB-334E VIBRATORY COMPACTOR C4X

Configuration: CB-334E,CB-335E Vibratory Compactor C4X00001-UP (MACHINE) POWERED BY 3024C Engine

Disassembly and Assembly 3024C Engine for Caterpillar Built Machines

Media Number -SEN5006-04

Publication Date -01/01/2009

Date Updated -16/01/2009

i02355421

Water Pump - Remove

SMCS - 1361-011

Removal Procedure

Start By:

- A. Remove the V-Belts. Refer to Disassembly and Assembly, "V-Belts - Remove and Install".
- B. Remove the fan. Refer to Disassembly and Assembly, "Fan - 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.

Refer to Special Publication, NENG2500, "Caterpillar Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

1. Drain the coolant from the cooling system into a suitable container for storage or disposal. Refer to Operation and Maintenance Manual, "Cooling System Coolant - Change".

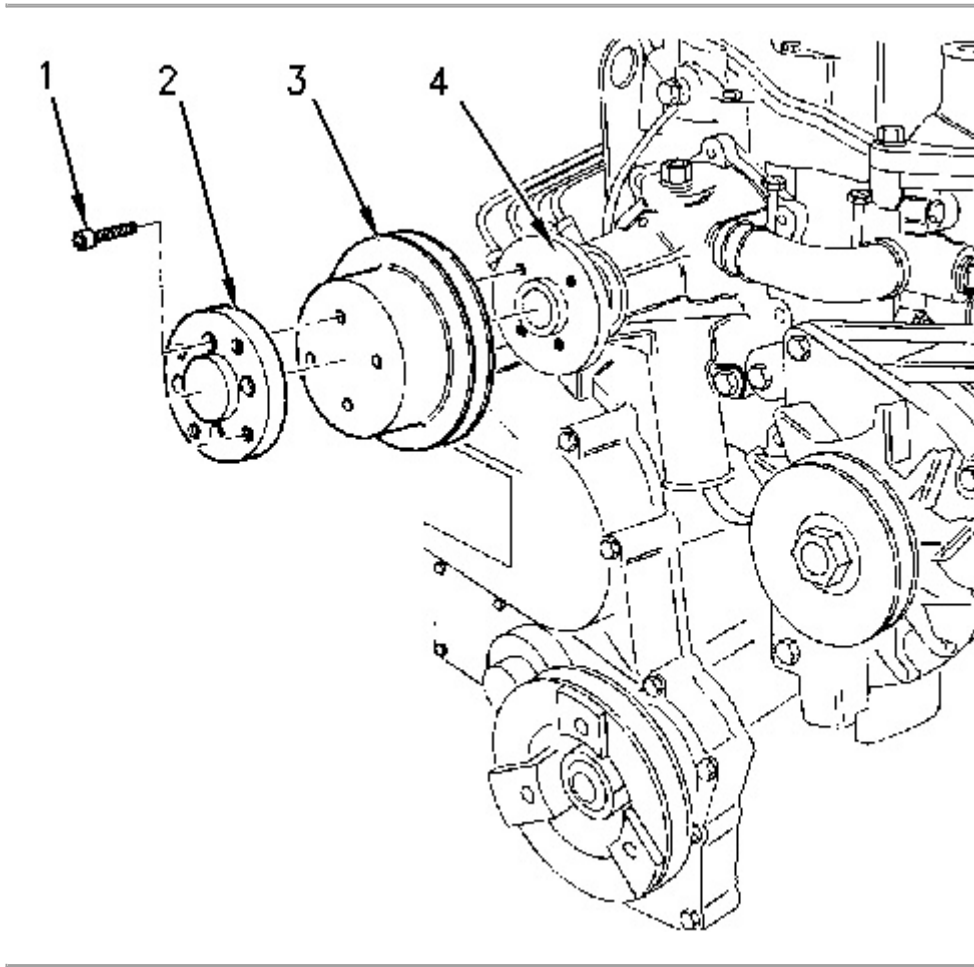


Illustration 1

g00831690

2. Remove set screws (1) that fasten adapter (2) and pulley (3) to water pump (4). Remove adapter (2) and pulley (3) from water pump (4) .
-

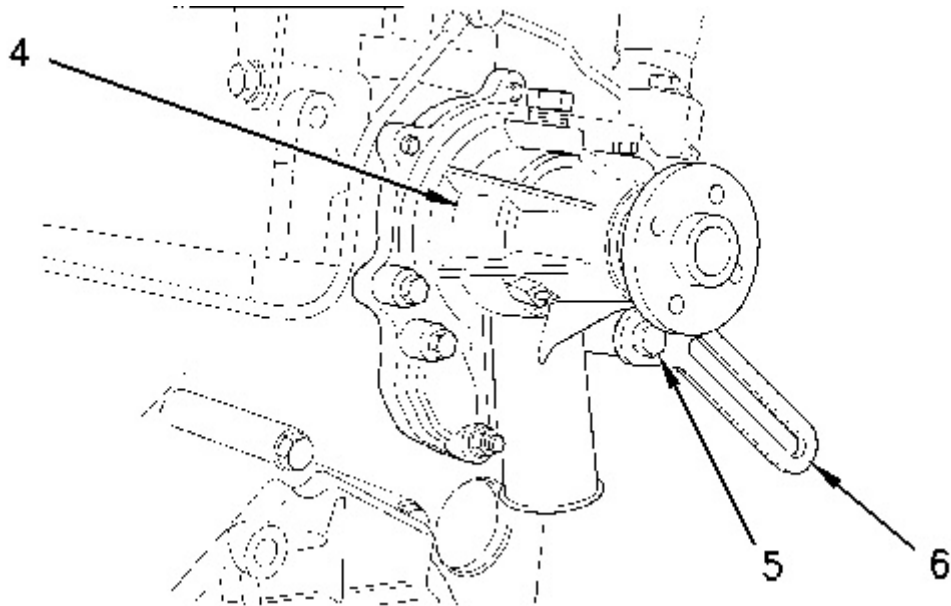


Illustration 2

g00825842

3. Remove bolt (5) and alternator bracket (6) from water pump (4) .

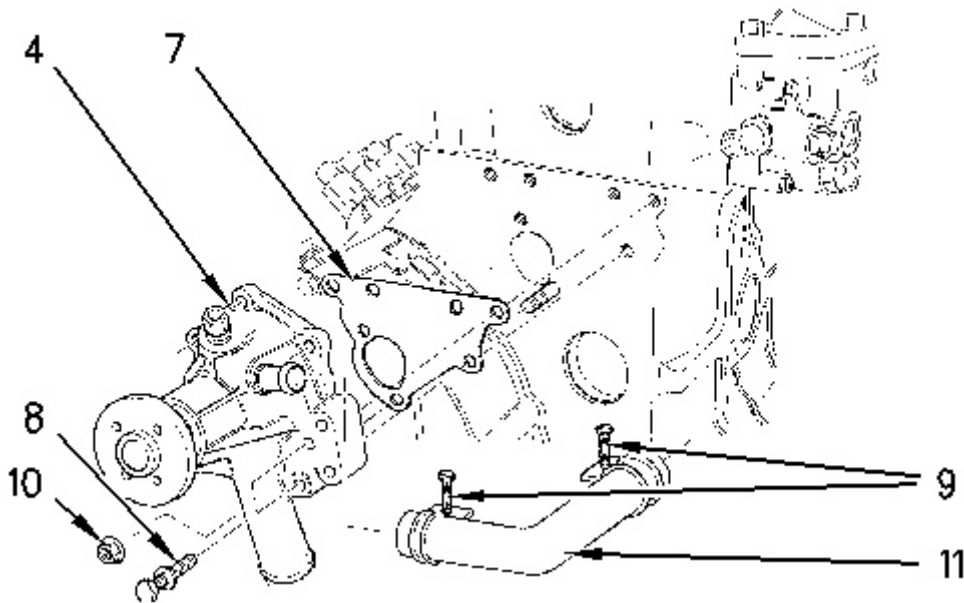


Illustration 3

g00825811

4. Loosen hose clamps (9) and remove hose (11) from water pump (4) .
5. Loosen the hose clamp for the lower hose (not shown) to water pump (4) and remove the lower hose (not shown) from the water pump.
6. Remove nut (10) and bolts (8) that fasten water pump (4) to the engine.
7. Remove water pump (4) and gasket (7) from the engine.

Product: VIBRATORY COMPACTOR

Model: CB-334E VIBRATORY COMPACTOR C4X

Configuration: CB-334E,CB-335E Vibratory Compactor C4X00001-UP (MACHINE) POWERED BY 3024C Engine

Disassembly and Assembly 3024C Engine for Caterpillar Built Machines

Media Number -SEN5006-04

Publication Date -01/01/2009

Date Updated -16/01/2009

i02355432

Water Pump - Install

SMCS - 1361-012

Installation Procedure

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Remove all debris and gasket material from the mating surfaces of the water pump and the cylinder head.
-

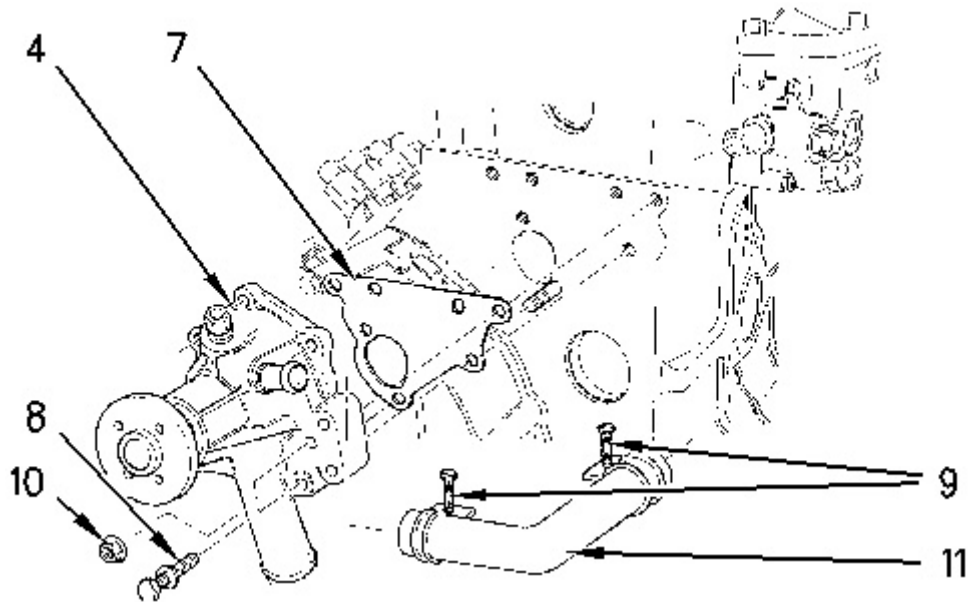


Illustration 1

g00825811

2. Install new gasket (7) in position on the engine.
3. Place water pump (4) in position on the engine and install bolts (8) and nut (10) . Tighten nut (10) and bolts (8) that fasten water pump (4) to the engine.
4. Install lower hose (not shown) and tighten the hose clamp. Install hose (11) on water pump (4) and tighten hose clamps (9) .

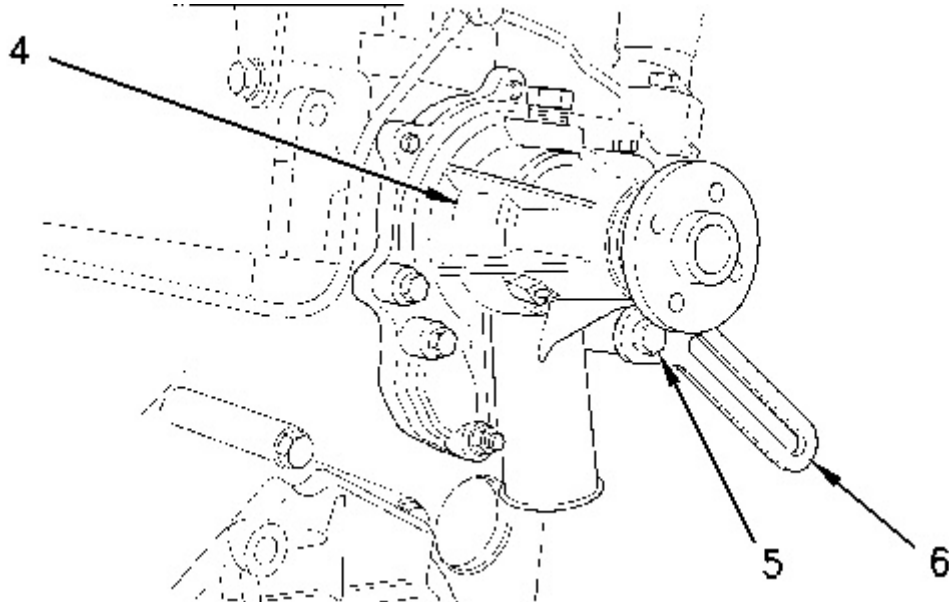


Illustration 2

g00825842

5. Place alternator bracket (6) into position on water pump (4) and install bolt (5) on water pump (4) .

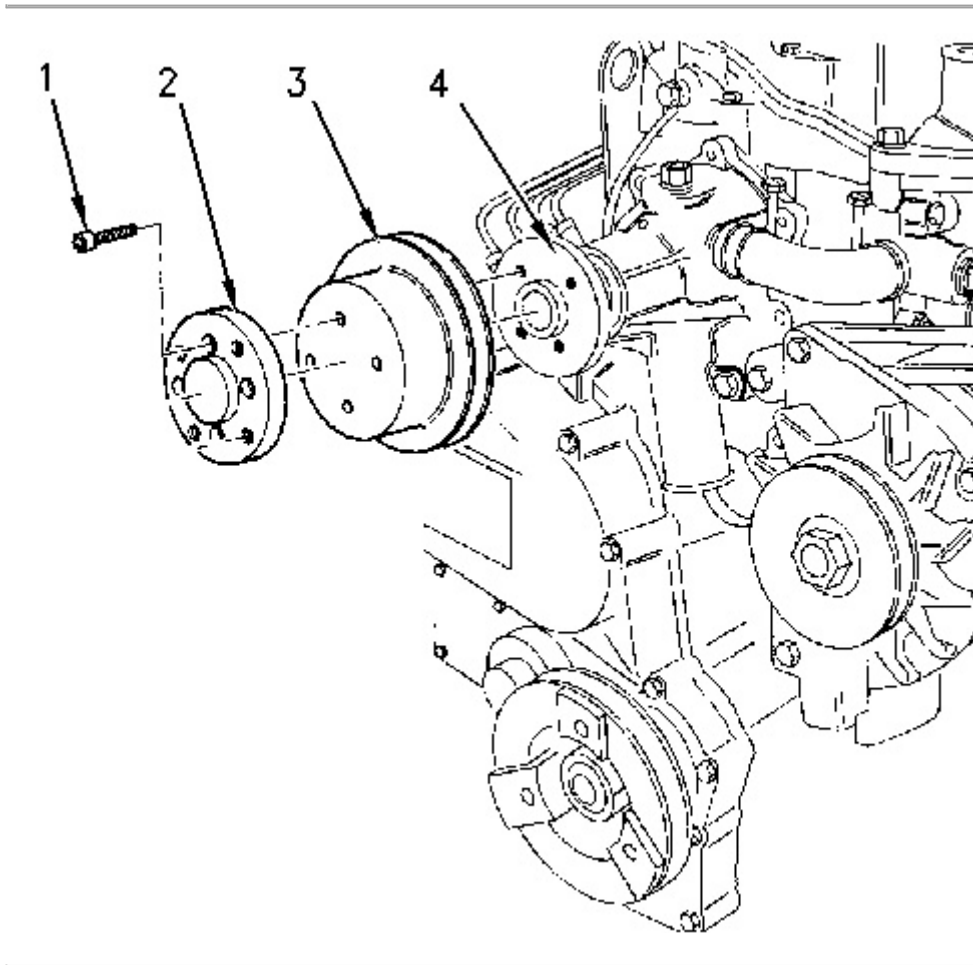


Illustration 3

g00831690

6. Install pulley (3) and adapter (2) on water pump (4) . Install set screws (1) and tighten to a torque of 11 N·m (8 lb ft).
7. Fill the cooling system with coolant to the correct level. Refer to Operation and Maintenance Manual, "Refill Capacities".

End By:

- a. Install the fan. Refer to Disassembly and Assembly, "Fan - Remove and Install".
 - b. Install the V-Belts. Refer to Disassembly and Assembly, "V-Belts - Remove and Install".
-

Product: VIBRATORY COMPACTOR

Model: CB-334E VIBRATORY COMPACTOR C4X

Configuration: CB-334E,CB-335E Vibratory Compactor C4X00001-UP (MACHINE) POWERED BY 3024C Engine

Disassembly and Assembly 3024C Engine for Caterpillar Built Machines

Media Number -SEN5006-04

Publication Date -01/01/2009

Date Updated -16/01/2009

i01787785

Water Temperature Regulator - Remove and Install

SMCS - 1355-010

Removal Procedure

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.

1. Drain the coolant from the cooling system into a suitable container for storage or disposal. Refer to the OEM for the approximate capacity of the cooling system. Refer to Operation

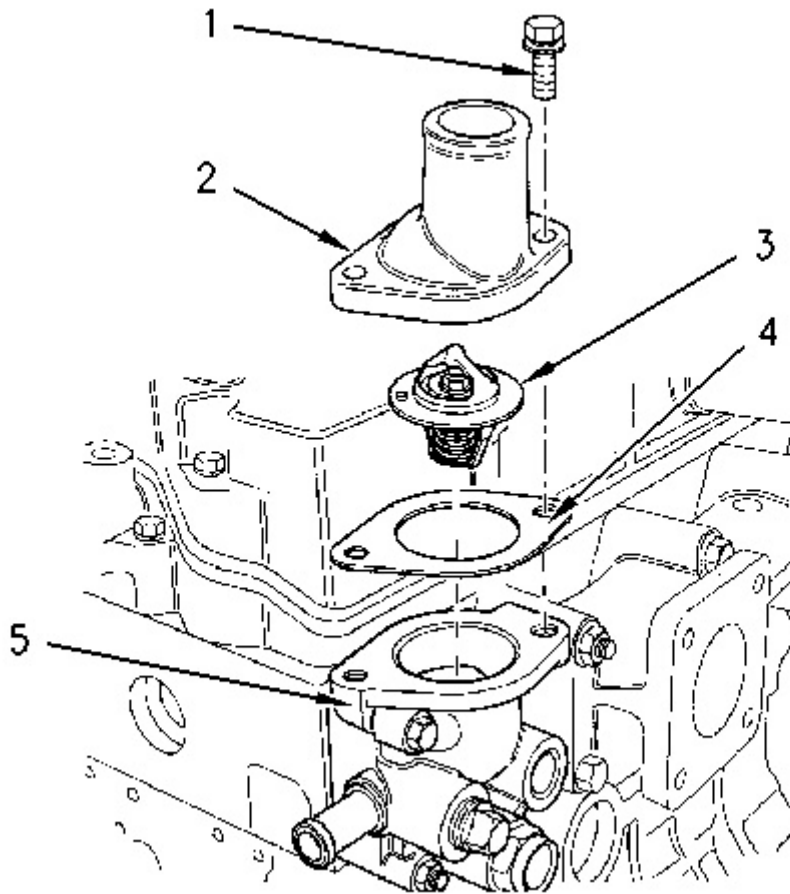


Illustration 1

g00825537

2. Remove two bolts (1) from water temperature regulator housing (5) .
3. Remove cover (2) and gasket (4) for the water temperature regulator (3) .
4. Remove water temperature regulator (3) from the water temperature regulator housing (5) .
5. Remove all debris and gasket material from the mating surfaces of cover (2) and water temperature regulator housing (5). Use a new gasket for assembly.
6. Inspect water temperature regulator (3) for wear or damage. If the water temperature regulator is worn or damaged, use a new part for replacement. Refer to Testing and Adjusting, "Water Temperature Regulator - Test" for more information on testing the water temperature regulator.

Installation Procedure

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

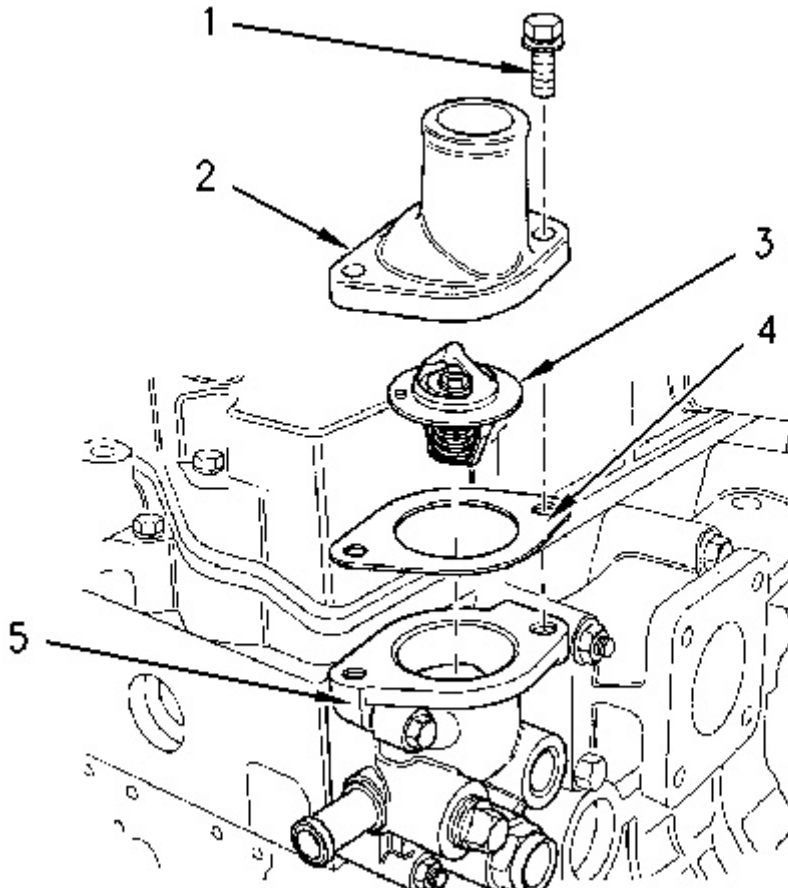


Illustration 2

g00825537

1. Install water temperature regulator (3) to water temperature regulator housing (5) .
 2. Position a new gasket (4) and cover (2) for water temperature regulator (3) on water temperature regulator housing (5) .
 3. Install bolts (1) to cover (2). Tighten the two bolts for the cover to a torque of 14 N·m (10 lb ft).
 4. Fill the cooling system with coolant to the correct level. Refer to Operation and Maintenance Manual, "Refill Capacities" for more information.
-

Product: VIBRATORY COMPACTOR

Model: CB-334E VIBRATORY COMPACTOR C4X

Configuration: CB-334E,CB-335E Vibratory Compactor C4X00001-UP (MACHINE) POWERED BY 3024C Engine

Disassembly and Assembly 3024C Engine for Caterpillar Built Machines

Media Number -SEN5006-04

Publication Date -01/01/2009

Date Updated -16/01/2009

i02234879

Flywheel - Remove

SMCS - 1156-011

Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	138-7573	Link Bracket	1

Start By:

- Remove the electric starting motor. Refer to Disassembly and Assembly, "Electric Starting Motor - Remove and Install".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

Note: The two cylinder, the three cylinder and the four cylinder engines have different flywheels. The removal procedure is similar for all models.

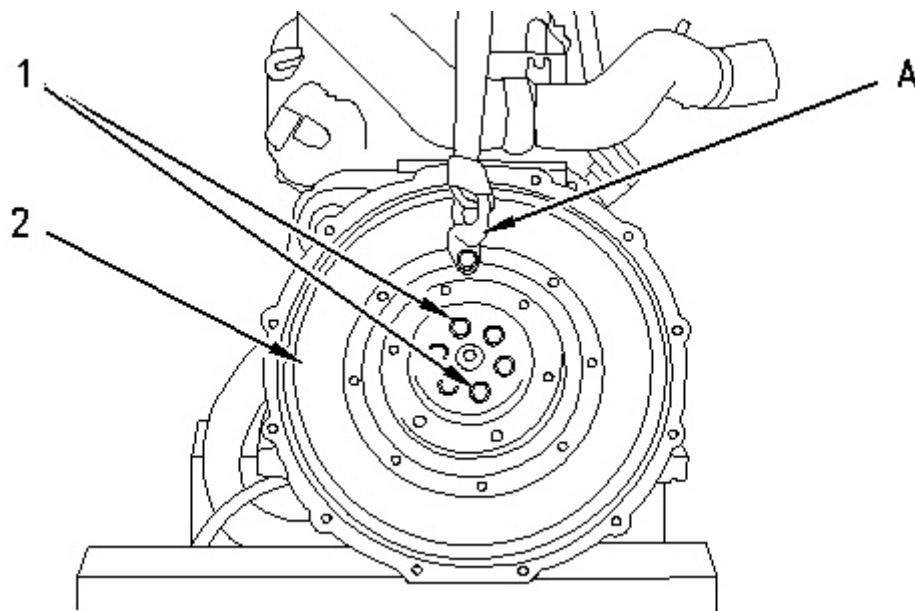


Illustration 1

g00825636

Typical example

1. Install Tooling (A) and a suitable lifting device to the flywheel (2).
2. Remove two setscrews (1) opposite each other from the flywheel.
3. Install two M10 x 1.25 mm guide studs in the place of the setscrews that were removed.
4. Remove the remaining setscrews (1) that fasten the flywheel to the crankshaft.
5. Remove the flywheel (2) from the rear of the crankshaft.

Note: On some three cylinder engines, a roll pin is located between the crankshaft and the flywheel.

6. Inspect the flywheel ring gear (3) and the flywheel (2) for wear or damage. If the flywheel ring gear or the flywheel is worn or damaged, use new parts for replacement.
-

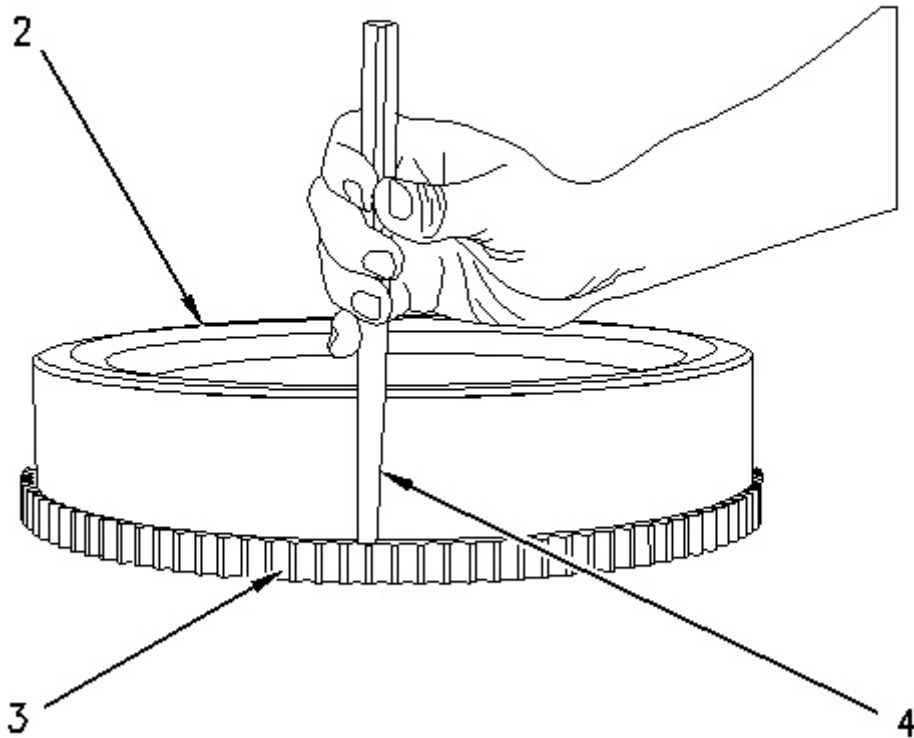


Illustration 2
Typical example

g00825639

7. To remove the flywheel ring gear (3) from the flywheel (2), place the flywheel on a suitable support. Use a suitable hammer (not shown) and a punch (4) in order to remove the ring gear from the flywheel.
-

Product: VIBRATORY COMPACTOR

Model: CB-334E VIBRATORY COMPACTOR C4X

Configuration: CB-334E,CB-335E Vibratory Compactor C4X00001-UP (MACHINE) POWERED BY 3024C Engine

Disassembly and Assembly 3024C Engine for Caterpillar Built Machines

Media Number -SEN5006-04

Publication Date -01/01/2009

Date Updated -16/01/2009

i02736660

Flywheel - Install

SMCS - 1156-012

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	138-7573	Link Bracket	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.



WARNING

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

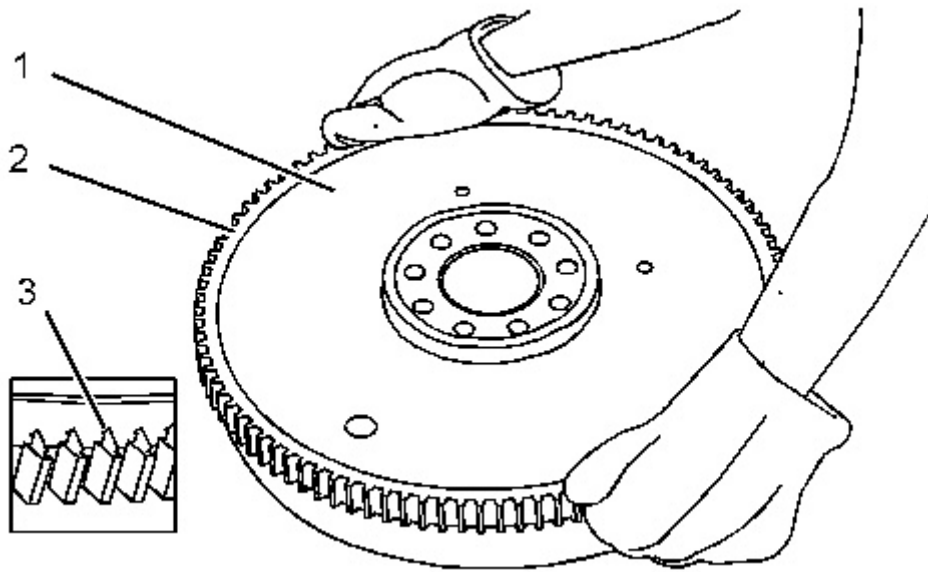


Illustration 1

g01372138

Typical example

1. Thoroughly clean the flywheel housing. Inspect the crankshaft rear seal for leaks. If there are any oil leaks refer to Disassembly and Assembly, "Crankshaft Rear Seal - Remove".
 2. If necessary, perform the following procedure to install the ring gear (2) to the flywheel (1).
 - a. Identify the orientation of the new ring gear in order to install the ring gear correctly onto the flywheel.

Note: The chamfered side of the gear teeth (3) must face toward the starting motor when the flywheel is installed. This will ensure the correct engagement of the starting motor.
 - b. Heat the flywheel ring gear (2) in an oven to a maximum temperature of 150°C (302°F) prior to installation.

Note: Do not use a torch to heat the ring gear.
 - c. Ensure that the orientation of the ring gear (2) is correct and quickly install the ring gear onto the flywheel (1).
-

Thank you so much for reading.
Please click the “Buy Now!”
button below to download the
complete manual.



After you pay.

You can download the most
perfect and complete manual in
the world immediately.

Our support email:

ebooklibonline@outlook.com