

Product: VIBRATORY COMPACTOR

Model: CB-335D VIBRATORY COMPACTOR BBW

Configuration: CB-335D Vibratory Compactor BBW00001-UP (MACHINE) POWERED BY 3014 Engine

Disassembly and Assembly

3003, 3013, 3014 and 3024 Engines for Caterpillar Built Machines

Media Number -SEN5027-05

Publication Date -01/05/2005

Date Updated -16/05/2005

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

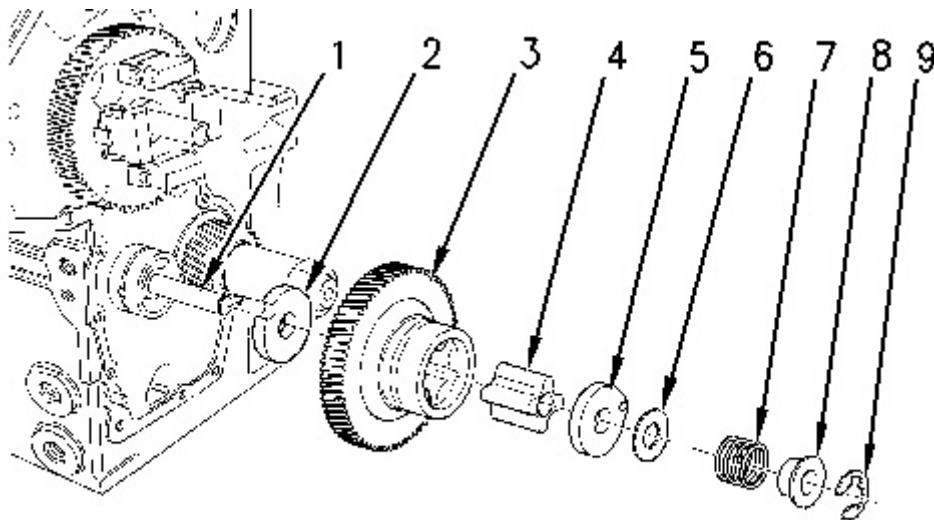


Illustration 1

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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".

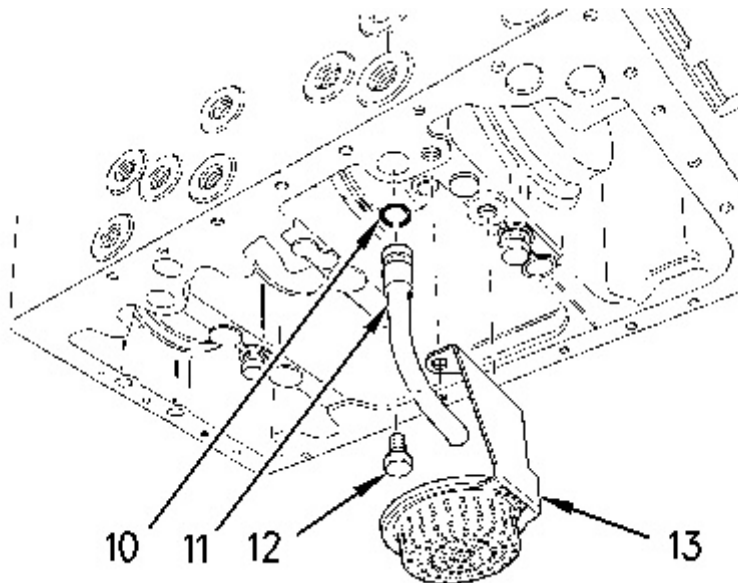


Illustration 2

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- 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

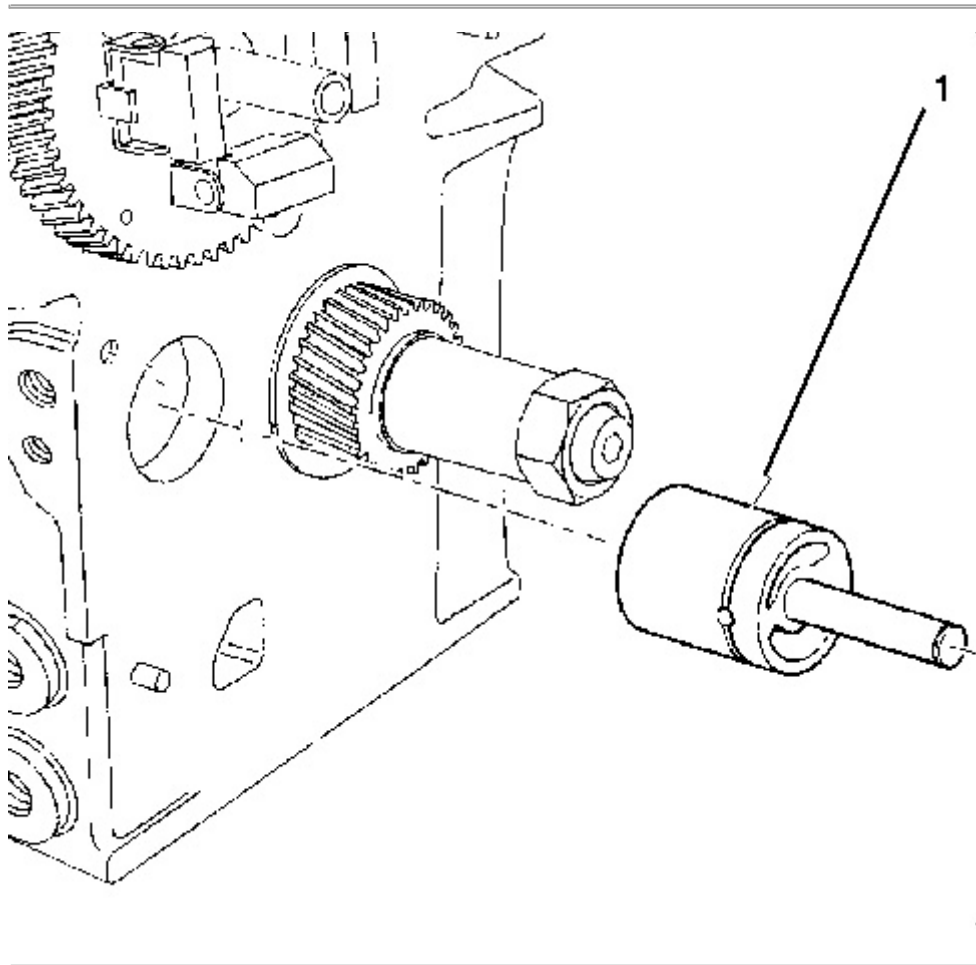


Illustration 3

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

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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

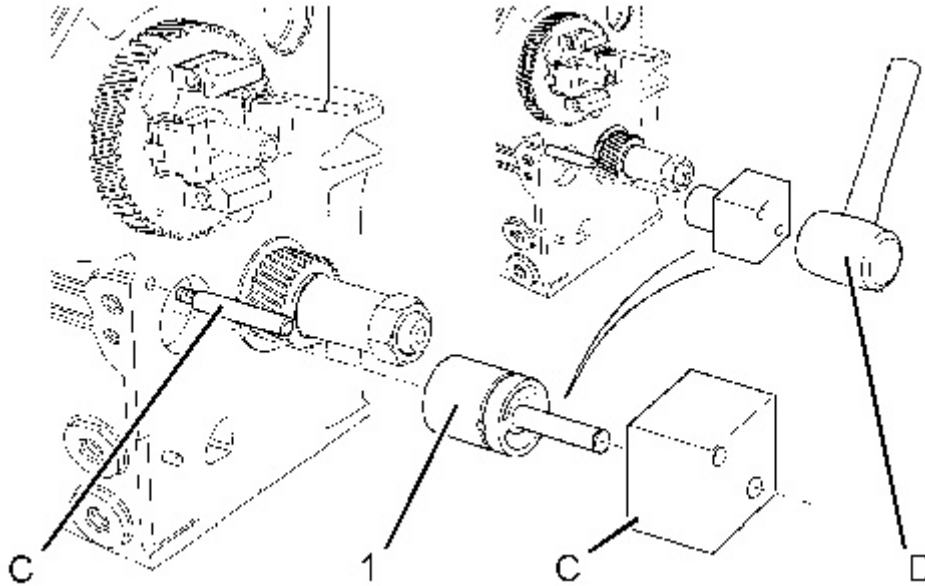


Illustration 1

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

Engine Oil Pump

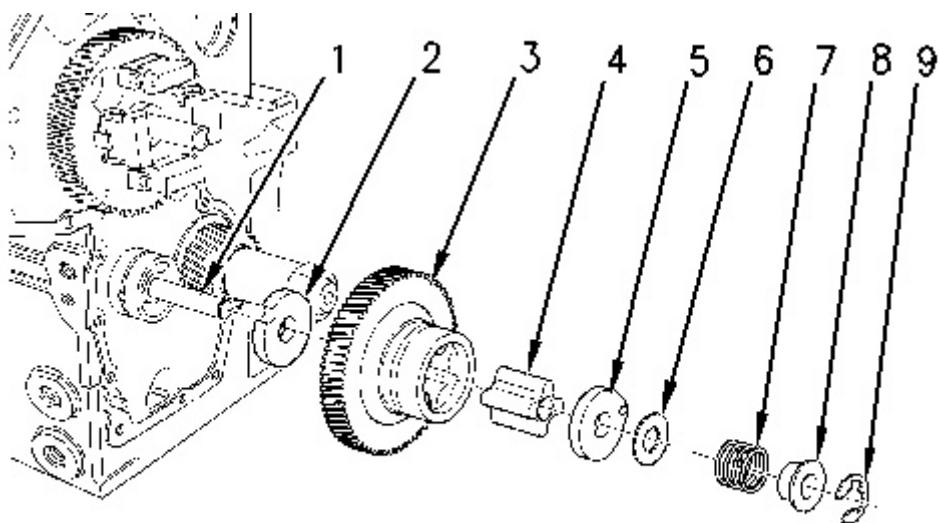


Illustration 2

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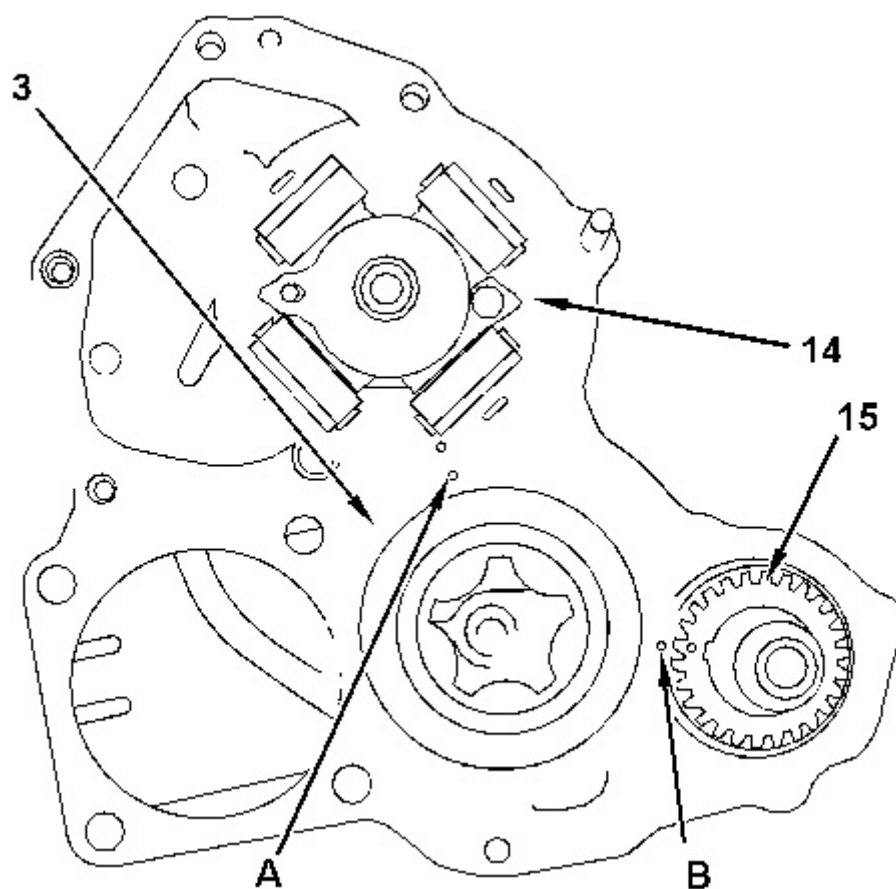


Illustration 3

g01037617

! 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.

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) .



WARNING

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:
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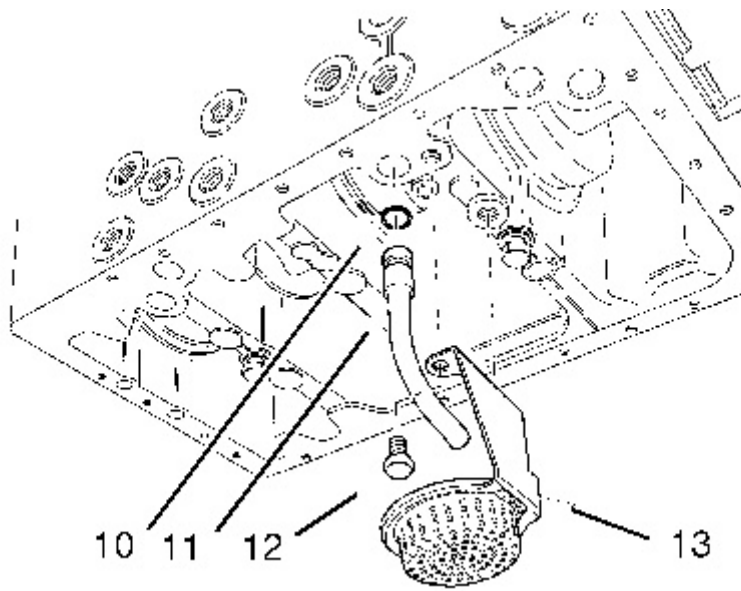


Illustration 4

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- 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".
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i02350237

Flywheel - Remove

SMCS - 1156-011

Removal Procedure (3003 Engine)

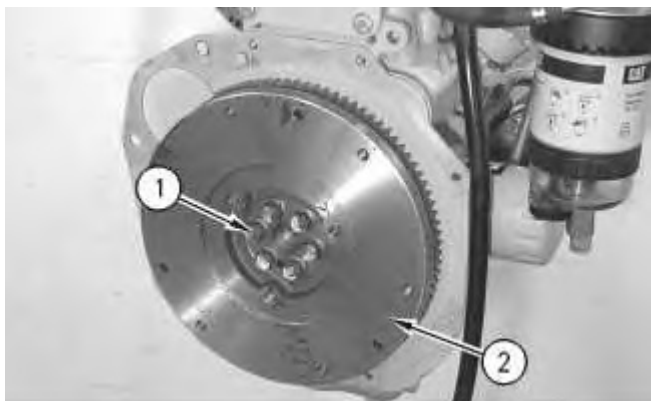
Start By:

- A. Remove the flywheel housing. Refer to Disassembly and Assembly, "Flywheel Housing - Remove and Install".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.



1. Remove bolts (1) .
2. Remove flywheel (2) .
3. If removal of the flywheel ring gear is necessary, place an index mark on the flywheel and the flywheel ring gear for the installation process.



Illustration 2

g00683054

Typical example

4. Use a hammer and a punch in order to remove flywheel ring gear (3) from flywheel (2) .
5. Inspect the flywheel ring gear and the flywheel for wear or damage. If the flywheel ring gear or the flywheel is worn or damaged, use new parts for replacement.

Removal Procedure (3013, 3014, and 3024 Engines)

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	138-7573	Link Bracket	1
B	-	Guide Bolt (M10 x 1.25 mm)	2

Start By:

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

NOTICE

Keep all parts clean from contaminants.

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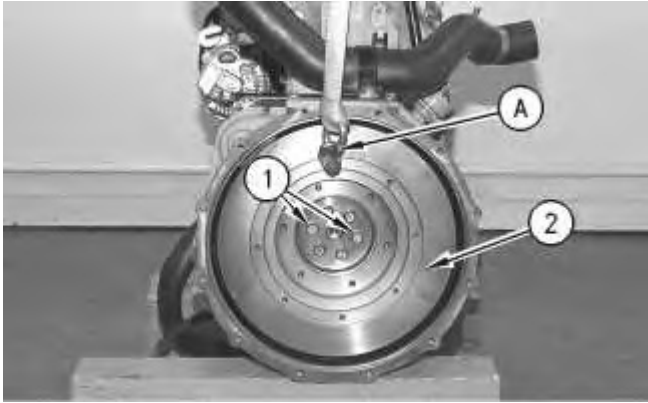


Illustration 3

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1. Attach Tooling (A) and a suitable lifting device to flywheel (2) . The weight of flywheel (2) is approximately 34 kg (75 lb).
2. Remove two bolts (1) opposite each other from the flywheel.
3. Install Tooling (B) .
4. Remove remaining bolts (1) .

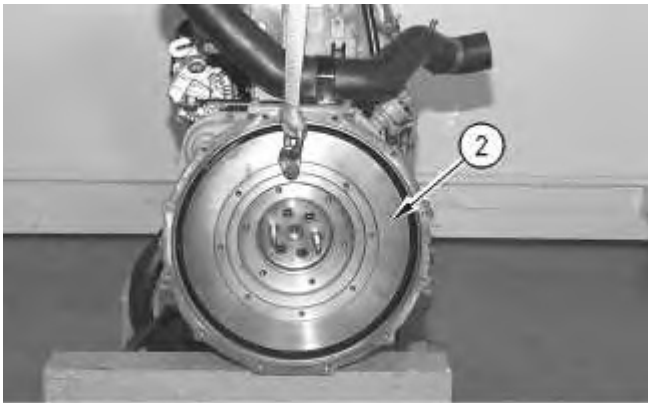


Illustration 4

g00584293

5. Remove flywheel (2) .
 6. If removal of the flywheel ring gear is necessary, place an index mark on the flywheel and the flywheel ring gear for the installation process.
-



Illustration 5

g00683054

Typical example

7. Use a hammer and a punch in order to remove flywheel ring gear (3) from flywheel (2) .
 8. Inspect the flywheel ring gear and the flywheel for wear or damage. If the flywheel ring gear or the flywheel is worn or damaged, use new parts for replacement.
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i02350265

Flywheel - Install

SMCS - 1156-012

Installation Procedure (3003 Engine)

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

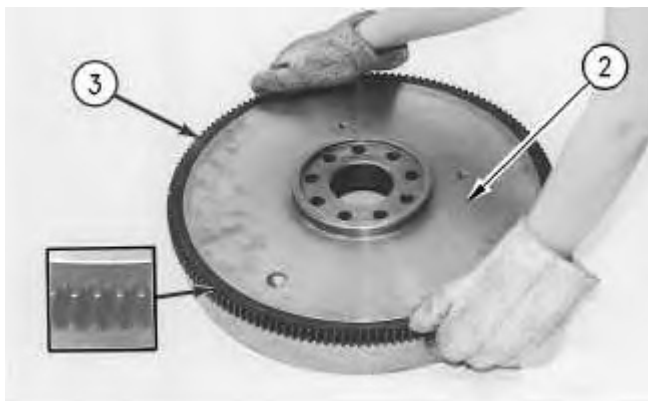


Illustration 1

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Typical example

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