

Product: VIBRATORY COMPACTOR

Model: CB-44B VIBRATORY COMPACTOR TWC

Configuration: CB54B, CB44B Asphalt Compactor TWC00001-UP (MACHINE) POWERED BY C4.4 Engine

Disassembly and Assembly C4.4 Engines for Caterpillar Built Machines

Media Number -KENR6082-19

Publication Date -01/10/2013

Date Updated -21/10/2013

i02930000

Flywheel Housing - Remove and Install

SMCS - 1157-010

Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	-	Guide Stud M10 by 100 mm	2

Start By:

- Remove the flywheel. Refer to Disassembly and Assembly, "Flywheel - Remove".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

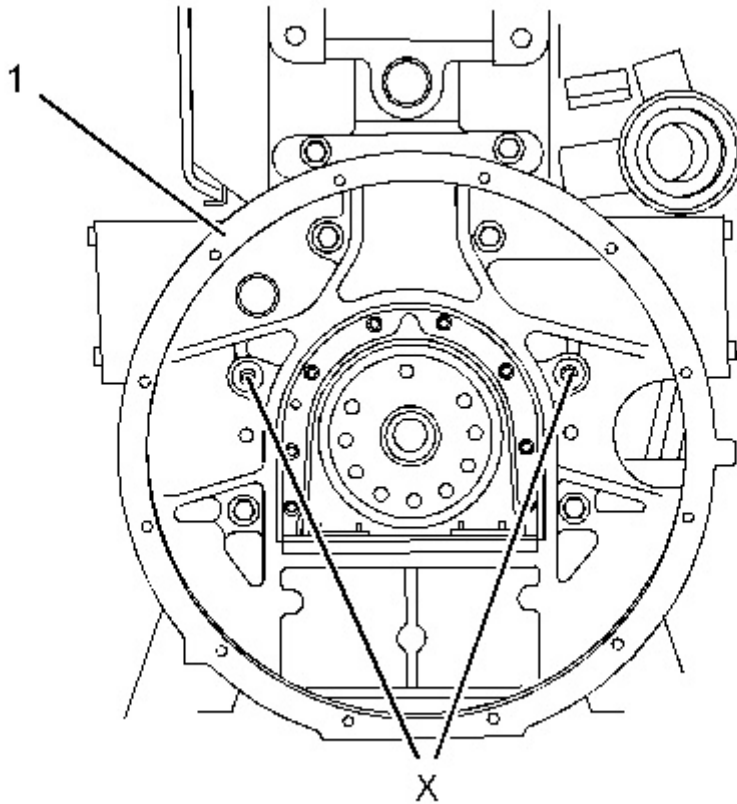


Illustration 1
Typical example

g01470403

1. Remove the bolts from Position (X) from flywheel housing (1).
 2. Install Tooling (A) into Position (X) on flywheel housing (1).
 3. Install a suitable lifting device to the flywheel housing in order to support the flywheel housing. The flywheel housing weighs approximately 30 kg (66 lb).
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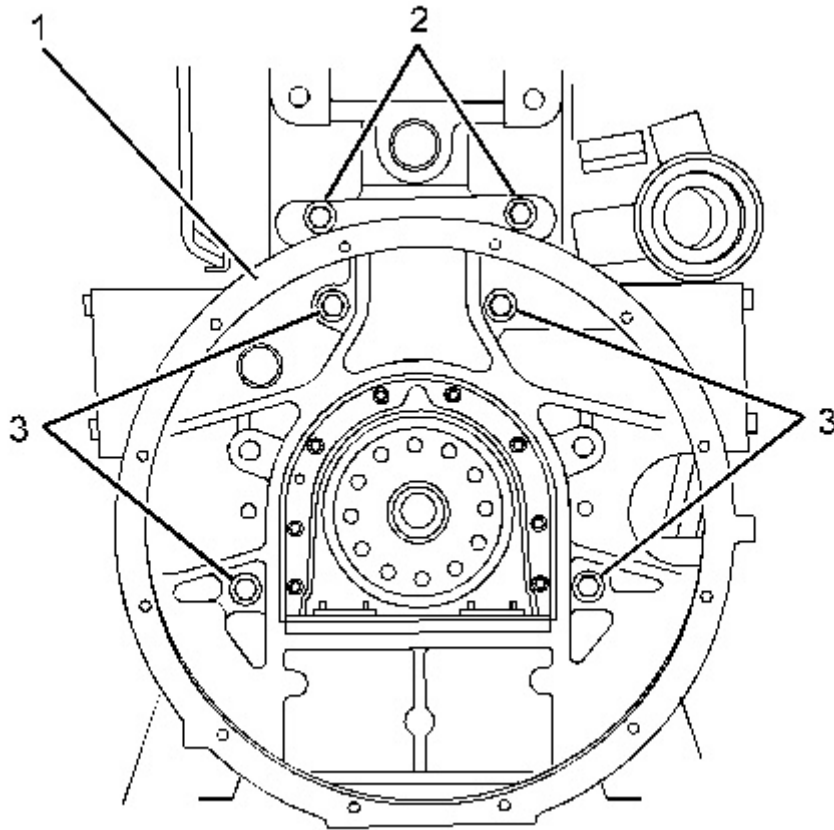


Illustration 2
Typical example

g01763013

4. Remove bolts (2) and remaining bolts (3) from flywheel housing (1).
5. Use the lifting device in order to remove flywheel housing (1) from the cylinder block.

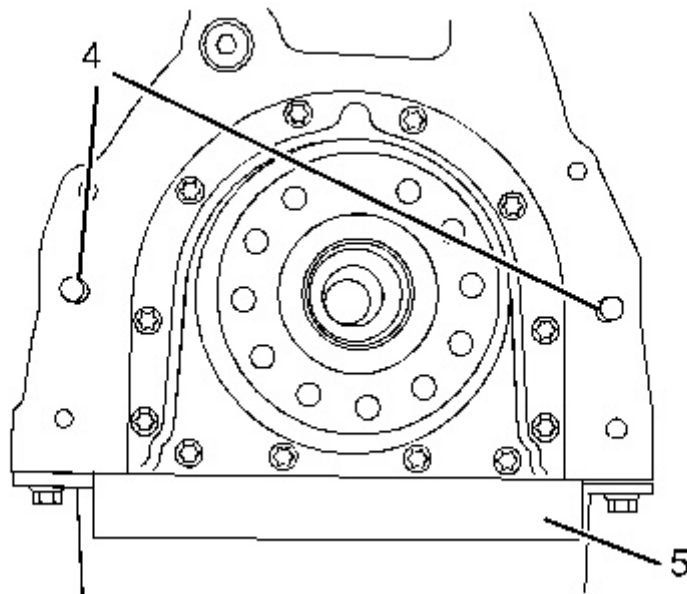


Illustration 3

g01470418

Typical example

6. If the engine has an aluminum oil pan, remove dust seal (5).
7. If necessary, remove dowels (4) from the cylinder block.

Installation Procedure

Table 2

Required Tools			
Tool	Part Number	Part Description	Qty
A	-	Guide Bolt M10 by 100 mm	2
B	8T-5096	Dial Indicator Group	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Ensure that the flywheel housing is clean and free from damage. If necessary, replace the flywheel housing.
-

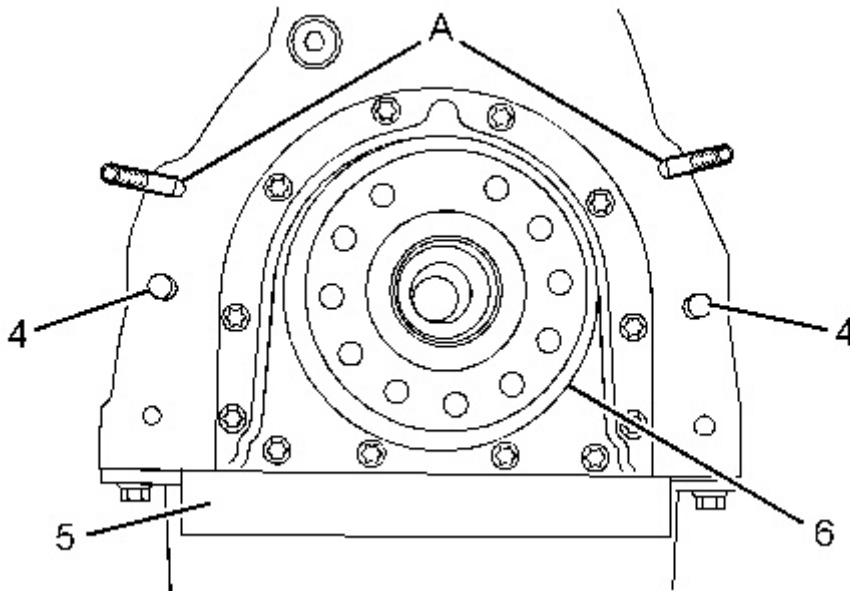


Illustration 4
Typical example

g01244056

2. Inspect crankshaft rear seal (6) for leaks. If there are any oil leaks, replace the crankshaft rear seal. Refer to Disassembly and Assembly, "Crankshaft Rear Seal - Remove" and refer to Disassembly and Assembly, "Crankshaft Rear Seal - Install".
 3. Clean the rear face of the cylinder block. If necessary, install dowels (4) to the cylinder block.
 4. Install Tooling (A) to the cylinder block.
 5. Install dust seal (5).
-

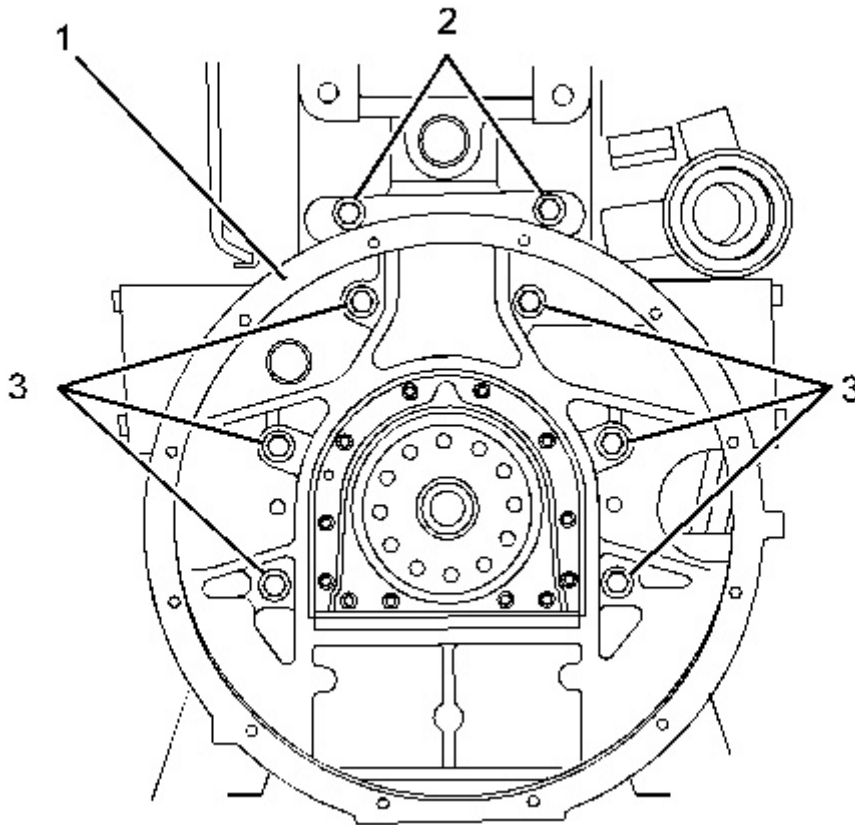


Illustration 5

g01763034

Typical example

6. Install a suitable lifting device to the flywheel housing. The flywheel housing weighs approximately 30 kg (66 lb).
7. Use the lifting device to align flywheel housing (1) with Tooling (A). Install the flywheel housing to the cylinder block.
8. Install bolts (2) and bolts (3) finger tight.
9. Remove Tooling (A). Install remaining bolts (3).
10. Tighten bolts (3) to a torque of 63 N·m (46 lb ft).
11. Tighten bolts (2) to a torque of 75 N·m (55 lb ft).

12. Use Tooling (B) to check the alignment of the flywheel housing with the crankshaft. Refer to Systems Operation, Testing and Adjusting, "Flywheel Housing - Inspect".

End By:

- a. Install the flywheel. Refer to Disassembly and Assembly, "Flywheel - Install".
-

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i02929973

Crankshaft Pulley - Remove and Install - Engines With an Automatic Belt Tensioner

SMCS - 1205-010

Removal Procedure

Start By:

- a. Remove the alternator belt. Refer to Disassembly and Assembly, "Alternator Belt - Remove and Install".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

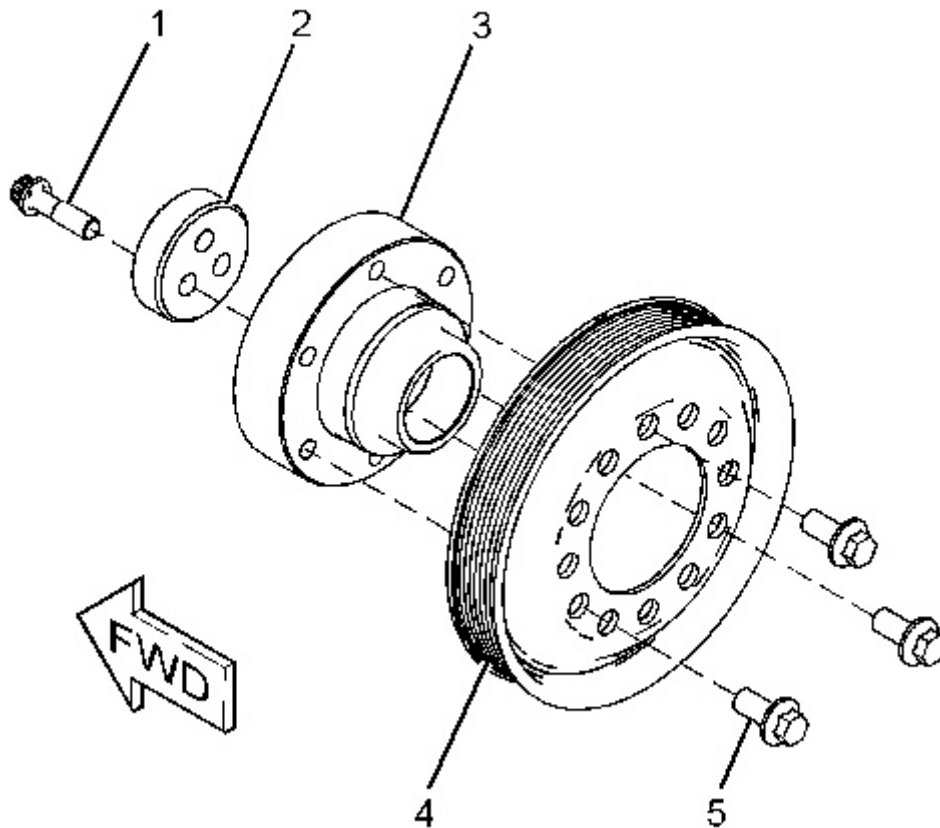


Illustration 1

g01249049

1. Use a suitable tool in order to prevent the crankshaft from rotating. Remove bolts (1).
2. Remove thrust block (2).
3. Carefully remove the assembly of the crankshaft pulley from the crankshaft.
4. Follow Step 4.a through Step 4.b in order to disassemble the crankshaft pulley.
 - a. Remove bolts (5).
 - b. Remove crankshaft pulley (4) from crankshaft adapter (3).

Installation Procedure

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Ensure that the crankshaft adapter, the pulley and the thrust block are clean and free from damage. Replace any components that are damaged.
-

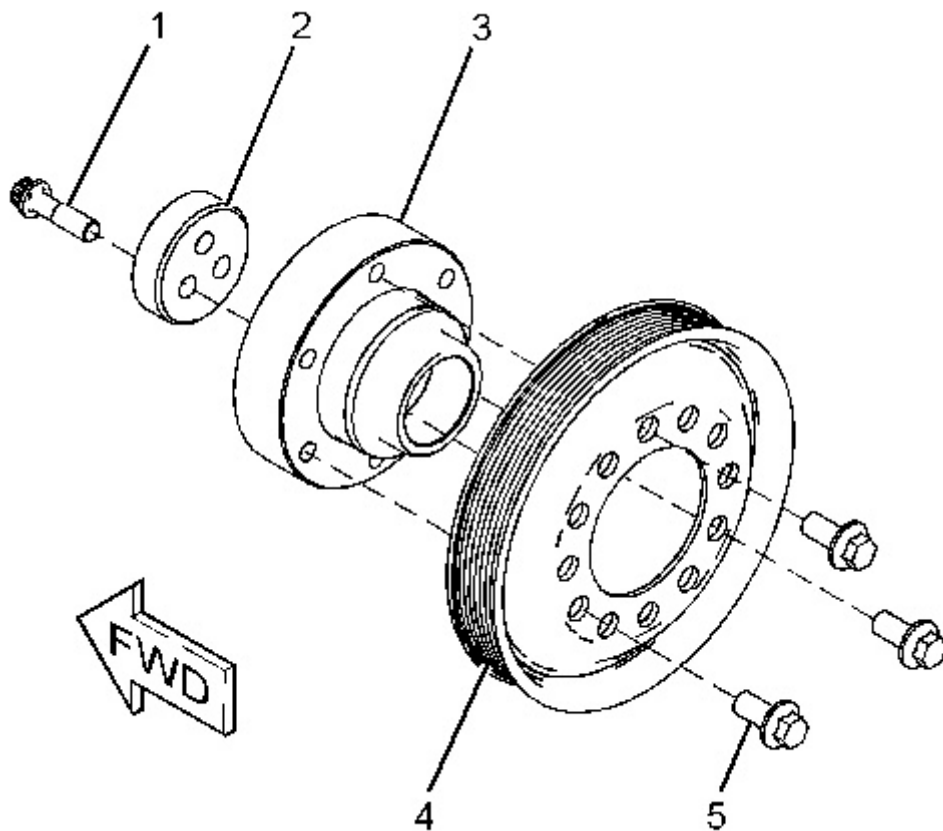


Illustration 2

g01249049

2. If necessary, follow Step 2.a through Step 2.b in order to assemble the crankshaft pulley.
 - a. Install crankshaft pulley (4) to crankshaft adapter (3).
 - b. Install bolts (5) to the assembly of the crankshaft pulley, and the crankshaft adapter. The bolts should be evenly spaced.
 - c. Tighten the bolts to a torque of 78 N·m (58 lb ft).
 3. Ensure that the front of the crankshaft is clean and free from damage. Install the assembly of crankshaft pulley (3) to the crankshaft.
-

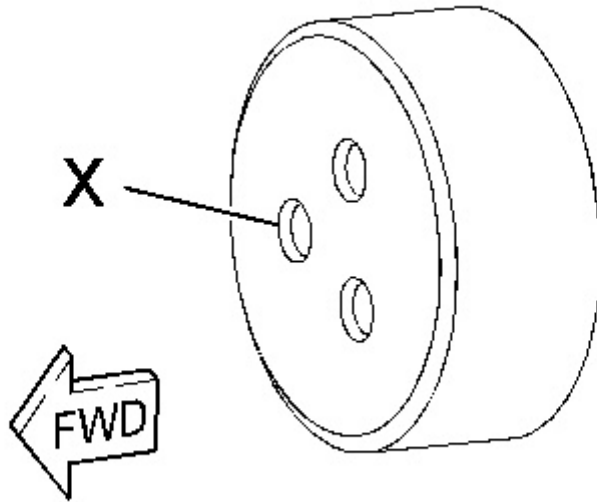


Illustration 3

g01471632

4. Align the holes in the thrust block with the holes in the crankshaft.

Note: Ensure chamfered Holes (X) in the thrust block. Face toward the front of the engine.

5. Install thrust block (2) to the assembly of the crankshaft pulley.
6. Install bolts (1) to thrust block (2).
7. Use a suitable tool in order to prevent the crankshaft from rotating. Tighten the bolts to a torque of 115 N·m (85 lb ft).
8. Repeat Step 7 in order to ensure correct torque.

End By:

- a. Install the alternator belt. Refer to Disassembly and Assembly, "Alternator Belt - Remove and Install".
-

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i02929974

Crankshaft Pulley - Remove and Install - Engines Without an Automatic Belt Tensioner

SMCS - 1205-010

Removal Procedure

Start By:

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

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

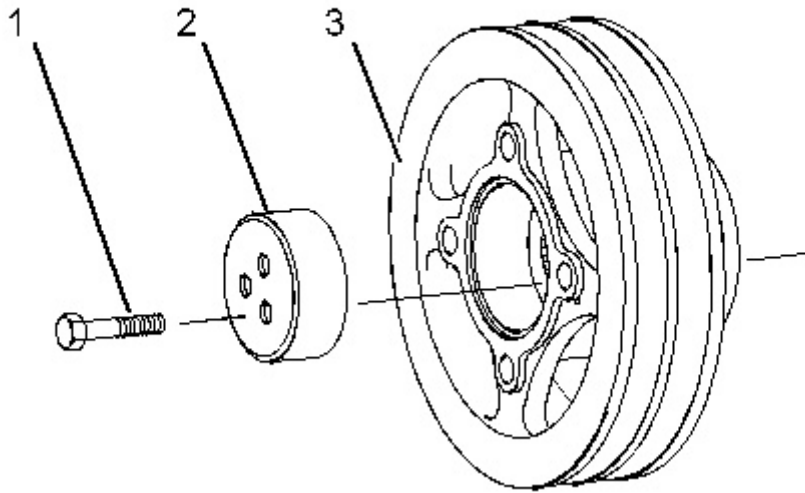


Illustration 1

g01255707

1. Use a suitable tool in order to prevent the crankshaft from rotating. Remove bolts (1).
2. Remove thrust block (2).
3. Carefully remove crankshaft pulley (3) from the crankshaft.

Installation Procedure

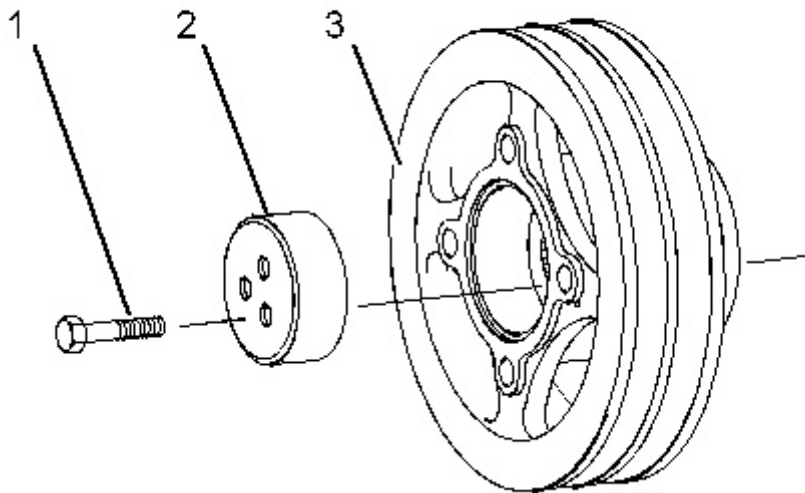


Illustration 2

g01255707

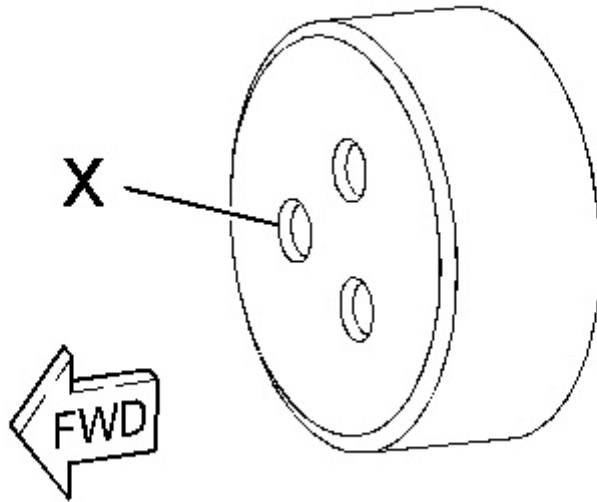


Illustration 3

g01471632

1. Ensure that the crankshaft pulley and the thrust block are clean and free from damage. Replace any components that are damaged.
2. Ensure that the front of the crankshaft is clean and free from damage. Install crankshaft pulley (3) to the crankshaft.
3. Align the holes in the thrust block with the holes in the crankshaft.

Note: Ensure that chamfered Holes (X) in the thrust block face toward the front of the engine.

4. Install thrust block (2) to the crankshaft pulley.
5. Install bolts (1) to thrust block (2).
6. Use a suitable tool in order to prevent the crankshaft from rotating. Tighten the bolts to a torque of 115 N·m (85 lb ft).
7. Repeat Step 6 in order to ensure correct torque.

End By:

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

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i02929969

Crankshaft Front Seal - Remove and Install

SMCS - 1160-010

Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-2320	Combination Puller	1

Start By:

- Remove the crankshaft pulley. Refer to Disassembly and Assembly, "Crankshaft Pulley - Remove and Install".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

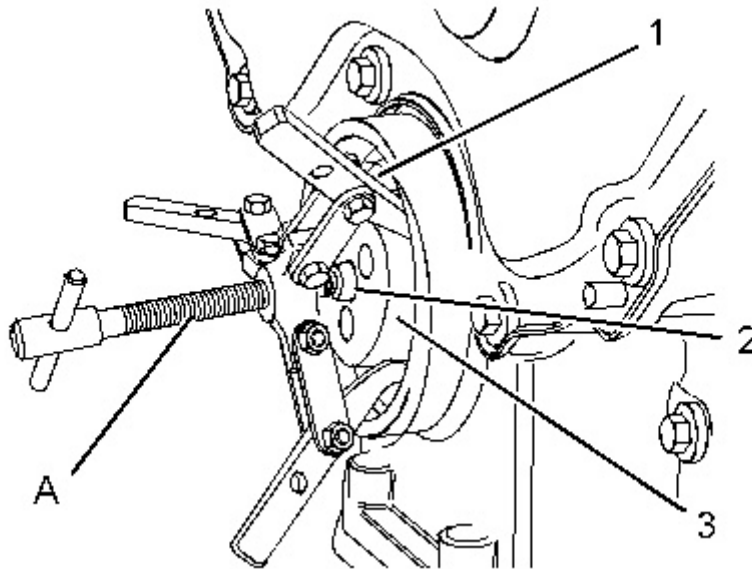


Illustration 1

g01266942

1. Install the legs of Tooling (A) behind crankshaft front seal (1). Install a suitable spacer (2) between Tooling (A) and crankshaft (3). Use Tooling (A) in order to pull the crankshaft front seal out of the front housing.

Note: Do not damage the bore for the crankshaft front seal in the front housing.

Installation Procedure

Table 2

Required Tools			
Tool	Part Number	Part Description	Qty
B	9U-6210	Front Seal Installer	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Ensure that the bore for the crankshaft front seal in the front housing is clean and free from damage.
-

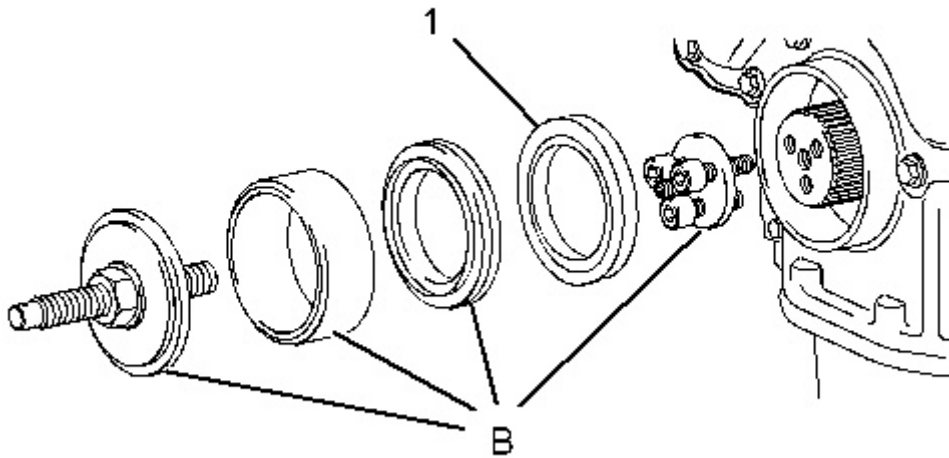


Illustration 2
Typical example

g01266453

2. Assemble Tooling (B).
3. Align a new crankshaft front seal (1) to the front housing.
4. Use Tooling (B) to install crankshaft front seal (1). Ensure that the front face of the seal is installed to a depth of 9 ± 0.2 mm (0.354 ± 0.008 inch) into the front housing.
5. Remove Tooling (B) from the crankshaft.

End By:

- a. Install the crankshaft pulley. Refer to Disassembly and Assembly, "Crankshaft Pulley - Remove and Install".
-

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i02930001

Front Cover - Remove and Install

SMCS - 1166-010

Removal Procedure

Start By:

- a. If the engine is equipped with a fan, remove the fan. Refer to Disassembly and Assembly, "Fan - Remove and Install".
- b. Remove the water pump. Refer to Disassembly and Assembly, "Water Pump - Remove".

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.

Dispose of all fluids according to local regulations and mandates.

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

Note: In order to remove the front cover, it is not necessary to remove the crankshaft pulley or the alternator.

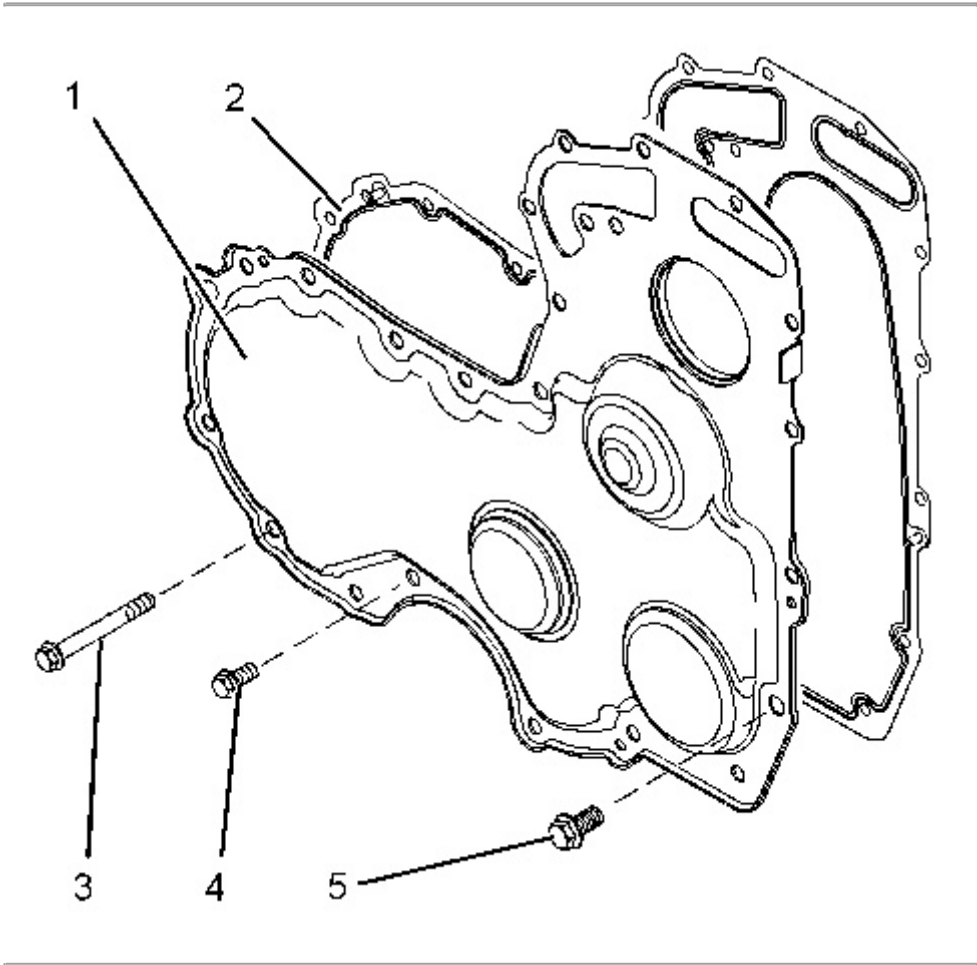


Illustration 1
Typical example

g01258462

1. Remove bolts (3), (4) and (5). Identify the positions of the different bolts.
2. Remove front cover (1) from the front housing.
3. Remove gasket (2) from front cover (1).

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	-	Guide Bolt M8 by 80 mm	2

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

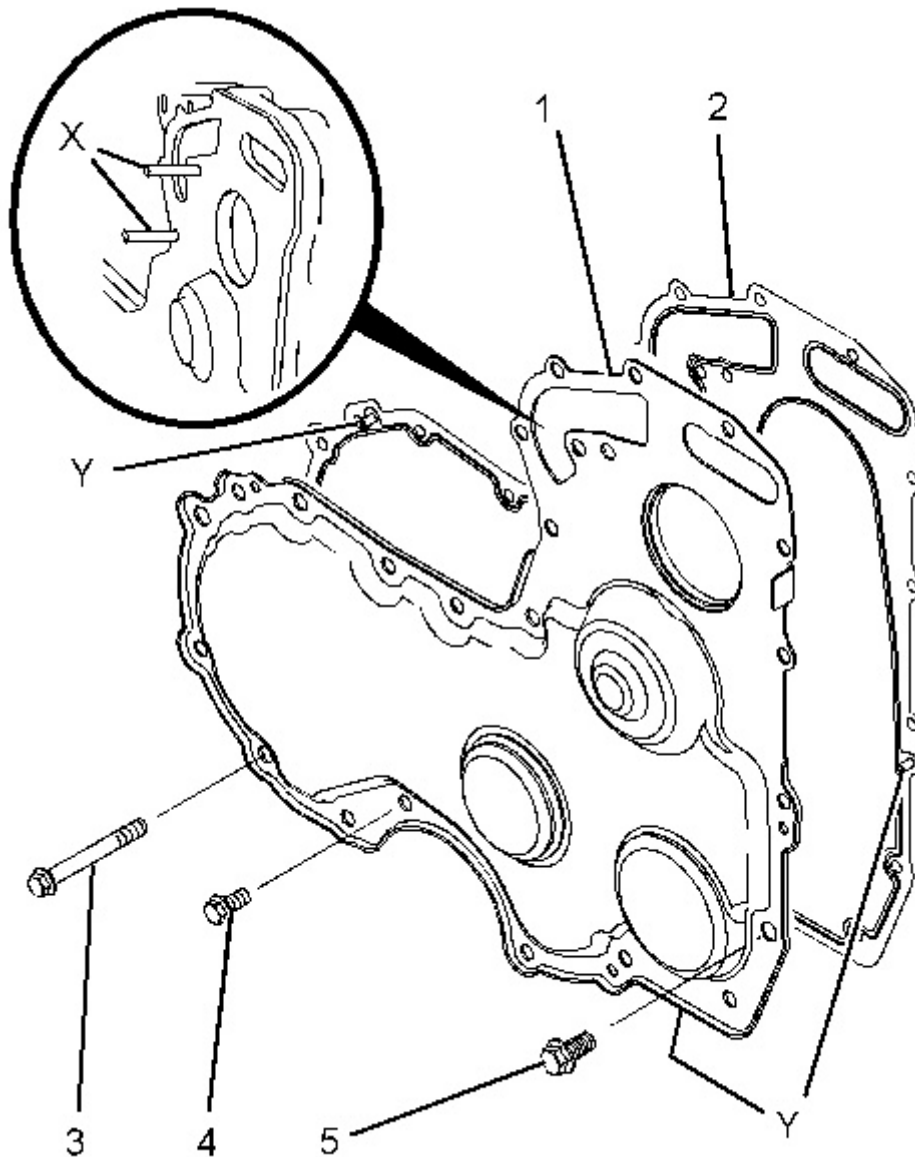


Illustration 2
Typical example

g01471654

1. Thoroughly clean the face of the front housing.
2. If the original front cover is installed, follow Step 2.a and Step 2.b in order to install the gasket.
 - a. Thoroughly clean the front cover.

- b. Install a new gasket (2) to front cover (1). Engage Locators (Y) into the holes in the front cover.
3. Install Tooling (A) into Holes (X) in the front housing.
4. Use Tooling (A) in order to position the front cover assembly onto the front housing.
5. Install bolts (3), (4) and (5) finger tight. Ensure that the different bolts are installed in the correct positions.
6. Loosely install the water pump assembly and remove Tooling (A). Refer to Disassembly and Assembly, "Water Pump - Install" for the correct procedure.
7. Tighten bolts (3), (4) and (5) to a torque of 22 N·m (16 lb ft).
8. Tighten the bolts for the water pump to a torque of 22 N·m (16 lb ft).

End By:

- a. If the engine is equipped with a fan, install the fan. Refer to Disassembly and Assembly, "Fan - Remove and Install".
-

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