

Product: WHEEL DOZER

Model: 834B WHEEL DOZER 92Z

Configuration: 834B TRACTOR / POWER SHIFT / 92Z00001-UP (MACHINE) POWERED BY 3408 ENGINE

Disassembly and Assembly 3408E and 3412E Engines for Caterpillar Built Machines

Media Number -SEN1013-11

Publication Date -01/07/2015

Date Updated -22/08/2016

i03335022

Gear Group (Rear) - Install

SMCS - 1206-012; 1212-012

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
B	FT-1342	Guide Bolt	2
C	1P-0524 ⁽¹⁾	Drive Plate	1
D	1P-0513 ⁽¹⁾	Drive Plate	1

⁽¹⁾ Part of the **1P-0520** Driver Group

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

Note: There are many possible configurations of the rear gear group and flywheel housing. The following procedure illustrates a typical example.



Illustration 1

g00587668

Typical example

1. Install dowel (23) in the camshaft if the dowel was removed.

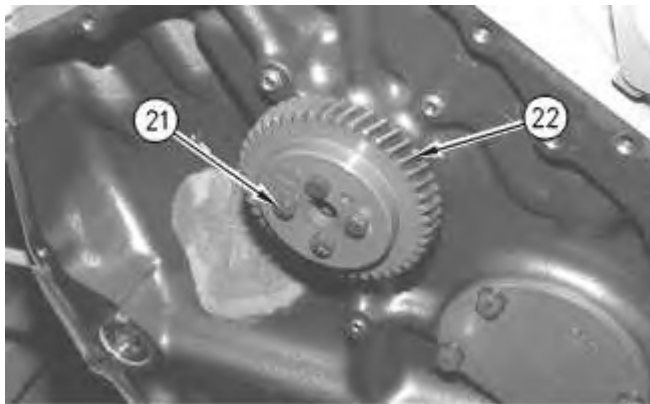


Illustration 2

g00587666

Typical example

2. Install camshaft gear (22) in position on the camshaft. Install four bolts (21).

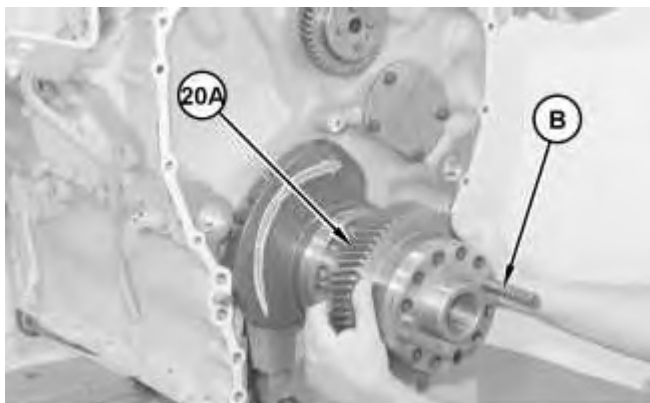


Illustration 3

g01712733

3. Install the O-ring seal on gear (20A).

4. Lightly lubricate the seal on the end of the crankshaft with clean engine oil.
5. Install Tooling (B) in the crankshaft. Install gear (20A).
6. Use the following procedure for assembly of balancer gear (12).

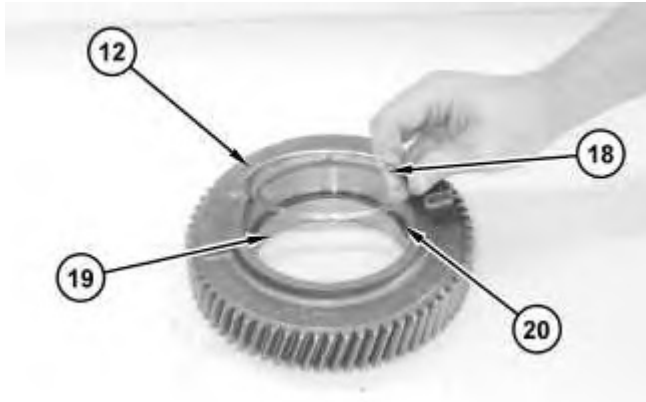


Illustration 4

g01717018

- a. Install ring (20), bearing cup (19), and spacer (18) in balancer gear (12).

Note: Spacer (18) must be installed on the deepest side of gear (12) and against ring (20).

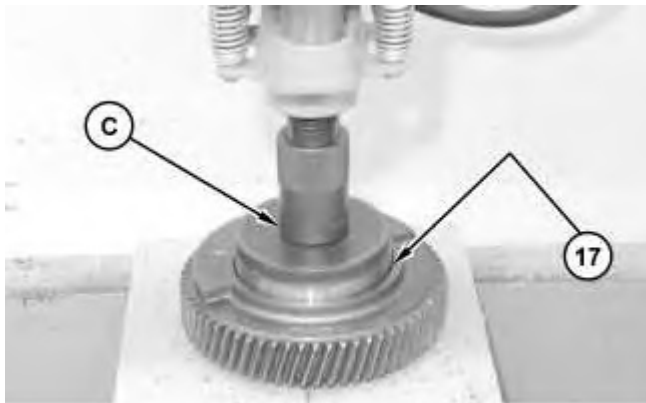


Illustration 5

g01712754

- b. Use a press and Tooling (C) in order to install bearing cup (17). Install bearing cup (17) on the side of the gear that is stamped with the timing mark. Bearing cup (17) should be in contact with the spacer.
-

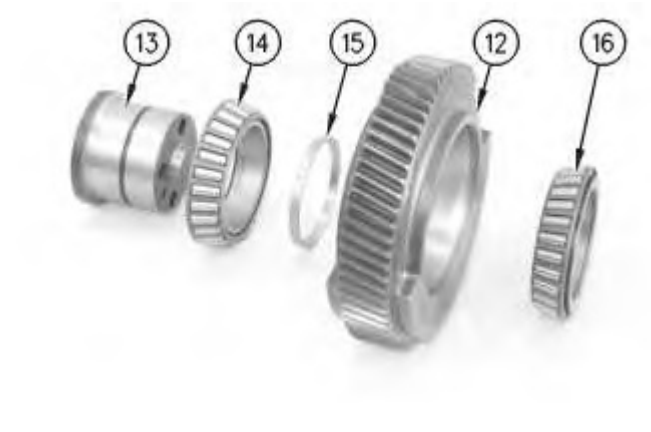


Illustration 6

g00587608

Typical example

- c. Install bearing (16), spacer (15), bearing (14), and shaft (13) in gear (12).
7. Use the procedure in Step 6 in order to assemble idler gear (11).

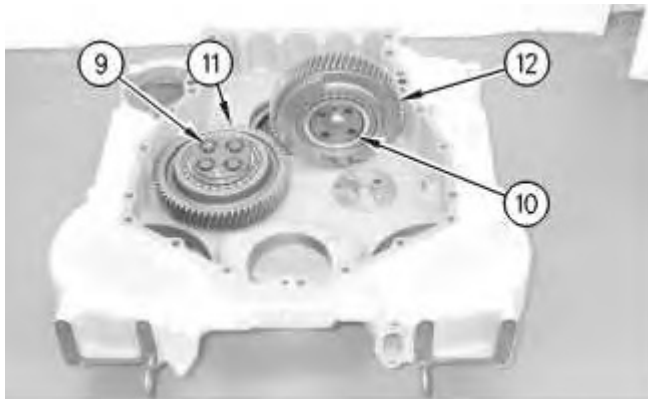


Illustration 7

g00587895

Typical example

8. Place idler gear (11) and balancer gear (12) in position on the flywheel housing. Make sure that the oil holes in shafts (10) are in alignment with the holes that are in the flywheel housing.
- Note:** Install balancer gear (12) with the timing mark toward the flywheel housing.
9. Install bolts (9).
10. Use the following procedure in order to assemble adapter assemblies (1).



Illustration 8

g00586910

Typical example

- a. If the bearing race was removed, install race (8). Install race (8) in adapter assembly (1) until the race makes contact with the counterbore.



Illustration 9

g00586907

Typical example

- b. Install ring (6), bolts (5), and O-ring seal (7) on adapter assembly (1).



Illustration 10

g01712644

- c. Heat bearing (3) to 135 °C (275 °F) for approximately 30 minutes.

- d. Install bearing (3) on gear (2) until the bearing makes contact with the counterbore.



Illustration 11

g00588013

Typical example

- e. Install gear (2) and the bearing in adapter assembly (1).

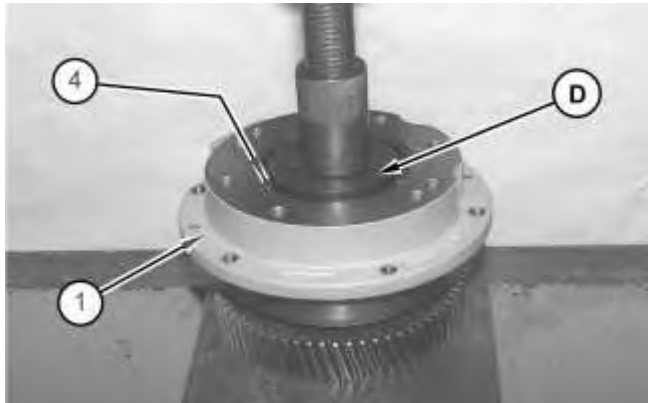


Illustration 12

g01712873

- f. Use a press and Tooling (D) in order to install bearing (4) in adapter assembly (1). Install the bearing until the bearing makes contact with the counterbore.

End By:

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

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i04406249

Flywheel - Remove

SMCS - 1156-011

Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	FT-1341	Bracket Assembly	1
	1B-3623	Bolt	2
B	FT-1342	Guide Bolt	2
C	138-7575	Link Bracket	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

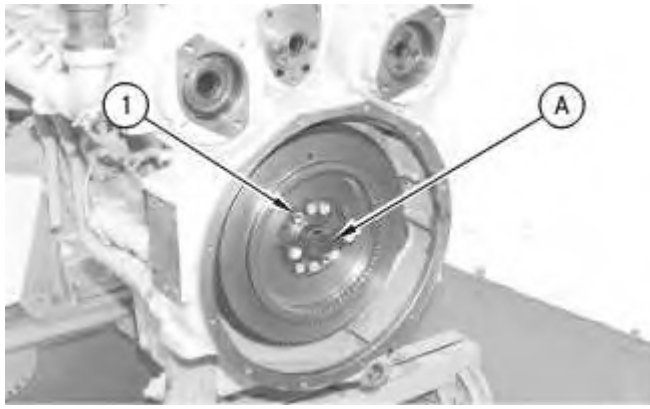


Illustration 1

g00578443

Typical example

1. Remove six bolts (1) that hold the flywheel in position.
2. Install Tool (A) in order to hold the crankshaft gear in position.
3. Remove the remainder of bolts (1) .



Illustration 2

g00578444

Typical example

4. Install Tools (B) .
-

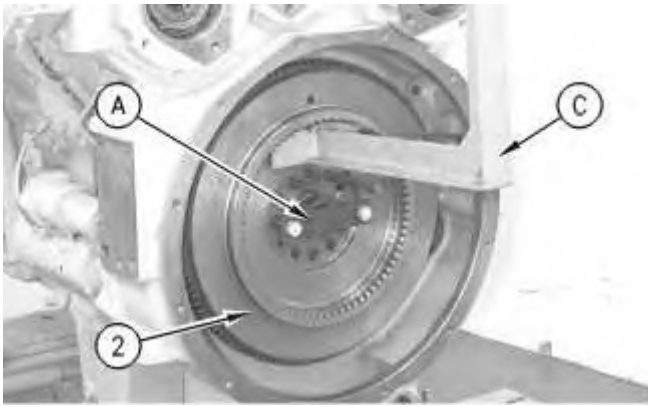


Illustration 3

g00578445

Typical example. Tooling (C) is not the tooling called out in the Table.

5. Fasten Tool (C) to a hoist and place the tool in position in the groove of flywheel (2) .
6. Pull flywheel (2) onto Tool (A) .
7. Remove Tool (A) .
8. Remove Flywheel (2) with Tool (C) .

The weight of the flywheel is approximately 78 kg (172 lb).

9. If necessary, remove the ring gear from flywheel (2) .
-

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i04406250

Flywheel - Install

SMCS - 1156-012

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	FT-1342	Guide Bolt	2
B	138-7575	Link Bracket	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Heat the ring gear to a maximum temperature of 300 °C (572 °F), and install the ring gear on the flywheel. Ensure that the chamfer of the gear teeth will be toward the starter pinion after the flywheel is installed.
-

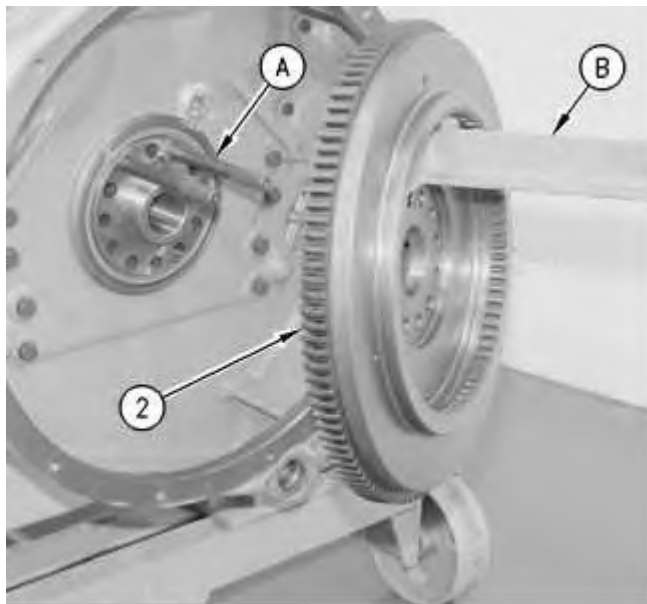


Illustration 1

g00578491

Typical example. Tooling (B) shown is not the tooling called out in the Table.

2. Install Tool (A) in the crankshaft.
3. Fasten Tool (B) to a hoist. Install the tool in the groove of flywheel (2) .

The weight of the flywheel is approximately 78 kg (172 lb).

4. Place flywheel (2) in position on Tools (A) .



Illustration 2

g00578492

Typical example

5. Apply clean engine oil or **5P-0960** Molybdenum Grease to the threads of bolts (2) .
6. Install six of the bolts.

7. Remove Tools (A) and (B) .

8. Install the remainder of bolts (2) . Tighten all of the bolts to a torque of $270 \pm 40 \text{ N}\cdot\text{m}$ ($200 \pm 30 \text{ lb ft}$).

9. Check the runout of the flywheel.

Note: For information on checking for flywheel runout, refer to Testing and Adjusting, "Flywheel-Inspect".

Note: For more detailed information regarding the flywheel, refer to Specifications, "Flywheel".

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i07051211

Crankshaft Rear Seal - Remove

SMCS - 1161-011

Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1U-7600	Slide Hammer Puller	1

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.

Note: Ensure that the rear gear remains in place when the crankshaft rear seal and crankshaft wear sleeve are removed.

- Install two bolts from the flywheel and suitable washers through the rear gear in the crankshaft.
-

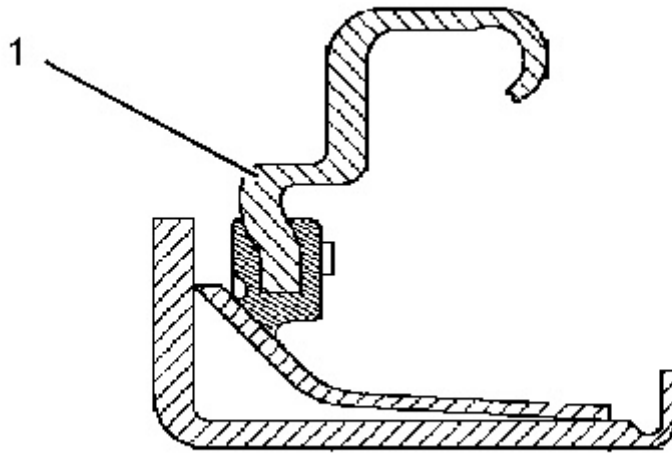


Illustration 1

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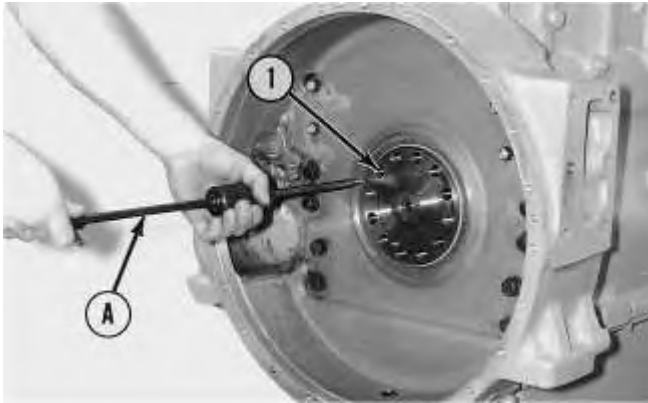


Illustration 2

g00515624

2. Use a punch or Tooling (A) to puncture a hole in seal assembly (1). Use Tooling (A) to remove seal assembly (1).
-

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Date Updated -22/08/2016

i01493839

Crankshaft Rear Seal - Install

SMCS - 1161-012

Installation Procedure

Table 1

Required Tools for Engines with Rear Gear Train			
Tool	Part Number	Part Description	Qty
A	5P-7301	Locator	1
	5P-7309	Bolt	2
	5P-7310	Bolt	2
	8T-2683	Seal Installer	1
	9S-8858	Nut	1
Required Tools for Engines without Rear Gear Train			
Tool	Part Number	Part Description	Qty
B	5P-1733	Locator	1
	5P-1737	Bolt	3
	6V-6143	Seal Installer	1
	9S-8858	Nut	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

Note: Once the seal and the wear sleeve are separated, these components cannot be used again. Refer to Special Instruction, SMHS8508, "Special Handling Information and Installation Instructions for Crankshaft Seal Groups that Have Hydrodynamic Grooves In the Sealing Lip" before the seal is serviced.

Note: Do not use any type of lubricant during the installation of the crankshaft seal and the wear sleeve.

Note: Before you install the wear sleeve, inspect the crankshaft for scratches or any distortion on the surface of the crankshaft that may lead to an out of round condition. Use a polishing cloth and remove any imperfections on the crankshaft.

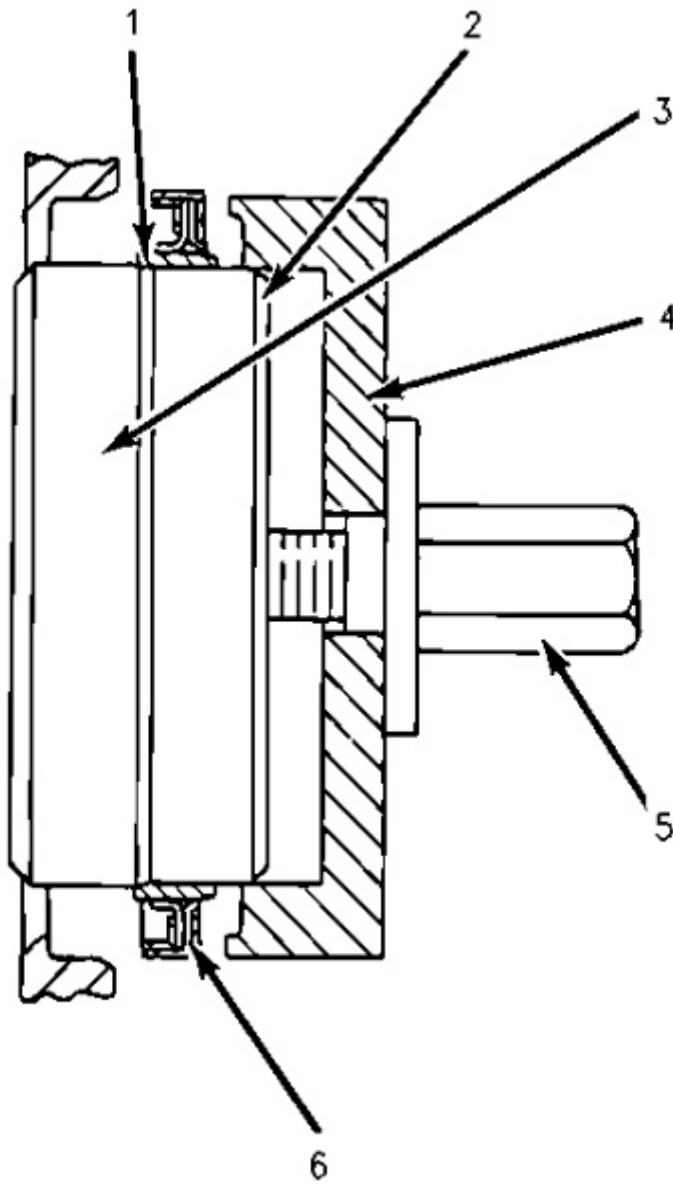


Illustration 1

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1. Install crankshaft rear seal (6) and wear sleeve (1) with Tool (A) or Tool (B), as follows:
-

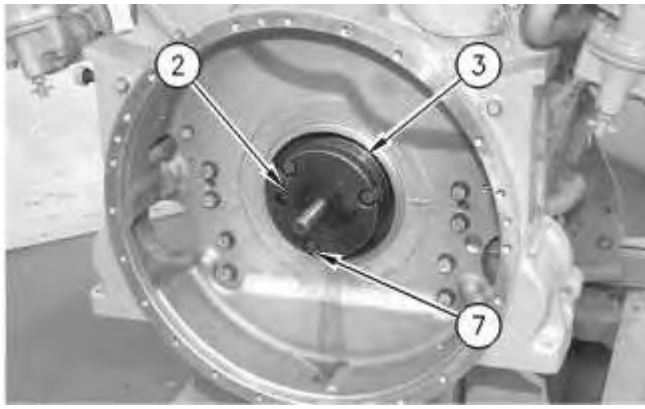


Illustration 2

g00582512

Typical example

- a. Use **169-5464** Quick Cure Primer to clean the outside diameter of crankshaft (3) and the inside diameter of wear sleeve (1).
- b. Apply **4C-9507** Retaining Compound to the outside diameter of crankshaft (3). Apply **4C-9507** Retaining Compound to the inside diameter of wear sleeve (1).
- c. Put locator (2) in position on crankshaft (3). Install the bolts (7) that hold the locator in position on the crankshaft.

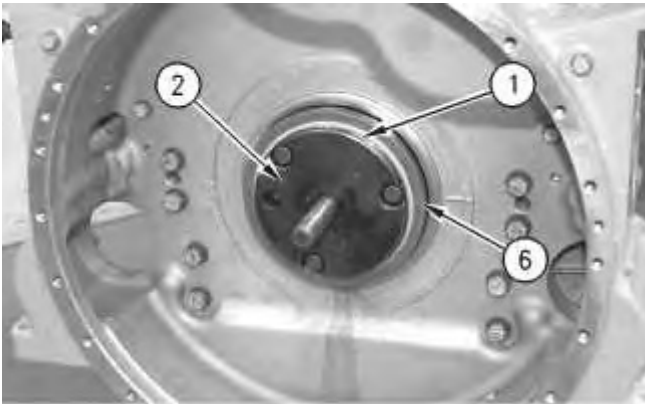


Illustration 3

g00565570

Typical example

- d. Install wear sleeve (1) and seal (6) on crankshaft (3). Put installer (4) on locator (2).

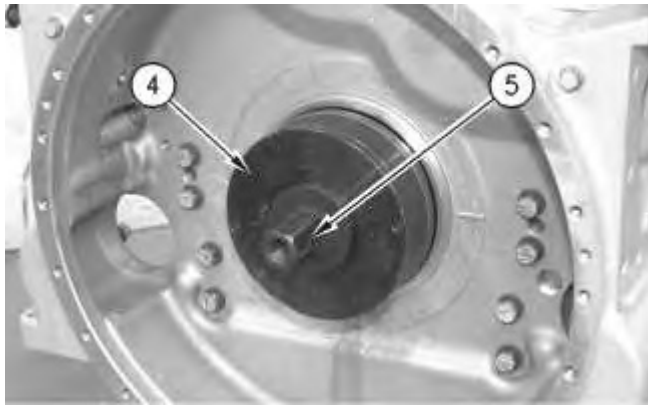


Illustration 4

g00565576

Typical example

- e. Lubricate the face of nut (5). Install nut (5) on locator (4).
- f. Tighten nut (5) until installer (4) contacts locator (2).
- g. Remove Tool (A) or (B) and check the crankshaft seal and the wear sleeve for the correct installation.

End By:

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

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