Product: EXCAVATOR
Model: 320D L EXCAVATOR PHX
Configuration: 320D & 320D L Excavators PHX00001-UP (MACHINE) POWERED BY C6.4 Engine

Disassembly and Assembly
C6.4 Engine for Caterpillar Built Machines
Media Number -KENR8106-09 **Publication Date -01/10/2017** **Date Updated -18/10/2017**

i02743771

Flywheel - Remove

SMCS - 1156-011

Removal Procedure

Table 1

Required Tools			
Tool	**Part Number**	**Part Description**	**Qty**
A	138-7575	Link Bracket	1
B		Forcing bolts M16 - 2 by 120 mm	2

Start By:

a. Remove the crankshaft position sensor. Refer to Disassembly and Assembly, "Crankshaft Position Sensor - Remove and Install".

b. Remove the muffler. Refer to Disassembly and Assembly, "Muffler - Remove and Install".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

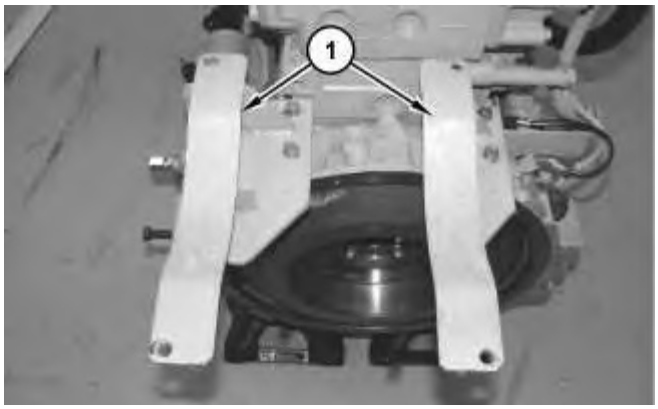

Illustration 1 g01374966

1. Remove muffler brackets (1).

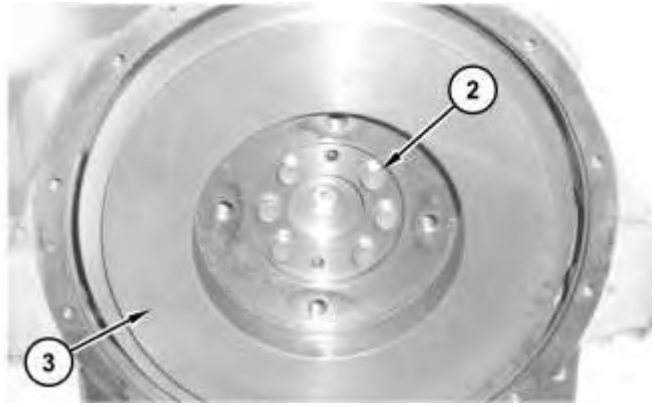

Illustration 2 g01374968

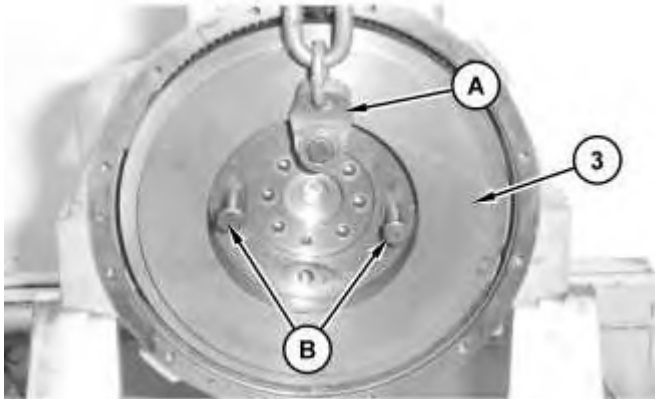

Illustration 3 g01374970

2. Remove bolts (2).
3. Install Tooling (A) and a suitable lifting device onto flywheel (3).
4. Use Tooling (B) in order to remove flywheel (3) out of the housing. The weight of flywheel (3) is approximately 50 kg (110 lb).

5. Perform the following procedure in order to remove the flywheel ring gear.

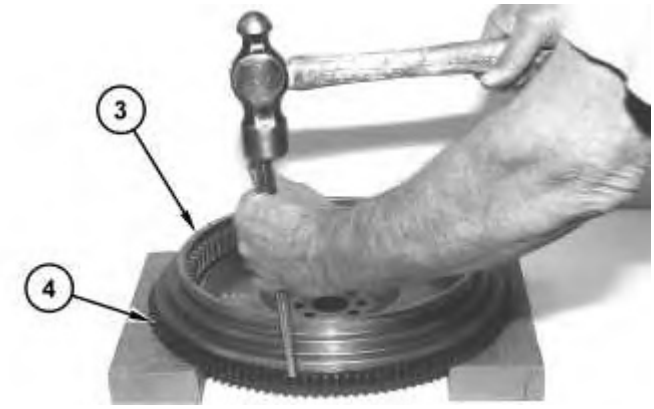

Illustration 4 g01374977
Typical Example

a. Place flywheel (3) and ring gear (4) on suitable cribbing.

Note: Mark the orientation of ring gear (4) on flywheel (3) for assembly purposes.

WARNING

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

b. Raise the temperature of ring gear (4) uniformly.

c. Remove the ring gear (4) by tapping ring gear (4) all the way around flywheel (3).

d. Reposition flywheel (3) in order to remove ring gear (4).

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i02744399

Flywheel - Install

SMCS - 1156-012

Installation Procedure

Table 1

Required Tools			
Tool	**Part Number**	**Part Description**	**Qty**
A	138-7575	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.

1. Perform the following procedure, if the ring gear was removed from the flywheel:
   a. Raise the temperature of the ring gear 149 °C (300 °F).

b. Use a suitable press in order to install the ring gear onto the flywheel.

Note: Prior to the installation of the flywheel, refer to Specifications, "Flywheel" for information on checking the flywheel assembly for flatness.

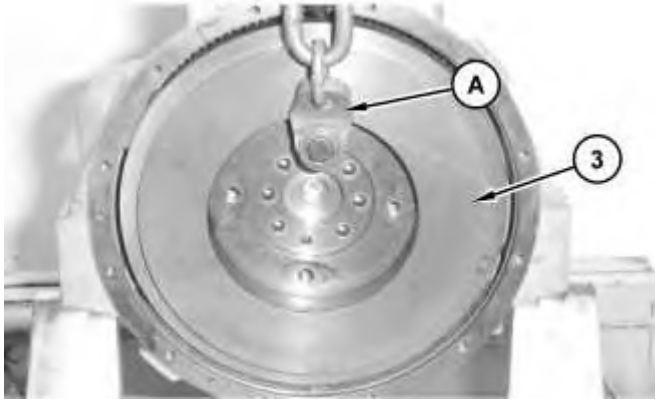

Illustration 1 g01374993

2. Install Tooling (A) and a suitable lifting device onto flywheel (3).
3. Install flywheel (3). The weight of flywheel (3) is approximately 50 kg (110 lb).

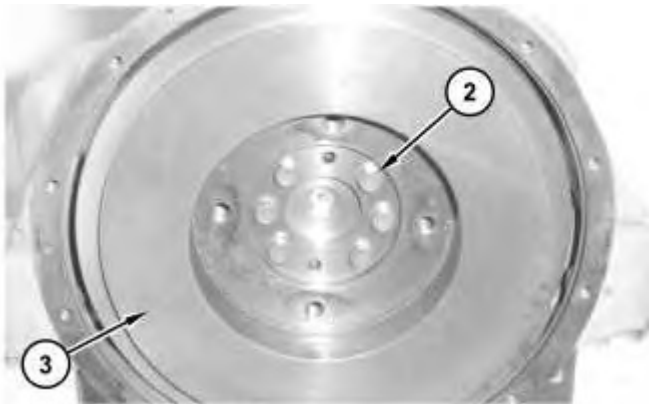

Illustration 2 g01374968

4. Install bolts (2) in order to secure flywheel (3) onto the crankshaft. Tighten bolts (2) to a torque of 83 ± 5 N·m (61 ± 4 lb ft).
5. Remove Tooling (A) from flywheel (3).

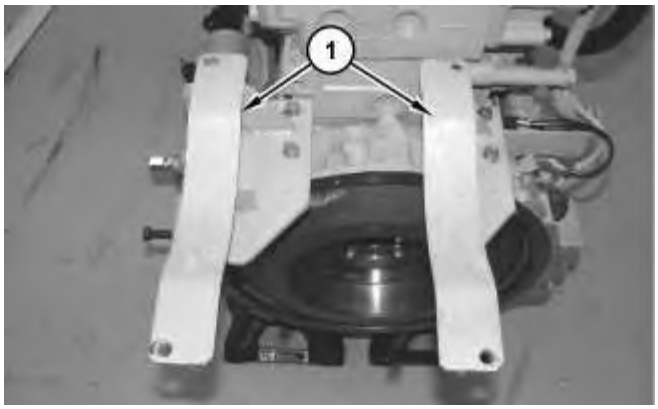

Illustration 3 g01374966

6. Install muffler brackets (1).
7. Check the flywheel runout. Refer to Testing and Adjusting, "Flywheel Housing - Inspect" for more information on flywheel runout.

End By:

a. Install the muffler. Refer to Disassembly and Assembly, "Muffler - Remove and Install".

b. Install the crankshaft position sensor. Refer to Disassembly and Assembly, "Crankshaft Position Sensor - Remove and Install".

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i01135944

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
B	5P-7312	Seal Distorter	1
	5P-7338	Distorter Ring	2

Start By:

a. 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.

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

Dispose of all fluids according to local regulations and mandates.

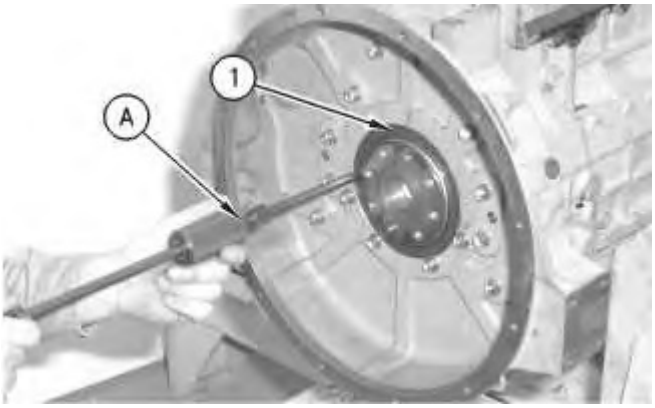

Illustration 1 g00604840

Note: If the oil seal shows a sign of oil leaks, remove the wear sleeve and the oil seal.

1. Drill three evenly spaced 3 mm (0.12 inch) holes in crankshaft rear seal (1).
2. Use Tool (A) to remove the crankshaft rear seal.

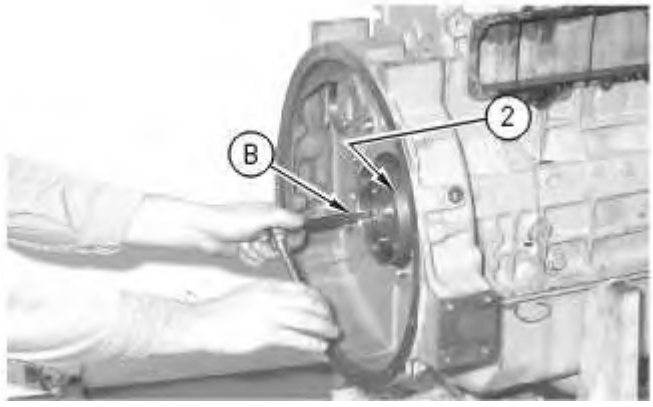

Illustration 2 g00604844

3. Use Tool (B) to remove the wear sleeve (2) (not shown) from the rear of the crankshaft.

   Note: When you are removing the wear sleeve, take extreme care not to damage the crankshaft.

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i01615317

Crankshaft Rear Seal - Install

SMCS - 1161-012

Installation Procedure

Table 1

Required Tools			
Tool	**Part Number**	**Part Description**	**Qty**
A	9U-6169	Installer	1
	9U-6171	Locator	1
	9U-6172	Bolt	2
	5P-8247	Hard Washer	1
	6V-3303	Bolt	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. To install a new wear sleeve that is complete with a seal, use **169-5464** Quick Cure Primer to clean the outer diameter of the crankshaft and the inside diameter of the wear sleeve. Apply **4C-9507** Retaining Compound to the faces of all the mating parts.

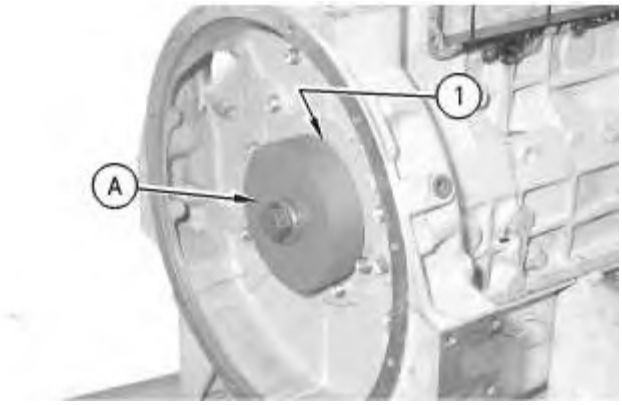

Illustration 1 g00604874

2. Install a new wear sleeve that is complete with a seal (1) (not shown) with Tool (A), as follows:

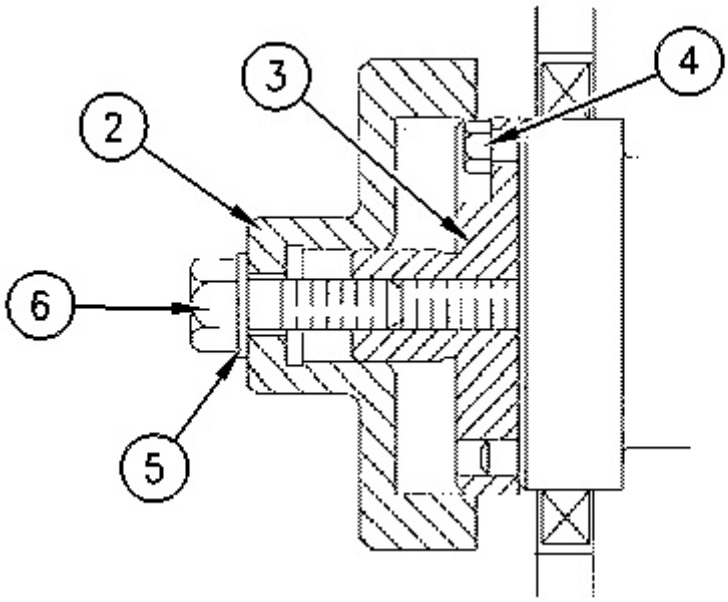

Illustration 2 g00604875

a. Install **9U-6171** Locator (3) onto the crankshaft with **9U-6172** Bolt (4).

b. Put the new wear sleeve that is complete with a seal in **9U-6169** Installer (2).

c. Put **6V-3303** Bolt (6) through **5P-8247** Hard Washer (5) and **9U-6169** Installer (2) and thread into **9U-6171** Locator (3).

d. Push the wear sleeve that is complete with a seal onto the crankshaft until **9U-6169** Installer (2) bottoms out.

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