

Product: BACKHOE LOADER

Model: 416E BACKHOE LOADER BWC

Configuration: 416E Single Tilt Backhoe Loader BWC00001-UP (MACHINE) POWERED BY C4.4 Engine

## Disassembly and Assembly C4.4 (Mech) Engines for Caterpillar Built Machines

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i02763428

# Crankshaft Rear Seal - Install

SMCS - 1161-012

## Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	227-4390	E12 Torx Socket	1
B	FT-2806	Alignment Tool	1

**Note:** The crankshaft rear seal and the housing are manufactured as a one-piece assembly.

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### NOTICE

**Keep all parts clean from contaminants.**

**Contaminants may cause rapid wear and shortened component life.**

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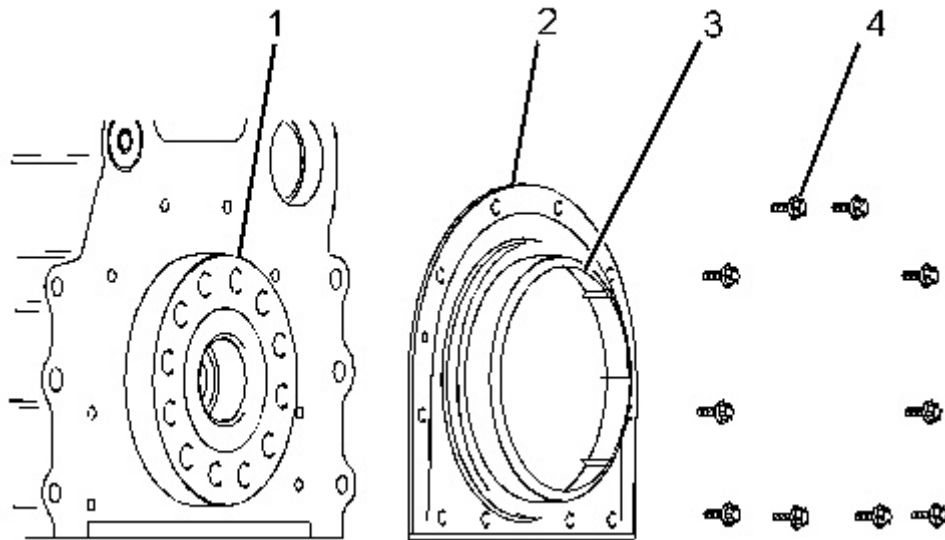


Illustration 1

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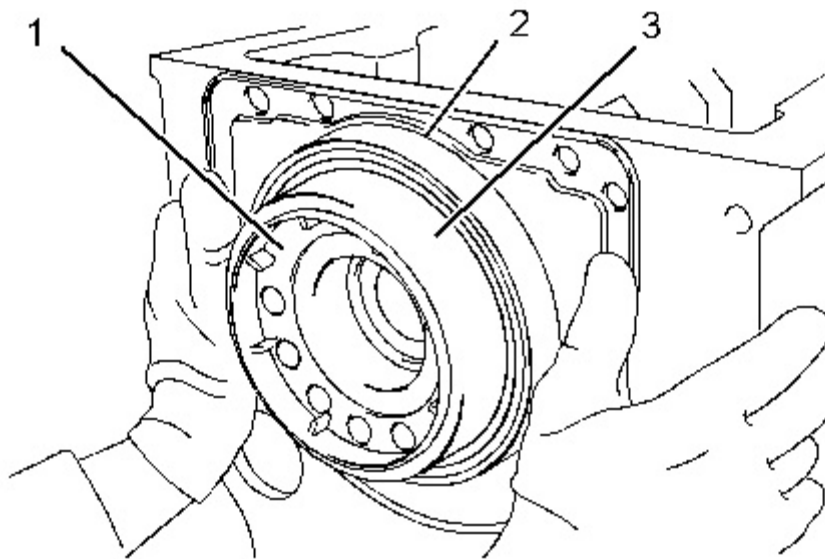


Illustration 2

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Typical example

1. Ensure that crankshaft flange (1) is clean, dry and free from damage.
2. Ensure that the face of the cylinder block and the bridge piece are clean and dry.
3. A new crankshaft rear seal is supplied with a plastic sleeve (3). Ensure that the plastic sleeve is squarely installed within crankshaft rear seal (2).

**Note:** The plastic sleeve is included in order to protect the lip of the seal as the seal is pushed over the crankshaft flange.

**Note:** Do not lubricate the crankshaft rear seal or the crankshaft flange. The crankshaft rear seal must be installed dry.

4. Align plastic sleeve (3) with crankshaft flange (1). Ensure that the plastic sleeve is engaged onto the crankshaft flange. Push new crankshaft rear seal (2) squarely onto the crankshaft flange.

During this process, the plastic sleeve will be forced out of the crankshaft rear seal. Discard the plastic sleeve.

5. Align the two molded locators on crankshaft rear seal (2) with the holes in the cylinder block. Ensure that the crankshaft rear seal is seated against the cylinder block.

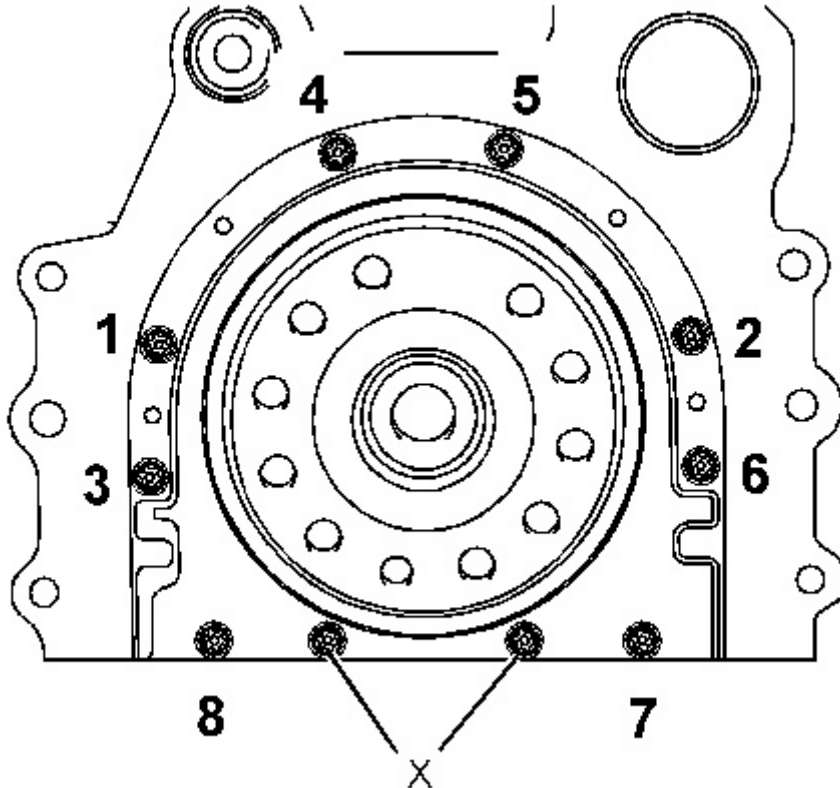


Illustration 3

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Tightening sequence for the crankshaft rear seal

6. Install torx screws (4) finger tight.  
**Note:** Do not install torx screws to positions (X) at this stage.
7. Install Tooling (B) to crankshaft rear seal (2) and to crankshaft flange (1).
8. Use Tooling (A) in order to tighten torx screws (4) to a torque of 22 N·m (16 lb ft). Tighten torx screws (4) in the sequence that is shown in Illustration 3.
9. Remove Tooling (B).
10. Install remaining torx screws (4) to positions (X). Use Tooling (A) in order to tighten the torx screws to a torque of 22 N·m (16 lb ft). Refer to Illustration 3.

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