



## **DD15™ Service Information**

**NUMBER:** 08 DD15-5   **S.M. REF.:** 1.11   **ENGINE:** DD15   **DATE:** July 2008

**SUBJECT: CRANKSHAFT OIL SEAL SECTION**

**PUBLICATION: DDC-SVC-MAN-0002**

The Crankshaft Oil Seal Section has been added to the DD15 Workshop Manual. The sections that are found in the Engine Chapter are now renumbered.

### **1.11 CRANKSHAFT OIL SEAL**

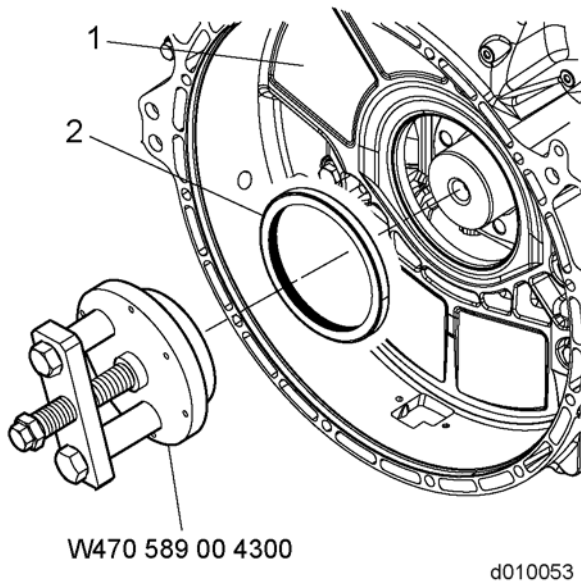
An oil seal is installed at each end of the crankshaft. The rear seal is installed in the flywheel housing bore and the front seal is installed in the front cover.

### 1.11.1 REMOVAL OF THE REAR CRANKSHAFT OIL SEAL

Remove as follows:

**⚠ WARNING:  
PERSONAL INJURY**

To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.



1. Flywheel Housing

2. Seal

**Figure 1 Rear Crankshaft Seal Remover Installer**

1. Remove the flywheel. Refer to section 1.12.

**NOTE:**

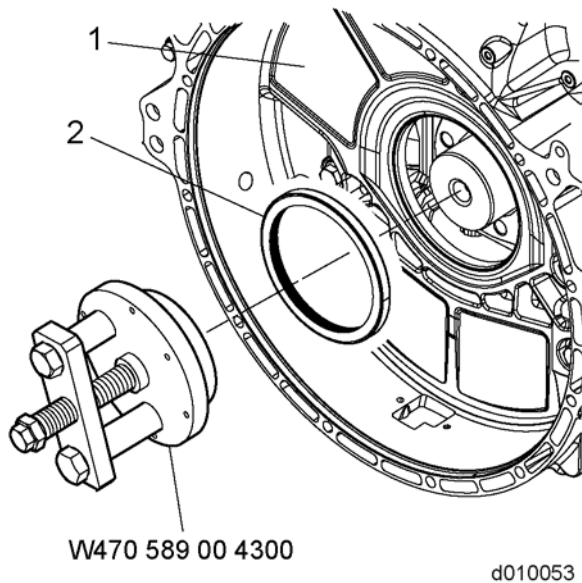
When drilling the holes for screws, make sure to coat the drill bit with grease to catch the shavings.

**NOTICE:**

When drilling pilot holes for the removal of seal ensure that the drill is straight and perpendicular to the seal. Failure to drill the hole straight could result in damage to the seal bore, resulting in the replacement of the flywheel housing.

2. Drill 3.174 mm (0.125 in.) pilot holes, use the sheet metal screws and the rear seal remover tool (P/N: W470589004300); remove the seal and discard the seal.

### 1.11.2 INSTALLATION OF THE REAR OIL SEAL



1. Flywheel Housing

2. Seal

#### Figure 2 Rear Crankshaft Remover Installer

Install as follows:

**NOTE:**

The standard size rear seal has an inside diameter of 138 mm (5.433 in.).

**NOTE:**

Handle the new seal with care. Do not bend the seal lip; bending the lip will damage the seal and cause it to leak.

1. Inspect the contact area of the flywheel for damage and wear. If it is scored or worn, replace it.
2. Install the new rear seal onto the seal remover/installer (P/N: W470589004300).
3. Position the seal into the flywheel housing.
4. Install the seal by turning the forcing screw until the tool bottoms out on the end of the crankshaft.

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5. Remove tool and visually check the seal and sealing lip for correct installation.
  6. Install the flywheel. Refer to section 1.12.

### 1.11.3 REMOVAL OF THE FRONT CRANKSHAFT OIL SEAL

To remove the front crankshaft oil seal use tool remover/installation tool (P/N: W541589023300).

 <b>WARNING:</b> <b>PERSONAL INJURY</b>
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<b>To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.</b>
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Remove as follows:

1. Remove the Poly-V Belts. Refer to section 1.7.
2. Remove the vibration damper pulley.
3. Install tool (W541589023300).

<b>NOTICE:</b>
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When drilling pilot holes for the removal of seal ensure that the drill is straight and perpendicular to the seal. Failure to drill the hole straight could result in damage to the seal bore, resulting in the replacement of the front cover.
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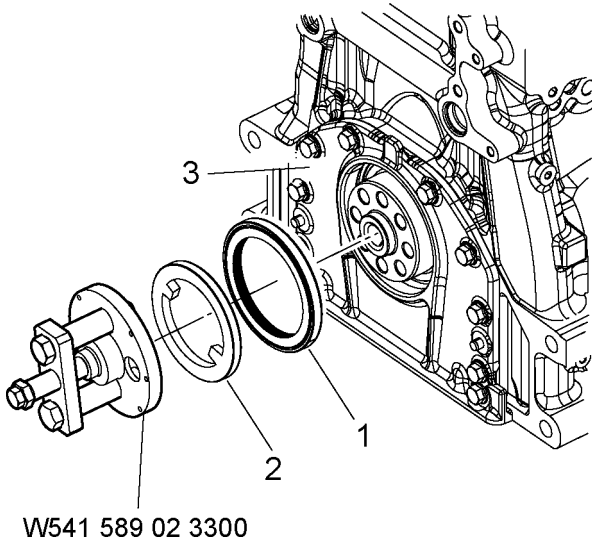
**NOTE:**

When drilling the holes for screws, make sure to coat the drill bit with grease to catch the shavings.

4. Drill 3.174 mm (0.125 in.) pilot holes, use the sheet metal screws and the front seal remover tool (P/N: W541589023300); remove the seal and discard the seal.

### 1.11.4 INSTALLATION OF THE FRONT CRANKSHAFT OIL SEAL

Install as follows:



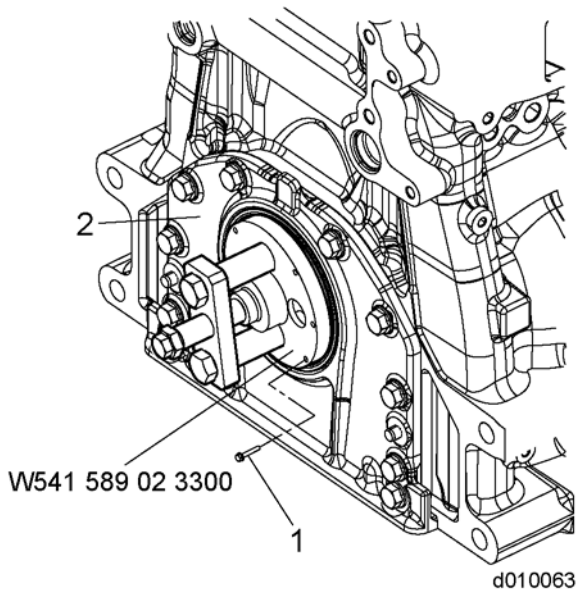
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1. Front Seal

3. Front Cover

2. Plastic Seal Installation Tool

**Figure 3 Seal Installer, Plastic Installation Tool and Seal**



1. Seal Removal Screw

2. Cover

**Figure 4 Seal Installed Inside the Cover**

**NOTE:**

The standard size front seal has an inside diameter of 100 mm (3.937 in.).

**NOTE:**

Handle the new seal with care. Do not bend the seal lip; bending the lip will damage the seal and cause it to leak.

1. Clean the sealing surfaces on the cover and the cylinder block.
2. Install a new seal onto plastic seal installation tool.

**NOTE:**

The plastic seal installation tool is a one time use item; discard after using.

3. Install seal and plastic installation tool into the front the cover and cylinder block; remove plastic seal installation tool and discard tool.
4. Install remover/installation tool (P/N: W541589023300) to the front cover. See Figures 3 and 4.
5. Install the seal by turning the forcing screw until the tool bottoms out on the end of the crankshaft.

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6. Remove the tool and visually check the seal and sealing lip for correct installation.
  7. Install the vibration damper pulley and torque the eight bolts to 200 N·m (147.5 lb·ft).
  8. Install the Poly-V Belts. Refer to section 1.7.

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## **ADDITIONAL SERVICE INFORMATION**

Additional service information is available in the Detroit Diesel *DD15 Workshop Manual*, (DDC-SVC-MAN-0002). The next revision to this manual will include the revised information.

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