Model: 639D WHEEL TRACTOR 99X

Configuration: 639D TRACTOR / POWER SHIFT / 99X00001-UP (MACHINE) POWERED BY 3408 ENGINE

#### **Disassembly and Assembly**

## 3408E and 3412E Engines for Caterpillar Built Machines

Media Number -RENR2336-06

Publication Date -01/08/2018

Date Updated -10/08/2018

i01364167

# Vibration Damper and Pulley - Remove and Install

**SMCS - 1205-010** 

## **Removal Procedure**

Table 1

ľ	Tool	Part Number	Part Description	Qty
	A	-	5/8 inch-NF X 7 inch long guide bolt	2

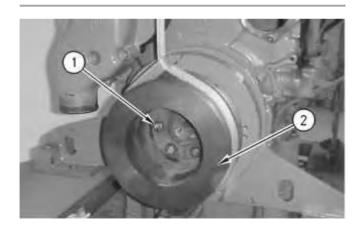


Illustration 1

g00719482

- 1. Install a nylon strap and a hoist on pulley (2).
- 2. Remove two bolts (1) and install Tool (A).
- 3. Remove the remainder of the bolts (1).
- 4. Remove pulley (2). Weight of the pulley is 32 kg (71 lb).

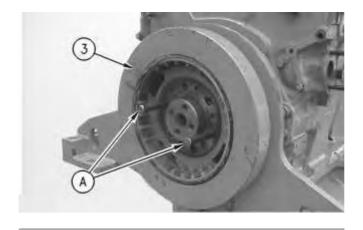


Illustration 2 g00719530

5. Remove vibration damper (3).

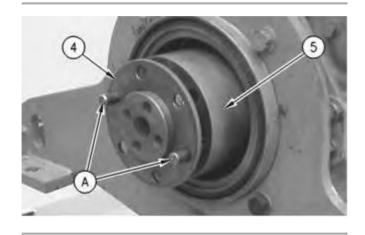


Illustration 3 g00719523

6. Remove spacer (4) and adapter (5).

## **Installation Procedure**

Table 2

Tool	Part Number	Part Description	Qty
A	-	5/8 inch-NF X 7 inch long guide bolt	2

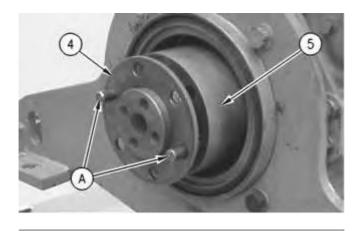


Illustration 4 g00719523

- 1. Install Tool (A) in the crankshaft.
- 2. Install adapter (5) and spacer (4).

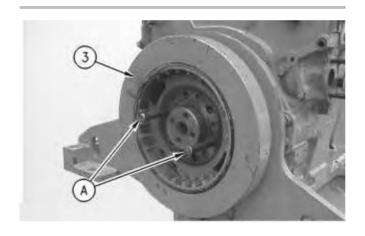


Illustration 5 g00719530

3. Install vibration damper (3).

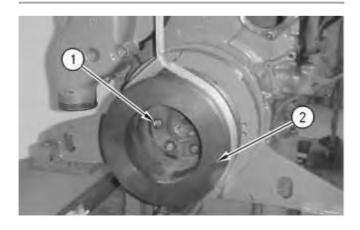


Illustration 6 g00719482

4. Install pulley (2).

5. Lightly lubricate the bolt threads with clean engine oil. Install four bolts (1). Remove Tool (A). Install the last two bolts.

Tighten bolts (1) to a torque of  $215 \pm 40 \text{ N} \cdot \text{m}$  (159  $\pm 30 \text{ lb ft}$ ).

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i01622074

## **Crankshaft Front Seal - Remove**

SMCS - 1160-011

### **Removal Procedure**

Table 1

	Required Tools				
Tool	Part Number	Part Description	Qty		
A	1U-7600	Slide Hammer Puller	1		
<b>B</b> (1)	5P-7314	Distorter Ring	1		
C (1)	5P-7312	Seal Distorter	1		

<sup>(1)</sup> Part of the **5P-7318** Wear Sleeve Distorter Group

#### **Start By:**

A. Remove the vibration damper and the pulley. Refer to Disassembly and Assembly, "Vibration Damper and Pulley - Remove and Install".

#### **NOTICE**

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

**Note:** The front seal and the wear sleeve must be replaced at the same time. Once the seal and the wear sleeve are separated, these components can not 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.

# Type 1

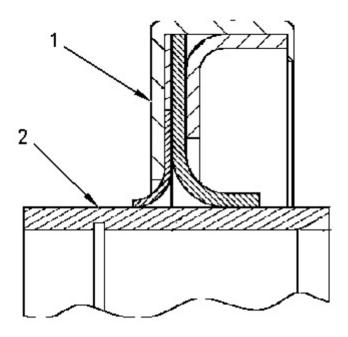


Illustration 1 g00829187

Type 1 seal design.

- (1) Seal
- (2) Wear sleeve

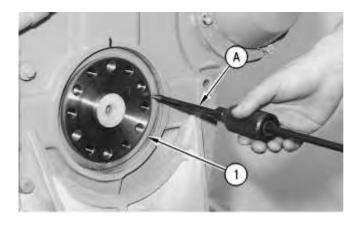


Illustration 2

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Typical example

1. Use a punch or Tool (A) to puncture a hole in seal (1). Use Tool (A) to remove seal (1).

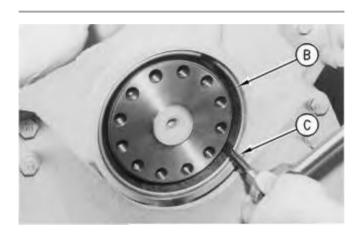


Illustration 3

g00582158

Typical example

- 2. Place Tool (B) in position. The correct position is shown in Illustration 3.
- 3. Install Tool (C) between Tool (B) and the wear sleeve. Turn Tool (C), until the edge of the tool makes a flat crease in the wear sleeve. Repeat this procedure until there are enough creases in the wear sleeve in order to allow the wear sleeve to be slipped off the end of the crankshaft.
- 4. Remove Tool (B) and the wear sleeve by hand.

## Type 2

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