



# Service Repair Manual

## **Model**

322C L, 322C LN Hydraulic Excavator

---

[Previous Screen](#)

Product: EXCAVATOR

Model: 322C EXCAVATOR EMR

Configuration: 322C L, 322C LN Hydraulic Excavators EMR00001-UP (MACHINE) POWERED BY 3126 Engine

## Disassembly and Assembly 3126B Engines for Caterpillar Built Machines

Media Number -SEN9581-06

Publication Date -01/08/2018

Date Updated -17/08/2018

i02370081

# Vibration Damper and Pulley - Remove and Install

SMCS - 1205-010

## Removal Procedure

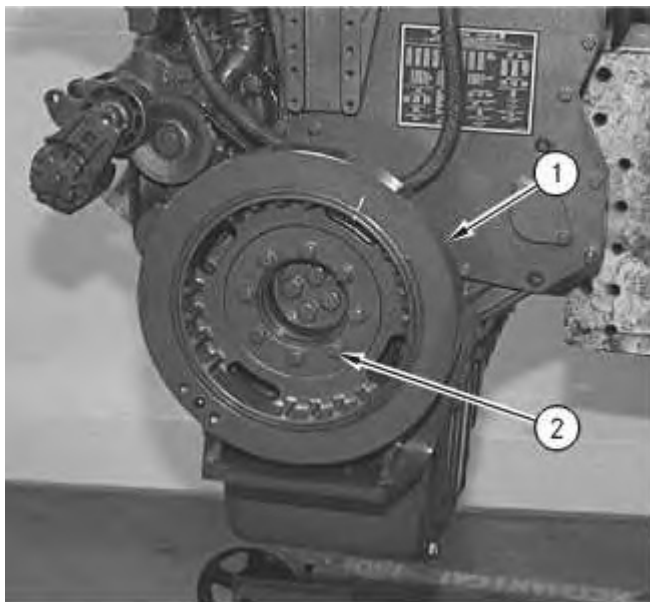
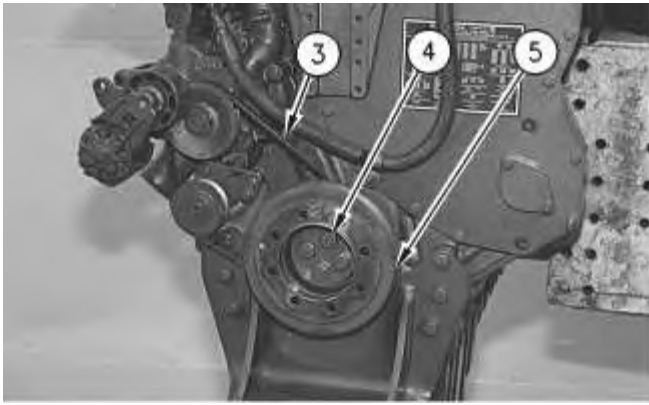


Illustration 1

g00612677

1. Remove bolts (2), crankshaft vibration damper (1), and the spacers from the crankshaft pulley.



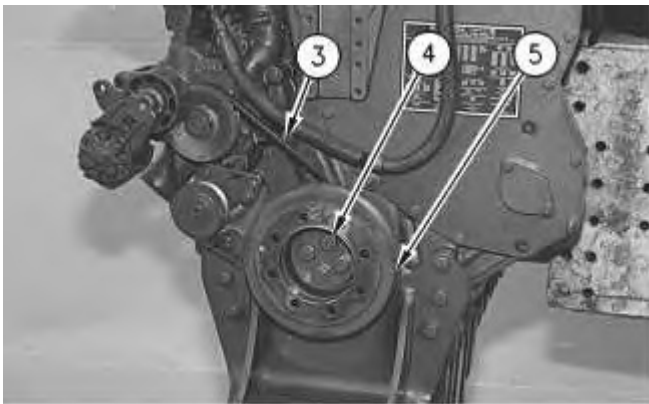
---

Illustration 2

g00612684

2. Remove belt (3). Refer to Operation and Maintenance Manual, "Belt - Inspect".
3. Remove bolts (4).
4. Remove crankshaft pulley (5).

## Installation Procedure



---

Illustration 3

g00612684

1. Position crankshaft pulley (5) on the crankshaft. Install bolts (4) and tighten the bolts to a torque of  $160 \pm 30$  N·m ( $118 \pm 22$  lb ft).
2. Install belt (3). Refer to Operation and Maintenance Manual, "Belt - Inspect".

**Note:** Check the alignment marks on the rubber vibration dampers for proper alignment. The rubber vibration damper should be replaced if the rubber vibration damper is out of alignment. Refer to Specifications, "Vibration Damper".

---

**<https://www.ebooklibonline.com>**

Hello dear friend!

Thank you very much for reading.

Enter the link into your browser.

The full manual is available for immediate download.

**<https://www.ebooklibonline.com>**

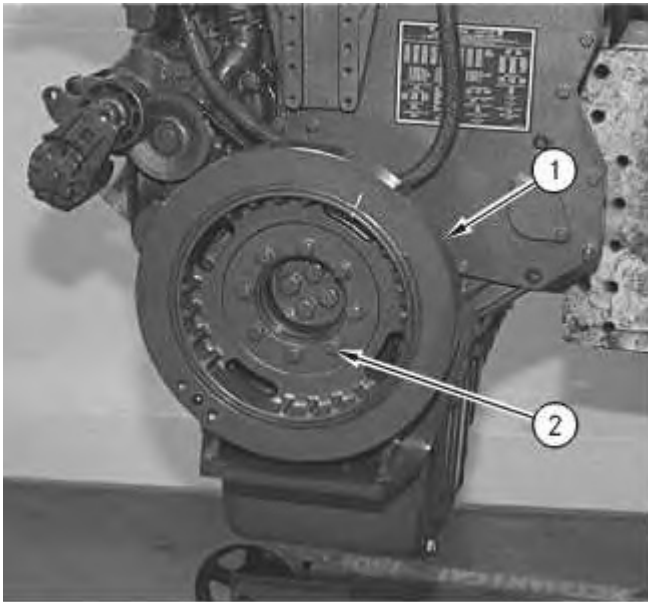


Illustration 4

g00612677

3. Install the spacers and crankshaft vibration damper (1). Install bolts (2) and tighten to a torque of  $55 \pm 10 \text{ N}\cdot\text{m}$  ( $40 \pm 7 \text{ lb ft}$ ).
4. Adjust the tension of the belt. Refer to Specifications, "Belt Tension Chart".

Previous Screen

Product: EXCAVATOR

Model: 322C EXCAVATOR EMR

Configuration: 322C L, 322C LN Hydraulic Excavators EMR00001-UP (MACHINE) POWERED BY 3126 Engine

**Disassembly and Assembly  
3126B Engines for Caterpillar Built Machines**

Media Number -SEN9581-06

Publication Date -01/08/2018

Date Updated -17/08/2018

i01982085

## 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	1U-8145	Drill Bit	1

**Start By:**

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

---

**NOTICE**

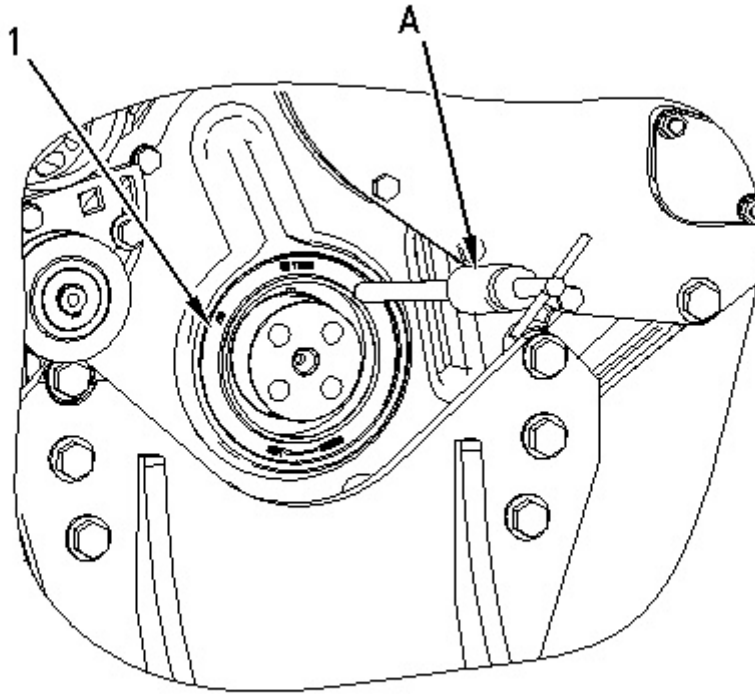
**Keep all parts clean from contaminants.**

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

---



---



---

Illustration 1

g00989224

1. Use Tooling (B) and carefully drill three evenly spaced holes in crankshaft front seal (1).
2. Alternate between the drilled holes and use Tooling (A) to remove crankshaft front seal (1).

Previous Screen

Product: EXCAVATOR

Model: 322C EXCAVATOR EMR

Configuration: 322C L, 322C LN Hydraulic Excavators EMR00001-UP (MACHINE) POWERED BY 3126 Engine

**Disassembly and Assembly  
3126B Engines for Caterpillar Built Machines**

Media Number -SEN9581-06

Publication Date -01/08/2018

Date Updated -17/08/2018

i01982092

## Crankshaft Front Seal - Install

SMCS - 1160-012

### Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
C	1U-7430	Front Seal Installer	1

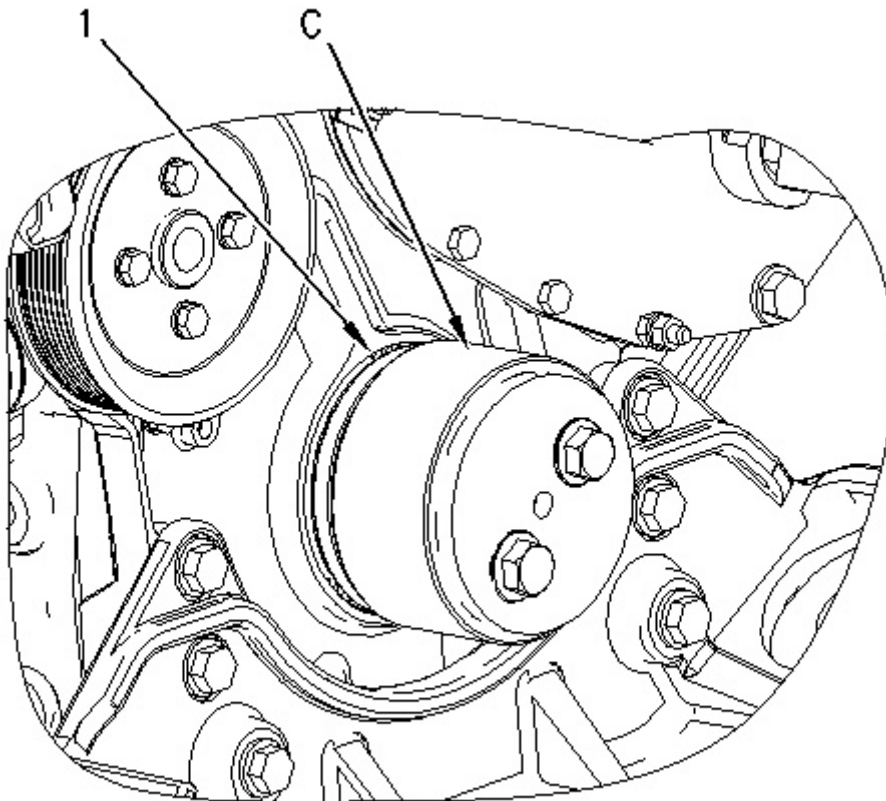
---

**NOTICE**

**Keep all parts clean from contaminants.**

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

---



---

Illustration 1

g00989228

1. Use Tooling (C) to install crankshaft front seal (1).

**Note:** The crankshaft seal is designed to be installed dry.

**End By:**

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

[Previous Screen](#)

Product: EXCAVATOR

Model: 322C EXCAVATOR EMR

Configuration: 322C L, 322C LN Hydraulic Excavators EMR00001-UP (MACHINE) POWERED BY 3126 Engine

## Disassembly and Assembly 3126B Engines for Caterpillar Built Machines

Media Number -SEN9581-06

Publication Date -01/08/2018

Date Updated -17/08/2018

i01379367

## Front Cover - Remove

SMCS - 1166-011

## Removal Procedure

### Start By:

- a. Remove the alternator. Refer to Disassembly and Assembly, "Alternator - Remove and Install".

---

### 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.**

---

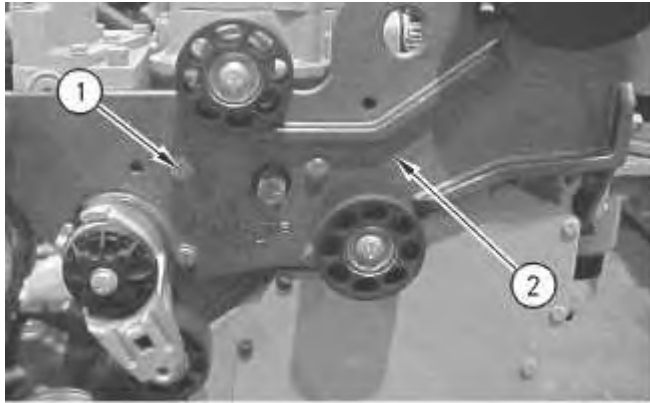


Illustration 1

g00728351

1. Remove four bolts (1) that fasten bracket (2) on the front of the engine.

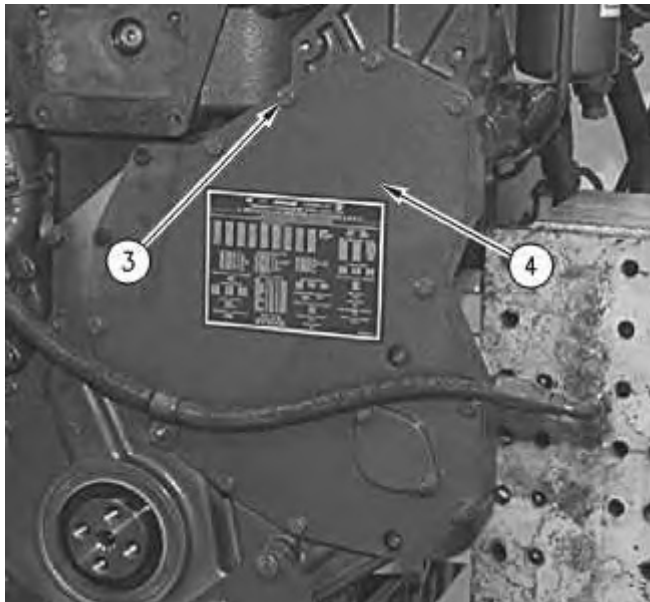


Illustration 2

g00728369

2. Remove the bolts (3) and front cover (4) from the front housing.

[Previous Screen](#)

Product: EXCAVATOR

Model: 322C EXCAVATOR EMR

Configuration: 322C L, 322C LN Hydraulic Excavators EMR00001-UP (MACHINE) POWERED BY 3126 Engine

## Disassembly and Assembly 3126B Engines for Caterpillar Built Machines

Media Number -SEN9581-06

Publication Date -01/08/2018

Date Updated -17/08/2018

i01379400

## Front Cover - Install

SMCS - 1166-012

## Installation Procedure

---

### NOTICE

**Keep all parts clean from contaminants.**

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

---

**Note:** The rear face of the cover and the front face of the housing must be clean.

1. Inspect the condition of the housing cover gasket. Replace the gasket, if necessary.
-

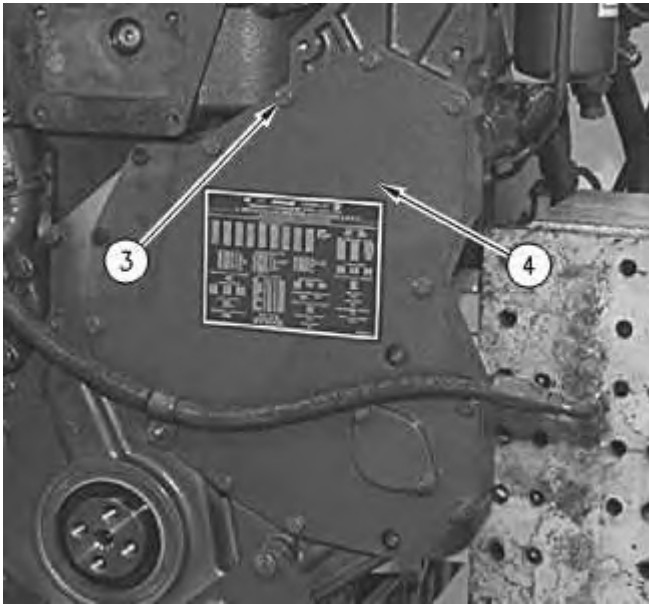


Illustration 1

g00728369

2. Install the housing cover gasket.
3. Position front cover (4) on the front housing. Install the bolts (3) on front cover (4).



Illustration 2

g00728351

4. Position bracket (2) on the front of the engine.
5. Install four bolts (1) that fasten bracket (2) on the engine.

**End By:**

- a. Install the alternator. Refer to Disassembly and Assembly, "Alternator - Remove and Install".

[Previous Screen](#)

Product: EXCAVATOR

Model: 322C EXCAVATOR EMR

Configuration: 322C L, 322C LN Hydraulic Excavators EMR00001-UP (MACHINE) POWERED BY 3126 Engine

## Disassembly and Assembly 3126B Engines for Caterpillar Built Machines

Media Number -SEN9581-06

Publication Date -01/08/2018

Date Updated -17/08/2018

i01983906

## Housing (Front) - Remove

SMCS - 1151-011

## Removal Procedure

### Start By:

- a. Remove the crankshaft front seal. Refer to Disassembly and Assembly, "Crankshaft Front Seal - Remove".
- b. Remove the camshaft. Refer to Disassembly and Assembly, "Camshaft - Remove".

---

### NOTICE

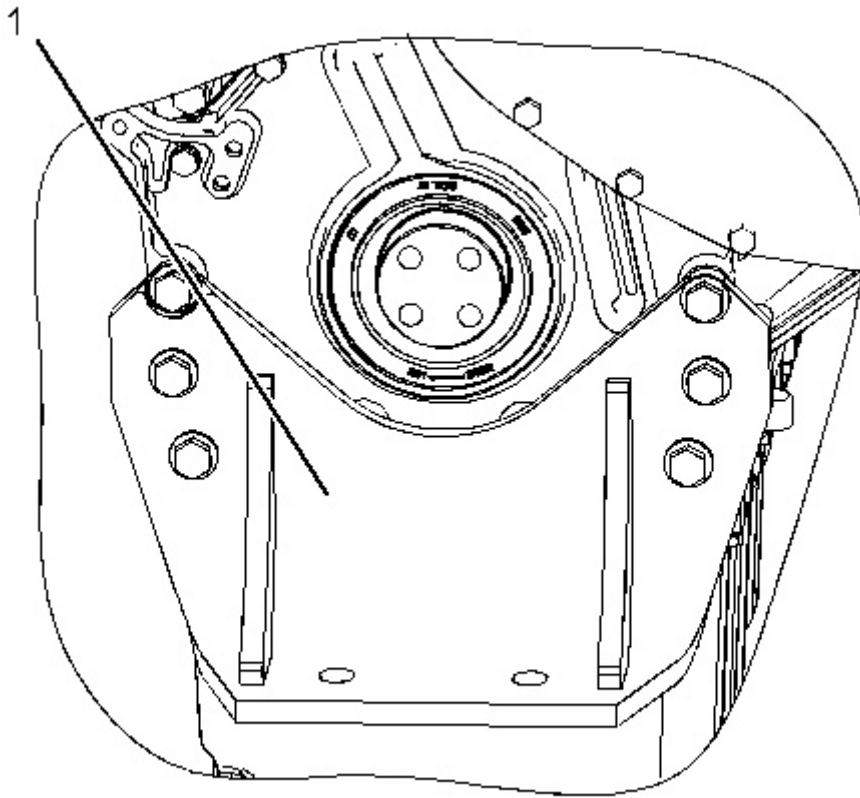
**Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting, and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.**

**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.**

---

---

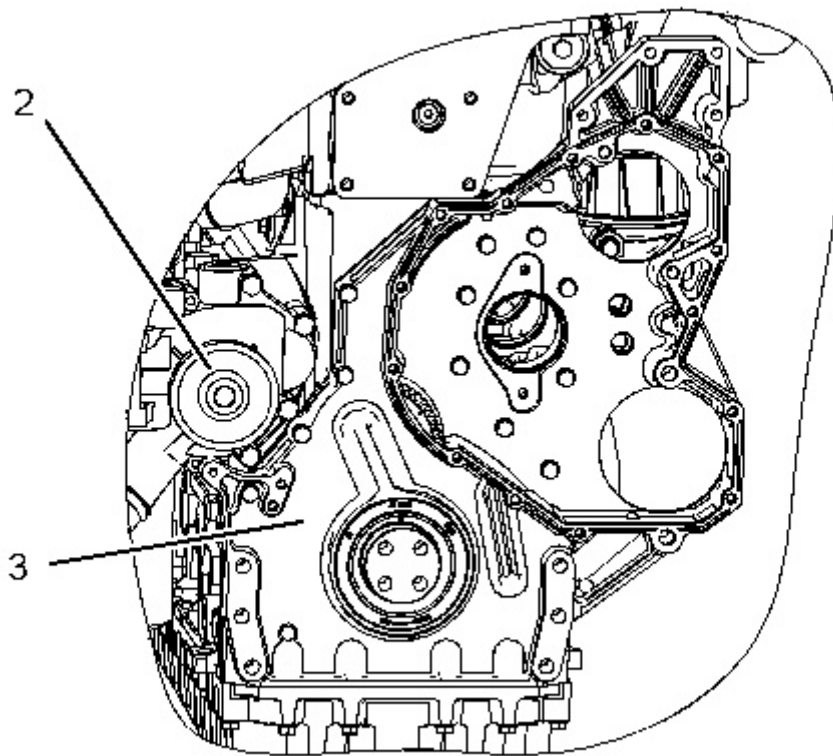


---

Illustration 1

g01028154

1. Remove front engine support (1).
-



---

Illustration 2

g01028155

2. Remove belt tightener (2).
3. Remove front housing (3).

[Previous Screen](#)

Product: EXCAVATOR

Model: 322C EXCAVATOR EMR

Configuration: 322C L, 322C LN Hydraulic Excavators EMR00001-UP (MACHINE) POWERED BY 3126 Engine

## Disassembly and Assembly 3126B Engines for Caterpillar Built Machines

Media Number -SEN9581-06

Publication Date -01/08/2018

Date Updated -17/08/2018

i01983976

## Housing (Front) - Install

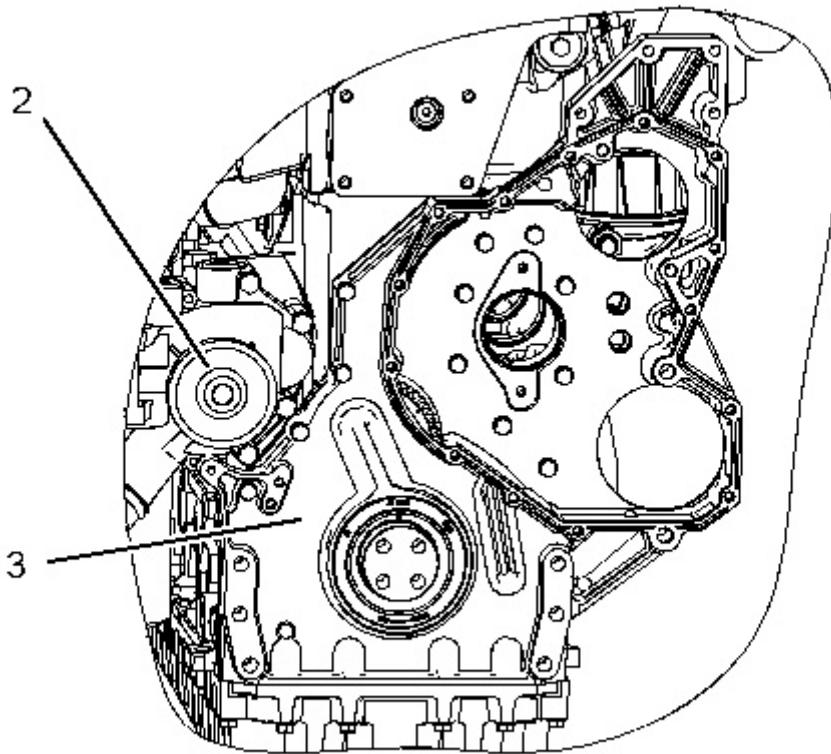
SMCS - 1151-012

## Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	8T-9011	Component Cleaner	1
B	4C-9500	Quick Cure Primer	1
C	1U-8846	Gasket Sealant	1

---



---

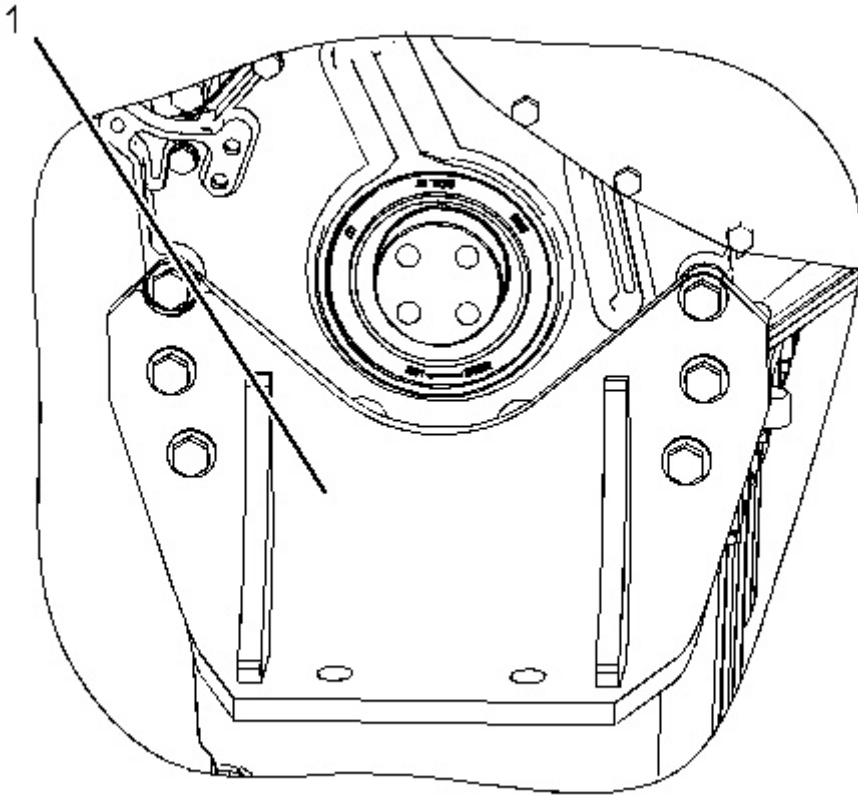
Illustration 1

g01028155

1. Clean the joint face on front housing (3) with Tooling (A).
2. Apply Tooling (B) to the joint face. Allow the primer to dry for at least three to five minutes.

**Note:** Do not allow Tooling (C) to seal the main oil passage on front housing (3).

3. Apply Tooling (C) to the joint face. Spread the sealant uniformly. Front housing (3) must be installed within ten minutes of applying the sealant.
  4. Install front housing (3) on the cylinder block.
  5. Install belt tightener (2).
-



---

Illustration 2

g01028154

6. Install front engine support (1).

**End By:**

- a. Install the camshaft. Refer to Disassembly and Assembly, "Camshaft - Install".
- b. Install the crankshaft front seal. Refer to Disassembly and Assembly, "Crankshaft Front Seal - Install".

Previous Screen

Product: EXCAVATOR

Model: 322C EXCAVATOR EMR

Configuration: 322C L, 322C LN Hydraulic Excavators EMR00001-UP (MACHINE) POWERED BY 3126 Engine

**Disassembly and Assembly  
3126B Engines for Caterpillar Built Machines**

Media Number -SEN9581-06

Publication Date -01/08/2018

Date Updated -17/08/2018

i02375078

## Camshaft Idler Gear - Remove and Install

SMCS - 1206-010

### Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-0520	Driver Gp	1

**Start By:**

- a. Remove the front housing. Refer to Disassembly and Assembly, "Housing (Front) - 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.

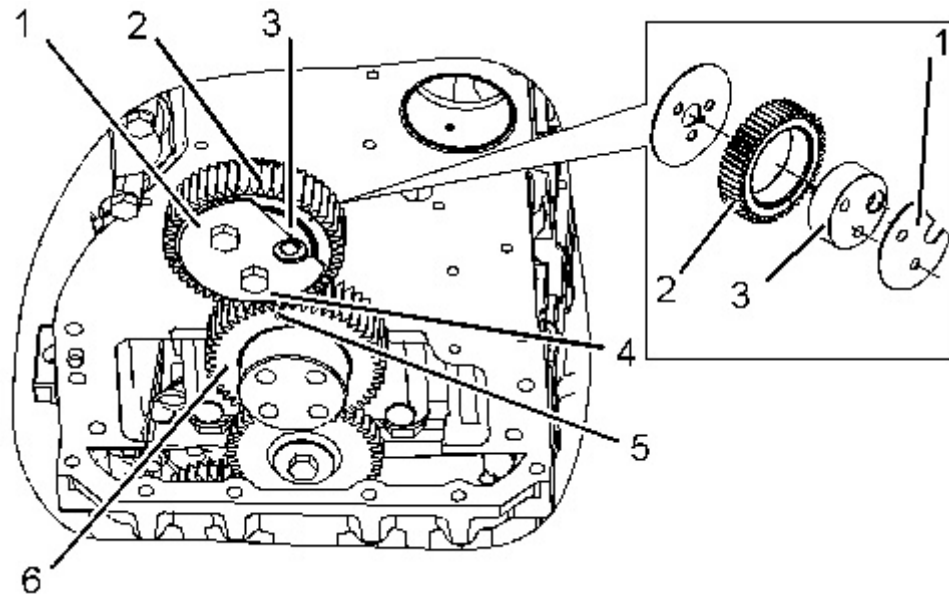


Illustration 1

g01027207

1. Rotate the crankshaft until the number one piston is at the top center position. Timing mark (4) for camshaft idler gear (2) should be in line with timing mark (5) for crankshaft drive gear (6).
2. Remove the bolts that fasten plate (1) to idler shaft (3). Remove plate (1).
3. Slide camshaft idler gear (2) from idler shaft (3).
4. Use Tooling (A) and a suitable press to remove the bearing from camshaft idler gear (2).
5. Remove the bolt and idler shaft (3) from the cylinder block.

## Installation Procedure

Table 2

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-0520	Driver Gp	1

**NOTICE**

**Keep all parts clean from contaminants.**

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

---

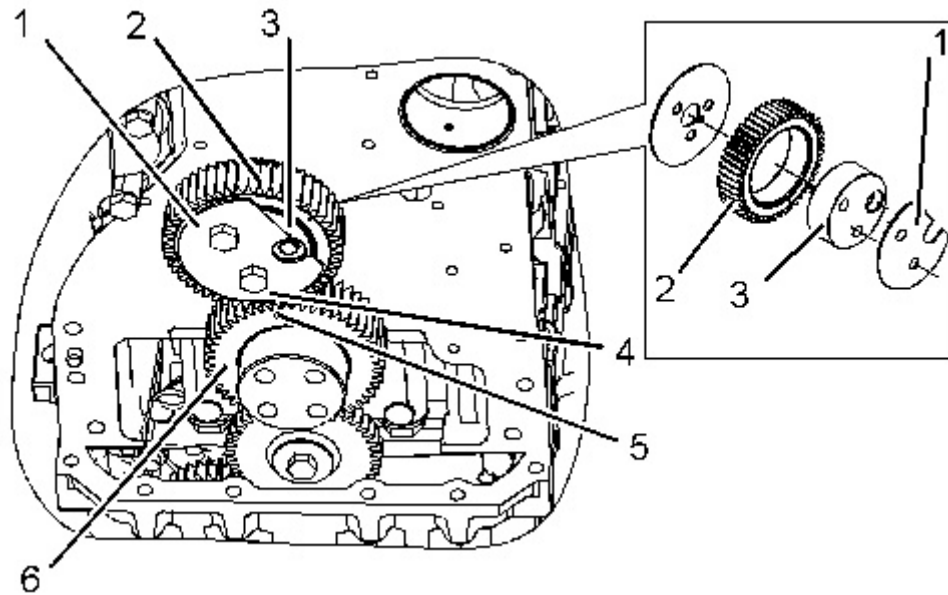


Illustration 2

g01027207

1. Position idler shaft (3) on the cylinder block. Install the bolt that holds idler shaft (3) to the cylinder block. Tighten the bolt to a torque of  $70 \pm 15$  N·m ( $51 \pm 11$  lb ft).
2. Use Tooling (A) and a suitable press to install the bearing in camshaft idler gear (2). Install the bearing until the bearing is  $0.40 \pm 0.25$  mm ( $0.016 \pm 0.010$  inch) below the front face of camshaft idler gear (2).
3. Install camshaft idler gear (2) on idler shaft (3). Align timing mark (4) for camshaft idler gear (2) with timing mark (5) for crankshaft drive gear (6).
4. Position plate (1) and install the bolts. Tighten the bolts to a torque of  $70 \pm 15$  N·m ( $51 \pm 11$  lb ft).

**End By:**

- a. Install the front housing. Refer to Disassembly and Assembly, "Housing (Front) - Install".
-

[Previous Screen](#)

Product: EXCAVATOR

Model: 322C EXCAVATOR EMR

Configuration: 322C L, 322C LN Hydraulic Excavators EMR00001-UP (MACHINE) POWERED BY 3126 Engine

## Disassembly and Assembly 3126B Engines for Caterpillar Built Machines

Media Number -SEN9581-06

Publication Date -01/08/2018

Date Updated -17/08/2018

i02370572

# Valve Mechanism Cover - Remove and Install

SMCS - 1107-010

## Removal Procedure

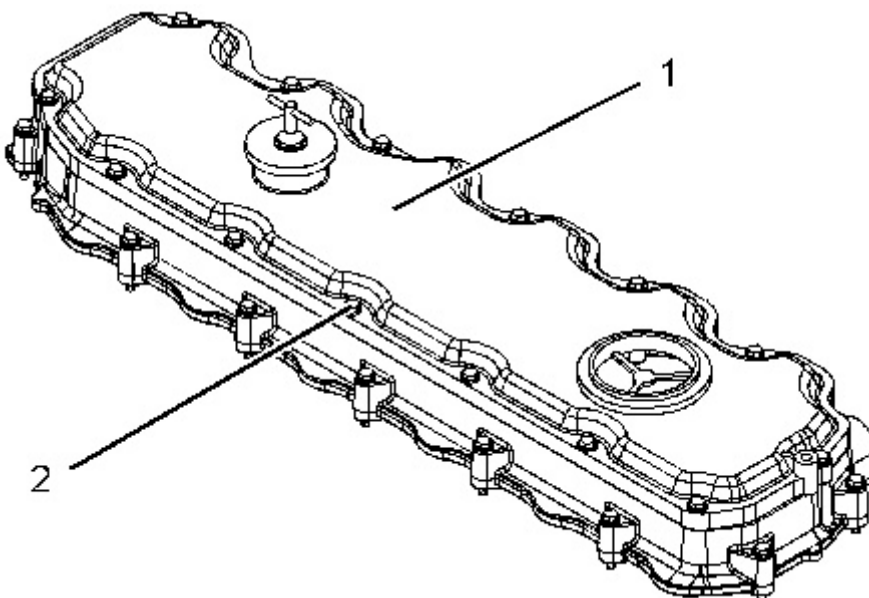
---

### NOTICE

**Keep all parts clean from contaminants.**

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

---



1. Remove bolts (2) and valve mechanism cover (1).
2. Remove the seal from valve mechanism cover (1).

## Installation Procedure

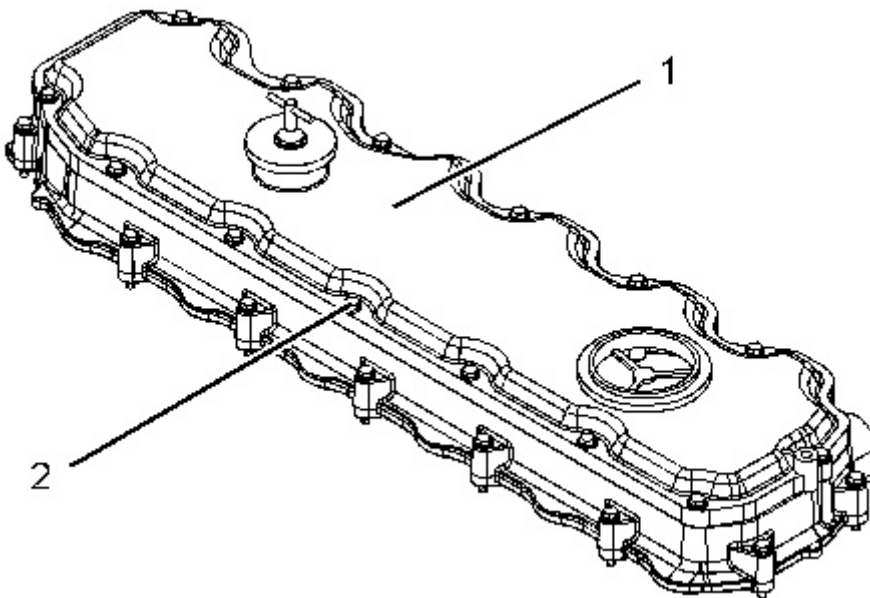
---

### NOTICE

**Keep all parts clean from contaminants.**

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

---

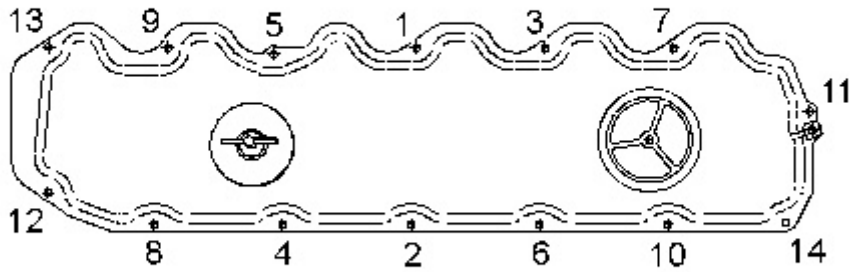


---

Illustration 2

g01182877

---



---

Illustration 3

g01182875

1. Install the seal in valve mechanism cover (1).
2. Position valve mechanism cover (1) on the engine and install bolts (2). Tighten the bolts in a numerical sequence.

[Previous Screen](#)

Product: EXCAVATOR

Model: 322C EXCAVATOR EMR

Configuration: 322C L, 322C LN Hydraulic Excavators EMR00001-UP (MACHINE) POWERED BY 3126 Engine

## Disassembly and Assembly 3126B Engines for Caterpillar Built Machines

Media Number -SEN9581-06

Publication Date -01/08/2018

Date Updated -17/08/2018

i01982239

# Valve Mechanism Cover Base - Remove and Install

SMCS - 1120-010

## Removal Procedure

### Start By:

- a. Remove the valve mechanism cover. Refer to Disassembly and Assembly, "Valve Mechanism Cover - Remove and Install".

---

### NOTICE

**Keep all parts clean from contaminants.**

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

---

1. Disconnect the harness assembly from the valve mechanism cover base.
-



**Suggest:**

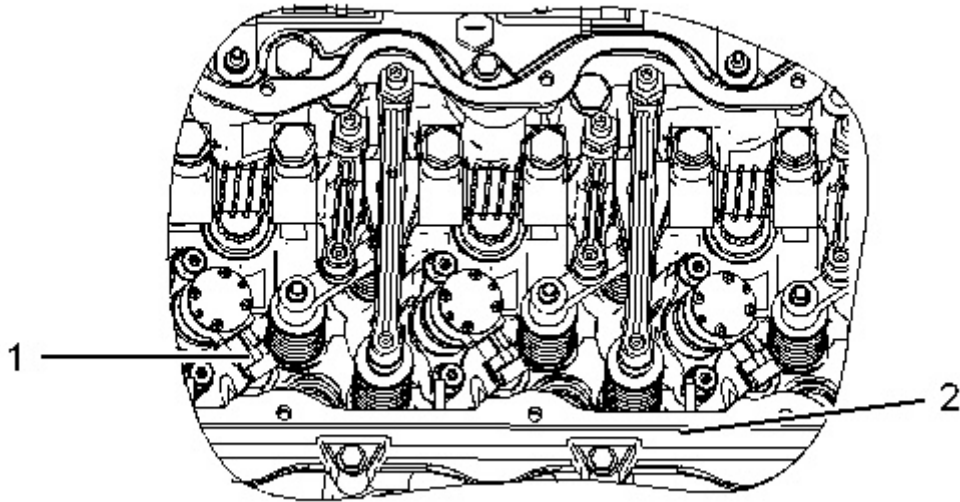
**If the above button click is invalid.**

**Please download this document**

**first, and then click the above link**

**to download the complete manual.**

**Thank you so much for reading**



---

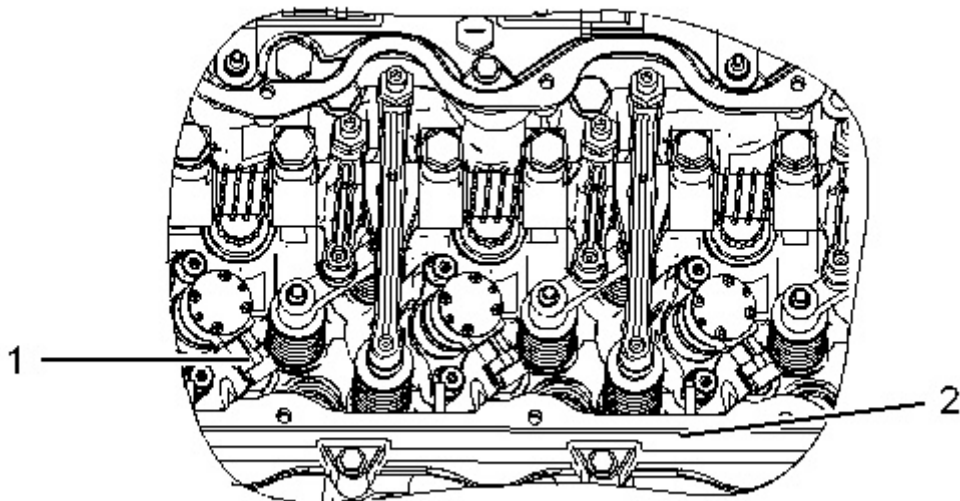
Illustration 1

g01027286

2. Disconnect harness assemblies (1) from each of the unit injectors.
3. Remove valve mechanism cover base (2).

## Installation Procedure

---



---

Illustration 2

g01027286

---

**<https://www.ebooklibonline.com>**

Hello dear friend!

Thank you very much for reading.

Enter the link into your browser.

The full manual is available for immediate download.

**<https://www.ebooklibonline.com>**