

Product: TRACK LOADER

Model: 973C TRACK LOADER 3RZ

Configuration: 973C Track-Type Loader Hydrostatic Drive 3RZ00001-UP (MACHINE) POWERED BY 3306 Engine

## Disassembly and Assembly 3304B and 3306B Engines for Caterpillar Built Machines

Media Number -SEN5598-09

Publication Date -01/01/2013

Date Updated -25/01/2013

i04880697

# Valve Mechanism Cover - Remove and Install

SMCS - 1107-010

## 3304B Removal Procedure

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### NOTICE

**Keep all parts clean from contaminants.**

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

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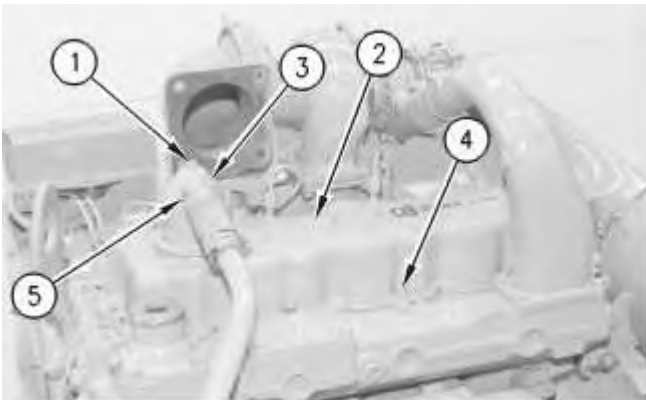


Illustration 1

g00590318

1. Loosen hose clamp (5) and remove the hose from breather cap (3) .
2. Remove bolt (1) and remove breather cap (3) .

3. Remove bolts (4) and the washers that hold valve mechanism cover (2) in position. Remove valve mechanism cover (2) and the gasket.

## 3306B Removal Procedure

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### NOTICE

**Keep all parts clean from contaminants.**

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

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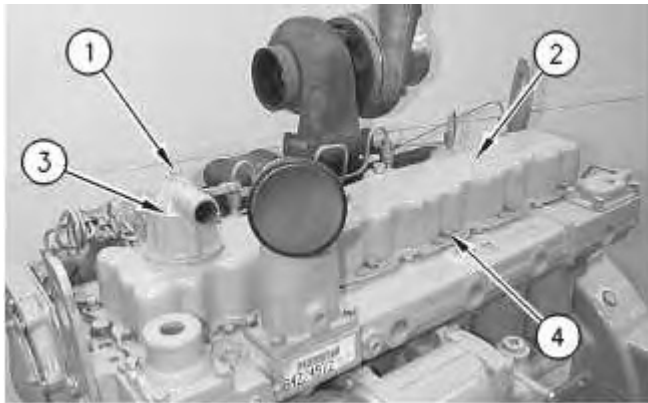


Illustration 2

g00513507

1. Remove bolt (1) and breather cap (3) from valve mechanism cover (2) . Remove the O-ring seal from breather cap (3) .
2. Remove bolts (4) and the washers that hold valve mechanism cover (2) in position. Remove valve mechanism cover (2) and the gasket.

## 3304B Installation Procedure

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### NOTICE

**Keep all parts clean from contaminants.**

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

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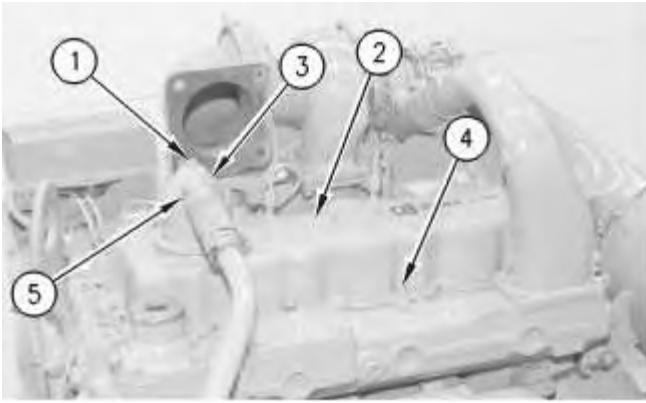


Illustration 3

g00590318

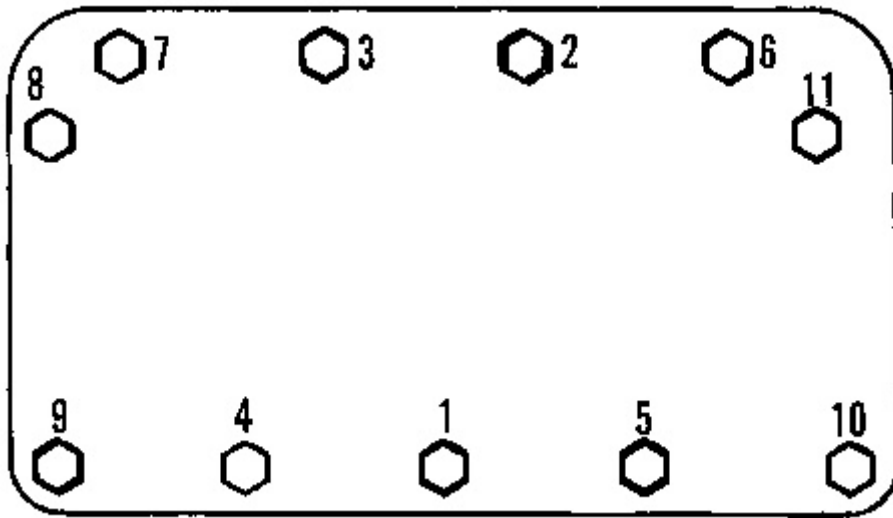


Illustration 4

g00590290

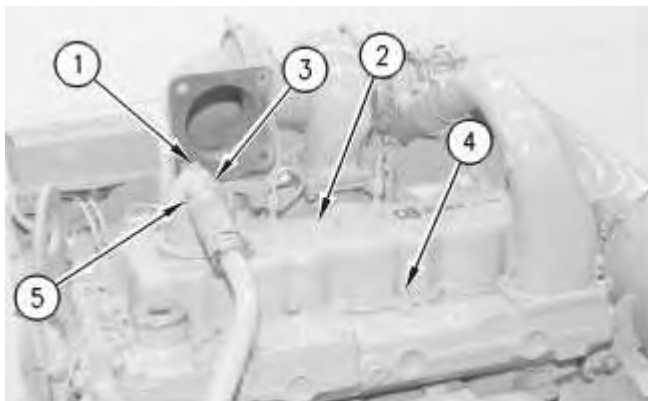


Illustration 5

g00590318

**Note:** Check the condition of the gasket. If the gasket is worn or damaged, use new parts for replacement.

1. Install a new gasket for valve mechanism cover (2) . Apply **5H-2471** Adhesive on the surfaces of the gasket and valve mechanism cover (2) . Place valve mechanism cover (2) in position on the cylinder head.
2. Install bolts (4) that hold valve mechanism cover (2) . Tighten the bolts in a numerical sequence to a torque of  $16 \pm 3$  N·m ( $12 \pm 2$  lb ft).
3. Install the hose on breather cap (3) and tighten hose clamp (5) .

## 3306B Installation Procedure

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### NOTICE

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**Note:** Check the condition of the gasket and O-ring seals. If the gasket or the O-ring seals are worn or damaged, use new parts for replacement.

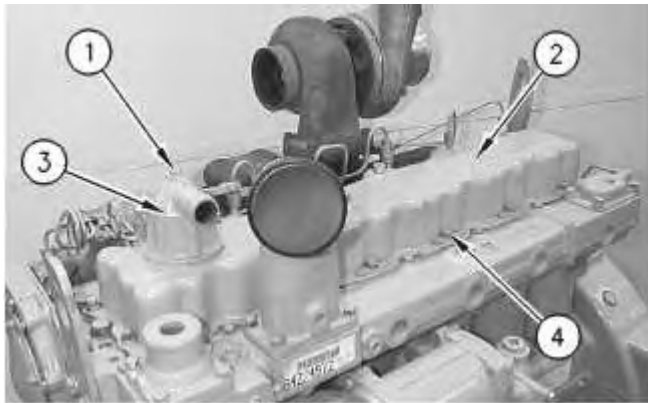
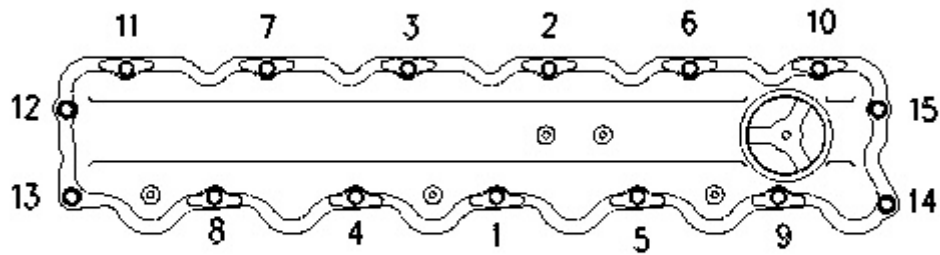


Illustration 6

g00513507

1. Install a new gasket for valve mechanism cover (2) . Put valve mechanism cover (2) in position on the cylinder head.
-



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Illustration 7

g00450791

2. Install the washers and bolts (4) that hold valve mechanism cover (2) in position. Tighten the bolts in a numerical sequence to a torque of  $16 \pm 3 \text{ N}\cdot\text{m}$  ( $12 \pm 2 \text{ lb ft}$ ). Use the numerical sequence that is shown in illustration 7.
  3. Put the O-ring seal and breather cap (3) in position. Install the washer and bolt (1) . Tighten bolt (1) to a torque of  $14 \pm 3 \text{ N}\cdot\text{m}$  ( $10 \pm 2 \text{ lb ft}$ ).
-

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## Disassembly and Assembly 3304B and 3306B Engines for Caterpillar Built Machines

Media Number -SEN5598-09

Publication Date -01/01/2013

Date Updated -25/01/2013

i00921540

# Compression Brake - Remove

SMCS - 1119-011

## Removal Procedure

### Start By:

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

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### NOTICE

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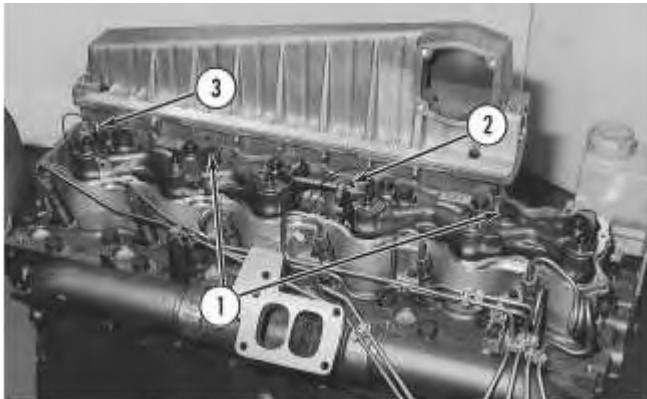


Illustration 1

g00471009

1. Remove four bolts (1). Disconnect wires (2) and (3) .

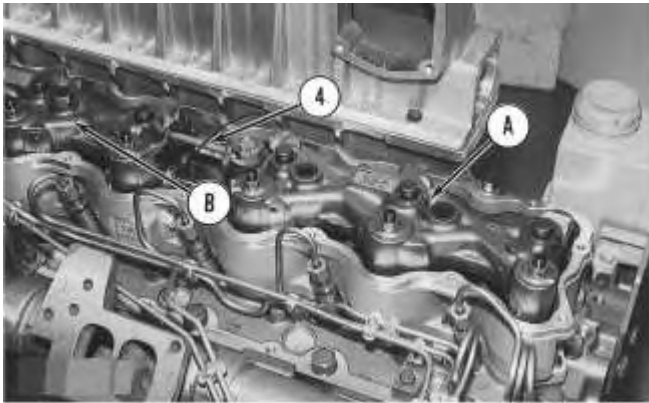


Illustration 2

g00471010

2. Remove Compression Brake (A) by lifting Compression Brake (A) with one hand. Remove Compression Brake (A) while you hold oil tube (4) in order to ensure that oil tube (4) does not come out of Compression Brake (B) .
  3. Remove Compression Brake (B) .
-

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i00921740

# Compression Brake - Disassemble

SMCS - 1119-015

## Disassembly Procedure

### Start By:

- A. Remove the Compression Brake. Refer to Disassembly and Assembly, "Compression Brake - Remove".

---

### NOTICE

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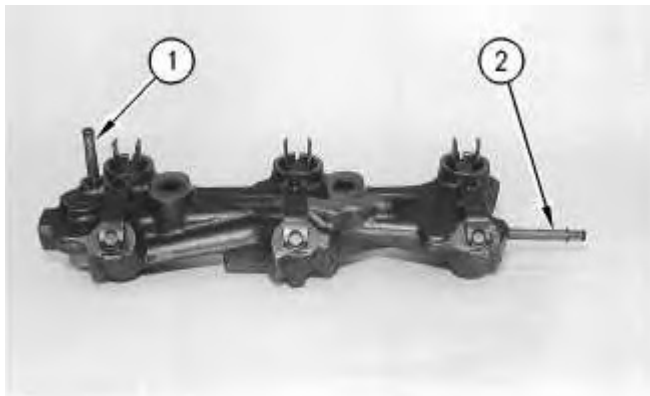


Illustration 1

g00471083



1. Remove oil tubes (1) and (2). Remove the O-ring seals.

**Note:** If the O-ring seals are worn or damaged, use new parts for replacement.

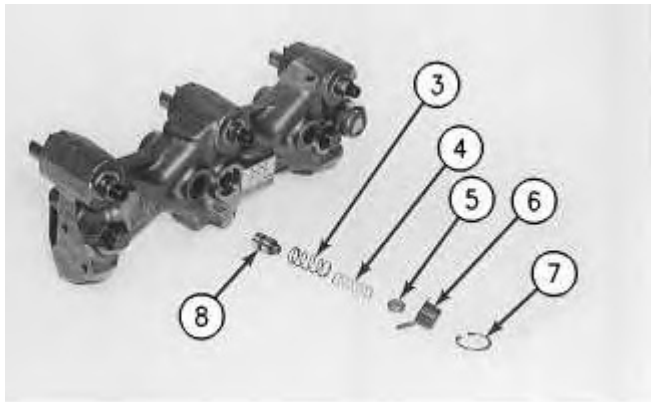


Illustration 2

g00471084

2. Remove snap ring (7), cup (6), spacer (5), springs (4) and (3) and piston (8) .

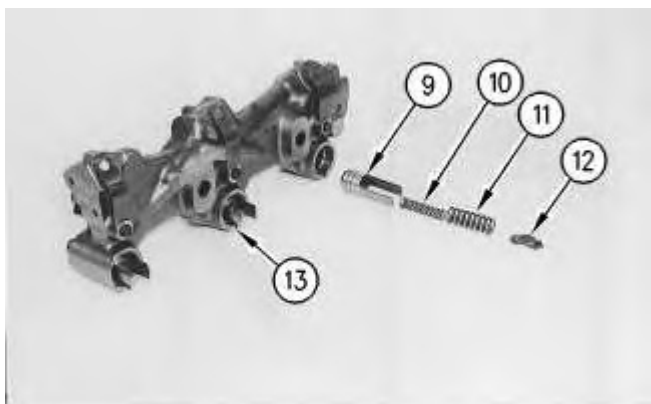
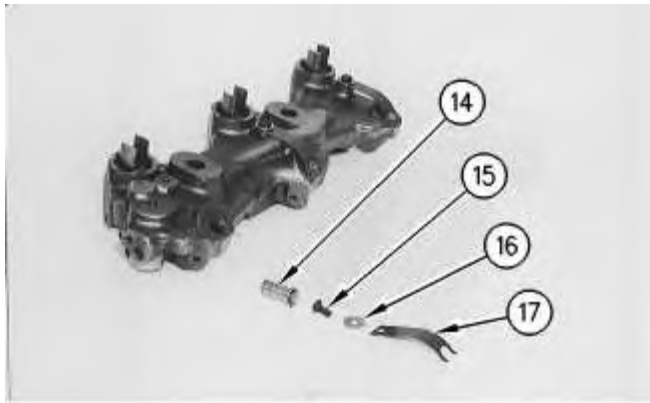


Illustration 3

g00471085

3. Remove three retaining rings (13). Remove clip (12), springs (11) and (10) and piston (9) from three locations on the Compression Brake.
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Illustration 4

g00471086

4. Remove three bolts (15), washers (16), clips (17) and piston (14) .
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Media Number -SEN5598-09

Publication Date -01/01/2013

Date Updated -25/01/2013

i00921835

# Compression Brake - Assemble

SMCS - 1119-016

## Assembly Procedure

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### NOTICE

**Keep all parts clean from contaminants.**

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

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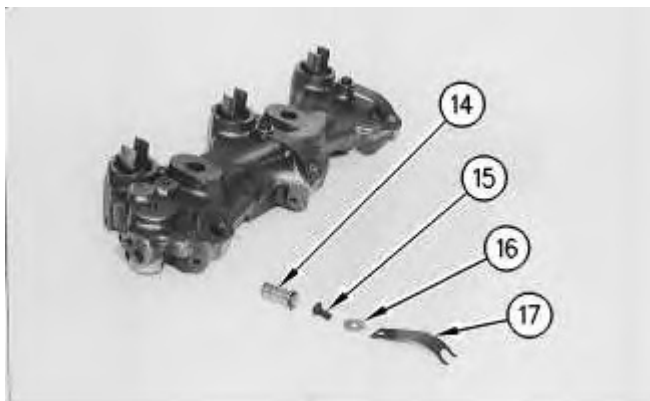


Illustration 1

g00471086

1. Install piston (14), clips (17), washers (16) and three bolts (15).
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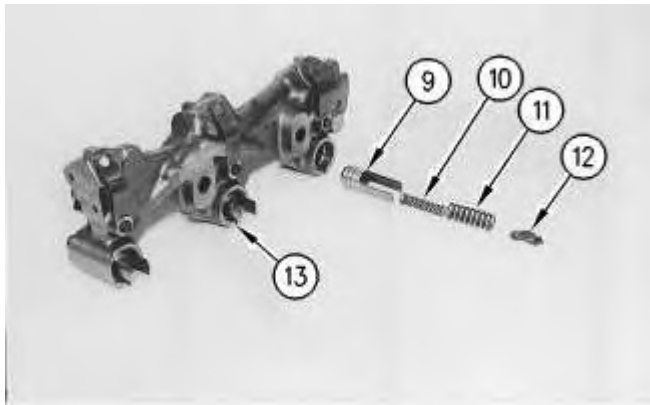


Illustration 2

g00471085

2. Install piston (9), springs (10) and (11) and clip (12) on three locations on the Compression Brake. Install three retaining rings (13) .

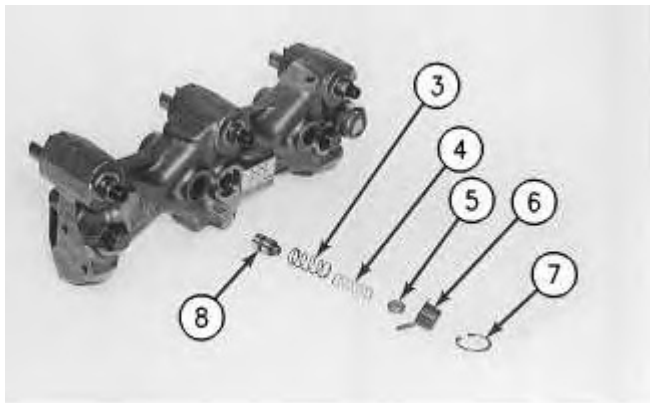


Illustration 3

g00471084

3. Install piston (8), springs (3) and (4), spacer (5), cup (6) and snap ring (7) .

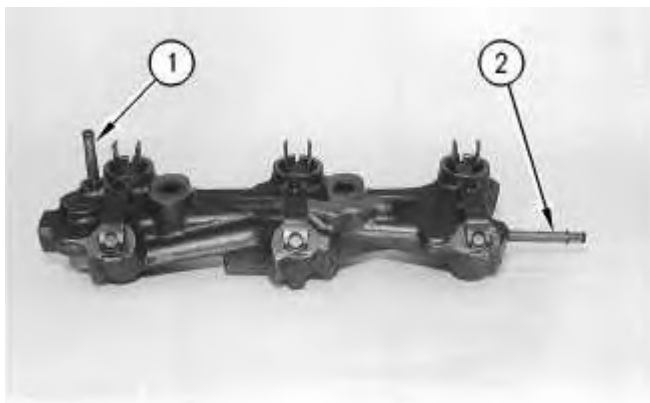


Illustration 4

g00471083

**Note:** If the O-ring seals are worn or damaged, use new parts for replacement.

4. Install the O-ring seals. Install oil tubes (1) and (2) .

**End By:** Install the Compression Brake. Refer to Disassembly and Assembly, "Compression Brake - Install".

---

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## Disassembly and Assembly 3304B and 3306B Engines for Caterpillar Built Machines

Media Number -SEN5598-09

Publication Date -01/01/2013

Date Updated -25/01/2013

i00921612

# Compression Brake - Install

SMCS - 1119-012

## Installation Procedure

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### NOTICE

**Keep all parts clean from contaminants.**

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

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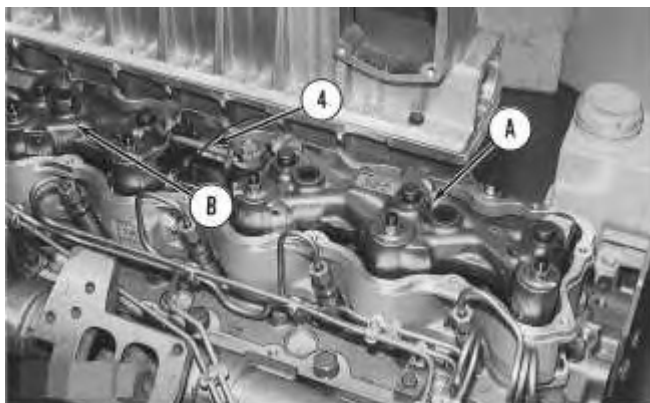


Illustration 1

g00471010

1. Install Compression Brake (B) and oil tube (4) .
2. Install Compression Brake (A) .

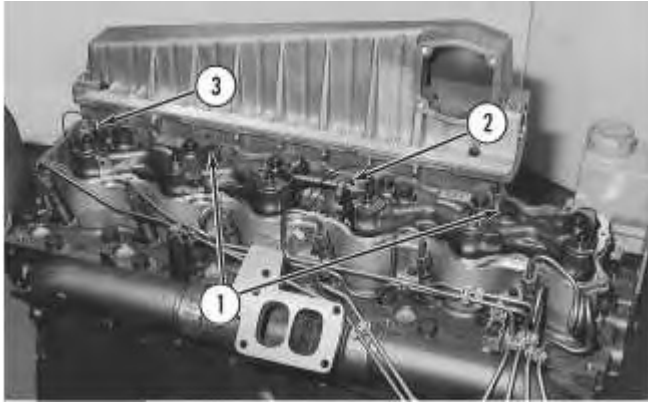


Illustration 2

g00471009

3. Connect wires (3) and (2). Install four bolts (1) .

**End By:** Install the valve mechanism cover. Refer to Disassembly and Assembly, "Valve Mechanism Cover - Remove and Install".

---

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## Disassembly and Assembly 3304B and 3306B Engines for Caterpillar Built Machines

Media Number -SEN5598-09

Publication Date -01/01/2013

Date Updated -25/01/2013

i00999978

# Rocker Shaft and Pushrod - Remove

SMCS - 1102-011; 1208-011

## 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.**

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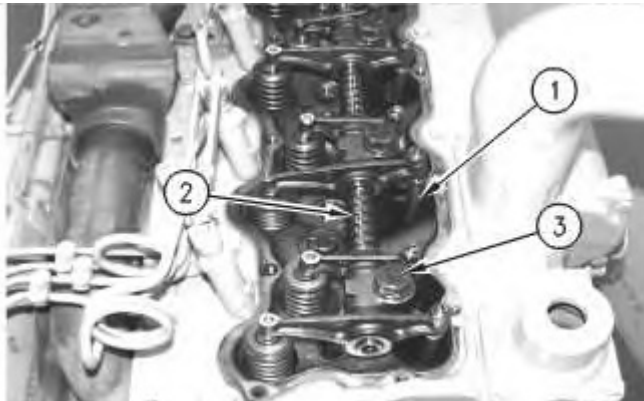


Illustration 1

g00539802



1. Remove six bolts (3) and rocker shaft assembly (2). Remove the O-ring seal from the rear rocker shaft support.
  2. Put identification marks on pushrods (1) in order to identify the location of the pushrods in the engine. Remove pushrods (1) from the engine. Repeat this process for each pushrod.
-

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## Disassembly and Assembly 3304B and 3306B Engines for Caterpillar Built Machines

Media Number -SEN5598-09

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Date Updated -25/01/2013

i01001004

# Rocker Shaft - Disassemble

SMCS - 1102-015

## Disassembly Procedure

### Start By:

- A. Remove the rocker shaft and pushrods. Refer to Disassembly and Assembly, "Rocker Shaft and Pushrods - Remove".

---

### NOTICE

**Keep all parts clean from contaminants.**

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

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Illustration 1

g00490026

1. Remove O-ring seal (1) from the rear support bracket.

**Note:** Replace the O-ring seal when the head bolt is removed from the rear rocker shaft support.

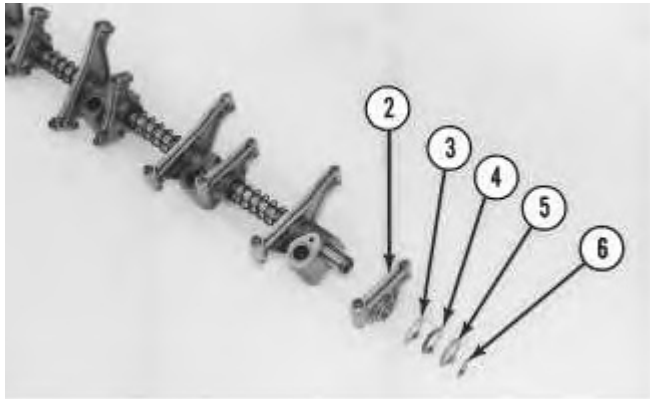


Illustration 2

g00490027

2. Remove retainer ring (6), washer (5), spring (4), washer (3) and rocker arm (2). Note the number of washers (3) that are used at both ends of the shaft. Remove rocker arms (2) from each end of the rocker shaft.



Illustration 3

g00449687

3. Remove the pin from the rear rocker shaft support (7) with a hammer and a suitable punch. Remove rear rocker shaft support (7) .
  4. Remove the remaining rocker arms, springs, washers and rocker shaft supports.
  5. Remove the plugs from each end of the shaft, if necessary.
-

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## **Disassembly and Assembly 3304B and 3306B Engines for Caterpillar Built Machines**

Media Number -SEN5598-09

Publication Date -01/01/2013

Date Updated -25/01/2013

i01138110

# **Rocker Shaft - Assemble**

SMCS - 1102-016

## **Assembly Procedure**

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### **NOTICE**

**Keep all parts clean from contaminants.**

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

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### **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, "Caterpillar Tools and Shop Products Guide" for tools and supplies suitable to collect and contain fluids on Caterpillar products.**

**Dispose of all fluids according to local regulations and mandates.**

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5. Install O-ring seal (7). Install rocker arm (4), washer (8), springs (9), washer (10) and retainer ring (11) .

**Note:** Make sure that the correct number of washers (8) are installed on the shaft.

6. Install the plugs in each end of the rocker shaft if the plugs were removed.

**End By:** Install the rocker shaft and pushrods. Refer to Disassembly and Assembly, "Rocker Shaft and Pushrods - Install".

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## Disassembly and Assembly 3304B and 3306B Engines for Caterpillar Built Machines

Media Number -SEN5598-09

Publication Date -01/01/2013

Date Updated -25/01/2013

i07085956

# Rocker Shaft and Pushrod - Install

SMCS - 1102-012; 1208-012

## Installation Procedure

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### NOTICE

**Keep all parts clean from contaminants.**

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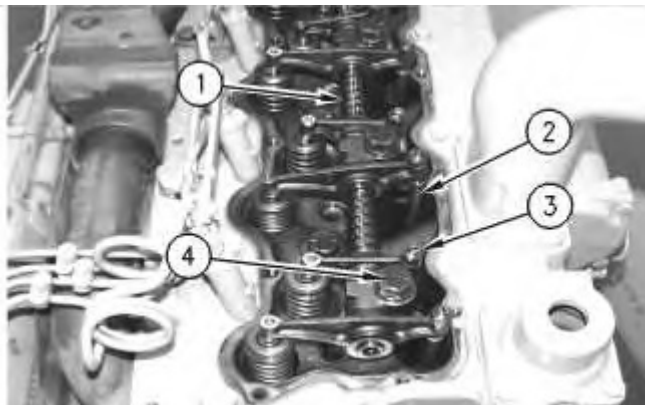


Illustration 1

g00539829

1. Loosen adjusting screws (3). This will prevent a bent valve or a bent pushrod during the installation of the rocker shaft assembly. Install pushrods (2) and ensure that the pushrods are seated in the valve lifters.

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