



# Service Repair Manual

## **Models**

**D300B ARTICULATED  
DUMP TRUCK**

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Previous Screen

Product: ARTICULATED TRUCK

Model: D300B ARTICULATED TRUCK 4SD

Configuration: D300B ARTICULATED DUMP TRUCK 4SD00001-00573 (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

i00962891

## Inlet and Exhaust Valve Guides - Remove and Install

SMCS - 1104-010

### Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	9U-7349	Valve Guide Driver	1

**Start By:**

- A. Remove the inlet and exhaust valves. Refer to Disassembly and Assembly, "Inlet and Exhaust Valves - Remove and Install".

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**NOTICE**

**Keep all parts clean from contaminants.**

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

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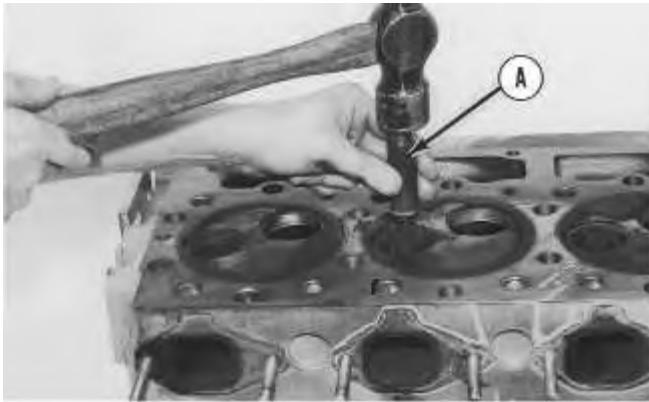


Illustration 1

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1. Use Tool (A) to remove the inlet and exhaust valve guides from the cylinder head.
2. Repeat Step 1 for the remaining inlet and exhaust valve guides.

## Installation Procedure

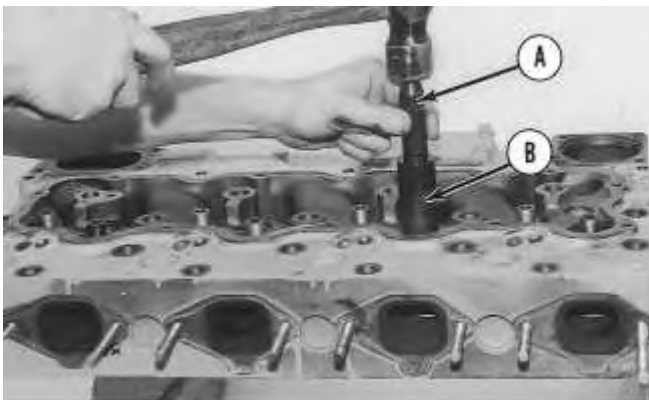
Table 2

Required Tools			
Tool	Part Number	Part Description	Qty
A	9U-7349	Valve Guide Driver	1
B	9U-6954	Valve Guide Collar	1

### NOTICE

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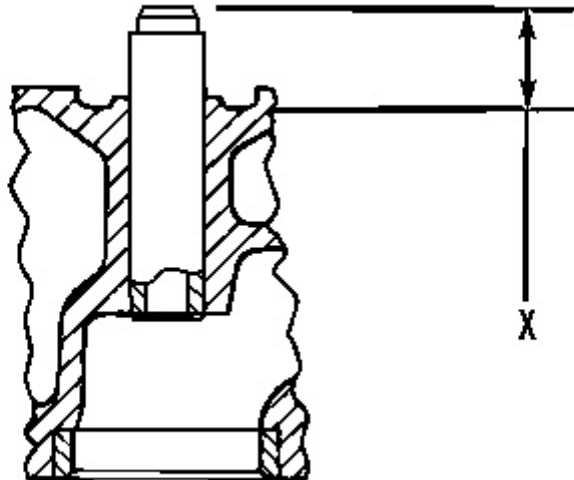
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1. Put clean engine oil on the outside diameter of the valve guide. Install the valve guide with Tool (A) and Tool (B), as shown.



2. Dimension (X) from the top of the valve guide to the cylinder head must be  $22.23 \pm 0.25$  mm ( $0.875 \pm 0.010$  inch). For more information on the inlet and exhaust valve guides, refer to Specifications, "Cylinder Head Valves".

**Note:** In order to help prevent damage to the valve guides, Tool (B) must be used during installation.

3. Repeat Steps 1 and 2 for the remaining inlet and exhaust valve guides.

**End By:** Install the inlet and exhaust valves. Refer to Disassembly and Assembly, "Inlet and Exhaust Valves - Remove and Install".

Previous Screen

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3304B and 3306B Engines for Caterpillar Built Machines**

Media Number -SEN5598-09

Publication Date -01/01/2013

Date Updated -25/01/2013

i02107684

## Inlet and Exhaust Valve Seat Inserts - Remove and Install

SMCS - 1103-010

### Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	6V-4805	Valve Seat Extractor Tool Group	1

**Start By:**

- A. Remove the inlet and exhaust valves. Refer to Disassembly and Assembly, "Inlet and Exhaust Valves - Remove and Install".

---

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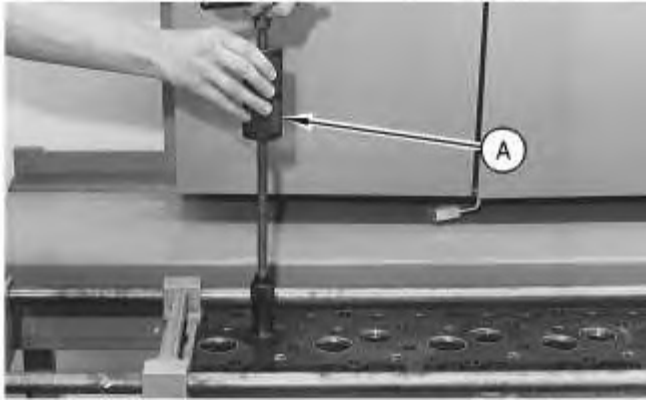


Illustration 1

g00490857

1. Use Tooling (A) in order to remove the valve seat insert from the cylinder head.
2. Clean the valve seat in the cylinder head. Remove any rough areas from the valve seat in the cylinder head.
3. Repeat Steps 1 and 2 for the remaining inlet valve seat inserts and exhaust valve seat inserts.

## Installation Procedure

Table 2

Required Tools			
Tool	Part Number	Part Description	Qty
A	6V-4805	Valve Seat Extractor Tool Group	1

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### NOTICE

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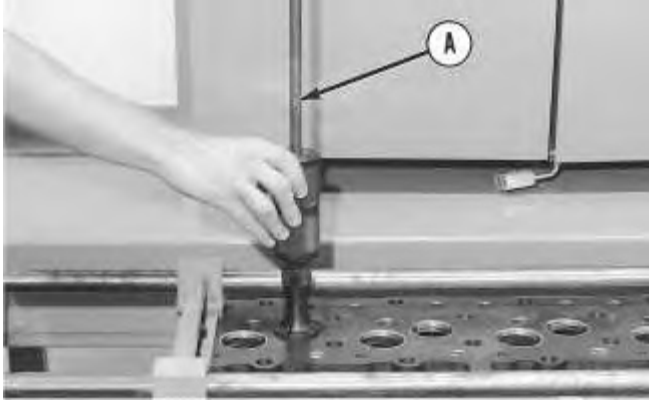


Illustration 2

g00508515

1. Shrink the new valve insert with reduced temperature. Use Tooling (A) in order to install the new valve seat insert in the cylinder head.

**Note:** Do not increase the diameter of the extractor in the valve seat insert when the insert is installed in the cylinder head.

2. Repeat Step 1 for the remaining inlet valve seat inserts and exhaust valve seat inserts.

**End By:** Install the inlet and exhaust valves. Refer to Disassembly and Assembly, "Inlet and Exhaust Valves - Remove and Install".

Previous Screen

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Media Number -SEN5598-09

Publication Date -01/01/2013

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i00981264

## Engine Oil Filter Base - Remove

SMCS - 1306-011

### Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	2P-8250	Strap Wrench Assembly	1

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---

**NOTICE**

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**Refer to Special Publication, NENG2500, "Caterpillar Tools and Shop Products Guide", for tools and supplies suitable to collect and contain fluids in Caterpillar machines.**

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

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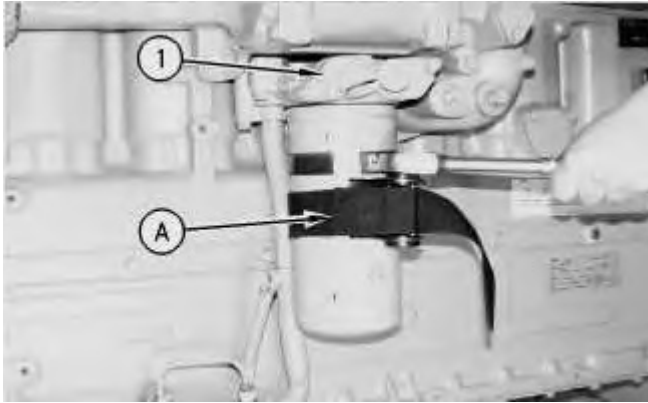


Illustration 1

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1. Remove the oil filter from engine oil filter base (1) with Tool (A).

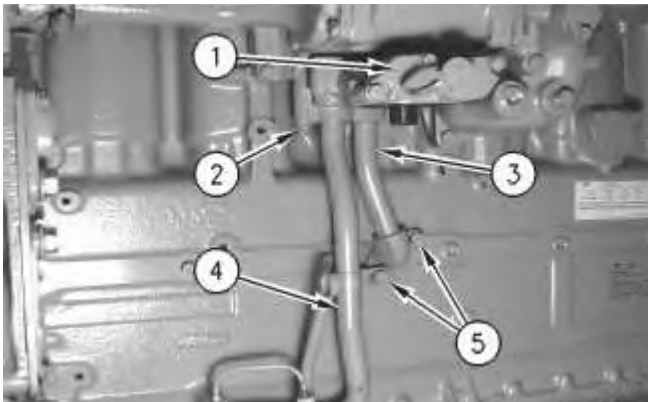


Illustration 2

g00499568

2. Remove bolts (5), tube assembly (3) and the gasket. Remove the O-ring seal in tube assembly (3) and replace the O-ring seal, if necessary.
3. Remove the bolts that hold tube assembly (4) to the cylinder block. Remove tube assembly (4) and the gasket. Remove the O-ring seal in tube assembly (4) and replace the O-ring seal, if necessary.
4. Remove four bolts (2) and engine oil filter base (1) from the cylinder block. Remove the O-ring seals from engine oil filter base (1), if necessary.



[Previous Screen](#)

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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

i00983225

# Engine Oil Filter Base - Disassemble

SMCS - 1306-015

## Disassembly Procedure

### Start By:

- A. Remove the engine oil filter and the engine oil filter base. Refer to Disassembly and Assembly, "Engine Oil Filter Base - Remove".

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### NOTICE

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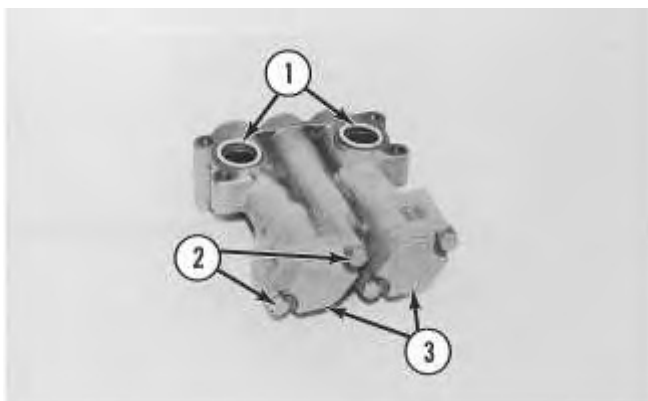


Illustration 1

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## Typical Example

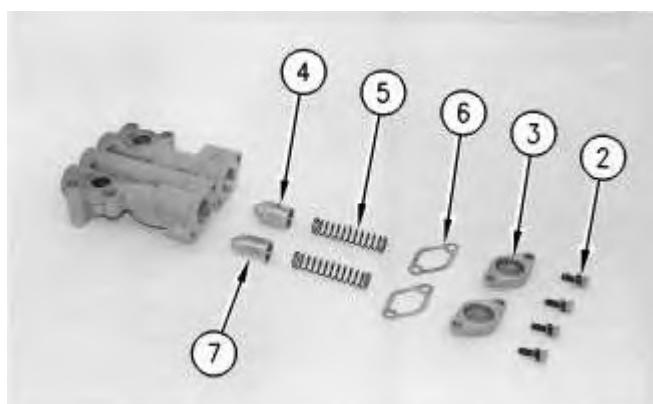


Illustration 2

g00500559

## Typical Example

1. Remove O-ring seals (1) from the engine oil filter base. Remove four bolts (2), two covers (3) and two gaskets (6) .

**Note:** Plunger (4) is for the oil filter bypass. Plunger (7) is for the engine oil cooler bypass.

2. Remove springs (5), plunger (4) and plunger (7) from the engine oil filter base.

[Previous Screen](#)

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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

i00983561

# Engine Oil Filter Base - Assemble

SMCS - 1306-016

## Assembly Procedure

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### NOTICE

**Keep all parts clean from contaminants.**

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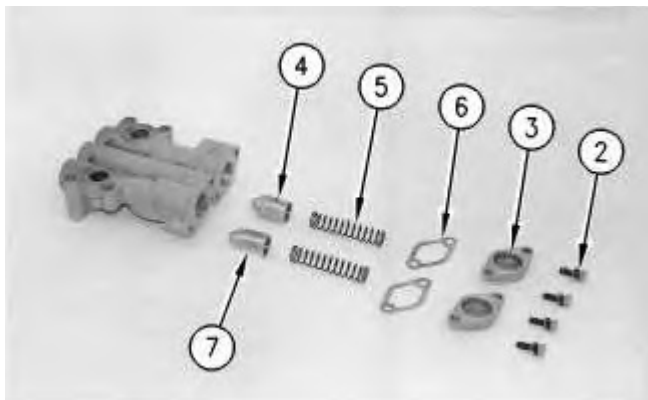


Illustration 1

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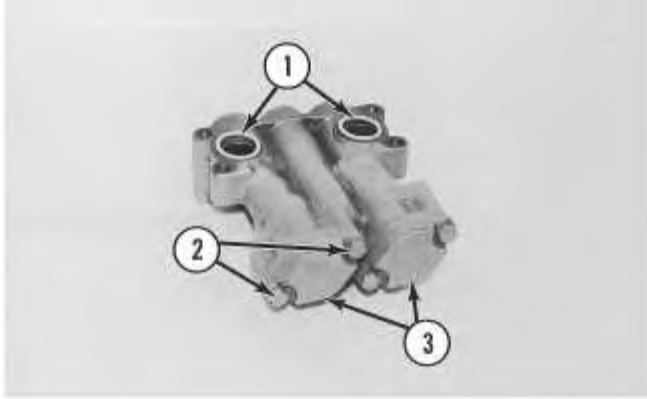


Illustration 2

g00500551

1. Install plunger (7), plunger (4) and springs (5) .

**Note:** Plunger (7) is for the engine oil cooler bypass. Plunger (4) is for the oil filter bypass.

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

2. Install two gaskets (6), two covers (3), four bolts (2) and O-ring seals (1) .

**End By:** Install the engine oil filter base and the oil filter. Refer to Disassembly and Assembly, "Engine Oil Filter Base - Install".

[Previous Screen](#)

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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

i00981970

# Engine Oil Filter Base - Install

SMCS - 1306-012

## Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	2P-8250	Strap Wrench Assembly	1

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### NOTICE

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1. Check the condition of the O-ring seals and the gaskets. If the seals or the gaskets are worn or damaged, use new parts for replacement.
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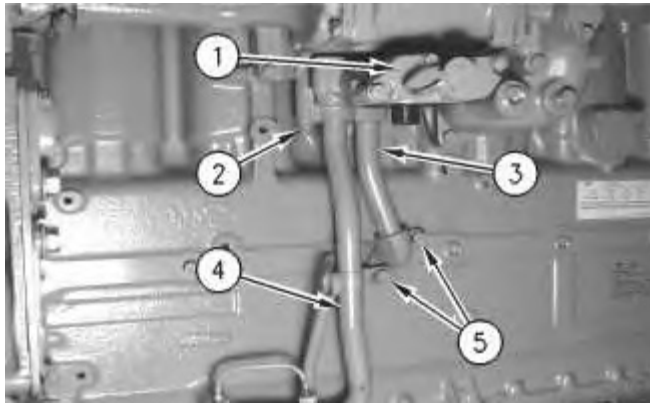


Illustration 1

g00499568

**Note:** Coat all of the O-ring seals with clean engine oil prior to installation.

2. Put the O-ring seals on engine oil filter base (1). Install engine oil filter base (1) on the cylinder block with four bolts (2) .
3. Put the O-ring seal and the gasket in position on tube assembly (4). Install tube assembly (4) on the cylinder block. Install the bolts that hold tube assembly (4) in position.
4. Put the O-ring seal and the gasket in position on tube assembly (3). Fasten the clip to tube assembly (4). Position tube assembly (3) onto the cylinder block and install bolts (5).

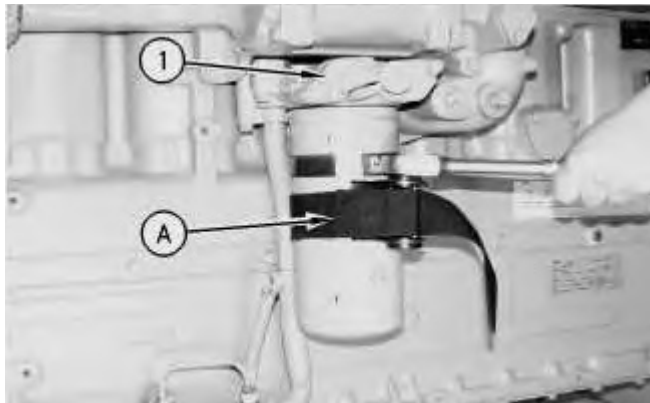


Illustration 2

g00499430

5. Install engine oil filter (1) with Tool (A) .

**Note:** Follow the installation procedure on the engine oil filter in order to install the engine oil filter on the engine oil filter base.

[Previous Screen](#)

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Media Number -SEN5598-09

Publication Date -01/01/2013

Date Updated -25/01/2013

i01111322

# Engine Oil Cooler - Remove

SMCS - 1378-011

## 3304B Removal Procedure

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### NOTICE

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### NOTICE

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

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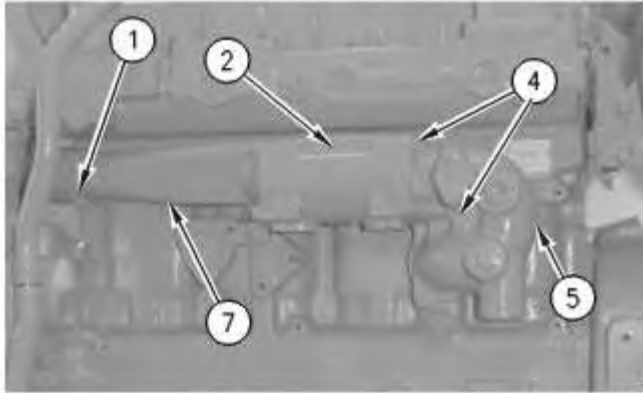


Illustration 1

g00590134

3304B engine

- (1) Remove bolts (4), elbow (5) and the gasket from the engine block.
- (2) Remove oil cooler (2) and the gasket.
- (3) If necessary, loosen clamp (1), and remove pipe (7) from the engine.

## 3306B Removal Procedure

### Start By:

- A. Remove the engine oil filter and the engine oil filter base. Refer to Disassembly and Assembly, "Engine Oil Filter Base - Remove".

---

### NOTICE

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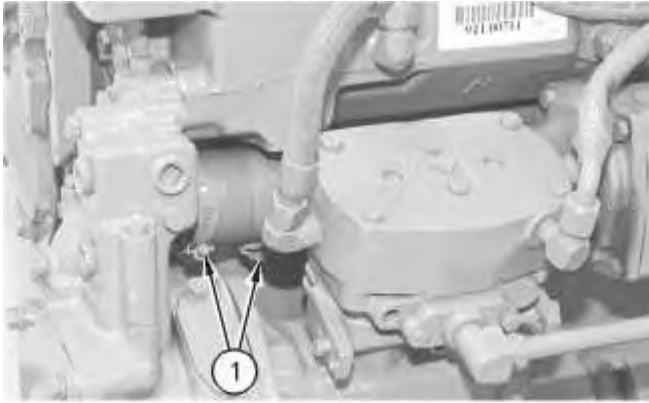


Illustration 2

g00468427

1. Loosen two hose clamps (1) .

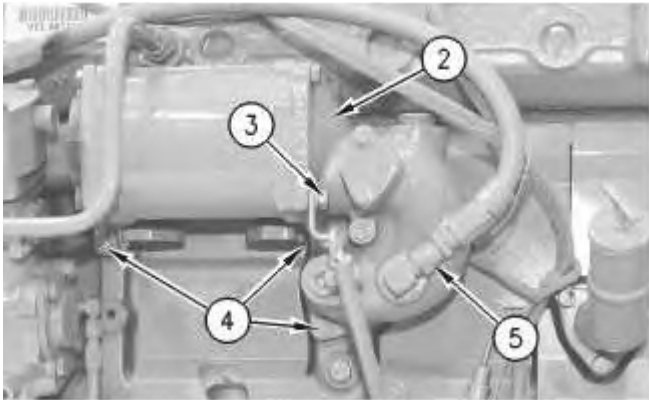


Illustration 3

g00468428

2. Disconnect hose assembly (5). Disconnect clip (3) for the engine oil level gauge. Remove three bolts (4) and remove engine oil cooler (2).



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[Previous Screen](#)

Product: ARTICULATED TRUCK

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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

i00921081

# Engine Oil Cooler - Disassemble

SMCS - 1378-015

## Disassembly Procedure

### Start By:

- A. Remove the engine oil cooler. Refer to Disassembly and Assembly, "Engine Oil Cooler - Remove".

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### NOTICE

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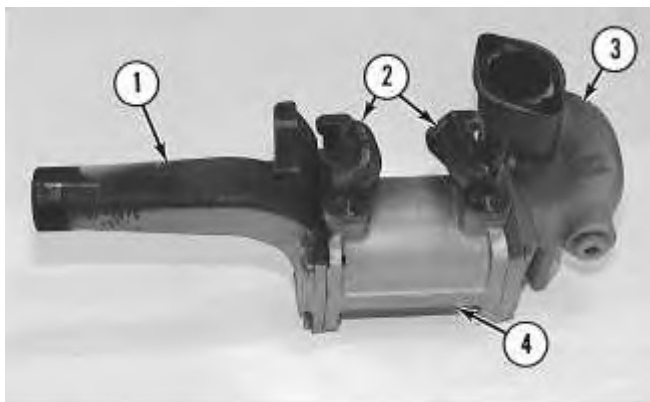


Illustration 1

g00470817

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