

Product: EXCAVATOR

Model: 317B LN EXCAVATOR 6DZ

Configuration: 317B L & 317B LN Excavators 6DZ00001-UP (MACHINE) POWERED BY 3046 Engine

## **Disassembly and Assembly 3046 Engine For Caterpillar Built Machines**

Media Number -SEN6458-05

Publication Date -01/04/2004

Date Updated -22/04/2004

i01032735

## **Cylinder Head - Remove**

SMCS - 1100-011

### **Removal Procedure**

#### **Start By:**

- A. Remove the turbocharger. Refer to Disassembly and Assembly, "Turbocharger - Remove".
- B. Remove the rocker shaft and pushrods. Refer to Disassembly and Assembly, "Rocker Shaft and Pushrods - Remove".
- C. Remove the fuel injection nozzles in order to protect from damage. Refer to Disassembly and Assembly, "Fuel Injection Nozzles - Remove".
- D. Remove the glow plugs in order to protect from damage. Refer to Disassembly and Assembly, "Glow Plugs - 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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#### **NOTICE**

**Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the machine. 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 in Caterpillar machines.**

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

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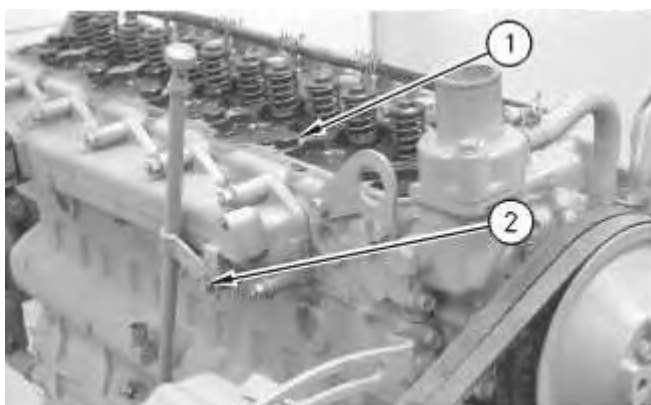


Illustration 1

g00562585

1. If necessary, remove bolt (2) and remove oil tube assembly (dipstick).
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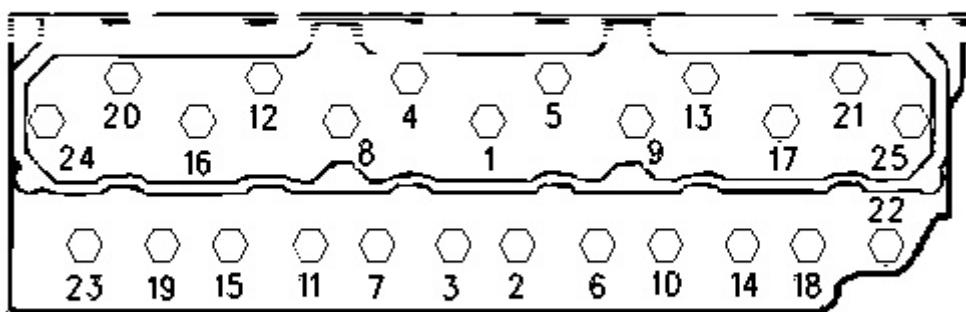


Illustration 2

g00531679

Cylinder Head Tightening Sequence

2. Gradually remove 25 cylinder head bolts (1) in reverse order of the tightening sequence.

**Note:** Do not use a pry bar to separate the cylinder head from the engine block.

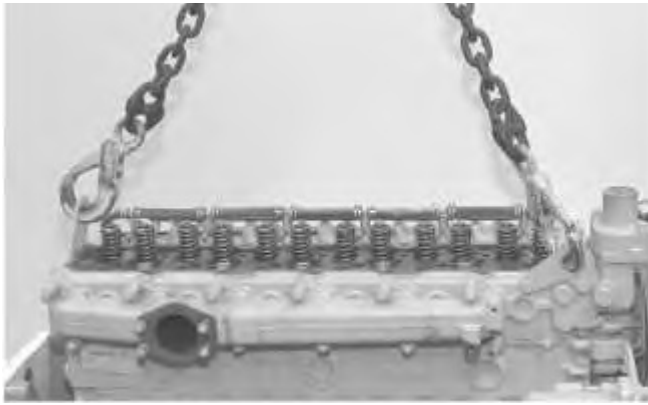


Illustration 3

g00560287

3. Attach a hoist to the cylinder head lifting brackets and remove the cylinder head from the cylinder block. The weight of the cylinder head assembly is 60 kg (132 lb).

**Note:** Place the cylinder head on a surface that will not damage the face of the cylinder head.

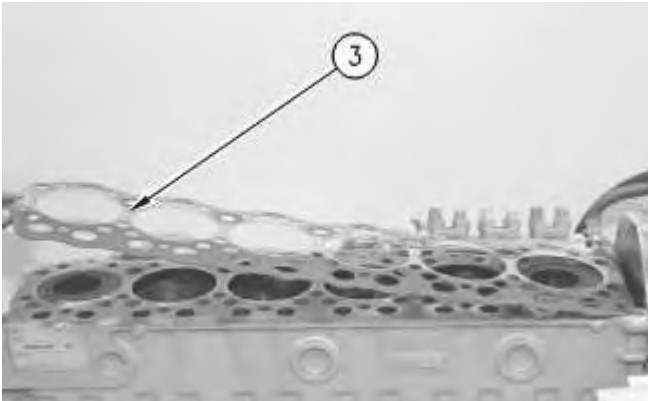


Illustration 4

g00560297

4. Remove the cylinder head gasket (3) .

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Media Number -SEN6458-05

Publication Date -01/04/2004

Date Updated -22/04/2004

i02063403

## Cylinder Head - Install

SMCS - 1100-012

### Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	9U-7995	Guide Pin	2

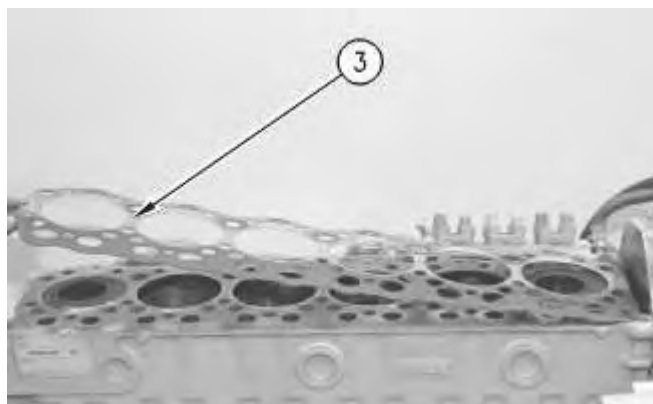
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### NOTICE

**Keep all parts clean from contaminants.**

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

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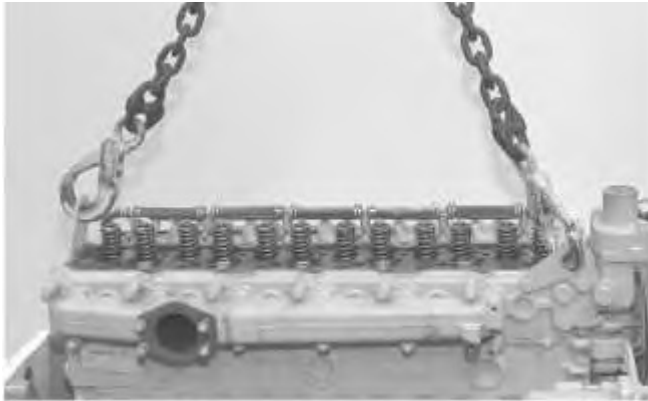
Illustration 1

g00560297

1. Clean the surfaces of the cylinder head and the cylinder block that are in contact with each other. Ensure that the surfaces are clean and dry. Install a new, dry cylinder head gasket (3) on the cylinder block.

**Note:** Do not use any sealant or gasket adhesive on the cylinder head gasket .

2. Install Tool (A) (not shown) on the cylinder block in order to install the cylinder head.

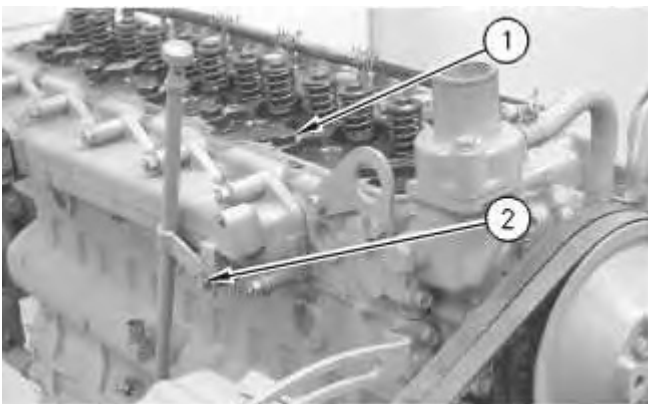


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Illustration 2

g00560287

3. Attach a hoist to the cylinder head lifting brackets and install the cylinder head in position on the cylinder block. The weight of the cylinder head assembly is 60 kg (132 lb).
4. Remove Tool (A) .
5. Apply **6V-4876** Lubricant to all of the threads and thrust faces of cylinder head bolts (1) .

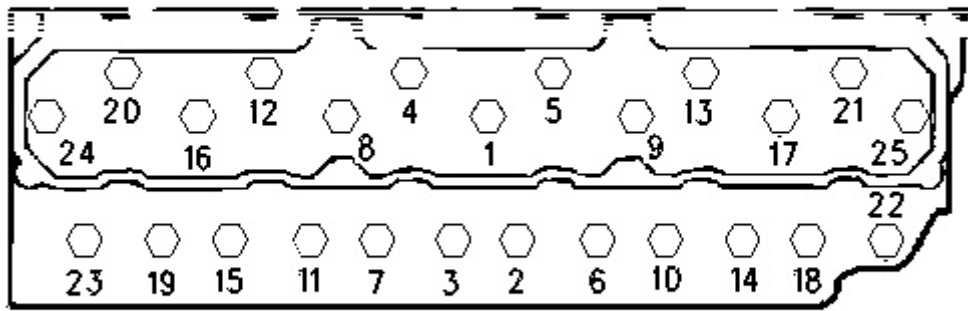


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Illustration 3

g00562585

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Illustration 4

g00531679

#### Cylinder Head Tightening Sequence

6. Install cylinder head bolts (1) and tighten all of the bolts (1 through 25) in a numerical order according to the cylinder head tightening sequence. Tighten cylinder head bolts (1) to a torque of  $118 \pm 5 \text{ N}\cdot\text{m}$  ( $87 \pm 4 \text{ lb ft}$ ).
7. If necessary, install oil tube assembly (dipstick) and install bolt (2) .

#### End By:

- a. Install the fuel injector nozzles. Refer to Disassembly and Assembly, "Fuel Injection Nozzles - Install".
- b. Install the glow plugs. Refer to Disassembly and Assembly, "Glow Plugs - Remove and Install".
- c. Install the rocker shaft and pushrods. Refer to Disassembly and Assembly, "Rocker Shaft and Pushrods - Install".
- d. Install the turbocharger. Refer to Disassembly and Assembly, "Turbocharger - Install".

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## **Disassembly and Assembly 3046 Engine For Caterpillar Built Machines**

Media Number -SEN6458-05

Publication Date -01/04/2004

Date Updated -22/04/2004

i01033379

## **Lifter Group - Remove and Install**

SMCS - 1209-010

### **Removal Procedure**

#### **Start By:**

- A. Remove the camshaft. Refer to Disassembly and Assembly, "Camshaft - Remove and Install".

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### **NOTICE**

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Illustration 1

g00532246

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