Model: 304E2 MINI HYD EXCAVATOR ME4

Configuration: 304E2 Mini Hydraulic Excavator ME400001-UP (MACHINE) POWERED BY C2.4 Engine

### **Disassembly and Assembly**

### **C2.4 Tier 4 Final Engines for Caterpillar Built Machines**

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# **Cylinder Head - Remove and Install**

**SMCS - 1100-010** 

## **Removal Procedure**

### **Start By:**

- a. Remove rocker arm shaft and pushrods.
- b. Remove inlet manifold.
- c. Remove exhaust manifold.
- d. Remove electronic unit injectors.
- e. Remove front housing.
- f. Remove glow plugs.

#### **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.

Dispose of all fluids according to local regulations and mandates.

1. Drain the coolant. Refer to Operation and Maintenance Manual, "Cooling System Coolant - Change" for the correct draining and filling procedures.

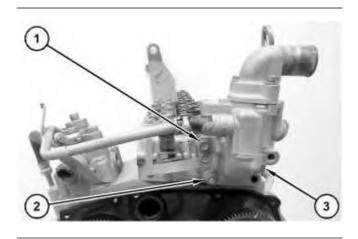


Illustration 1

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2. Remove bolts (1), nut (2), and flange assembly (3).

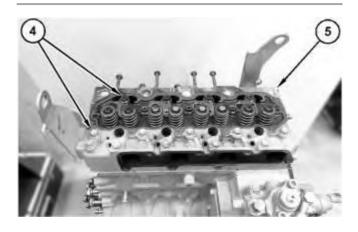


Illustration 2

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- 3. Use a suitable lifting device to remove cylinder head (5). The weight of cylinder head (5) is approximately 28 kg (61 lb).
- 4. Remove bolts (4), cylinder head (5), and the cylinder head gasket.

## **Installation Procedure**

1. Install cylinder head (5) in the reverse order of removal.

Gasket Dimension (Number)	Piston Protrusion
15	$0.475 \pm 0.525 \text{ mm} (0.0187 \pm 0.0207 \text{ inch})$
20	$0.525 \pm 0.575 \text{ mm} (0.0207 \pm 0.0226 \text{ inch})$
25	$0.575 \pm 0.625 \text{ mm} (0.0226 \pm 0.0246 \text{ inch})$
30	$0.625 \pm 0.675 \text{ mm} (0.0246 \pm 0.0266 \text{ inch})$
35	$0.675 \pm 0.725 \text{ mm } (0.0266 \pm 0.0285 \text{ inch})$



Illustration 3 g06045526

- a. Select the cylinder head gasket based on piston protrusion if:
  - the piston, piston pin, small end bushing, connecting rod, or crankpin bearings have been replaced.
  - cylinder head or block have been machined.

If none of the above were done, then install a new cylinder head gasket with the same mark. Refer to illustration 3 and table 1.

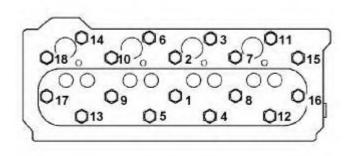


Illustration 4 g06013250

b. Apply clean engine oil to the threads of bolts (4).

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