

# Cylinder Heads

## Installation

Install the cylinder heads in the reverse order of removal:

**CAUTION:** Take care not to bend the suction pipe when installing the cylinder heads.

**NOTE:**

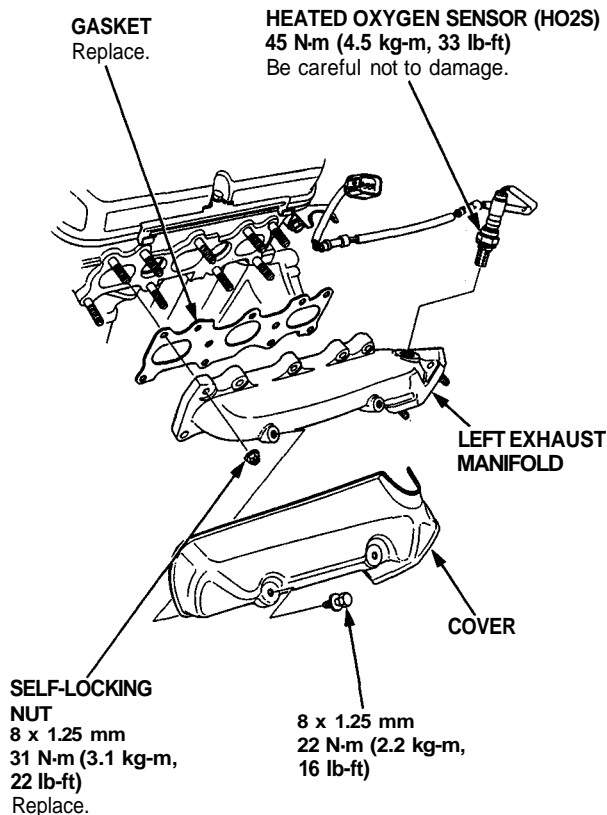
- Always use new head gaskets.
- Cylinder heads and engine block surface must be clean.
- Turn the crankshaft so that No. 1 piston is at TDC (see page 6-34).

1. Install the left and right exhaust manifolds to each cylinder head, then tighten the self-locking nuts in a crisscross pattern in two or three steps, beginning with the inner nut.
  - Apply oil to the self-locking nut threads.
  - Always use new exhaust manifold gaskets.

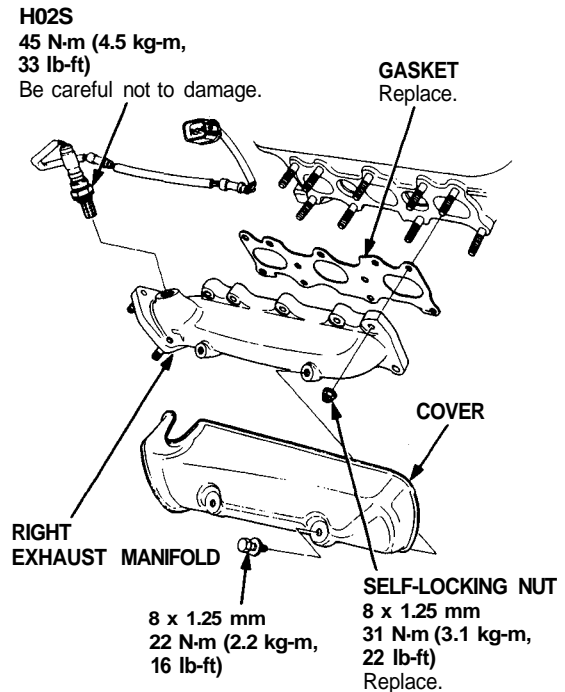
**CAUTION:** Do not tighten the self-locking nuts with an air wrench if the heated oxygen sensors are already installed.

2. Install the exhaust manifold covers.

**LEFT EXHAUST MANIFOLD:**



**RIGHT EXHAUST MANIFOLD:**

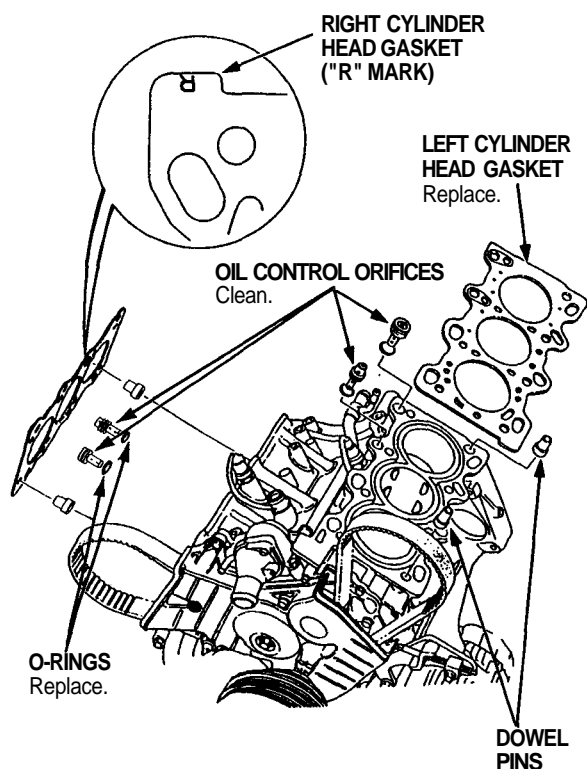




3. Clean the oil control orifices and install them with new O-rings, dowel pins and cylinder head gaskets.

**NOTE:**

- The oil control orifices and dowel pins must be aligned.
- Always use new O-rings and new cylinder head gaskets.



4. Install the cylinder heads on the engine block.

5. Tighten the cylinder head bolts sequentially in two or three steps.
  - Apply clean engine oil to the bolt threads and washer contact surfaces.

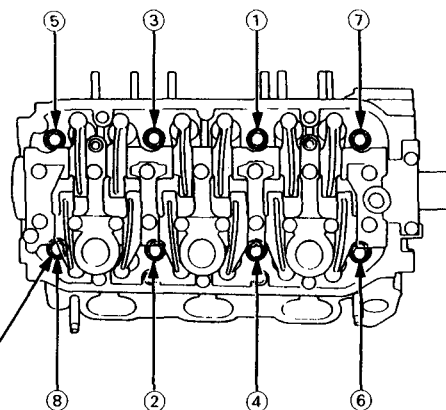
**Specified Torque:**

**11 x 1.5 mm bolts**

**78 N·m (7.8 kg·m, 56 lb·ft)**

**NOTE:** We recommend using a beam-type torque wrench. When using a preset-type torque wrench, be sure to tighten slowly and not to overtighten.

**CYLINDER HEAD BOLTS TORQUE SEQUENCE**



**CYLINDER HEAD BOLTS**

Apply engine oil to the bolt threads and washer contact surfaces.

6. Apply liquid gasket to the head mating surface of the No. 1 and No. 7 camshaft holder, then install the cylinder head cover.
  - Apply liquid gasket to the shaded areas.

