



# Cylinder Heads

## Installation

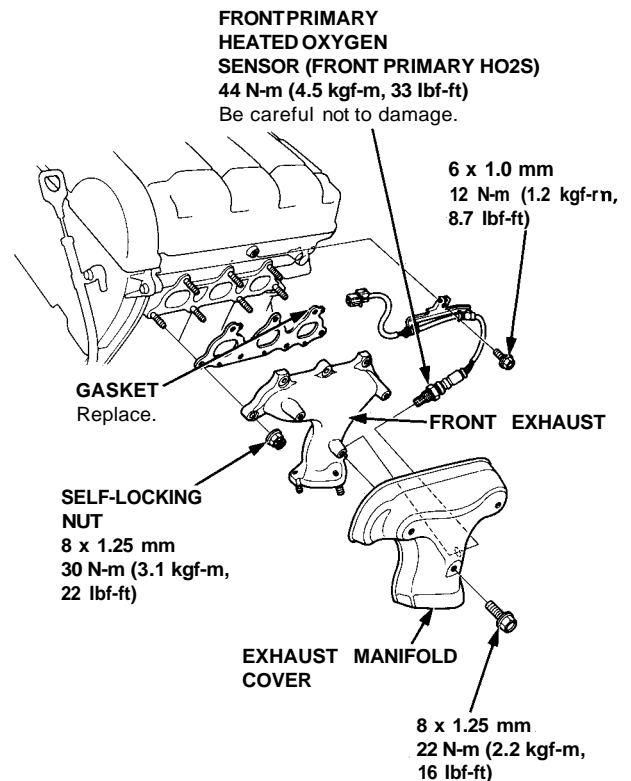
Install the cylinder heads in the reverse order of removal:

- 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 6-19).
- Do not use the middle cover and lower cover to store removed items.
- Clean the middle cover and lower cover before installation.

1. Install the front and rear 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 (A/T).
  - Apply oil to the self-locking nut threads.
  - Always use new exhaust manifold gaskets.

2. Install the exhaust manifold covers (A/T).

**Front:**



(cont'd)

# Cylinder Heads

## Installation (cont'd)

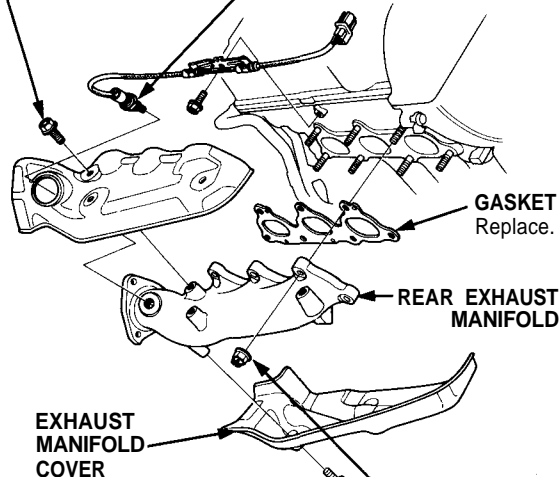
Rear:

8 x 1.25 mm  
22 N-m (2.2 kgf-m,  
16 lbf-ft)

REAR PRIMARY  
HEATED OXYGEN SENSOR  
(REAR PRIMARY HO2S)

44 N-m (4.5 kgf-m,  
33 lbf-ft)

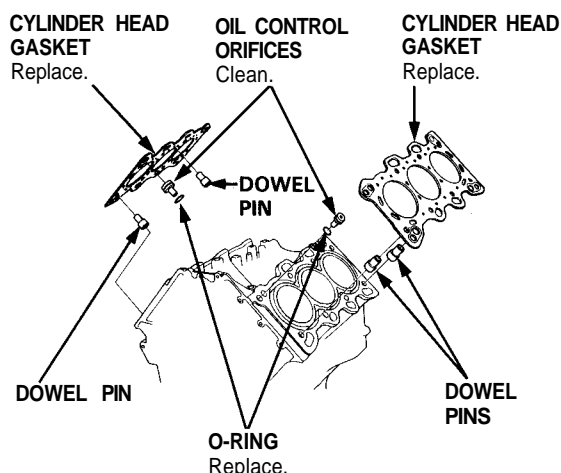
Be careful not to damage.



SELF-LOCKING NUT  
8 x 1.25 mm  
30 N-m (3.1 kgf-m,  
22 lbf-ft)  
Replace.

3. Install the cylinder heads on the engine block. The cylinder head dowel pins and the head oil control orifice must be aligned.

- Always use a new cylinder head gasket.
- Clean the oil control orifice before installing.



4. 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

M/T: 11 x 1.5 mm

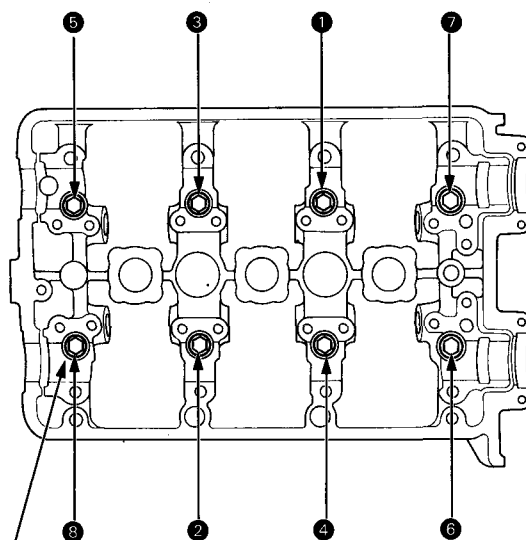
96 N-m (9.8 kgf-m, 71 lbf ft)

A/T: 11 x 1.5 mm

76 N-m (7.8 kgf-m, 56 lbf 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 over-tighten.

### CYLINDER HEAD BOLTS TORQUE SEQUENCE



### CYLINDER HEAD BOLT

M/T: 11 x 1.5 mm

96 N-m (9.8 kgf-m, 71 lbf-ft)

A/T: 11 x 1.5 mm

76 N-m (7.8 kgf-m, 56 lbf-ft)

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