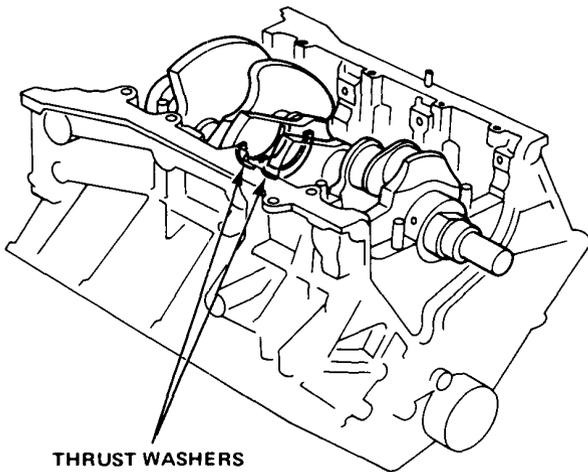


# Crankshaft

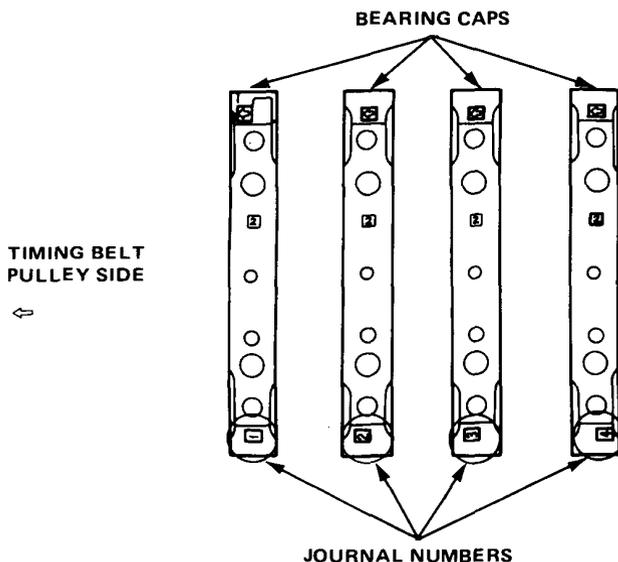
## Installation

 Before installing the crankshaft, apply a coat of engine oil to the main bearings and rod bearings.

1. Insert bearing halves in the engine block and connecting rods.
2. Lower the crankshaft into the block.

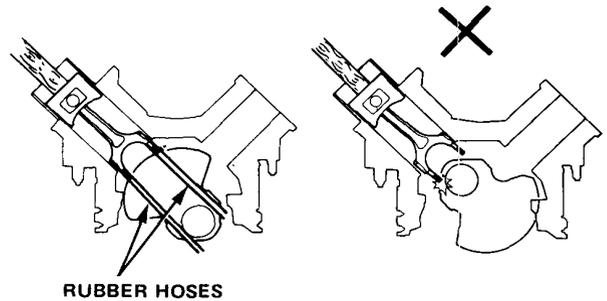


3. Install the thrust washers on the No. 3 journal. Oil thrust washer surfaces.
4. Install the bearings and caps. Torque the cap bolts.



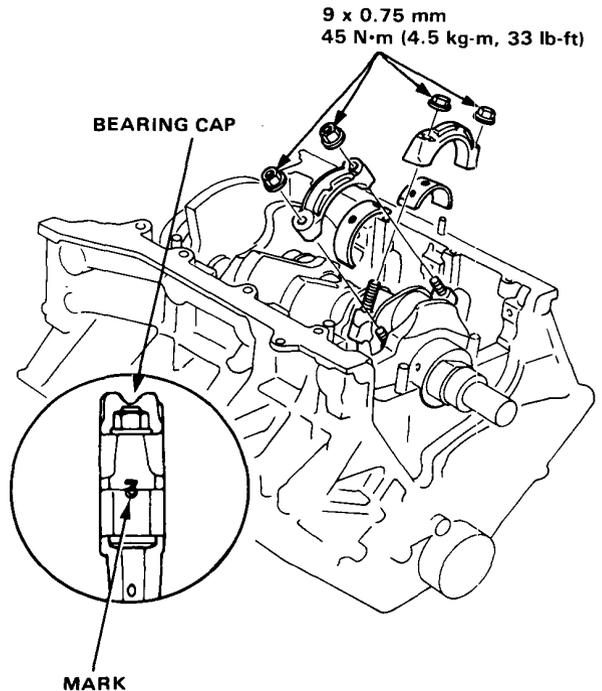
### NOTE:

- Install the pistons after setting the crankshaft to the BDC for each cylinder.
- Guide the piston carefully to prevent damage.
- Fit long rubber hoses (about 30 cm long) to connecting rod bolts to protect the crankshaft.



5. Tighten the connecting rod bolts.

- Install the piston assemblies in No. 1 and No. 4 cylinders, No. 2 and No. 5 cylinders, and No. 3 and No. 6 cylinders.



- Line up the marks when installing connecting rod caps.



- Check the rod bearing clearance with plastigage (page 7-5), then torque nuts to 45 N·m (4.5 kg-m, 33 lb-ft).

NOTE: Reference numbers on connecting rod are for big-end bore tolerance and do NOT indicate the position of piston in engine.

- Tighten 9 mm bolts to the specified torque.

**Torque: 40 N·m (4.0 kg-m, 29 lb-ft)**

- Install the bearing cap bridge, and tighten 11 mm bolts to the specified torque diagonally outward from the center.

**Torque: 68 N·m (6.8 kg-m, 49 lb-ft)**

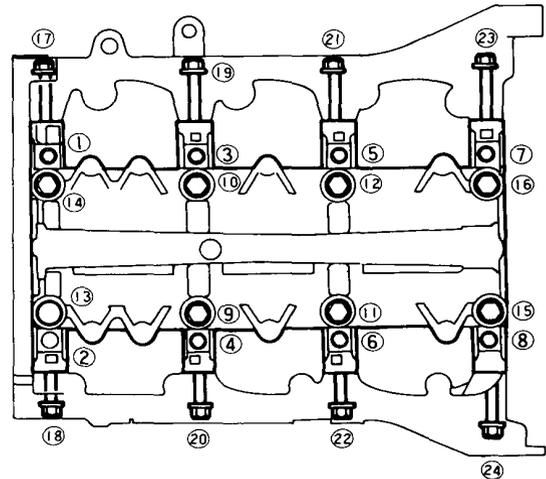
- Tighten cap side bolts (10 mm) to the specified torque.

**Torque: 50 N·m (5.0 kg-m, 36 lb-ft)**

- Coat engine oil on the bolt thread and seat surface.

NOTE: The shorter side bolts are for the front side.

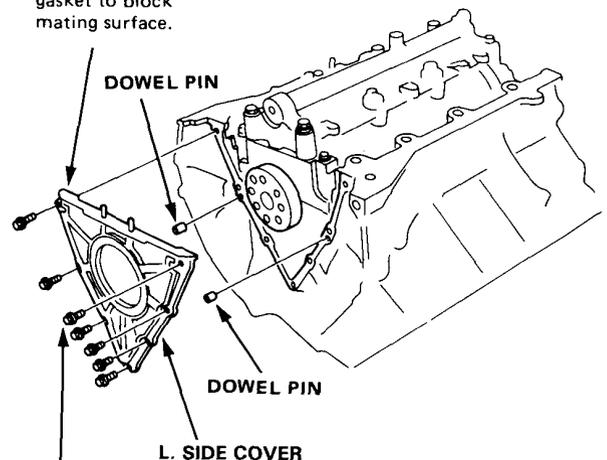
### BEARING CAP BOLTS TORQUE SEQUENCE



- Apply non-hardening liquid gasket to the block mating surface of the left side cover and oil pump case, and install them on the engine block.

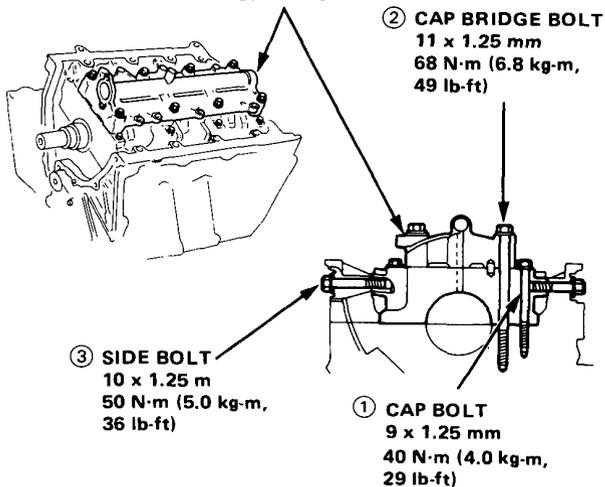
### LEFT SIDE:

Apply liquid gasket to block mating surface.



6 x 1.0 mm  
12 N·m (1.2 kg-m,  
9 lb-ft)

### BEARING CAP BRIDGES



② CAP BRIDGE BOLT  
11 x 1.25 mm  
68 N·m (6.8 kg-m,  
49 lb-ft)

③ SIDE BOLT  
10 x 1.25 m  
50 N·m (5.0 kg-m,  
36 lb-ft)

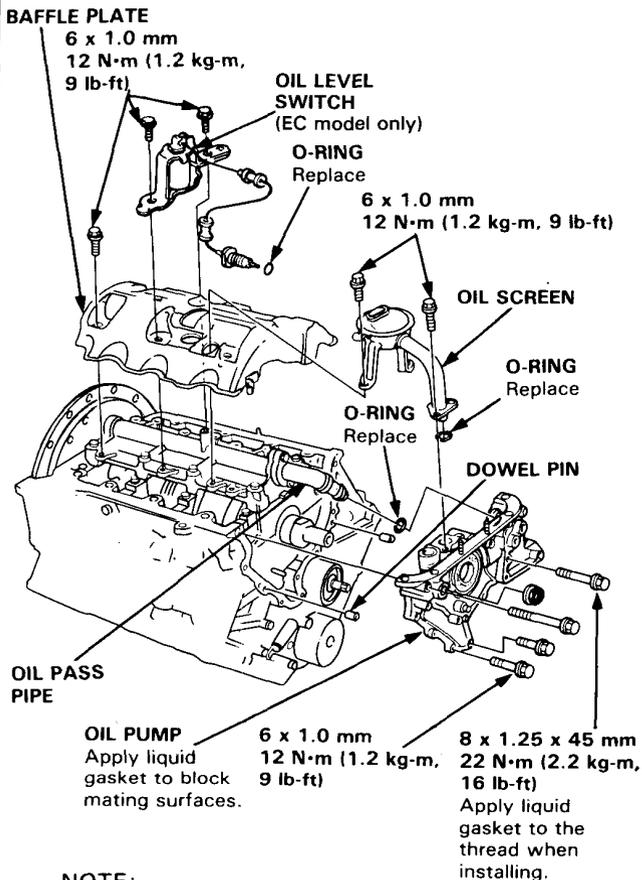
① CAP BOLT  
9 x 1.25 mm  
40 N·m (4.0 kg-m,  
29 lb-ft)

(cont'd)

# Crankshaft

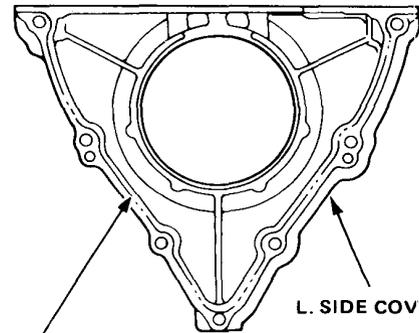
## Installation (cont'd)

### OIL PUMP SIDE:

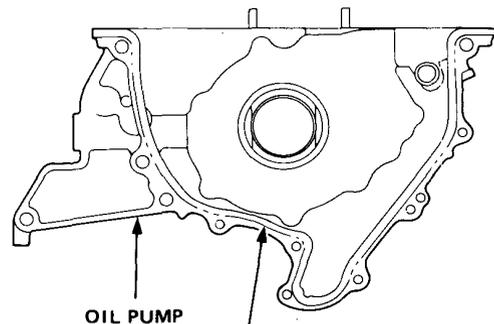


#### NOTE:

- Use PART NO. 08718-550000 OE for the liquid gasket.
- Check that the mating surfaces are clean and dry before applying liquid gasket.
- Apply liquid gasket by starting with an even band, centered between edges of the mating surface.
- To prevent leakage of oil, apply liquid gasket to the inner threads of the bolt holes.



Apply liquid gasket to inside of broken line.



OIL PUMP

Apply liquid gasket to inside of broken line.

- Do not allow the sealant to dry before assembly.
- Wait at least 30 minutes after assembly before filling the engine with oil.

11. Install the oil pass pipe and joint.
12. Install the baffle plate and install the oil level switch.
13. Install the oil screen.
14. Install the oil pan.

**CAUTION:** Whenever any crankshaft or connecting rod bearing is replaced, after reassembly run the engine at idling speed until it reaches normal operating temperature, then continue to run for approximately 15 minutes.