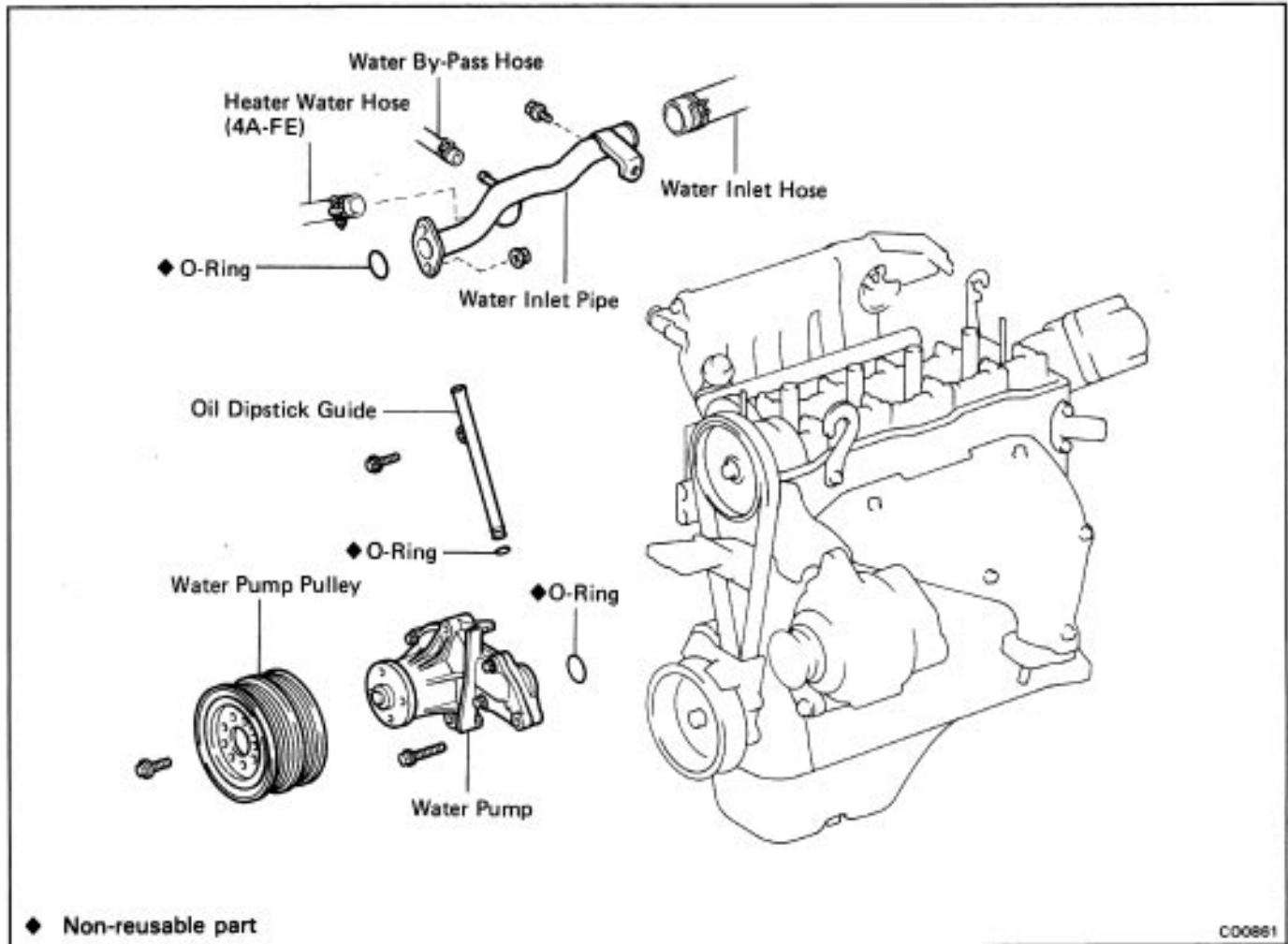
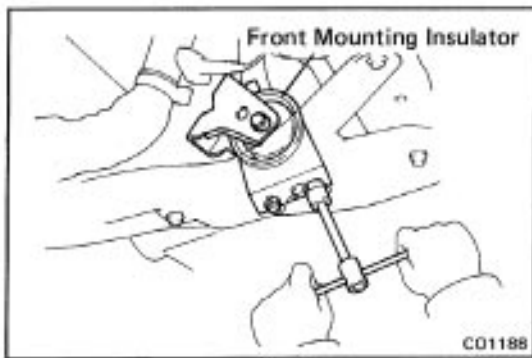


# WATER PUMP COMPONENTS

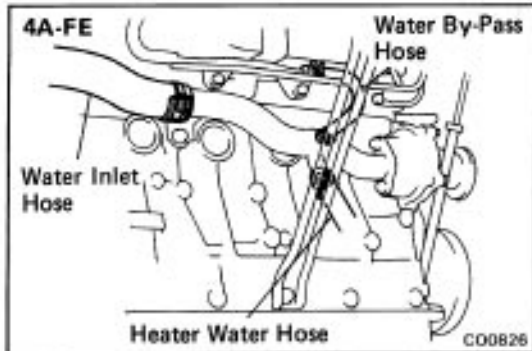


## REMOVAL OF WATER PUMP

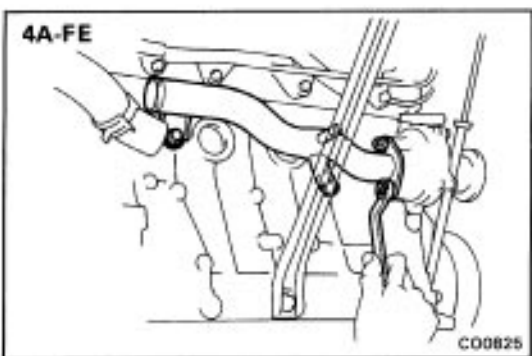
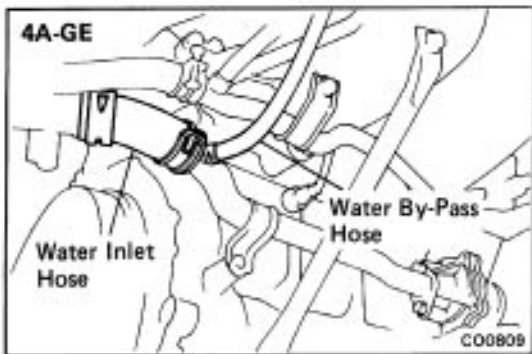
1. DRAIN COOLANT (See page [CO-5](#))
2. REMOVE RH ENGINE MOUNTING INSULATOR
  - 4A-FE (See steps 1 to 11 on pages [EM-30](#) to [EM-32](#))
  - 4A-GE (See steps 1 to 12 on pages [EM-41](#) to [EM-44](#))
3. REMOVE NO.2 AND NO.3 TIMING BELT COVERS
  - 4A-FE (See step 23 on page [EM-59](#))
  - 4A-GE (See step 26 on page [EM-93](#))

**4. (4A-FE w/ PS)****REMOVE FRONT MOUNTING INSULATOR**

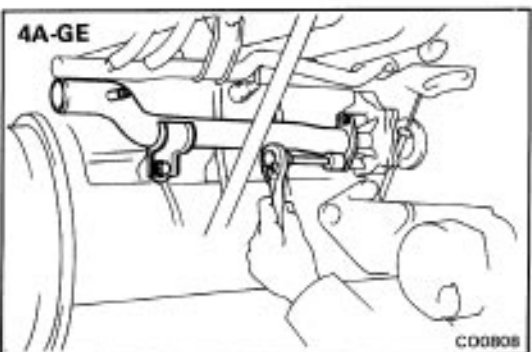
- (a) Remove the hole cover.
- (b) Remove the two bolts from the mounting.
- (c) Remove the nut, through bolt and front mounting insulator.

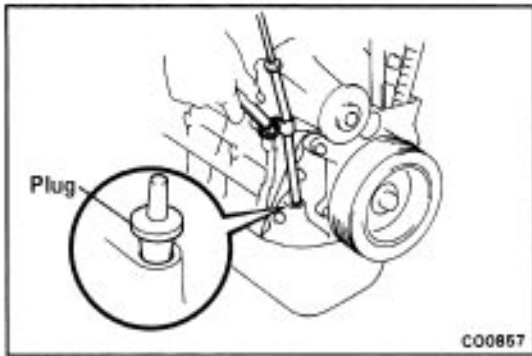
**5. (4A-FE w/ PS)****REMOVE ELECTRIC COOLING FAN**(See page [CO-23](#))**6. REMOVE WATER INLET PIPE**

- (a) Disconnect the water inlet and water by-pass hoses from the inlet pipe.
- (b) (4A-FE)  
Disconnect the heater water hose from the inlet pipe.



- (c) Remove the two nuts and clamp bolts.
- (d) Remove the water inlet pipe and O-ring.

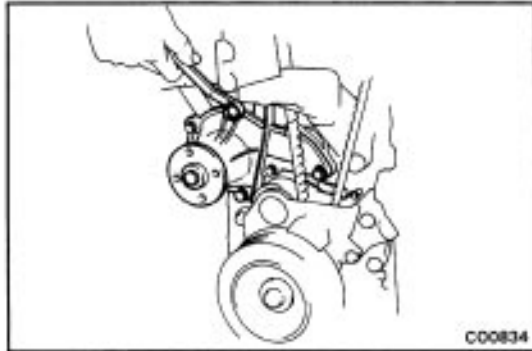




### 7. REMOVE OIL DIPSTICK GUIDE AND DIPSTICK

Remove the mounting bolt and pull out the dipstick guide and gauge.

**HINT:** After pulling out the oil dipstick guide, be sure to plug the oil pump body hole.



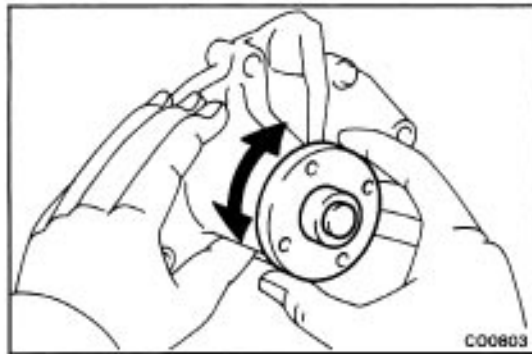
### 8. REMOVE WATER PUMP

Remove the three bolts and water pump.

**NOTICE:** Be careful not to get coolant on the timing belt.

### 9. REMOVE WATER PUMP PULLEY

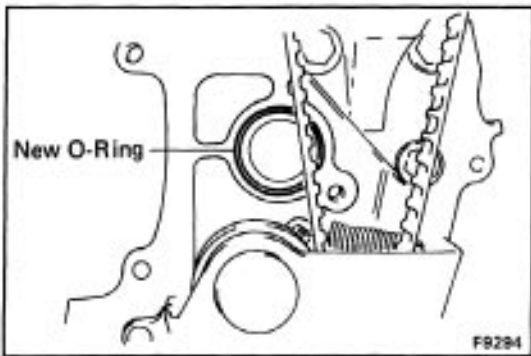
Remove the four bolts and pump pulley.



## INSPECTION OF WATER PUMP

### INSPECT WATER PUMP

Turn the pulley and check that the water pump bearing moves smoothly and quietly.

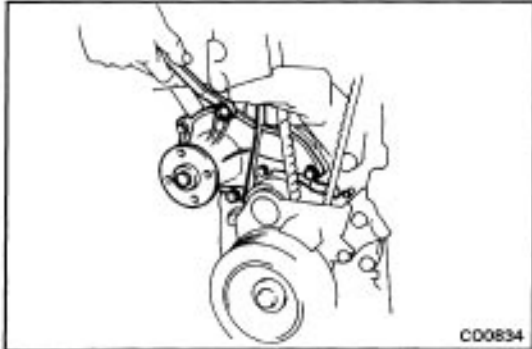


## INSTALLATION OF WATER PUMP

(See page CO-6)

### 1. TEMPORARILY INSTALL WATER PUMP PULLEY

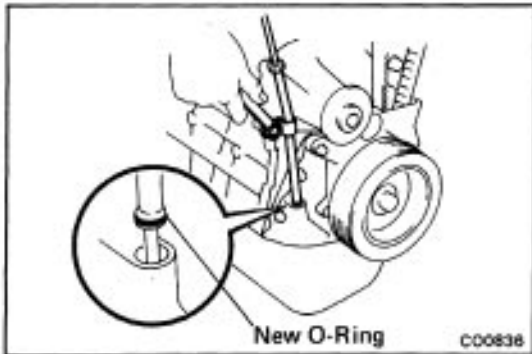
Install the water pump pulley and partially tighten the four bolts.



### 2. INSTALL WATER PUMP

Place a new O-ring on the block and install the pump with the three bolts. Torque the bolts.

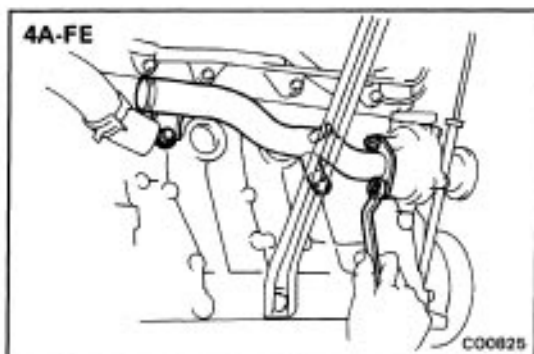
**Torque: 150 kg-cm (11 ft-lb, 15 N-m)**



### 3. INSTALL OIL DIPSTICK GUIDE AND DIPSTICK

- (a) Install a new O-ring on the oil dipstick guide.
- (b) Apply small amount of engine oil to O-ring.
- (c) Push in the oil dipstick guide with the O-ring.
- (d) Install the mounting bolt.

**Torque: 95 kg-cm (82 in.-lb, 9.3 N-m)**



### 4. INSTALL WATER INLET PIPE

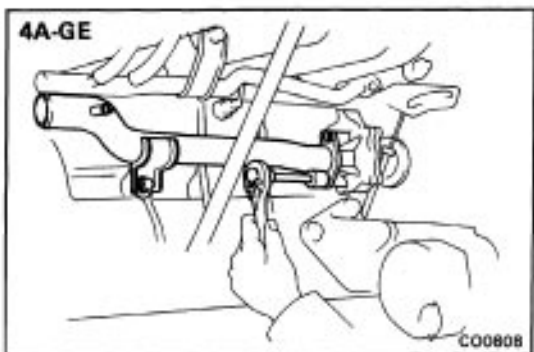
- (a) Install the inlet pipe and a new O-ring to the water pump with the two nuts.

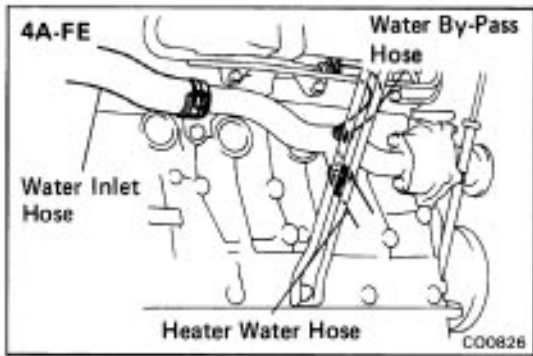
**Torque: 4A-FE 200 kg-cm (14 ft-lb, 20 N-m)**

**4A-GE 95 kg-cm (82 in.-lb, 9.3 N-m)**

- (b) Install the inlet pipe clamp bolt.

**Torque: 130 kg-cm (9 ft-lb, 13 N-m)**

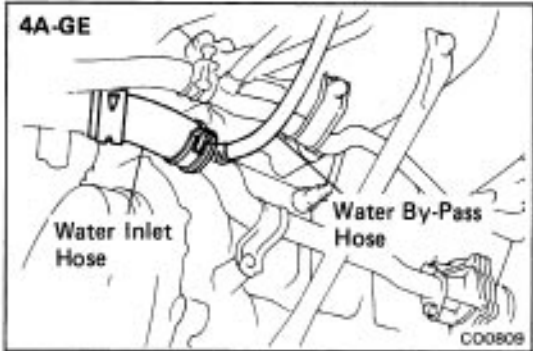




(c) (4A-FE)

Connect the heater water hose to the inlet pipe.

(d) Connect the water inlet and water by-pass hoses to the inlet pipe.



5. (4A-FE w/ PS)

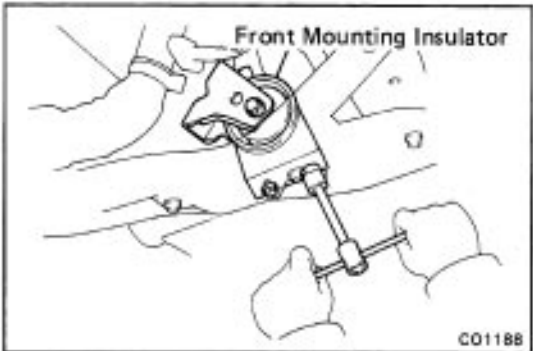
**INSTALL ELECTRIC COOLING FAN**

(See page [CO-23](#))

6. (4A-FE w/ PS)

**INSTALL FRONT MOUNTING INSULATOR**

(See step 10 on page [EM-160](#))



7. **INSTALL NO.2 AND NO.3 TIMING BELT COVERS**

4A-FE (See step 11 on page [EM-83](#))

4A-GE (See step 13 on page [EM-113](#))

8. **INSTALL RH ENGINE MOUNTING INSULATOR**

4A-FE (See steps 10 to 22 on pages [EM-38](#) to [EM-40](#))

4A-GE (See steps 12 to 24 on pages [EM-51](#) to [EM-53](#))

9. **REFILL WITH COOLANT** (See page [CO-5](#))

10. **START ENGINE AND CHECK FOR LEAKS**