

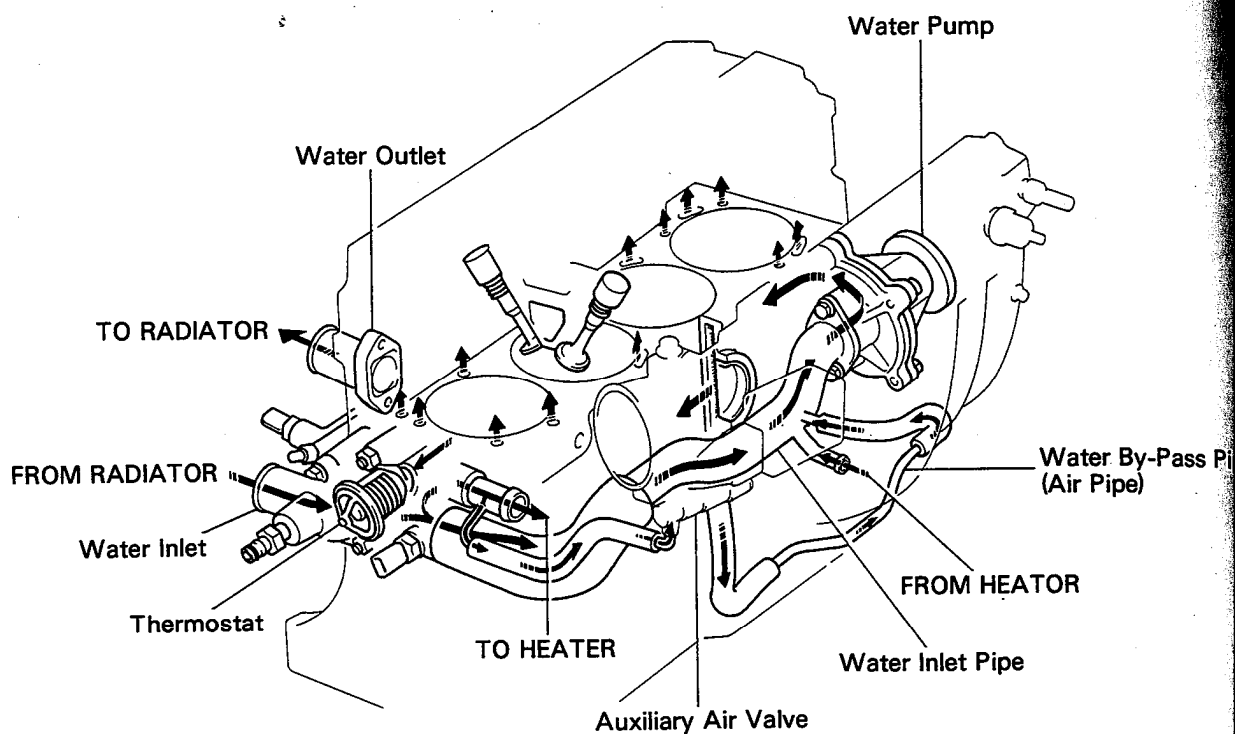
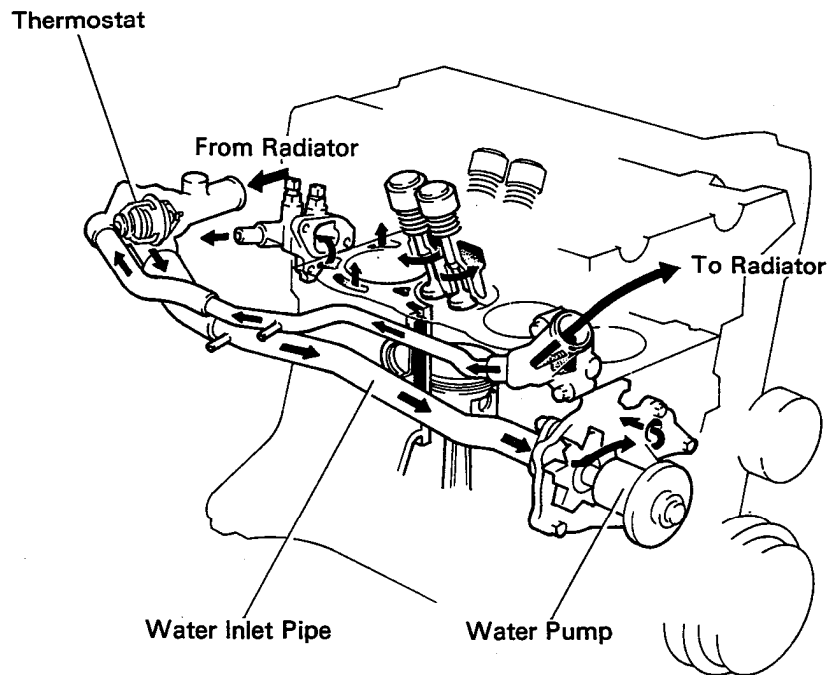
# COOLING SYSTEM

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CO

## DESCRIPTION

This engine utilizes a pressurized forced circulation cooling system which includes a thermostat equipped with a by-pass valve mounted on the inlet side.

**4A-FE****4A-GE**

The cooling system is composed of the water jacket (inside the cylinder block and cylinder head), radiator, water pump, thermostat, electric fan, hoses and other components.

Coolant which is heated in the water jacket is pumped to the radiator, through which an electric fan flows air to cool the coolant as it passes through. Coolant which has been cooled is then sent back to the engine by the water pump, where it cools the engine.

The water jacket is a network of channels in the shell of the cylinder block and cylinder head through which coolant passes. It is designed to provide adequate cooling of the cylinders in the combustion chambers which become heated during engine operation.

### RADIATOR

The radiator performs the function of cooling the coolant which has passed through the water jacket and become hot, and is mounted in the front of the vehicle. The radiator consists of an upper and lower tank, and a core which connects the two tanks. The upper tank contains the inlet for coolant from the water jacket and the filter inlet. It also has a hose attached through which excess coolant or steam can flow. The lower tank contains the outlet for coolant and the drain cock. The core contains many tubes through which coolant flows from the upper tank to the lower tank as well as cooling fins which radiate heat away from the coolant in the tubes. The air sucked through the radiator by the electric fan, as well as the wind generated by the vehicle's travel, passes through the radiator, cooling it. Models with automatic transmissions include an automatic transmission fluid cooler built into the lower tank of the radiator. A fan with an electric motor is mounted behind the radiator to assist the flow of air through the radiator. The fan operates when the coolant temperature becomes high in order to prevent it from becoming too high.

### RADIATOR CAP

The radiator cap is a pressure type cap which seals the radiator, resulting in pressurization of the radiator as the coolant expands. The pressurization prevents the coolant from boiling even when the coolant temperature exceeds 100°C (212°F). A relief valve (pressurization valve) and a vacuum valve (negative pressure valve) are built into the radiator cap. The relief valve opens and lets steam escape through the overflow pipe when the pressure generated inside the cooling system exceeds the limit (coolant temperature: 110 – 120°C, 230 – 248°F, pressure: 0.3 – 1.0 kg/cm<sup>2</sup>, 4.3 – 14.2 psi, 29.4 – 98.1 kPa). The vacuum valve opens to alleviate the vacuum which develops in the coolant system after the engine is

stopped and the coolant temperature drops. The valve's opening allows return of the coolant in the reservoir tank to the cooling system.

### RESERVOIR TANK

The reservoir tank is used to catch coolant which overflows the cooling system as a result of volumetric expansion when the coolant is heated. The coolant in the reservoir tank returns to the radiator when the coolant temperature drops, thus keeping the radiator full at all times and avoiding needless coolant loss. Check the reservoir tank level to see if the coolant needs to be replenished.

### WATER PUMP

The water pump is used for forced circulation of coolant through the cooling system. It is mounted on the front of the cylinder block and driven by a timing belt.

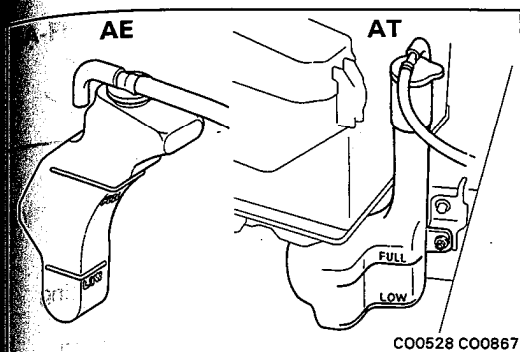
### THERMOSTAT

The thermostat is a wax type bypass valve and is mounted in the water inlet housing. The thermostat includes a type of automatic valve operated by fluctuations in the coolant temperature. This valve closes when the coolant temperature drops, preventing the circulation of coolant through the engine and thus permitting the engine to warm up rapidly. The valve opens when the coolant temperature has risen, allowing the circulation of coolant. Wax inside the thermostat expands when heated and contacts when cooled. Heating the wax thus generates pressure which overpowers the force of the spring which keeps the valve closed, thus opening the valve. When the wax cools, its contraction causes the force of the spring to take effect once more, closing the valve. The thermostat in this engine operates at a temperature of 82°C (180°F).

## TROUBLESHOOTING

| Problem          | Possible cause                                                                             | Remedy                          | Page  |
|------------------|--------------------------------------------------------------------------------------------|---------------------------------|-------|
| Engine overheats | Check coolant                                                                              | Replenish coolant               |       |
|                  | Water pump drive belt loose or missing                                                     | Adjust or replace belt          |       |
|                  | Dirt, leaves or insects on radiator                                                        | Clean radiator                  |       |
|                  | Hoses, water pump, thermostat housing, radiator, heater, core plugs or head gasket leakage | Repair as necessary             |       |
|                  | Thermostat faulty                                                                          | Check thermostat                | CO-13 |
|                  | Ignition timing retarded                                                                   | Set timing                      |       |
|                  | Electric cooling system faulty                                                             | Inspect electric cooling system | CO-21 |
|                  | Radiator hose plugged or rotted                                                            | Replace hose                    |       |
|                  | Water pump faulty                                                                          | Replace water pump              | CO-6  |
|                  | Radiator plugged or cap faulty                                                             | Check radiator                  | CO-15 |
|                  | Cylinder head or block cracked or plugged                                                  | Repair as necessary             |       |

**HINT:** The thermostat is equipped with a by-pass valve, if the engine tends to overheat, removal of the thermostat would have an adverse effect, causing a loss of cooling efficiency.

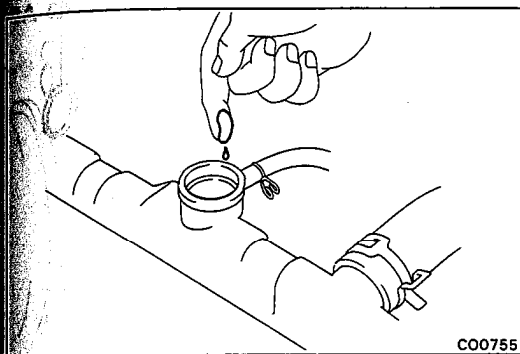


## CHECK AND REPLACEMENT OF ENGINE COOLANT

### 1. CHECK ENGINE COOLANT LEVEL AT RESERVE TANK

The coolant level should be between the "LOW" and "FULL" lines.

If low, check for leaks and add coolant up to the "FULL" line.



### 2. CHECK ENGINE COOLANT QUALITY

There should not be any excessive rust deposits or scales around the radiator cap or radiator filler hole, and the coolant should be free from oil.

If excessively dirty, replace the coolant.

### 3. REPLACE ENGINE COOLANT

(a) Remove the radiator cap.

**CAUTION:** To avoid the danger of being burned, do not remove it while the engine and radiator are still hot, as fluid and steam can be blown out under pressure.

(b) Drain the coolant from the radiator and engine drain cocks. (The engine drain cock is near the oil filter.)

(c) Close the drain cocks.

**Torque (Engine drain cock):**

**350 kg-cm (25 ft-lb, 34 N·m)**

(d) Fill the system with coolant.

Use a good brand of ethylene-glycol or alcohol type antifreeze, or TOYOTA radiator conditioner or equivalent anticorrosive, mixed according to the manufacturer's directions.

**Ethylene-glycol type:** This type has an antifreeze and anticorrosive effect.

**TOYOTA radiator conditioner:** This has only an anticorrosive effect.

#### NOTICE:

- Do not use alcohol type coolant.
- The coolant should be mixed with demineralized water or distilled water.

#### Capacity (w/ Heater):

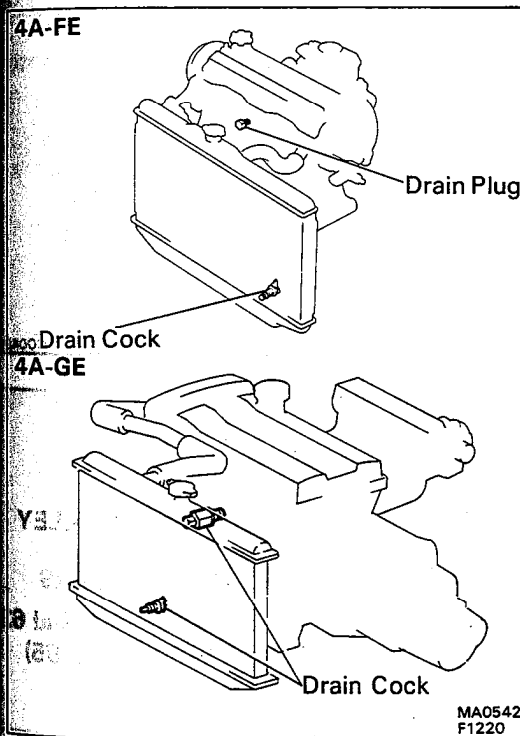
##### 4A-FE

|        |                                       |
|--------|---------------------------------------|
| AE M/T | 6.2 liters (6.5 US qts, 5.5 Imp. qts) |
| AE A/T | 6.1 liters (6.4 US qts, 5.4 Imp. qts) |
| AT171  | 5.6 liters (5.9 US qts, 4.9 Imp. qts) |
| AT180  | 5.2 liters (5.5 US qts, 4.6 Imp. qts) |
| 4A-GE  | 6.0 liters (6.3 US qts, 5.3 Imp. qts) |

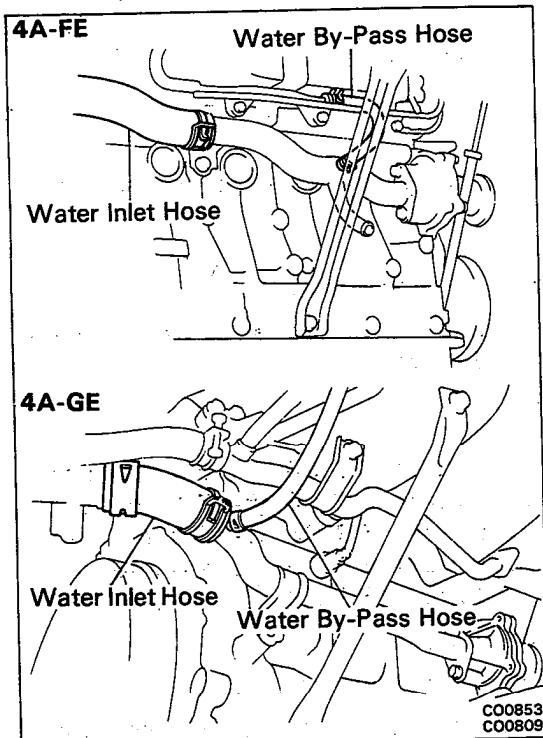
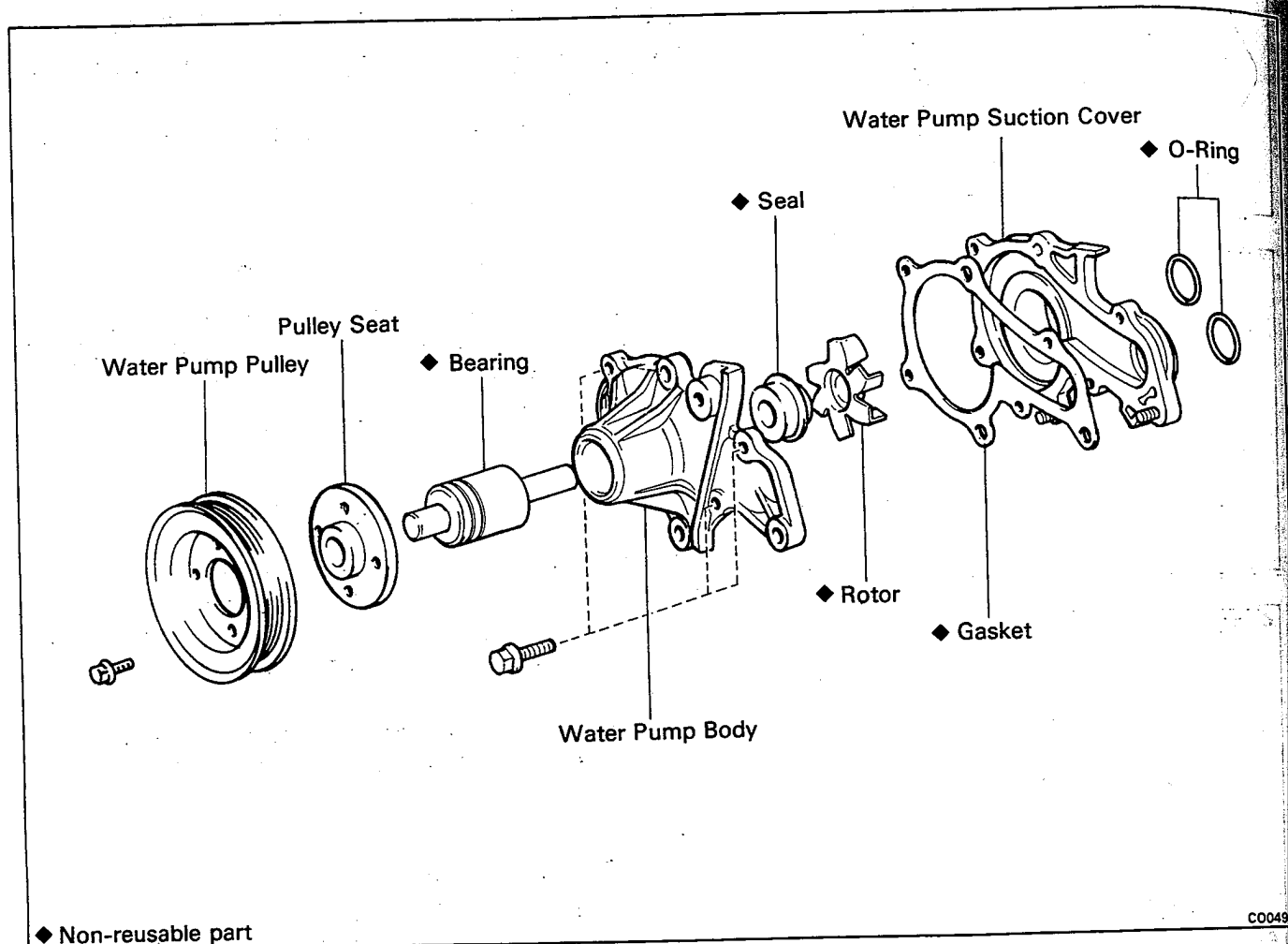
(e) Install the radiator cap.

(f) Start the engine and check for leaks.

(g) Recheck the coolant level and refill as necessary.



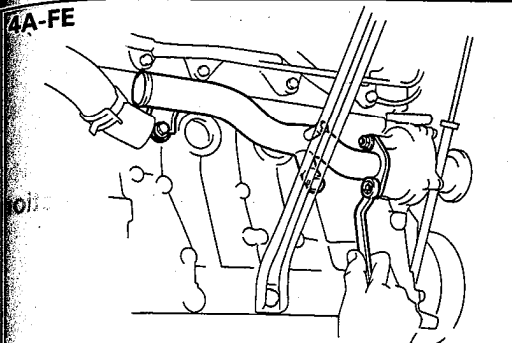
## WATER PUMP COMPONENTS



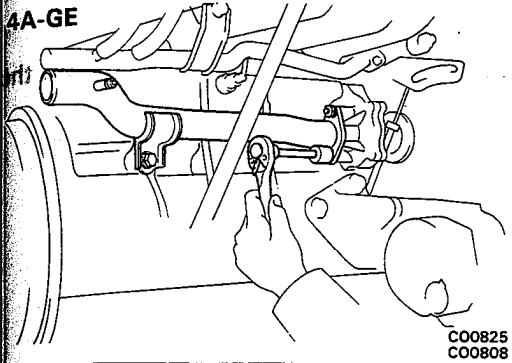
## REMOVAL OF WATER PUMP

1. DRAIN COOLANT (See page CO-5)
2. REMOVE DRIVE BELT AND WATER PUMP PULLEY
3. REMOVE NO.3 AND NO.2 TIMING BELT COVERS  
 4A-FE (See steps 8, 12 and 14 on pages EM-60 and 61)  
 4A-GE (See steps 2 and 15 on pages EM-93 and 95)
4. REMOVE WATER INLET PIPE
  - (a) Disconnect the water inlet and water by-pass hoses from the inlet pipe.

4A-FE

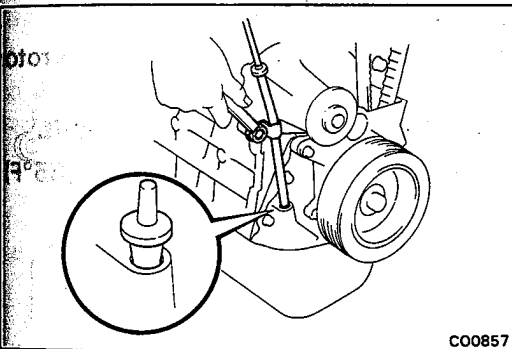


4A-GE

C00825  
C00808

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

0101

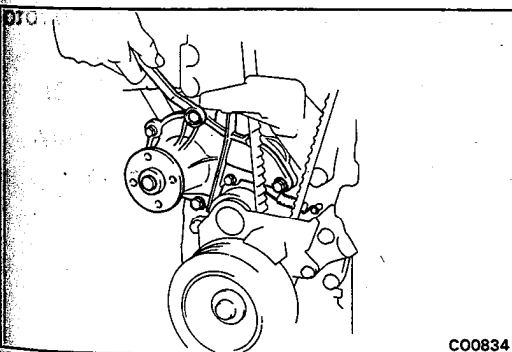


C00857

## 5. REMOVE OIL DIPSTICK GUIDE AND DIPSTICK

- (a) Remove the dipstick.
- (b) Remove the bolt, and pull out the dipstick guide. Plug the guide installation hole of the oil pump.
- (c) Remove the O-ring from the dipstick guide.

0101

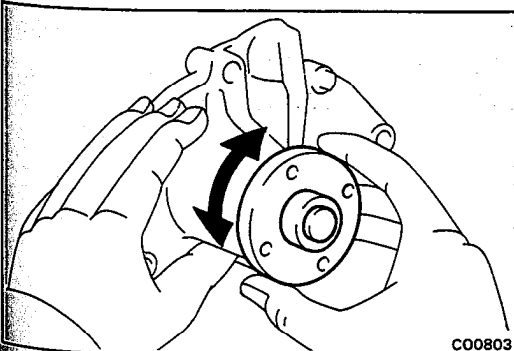


C00834

## 6. REMOVE WATER PUMP

- (a) Remove the three bolts and water pump.
- (b) Remove the O-ring.

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



C00803

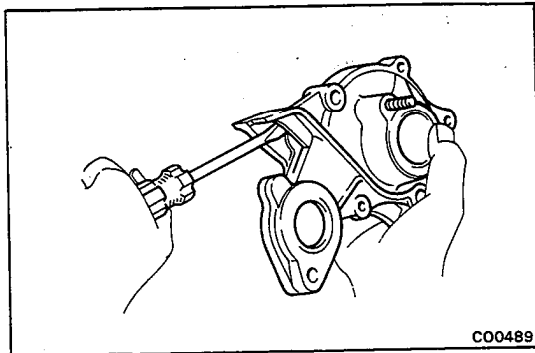
## INSPECTION OF WATER PUMP

### INSPECT WATER PUMP

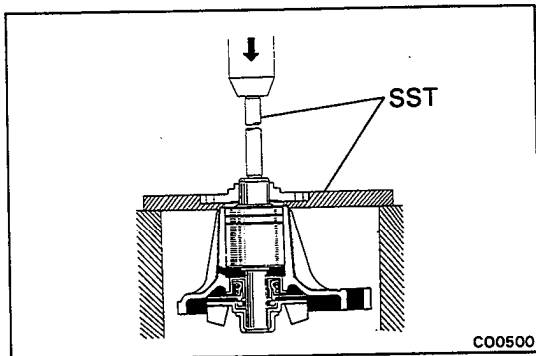
Turn the pulley and check that the water pump bearing moves smoothly and quietly.

**DISASSEMBLY OF WATER PUMP**

(See page CO-6)

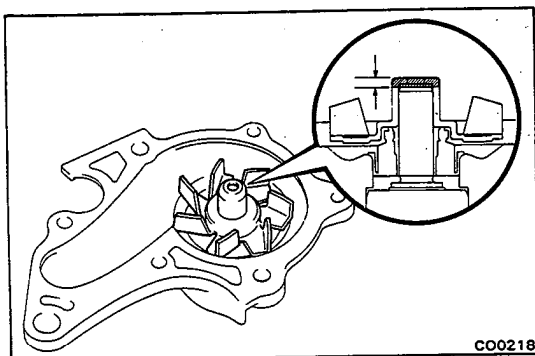
**1. REMOVE WATER PUMP SUCTION COVER**

- (a) Remove the three bolts.
- (b) Using a screwdriver, pry off the water pump suction cover.

**2. REMOVE PULLEY SEAT**

Using SST and a press, remove the pulley seat from the water pump bearing shaft.

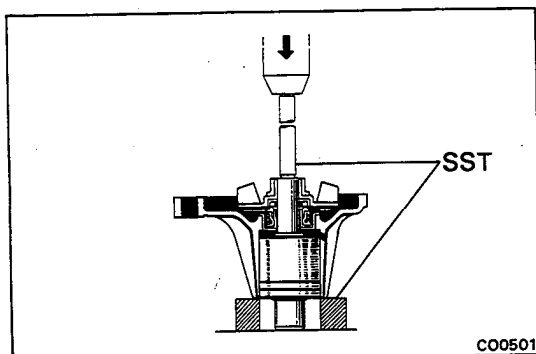
SST 09236-00101 (09237-00010, 09237-00040)

**3. REMOVE WATER PUMP BEARING**

- (a) Using a grinding wheel, grind the water pump rotor as shown.

**NOTICE:** Do not grind water pump bearing shaft.

- (b) Heat the water pump body to approx. 85°C (185°F).

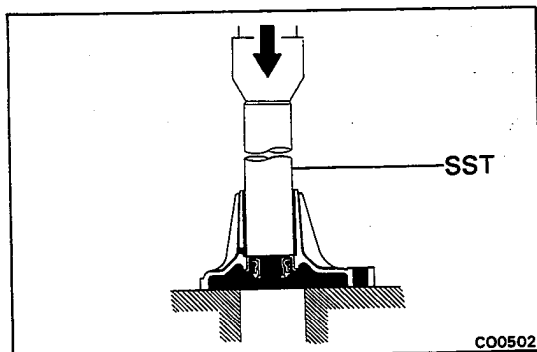


- (c) Using SST and a press, remove the water pump rotor and bearing.

SST 09236-00101 (09237-00010, 09237-00040)

- (d) Remove the seal set from the water pump body.

**NOTICE:** Do not damage the water pump body.

**4. REMOVE SEAL**

Using SST and a press, remove the seal.

SST 09236-00101 (09236-15010)

## ASSEMBLY OF WATER PUMP

(See page CO-6)

**HINT:** Always assemble the water pump with a new seal set, a new rotor and a new bearing.

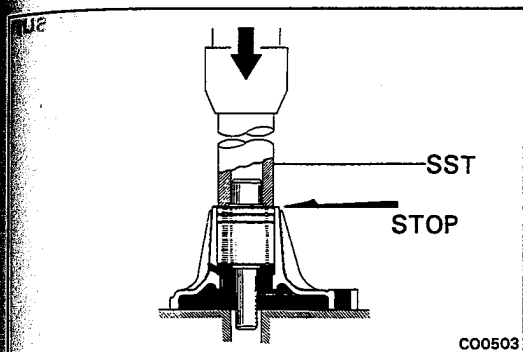
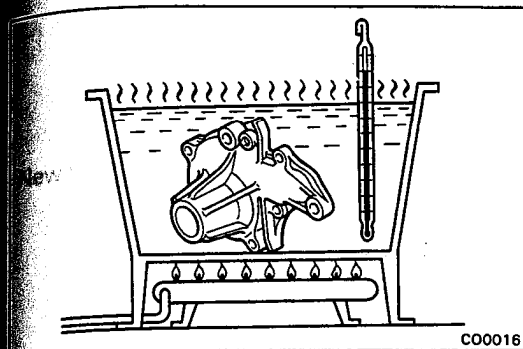
### 1. INSTALL WATER PUMP BEARING

- (a) Gradually heat the water pump body to approx. 85°C (185°F).

- (b) Using SST and a press, install a new water pump bearing into the water pump body.

SST 09236-00101 (09237-00020)

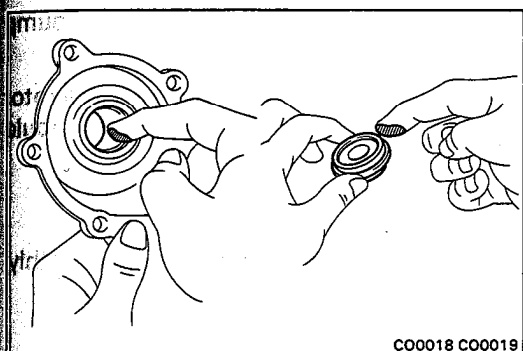
**HINT:** The bearing end face should be flush with the body top surface.



### 2. INSTALL SEAL

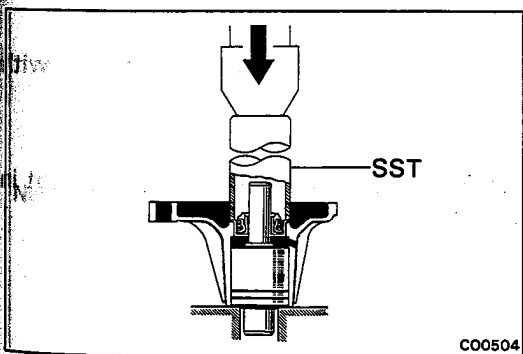
- (a) Apply a seal packing No.1282-B to a new seal and pump body.

**Seal packing:** Part No.08826-00100 or equivalent



- (b) Using SST and a press, install the seal on the water pump bearing.

SST 09236-00101 (09237-00020)



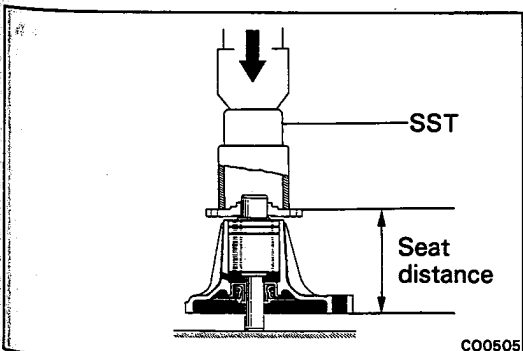
### 3. INSTALL PULLEY SEAT

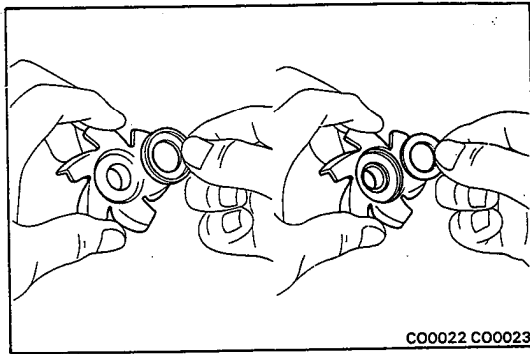
Using SST and a press, install the pulley seat on the water pump bearing shaft.

SST 09236-00101 (09237-00020)

**HINT:** As shown in the figure, the distance from the pulley seat to the installation surface of the pump body should be as follows:

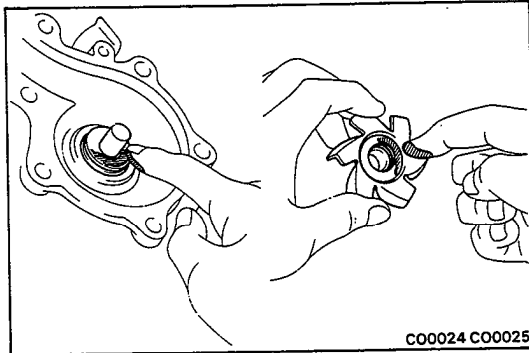
**Seat distance:** 76.7 mm (3.020 in.)



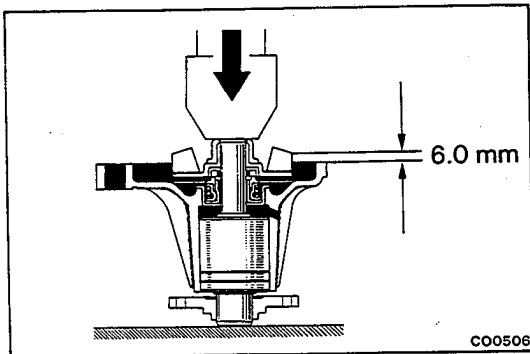


#### 4. INSTALL ROTOR

- (a) Install a new packing and seat into the rotor.



- (b) Apply a little LLC to the seal and rotor contact surface.

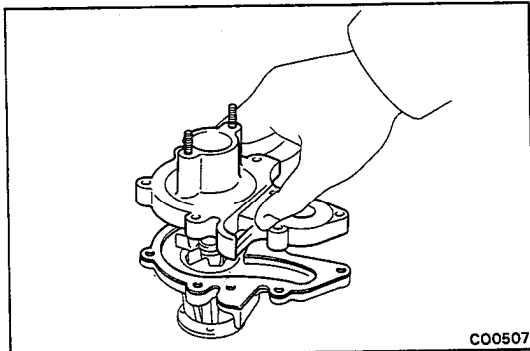


- (c) Using a press, install a new rotor on the water pump bearing shaft.

**HINT:** As shown in the figure, the distance from the rotor edge to the installation surface of the pump body should be 6.0 mm (0.236 in.).

#### 5. CHECK WATER PUMP

After assembly make sure that the rotor rotates smoothly.



#### 6. INSTALL WATER PUMP SUCTION COVER

Install the water pump suction cover on a new gasket with three bolts.

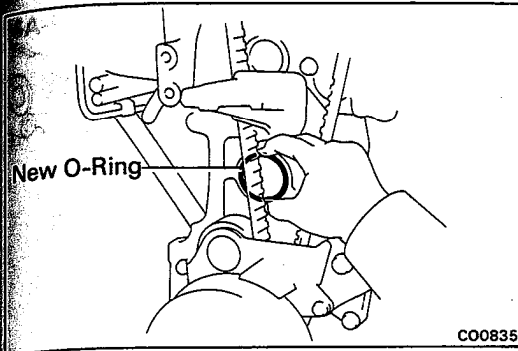
**Torque:** 92.5 kg-cm (80 in.-lb, 9.1 N·m)

**HINT:** After installing, make sure that the rotor is not in contact with the water pump suction cover.

## INSTALLATION OF WATER PUMP

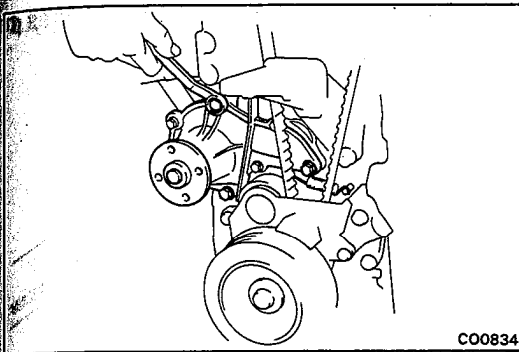
### 1. INSTALL WATER PUMP

- (a) Place a new O-ring in position on the cylinder block.



- (b) Install the water pump with the three bolts.

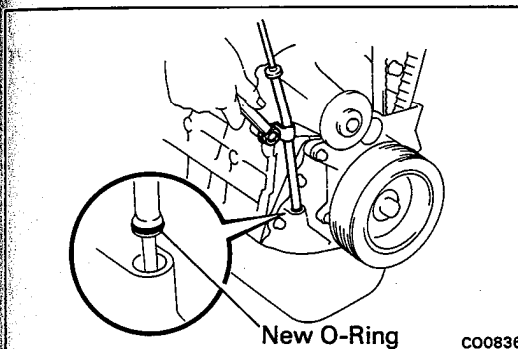
**Torque: 150 kg-cm (11 ft-lb, 15 N·m)**



### 2. INSTALL OIL DIPSTICK GUIDE AND DIPSTICK

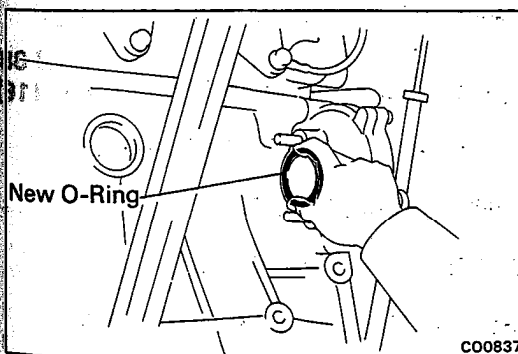
- (a) Install a new O-ring to the dipstick guide.  
 (b) Apply soapy water to the O-ring.  
 (c) Push in the dipstick guide, and install it with the bolt.

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



### 3. INSTALL WATER INLET PIPE

- (a) Place a new O-ring in position on the water pump.



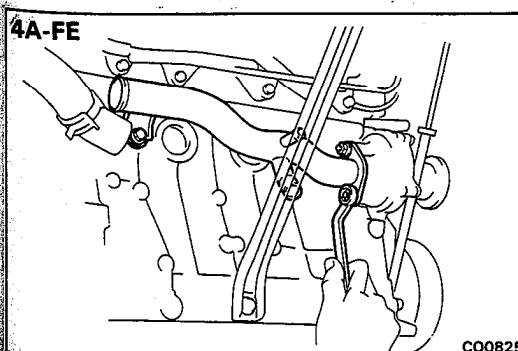
- (b) Temporarily install water pump with the two nuts and bolt.

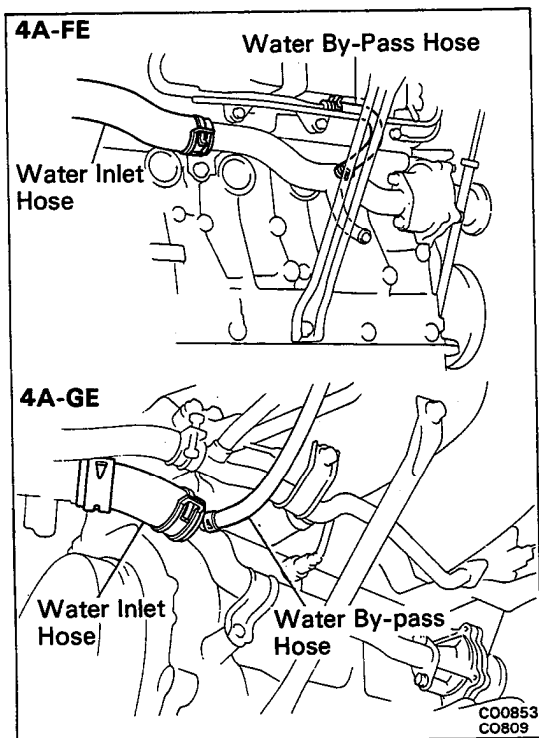
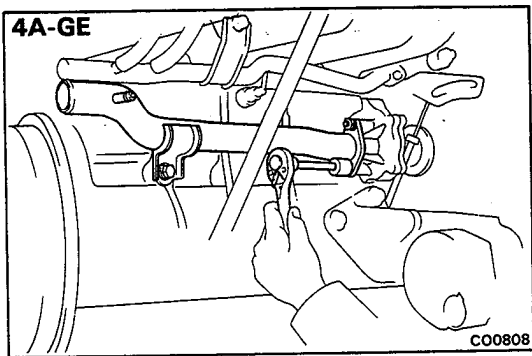
- (c) Tighten the two nuts.

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

- (d) Tighten the bolt.

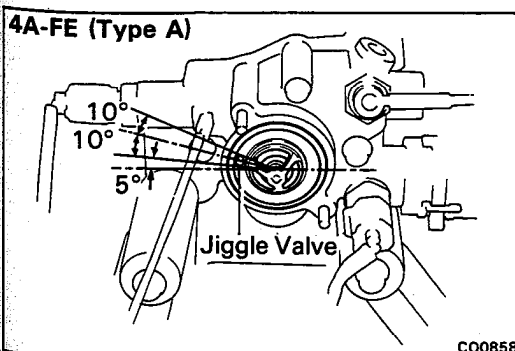
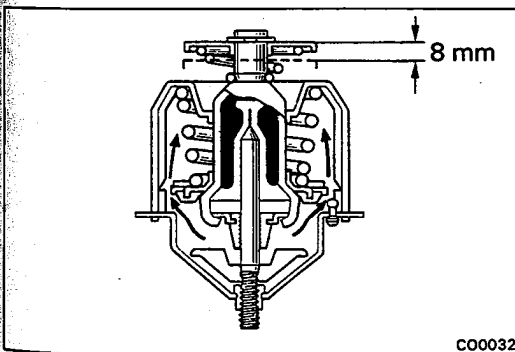
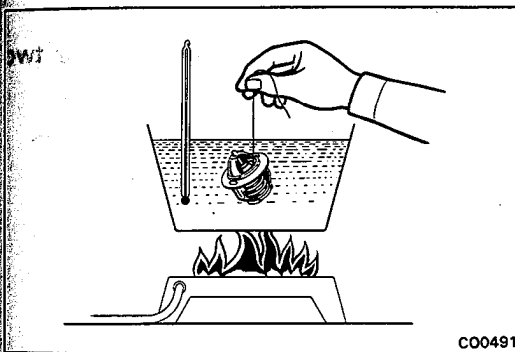
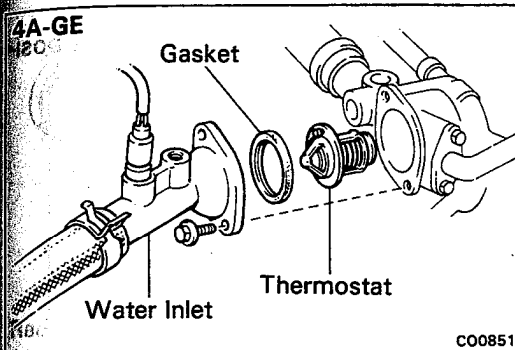
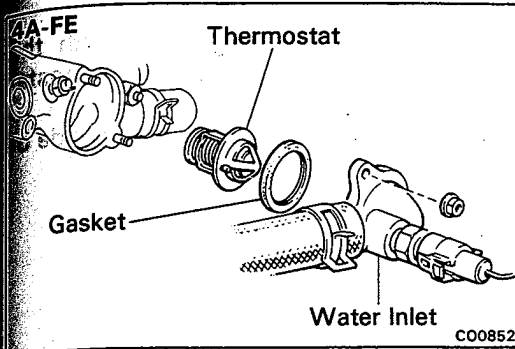
**Torque: 130 kg-cm (9 ft-lb, 13 N·m)**





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

4. **INSTALL NO.2 AND NO.3 TIMING BELT COVERS**  
 4A-FE (See steps 11, 14 and 18 on page EM-86 and 88)  
 4A-GE (See steps 13 and 26 on page EM-114 and 116)
5. **TEMPORARILY INSTALL WATER PUMP PULLEY**
6. **INSTALL ALTERNATOR DRIVE BELT**
7. **ADJUST DRIVE BELT** (See page CH-3)
8. **FILL WITH ENGINE COOLANT** (See page CO-5)
9. **START ENGINE AND CHECK FOR LEAKS**



## THERMOSTAT

### REMOVAL OF THERMOSTAT

1. DRAIN ENGINE COOLANT (See page CO-5)
2. REMOVE WATER INLET AND THERMOSTAT
  - (a) Remove the two nuts (4A-FE) or two bolts (4A-GE) and water inlet from the water inlet housing.
  - (b) Remove the thermostat.
  - (c) Remove the gasket from the thermostat.

### INSPECTION OF THERMOSTAT

#### INSPECT THERMOSTAT

**HINT:** The thermostat is numbered with the valve opening temperature.

- (a) Immerse the thermostat in water and gradually heat the water.

- (b) Check the valve opening temperature.

**Valve opening temperature:**  
80 – 84°C (176 – 183°F)

If the valve opening temperature is not as specified, replace the thermostat.

- (c) Check the valve lift.

**Valve lift:** 8 mm (0.31 in.) or more at 95°C (203°F)

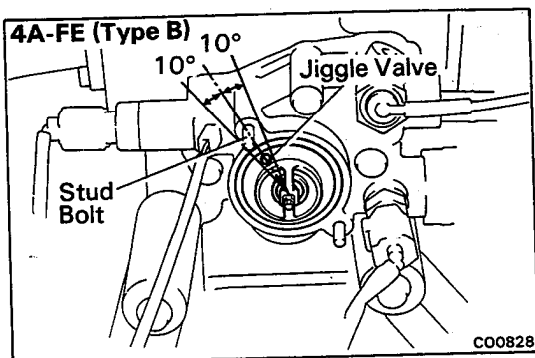
If the valve lift is less than specification, replace the thermostat.

### INSTALLATION OF THERMOSTAT

#### 1. PLACE THERMOSTAT IN WATER PUMP

- (a) Install a new gasket to the thermostat.
- (b) (4A-FE Type A)  
Set the jiggle valve of the thermostat in angle position, and insert the thermostat in the water inlet housing.

**HINT:** The jiggle valve may be set within 10° of either side of the prescribed position.

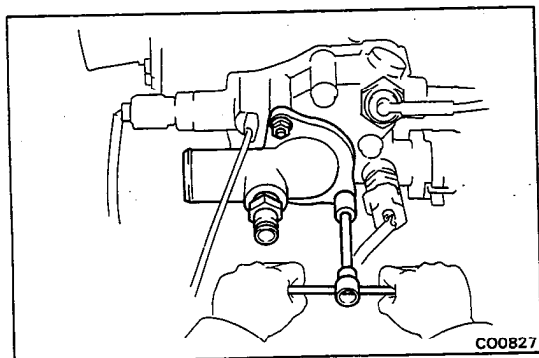
**(4A-FE Type B)**

Align the jiggle valve of the thermostat with the upper side of the stud bolt, and insert the thermostat in the water inlet housing.

**HINT:** The jiggle valve be set within 10° of either side of the prescribed position.

**(4A-GE)**

Align the jiggle valve of thermostat so that it is positioned above the water inlet housing.

**2. INSTALL WATER INLET**

Install the water inlet with the two nuts (4A-FE) or two bolts (4A-GE).

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

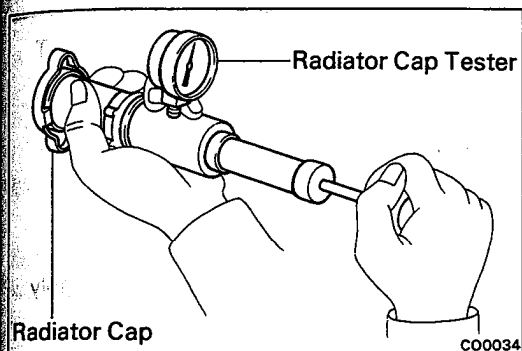
**3. FILL WITH ENGINE COOLANT (See page CO-5)****4. START ENGINE AND CHECK FOR LEAKS**

## RADIATOR

### CLEANING OF RADIATOR

Using water or steam cleaner, remove any mud and dirt from the radiator core.

**NOTICE:** If using a high pressure type cleaner, be careful not to deform the fins of the radiator core. If the cleaner nozzle pressure is 30 – 35 kg/cm<sup>2</sup> (427 – 498 psi, 2,942 – 3,432 kPa), keep a distance of at least 40 – 50 cm (15.75 – 19.69 in.) between the radiator core and cleaner nozzle.



### INSPECTION OF RADIATOR

#### 1. INSPECT RADIATOR CAP

Using a radiator cap tester, pump the tester until relief valve opens. Check that valve opens between 0.75 kg/cm<sup>2</sup> (10.7 psi, 74 kPa) and 1.05 kg/cm<sup>2</sup> (14.9 psi, 103 kPa).

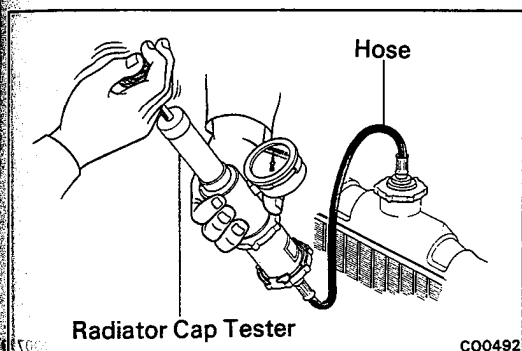
Check that the pressure gauge does not drop rapidly when pressure on cap is below 0.6 kg/cm<sup>2</sup> (8.5 psi, 59 kPa). Measure the relief valve opening pressure.

If either check is not within limits, replace the radiator cap.

#### 2. CHECK COOLING SYSTEM FOR LEAKS

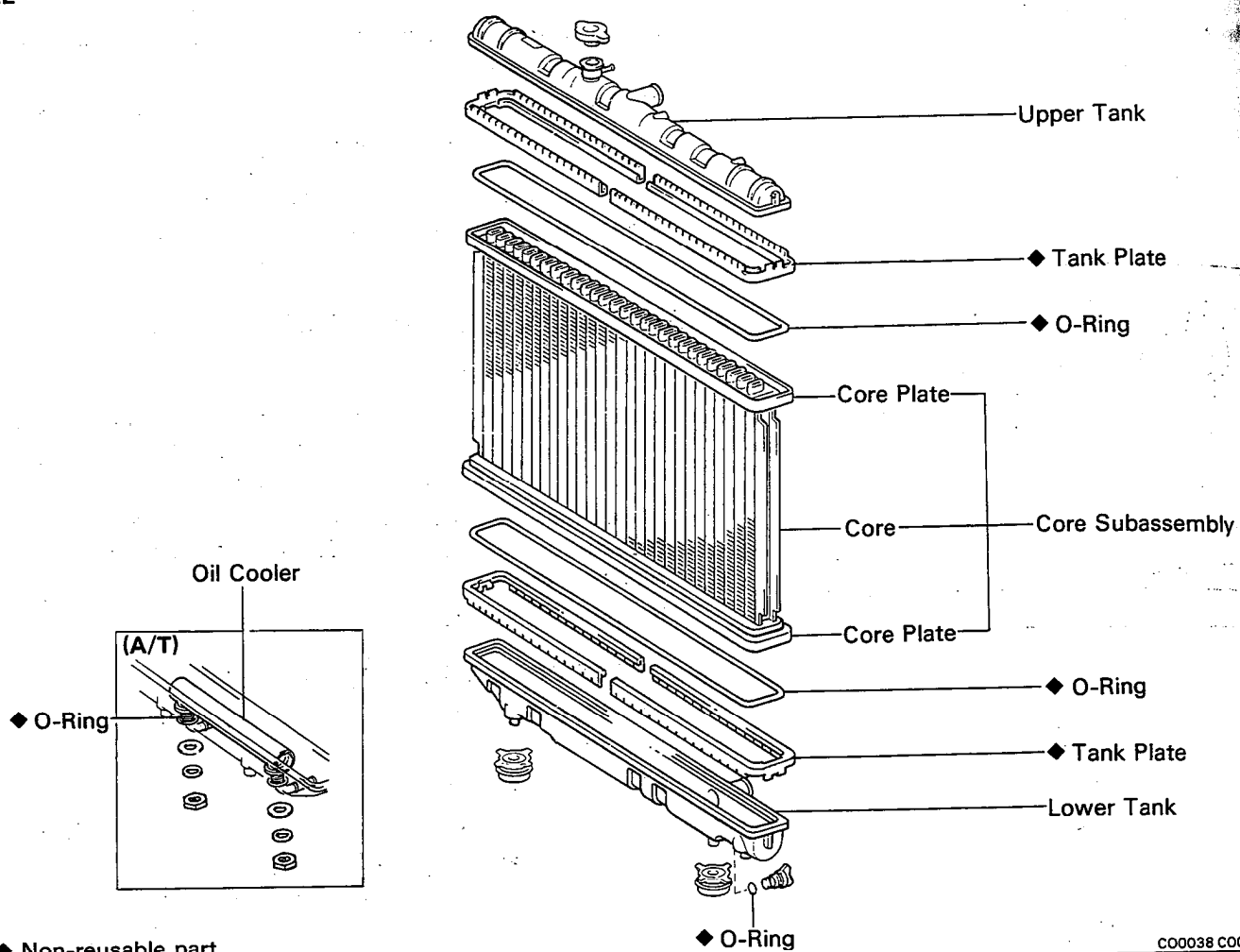
- Fill the radiator with coolant and attach a radiator cap tester.
- Warm up the engine.
- Pump it to 1.2 kg/cm<sup>2</sup> (17psi, 118 kPa), check that the pressure does not drop.

If the pressure drops, check the hoses, radiator or water pump for leaks. If no external leaks are found, check the heater core, block and head.



## COMPONENTS

AE

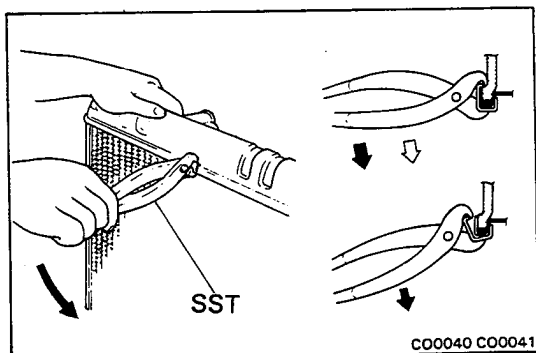
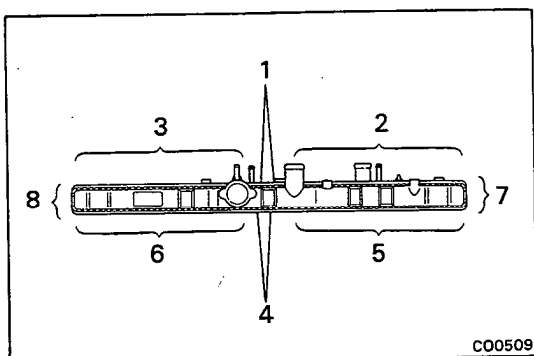


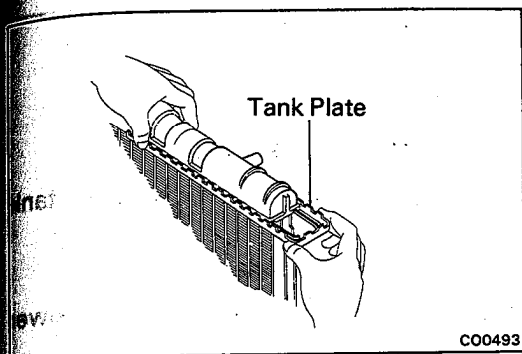
## DISASSEMBLY OF RADIATOR (AE, AT171)

## 1. REMOVE TANK PLATE

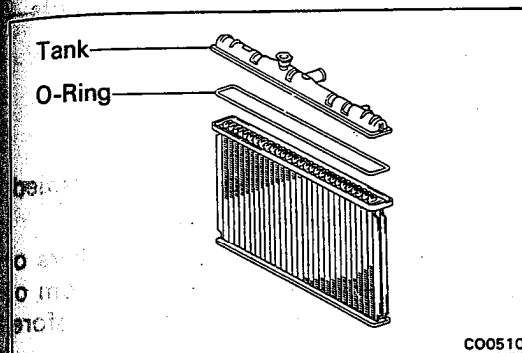
- (a) Raise the claws of the tank plates with SST in the numerical order shown in the figure.

SST 09230-00010

**NOTICE:** Be careful not to damage the core plate.

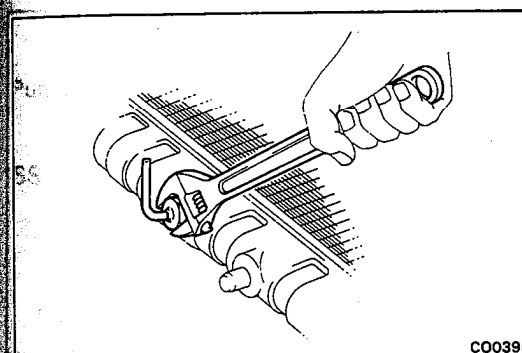


- (b) Pull the tank plates outward.



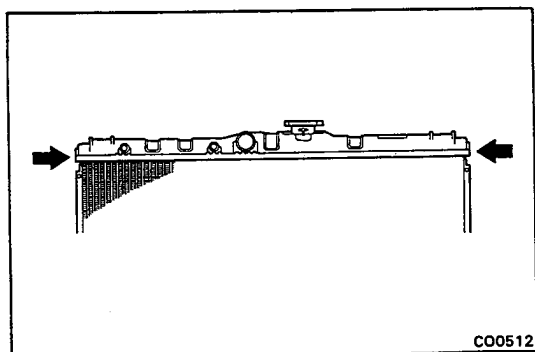
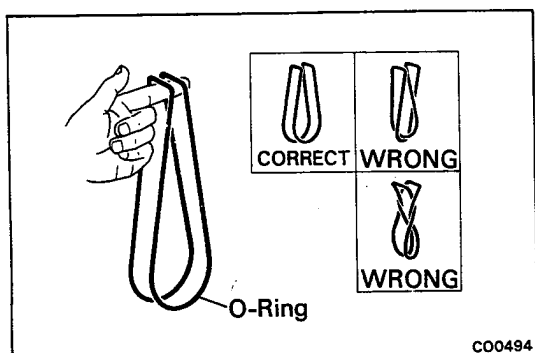
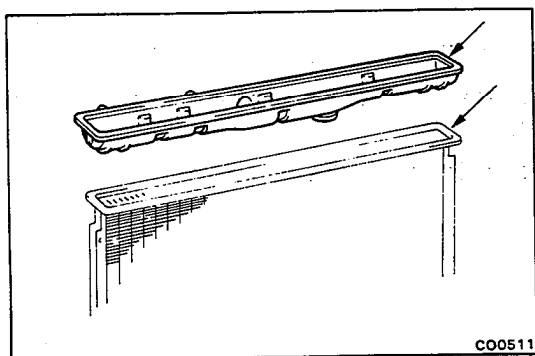
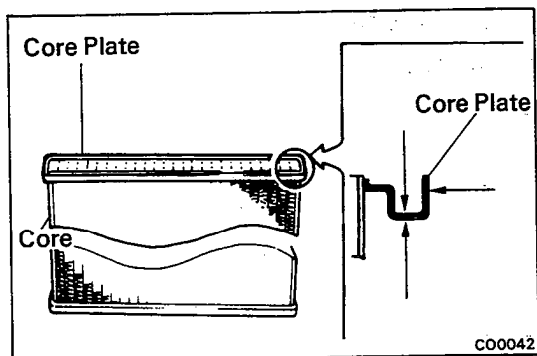
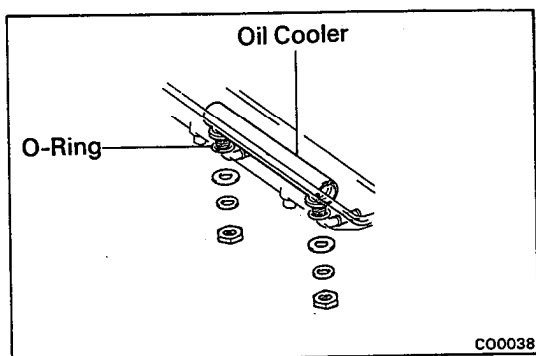
**2. REMOVE TANK AND O-RING**

- (a) Pull the tank upward.  
(b) Remove the O-ring.



**3. (A/T)  
REMOVE OIL COOLER FROM LOWER TANK**

- (a) Remove the two nuts, spring washers, plate washers and oil cooler.  
(b) Remove the O-ring from the oil cooler.



## ASSEMBLY OF RADIATOR (AE, AT171)

(See page CO-16)

### 1. (A/T)

#### INSTALL OIL COOLER TO LOWER TANK

- Clean the O-ring contact surface of the lower tank and oil cooler.
- Install new O-ring to the oil cooler.
- Install the oil cooler with the O-rings to the lower tank.
- Install the plate washers, spring washers and nuts.

### 2. INSPECT CORE PLATE

Inspect the core plate for damage.

#### HINT:

- If the sides of the core plate groove are deformed, reassembly of the tank will be impossible.
- Therefore, first correct any deformation with pliers or like object. Water leakage will result, if the bottom of the core plate groove is damaged or dented. Therefore, repair or replace if necessary.

### 3. INSTALL NEW O-RING AND TANK

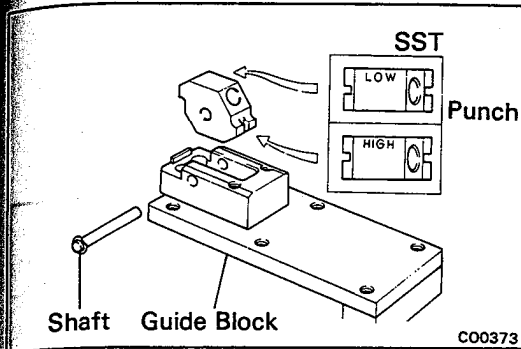
#### HINT:

- Clean the tank and core plate.

- Take out any twists.

### 4. INSTALL TANK PLATE

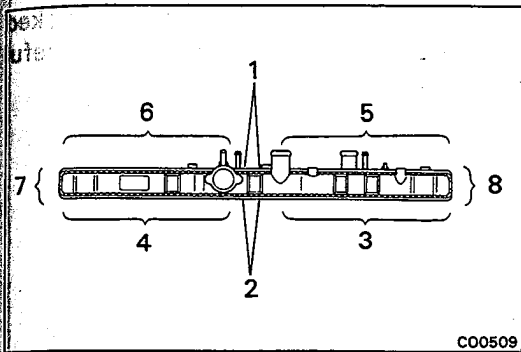
Install the tank plates from both ends in the direction of the arrows. Insert to where the portions shown by the arrows contact with the tank.



### 5. STAKE CLAW OF TANK PLATE

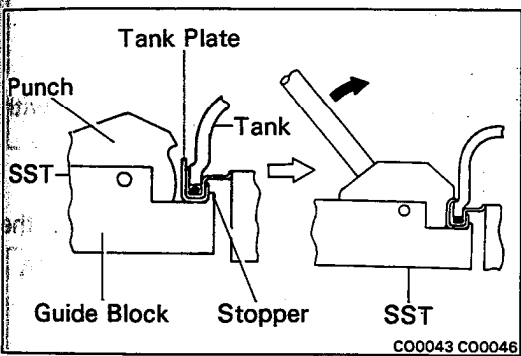
(a) Set the punch of SST to "LOW".

SST 09230-00010



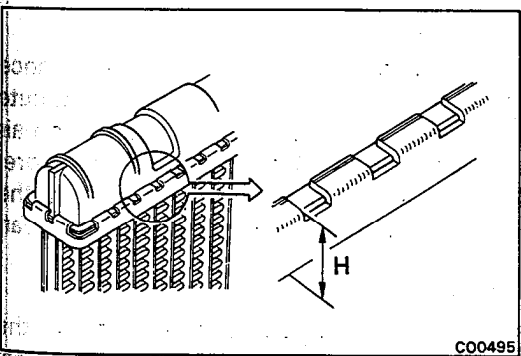
(b) Stake the claws of the tank plates with SST in the numerical order shown in the figure.

SST 09230-00010



**NOTICE:** If the bottom of the core plate is staked with the SST on the guide block stopper, it may result in water leakage.

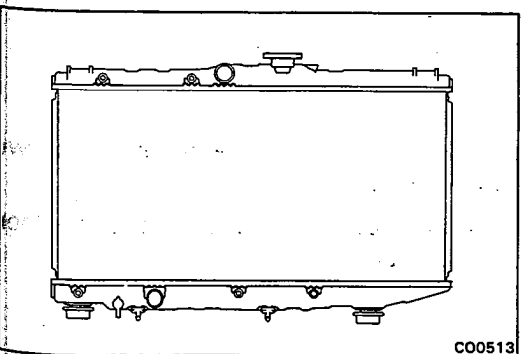
SST 09230-00010



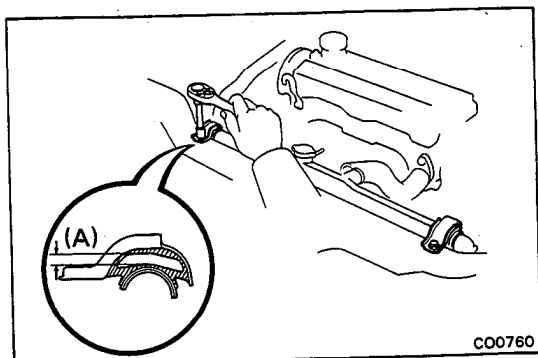
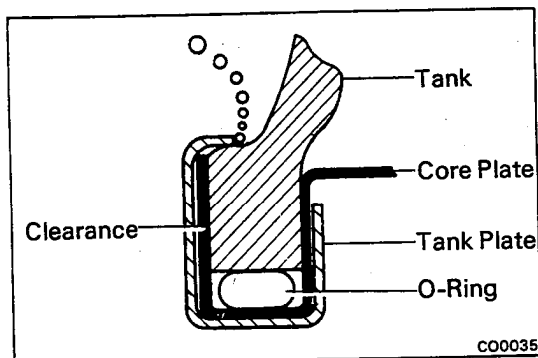
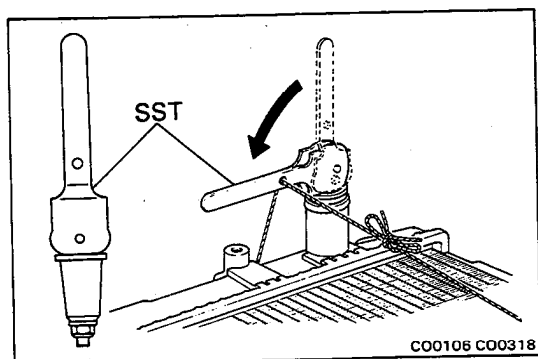
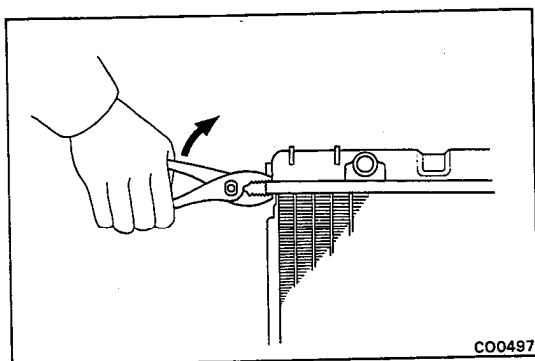
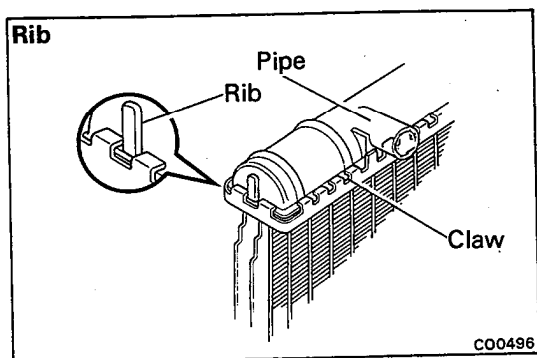
#### HINT:

- Stake with just enough pressure to leave a mark on the claw. The staked plate height (H) should be as follows:

Plate height: 9.08 – 9.43 mm (0.3575 – 0.3713 in.)



- Do not stake the areas protruding around the pipes, brackets or tank ribs.



- The points shown in the illustration cannot be staked with the SST. Use a pliers or like object and be careful not to damage the core plates.

## 6. INSPECT FOR WATER LEAKS

- Tighten the drain plug.
- Plug the inlet and outlet pipes of the radiator with SST.

SST 09230-00010

- Using a radiator cap tester, apply pressure to the radiator.

Test pressure: 1.5 kg/cm<sup>2</sup> (21 psi, 147 kPa)

- Inspect for water leaks.

HINT: On radiator with resin tanks, there is a clearance between the core plate and tank plate where a minute amount of air will remain, giving the appearance of an air leak when the radiator is submerged in water. Therefore, before performing the water leak test, first switch the radiator around in the water until all air bubbles disappear.

## 7. PAINT TANK PLATE

HINT: If the water leak test checks out okay, allow the radiator to completely dry and then paint the tank plates.

## INSTALLATION OF RADIATOR

### INSTALL RADIATOR

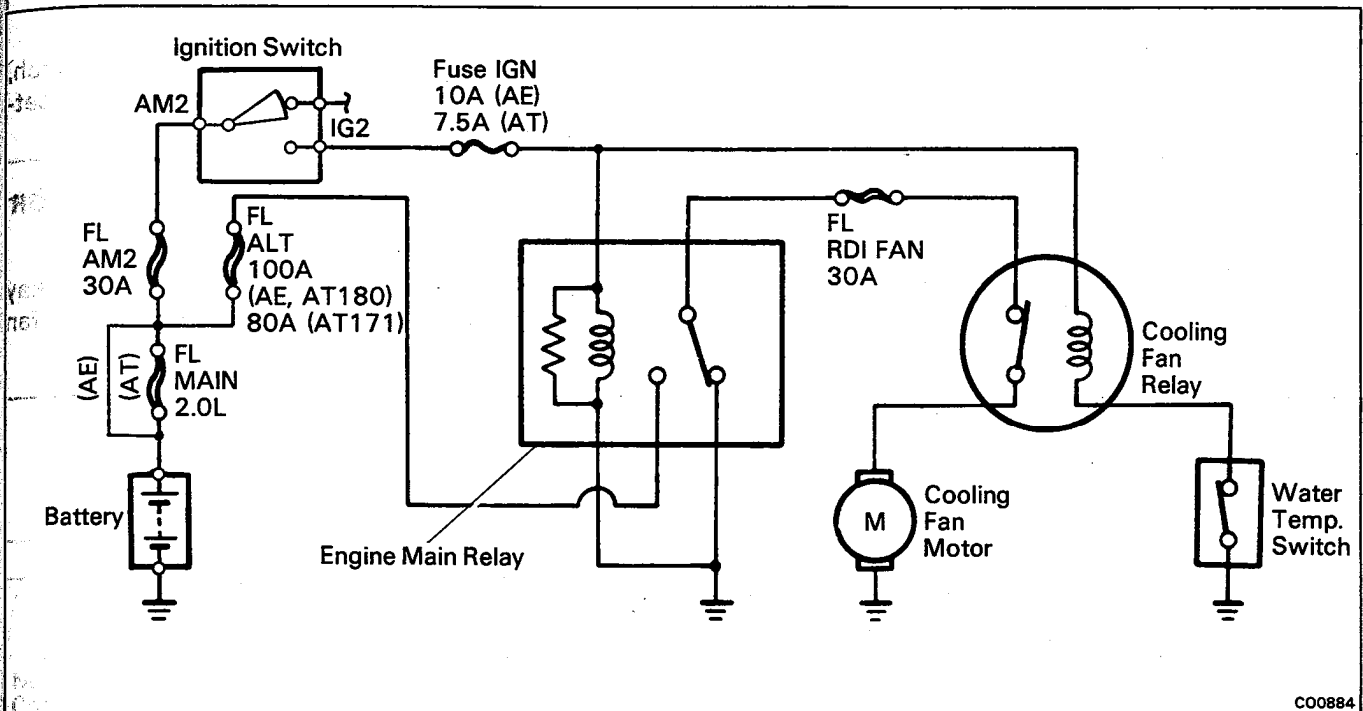
Place the radiator in installed position and install the two supports with the two bolts.

HINT: After installation, confirm that the rubber cushion (A) of the support is not depressed.

# ELECTRIC COOLING FAN

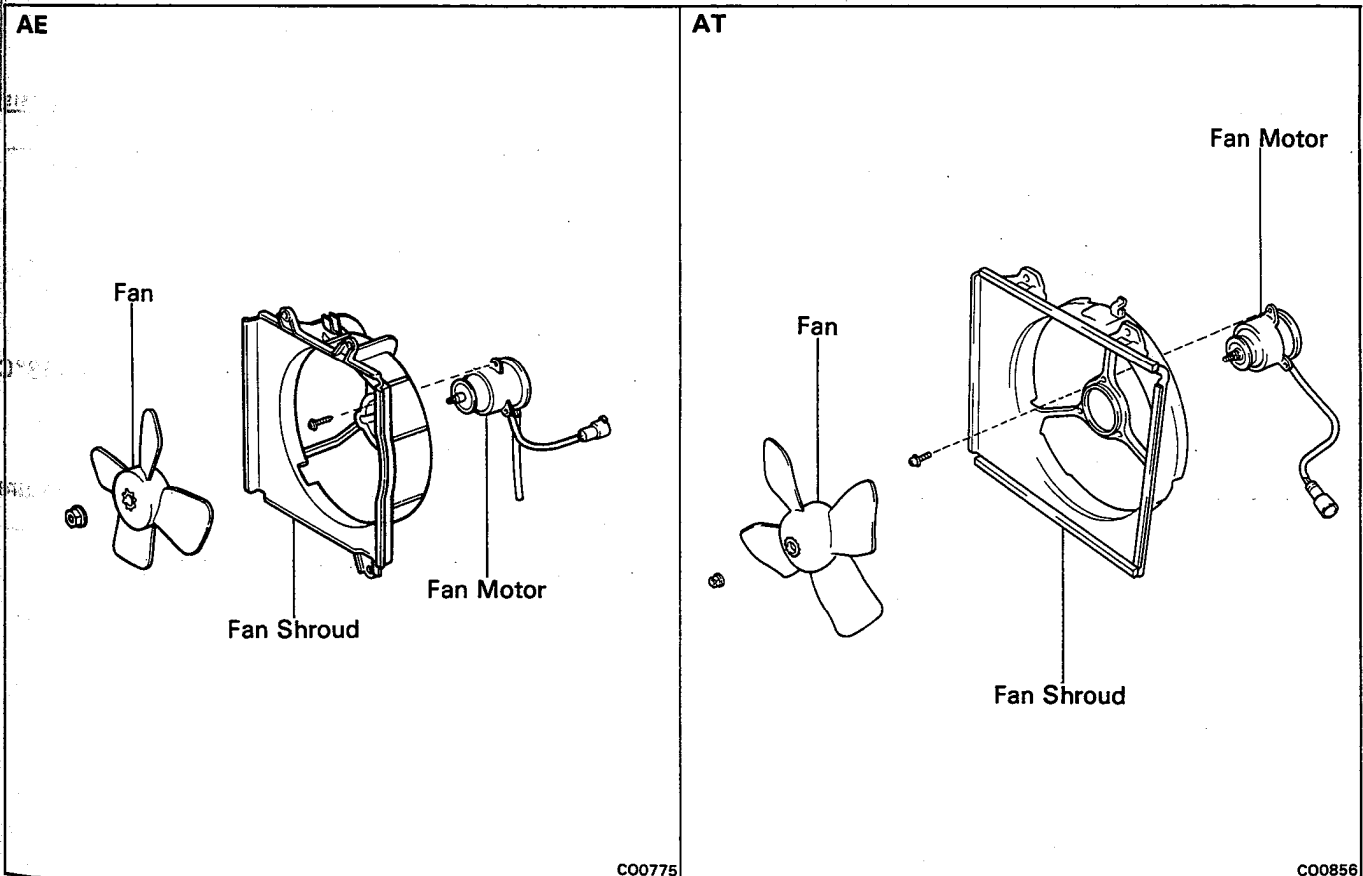
## Radiator Cooling Fan

### SYSTEM CIRCUIT



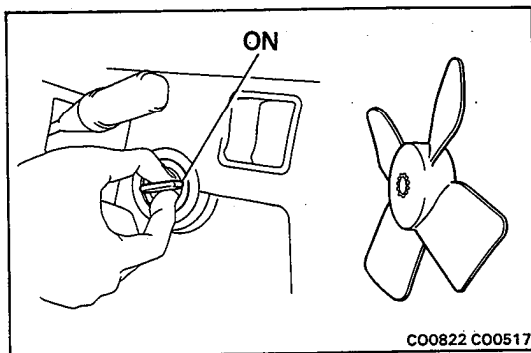
C00884

## COMPONENTS



C00775

C00856

**ON-VEHICLE INSPECTION****Low Coolant Temperature  
(below 83°C (181°F))****1. TURN IGNITION SWITCH ON**

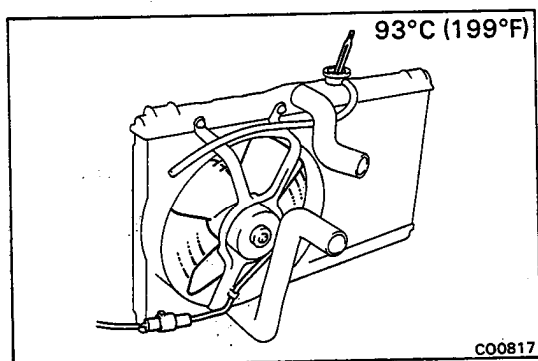
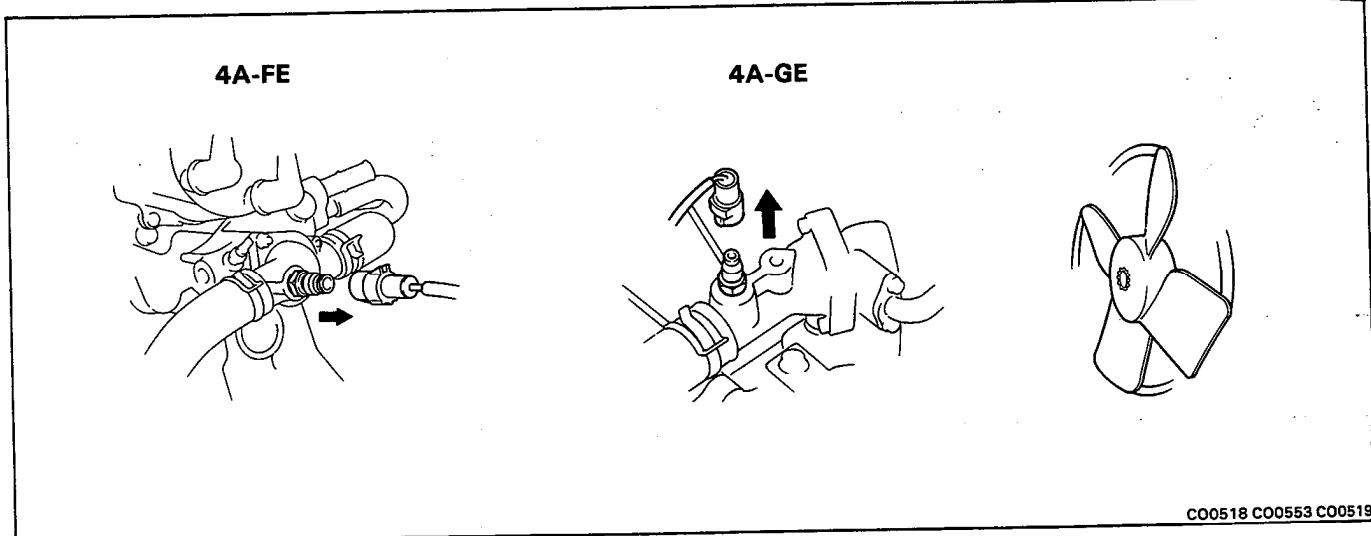
Check that the fan does not rotate.

If it rotates, check the fan relay and temperature switch, and check for a separated connector or severed wire between the relay and temperature switch.

**2. DISCONNECT TEMPERATURE SWITCH CONNECTOR**

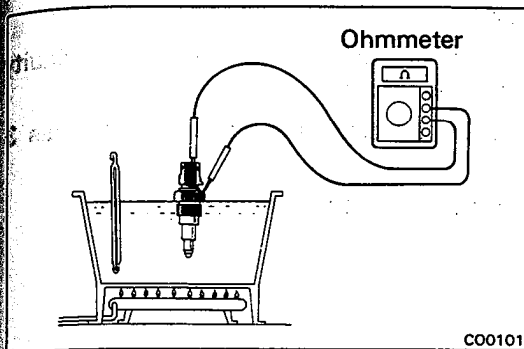
Check that the fan rotates.

If it does not, check the fan relay, fan motor, ignition relay and fuse, and check for a short circuit between the fan relay and temperature switch.

**3. CONNECT TEMPERATURE SWITCH CONNECTOR****High Coolant Temperature  
(above 93°C (199°F))****4. START ENGINE**

- Raise engine coolant temperature to above 93°C (199°F).
- Check that the fan rotates.
- Check that the fan stops when coolant temperature is below 83°C (181°F).

If it doesn't replace the temperature switch.



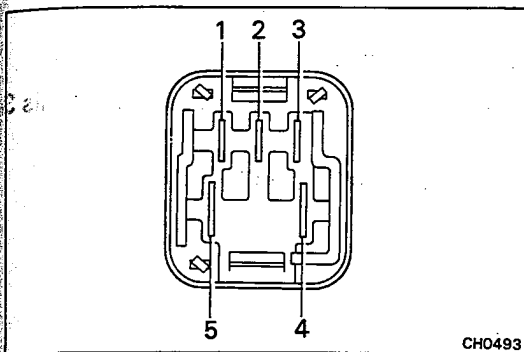
## INSPECTION OF ELECTRIC COOLING FAN

### 1. INSPECT TEMPERATURE SWITCH

LOCATION: On the water inlet housing.

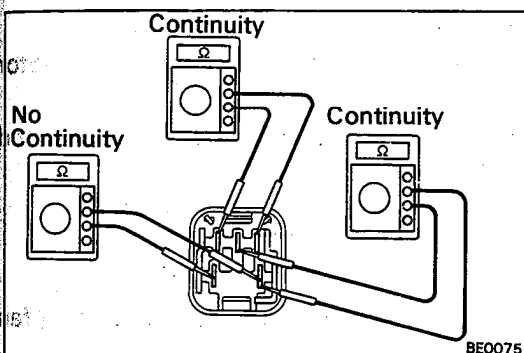
- Using an ohmmeter, check that there is no continuity when the coolant temperature is above 93°C (199°F).
- Check that there is continuity when the coolant temperature is below 83°C (181°F).

If continuity is not as specified, replace the switch.



### 2. INSPECT ENGINE MAIN RELAY

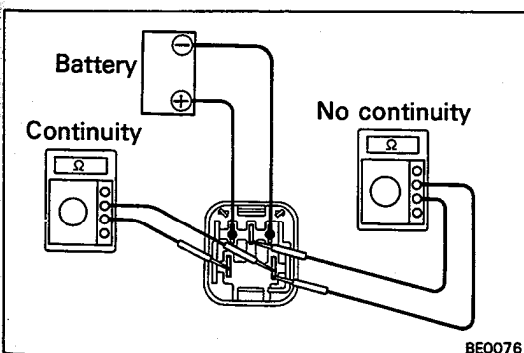
LOCATION: In the engine compartment relay box.



#### A. Inspect relay continuity

- Using an ohmmeter, check that there is continuity between terminals 1 and 3.
- Check that there is continuity between terminals 2 and 4.
- Check that there is no continuity between terminals 4 and 5.

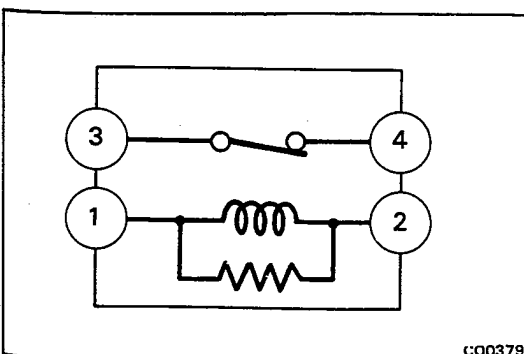
If continuity is not as specified, replace the relay.



#### B. Inspect relay operation

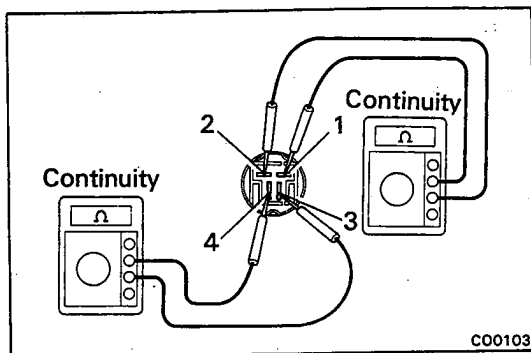
- Apply battery voltage across terminals 1 and 3.
- Using an ohmmeter, check that there is continuity between terminals 4 and 5.
- Check that there is no continuity between terminals 2 and 4.

If operation is not as specified, replace the relay.



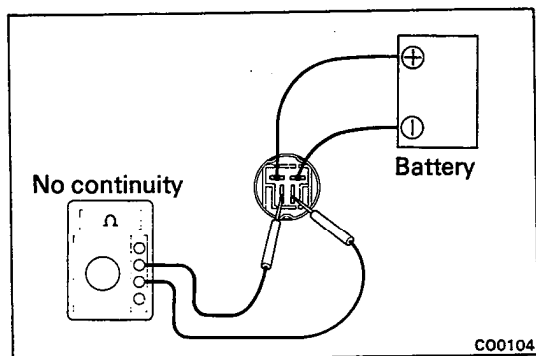
### 3. INSPECT COOLING FAN RELAY

LOCATION: In the engine compartment relay box.

**A. Inspect relay continuity**

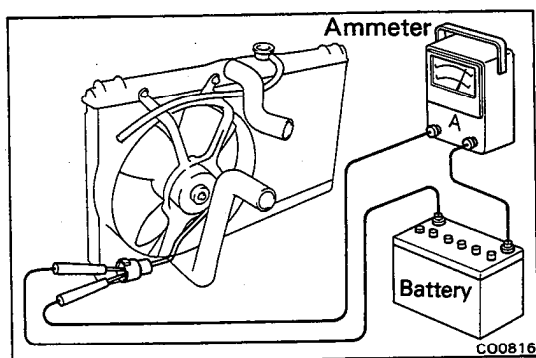
- Using an ohmmeter, check that there is continuity between terminals 1 and 2.
- Check that there is continuity between terminals 3 and 4.

If continuity is not as specified, replace the relay.

**B. Inspect relay operation**

- Apply battery voltage across terminals 1 and 2.
- Check that there is no continuity between terminals 3 and 4.

If operation is not as specified, replace the relay.

**4. INSPECT FAN MOTOR**

- Connect the battery and ammeter to the fan motor connector.
- Check to see that the motor rotates smoothly, and current is as follows:

**Standard amperage:**

|         |             |
|---------|-------------|
| 2WD     | 3.2 – 4.4A  |
| 4WD M/T | 5.8 – 7.4A  |
| 4WD A/T | 8.8 – 10.8A |

If the amperage is not as specified, replace the cooling fan motor.