

RADIATOR

CLEANING OF RADIATOR

CLEAN 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 2,942 – 3,432 kPa (30 – 35 kgf/cm², 427 – 498 psi), 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 the relief valve opens. Check that the valve opens between 74 kPa (0.75 kgf/cm², 10.7 psi) and 103 kPa (1.05 kgf/cm², 14.9 psi).

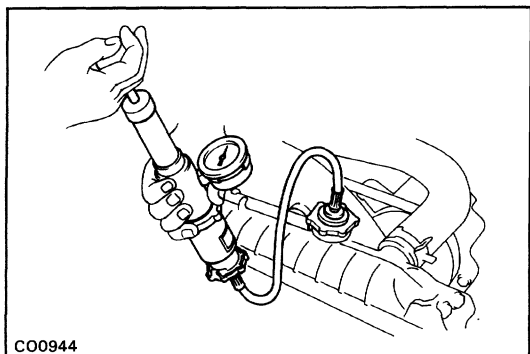
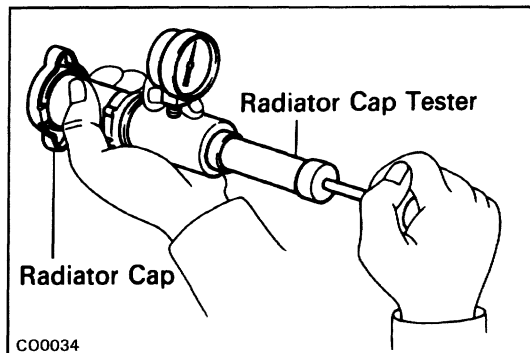
Check that the pressure does not drop rapidly when pressure on the cap is below 59 kPa (0.6 kgf/cm², 8.5 psi).

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

2. INSPECT COOLING SYSTEM FOR LEAKS

- (a) Fill the radiator with coolant and attach a radiator cap tester
- (b) Warm up the engine.
- (c) Pump it to 118 kPa (1.2 kgf/cm², 17 psi), check that pressure does not drop.

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



REMOVAL OF RADIATOR**1. DRAIN ENGINE COOLANT**

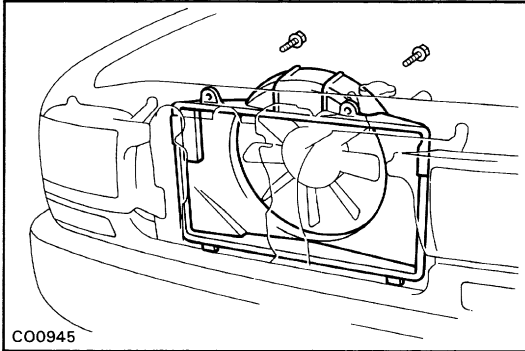
(See page [CO-5](#))

2. REMOVE RADIATOR GRILLE**3. REMOVE ENGINE UNDER COVER****4. REMOVE BATTERY AND CASE****5. REMOVE RADIATOR RESERVOIR TANK****6. DISCONNECT RADIATOR INLET HOSE****7. REMOVE PS AND A/C BELT****8. REMOVE FAN SHROUD AND COOLING FAN w/ FLUID****COUPLING**

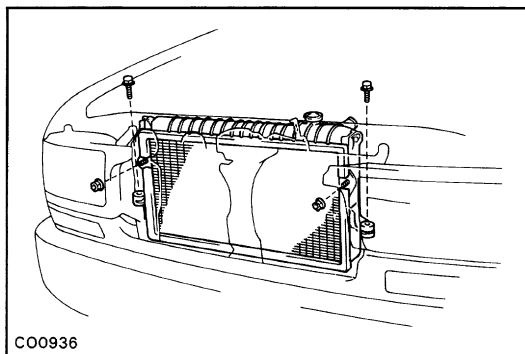
(a) Remove the alternator drive belt, fan w/ fluid coupling and water pump pulley.

(See step 6 on page [CO-7](#))

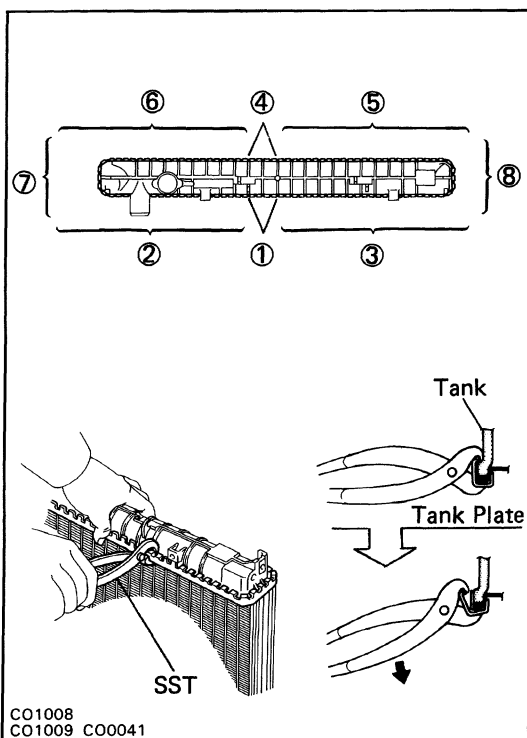
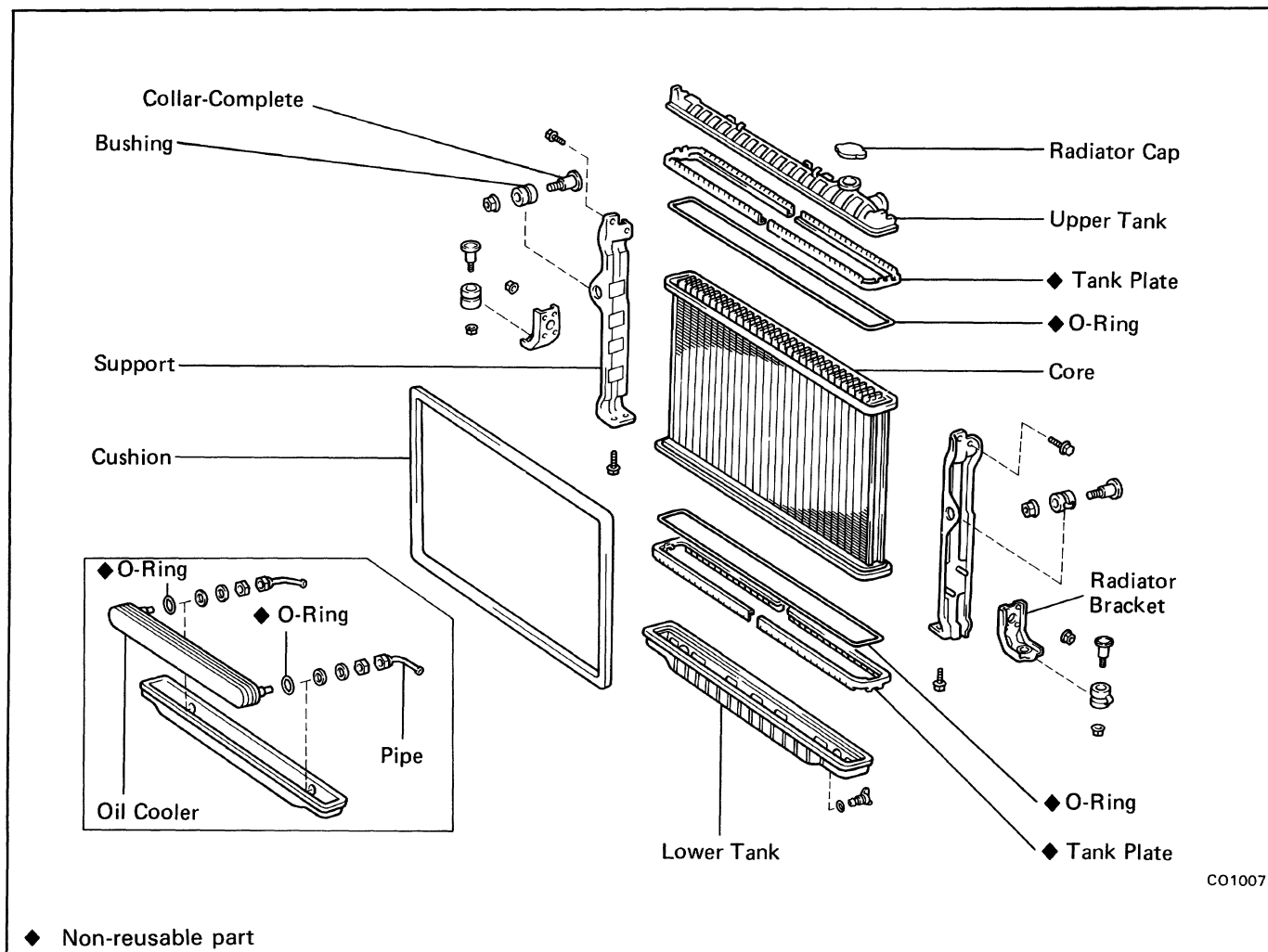
(b) Remove the two bolts and fan shroud.

**9. DISCONNECT RADIATOR OUTLET HOSE****10. DISCONNECT A/T OIL COOLER HOSES**

HINT: Be careful as some oil will leak out. Catch it in a suitable container.

**11. REMOVE RADIATOR MOUNTING BOLTS, NUTS AND RADIATOR**

DISASSEMBLY OF RADIATOR COMPONENTS

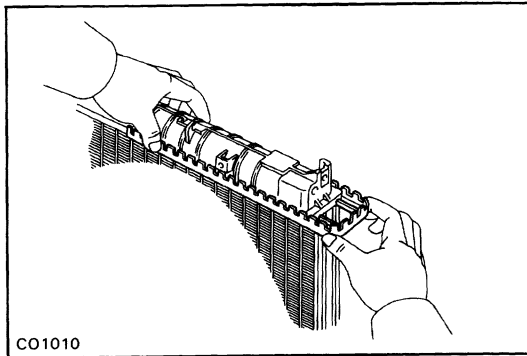


1. REMOVE TANK PLATE

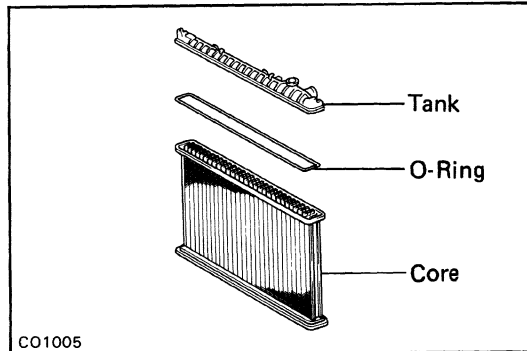
- Remove the eight bolts and two supports.
- Raise the claws of the tank plates with SST in the numerical order shown in the figure.

SST 09230-00010

HINT: Be careful not to damage the core plate.

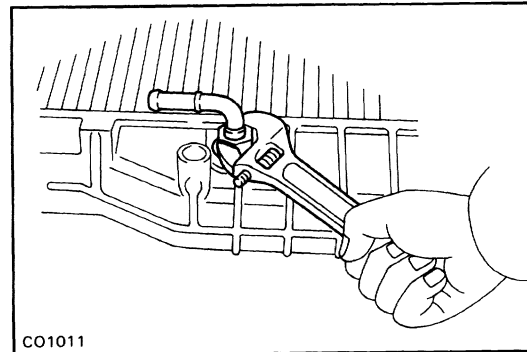


(c) Pull the tank plates outward.



2. REMOVE TANK

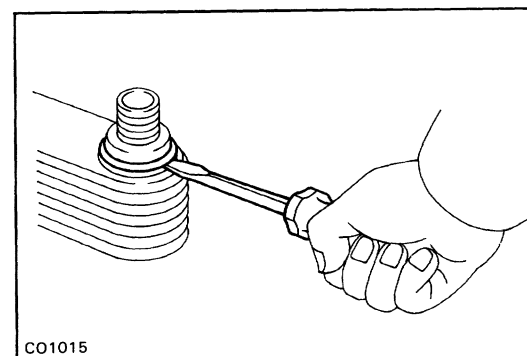
- (a) Pull the tank upward.
- (b) Remove the O-ring.



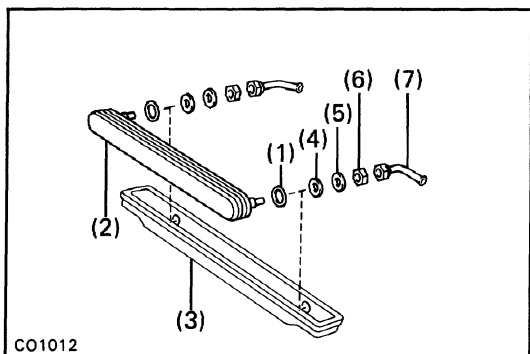
3. REMOVE OIL COOLER FROM LOWER TANK

- (a) Remove the pipes.

HINT: Make a note of the direction the pipes face.



- (b) Remove the nuts, spring washers, plate washer: and oil cooler.
- (c) Remove the O-ring from the oil cooler.



ASSEMBLY OF RADIATOR

(See page [CO-15](#))

1. INSTALL OIL COOLER TO LOWER TANK

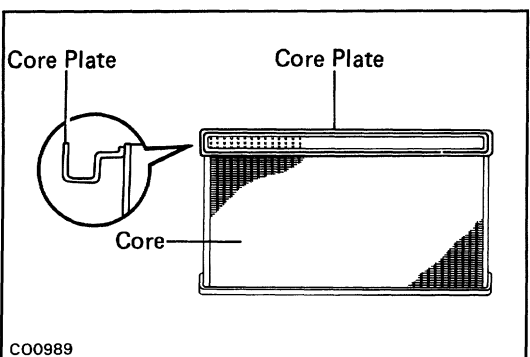
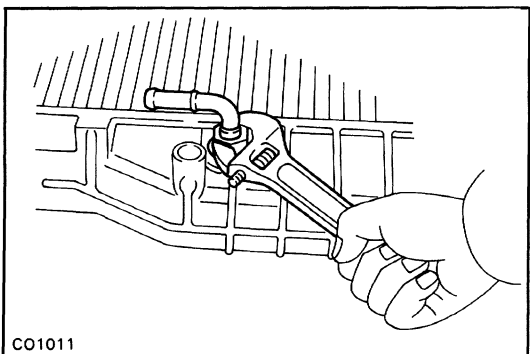
- (a) Clean the O-ring contact surface of the lower tank and oil cooler.
- (b) Install new O-rings (1) to the oil cooler (2).
- (c) Install the oil cooler (2) to the lower tank (3).
- (d) Install the plate washers (4), spring washers (5) and nuts (6). Torque the nuts.

Torque: 10 N·m (100 kgf·cm, 7 ft·lbf)

- (e) Install the pipes (7).

Torque: 15 N·m (150 kgf·cm, 11 ft·lbf)

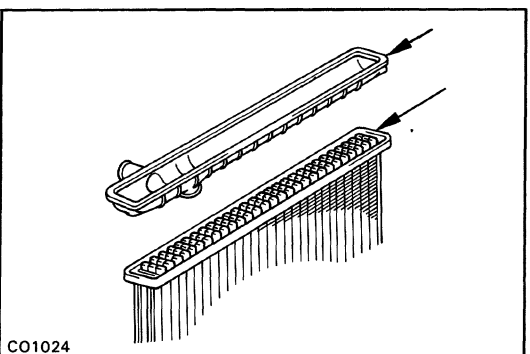
HINT: Face the pipes in the same direction as they were before disassembly.



2. CHECK CORE PLATE FOR DAMAGE

HINT:

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

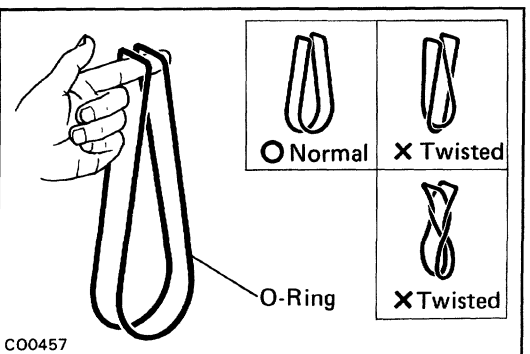


3. INSTALL TANK

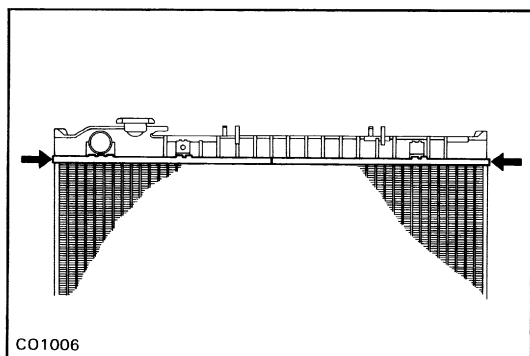
Install a new O-ring and the tank.

HINT:

- Clean the tank and core plate.

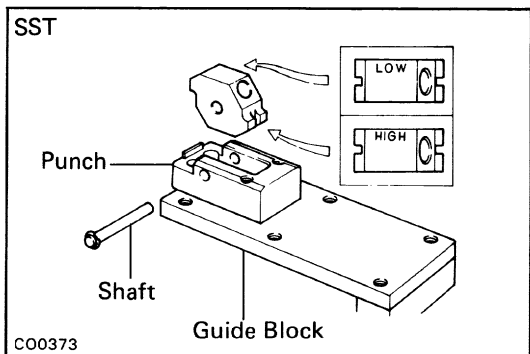


- Take out any twists.



4. INSTALL TANK PLATE

Insert new tank plates from both ends in the direction of the arrows. Firmly set the tank plates in the core plate.

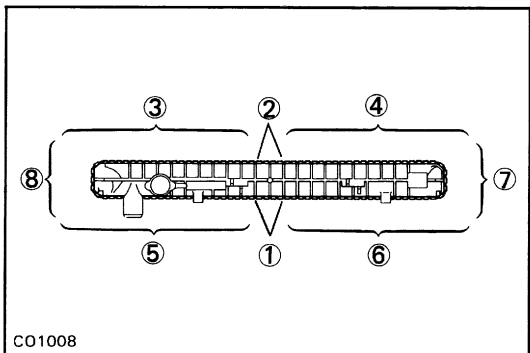


5. STAKE CLAWS OF TANK PLATES

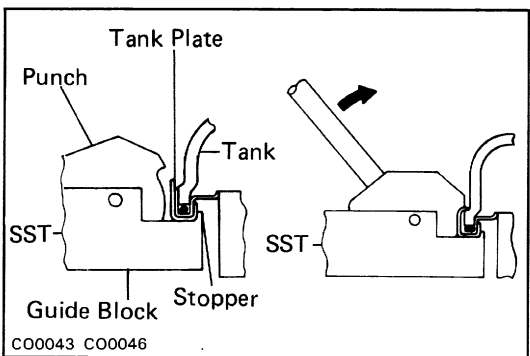
(a) Set the punch of SST to "LOW".

SST 09230-00010

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



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

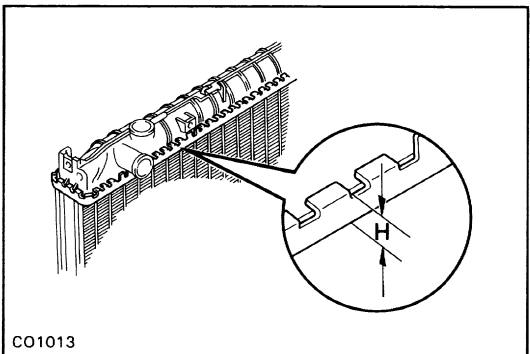


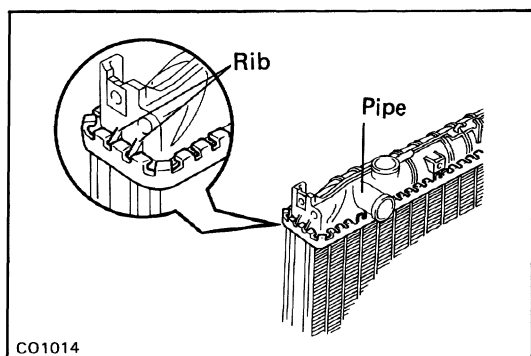
HINT:

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

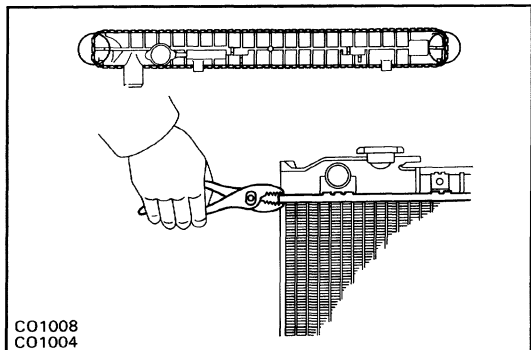
Plate height (H):

9.2 – 9.6 mm (0.362 – 0.378 in.)





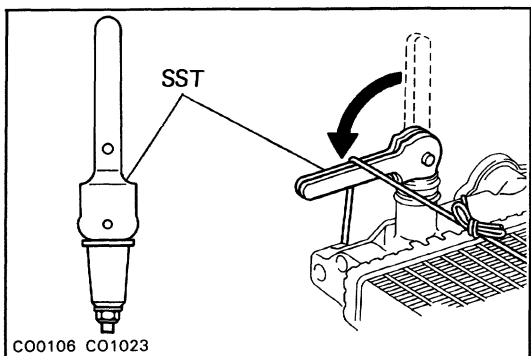
- Do not stake the areas protruding around the pipes, brackets or tank ribs.



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

(c) Install the two supports with the eight bolts.

Torque: 13 N-m (130 kgf-cm, 9 ft-lbf)



6. CHECK FOR WATER LEAKS

(a) Tighten the drain plug.

(b) Plug the inlet and outlet pipes of the radiator with SST.

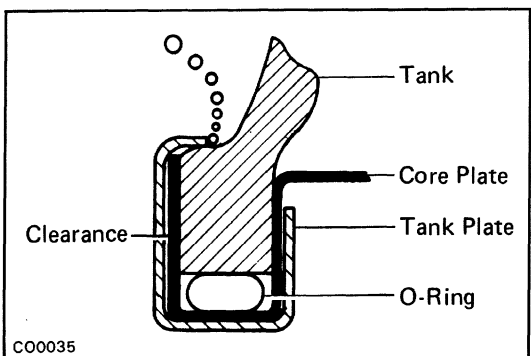
SST 09230-00010

(c) Using a radiator cap tester, apply pressure to the radiator.

Test pressure: 147 kPa (1.5 kgf/cm², 21 psi)

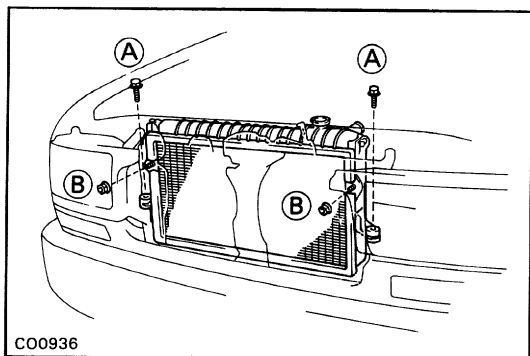
(d) Check for water leaks.

HINT: On radiators 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 swirl 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 plate.



INSTALLATION OF RADIATOR

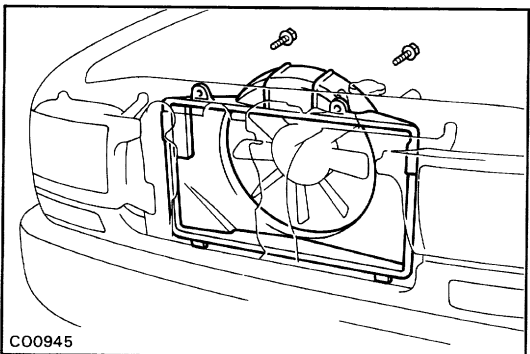
1. INSTALL RADIATOR

Torque: (A) 18 N-m (185 kgf-cm, 13 ft-lbf)

(B) 12 N-m (120 kgf-cm, 9 ft-lbf)

2. CONNECT A/T OIL COOLER

3. CONNECT RADIATOR OUTLET HOSE



4. INSTALL COOLING FAN w/ FLUID COUPLING AND FAN SHROUD

(a) Install the fan shroud with the two bolts.

(b) Install the water pump pulley, fan w/fluid coupling and alternator drive belt.

(See step 5 on page [CO-10](#))

5. INSTALL PS AND A/C BELT

6. CONNECT RADIATOR INLET HOSE

7. INSTALL RADIATOR RESERVOIR TANK

8. INSTALL BATTERY CASE AND BATTERY

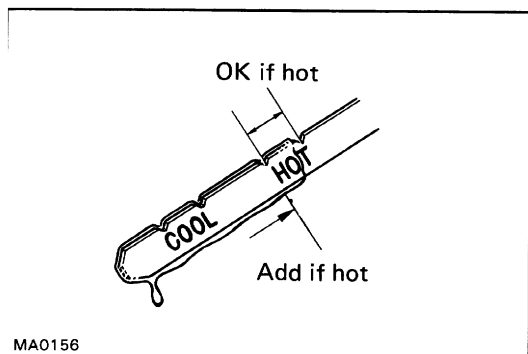
9. INSTALL ENGINE UNDER COVER

10. INSTALL RADIATOR GRILLE

11. FILL WITH ENGINE COOLANT

(See page [CO-5](#))

12. START ENGINE AND CHECK FOR LEAKS



13. CHECK AUTOMATIC TRANSMISSION FLUID LEVEL

Fluid type: ATF DEXRON® II

NOTICE : Do not overfill.