

COOLANT INSPECTION

CO08J-01

1. CHECK ENGINE COOLANT LEVEL AT RADIATOR RESERVOIR

The engine coolant level should be between the "LOW" and "FULL" lines, when the engine is cold. If low, check for leaks and add engine coolant up to the "FULL" line.

2. CHECK ENGINE COOLANT QUALITY

(a) Remove the radiator cap.

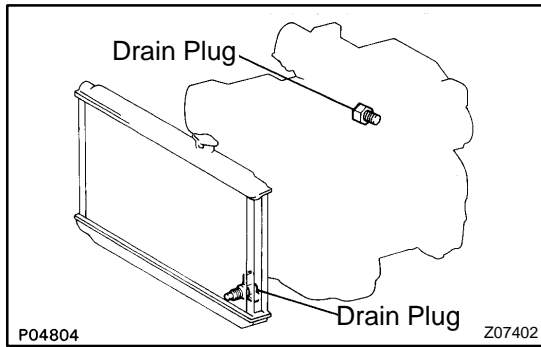
CAUTION:

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

(b) There should not be any excessive deposits of rust or scale around the radiator cap or radiator filler hole, and the coolant should be free from oil.

If excessively dirty, replace the coolant.

(c) Reinstall the radiator cap.



REPLACEMENT

1. DRAIN ENGINE COOLANT

- (a) Remove the radiator cap.

CAUTION:

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

- (b) Loosen the 2 drain plugs (for the engine and radiator), and drain the coolant.

HINT:

To prevent the coolant from spraying over the cylinder block, connect the rubber hose (inside diameter 6 - 8 mm) in the market to the union pipe under.

- (c) Close the drain plugs.

Torque:

Engine drain plug

29 N·m (300 kgf·cm, 22 ft·lbf)

2. FILL ENGINE COOLANT

- (a) Slowly fill the system with coolant.
 - ★ Use a good brand of ethylene-glycol base coolant and mix it according to the manufacturer's directions.
 - ★ Using coolant which includes more than 50 % ethylene-glycol (but not more than 70 %) is recommended.

NOTICE:

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

Capacity (w/ Heater):

	M/T	A/T
2JZ-GE	7.3 liters (7.7 US qts, 6.4 Imp. qts)	8.3 liters (8.8 US qts, 7.3 Imp. qts)
2JZ-GTE	8.9 liters (9.4 US qts, 7.8 Imp. qts)	8.8 liters (9.3 US qts, 7.7 Imp. qts)

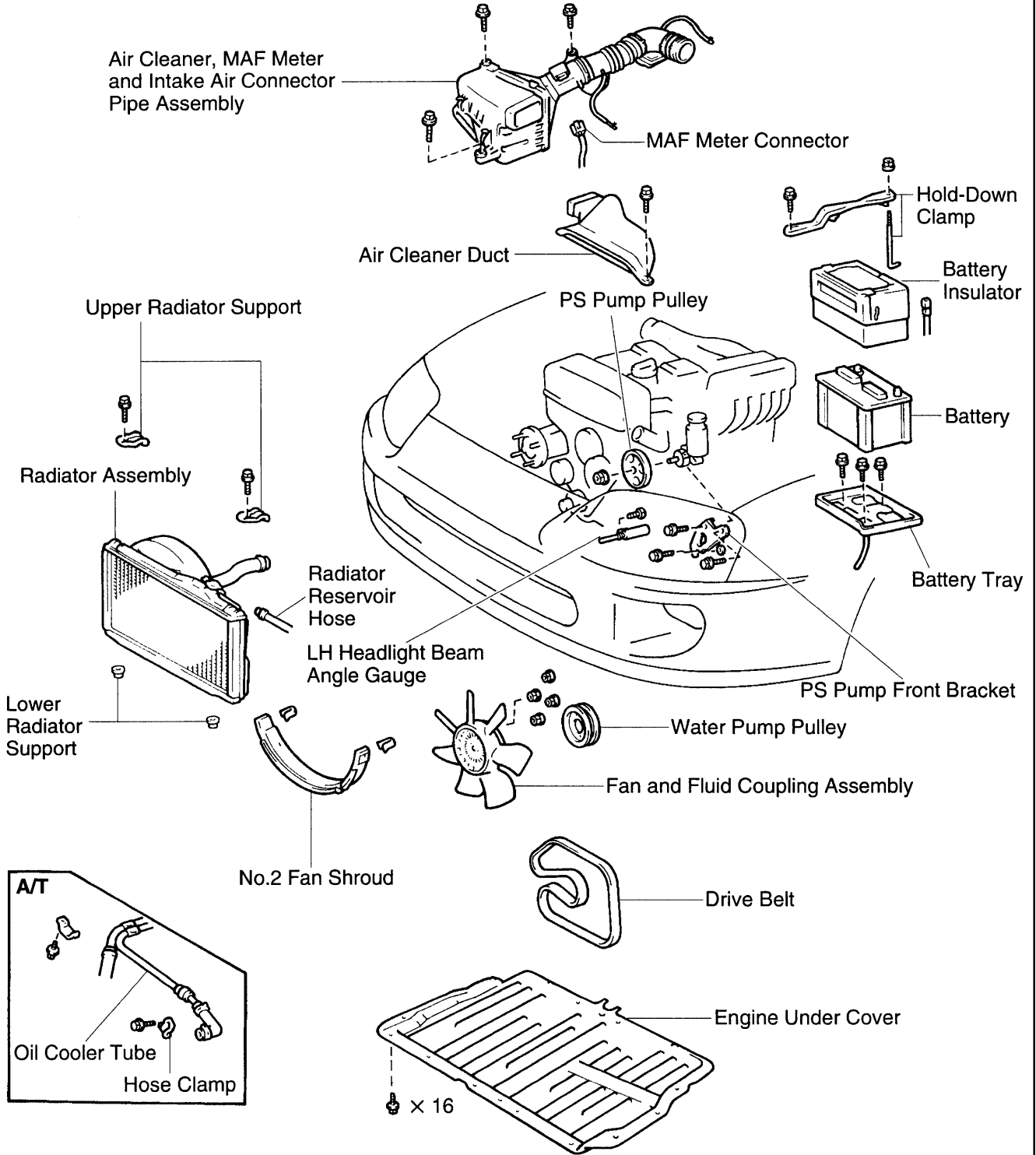
- (b) Install the radiator cap.
- (c) Start the engine, and bleed the cooling system.
- (d) Refill the reservoir with coolant until it reaches the "FULL" line.

3. CHECK ENGINE COOLANT FOR LEAKS

WATER PUMP COMPONENTS

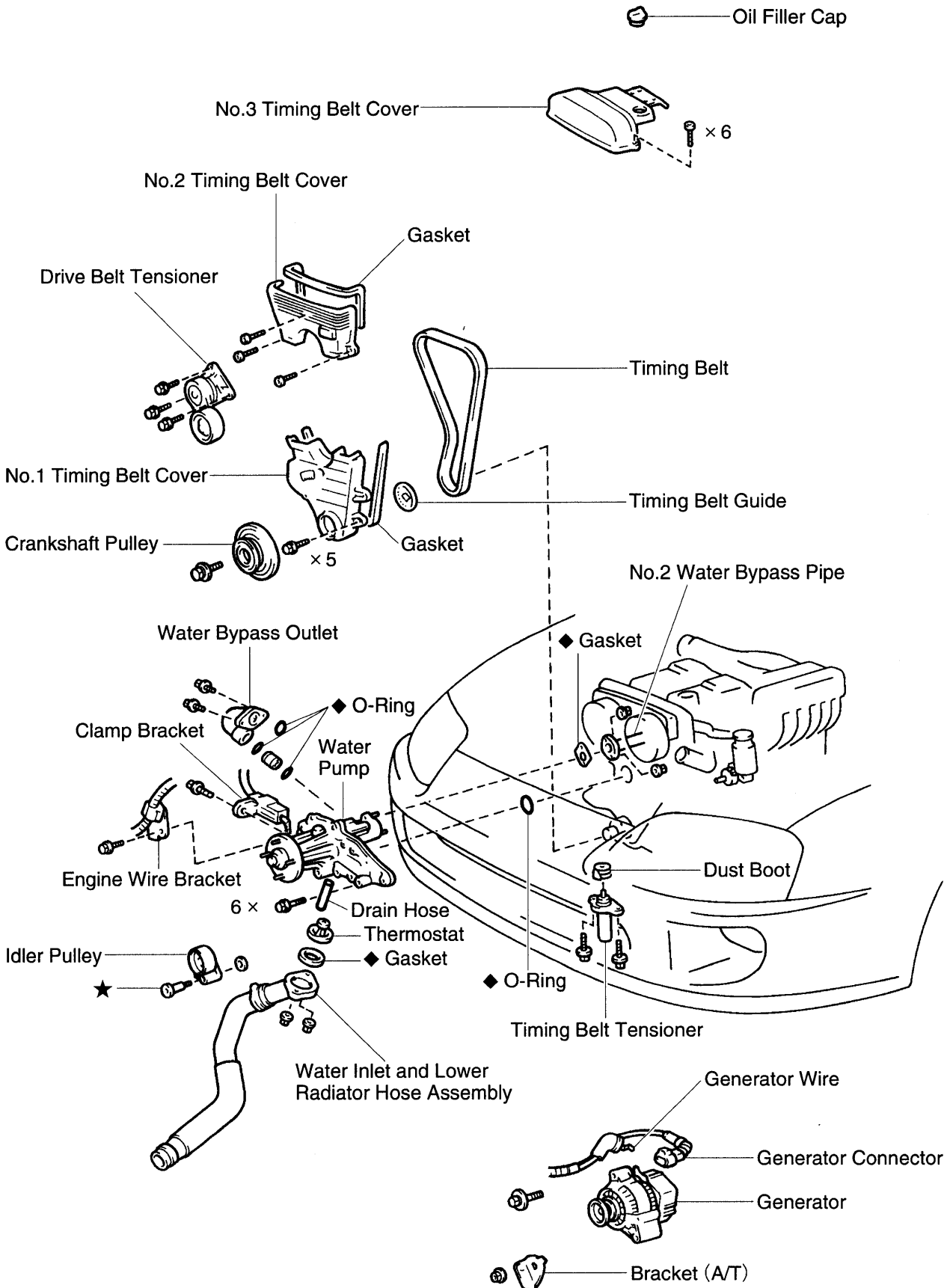
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2JZ-GE

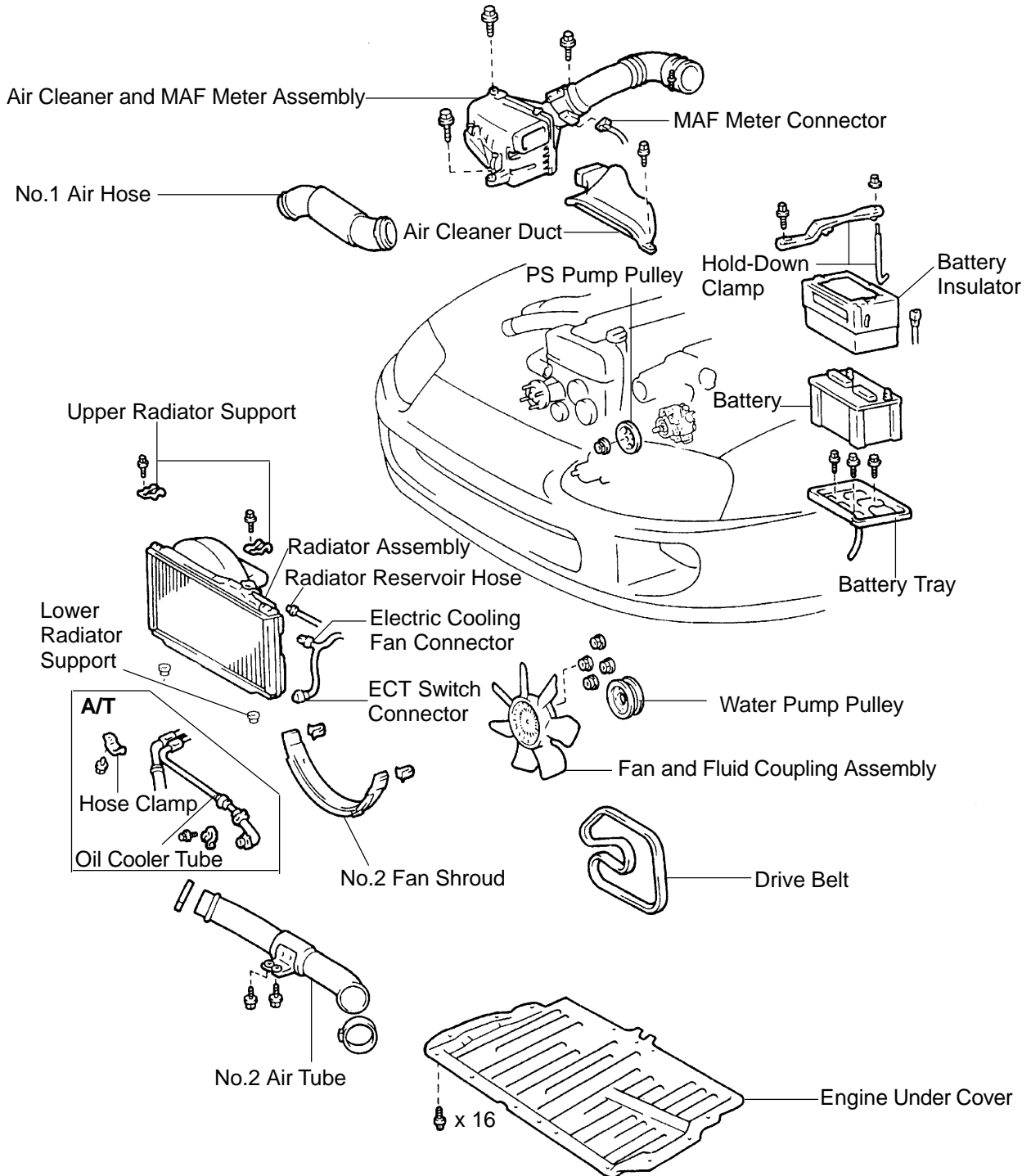


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2JZ-GE

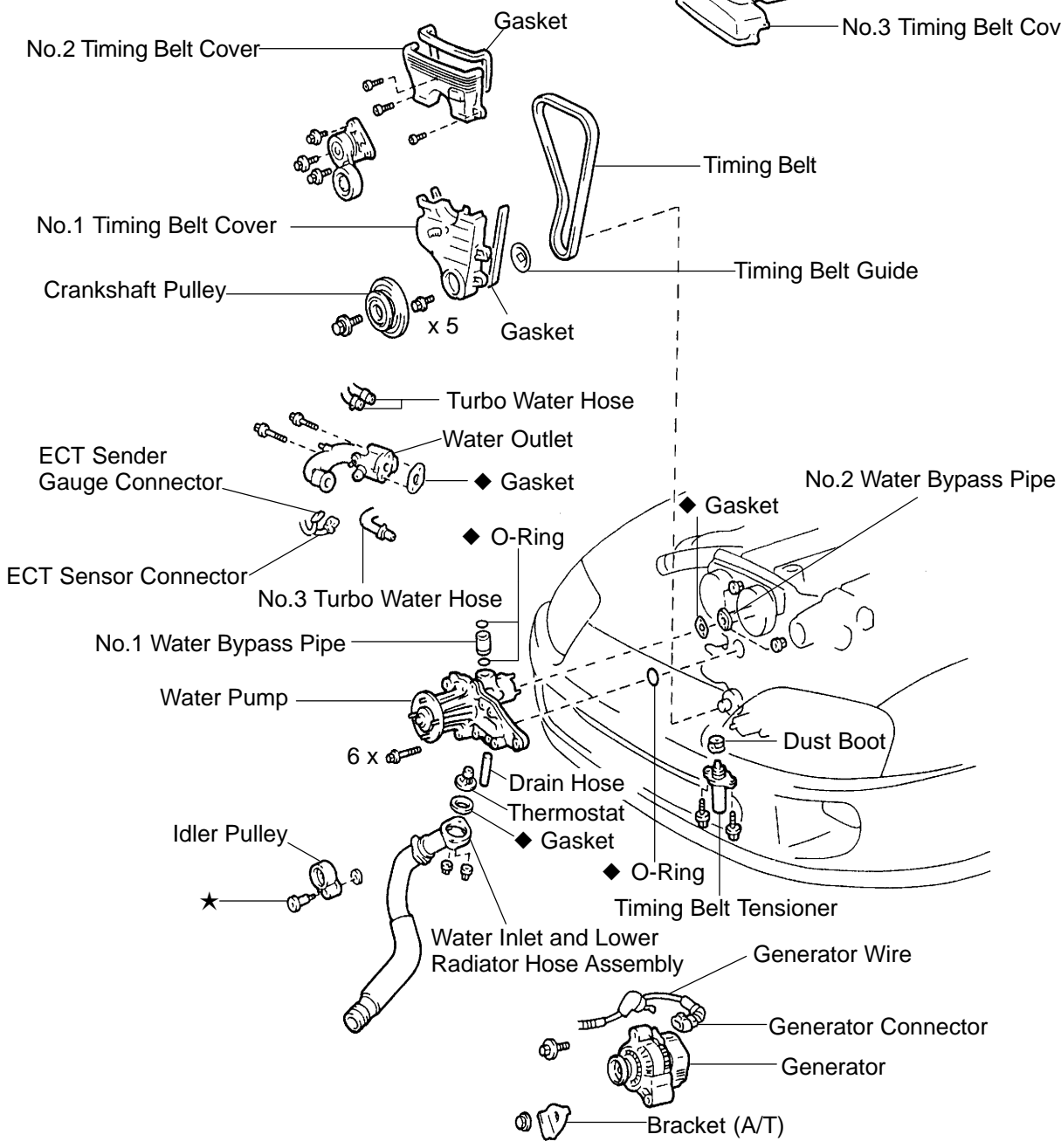
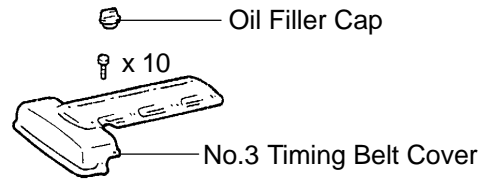
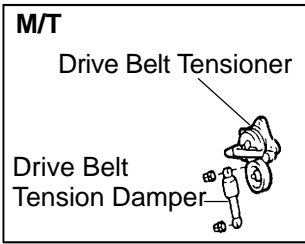


2JZ-GTE



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2JZ-GTE

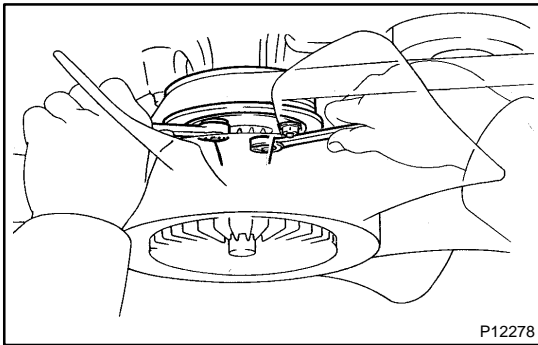


◆ Non-reusable part
 ★ Precoated part

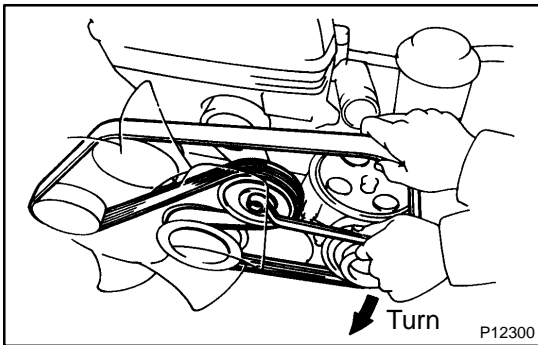
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REMOVAL

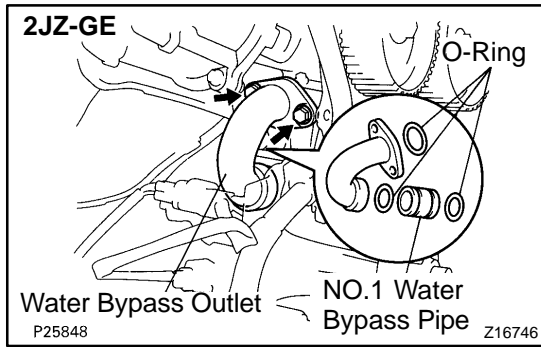
1. **2JZ-GTE:**
REMOVE NO.1 AIR HOSE
2. **2JZ-GE:**
REMOVE AIR CLEANER, MAF METER AND INTAKE AIR CONNECTOR PIPE ASSEMBLY
(See page [EM-57](#))
3. **2JZ-GTE:**
REMOVE AIR CLEANER AND MAF METER ASSEMBLY (See page [EM-58](#))
4. **REMOVE RADIATOR ASSEMBLY**
(See page [CO-22](#))
5. **2JZ-GTE M/T:**
REMOVE DRIVE BELT TENSIONER DAMPER
(See page [EM-15](#))



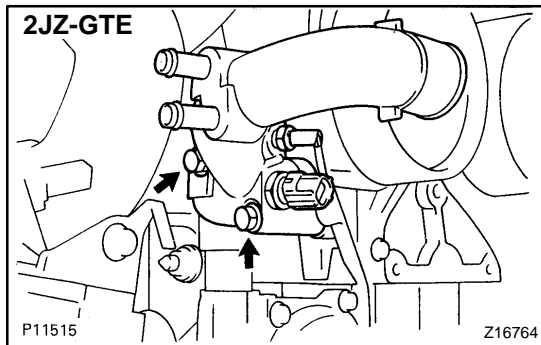
6. **REMOVE DRIVE BELT, FAN, FLUID COUPLING ASSEMBLY AND WATER PUMP PULLEY**
 - (a) Loosen the 4 nuts holding the fluid coupling to the water pump.



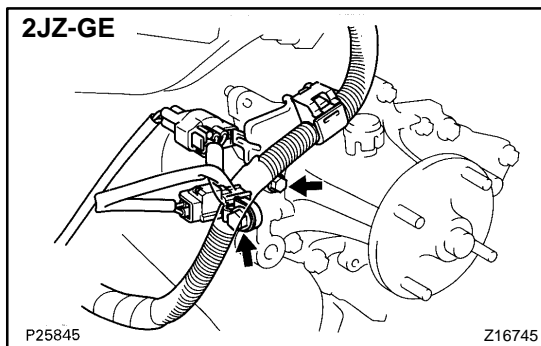
- (b) Loosen the drive belt tension by turning the drive belt tensioner clockwise, and remove the drive belt.
 - (c) Remove the 4 nuts, the fan, fluid coupling assembly and water pump pulley.
7. **REMOVE WATER INLET, LOWER RADIATOR HOSE ASSEMBLY AND THERMOSTAT**
(See page [CO-14](#))
8. **REMOVE TIMING BELT**
(2JZ-GE: See page [EM-13](#))
(2JZ-GTE: See page [EM-15](#))
9. **REMOVE IDLER PULLEY**
(2JZ-GE: See page [EM-13](#))
(2JZ-GTE: See page [EM-15](#))
10. **2JZ-GTE:**
DISCONNECT TURBO WATER HOSES FROM WATER OUTLET



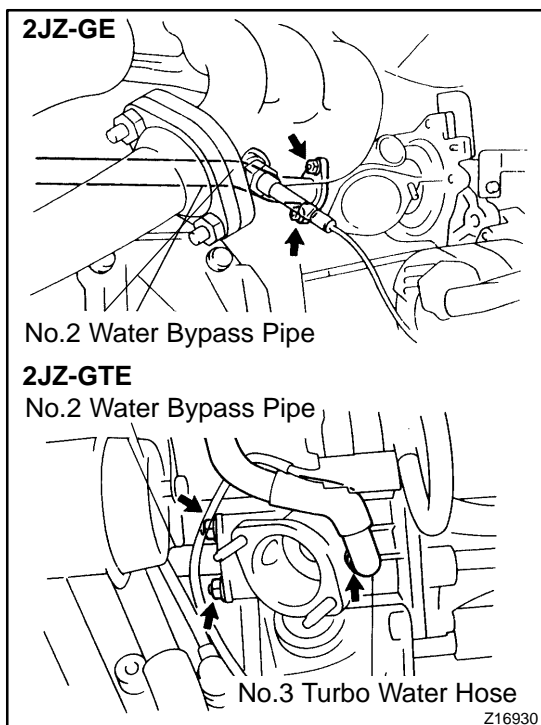
- 11. 2JZ-GE:
REMOVE WATER BYPASS OUTLET AND NO.1 WATER BYPASS PIPE**
- (a) Remove the 2 bolts, water bypass outlet and No.1 water bypass pipe.
 - (b) Remove the 3 O-rings from the water bypass outlet and No.1 water bypass pipe.



- 12. 2JZ-GTE:
REMOVE WATER OUTLET AND NO.1 WATER BYPASS PIPE**
- (a) Disconnect the ECT sensor and sender gauge connectors.
 - (b) Remove the 2 bolts, water outlet and gasket.
 - (c) Remove the No.1 water bypass pipe and 2 O-rings.

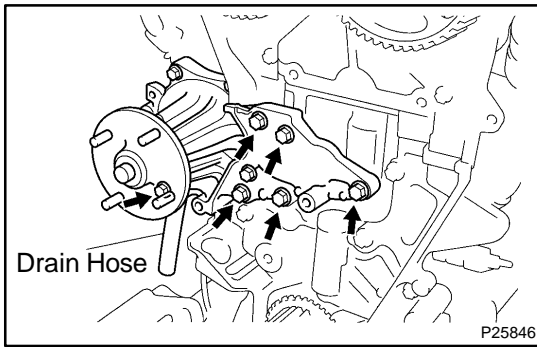


- 13. REMOVE WATER PUMP**
- (a) Loosen the nut and remove the bolt, and slightly slide the generator from the water pump.
 - (b) 2JZ-GE:
Remove the bolt, and disconnect the clamp bracket.
 - (c) 2JZ-GE:
Remove the bolt, and disconnect the connector bracket (for crankshaft position sensor connector).

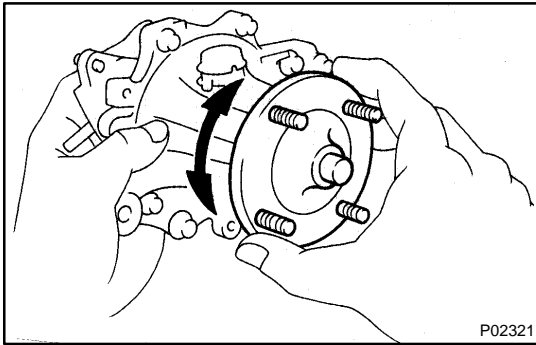


- (d) Remove the 2 nuts, and disconnect the No.2 water bypass pipe from the water pump.
- (e) 2JZ-GTE:
Disconnect the No.3 turbo water hose from the water pump.

COOLING - WATER PUMP



- (f) Remove the 6 bolts, water pump and gasket.
- (g) Remove the drain hose.
- (h) Remove the O-ring from the cylinder block.



INSPECTION

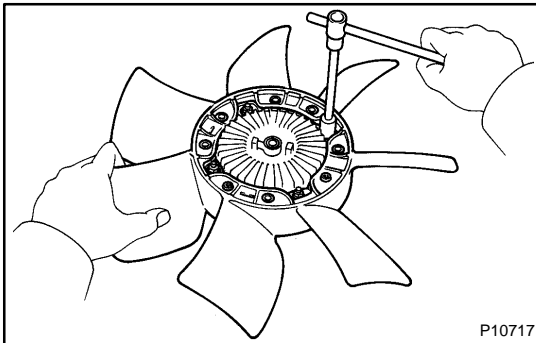
1. INSPECT WATER PUMP

- (a) Turn the pulley seat, and check that the water pump bearing is not rough or noisy.

If necessary, replace the water pump.

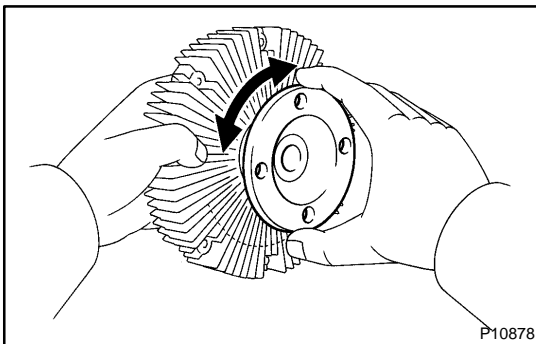
- (b) Visually check the air hole and drain hose for coolant leakage.

If leakage is found, replace the water pump.



2. INSPECT FLUID COUPLING

- (a) Remove the 4 nuts and fan from the fluid coupling.

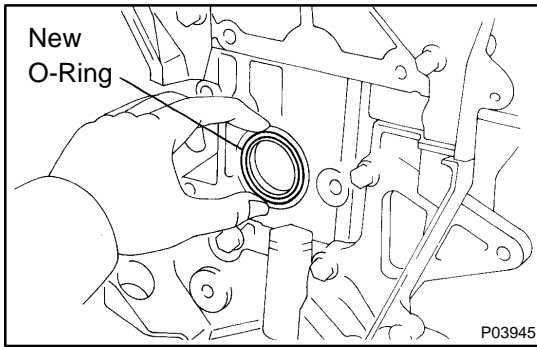


- (b) Check that the fluid coupling is not damaged and that no silicon oil leaks.

If necessary, replace the fluid coupling.

- (c) Reinstall the fan to the fluid coupling with the 4 nuts.

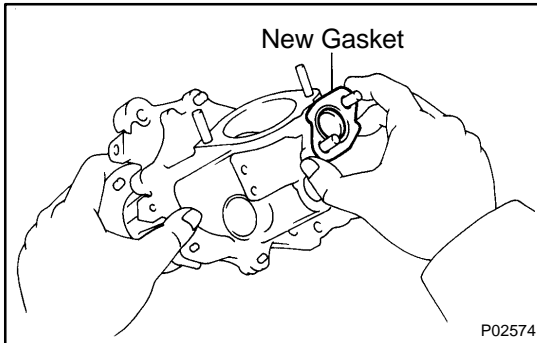
Torque: 7.4 N·m (75 kgf·cm, 65 in.-lbf)



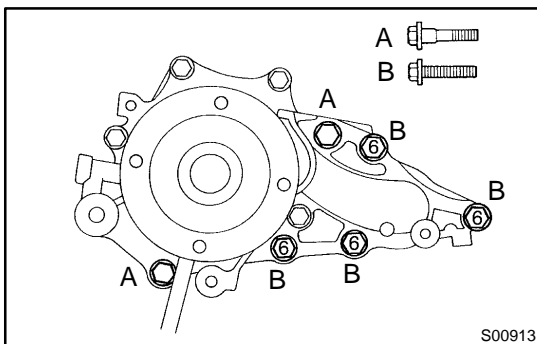
INSTALLATION

1. INSTALL WATER PUMP

- (a) Install a new O-ring to the cylinder block.
- (b) Install the drain hose.



- (c) Install a new gasket to the water pump.
- (d) Connect the water pump to the water bypass pipe. Do not install the nut yet.



- (e) Install the water pump with the 2 bolts (A) and 4 bolts (B).
Torque: 21 N-m (210 kgf-cm, 15 ft-lbf)

HINT:

Hand tighten the (A) bolts first.

- (f) Install the 2 nuts holding the No.2 water bypass pipe to the water pump.

Torque: 21 N-m (210 kgf-cm, 15 ft-lbf)

- (g) 2JZ-GTE:
Connect the No.3 turbo water hose to the water pump.
- (h) 2JZ-GE:
Install the connector bracket (for crankshaft position sensor connector) with the bolt.
- (i) 2JZ-GE:
Install the engine clamp bracket with the bolt.
- (j) Install the generator with the bolt and nut.

Torque: 40 N-m (400 kgf-cm, 30 ft-lbf)

2. 2JZ-GE:

INSTALL NO.1 WATER BYPASS PIPE AND WATER BYPASS OUTLET

- (a) Install 2 new O-rings to the No.1 water bypass pipe.
- (b) Install a new O-ring and the water bypass outlet with the 2 bolts.

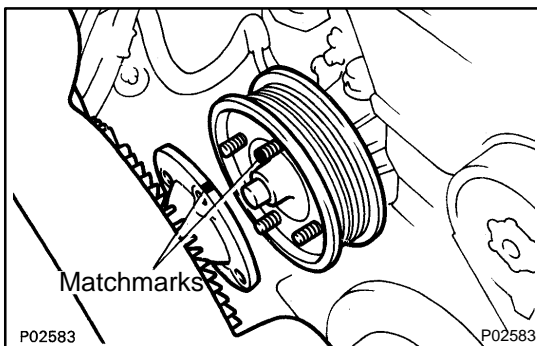
Torque: 9.0 N-m (90 kgf-cm, 80 in.-lbf)

3. 2JZ-GTE:

INSTALL NO.1 WATER BYPASS PIPE AND WATER OUTLET

- (a) Install 2 new O-rings to the No.1 water bypass pipe.
- (b) Apply soapy water to the O-rings.
- (c) Install the No.1 water bypass pipe to the water pump.

- (d) Install a new gasket and the water outlet with the 2 bolts.
Torque: 21 N·m (210 kgf-cm, 15 ft-lbf)
- (e) Connect the ECT sensor and sender gauge connectors.
- 4. **2JZ-GTE:**
CONNECT TURBO WATER HOSES TO WATER OUTLET
- 5. **INSTALL IDLER PULLEY AND TIMING BELT**
(2JZ-GE: See page [EM-19](#))
(2JZ-GTE: See page [EM-21](#))
- 6. **INSTALL WATER INLET AND LOWER RADIATOR HOSE ASSEMBLY** (See page [CO-16](#))

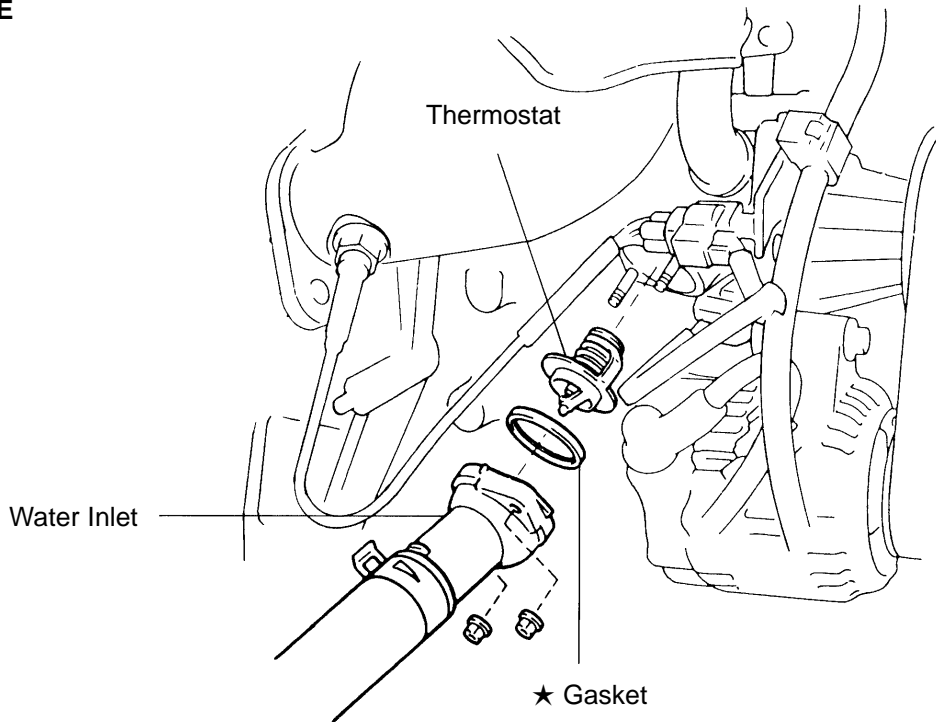


- 7. **INSTALL WATER PUMP PULLEY, FAN, FLUID COUPLING ASSEMBLY AND DRIVE BELT**
 - (a) Align the matchmarks, and install the water pump pulley, the fan and fluid coupling assembly with the 4 nuts.
 - (b) Install the drive belt by turning the drive belt tensioner clockwise.
 - (c) Stretch the belt tight, and tighten the 4 nuts.
Torque: 16 N·m (165 kgf-cm, 12 ft-lbf)
- 8. **2JZ-GTE M/T:**
INSTALL DRIVE BELT TENSIONER DAMPER
- 9. **INSTALL RADIATOR ASSEMBLY**
(See page [CO-28](#))
- 10. **2JZ-GE:**
INSTALL AIR CLEANER, MAF METER AND INTAKE AIR CONNECTOR PIPE ASSEMBLY
- 11. **2JZ-GTE:**
INSTALL AIR CLEANER AND MAF METER ASSEMBLY
- 12. **2JZ-GTE:**
INSTALL NO.1 AIR HOSE
- 13. **ROAD TEST**
Check for abnormal noise, shock, slippage, correct shift points and smooth operation.

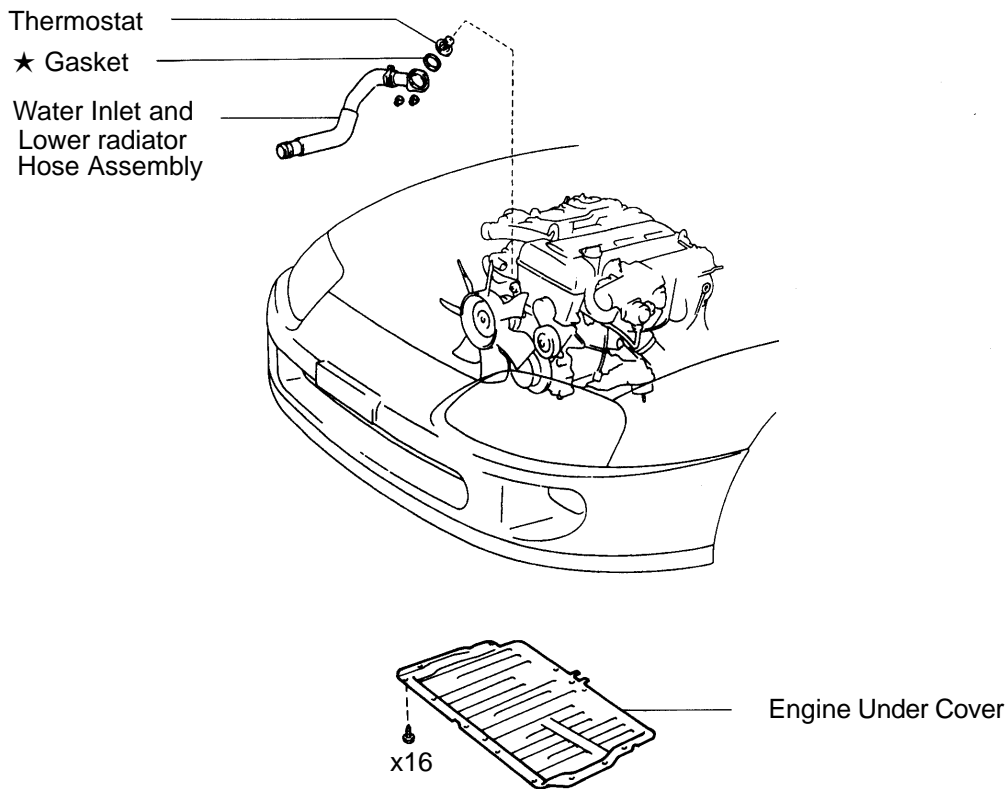
THERMOSTAT COMPONENTS

CO08P-02

2JZ-GE



2JZ-GTE



★ Non reusable part

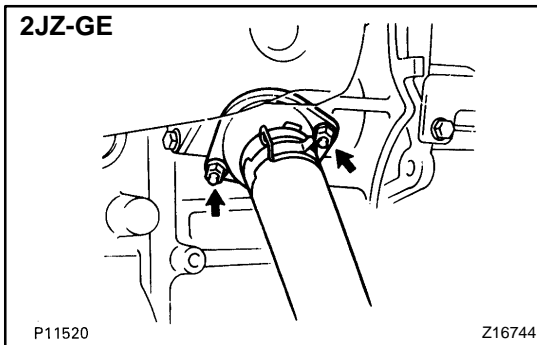
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REMOVAL

HINT:

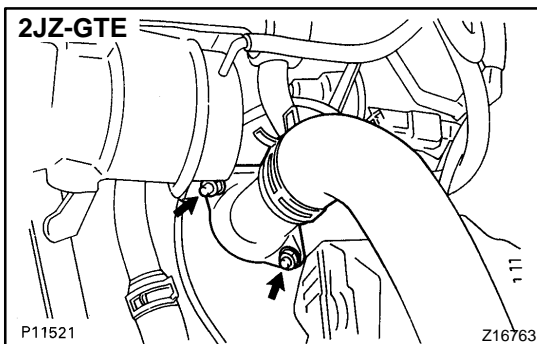
Removal of the thermostat would have an adverse effect, causing a lowering of cooling efficiency. Do not remove the thermostat, even if the engine tends to overheat.

1. **2JZ-GTE:**
REMOVE ENGINE UNDER COVER
2. **DRAIN ENGINE COOLANT**



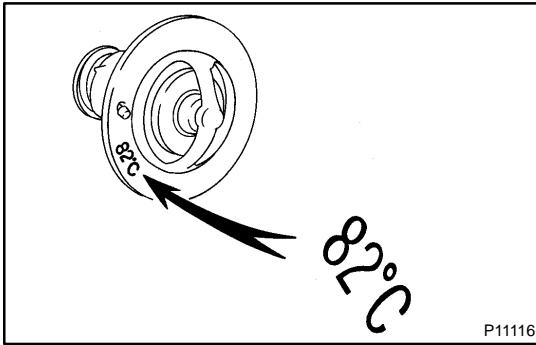
3. **2JZ-GE:**
DISCONNECT WATER INLET FROM WATER PUMP, AND REMOVE THERMOSTAT

- (a) Remove the 2 nuts holding the water inlet to the water pump, and disconnect the water inlet from the water pump.
- (b) Remove the thermostat.
- (c) Remove the gasket from the thermostat.



4. **2JZ-GTE:**
REMOVE WATER INLET, LOWER RADIATOR HOSE ASSEMBLY AND THERMOSTAT

- (a) Disconnect the lower radiator hose from the radiator.
- (b) Remove the 2 nuts holding the water inlet to the water pump, and disconnect the water inlet and lower radiator hose from the water pump.
- (c) Remove the thermostat.
- (d) Remove the gasket from the thermostat.

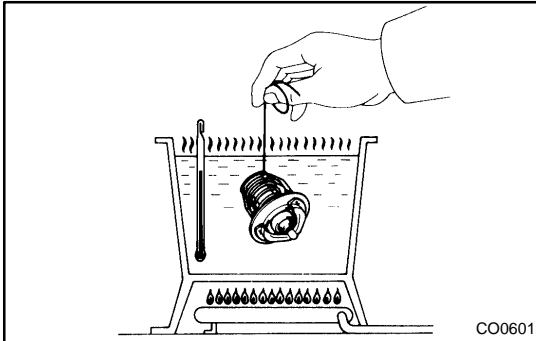


INSPECTION

INSPECT THERMOSTAT

HINT:

The thermostat is numbered with the valve opening temperature.



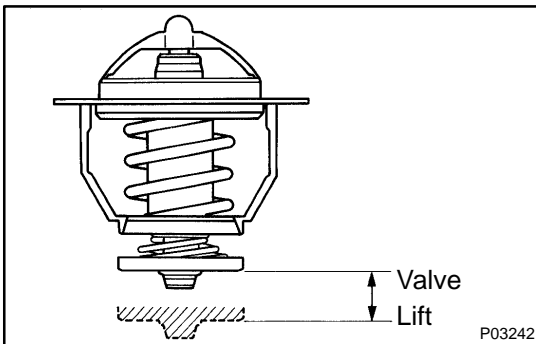
(a) Immerse the thermostat in water and gradually heat the water.

(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.



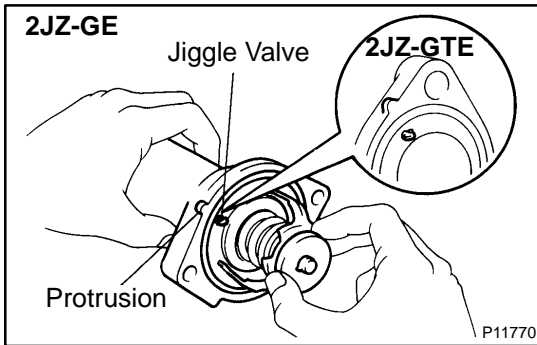
(c) Check the valve lift.

Valve lift: 8.5 mm (0.335 in.) or more at 95 °C (203 °F)

If the valve lift is not as specified, replace the thermostat.

(d) Check that the valve is closed when the thermostat is at low temperatures (below 40 °C (104 °F)).

If not closed, replace the thermostat.



INSTALLATION

1. **PLACE THERMOSTAT IN WATER INLET**
 - (a) Install a new gasket to the thermostat.
 - (b) Align the jiggle valve of the thermostat with the protrusion of the water inlet.
2. **INSTALL WATER INLET**
 - (a) Install the water inlet with the 2 nuts.
Torque:
2JZ-GE 8.8 N·m (90 kgf·cm, 78 in.-lbf)
2JZ-GTE 21 N·m (210 kgf·cm, 15 ft·lbf)
 - (b) 2JZ-GTE:
Connect the lower radiator hose to the radiator.
3. **2JZ-GTE:**
INSTALL ENGINE UNDER COVER
4. **FILL WITH ENGINE COOLANT**
5. **START ENGINE AND CHECK FOR COOLANT LEAKS**

RADIATOR

ON-VEHICLE CLEANING

CO08T-01

Using water or a 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. (i. e. Maintain a distance between the cleaner nozzle and radiator core.)

ON-VEHICLE INSPECTION

1. REMOVE RADIATOR CAP

CAUTION:

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

2. INSPECT RADIATOR CAP

NOTICE:

- ★ If the radiator cap has contaminations, always rinse it with water.
- ★ When performing steps (a) and (b) below, keep the radiator pump tester at an angle of over 30° above the horizontal.

- (a) Before using a radiator cap tester, wet the relief valve and pressure valve with engine coolant or water.
- (b) Using a radiator cap tester, slowly pump the tester and check that air is coming from the vacuum valve.

Pump speed: 1 push/ (3 seconds or more)

NOTICE:

Push the pump at a constant speed.

If air is not coming from the vacuum valve, replace the radiator cap.

- (c) Pump the tester and measure the relief valve opening pressure.

Pump speed: 1 push within 1 second

NOTICE:

This pump speed is for the first pump only (in order to close the vacuum valve). After this, the pump speed can be reduced.

Standard opening pressure:

93 - 123 kPa (0.95 - 1.25 kgf/cm², 13.5 - 17.8 psi)

Minimum opening pressure:

78 kPa (0.8 kgf/cm², 11.4 psi)

HINT:

Use the tester's maximum reading as the opening pressure.

If the opening pressure is less than minimum, replace the radiator cap.

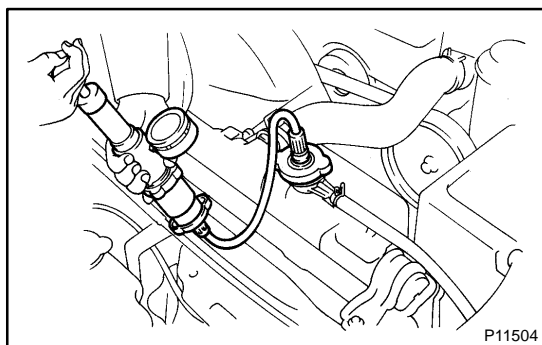
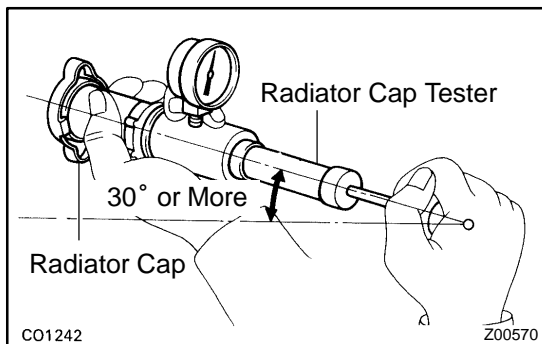
3. INSPECT COOLING SYSTEM FOR LEAKS

- (a) Fill the radiator with coolant, and attach a radiator cap tester.
- (b) Warm up the engine.
- (c) Pump it to 147 kPa (1.5 kgf/cm², 21.3 psi), and check that the pressure does not drop.

If the pressure drops, check the hoses, radiator or water pump for leaks.

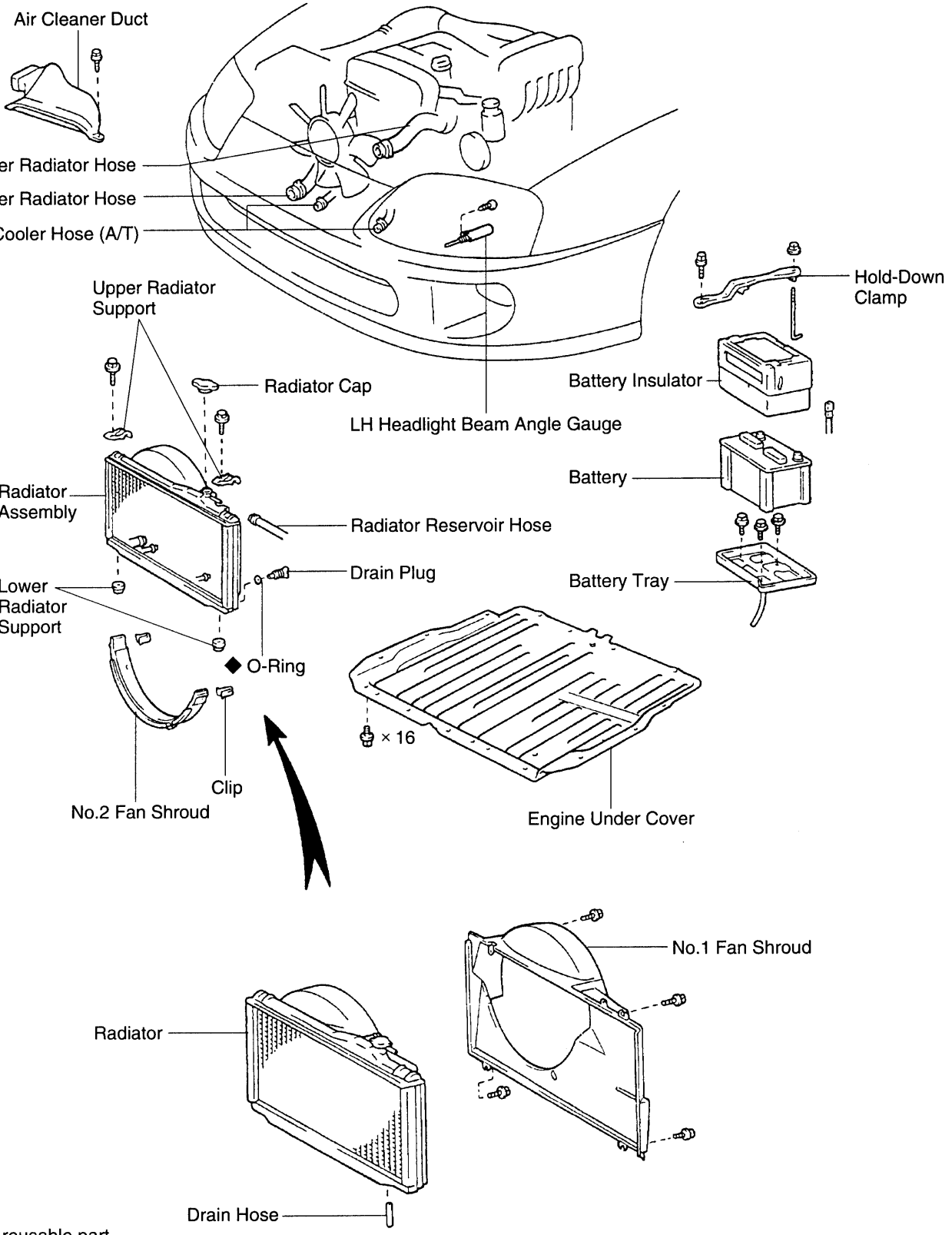
If no external leaks are found, check the heater core, cylinder block and cylinder head.

4. REINSTALL RADIATOR CAP



COMPONENTS

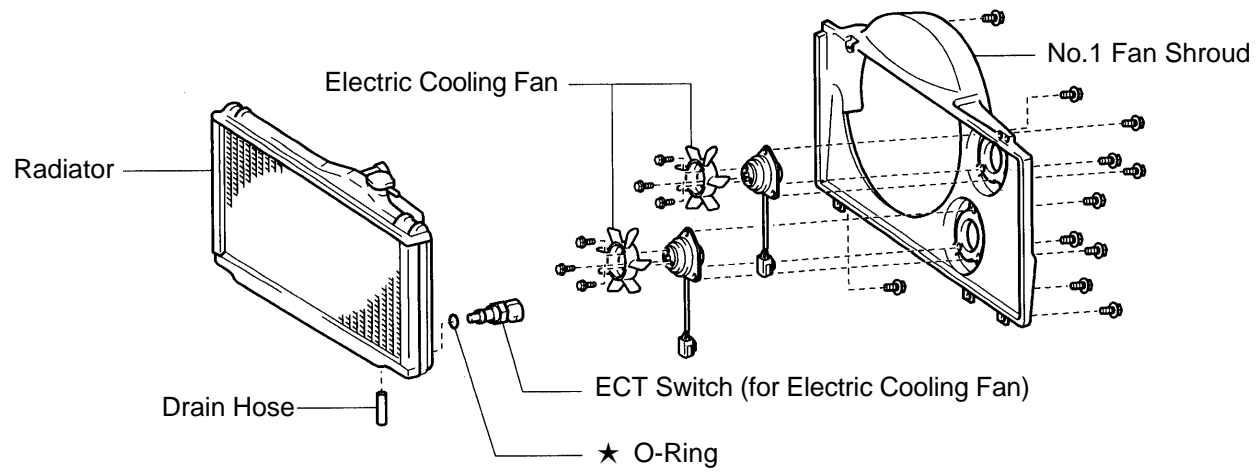
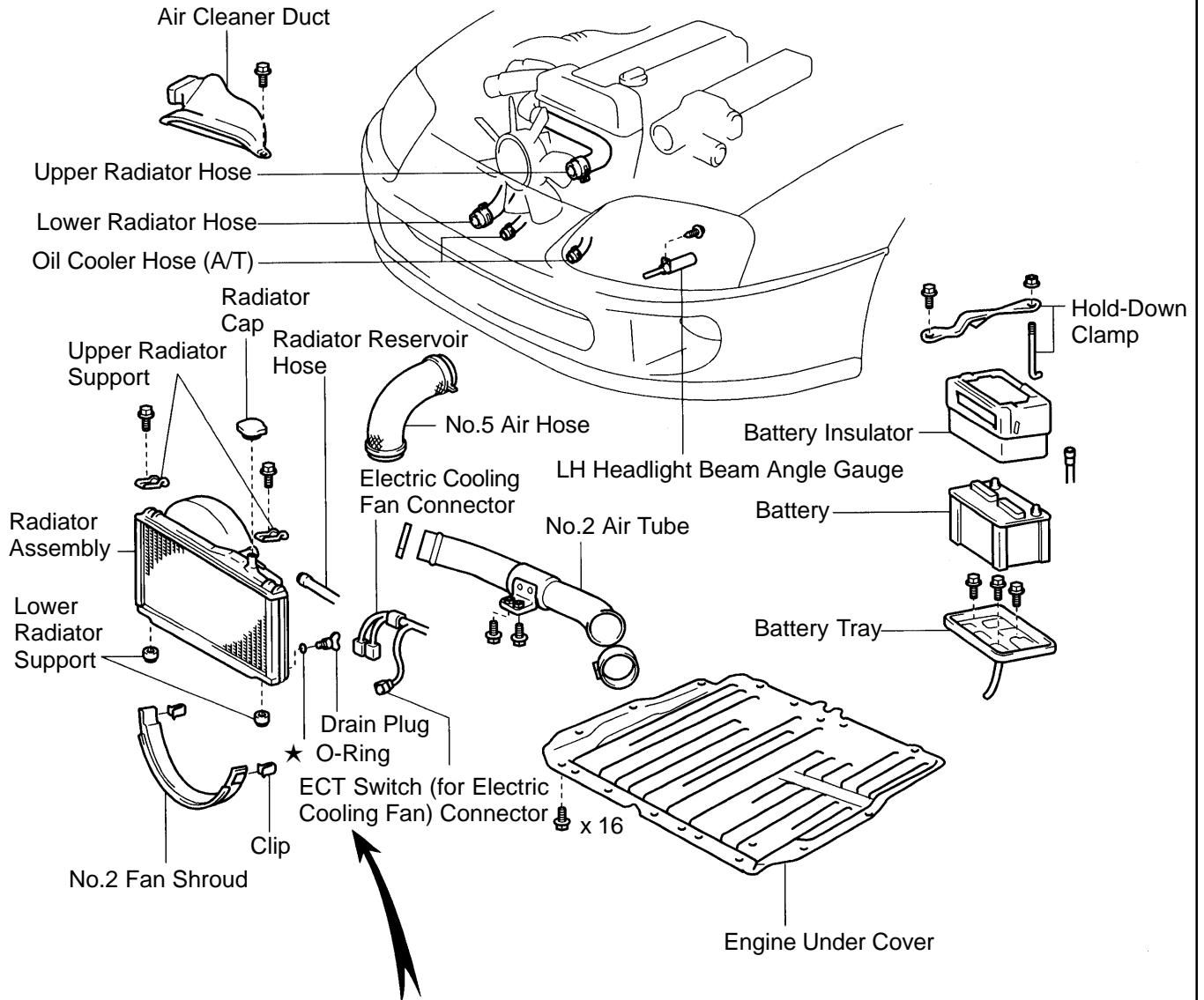
2JZ-GE



◆ Non-reusable part

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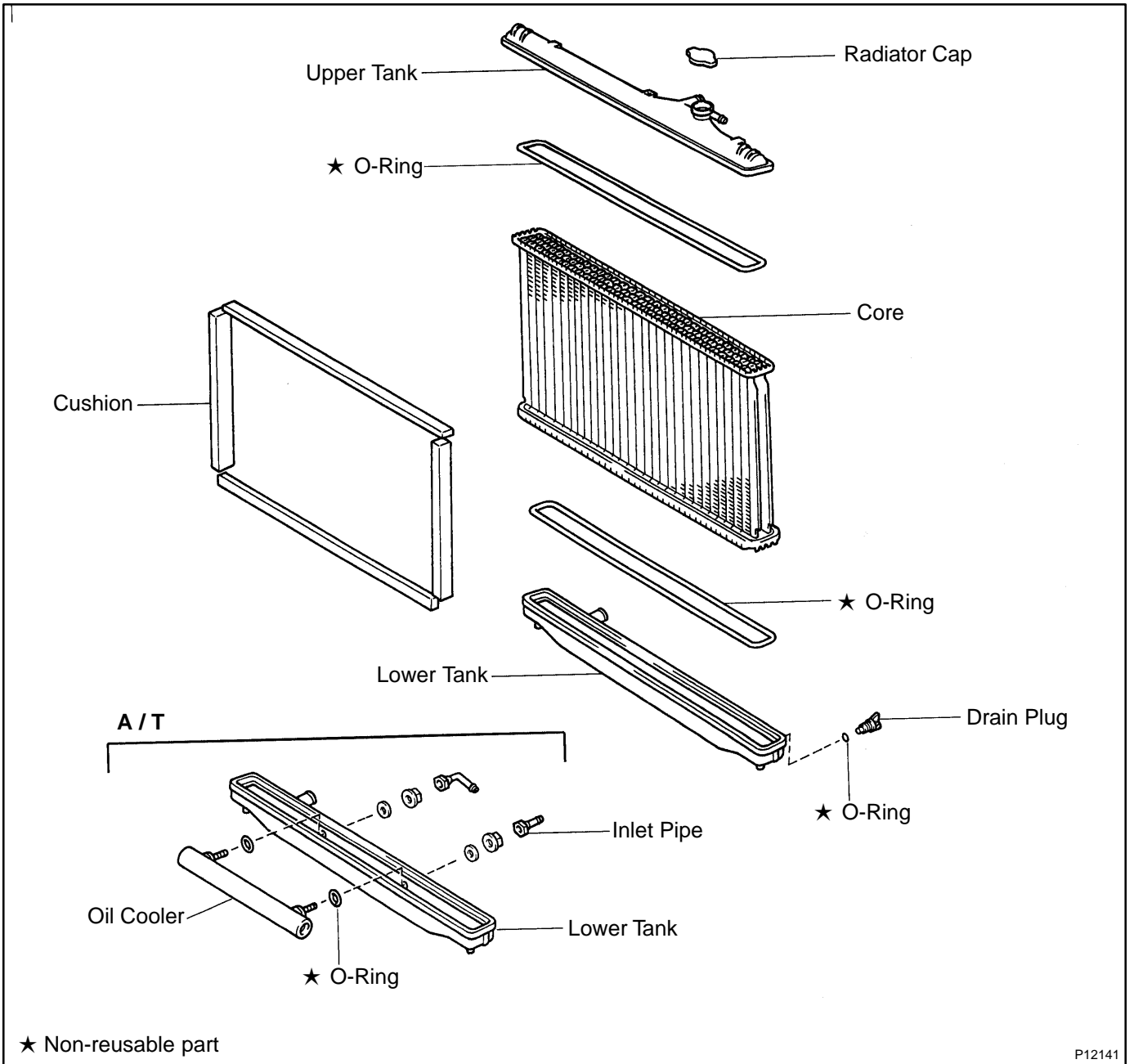
2JZ-GTE



★Non-reusable part

S04927

COOLING - RADIATOR



REMOVAL

1. REMOVE ENGINE UNDER COVER

HINT:

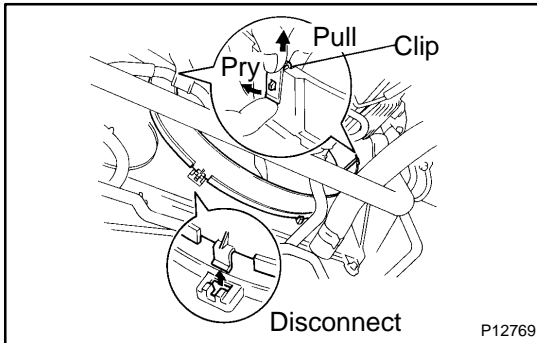
Start the engine, and check for coolant and A/T fluid leaks.

2. REMOVE BATTERY AND BATTERY TRAY

3. DRAIN ENGINE COOLANT

4. 2JZ-GTE:

REMOVE NO.2 AIR TUBE



5. REMOVE NO.2 FAN SHROUD

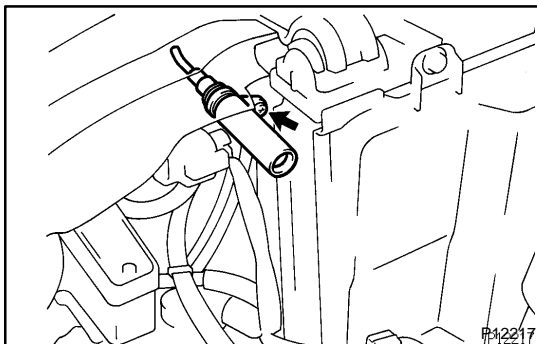
(a) Remove the 2 clips.

(b) Disconnect the claw of the No.2 fan shroud from the hook of the No.1 fan shroud, and remove the No.2 fan shroud.

6. REMOVE AIR CLEANER DUCT

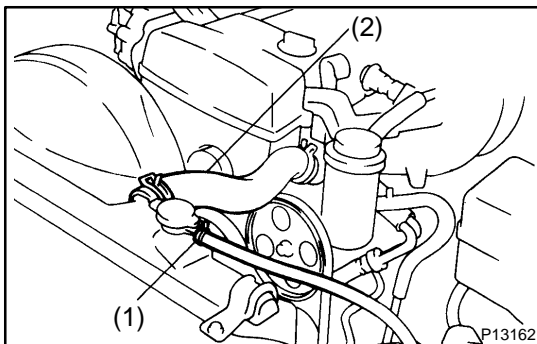
7. 2JZ-GTE:

REMOVE NO.5 AIR HOSE



8. REMOVE LH HEADLIGHT BEAM ANGLE GAUGE

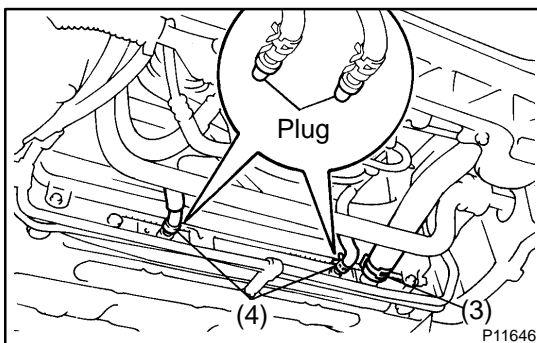
Remove the screw and beam angle gauge.



9. DISCONNECT HOSES FROM RADIATOR

Disconnect these hoses from the radiator:

- (1) Reservoir inlet hose
- (2) Upper radiator hose



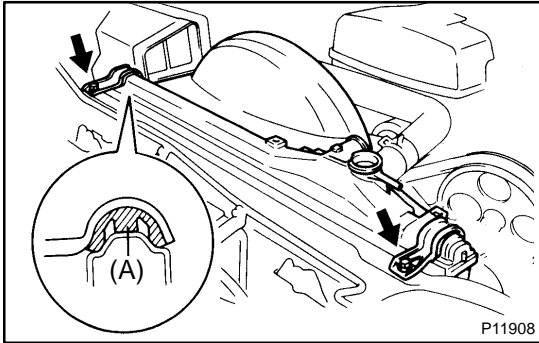
- (3) Lower radiator hose
- (4) A/T (2 oil cooler hoses):
Plug the hose ends.

HINT:

At the time of installation, please refer to the following items.
Check the A/T fluid level.

10. REMOVE RADIATOR ASSEMBLY

- (a) 2JZ-GTE:
Disconnect the ECT switch (for electric cooling fan connector) and wire harness.
- (b) 2JZ-GTE:
Disconnect the 2 electric cooling fan connectors and wire harness.



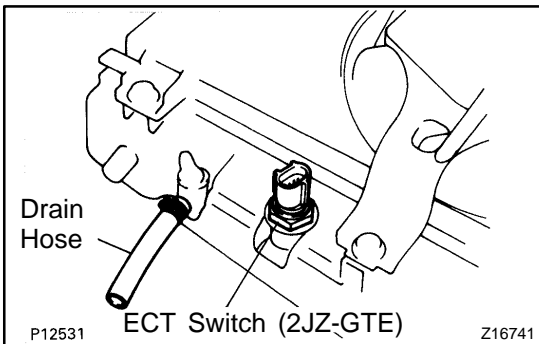
- (c) Remove the bolt and upper radiator support. Remove the 2 upper radiator supports.

HINT:

At the time of installation, please refer to the following items. Check that the rubber cushion (A) of the support is not depressed.

Torque: 15 N·m (155 kgf·cm, 11 ft·lbf)

- (d) Lift out the radiator assembly.
- (e) Remove the 2 lower radiator supports.

**11. REMOVE DRAIN HOSE FROM RADIATOR****12. 2JZ-GTE:****REMOVE ENGINE COOLANT TEMPERATURE (ECT) SWITCH FROM RADIATOR**

- (a) Remove the ECT switch.

HINT:

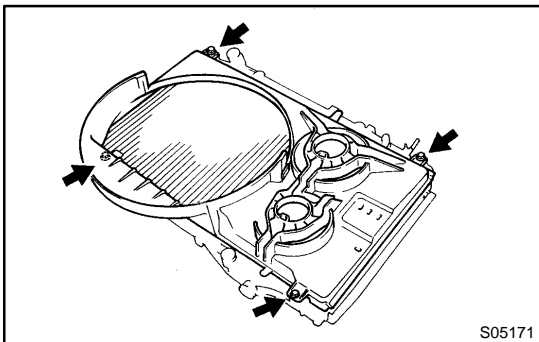
At the time of installation, please refer to the following item. Apply soapy water to the O-ring, and install the ECT switch.

Torque: 7.4 N·m (75 kgf·cm, 65 in.-lbf)

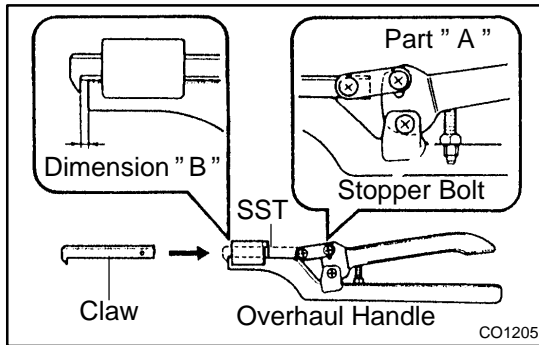
- (b) Remove the O-ring from the ECT switch.

HINT:

At the time of installation, please refer to the following item. Use a new O-ring.

**13. REMOVE NO.1 FAN SHROUD FROM RADIATOR**

- (a) 2JZ-GE:
Remove the 4 bolts and No.1 fan shroud.
- (b) 2JZ-GTE:
Remove the 5 bolts and No.1 fan shroud.



DISASSEMBLY

1. REMOVE CUSHIONS FROM RADIATOR

2. ASSEMBLE SST

SST 09230-01010

- Install the claw to the overhaul handle, inserting it in the hole in part "A" as shown in the installation.
- While gripping the handle, adjust the stopper bolt so that dimension "B" shown in the diagram is 0.2 - 0.5 mm (0.008 - 0.020 in.).

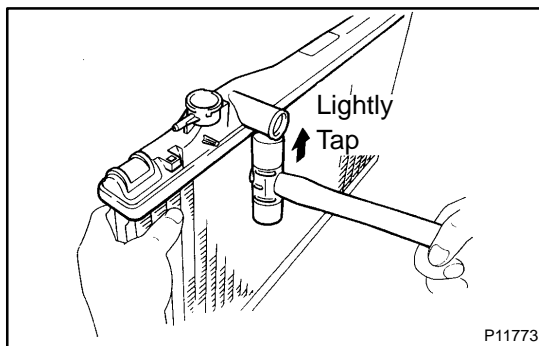
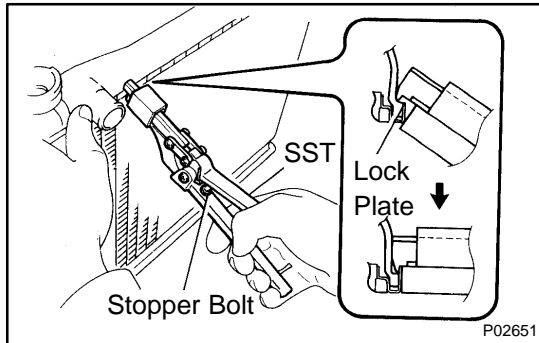
NOTICE:

If this adjustment is not done, the claw may be damaged.

3. UNCAULK LOCK PLATES

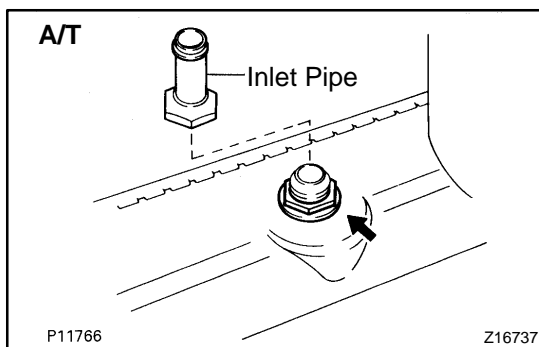
Using SST to release the caulking, squeeze the handle until stopped by the stopper bolt.

SST 09230-01010



4. REMOVE TANKS AND O-RINGS

- Lightly tap the radiator hose inlet (or outlet) with a soft-faced hammer and remove the tank.
- Remove the O-ring.



5. A/T:

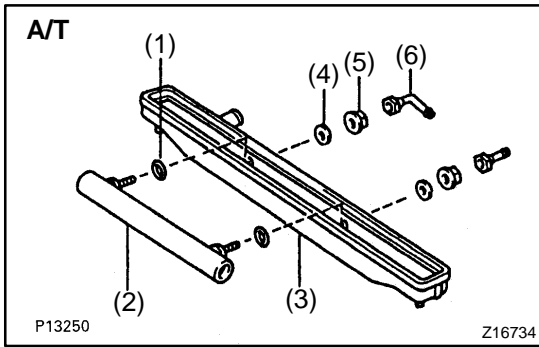
REMOVE OIL COOLER FROM LOWER TANK

- Remove the inlet pipes.

HINT:

Make a note of the direction to face the pipes.

- Remove the nuts, plate washers and oil cooler.
- Remove the O-rings from the oil cooler.



REASSEMBLY

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-rings (1) to the oil cooler (2).
- Install the oil cooler (2) to the lower tank (3).
- Install the plate washers (4), and nuts (5).

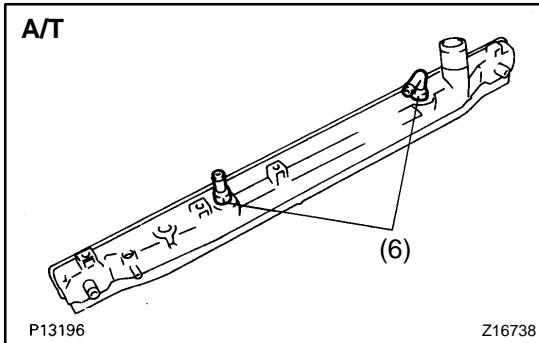
Torque: 8.3 N·m (85 kgf·cm, 74 in.-lbf)

- Install the inlet pipes (6).

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

HINT:

Face the inlet pipes in the same direction they were before disassembly.

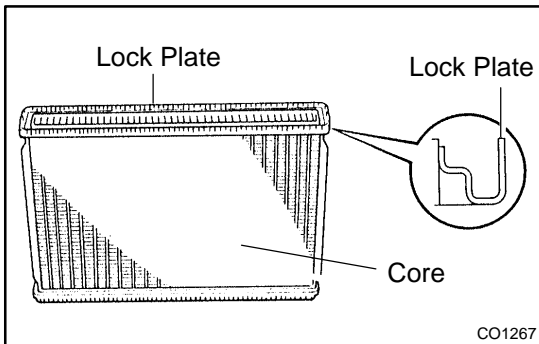


2. INSPECT LOCK PLATE

Inspect the lock plate for damage.

HINT:

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



NOTICE:

The radiator can only be recalked 2 times.

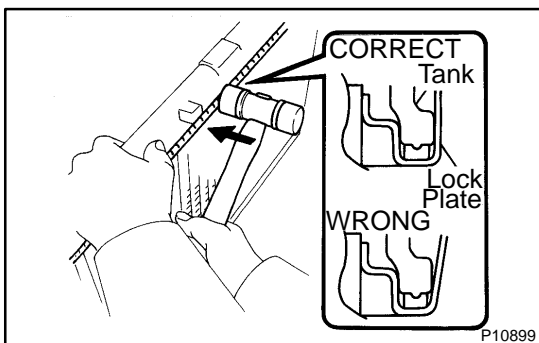
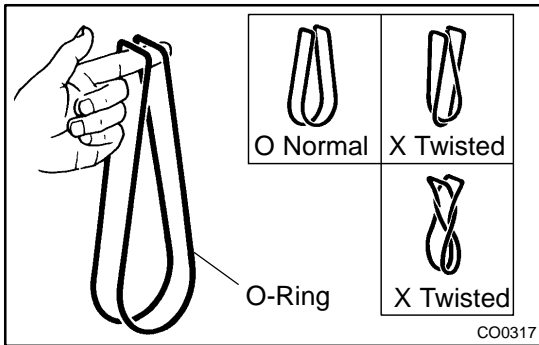
After the 2nd time, the radiator core must be replaced.

3. INSTALL NEW O-RINGS AND TANKS

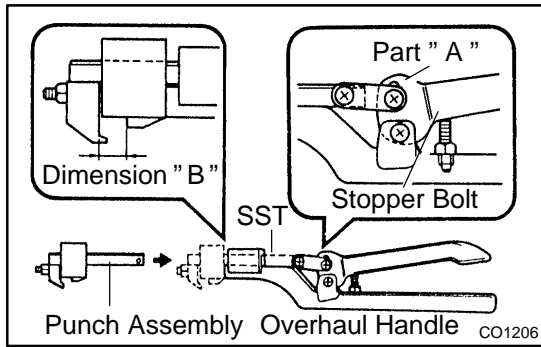
- After checking that there are no foreign objects in the lock plate groove, install the new O-ring without twisting it.

HINT:

When cleaning the lock plate groove, lightly rub it with sand paper without scratching it.



- Install the tank without damaging the O-ring.
- Tap the lock plate with a soft-faced hammer so that there is no gap between it and the tank.

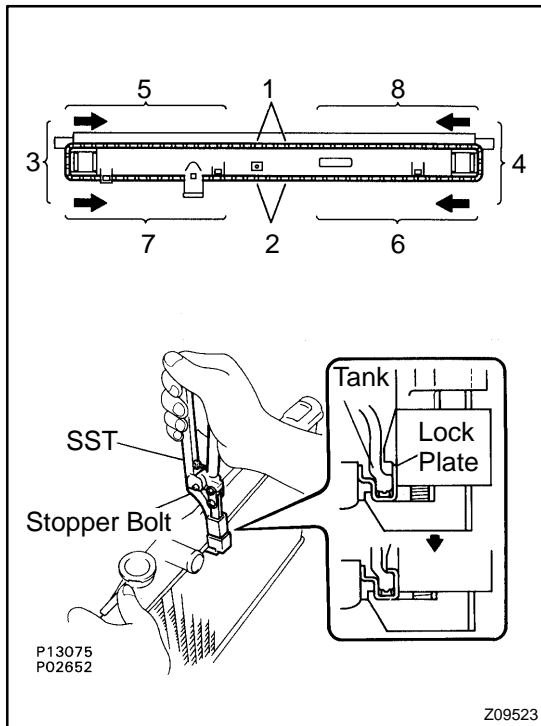


4. ASSEMBLE SST

SST 09230-01010, 09231-14010

- (a) Install the punch assembly to the overhaul handle, inserting it in the hole in part "A" as shown in the illustration.
- (b) While gripping the handle, adjust the stopper bolt so that dimension "B" shown in the diagram.

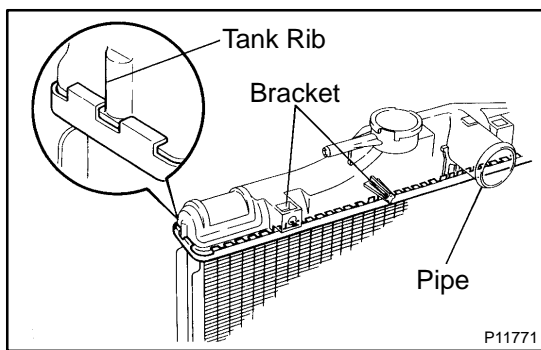
Dimension "B":
8.4 mm (0.34 in)



5. CAULK LOCK PLATE

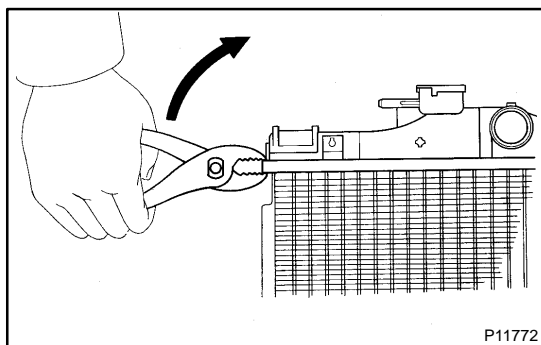
- (a) Lightly press SST against the lock plate in the order shown in the illustration. After repeating this a few times, fully caulk the lock plate by squeezing the handle until stopped by the stopper plate.

SST 09230-01010

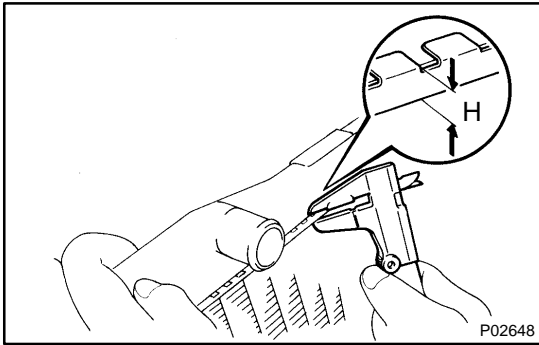


HINT:

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



- ★ The points shown in the rib sides and oil cooler near here cannot be staked with SST. Use a plier or similar object and be careful not to damage the core plates.

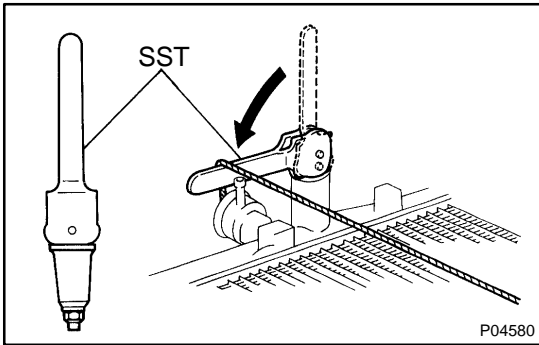


(b) Check the lock plate height (H) after completing the caulking.

Plate height:

7.40 - 7.80 mm (0.2959 - 0.3119 in)

If not within the specified height, adjust the stopper bolt of the handle again and caulk again.



6. INSPECT FOR WATER LEAKS

(a) Tighten the drain plug.

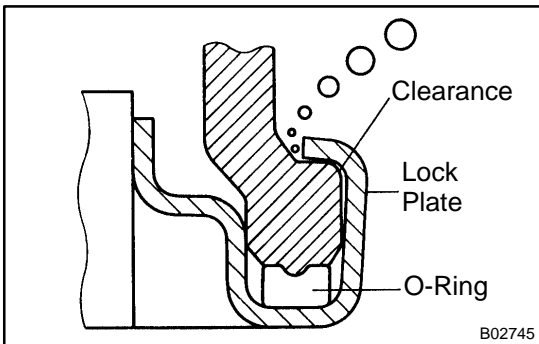
(b) Plug the inlet and outlet pipes of the radiator with SST.

SST 09230-01010

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

Test pressure:

177 kPa (1.8 kgf/cm², 26 psi)

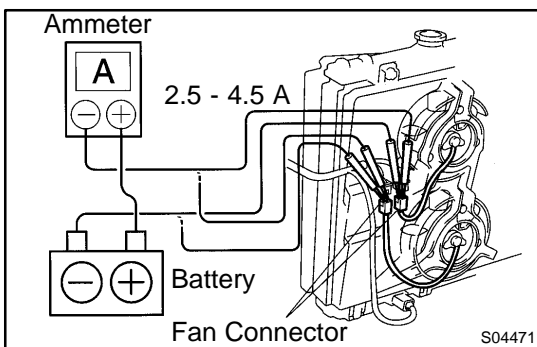
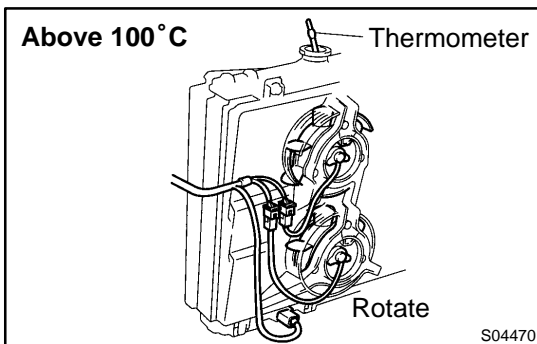
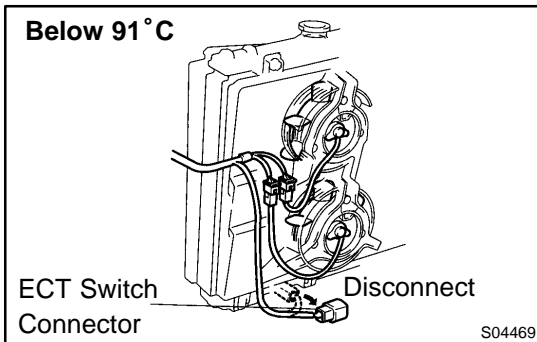
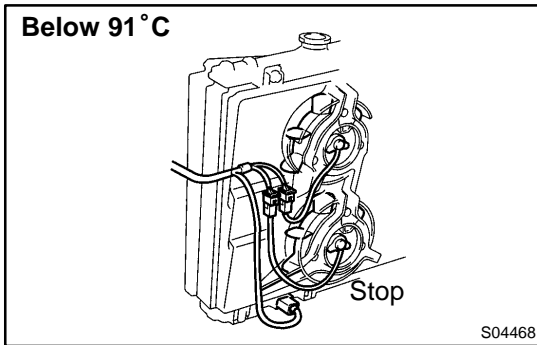


(d) Inspect for water leaks.

HINT:

On radiators with resin tanks, there is a clearance between the tank and lock 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 doing the water leak test, move the radiator around in the water until all air bubbles disappear.

7. INSTALL CUSHIONS TO RADIATOR



ELECTRIC COOLING FAN (2JZ-GTE)

CO090-01

ON-VEHICLE INSPECTION

1. CHECK COOLING FAN OPERATION WITH LOW TEMPERATURE (Below 91 °C (196 °F))

- Turn the ignition switch ON.
- Check that the cooling fan stops.

If not, check the cooling fan relay and ECT switch, and check for a separated connector or severed wire between the No.1 radiator fan relay and ECT switch.

- Disconnect the ECT switch connector.
- Check that the cooling fan rotates.

If not, check the No.1 radiator relay, No.2 radiator fan relay, cooling fan, fuses, and check for short circuit between the No.1 radiator fan relay and ECT switch.

- Reconnect the ECT switch connector.

2. CHECK COOLING FAN OPERATION WITH HIGH TEMPERATURE (Above 100 °C (212 °F))

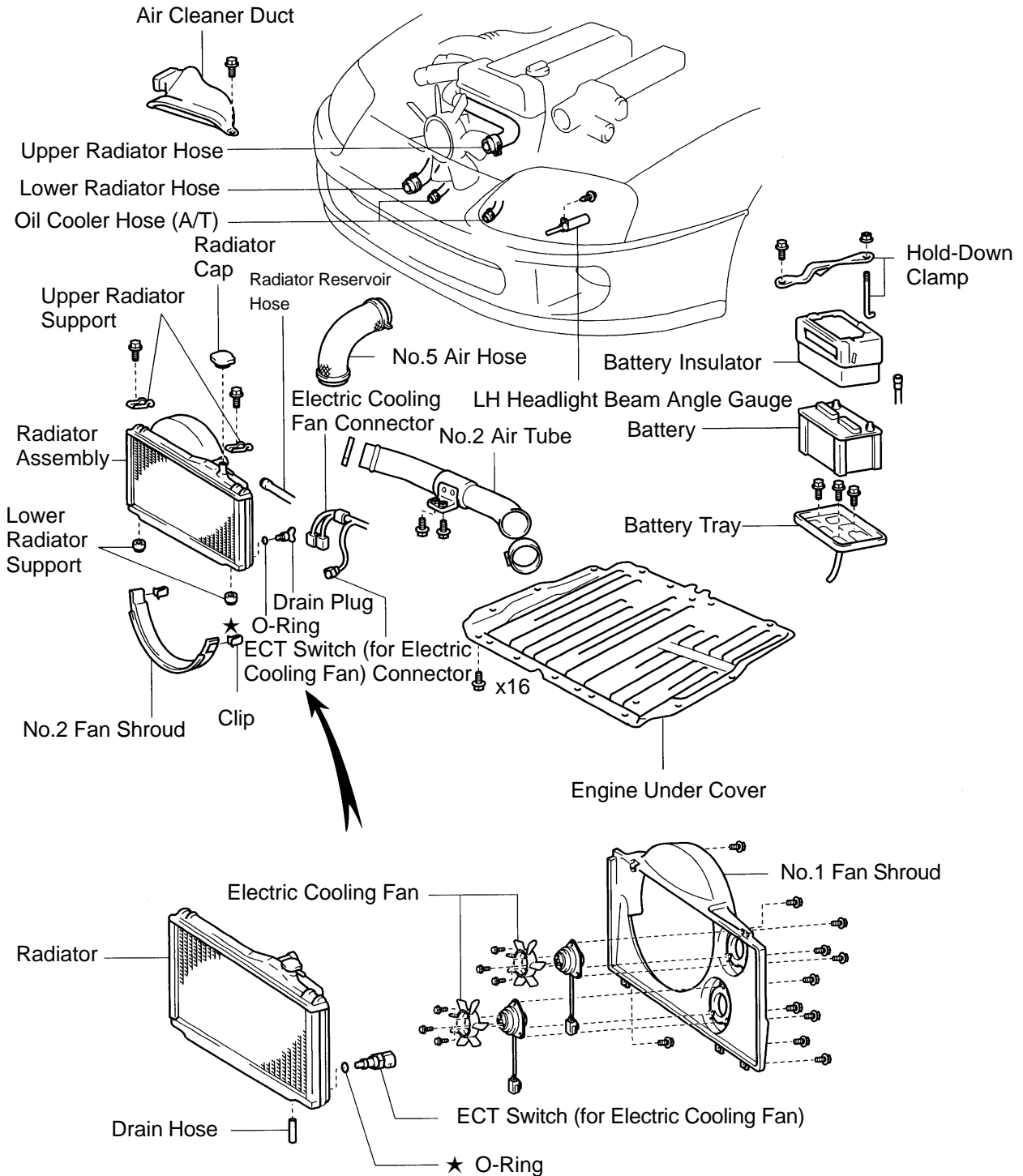
- Start the engine, and raise coolant temperature to above 100 °C (212 °F).
 - Check that the cooling fan rotates.
- If not, replace the ECT switch.

3. INSPECT COOLING FAN

- Disconnect the fan connector.
- Connect battery and ammeter to the cooling fan connector.
- Check that the cooling fan rotates smoothly, and check the reading on the ammeter.
Standard amperage: 2.5 - 4.5 A
- Reconnect the fan connector.

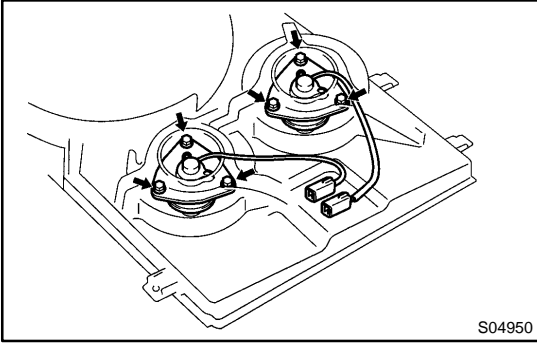
COMPONENTS

2JZ-GTE



★ Non-reusable part

S04927



REMOVAL

1. **REMOVE RADIATOR (See page [CO-22](#))**

2. **REMOVE FAN**

Remove the 6 screws and 2 fans.

3. **REMOVE FAN MOTOR**

(a) Disconnect the 2 connectors from the fan shroud.

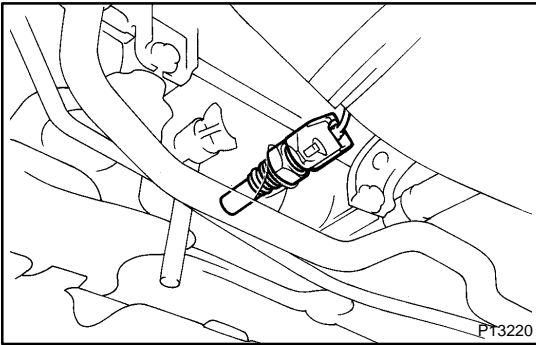
(b) Remove the 6 screws and 2 fan motors.

NOTICE:

Install the fan motor so that its water drainage hole faces downward.

Torque: 3.9 N·m (40 kgf·cm, 35 in.-lbf)

4. **REASSEMBLY IS IN THE REVERSE ORDER OF REMOVAL (See step 3)**



ENGINE COOLANT TEMPERATURE (ECT) SWITCH (2JZ-GTE) INSPECTION

CO094-01

1. REMOVE ENGINE UNDER COVER
2. DRAIN ENGINE COOLANT
3. REMOVE ECT SWITCH
 - (a) Disconnect the ECT switch connector.
 - (b) Remove the ECT switch.
 - (c) Remove the O-ring from the ECT switch.
4. INSPECT ECT SWITCH
 - (a) Using an ohmmeter, check that there is no continuity between the terminals when the coolant temperature is above 100°C (212°F).

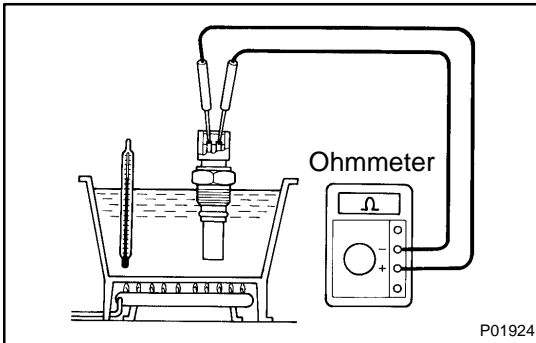
If there is continuity, replace the switch.

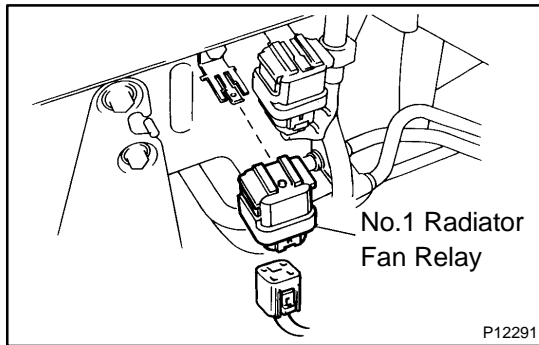
- (b) Using an ohmmeter, check that there is continuity between the terminals when the coolant temperature is below 91°C (196°F).

If there is no continuity, replace the switch.

5. REINSTALL ECT SWITCH
 - (a) Install a new O-ring to the ECT switch.
 - (b) Apply soapy water to the O-ring.
 - (c) Install the ECT switch.

Torque: 7.4 N·m (75 kgf·cm, 65 in.-lbf)
 - (d) Connect the ECT switch connector.
6. REFILL WITH ENGINE COOLANT
7. START ENGINE AND CHECK FOR LEAKS
8. REINSTALL ENGINE UNDER COVER





RADIATOR FAN RELAY (2JZ-GTE)

CO095-01

1. **w/ Auto Spoiler:**
REMOVE LH HEADLIGHT
2. **w/o Auto Spoiler:**
REMOVE ENGINE UNDER COVER
3. **INSPECT NO.1 RADIATOR FAN RELAY**

(a) Remove the No.1 radiator fan relay. (Marking: RADIATOR FAN RELAY)

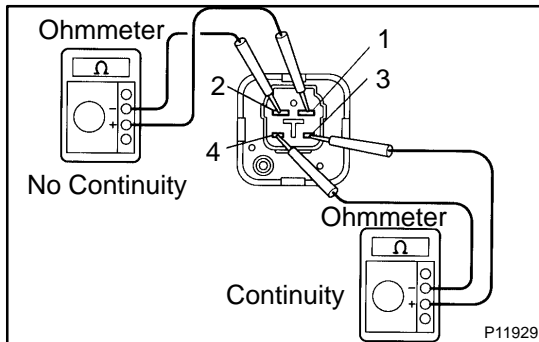
(b) Inspect the No.1 radiator fan relay continuity.

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

If there is no continuity, replace the relay.

- (2) Check that there is no continuity between terminals 1 and 2.

If there is continuity, replace the relay.



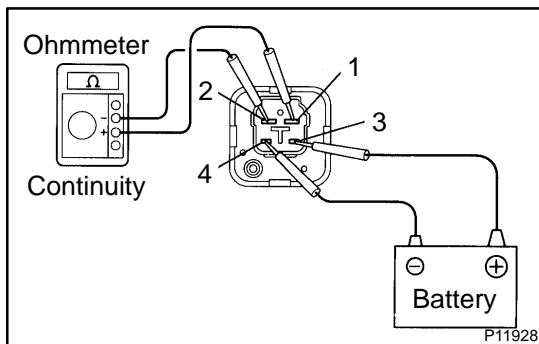
(c) Inspect the No.1 radiator fan relay operation.

- (1) Apply battery positive voltage across terminals 3 and 4.

- (2) Using an ohmmeter, check that there is continuity between terminals 1 and 2.

If there is no continuity, replace the relay.

(d) Reinstall the No.1 radiator fan relay



4. INSPECT NO.2 RADIATOR FAN RELAY

(a) Remove the No.2 radiator fan relay. (Marking: A.B.S.(TRAC) RELAY)

(b) Inspect the No. 2 radiator fan relay continuity.

- (1) Using an ohmmeter, check that there is continuity between terminals 1 and 6.

If there is no continuity, replace the relay.

- (2) Check that there is continuity between terminals 3 and 5.

If there is no continuity, replace the relay.

(c) Check that there is no continuity between terminals 2 and 5.

If there is continuity, replace the relay.

(d) Inspect the No.2 radiator fan relay operation.

(e) Apply battery positive voltage across terminals 1 and 6.

- (1) Using an ohmmeter, check that there is no continuity between terminals 3 and 5.

- (2) If there is continuity, replace the relay.

- (3) Check that there is continuity between terminals 2 and 5.

