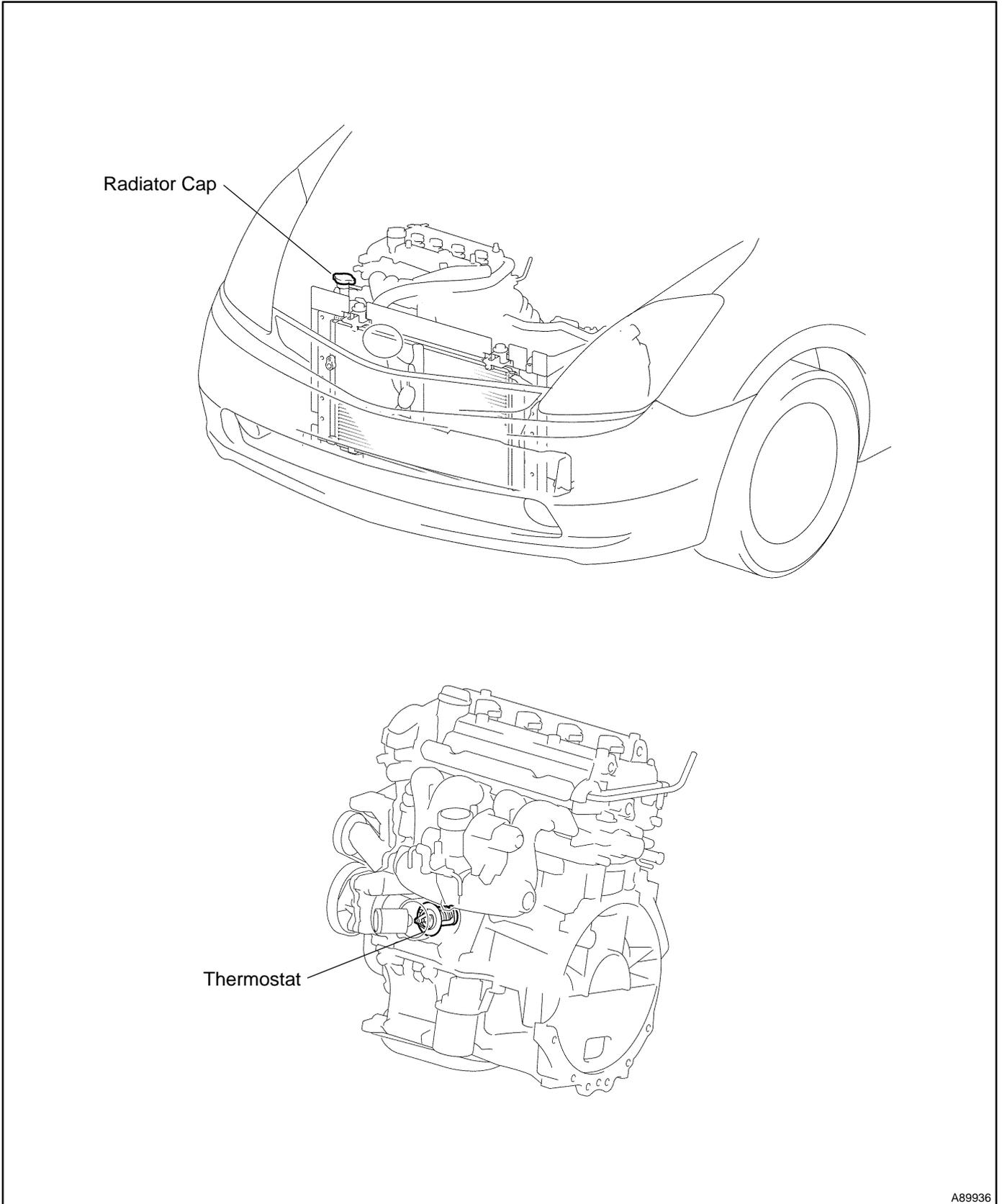


# COOLING SYSTEM (1NZ-FXE)

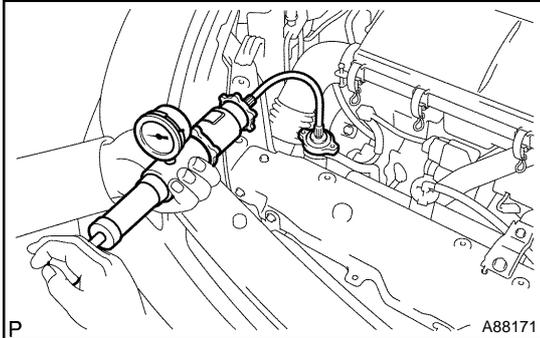
## LOCATION

160TP-01



A89936

## ON-VEHICLE INSPECTION



### 1. INSPECT COOLING SYSTEM FOR LEAKS

#### CAUTION:

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

- (a) Fill the radiator with coolant, then attach the radiator cap tester.
- (b) Warm up the engine.
- (c) Pump it up to 177 kPa {1.8 kgf/cm<sup>2</sup>, 25.6 psi}, then check that the pressure does not drop.

#### HINT:

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

### 2. CHECK ENGINE COOLANT LEVEL AT RESERVOIR

- (a) Check that the coolant level in the reservoir tank is between "F" and "L" lines when the engine is cold. If low, check for leaks and add "Toyota Super Long Life Coolant" or similar high quality ethylene glycol based non-silicate, non-amine, non-nitrite, and non-borate coolant with long-life hybrid organic acid technology up to the "FULL" line.

### 3. CHECK ENGINE COOLANT QUALITY

- (a) Remove the radiator cap.

#### CAUTION:

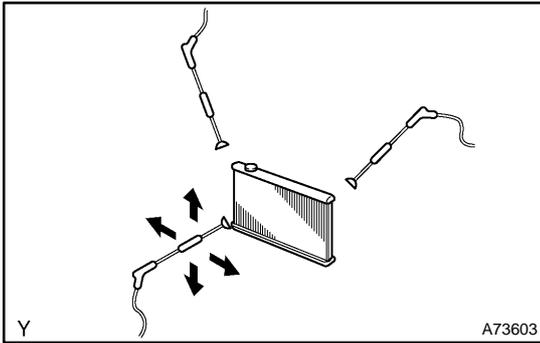
To avoid the danger of being burned, do not remove the radiator cap while the engine and radiator are still hot. Fluid and steam can be blown out under pressure.

- (b) Check that there are no excessive collections of rust or scale around the radiator cap or radiator filler hole.

#### HINT:

If excessively dirty, replace the coolant.

- (c) Attach the radiator cap.



**4. INSPECT FIN BLOCKAGE**

- (a) If the fins are clogged, wash them with water or a steam cleaner and dry with compressed air.

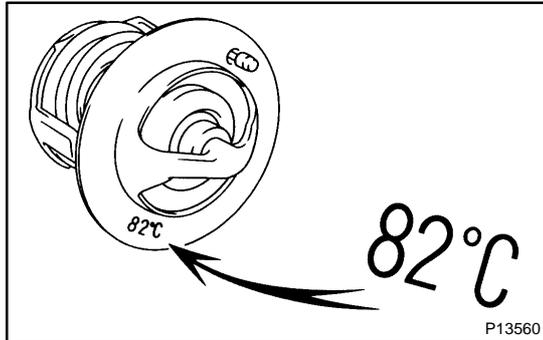
**NOTICE:**

- If the distance between the steam cleaner and core is too close, the fins could be damaged. So keep the following injection distance.

Injection Pressure kPa (kgf/cm <sup>2</sup> , psi)	Injection Distance mm(in.)
2,942 to 4,903 (30 to 50, 427 to 711)	300 (11.811)
4,903 to 7,845 (50 to 80, 711 to 1,138)	500 (19.685)

- If the fins are bent, straighten them with a screwdriver or pliers.
- Be careful not to pour water directly onto electronic components.

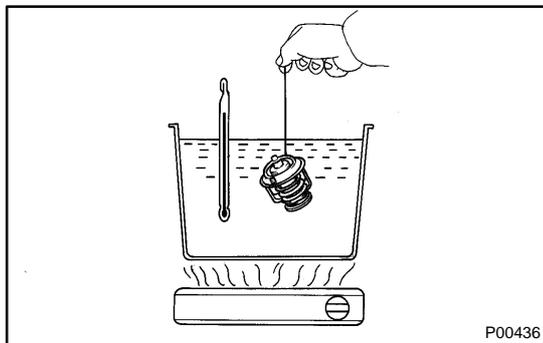
# INSPECTION



## 1. INSPECT THERMOSTAT

### HINT:

The thermostat is imprinted with the valve opening temperature.



(a) Immerse the thermostat in the water, then gradually heat the water.

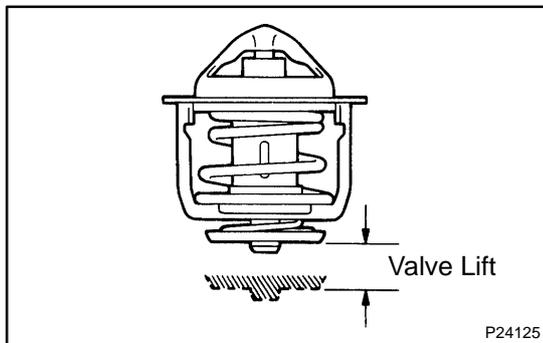
(b) Check the valve opening temperature.

### Valve opening temperature:

**80 to 84°C (176 to 183°F)**

### HINT:

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



(c) Check the valve lift.

### Valve lift:

Temperature	Valve Lift
95°C (205°F)	8.5 mm (0.335 in.) or more

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

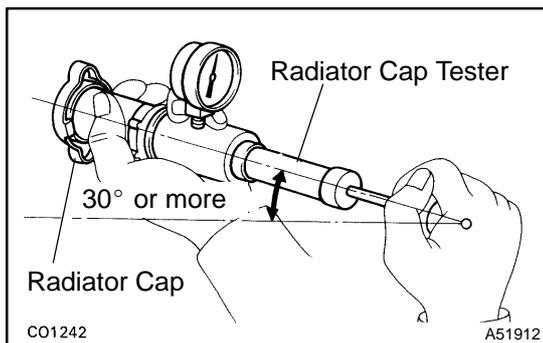
(d) Check that the valve is fully closed when the thermostat is at low temperature (below 77°C (171°F)).

If not fully closed, replace the thermostat.

## 2. INSPECT RADIATOR CAP SUB-ASSY

### NOTICE:

- If the water filler cap is dirty, clean it with water.
- Before using the radiator cap tester, wet the relief valve and pressure valve with coolant or water.



(a) Using a radiator cap tester, slowly pump the tester and check that the air is coming from the vacuum valve.

**Pumping speed: 1 push / 3 seconds or more**

### NOTICE:

- Pump the tester at a constant speed.
- Slant the radiator cap tester at an angle of over 30° as shown in the illustration when checking.

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

- (b) Pump the tester, then measure the relief valve opening pressure.

**Pumping speed: 1 push / 1 second or more**

**NOTICE:**

- **This pumping speed is for only the first pumping to close the vacuum valve. After the first pumping, the pumping speed can be reduced.**
- **Slant the radiator cap tester at an angle of over 30° as shown in the illustration when checking.**

**Standard opening pressure:**

**74 to 103 kPa (0.75 to 1.05 kgf/cm<sup>2</sup>, 10.7 to 14.9 psi)**

**Minimum opening pressure:**

**59 kPa (0.6 kgf/cm<sup>2</sup>, 8.5 psi)**

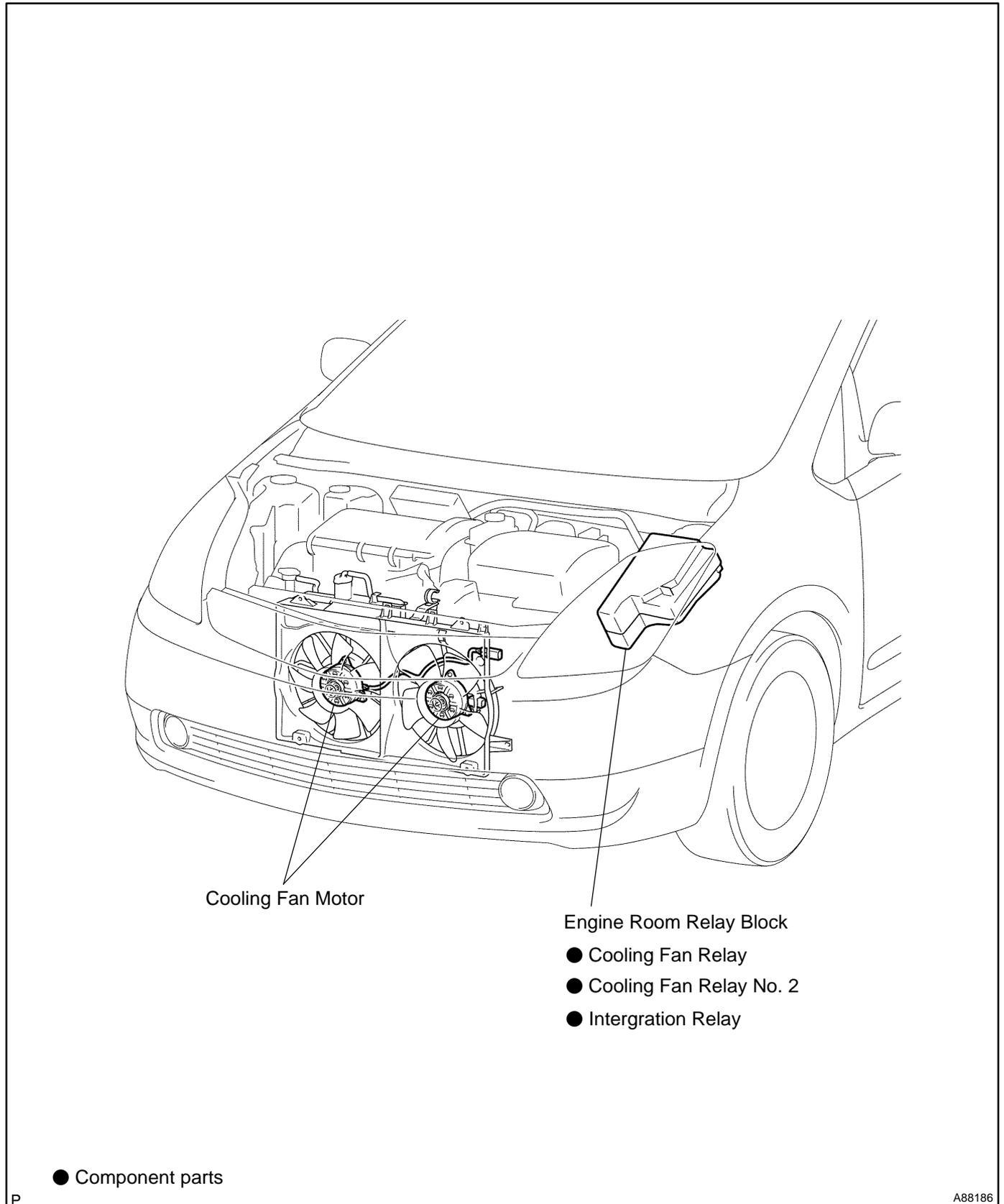
**HINT:**

Use the tester's maximum reading as the opening pressure. If the opening pressure is less than minimum, replace the radiator cap.

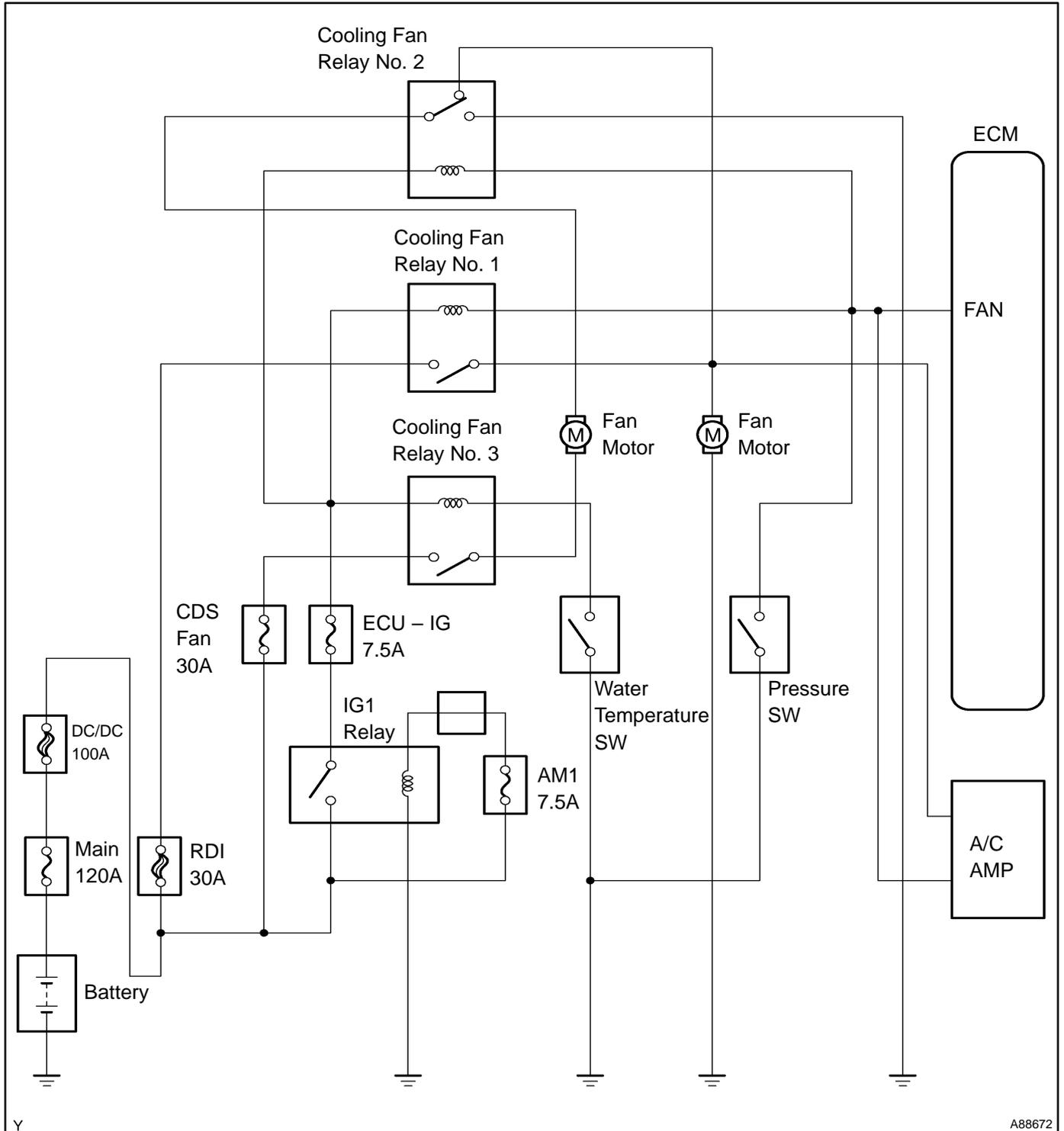
# COOLING FAN SYSTEM (1NZ-FXE)

## LOCATION

160TS-01



# SYSTEM DIAGRAM



Y

A88672

## ON-VEHICLE INSPECTION

### 1. INSPECT COOLING FAN AT LOW TEMPERATURE (LOWER THAN 83°C (181°F))

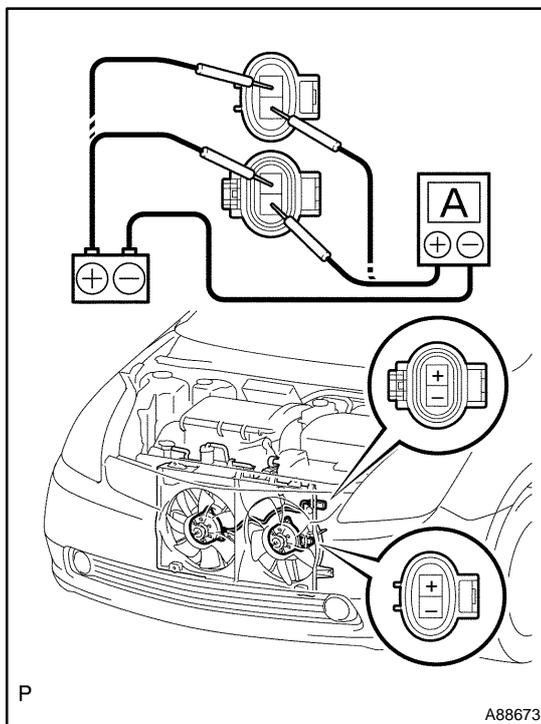
- Check that the coolant temperature is lower than 83°C (181°F).
- Check that the cooling fan does not rotate when turn the power switch ON (ACC) with the A/C switch OFF.

### 2. INSPECT COOLING FAN AT HIGH TEMPERATURE (HIGHER THAN 93°C (199°F))

- Set the vehicle to the "INSPECTION MOD1" (see page 01-5).
- Warm up the engine .
- Check that the cooling fan starts rotating when the coolant temperature is higher than approximately 100°C (212°F) with the A/C switch OFF and that it stops rotating when the temperature is lower than approximately 98°C (208°F).

#### NOTICE:

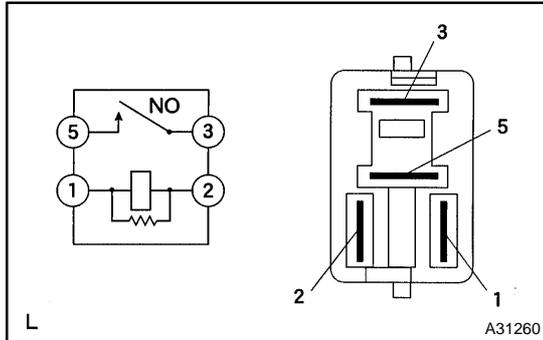
The coolant temperature is sensed by the water temperature on the water outlet (engine outlet) of the cylinder head.



### 3. INSPECT COOLING FAN MOTOR

- Disconnect the cooling fan motor connector.
- Check that the cooling fan rotates smoothly when the battery is connected to the fan motor connector.
- Using an ammeter, measure the current with step (b) maintained.  
SST 09082-00030, 09083-00150  
**Standard amperage: 9.2 to 11.0 A**
- Connect the cooling fan motor connector.

# INSPECTION



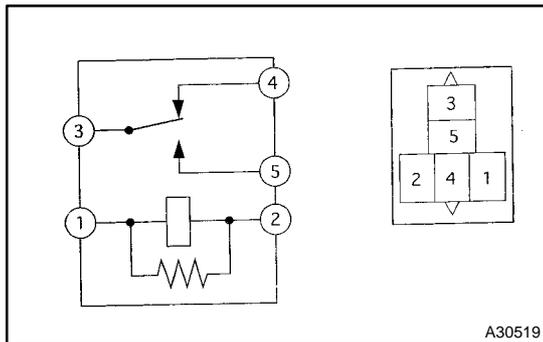
## 1. INSPECT COOLING FAN RELAY

- (a) Inspect the resistance.
  - (1) Using an ohmmeter, measure the resistance between the terminals.

**Standard:**

Tester Connection	Specified Condition
3 - 5	10 kΩ or higher
3 - 5	Below 1 Ω (Apply battery voltage to terminals 1 and 2)

If the resistance is not as specified, replace the cooling fan relay.



## 2. INSPECT COOLING FAN RELAY NO.2

- (a) Inspect the resistance.
  - (1) Using an ohmmeter, measure the resistance between the terminals.

**Standard:**

Tester Connection	Specified Condition
3 - 4	Below 1 Ω
3 - 5	10 kΩ or higher
3 - 5	Below 1 Ω (Apply battery voltage to terminals 1 and 2)

If the resistance is not as specified, replace the cooling fan relay No. 2.

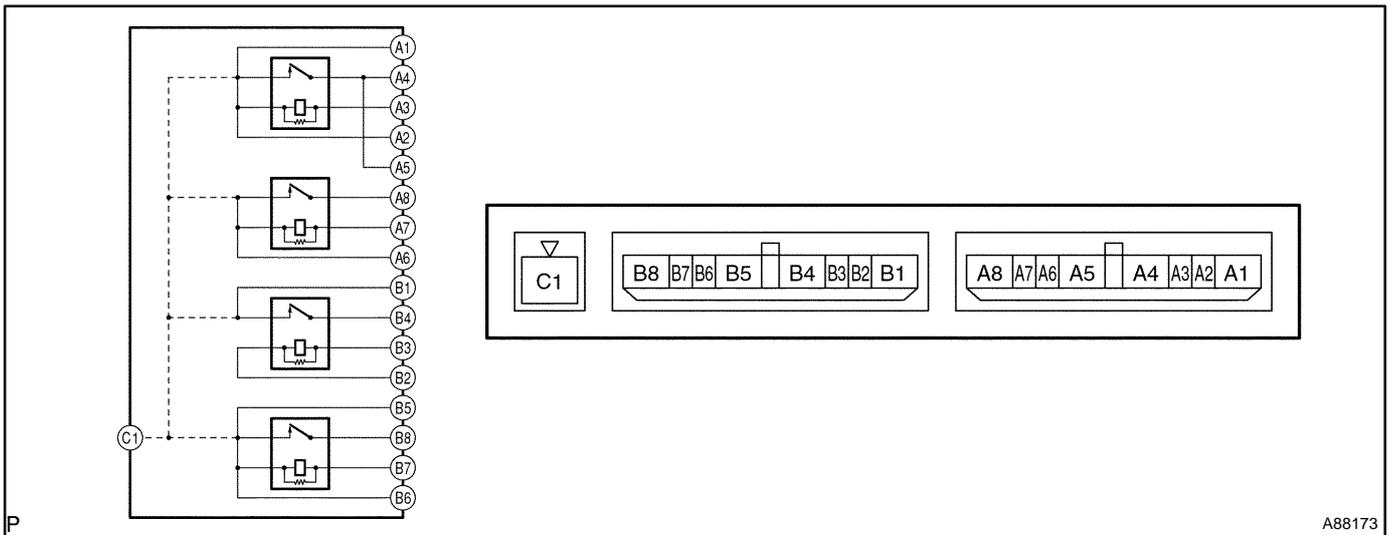
**3. INSPECT INTEGRATION RELAY**

- (a) Inspect the resistance of the fan relay.
  - (1) Using an ohmmeter, measure the resistance between the terminals.

**Standard:**

Tester Connection	Specified Condition
B1 - B4	10 kΩ or higher
B1 - B4	Below 1 Ω (Apply battery voltage to terminals B2 and B3)

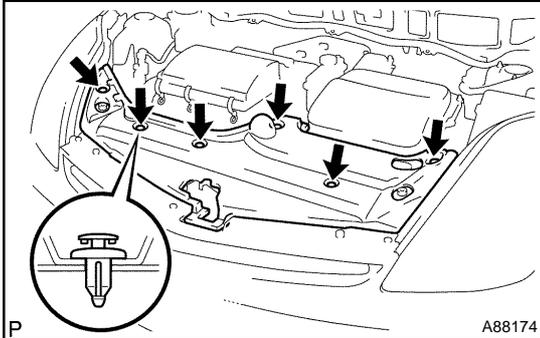
If the resistance is not as specified, replace the integration relay.



A88173

# ENGINE COOLANT (1NZ-FXE) REPLACEMENT

160TW-01



1. **REMOVE RADIATOR SUPPORT OPENING COVER**
  - (a) Remove the 6 clips and radiator support opening cover.

2. **REMOVE ENGINE UNDER COVER LH**

3. **REMOVE FRONT FENDER LINER LH**

- (a) Remove the front part of the front fender liner LH.

4. **DRAIN ENGINE COOLANT**

**CAUTION:**

**If the engine or radiator is hot, do not remove the radiator cap.**

- (a) Disconnect the coolant heat storage water pump connector.
- (b) Remove the radiator cap.
- (c) Connect a vinyl hose to the drain cock of the radiator.
- (d) Connect a vinyl hose to the drain cock of the engine.
- (e) Connect a vinyl hose to the drain cock of the coolant heat storage tank assembly.

**CAUTION:**

**If the tank has any malfunctions, the tank surface gets hot. To prevent burn injury, do not touch the tank.**

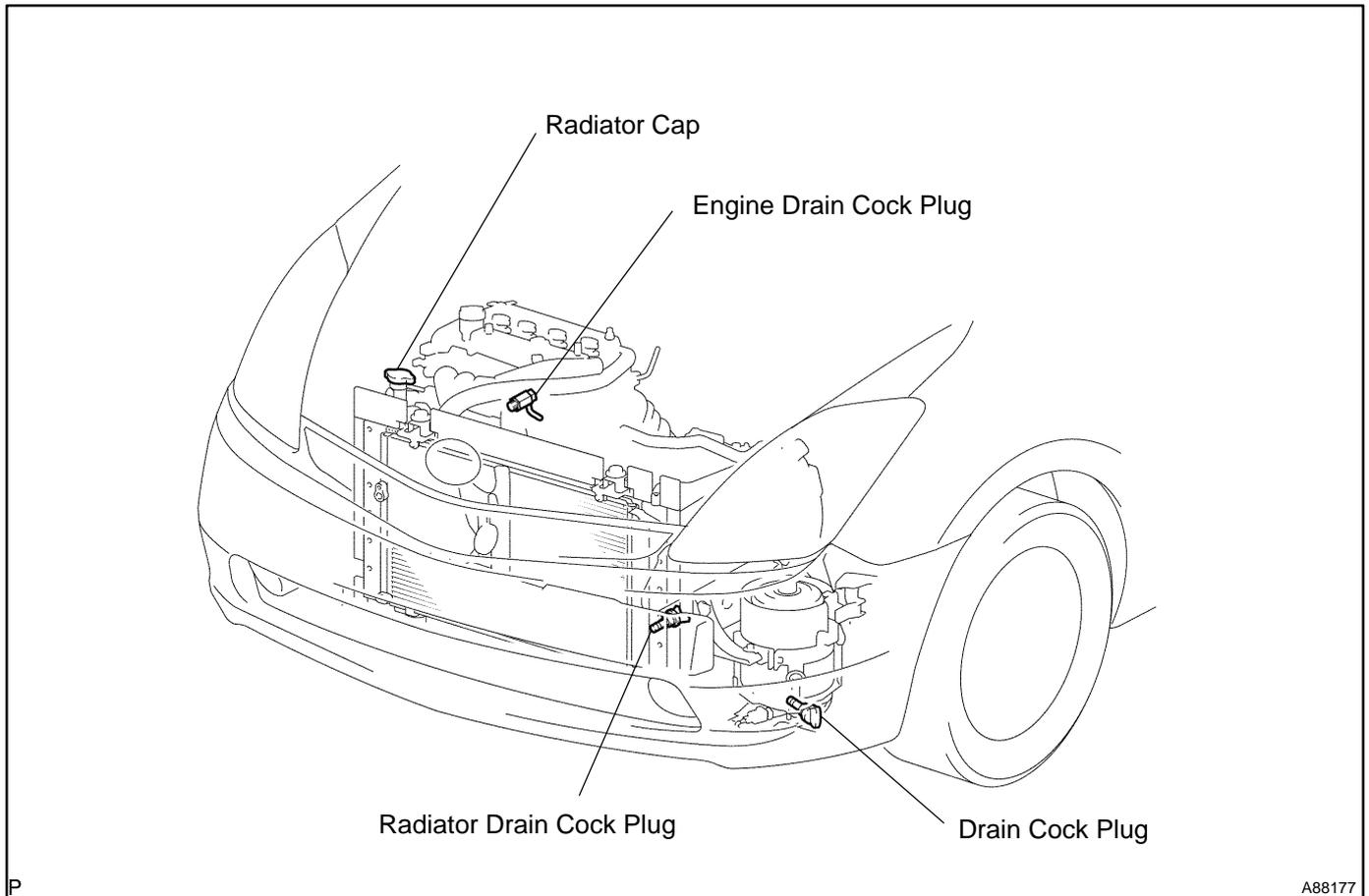
- (f) Loosen the drain cock plugs of the radiator, engine and coolant heat storage tank assembly, then drain the coolant.

**CAUTION:**

**Even if the engine is cold, the coolant in the coolant heat storage tank assembly is still hot. Be careful of the hot coolant when draining.**

**HINT:**

Record the amount of the drained coolant. It will be referred when refilling the tank with coolant.



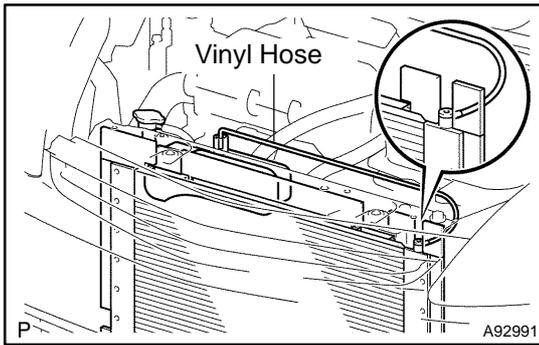
- (g) Drain the coolant in the radiator reservoir tank.

**5. ADD ENGINE COOLANT**

- (a) Tighten the drain cock plug of the coolant heat storage tank assembly, then disconnect the vinyl hose.  
 (b) Tighten the drain cock plug of the engine, then disconnect the vinyl hose.

**Torque: 13 N·m (133 kgf·cm, 9.6 ft·lbf)**

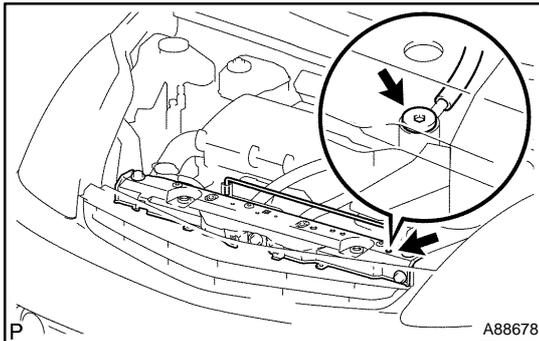
- (c) Tighten the drain cock plug of the radiator, then disconnect the vinyl hose.



- (d) Connect a vinyl hose to the bleeder plug of the radiator assembly and the radiator reservoir tank.

**HINT:**

Insert the vinyl hose to inside the radiator reservoir tank.



- (e) Using a 6 mm socket hexagon wrench, loosen the radiator bleeder plug from the radiator support service hole.

- (f) Fill the radiator with coolant up to the fill port.

**Capacity: 8.6 liters (9.1 US qts, 7.6 Imp. qts)**

**HINT:**

- When filling coolant, press the radiator hose a few times. If the coolant level goes down, add more coolant.
- Amount of coolant to fill: Approximately 2.4 liters (2.5 USgts, 2.1 Imp.gts)
- Use of improper coolants may damage the engine cooling system.
- Only use "Toyota Super Long Life Coolant", or similar high quality ethylene glycol based non-silicate, non-amine, non-nitrite, and non-borate coolant with long-life hybrid organic acid technology.
- New Toyota vehicles are filled with Toyota Super Long Life Coolant (color is pink, premixed ethylene-glycol concentration is approximately 50 % and freezing temperature is  $-35^{\circ}\text{C}$  ( $-31^{\circ}\text{F}$ )). When replacing the coolant, Toyota Super Long Life Coolant is recommended.
- Observe the coolant level inside the radiator by pressing the inlet and outlet radiator hoses several times by hand. If the coolant level goes down, add the coolant.

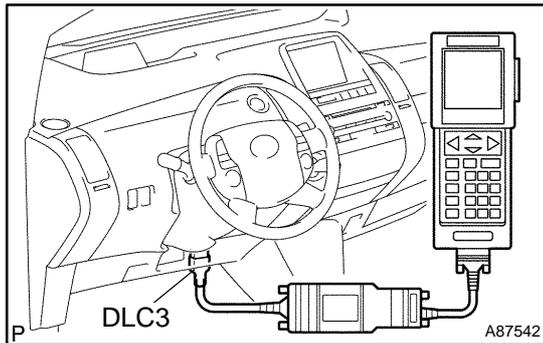
**NOTICE:**

- **Do not use plain water alone.**

- (g) Using a 6 mm socket hexagon wrench, tighten the radiator bleeder plug.

**Torque: 1.5 N·m (15 kgf·cm, 13 in.-lbf)**

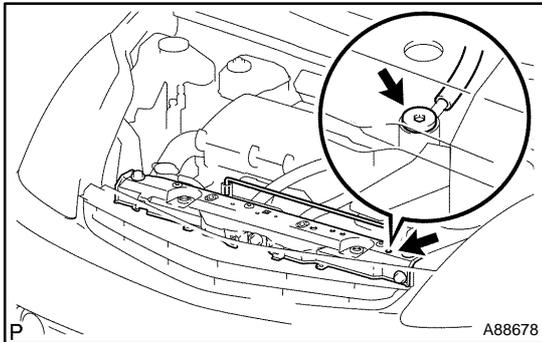
- (h) Install the radiator cap.  
 (i) Fill the radiator reservoir tank with coolant to the full level.  
 (j) Connect the coolant heat storage water pump connector.



- (k) Connect the hand-held tester to the DLC3.
- (l) Turn the power switch ON (IG).
- (m) Select the item:  
DIAGNOSIS / ENHANCED OBD II / ENGINE AND ECT  
/ ACTIVE TEST / WATER PUMP

**NOTICE:**

- The water pump motor operates for 30 seconds after WATER PUMP is ON in the ACTIVE TEST mode, then it automatically stops operating.
- Do not actuate the water pump motor without coolant filled.



- (n) Using a 6 mm socket hexagon wrench, loosen the radiator bleeder plug from the radiator support service hole.
- (o) Remove the radiator cap, then fill the radiator with coolant up to the fill port.

**HINT:**

- When filling coolant, press the radiator hose a few times. If the coolant level goes down, add more coolant.
- (p) Using a 6 mm socket hexagon wrench, tighten the radiator bleeder plug.

**Torque: 1.5 N·m (15 kgf·cm, 13 in.-lbf)**

- (q) Install the radiator cap.
- (r) Repeat steps (k) to (o) until coolant cannot be added.
- (s) Disconnect the vinyl hose between the bleeder plug of the radiator assembly and the radiator reservoir tank.
- (t) Set the vehicle to the "INSPECTION MOD1" (see page 01-5).
- (u) Warm up the engine until the thermostat is open.
- (v) Stop the engine, then wait until the coolant gets cold. Remove the radiator cap and check the coolant level.

**CAUTION:**

**If the engine or radiator is hot, do not remove the radiator cap.**

**HINT:**

If the coolant level is lower, add coolant again. Warm up the engine, then check the coolant level.

- (w) When the coolant level stops going down, add coolant to the radiator reservoir tank up to the full level.

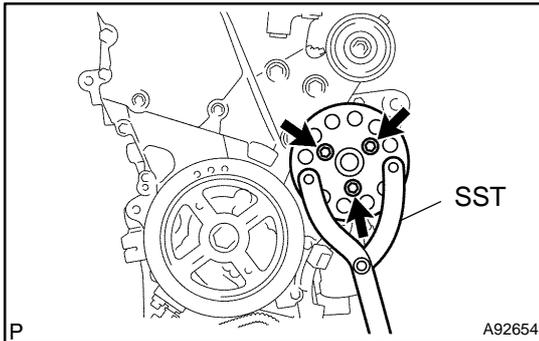
6. CHECK FOR ENGINE COOLANT LEAKS (See page 16-2)
7. INSTALL FRONT FENDER LINER LH
8. INSTALL ENGINE UNDER COVER LH
9. INSTALL RADIATOR SUPPORT OPENING COVER

# WATER PUMP ASSY (1NZ-FXE)

160TX-01

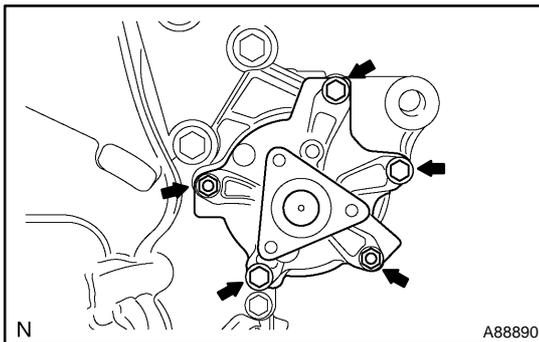
## REPLACEMENT

1. REMOVE RADIATOR SUPPORT OPENING COVER (See page 16-11)
2. REMOVE ENGINE UNDER COVER LH
3. REMOVE ENGINE UNDER COVER RH
4. DRAIN ENGINE COOLANT (See page 16-11)
5. REMOVE FAN AND GENERATOR V BELT (See page 14-5)



### 6. REMOVE WATER PUMP PULLEY

- (a) Using SST, hold the water pump pulley.  
SST 09960-10010 (09962-01000, 09963-00600)
- (b) Remove the 3 bolts and water pump pulley.

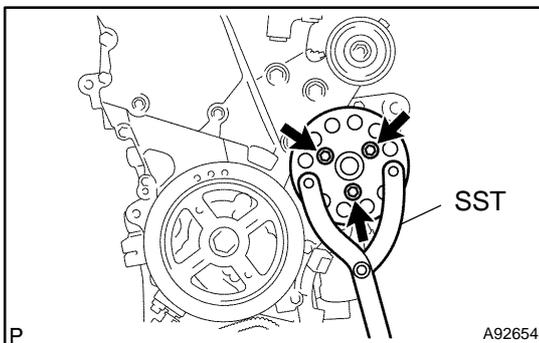


### 7. REMOVE WATER PUMP ASSY

- (a) Remove the 3 bolts and 2 nuts, then remove the water pump assembly.

### 8. INSTALL WATER PUMP ASSY

- (a) Install a new gasket, then install the water pump assembly with the 3 bolts and 2 nuts.  
**Torque: 11 N·m (112 kgf·cm, 8.1 ft·lbf)**



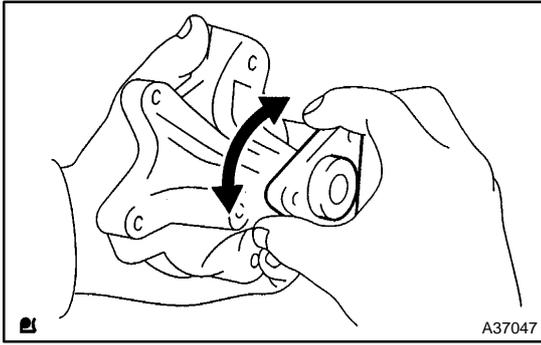
### 9. INSTALL WATER PUMP PULLEY

- (a) Temporarily install the water pump pulley with the 3 bolts.
- (b) Using SST, hold the water pump pulley.  
SST 09960-10010 (09962-01000, 09963-00600)
- (c) Tighten the 3 bolts with the specified torque.  
**Torque: 15 N·m (153 kgf·cm, 11 ft·lbf)**

10. INSTALL FAN AND GENERATOR V BELT
11. INSPECT DRIVE BELT DEFLECTION AND TENSION (See page 14-1)
12. ADD ENGINE COOLANT (See page 16-11)
13. CHECK FOR ENGINE COOLANT LEAKS (See page 16-2)

14. **INSTALL ENGINE UNDER COVER RH**
15. **INSTALL ENGINE UNDER COVER LH**
16. **INSTALL RADIATOR SUPPORT OPENING COVER**

## INSPECTION



### 1. INSPECT WATER PUMP ASSY

(a) Visually check the drain hole for coolant leaks.

If there are any leaks, replace the water pump assembly.

(b) Turn the pulley, then check that the water pump bearing moves smoothly without making a noise.

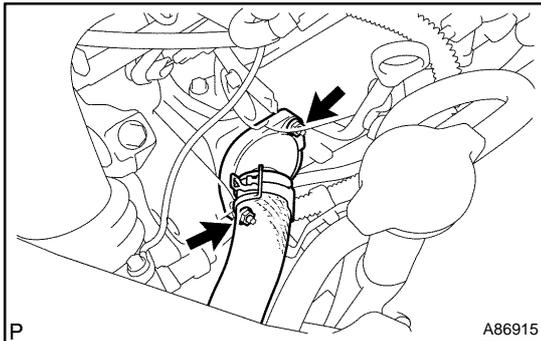
If not, replace the water pump assembly.

# THERMOSTAT (1NZ-FXE)

160TZ-01

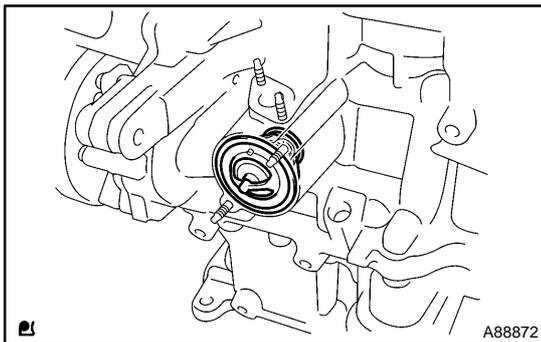
## REPLACEMENT

1. REMOVE RADIATOR SUPPORT OPENING COVER (See page 16-11)
2. REMOVE ENGINE UNDER COVER LH
3. REMOVE ENGINE UNDER COVER RH
4. DRAIN ENGINE COOLANT (See page 16-11)



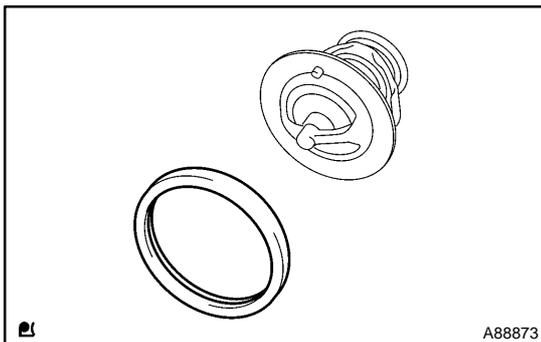
### 5. REMOVE WATER INLET

- (a) Remove the 2 nuts and water inlet with radiator outlet hose.



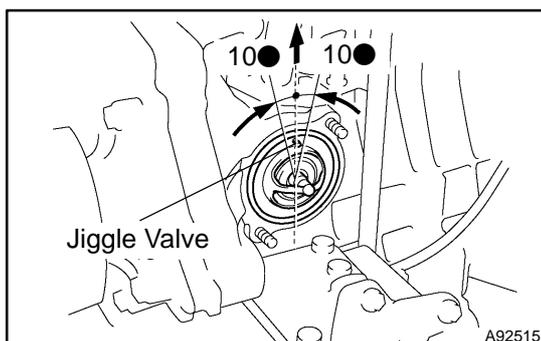
### 6. REMOVE THERMOSTAT

- (a) Remove the thermostat.
- (b) Remove the gasket from the thermostat.



### 7. INSTALL THERMOSTAT

- (a) Install a new gasket to the thermostat.



- (b) Install the thermostat so the jiggle valve faces upward.  
HINT:  
The jiggle valve may be set within 10° of either side as illustrated.

**8. INSTALL WATER INLET**

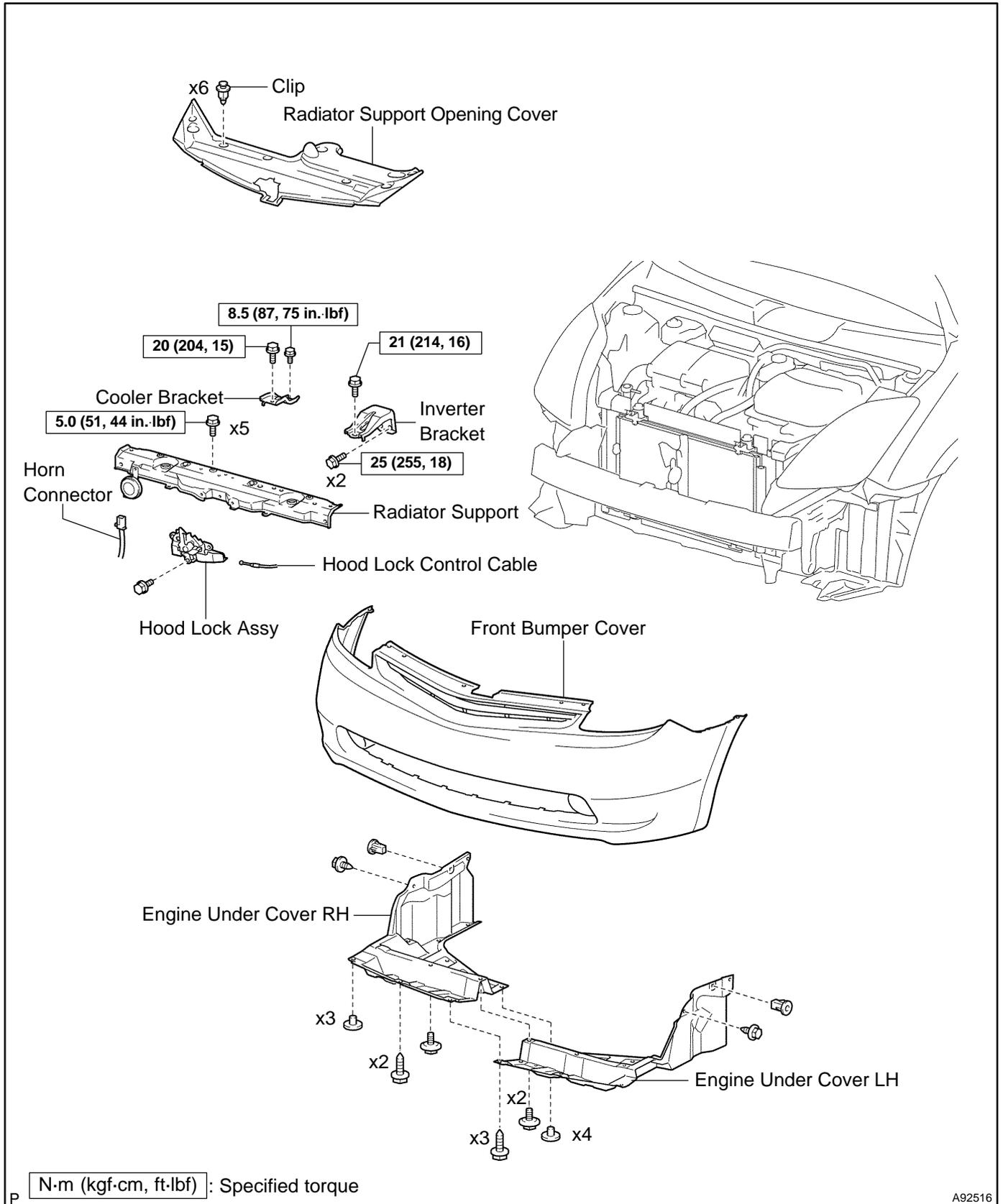
- (a) Install the water inlet with radiator outlet hose with the 2 nuts.

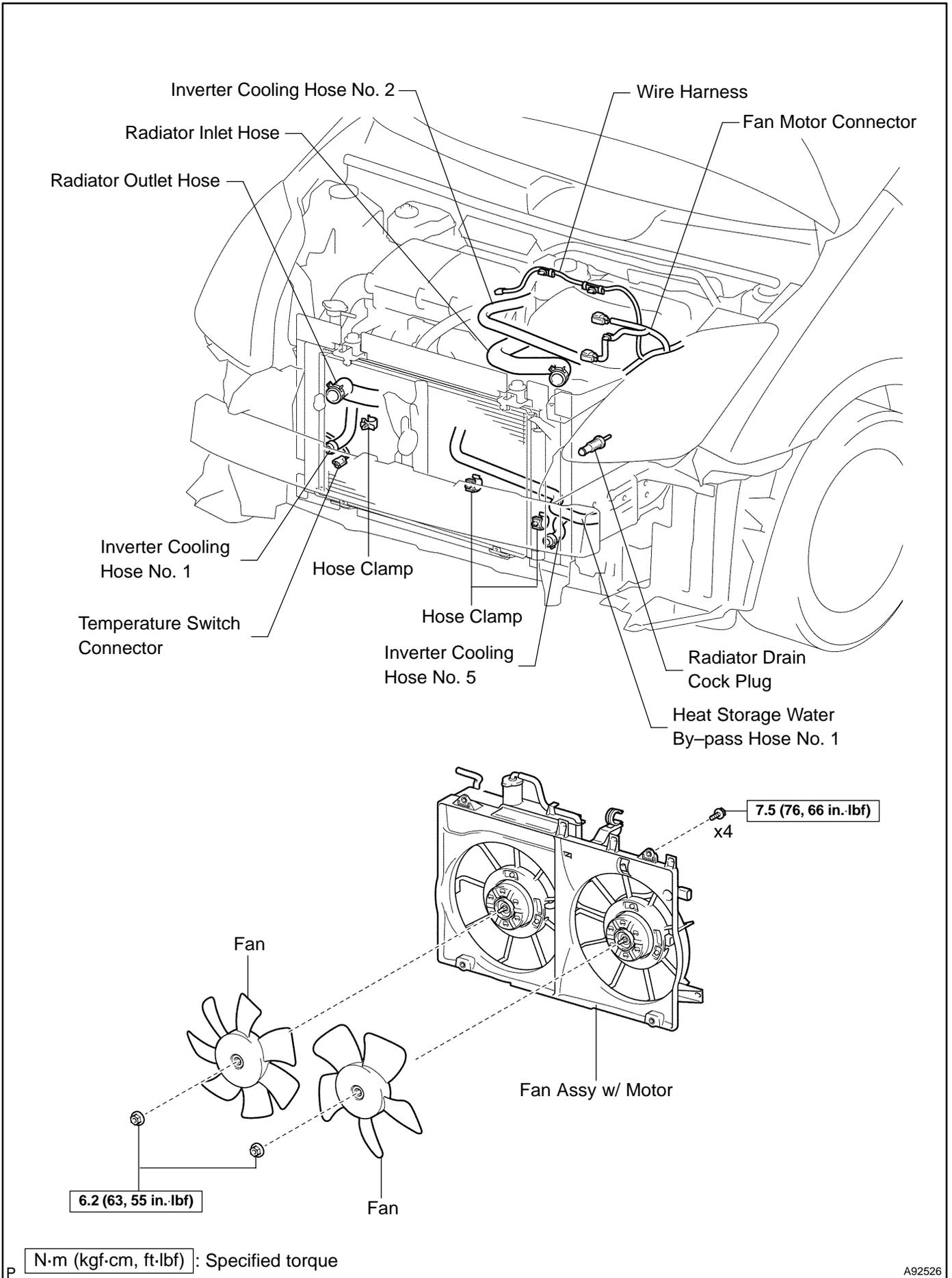
**Torque: 9.0 N·m (92 kgf·cm, 80 in·lbf)**

**9. ADD ENGINE COOLANT (See page 16-11)****10. CHECK FOR ENGINE COOLANT LEAKS (See page 16-2)****11. INSTALL ENGINE UNDER COVER RH****12. INSTALL ENGINE UNDER COVER LH****13. INSTALL RADIATOR SUPPORT OPENING COVER**

# FAN (1NZ-FXE) COMPONENTS

160U0-01

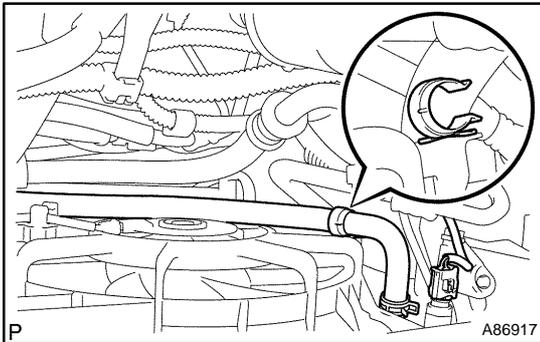




A92526

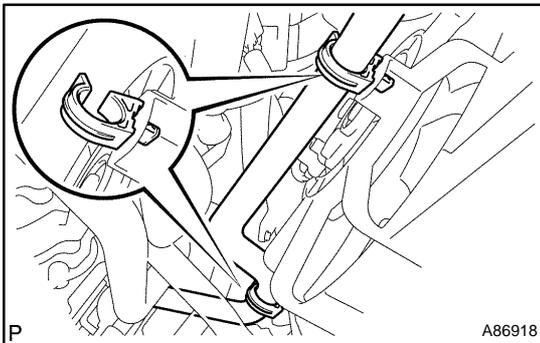
## REPLACEMENT

1. REMOVE REAR FLOOR BOARD NO.2 (See page 21-116)
2. REMOVE DECK FLOOR BOX REAR (See page 21-116)
3. REMOVE REAR FLOOR BOARD NO.3 (See page 21-116)
4. DISCONNECT BATTERY NEGATIVE TERMINAL (See page 21-116)
5. REMOVE RADIATOR SUPPORT OPENING COVER (See page 16-11)
6. REMOVE ENGINE UNDER COVER LH
7. REMOVE ENGINE UNDER COVER RH
8. DRAIN ENGINE COOLANT
  - (a) Drain the coolant in the radiator on the engine side (see page 16-11).
  - (b) After draining the coolant in the radiator on the engine side, remove the radiator drain cock plug.
  - (c) Drain the coolant in the radiator on the hybrid side (see page 22-4).
9. REMOVE FRONT BUMPER COVER (See page 76-2)

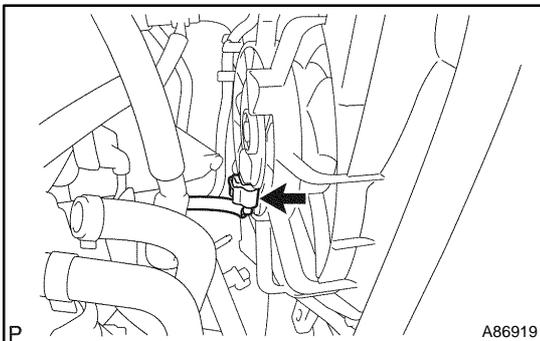


### 10. REMOVE FAN ASSY W/MOTOR

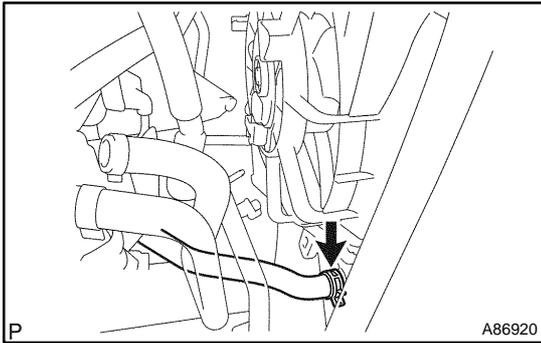
- (a) Disconnect the connector and hose shown in the illustration.
- (b) After disconnecting the hose, remove the hose clamp.



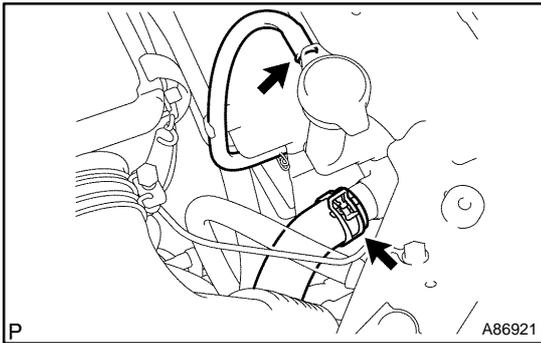
- (c) Disconnect the hose shown in the illustration.
- (d) After disconnecting the hose, remove the 2 hose clamps.



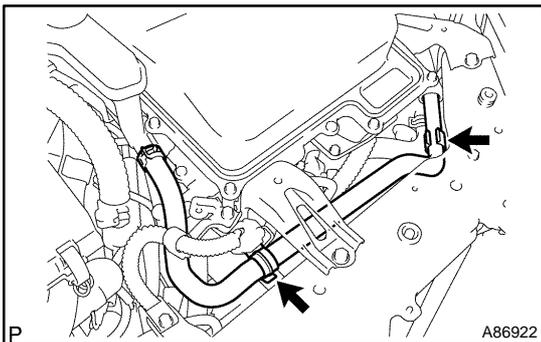
- (e) Disconnect the connector shown in the illustration.



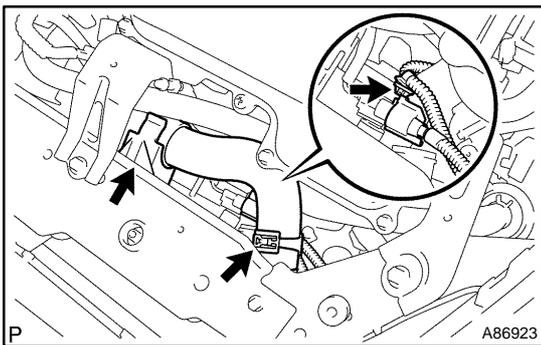
(f) Disconnect the hose shown in the illustration.



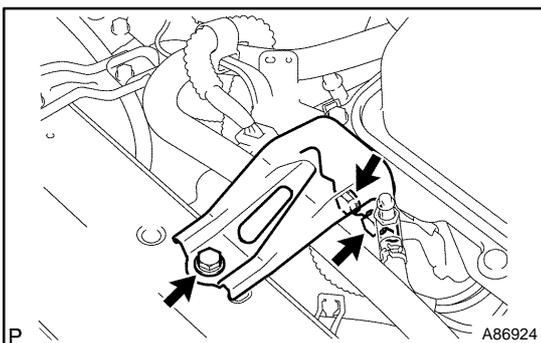
(g) Disconnect the radiator outlet hose.  
 (h) Disconnect the radiator reservoir tank hose.



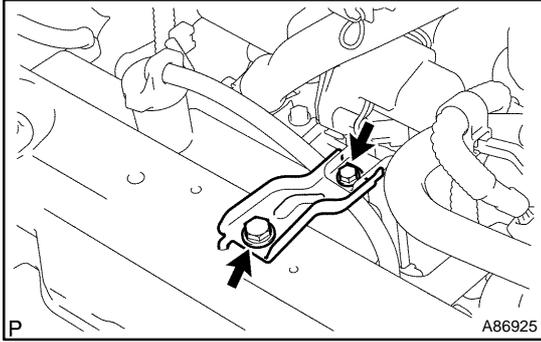
(i) Disconnect the inverter reservoir tank hose from the clamps.



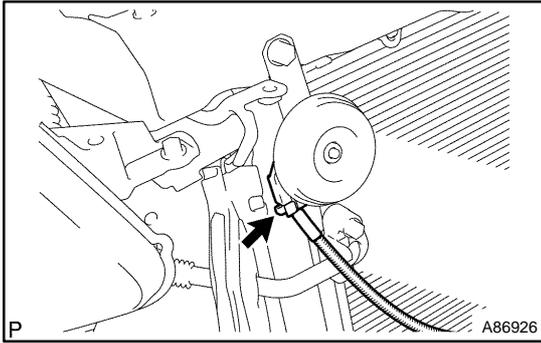
(j) Disconnect the radiator inlet hose.  
 (k) Disconnect the connector and remove the clamp shown in the illustration.



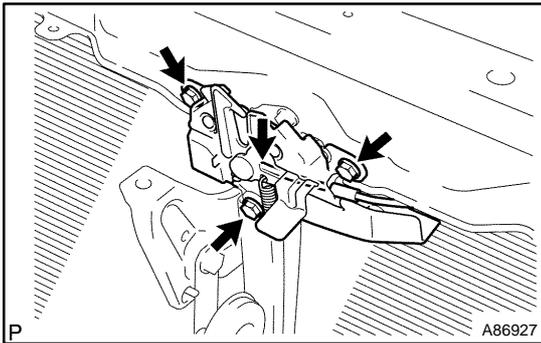
(l) Remove the 3 bolts and inverter bracket.



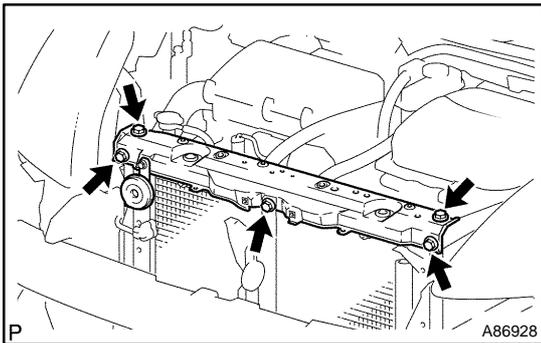
(m) Remove the 2 bolts and cooler bracket.



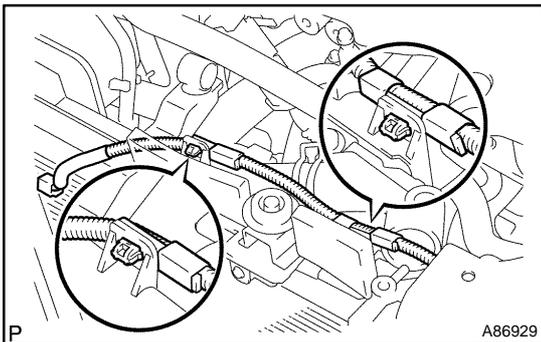
(n) Disconnect the horn connector shown in the illustration.



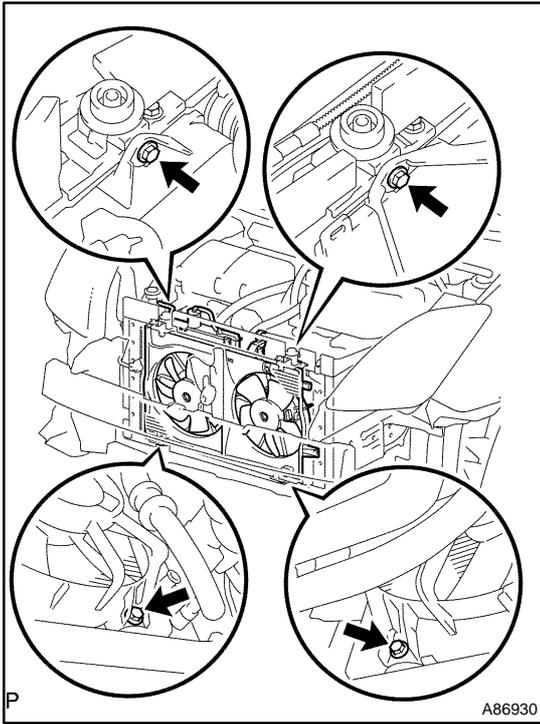
(o) Remove the 3 bolts and disconnect the hood lock control cable, then remove the hood lock assembly.



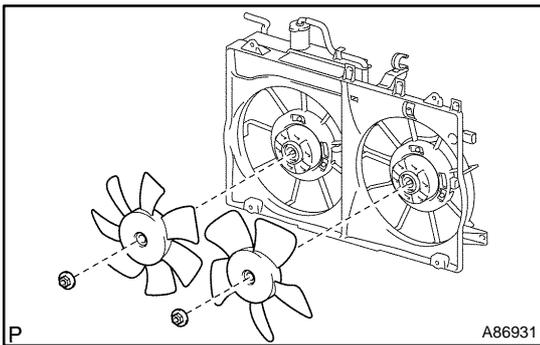
(p) Remove the 5 bolts and radiator support.  
 (q) Remove the hood lock control cable from the radiator support.



(r) Disconnect the wire harness clamps shown in the illustration.



- (s) Remove the 4 bolts, then remove the fan with motor from the vehicle.

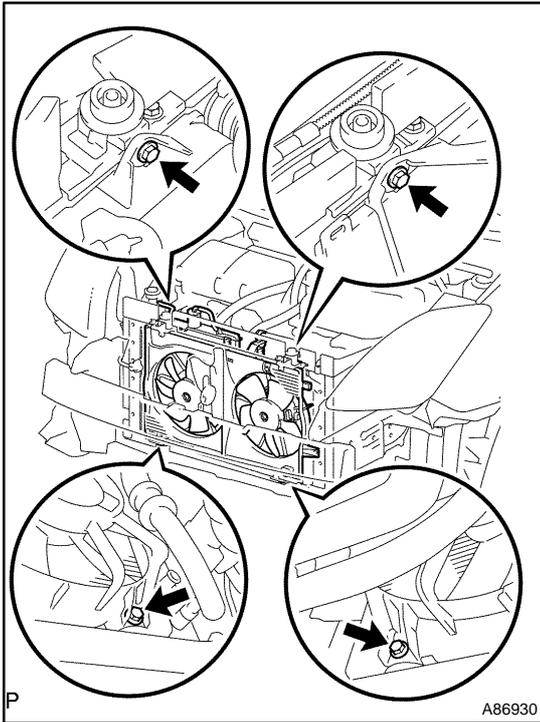


**11. REMOVE FAN**

- (a) Remove the 2 nuts and fan.

**12. INSTALL FAN**

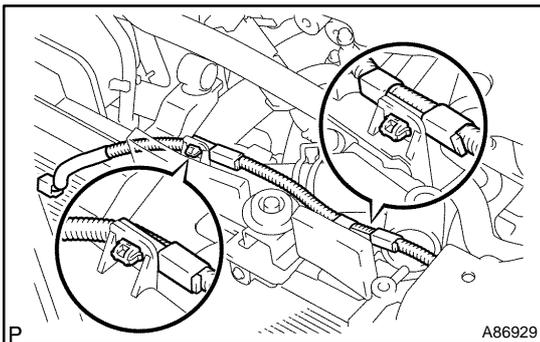
**Torque: 6.2 N·m (63 kgf·cm, 55 in.-lbf)**



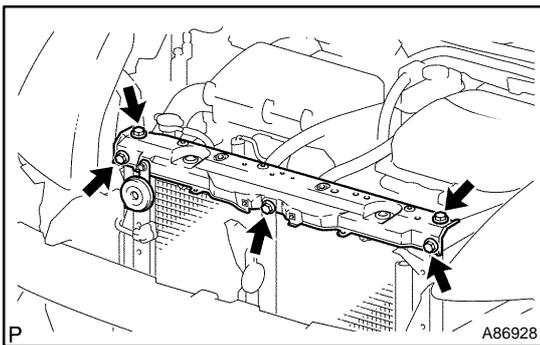
### 13. INSTALL FAN ASSY W/MOTOR

- (a) Set the fan with motor to the vehicle, then install it with the 4 bolts.

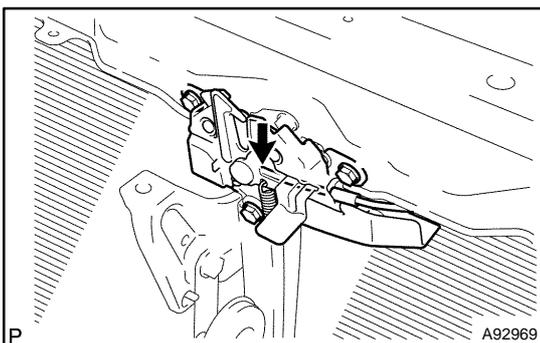
**Torque: 7.5 N·m (76 kgf·cm, 66 in.-lbf)**



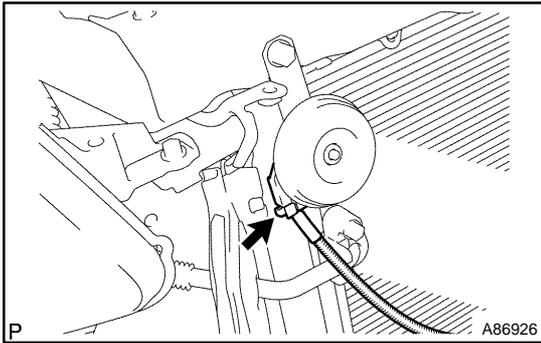
- (b) Connect the 2 wire harness clamps shown in the illustration.



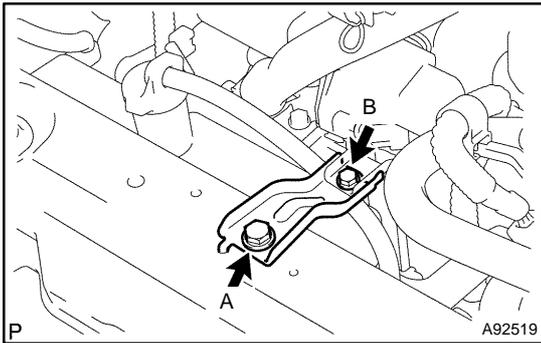
- (c) Install the hood lock control cable to the radiator support.  
 (d) Install the radiator support with the 5 bolts.  
**Torque: 5.0 N·m (51 kgf·cm, 44 in.-lbf)**



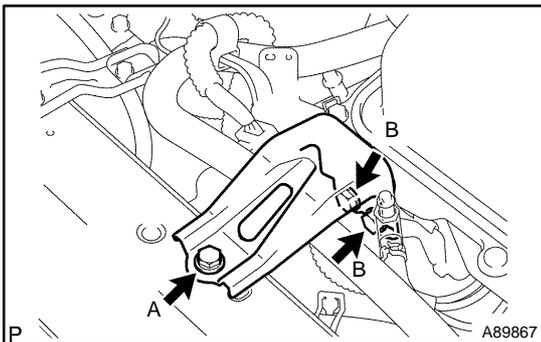
- (e) Connect the hood lock control cable to the hood lock assembly.  
 (f) Install the hood lock assembly with the 3 bolts.  
 (See page [75-2](#))



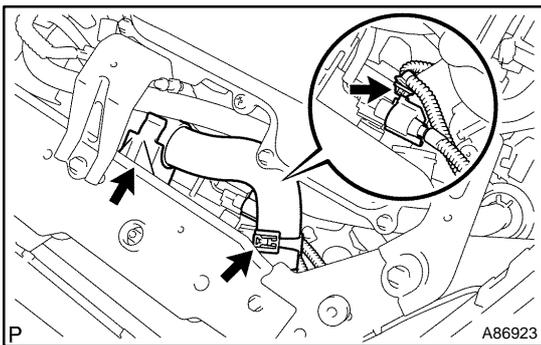
(g) Connect the horn connector shown in the illustration.



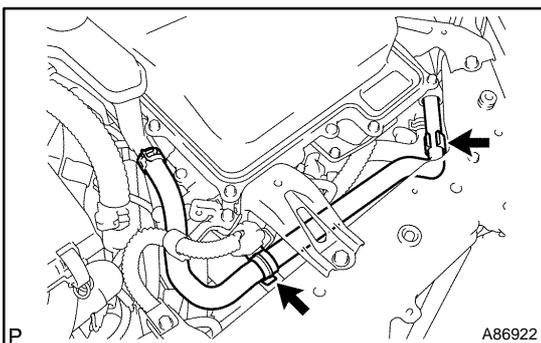
(h) Install the cooler bracket with the 2 bolts.  
**Torque:**  
**20 N·m (204 kgf·cm, 15 ft·lbf) for bolt A**  
**8.5 N·m (87 kgf·cm, 75 in·lbf) for bolt B**



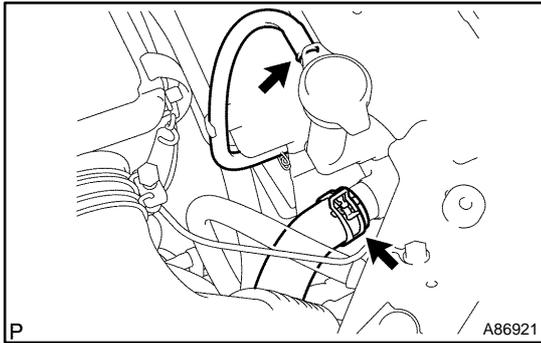
(i) Install the inverter bracket with the 3 bolts.  
**Torque:**  
**21 N·m (214 kgf·cm, 16 ft·lbf) for bolt A**  
**25 N·m (255 kgf·cm, 18 ft·lbf) for bolt B**



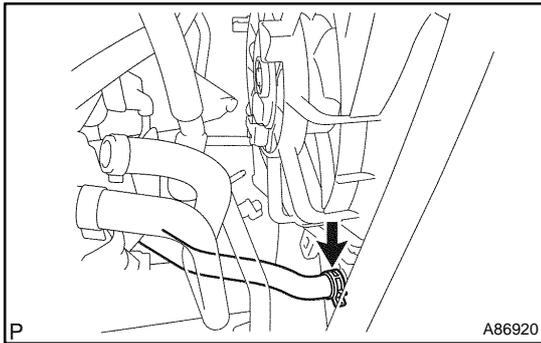
(j) Connect the connector and install the clamp.  
 (k) Connect the radiator inlet hose.



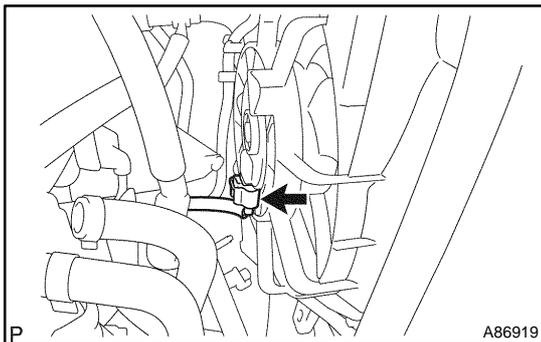
(l) Connect the inverter reservoir tank to each clamp.



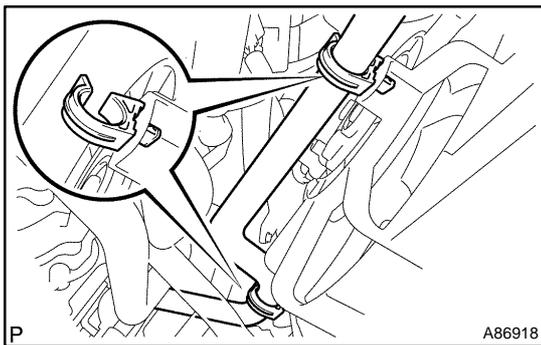
- (m) Connect the radiator reservoir tank hose.
- (n) Connect the radiator outlet hose.



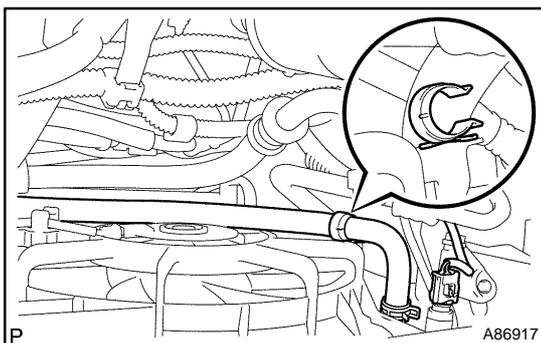
- (o) Connect the hose shown in the illustration.



- (p) Connect the connector shown in the illustration.



- (q) Install the 2 hose clamps to the fan shroud.
- (r) Connect the hose shown in the illustration.

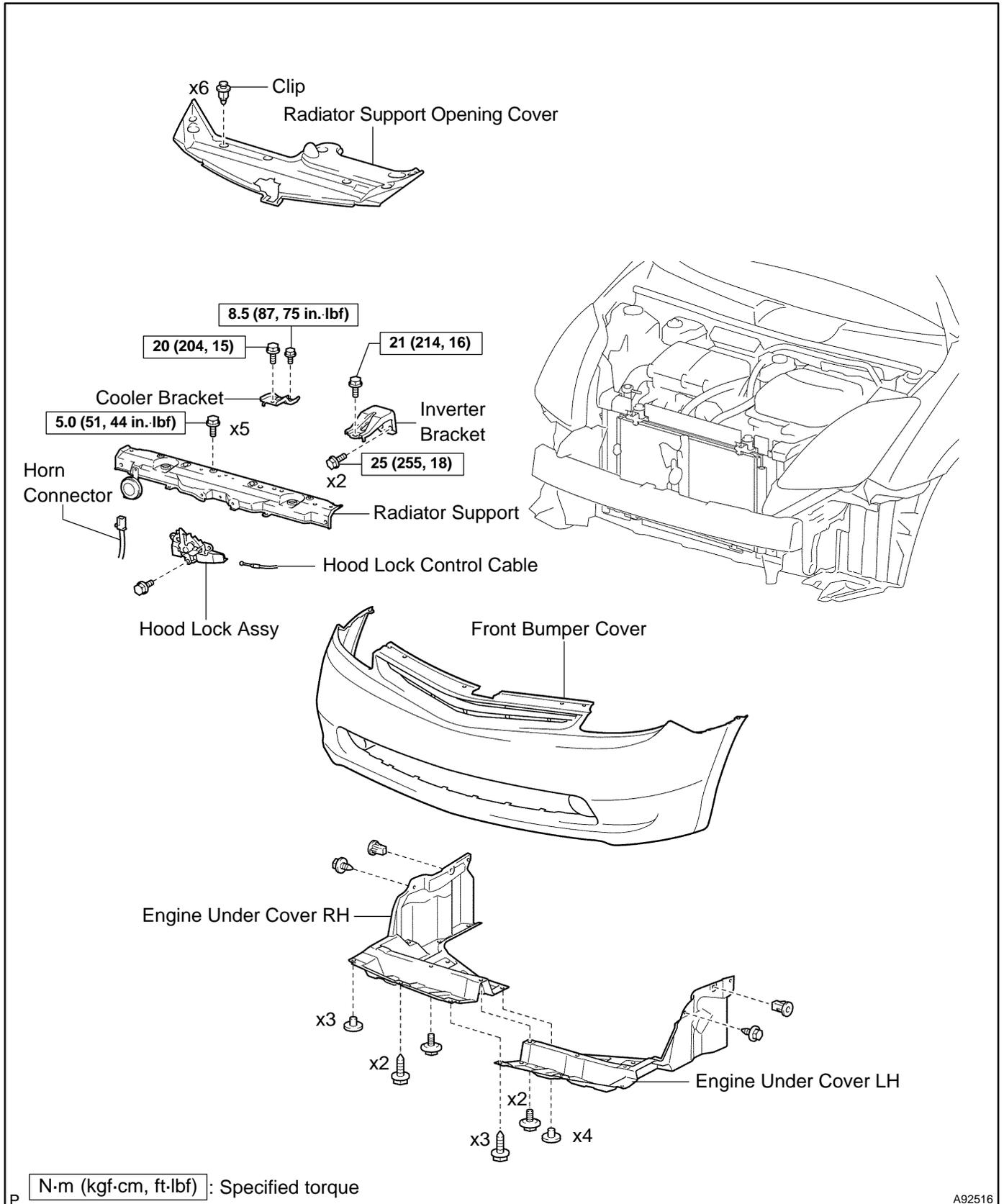


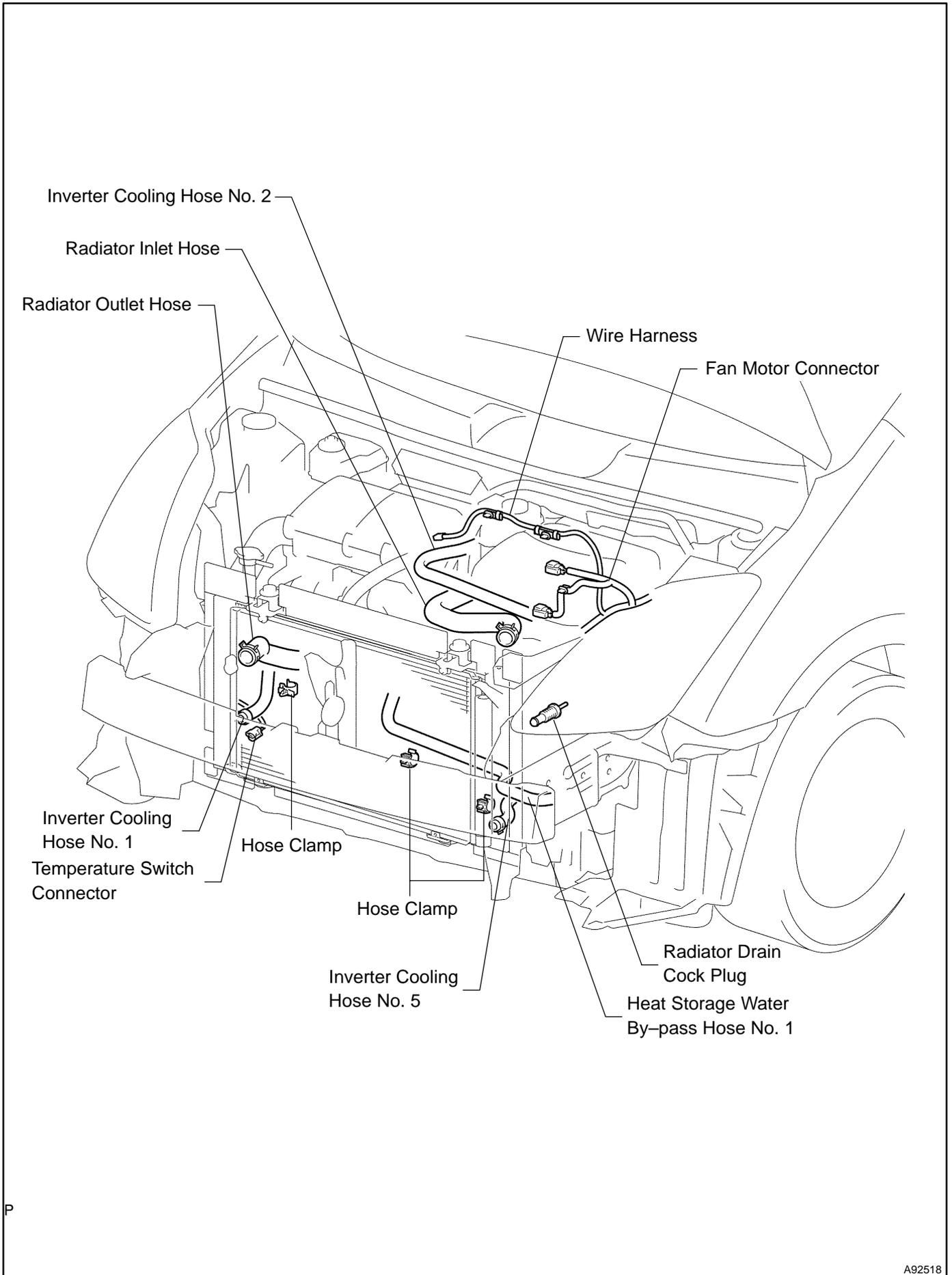
- (s) Install the hose clamp to the fan shroud.
- (t) Connect the hose and connector shown in the illustration.

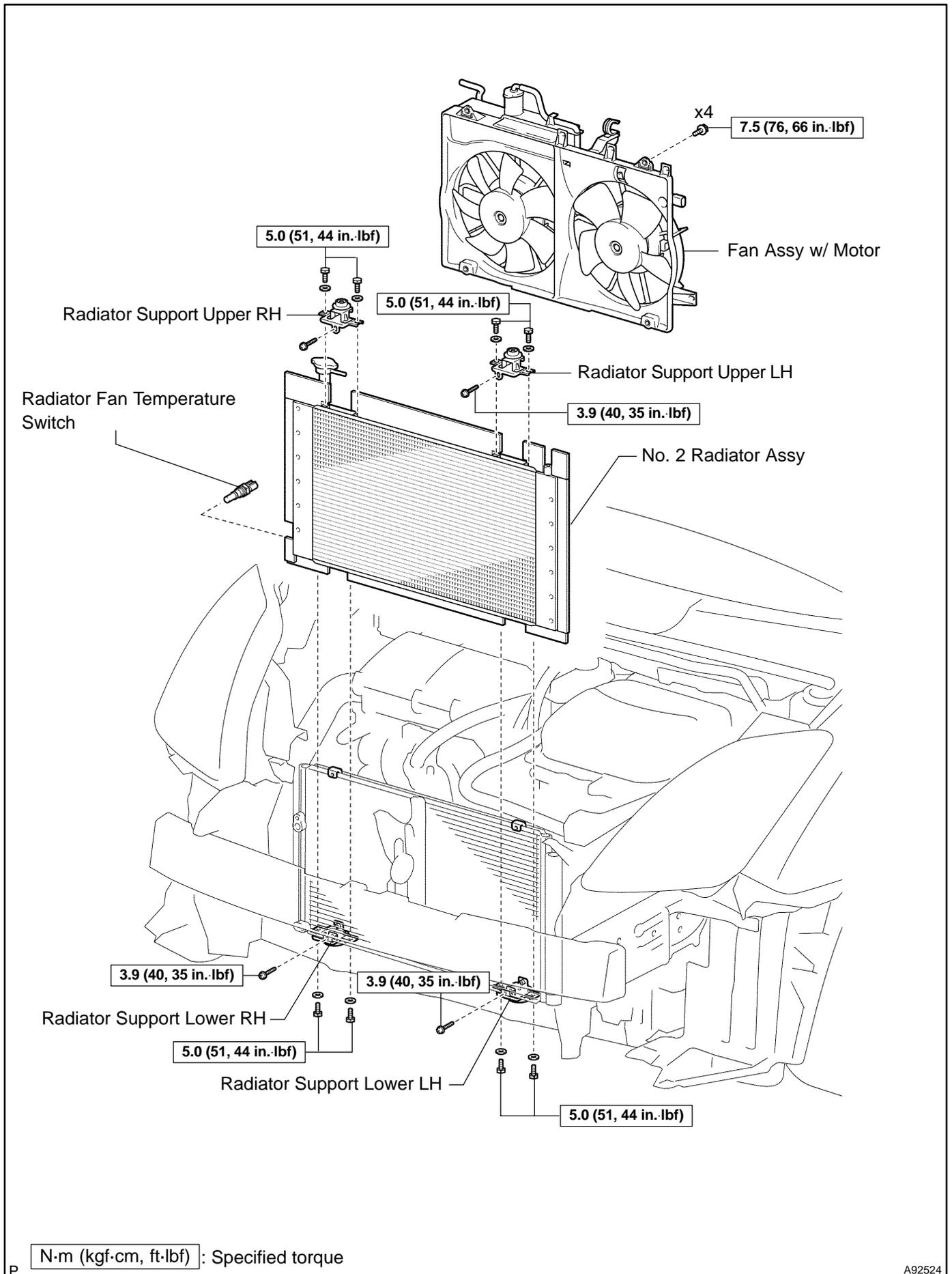
14. **INSTALL FRONT BUMPER COVER (See page 76-2)**
15. **CONNECT BATTERY NEGATIVE TERMINAL**  
Torque: 6.0 N·m (61 kgf·cm, 53 in·lbf)
16. **INSTALL REAR FLOOR BOARD NO.3**
17. **INSTALL DECK FLOOR BOX REAR**
18. **INSTALL REAR FLOOR BOARD NO.2**
19. **ADD ENGINE COOLANT**
  - (a) Fill the radiator on the hybrid side with coolant (see page 22-4).
  - (b) Fill the radiator on the engine side with coolant (see page 16-11).
20. **CHECK FOR ENGINE COOLANT LEAKS**
  - (a) Check the cooling system on the hybrid side for coolant leaks.
  - (b) Check the cooling system on the engine side for coolant leaks (see page 16-2).
21. **INSTALL ENGINE UNDER COVER RH**
22. **INSTALL ENGINE UNDER COVER LH**
23. **INSTALL RADIATOR SUPPORT OPENING COVER**
24. **POWER WINDOW CONTROL SYSTEM INITIALIZE (See page 01-28)**

# NO.2 RADIATOR ASSY (1NZ-FXE) COMPONENTS

160U2-01

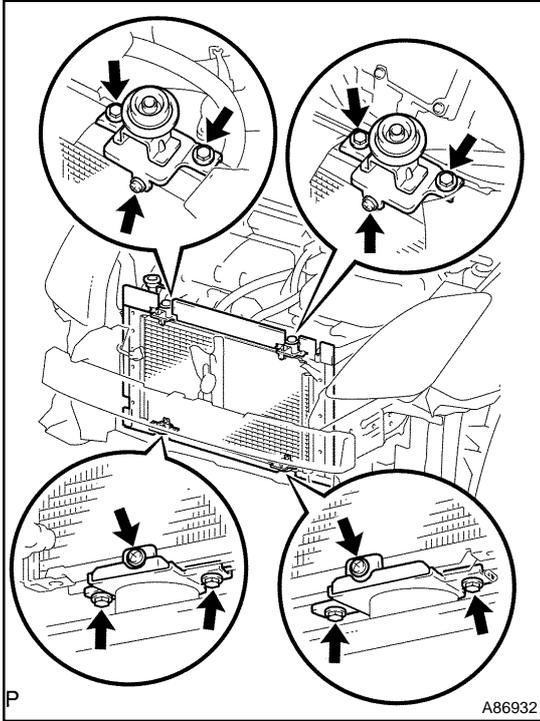






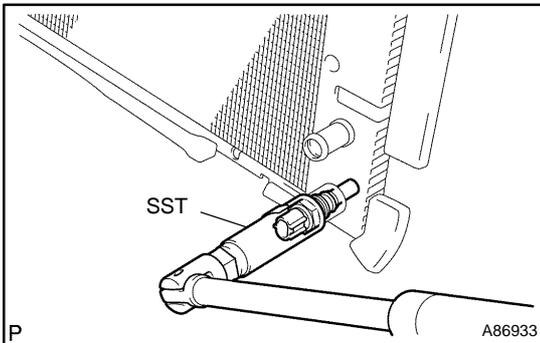
## REPLACEMENT

### 1. REMOVE FAN ASSY W/MOTOR (See page 16-22)



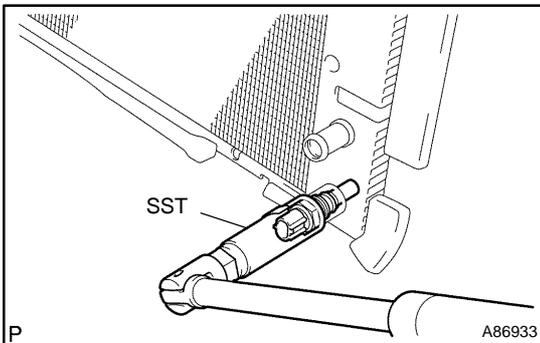
### 2. REMOVE NO.2 RADIATOR ASSY

- (a) Remove the 3 bolts and radiator support upper RH.
- (b) Remove the 3 bolts and radiator support upper LH.
- (c) Remove the 3 bolts and radiator support lower RH.
- (d) Remove the 3 bolts and radiator support lower LH.
- (e) Remove the radiator assembly No. 2 from the vehicle.



### 3. REMOVE RADIATOR FAN TEMPERATURE SWITCH

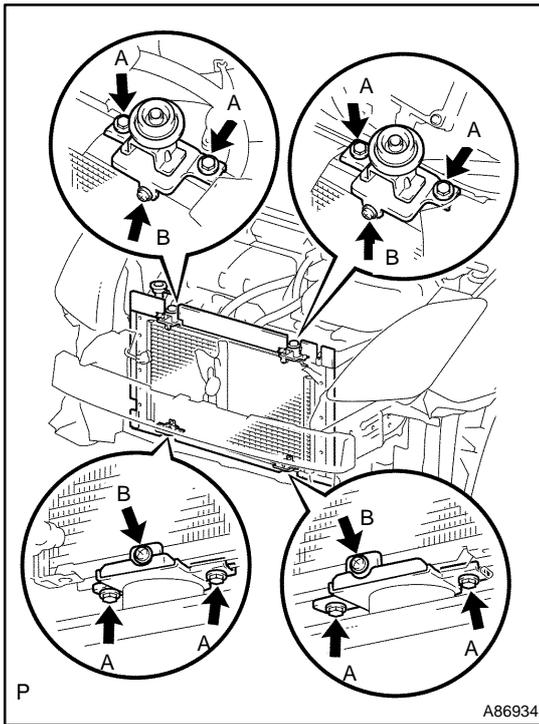
- (a) Using SST, remove the radiator fan temperature switch.  
SST 09817-33190



### 4. INSTALL RADIATOR FAN TEMPERATURE SWITCH

- (a) Using SST, install the radiator fan temperature switch.  
SST 09817-33190

**Torque: 7.0 N·m (71 kgf·cm, 62 in.-lbf)**



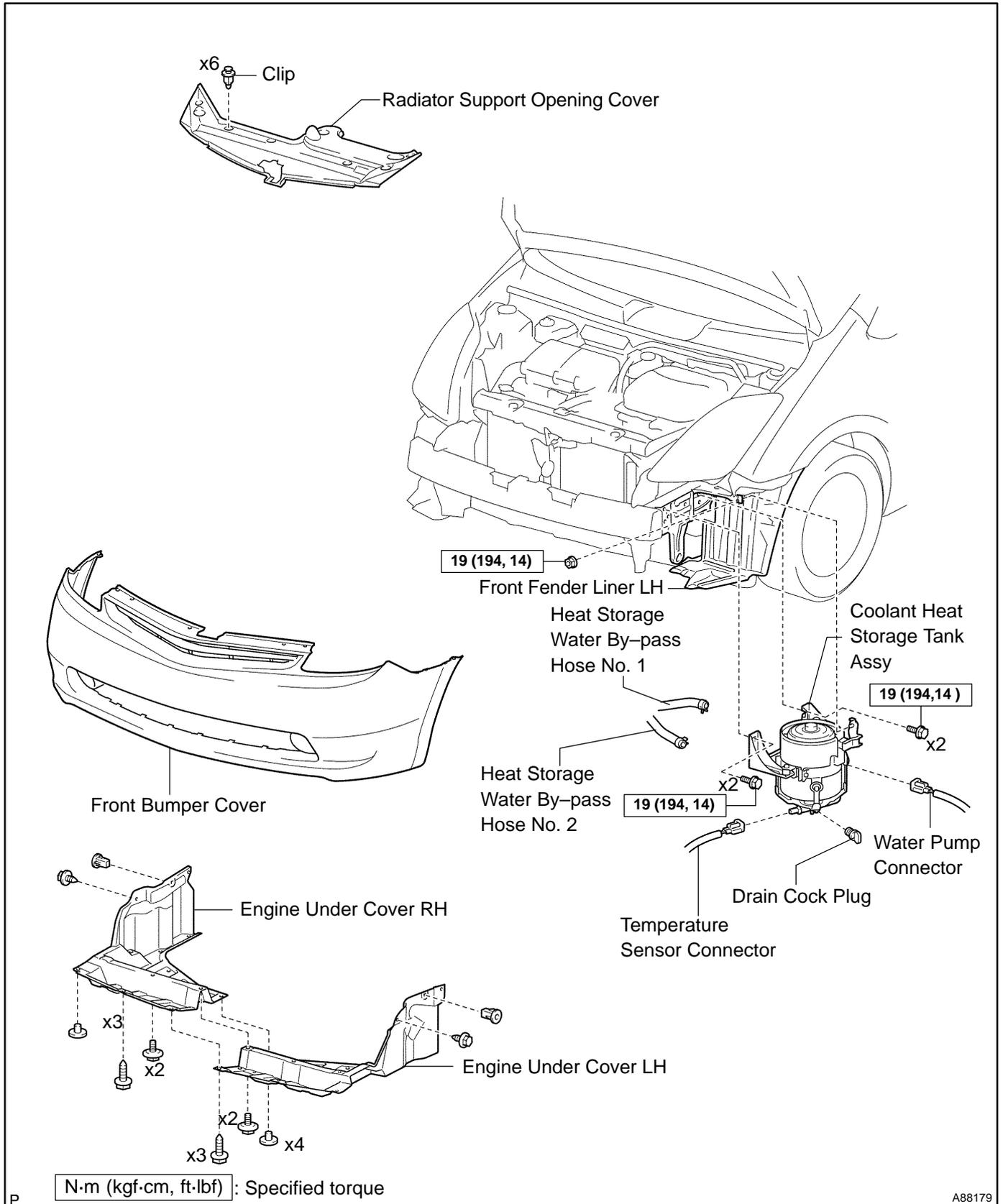
## 5. INSTALL NO.2 RADIATOR ASSY

- (a) Install the radiator assembly No. 2 to the vehicle.
- (b) Install the radiator support lower LH with the 3 bolts.  
**Torque:**  
**5.0 N·m (51 kgf·cm, 44 in·lbf) for bolt A**  
**3.9 N·m (40 kgf·cm, 35 in·lbf) for bolt B**
- (c) Install the radiator support lower RH with the 3 bolts.  
**Torque:**  
**5.0 N·m (51 kgf·cm, 44 in·lbf) for bolt A**  
**3.9 N·m (40 kgf·cm, 35 in·lbf) for bolt B**
- (d) Install the radiator support upper LH with the 3 bolts.  
**Torque:**  
**5.0 N·m (51 kgf·cm, 44 in·lbf) for bolt A**  
**3.9 N·m (40 kgf·cm, 35 in·lbf) for bolt B**
- (e) Install the radiator support upper RH with the 3 bolts.  
**Torque:**  
**5.0 N·m (51 kgf·cm, 44 in·lbf) for bolt A**  
**3.9 N·m (40 kgf·cm, 35 in·lbf) for bolt B**

## 6. INSTALL FAN ASSY W/MOTOR (See page 16-22)

# COOLANT HEAT STORAGE TANK ASSY (1NZ-FXE) COMPONENTS

160U4-01

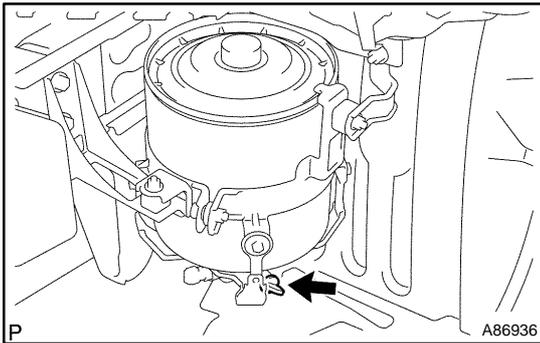


A88179

## REPLACEMENT

### CAUTION:

- Before and after the work, be sure to check DTCs and confirm that no DTCs is output.
  - If the tank has any malfunctions, the tank surface gets hot. To prevent burn injury, do not touch the tank.
  - The coolant heat storage tank assembly is prohibited from being disassembled and can be disassembled only as instructed.
1. REMOVE REAR FLOOR BOARD NO.2 (See page 21-116)
  2. REMOVE DECK FLOOR BOX REAR (See page 21-116)
  3. REMOVE REAR FLOOR BOARD NO.3 (See page 21-116)
  4. DISCONNECT BATTERY NEGATIVE TERMINAL (See page 21-116)
  5. REMOVE RADIATOR SUPPORT OPENING COVER (See page 16-11)
  6. REMOVE ENGINE UNDER COVER LH
  7. REMOVE ENGINE UNDER COVER RH
  8. REMOVE FRONT BUMPER COVER (See page 76-2)
  9. REMOVE FRONT FENDER LINER LH
    - (a) Remove the front fender liner LH partly.

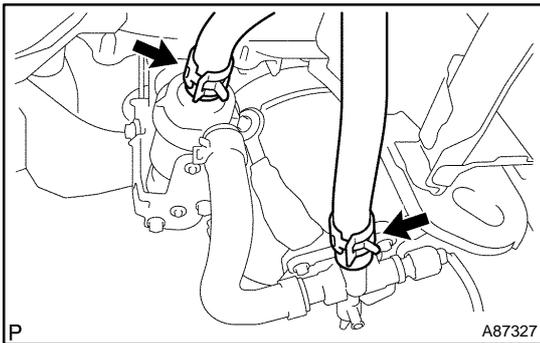


### 10. DRAIN ENGINE COOLANT

- (a) Loosen the drain cock plug, then drain the coolant.

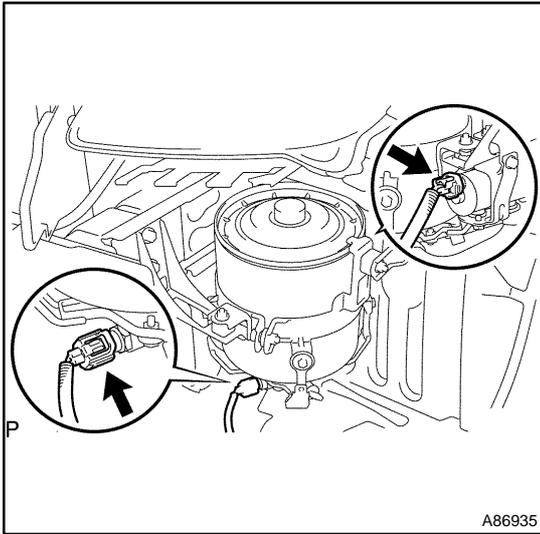
#### CAUTION:

Even if the engine is cold, the coolant in the coolant heat storage tank assembly is still hot. Be careful of the hot coolant when draining.

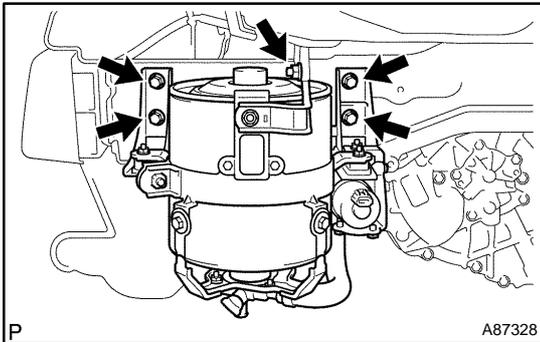


### 11. REMOVE COOLANT HEAT STORAGE TANK ASSY

- (a) Disconnect the 2 hoses shown in the illustration.



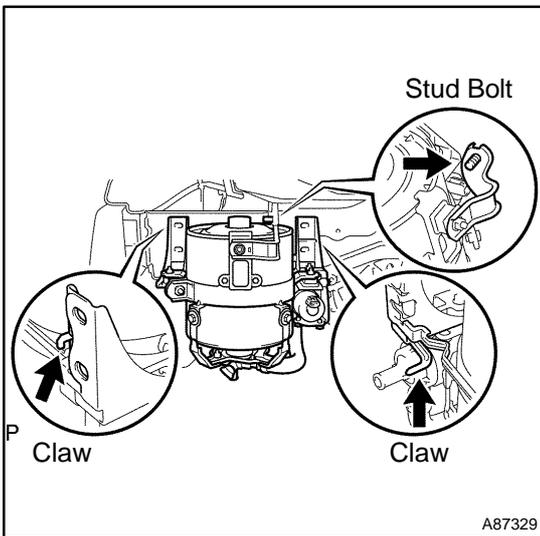
(b) Disconnect the 2 connectors of the water pump motor and temperature sensor.



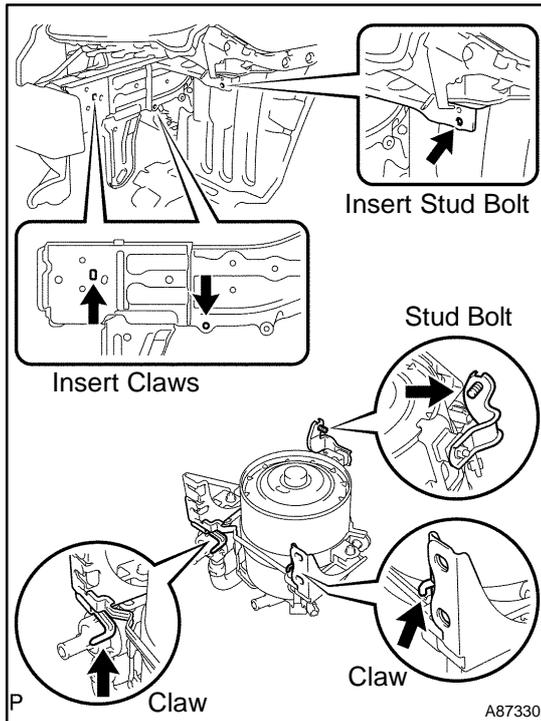
(c) Remove the nut and 4 bolts shown in the illustration.

**NOTICE:**

The coolant heat storage tank bracket can be easily bent. Hold the coolant heat storage tank assembly tightly when removing.



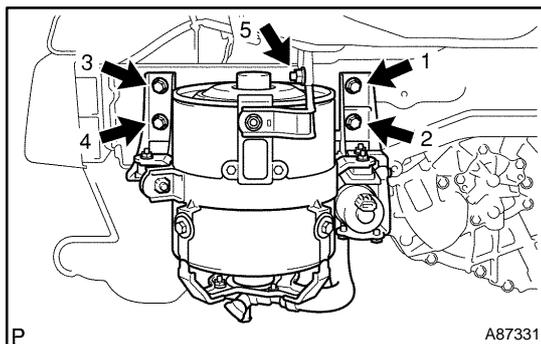
(d) Separate the stud bolt and 2 claws shown in the illustration, then remove the coolant heat storage tank assembly.

**12. INSTALL COOLANT HEAT STORAGE TANK ASSY**

- (a) Insert the 2 claws shown in the illustration to the vehicle side, then insert the stud bolt to the vehicle side.

**NOTICE:**

**The coolant heat storage tank bracket can be easily bent. Hold the coolant heat storage tank assembly tightly when installing.**

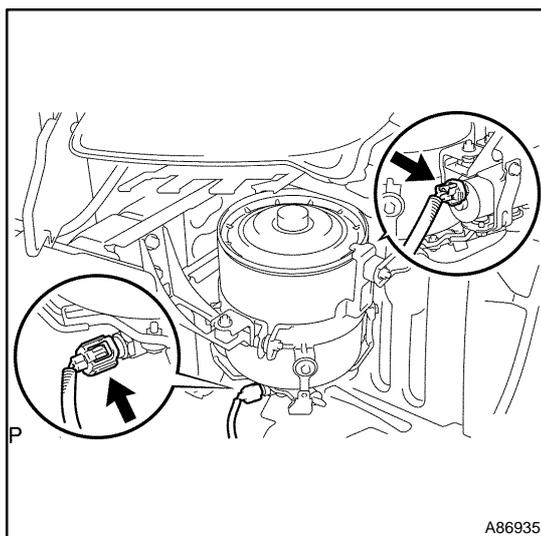


- (b) Tighten the 4 bolts and nut shown in the illustration.

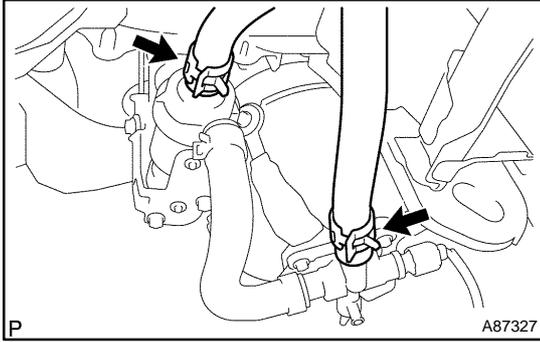
**Torque: 19 N·m (194 kgf·cm, 14 ft·lbf)**

**NOTICE:**

- When tightening bolt 1 and 2, push the coolant heat storage tank bracket to the vehicle front.
- The coolant heat storage tank bracket can be easily bent. Hold the coolant heat storage tank assembly tightly when installing.



- (c) Connect the 2 connectors of the water pump motor and temperature sensor.



(d) Connect the 2 hoses shown in the illustration.

13. **CONNECT BATTERY NEGATIVE TERMINAL**  
Torque: 6.0 N·m (61 kgf·cm, 53 in·lbf)
14. **INSTALL REAR FLOOR BOARD NO.3**
15. **INSTALL DECK FLOOR BOX REAR**
16. **INSTALL REAR FLOOR BOARD NO.2**
17. **ADD ENGINE COOLANT (See page 16-11)**
18. **CHECK FOR ENGINE COOLANT LEAKS**
19. **INSTALL FRONT FENDER LINER LH**
20. **INSTALL FRONT BUMPER COVER (See page 76-2)**
21. **INSTALL ENGINE UNDER COVER RH**
22. **INSTALL ENGINE UNDER COVER LH**
23. **INSTALL RADIATOR SUPPORT OPENING COVER**
24. **POWER WINDOW CONTROL SYSTEM INITIALIZE (See page 01-28)**