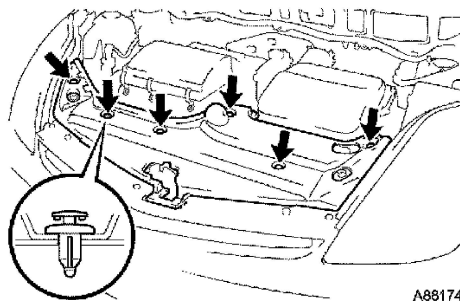


Coolant: Service and Repair

Engine Coolant

ENGINE COOLANT (1NZ-FXE) REPLACEMENT

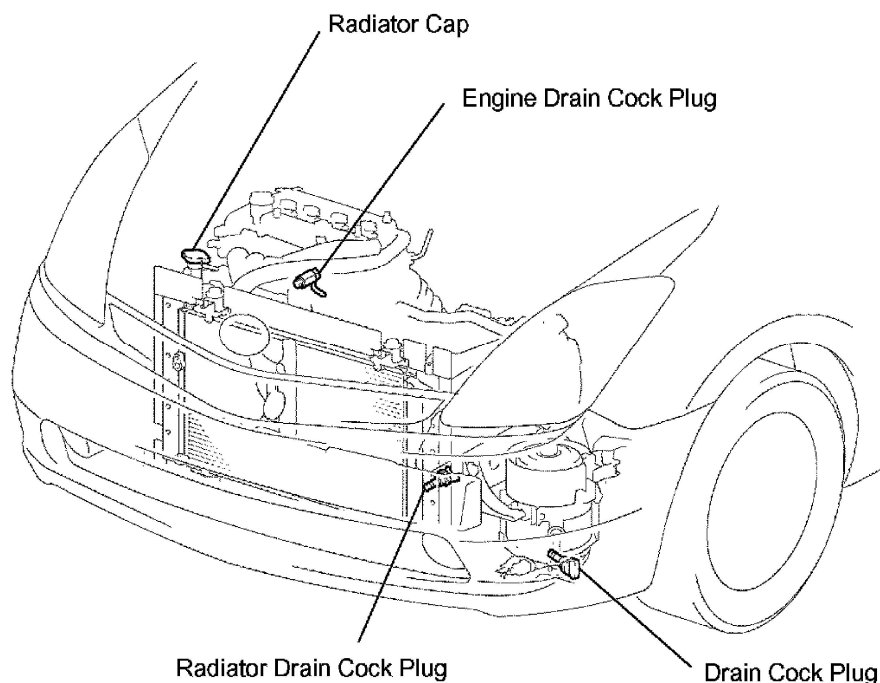


1. REMOVE RADIATOR SUPPORT OPENING COVER
 - a. Remove the 6 clips and radiator support opening cover.
2. REMOVE ENGINE UNDER COVER LH
3. REMOVE FRONT FENDER LINER LH
 - a. Remove the front part of the front fender liner LH.
4. DRAIN ENGINE COOLANT CAUTION:
If the engine or radiator is hot, do not remove 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.

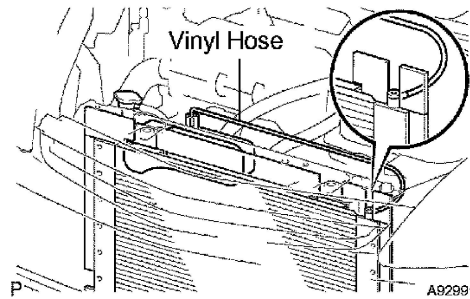


HINT: Record the amount of the drained coolant. It will be referred when refilling the tank with coolant.

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

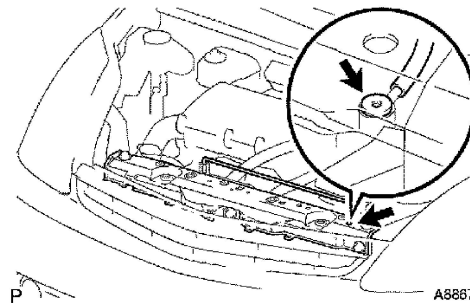
5. ADD ENGINE COOLANT

- 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 Nm (133 kgf-cm, 9.6 ft. lbs.)**
- 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 US qts., 2.1 Imp.qts.)**
- 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°C (-31°F)**). When replacing the coolant, Toyota Super Long Life Coolant is recommended.

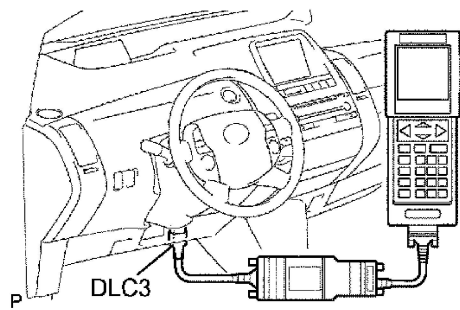
DO NOT FURTHER DILUTE PRE-MIXED MANUFACTURER APPROVED ETHYLENE GLYCOL BASED COOLANT IF USED.

MIX ACCORDING TO THE MANUFACTURER'S DIRECTIONS.

- 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.

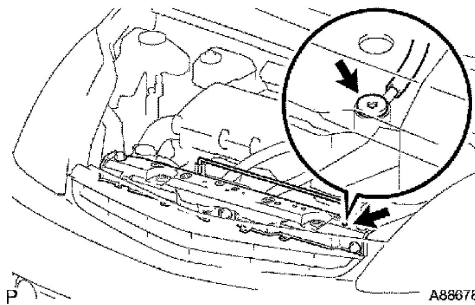
- g. Using a 6 mm socket hexagon wrench, tighten the radiator bleeder plug.
Torque: **1.5 Nm (15 kgf-cm, 13 inch lbs.)**
- h. Install the radiator cap.
- i. Fill the radiator reservoir tank with coolant to the full level.
- j. Connect the coolant heat storage water pump connector.



- k. Connect the hand-held tester to the DLC3.
- l. Turn the power switch ON (IG).
- m. Select the item: DIAGNOSIS / ENHANCED OBD II / 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 radial 678 for bleeder plug.
Torque: **1.5 Nm (15 kgf-cm, 13 inch lbs.)**
- 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 inspection mode.
- u. Warm up the engine until the thermostat is open.
- v. Stop the engine, then wait until the coolant gets cold. Re move the radiator can 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
7. INSTALL FRONT FENDER LINER LH
8. INSTALL ENGINE UNDER COVER LH
9. INSTALL RADIATOR SUPPORT OPENING COVER