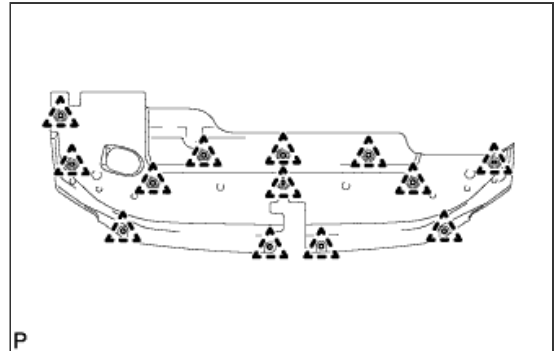


COOLANT > REPLACEMENT

for Preparation [Click here](#)

1. REMOVE UPPER RADIATOR SUPPORT SEAL

- a. Remove the 13 clips and upper radiator support seal.

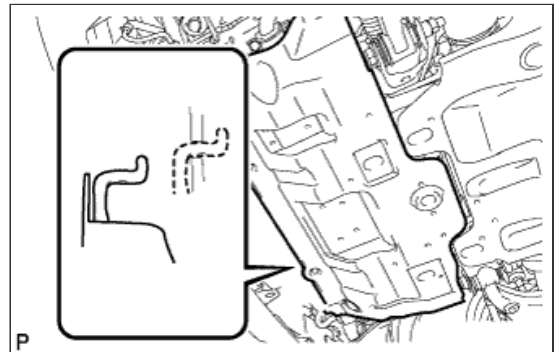


2. REMOVE LOWER FRONT BUMPER COVER

- a. Remove the clip, 5 bolts and lower front bumper cover.

3. REMOVE NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

- a. Remove the 4 bolts.
- b. Unhook the No. 1 engine under cover from the vehicle body as shown in the illustration.



4. REMOVE REAR ENGINE UNDER COVER ASSEMBLY

- a. Remove the 4 bolts and rear engine under cover.

5. DRAIN ENGINE COOLANT

CAUTION:

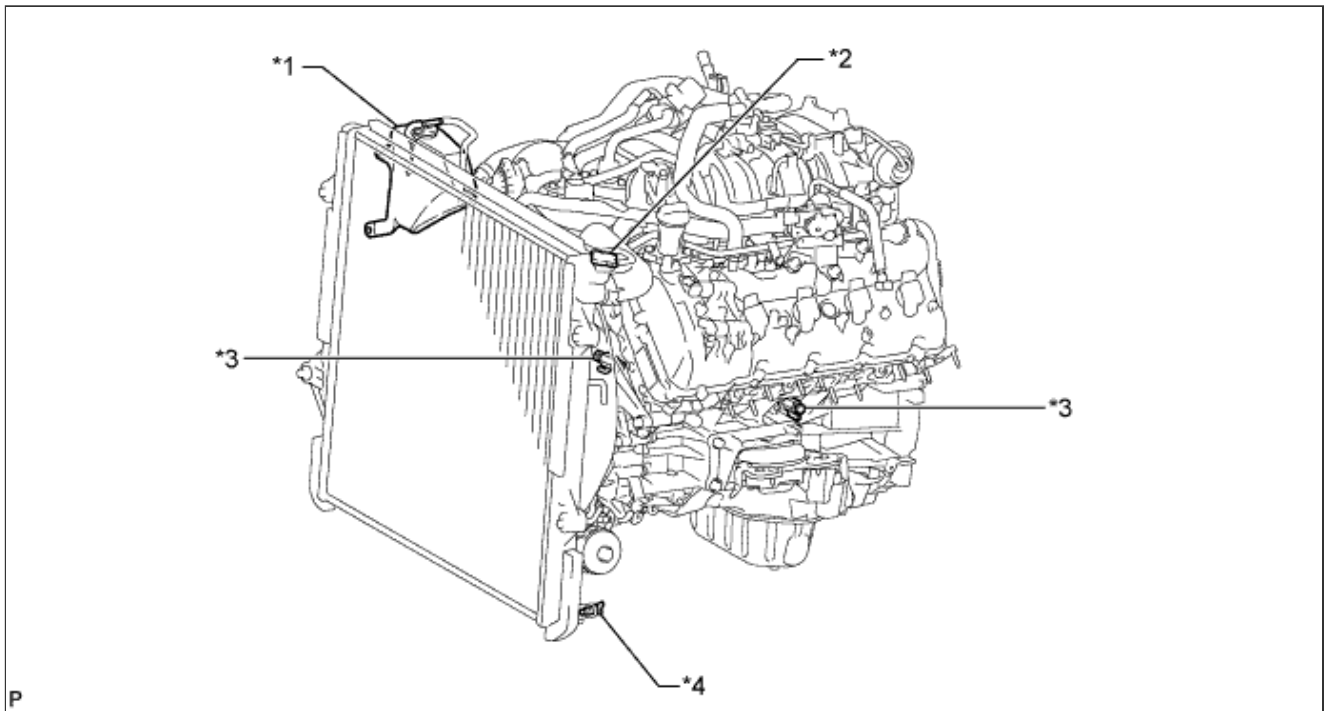
Do not remove the radiator cap while the engine and radiator are still hot. Pressurized, hot engine coolant and steam may be released and cause serious burns.

HINT:

Collect the coolant in a container and dispose of it according to the regulations in your area.

- a. Loosen the radiator drain cock plug.
- b. Remove the radiator cap. Then drain the coolant from the radiator.
- c. Loosen the 2 cylinder block drain cock plugs. Then drain the coolant from the engine.

- d. Tighten the 2 cylinder block drain cock plugs.



Text in Illustration

*1	Radiator Reservoir	*2	Radiator Cap
*3	Cylinder Block Drain Cock Plug	*4	Radiator Drain Cock Plug

Torque:

13 N*m{ 130 kgf*cm , 9 ft.*lbf }

- e. Tighten the radiator drain cock plug by hand.

6. ADD ENGINE COOLANT

a. Add engine coolant.

Standard Capacity:

15.4 liters (16.3 US qts, 13.6 Imp. qts)

NOTICE:

Do not substitute plain water for engine coolant.

HINT:

- **TOYOTA vehicles are filled with TOYOTA SLLC at the factory. In order to avoid damage to the engine cooling system and other technical problems, only use TOYOTA SLLC or similar high quality ethylene glycol based non-silicate, non-amine, non-nitrite, non-borate coolant with long-life hybrid organic acid technology (coolant with long-life hybrid organic acid technology consists of a combination of low phosphates and organic acids).**
 - **Press the No. 1 and No. 2 radiator hoses several times by hand, and then check the coolant level. If the coolant level is low, add coolant.**
- b. Slowly pour coolant into the radiator reservoir until it reaches the F line.
- c. Install the reservoir cap.
- d. Install the radiator cap.*1
- e. Start the engine and stop it immediately.*2
- f. Allow approximately 10 seconds to pass. Then remove the radiator cap and check the coolant level. If the coolant level has decreased, add coolant.*3
- g. Repeat steps *1, *2 and *3 until the coolant level does not decrease.

HINT:

Be sure to perform this step while the engine is cold, as air in the No. 1 radiator hose will flow into the radiator if the engine is warmed up and the thermostat opens.

- h. Install the radiator cap.*4
- i. Set the air conditioning as follows.*5

Item	Condition
Fan speed	Any setting except off
Temperature	Toward WARM
Air conditioning switch	Off

- j. Start the engine, warm it up until the thermostat opens, and then continue to run the engine for several minutes to circulate the coolant.*6

CAUTION:

- **Wear protective gloves. Hot areas on the parts may injure your hands.**
- **Be careful of the fan.**
- **Be careful as the engine, radiator and radiator hoses are hot and can cause burns.**

NOTICE:

- **Immediately after starting the engine, if the radiator reservoir does not have any coolant, perform the following: 1) stop the engine, 2) wait until the**

coolant has cooled down, and 3) add coolant until the coolant is filled to the F line.

- Do not start the engine when there is no coolant in the radiator reservoir.
- Pay attention to the needle of the engine coolant temperature receiver gauge. Make sure that the needle does not show an abnormally high temperature.
- If there is not enough coolant, the engine may burn out or overheat.

HINT:

- Press the No. 1 and No. 2 radiator hoses several times by hand to bleed air while warming up the engine.
- The thermostat opening timing can be confirmed by pressing the No. 2 radiator hose by hand and checking when the engine coolant starts to flow inside the hose.

k. Stop the engine and wait until the engine coolant cools down to ambient temperature. Then remove the radiator cap and check the coolant level.*7

CAUTION:

Do not remove the radiator cap while the engine and radiator are still hot. Pressurized, hot engine coolant and steam may be released and cause serious burns.

- l. If the coolant level has decreased, add coolant and warm up the engine until the thermostat opens.*8
- m. If the coolant level has not decreased, check that the coolant level in the radiator reservoir is at the F line.
If the coolant level is below the F line, repeat steps *4 through *8.
If the coolant level is above the F line, drain coolant until the coolant level reaches the F line.

7. INSPECT FOR COOLANT LEAK

CAUTION:

Do not remove the radiator cap while the engine and radiator are still hot. Pressurized, hot engine coolant and steam may be released and cause serious burns.

- a. Fill the radiator with coolant and attach a radiator cap tester.
- b. Warm up the engine.
- c. Using the radiator cap tester, increase the pressure inside the radiator to 118 kPa (1.2 kgf/cm², 17 psi), and check that the pressure does not drop.
If the pressure drops, check the hoses, radiator and water pump for leaks. If no external leaks are found, check the heater core, cylinder block and head.

8. INSTALL REAR ENGINE UNDER COVER ASSEMBLY

- a. Install the rear engine under cover with the 4 bolts.

Torque:

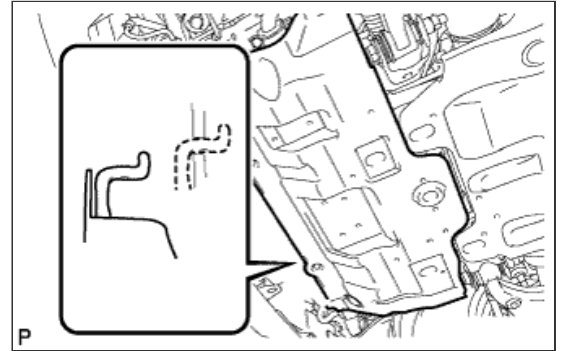
29 N*m{ 296 kgf*cm , 21 ft.*lbf }

9. INSTALL NO. 1 ENGINE UNDER COVER SUB-ASSEMBLY

- a. Hook the No. 1 engine under cover to the vehicle body as shown in the illustration.
- b. Install the 4 bolts.

Torque:

29 N*m { 296 kgf*cm , 21 ft.*lbf }



10. INSTALL LOWER FRONT BUMPER COVER

- a. Install the lower front bumper cover with the 5 bolts and clip.

Torque:

8.0 N*m { 82 kgf*cm , 71 in.*lbf }

11. INSTALL UPPER RADIATOR SUPPORT SEAL

- a. Install the upper radiator support seal with the 13 clips.

