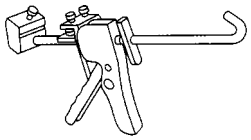
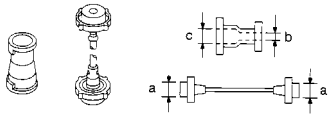
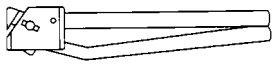
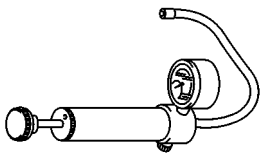
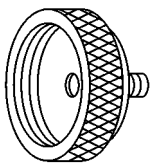
PREPARATION

Special Service Tools

To ESM

NISSAN Tool number (RENAULT tool number) Tool name		Description
WS39930000 (—) Tube presser	 S-NT052	Pressing the tube of liquid gasket
EG17650301 (—) Radiator cap tester adapter	 S-NT564	Adapting radiator cap tester to radiator filler neck **a: 28 (1.10) dia.** **b: 31.4 (1.236) dia.** **c: 41.3 (1.626) dia.** Unit: mm (in)
KV99103510 (—) Radiator plate pliers A	 S-NT224	Installing radiator upper and lower tanks
KV99103520 (—) Radiator plate pliers B	 S-NT225	Removing radiator upper and lower tanks
— (M.S. 554_07) Tester	 MLIA0012E	Leak checking Checking reservoir tank and reservoir tank cap
— (M.S. 554_01) Reservoir tank tester adapter	 MLIA0013E	Adapting tester to reservoir tank
— (M.S. 554_06) Reservoir tank cap tester adapter	 MLIA0014E	Adapting tester to reservoir tank cap

ENGINE COOLANT

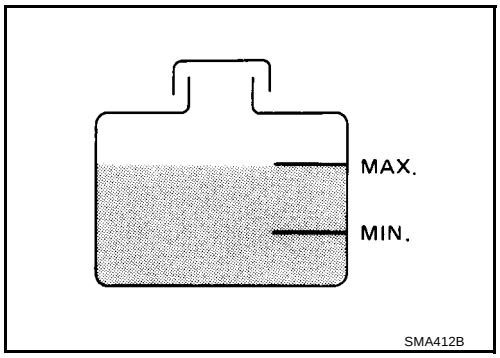
Inspection

To ESM

LEVEL CHECK

M/T Models without A/C and A/T Models

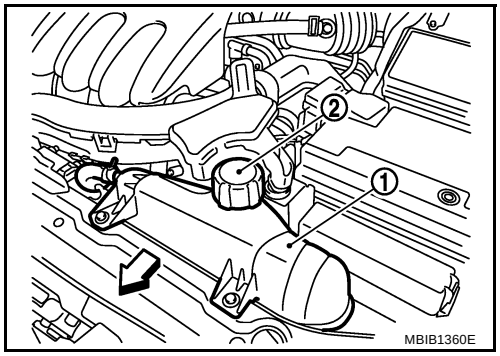
- Check if the reservoir tank engine coolant level is within “MIN” to “MAX” when engine is cool.
- adjust the engine coolant level as necessary.

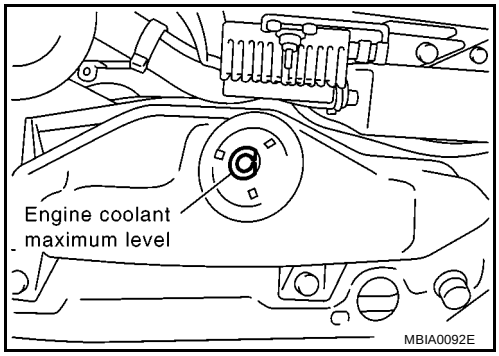


M/T Models with A/C

- Check if the reservoir tank coolant level is within MIN to MAX when engine is cool.
- Adjust coolant if too much or too little.

⇦ Vehicle front





LEAK CHECK

M/T Model without A/C and A/T Models

- To check for leakage, apply pressure to the cooling system with a radiator cap tester (commercial service tool) and radiator cap tester adapter (SST).

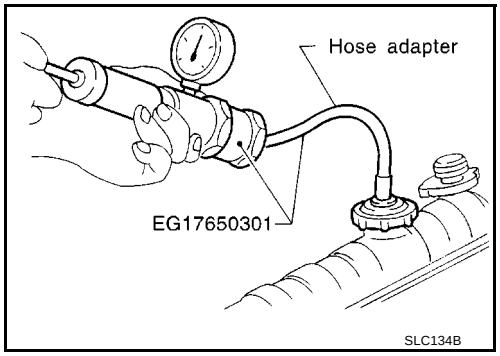
Testing pressure : 157 kPa (1.57 bar, 1.6 kg/cm^2, 23 psi)

WARNING:

Never remove the radiator cap when the engine is hot. Serious burns could occur from high pressure coolant escaping from the radiator.

CAUTION:

Higher pressure than specified may cause radiator damage.

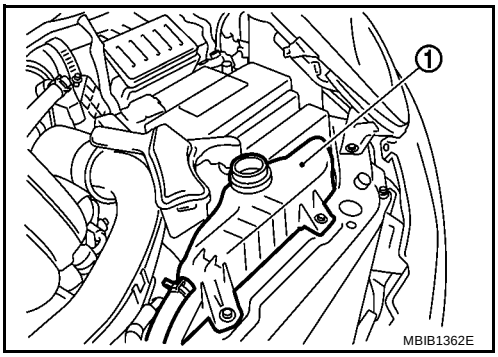


NOTE:
In a case that engine coolant decreases, replenish radiator with engine coolant.

- If anything is found, repair or replace damaged parts.

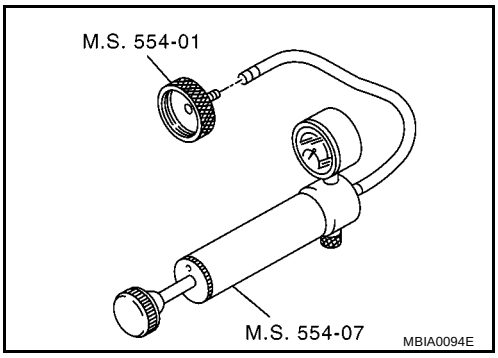
M/T Models with A/C

- To check for leakage, fit the adapter to the reservoir tank (1), and then connect it to the tester.



- Warm up the engine and turn it off.
- Apply pressure to the cooling system and stop pumping.

Testing pressure : 10 kpa
(0.1 bar, 0.10 kg/cm^2, 1.5 psi)



- If the pressure drops, look for leakage.
- Unscrew slowly the adapter from the reservoir tank to reduce the pressure in cooling system, and install the reservoir tank cap.

WARNING:
Never remove the reservoir tank cap when the engine is hot. Serious burns could occur from high pressure engine coolant escaping from the radiator.

CAUTION:
Higher pressure than specified may cause radiator damage.

Changing Engine coolant

WARNING:

- **To avoid being scalded, never change the coolant when the engine is hot.**
- **Wrap a thick cloth around radiator cap and carefully remove the cap. First, turn the cap a quarter of a turn to release built-up pressure. Then turn the cap all the way.**

DRAINING ENGINE COOLANT

M/T Models without A/C and A/T Models

1. Disconnect radiator lower hose and radiator cap.

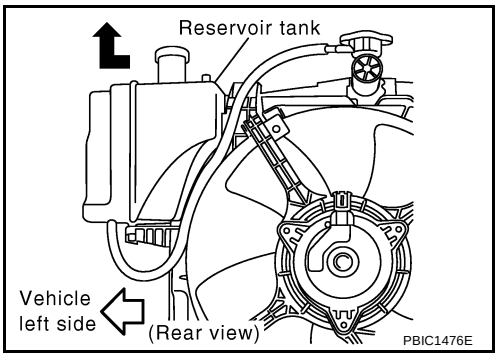
CAUTION:
Make sure to drain when the engine coolant temperature is cold.

2. Remove reservoir tank and drain the engine coolant in the following procedures.

a. Move relay case in front of the battery.

b. Disconnect the reservoir tank from fan shroud to remove. With force applied in the left direction of vehicle, pull up reservoir tank.

3. Check drain coolant for contaminants such as rust, corrosion or discoloration.
If contaminated, flush engine cooling system.
Refer to CO-5, “FLUSHING COOLING SYSTEM“ in this SMA file.



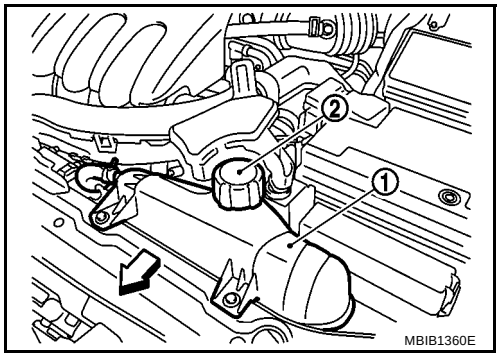
M/T Models with A/C

1. Disconnect radiator lower hose and reservoir tank cap.

   CAUTION:
   Make sure to drain when the engine coolant temperature is cold.

2. Remove reservoir tank and drain the engine coolant.

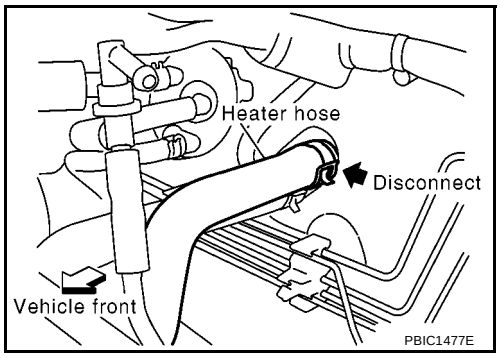
   ⇦ : Vehicle front



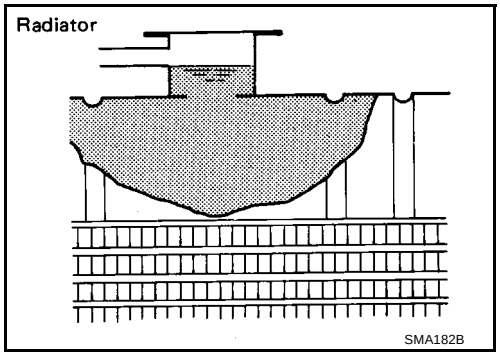
3. Check drain coolant for contaminants such as rust, corrosion or discoloration.
   If contaminated, flush engine cooling system.
   Refer to CO-5, “FLUSHING COOLING SYSTEM“ in this SMA file.

REFILLING ENGINE COOLANT

1. Install reservoir tank.
2. Connect radiator lower hose.
3. Disconnect heater hose (at heater hose outlet side: upper side) as shown in figure. Keep hose end at the same height as that of before removal.

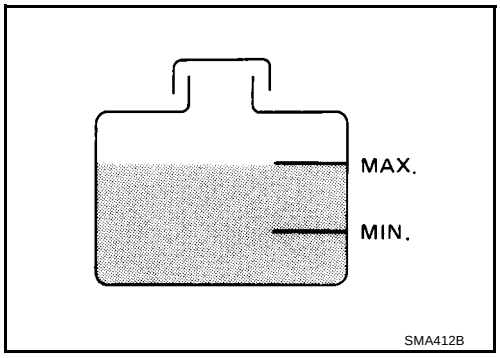


4. Fill radiator and reservoir tank to specified level.
   - **Pour coolant slowly of less than 2 ℓ (1-3/4 Imp qt) a minute to allow air in system to escape.**
   - **When coolant from heater hose starts to drain, connect heater hose and continue to fill.**
   - **Use Genuine Nissan Anti-freeze Coolant or equivalent mixed with water (distilled or demineralized).**
     Refer to MA-18, “RECOMMENDED FLUIDS AND LUBRICANTS“ on ESM.



Engine coolant capacity

M/T models with A/C and A/T models	
With reservoir tank	**: Approx. 4.9 ℓ (4-3/8 Imp qt)**
Reservoir tank	**: 0.7 ℓ (5/8 Imp qt)**

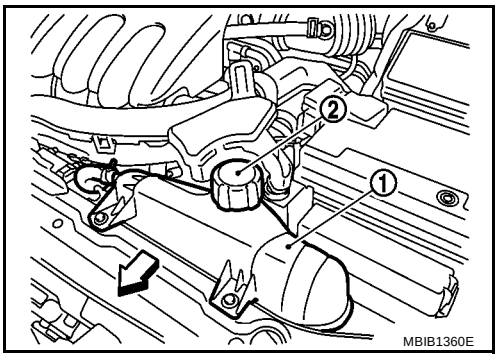


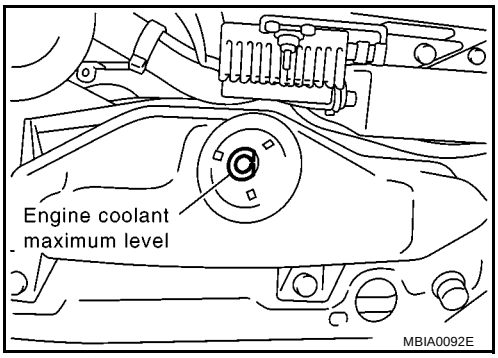
M/T models with A/C

With reservoir tank : Approx. 5.3 ℓ (4-5/8 Imp qt)

Reservoir tank : 1.2 ℓ (1-1/8 Imp qt)

⇦ : Vehicle front





5. Warm up engine to normal operating temperature with radiator cap installed.
6. Warm up until thermostat opens. Keep warming at 3,000 rpm for approximately 10 minutes as guide.
   - For thermostat opening, touch radiator upper hose by hand to insure that water flow is hot.

   CAUTION:
   Be careful not to overheat.
7. Stop the engine.
8. After cooling engine [approximately 50°C (122 °F) or lower], remove radiator cap and check coolant level. If the level is low, fill up to the radiator neck again and repeat from step 5.
9. When the coolant level stabilizes, fill reservoir tank up to the “MAX” line.
10. Check cooling system for leaks with engine running.
11. Allow the engine to cool [approximately 50°C (122°F) or lower].
12. Start the engine. Perform the following cycle three times. Keep an engine speed of 1,000 rpm for approximately 30 seconds. Then increase it gradually to 3,000 rpm.
13. During the above step 12, make sure water flow sound is not heard from heater core.
    - Sound may be noticeable at heater unit.
14. If water flow sound is heard, repeat from step 4 to 13.
    - **Clean excess coolant from engine.**

FLUSHING COOLING SYSTEM

1. Fill radiator and reservoir tank with water and reinstall radiator cap.
2. Run engine and warm it up to normal operating temperature.
3. Rev engine two or three times under no-load.
4. Stop engine and wait until it cools down.
5. Drain water.
6. Repeat steps 1 through 5 until clear water begins to drain from radiator.

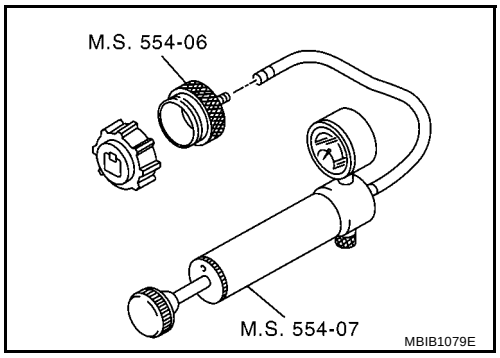
RADIATOR

Checking Reservoir Tank Cap (M/T Models with A/C)

- Fit the adapter to the tester as shown.
- When connecting the reservoir tank cap to the tester, apply water or LLC to the cap seal part.
- Check reservoir tank cap relief pressure.

88 kPa (0.88 bar, 0.90 kg/cm^2, 12.8 psi)

- Replace the reservoir tank cap if the engine coolant passes through it, or if any fur signs is detected.



SERVICE DATA AND SPECIFICATIONS (SDS)

Standard and Limit

CAPACITY

To ESM

Unit: ℓ (Imp qt)

Coolant capacity [With reservoir tank (MAX level)]	M/T models without A/C and A/T models	Approximately 4.9 (4-3/8)
	M/T models with A/C	Approximately 5.3 (4-5/8)
Reservoir tank	M/T models without A/C and A/T models	0.7 (5/8)
	M/T models with A/C	1.2 (1-1/8)

THERMOSTAT

Valve opening temperature	86.5 - 89.5°C (188 - 193°F)
Valve lift	8 mm or more/ 101°C (0.31 in/ 214°F)
Valve closing temperature	83°C (181°F)

RADIATOR

Unit: kPa (bar, kg/cm^2, psi)

Radiator cap relief pressure	Standard	78 - 98 (0.78 - 0.98, 0.8 - 1.0, 11 - 14)
	Limit	59 (0.59, 0.6, 9)
Reservoir tank cap relief pressure		88 (0.88, 0.90, 12.8)
Leakage test pressure	M/T models without A/C and A/T models	157 (1.57, 1.6, 23)
	M/T models with A/C	10 (0.1, 0.10, 1.5)