# 3. Engine Coolant

## A: REPLACEMENT

## 1. DRAINING OF ENGINE COOLANT

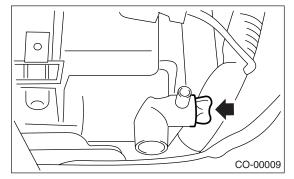
1) Lift-up the vehicle.

2) Remove the under cover.

3) Loosen the drain cock to drain engine coolant into container.

NOTE:

Remove the radiator cap so that engine coolant will drain faster.



## 2. FILLING OF ENGINE COOLANT

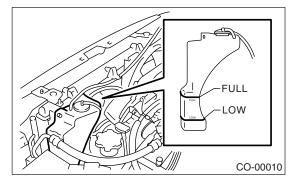
1) Fill engine coolant into the radiator up to filler neck position.

Coolant capacity (fill up to "FULL" level): Non-turbo (AT) model Approx. 6.8 Q (7.19 US qt, 5.98 lmp qt) Non-turbo (MT) model Approx. 6.9 Q (7.29 US qt, 6.07 lmp qt) Turbo (AT) model Approx. 7.3 Q (7.72 US qt, 6.42 lmp qt) Turbo (MT) model Approx. 7.4 Q (7.82 US qt, 6.51 lmp qt)

NOTE:

The Subaru Genuine Coolant containing antifreeze and anti-rust agents is especially made for Subaru engine, which has an aluminum crankcase. Always use Subaru Genuine Coolant, since other coolant may cause corrosion.

2) Fill engine coolant into the reservoir tank up to FULL level.



3) Warm-up the engine completely for more than 5 minutes at 2,000 to 3,000 rpm.

4) If the engine coolant level drops in radiator, add engine coolant to filler neck position.

5) If the engine coolant level drops from FULL level of reservoir tank, add engine coolant to FULL level.6) Attach the radiator cap and reservoir tank cap properly.

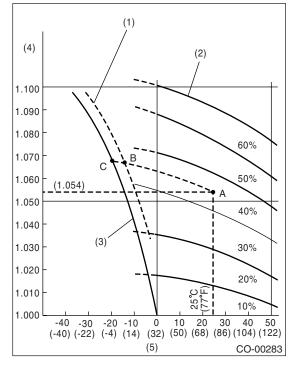
# CO(H4SO)-17

## **B: INSPECTION**

#### 1. RELATIONSHIP OF SUBARU COOLANT CONCENTRATION AND FREEZING TEM-PERATURE

The concentration and safe operating temperature of the Subaru coolant is shown in the diagram. Measuring the temperature and specific gravity of the engine coolant will provide this information. [Example]

If the engine coolant temperature is  $25^{\circ}$ C (77°F) and its specific gravity is 1.054, the concentration is 35% (point A), the safe operating temperature is  $-14^{\circ}$ C (7°F) (point B), and the freezing temperature is  $-20^{\circ}$ C ( $-4^{\circ}$ F) (point C).



- (1) Safe operating temperature
- (2) Concentration of coolant
- (3) Freezing temperature
- (4) Specific gravity of coolant
- (5) Coolant temperature °C (°F)

#### 2. PROCEDURE TO ADJUST THE CON-CENTRATION OF THE COOLANT

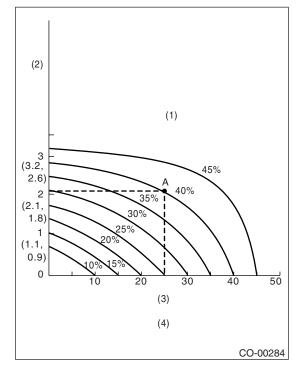
To adjust the concentration of the engine coolant according to temperature, find the proper fluid concentration in the above diagram and replace the necessary amount of coolant with an undiluted solution of Subaru Genuine Coolant (concentration 50%).

The amount of coolant that should be replaced can be determined using the diagram.

#### [Example]

Assume that the engine coolant concentration must be increased from 25% to 40%. Find point A, where the 25% line of the engine coolant concentration intersects with the 40% curve of the necessary coolant concentration, and read the scale on the vertical axis of the graph at height A. The quantity of the engine coolant to be drained is 2.1  $\ell$  (2.2 US qt, 1.8 Imp qt). Drain 2.1  $\ell$  (2.2 US qt, 1.8 Imp qt) of the engine coolant from the cooling system and add 2.1  $\ell$  (2.2 US qt, 1.8 Imp qt) of the undiluted solution of Subaru coolant.

If the engine coolant concentration of 50% is needed, drain all the engine coolant and refill with the undiluted solution only.



- (1) Necessary concentration of coolant
- Quantity of coolant to be drained l (US qt, Imp qt)
- (3) Concentration of coolant in the vehicle cooling system %
- (4) Concentration of coolant in vehicle and quantity to be drained