

Refrigerant Charging Procedure

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

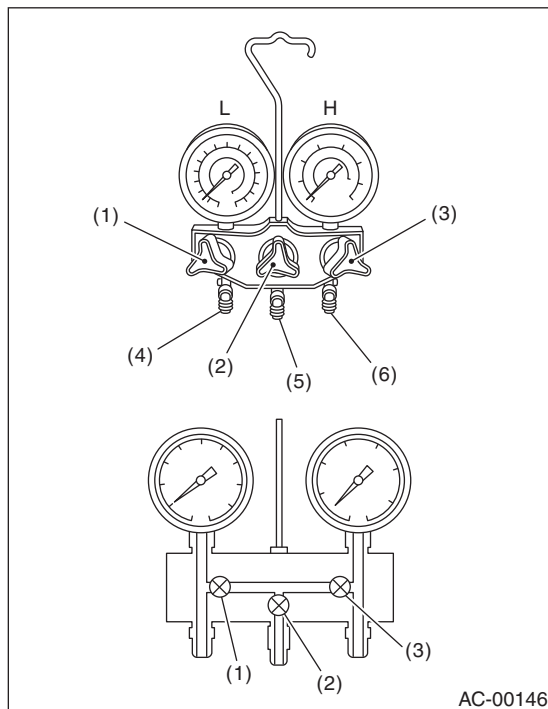
4. Refrigerant Charging Procedure

A: PROCEDURE

CAUTION:

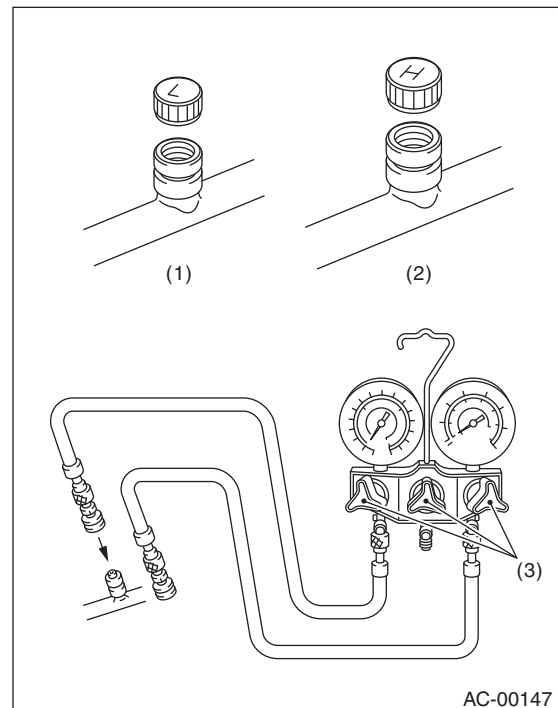
- When working, be sure to wear protective goggles and protective gloves.
- Air in the cycle will cause insufficient air conditioning, and water in the cycle will cause clogging (icing) and rusting inside the cycle. To remove this air and water, use a vacuum pump to perform evacuation before filling with refrigerant. By making the inside of the cycle a vacuum, moisture will boil and evaporate even at normal temperature, making it possible to remove.

1) Close all valves of the manifold gauge.



- L: Low pressure gauge
H: High-pressure gauge
(1) Low pressure valve
(2) Vacuum pump valve
(3) High pressure valve
(4) For low pressure
(5) For vacuum pump
(6) For high pressure

2) Attach the low pressure side and high pressure side hoses to the vehicle service port.



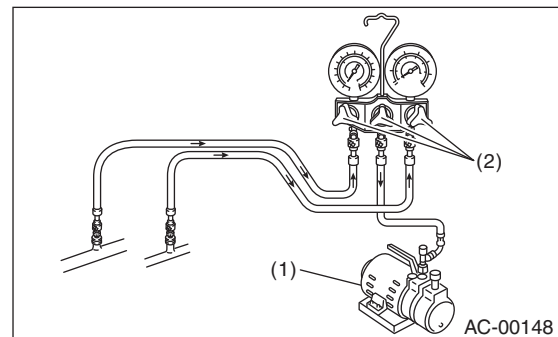
- (1) Low-pressure side service port
(2) High-pressure side service port
(3) Close

CAUTION:

Confirm that the connections are secure.

3) Connect the center manifold hose of the manifold gauge to the vacuum pump.

4) Operate the vacuum pump, and open the low pressure side and high pressure side valves. Open the center manifold hose valve, and start evacuation.



- (1) Vacuum pump
(2) Open

CAUTION:

Always use a vacuum pump when performing evacuation.

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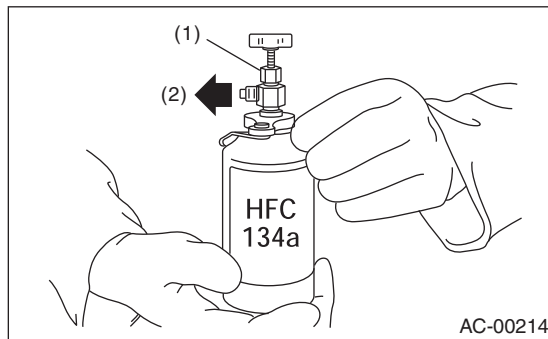
5) After performing evacuation for over 5 minutes, when the low pressure gauge needle reaches above -100.0 kPa (-750 mmHg, -29.5 inHg), close the center manifold hose valve, and stop the vacuum pump.

6) After closing the low pressure side and high pressure side valves, leave for 5 to 10 minutes, and inspect for whether there is any change in the low pressure gauge needle. If the needle position changes, this indicates a leak. Check the connections of pipes and hoses, and repair the problem locations. In this case, repeat from step 1).

7) If there are no leaks, continue evacuation for 20-30 additional minutes.

8) Close all valves, and stop the vacuum pump.

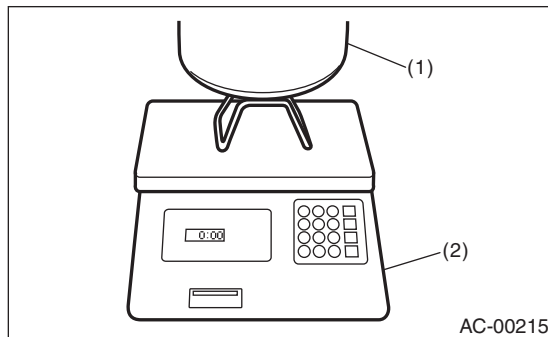
9) Follow the can tap operation manual, and attach to the refrigerant can.



- (1) Tap valve
- (2) To the center manifold hose

10) Disconnect the center manifold hose from the vacuum pump, and connect the hose to the tap valve.

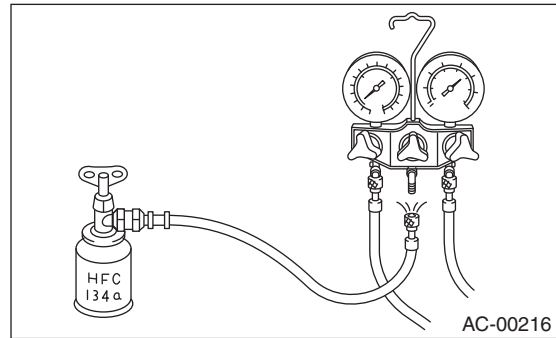
11) When a 13.6 kg (30 lb) refrigerant container is used, measure the weight of the refrigerant first on a scale, then connect to the center manifold hose.



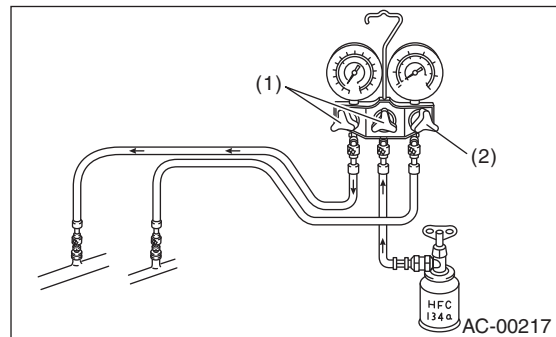
- (1) Refrigerant container (HFC-134a)
- (2) Weight scale

12) Open the valve on the HFC-134a source.

13) Loosen the center manifold hose connection on the manifold gauge for a few seconds (if there is a purge valve on the manifold gauge, press this instead) to force out the air in the center manifold hose using the refrigerant pressure.



14) Open the high pressure side and low pressure side valves of the manifold gauge to fill with refrigerant.



- (1) Open
- (2) Open

CAUTION:

When filling while running the engine, do not open the high pressure side valve. Always fill from the low pressure side.

15) When the gauge needle reaches approximately 200 kPa (1,500 mmHg, 59.1 inHg), close all valves.

16) Using a leak tester, check the system for refrigerant leaks.

17) After checking that there are no refrigerant leaks, fill with refrigerant up to the specified amount.

18) If the HFC-134a supply container becomes empty, close all valves, and close the can tap valve to replace the empty container. After replacing the HFC-134a supply container with a new container, air purge first, then restart the filling procedure.

19) When the refrigerant filling efficiency becomes low, close all valves.

20) Check that the low pressure and high pressure valves are closed. Start the engine with the A/C switch OFF.

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21) To avoid damaging the compressor, press the A/C switch ON-OFF quickly several times.

22) Set up the vehicle to the following status:

CAUTION:

When filling while running the engine, do not open the high pressure side valve.

Always fill from the low pressure side valve.

- A/C switch ON
- Engine running at 1,500 rpm
- Blower speed setting to "HI"
- Temperature setting to "MAX COOL"
- Air inlet setting to "RECIRC"
- Window open

23) Open the low pressure side valve and fill with refrigerant up to the specified amount.

24) After filling with refrigerant, close all valves and disconnect the hose from the service port.

25) Attach the cap to the service port.