9. Heater Core

A: REMOVAL
1) Remove the heater and cooling unit. <Ref. to AC-28, REMOVAL, Heater and Cooling Unit.>
2) Loosen the screws to remove heater core cover.
3) Remove the heater core.

B: INSTALLATION
Install in the reverse order of removal.
13. Heater and Cooling Unit

A: REMOVAL
1) Disconnect the ground terminal from battery.
2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-16, OPERATION, Refrigerant Recovery Procedure.>
3) Drain LLC from the radiator. <Ref. to CO-25, REPLACEMENT, Engine Coolant.>
4) Remove the bolts securing expansion valve and pipe in engine compartment. Release the heater hose clamps in engine compartment to remove the hoses.

5) Remove the instrument panel. <Ref. to EI-42, REMOVAL, Instrument Panel Assembly.>
6) Remove the support beam.
7) Remove the blower motor unit assembly. <Ref. to AC-22, REMOVAL, Blower Motor Unit Assembly.>
8) Loosen the bolt and nuts to remove the heater and cooling unit.

B: INSTALLATION
1) Install in the reverse order of removal.
2) Charge refrigerant. <Ref. to AC-17, OPERATION, Refrigerant Charging Procedure.>
17. Instrument Panel Assembly

A: REMOVAL

**WARNING:**
- All airbag system wiring harness and connectors are colored yellow. Do not use electrical test equipment on these circuits.
- Be careful not to damage the airbag system harness when servicing the instrument panel.

1) Disconnect the ground terminal from battery.
2) Loosen the screws and clips to remove the lower cover.

3) Remove the glove box. <Ref. to El-39, REMOVAL, Glove Box.>
4) Remove the center console panel. <Ref. to AC-25, REMOVAL, Control Unit.>
5) Remove the passenger airbag module. <Ref. to AB-13, Passenger’s Airbag Module.>
6) Loosen the four screws and two nuts to remove the lower console panel.

7) Loosen the hooks to remove the defroster panel.

8) Remove the two nuts and disconnect the two connectors.
9) Remove the instrument panel mounting bolts.

10) Remove the instrument panel.

**CAUTION:**
Do not pull the harness when disconnecting the connector.

**NOTE:**
If necessary, make matching marks for easy reassembly.

**CAUTION:**
- Take care not to scratch the instrument panel and related parts.
INSTRUMENT PANEL ASSEMBLY

EXTERIOR/INTERIOR TRIM

- When storing the removed instrument panel, place it standing up on the floor.

B: INSTALLATION
Install in the reverse order of removal.

CAUTION:
- Be careful not to snag the harness.
- Make sure to connect the harness connector.
- Take care not to scratch the instrument panel and related parts.

NOTE:
When setting the instrument panel into position, push the hook into grommet (A) on the body panel.
14. Glove Box

A: REMOVAL
1) Open the glove box.
2) Loosen the screws to remove glove box.

B: INSTALLATION
Install in the reverse order of removal.
5. Passenger's Airbag Module

A: CAUTION
Refer to the "CAUTION" of General Description before handling the airbag module. <Ref. to AB-3, CAUTION, General Description.>

B: REMOVAL
1) Turn the ignition switch OFF.
2) Disconnect the ground terminal from battery, and wait for at least 20 seconds before starting work.
3) Remove the glove box. <Ref. to E1-39, REMOVAL, Glove Box.>
4) Detach the airbag connector from the support beam bracket, and then disconnect the airbag connector.
5) Remove the three bolts, and then carefully remove the airbag module.
6) Refer to the "CAUTION" for handling of a removed airbag module. <Ref. to AB-3, CAUTION, General Description.>

C: INSTALLATION
Install in the reverse order of removal.

CAUTION:
Do not allow harness and connectors to interfere or get tangled up with other parts.

D: INSPECTION
Check for the following, and replace the damaged parts with new parts.
• Airbag module, harness, connector, and mounting bracket are damaged.
10. Control Unit

A: REMOVAL
1) Disconnect the ground terminal from battery.
2) Remove the glove box. <Ref. to El-39, REMOVAL, Glove Box.>
3) Remove the lower panel. <Ref. to El-42, Instrument Panel Assembly.>
4) Remove the control wires.

5) Remove the center console panel.
6) Remove four screws.
7) Pull out the control unit and disconnect connectors.

B: INSTALLATION
Install in the reverse order of removal.
9. Heater Core

A: REMOVAL
1) Remove the heater and cooling unit. <Ref. to AC-28, REMOVAL, Heater and Cooling Unit.>
2) Loosen the screws to remove heater core cover.

3) Remove the heater core.

B: INSTALLATION
Install in the reverse order of removal.
4. Engine Coolant

A: REPLACEMENT

1. DRAINING OF ENGINE COOLANT

1) Lift-up the vehicle.
2) Remove the under cover.
3) Remove 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 radiator up to the filler neck position.

Coolant capacity (fill up to “FULL” level):

- **Non-turbo AT model**
  - Approx. 6.9 USQt (7.29 US qt, 6.07 Imp qt)

- **Non-turbo MT model**
  - Approx. 7 USQt (7.4 US qt, 6.2 Imp qt)

- **Turbo AT model**
  - Approx. 7.6 USQt (8.03 US qt, 6.69 Imp qt)

- **Turbo MT model**
  - Approx. 7.7 USQt (8.14 US qt, 6.78 Imp qt)

CAUTION:
The SUBARU Genuine Coolant containing anti-freeze 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 reservoir tank up to the upper level.

3) Warm-up engine completely for more than five minutes at 2,000 to 3,000 rpm.
4) If the engine coolant level drops in radiator, add the engine coolant to filler neck position.
5) If the engine coolant level drops from upper level of reservoir tank, add the engine coolant to the upper level.
6) Attach the radiator cap and reservoir tank cap properly.
7. Blower Motor Unit Assembly

A: REMOVAL
1) Disconnect the ground terminal from battery.
2) Remove the glove box. <Ref. to EI-39, REMOVAL, Glove Box.>
3) Loosen the nut to remove support beam stay.

B: INSTALLATION
Install in the reverse order of removal.

C: INSPECTION
Connect the motor connector terminal 1 from the battery to the positive (+) lead and terminal 2 to the negative (−) lead. Make sure the motor runs smoothly.

4) Disconnect the blower motor connector.

5) Disconnect the blower resistor connector.

6) Loosen the bolt and nut to remove blower motor unit assembly.
3. Refrigerant Recovery Procedure

A: OPERATION

CAUTION:
- During operation, be sure to wear safety goggles and protective gloves.
- Connect the refrigerant recovery system with the manifold gauge set to discharge the refrigerant from the A/C system and reuse it.
- When reusing the discharged refrigerant, keep service cans on hand. Because the discharge rate with the recovery system is approx. 90%, service cans are necessary to charge the refrigerant.
- Follow the detailed operation procedure described in the operation manual attached to the refrigerant recovery system.

1) Perform the compressor oil return operation. <Ref. to AC-21, OPERATION, Compressor Oil.>
2) Stop the engine.
3) Close the valves on the low-/high-pressure sides of the manifold gauge set.

4) Install the low-/high-pressure hoses to the service ports on the low-/high-pressure sides of the vehicle respectively.

5) Connect the center hose to the refrigerant recovery system.
6) Follow the operation manual to activate the refrigerant recovery system.
4. Refrigerant Charging Procedure

A: OPERATION

CAUTION:
- During operation, be sure to wear safety goggles and protective gloves.
- Before charging the refrigerant, evacuate the system to remove small amounts of moisture remaining in the system.

The moisture in the system can be completely evacuated only under the minimum vacuum level. The minimum vacuum level affects the temperature in the system.
- The list below shows the vacuum values necessary to boil water in various temperature. In addition, the vacuum levels indicated on the gauge are approx. 3.3 kPa (25 mmHg, 0.98 inHg) lower than those measured at 304.8 m (1,000 ft) above sea level.

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>Vacuum (kPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.7°C (35°F)</td>
<td>100.9 kPa</td>
</tr>
<tr>
<td>7.2°C (45°F)</td>
<td>100.5 kPa</td>
</tr>
<tr>
<td>12.8°C (55°F)</td>
<td>99.8 kPa</td>
</tr>
<tr>
<td>18.3°C (65°F)</td>
<td>99.2 kPa</td>
</tr>
<tr>
<td>23.9°C (75°F)</td>
<td>98.5 kPa</td>
</tr>
<tr>
<td>29.4°C (85°F)</td>
<td>97.2 kPa</td>
</tr>
<tr>
<td>35°C (95°F)</td>
<td>95.8 kPa</td>
</tr>
</tbody>
</table>

1) Close the valves on low-/high-pressure sides of the manifold gauge.

2) Install the low-/high-pressure hoses to the corresponding service ports on the vehicle respectively.
3) Connect the center hose of the manifold gauge set with the vacuum pump.
4) Carefully open the valves on the low-/high-pressure sides to activate the vacuum pump.
5) After the low-pressure gauge reaches 100.0 kPa (750 mmHg, 29.5 inHg) or higher, evacuate the system for approx. 15 minutes.
6) After 15 minutes of evacuation, if the reading shows 100.0 kPa (750 mmHg, 29.5 inHg) or higher, close the valves on the both sides to stop the vacuum pump.
7) Note the low-pressure gauge reading.
8) Leave it at least 5 minutes, and then check the low-pressure gauge reading for any changes. When a gauge indicator shows near to zero point, this is a sign of leakage. Check pipe connector points, repair them, make sure there is no leakage by air bleeding.

9) Following the can tap operation manual instructions, install it to the refrigerant can.

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 refrigerant amount in use using a weight scale.

12) Confirm that all the 3 hoses are tightly connected to the manifold gauge set.

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

14) Loosen the center hose connection on the manifold gauge set (if applicable, press a purge valve on the manifold gauge set) only for a couple of seconds to allow the air in the center hose to escape by the refrigerant.

15) Carefully open the high-pressure valve with the engine stopping.

CAUTION:
Do not open the low-pressure valve.

16) Close the high-pressure valve when the low-pressure gauge reaches 98 kPa (1 kg/cm², 14 psi). Using a leak tester, check the system for leaks. If any leakage is found after the refrigerant recovery is completed, repair the applicable area.

17) After confirming that there are no leaks with the leak test, charge the required amount of refrigerant.

CAUTION:
Never run the engine during charging from the high-pressure side.

18) Close the high-pressure valve when:
- the readings of low- / high-pressure gauges become almost equal, after the charging speed is reduced,
- the HFC-134a source becomes empty, or
- the system is filled with the gas.
19) If the HFC-134a source is empty, close the high-pressure valve, close the valve on the can tap, and replace the HFC-134a source with a new one to restart the operation.

20) Confirm that both the low- / high-pressure valves can be closed. Start the engine with the A/C switch OFF.

21) Quickly repeat ON-OFF cycles a few times to prevent initial compressor damage.

22) Set up the vehicle to the following status:
- 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"
- Windows open

23) While reading the low-pressure gauge, carefully open the low-pressure valve with the refrigerant source connected and the service hose purged.

**CAUTION:**
Never open the high-pressure valve with the engine is running.

24) Adjust the refrigerant flow to maintain the pressure on the low-pressure side at 276 kPa (2.81 kg/cm², 40 psi) max.

25) After the system is fully charged, close the low-pressure valve.

26) Close the valve on the refrigerant source.

27) Disconnect the hose from the service port, and install the service port cap.

<table>
<thead>
<tr>
<th>Refrigerant amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Refrigerant</strong></td>
</tr>
<tr>
<td>HFC-134a</td>
</tr>
</tbody>
</table>