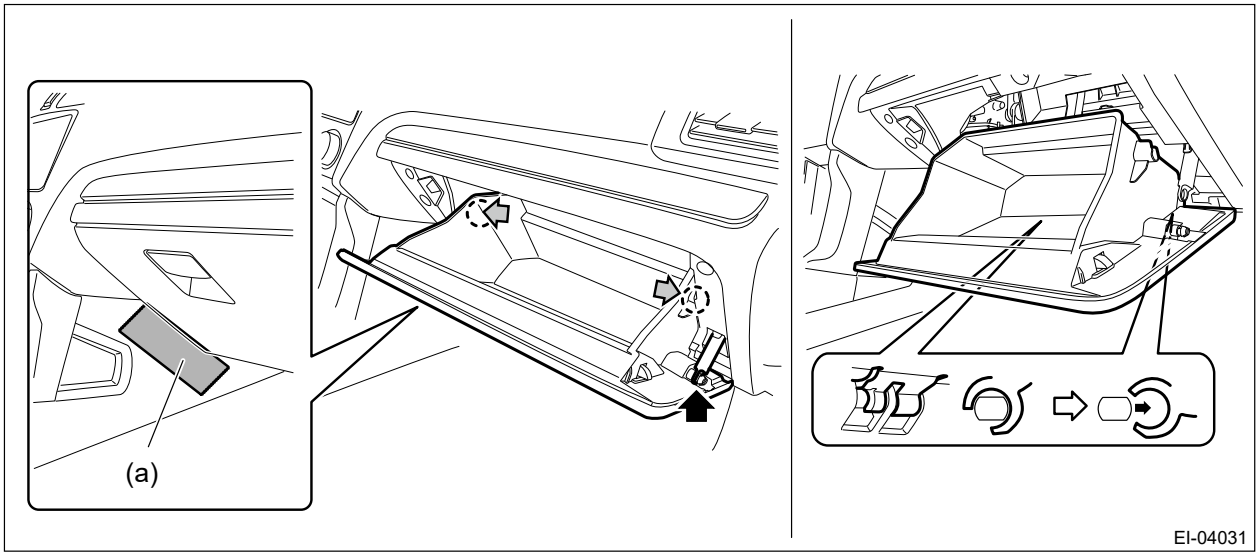
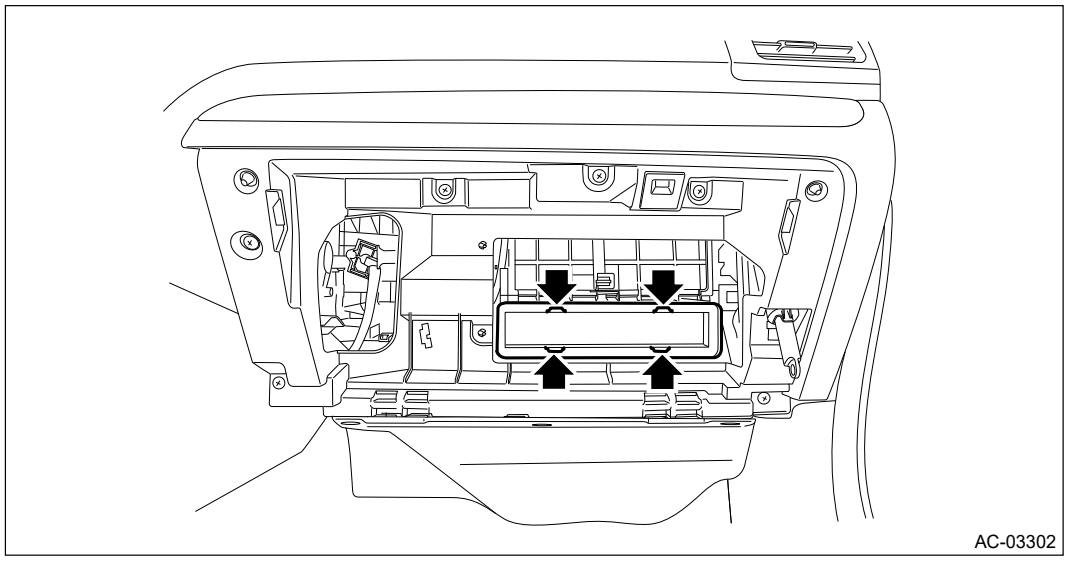
REPLACEMENT

1. Remove the pocket assembly.
   (1) Attach the protective tape (a) to the panel center LWR.
   (2) Remove the damper COMPL - pocket.
   (3) Release the stoppers and remove the pocket assembly by pulling it toward you.



2. Pinch the tabs to release the lock, and remove the filter kit.



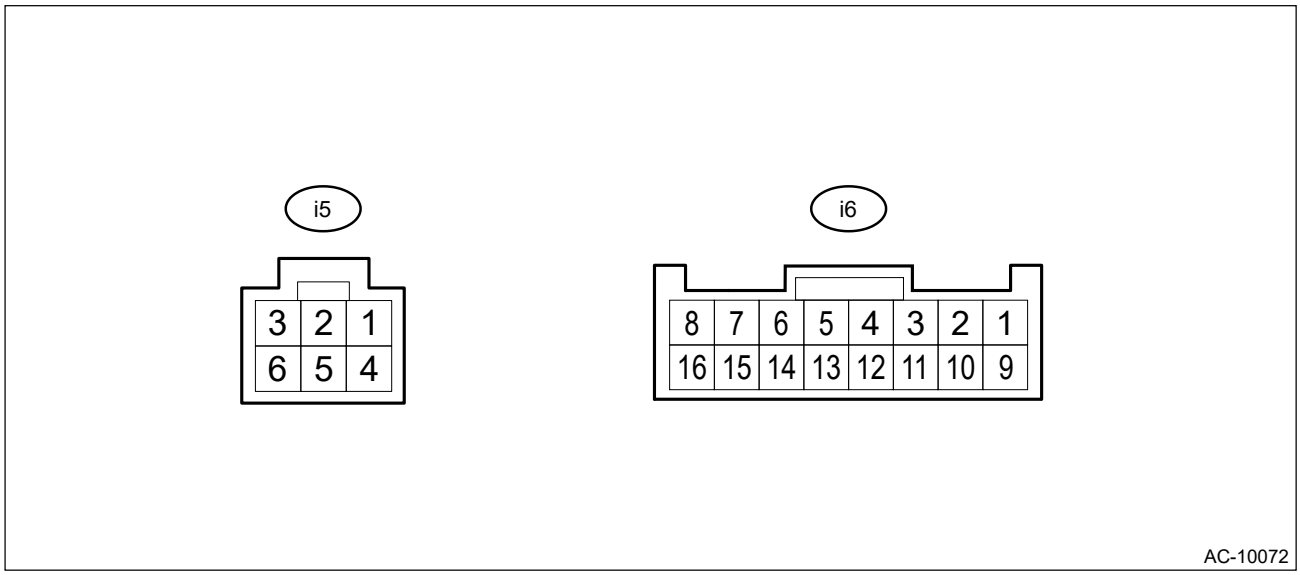
Note:
Pull out while tilting the front side of the filter downward to prevent dirt or dust from falling inside the case.

3. Install each part in the reverse order of removal.

ELECTRICAL SPECIFICATION

1. MANUAL A/C MODEL

Control Module I/O Signal



- Control Module (i6)

Terminal No.	Content	Measuring condition	Standard
1	FAN SW signal	Blower fan is ON	1 V or less
2	A/C thermostat signal	When blower fan is ON and A/C switch is ON	5 V or less
3	Intake door actuator (RECIRC)	RECIRC mode	8 V or more
4	Intake door actuator (FRESH)	FRESH mode	8 V or more
6	IGN	Ignition switch ON	Battery voltage
8	GND	Always	1 V or less
9	RR DEF ON signal	When the rear defogger switch is ON	1 V or less
10	RR DEF operating status signal		Battery voltage
12	ILL−	Illumination ON (measure between 12 — 14)	Battery voltage
14	ILL+		

- Blower fan switch (i5)

Terminal No.	Content	Measuring condition	Standard
1	GND	Always	1 V or less
2	LO (1st stage)	When blower fan switch 1 is used	1 V or less

3	ML (2nd stage)	When blower fan switch 2 is used	1 V or less
4	Blower fan ON signal	Blower fan is ON	1 V or less
5	HI (4th stage)	When blower fan switch 4 is used	1 V or less
6	MH (3rd stage)	When blower fan switch 3 is used	1 V or less

2. AUTO A/C MODEL

Refer to "Auto A/C Control Module I/O Signal" of "AIR CONDITIONER (DIAGNOSTICS)" section. Ref. to AIR CONDITIONER(DIAGNOSTICS)>Auto A/C Control Module I/O Signal>ELECTRICAL SPECIFICATION.

INSPECTION

Refer to “Basic Diagnostic Procedure” of “AIR CONDITIONER (DIAGNOSTICS)” section. Ref. to AIR CONDITIONER(DIAGNOSTICS)>Basic Diagnostic Procedure.

HVAC SYSTEM (HEATER, VENTILATOR AND A/C) > Air Conditioning System

NOTE

For procedure of each component in the air conditioning system, refer to the respective section.

- Blower motor unit assembly: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Blower Motor Unit Assembly.
- Blower motor: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Blower Motor.
- Power transistor (auto A/C model): Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Power Transistor (Auto A/C Model).
- Blower resistor (manual A/C model): Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Blower Resistor (Manual A/C Model).
- Control panel: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Control Panel.
- Compressor: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Compressor.
- Condenser: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Condenser.
- Heater and cooling unit: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Heater and Cooling Unit.
- Evaporator: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Evaporator.
- Expansion valve: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Expansion Valve.
- Hose & pipe: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Hose and Pipe.
- Ambient sensor: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Ambient Sensor.
- Sunload sensor (auto A/C model): Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Sunload Sensor (Auto A/C Model).
- In-vehicle sensor (auto A/C model): Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>In-Vehicle Sensor (Auto A/C Model).
- Evaporator sensor: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Evaporator Sensor.
- Intake door actuator: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>FRESH/RECIRC Door Actuator.
- Mode door actuator: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Mode Door Actuator.
- Air mix door actuator: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Air Mix Door Actuator.

WIRING DIAGRAM

Refer to “Air Conditioning System” in the wiring diagram.

- Manual A/C model: Ref. to WIRING SYSTEM>Air Conditioning System>WIRING DIAGRAM > MANUAL A/C.
- Auto A/C model: Ref. to WIRING SYSTEM>Air Conditioning System>WIRING DIAGRAM > AUTO A/C.

INSPECTION

1. CHECK LINK

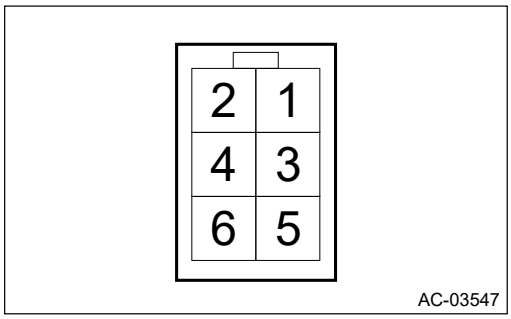
1. Visually check the operating range of the link, and remove the foreign matter if any.
2. Operate the temperature control dial to check that the link operates normally.
3. If it does not operate normally as the result of inspection, check the motor - actuator mix.

2. CHECK ACTUATOR

1. Measure the resistance between connector terminals.

   Preparation tool:

   Circuit tester



Terminal No.	Inspection conditions	Standard
3 — 1	Always	80 — 100 Ω
3 — 2		
3 — 5		
3 — 6		

2. Replace the motor - actuator mix if the inspection result is not within the standard value.

INSTALLATION

Caution:

Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

1. Install each part in the reverse order of removal.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.

REMOVAL

1. LH

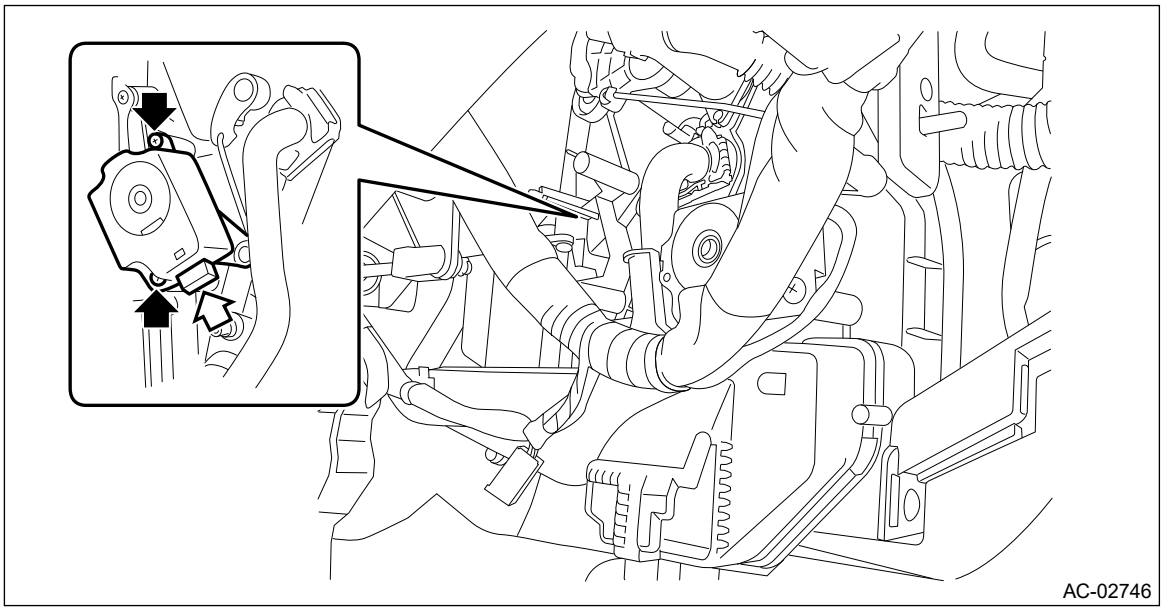
Caution:

Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

1. Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. Ref. to NOTE>NOTE > BATTERY.

   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.
2. Remove the cover assembly - instrument panel LWR driver.
3. Remove the knee airbag module. Ref. to AIRBAG SYSTEM>Knee Airbag Module>REMOVAL.
4. Remove the motor - actuator mix. Ref. to EXTERIOR/INTERIOR TRIM>Instrument Panel Lower Cover>REMOVAL.
   (1) Disconnect the connector, and remove the rod from the rod clamp.
   (2) Remove the screws and detach the motor - actuator mix.



2. RH

1. Disconnect the ground cable from battery. Ref. to NOTE>NOTE > BATTERY.

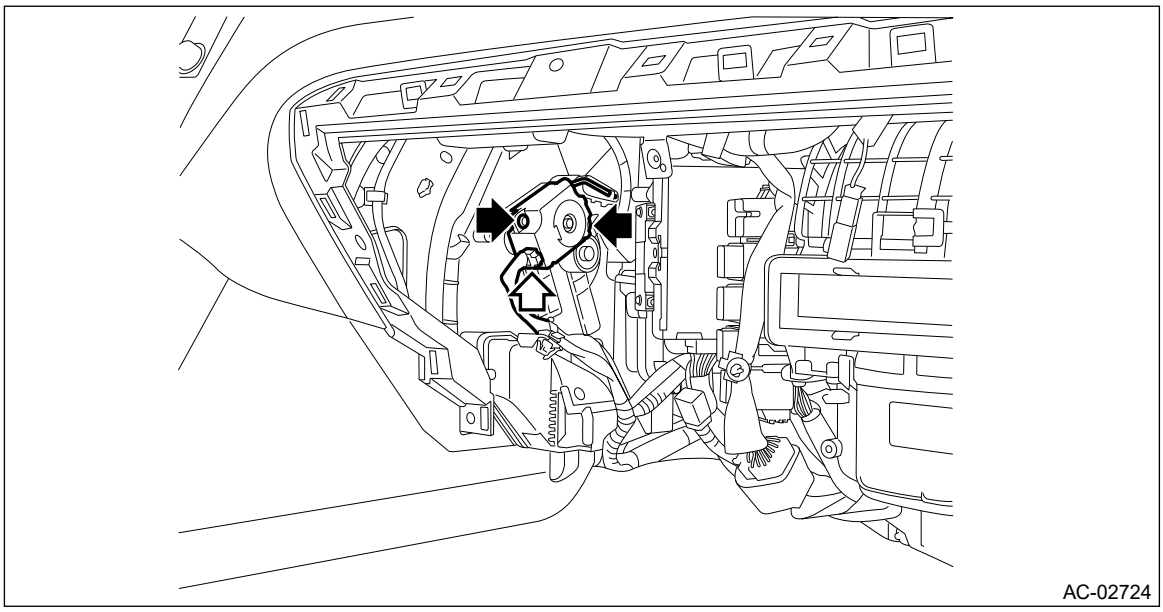
   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.
2. Remove the glove box. Ref. to EXTERIOR/INTERIOR TRIM>Glove Box>REMOVAL.

3. Remove the motor - actuator mix.

(1) Disconnect the connector, and remove the rod from the rod clamp.

(2) Remove the screws and detach the motor - actuator mix.



INSPECTION

1. Check that the direction and amount of air can be adjusted smoothly. Replace the grille assembly - ventilation if faulty.
2. Check that the adjustment can be maintained in each position. Replace the grille assembly - ventilation if faulty.

INSTALLATION

Caution:

After installing the center grille assembly or grille assembly - ventilation, check that the air vent grille is inserted correctly into the air vent duct.

1. Install each part in the reverse order of removal.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.

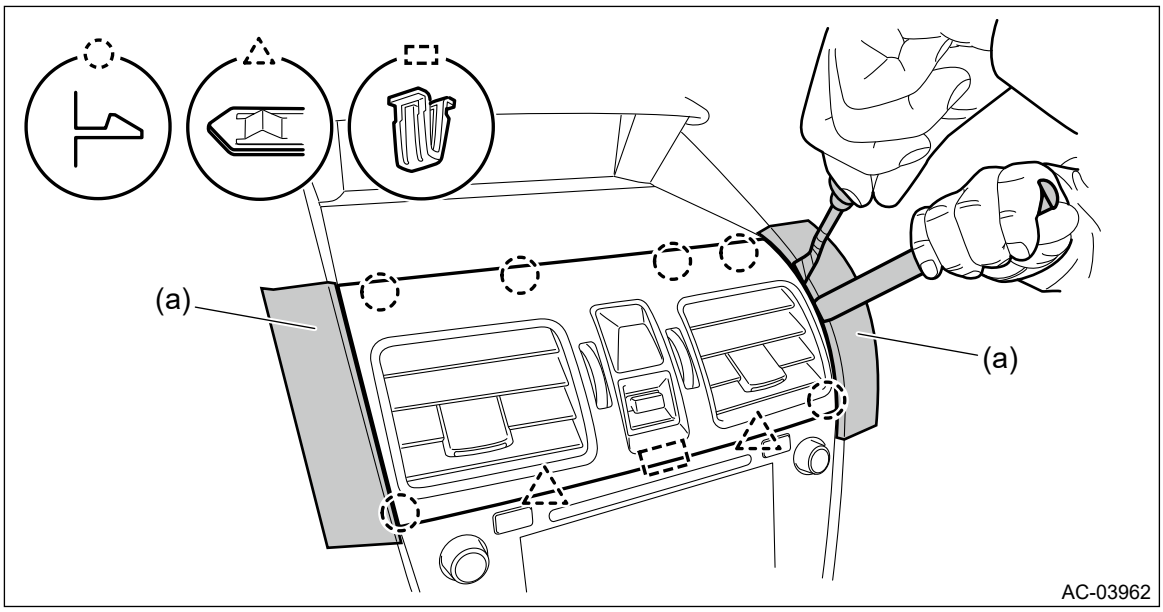
REMOVAL

1. CENTER GRILLE ASSEMBLY

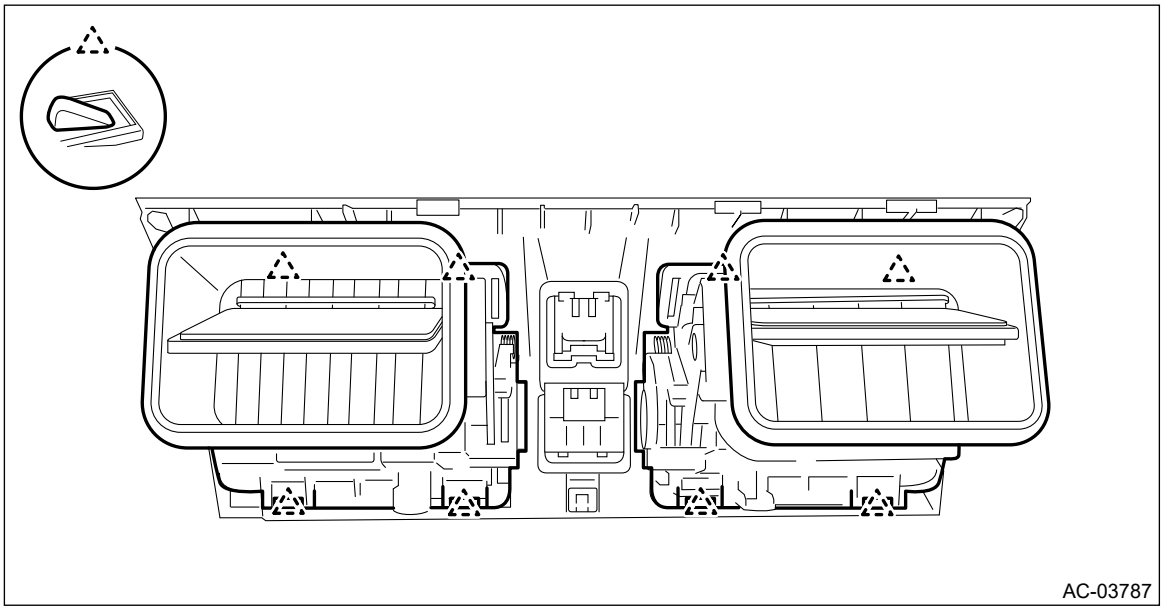
Caution:

- **Do not put your finger on the fin of the air vent grille. Doing so may damage the fin.**
- **Always pull the center grille assembly toward you slowly. If attempting to remove by turning it upward, the claws and connectors may be damaged.**

1. Disconnect the ground cable from battery.
2. Remove the center grille assembly.
   (1) Attach the protective tape (a) to the instrument panel assembly.
   (2) Release the claw by using a clip remover wrapped with protective tape.
   (3) Disconnect the connector and remove the center grille assembly.



3. Release the claws, and then remove the grille assembly - CTR ventilation from the center grille assembly.



2. SIDE GRILLE ASSEMBLY

LH SIDE

1. Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. Ref. to NOTE>NOTE > BATTERY.

   Note:

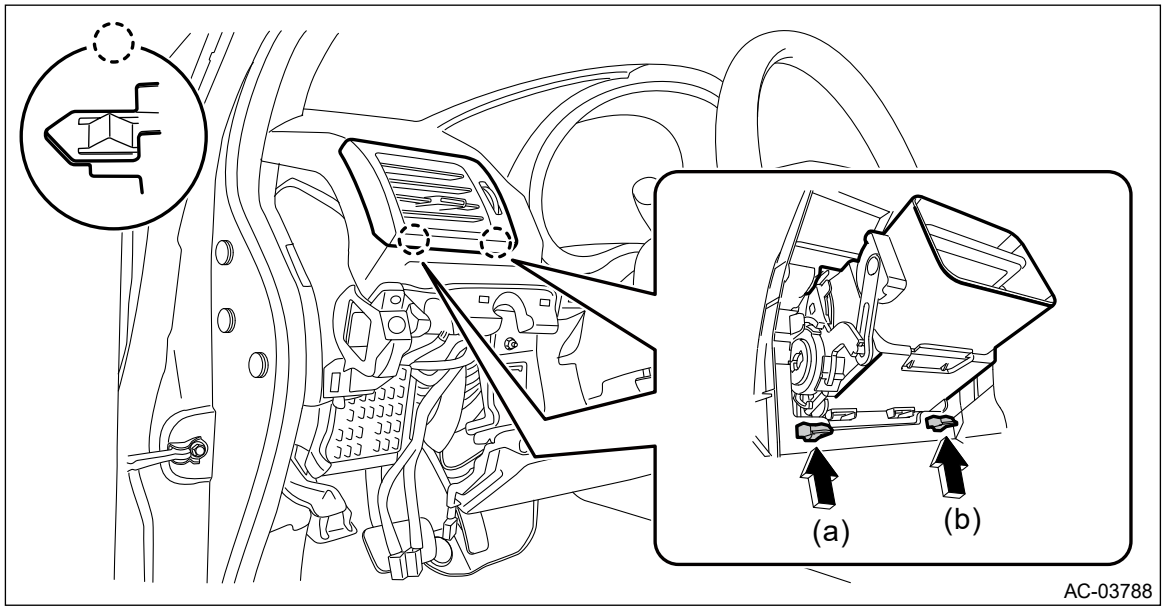
   For model with battery sensor, disconnect the ground terminal from battery sensor.

2. Remove the cover assembly - instrument panel LWR driver OUT. Ref. to EXTERIOR/INTERIOR TRIM>Instrument Panel Lower Cover>REMOVAL.
3. Remove the grille assembly - ventilation LH.

   Caution:

   - **When using a flat tip screwdriver, apply protective tape or cloth and be careful not to cause damage.**
   - **Do not pull the grille assembly - ventilation forcibly. Doing so may cause deformation or damage.**

   (1) Push the claw (a) on the outlet dial side upward from the back of the instrument panel assembly.
   (2) While pushing, pull the grille assembly - ventilation toward you to release the claw.
   (3) Release the other claw (b) in the same manner, then remove the grille assembly - ventilation LH.



RH SIDE

1. Disconnect the ground cable from battery. Ref. to NOTE>NOTE > BATTERY.

   Note:

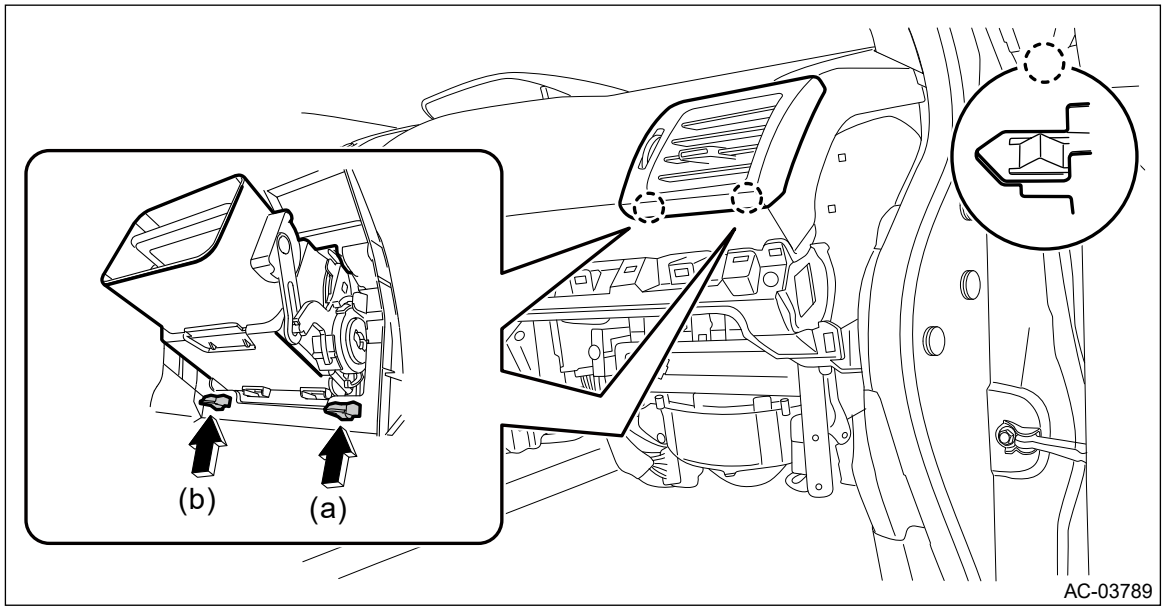
   For model with battery sensor, disconnect the ground terminal from battery sensor.

2. Remove the pocket assembly and the back panel - pocket. Ref. to EXTERIOR/INTERIOR TRIM>Glove Box>REMOVAL.
3. Remove the grille assembly - ventilation RH.

   Caution:

   - **When using a flat tip screwdriver, apply protective tape or cloth and be careful not to cause damage.**
   - **Do not pull the grille assembly - ventilation forcibly. Doing so may cause deformation or damage.**

   (1) Push the claw (a) on the outlet dial side upward from the back of the instrument panel assembly.
   (2) While pushing, pull the grille assembly - ventilation toward you to release the claw.
   (3) Release the other claw (b) in the same manner, then remove the grille assembly - ventilation RH.


(b)
(a)
AC-03789

INSPECTION

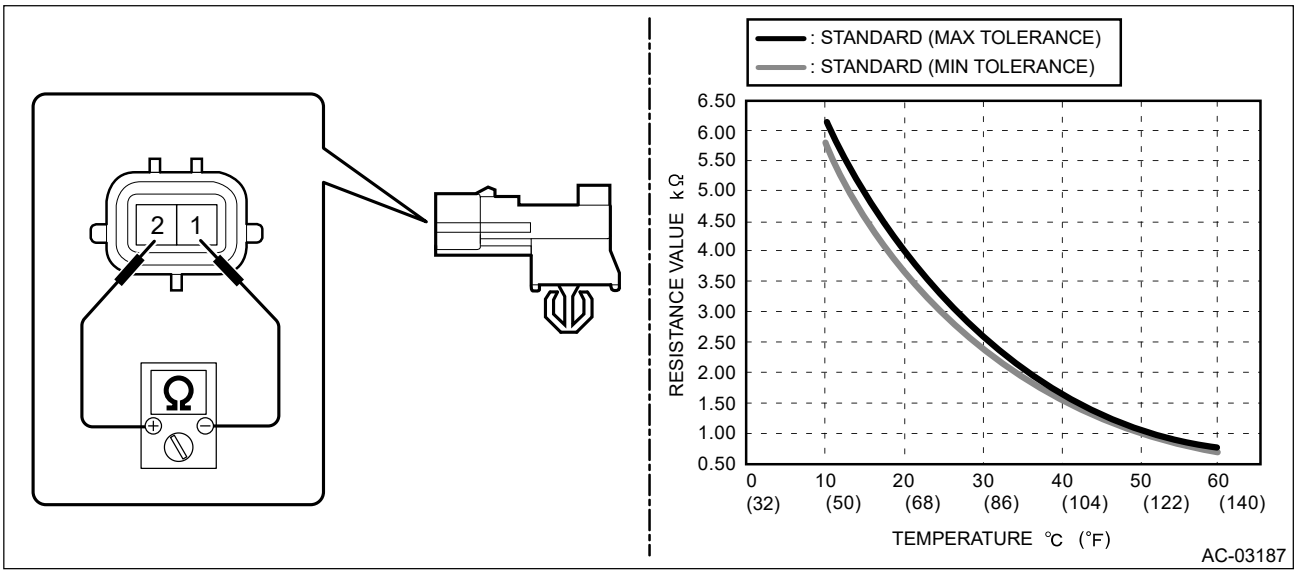
1. Visually check the ambient sensor for dirt or damage, and clean or replace as necessary.
2. Measure the resistance between connector terminals.

Caution:

During inspection, be careful not to touch the sensor end in order to avoid misjudgment due to body temperature.

Preparation tool:

Circuit tester



Terminal No.	Inspection conditions	Standard
1 — 2	10°C	5.82 — 6.18 kΩ
	15°C	4.58 — 4.87 kΩ
	20°C	3.64 — 3.86 kΩ
	25°C	2.91 — 3.09 kΩ
	30°C	2.35 — 2.49 kΩ
	35°C	1.9 — 2.02 kΩ
	40°C	1.56 — 1.65 kΩ
	45°C	1.28 — 1.36 kΩ
	50°C	1.06 — 1.12 kΩ
	55°C	0.88 — 0.93 kΩ
	60°C	0.74 — 0.78 kΩ

3. Replace the ambient sensor if the inspection result is not within the standard value.

INSTALLATION

1. Install each part in the reverse order of removal.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.

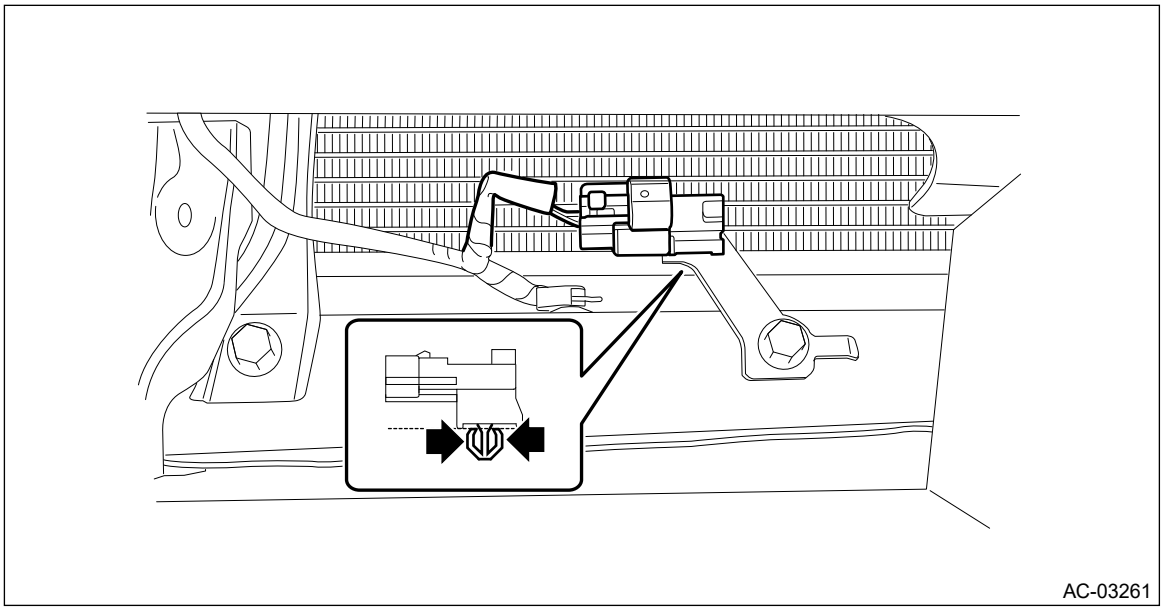
REMOVAL

1. Disconnect the ground cable from battery. Ref. to NOTE>NOTE > BATTERY.

   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.

2. Remove the ambient sensor.
   (1) Disconnect the connector.
   (2) Release the claws, and then remove the ambient sensor from the bracket.



INSTALLATION

1. Install each part in the reverse order of removal.
   Tightening torque:
   Blower motor unit: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>General Description>COMPONENT > BLOWER MOTOR UNIT.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.

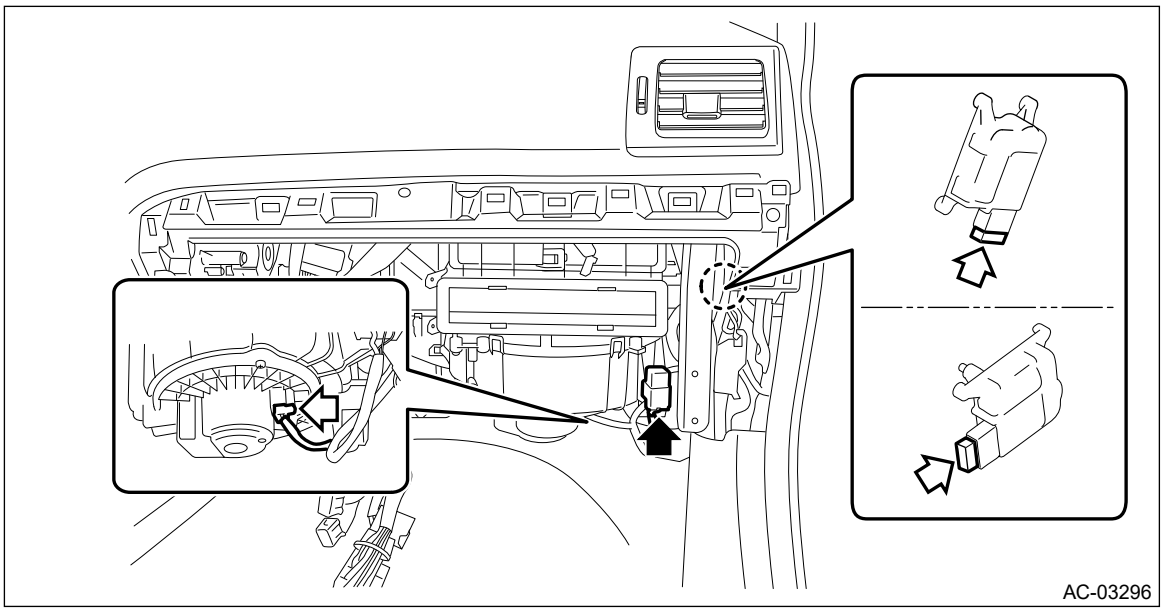
HVAC SYSTEM (HEATER, VENTILATOR AND A/C) > Blower Motor Unit Assembly

REMOVAL

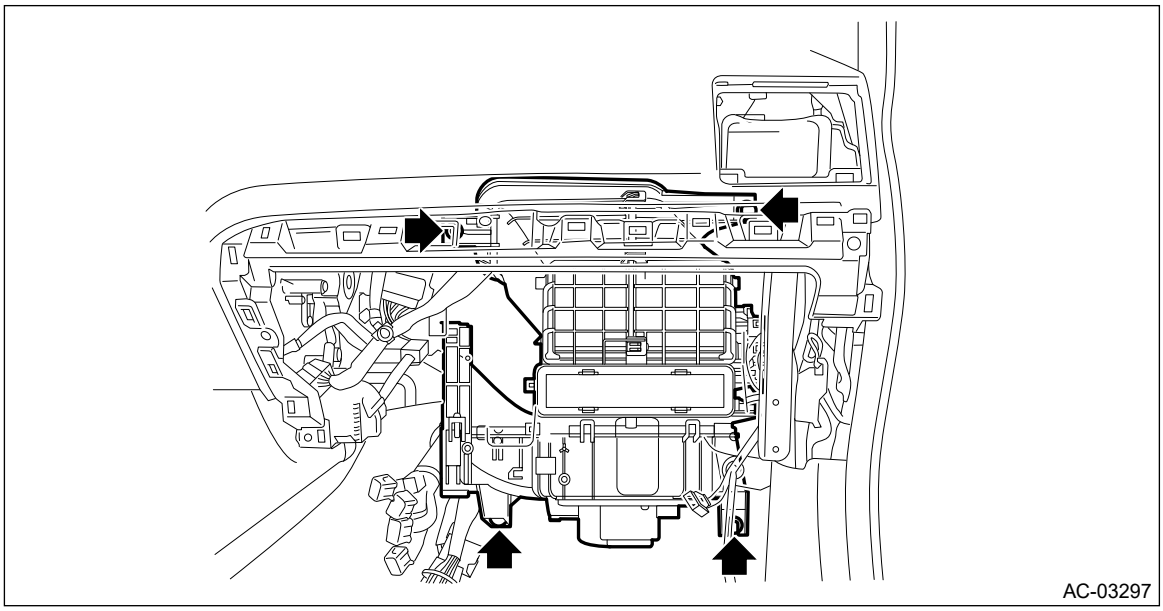
1. Disconnect the ground cable from battery. Ref. to NOTE>NOTE > BATTERY.

   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.
2. Remove the glove box. Ref. to EXTERIOR/INTERIOR TRIM>Glove Box>REMOVAL.
3. Remove the engine control module (ECM). (Non-turbo model) Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Engine Control Module (ECM)>REMOVAL.
4. Remove the blower motor unit assembly.
   (1) Disconnect the blower motor relay and each connector.

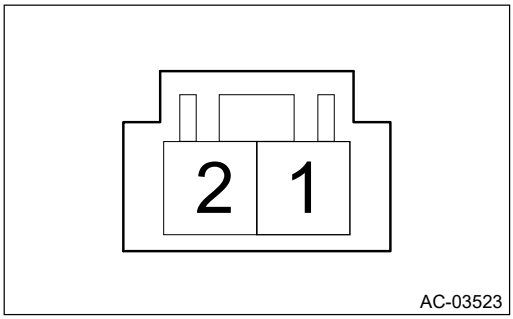


   (2) Remove the bolts and nuts to remove blower motor unit assembly.



INSPECTION

1. Check the motor operation when battery voltage is applied between the connector terminals.



Terminal No.	Inspection conditions	Specification
2 (+) — 1 (−)	Apply battery voltage.	Rotation

2. If it does not operate normally, replace the blower - motor.

INSTALLATION

1. Install each part in the reverse order of removal.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.

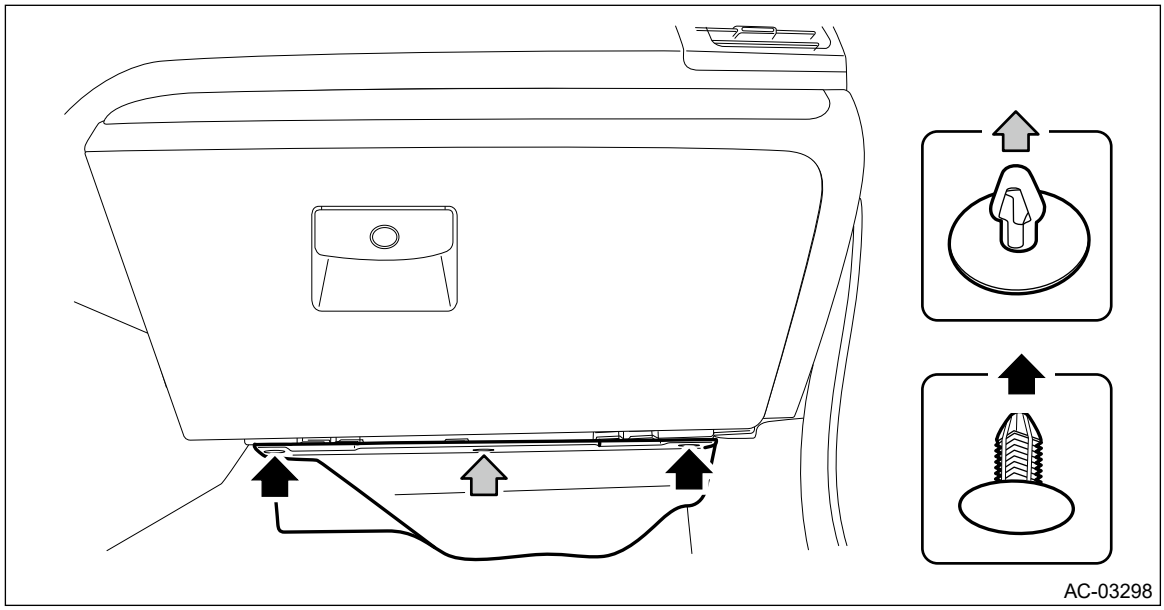
REMOVAL

1. Disconnect the ground cable from battery. Ref. to NOTE>NOTE > BATTERY.

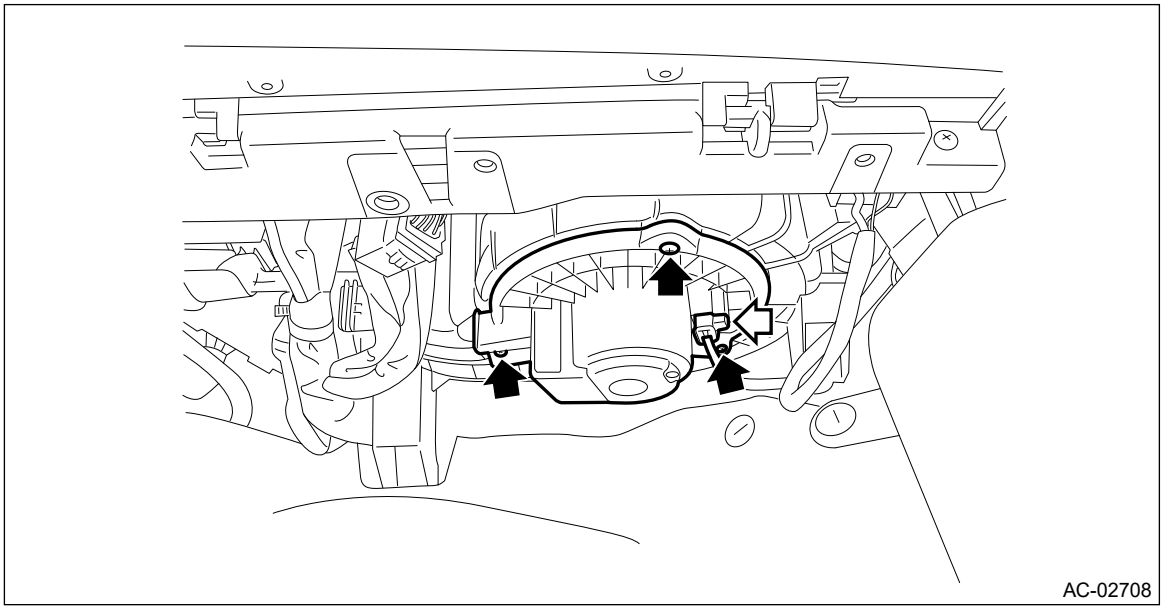
   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.

2. Release the clips, and remove the under cover assembly - passenger.



3. Remove the blower - motor.
   (1) Disconnect the connector.
   (2) Remove the screws and detach the blower - motor.

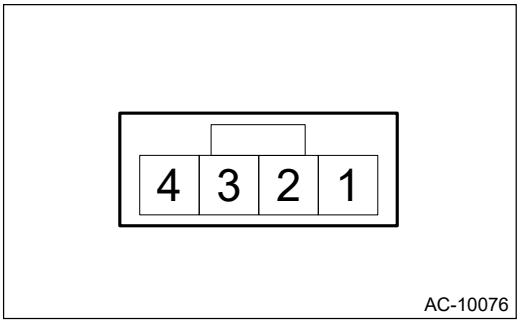


INSPECTION

1. Measure the resistance between connector terminals.

Preparation tool:

Circuit tester



Terminal No.	Inspection conditions	Standard
4 — 3	Always	Approx. 0.43 Ω
4 — 2		Approx. 1.03 Ω
4 — 1		Approx. 3 Ω

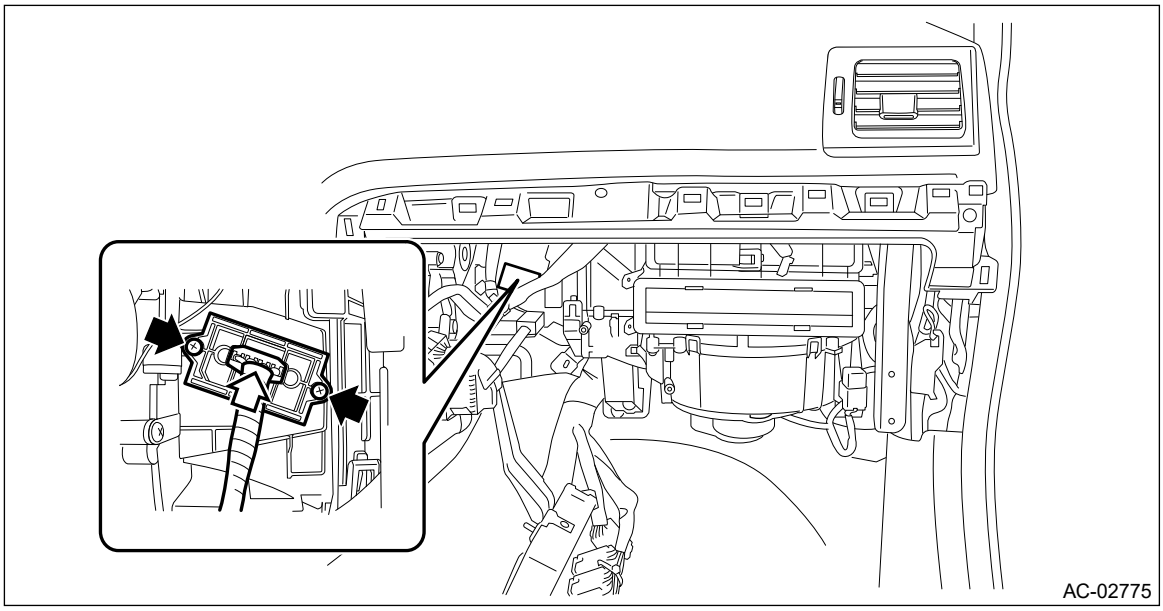
2. Replace the resistor if the inspection result is not within the standard.

INSTALLATION

1. Install each part in the reverse order of removal.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.

REMOVAL

1. Disconnect the ground cable from battery. Ref. to NOTE>NOTE > BATTERY.
   Note:
   For model with battery sensor, disconnect the ground terminal from battery sensor.
2. Remove the glove box. Ref. to EXTERIOR/INTERIOR TRIM>Glove Box>REMOVAL.
3. Remove the engine control module (ECM). (Non-turbo model) Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Engine Control Module (ECM)>REMOVAL.
4. Remove the resistor.
   (1) Disconnect the connector.
   (2) Remove the screw and remove the resistor.



ADJUSTMENT

- If a component has been replaced, add an appropriate amount of compressor oil (same as the amount of remaining oil in removed component).
- When replacing the compressor assembly, the new compressor assembly will already have the specified amount of oil in it. Adjust the oil amount (so that the amount remains the same as that of the removed compressor assembly) and install the new compressor assembly.

Note:

Since the hygroscopicity of compressor oil is high, perform this series of works quickly.

PROCEDURE

Note:

Before making repairs, perform the oil return operation to return the compressor oil in circulation with the refrigerant to the compressor assembly.

1. Increase the engine to 1,500 r/min.
2. Turn the A/C switch to ON.
3. Turn the temperature control dial to LO (MAX COOL).
4. Turn the FRESH/RECIRC switch to RECIRC position.
5. Turn the fan dial to HI (MAX).
6. Leave in this condition for 10 minutes.

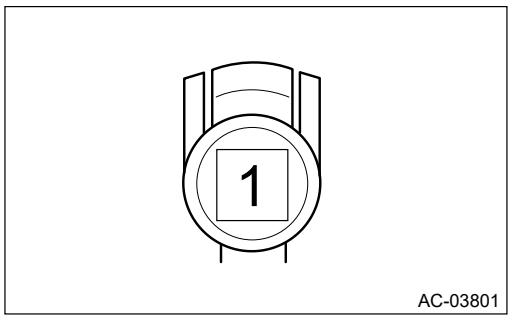
INSPECTION

1. MAGNET CLUTCH CLEARANCE INSPECTION

1. Check the clearance of entire circumference around the drive plate and pulley.
   Specification:
   0.3 — 0.6 mm (0.0118 — 0.0236 in)
2. Replace the compressor assembly if the inspection result is not within the standard.

2. MAGNET CLUTCH OPERATION INSPECTION

1. Check the magnet clutch operation when battery voltage is applied to the connector terminal.



Terminal No.	Inspection conditions	Specification
1 (+) — chassis ground (−)	Apply battery voltage.	Conclusion

2. If it does not operate normally, replace the compressor assembly.

INSTALLATION

Caution:

- **Replace the O-rings on the hose - pressure suction and discharge with new parts, and then apply compressor oil.**
- **After replacing the compressor assembly, adjust the amount of the compressor oil. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Compressor Oil>PROCEDURE.**

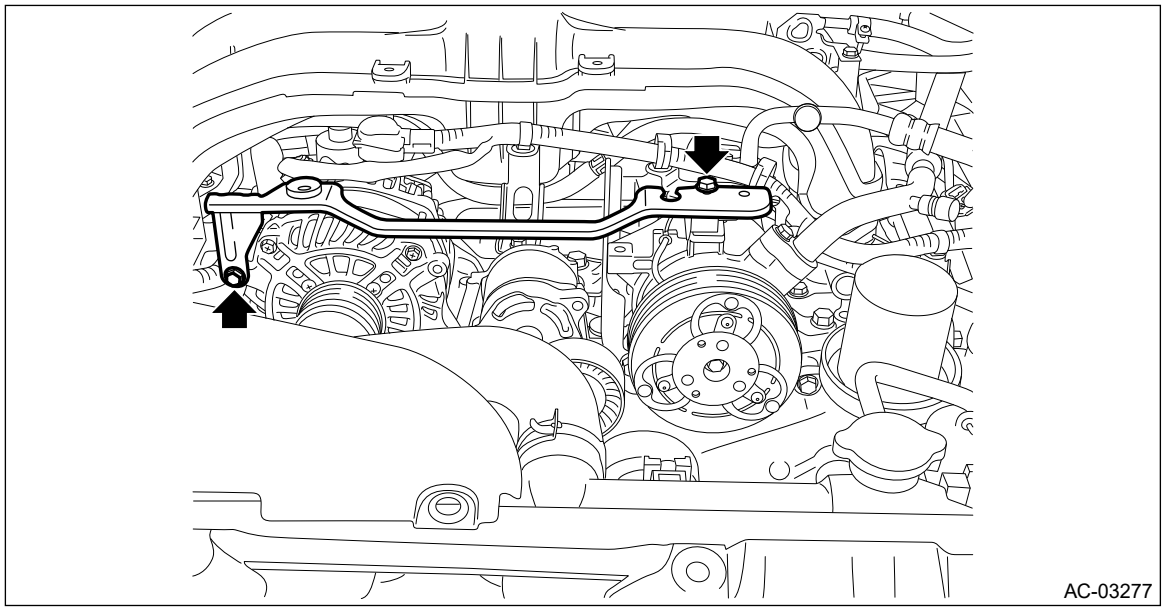
1. Install each part in the reverse order of removal.
   Tightening torque:
   Air conditioning unit: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>General Description>COMPONENT > AIR CONDITIONING UNIT.
   Compressor: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>General Description>COMPONENT > COMPRESSOR.
   V-belt cover bracket: Ref. to STARTING/CHARGING SYSTEMS(H4DO)>General Description>COMPONENT > GENERATOR BRACKET.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.
3. Charge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Charging Procedure>PROCEDURE.

REMOVAL

1. Perform compressor oil return operation. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Compressor Oil>PROCEDURE.
2. Turn the A/C switch to OFF and stop the engine.
3. Using the refrigerant recovery system, discharge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Recovery Procedure>PROCEDURE.
4. Disconnect the ground cable from battery. Ref. to NOTE>NOTE > BATTERY.

   Note:

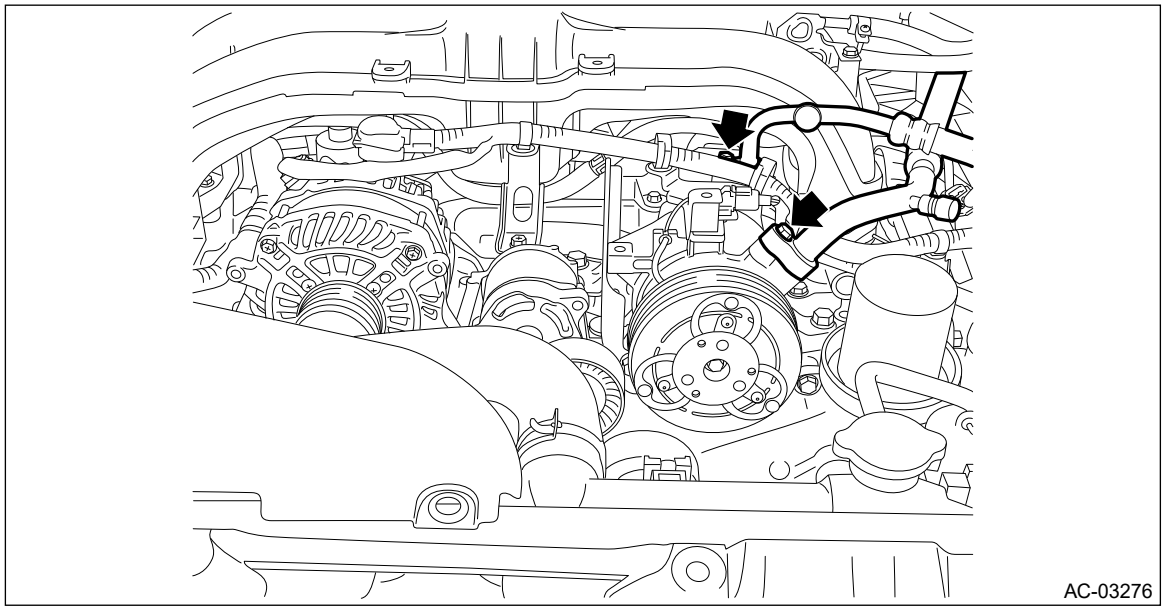
   For model with battery sensor, disconnect the ground terminal from battery sensor.
5. Remove the V-belts.
   - Non-turbo model: Ref. to MECHANICAL(H4DO)>V-belt>REMOVAL.
   - Turbo model: Ref. to MECHANICAL(H4DOTC)>V-belt>REMOVAL.
6. Remove the bolts and remove the V-belt cover bracket.



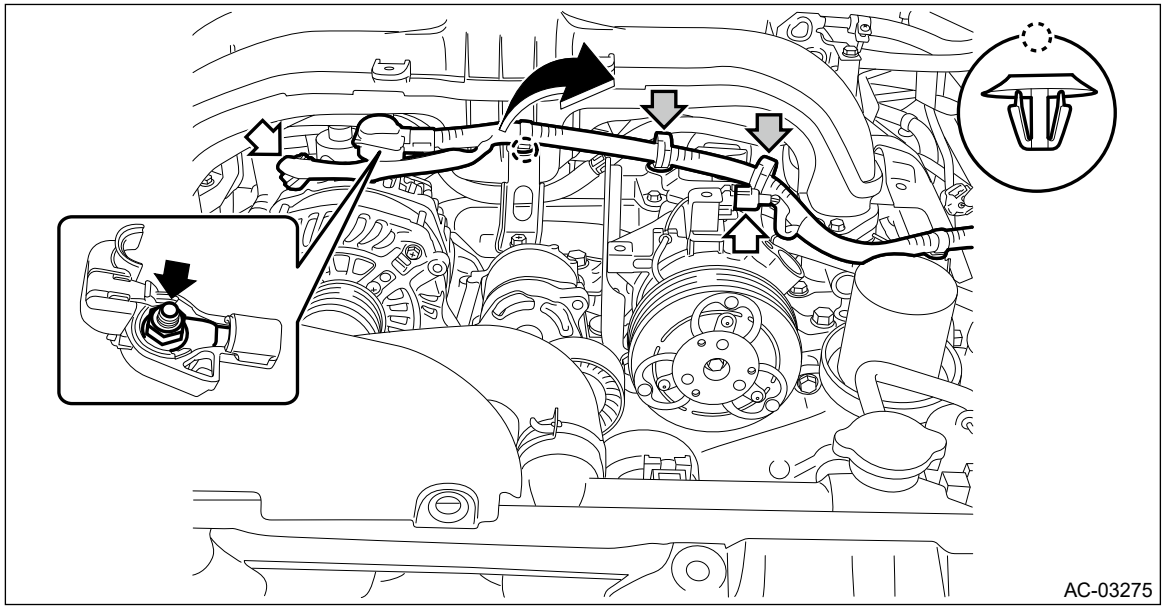
7. Remove the bolt, and detach the hose - pressure suction and the hose - pressure discharge.

   Caution:

   Seal the disconnected hose and engaging part of compressor with a plug or vinyl tape to prevent foreign matter from entering.



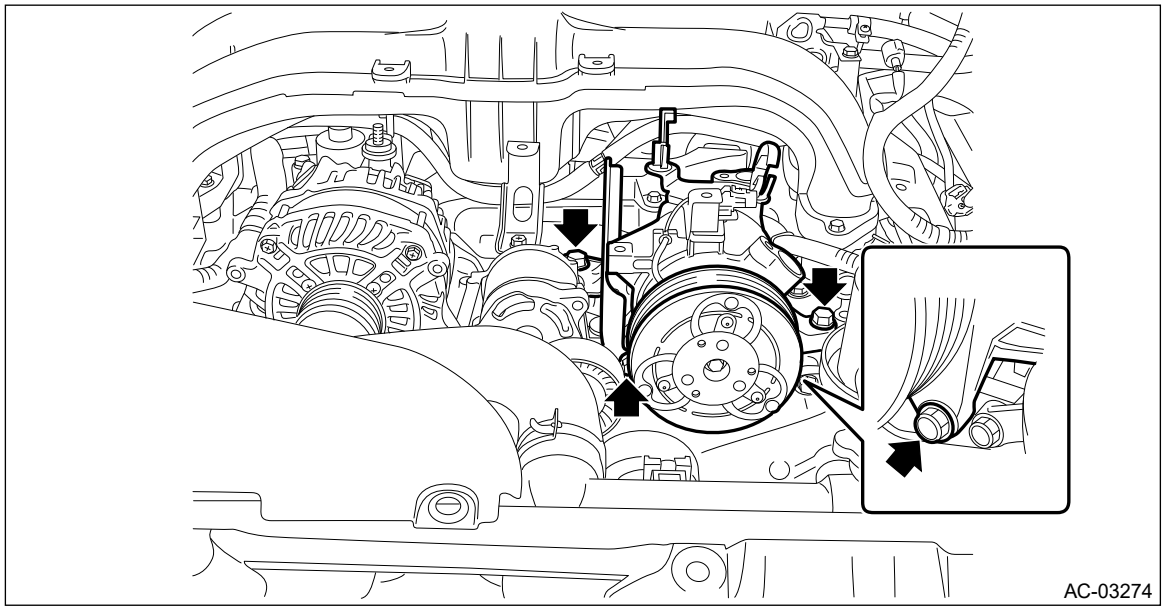
8. Disconnect the nut, washer, harness clams and each connector, and move the generator harness to the right.



9. Remove the bolts and remove the compressor assembly.

Note:

The hanger - engine front is tightened with the compressor assembly.


AC-03274

INSPECTION

1. Check to see that the condenser fins are not clogged with debris or insects. Blow with compressed air or flush fins with water as needed.
2. If any oil leak is found, replace the condenser assembly - air conditioner.

INSTALLATION

Caution:

- **If the condenser assembly - air conditioner has been replaced, add an appropriate amount of compressor oil. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Compressor Oil>ADJUSTMENT.**
- **Replace the O-rings with new parts, and then apply compressor oil.**

1. Install each part in the reverse order of removal.

Note:

To tighten the bolts at the bottom of the condenser, use the SPECIAL TOOL CONDENSER (ST).

Preparation tool:

ST: SPECIAL TOOL CONDENSER (73099SG000)

Tightening torque:

Air conditioning unit: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>General Description>COMPONENT > AIR CONDITIONING UNIT.

Radiator upper bracket: 12 N·m (1.22 kgf-m, 8.9 ft-lb)

Condenser (bolts at the bottom)

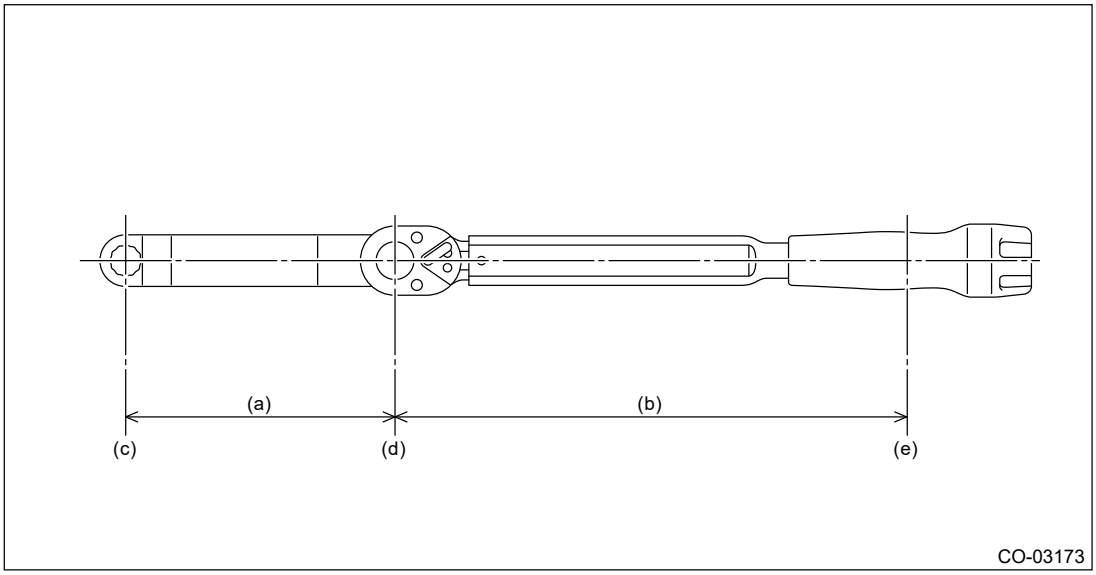
Calculation formula
T = L/(100 mm (3.94 in)+L) ×7.5 N·m (0.8 kgf-m, 5.5 ft-lb)

T: Tightening torque

L: Effective length of torque wrench

Note:

If the effective length of the torque wrench used is unknown, consult the manufacturer of the torque wrench.



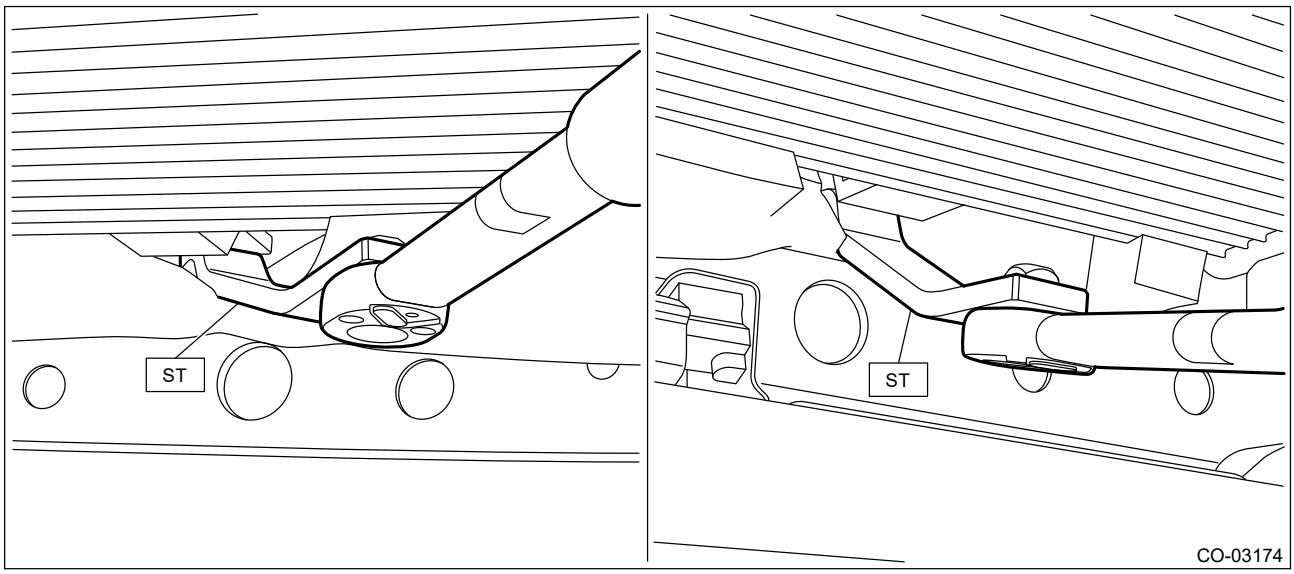
(a) Effective length of the ST

(b) Effective length of the torque wrench

(c) Center of drive angle of the ST

(d) Center of drive angle of the torque wrench

(e) Center of the position where a force is applied by hand



2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.
3. Charge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Charging Procedure>PROCEDURE.

REMOVAL

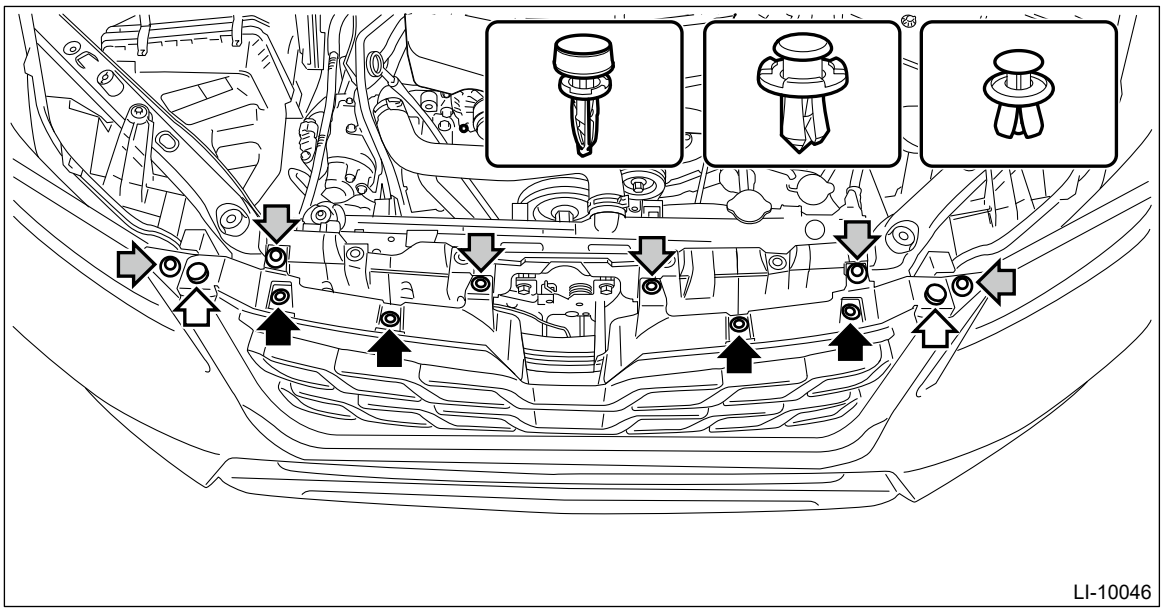
1. Disconnect the ground cable from battery. Ref. to NOTE>NOTE > BATTERY.

   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.

2. Using the refrigerant recovery system, discharge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Recovery Procedure>PROCEDURE.
3. Remove the air intake duct.
   - Non-turbo model: Ref. to INTAKE (INDUCTION)(H4DO)>Air Intake Duct>REMOVAL.
   - Turbo model: Ref. to INTAKE (INDUCTION)(H4DOTC)>Air Intake Duct>REMOVAL.
4. Remove the reservoir tank.
   - Non-turbo model: Ref. to COOLING(H4DO)>Reservoir Tank>REMOVAL.
   - Turbo model: Ref. to COOLING(H4DOTC)>Reservoir Tank>REMOVAL.
5. Remove the bracket - grille.

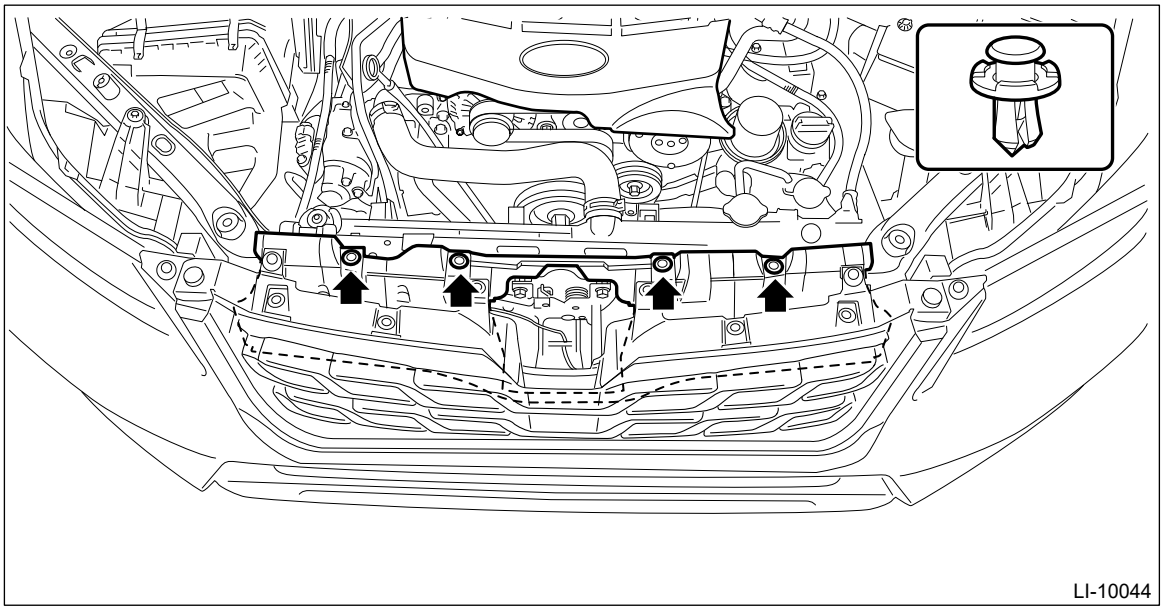
   (1) Remove each bumper clip.



   (2) Remove the clip, and remove the bracket - grille.

   Caution:

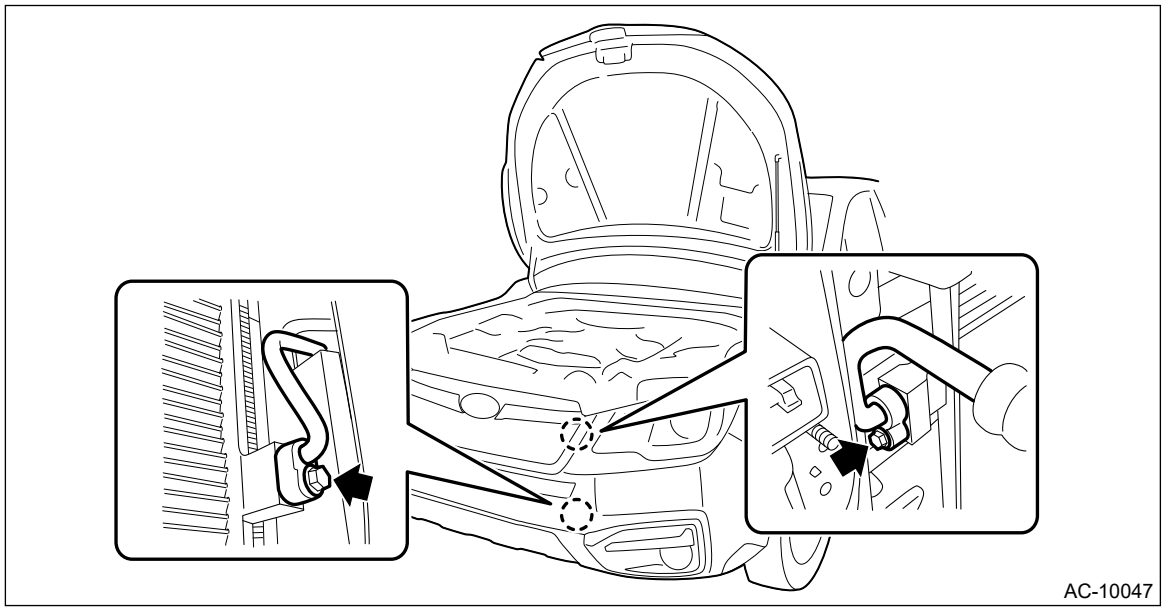
   Be careful not to damage the front grille assembly, etc.



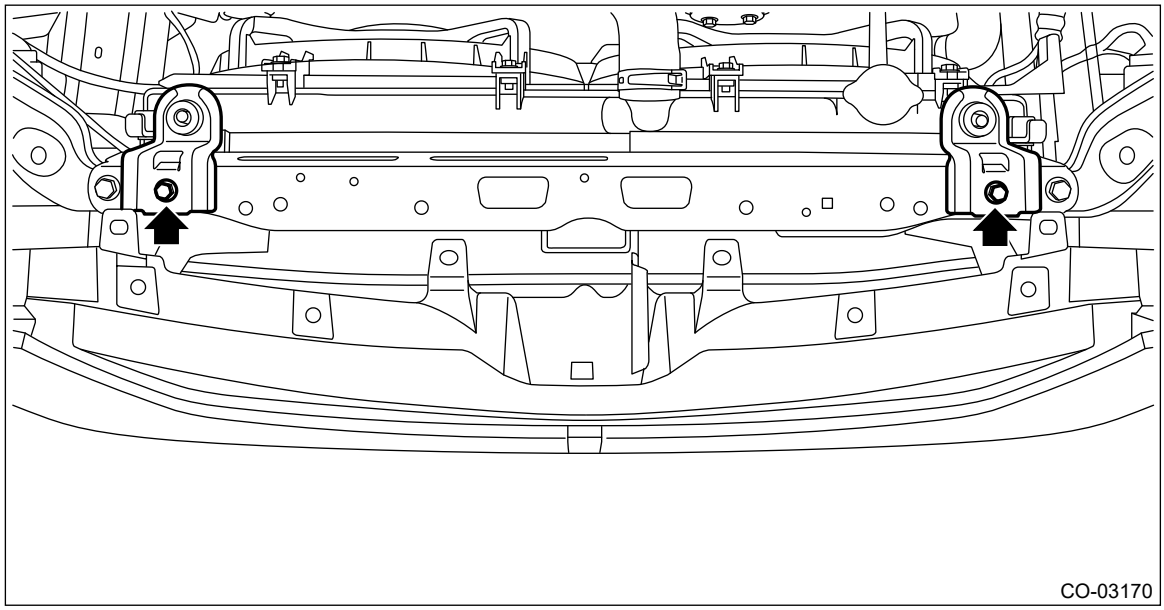
6. Remove the bolt, and disconnect the hose - pressure discharge and the pipe - evaporator cooling from the condenser assembly - air conditioner.

Caution:

Seal the disconnected hose, pipe and engaging part of condenser assembly with a plug or vinyl tape to prevent foreign matter from entering.

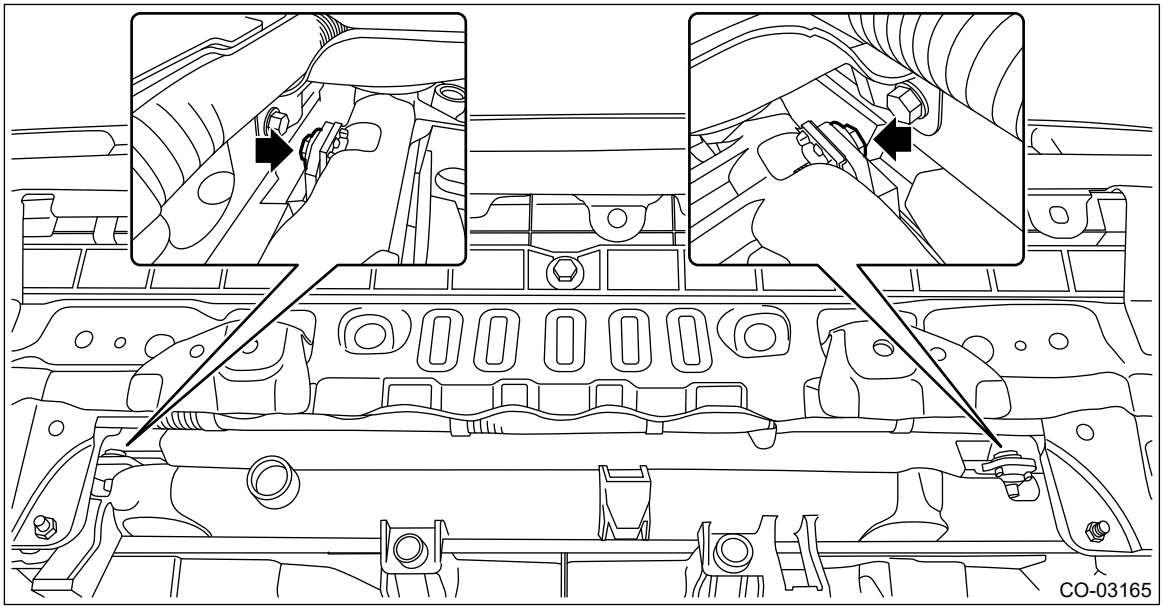


7. Remove the bolts and remove the radiator upper bracket.



8. Remove the condenser assembly - air conditioner.

(1) Remove the bolts at the bottom of the condenser.

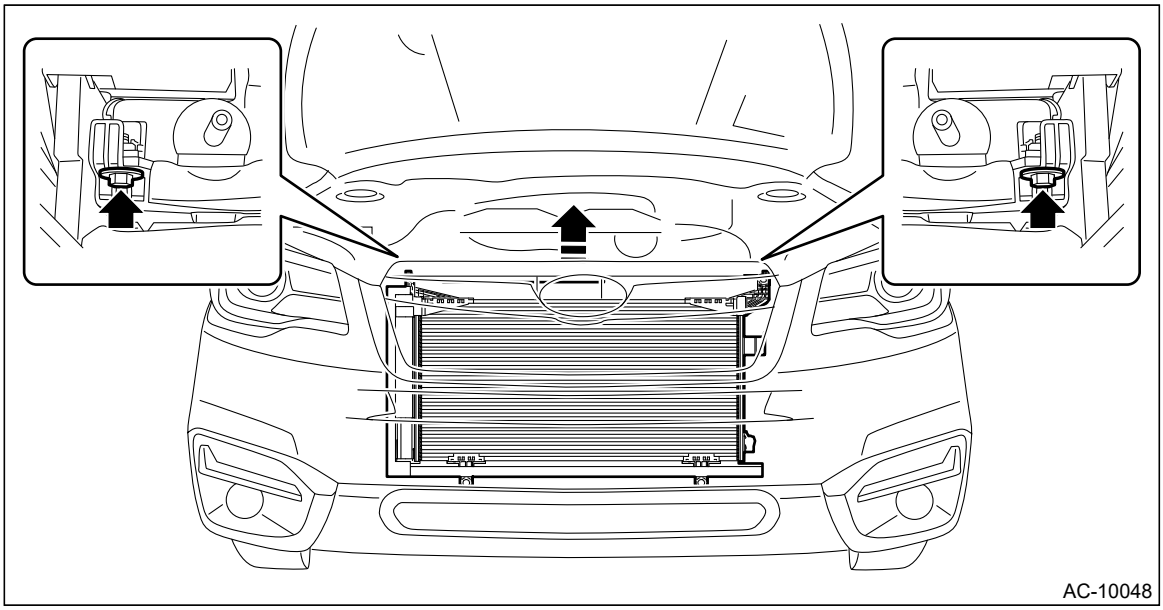


(2) Remove the bolts at the top of the condenser.

(3) By lifting the condenser assembly - air conditioner, pull it out through the space between the radiator and the radiator panel.

Caution:

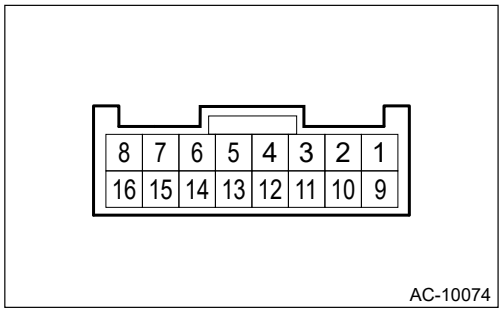
Be careful not to damage the condenser and radiator fin. If a damaged fin is found, repair it using a thin screwdriver.


AC-10048

INSPECTION

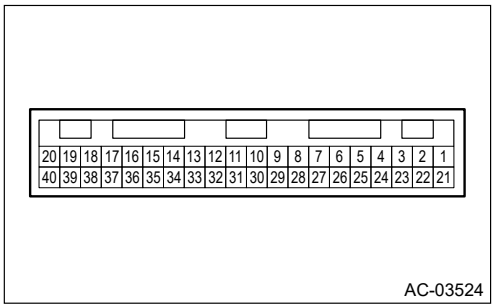
1. CHECK ILLUMINATION

1. Check the illumination operation when battery voltage is applied between the connector terminals.
   - Manual A/C model



Terminal No.	Inspection conditions	Specification
14 (+) — 12 (−)	Apply battery voltage.	Light On

   - Auto A/C model



Terminal No.	Inspection conditions	Specification
37 (+) — 35 (−)	Apply battery voltage.	Light On

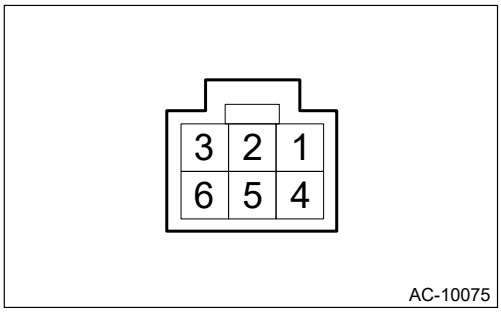
2. If it does not operate normally, replace the heater control assembly.

2. BLOWER SWITCH (MANUAL A/C MODEL)

1. Measure the resistance between connector terminals.

Preparation tool:

Circuit tester



Terminal No.	Inspection conditions	Standard
—	OFF	—

1 — 2, 4	Switch 1 (LO)	Less than 1 Ω
1 — 3, 4	Switch 2 (ML)	Less than 1 Ω
1 — 4, 6	Switch 3 (MH)	Less than 1 Ω
1 — 4, 5	Switch 4 (HI)	Less than 1 Ω

2. Replace the heater control assembly if the inspection result is not within the standard.

INSTALLATION

Caution:

- **After installing the center grille assembly, check that the air vent grille of the center grille assembly is inserted correctly into the air vent duct.**
- **Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.**

1. Install each part in the reverse order of removal.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.

REMOVAL

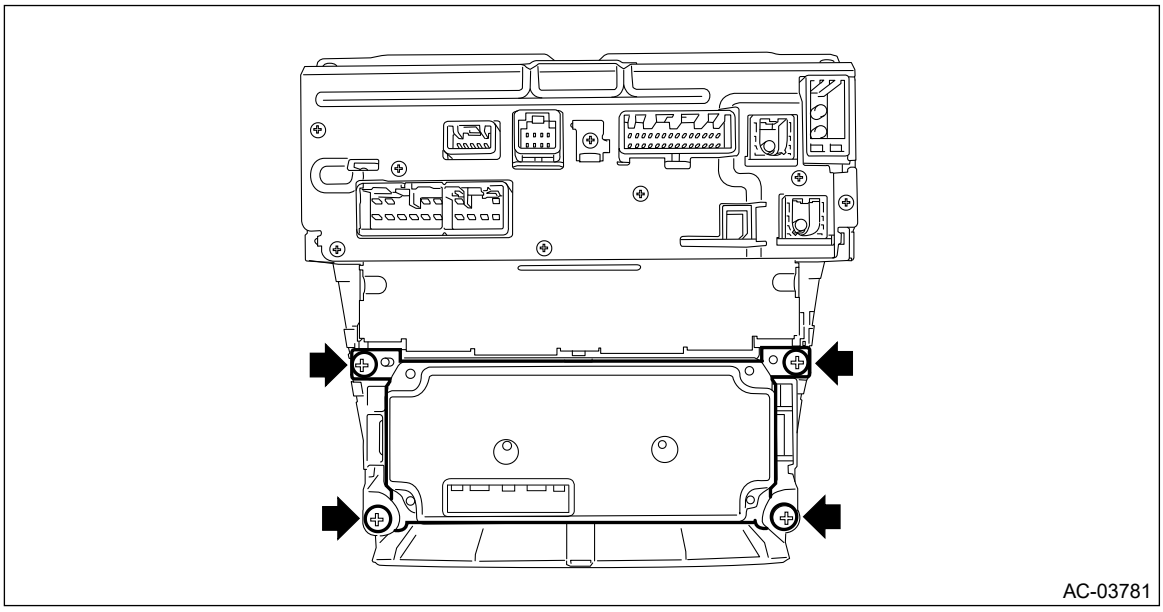
Caution:

Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

1. Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. Ref. to NOTE>NOTE > BATTERY.

   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.
2. Remove the cover assembly - instrument panel LWR driver. Ref. to EXTERIOR/INTERIOR TRIM>Instrument Panel Lower Cover>REMOVAL.
3. Remove the knee airbag module. Ref. to AIRBAG SYSTEM>Knee Airbag Module>REMOVAL.
4. Remove the glove box. Ref. to EXTERIOR/INTERIOR TRIM>Glove Box>REMOVAL.
5. Remove the center grille assembly. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Air Vent Grille>REMOVAL > CENTER GRILLE ASSEMBLY.
6. Remove the audio assembly or navigation assembly. Ref. to ENTERTAINMENT>Audio>REMOVAL.
7. Remove the screws to remove the heater control assembly.



Note:

For manual A/C model, refer to the instructions above to remove.

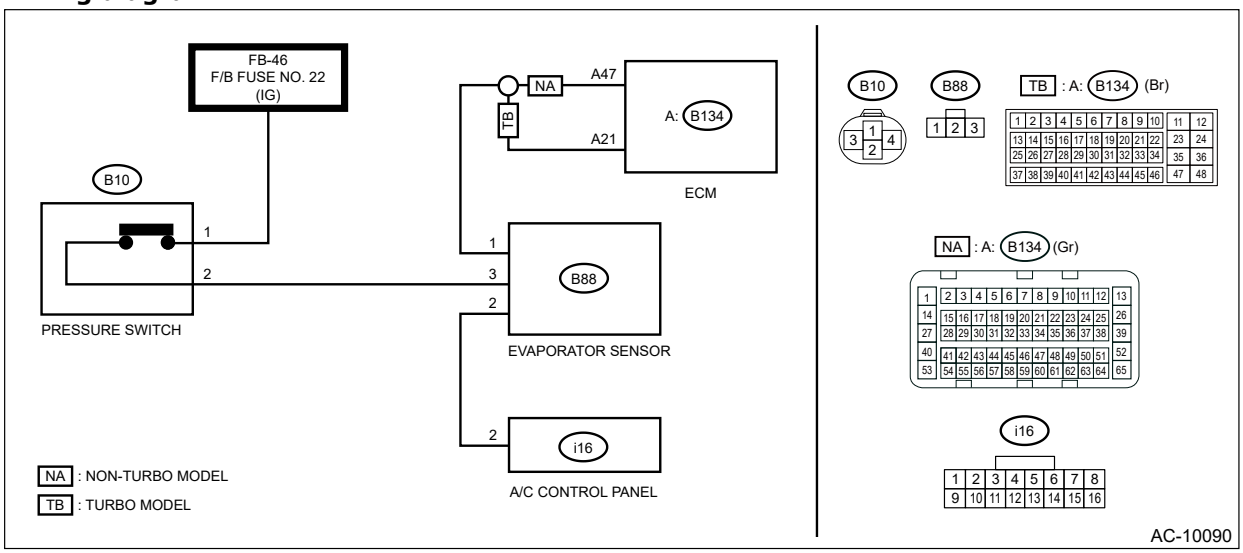
INSPECTION

Refer to “Diagnostics with Phenomenon” of “AIR CONDITIONER (DIAGNOSTICS)”. Ref. to AIR CONDITIONER(DIAGNOSTICS)>Diagnostics with Phenomenon.

INSPECTION

1. MANUAL A/C MODEL

Wiring diagram:



1. Prepare the vehicle.

Note:

Check that the ambient temperature is 25 — 40°C (77 — 104°F) and that the humidity is 30 — 80%.

- Place the vehicle in the workshop or in the shade and windless condition.
- Open all windows.

2. Set the vehicle to the following conditions and idle the engine for 15 minutes.

Item	Condition
Engine	Idling
Air vent grille	Shutter is fully open.
A/C switch	OFF
Temperature adjustment dial	LO (MAX COOL)
FRESH/RECIRC switch	RECIRC
Air flow control dial	VENT
Fan dial	3/4 level

3. Check evaporator sensor power supply input

Preparation tool:

Circuit tester

(1) Turn the ignition switch to OFF.

(2) Disconnect the evaporator sensor connector.

(3) Turn the ignition switch to ON.

(4) Measure the voltage between evaporator sensor connector and chassis ground.

Connector & terminal

(B88) No. 3 (+) — Chassis ground (−):

(5) Is the voltage approx. 12 V?

- **Yes** → Go to step 4.
- **No** → Repair or replace the harness.

4. Check evaporator sensor ground circuit
   (1) Turn the ignition switch to OFF.
   (2) Check continuity between evaporator sensor connector and chassis ground.
      Connector & terminal
        (B88) No. 2 — Chassis ground:
   (3) Is there continuity?
      - **Yes** → Go to step 6.
      - **No** → Go to step 5.
5. Check open circuit in evaporator sensor ground circuit
   (1) Disconnect the control panel connector.
   (2) Check continuity between evaporator sensor connector and control panel connector.
      Connector & terminal
        (B88) No. 2 — (i16) No. 2:
   (3) Is there continuity?
      - **Yes** → Replace the control panel.
      - **No** → Repair or replace the harness.
6. Check evaporator sensor signal output
   (1) Connect the evaporator sensor connector and the control panel connector.
   (2) Disconnect the engine control module (ECM) connector.
   (3) Turn the ignition switch to ON.
   (4) Turn the A/C switch to ON.
   (5) Measure the voltage between engine control module (ECM) connector and chassis ground.
      Connector & terminal
        Non-turbo model
          (B134) No. 47 (+) — Chassis ground (−):
        Turbo model
          (B134) No. 21 (+) — Chassis ground (−):
   (6) Is the voltage approx. 8 V or more?
      - **Yes** → Evaporator sensor is normal.
      - **No** → Go to step 7.
7. Check open circuit in evaporator sensor signal output circuit
   (1) Turn the ignition switch to OFF.
   (2) Disconnect the evaporator sensor connector.
   (3) Check continuity between evaporator sensor connector and engine control module (ECM) connector.
      Connector & terminal
        Non-turbo model
          (B88) No. 1 — (B134) No. 47:
        Turbo model
          (B88) No. 1 — (B134) No. 21:
   (4) Is there continuity?
      - **Yes** → Replace the evaporator sensor.
      - **No** → Repair or replace the harness.

2. AUTO A/C MODEL

1. Prepare the vehicle.
   Note:
   Check that the ambient temperature is 25 — 40°C (77 — 104°F) and that the humidity is 30 — 80%.
   - Place the vehicle in the workshop or in the shade and windless condition.
   - Open all windows.

2. Set the vehicle to the following conditions.

Item	Condition
Engine	Idling
Air vent grille	Shutter is fully open.
A/C switch	{OFF}
Temperature adjustment dial	LO (MAX COOL)
FRESH/RECIRC switch	RECIRC
Air flow control dial or switch	VENT
Fan dial	5/7 level

3. Check the [Evaporator Temperature] using Subaru Select Monitor.

Note:

For detailed operation procedures, refer to "Application help".

(1) On [Start] display, select [Diagnosis].
(2) On [Vehicle selection] display, enter vehicle information and select [OK].
(3) On [Main Menu] display, select [Each System].
(4) On [Select System] display, select [Air Conditioner], and then select [Enter].
(5) On [Select Function] display, select [Data monitor].
(6) From the data monitor item list, select [Evaporator Temperature].
(7) Idle the engine for 15 minutes, and then compare the air flow outlet temperature with [Evaporator Temperature].

Preparation tool:

Thermometer and hygrometer

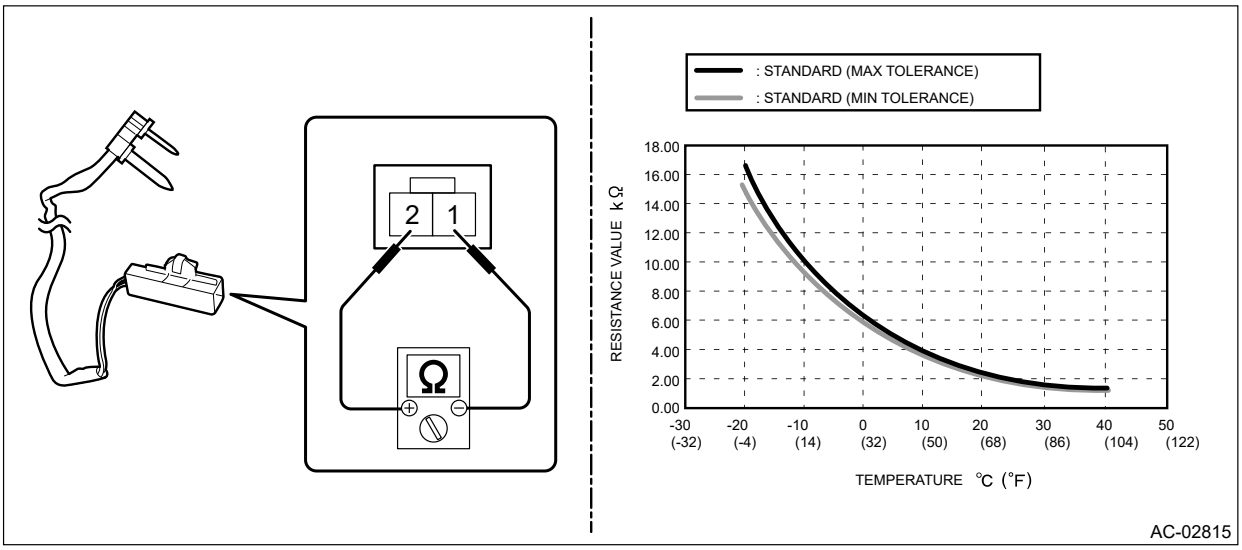
Note:

For outlet opening temperature, measure the average temperature of center grille assembly and side grille assembly.

(8) Is the difference between outlet opening temperature and [Evaporator Temperature] by 3°C (5.4°F) or more?
- **Yes** → Go to step 4.
- **No** → Evaporator sensor is normal.

4. Check the evaporator sensor.

(1) Disconnect the connector.
(2) Measure the resistance between connector terminals.



Terminal No.	Inspection conditions	Standard

1 — 2	−20°C	15.37 — 16.62 kΩ
	−15°C	12.09 — 12.87 kΩ
	−10°C	9.576 — 10.05 kΩ
	−5°C	7.636 — 7.899 kΩ
	0°C	6.132 — 6.256 kΩ
	5°C	4.891 — 5.057 kΩ
	10°C	3.928 — 4.113 kΩ
	15°C	3.174 — 3.366 kΩ
	20°C	2.581 — 2.77 kΩ
	25°C	2.111 — 2.292 kΩ
	30°C	1.737 — 1.907 kΩ
	35°C	1.437 — 1.595 kΩ
	40°C	1.195 — 1.34 kΩ

(3) Is the resistance within the standard?

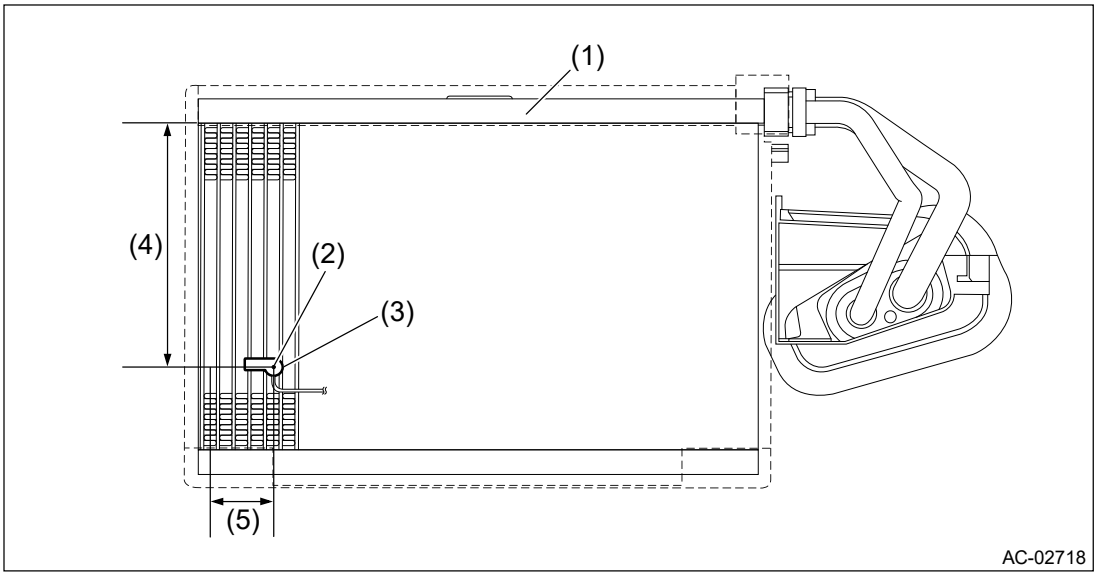
- **Yes** → Evaporator sensor is normal.
- **No** → Replace the evaporator sensor.

INSTALLATION

Caution:

- **Make sure that the water seal packing on the cover attachment area is securely attached.**
- **Replace the O-rings with new parts, and then apply compressor oil.**
- **Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.**

1. Install the thermostat - cooling at the position shown in the figure below.



(1) Evaporator ASSY - cooling
(2) CENTER
(3) Thermostat - cooling
(4) 130 mm (5.12 in) from the upper end of the fins
(5) Fifth row fin from the left end

2. Install each part in the reverse order of removal.
3. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.
4. Charge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Charging Procedure>PROCEDURE.

REMOVAL

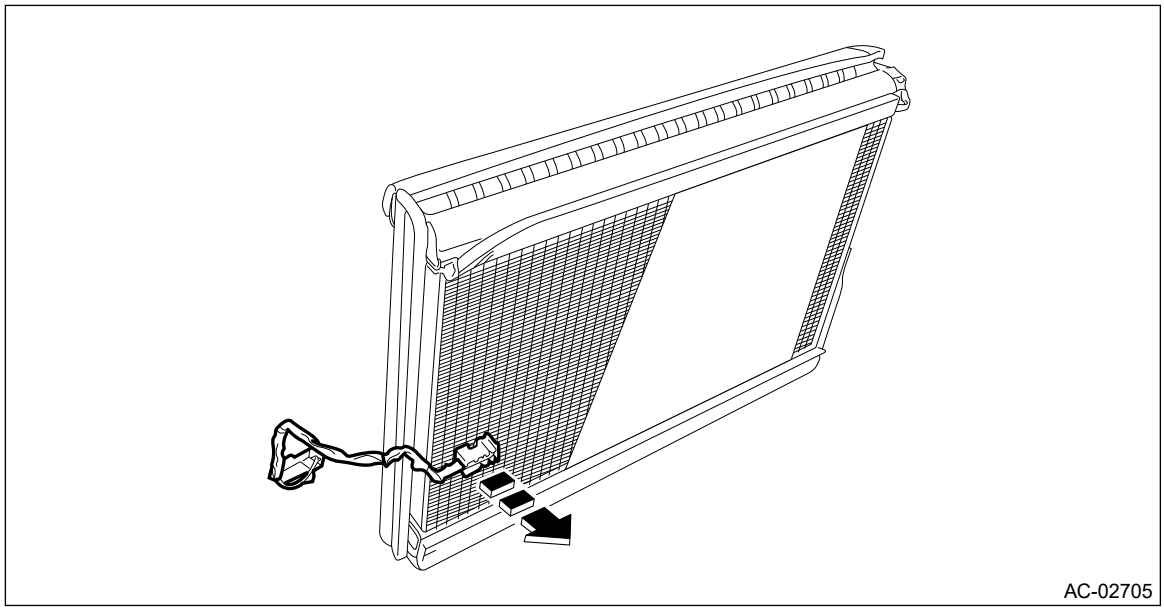
Caution:

Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

1. Disconnect the ground cable from battery. Ref. to NOTE>NOTE > BATTERY.

   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.
2. Remove the evaporator assembly - cooling. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Evaporator>REMOVAL.
3. Remove the thermostat - cooling from the evaporator assembly - cooling.



INSPECTION

1. Check the evaporator fin for dust. Blow with compressed air or flush fins with water as needed.
2. If any oil leak is found, replace the evaporator assembly - cooling.

INSTALLATION

Caution:

- **If the evaporator assembly - cooling has been replaced, add an appropriate amount of compressor oil. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Compressor Oil>ADJUSTMENT.**
- **When the evaporator assembly - cooling has been replaced, replace the packing of the expansion valve - cooling with a new one, and then apply compressor oil.**
- **Make sure that the water seal packing on the cover attachment area is securely attached.**
- **Replace the O-rings with new parts, and then apply compressor oil.**
- **Before handling the airbag system components, refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.**

1. Install the thermostat - cooling to the specified position. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Evaporator Sensor>INSTALLATION.
2. Install each part in the reverse order of removal.
   Tightening torque:
   Heater and cooling unit: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>General Description>COMPONENT > HEATER AND COOLING UNIT.
3. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.
4. Charge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Charging Procedure>PROCEDURE.

REMOVAL

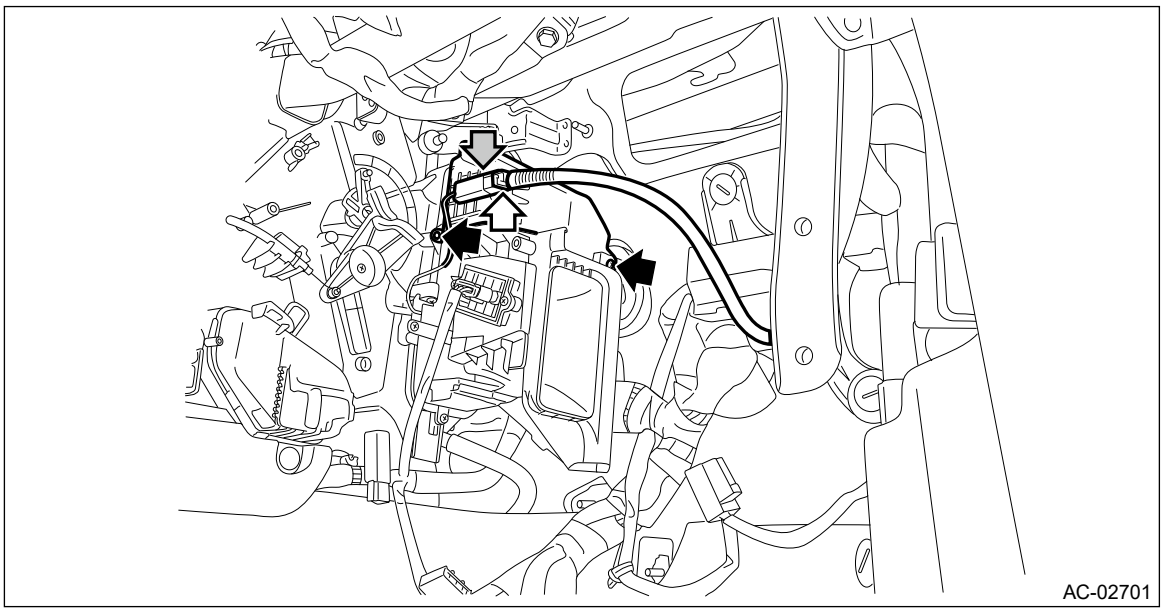
Caution:

Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

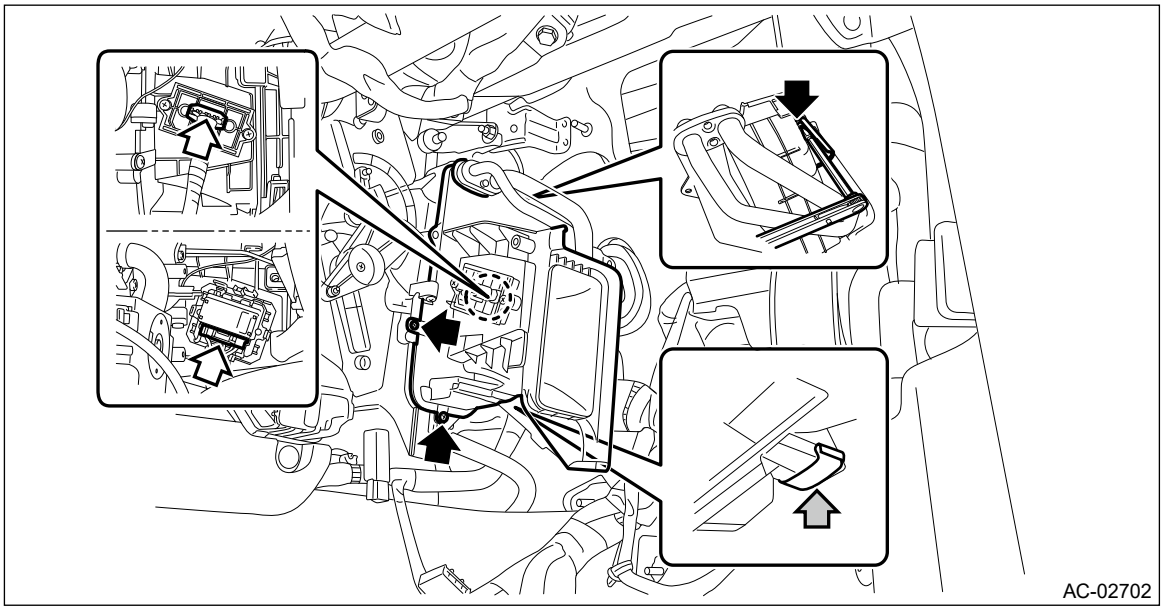
1. Disconnect the ground cable from battery. Ref. to NOTE>NOTE > BATTERY.

   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.
2. Using the refrigerant recovery system, discharge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Recovery Procedure>PROCEDURE.
3. Remove the expansion valve - cooling. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Expansion Valve>REMOVAL.
4. Remove the glove box. Ref. to EXTERIOR/INTERIOR TRIM>Glove Box>REMOVAL.
5. Remove the engine control module (ECM). (Non-turbo model) Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Engine Control Module (ECM)>REMOVAL.
6. Remove the blower motor unit assembly. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Blower Motor Unit Assembly>REMOVAL.
7. Remove the evaporator assembly - cooling.
   (1) Disconnect the connector and lock of the thermostat - cooling.
   (2) Remove the screws and detach the cover.



   (3) Remove the cover - heater unit.
      a. Disconnect the connector for the power transistor or resistor.
      b. Remove the screws and clips to remove the cover - heater unit.



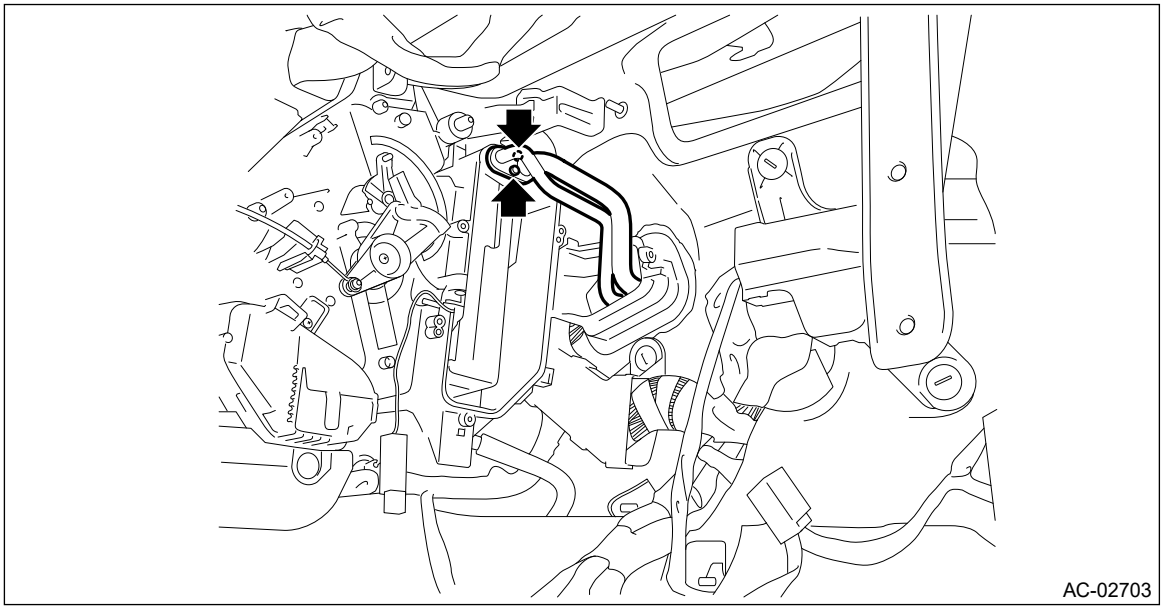
(4) Remove the bolt, and detach the pipe - evaporator core.

Caution:

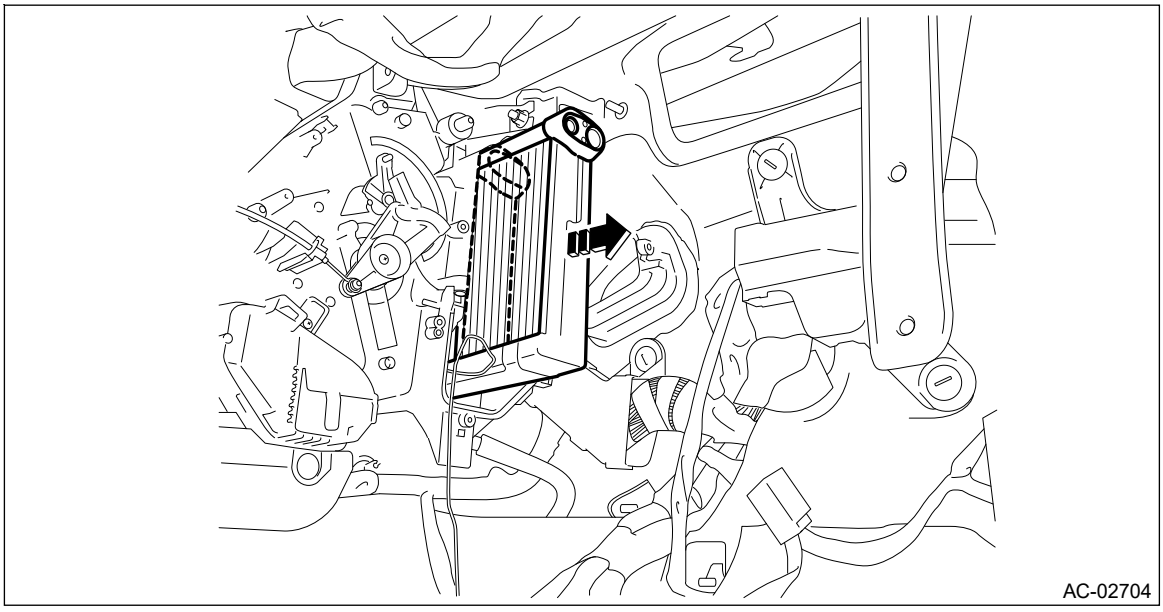
Seal the disconnected pipe and engaging part of evaporator assembly with a plug or vinyl tape to prevent foreign matter from entering.

Preparation tool:

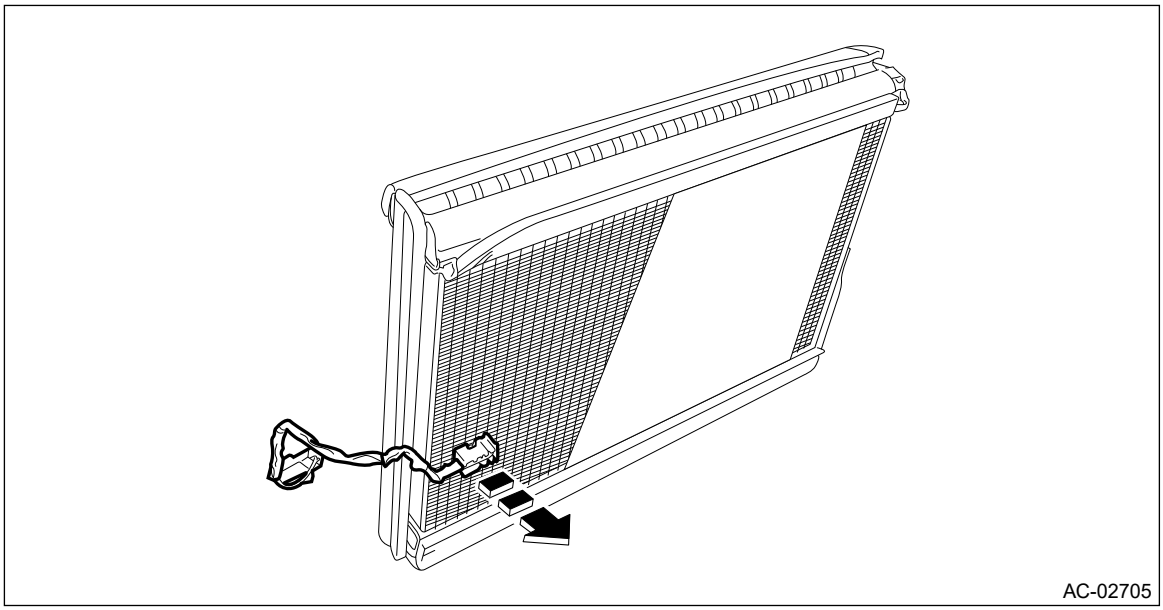
Hexagon wrench: 4 mm (0.16 in)



(5) Pull out the evaporator assembly - cooling from the case - heater unit.



(6) Remove the thermostat - cooling from the evaporator assembly - cooling.



HVAC SYSTEM (HEATER, VENTILATOR AND A/C) > Expansion Valve

INSTALLATION

Caution:

Replace the O-rings with new parts, and then apply compressor oil.

1. Install each part in the reverse order of removal.
   Tightening torque:
   Heater and cooling unit: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>General Description>COMPONENT > HEATER AND COOLING UNIT.
   Air conditioning unit: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>General Description>COMPONENT > AIR CONDITIONING UNIT.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.
3. Charge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Charging Procedure>PROCEDURE.

REMOVAL

1. Disconnect the ground cable from battery. Ref. to NOTE>NOTE > BATTERY.

   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.

2. Using the refrigerant recovery system, discharge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Recovery Procedure>PROCEDURE.
3. Remove the air intake boot. (Non-turbo model) Ref. to INTAKE (INDUCTION)(H4DO)>Air Intake Boot>REMOVAL.

   Caution:

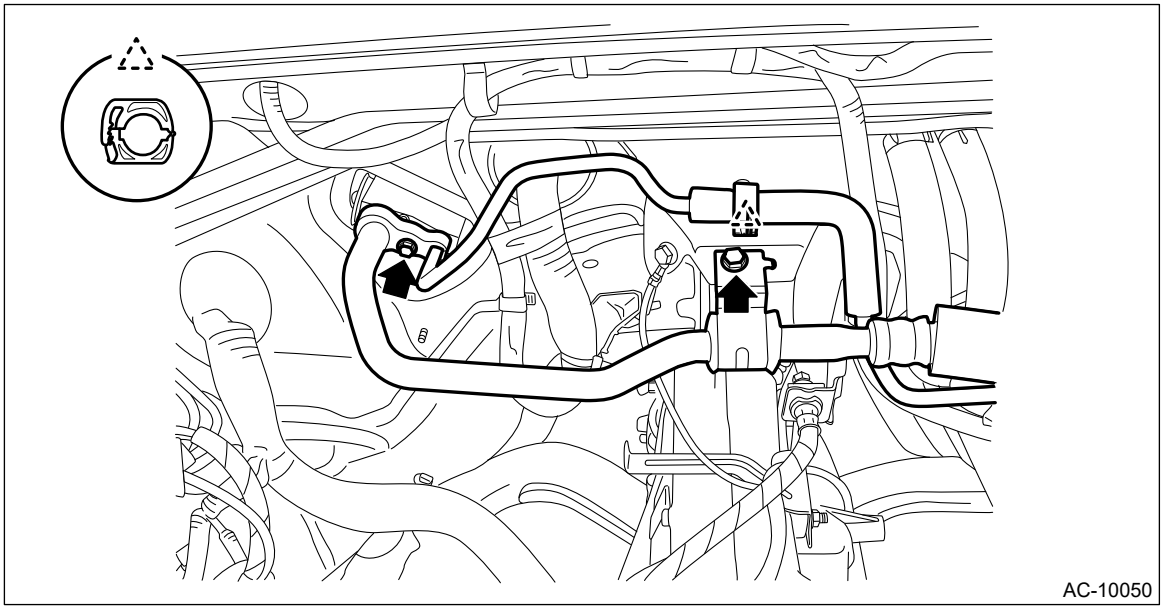
   Move aside the air intake boot to perform the operation without disconnecting the PCV hose.

4. Remove the intercooler. (Turbo model) Ref. to INTAKE (INDUCTION)(H4DOTC)>Intercooler>REMOVAL.
5. Remove the expansion valve - cooling.

   (1) Remove the bolt, and detach the hose - pressure suction and the pipe - evaporator cooling.

   Caution:

   Seal the disconnected hose, pipe and engaging part of expansion valve with a plug or vinyl tape to prevent foreign matter from entering.



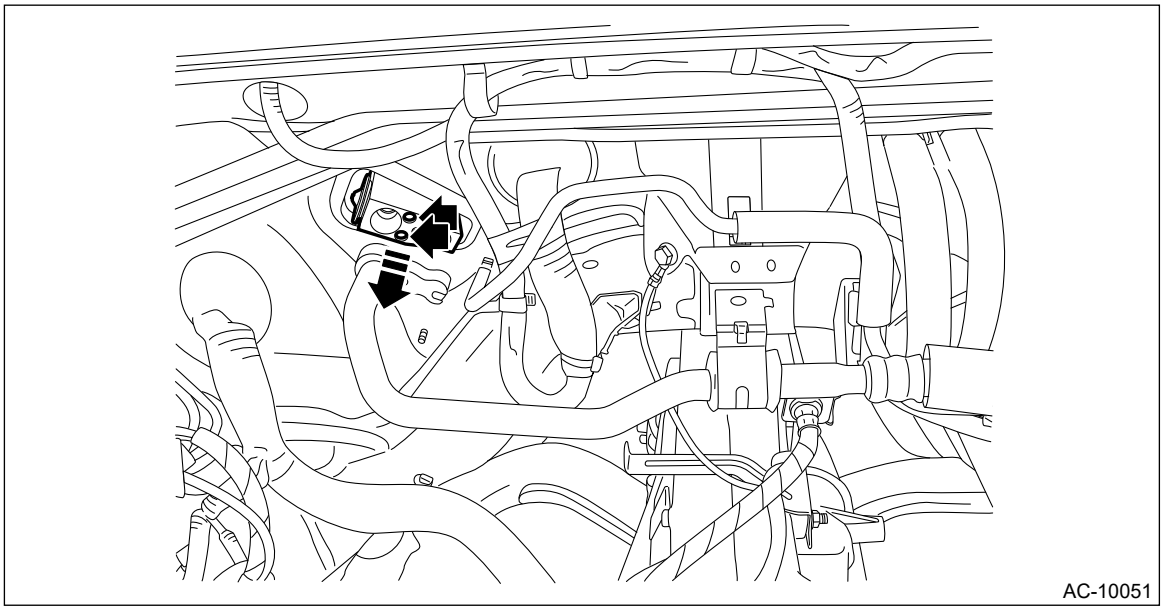
   (2) Remove the bolt, and remove the expansion valve - cooling.

   Caution:

   Seal the pipe and engaging part of expansion valve with a plug or vinyl tape to prevent foreign matter from entering.

   Preparation tool:

   Hexagon wrench: 4 mm (0.16 in)



AC-10051

INSPECTION

1. CHECK LINK

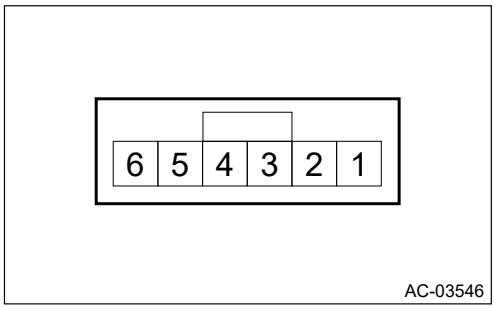
1. Visually check the operating range of the link, and remove the foreign matter if any.
2. Operate the FRESH/RECIRC switch, and check that the link operates normally.
3. If it does not operate normally as the result of inspection, check the motor - actuator blower.

2. CHECK ACTUATOR

1. Check the actuator operation when battery voltage is applied between the connector terminals.

Caution:

Perform inspection with the actuator installed to the blower motor unit assembly to avoid damage to the motor. When the operation stops, immediately remove the battery.



- Manual A/C model

Terminal No.	Inspection conditions	Operating position
5 (+) — 1 (−)	Apply battery voltage.	RECIRC
1 (+) — 5 (−)		FRESH

- Auto A/C model

Terminal No.	Inspection conditions	Operating position
1 (+) — 2 (−)	Apply battery voltage.	RECIRC
2 (+) — 1 (−)		FRESH

2. If it does not operate normally as the result of inspection, replace the motor - actuator blower.

INSTALLATION

Caution:

Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

1. Install each part in the reverse order of removal.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.

HVAC SYSTEM (HEATER, VENTILATOR AND A/C) > FRESH/RECIRC Door Actuator

REMOVAL

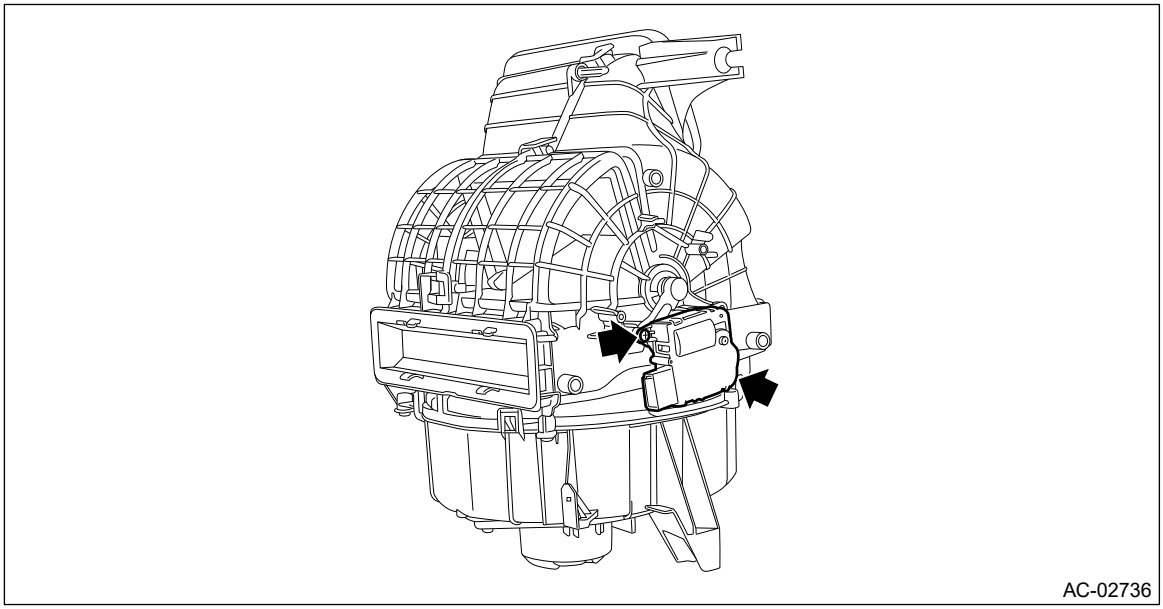
Caution:

Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

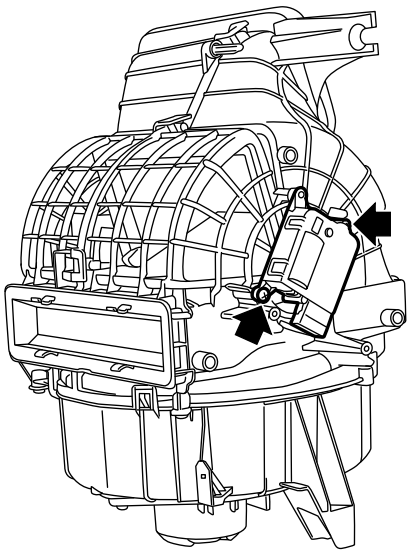
1. Disconnect the ground cable from battery. Ref. to NOTE>NOTE > BATTERY.

   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.
2. Remove the glove box. Ref. to EXTERIOR/INTERIOR TRIM>Glove Box>REMOVAL.
3. Remove the engine control module (ECM). (Non-turbo model) Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Engine Control Module (ECM)>REMOVAL.
4. Remove the blower motor unit assembly. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Blower Motor Unit Assembly>REMOVAL.
5. Remove the screws and detach the motor - actuator blower.
   - Manual A/C model



   - Auto A/C model



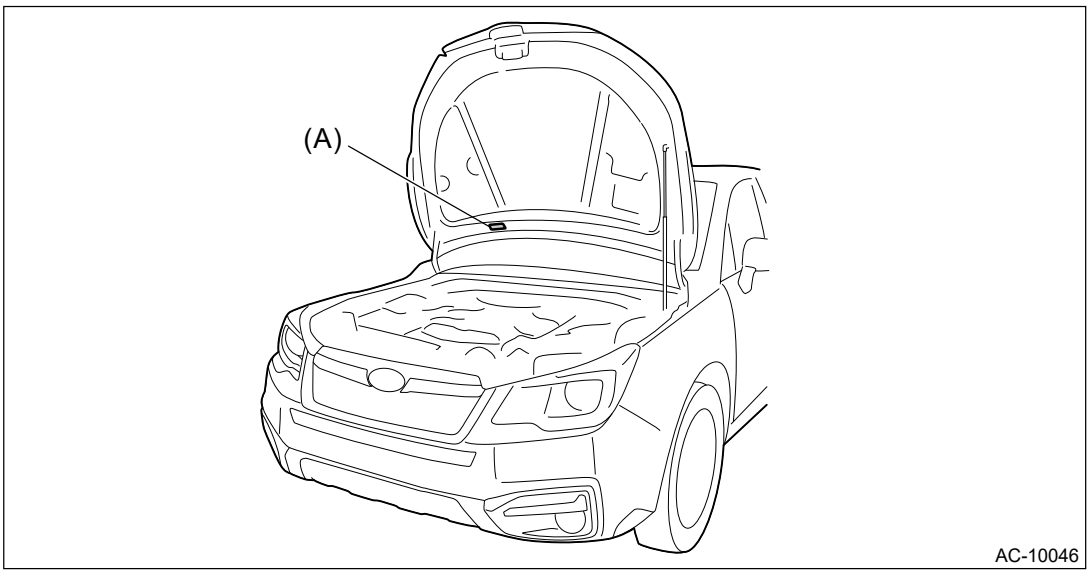
AC-02737

CAUTION

- Before disassembling or reassembling parts, always disconnect the battery ground cable from battery. When replacing the radio, control module, and other parts provided with memory functions, record the memory contents before disconnecting the battery ground cable. Otherwise, the memory is cleared.
- Reassemble the parts in the reverse order of disassembly procedure unless otherwise indicated.
- Connect the connectors securely during reassembly.
- After reassembly, make sure that each component operates normally.

1. HFC-134A A/C SYSTEM

- The cooling system components for the HFC-134a system using such as the refrigerant and compressor oil are different from the conventional CFC-12 system components and they are incompatible with each other.
- Vehicles with the HFC-134a system can be identified by the label (A) attached to the vehicle. Before maintenance, check A/C system which is installed to the vehicle.



2. COMPRESSOR OIL

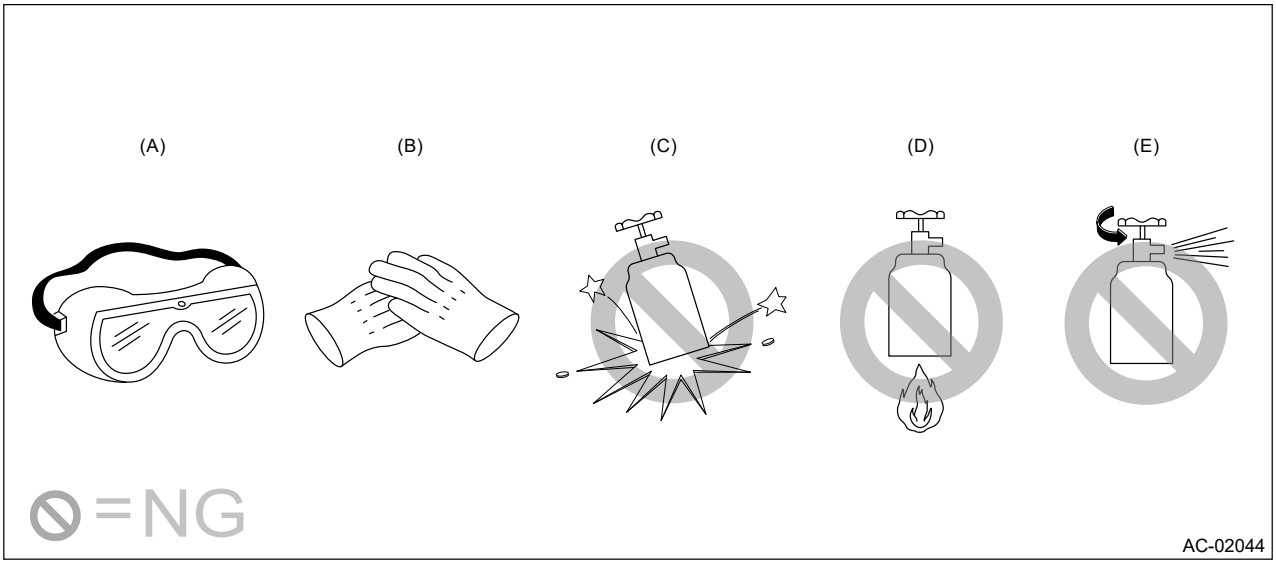
- HFC-134a compressor oil has no compatibility with that of CFC-12 system.
- Use only the manufacturer-authorized compressor oil for the HFC-134a system; only use DH-PR (ZXL200PG).
- Do not mix multiple compressor oils.
  If CFC-12 compressor oil is used in the HFC-134a A/C system, the compressor may become stuck due to poor lubrication, or the refrigerant may leak due to swelling of rubber parts.
  On the other hand, if HFC-134a compressor oil is used in a CFC-12 A/C system, the durability of the A/C system will be lowered.
- HFC-134a compressor oil is very hygroscopic. When replacing or installing/removing A/C parts, immediately isolate the oil from atmosphere using a plug or tape. In order to avoid moisture, store the oil in a container with its cap tightly closed.

3. REFRIGERANT

- CFC-12 refrigerant cannot be used in a HFC-134a A/C system. HFC-134a refrigerant, also cannot be used in a CFC-12 A/C system.
- If an incorrect or no refrigerant is used, it will result in poor lubrication and the compressor itself may be damaged.

4. HANDLING OF REFRIGERANT

- The refrigerant boils at approx. −30°C (−22°F). When handling it, be sure to wear protective goggles and protective gloves. Direct contact of the refrigerant with skin may cause frostbite.
  If the refrigerant gets into your eye, avoid rubbing your eyes with your hands. Wash your eyes with plenty of water, and receive medical treatment from an eye doctor.
- Do not heat a service can. If a service can is directly heated, or put into boiling water, the inside pressure will become extremely high. This may cause the can to explode. If a service can must be warmed up, use warm water of 40°C (104°F) or less.
- Do not drop or impact a service can. (Observe the precautions and operation procedure described on the refrigerant container.)
- When the engine is running, do not open the high-pressure valve of manifold gauge. The high-pressure gas will back-flow resulting in an explosion of the can.
- Provide good ventilation and do not work in a closed area.
- In order to prevent global warming, avoid releasing HFC-134a into the atmosphere. Using a refrigerant recovery system, discharge and recycle the gas.



(A) Goggles
(B) Gloves
(C) Do not apply impact.
(D) No direct heat on container
(E) Do not discharge

5. O-RING CONNECTIONS

- Always use a new O-ring.
- In order to keep the O-rings free of lint which will cause a refrigerant gas leak, perform work without using gloves or waste cloths.
- Apply compressor oil to O-rings to avoid sticking, before installation.
- Use a torque wrench to tighten the O-ring fittings. Over-tightening will result in damage of the O-ring and deformation of the pipe end.
- If the work is interrupted before completing pipe connections, recap the pipes, components and fittings with a plug or tape to prevent foreign matter from entering.

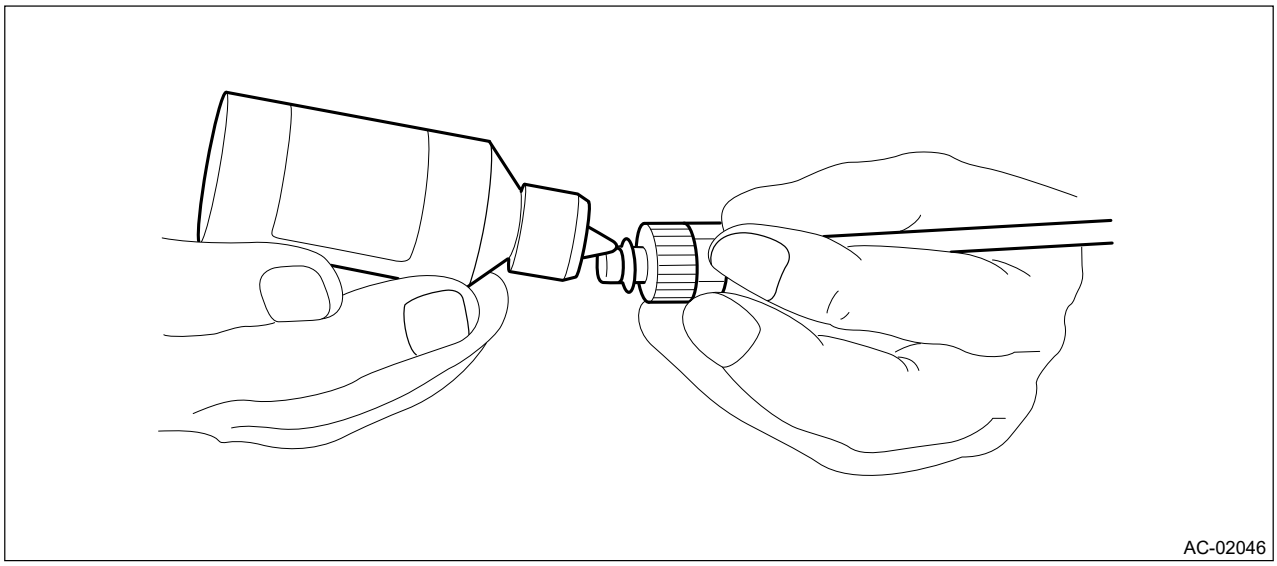
- Visually check the surfaces and mating surfaces of O-rings, threads and connecting points. If a failure is found, replace the applicable parts.
- Install the O-rings straight against the pipe groove.

代替画像1

この画像は代替画像です

(A) O-ring (B) {OK} (C) NG

- Use compressor oil specified in the service manual to lubricate the O-rings.
  Apply oil to the top and sides of O-rings before installation.
  Apply compressor oil to the pipe grooves.

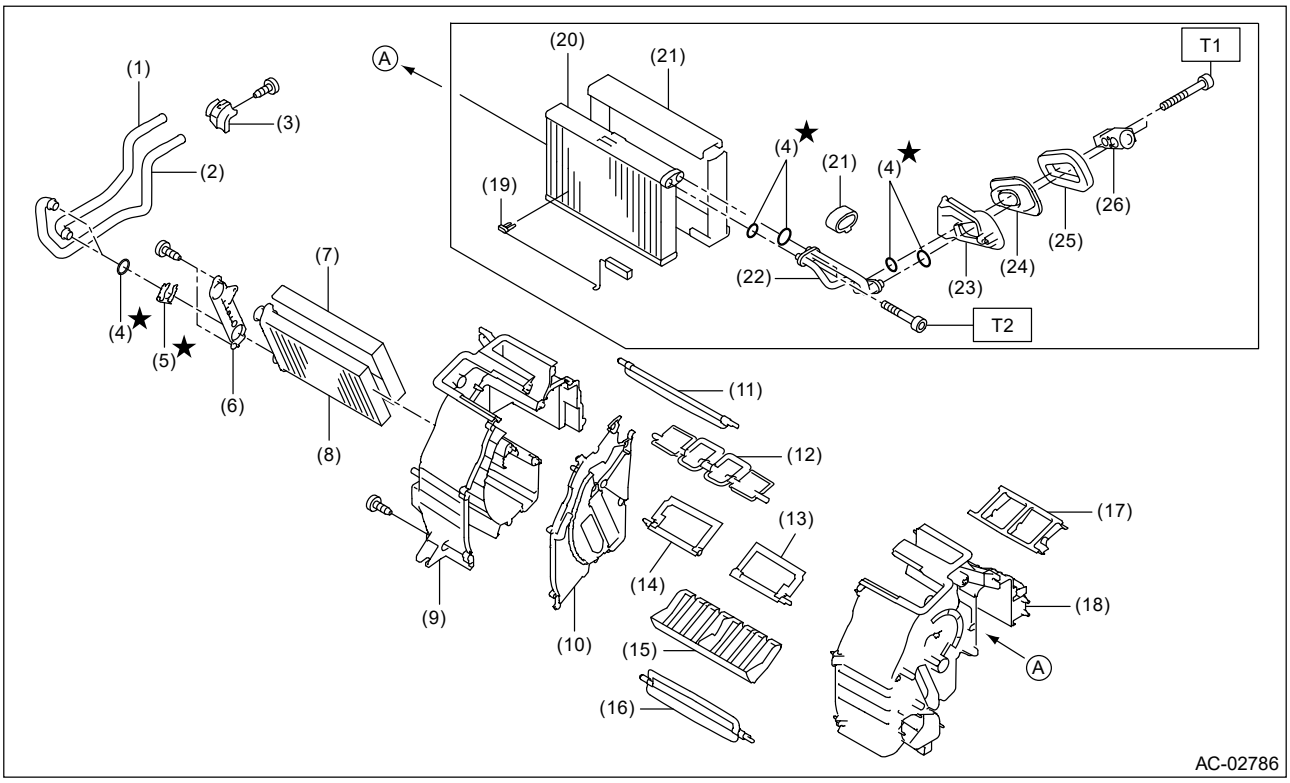


- After tightening, use a clean cloth to remove excess compressor oil from the connections and any oil which may have run on the vehicle body or other parts.
- If any leakage is suspected after tightening, do not tighten the connections further, but disconnect the connections, remove the O-rings, and check the O-rings, threads, and connections.

COMPONENT

1. HEATER AND COOLING UNIT

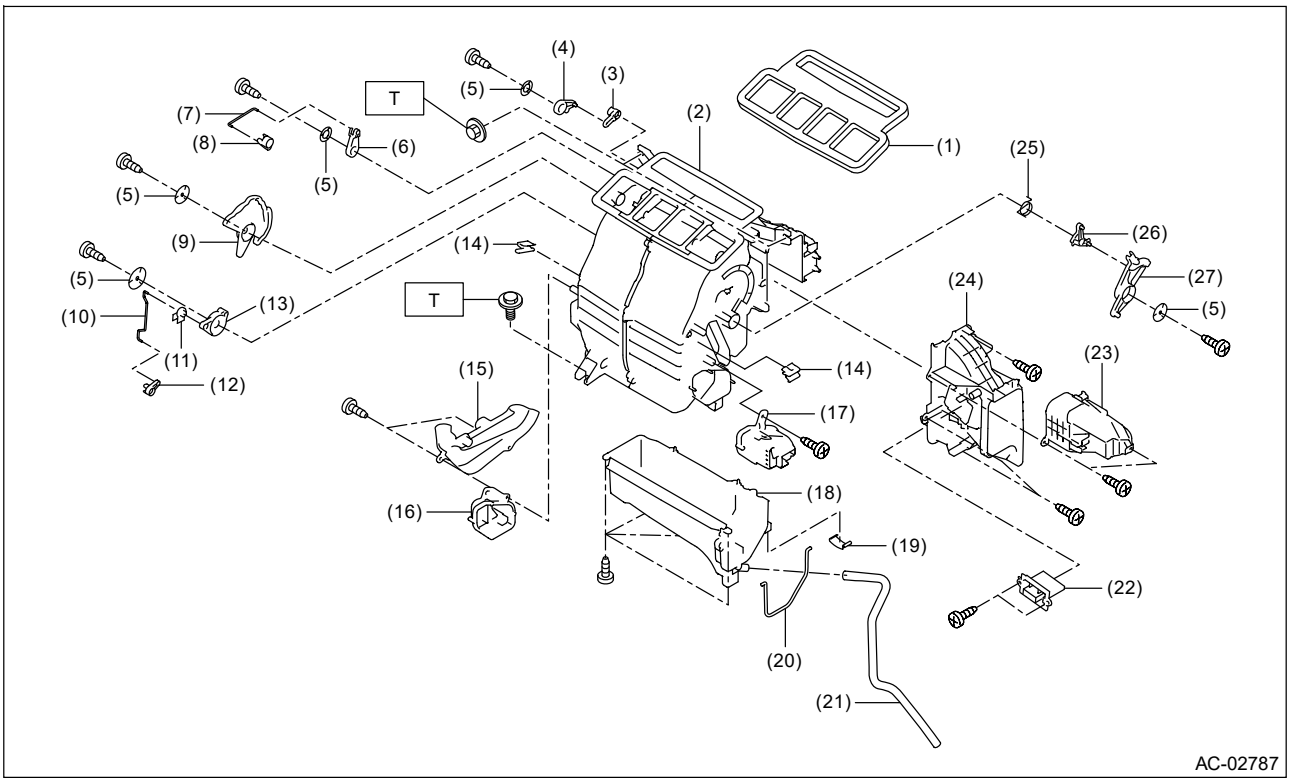
- Manual A/C model



(1) Pipe - inlet
(2) Pipe - outlet
(3) Clamp - pipe
(4) Seal O-ring
(5) Clamp
(6) Plate - heater core
(7) Packing - heater core
(8) Heater core
(9) Case - heater unit UPR LH
(10) Plate CTR
(11) Shutter - defroster
(12) Shutter - vent
(13) Shutter - air mix RH
(14) Shutter - air mix LH
(15) Guide - heater unit
(16) Shutter - foot
(17) Case - vent duct
(18) Case - heater unit UPR RH
(19) Thermostat - cooling
(20) Evaporator ASSY - cooling
(21) Packing - evaporator core
(22) Pipe - evaporator core
(23) Case - expansion valve
(24) Seal - cooling
(25) Packing - heater unit
(26) Expansion valve - cooling

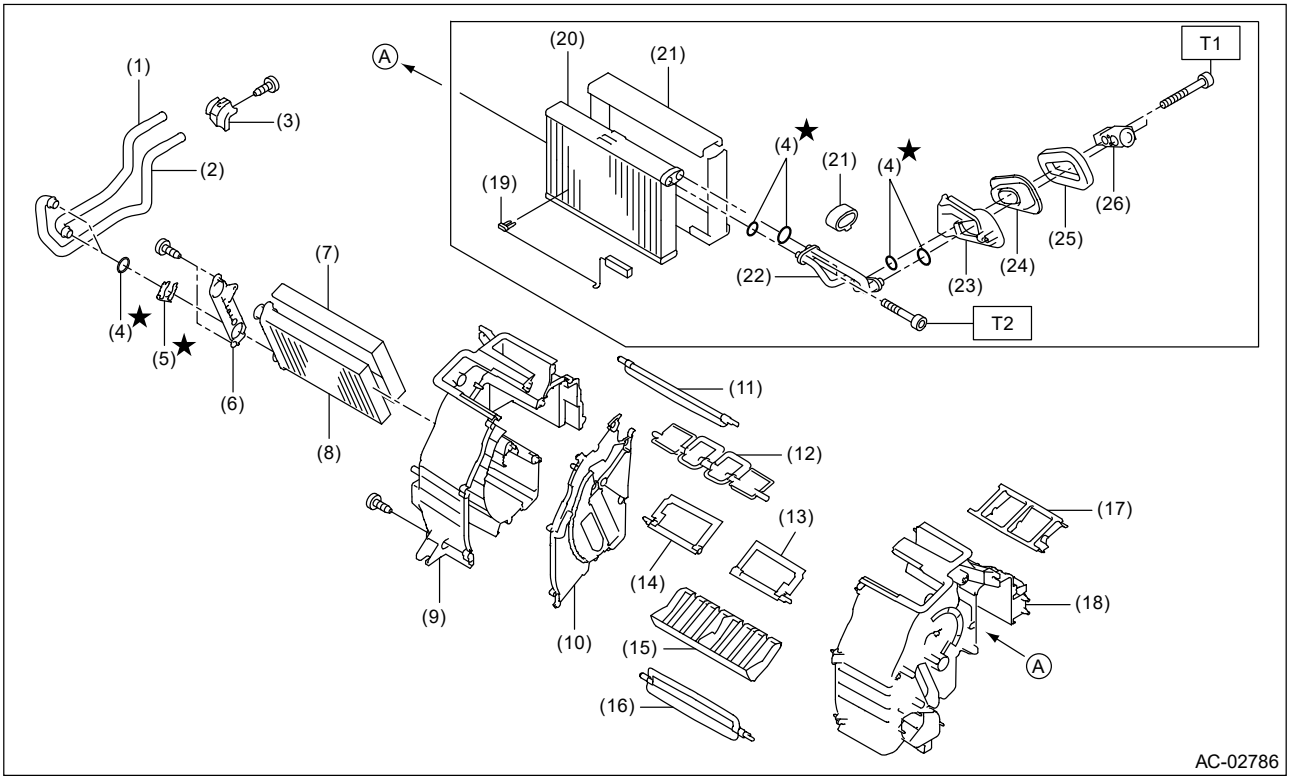
Tightening torque: N·m (kgf-m, ft-lb)

T1: 5 (0.51, 3.7)
T2: 6.7 (0.68, 4.9)



(1) Packing - heater unit	(11) Clip	(21) Hose - drain
(2) Case - heater unit	(12) Lever - foot	(22) Resistor
(3) Lever - defroster	(13) Lever - foot sub	(23) Cover
(4) Lever - defroster sub	(14) Clamp - cable	(24) Cover - heater unit
(5) Washer - heater	(15) Cover - heater pipe	(25) Spring - heater unit
(6) Lever - ventilator sub	(16) Duct - foot LH	(26) Lever A
(7) Rod - ventilator	(17) Duct - foot RH	(27) Lever B
(8) Lever - ventilator door	(18) Case - heater LWR	
(9) Lever - mode	(19) Clip - case	***Tightening torque: N·m (kgf-m, ft-lb)***
(10) Rod - foot	(20) Packing - evaporator cover	***T: 7.5 (0.76, 5.5)***

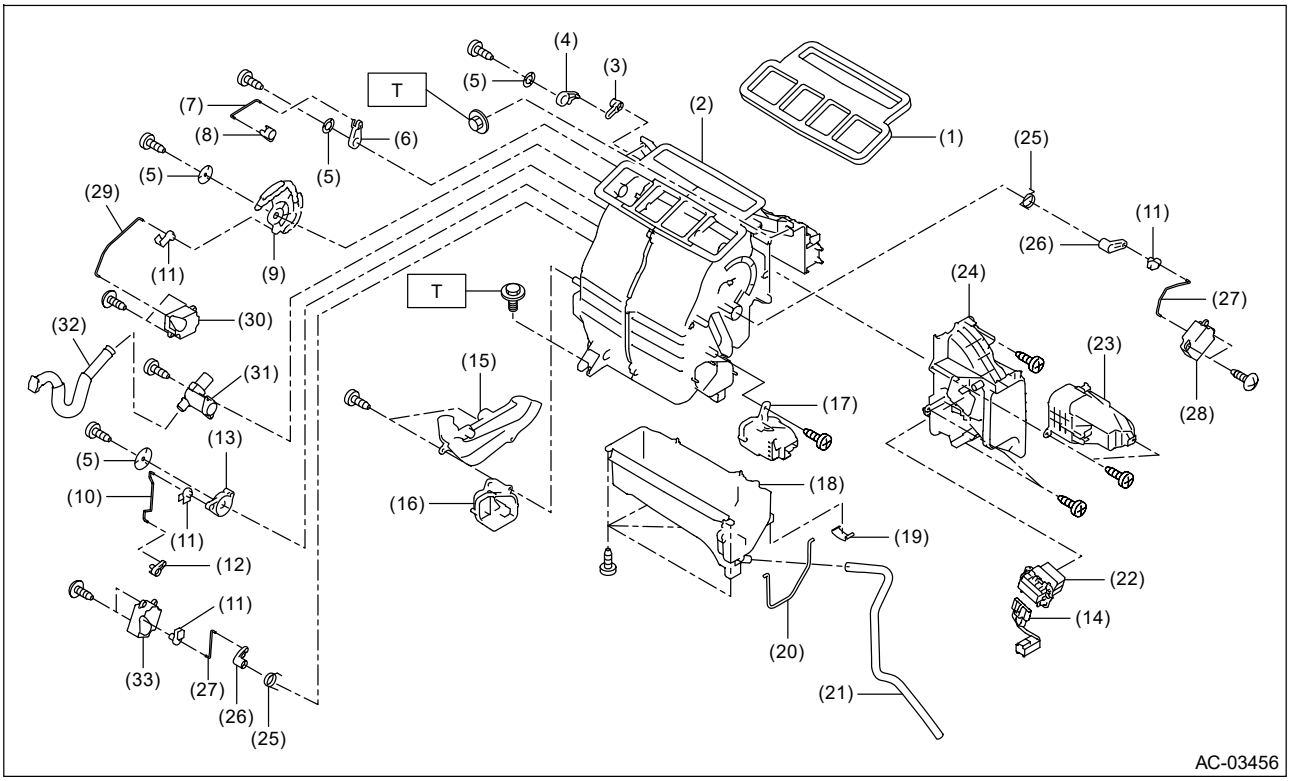
- Auto A/C model



(1) Pipe - inlet
(2) Pipe - outlet
(3) Clamp - pipe
(4) Seal O-ring
(5) Clamp
(6) Plate - heater core
(7) Packing - heater core
(8) Heater core
(9) Case - heater unit UPR LH
(10) Plate CTR
(11) Shutter - defroster
(12) Shutter - vent
(13) Shutter - air mix RH
(14) Shutter - air mix LH
(15) Guide - heater unit
(16) Shutter - foot
(17) Case - vent duct
(18) Case - heater unit UPR RH
(19) Thermostat - cooling
(20) Evaporator ASSY - cooling
(21) Packing - evaporator core
(22) Pipe - evaporator core
(23) Case - expansion valve
(24) Seal - cooling
(25) Packing - heater unit
(26) Expansion valve - cooling

Tightening torque: N·m (kgf-m, ft-lb)

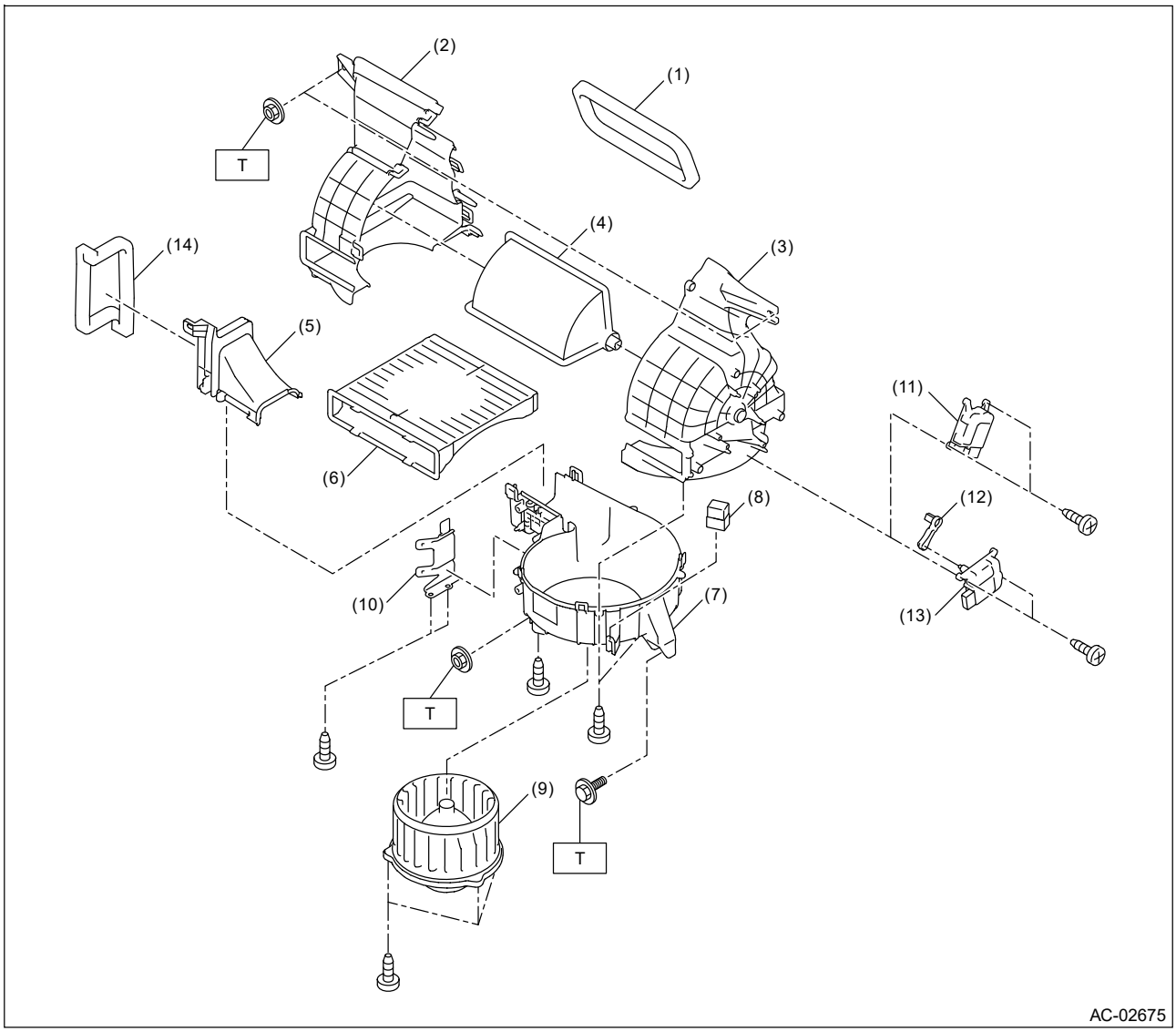
T1: 5 (0.51, 3.7)
T2: 6.7 (0.68, 4.9)



(1) Packing - heater unit
(2) Case - heater unit
(3) Lever - defroster
(4) Lever - defroster sub
(5) Washer - heater
(6) Lever - ventilator sub
(7) Rod - ventilator
(8) Lever - ventilator door
(9) Lever - mode
(10) Rod - foot
(11) Clip
(12) Lever - foot
(13) Lever - foot sub
(14) Harness - heater unit
(15) Cover - heater pipe
(16) Duct - foot LH
(17) Duct - foot RH
(18) Case - heater LWR
(19) Clip - case
(20) Packing - evaporator cover
(21) Hose - drain
(22) Power transistor
(23) Cover
(24) Cover - heater unit
(25) Spring - heater unit
(26) Lever - air mix
(27) Rod - air mix
(28) Motor - actuator mix RH
(29) Rod - mode
(30) Motor - actuator mode
(31) Aspirator - heater unit
(32) Aspirator hose
(33) Motor - actuator mix LH (dual A/C model)

Tightening torque: N·m (kgf-m, ft-lb)
T: 7.5 (0.76, 5.5)

2. BLOWER MOTOR UNIT

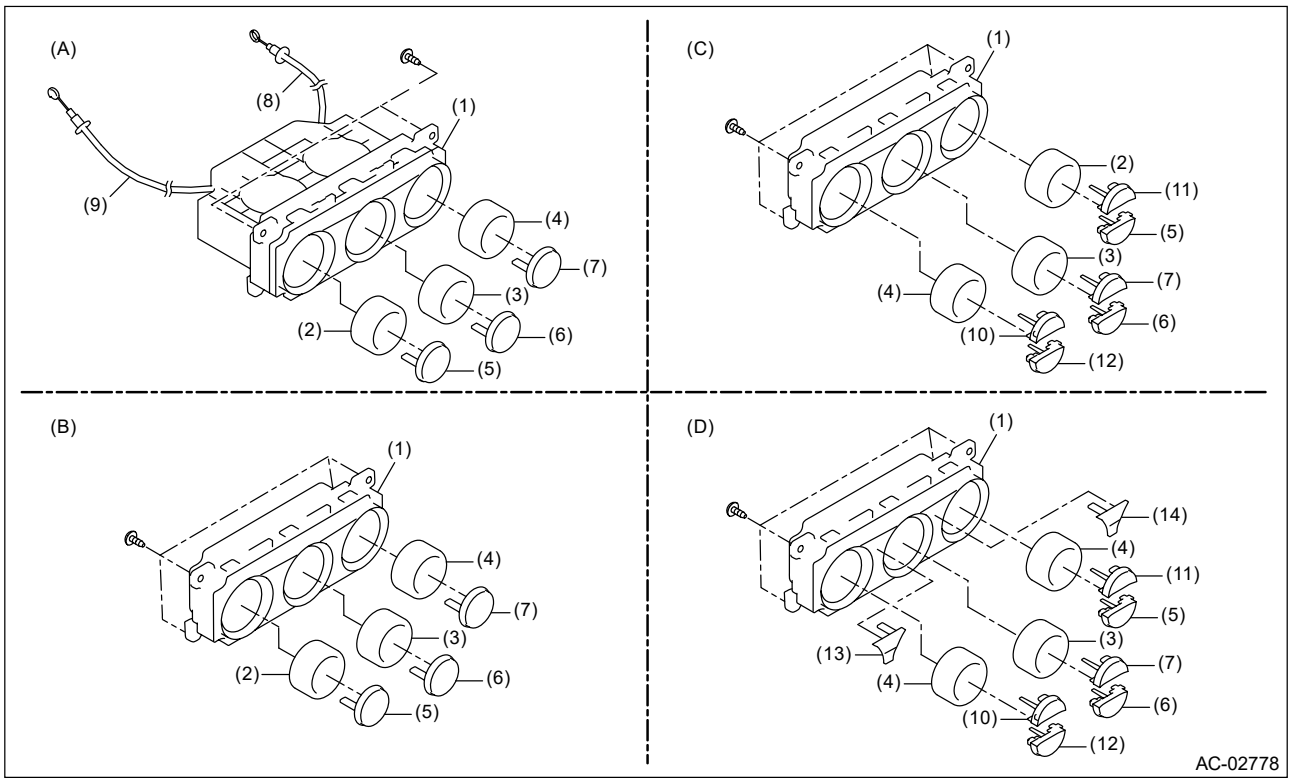


(1) Packing - blower
(2) Case - blower intake LH
(3) Case - blower intake RH
(4) Shutter - blower
(5) Case upper - blower
(6) Filter kit
(7) Case lower - blower
(8) Blower motor relay
(9) Blower - motor
(10) Bracket
(11) Motor - actuator blower (auto A/C model)
(12) Lever
(13) Motor - actuator blower (manual A/C model)
(14) Packing

Tightening torque: N·m (kgf-m, ft-lb)

T: 7.5 (0.76, 5.5)

3. CONTROL PANEL



(A) Manual A/C model

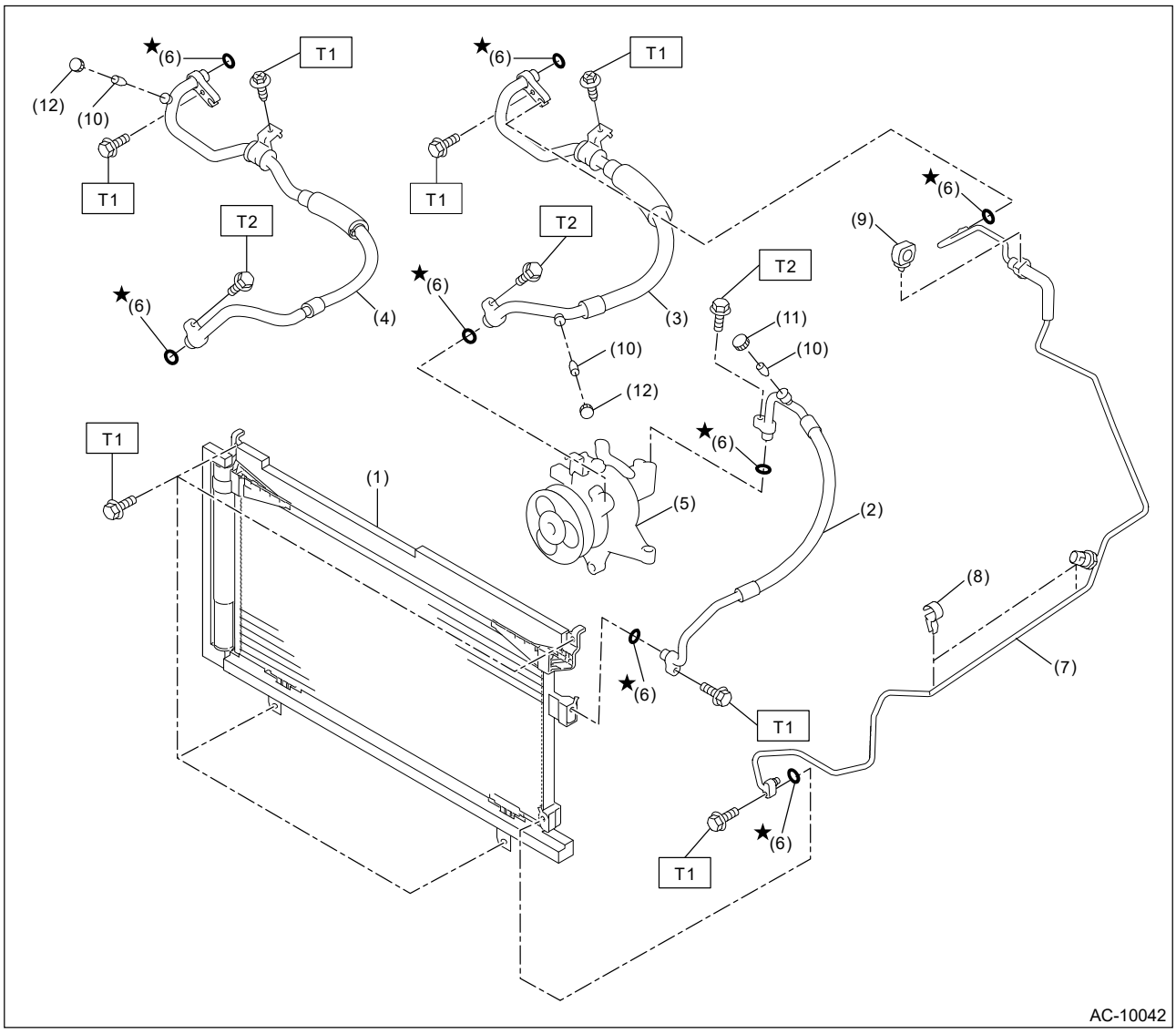
(B) Single auto A/C model (with standard MFD)

(C) Single auto A/C model (with high grade MFD)

(D) Dual auto A/C model

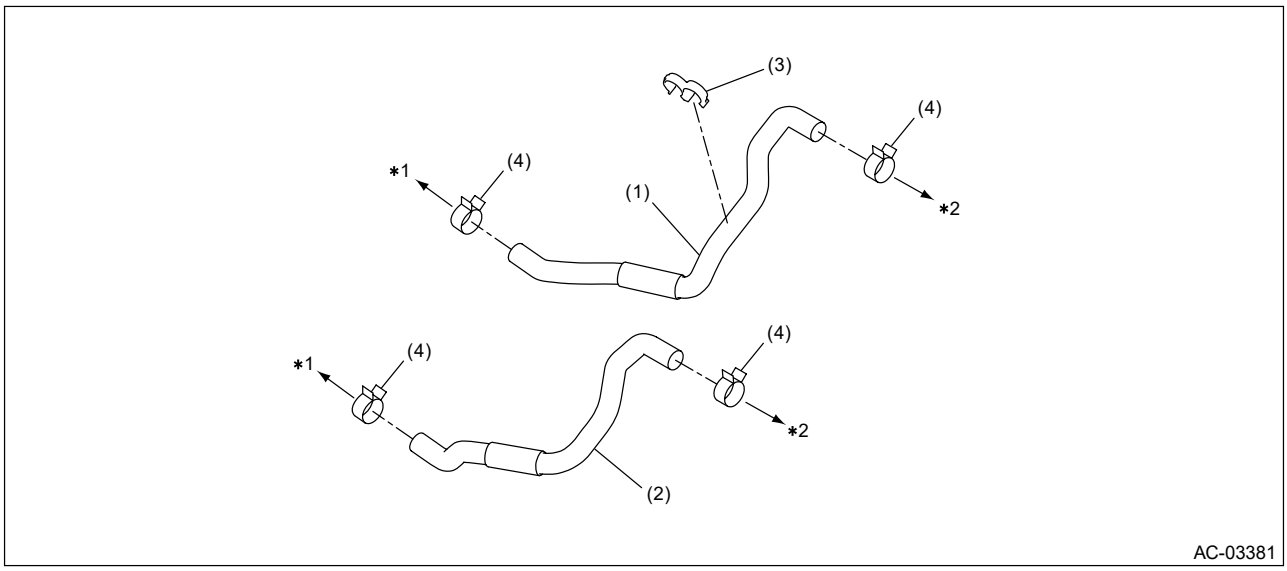
(1) Control case
(2) Air flow control dial
(3) Fan dial
(4) Temperature adjustment dial
(5) Rear window defogger switch
(6) FRESH/RECIRC switch
(7) A/C switch
(8) Temperature control cable
(9) Air flow control cable
(10) AUTO switch
(11) Defroster switch
(12) OFF switch
(13) Air flow control switch
(14) Dual switch

4. AIR CONDITIONING UNIT



(1)	Condenser ASSY - air conditioner	(7)	Pipe - evaporator cooling	***Tightening torque: N·m (kgf-m, ft-lb)***
(2)	Hose - pressure discharge	(8)	Clip - pipe	***T1: 7.5 (0.76, 5.5)***
(3)	Hose - pressure suction (non-turbo model)	(9)	Clip	***T2: 10 (1.02, 7.4)***
(4)	Hose - pressure suction (turbo model)	(10)	Valve - hose pressure	
(5)	Compressor ASSY	(11)	Cap - hose pressure discharge	
(6)	Seal O-ring	(12)	Cap - hose pressure suction	

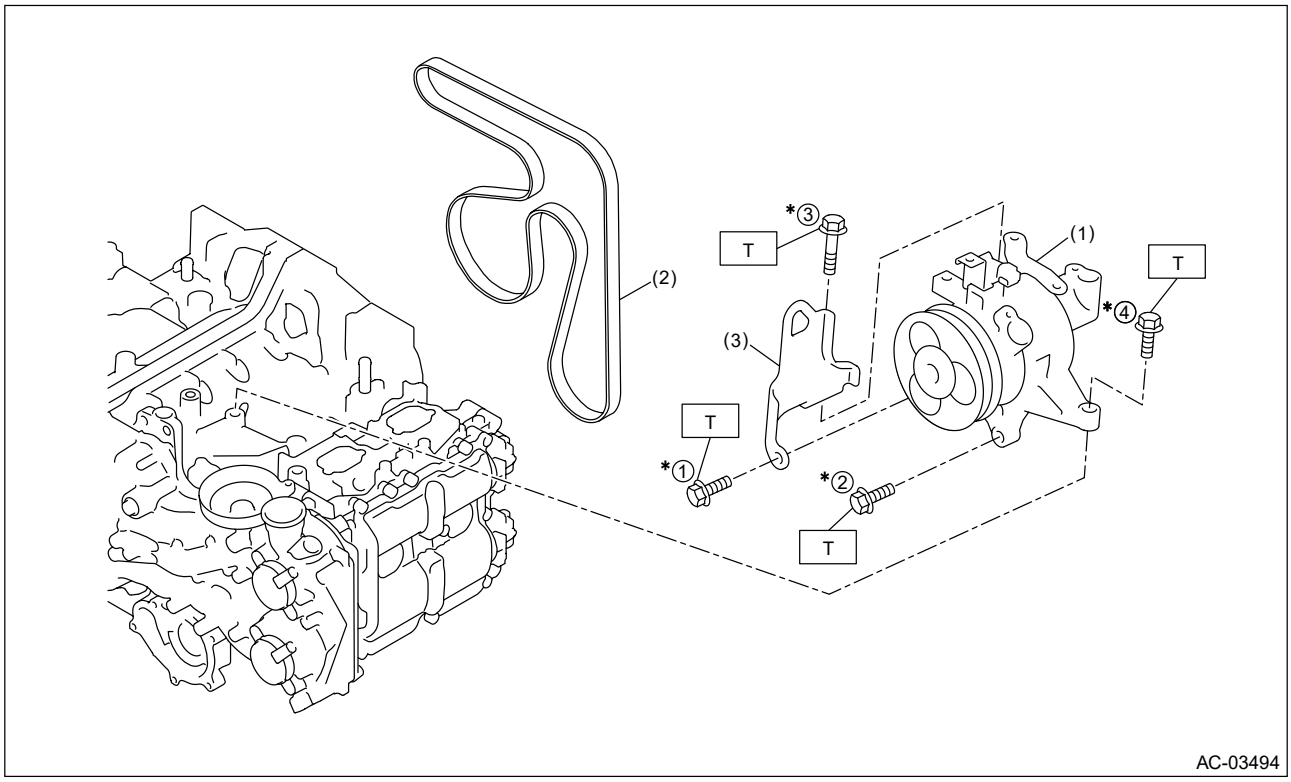
5. HEATER HOSE



(1) Hose - heater outlet
(2) Hose - heater inlet
(3) Clip
(4) Clamp

∗1: Engine side
∗2: Heater core side

6. COMPRESSOR



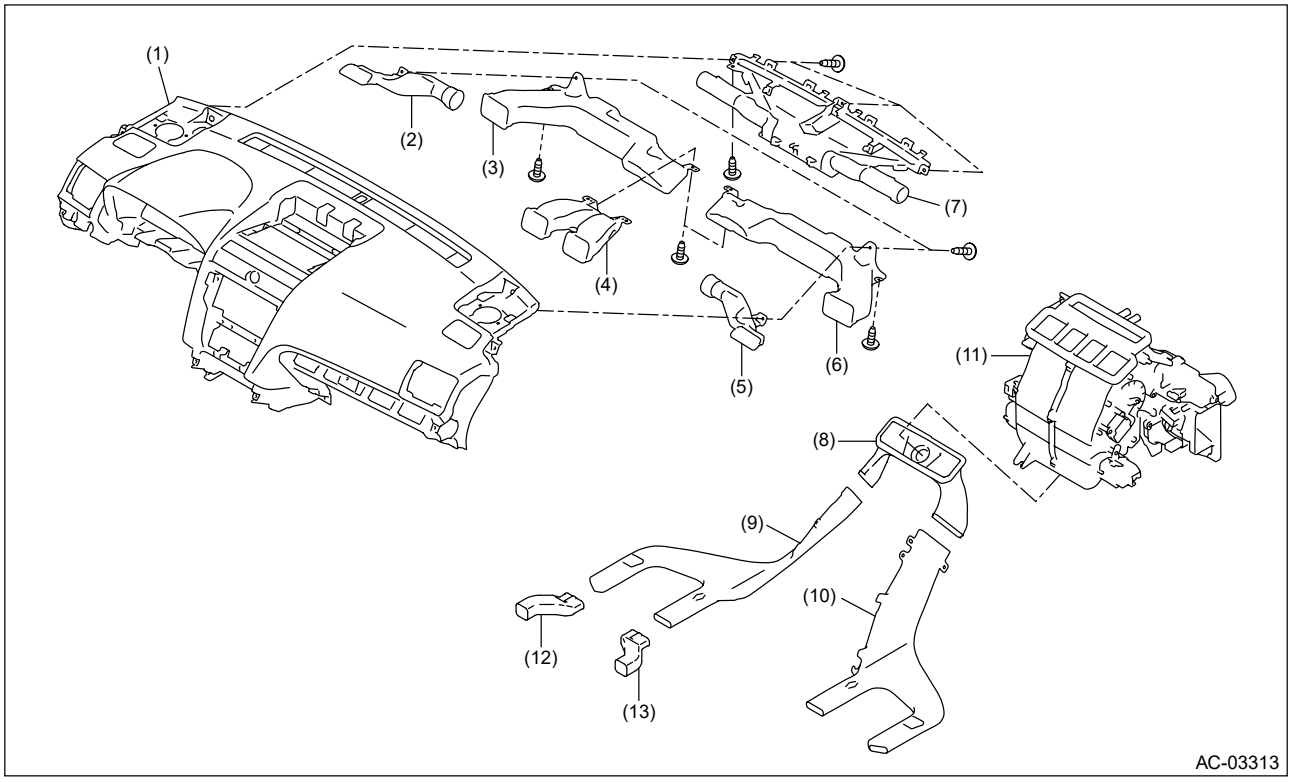
(1) Compressor ASSY
(2) V-belt (6PK)
(3) Hanger - engine front

Tightening torque: N·m (kgf-m, ft-lb)

T: 36 (3.67, 26.6)

∗ Tighten the compressor in the numerical order as shown in the figure.

7. HEATER DUCT



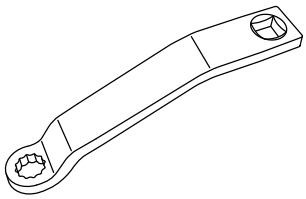
(1) Panel COMPL - instrument
(2) Duct - side defroster LH
(3) Duct - side ventilation LH
(4) Duct - center vent
(5) Duct - side defroster RH
(6) Duct - side ventilation RH
(7) Nozzle - front defroster
(8) Duct - rear heater CTR
(9) Duct - rear heater LH
(10) Duct - rear heater RH
(11) Heater and cooling unit ASSY
(12) Duct - rear heater extension LH (model with power amplifier)
(13) Duct - rear heater extension RH (model with power amplifier)

LOCATION

Refer to “Electrical Component Location” for “AIR CONDITIONER (DIAGNOSTICS)” section. Ref. to AIR CONDITIONER(DIAGNOSTICS)>Basic Diagnostic Procedure.

PREPARATION TOOL

1. SPECIAL TOOL

ILLUSTRATION	TOOL NUMBER	DESCRIPTION	REMARKS
 STSSM4	- (Newly adopted tool)	SUBARU SELECT MONITOR 4	Used for setting of each function and troubleshooting for electrical system. **Note: For detailed operation procedures of Subaru Select Monitor 4, refer to "Application help".**
 ST73099SG000	73099SG000	SPECIAL TOOL CONDENSER	Used for installing the condenser.

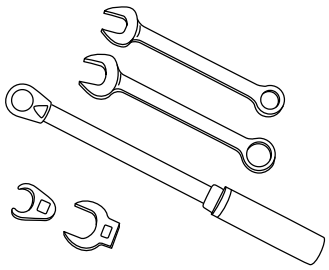
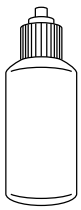
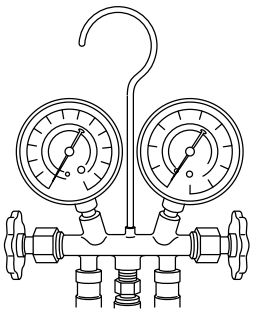
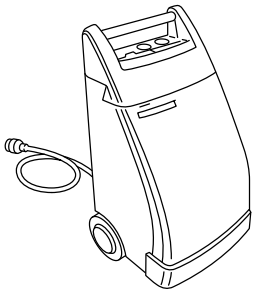
2. GENERAL TOOL

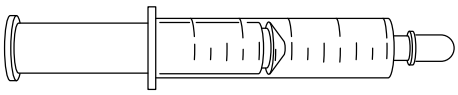
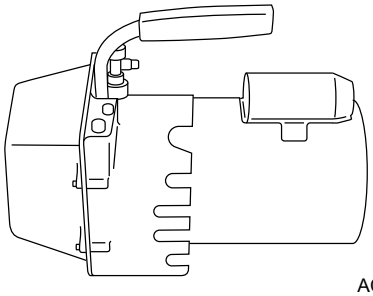
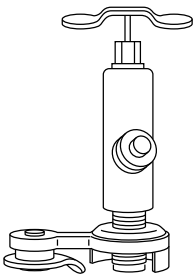
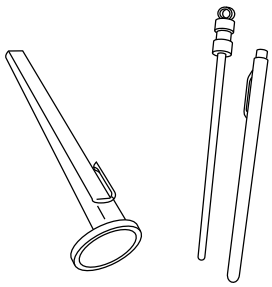
Caution:

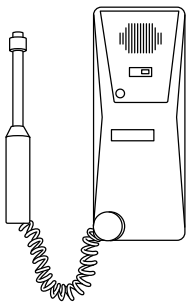
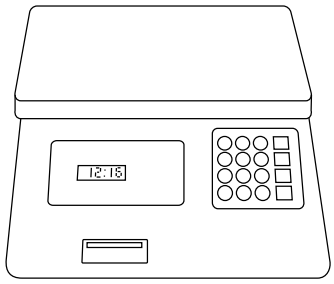
When working on vehicles with a HFC-134a system, only use HFC-134a specified tools and parts. Do not mix CFC-12 tools and parts. If HFC-134a and CFC-12 compressor oil is mixed, it will result in poor lubrication and the compressor itself may be damaged. In order to prevent the mixture of HFC-134a and CFC-12 parts and liquid, the type of tool and screw, and the replacement valves used are different. The gas leak detectors for the HFC-134a and CFC-12 systems must also not be interchanged.

	HFC-134a	CFC-12
Tool and screw type	Millimeter size	Inch size
Valve type	Quick joint type	Screw-in type

TOOL NAME/ILLUSTRATION	REMARKS
Circuit tester	Used for measuring resistance, voltage and current.
DST-i	Used together with Subaru Select Monitor 4.
WRENCH	Various **WRENCHES** will be required to service any A/C system. 7 — 40 N·m (0.7 — 4.1 kgf-m, 5 — 30 ft-lb) torque wrench and various crowfoot wrenches will be needed. Open end or flare nut wrenches will be needed to affix the pipe and hose fittings.

 AC-00213	
Applicator bottle  AC-00012	A small **APPLICATOR BOTTLE** is recommended to apply compressor oil to the various parts. It can be available at a hardware store.
Manifold gauge set  AC-00013	A **MANIFOLD GAUGE SET** (with hoses) is available at either a refrigerant supplier or an automotive equipment supplier.
Refrigerant recovery system  AC-00014	A **REFRIGERANT RECOVERY SYSTEM** is used for the recovery and recycling of A/C system refrigerant after contaminants and moisture have been removed from the refrigerant.
Syringe	A graduated plastic **SYRINGE** will be needed to add oil into the system again. A syringe can be available at a pharmacy or drug store.

 AC-00015	
Vacuum pump  AC-00016	A **VACUUM PUMP** is necessary (for a good working condition), and may be available at either a refrigerant supplier or an automotive equipment supplier.
Can tap  AC-00017	A **CAN TAP** for the 397 g (14 oz) can is available at an automotive equipment supplier.
Thermometer/hygrometer  AC-00018	A Pocket **THERMOMETER/HYGROMETER** is available at either a industrial hardware store or a refrigerant supplier.
Electronic leak detector	An **ELECTRONIC LEAK DETECTOR** can be available at either a specialty tool supplier or an A/C equipment supplier.

 AC-00019	
Weight scale  AC-00020	A **WEIGHT SCALE** such as an electronic charging scale or a bathroom scale with digital display will be needed, if a 13.6 kg (30 lb) refrigerant container is used.

SPECIFICATION

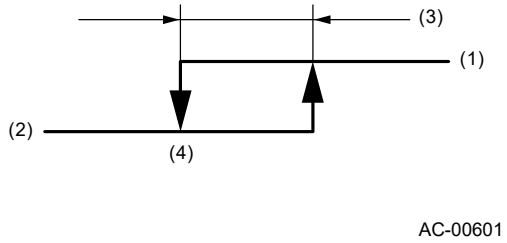
1. HEATER SYSTEM

Item		Specifications	Condition
Heating capacity		5 kW (4,299 kcal/h, 17,059 BTU/h) or more	• Air flow control dial or switch: FOOT • Temperature control dial: HI (MAX HOT) • Temperature difference between hot water and inlet air: 65°C (149°F) • Hot water flow rate: 360 L (95.1 US gal, 79.2 Imp gal)/h
Air flow rate		290 m^3 (10,243 cu ft)/h	FOOT mode (FRESH), MAX HOT at 12.5 V
Max air flow rate		480 m^3 (16,954 cu ft)/h	• Temperature control dial: LO (MAX COOL) • Fan dial: HI (MAX) Auto A/C model: 7th position Manual A/C model: 4th position • FRESH/RECIRC switch: RECIRC
Heater core	Dimensions (W × H × T)	257.5×118.5× 27 mm (10.1×4.67×1.06 in)	—
Blower motor	Motor type and power consumption	Magnet motor 300 W or less	12 V
	Fan type and size (diameter × width)	Sirocco fan type 150 × 75 mm (5.91×2.95 in)	—

2. A/C SYSTEM

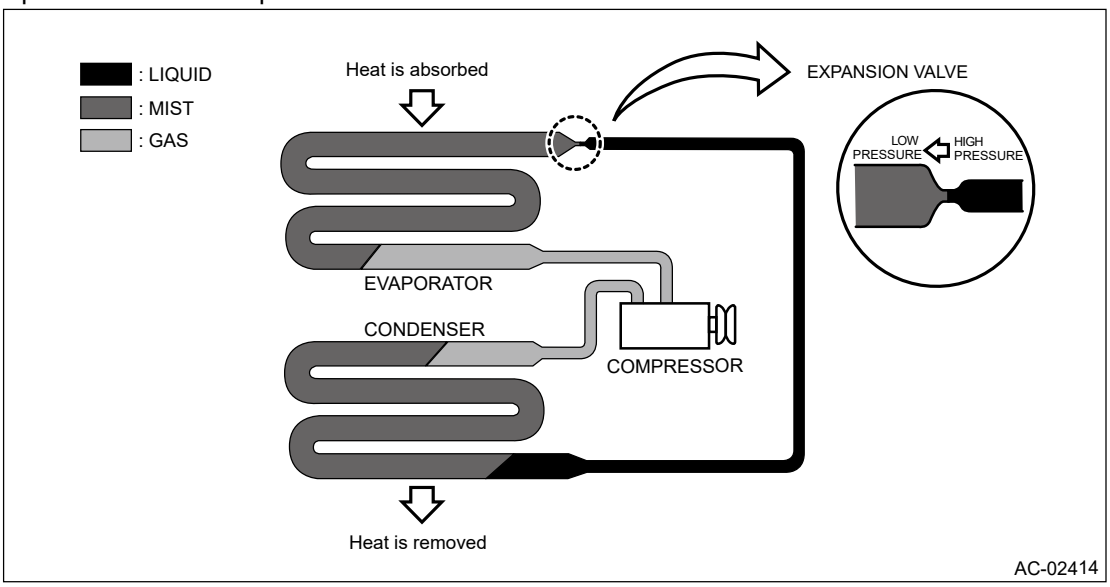
Item		Specifications
Type of air conditioner		Reheat air-mix type
Cooling capacity		5 kW (4,299 kcal/h, 17,059 BTU/h)
Refrigerant		HFC-134a (CH_2FCF_3) [0.375±0.025 kg (0.83±0.06 lb)]
COMPRESSOR	Type	Rotary fixed capacity (DKV-10Z)
	Discharge	105 cc (6.41 cu in)/rev
	Max. permissible speed	7,700 r/min
Magnet clutch	Type	Dry, single-disc type
	Power consumption	45 W

		Type of belt	V-belt 6 PK
		Pulley dia. (effective dia.)	110 mm (4.33 in)
		Pulley ratio	1.3
Condenser		Type	Sub cool type
		Core face area	0.195 m^2 (2.1 sq ft)
		Core thickness	12 mm (0.47 in)
		Radiation area	3.5 m^2 (37.67 sq ft)
Expansion valve		Type	BLOCK
Evaporator		Type	Dual-tank
		Dimensions (W × H × T)	290.1× 172 × 39 mm (11.42×6.77×1.54 in)
Blower fan		Fan type	Sirocco fan
		Outer diameter × Width	150 × 75 mm (5.91×2.95 in)
		Power consumption	280 W
Condenser fan (sub fan)		Motor type	Magnet
		Power consumption	120 W
		Fan outer diameter	320 mm (12.6 in)
Radiator fan (main fan)		Motor type	Magnet
		Power consumption	120 W
		Fan outer diameter	320 mm (12.6 in)
Idle speed		No load	Non-turbo MT model: 650±100 r/min Non-turbo CVT model: 675±100 r/min Turbo model: 700±100 r/min
		A/C ON	Non-turbo model: 800 — 900±100 r/min Turbo model: 775 — 865±50 r/min
Triple switch (Pressure switch)	Low-pressure switch operating pressure	ON → OFF	196±25 kPa (2±0.25 kgf/cm^2, 28.4±3.6 psi)
		OFF → ON	225±30 kPa (2.29±0.31 kgf/cm^2, 32.6±4.3 psi)
	High-pressure switch operating pressure	ON → OFF	2,940±200 kPa (29.98±2.04 kgf/cm^2, 426.3±29 psi)
		OFF → ON	2,350±200 kPa (24±2.04 kgf/cm^2, 340.7±29 psi)
	Middle-pressure switch operating pressure	ON → OFF	1,470±120 kPa (14.99±1.22 kgf/cm^2, 213.15±17.4 psi)
		OFF → ON	1,770±100 kPa (18.05±1.02 kgf/cm^2, 256.65±14.5 psi)

Thermo-control amplifier working temperature	 (1) ON (2) OFF (3) 1.5±0.3°C (34.7±0.5°F) (4) 1±0.5°C (33.8±0.9°F)

3. BASIC OPERATION

The cooling system cools down the compartment by using the pipes connecting parts and cycling the evaporable liquid (refrigerant) within the sealed system in a repeated process of "vaporization — liquefaction — re-vaporization".



Item	Operation
COMPRESSOR	Sucks and pressurizes the low temperature, low pressure refrigerant gas that was vaporized at the evaporator by absorbing heat from the compartment, and sends the high temperature, high pressure refrigerant gas to the condenser.
Condenser	Cools the high temperature, high pressure refrigerant gas sent from the compressor for condense and liquefaction.
Expansion valve	• Sprays the high temperature, high pressure liquid refrigerant from the small hole in order to let the refrigerant expand rapidly to turn it into low temperature, low pressure mist. • The refrigerant amount is adjusted according to the refrigerant vaporization condition in the evaporator.
Evaporator	The evaporator turns into a low temperature condition when the

	mist refrigerant that was turned into a low temperature, low pressure condition at the expansion valve is vaporized in large quantity in the evaporator. Passing air flow through the low temperature evaporator emits cold air.

INSTALLATION

Caution:

- **Replace O-rings and clamps with new parts and install securely.**
- **Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.**

1. Install each part in the reverse order of removal.
   Tightening torque:
   Heater cooling unit: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>General Description>COMPONENT > HEATER AND COOLING UNIT.
   Air conditioning unit: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>General Description>COMPONENT > AIR CONDITIONING UNIT.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.
3. Fill engine coolant.
   - Non-turbo model: Ref. to COOLING(H4DO)>Engine Coolant>REPLACEMENT > FILLING OF ENGINE COOLANT.
   - Turbo model: Ref. to COOLING(H4DOTC)>Engine Coolant>REPLACEMENT > FILLING OF ENGINE COOLANT.
4. Charge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Charging Procedure>PROCEDURE.

REMOVAL

Caution:

Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

1. Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. Ref. to NOTE>NOTE > BATTERY.

   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.
2. Using the refrigerant recovery system, discharge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Recovery Procedure>PROCEDURE.
3. Drain the coolant from the radiator.
   - Non-turbo model: Ref. to COOLING(H4DO)>Engine Coolant>REPLACEMENT > DRAINING OF ENGINE COOLANT.
   - Turbo model: Ref. to COOLING(H4DOTC)>Engine Coolant>REPLACEMENT > DRAINING OF ENGINE COOLANT.
4. Remove the air intake boot. (Non-turbo model) Ref. to INTAKE (INDUCTION)(H4DO)>Air Intake Boot>REMOVAL.

   Caution:

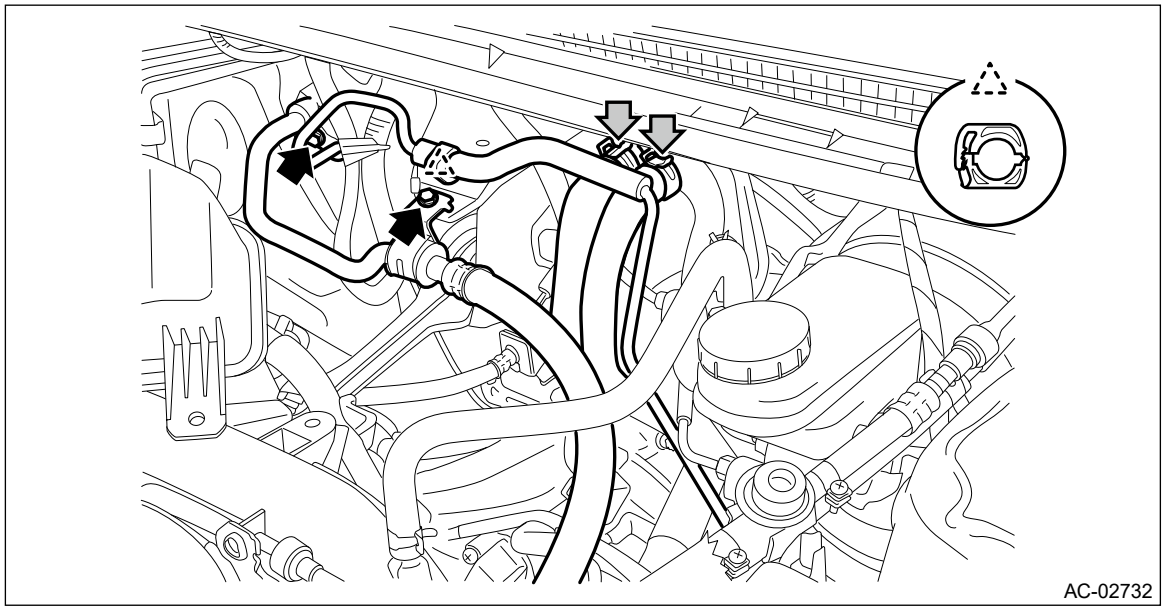
   Move aside the air intake boot to perform the operation without disconnecting the PCV hose.
5. Remove the intercooler. (Turbo model) Ref. to INTAKE (INDUCTION) (H4DOTC)>Intercooler>REMOVAL.
6. Remove the bolt, and remove the hose - pressure suction and the pipe - evaporator cooling from the expansion valve - cooling.

   Caution:

   Seal the disconnected hose, pipe and engaging part of expansion valve with a plug or vinyl tape to prevent foreign matter from entering.
7. Loosen the heater hose clamps and remove the hoses.

   Note:

   Put alignment marks to hoses, clamps, etc. and remove them.



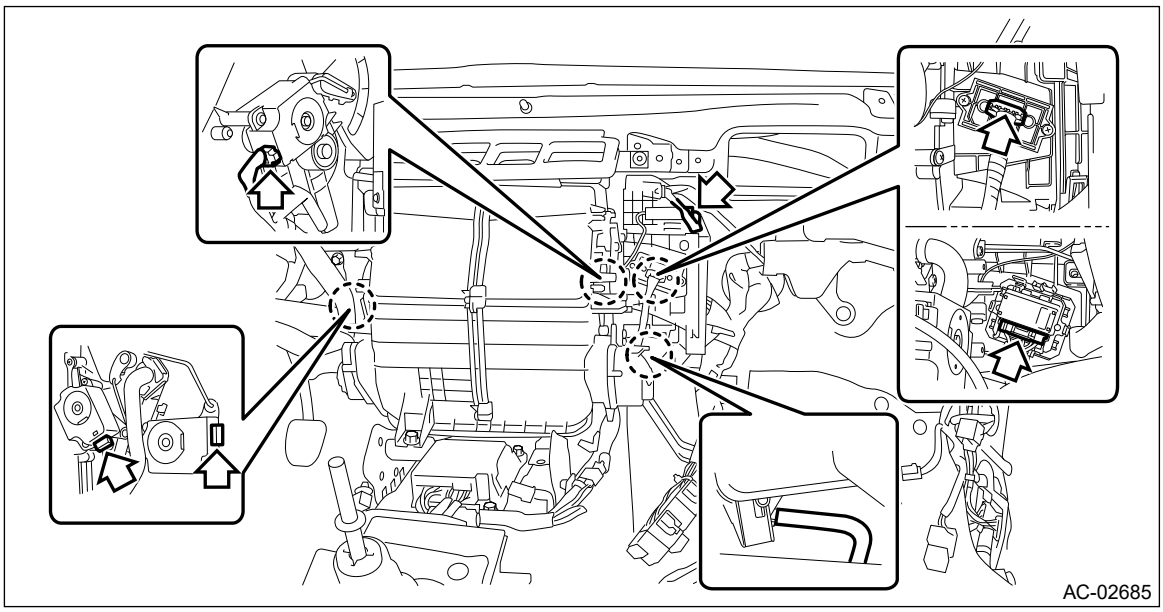
8. Remove the instrument panel assembly. Ref. to EXTERIOR/INTERIOR TRIM>Instrument Panel Assembly>REMOVAL.

9. Remove the engine control module (ECM). (Non-turbo model) Ref. to FUEL INJECTION (FUEL SYSTEMS)(H4DO)>Engine Control Module (ECM)>REMOVAL.

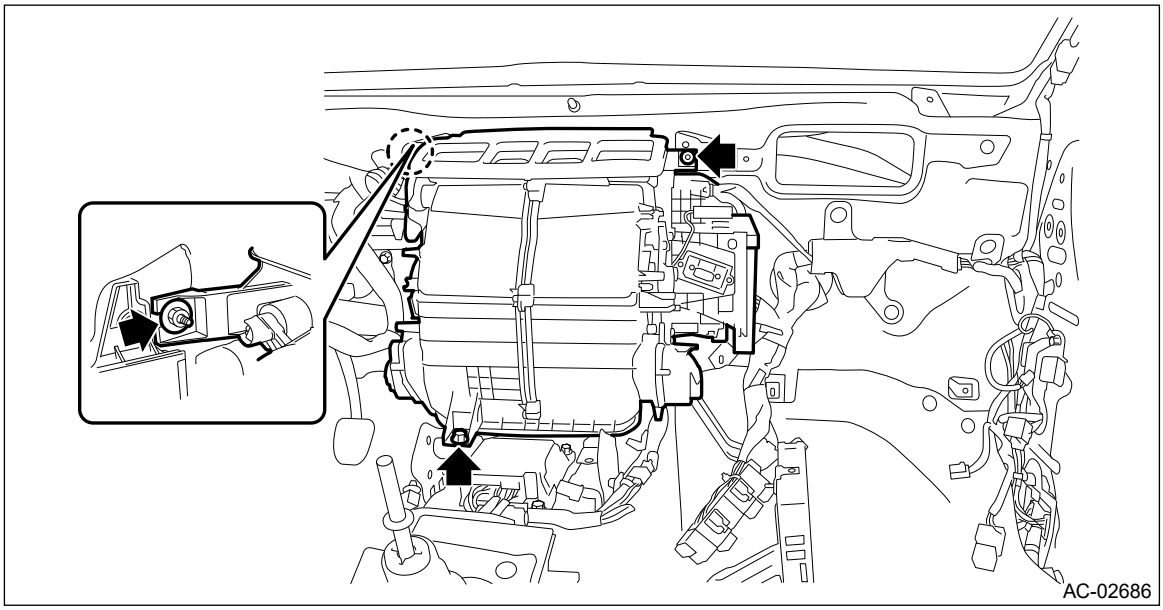
10. Remove the blower motor unit assembly. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Blower Motor Unit Assembly>REMOVAL.

11. Remove the heater and cooling unit assembly.

(1) Disconnect each connector and the hose - drain.



(2) Remove the bolt and nuts, and remove the heater & cooling unit assembly.


AC-02686

INSTALLATION

Caution:

- **Replace O-rings and clamps with new parts and install securely.**
- **Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.**

1. Install each part in the reverse order of removal.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.
3. Fill engine coolant.
   - Non-turbo model: Ref. to COOLING(H4DO)>Engine Coolant>REPLACEMENT > FILLING OF ENGINE COOLANT.
   - Turbo model: Ref. to COOLING(H4DOTC)>Engine Coolant>REPLACEMENT > FILLING OF ENGINE COOLANT.
4. Charge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Charging Procedure>PROCEDURE.

REMOVAL

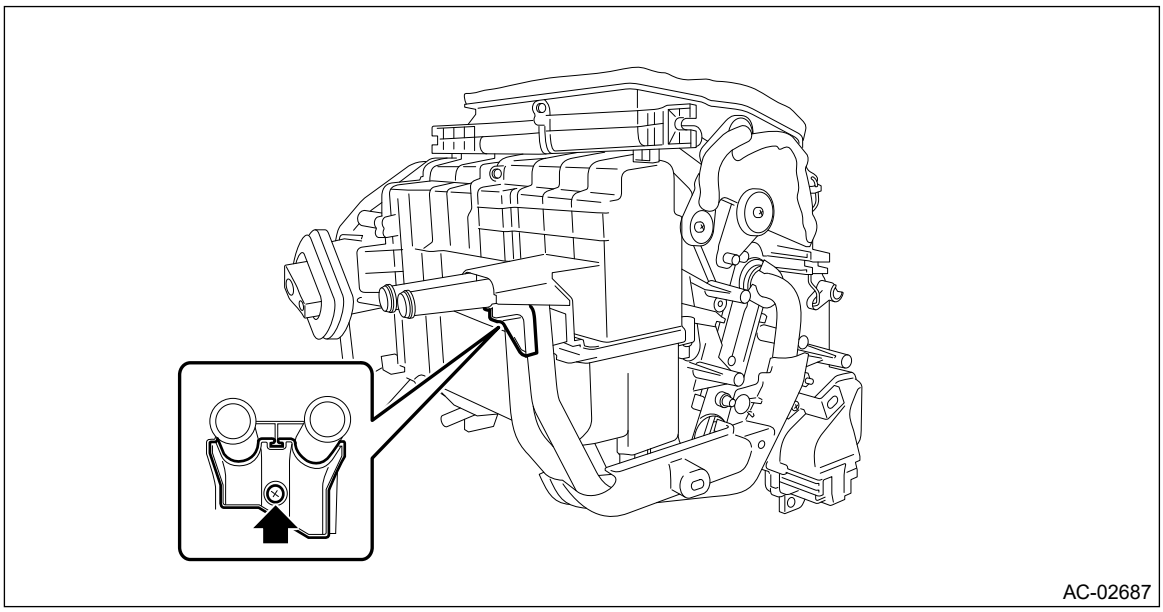
Caution:

Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

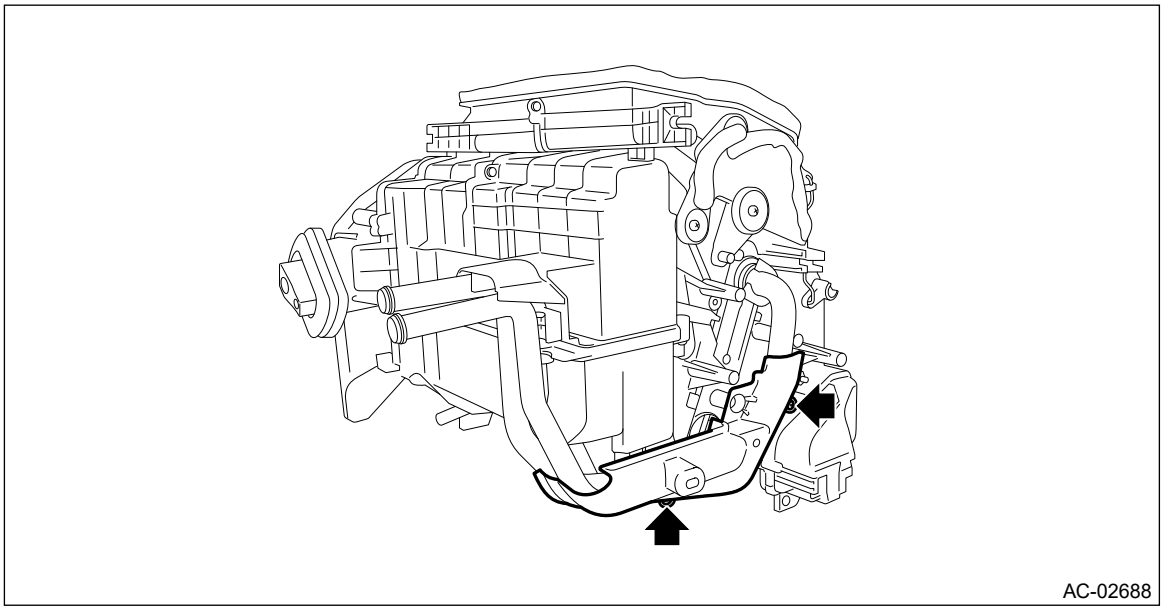
1. Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. Ref. to NOTE>NOTE > BATTERY.

   Note:

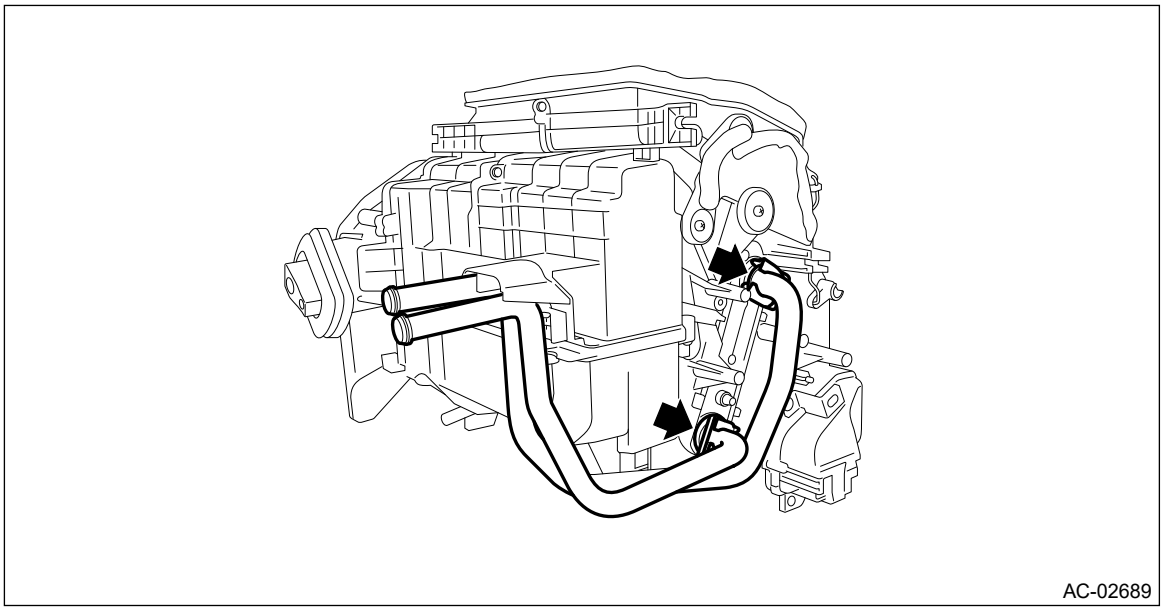
   For model with battery sensor, disconnect the ground terminal from battery sensor.
2. Using the refrigerant recovery system, discharge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Recovery Procedure>PROCEDURE.
3. Drain the coolant from the radiator.
   - Non-turbo model: Ref. to COOLING(H4DO)>Engine Coolant>REPLACEMENT > DRAINING OF ENGINE COOLANT.
   - Turbo model: Ref. to COOLING(H4DOTC)>Engine Coolant>REPLACEMENT > DRAINING OF ENGINE COOLANT.
4. Remove the heater and cooling unit assembly. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Heater and Cooling Unit>REMOVAL.
5. Remove the heater core.
   (1) Remove the screw and detach the clamp - pipe.



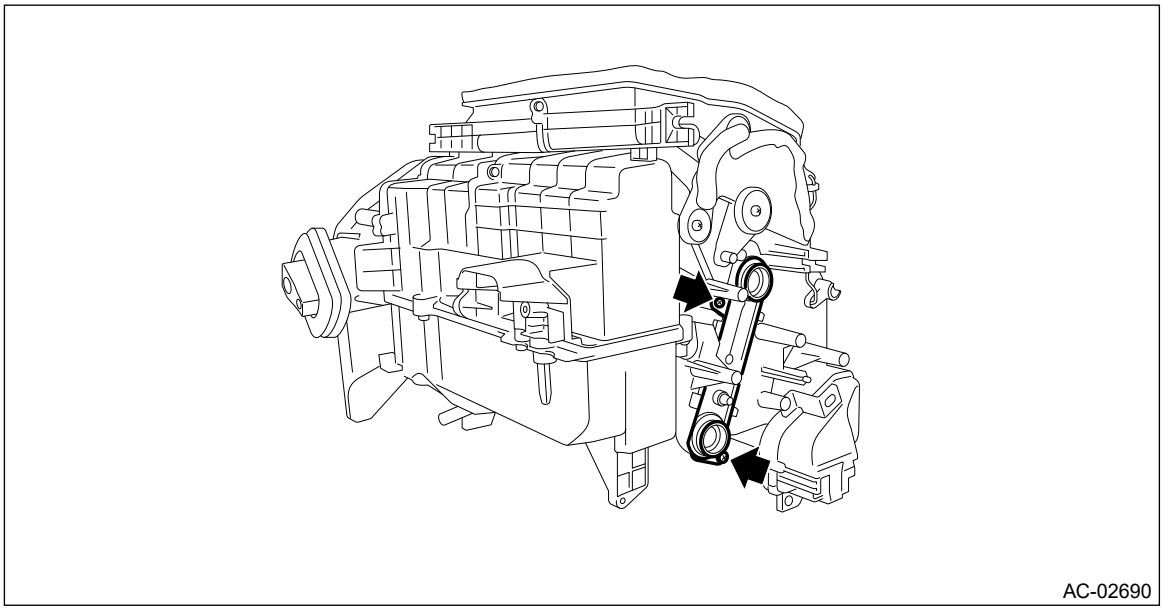
   (2) Remove the screws and detach the cover - heater pipe.



(3) Remove the clamp, and remove the pipe - inlet and outlet.

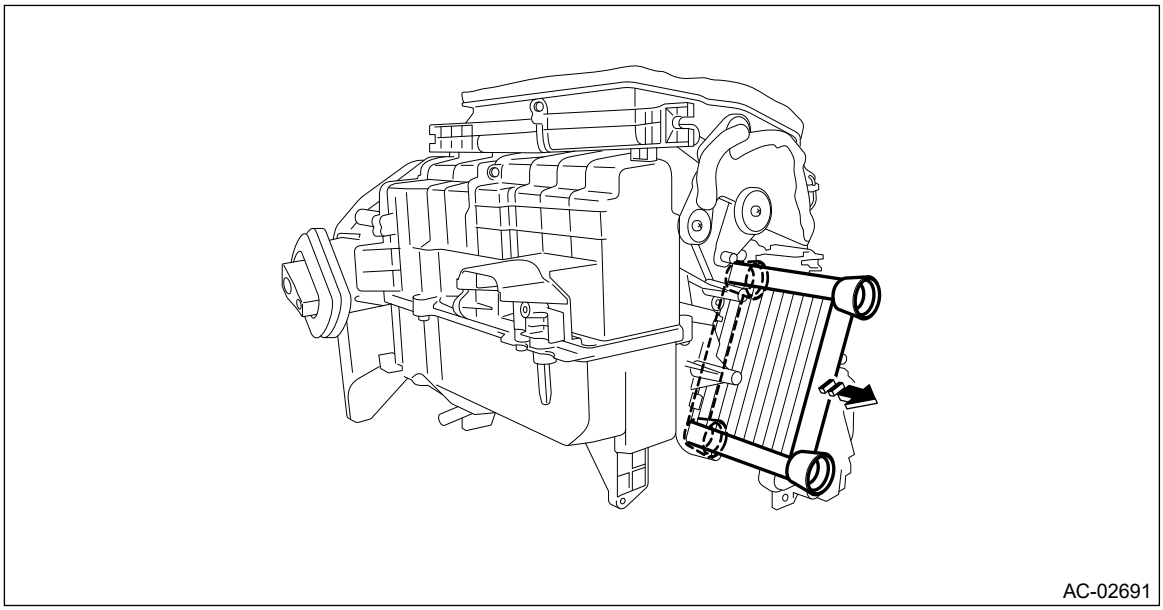


(4) Remove the screws and detach the plate - heater core.



AC-02690

(5) Pull out the heater core from the case - heater unit.



AC-02691

INSTALLATION

Caution:

Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

1. Install each part in the reverse order of removal.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.

REMOVAL

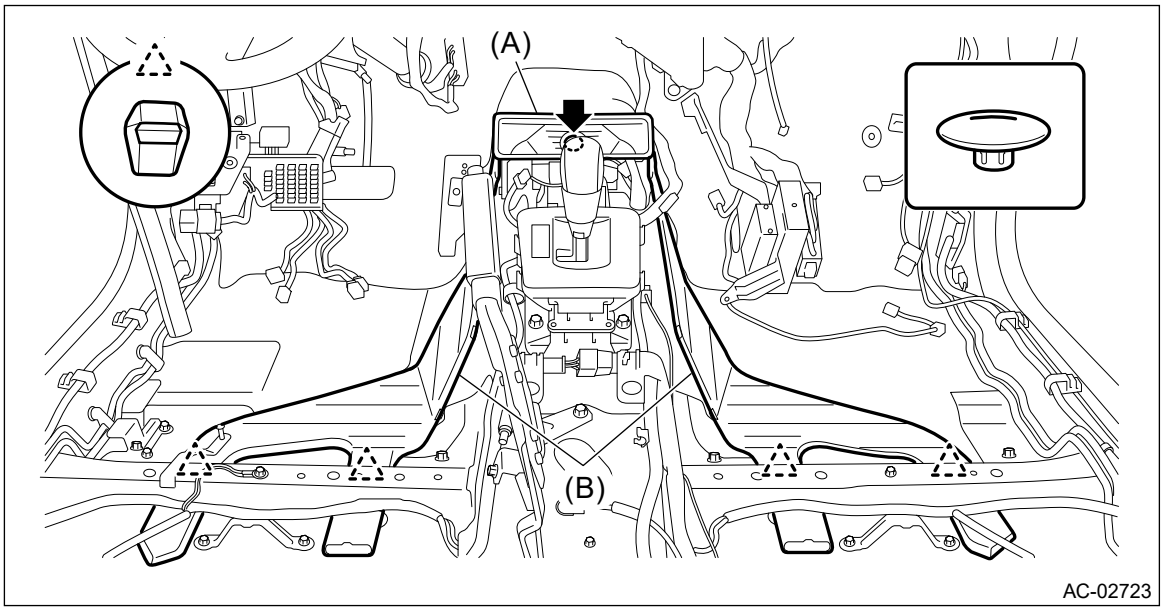
Caution:

Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

1. Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. Ref. to NOTE>NOTE > BATTERY.

   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.
2. Remove the front seats. Ref. to SEATS>Front Seat>REMOVAL.
3. Remove the heater and cooling unit assembly. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Heater and Cooling Unit>REMOVAL.
4. Turn over the floor mat. Ref. to EXTERIOR/INTERIOR TRIM>Floor Mat>REMOVAL.
5. Remove the duct - rear heater.
   (1) Lift the floor carpet.
   (2) Remove the clips, and remove the duct - rear heater CTR (A).
   (3) Release the claws, and remove the duct - rear heater (B) on LH and RH sides.



Note:

For models with power amplifier, remove the duct - extension.

INSTALLATION

Caution:

Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

1. Install each part in the reverse order of removal.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.

REMOVAL

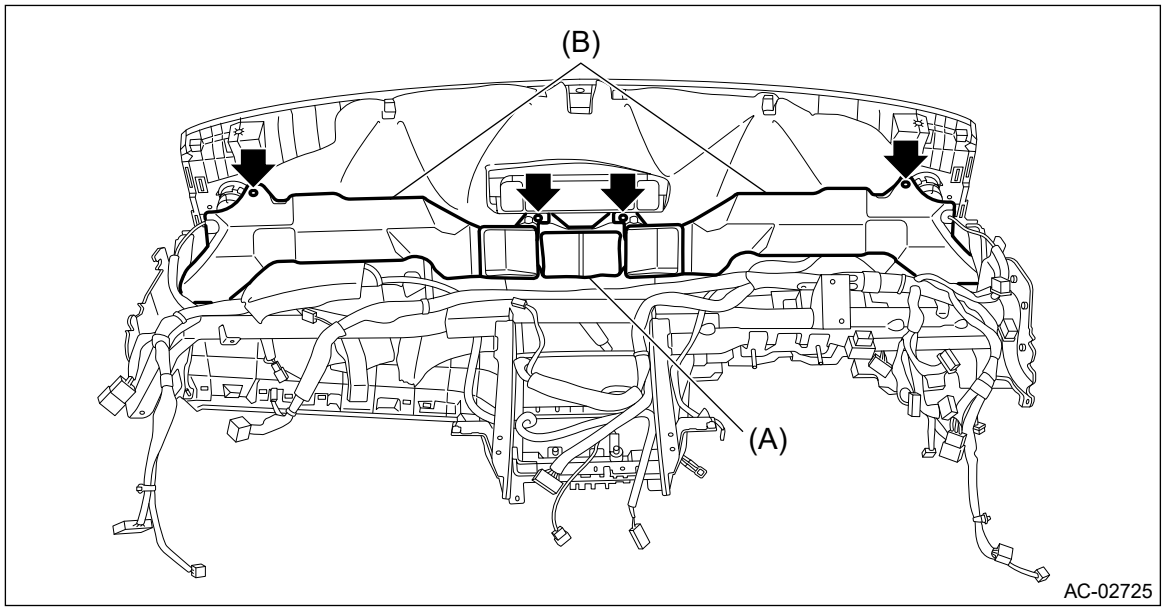
Caution:

Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

1. Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. Ref. to NOTE>NOTE > BATTERY.

   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.
2. Remove the instrument panel assembly. Ref. to EXTERIOR/INTERIOR TRIM>Instrument Panel Assembly>REMOVAL.
3. Remove the screws and remove the duct - center vent (A) and the duct - side ventilation (B) on LH and RH sides.



INSPECTION

1. Check the hoses for cracks, damage and expansion. Replace the hose if faulty.
2. Check the pipes for crack or damage. Replace the pipe if faulty.

INSTALLATION

Caution:

- **If the hose and pipe have been replaced, add an appropriate amount of compressor oil to the compressor. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Compressor Oil>ADJUSTMENT.**
- **Replace the O-rings with new parts, and then apply compressor oil.**
- **When connecting hoses and pipes, do not apply excessive force. After installing, check that no torsion or excessive tension applied to the hoses.**

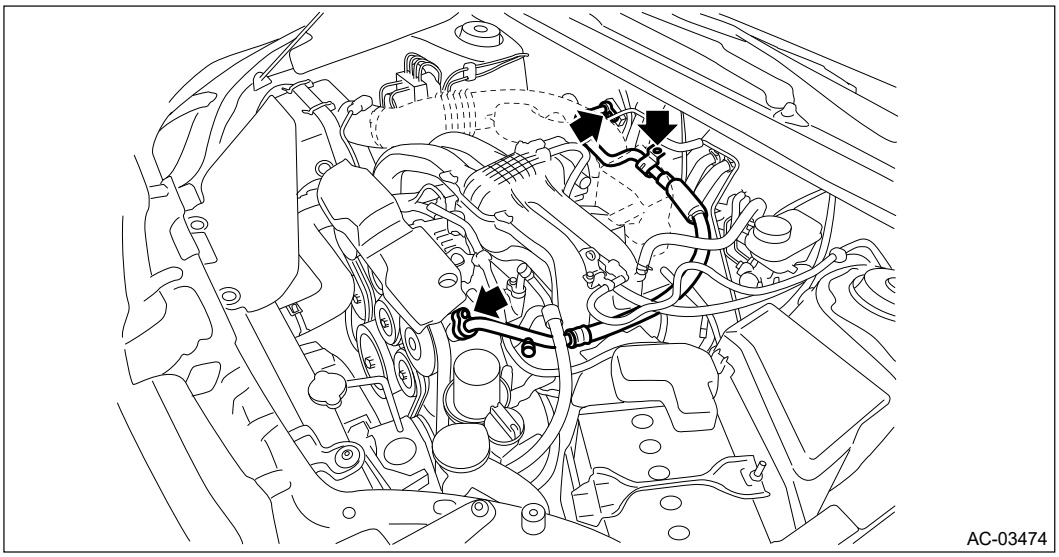
1. Install each part in the reverse order of removal.
   Tightening torque:
   Air conditioning unit: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>General Description>COMPONENT > AIR CONDITIONING UNIT.
   Battery cable stay: 7.5 N•m (0.76 kgf-m, 5.5 ft-lb)
   Engine harness bracket: 7.5 N•m (0.76 kgf-m, 5.5 ft-lb)
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.
3. Charge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Charging Procedure>PROCEDURE.

REMOVAL

1. LOW-PRESSURE HOSE

1. Using the refrigerant recovery system, discharge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Recovery Procedure>PROCEDURE.
2. Remove the air intake boot. (Non-turbo model) Ref. to INTAKE (INDUCTION)(H4DO)>Air Intake Boot>REMOVAL.
3. Remove the intercooler. (Turbo model) Ref. to INTAKE (INDUCTION)(H4DOTC)>Intercooler>REMOVAL.
4. Remove the bolts and remove the hose - pressure suction.

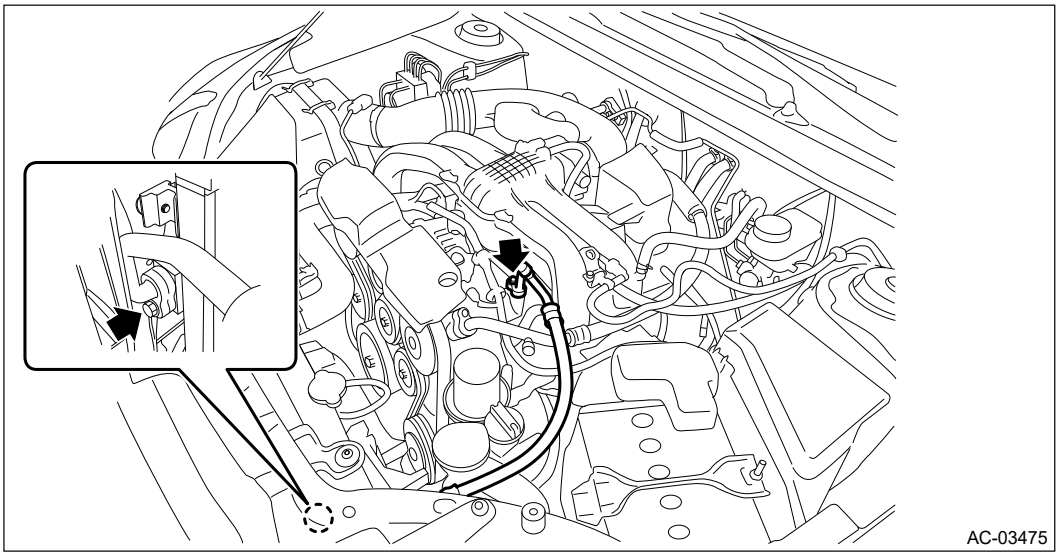
   Caution:
   - **Do not apply excessive force to the hose.**
   - **Seal the disconnected hose, compressor and engaging part of expansion valve with a plug or vinyl tape to prevent foreign matter from entering.**



2. HIGH-PRESSURE HOSE

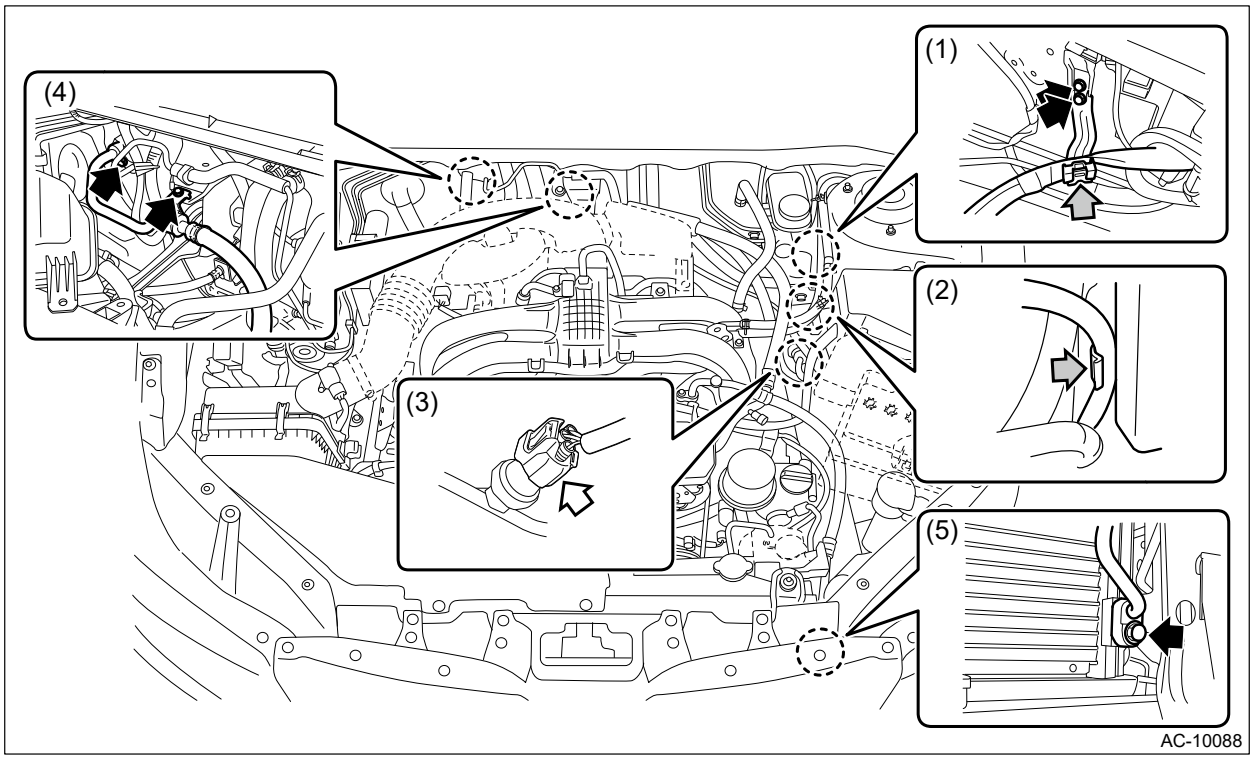
1. Using the refrigerant recovery system, discharge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Recovery Procedure>PROCEDURE.
2. Remove the reservoir tank.
   - Non-turbo model: Ref. to COOLING(H4DO)>Reservoir Tank>REMOVAL.
   - Turbo model: Ref. to COOLING(H4DOTC)>Reservoir Tank>REMOVAL.
3. Remove the bolts and remove the hose - pressure discharge.

   Caution:
   - **Do not apply excessive force to the hose.**
   - **Seal the disconnected hose, compressor and engaging part of compressor with a plug or vinyl tape to prevent foreign matter from entering.**



3. A/C PIPE

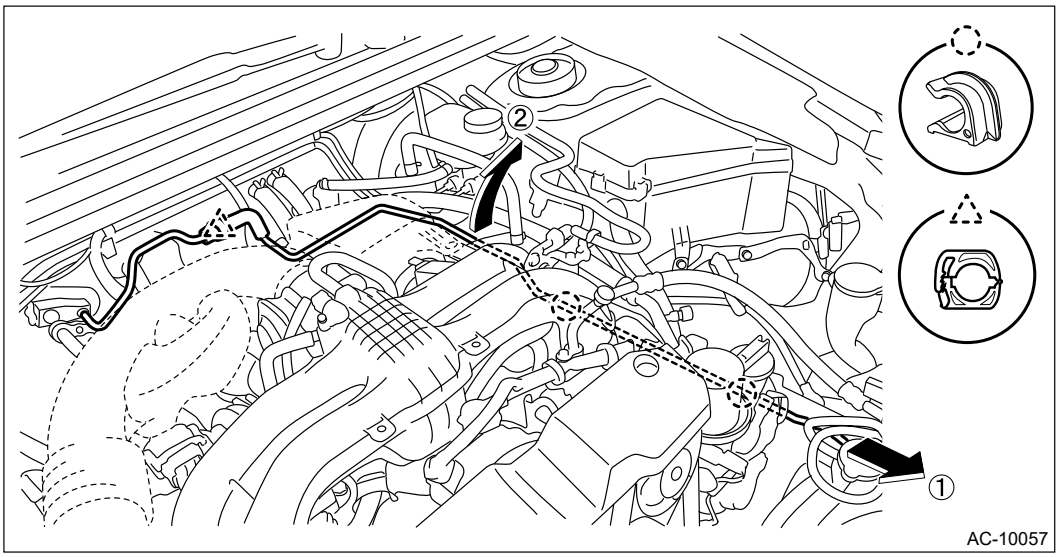
1. Using the refrigerant recovery system, discharge refrigerant. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Recovery Procedure>PROCEDURE.
2. Remove the battery. Ref. to STARTING/CHARGING SYSTEMS(H4DO)>Battery>REMOVAL.
3. Remove the reservoir tank.
   - Non-turbo model: Ref. to COOLING(H4DO)>Reservoir Tank>REMOVAL.
   - Turbo model: Ref. to COOLING(H4DOTC)>Reservoir Tank>REMOVAL.
4. Remove the air intake boot. (Non-turbo model) Ref. to INTAKE (INDUCTION)(H4DO)>Air Intake Boot>REMOVAL.
5. Remove the intercooler. (Turbo model) Ref. to INTAKE (INDUCTION)(H4DOTC)>Intercooler>REMOVAL.
6. Remove the pipe - evaporator cooling.
   (1) Remove the cable clamps and bolts, and remove the battery cable stay.
   (2) Disconnect the battery sensor harness from the main fuse box.
   (3) Disconnect the pressure switch connector.
   (4) Remove the bolts, and detach the hose - pressure suction from the expansion valve - cooling.
   (5) Remove the bolts, and detach the pipe - evaporator cooling from the condenser assembly - air conditioner.



(6) Remove the pipe - evaporator cooling from the clip - pipe, clip and expansion valve, and remove the pipe - evaporator cooling in numerical order as shown in the figure.

Caution:

- **Do not apply excessive force to the pipe and hose.**
- **Seal the engaging parts of disconnected pipe, hose, expansion valve and condenser with a plug or vinyl tape to prevent foreign matter from entering.**
- **Do not pull the harness and cable forcibly.**

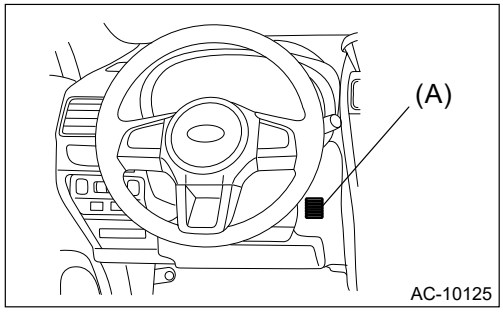


INSPECTION

1. Set the vehicle to the following conditions.

Item	Condition
Ignition switch	ON
A/C switch	ON
Temperature adjustment dial	HI (MAX HOT)
Air flow control dial or switch	DEF
Fan dial	HI (MAX)

2. Check the suction port (A) for in-vehicle sensor of the cover assembly - instrument panel LWR driver INN.



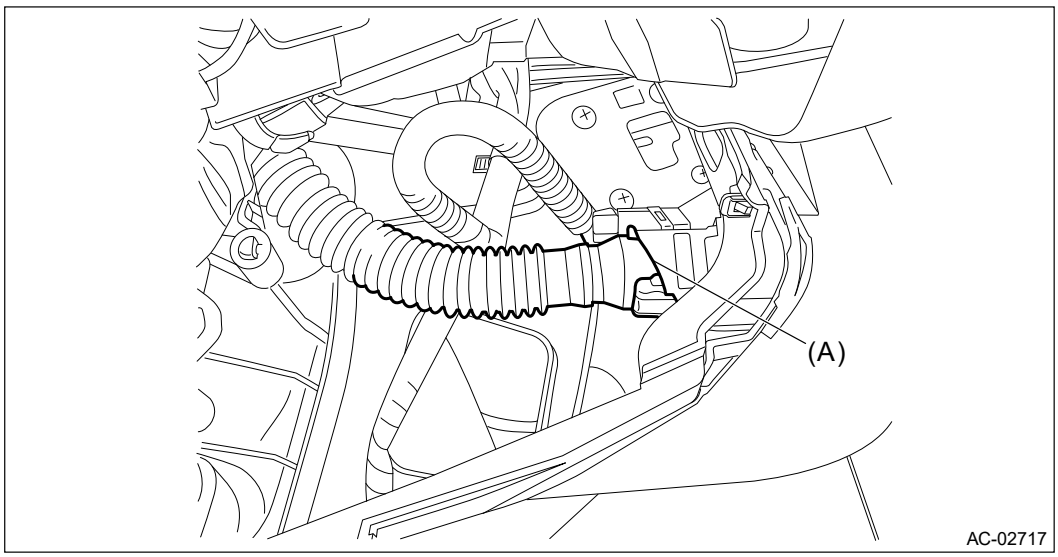
(1) Put a strip of paper close to the front side of the suction port (A).
(2) Can you see the paper moving towards the port and the air being sucked into the port?

Caution:

Be careful not to let the paper get sucked into the port.

- **Yes** → Go to step 5.
- **No** → Go to step 3.

3. Remove the cover assembly - instrument panel LWR driver INN, and check the aspirator hose (A).



(1) Are the aspirator hoses on both sides of the case and sensor connected securely?
(2) Is the aspirator hose free from any kinks or cracks?

- **Yes** → Go to step 4.
- **No** → Repair or replace the aspirator hose if necessary.

4. Check if there is anything that affects sensing, around the in-vehicle sensor.

(1) Is the in-vehicle sensor hole free from clogging?
(2) Is the peripheral area of in-vehicle sensor free from any heat-producing parts (such as audio, navigation system etc.)?
- **Yes** → Go to step 5.
- **No** → Remove everything that affects sensing.

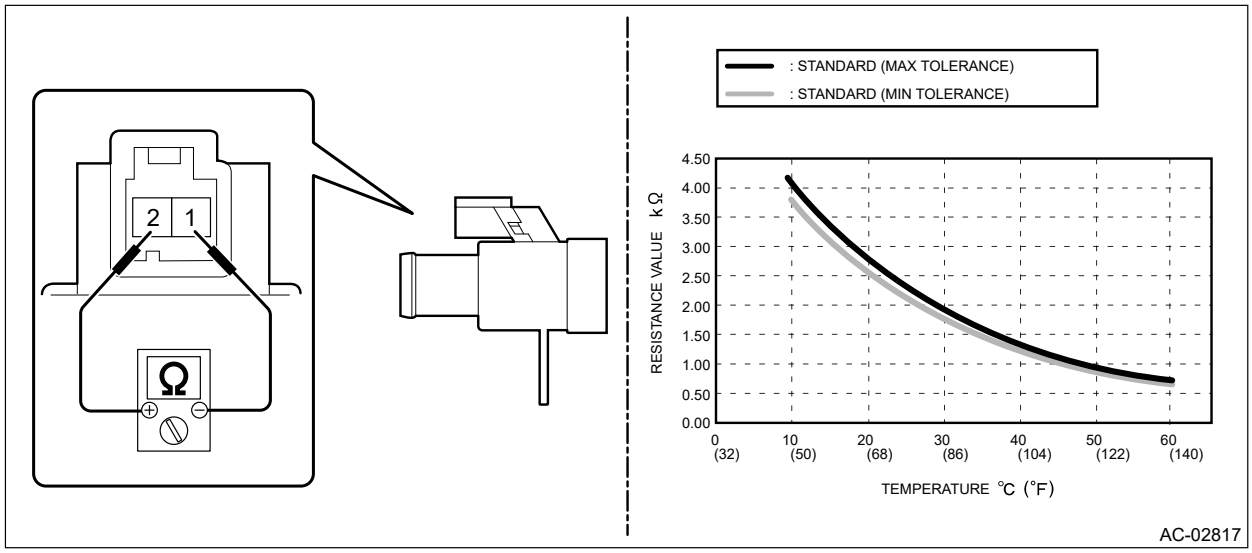
5. Perform the inspection of in-vehicle sensor unit.
(1) Disconnect the connector.
(2) Measure the resistance between connector terminals.

Caution:

During inspection, be careful not to touch the sensor end in order to avoid misjudgment due to body temperature.

Preparation tool:

Circuit tester



Terminal No.	Inspection conditions	Standard
1 — 2	10°C	3.772 — 4.101 kΩ
	15°C	3.096 — 3.338 kΩ
	20°C	2.556 — 2.734 kΩ
	25°C	2.121 — 2.251 kΩ
	30°C	1.756 — 1.878 kΩ
	35°C	1.462 — 1.574 kΩ
	40°C	1.223 — 1.326 kΩ
	45°C	1.028 — 1.122 kΩ
	50°C	0.868 — 0.9542 kΩ
	55°C	0.7363 — 0.8147 kΩ
	60°C	0.6273 — 0.6984 kΩ

(3) Is the resistance within the standard?
- **Yes** → The in-vehicle sensor is normal.
- **No** → Replace the in-vehicle sensor.

INSTALLATION

1. Install each part in the reverse order of removal.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.

REMOVAL

Caution:

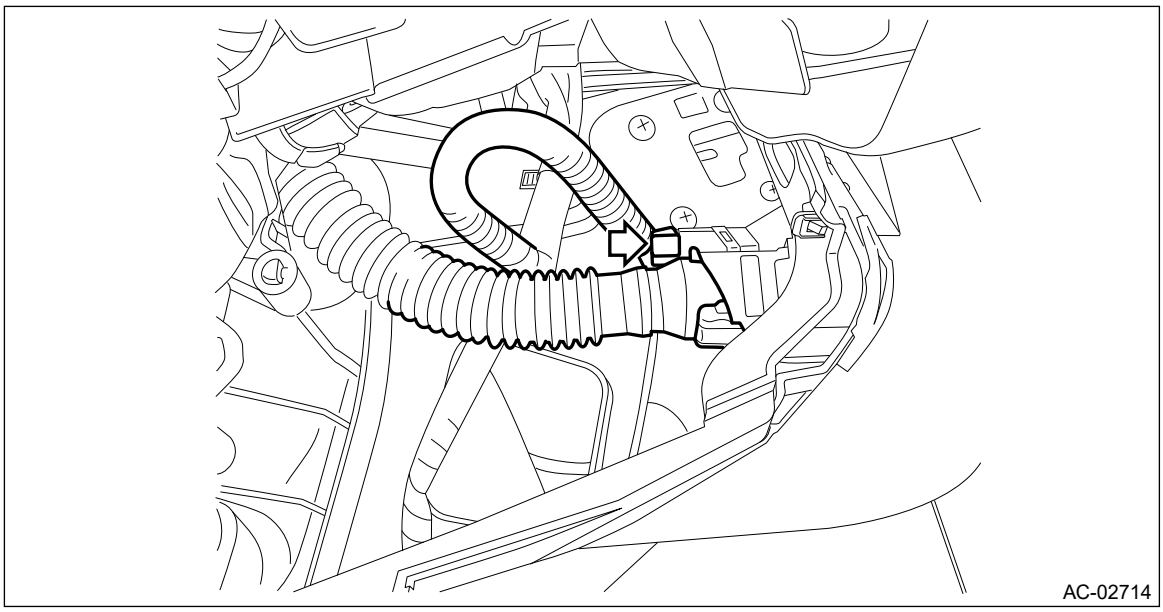
Be careful not to damage the sensors and interior trims when removing.

1. Disconnect the ground cable from battery. Ref. to NOTE>NOTE > BATTERY.

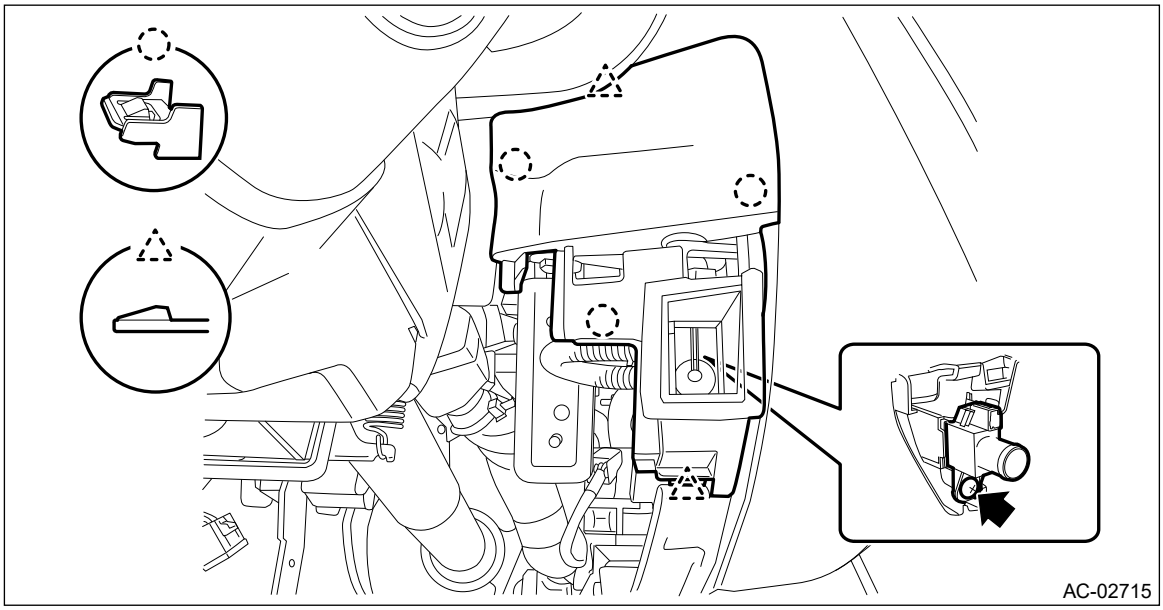
   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.

2. Remove the cover assembly - instrument panel LWR driver INN. Ref. to EXTERIOR/INTERIOR TRIM>Instrument Panel Lower Cover>REMOVAL.
3. Remove the in-vehicle sensor.
   (1) Disconnect the connector, and remove the aspirator hose.



   (2) Release the claws and remove the cover switch - starter.
   (3) Remove the screw and remove the in-vehicle sensor from the cover switch - starter.


AC-02715

INSPECTION

1. CHECK LINK

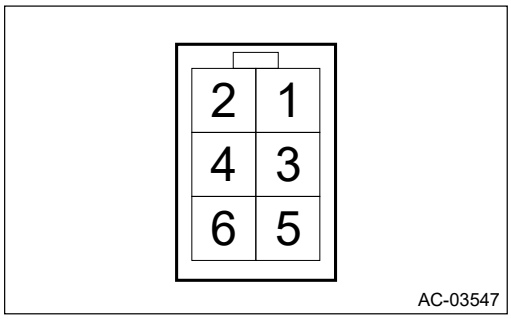
1. Visually check the operating range of the link, and remove the foreign matter if any.
2. Operate the air flow control dial or switch to check that the link operates normally.
3. If it does not operate normally as the result of inspection, check the motor - actuator mode.

2. CHECK ACTUATOR

1. Measure the resistance between connector terminals.

   Preparation tool:

   Circuit tester



Terminal No.	Inspection conditions	Standard
3 — 1	Always	80 — 100 Ω
3 — 2		
3 — 5		
3 — 6		

2. Replace the motor - actuator mode if the inspection result is not within the standard value.

INSTALLATION

Caution:

Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

1. Install each part in the reverse order of removal.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.

REMOVAL

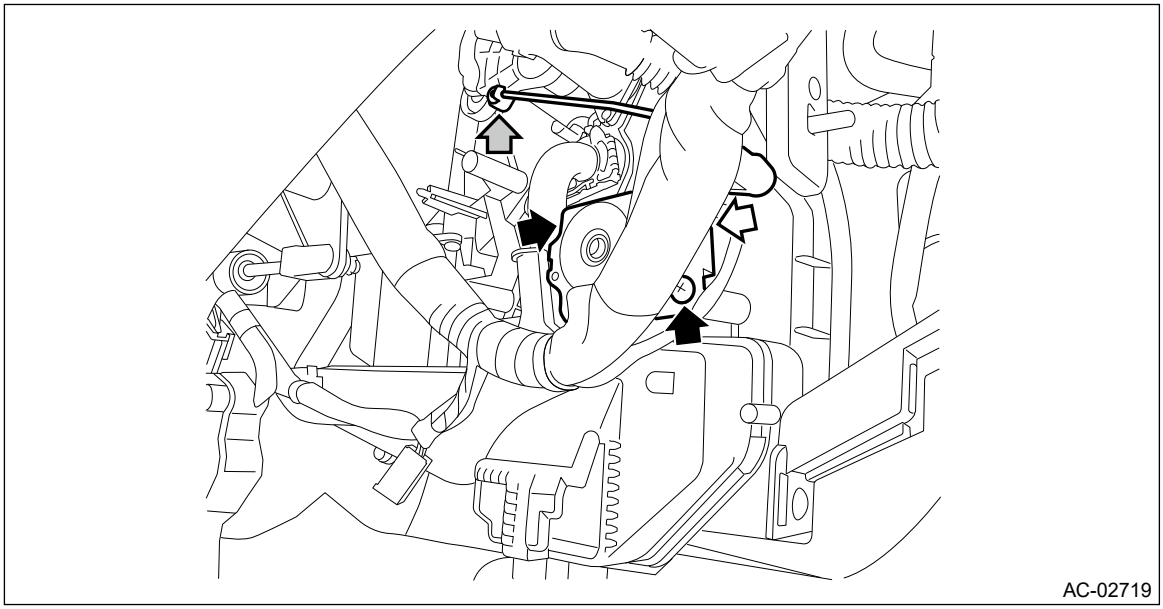
Caution:

Before handling the airbag system components, always refer to "CAUTION" of "General Description" in "AIRBAG SYSTEM". Ref. to AIRBAG SYSTEM>General Description>CAUTION.

1. Disconnect the ground cable from battery and wait for at least 60 seconds before starting work. Ref. to NOTE>NOTE > BATTERY.

   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.
2. Remove the cover assembly - instrument panel LWR driver. Ref. to EXTERIOR/INTERIOR TRIM>Instrument Panel Lower Cover>REMOVAL.
3. Remove the knee airbag module. Ref. to AIRBAG SYSTEM>Knee Airbag Module>REMOVAL.
4. Remove the motor - actuator mode.
   (1) Disconnect the connector, and remove the rod from the rod clamp.
   (2) Remove the screws and detach the motor - actuator mode.



INSTALLATION

1. Install each part in the reverse order of removal.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.

REMOVAL

1. Disconnect the ground cable from battery. Ref. to NOTE>NOTE > BATTERY.

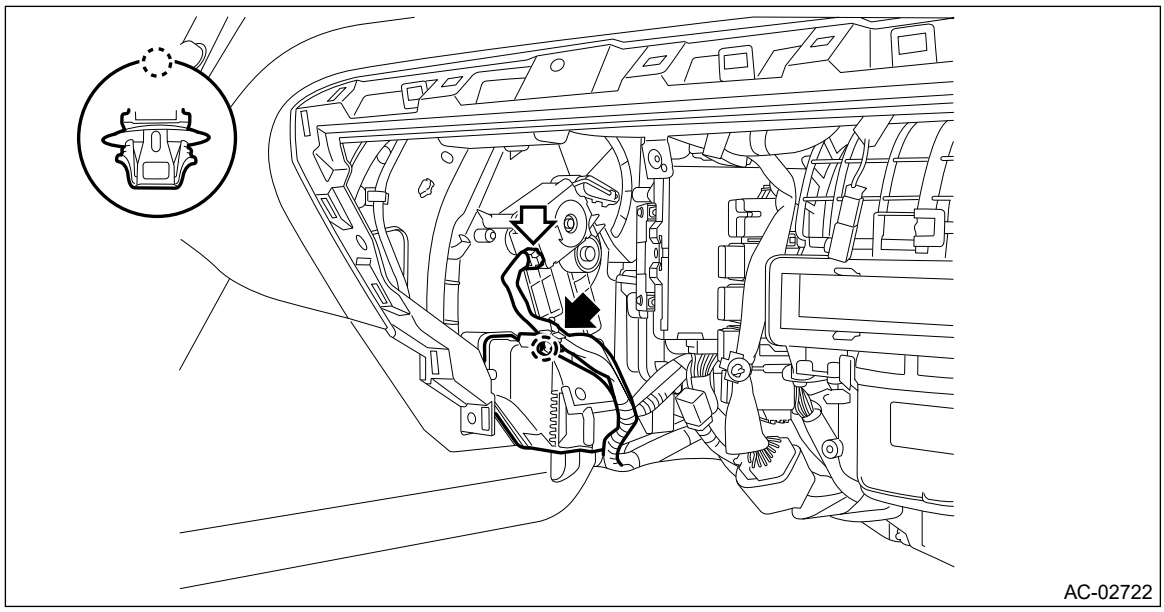
   Note:

   For model with battery sensor, disconnect the ground terminal from battery sensor.

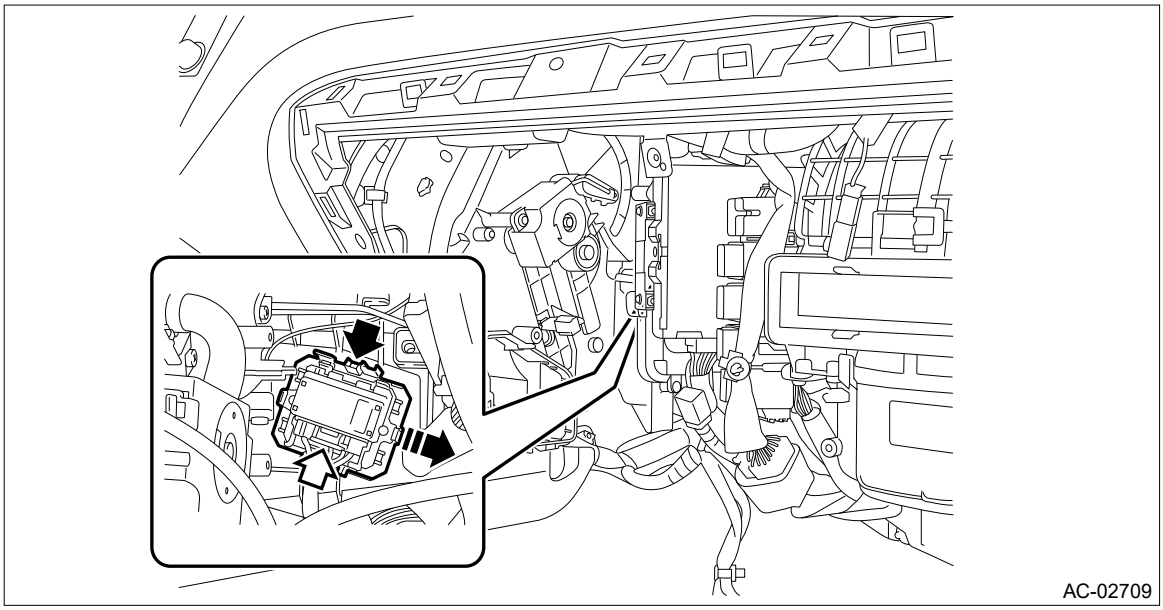
2. Remove the glove box. Ref. to EXTERIOR/INTERIOR TRIM>Glove Box>REMOVAL.
3. Remove the screws and remove the duct - foot RH.

   Note:

   Remove the connector and clip of the motor - actuator mix RH, and move the harness aside.

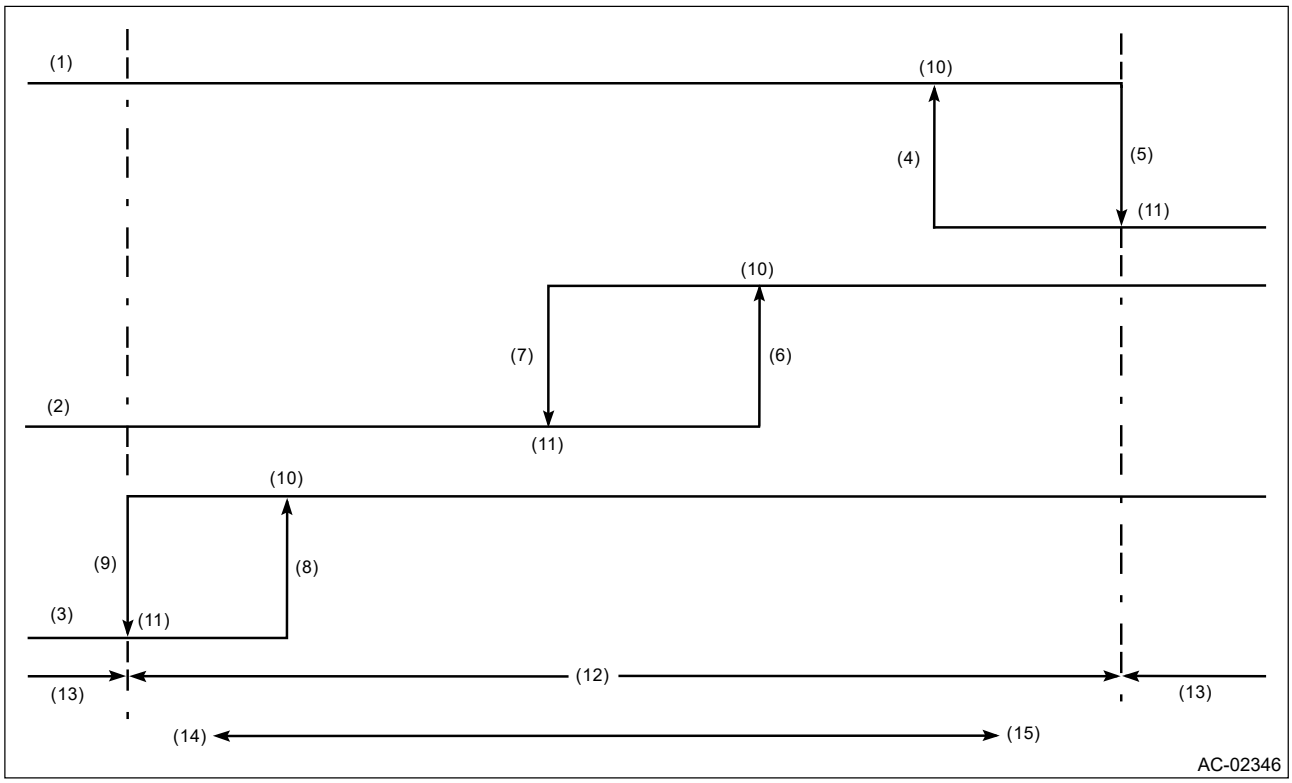


4. Remove the power transistor.
   (1) Disconnect the connector.
   (2) Remove the power transistor while pressing the power transistor body claw part and sliding it.


AC-02709

INSPECTION

1. Connect the manifold gauge to the service valve on the high-pressure side.
2. Disconnect the connector.
3. Start the air conditioner, and check the operating pressure of switch by turning the compressor assembly (magnet clutch) to ON/OFF. Operation of each switch is as follows.



(1) High pressure switch	(6) 1,770±100 kPa (18.05±1.02 kg/cm^2, 256.65±14.5 psi)	(11) {OFF}
(2) Middle pressure switch	(7) 1,470±120 kPa (14.99±1.22 kg/cm^2, 213.15±17.4 psi)	(12) Operative range of compressor ASSY
(3) Low pressure switch	(8) 225±30 kPa (2.29±0.31 kg/cm^2, 32.6±4.3 psi)	(13) Inoperative range of compressor ASSY
(4) 2,350±200 kPa (24±2.04 kg/cm^2, 340.7±29 psi)	(9) 196±25 kPa (2±0.25 kg/cm^2, 28.4±3.6 psi)	(14) Low pressure
(5) 2,940±200 kPa (29.98±2.04 kg/cm^2, 426.3±29 psi)	(10) {ON}	(15) High pressure

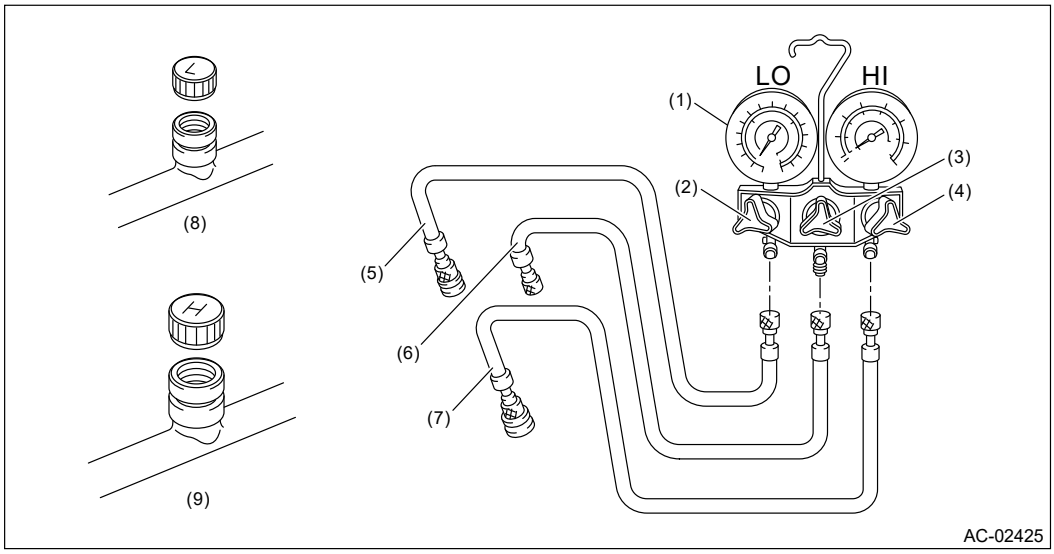
Note:

- **High pressure switch turns the compressor assembly (magnet clutch) to OFF when the refrigerant pressure becomes extremely high to prevent the evaporator, air conditioner piping and expansion valve from getting damaged or frozen, etc.**
- **The middle pressure switch is used to effectively control the radiator fan output by judging high load/low load in normal pressure range.**
- **The low pressure switch detects a refrigerant shortage and deactivates the compressor assembly (magnet clutch) if the refrigerant pressure is abnormally low. (Because any further compressor assembly operation in such a state may lead to compressor seizure)**

PROCEDURE

Caution:

- **While working, be sure to wear protective goggles and protective gloves.**
- **Air in the cycle can cause insufficient air conditioning, and water in the cycle can cause clogging in the cycle (icing) and rust. To remove this air and water content, use a vacuum pump to perform evacuation before filling with refrigerant. By making the inside of the cycle a vacuum, the water content will evaporate even at normal temperatures, and can be removed.**



(1) Manifold gauge
(2) Low pressure valve
(3) Center valve
(4) High pressure valve
(5) Low-pressure hose
(6) Center manifold hose (vacuum pump and charge)
(7) High-pressure hose
(8) Low-pressure side service port
(9) High-pressure side service port

1. Attach the manifold gauge set.

Preparation tool:

Manifold gauge set

(1) Check that all valves are fully closed.

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

Caution:

Confirm that the connections are secure.

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

Preparation tool:

Vacuum pump

2. Perform evacuation.

Caution:

Make sure to perform evacuation using a vacuum pump.

(1) Open the low-pressure valve, high-pressure valve and center valve.

(2) Operate the vacuum pump.

(3) Perform evacuation for 5 minutes or more, and when the low pressure gauge needle reaches −0.1 MPa (−1 kgf/cm^2, −14 psi), close the center manifold hose valve, and stop the vacuum pump.

(4) Leave alone for 5 to 10 minutes after closing the low pressure valve and high pressure valve, and

check whether there is any change in the low pressure gauge needle indication.
If the needle position changes, this indicates a leak. Check the pipe and hose connections, and repair the location with the problem.
After repair, retry charging the refrigerant from the step (1).

(5) If there is no leakage, continue evacuation for additional 20 — 30 minutes, close all valves and then stop the vacuum pump.

3. Charge refrigerant.

(1) Follow the can tap operation manual to attach it to the refrigerant can.

Preparation tool:

Can tap

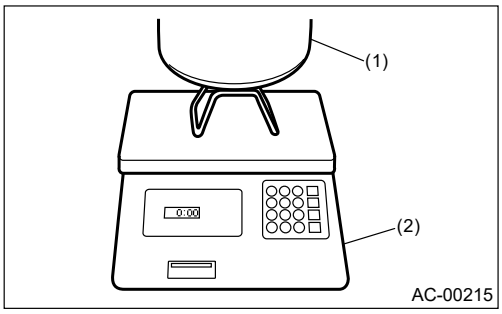
(2) Disconnect the center manifold hose from the vacuum pump, and connect the hose to the tap valve.

Preparation tool:

Weight scale

Note:

When 13.6 kg (30 lb) refrigerant container (1) is used, measure the amount of refrigerant with a refrigerant charging scale (2), and connect with the center manifold hose.



(3) Open the tap valve of HFC-134a supply container (refrigerant can or refrigerant container).

(4) Loosen the center manifold hose connection on the manifold gauge for a few seconds (if there is a purge valve on the manifold gauge, push this instead) to allow the air in the center manifold hose to be bled by the refrigerant pressure.

(5) Open the low pressure valve and high pressure valve of the manifold gauge to fill with refrigerant.

Note:

If the HFC-134a supply container is empty, close all manifold gauge valves and the tap valve of HFC-134a supply container, and replace the empty supply container with a new one. After replacing with a new HFC-134a supply container, perform air purge, and resume the filling operation.

(6) If the low pressure gauge indicates approximately 0.2 MPa (2 kgf/cm^2, 29 psi) or refrigerant filling efficiency drops, close the low pressure and high pressure valves.

(7) Check that the low pressure valve and high pressure valve are closed, turn off the A/C switch and start the engine.

Caution:

When filling operation is performed with the engine running, do not open the high pressure valve. Always fill from the low pressure valve.

(8) To prevent damage to the compressor, push the A/C switch ON-OFF quickly a few times.

(9) Set the vehicle to the following conditions.

Item	Condition
Engine Speed	1,500 r/min
A/C switch	ON
Temperature adjustment dial	LO (MAX COOL)

Fan dial	HI (MAX)
FRESH/RECIRC switch	RECIRC
Air flow control dial or switch	VENT
Window	OPEN

(10) Open the low pressure valve, check the refrigerant pressure with a manifold gauge and fill with refrigerant up to the specified amount. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Pressure with Manifold Gauge Set>INSPECTION > INSPECTION WITH PRESSURE SYMPTOM.

4. Using an electronic leak detector (leak tester), check for refrigerant leaks in the system. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Leak Check>INSPECTION.
5. After filling with refrigerant, close all valves and remove the manifold gauge set.
6. Attach cap to the service port of the low pressure side and high pressure side.

INSPECTION

Preparation tool:

Manifold gauge set

Electronic leak detector (leak tester)

1. Attach the manifold gauge set.

   Preparation tool:

   Manifold gauge set

   (1) Check that all valves are fully closed.

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

   Caution:

   Confirm that the connections are secure.

   (3) Start the engine, operate the A/C system for approx. 10 minutes, and check that the high-pressure side indicates 0.69 MPa (7 kgf/cm^2, 100 psi) or more.

2. Turn the ignition switch to OFF to start the leak test.

   Preparation tool:

   Electronic leak detector (leak tester)

Items	Condition	Corrective action
Pipe	Check the connections of pipe and expansion valve.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
	Check the connection between pressure switch or pressure sensor and high-pressure pipe.	Replace the pressure switch or pressure sensor.
	Check the connection between pipe and condenser.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
Condenser	Check the welded part of condenser and core.	Replace the condenser.
Hose (high-pressure)	Check the connection between hose (high-pressure) and compressor.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
	Check the connection between hose (high-pressure) and condenser.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
	Check the rubber part of the flexible hose and pipe seam. **Caution:** **Carefully check the external surface of flexible hoses and pipes at approx. 25 mm**	Replace the hose (high pressure).

	(0.98 in) per second.	
	Check the valve and cap in the service port.	Check the rubber seal of the valve and cap. If necessary, replace valve or cap.
COMPRESSOR	Check the compressor pulley and vicinity of shaft seal. **Caution:** **Some shaft seals will show a slight amount of leakage, about 3 g (0.1 oz) per year. This is not a problem.**	Replace the compressor.
Hose (low-pressure)	Check the connection between hose (low pressure) and expansion valve.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
	Check the connection between hose (low pressure) and compressor.	Check the O-ring at connection and tightening torque. If necessary, replace each part.
	Check the rubber part of the flexible hose and pipe seam. **Caution:** **Carefully check the external surface of flexible hoses and pipes at approx. 25 mm (0.98 in) per second.**	Replace the hose (low pressure).
	Check the valve and cap in the service port.	Check the rubber seal of the valve and cap. If necessary, replace valve or cap.
Evaporator	Remove the drain hose from the heater case, and check the end part for 10 seconds or more.	Replace the evaporator.
	Check the air vent grille. **Note:** **Turn the ignition switch to ON, and run the blower at high speed for approx. 1 minute. Stop the blower to check the air vent grille on the instrument panel. While moving the tester closer to the grille, run the blower for 1 or 2 seconds, then stop it. Check the grille at that position for at least 10 seconds.**	Replace the evaporator.

INSPECTION

1. INSPECTION WITH PRESSURE SYMPTOM

Symptoms	Reference
Both high and low pressure sides are low	Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Pressure with Manifold Gauge Set>INSPECTION > BOTH HIGH AND LOW PRESSURE SIDES ARE LOW.
Both high and low pressure sides are high	Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Pressure with Manifold Gauge Set>INSPECTION > BOTH HIGH AND LOW PRESSURE SIDES ARE HIGH.
High and low pressure sides are equal, high-pressure side is low	Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Pressure with Manifold Gauge Set>INSPECTION > HIGH AND LOW PRESSURE SIDES ARE EQUAL, OR HIGH-PRESSURE SIDE IS LOW.
High-pressure side is high	Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Pressure with Manifold Gauge Set>INSPECTION > HIGH-PRESSURE SIDE IS HIGH.
Low-pressure side is low	Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Pressure with Manifold Gauge Set>INSPECTION > LOW-PRESSURE SIDE IS LOW.
Low-pressure side is high	Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Pressure with Manifold Gauge Set>INSPECTION > LOW-PRESSURE SIDE IS HIGH.

2. BOTH HIGH AND LOW PRESSURE SIDES ARE LOW

1. CHECK REFRIGERANT LEAKS.

Check the refrigerant for leaks. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Leak Check>INSPECTION.

Note:

When high-pressure side is less than 0.69 MPa: Go to step 2.

Are there refrigerant leaks?

Yes	Repair the refrigerant leaking points.
No	Go to 2.

2. FILL PROPER AMOUNT OF REFRIGERANT.

Drain all refrigerant, and refill proper amount of refrigerant.

- Recovery: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Recovery Procedure>PROCEDURE.
- Fill: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Charging Procedure>PROCEDURE.

Is refrigerant pressure within the standard value?

Yes	Refrigerant pressure is normal.
No	Perform corresponding "INSPECTION WITH PRESSURE SYMPTOM".

3. BOTH HIGH AND LOW PRESSURE SIDES ARE HIGH

1. FILL PROPER AMOUNT OF REFRIGERANT.

Drain all refrigerant, and refill proper amount of refrigerant.

- Recovery: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Recovery Procedure>PROCEDURE.
- Fill: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Charging Procedure>PROCEDURE.

Is refrigerant pressure within the standard value?

Yes	Refrigerant pressure is normal.
No	Perform corresponding "INSPECTION WITH PRESSURE SYMPTOM".

4. HIGH AND LOW PRESSURE SIDES ARE EQUAL, OR HIGH-PRESSURE SIDE IS LOW

1. CHECK REFRIGERANT LEAKS.

Check the refrigerant for leaks. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Leak Check>INSPECTION.

Note:
When high-pressure side is less than 0.69 MPa: Go to step 2.

Are there refrigerant leaks?

Yes — Repair the refrigerant leaking points.

No — Go to 2.

2. FILL PROPER AMOUNT OF REFRIGERANT.

Drain all refrigerant, and refill proper amount of refrigerant.

- Recovery: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Recovery Procedure>PROCEDURE.
- Fill: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Charging Procedure>PROCEDURE.

Is refrigerant pressure within the standard value?

Yes — Refrigerant pressure is normal.

No — Inspect the compressor. Ref. to AIR CONDITIONER(DIAGNOSTICS)>Diagnostics with Phenomenon>INSPECTION > COLD AIR DOES NOT COME OUT EVEN WHEN THE A/C SWITCH IS PRESSED. THE GLASS CANNOT BE DEFOGGED. (COMPRESSOR DOES NOT OPERATE.).

5. HIGH-PRESSURE SIDE IS HIGH

1. CHECK CONDENSER.

Check the condenser. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Condenser>INSPECTION.

Is condenser OK?

Yes — Go to 2.

No — Clean or replace the condenser.

2. CHECK RADIATOR FAN.

Check the radiator fan system.

- Non-turbo model: Ref. to COOLING(H4DO)>Radiator Fan System>INSPECTION.
- Turbo model: Ref. to COOLING(H4DOTC)>Radiator Fan System>INSPECTION.

Is radiator fan system normal?

Yes — Go to 3.

No — Repair the radiator fan system or replace the faulty parts.

3. FILL PROPER AMOUNT OF REFRIGERANT.

Drain all refrigerant, and refill proper amount of refrigerant.

- Recovery: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Recovery Procedure>PROCEDURE.
- Fill: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Charging Procedure>PROCEDURE.

Is refrigerant pressure within the standard value?

Yes — Refrigerant pressure is normal.

No — Check the high-pressure hose and condenser for kinks or clogging, and replace if defective.

6. LOW-PRESSURE SIDE IS LOW

1. CHECK REFRIGERANT LEAKS.

Check the refrigerant for leaks. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Leak Check>INSPECTION.

Note:

When high-pressure side is less than 0.69 MPa: Go to step 2.

Are there refrigerant leaks?

Yes — Repair the refrigerant leaking points.

No — Go to 2.

2. FILL PROPER AMOUNT OF REFRIGERANT.

Drain all refrigerant, and refill proper amount of refrigerant.

- Recovery: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Recovery Procedure>PROCEDURE.
- Fill: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Charging Procedure>PROCEDURE.

Is refrigerant pressure within the standard value?

Yes — Refrigerant pressure is normal.

No — Go to 3.

3. REPLACE EXPANSION VALVE.

Replace the expansion valve. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Expansion Valve>REMOVAL.

Is refrigerant pressure within the standard value?

Yes — Refrigerant pressure is normal.

No — Inspect the compressor. Ref. to AIR CONDITIONER(DIAGNOSTICS)>Diagnostics with Phenomenon>INSPECTION > COLD AIR DOES NOT COME OUT EVEN WHEN THE A/C SWITCH IS PRESSED. THE GLASS CANNOT BE DEFOGGED. (COMPRESSOR DOES NOT OPERATE.).

7. LOW-PRESSURE SIDE IS HIGH

1. FILL PROPER AMOUNT OF REFRIGERANT.

Drain all refrigerant, and refill proper amount of refrigerant.

- Recovery: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Recovery Procedure>PROCEDURE.
- Fill: Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Charging Procedure>PROCEDURE.

Is refrigerant pressure within the standard value?

Yes — Refrigerant pressure is normal.

No — Go to 2.

2. REPLACE EXPANSION VALVE.

Replace the expansion valve. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Expansion Valve>REMOVAL.

Is refrigerant pressure within the standard value?

Yes	Refrigerant pressure is normal.
No	Replace the evaporator. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Evaporator>REMOVAL.

PROCEDURE

1. CHECK REFRIGERANT GAS PRESSURE

1. Prepare the vehicle.

   Note:

   Check that the ambient temperature is 25 — 40°C (77 — 104°F) and that the humidity is 30% — 80%.

   - Place the vehicle in the shade and windless condition, and open the front hood.
   - Open the front windows and close all doors.

2. Check the refrigerant pressure.

   Preparation tool:

   Manifold gauge set

   (1) Connect the manifold gauge set, and start the engine.

   (2) Set the vehicle to the following conditions.

Item	Condition
Engine	Warmed up (Engine coolant temperature indicator light: OFF)
Air vent grille	Shutter is fully open.
A/C switch	{ON}
Temperature adjustment dial	LO (MAX COOL)
FRESH/RECIRC switch	RECIRC
Air flow control dial or switch	VENT
Fan dial	Auto A/C model: 5/7 level
	Manual A/C model: 3/4 level

   (3) In the condition of step (2), idle the engine for 30 minutes.

   (4) Read the gauge values on both high pressure side and low pressure side for manifold gauge.

3. Measure the air vent grille outlet opening temperature, ambient temperature and humidity.

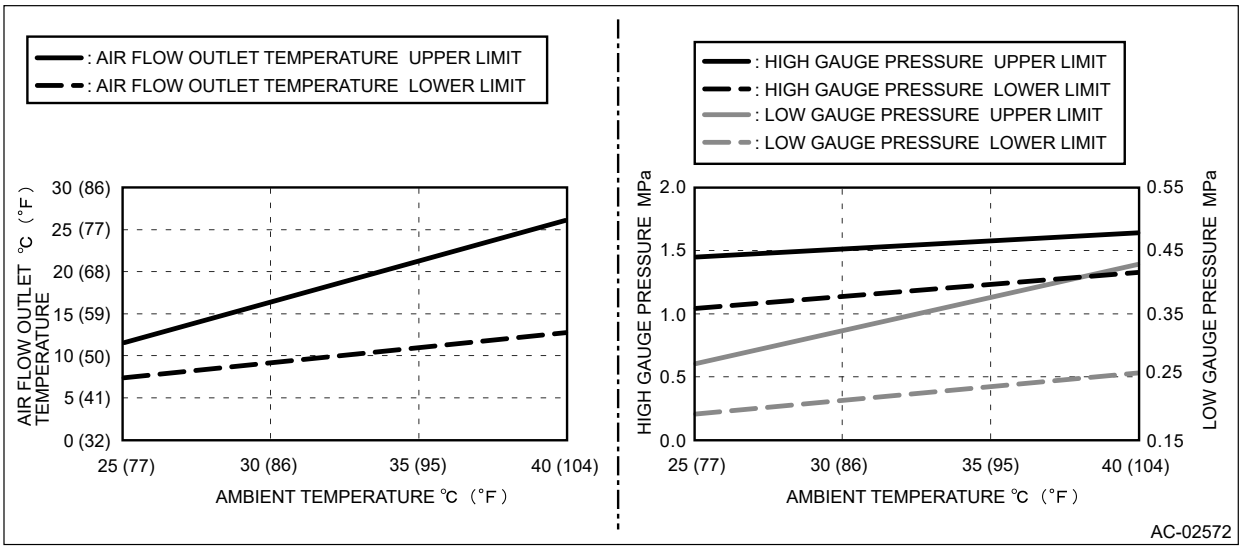
   Preparation tool:

   Thermometer and hygrometer

   Note:

   For outlet opening temperature, measure the average temperature of center grille assembly and side grille assembly.

4. Check that the high and low pressures and outlet opening temperature for ambient temperature and humidity is within the standard value described in the chart below.

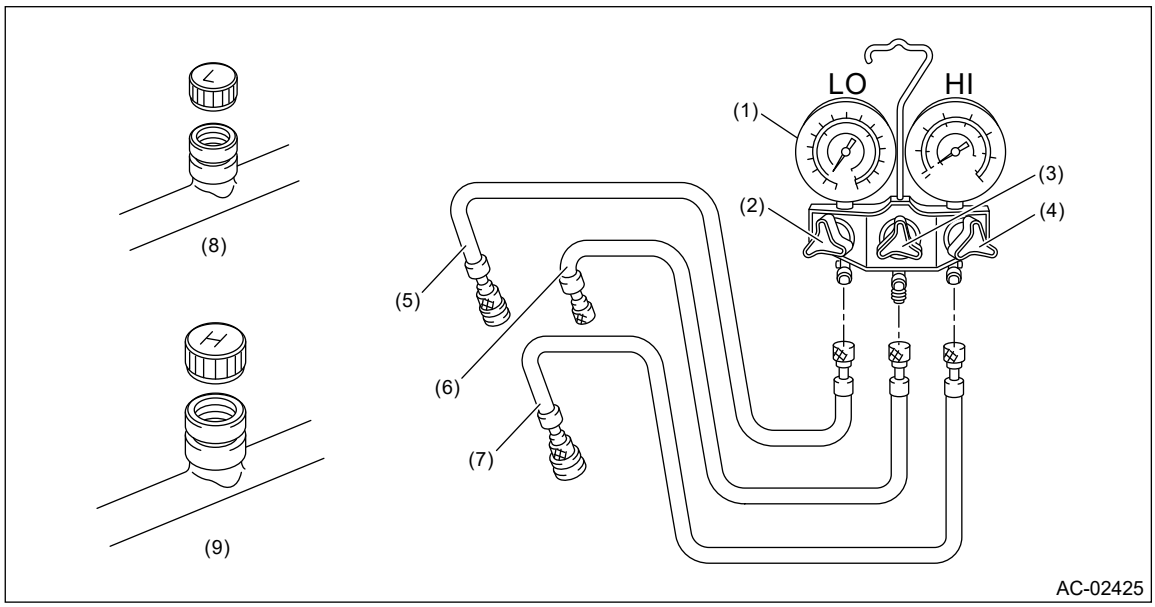


5. Refer to "DIAGNOSIS WITH SYMPTOM" if the inspection result is not within the standard value. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Refrigerant Pressure with Manifold Gauge Set>INSPECTION > INSPECTION WITH PRESSURE SYMPTOM.

PROCEDURE

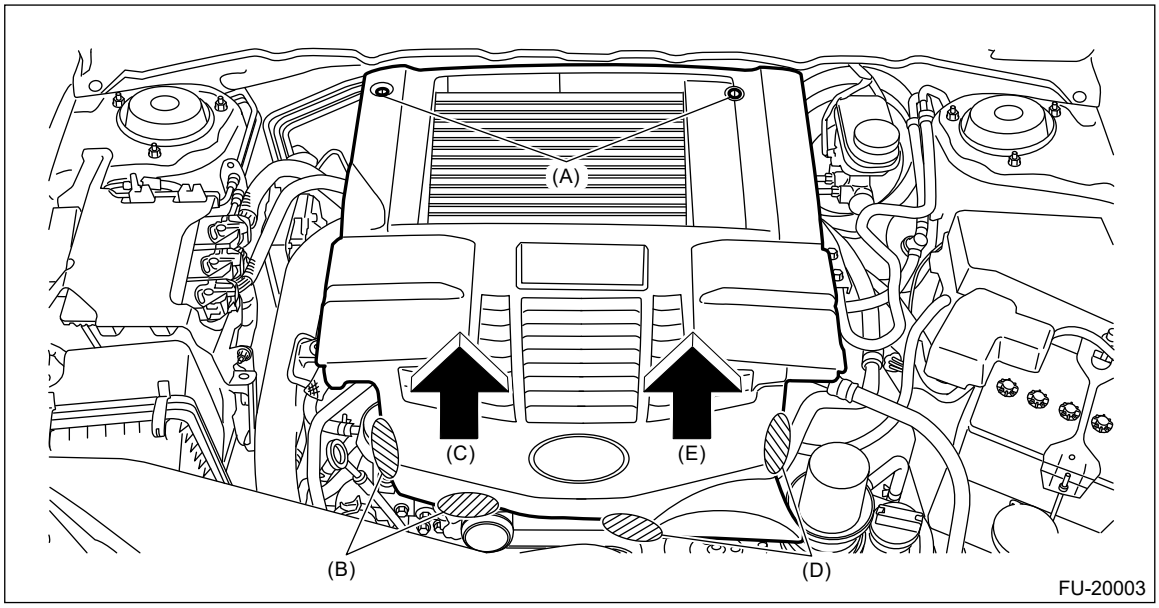
Caution:

- **During operation, be sure to wear protective goggles and protective gloves.**
- **Connect the refrigerant recovery system with the manifold gauge set to discharge the refrigerant from the A/C system and recycle the gas.**
- **When recycling the discharged refrigerant, keep service cans on hand. Because the recovery 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) Manifold gauge
(2) Low pressure valve
(3) Center valve
(4) High pressure valve
(5) Low-pressure hose
(6) Center manifold hose (vacuum pump and charge)
(7) High-pressure hose
(8) Low-pressure side service port
(9) High-pressure side service port

1. Perform compressor oil return operation. Ref. to HVAC SYSTEM (HEATER, VENTILATOR AND A/C)>Compressor Oil>PROCEDURE.
2. Turn the ignition switch to OFF.
3. Remove the collector cover. (Turbo model)
   (1) Remove the clip (A).
   (2) Hold the shaded area (B) by hand and carefully pull the RH side (C) upward.
   (3) Hold the shaded area (D) by hand and carefully pull the LH side (E) upward.



4. Attach the manifold gauge set.

Preparation tool:

Manifold gauge set

(1) Check that all valves are fully closed.

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

Caution:

Confirm that the connections are secure.

(3) Connect the center hose to the refrigerant recovery system.

Preparation tool:

Refrigerant recovery system

5. Follow the operation manual attached to the refrigerant recovery system to collect the refrigerant.

INSPECTION

1. CHECK FUSE

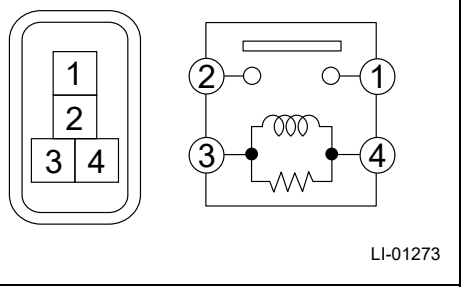
1. Remove the fuse and inspect visually.
2. If the fuse is blown out, replace the fuse.

Note:

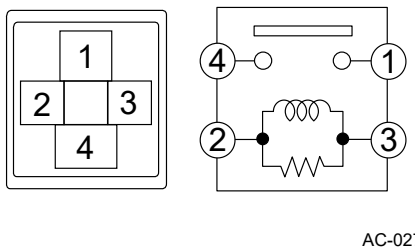
If the fuse is blown again, check the system wiring harness.

2. CHECK RELAY

1. Check the resistance between relay terminals.
   - A/C relay

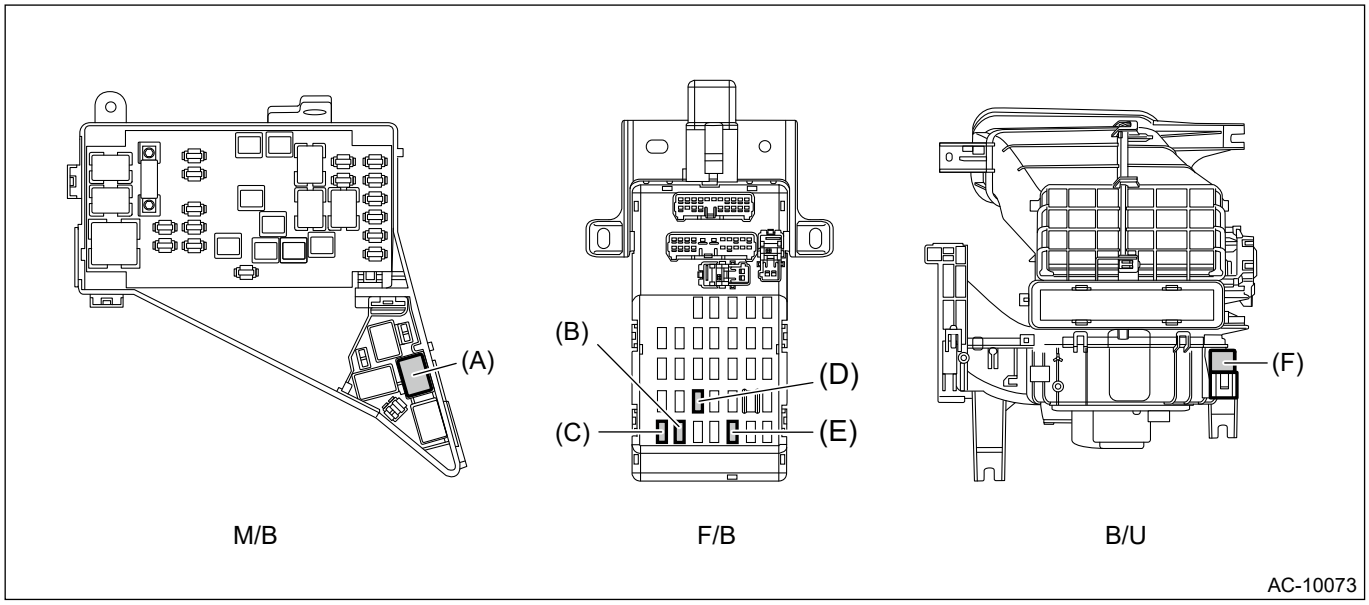
Terminals No.	Inspection conditions	Standard	Circuit
1 — 2	Always	1 MΩ or more	
1 — 2	Apply battery voltage between terminals 4 and 3.	Less than 1 Ω	

   - Blower motor relay

Terminals No.	Inspection conditions	Standard	Circuit
1 — 4	Always	1 MΩ or more	
1 — 4	Apply battery voltage between terminals 2 and 3.	Less than 1 Ω	

2. Replace the relay if the inspection result is not within the standard value.

LOCATION



Main Fuse Box	A/C relay	(A)
Relay & fuse box	Fuse 15 A (blower motor relay)	(B)
	Fuse 15 A (blower motor relay)	(C)
	Fuse 7.5 A (A/C control panel, A/C relay, pressure switch and blower motor relay)	(D)
	Fuse 7.5 A (A/C control panel)	(E)
Blower motor unit	Blower motor relay	(F)

Note:

For other related fuses, refer to the wiring diagram. Ref. to WIRING SYSTEM>Power Supply Circuit.

INSPECTION

1. Check if there is anything that affects sensing, around the sunload sensor.
   (1) Is the sunload sensor free from any object that disturbs sensing?
   (2) Is the windshield glass free from any object such as sticker or film that disturbs sensing?
   - **Yes** → Go to step 2.
   - **No** → Remove everything that affects sensing.
2. Check the [Quantity of Sunload] using Subaru Select Monitor.

   Note:

   For detailed operation procedures, refer to "Application help".

   (1) On [Start] display, select [Diagnosis].
   (2) On [Vehicle selection] display, enter vehicle information and select [OK].
   (3) On [Main Menu] display, select [Each System].
   (4) On [Select System] display, select [Air Conditioner], and then select [Enter].
   (5) On [Select Function] display, select [Data monitor].
   (6) From the data monitor item list, select [Quantity of Sunload].
   (7) Cover the sunload sensor with cloth.
   (8) Does the [Quantity of Sunload] indicate 0 W/m^2 when the direct sunlight is shielded?
   - **Yes** → Go to step 3).
   - **No** → Replace the sunload sensor.
3. From step 2, expose the sunload sensor to light.
   (1) Place intense light such as incandescent light at 300 mm (11.81 in) or less from the sunload sensor.
   (2) Does [Quantity of Sunload] indicate 2,000 W/m^2 or less?

   Caution:

   The value changes depending on the angle of light.
   - **Yes** → The sunload sensor is normal.
   - **No** → Replace the sunload sensor.

INSTALLATION

1. Install each part in the reverse order of removal.
2. Connect the battery ground terminal. Ref. to NOTE>NOTE > BATTERY.

REMOVAL

Caution:

Be careful not to damage the sensors and interior trims when removing.

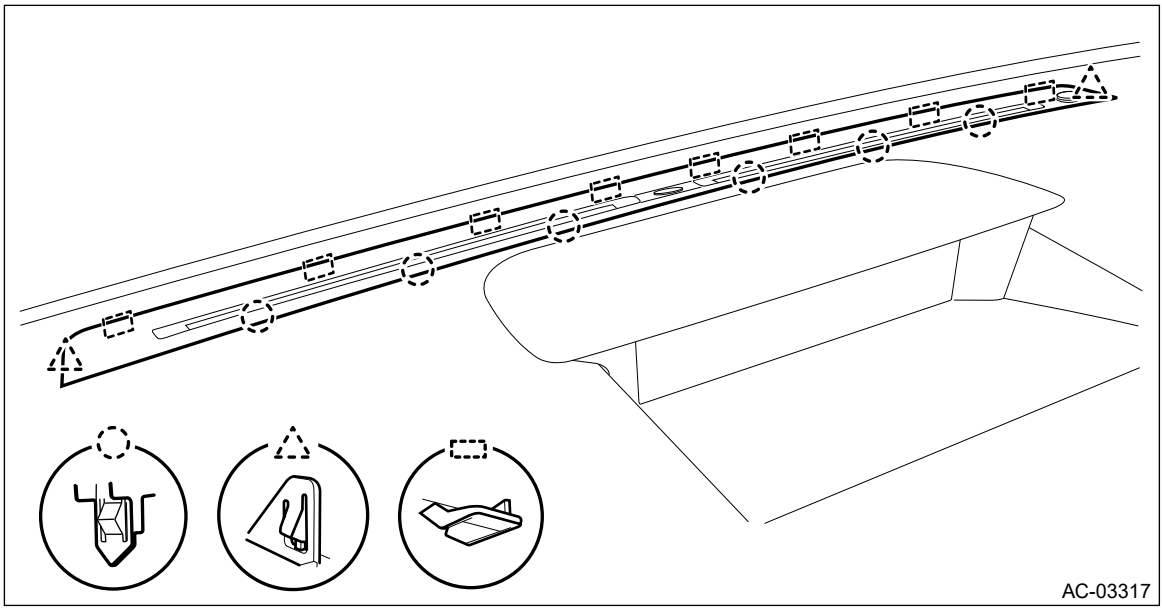
1. Disconnect the ground cable from battery. Ref. to NOTE>NOTE > BATTERY.

   Note:

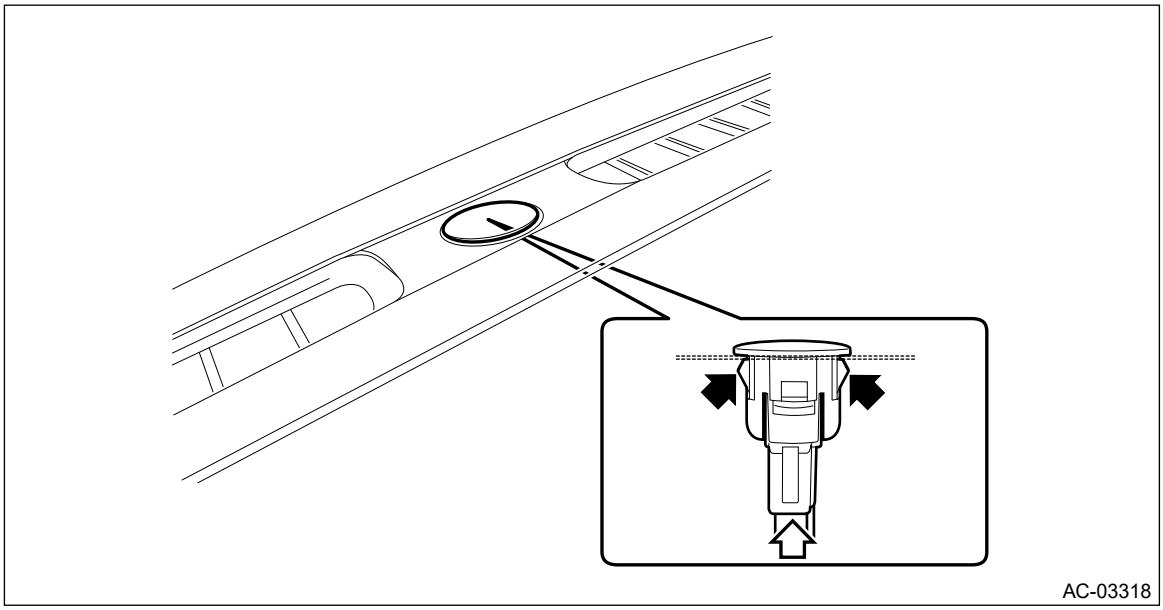
   For model with battery sensor, disconnect the ground terminal from battery sensor.

2. Remove the sunload sensor.

   (1) Release the connector and claws, and remove the grille - front defroster.



   (2) Press the left and right claws to remove the sunload sensor from the grille - front defroster.



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