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NOT FOR RESALE

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

General Description

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

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1. General Description

A: SPECIFICATION

1. HEATER SYSTEM

Item		Specification	Condition
Heating capacity		5.0 kW (4,299 kcal/h, 17,059 BTU/h) or more	<ul style="list-style-type: none"> • Mode selector switch: HEAT • Temperature control switch: FULL 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	Heat mode (FRESH), FULL HOT at 12.5 V
Max air flow rate		480 m ³ (16,954 cu ft)/h	<ul style="list-style-type: none"> • Temperature control switch: FULL COLD • Blower fan speed: Auto A/C: 7th position Manual A/C: 4th position • Mode selector lever: RECIRC
Heater core size (height × length × width)		257.5 × 118.5 × 27 mm (10.1 × 4.67 × 1.06 in)	—
Blower motor	Type	Magnet motor 250 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

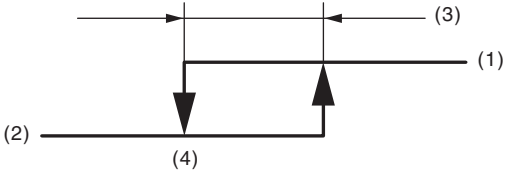
- Auto A/C model

Item		Specification
Type of air conditioner		Reheat air-mix type
Cooling capacity		5.0 kW (4,299 kcal/h, 17,059 BTU/h)
Refrigerant		HFC-134a (CH ₂ FCF ₃) [0.5±0.03 kg (1.1±0.07 lb)]
Compressor	Type	Rotary, constant volume (DVK-10R)
	Discharge	105 cc (6.41 cu in)/rev
	Max. permissible speed	7,700 rpm
Magnet clutch	Type	Dry, single-disc type
	Power consumption	38.8 W
	Type of belt	V-belt 4 PK
	Pulley dia. (effective dia.)	100 mm (3.9 in)
	Pulley ratio	1.32
Condenser	Type	Sub cool type
	Core face area	0.188 m ² (2.002 sq ft)
	Core thickness	16 mm (0.63 in)
	Radiation area	4.5 m ² (48.44 sq ft)
Receiver drier	Effective inner capacity	177 cm ³ (10.8 cu in)
Expansion valve	Type	Block
Evaporator	Type	Double 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	250 W

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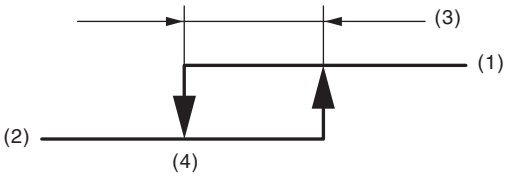
Item		Specification	
Condenser fan (Sub fan)	Motor type	Magnet	
	Power consumption	Non-turbo model: 90 W Turbo model: 120 W	
	Fan outer diameter	Non-turbo model: 300 mm (11.8 in) Turbo model: 318.5 mm (12.5 in)	
Radiator fan (Main fan)	Motor type	Magnet	
	Power consumption	Non-turbo model: 90 W Turbo model: 120 W	
	Fan outer diameter	Non-turbo model: 300 mm (11.8 in) Turbo model: 318.5 mm (12.5 in)	
Idling speed (A/C ON, sub fan ON)		MPIFI model	H4SOHC model: 850±100 rpm H4DOTC MT model: 800±50 rpm H4DOTC AT model: 825±50 rpm
Triple switch (Pressure switch)	Low-pressure switch operating pressure	ON → OFF	177±25 kPa (1.80±0.25 kgf/cm ² , 25.7±3.6 psi)
		OFF → ON	206±30 kPa (2.10±0.31 kgf/cm ² , 29.9±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 (24.00±2.04 kgf/cm ² , 340.7±29.0 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		 <p style="text-align: right;">AC-00601</p> <p>(1) ON (2) OFF (3) 1.5±0.3°C (34.7±0.5°F) (4) 1.0±0.5°C (33.8±0.9°F)</p>	

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- Manual A/C model

Item		Specification	
Type of air conditioner		Reheat air-mix type	
Cooling capacity		5.0 kW (4,299 kcal/h, 17,059 BTU/h)	
Refrigerant		HFC-134a (CH ₂ FCF ₃) [0.5±0.03 kg (1.1±0.07 lb)]	
Compressor	Type	Rotary, constant volume (DKV-10R)	
	Discharge	105 cc (6.41 cu in)/rev	
	Max. permissible speed	7,700 rpm	
Magnet clutch	Type	Dry, single-disc type	
	Power consumption	38.8 W	
	Type of belt	V-belt 4 PK	
	Pulley dia. (effective dia.)	100 mm (3.9 in)	
Condenser	Pulley ratio	1.32	
	Type	Sub cool type	
	Core face area	0.188 m ² (2.002 sq ft)	
	Core thickness	16 mm (48.44 in)	
Receiver drier	Radiation area	4.5 m ² (48.44 sq ft)	
	Effective inner capacity	177 cm ³ (10.8 cu in)	
Expansion valve	Type	Block	
Evaporator	Type	Double 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	250 W	
Condenser fan (Sub fan)	Motor type	Magnet	
	Power consumption	90 W	
	Fan outer diameter	300 mm (11.8 in)	
Radiator fan (Main fan)	Motor type	Magnet	
	Power consumption	90 W	
	Fan outer diameter	300 mm (11.8 in)	
Idling speed (A/C ON, sub fan ON)		MPFI model	H4SOHC model: 850±100 rpm
Triple switch (Pressure switch)	Low-pressure switch operating pressure	ON → OFF	177±25 kPa (1.80±0.25 kgf/cm ² , 25.7±3.6 psi)
		OFF → ON	206±30 kPa (2.10±0.31 kgf/cm ² , 29.9±4.3 psi)
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		OFF → ON	1,770±100 kPa (18.05±1.02 kgf/cm ² , 256.65±14.5 psi)
Thermo control amplifier working temperature			
		<p>AC-00601</p> <p>(1) ON (2) OFF (3) 1.5±0.3°C (34.7±0.5°F) (4) 1.0±0.5°C (33.8±0.9°F)</p>	

General Description

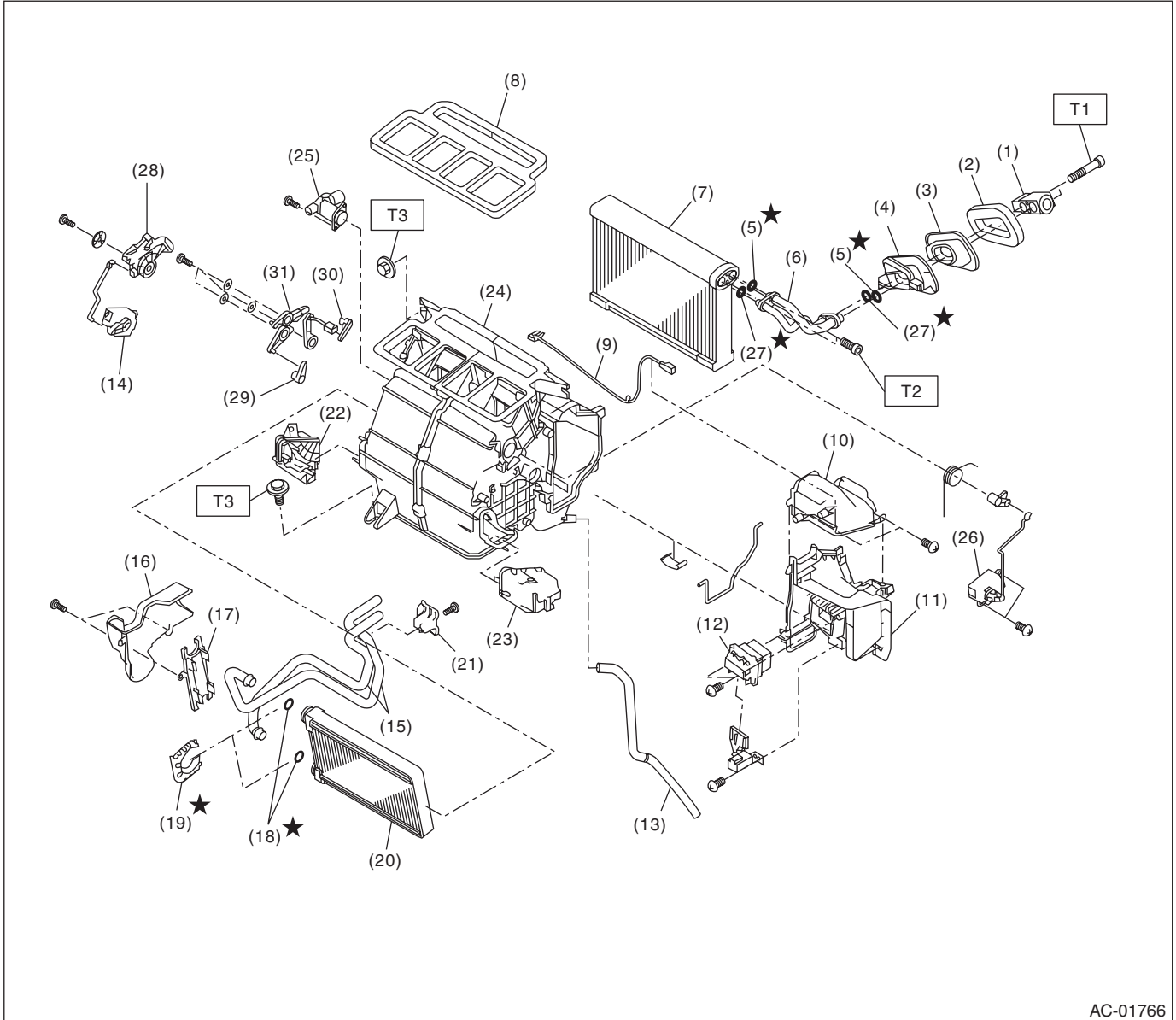
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B: COMPONENT

1. HEATER COOLING UNIT

- Auto A/C model



AC-01766

- | | | |
|----------------------------|------------------------|--------------------------|
| (1) Expansion valve | (13) Drain hose | (25) Aspirator |
| (2) Gasket | (14) Mode actuator | (26) Air mix actuator |
| (3) Grommet | (15) Heater core pipe | (27) O-ring |
| (4) Case | (16) Heater pipe cover | (28) Mode main lever |
| (5) O-ring | (17) Heater core cover | (29) Vent door link |
| (6) Evaporator pipe | (18) O-ring | (30) Defroster door link |
| (7) Evaporator | (19) Clamp | (31) Mode link |
| (8) Lining | (20) Heater core | |
| (9) Evaporator sensor | (21) Pipe clamp | |
| (10) Evaporator pipe cover | (22) Foot duct (LH) | |
| (11) Evaporator cover | (23) Foot duct (RH) | |
| (12) Power transistor | (24) Heater case | |

Tightening torque: N·m (kgf·m, ft·lb)

T1: 5.0 (0.5, 3.7)

T2: 6.68 (0.7, 4.9)

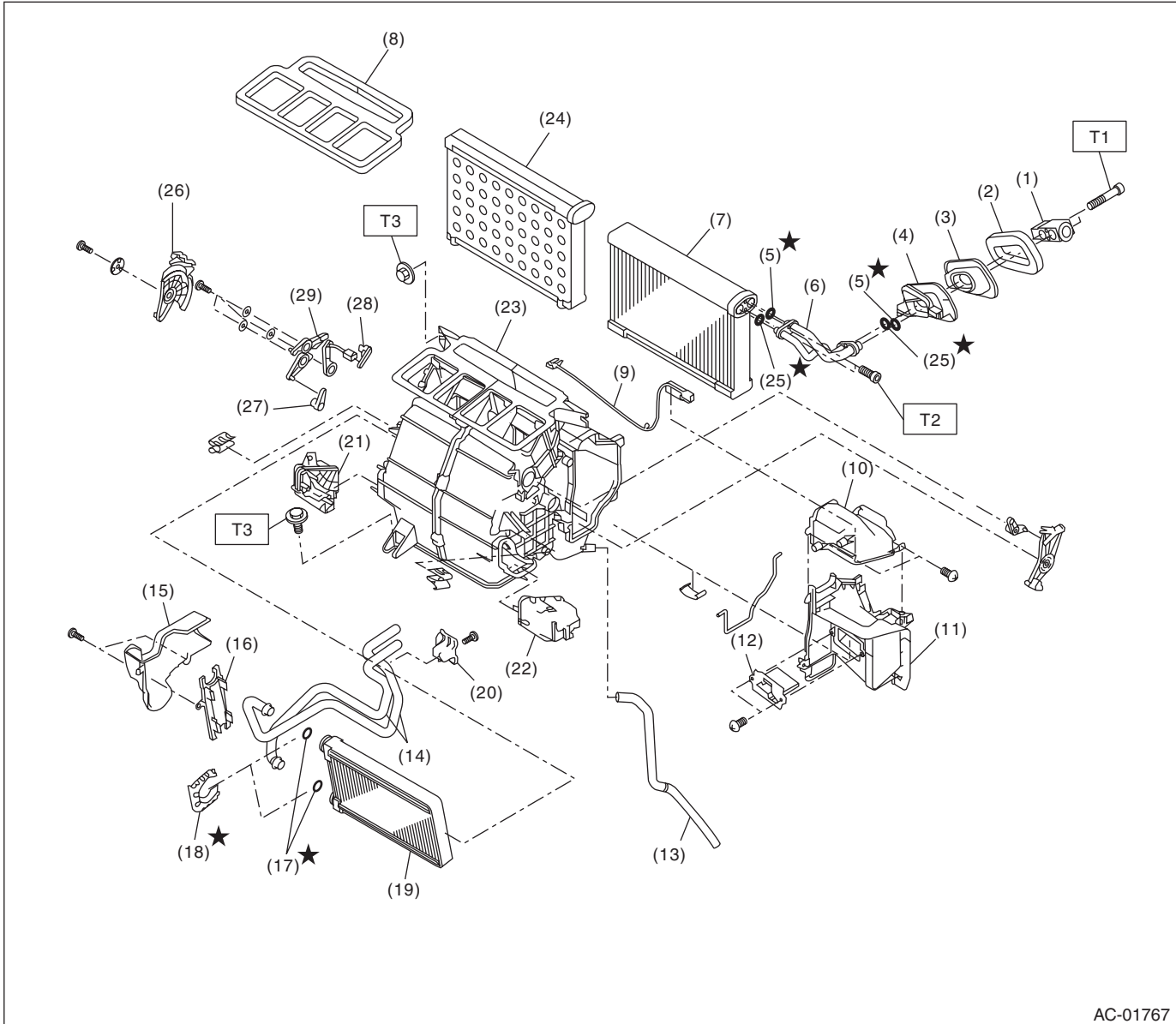
T3: 7.5 (0.76, 5.5)

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- Manual A/C model



- | | | |
|----------------------------|------------------------|--------------------------------|
| (1) Expansion valve | (13) Drain hose | (24) Plate (Model without A/C) |
| (2) Gasket | (14) Heater core pipe | (25) O-ring |
| (3) Grommet | (15) Heater pipe cover | (26) Mode main lever |
| (4) Case | (16) Heater core cover | (27) Vent door link |
| (5) O-ring | (17) O-ring | (28) Defroster door link |
| (6) Evaporator pipe | (18) Clamp | (29) Mode link |
| (7) Evaporator | (19) Heater core | |
| (8) Lining | (20) Pipe clamp | |
| (9) Thermostat | (21) Foot duct (LH) | |
| (10) Evaporator pipe cover | (22) Foot duct (RH) | |
| (11) Evaporator cover | (23) Heater case | |
| (12) Resistor | | |

Tightening torque: N·m (kgf·m, ft·lb)

T1: 5.0 (0.5, 3.7)

T2: 6.68 (0.7, 4.9)

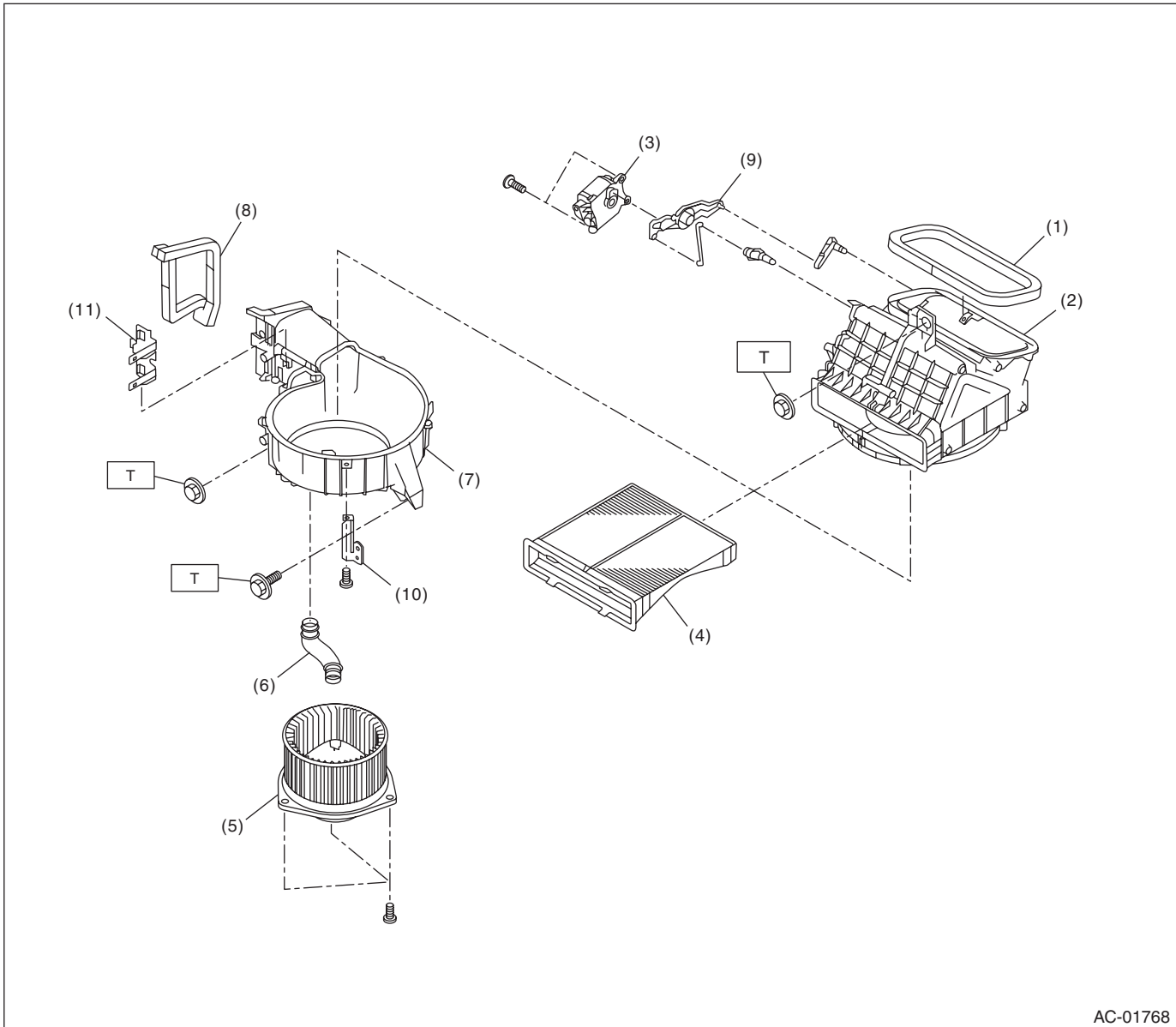
T3: 7.5 (0.76, 5.5)

General Description

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2. BLOWER MOTOR UNIT



AC-01768

- | | | |
|--------------------------|----------------------|---------------------------|
| (1) Lining | (6) Hose | (11) Relay holder bracket |
| (2) Upper case | (7) Lower case | |
| (3) Intake door actuator | (8) Lining | |
| (4) Filter | (9) Intake door link | |
| (5) Blower motor ASSY | (10) Relay bracket | |

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

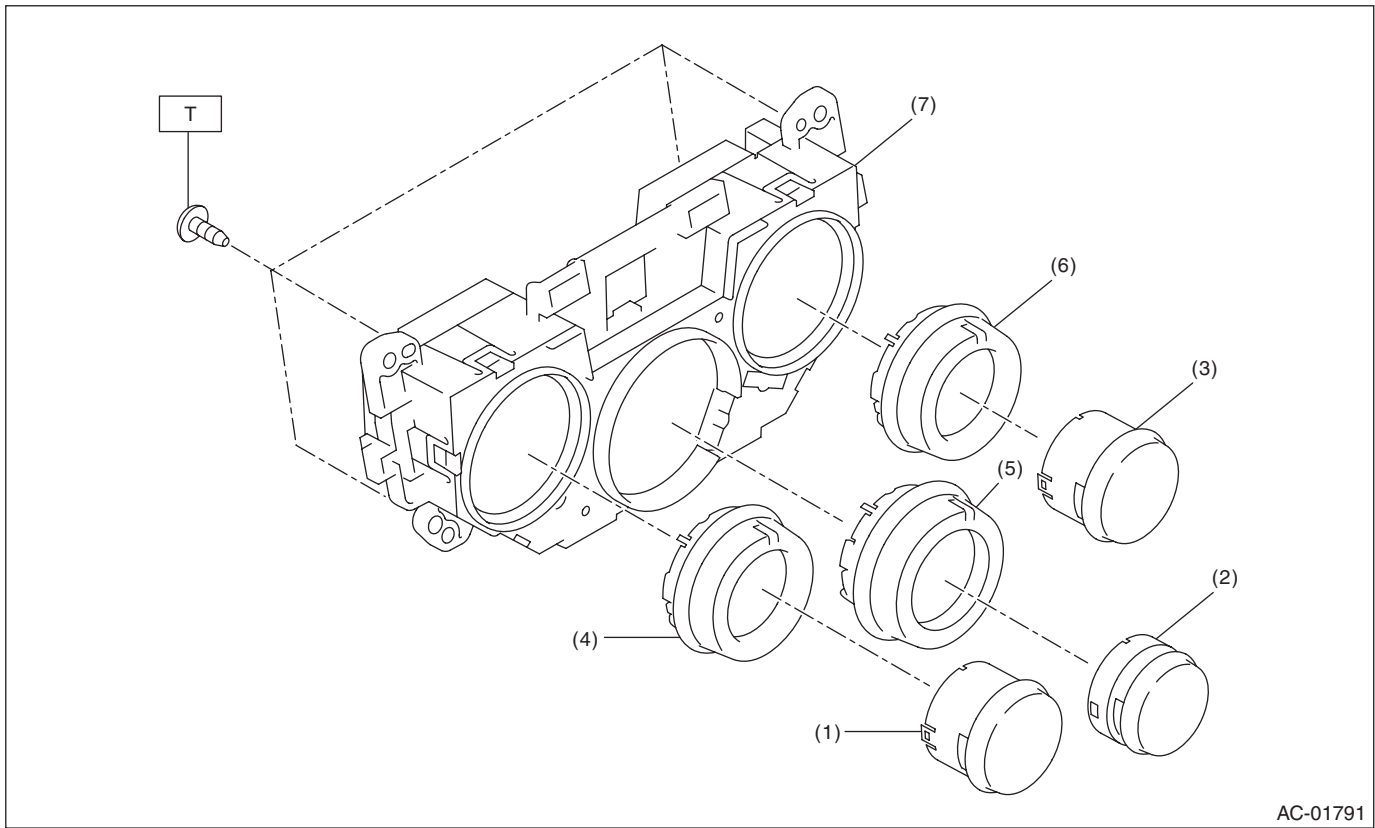
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3. CONTROL MODULE

Auto A/C model



AC-01791

- | | |
|----------------------------|---------------------------------|
| (1) FRESH/RECIRC switch | (5) Mode control dial |
| (2) Rear defogger switch | (6) Temperature adjustment dial |
| (3) A/C switch | (7) Control case |
| (4) Fan speed control dial | |

Tightening torque: N·m (kgf·m, ft·lb)

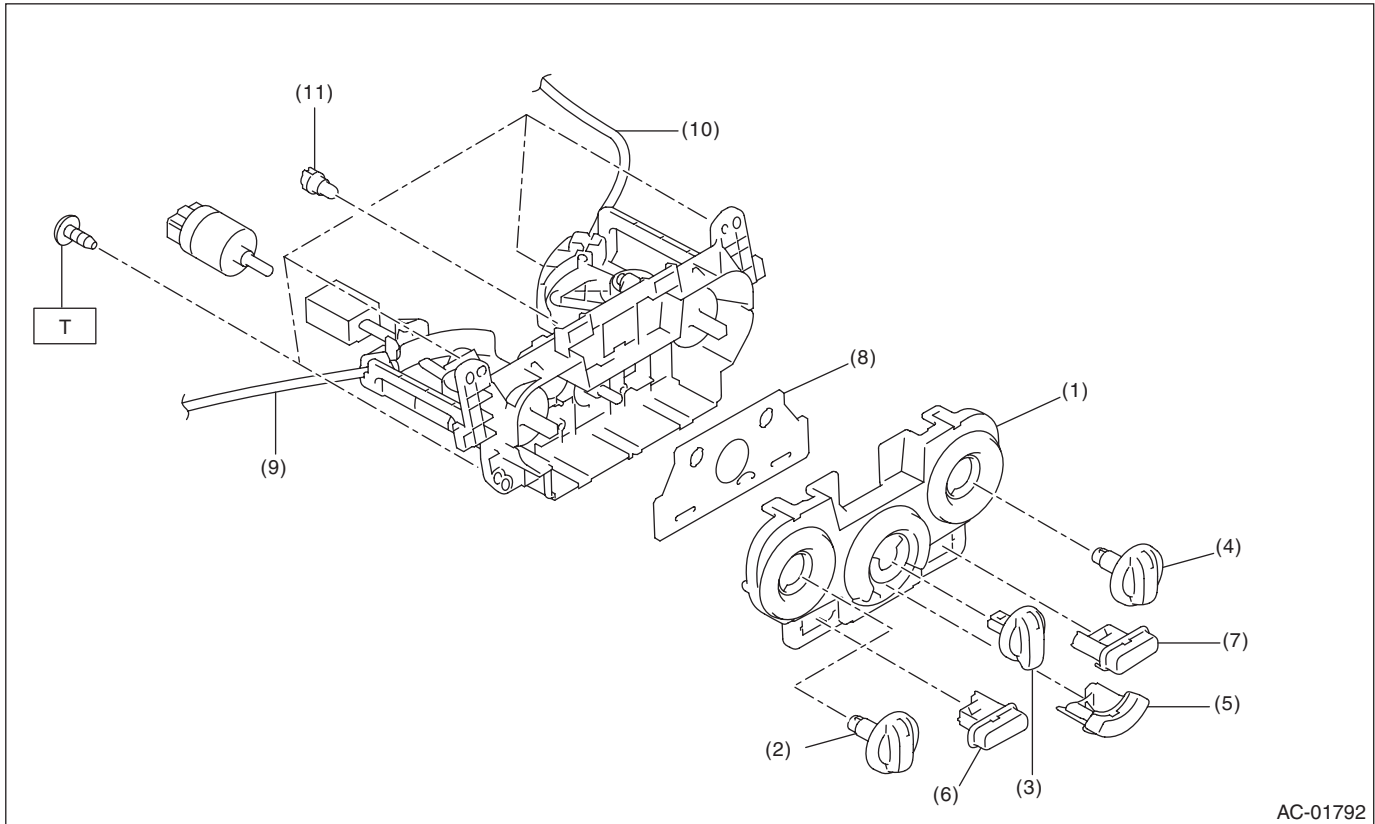
T: 2 (0.2, 1.48)

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Manual A/C model



- | | | |
|---------------------------------|--------------------------------|------------|
| (1) Panel | (6) Rear defogger switch | (11) Valve |
| (2) Air flow control dial | (7) FRESH/RECIRC switch | |
| (3) Fan speed control dial | (8) Switch board | |
| (4) Temperature adjustment dial | (9) Mode switch cable | |
| (5) A/C switch | (10) Temperature control cable | |

Tightening torque: N·m (kgf·m, ft·lb)

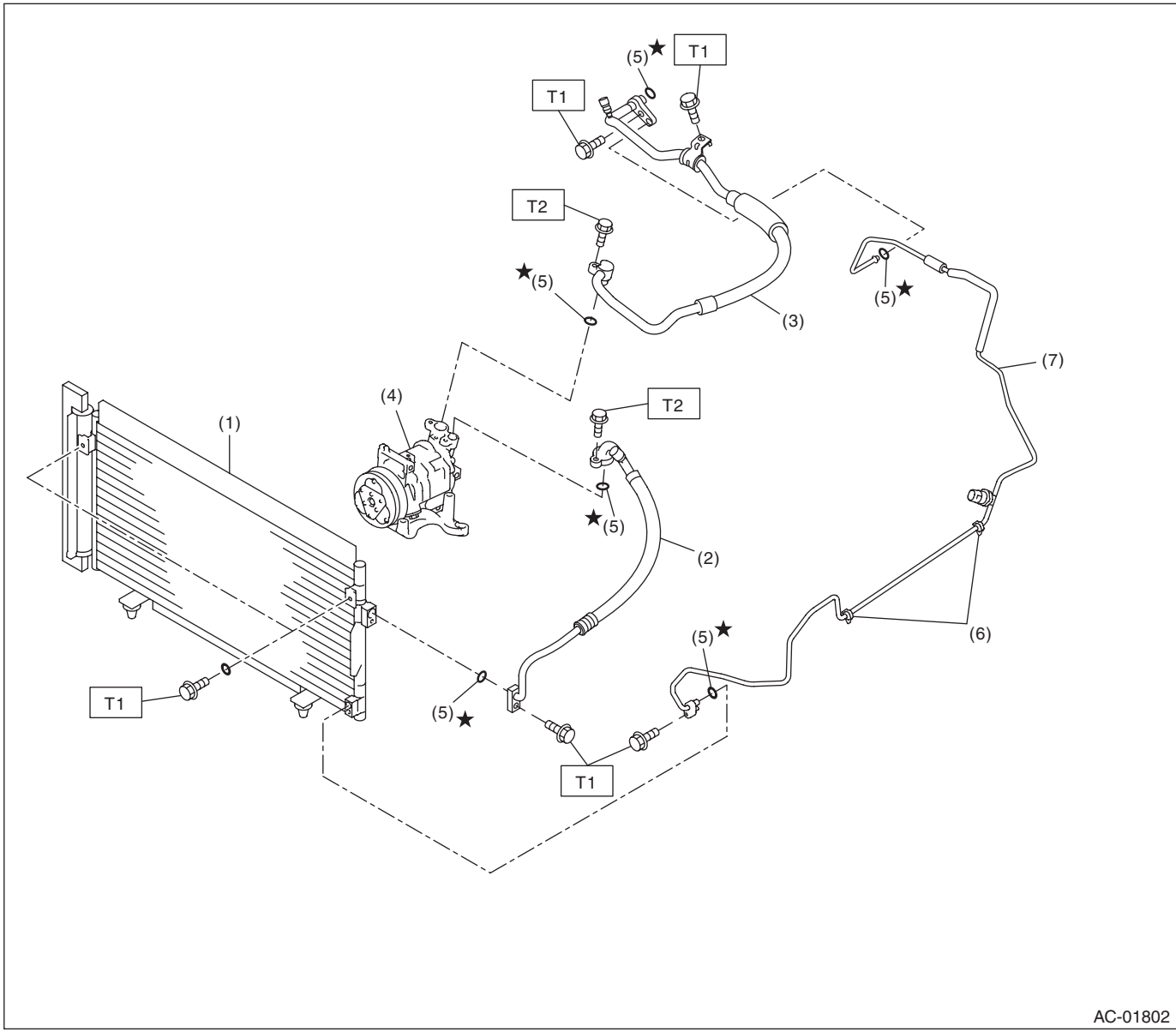
T: 2 (0.2, 1.48)

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4. AIR CONDITIONING UNIT



AC-01802

- | | |
|--------------------------|------------|
| (1) Condenser | (5) O-ring |
| (2) Hose (High-pressure) | (6) Clamp |
| (3) Hose (Low-pressure) | (7) Tube |
| (4) Compressor | |

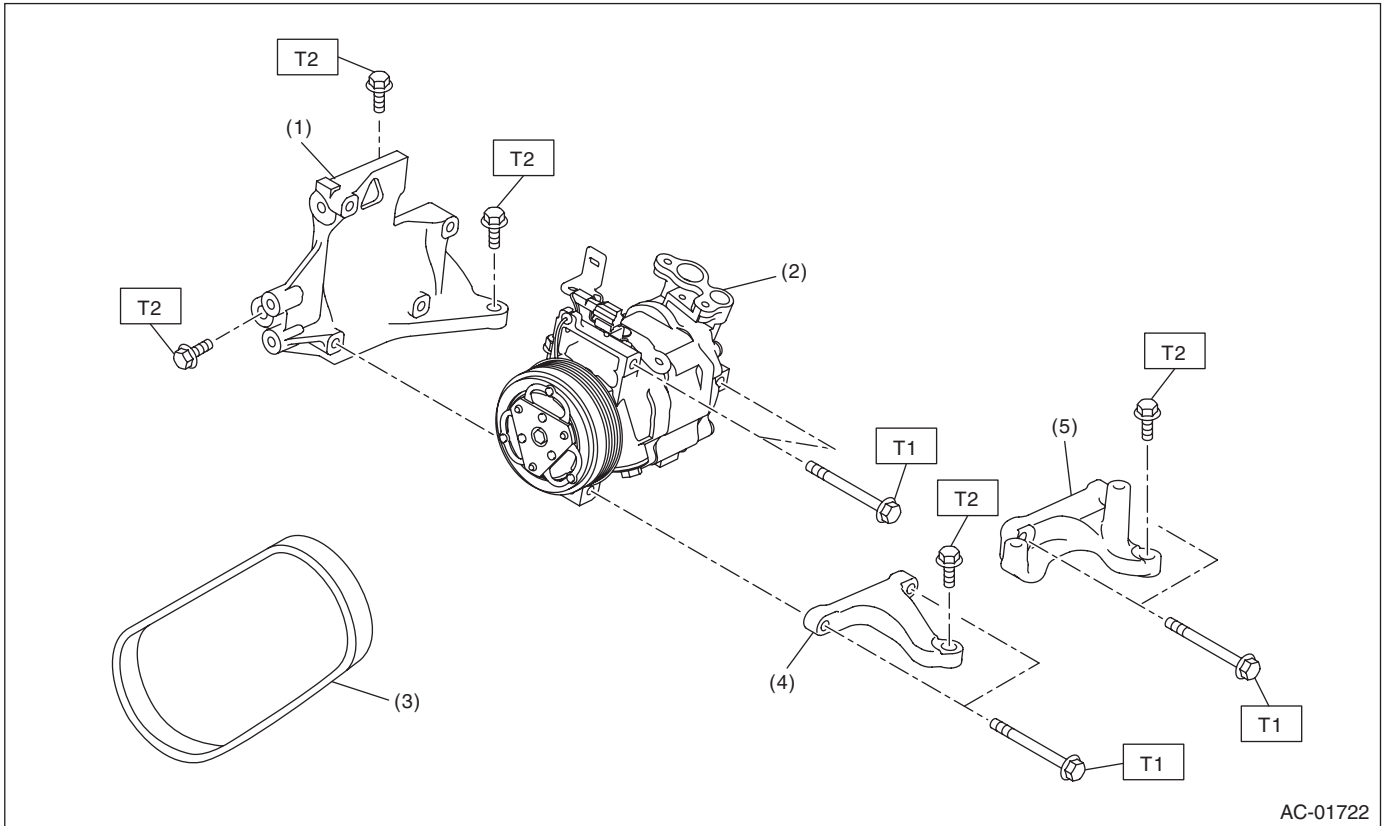
Tightening torque: N·m (kgf·m, ft·lb)
T1: 7.5 (0.76, 5.5)
T2: 10 (1.0, 7.4)
T3: 5 (0.5, 3.7)

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5. COMPRESSOR



- (1) Compressor bracket
- (2) Compressor
- (3) V-belt

- (4) Compressor bracket (Non-turbo model)
- (5) Compressor bracket (Turbo model)

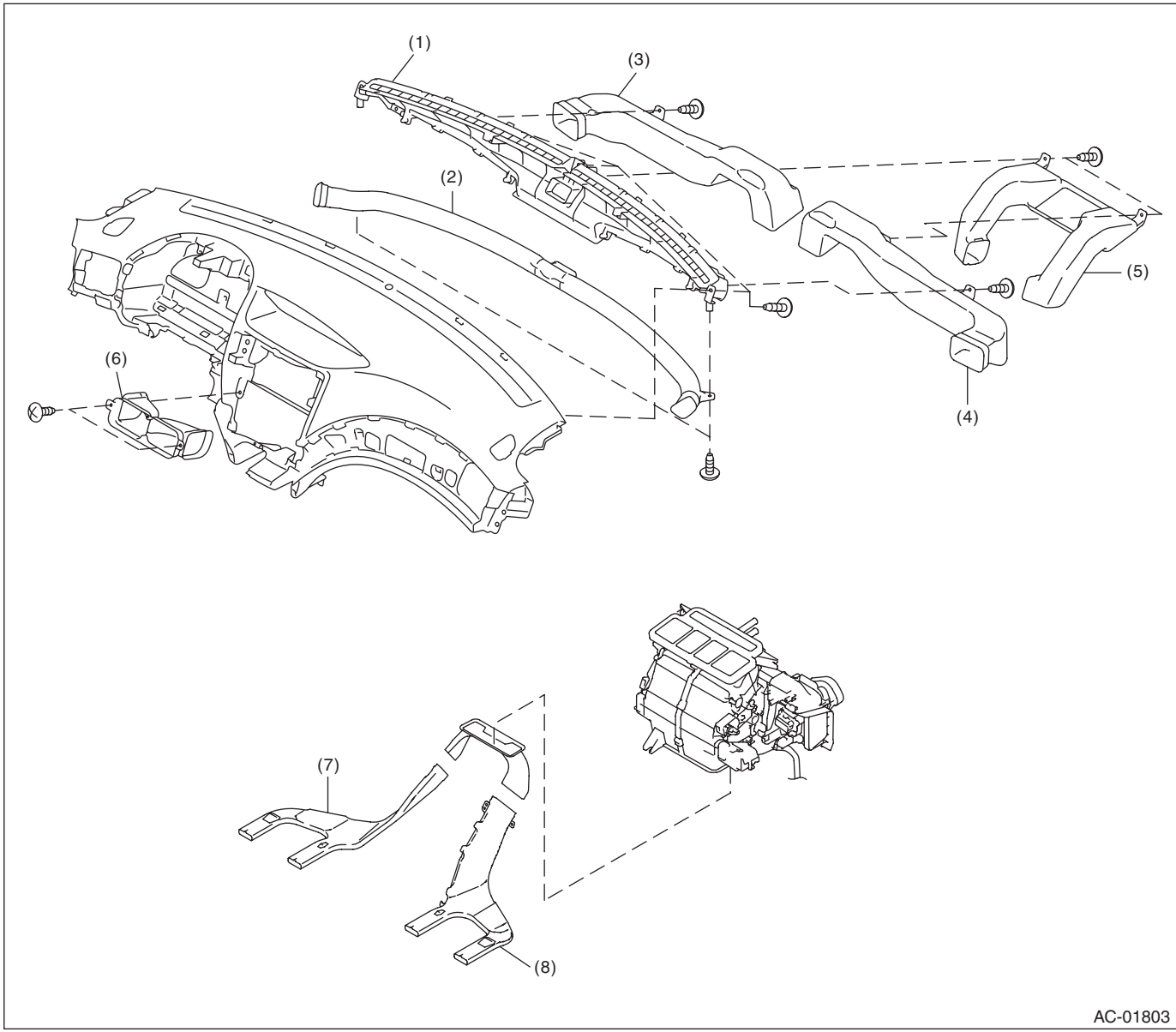
Tightening torque: N-m (kgf-m, ft-lb)
T1: 26.5 (2.7, 19.5)
T2: 36 (3.7, 26.6)

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6. HEATER DUCT



AC-01803

- | | | |
|--------------------------------|---------------------------------|---------------------------|
| (1) Front defroster nozzle | (4) Side ventilation duct (RH) | (7) Rear heater duct (LH) |
| (2) Side defroster duct | (5) Center ventilation duct (A) | (8) Rear heater duct (RH) |
| (3) Side ventilation duct (LH) | (6) Center ventilation duct (B) | |

General Description

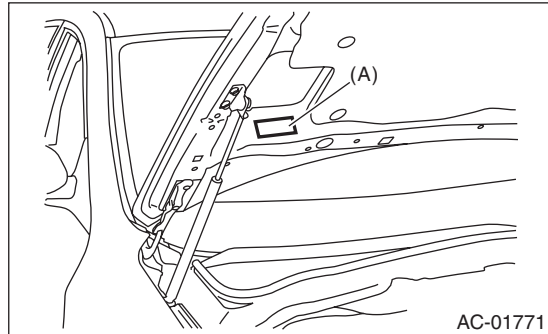
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C: CAUTION

1. HFC-134A A/C SYSTEM

- The cooling system components for the HFC-134a system 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 which A/C system is installed to the vehicle.



2. COMPRESSOR OIL

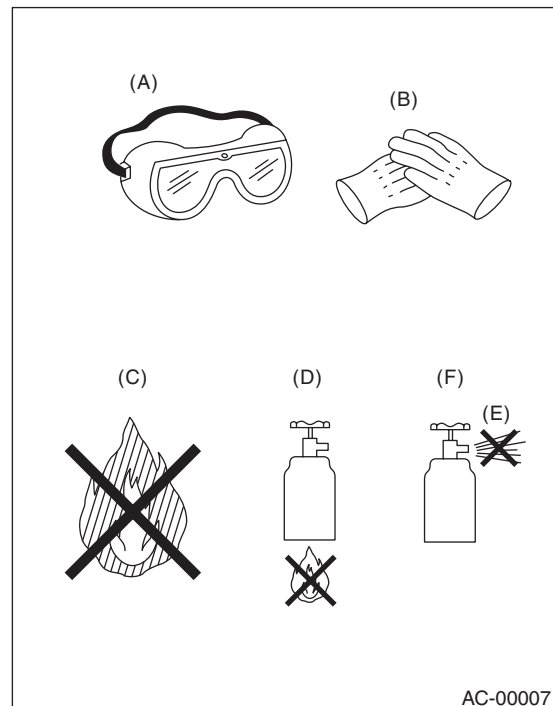
- HFC-134a compressor oil has no compatibility with that of CFC-12 system.
 - Use only the manufacturer-authorized compressor oil for the HFC-134a system; only use DH-PR (ZXL200PG).
 - Do not mix multiple compressor oils.
- If CFC-12 compressor oil is used in the HFC-134a A/C system, the compressor may 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 eye 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 can.)
- When the engine is running, do not open the high-pressure valve of the manifold gauge. High-pressure gas may backflow, causing the can to explode.
- 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) Avoid open flame
- (D) No direct heat on container
- (E) Do not discharge
- (F) Loosen

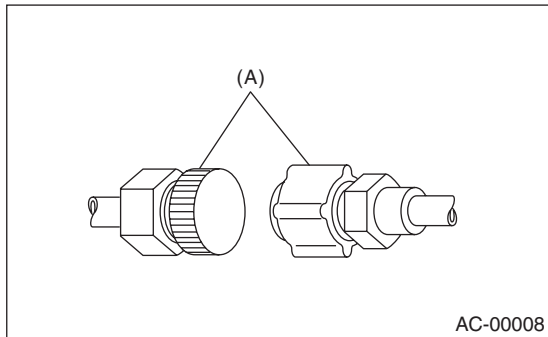
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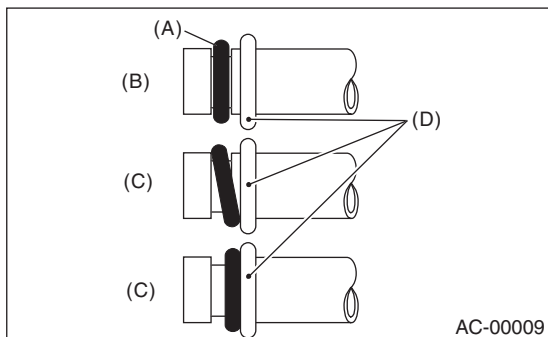
5. O-RING CONNECTIONS

- 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.



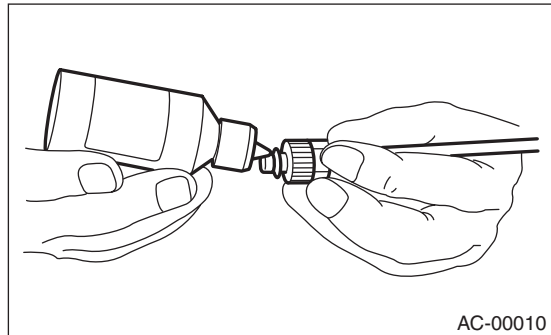
(A) Seal

- 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 groove of the pipe.



- (A) O-ring
- (B) OK
- (C) NG
- (D) Groove

- 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 grooves of the pipe.



- 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.

D: PREPARATION 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 refrigerant or compressor oil is mixed, it will result in poor lubrication and the compressor itself may be damaged.

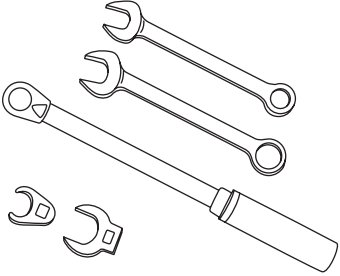
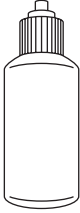
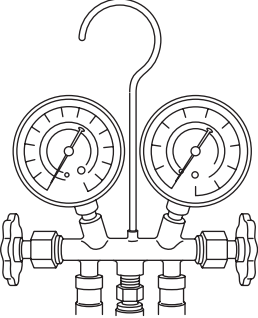
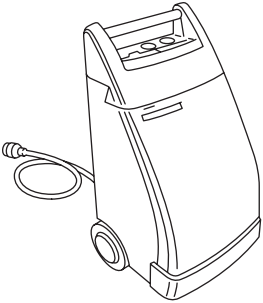
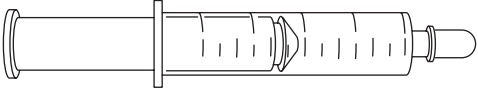
In order to prevent the mixing HFC-134a and CFC-12 parts and fluids, the type of tools, screw types, and replacement valves are different. The gas leak detectors for the HFC-134a and CFC-12 systems must also not be interchanged.

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

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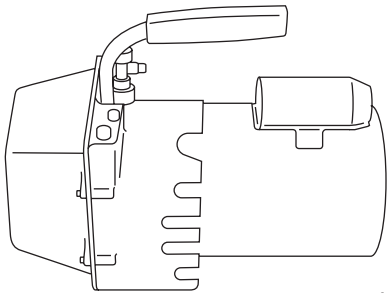
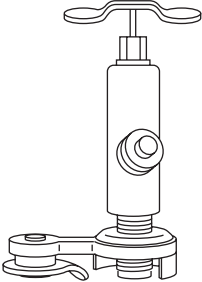
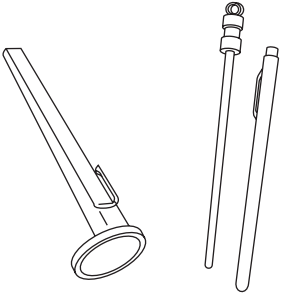
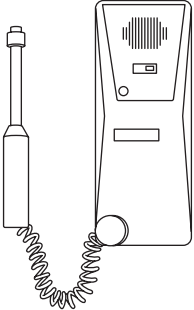
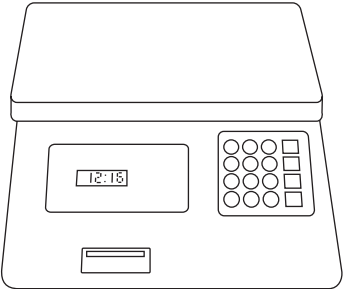
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Illustration	Name and Function
 <p style="text-align: right;">AC-00213</p>	<p>WRENCH</p> <p>Various WRENCHES will be required to service an A/C system. 7 — 40 N-m (0.7 to 4.1 kgf-m, 5 to 30 ft-lb) torque wrench and various crowfoot wrenches will be needed. Open end or flare nut wrenches will be needed to hold the tube and hose fittings.</p>
 <p style="text-align: right;">AC-00012</p>	<p>Applicator bottle</p> <p>A small APPLICATOR BOTTLE is recommended to apply compressor oil to the various parts. It can be available at a hardware or drug store.</p>
 <p style="text-align: right;">AC-00013</p>	<p>Manifold gauge set</p> <p>A MANIFOLD GAUGE SET (with hoses) is available either from a refrigerant supplier or an automotive equipment supplier.</p>
 <p style="text-align: right;">AC-00014</p>	<p>Refrigerant recovery system</p> <p>A REFRIGERANT RECOVERY SYSTEM is used for the recovery and recycling of an A/C system refrigerant after contaminants and moisture have been removed from the refrigerant.</p>
 <p style="text-align: right;">AC-00015</p>	<p>Syringe</p> <p>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.</p>

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Illustration	Name and Function
 <p style="text-align: right;">AC-00016</p>	<p>Vacuum pump</p> <p>A VACUUM PUMP is necessary (for a good working condition), and is available either at a refrigerant supplier or an automotive equipment supplier.</p>
 <p style="text-align: right;">AC-00017</p>	<p>Can tap</p> <p>A CAN TAP for the 397 g (14 oz.) can is available at an automotive equipment supplier.</p>
 <p style="text-align: right;">AC-00018</p>	<p>Thermometer</p> <p>A Pocket THERMOMETER is available either at a industrial hardware store or a refrigerant supplier.</p>
 <p style="text-align: right;">AC-00019</p>	<p>Electronic leak detector</p> <p>An ELECTRONIC LEAK DETECTOR is available at either a specialty tool supplier or an A/C equipment supplier.</p>
 <p style="text-align: right;">AC-00020</p>	<p>Weight scale</p> <p>A WEIGHT SCALE such as an electronic charging scale or a bath-room scale with digital display will be needed, if a 13.6 kg (30 lb) refrigerant container is used.</p>

Refrigerant Pressure with Manifold Gauge Set

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

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2. Refrigerant Pressure with Manifold Gauge Set

A: PROCEDURE

- 1) Place the vehicle in the shade and windless condition.
- 2) Open the front hood.
- 3) Connect the manifold gauge set.
- 4) Open the front windows and close all doors.
- 5) Increase the engine to 1,500 rpm.
- 6) Turn the A/C switch to ON.
- 7) Turn the temperature control switch to MAX COOL.
- 8) Put in RECIRC position.
- 9) Turn the blower control switch to HI.
- 10) Read the gauge.

Standard:

Low pressure: 127 — 196 kPa (1.3 — 2.0 kg/cm², 18 — 28 psi)

High pressure: 1,471 — 1,667 kPa (15 — 17 kg/cm², 213 — 242 psi)

Ambient temperature: 30 — 35°C (86 — 95°F)

B: INSPECTION

Symptom	Probable cause	Repair order
High-pressure side is unusually high.	<ul style="list-style-type: none">• Defective condenser fan motor• Clogged condenser fin• Too much refrigerant• Air inside the system• Defective receiver dryer	<ul style="list-style-type: none">• Replace the fan motor.• Clean the condenser fin.• Discharge refrigerant.• Replace the receiver dryer.• After evacuating again, charge an appropriate amount of refrigerant.
High-pressure side is unusually low.	<ul style="list-style-type: none">• Defective compressor• Not enough refrigerant• Clogged expansion valve• Expansion valve frozen temporarily by moisture.	<ul style="list-style-type: none">• Replace the compressor.• Check for leaks.• Replace the expansion valve.• Fully evacuate the expansion valve.
Low-pressure side is unusually high.	<ul style="list-style-type: none">• Defective compressor• Defective expansion valve• Too much refrigerant	<ul style="list-style-type: none">• Replace the compressor.• Replace the expansion valve.• Discharge refrigerant.
Low-pressure side is unusually low.	<ul style="list-style-type: none">• Not enough refrigerant• Clogged expansion valve• Expansion valve frozen temporarily by moisture.• Saturated receiver dryer	<ul style="list-style-type: none">• Check for leaks.• Replace the expansion valve.• Replace the receiver dryer.

Refrigerant Recovery Procedure

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

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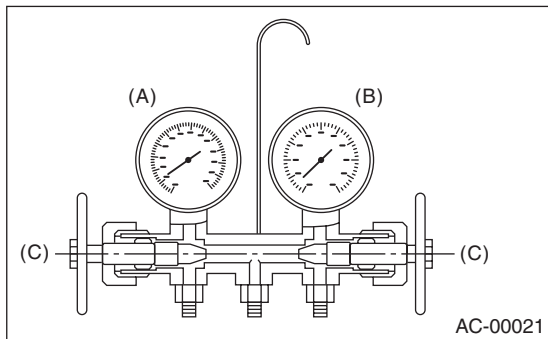
3. Refrigerant Recovery Procedure

A: PROCEDURE

CAUTION:

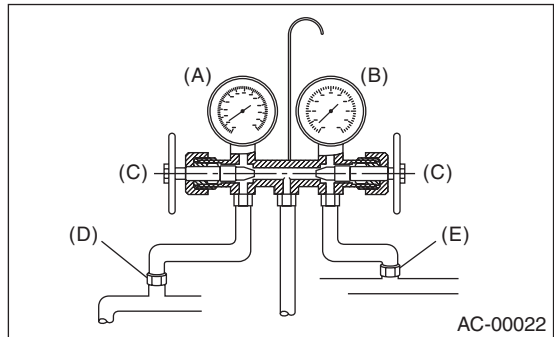
- During operation, be sure to wear protective goggles and protective gloves.
- Connect the refrigerant recovery system with the manifold gauge set to discharge the refrigerant from the A/C system and recycle the gas.
- When recycling the discharged refrigerant, keep service cans on hand. Because the 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) Perform the compressor oil return operation. <Ref. to AC-23, PROCEDURE, Compressor Oil.>
- 2) Stop the engine.
- 3) Make sure the valves on the low/high pressure sides of the manifold gauge set are fully closed.



- (A) Low-pressure gauge (Compound pressure gauge)
- (B) High-pressure gauge
- (C) Close

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



- (A) Low-pressure gauge (Compound pressure gauge)
- (B) High-pressure gauge
- (C) Close
- (D) Low-pressure side service port
- (E) High-pressure side service port

- 5) Connect the center hose of manifold gauge set to the refrigerant recovery system.
- 6) Follow the operation manual to activate the refrigerant recovery system.

Refrigerant Charging Procedure

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

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4. Refrigerant Charging Procedure

A: PROCEDURE

CAUTION:

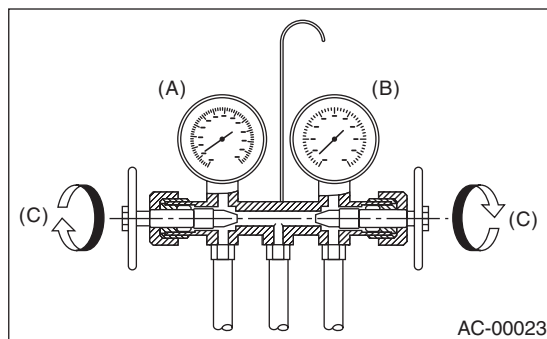
- During operation, be sure to wear protective goggles and protective gloves.
- Before charging the refrigerant, evacuate the system to remove small amounts of moisture remaining in the system.

NOTE:

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

Vacuum level required to boil water (at sea level)	
Temperature	Vacuum
1.7°C (35°F)	100.9 kPa (757 mmHg, 29.8 inHg)
7.2°C (45°F)	100.5 kPa (754 mmHg, 29.7 inHg)
12.8°C (55°F)	99.8 kPa (749 mmHg, 29.5 inHg)
18.3°C (65°F)	99.2 kPa (744 mmHg, 29.3 inHg)
23.9°C (75°F)	98.5 kPa (739 mmHg, 29.1 inHg)
29.4°C (85°F)	97.2 kPa (729 mmHg, 28.7 inHg)
35°C (95°F)	95.8 kPa (719 mmHg, 28.3 inHg)

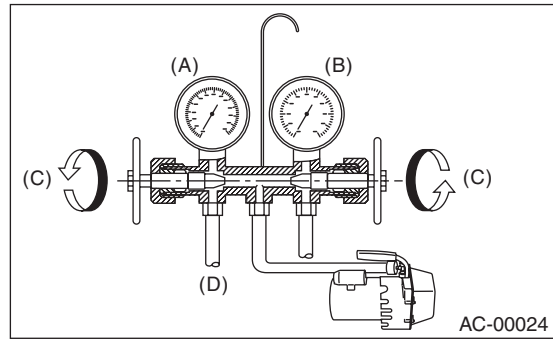
1) Close the valves on low/high pressure sides of the manifold gauge.



- (A) Low-pressure gauge (Compound pressure gauge)
- (B) High-pressure gauge
- (C) Close

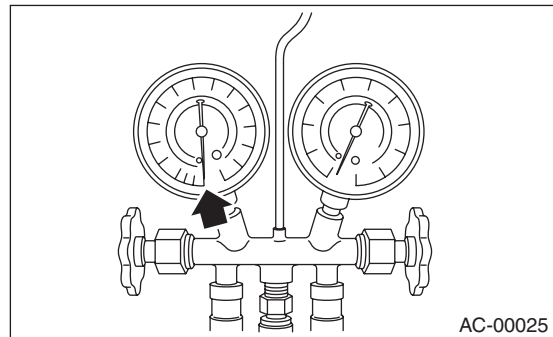
- 2) Install the low/high pressure hoses to the corresponding service ports on the vehicle.
3) Connect the center hose of the manifold gauge set with the vacuum pump.

4) Carefully open the valves on the low/high pressure sides to activate the vacuum pump.

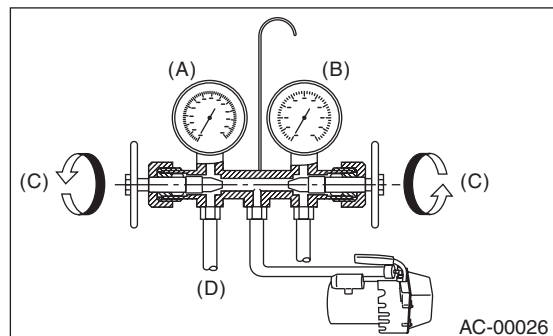


- (A) Low-pressure gauge (Compound pressure gauge)
- (B) High-pressure gauge
- (C) Slowly open
- (D) Vacuum pump turn on

5) After the low-pressure gauge reaches -100.0 kPa (-750 mmHg, -29.5 inHg) or higher, evacuate the system for approx. 15 minutes. (Continue evacuation).



6) After 15 minutes of evacuation, if the reading shows 100.0 kPa (750 mmHg, 29.5 inHg) or higher, close the valves on the both sides to stop the vacuum pump.



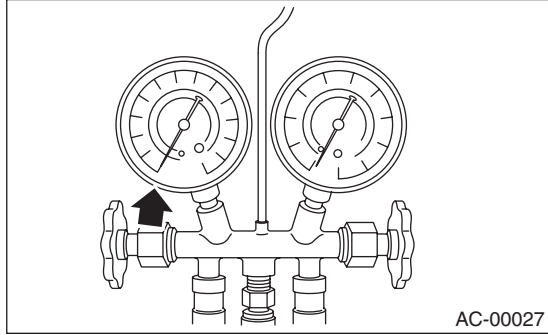
- (A) Low-pressure gauge (Compound pressure gauge)
- (B) High-pressure gauge
- (C) Close
- (D) Vacuum pump turn off

Refrigerant Charging Procedure

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

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7) Note the low-pressure gauge reading.

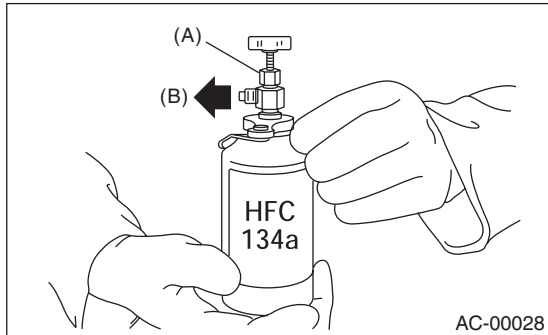


AC-00027

8) Leave it at least 5 minutes, and then check the low-pressure gauge reading for any changes.

If the gauge indicator shows near zero point, it is a sign of leakage. Check pipe connector points, repair them, and make sure there is no leakage.

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

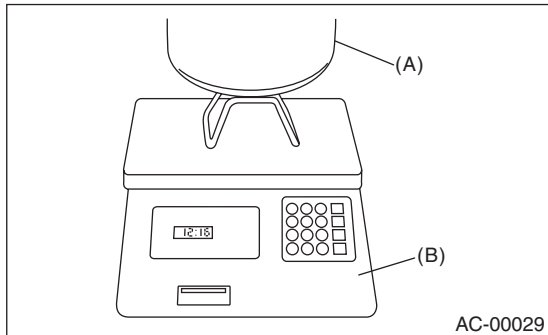


AC-00028

- (A) Tap valve
- (B) Center manifold hose

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

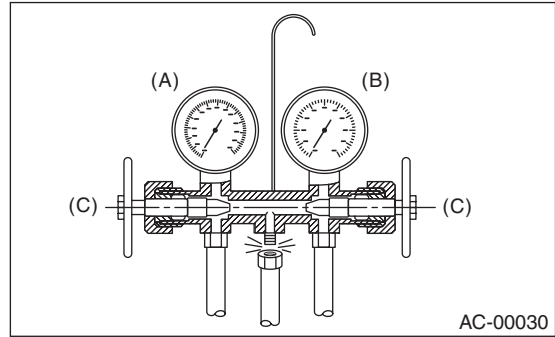
11) When a 13.6 kg (30 lb) refrigerant container is used, measure the weight of the refrigerant amount to use using a scale.



AC-00029

- (A) Refrigerant container (HFC-134a)
- (B) Weight scale

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



AC-00030

- (A) Low-pressure gauge
(Compound pressure gauge)
- (B) High-pressure gauge
- (C) Close

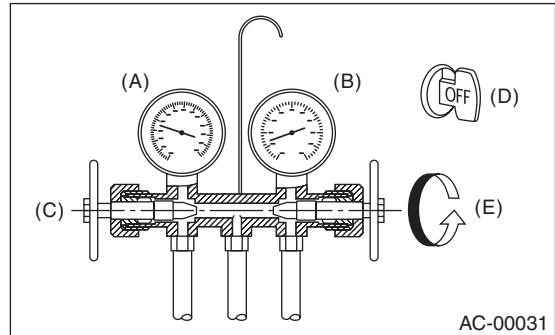
13) Open the valve on the HFC-134a source.

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

15) Stop the engine and carefully open the high-pressure valve.

CAUTION:

Do not open the low-pressure valve.



AC-00031

- (A) Low-pressure gauge
(Compound pressure gauge)
- (B) High-pressure gauge
- (C) Close
- (D) Ignition switch OFF
- (E) Slowly open

CAUTION:

Never run the engine while charging from the high-pressure side.

16) Close the high-pressure valve when the low-pressure gauge reaches 98 kPa (1 kgf/cm², 14 psi). Using a leak tester, check the system for leaks.

If any leakage is found after the refrigerant recovery is completed, repair the applicable area.

Refrigerant Charging Procedure

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

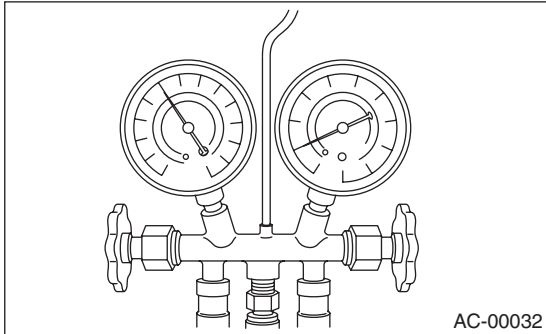
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17) After confirming that there are no leaks with the leak test, charge the required amount of refrigerant.

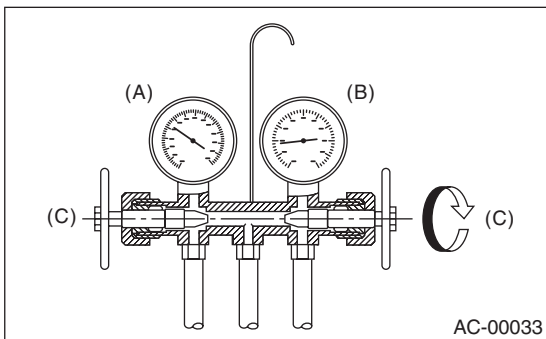
CAUTION:

Never run the engine while charging from the high-pressure side.

- 18) Close the high-pressure valve when;
- the readings of low- / high-pressure gauges become almost equal, after the charging speed is reduced,
 - the HFC-134a source becomes empty, or the system is full with the gas.



19) If the HFC-134a source is empty, close the high-pressure valve, close the valve on the can tap, and replace the HFC-134a source with a new part to restart the operation.



- (A) Low-pressure gauge
(Compound pressure gauge)
- (B) High-pressure gauge
- (C) Close

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

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

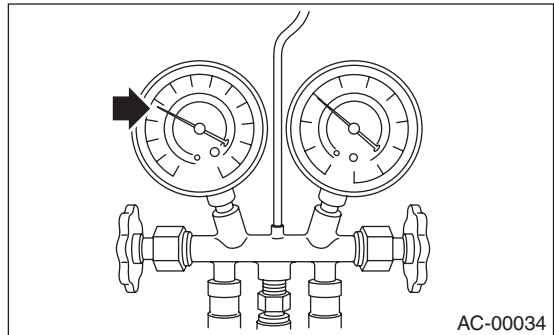
22) Set up the vehicle to the following status:

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

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

CAUTION:

Never open the high-pressure valve with the engine running. The high-pressure gas will back-flow resulting in an explosion of the can.



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

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

26) Close the valve on the refrigerant source.

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

Refrigerant Leak Check

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

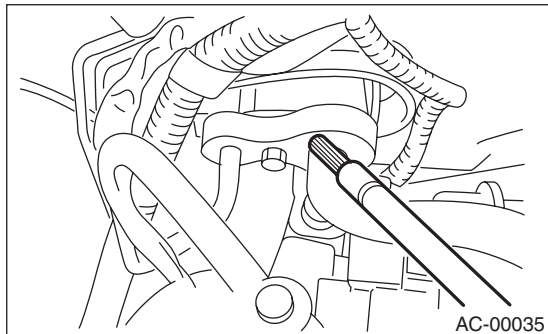
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5. Refrigerant Leak Check

A: INSPECTION

- 1) Operate the A/C system for approx. 10 minutes, and check that the high-side pressure shows at least 690 kPa (7.03 kgf/cm², 100 psi). Then stop the engine to start the leak test.
- 2) Starting from the connection between high-pressure pipe and evaporator, check the system for leaks along the high-pressure side through the compressor. The following items must be checked thoroughly.
- 3) Check the joint and seam between pressure switch (triple pressure switch) and high-pressure pipe.
- 4) Check the connections between condenser and pipes, and welded joints on the condenser. The leak tester may detect the oil on the condenser fins as a leak.
- 5) Check the joint between compressor and hoses.
- 6) Check the machined area of the compressor and other joints on the compressor.
- 7) Check the compressor shaft seal at the area near the center of compressor clutch pulley.
- 8) Starting from the connection between low-pressure pipe and evaporator, check the system for leakage along the low-pressure side through the compressor. The following items must be checked thoroughly.

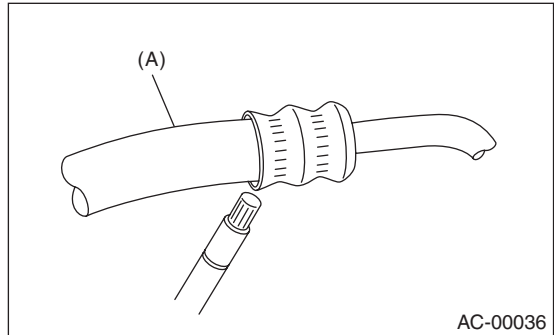
- Connection between 2 parts
- Connection between pipe and plate



- 9) Visually check the rubber area of the flexible hose for cracks. Check the entire length of the flexible hose, especially the connection with the metal hose end.

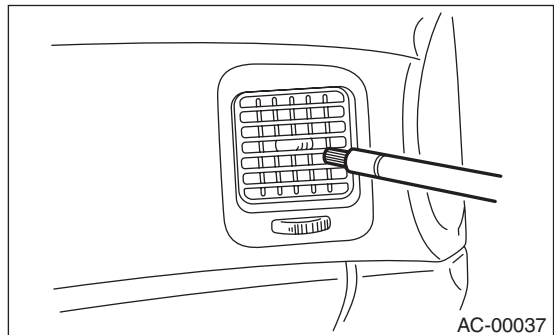
CAUTION:

Carefully check the external surface of hoses and tubes at approx. 25 mm (0.98 in) per second.

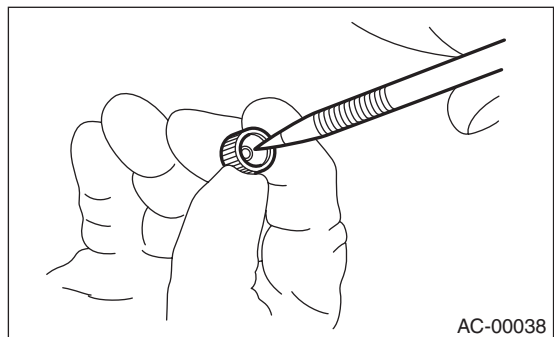


(A) Flexible hose

- 10) Disconnect the drain hose from the heater case, and check the hose end for at least 10 seconds. After the test is finished, reconnect the drain hose.
- 11) Turn the ignition key to the ON position, and run the blower at high speed for approx. 1 minute. Stop the blower and check the ventilation 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.



- 12) Check the valve in the service port.
- 13) Visually check the rubber seal in the service port cap.



6. Compressor Oil

A: PROCEDURE

NOTE:

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

- 1) Increase the engine to 1,500 rpm.
- 2) Turn the A/C switch to ON.
- 3) Turn the temperature control switch to MAX COOL.
- 4) Put in RECIRC position.
- 5) Turn the blower control switch to HI.
- 6) Leave in this condition for 10 minutes.

B: REPLACEMENT

NOTE:

- 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, the new compressor 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) and install the new compressor.
- Since the hygroscopicity of compressor oil is high, perform this series of works quickly.

Blower Motor Unit Assembly

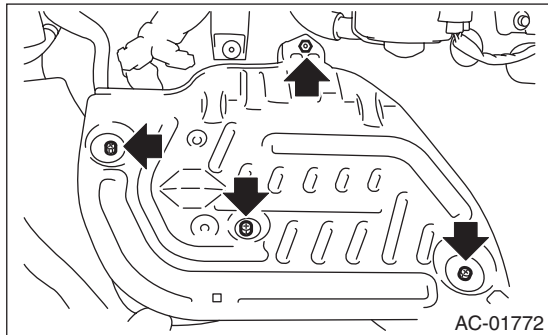
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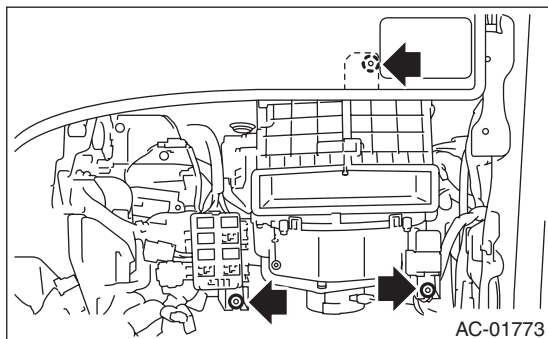
7. Blower Motor Unit Assembly

A: REMOVAL

- 1) Disconnect the battery ground cable from the battery.
- 2) Remove the instrument panel lower cover. <Ref. to EI-46, REMOVAL, Glove Box.>
- 3) Remove the protect cover of ECM.



- 4) Disconnect the connectors of the intake door actuator and blower motor.
- 5) Remove the relay holder.
- 6) Loosen the bolt and nut to remove blower motor unit assembly.



B: INSTALLATION

Install in the reverse order of removal.

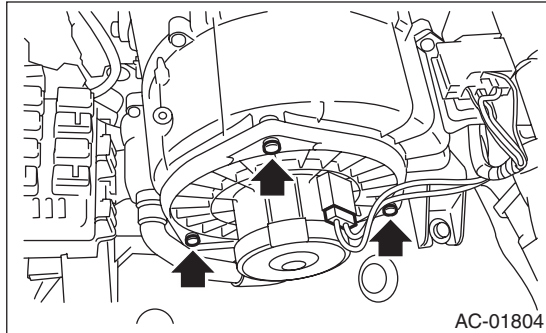
Tightening torque:

Refer to “COMPONENT” of “General Description”. <Ref. to AC-5, HEATER COOLING UNIT, COMPONENT, General Description.>
<Ref. to AC-7, BLOWER MOTOR UNIT, COMPONENT, General Description.>

8. Blower Motor

A: REMOVAL

- 1) Disconnect the battery ground cable from the battery.
- 2) Disconnect the connector of the blower motor.
- 3) Turn up the floor mat near the blower motor.
- 4) Loosen the screw to remove the blower motor.

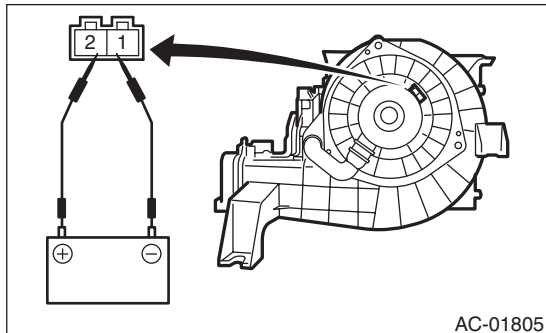


B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Connect the battery positive (+) terminal to terminal No. 2 of blower motor connector, and negative (-) terminal to terminal No. 1. Check the blower motor for smooth rotation.



Power Transistor (Auto A/C Model)

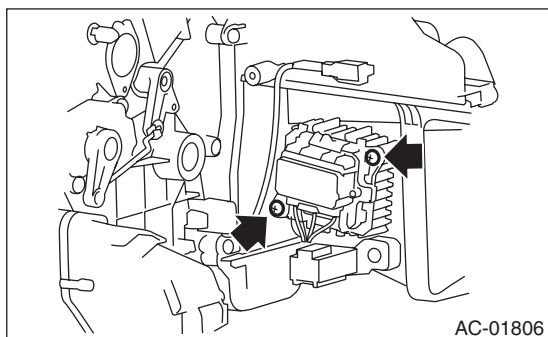
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9. Power Transistor (Auto A/C Model)

A: REMOVAL

- 1) Remove the instrument panel lower cover. <Ref. to EI-50, INSTRUMENT PANEL, LOWER, REMOVAL, Center Console.>
- 2) Disconnect the power transistor connector.
- 3) Remove the two screws and remove the power transistor.



B: INSTALLATION

Install in the reverse order of removal.

Blower Resistor (Manual A/C Model)

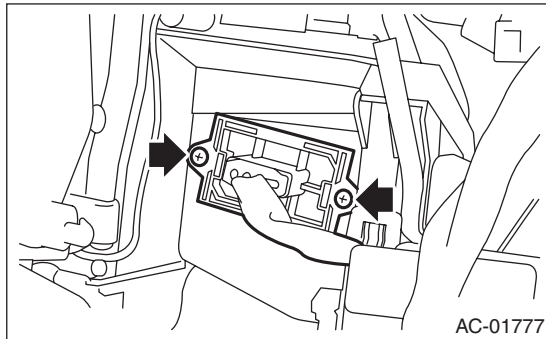
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10. Blower Resistor (Manual A/C Model)

A: REMOVAL

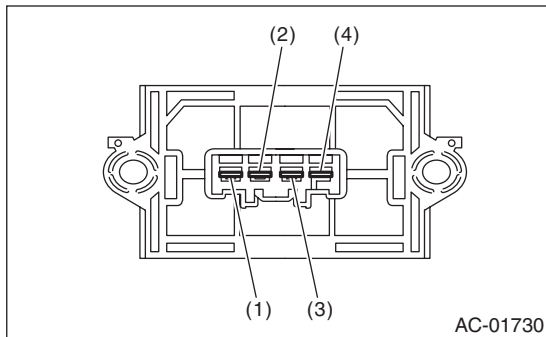
- 1) Remove the instrument panel lower cover. <Ref. to EI-50, INSTRUMENT PANEL, LOWER, REMOVAL, Center Console.>
- 2) Disconnect the blower resistor connector.
- 3) Remove the two screws and remove the blower resistor.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION



Measure the blower resistor resistance.

Terminal No.	Standard
4 and 3	Approx. 0.43 Ω
4 and 2	Approx. 1.03 Ω
4 and 1	Approx. 3.0 Ω

If NG, replace the blower resistor.

Heater Core

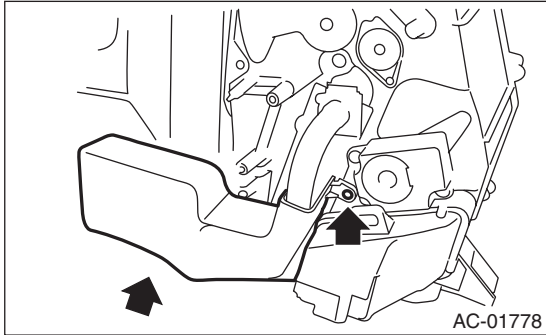
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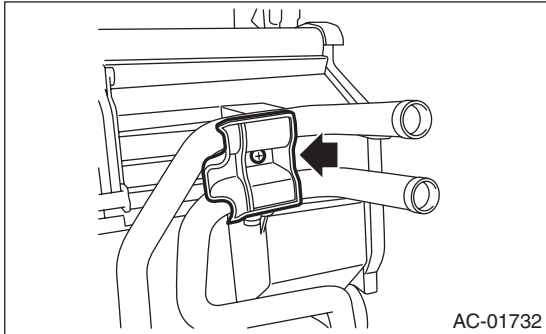
11.Heater Core

A: REMOVAL

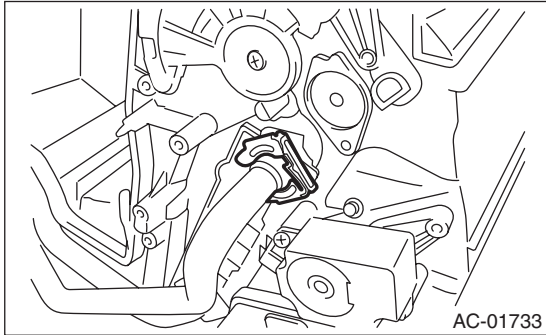
- 1) Remove the heater and cooling unit. <Ref. to AC-33, REMOVAL, Heater and Cooling Unit.>
- 2) Remove the screws and detach the heater pipe cover.



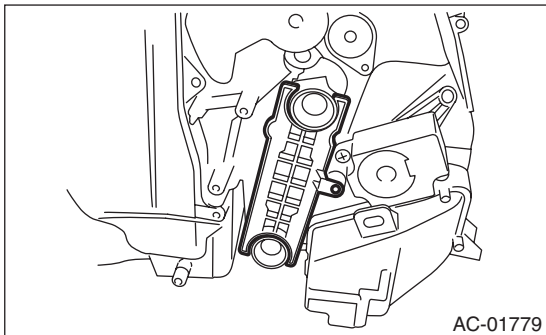
- 3) Remove the screws and detach the clamp.



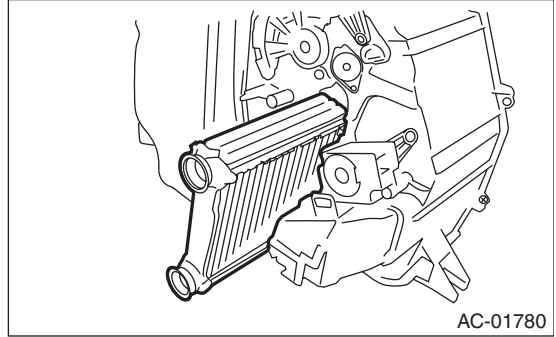
- 4) Remove the pipe clamp and detach the pipe.



- 5) Remove the heater core cover.



- 6) Remove the heater core.



B: INSTALLATION

Install in the reverse order of removal.

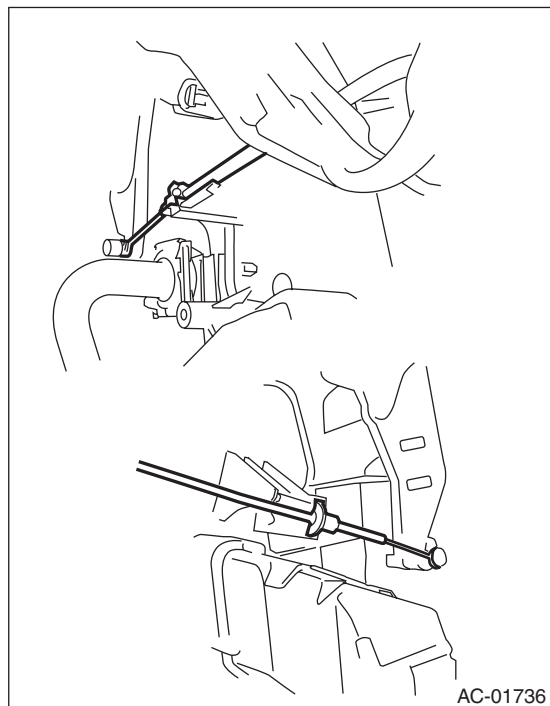
NOTE:

Replace the O-ring and pipe clamp with new parts.

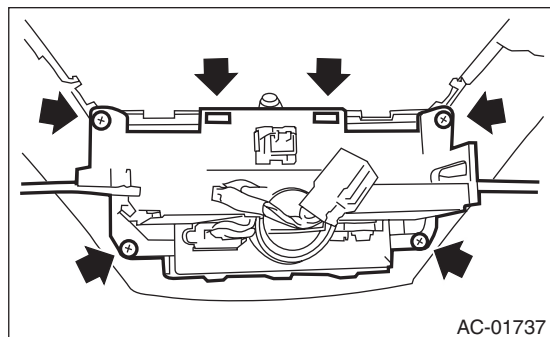
12. Control Unit (Manual A/C Model)

A: REMOVAL

- 1) Disconnect the battery ground cable from the battery.
- 2) Remove the ornament panel. <Ref. to EI-49, ORNAMENT PANEL, REMOVAL, Center Console.>
- 3) Remove the knee guard panel.
- 4) Remove the control wires from both sides of the heater and cooling unit.



- 5) Remove the screw and claw to detach the control unit from the ornament panel RH.



B: INSTALLATION

Install in the reverse order of removal.

NOTE:

Assemble the plate at the end of control wires to the heater case securely.

Control Unit (Auto A/C Model)

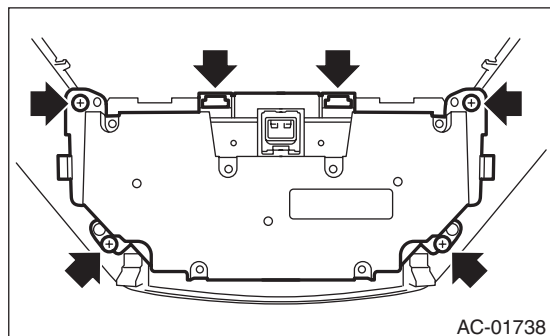
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13. Control Unit (Auto A/C Model)

A: REMOVAL

- 1) Disconnect the battery ground cable from the battery.
- 2) Remove the ornament panel. <Ref. to EI-49, ORNAMENT PANEL, REMOVAL, Center Console.>
- 3) Remove the screw and claw and disconnect the connector to detach the control unit from the ornament panel RH.



B: INSTALLATION

Install in the reverse order of removal.

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14. Compressor

A: INSPECTION

1. MAGNETIC CLUTCH CLEARANCE

Check the clearance of the entire circumference around the drive plate and pulley.

Standard:

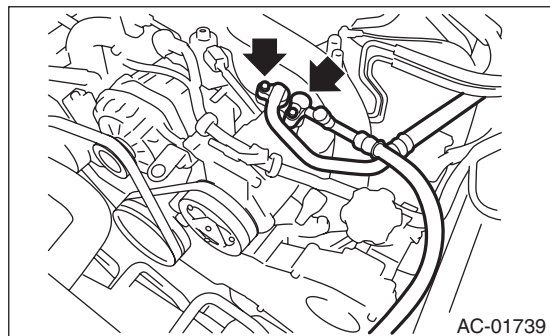
0.3 — 0.6 mm (0.0118 — 0.0236 in)

2. MAGNETIC CLUTCH OPERATION

- 1) Disconnect the compressor connector.
 - 2) Connect the battery positive (+) terminal to the terminal of the compressor connector.
 - 3) Check the magnet clutch engagement.
- If there is a problem, replace the compressor.

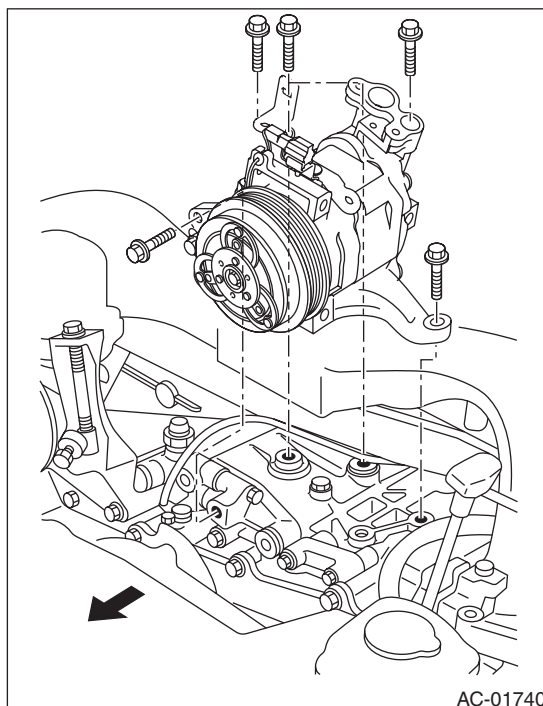
B: REMOVAL

- 1) Perform the compressor oil return operation. <Ref. to AC-23, PROCEDURE, Compressor Oil.>
- 2) Turn the A/C switch to OFF and stop the engine.
- 3) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-18, PROCEDURE, Refrigerant Recovery Procedure.>
- 4) Disconnect the battery ground cable from the battery.
- 5) Remove the V-belts. <Ref. to ME(H4SO)-39, REMOVAL, V-belt.> <Ref. to ME(H4DOTC)-41, REMOVAL, V-belt.>
- 6) Remove the generator. <Ref. to SC(H4SO)-12, REMOVAL, Generator.>
- 7) Remove the bolt and remove the low-pressure hose and high-pressure hose.

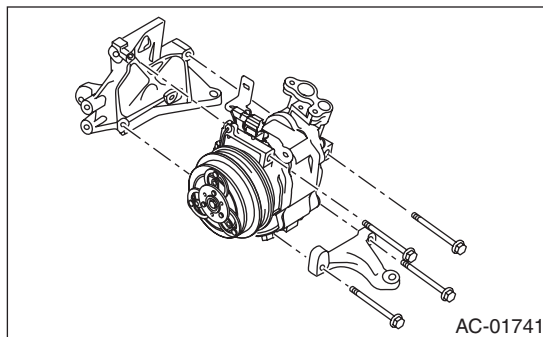


- 8) Disconnect the compressor harness from the body harness.

- 9) Remove the bolts and remove the compressor bracket.



- 10) Remove the bolts, then remove the bracket from the compressor.



C: INSTALLATION

- 1) Install in the reverse order of removal.
- 2) Replace the O-rings on low-/high-pressure hoses with new parts, then apply compressor oil.
- 3) After replacing the compressor, adjust the amount of compressor oil. <Ref. to AC-23, PROCEDURE, Compressor Oil.>
- 4) Charge refrigerant. <Ref. to AC-19, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:

Refer to “COMPONENT” of “General Description”. <Ref. to AC-10, AIR CONDITIONING UNIT, COMPONENT, General Description.> <Ref. to AC-11, COMPRESSOR, COMPONENT, General Description.>

Condenser

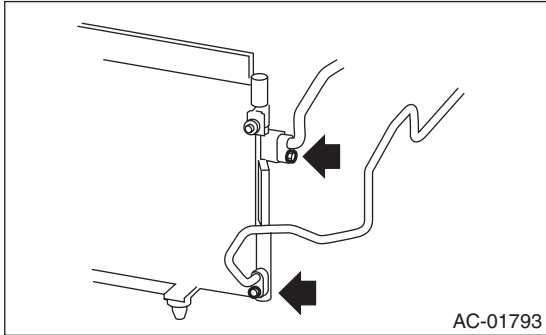
HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

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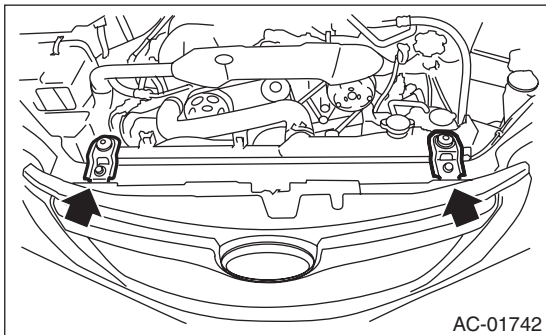
15. Condenser

A: REMOVAL

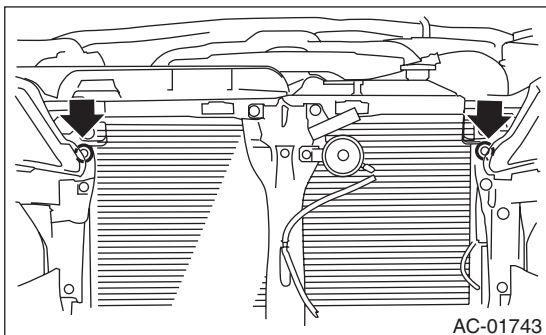
- 1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-18, PROCEDURE, Refrigerant Recovery Procedure.>
- 2) Disconnect the battery ground cable from the battery.
- 3) Disconnect the pressure hose and pipe from the condenser.



- 4) Remove the radiator brackets.



- 5) Remove the front bumper. <Ref. to EI-29, REMOVAL, Front Bumper.>
- 6) Remove two bolts. While lifting the condenser, pull out through space between the radiator and the radiator panel.



CAUTION:

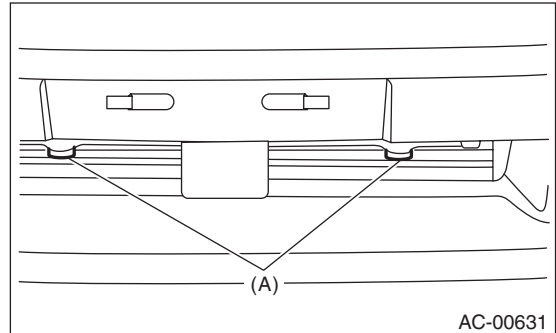
- Be careful not to damage the condenser fins. If a damaged fin is found, repair it using a thin screwdriver.
- If the condenser is replaced, add an appropriate amount of compressor oil to the compressor. <Ref. to AC-23, REPLACEMENT, Compressor Oil.>

B: INSTALLATION

- 1) Install in the reverse order of removal.

CAUTION:

Replace the O-rings on hoses or pipes with new parts, and then apply compressor oil. Confirm that lower guide (A) of condenser fits into holes on radiator panel.



- 2) Charge refrigerant. <Ref. to AC-19, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:

Refer to "COMPONENT" of "General Description". <Ref. to AC-10, AIR CONDITIONING UNIT, COMPONENT, General Description.> <Ref. to CO(H4SO)-5, RADIATOR & RADIATOR FAN, COMPONENT, General Description.>

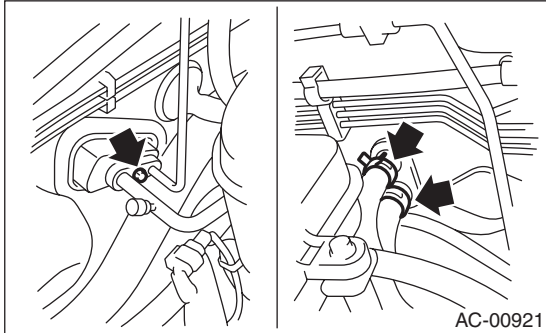
C: INSPECTION

- 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) Inspect for oil leakage from the condenser. If a failure is found, replace the condenser with a new part.

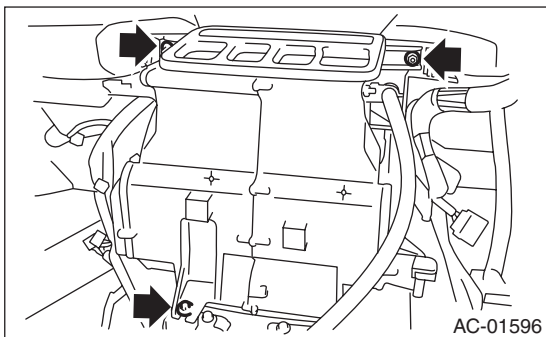
16. Heater and Cooling Unit

A: REMOVAL

- 1) Disconnect the ground cable from the battery.
- 2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-18, PROCEDURE, Refrigerant Recovery Procedure.>
- 3) Drain coolant from the radiator.
- 4) Remove the bolts securing expansion valve and pipe in engine compartment. Release the heater hose clamps in engine compartment to remove the hoses.



- 5) Remove the instrument panel. <Ref. to EI-51, REMOVAL, Instrument Panel Assembly.>
- 6) Remove the blower motor unit assembly. <Ref. to AC-24, REMOVAL, Blower Motor Unit Assembly.>
- 7) Disconnect the connectors of the actuator, thermo sensor, power transistor and blower resistor.
- 8) Remove the bolt and nuts and remove the heater and cooling unit.



B: INSTALLATION

- 1) Install in the reverse order of removal.
- 2) Charge refrigerant. <Ref. to AC-19, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:

Refer to "COMPONENT" of "General Description". <Ref. to AC-5, HEATER COOLING UNIT, COMPONENT, General Description.>

Evaporator

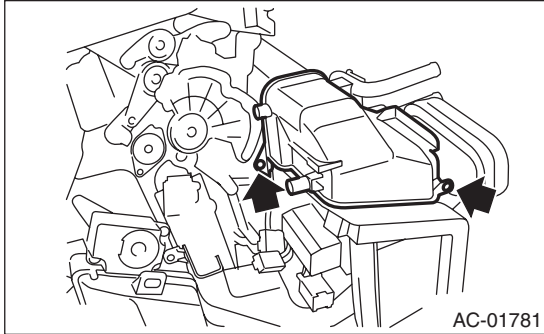
HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

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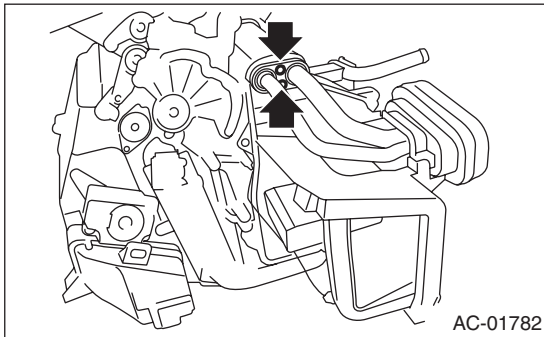
17. Evaporator

A: REMOVAL

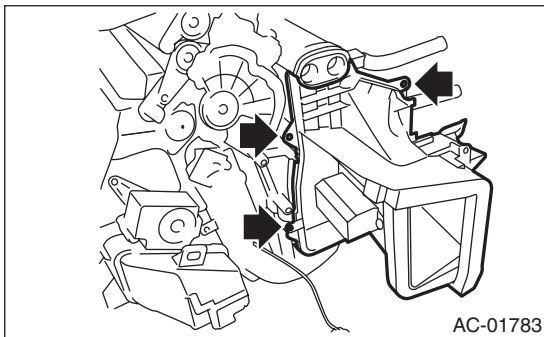
- 1) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-18, PROCEDURE, Refrigerant Recovery Procedure.>
- 2) Remove the heater and cooling unit. <Ref. to AC-33, REMOVAL, Heater and Cooling Unit.>
- 3) Remove the screws and detach the cover.



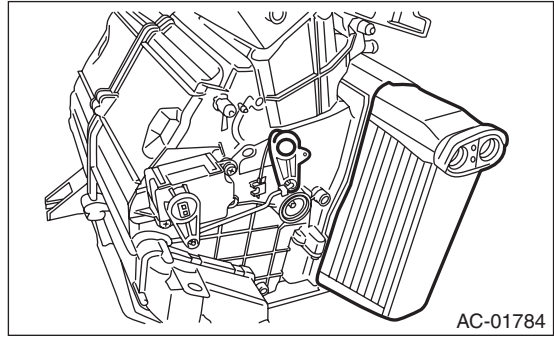
- 4) Remove the bolt and detach the pipe.



- 5) Remove the screws and detach the cover.



- 6) Remove the evaporator.



CAUTION:

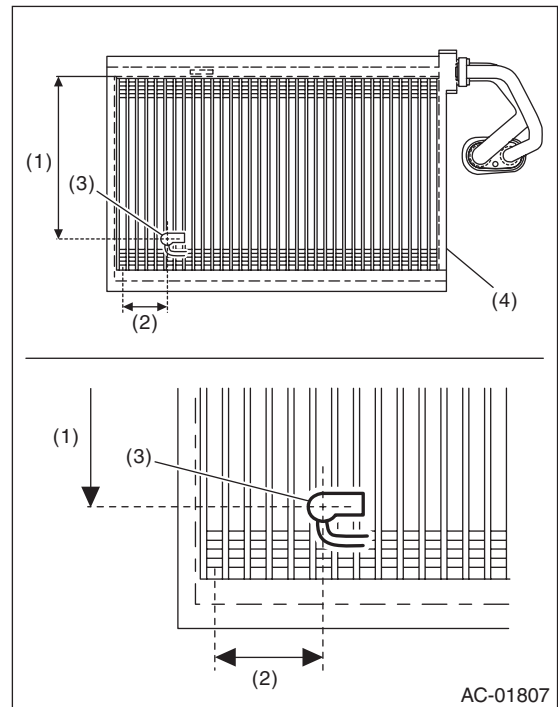
If the evaporator is replaced, add an appropriate amount of compressor oil to evaporator. <Ref. to AC-23, REPLACEMENT, Compressor Oil.>

B: INSTALLATION

Install in the reverse order of removal.

CAUTION:

Install the sensor at the position shown in the figure below.



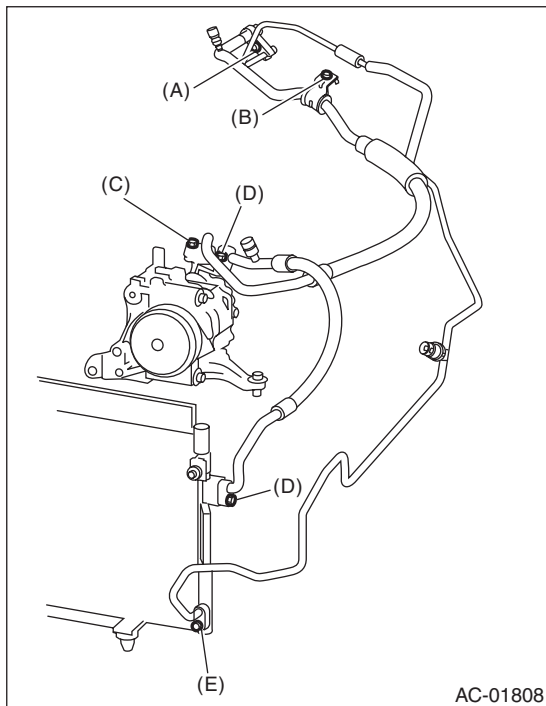
- (1) 148 mm (5.83 in) from the upper end of the fin
- (2) The 6th column fin from the left end
- (3) Sensor
- (4) Evaporator

18.Hose and Tube

A: REMOVAL

CAUTION:

- When disconnecting/connecting hoses, do not apply an excessive force to them. After installing, check that no torsion or excessive tension applied to the hoses.
 - Seal the disconnected hose with a plug or vinyl tape to prevent foreign matter from entering.
- 1) Disconnect the ground cable from the battery.
 - 2) Using the refrigerant recovery system, discharge refrigerant. <Ref. to AC-18, PROCEDURE, Refrigerant Recovery Procedure.>
 - 3) Remove the evaporator unit mounting bolt (A) and low-pressure hose bracket bolt (B).
 - 4) Remove the low-pressure hose attaching bolts (C).
 - 5) Disconnect the low-pressure hose from evaporator unit.
 - 6) Disconnect the low-pressure hose from compressor.
 - 7) Remove the low-pressure hose from vehicle.
 - 8) Remove the high-pressure hose attaching bolt (D).
 - 9) Disconnect the high-pressure hose from compressor.
 - 10) Disconnect the high-pressure hose from condenser.
 - 11) Remove the high-pressure hose from vehicle.
 - 12) Remove the high-pressure tube attaching bolt (E).
 - 13) Remove the high-pressure tube from vehicle.



B: INSTALLATION

CAUTION:

- When disconnecting or connecting the hoses, do not apply excessive force. After installing, check that no torsion or excessive tension applied to the hoses.
 - Seal the disconnected hose with a plug or vinyl tape to prevent foreign matter from entering.
- 1) Install in the reverse order of removal.
 - 2) Charge refrigerant. <Ref. to AC-19, PROCEDURE, Refrigerant Charging Procedure.>

Tightening torque:

Refer to “COMPONENT” of “General Description”. <Ref. to AC-10, AIR CONDITIONING UNIT, COMPONENT, General Description.>

C: INSPECTION

Check the hoses for cracks, damage and expansion. If any fault is found, replace with new parts.

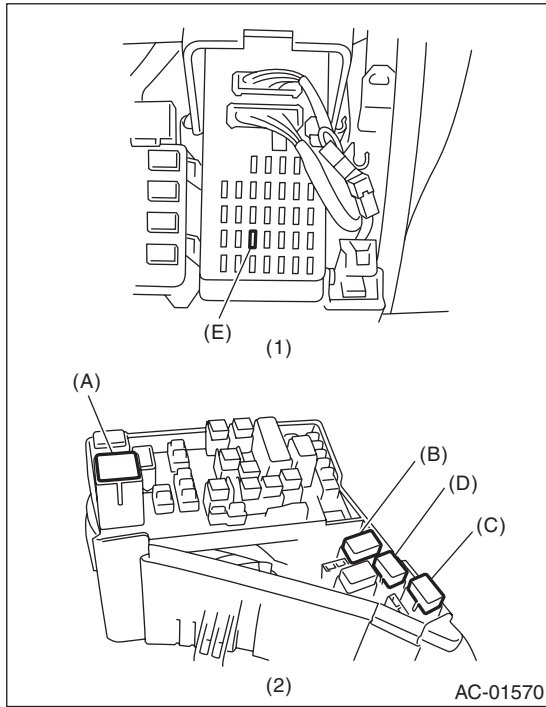
Relay and Fuse

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19. Relay and Fuse

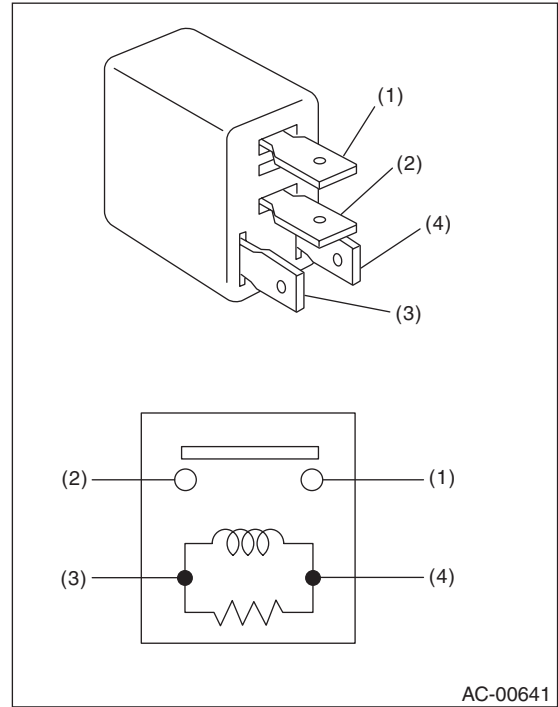
A: LOCATION



- (1) Joint box
- (2) Main fuse box

Main fan relay 1	(A)
Main fan relay 2	(B)
Sub fan relay	(C)
A/C relay	(D)
A/C Fuse	(E)

B: INSPECTION



- (3) — (4): Continuity exists
- (1) — (2): Continuity does not exist

While applying battery voltage to the terminal between (3) and (4), check for continuity between (1) and (2).

If no continuity exists, replace the relay with a new part.

Pressure Switch (Triple Pressure Switch)

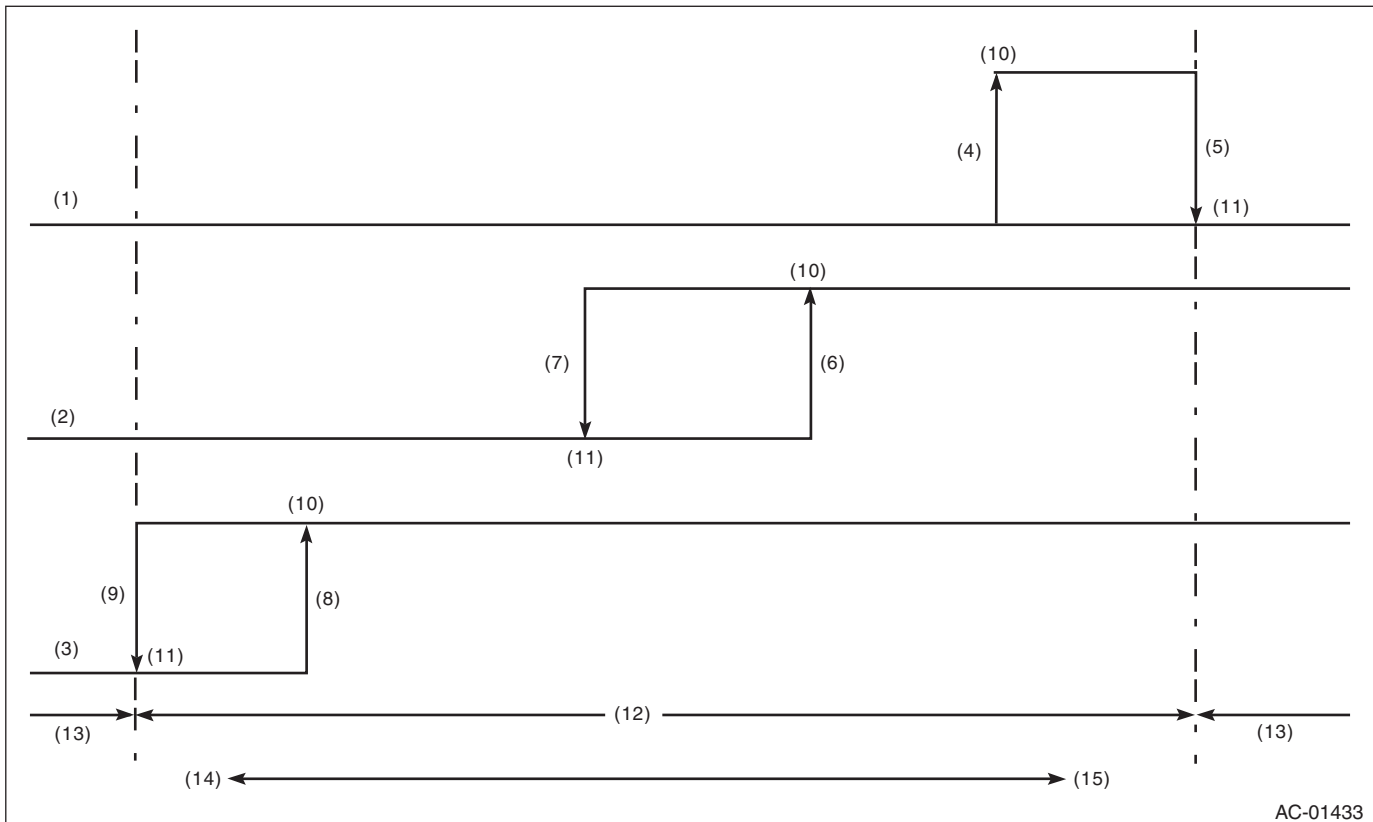
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20. Pressure Switch (Triple Pressure Switch)

A: INSPECTION

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



(1) High pressure switch	(7) 1,470±120 kPa (14.99±1.22 kg/cm ² , 213.15±17.4 psi)	(10) ON
(2) Middle pressure switch	(8) 206±30 kPa (2.10±0.31 kg/cm ² , 29.9±4.3 psi)	(11) OFF
(3) Low pressure switch	(9) 177±25 kPa (1.80±0.25 kg/cm ² , 25.7±3.6 psi)	(12) Operative range of compressor
(4) 2,350±200 kPa (24.00±2.04 kg/cm ² , 340.7±29.0 psi)		(13) Inoperative range of compressor
(5) 2,940±200 kPa (29.98±2.04 kg/cm ² , 426.3±29.0 psi)		(14) Low pressure
(6) 1,770±100 kPa (18.05±1.02 kg/cm ² , 256.65±14.5 psi)		(15) High pressure

NOTE:

- High pressure switch turns the compressor (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.
- Middle pressure switch effectively controls the radiator fan output by judging high load/low load in normal range.
- Low pressure switch turns the compressor (magnet clutch) to OFF, judging as low refrigerant level when the refrigerant pressure becomes extremely low, to prevent the possible seizure if the compressor rotates.

Ambient Sensor (Auto A/C Model)

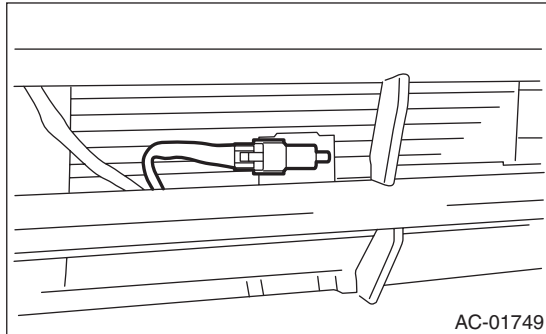
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21. Ambient Sensor (Auto A/C Model)

A: REMOVAL

- 1) Disconnect the ground cable from the battery.
- 2) Disconnect the ambient sensor connector.
- 3) Remove the ambient sensor from the radiator lower panel.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

<Ref. to AC(diag)-29, AMBIENT SENSOR, Diagnostic Procedure for Sensors.>

Sunload Sensor (Auto A/C Model)

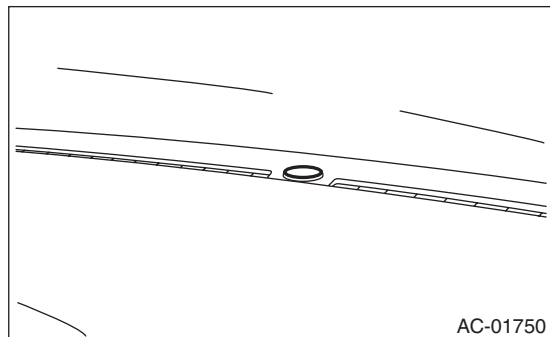
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22. Sunload Sensor (Auto A/C Model)

A: REMOVAL

- 1) Disconnect the battery ground cable from the battery.
- 2) Pull out the sunload sensor from the instrument panel and disconnect the connector.



CAUTION:

Be careful not to damage the interior trims when removing the sensor.

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

<Ref. to AC(diag)-35, SUNLOAD SENSOR, Diagnostic Procedure for Sensors.>

In-vehicle Sensor (Auto A/C Model)

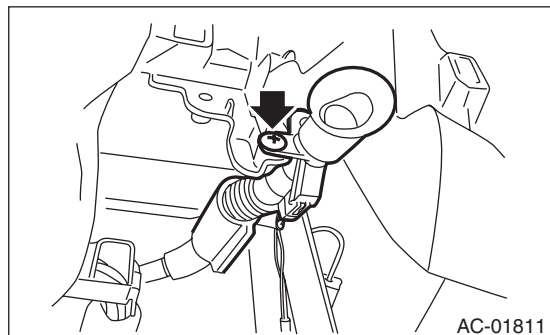
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23. In-vehicle Sensor (Auto A/C Model)

A: REMOVAL

- 1) Disconnect the battery ground cable from the battery.
- 2) Remove the instrument panel lower cover. <Ref. to EI-50, INSTRUMENT PANEL, LOWER, REMOVAL, Center Console.>
- 3) Disconnect the connector and aspirator hose, remove the screw and remove the in-vehicle sensor from the instrument panel.



CAUTION:

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

B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

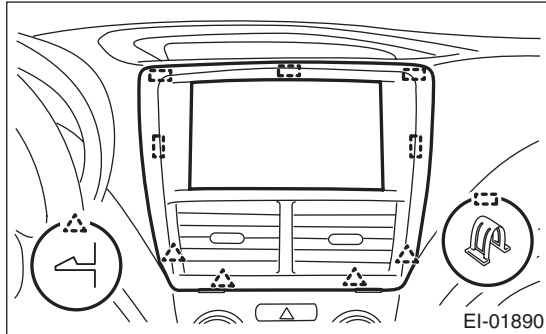
<Ref. to AC(diag)-31, IN-VEHICLE SENSOR, Diagnostic Procedure for Sensors.>

24. Air Vent Grille

A: REMOVAL

1. CENTER GRILLE

1) Remove hooks (A), and remove the center panel.

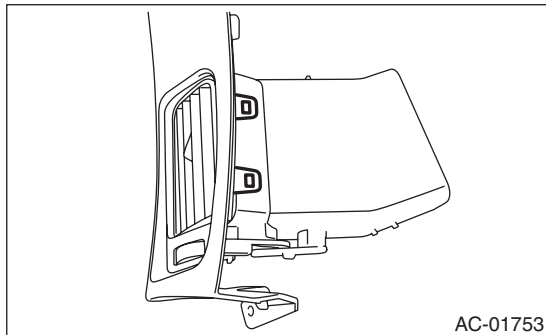


2) Remove the claws, and remove the air vent center grille from the center panel.

2. SIDE GRILLE

1) Remove the ornament panel. <Ref. to EI-49, ORNAMENT PANEL, REMOVAL, Center Console.>

2) Remove the claws, and remove the air vent side grille.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

1) Check that the direction and amount of air can be adjusted smoothly.

2) Check that the adjustment can be maintained in each position.

Heater Duct

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

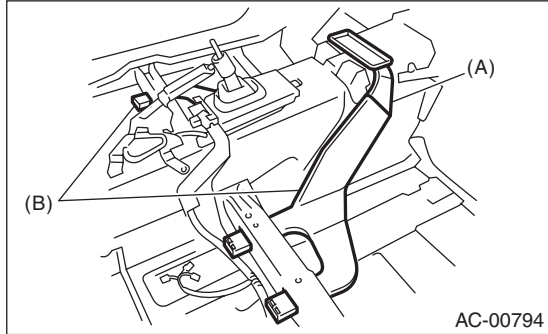
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25.Heater Duct

A: REMOVAL

1. REAR HEATER DUCT

- 1) Remove the heater cooling unit. <Ref. to AC-33, REMOVAL, Heater and Cooling Unit.>
- 2) Remove the front seats. <Ref. to SE-6, REMOVAL, Front Seat.>
- 3) Remove the front side sill cover.
- 4) Pull off the floor mat to remove the rear center heater duct (A) and rear heater duct LH, RH (B).



B: INSTALLATION

Install in the reverse order of removal.

Heater Vent Duct

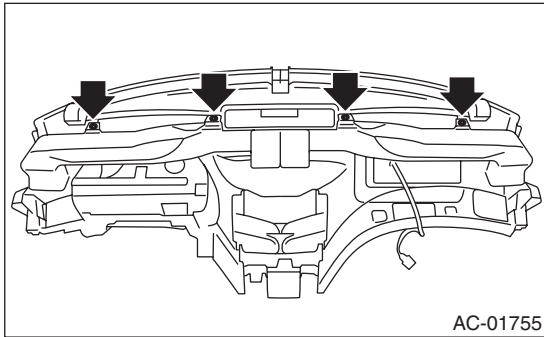
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26.Heater Vent Duct

A: REMOVAL

- 1) Remove the instrument panel. <Ref. to EI-51, REMOVAL, Instrument Panel Assembly.>
- 2) Remove the screws, and then remove the heater vent duct.



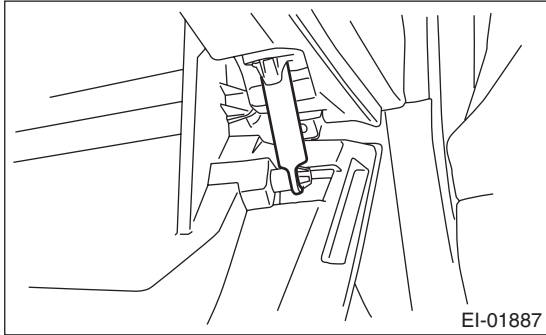
B: INSTALLATION

Install in the reverse order of removal.

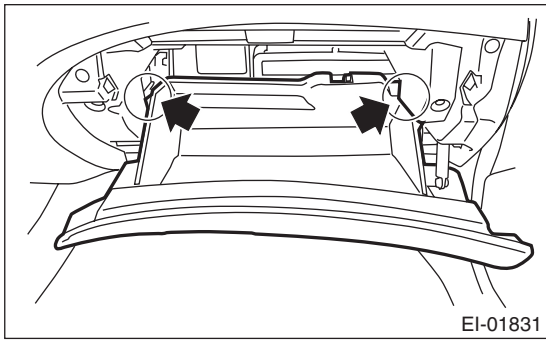
27. A/C Filter

A: REPLACEMENT

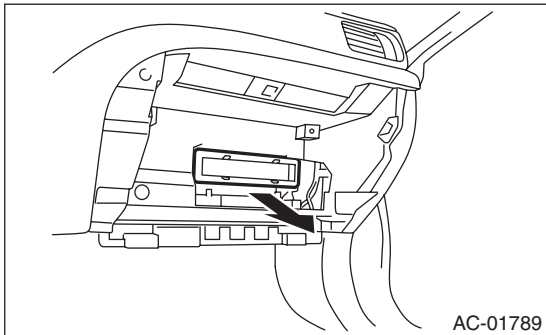
1) Remove the glove box damper.



2) Disengage the stopper section and pull the glove box lid to remove it.



3) Pinch the claw to unlock and remove the A/C filter.



4) Install in the reverse order of removal.

General Diagnostic Table

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

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28. General Diagnostic Table

A: INSPECTION

Symptom		Repair order	
Blower motor	Does not operate.	Fuse	
		Blower motor relay	
		Blower motor	
		Blower motor resistor (Manual A/C)	
		Blower switch	
		Wiring harness	
	Noise	Blower motor	
Compressor	Does not operate.	Refrigerant	
		Fuse	
		Air conditioning relay	
		Magnet clutch	
		Compressor	
		Pressure switch	
		A/C switch	
		Blower switch	
		Wiring harness	
	Noise	V-belt	
		Magnet clutch	
		Compressor	
Cold air not emitted.		Refrigerant	
		V-belt	
		Magnet clutch	
		Compressor	
		Pressure switch	
		Aspirator hose	
		Blower fan relay	
		Blower motor	
		A/C switch	
		Blower switch	
		Control module	
		Expansion valve	
		Evaporator	
		Air mix actuator (Auto A/C)	
		Temperature control cable (Manual A/C)	
		Wiring harness	
		Heater duct	
		Heater vent duct	
	Warm air not emitted.		Engine coolant
			Aspirator hose
		Air mix actuator (Auto A/C)	
		Temperature control cable (Manual A/C)	
		Blower switch	
	Heater core		

General Diagnostic Table

HVAC SYSTEM (HEATER, VENTILATOR AND A/C)

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Symptom	Repair order
Temperature of air from vents does not change.	Engine coolant
	Air mix actuator (Auto A/C)
	Temperature control cable (Manual A/C)
	Temperature control switch
	Wiring harness (Auto A/C)
Unable to switch blow vents.	Mode actuator (Auto A/C)
	Mode switch cable (Manual A/C)
	Mode switch (Auto A/C)
	Wiring harness (Auto A/C)
Unable to switch suction vents.	FRESH/RECIRC switch (Auto A/C)
	Intake door actuator (Auto A/C)
	Wiring harness (Auto A/C)