

0801 Manual Control A/C

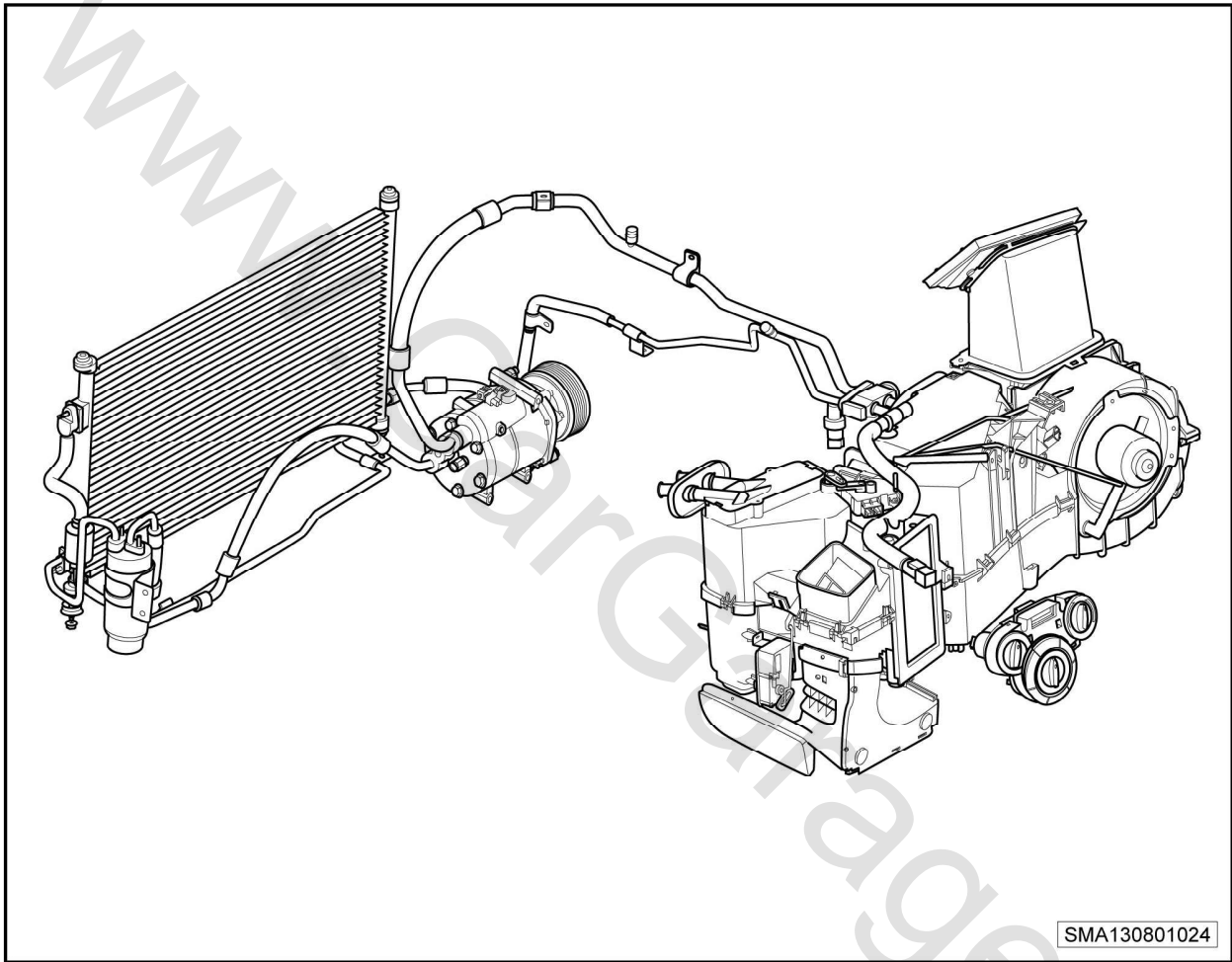
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1 General Information

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1.1 Overview



- The HVAC system is used for heating, ventilating and air conditioning within the vehicle, which provides comfort and safety to occupants, lightens the fatigue of the driver and thus improves the driving safety.
- The HVAC system consists of the following components:
 - a. Condenser
 - b. A/C compressor
 - c. Reservoir dryer
 - d. Air filter assembly
 - e. HVAC assembly
 - f. A/C control panel assembly
 - g. Sensor
 - h. A/C pipe
 - i. Servo motor

1.2 Important notes

- The working environment and tools must be kept clean and tidy when repairing the A/C system.
- The battery negative cable must be disconnected before repairing the heating system.
- Protective measures must be taken to avoid any contact or inhaling when operating the refrigerant.
- Good ventilation must be kept in A/C pipe repairing, in which the welding of A/C pipe containing refrigerant is not allowed.
- Seal plug must be applied while disconnecting the A/C system pipe to prevent water infiltration from the air.
- It is prohibited to discharge the refrigerant directly into the atmosphere. And special equipment must be used to reclaim and dispose the waste refrigerant as stipulated.
- Containers with refrigerant must be kept in cool place to avoid sunlight, high temperature or even bursting expansion.
- The compressed air and refrigerant can be mixed to form flammable gas mixture.
- R-134a refrigerant and PAG56 refrigerant oil are applied in the A/C system.
- Special equipment for R-134a refrigerant should be applied in repair work.
- The system must be vacuumized for about 15 to 30 minutes before adding refrigerant.
- The refrigerant and refrigerant oil must be kept as required to prevent water in the air and other impurities infiltrating. Any unsealed refrigerant oil and expired refrigerant are not allowed to use.
- Only use the A/C system pipe seals approved by Chery Automobile Co., Ltd..

1.3 Product specifications

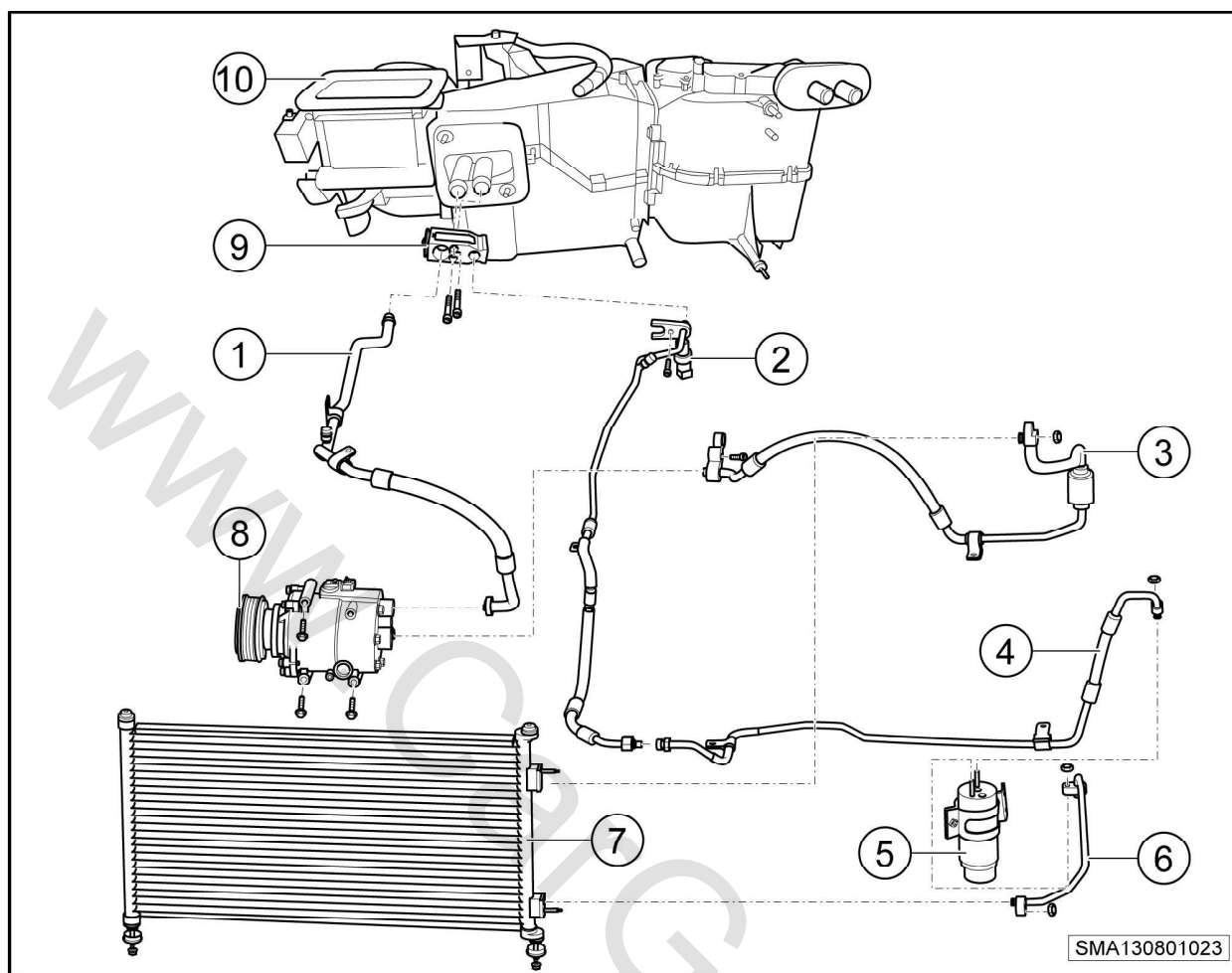
Torque specifications

Component	Torque (N·m)
Fixing bolt of the compressor	25±3
Coupling bolt of the pipe clip and the compressor	32±3
Coupling bolt between the reservoir dryer and the compressor-dryer pipe	8±1
Coupling bolt between the reservoir dryer and the dryer-condenser pipe	8±1
Assembling nut of the condenser pipe assembly	9±1
Coupling bolt of the pipe clip and the expansion valve	7.5±1
Coupling nut of the A/C pipe	12±1
Fixing bolt of the expansion valve	13±1
Fixing nut of the HVAC assembly and vehicle body	9±1
Coupling bolt of the vent and the cross car beam	6±1
Fastening bolt of the reservoir dryer	6±0.5

Basic information

Component	Refrigerant	Refrigerant oil
Type	R134a	PAG56
Filling capacity	625±10 g	150 ml

1.4 The A/C system assembly drawing



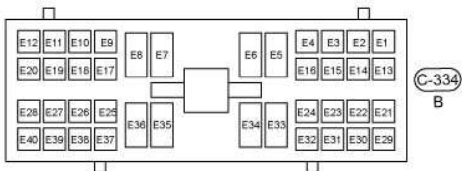
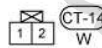
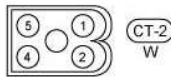
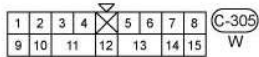
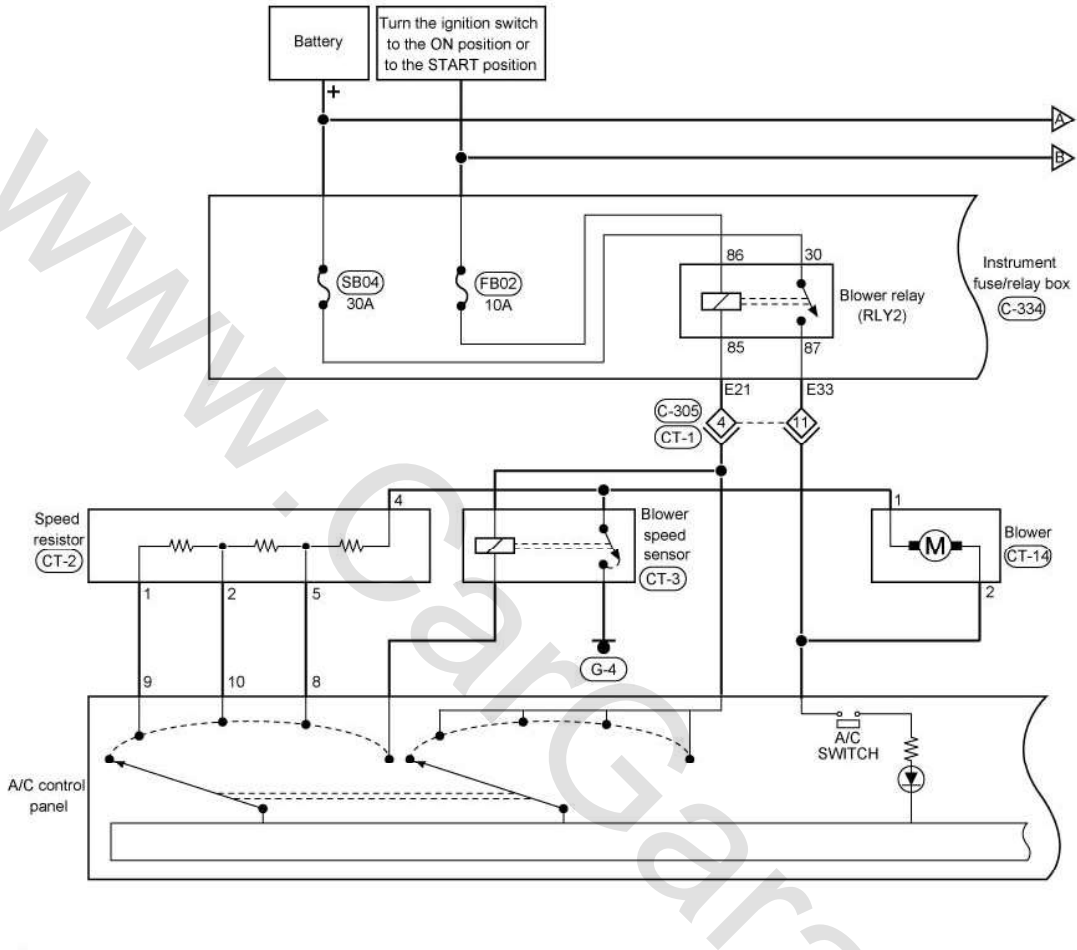
1. Connection pipe from the expansion valve to the compressor	2. Connection pipe from the expansion valve to the reservoir dryer
3. Connection pipe from the compressor to the condenser	4. Connection pipe from the expansion valve to the reservoir dryer
5. Reservoir dryer	6. Connection pipe from the reservoir dryer to the condenser
7. Condenser	8. A/C compressor
9. Expansion valve	10. HVAC assembly

1.5 A/C circuit diagram

A/C (Page 1)

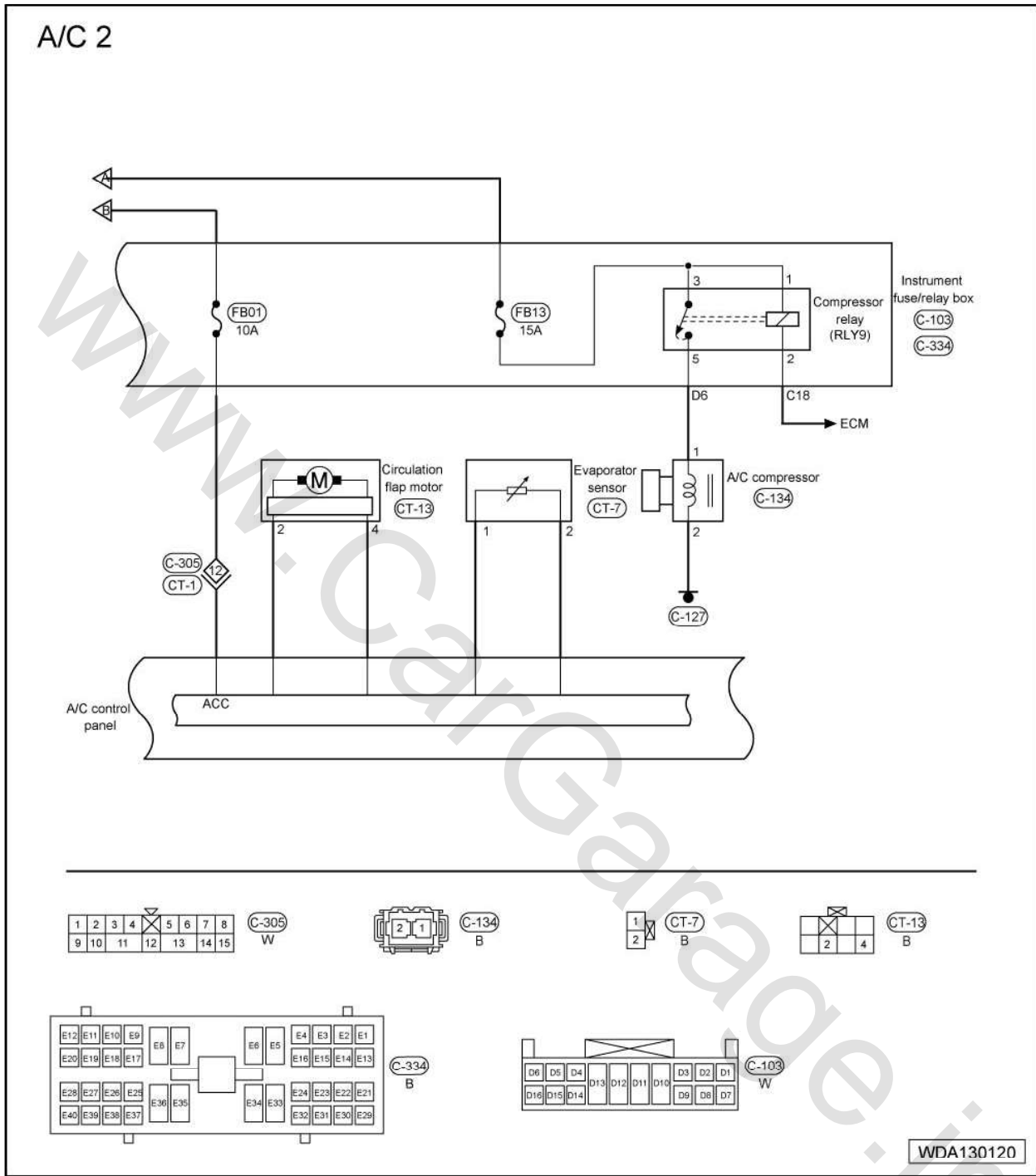
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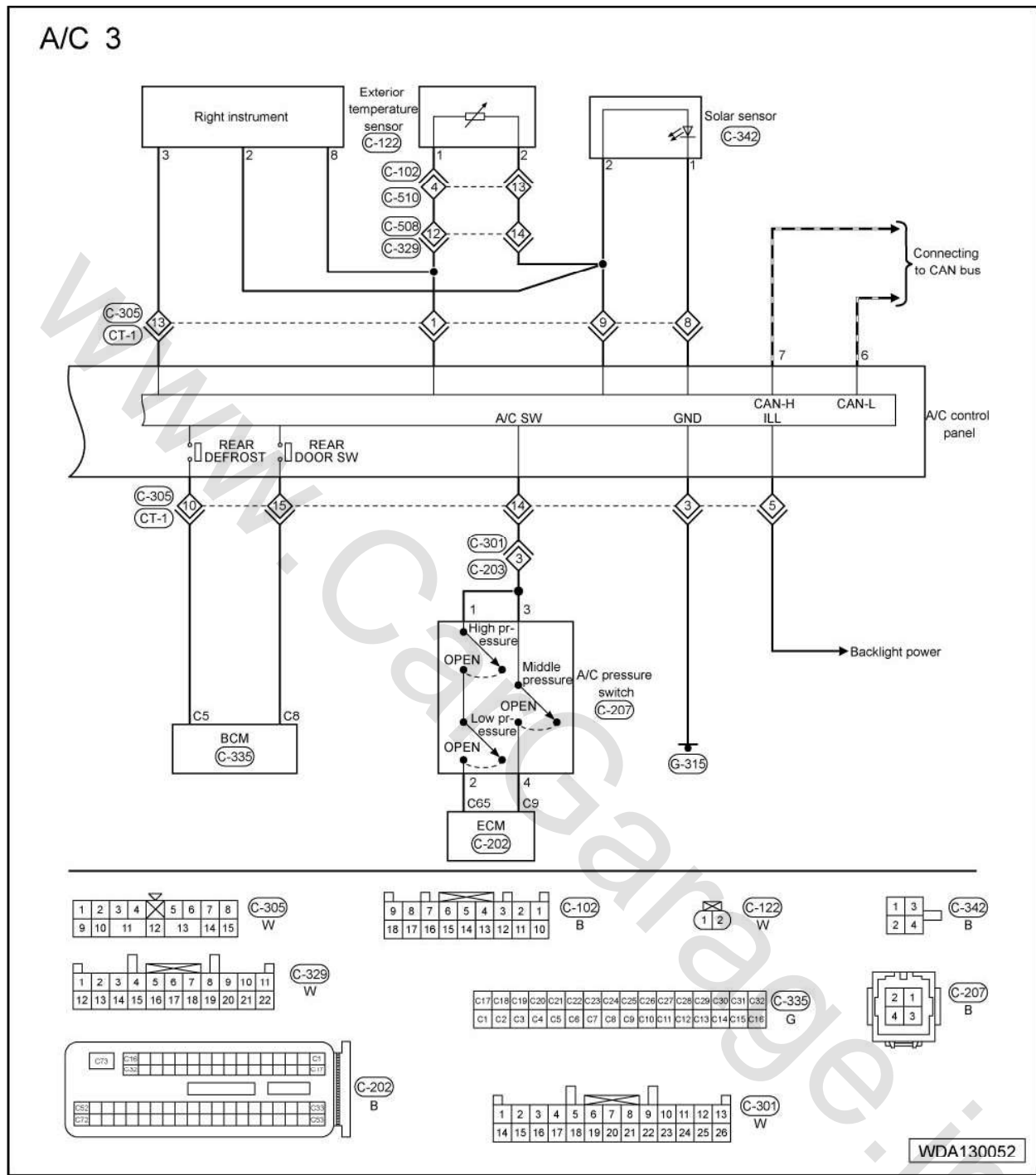
A/C 1



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A/C (Page 2)





2 Diagnosis and Inspection

2.1 Manual control A/C fault diagnosis list.....1225

2.1 Manual control A/C fault diagnosis list

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Item	Possible causes	Troubleshooting
Discontinuous cool air	Water exists in the refrigerant circulation loop	Vacuumize the A/C system and replace the reservoir dryer
	Damage to the evaporator temperature sensor	Check the evaporator temperature sensor and replace it if necessary
	Signal error of the pressure sensor	Replace the pressure sensor
	Failure of the A/C compressor	Replace the A/C compressor
Excessive pressure of the A/C system	Blockage of the condenser radiating fins	Clean or replace the condenser
	Failure of the electric fan	Inspect the electric fan and replace the electric fan assembly if necessary
	Excessive refrigerant	Adjust the refrigerant volume to the standard value
	Blockage or failure of the expansion valve	Replace the expansion valve
	Failure of the compressor	Replace the A/C compressor
Low pressure of the A/C system	Leakage in the A/C pipe	Replace the A/C pipe
	Refrigerant shortage	Adjust the refrigerant volume to the standard value
	Failure of the expansion valve	Replace the expansion valve
	Failure of the A/C compressor	Replace the A/C compressor
Failure of the air-conditioner	Failure of the relay	Replace the relay
	Fuse melted	Replace the fuse
	Failure of the sensor	Replace the faulty temperature sensor
	Inadequate pressure in the cooling system	Check the pipe for leakage and add refrigerant if necessary
	Refrigerant shortage or excess	Adjust the refrigerant volume to the standard value
	Failure of the A/C compressor	Replace the A/C compressor
	Failure of the expansion valve	Replace the expansion valve
	Failure of the A/C control panel assembly	Replace the A/C control panel assembly
Abnormal noise of the compressor	Slipping of the A/C poly V-belt	Adjust the poly V-belt
	Aging of the A/C poly V-belt	Replace the poly V-belt
	Looseness of the compressor parts	Tighten the parts
	Damage to the compressor bearing	Replace the compressor
No warm air in the A/C system	Failure of the relay	Replace the relay

08 - Heater & Air Conditioner

Item	Possible causes	Troubleshooting
	Fuse melted	Replace the fuse
	Failure of the blower	Inspect or replace the blower
	Blockage or leakage of the heater core	Clean or replace the heater core
	Failure of the A/C control panel assembly	Replace the A/C control panel assembly
	Failure of the mixing flap servo motor	Replace the mixing flap servo motor

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3 Temperature Control

3.1 Removing and installing the A/C control panel assembly.....	1227
3.2 Removing and installing the blower motor resistor.....	1229
3.3 Removing and installing the solar sensor.....	1230
3.4 Removing and installing the interior temperature sensor.....	1231
3.5 Removing and installing the exterior temperature sensor.....	1232

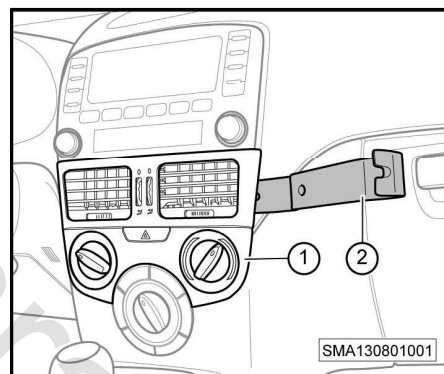
3.1 Removing and installing the A/C control panel assembly

Caution

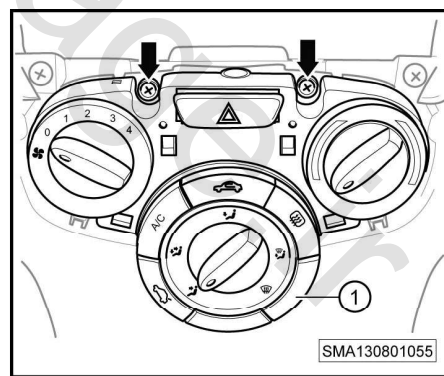
- Interior trim remover or similar tools shall be applied in removing the A/C control panel assembly.
- Be careful not to scratch the dashboard.

Removal

1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Lever out the central air outlet panel (-1-) with the remover (-2-).

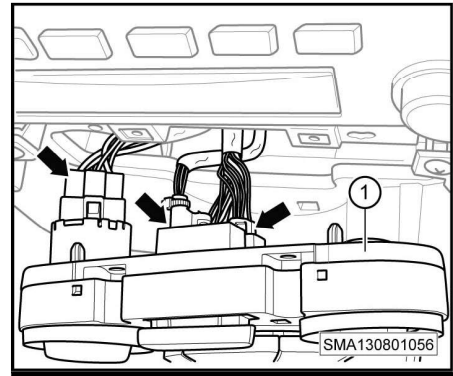


4. Unscrew the fixing screws of the A/C control panel assembly (-arrow-).
5. Take out the A/C control panel assembly (-1-).



08 - Heater & Air Conditioner

6. Disconnect the A/C control panel assembly connectors (-arrow-).
7. Remove the A/C control panel assembly (-1-).



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Installation

- Installation shall follow the reverse sequence of the removal procedure.

3.2 Removing and installing the blower motor resistor

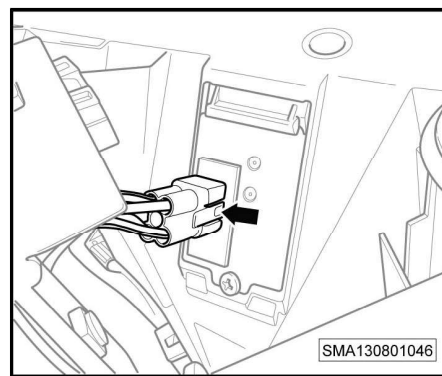
i Note

- The blower motor resistor must be cooled down before being removed since it may produce high temperature in operation.

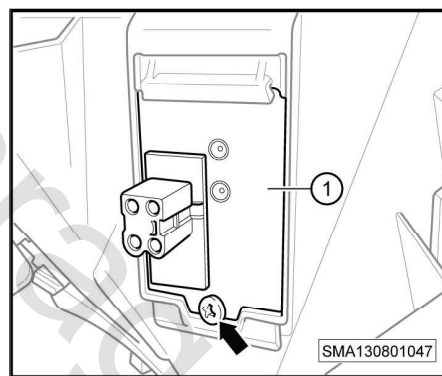
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Removal

1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Remove the dashboard=> refer to page 828.
4. Disconnect the blower motor resistor connector (-arrow-).



5. Unscrew the fixing screw of the blower motor resistor (-arrow-).
6. Remove the blower motor resistor (-1-).



Installation

- Installation shall follow the reverse sequence of the removal procedure.

3.3 Removing and installing the solar sensor

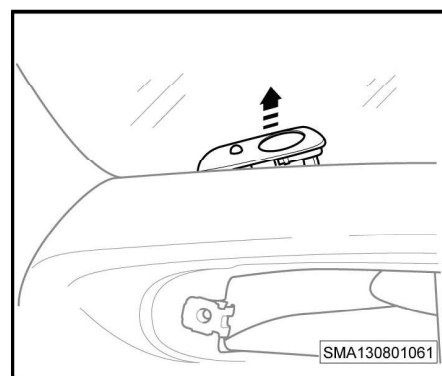
i Note

- Interior trim remover or similar tools shall be applied in removing the solar sensor.
- Be careful not to scratch the dashboard.

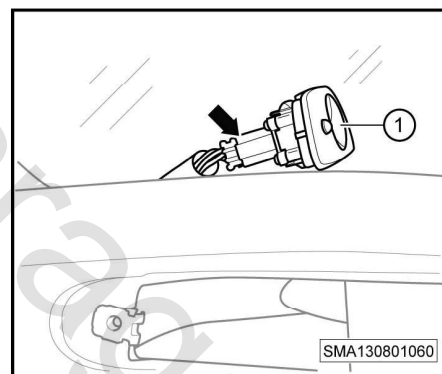
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Removal

1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Remove the left instrument=> refer to page 996.
4. Lever out the solar sensor in the (-arrow-) direction.



5. Disconnect the solar sensor connector (-arrow-).
6. Remove the solar sensor (-1-).



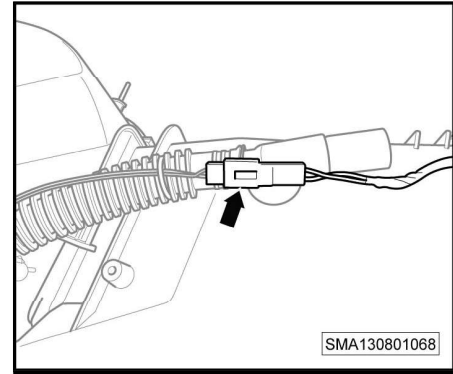
Installation

- Installation shall follow the reverse sequence of the removal procedure.

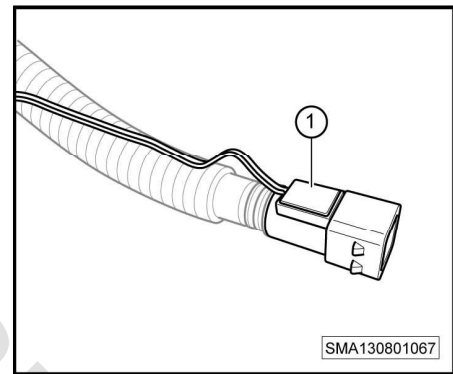
3.4 Removing and installing the interior temperature sensor

Removal

1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Remove the dashboard => refer to page 828.
4. Disconnect the interior temperature sensor connector (-arrow-).



5. Remove the interior temperature sensor (-1-).



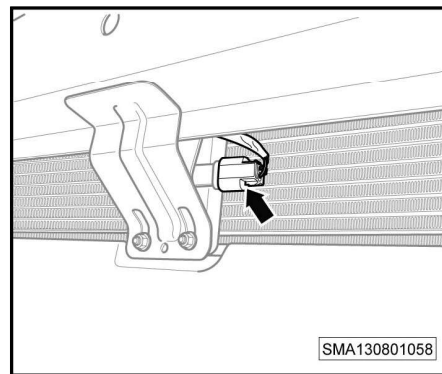
Installation

- Installation shall follow the reverse sequence of the removal procedure.

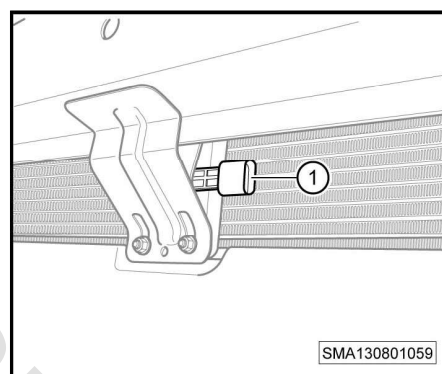
3.5 Removing and installing the exterior temperature sensor

Removal

1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Remove the front bumper=> refer to page 838.
4. Disconnect the exterior temperature sensor connector (-arrow-).



5. Remove the exterior temperature sensor (-1-).



Installation

- Installation shall follow the reverse sequence of the removal procedure.

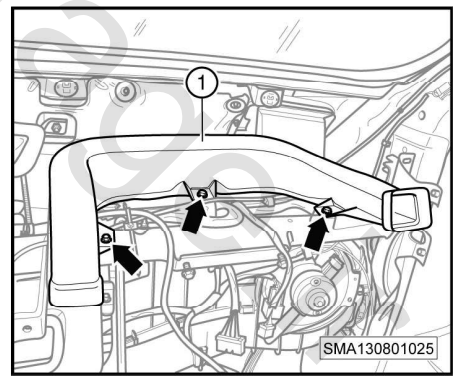
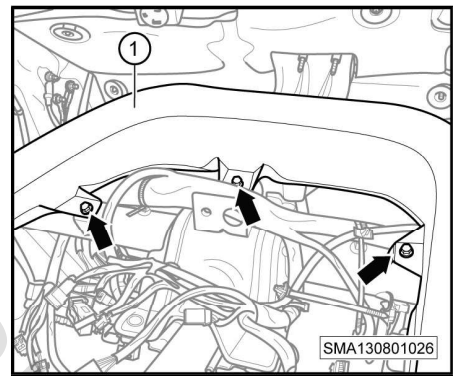
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4.1 Removing and installing the HVAC assembly

Removal

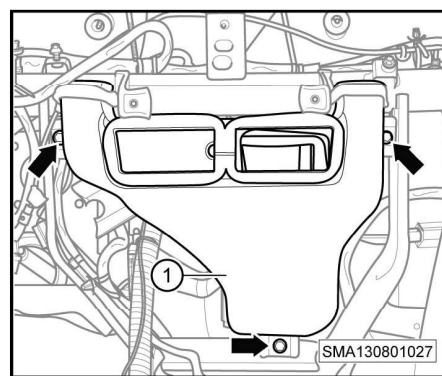
1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Reclaim the refrigerant => refer to page 1249.
4. Remove the expansion valve=> refer to page 1262.
5. Remove the dashboard=> refer to page 828.
6. Remove the cross car beam=> refer to page 829.
7. Unscrew the fixing bolts of the left air outlet pipe (-arrow-) and remove the left air outlet pipe (-1-).
8. Unscrew the fixing bolts of the right air outlet pipe (-arrow-) and remove the right air outlet pipe (-1-).



08 - Heater & Air Conditioner

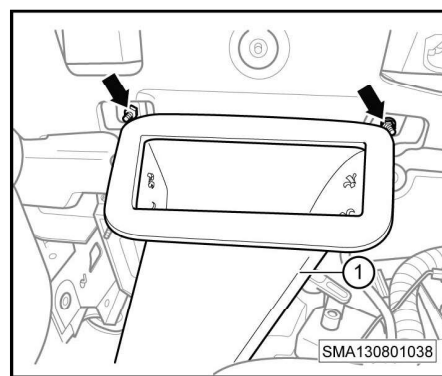
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9. Unscrew the fixing bolts of the middle air outlet pipe (-arrow-) and remove the middle air outlet pipe (-1-).

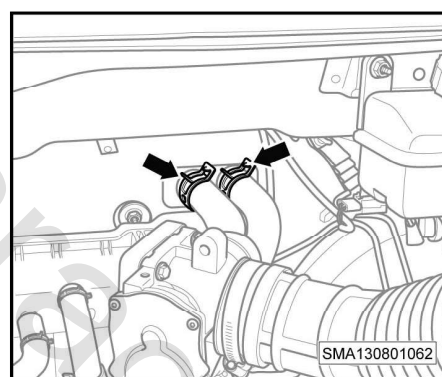


10. Remove the cross car beam=> refer to page 829.

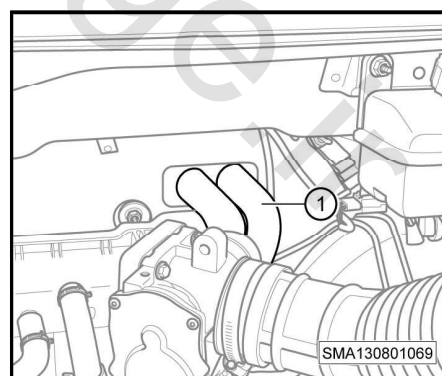
11. Unscrew the fixing nuts of the defroster air outlet pipe (-arrow-) and remove the defroster air outlet pipe (-1-).



12. Loosen the fixing clamps of the heater inlet and outlet pipe (-arrow-).

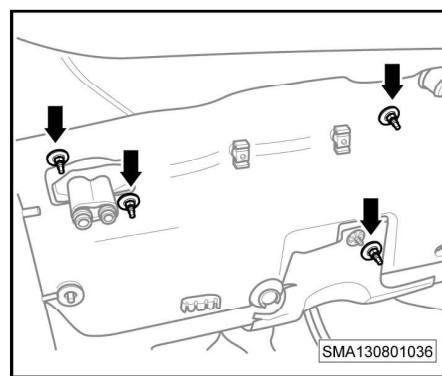


13. Remove the heater inlet and outlet pipe (-1-).

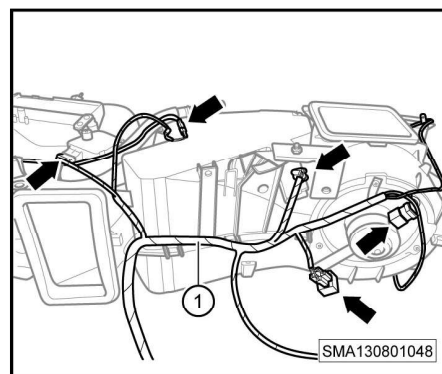


14. Unscrew the fixing nuts of the HVAC assembly in the engine compartment (-arrow-).

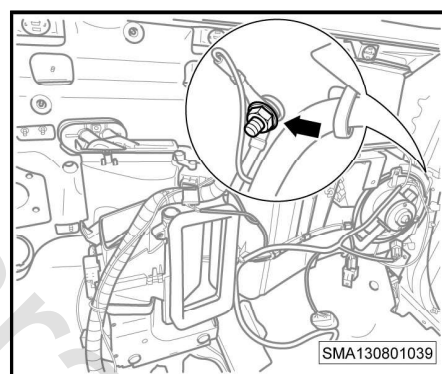
- Tightening torque of the nut: $9\pm 1 \text{ N}\cdot\text{m}$



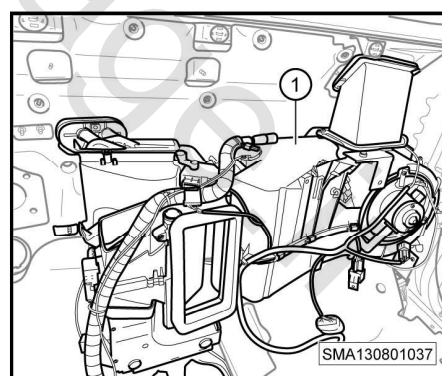
15. Disconnect the HVAC assembly wiring harness connectors (-arrow-).



16. Unscrew the earth fixing nut of the HVAC assembly wiring harness (-arrow-).



17. Remove the HVAC assembly (-1-).



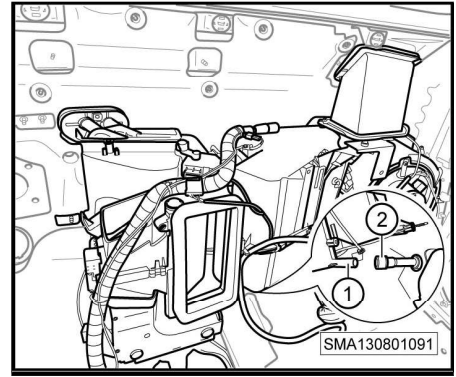
Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Tighten the fixing bolts with the specified torque.
- Refill the refrigerant .

08 - Heater & Air Conditioner

- Only use brand new O-rings and apply compressor lubricant before installation.
- The HVAC assembly drain outlet (-1-) should be aligned with the drain pipe assembly (-2-) in installation.

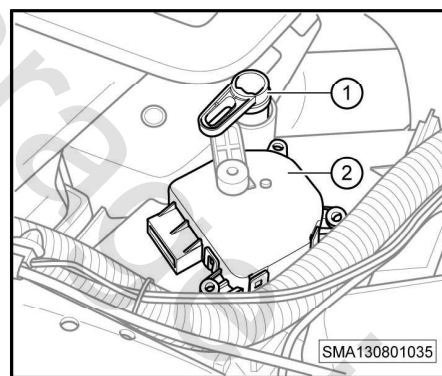
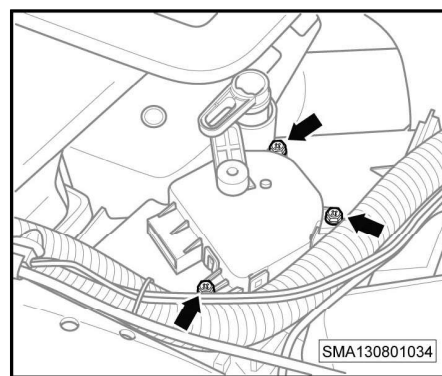
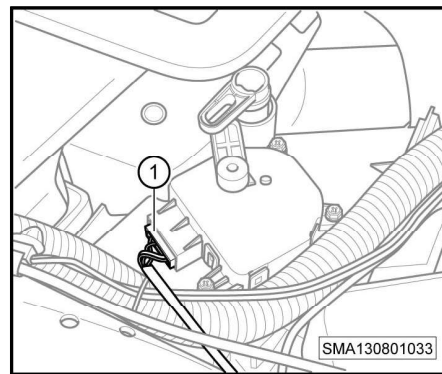


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4.2 Removing and installing the mixing flap servo motor

Removal

1. Remove the dashboard=> refer to page 828.
2. Disconnect the mixing flap servo motor connector (-1-).
3. Unscrew the fixing bolts of the mixing flap servo motor (-arrow-).
4. Remove the mixing flap connecting rod (-1-).
5. Remove the mixing flap servo motor (-2-).



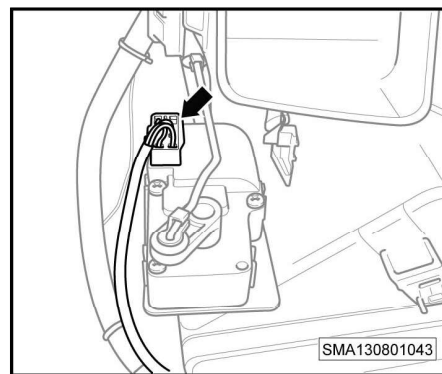
Installation

- Installation shall follow the reverse sequence of the removal procedure.

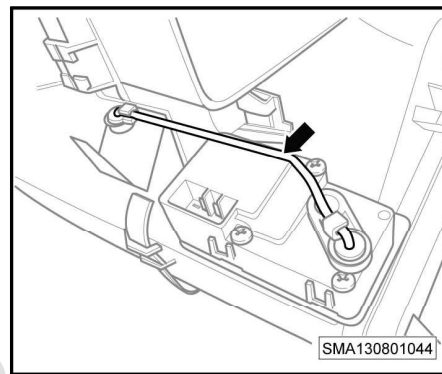
4.3 Removing and installing the defroster flap servo motor

Removal

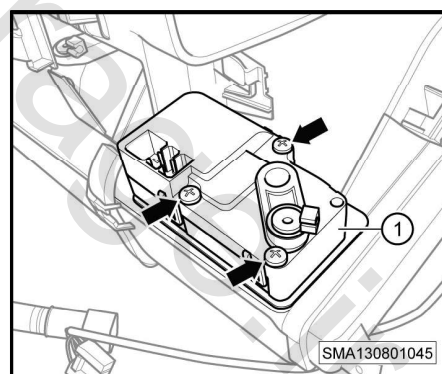
1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Disconnect the defroster flap servo motor connector (-arrow-).



4. Remove the defroster flap servo motor connecting rod (-arrow-).



5. Unscrew the fixing bolts of the defroster flap servo motor (-arrow-).
6. Remove the defroster flap servo motor (-1-).



Installation

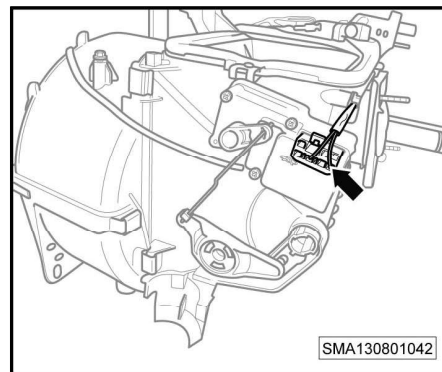
- Installation shall follow the reverse sequence of the removal procedure.

4.4 Removing and installing the inner-outer circulation servo motor

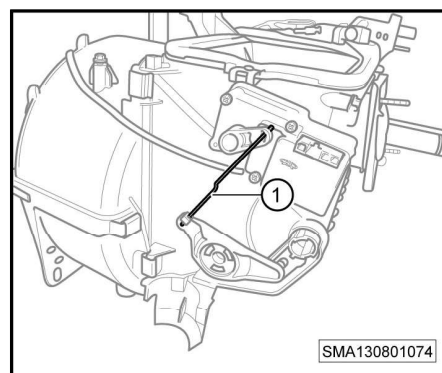
Removal

1. Remove the HVAC assembly => refer to page 1233.

2. Disconnect the inner-outer circulation servo motor connector (-arrow-).

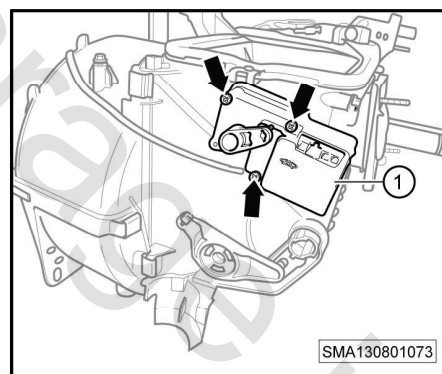


3. Remove the inner-outer circulation servo motor connecting rod (-1-).



4. Unscrew the fixing bolts of the inner-outer circulation servo motor (-arrow-).

5. Remove the inner-outer circulation servo motor (-1-).



Installation

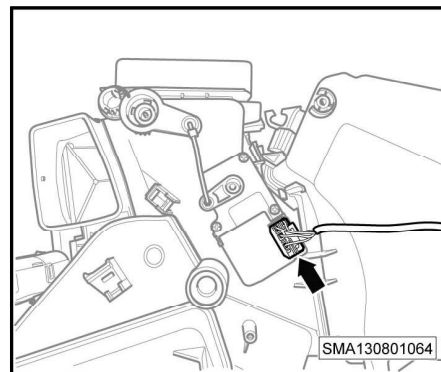
- Installation shall follow the reverse sequence of the removal procedure.

4.5 Removing and installing the central flap servo motor

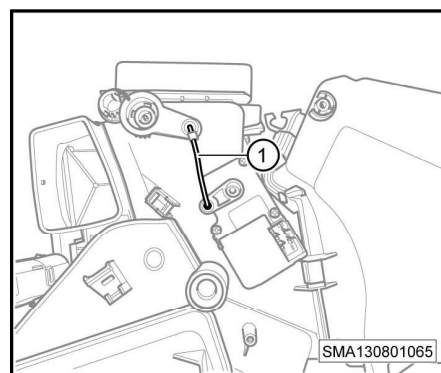
Removal

1. Remove the HVAC assembly=> refer to page 1233.

2. Disconnect the central flap servo motor connector (-arrow-).

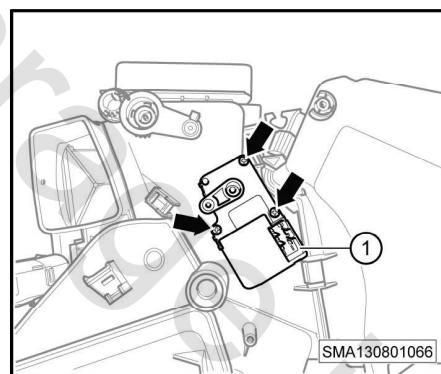


3. Remove the central flap servo motor connecting rod (-1-).



4. Unscrew the fixing bolts of the central flap servo motor (-arrow-).

5. Remove the central flap servo motor (-1-).



Installation

- Installation shall follow the reverse sequence of the removal procedure.

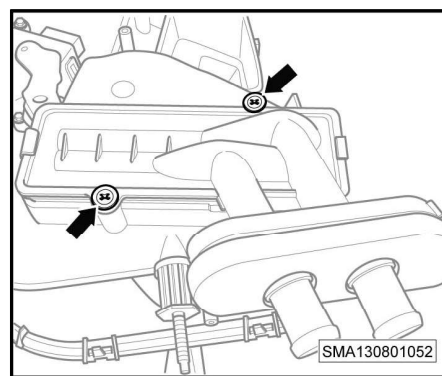
5 Ventilation

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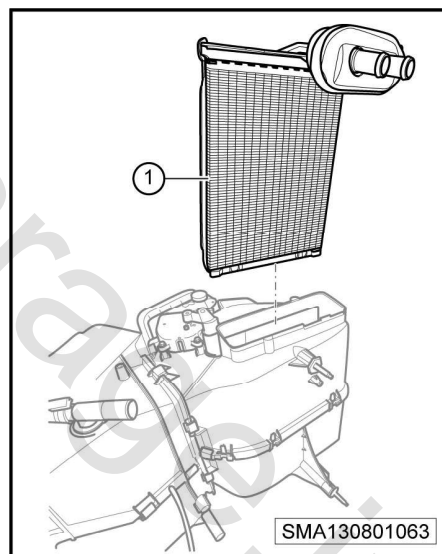
5.1 Removing and installing the heater core

Removal

1. Remove the HVAC assembly => refer to page 1233.
2. Unscrew the fixing screws of the heater core (-arrow-).



3. Remove the heater core (-1-).



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- The heater core pipes cannot be exchanged. Please pay attention to the installation position.
- Check the seals for damage.
- Install the heater core correctly.

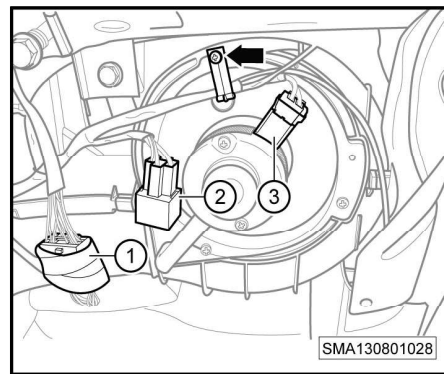
- Replace the engine coolant.

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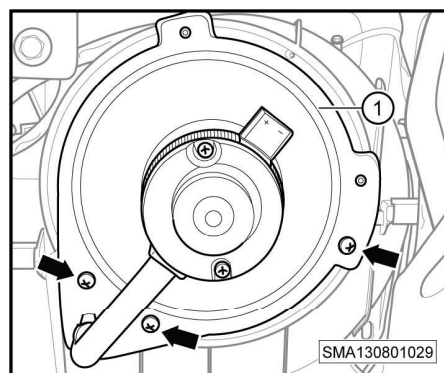
5.2 Removing and installing the blower motor

Removal

1. Remove the dashboard => refer to page 828.
2. Disconnect the connectors (-1-), (-2-) and (-3-).
3. Unscrew the fixing bolt of the wiring harness hook (-arrow-).



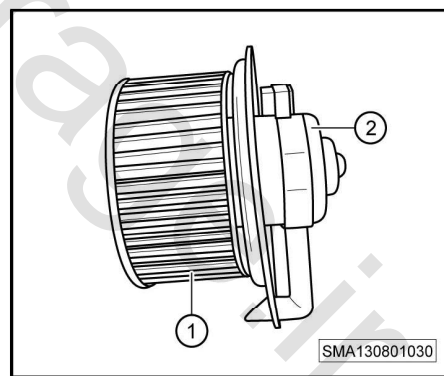
4. Unscrew the fixing bolts of the blower (-arrow-).
5. Remove the blower (-1-).



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

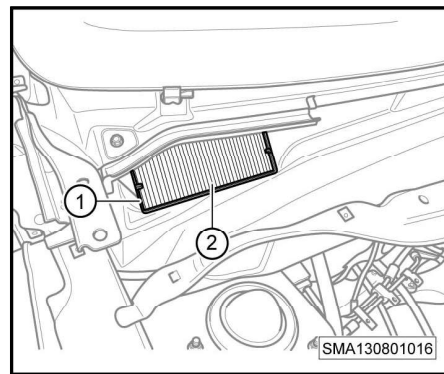
- Check the blower impellers (-1-) for damage or distortion.
- Check the blower motor (-2-) for rotation smoothness.



5.3 Removing and installing the air filter

Removal

1. Remove the wiper cover=> refer to page 846.
2. Remove the air filter (-2-) from the fixing housing (-1-).



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- The air filter and inlet must be kept clean and away from foreign matters.

6 A/C System

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6.5 Removing and installing the A/C compressor	1257
6.6 Removing and installing the evaporator	1259
6.7 Removing and installing the expansion valve	1262
6.8 Removing and installing the heater core	1264
6.9 Removing and installing the condenser	1266
6.10 Removing and installing the reservoir dryer	1268

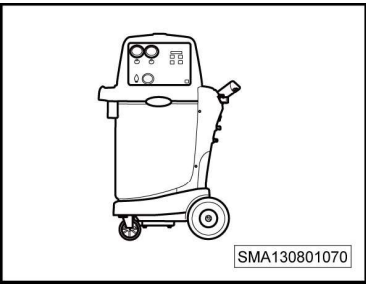
6.1 Vacuumizing the A/C system, adding and reclaiming the refrigerant

6.1.1 Vacuumizing the A/C system

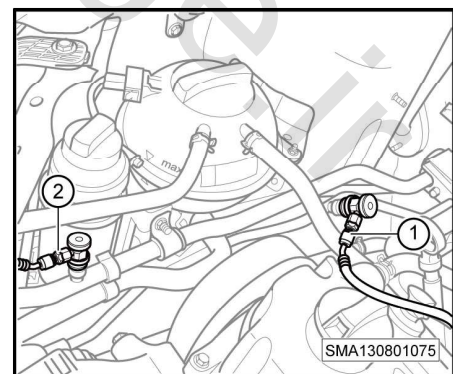
i Note

- Special service equipment for R-134a refrigerant must be applied.
- Good ventilation must be kept in the working area since the A/C system is prone to leakage.
- It is not allowed to get close to flames.

Maintenance tools and common equipment

 <p>SMA130801070</p>	
A/C refrigerant reclaiming and filling machine	

1. Connect the pipe connectors (-1-) and (-2-) of the A/C refrigerant reclaiming and filling machine to the A/C system high and low pressure pipes respectively.
2. Open the high pressure valve (-1-) and low pressure valve (-2-) of the A/C refrigerant reclaiming and filling machine pipe connector, and select the "Vacuumization" option to set the time as 15 minutes.
3. Start the "Vacuumization" function of the machine. When the time reaches the set value, it will stop working automatically.
4. Close the high pressure valve (-1-) and low pressure valve (-2-) of the A/C refrigerant reclaiming and filling machine pipe connector, and record the pressure value displayed on the pressure gauge.



08 - Heater & Air Conditioner

08

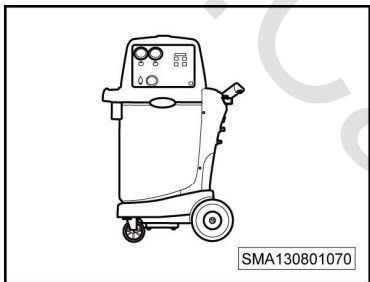
5. If the pressure value does not change in 15 minutes, it indicates that there is no leakage in the A/C pipe and that the refrigerant and refrigerant oil can be added. If the pressure value rises, please check the A/C system for leakage.
6. Disconnect the connection between the A/C refrigerant reclaiming and filling machine pipes and the A/C system high/low pressure pipes.

6.1.2 Adding the refrigerant

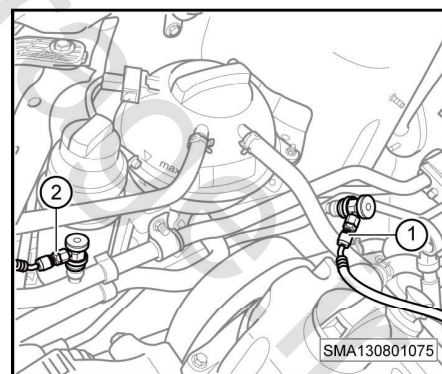
i Note

- The refrigerant must be added after the refrigerant oil.
- Special service equipment for R-134a refrigerant must be applied.
- Good ventilation must be kept in the working area since the A/C system is prone to leakage.
- It is not allowed to get close to flames.

Maintenance tools and common equipment

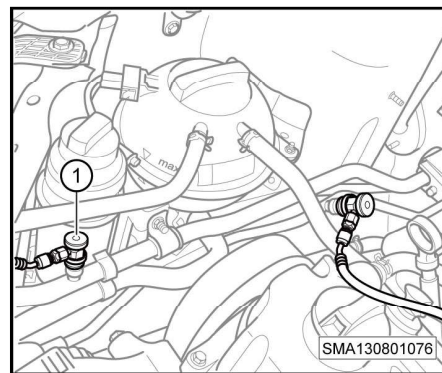
	
A/C refrigerant reclaiming and filling machine	

1. Connect the pipe connectors (-1-) and (-2-) of the A/C refrigerant reclaiming and filling machine to the A/C system high and low pressure pipes respectively.



2. Vacuumize the A/C system => refer to page 1245.
3. Add the refrigerant oil => refer to page 1249.
4. Select the "Adding refrigerant" option on the A/C refrigerant reclaiming and filling machine and adjust the filling capacity.
 - The filling capacity of the A/C refrigerant: 625±10g

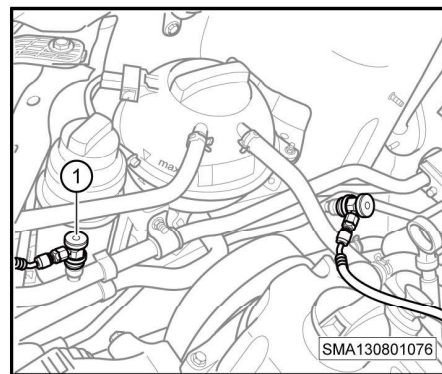
5. Switch on the low pressure valve of the A/C refrigerant reclaiming and filling machine pipe connector (-1-) and start the machine to add refrigerant.



08

6. Observe the display of the machine. When the filling capacity reaches the set value, it will display FINISH.

7. Switch off the low pressure valve of the A/C refrigerant reclaiming and filling machine pipe connector (-1-).



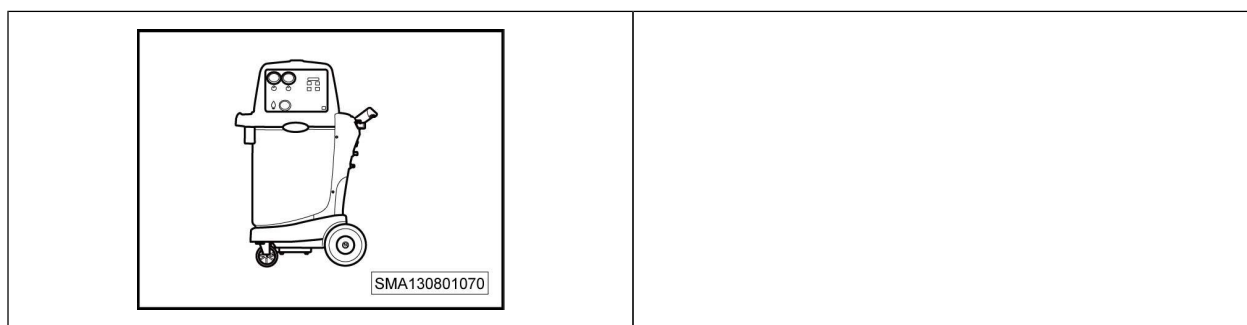
8. Disconnect the connection between the A/C refrigerant reclaiming and filling machine pipes and the A/C system high/low pressure pipes.
9. Make sure there is no leakage in the A/C system.
10. Refrigerant Filling is finished.

6.1.3 Reclaiming the refrigerant

i Note

- Special service equipment for R-134a refrigerant must be applied.
- Good ventilation must be kept in the working area since the A/C system is prone to leakage.
- It is not allowed to get close to flames.
- Dispose the reclaimed refrigerant as stipulated.

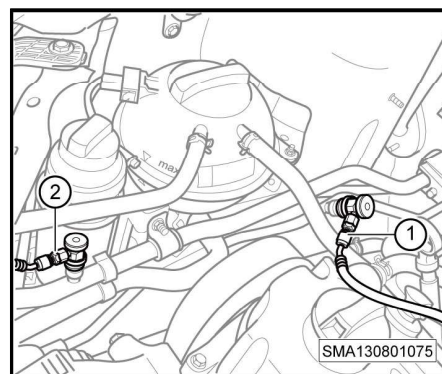
Maintenance tools and common equipment



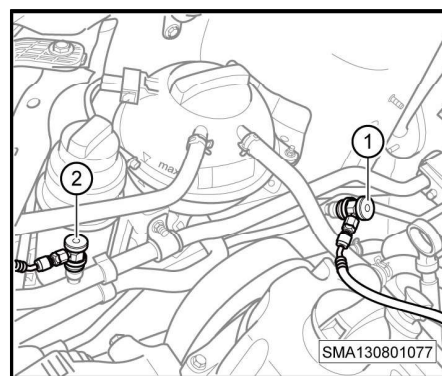
A/C refrigerant reclaiming and filling machine

08

1. Connect the pipe connectors (-1-) and (-2-) of the A/C refrigerant reclaiming and filling machine to the A/C system high and low pressure pipes respectively.



2. Switch on the high pressure valve (-1-) and low pressure valve (-2-) of the A/C refrigerant reclaiming and filling machine pipe connectors.



3. Select the "Reclaiming" option on the machine and start it to work.
4. Check the low pressure value displayed on the pressure gauge of the machine to make sure the reclaiming is completed. Then switch off the machine.
5. Disconnect the connection between the A/C refrigerant reclaiming and filling machine pipes and the A/C system high/low pressure pipes.

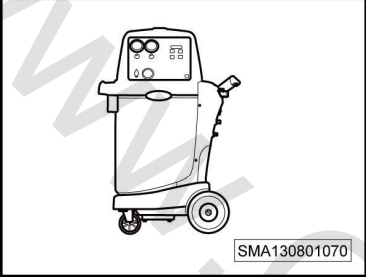
6.2 Reclaiming and adding the refrigerant oil

i Note

- The refrigerant must be added after the refrigerant oil.
- Special service equipment for R-134a refrigerant must be applied.
- Good ventilation must be kept in the working area since the A/C system is prone to leakage.
- Dispose the reclaimed refrigerant oil as stipulated.
- Refrigerant oil must be refilled after reclaiming the refrigerant or replacing the A/C parts.

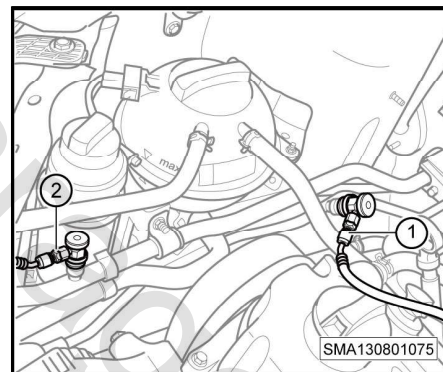
08

Maintenance tools and common equipment

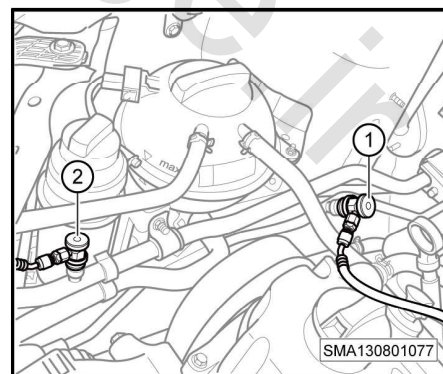
	
A/C refrigerant reclaiming and filling machine	

Reclaiming

1. Connect the pipe connectors (-1-) and (-2-) of the A/C refrigerant reclaiming and filling machine to the A/C system high and low pressure pipes respectively.



2. Switch on the high pressure valve (-1-) and low pressure valve (-2-) of the A/C refrigerant reclaiming and filling machine pipe connectors.



3. Reclaim the refrigerant oil according to the instructions of the A/C refrigerant reclaiming and filling machine.

08 - Heater & Air Conditioner

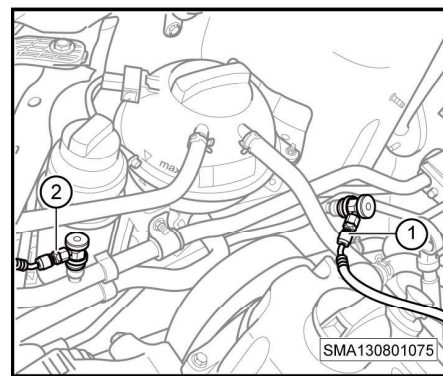
4. Record the volume of the reclaimed refrigerant oil.
5. Disconnect the connection between the A/C refrigerant reclaiming and filling machine pipes and the A/C system high/low pressure pipes.

08**Filling**

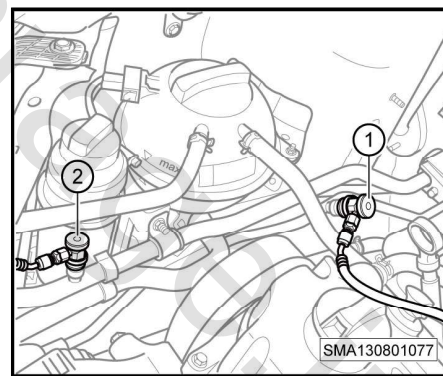
The filling capacity of the refrigerant oil

Item	Replacing the A/C compressor	Replacing the condenser	Replacing the evaporator	Replacing the reservoir dryer	Reclaiming the refrigerant
The filling capacity of the refrigerant oil	The oil of the new compressor and the old are the same in filling capacity	30 ml	30 ml	20 ml	Adding the oil with the same volume as reclaimed

1. Connect the pipe connectors (-1-) and (-2-) of the A/C refrigerant reclaiming and filling machine to the A/C system high and low pressure pipes respectively.



2. Vacuumize the A/C system=> refer to page 1245.
3. Switch on the high pressure valve (-1-) and low pressure valve (-2-) of the A/C refrigerant reclaiming and filling machine pipe connectors.



4. Add the refrigerant oil according to the instructions of the A/C refrigerant reclaiming and filling machine, and make sure to add the stipulated filling capacity.

6.3 Removing and installing the high pressure pipe

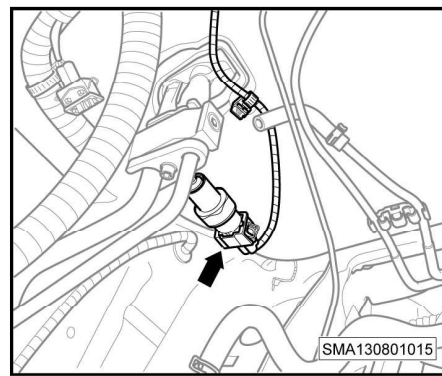
i Note

- Special service equipment for R-134a refrigerant must be applied.
- Good ventilation must be kept in the working area since the A/C system is prone to leakage.
- The disconnected pipe should be sealed to prevent foreign matters from getting in.

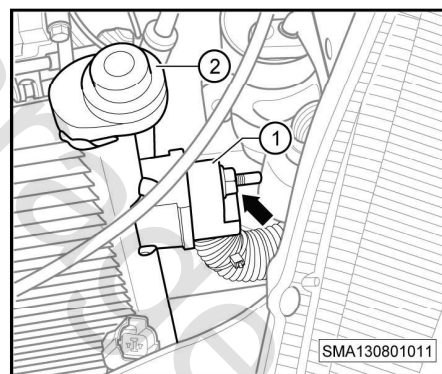
08

Removal

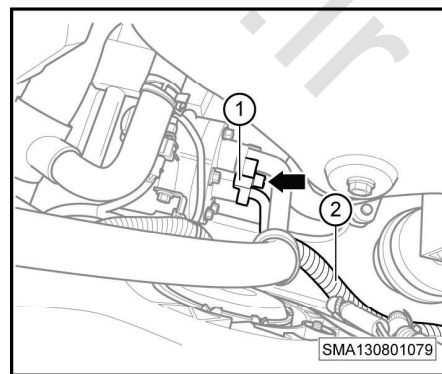
1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Reclaim the refrigerant => refer to page 1249.
4. Remove the radiator=> refer to page 188.
5. Disconnect the A/C pressure switch connector (-arrow-).



6. Unscrew the fixing nut (-arrow-) of the pipe (-1-) and condenser (-2-), and disconnect the connection between them.
 - Tightening torque of the nut: $9\pm 1 \text{ N}\cdot\text{m}$

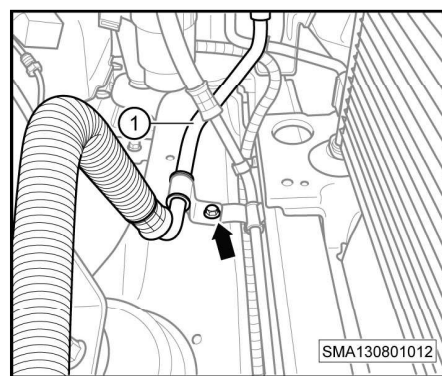


7. Unscrew the pipe clip bolt (-arrow-), loosen the pipe clip (-1-) and remove the pipe (-2-).
 - Tightening torque of the bolt: $32\pm 3 \text{ N}\cdot\text{m}$

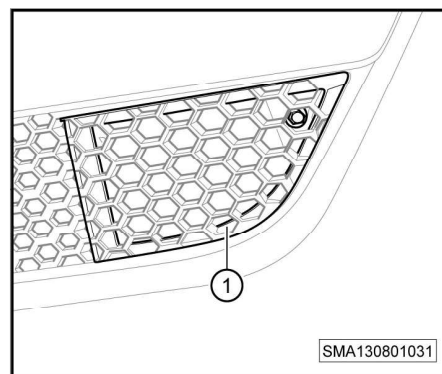


08 - Heater & Air Conditioner**08**

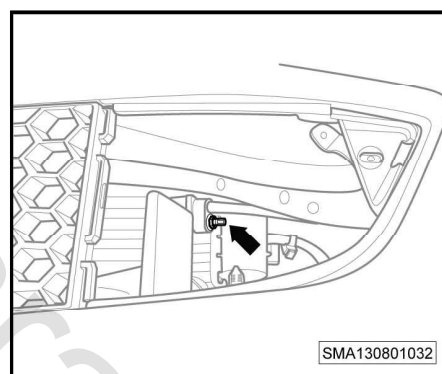
8. Unscrew the pipe clip fixing bolt (-arrow-) and remove the pipe (-1-).
- Tightening torque of the bolt: $9\pm 1 \text{ N}\cdot\text{m}$



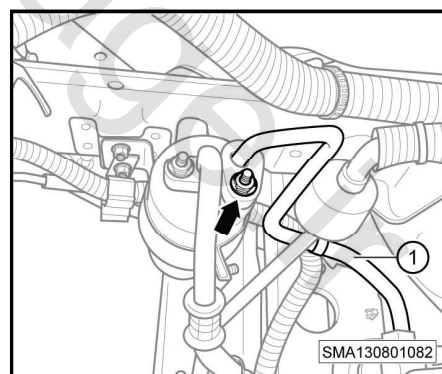
9. Remove the bumper grid (-1-).



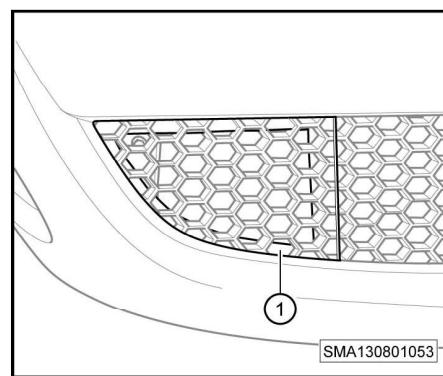
10. Unscrew the coupling nut between the reservoir dryer and the dryer-condenser pipe (-arrow-).
- Tightening torque of the nut: $9\pm 1 \text{ N}\cdot\text{m}$



11. Unscrew the coupling nut (-arrow-) between the reservoir dryer and the dryer-condenser pipe (-1-), and take out the connection pipe from the reservoir dryer to the condenser.
- Tightening torque of the nut: $8\pm 1 \text{ N}\cdot\text{m}$



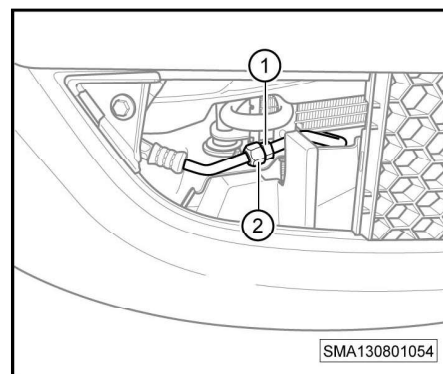
12. Remove the bumper grid (-1-).



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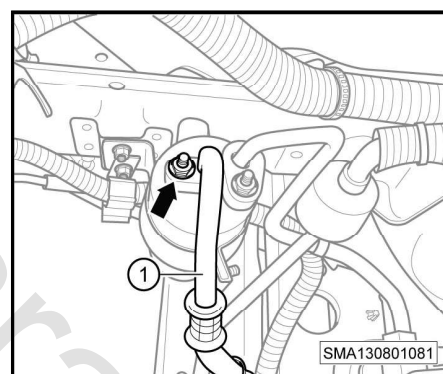
13. Disconnect the connection between the pipes (-1-) and (-2-).

- Tightening torque of the coupling nut: $12 \pm 1 \text{ N}\cdot\text{m}$



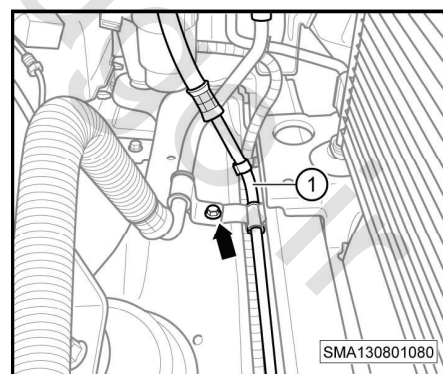
14. Unscrew the coupling nut (-arrow-) between the reservoir dryer and the expansion valve-dryer connection pipe (-1-).

- Tightening torque of the nut: $8 \pm 1 \text{ N}\cdot\text{m}$



15. Unscrew the pipe clip fixing bolt (-arrow-) and remove the pipe (-1-).

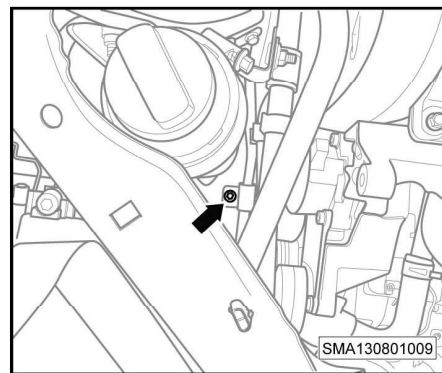
- Tightening torque of the bolt: $9 \pm 1 \text{ N}\cdot\text{m}$



08 - Heater & Air Conditioner**08**

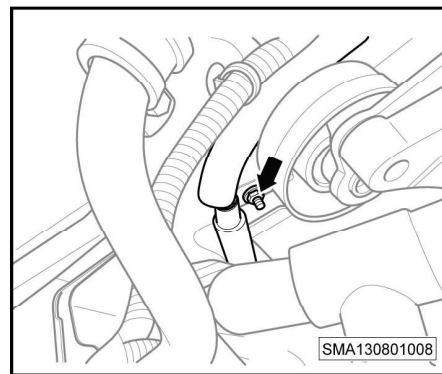
16. Unscrew the pipe clip fixing bolt (-arrow-).

- Tightening torque of the bolt: $9\pm 1 \text{ N}\cdot\text{m}$



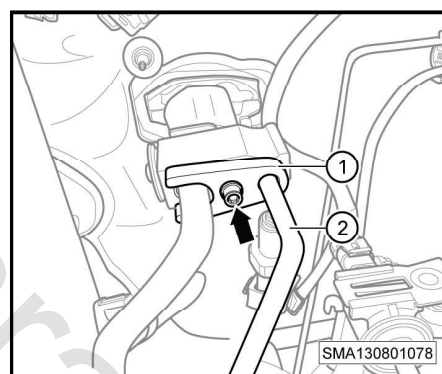
17. Unscrew the pipe clip fixing nut (-arrow-).

- Tightening torque of the nut: $9\pm 1 \text{ N}\cdot\text{m}$



18. Unscrew the pipe clip fixing bolt (-arrow-), loosen the pipe clip (-1-) and remove the pipe (-2-).

- Tightening torque of the bolt: $7.5\pm 1 \text{ N}\cdot\text{m}$

**Installation**

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Tighten the fixing bolts with the specified torque.
- Refill the refrigerant .
- Only use brand new O-rings and apply compressor lubricant before installation.

6.4 Removing and installing the low pressure pipe

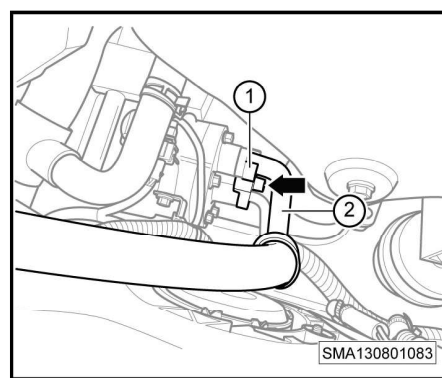
i Note

- Special service equipment for R-134a refrigerant must be applied.
- Good ventilation must be kept in the working area since the A/C system is prone to leakage.
- The disconnected pipe should be sealed to prevent foreign matters from getting in.

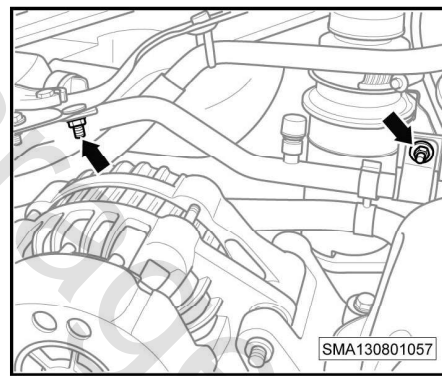
08

Removal

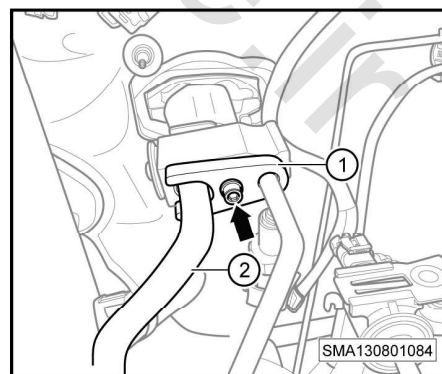
1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Reclaim the refrigerant => refer to page 1245.
4. Unscrew the pipe clip fixing bolt (-arrow-), loosen the pipe clip (-1-) and remove the pipe (-2-).
 - Tightening torque of the bolt: 32 ± 3 N•m



5. Unscrew the pipe clip fixing nuts (-arrow-).
 - Tightening torque of the nut: 9 ± 1 N•m



6. Unscrew the pipe clip fixing bolt (-arrow-), loosen the pipe clip (-1-) and remove the low pressure pipe (-2-).
 - Tightening torque of the bolt: 7.5 ± 1 N•m



Installation

08 - Heater & Air Conditioner

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Tighten the fixing bolts with the specified torque.
- Refill the refrigerant .
- Only use brand new O-rings and apply compressor lubricant before installation.

08

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6.5 Removing and installing the A/C compressor

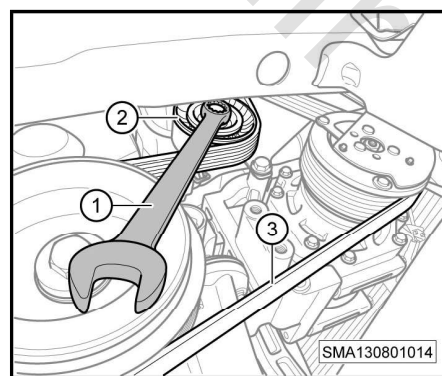
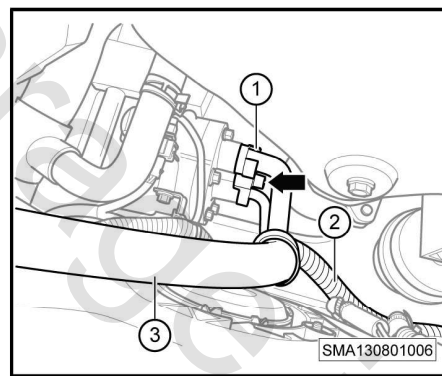
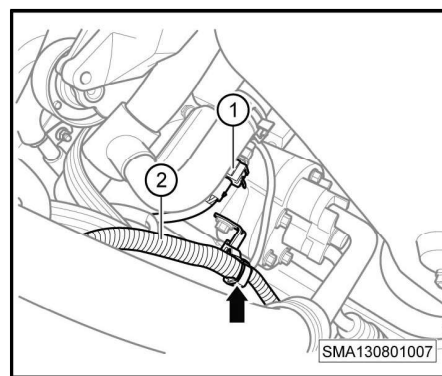
i Note

- Special service equipment for R-134a refrigerant must be applied.
- Good ventilation must be kept in the working area since the A/C system is prone to leakage.
- The disconnected pipe should be sealed to prevent foreign matters from getting in.

08

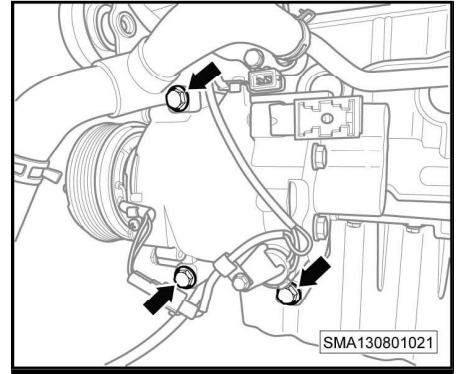
Removal

1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Reclaim the refrigerant => refer to page 1245.
4. Remove the three-way catalytic preconverter and the exhaust manifold .
5. Disconnect the connector (-1-), loosen the generator wiring harness clip (-arrow-) and move the generator wiring harness (-2-).
6. Unscrew the pipe clip fixing bolt (-arrow-), loosen the pipe clip (-1-) and remove the pipes (-2-) and (-3-).
 - Tightening torque of the bolt: 32 ± 3 N*m
7. Wrench the poly V-belt tension pulley (-2-) with the wrench (-1-) and take out the poly V-belt (-3-).



08 - Heater & Air Conditioner

8. Unscrew the fixing bolts of the compressor (-arrow-) and remove the compressor.
 - Tightening torque of the bolt: 25 ± 3 N•m



08

Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Tighten the fixing bolts with the specified torque.
- Refill the refrigerant.
- Only use brand new O-rings and apply compressor lubricant before installation.

6.6 Removing and installing the evaporator

i Note

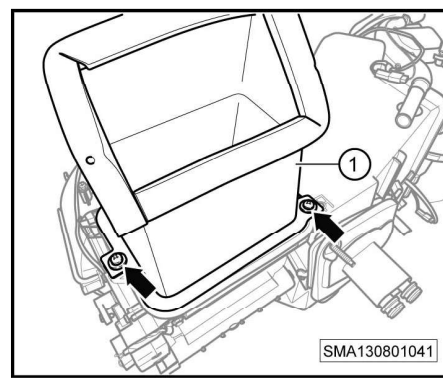
- Special service equipment for R-134a refrigerant must be applied.
- Good ventilation must be kept in the working area since the A/C system is prone to leakage.
- The disconnected pipe should be sealed to prevent foreign matters from getting in.

08

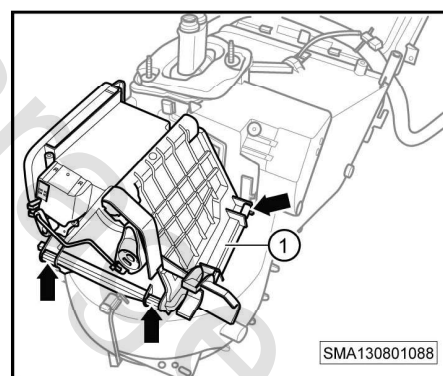
Removal

1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Reclaim the refrigerant => refer to page 1245.
4. Remove the HVAC assembly=> refer to page 1233.

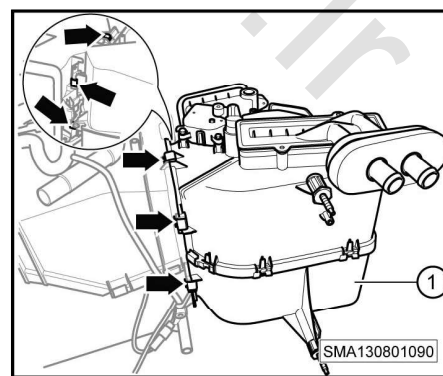
5. Unscrew the fixing bolts (-arrow-) and remove the air inlet housing (-1-).
 - Tightening torque of the bolt: $6\pm 1 \text{ N}\cdot\text{m}$



6. Loosen the clips (-arrow-) and remove the mixing flap housing (-1-).



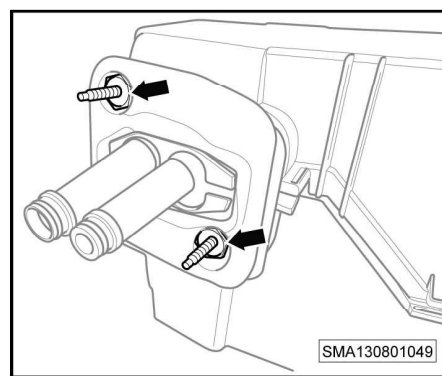
7. Loosen the clips (-arrow-) and remove the heater housing (-1-).



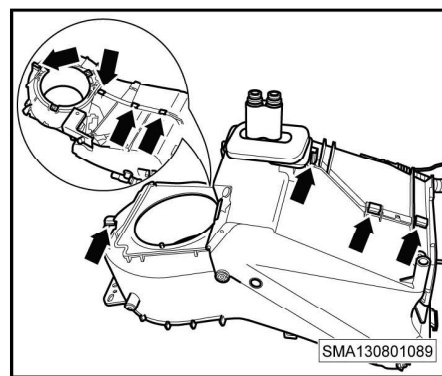
08 - Heater & Air Conditioner

08

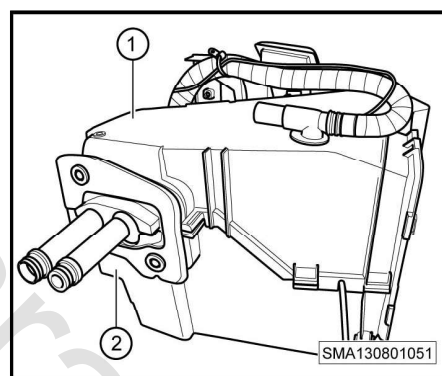
8. Unscrew the fixing bolts of the evaporator (-arrow-).



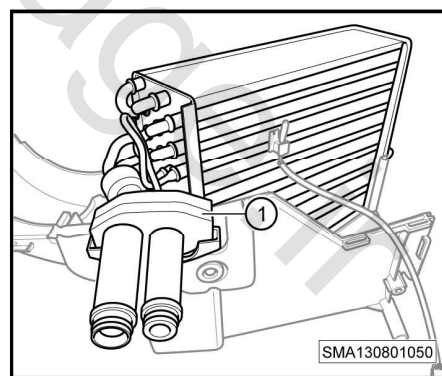
9. Loosen the clips (-arrow-).



10. Separate the evaporator housing into (-1-) and (-2-).



11. Take out the evaporator (-1-).



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Tighten the fixing bolts with the specified torque.
- Refill the refrigerant .

- Only use brand new O-rings and apply compressor lubricant before installation.

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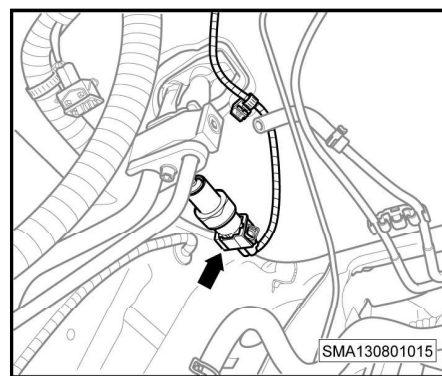
6.7 Removing and installing the expansion valve

i Note

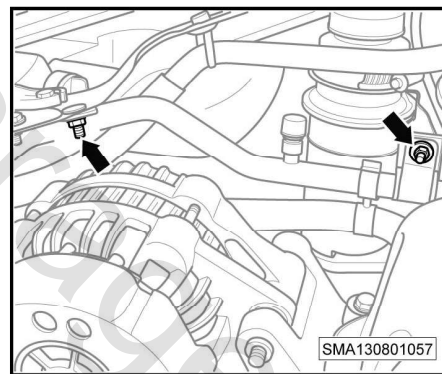
- Special service equipment for R-134a refrigerant must be applied.
- Good ventilation must be kept in the working area since the A/C system is prone to leakage.
- The disconnected pipe should be sealed to prevent foreign matters from getting in.

Removal

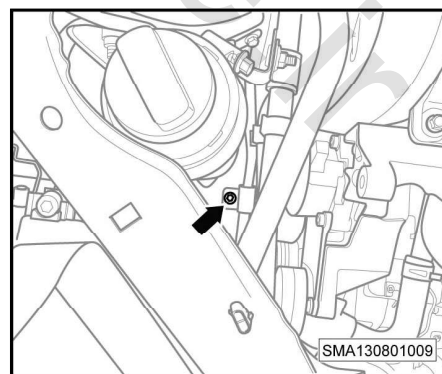
1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Reclaim the refrigerant => refer to page 1245.
4. Disconnect the A/C pressure switch (-arrow-).



5. Unscrew the pipe clip fixing nuts (-arrow-).
 - Tightening torque of the nut: 9 ± 1 N*m

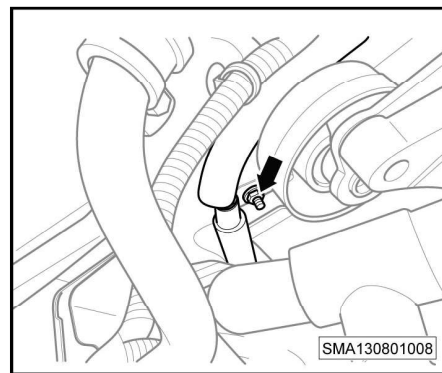


6. Unscrew the pipe clip fixing bolt (-arrow-).
 - Tightening torque of the bolt: 9 ± 1 N*m



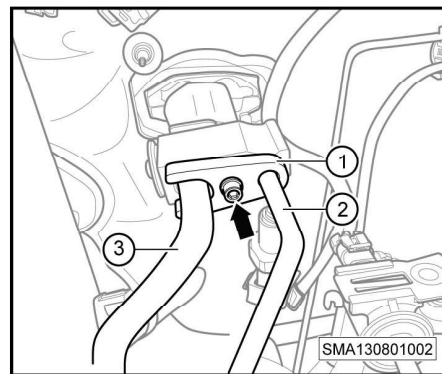
7. Unscrew the pipe clip fixing nut (-arrow-).

- Tightening torque of the nut: $9\pm 1 \text{ N}\cdot\text{m}$



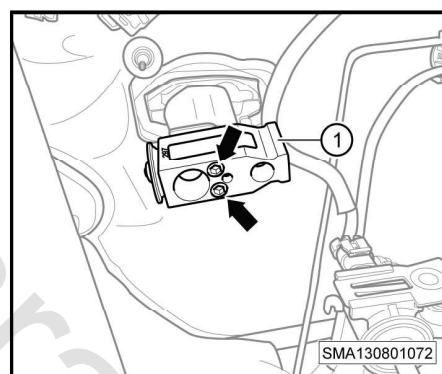
8. Unscrew the pipe clip fixing bolt (-arrow-), loosen the pipe clip (-1-) and remove the pipes (-2-) and (-3-).

- Tightening torque of the bolt: $12\pm 1 \text{ N}\cdot\text{m}$



9. Unscrew the fixing bolts (-arrow-) of the expansion valve and remove the expansion valve (-1-).

- Tightening torque of the bolt: $13\pm 1 \text{ N}\cdot\text{m}$



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Tighten the fixing bolts with the specified torque.
- Refill the refrigerant .
- Only use brand new O-rings and apply compressor lubricant before installation.

6.8 Removing and installing the heater core

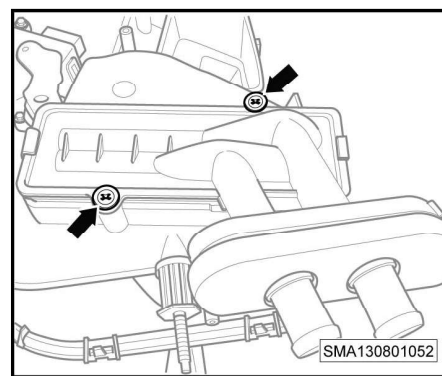
i Note

- Special service equipment for R-134a refrigerant must be applied.
- Good ventilation must be kept in the working area since the A/C system is prone to leakage.
- The disconnected pipe should be sealed to prevent foreign matters from getting in.

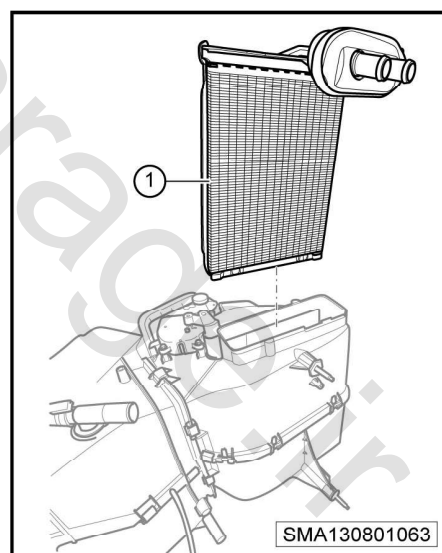
08

Removal

1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Reclaim the refrigerant => refer to page 1245.
4. Remove the HVAC assembly=> refer to page 1233.
5. Unscrew the fixing bolts of the heater core (-arrow-).



6. Take out the heater core (-1-).



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Tighten the fixing bolts with the specified torque.
- Refill the refrigerant .

- Only use brand new O-rings and apply compressor lubricant before installation.

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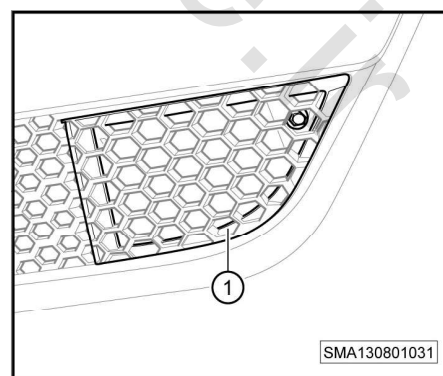
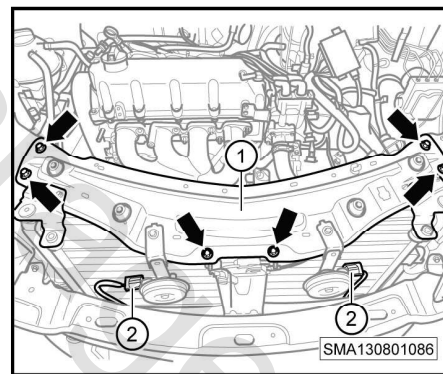
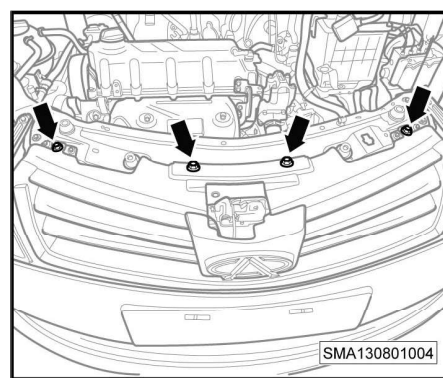
6.9 Removing and installing the condenser

i Note

- Special service equipment for R-134a refrigerant must be applied.
- Good ventilation must be kept in the working area since the A/C system is prone to leakage.
- The disconnected pipe should be sealed to prevent foreign matters from getting in.

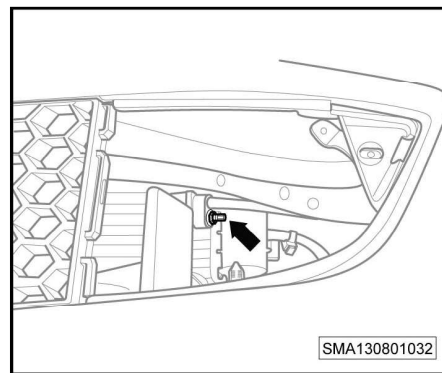
Removal

1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Reclaim the refrigerant => refer to page 1245.
4. Unscrew the fixing bolts of the front air intake grid (-arrow-).
5. Unscrew the fixing bolts (-arrow-), pull out the horn connectors (-2-) and remove the front cross member (-1-).
6. Remove the front bumper grid (-1-).



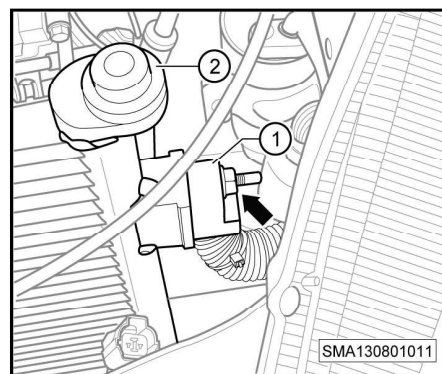
7. Unscrew the coupling nut between the reservoir dryer and the dryer-condenser pipe (-arrow-).

- Tightening torque of the nut: $8\pm 1 \text{ N}\cdot\text{m}$

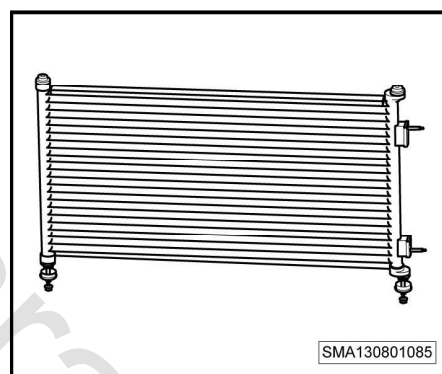


8. Unscrew the coupling nut (-arrow-) between the condenser (-2-) and the compressor-condenser pipe (-1-) and then disconnect the connection.

- Tightening torque of the nut: $8\pm 1 \text{ N}\cdot\text{m}$



9. Remove the condenser.



Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Tighten the fixing bolts with the specified torque.
- Refill the refrigerant.
- Only use brand new O-rings and apply compressor lubricant before installation.

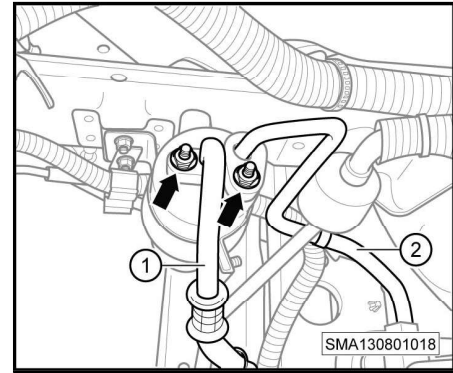
6.10 Removing and installing the reservoir dryer

i Note

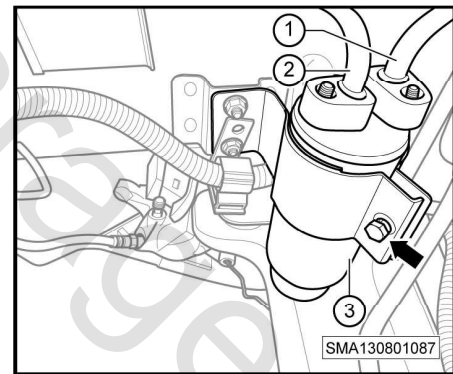
- Special service equipment for R-134a refrigerant must be applied.
- Good ventilation must be kept in the working area since the A/C system is prone to leakage.
- The disconnected pipe should be sealed to prevent foreign matters from getting in.

Removal

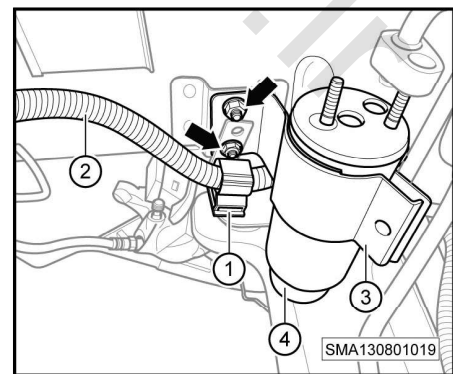
1. Switch off all electrical equipment and the ignition switch.
2. Disconnect the battery negative cable.
3. Reclaim the refrigerant=> refer to page 1245.
4. Remove the air intake assembly=> refer to page 238.
5. Unscrew the fixing nuts (-arrow-) between the reservoir dryer and the pipes (-1-) and (-2-).
 - Tightening torque of the nut: $8\pm 1 \text{ N}\cdot\text{m}$



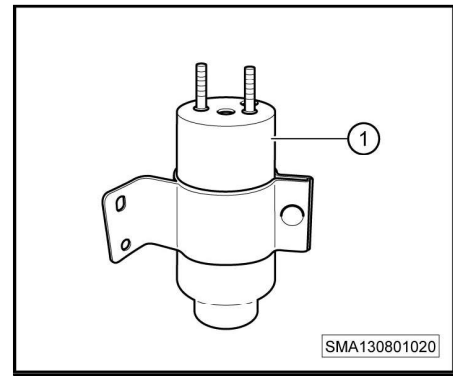
6. Unscrew the fixing bolt (-arrow-) of the reservoir dryer bracket, move the reservoir dryer (-3-) downward and release the A/C pipes (-1-) and (-2-).



7. Loosen the wiring harness clip (-1-) and move out the wiring harness clip (-2-). Then unscrew the fixing nuts of the reservoir dryer bracket (-arrow-), and remove the reservoir dryer bracket (-3-) together with the reservoir dryer (-4-).
 - Tightening torque of the nut: $6\pm 0.5 \text{ N}\cdot\text{m}$



8. Take out the reservoir dryer (-1-).

**08**

Installation

Installation shall follow the reverse sequence of the removal procedure. Please pay attention to the following notes:

- Tighten the fixing bolts with the specified torque.
- Refill the refrigerant.
- Only use brand new O-rings and apply compressor lubricant before installation.