

AC (Air conditioner) System

Contents



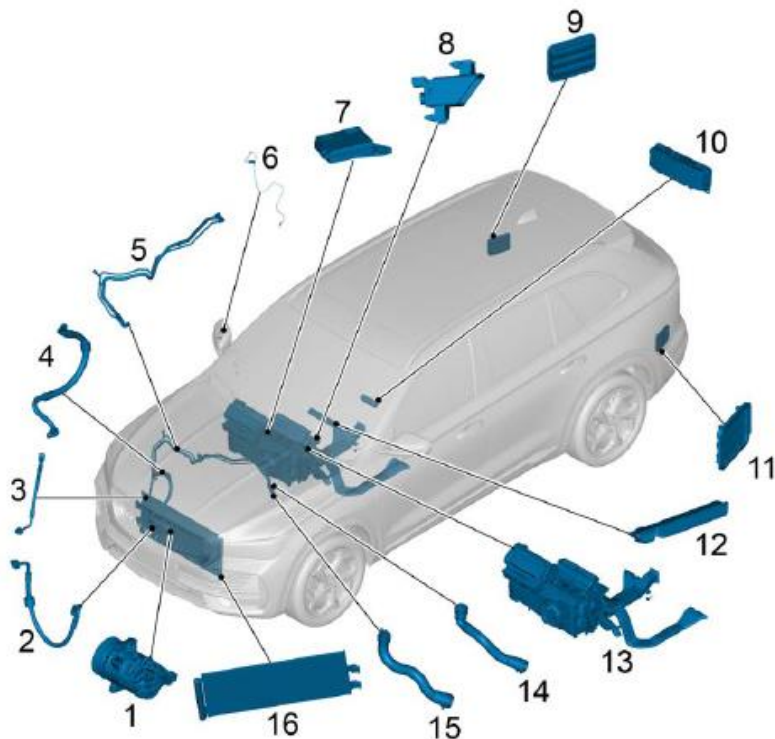
► Overview and Components

Functions and Principle

Maintenance and Diagnosis



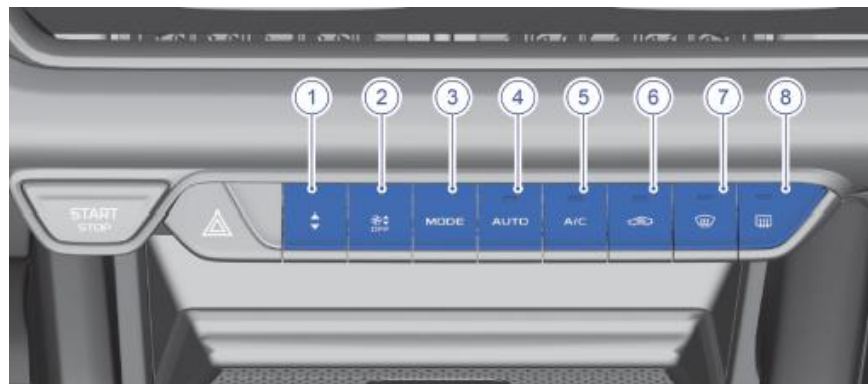
The KX11 air conditioning system can realize cooling, heating, ventilation and air quality control functions, providing a comfortable environment for passengers.



- | | |
|--|---|
| 1. A/C compressor | 9. Right pressure relief valve |
| 2. A/C high pressure pipe assembly | 10. Rear console switch module |
| 3. Condenser outlet pipe assembly | 11. Left relief valve |
| 4. A/C low pressure pipe assembly | 12. Central console switch module |
| 5. Rear air conditioning high/low pressure pipe assembly | 13. Air-conditioning unit assembly |
| 6. Ambient temperature sensor (outside rearview mirror) | 14. Air conditioning heater outlet pipe |
| 7. Temperature control module | 15. Air conditioning heater inlet pipe |
| 8. A/C temperature sensor | 16. Condenser assembly |



➤ Control Panel



KX-034C

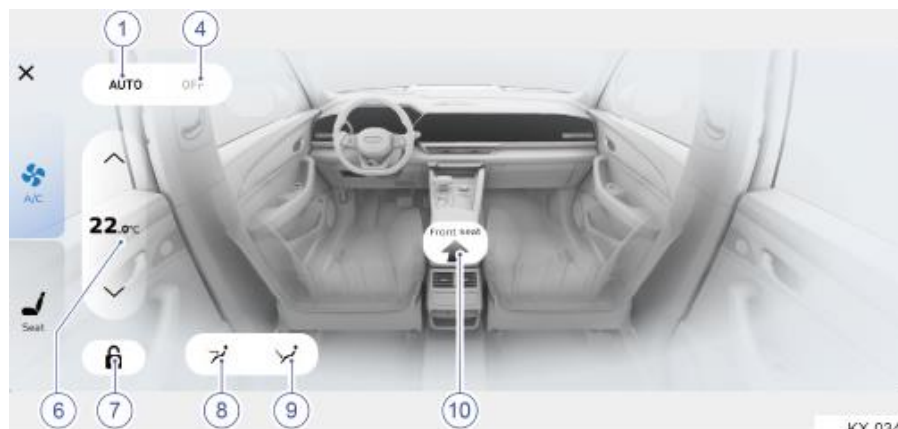
1. Temperature adjusting button
2. Air volume adjustment/OFF button
3. MODE button
4. AUTO button
5. A/C button
6. Interior/exterior circulation switch button
7. Front windshield defrosting/defogging button
8. Exterior rearview mirror/rear windshield defrosting and defogging button
9. AUTO button
10. A/C MAX button
11. OFF button
12. Air volume adjustment button
13. Maximum air volume button
14. Temperature adjustment button, front passenger side
15. Driver side temperature adjustment button
16. Synchronization button
17. Air outlet mode window blowing button
18. Air outlet mode face blowing button
19. Air outlet mode foot blowing button
20. Rear A/C setting activation button
21. Front windshield electric heating defrost button*
22. Energy-saving button
23. G-clean button*
24. AQS status display*



➤ Rear Control Panel



KX-006



KX-034

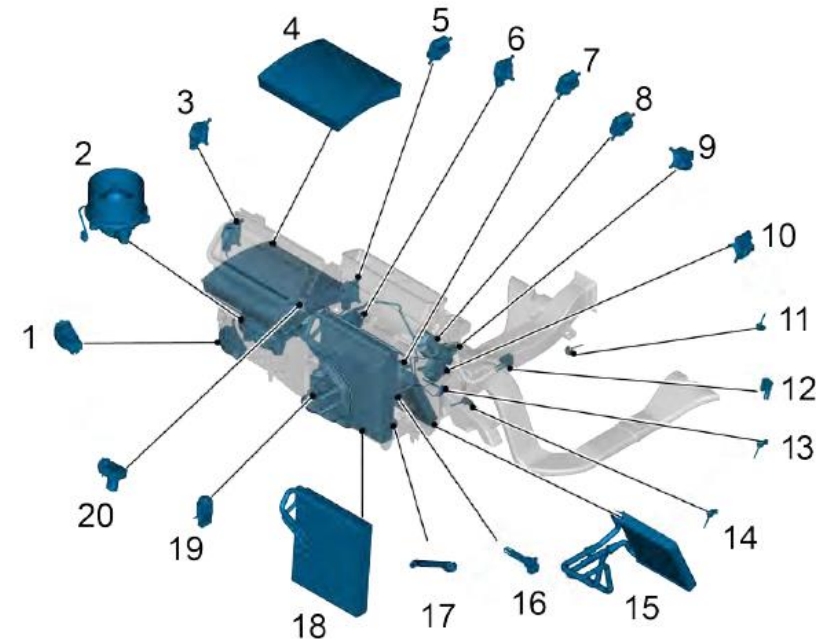
1. AUTO button
2. MODE button
3. Temperature down button
4. OFF button
5. Temperature up button

6. Rear temperature adjustment button*
7. Rear lock button
8. Air outlet mode face blowing button
9. Air outlet mode foot blowing button
10. Front A/C setting activation button

Components



➤ HVAC Host



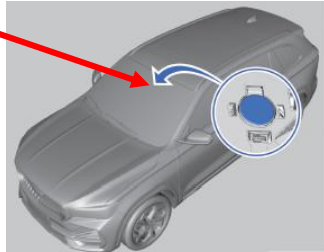
1. Blower motor resistance
2. Blower motor
3. Recirculation damper motor
4. Air filter element assembly (cockpit)
5. Air distribution damper motor (front)
6. Temperature control damper motor (right)
7. Temperature control damper motor (rear)
8. Defroster damper motor
9. Air distribution damper motor (rear)
10. Temperature control damper motor (left)
11. Internal temperature sensor (left vent)
12. A/C temperature sensor
13. Internal temperature sensor (heating)
14. Internal temperature sensor (left air duct of front blowing foot)
15. Heater core
16. Evaporation temperature sensor
17. Drain pipe assembly
18. Evaporator core assembly
19. Expansion valve
20. Air quality sensor AQS

Components

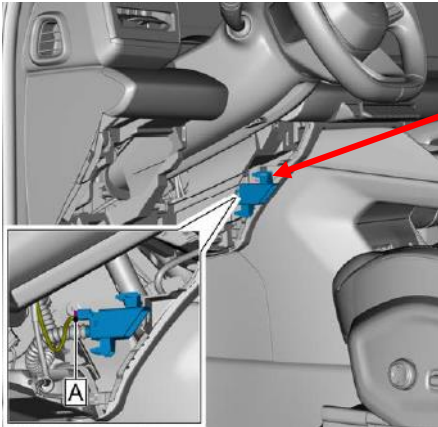


➤ Sunlight Sensor

The sunlight sensor and the rain and light sensor are integrated, installed on the upper side of the front windshield.

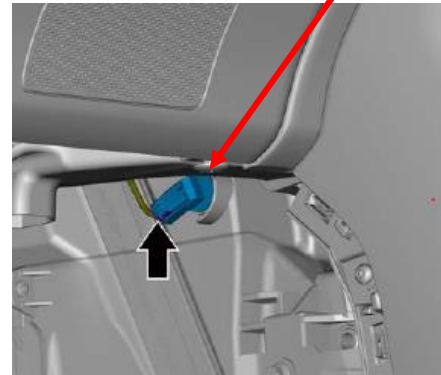
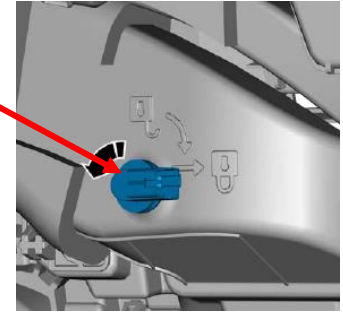
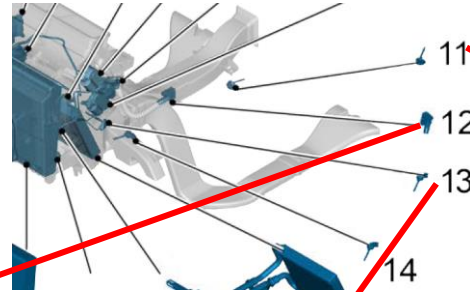


➤ Air Conditioner Temperature Sensor

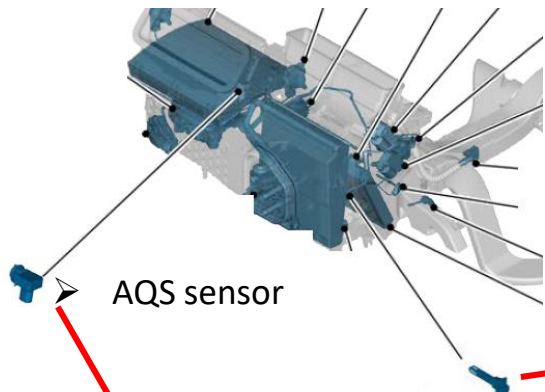


➤ Internal Temperature Sensor

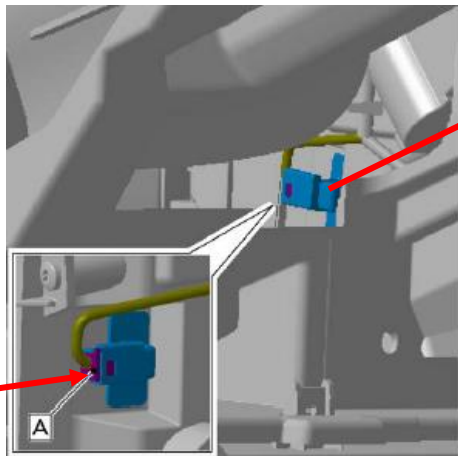
11- left air outlet; 13- warm air; 14- front foot left air duct



Components

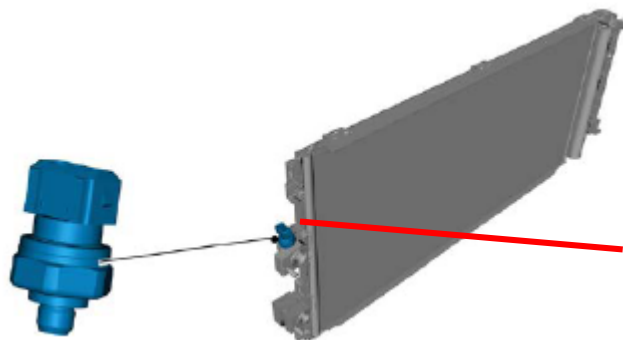
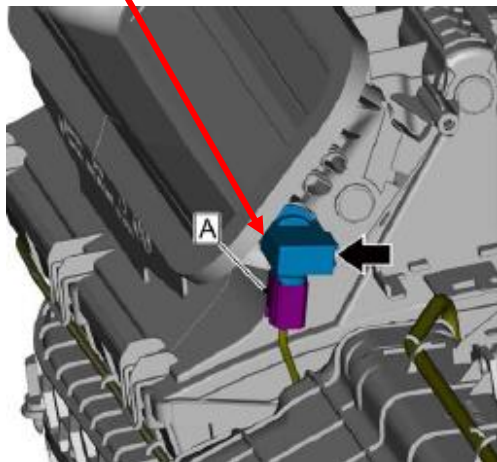
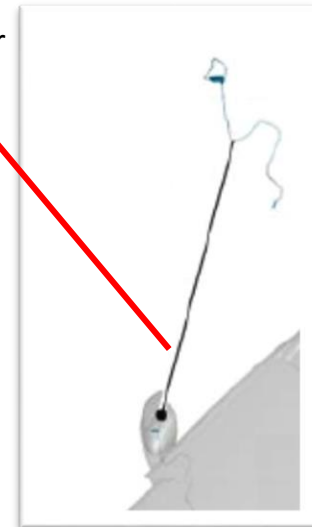


AQS sensor



➤ Evaporator temperature sensor

➤ Ambient temperature sensor
(on outside rearview mirror)



➤ Air conditioner pressure sensor

Contents

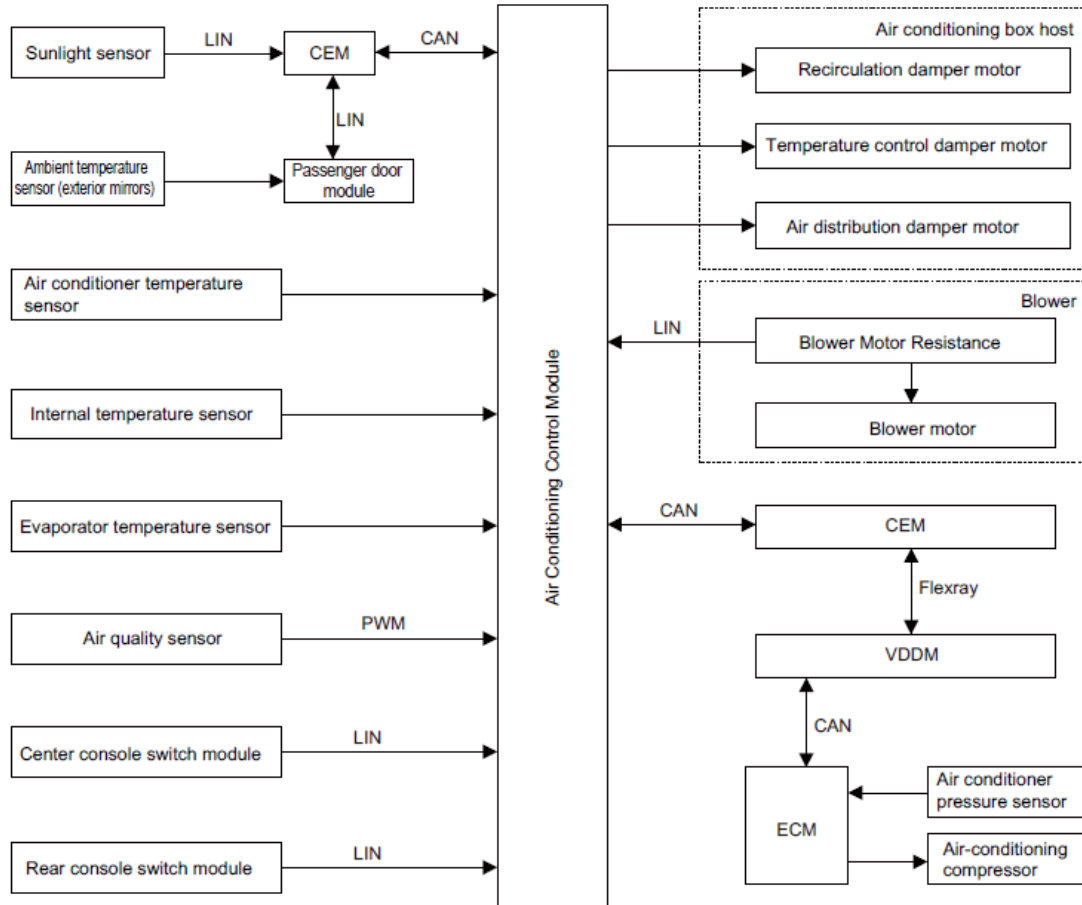


Overview and Components

▶ **Functions and Principle**

Maintenance and Diagnosis

Schematic diagram of A/C control system





The compressor will be turned off under these

conditions:

- Throttle fully opened: accelerate pedal opening over 99.6%;
- Engine speed too high or low;
- Ambient temperature below 3 °C;
- The engine coolant temperature is too high:

If the water temperature is higher than 115° C, the compressor will be turned off, and it will be turned on until the water temperature drops to 112° C;

- Refrigerant pressure too high or too low

The pressure of A/C high and low pressure pipes

1. High pressure: 1.4 ~ 1.75 M Pa;
2. Low pressure: 0.25 ~ 0.35 M Pa.

Note: Before measuring the pressure, park the vehicle in the shade, turn on the A/C cooling function, keep it running for 5~10 mins.



➤ AQS (air quality system):



1. Internal and external circulation switch button
2. AQS status display

When AQS air quality monitoring is activated, the icon on the AQS status display will be highlighted. (The AQS air quality sensor is on by default)

Click AQS button on the AC control panel, the air conditioner will perform real-time air quality detection, and automatically switch the internal and external circulation according to the outside air quality.

Contents



Feature and functions

Composition and principle

▶ **Maintenance and Diagnosis**



Network

Fault Tracing

Components

Service Functions

ECUs

Other



ID

Name

CCM

4/154

Climate Control Module (CCM)

DTCs

Documents

Wiring Diagrams

Parameters

Activations

Diagnostic Seq

Confirmed

Unconfirmed

All DTCs



DTC

CCM-B102E11 Air Quality Sensor. General Electrical Failures. Circuit short to ground.

CCM-B102E15 Air Quality Sensor. General Electrical Failures. Circuit short to battery or open.

CCM-B105A11 Cabin Temperature Sensor Fan. General Electrical Failures. Circuit short to ground.

CCM-B105A15 Cabin Temperature Sensor Fan. General Electrical Failures. Circuit short to battery or open.

CCM-B108313 Recirculation Damper Motor. General Electrical Failures. Circuit open.

CCM-B108319 Recirculation Damper Motor. General Electrical Failures. Circuit current above threshold.

CCM-B108377 Recirculation Damper Motor. Mechanical Failures. Commanded position not reachable.

CCM-B108513 Defroster Damper Motor. General Electrical Failures. Circuit open.

CCM-B108519 Defroster Damper Motor. General Electrical Failures. Circuit current above threshold.

CCM-B108577 Defroster Damper Motor. Mechanical Failures. Commanded position not reachable.

CCM-B108613 Air Distribution Damper Motor. General Electrical Failures. Circuit open.

CCM-B108619 Air Distribution Damper Motor. General Electrical Failures. Circuit current above threshold.



- Network
- Fault Tracing
- Components**
- Service Functions

ECUs **Other**



ID	Name
<input type="text"/>	<input type="text" value="CCM"/>
4/154	Climate Control Module (CCM)

DTCs Documents Wiring Diagrams **Parameters** Activations Diagnostic Seq

Parameters **Selected**

Parameter
<input type="checkbox"/> Ambient air temperature - CCM
<input type="checkbox"/> AQS sensor - CCM
<input type="checkbox"/> Blower module control level - CCM
<input type="checkbox"/> Blower module(LIN) - CCM
<input type="checkbox"/> Blower module(PWM) - CCM
<input type="checkbox"/> Blower motor, rear, requested speed - CCM
<input type="checkbox"/> Cabin temperature sensor fan motor - CCM
<input type="checkbox"/> Climate unit refrigerant valve status - CCM
<input type="checkbox"/> CO2 sensor concentration - CCM
<input type="checkbox"/> dew temperature - CCM
<input type="checkbox"/> Driving cycle - CCM
<input type="checkbox"/> End Position - CCM
<input type="checkbox"/> Engine Coolant Temperature - CCM



Network  Fault Tracing  Components Service Functions


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Documents Wiring Diagrams Parameters Activations Diagnostic Sequences

ECUs Other

ID	Name
4/154	Climate Control Module (CCM)

Diagnostic Sequences

 Run Calibration on All Damper Motors

After replacing damper motor, do the calibration of damper motor.

Before calibration, confirm that:

- Keep vehicle stationary
- Turn ignition on
- Make sure the damper motor connect well with CCM wiring harness

Information

风门电机自学习

开始风门电机自学习，并使车辆满足下列条件：

- 1. 车辆静止
- 2. 车辆处于工作状态
- 3. 风门电机和CCM线束正确连接

Note! 当更换任意吹面风口格栅后，只须运行风门电机标定

Note! 当更换任意空调风门电机（在空调箱上）后，必须先运行空调风门电机自动寻址，运行结束后再运行风门电机自学习

Run Calibration on All Damper Motors

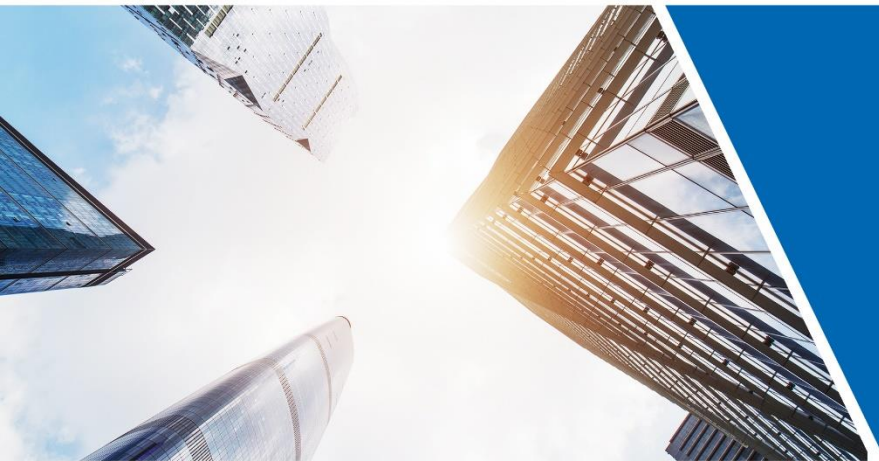
Close



When replacing the components of the air conditioning system, a certain amount of lubricant needs to be appropriately added or poured out. Generally, it can be performed according to the recommended data in the table

Item	Filling amount(ml)	Unit	Remarks
A/C compressor	-40±5	ml	When the compressor is supplied from the manufacturer, it will carry a large amount of lubricant, so a certain amount of lubricant needs to be discharged during replacement. /
Condenser	15±5		
Evaporator	10±5		
A/C compressor hoses	10±5	ml/hose	

Filling amount (ml)	550 g
Refrigerant	R-134a



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