

## AIR INTAKE CONTROL [FULL-AUTO AIR CONDITIONER]

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### Purpose

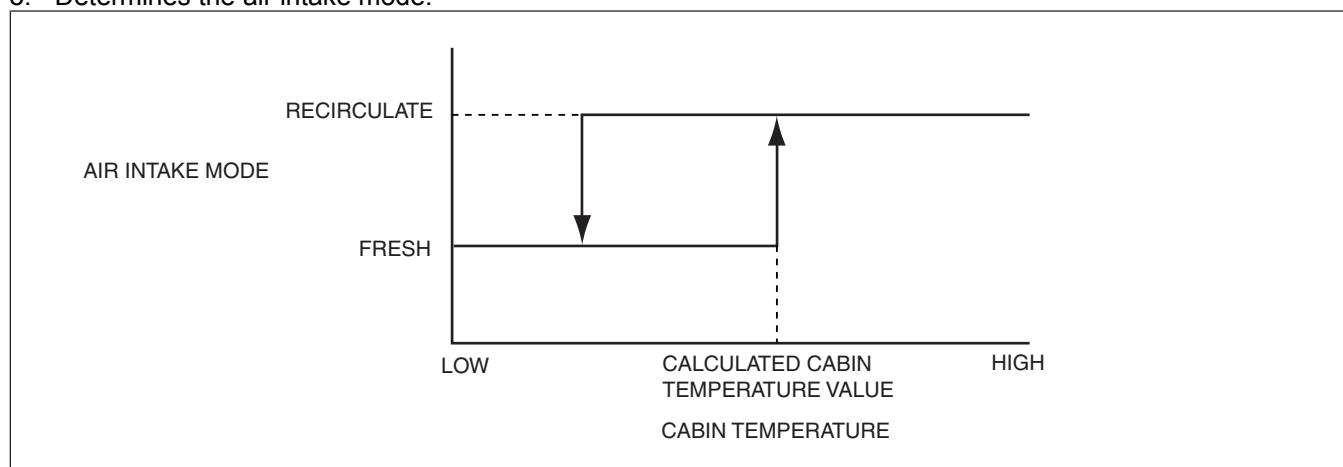
- The air intake control switches the air intake port (FRESH/REC) according to the vehicle environment.

### Function

- The air intake control drives the air intake actuator and switches the air intake door position according to the operations of the REC, FRESH and defroster switches and the vehicle environment.
- The air intake control has automatic and manual controls.
- The air intake automatic control performs the following correction:
  - Defroster correction
  - Ambient temperature correction

### Air intake automatic control

- The climate control unit performs the control as follows so that the cabin temperature lowers quickly according to the cooling conditions.
- Calculates the cabin temperature value based on the ambient temperature and sunlight intensity.
  - Compares the calculated cabin temperature value and current cabin temperature.
  - Determines the air intake mode.



### Air intake manual control

- The climate control unit switches the air intake mode based on the REC/FRESH switch operation.

Air intake mode	REC switch operation
FRESH	Fixed to FRESH when the FRESH switch is turned on during REC mode
REC	Fixed to REC when the RECIRCULATE switch is turned on during FRESH mode

### REC mode control under severe heat

- When the vehicle is driven at a very low speed with the A/C on under a severe heat condition, the climate control unit may change the air intake mode from FRESH to REC automatically.
- Due to this, load to the A/C compressor is reduced.
- When the air intake mode is switched to REC, the indicator on the REC switch illuminates.

### Correction

#### Defroster correction

- The defroster correction improves the effect of defrosting.
- The air intake is fixed at FRESH when the defroster switch is turned on.
- The air intake is fixed at FRESH even if it has been set to REC manually.

#### Ambient temperature correction

- When the ambient temperature is **5 °C {41 °F}** or less, the air intake is fixed at FRESH to prevent window fogging. (Australian, General (R.H.D.) specs.)
- When the ambient temperature is **15 °C {59 °F}** or less, the air intake is fixed at FRESH to prevent window fogging. (except Australian, General (R.H.D.) specs.)

### Construction

- The air intake control consists of the parts indicated in the following table:

Input device	Control part	Output device
<ul style="list-style-type: none"> <li>• Recirculate switch (climate control unit)</li> <li>• Fresh switch (climate control unit)</li> <li>• Defroster switch (climate control unit)</li> <li>• Ambient temperature sensor</li> <li>• Cabin temperature sensor</li> <li>• Solar radiation sensor</li> <li>• Refrigerant pressure sensor</li> </ul>	<ul style="list-style-type: none"> <li>• Climate control unit</li> <li>• PCM</li> <li>• Instrument cluster</li> </ul>	<ul style="list-style-type: none"> <li>• Air intake actuator</li> <li>• Air intake door</li> </ul>

## Operation

1. The climate control determines the air intake mode based on the operations of the REC, FRESH, defroster switches and signals from each sensor which changes according to the vehicle environment.
2. The climate control unit drives the air intake actuator according to the result of the air intake mode determination and corrections.

