

CLIMATE CONTROL UNIT [FULL-AUTO AIR CONDITIONER]

id0740a1320100

Purpose

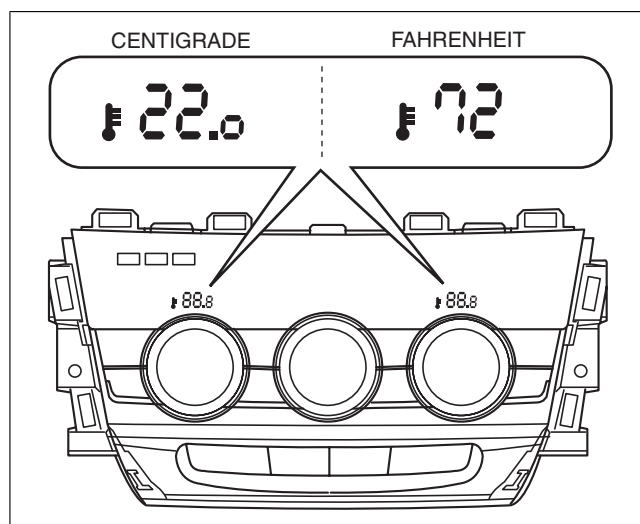
- The climate control unit performs air conditioning according to the operation by the users and the driving conditions of the vehicle.

Function

- The climate control unit determines optimum air-conditioning based on the input signals from each sensor and the control module and the operation signals from the control panel, and controls each actuator, A/C compressor, and the blower motor. (See FULL AUTO AIR CONDITIONER [FULL-AUTO AIR CONDITIONER].)

Set temperature display switching function

- When the ambient temperature display in the instrument cluster is switched between Centigrade and Fahrenheit, the set temperature display in the climate control unit is switched between Centigrade and Fahrenheit. (See INSTRUMENT CLUSTER.)



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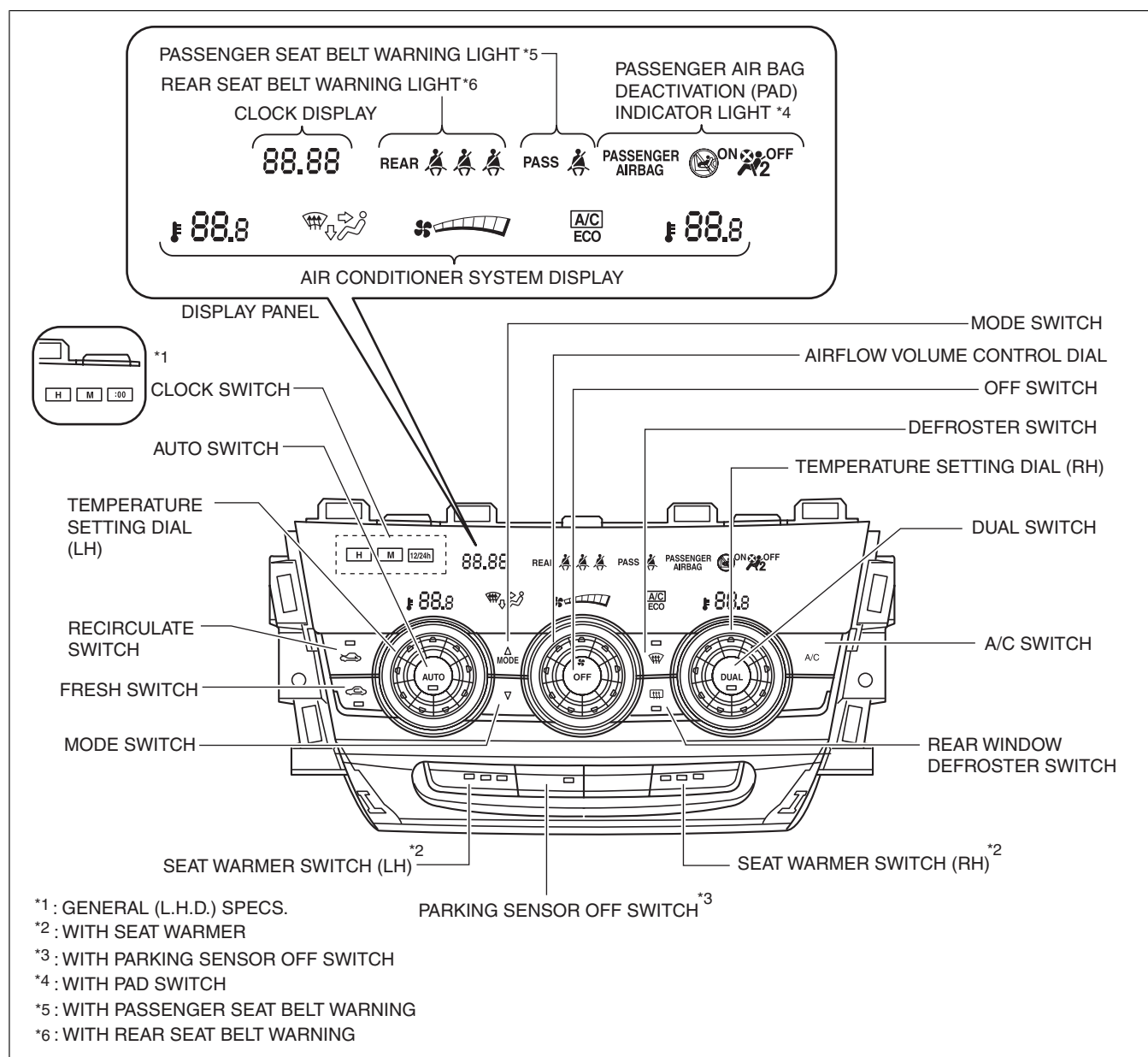
Automatic configuration function

- When the ignition is switched ON after the climate control unit is replaced, the climate control unit reads the vehicle specification information sent via CAN transmission from the instrument cluster using the automatic configuration function, and stores it.

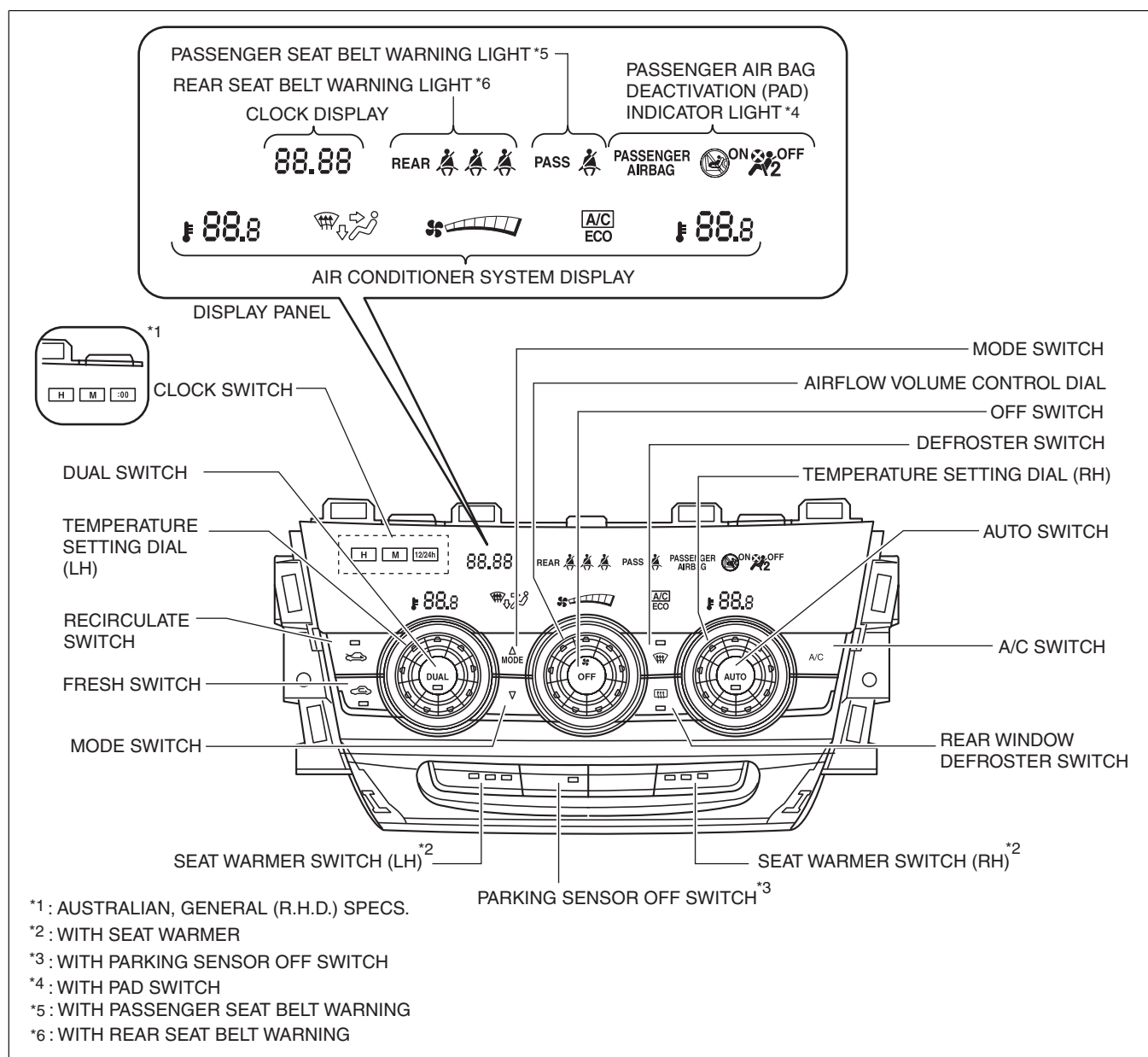
Construction

- A logic-type climate control unit has been adopted.
- The climate control unit consists of a control panel, display panel, and a control unit.
- The switches and dials shown in the figure are positioned on the control panel.
- The display panel shows the followings:
 - Air conditioner system display
 - Seat belt warning, passenger air bag deactivation (PAD) indicator display
 - Clock display

L.H.D.



R.H.D.



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Fail-safe

- If a malfunction is detected by the malfunction detection function, the fail-safe function performs the following controls to prevent an operation malfunction of the full-auto air conditioner and malfunction of output devices.

Fail-safe function table

Part where malfunction is determined	Malfunction determined when IG SW at ON	Malfunction already exists when IG SW turned to ON
Ambient temperature sensor	Ambient temperature sensor input value is fixed at the value right before the malfunction.	Ambient temperature sensor input value is fixed at 15 °C {59 °F} .
Cabin temperature sensor	Cabin temperature sensor input value is fixed at the value right before the malfunction.	Cabin temperature sensor input value is fixed at 25 °C {77 °F} .
Evaporator temperature sensor	A/C output OFF is controlled when the evaporator temperature sensor input value is at 0 °C {32 ° F} .	←
Heater core temperature sensor	Heater core temperature sensor input value is fixed at 50 °C {122 °F} .	←
Solar radiation sensor	The solar radiation sensor input value is fixed at the value directly before the malfunction only when the valve is 1,450 W/m² or more .	Solar radiation sensor value is fixed at 0 W/m² .

Part where malfunction is determined	Malfunction determined when IG SW at ON	Malfunction already exists when IG SW turned to ON
Engine coolant temperature sensor	Engine coolant temperature sensor input value is fixed at 85 °C {185 °F} .	←
Air mix actuator (potentiometer)	Air mix actuator drive signal is stopped right when the malfunction is determined. However, it is fixed at MAX COLD when the manually set temperature is at 15°C {60 °F} and fixed at MAX HOT when the manually set temperature is at 29°C {84 °F} .	Control based on ambient temperature. (See Graph 1.) However, it is fixed at MAX COLD when the manually set temperature is at 15°C {60 °F} and fixed at MAX HOT when the manually set temperature is at 29°C {84 °F} .
Airflow mode actuator (potentiometer)	Airflow mode actuator drive signal is stopped right when the malfunction is determined. • However, change the operation to VENT or DEF when the manual operation selected to VENT or DEF.	Control based on ambient temperature. (See Graph 2.) • However, change the operation to VENT or DEF when the manual operation selected to VENT or DEF.
Air mix actuator (motor lock)	• Air mix actuator drive signal is stopped right when the malfunction is determined.	• Twenty seconds after ignition is switched ON, the air mix actuator drive signal is output normally again. Afterwards, motor output is stopped during malfunction determination.
Airflow mode actuator (motor lock)	• Airflow mode actuator drive signal is stopped right when the malfunction is determined.	• Nine seconds after ignition is switched ON, the airflow mode actuator drive signal is output normally again. Afterwards, motor output is stopped during malfunction determination.

