

AIR CONDITIONER

■ DESCRIPTION

1. General

The air conditioner system in the new RX400h has the following features:

- A new ES27 type electric inverter compressor is used on the new RX400h. This compressor is driven by the alternating current that is supplied by the A/C inverter, which is integrated with the compressor. As a result, the air conditioner system is actuated without depending on the operation of the engine, thus realizing a comfortable air conditioner system and low fuel consumption.
- A compact, lightweight, and highly efficient electrical water pump is used in order to ensure the proper heater performance while the engine is stopped.
- A left/right independent temperature control and neural network control has been adopted to make air conditioner control available to suit the perception of the person in the driver seat and in the passenger seat. Automatic air conditioner is standard in all models.
- A semi-center location air conditioner unit, in which the evaporator and heater core are placed in the vehicle's longitudinal direction, is used.
- A compact, lightweight, and highly efficient straight flow (full-path flow) aluminum heater core is used.
- A revolutionary slim structure evaporator is used.
- A humidity sensor function has been added to the room temperature sensor in order to optimize the amount of dehumidification effort during the operation of the air conditioner system.
- A deodorizing function that eliminates the exhaust gas smell that enters the cabin from the outside has been added to the conventional clean air filter.
- The air conditioner ECU is equipped with a self-diagnosis function. If there is a malfunction in the system, it stores the DTCs (Diagnostic Trouble Codes) in its memory.

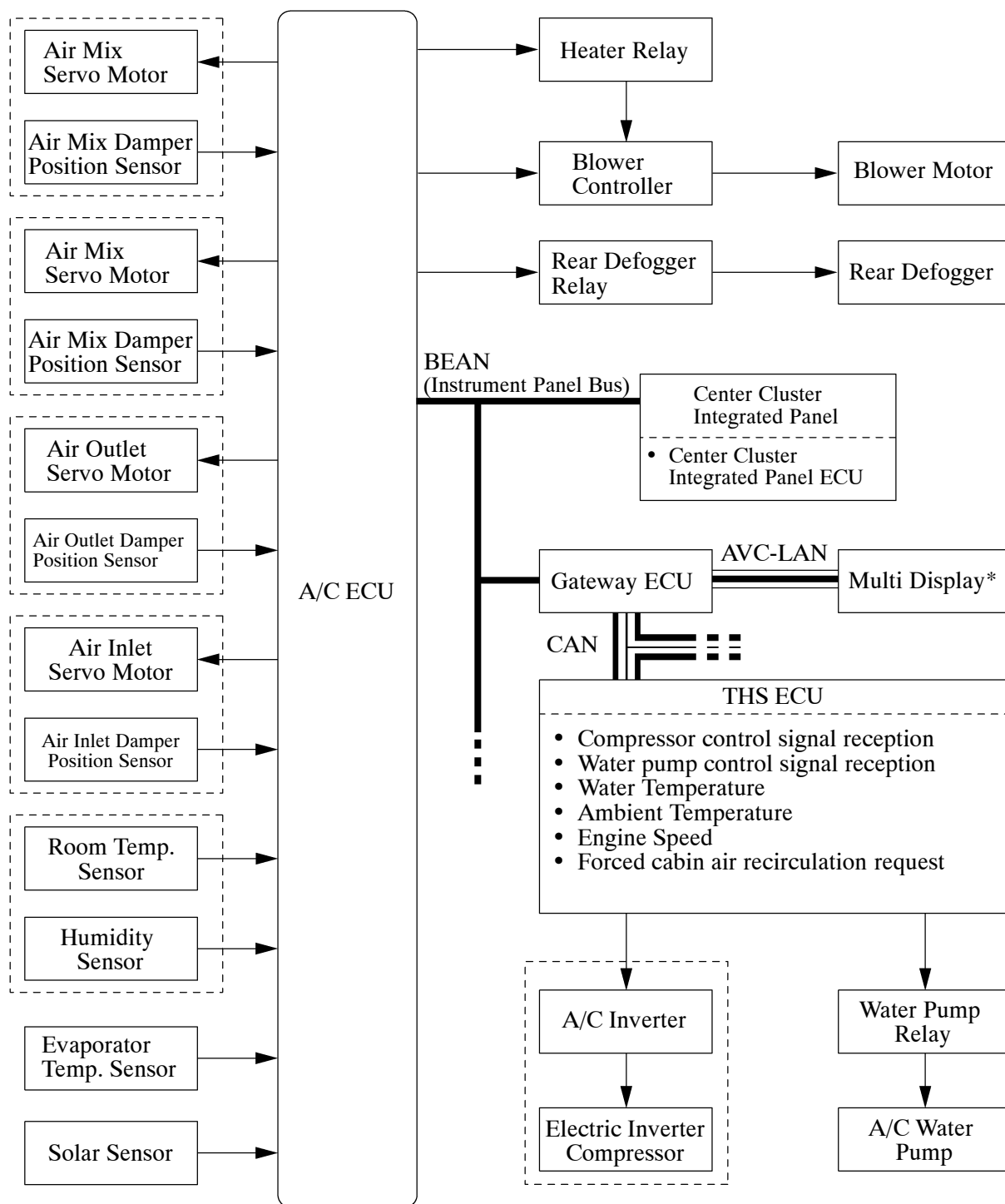
► Performance ◀

Model		New RX400h	Current RX300
Heater	Heat Output W	5,750	←
	Air Flow Volume m ³ /h	340	←
	Power Consumption W	210	←
Air conditioner	Cooling Capacity W	5,900	5,800
	Air Flow Volume m ³ /h	530	←
	Power Consumption W	260	←

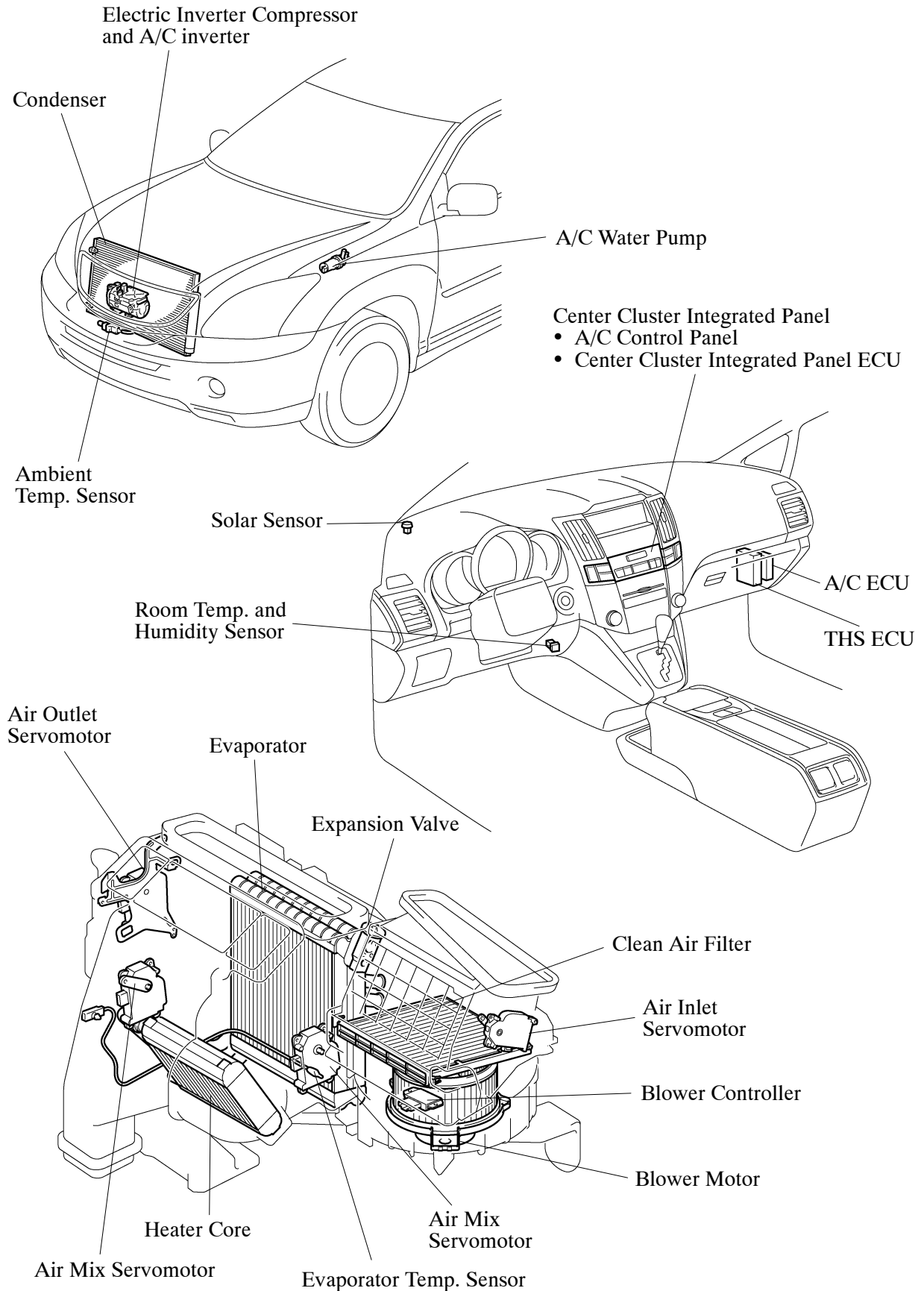
► Specifications ◀

Model			New RX400h	Current RX300
Ventilation and Heater Core	Heater Core	Type	Straight Flow (Full-path Flow)	←
		Size W × H × L mm (in.)	222.4 × 150 × 27 (8.8 × 5.9 × 1.1)	←
		Fin Pitch mm (in.)	1.8 (0.07)	←
	Blower	Motor Type	S80Fs-12.5T	←
		Fan Type	Shroud Fan	←
		Fan Size Dia. × H mm (in.)	150 × 75 (5.9 × 3.0)	←
Air Conditioner	Condenser	Type	Multi-flow (Sub-cool)	←
		Size W × H × L mm (in.)	670 × 492 × 16 (26.4 × 19.4 × 0.6)	←
		Fin Pitch mm (in.)	3.95 (0.16)	←
	Evaporator	Type	Revolutionary Slim Structure	←
		Size W × H × L mm (in.)	266.3 × 251 × 38 (10.5 × 9.9 × 1.5)	←
		Fin Pitch mm (in.)	3.0 (0.12)	←
	Compressor	Type	ES27	10S17
	Refrigerant	Type	HFC134a (R134a)	←
		Volume g	600 ± 50	←

2. System Diagram

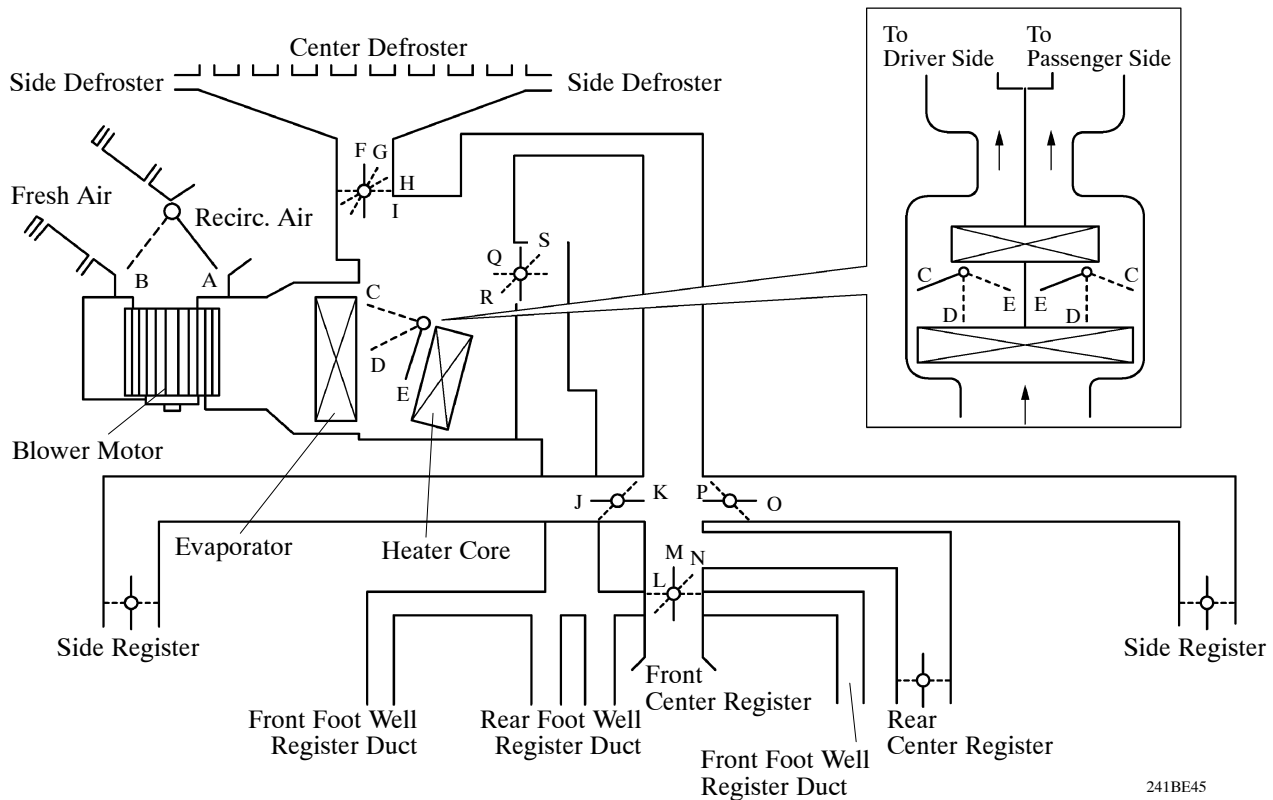


3. Layout of Main Components



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4. Mode Position and Damper Operation



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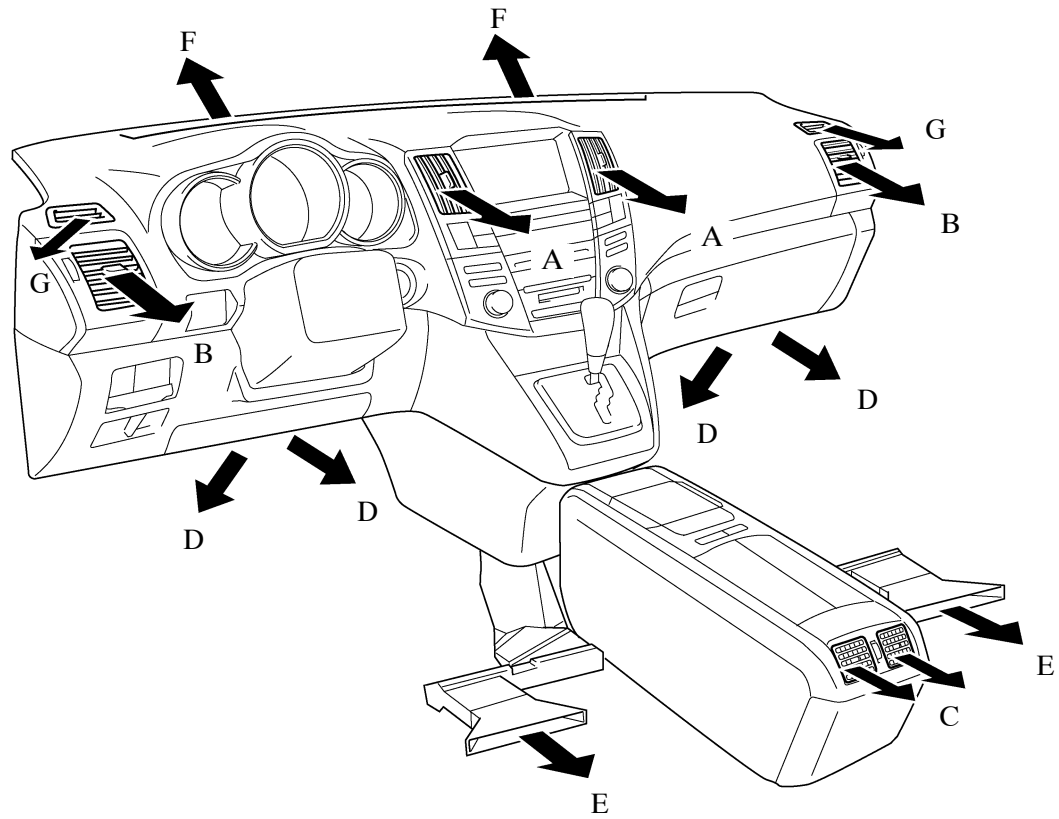
► Function of Main Damper ◀

Control Damper	Control Position		Damper Position	Operation
Air Inlet Control Damper	 FRESH	187BE23	A	Brings in fresh air.
	 RECIRC	187BE41	B	Recirculates internal air.
Air Mix Control Damper (Left/Right Independent Control)	MAX COLD - MAX HOT TEMP. SETTING {18°C (65°F) - 32°C (85°F)}		C ~ D ~ E	Varies the mixture ratio of the cool air and the warm air in order to regulate the temperature continuously from HOT to COLD.
Mode Control Damper	 DEF	187BE28	F, K, L, P, S	Defrosts the windshield through the center defroster, side defroster, side register and rear center register.
	 FOOT/DEF	187BE27	G, K, L, P, Q	Defrosts the windshield through the center defroster, side defroster, side register and rear center registers, while air is also blown out from the front and rear foot well register ducts.
	 FOOT	187BE26	H*1, I*2, K, L, P, Q	Air blows out of the front and rear foot well register ducts, side register, and rear center registers. Furthermore, when the damper is set to FOOT in the AUTO mode, a slight amount of air also flows from the defroster.
	 BI-LEVEL	187BE25	I, K, N, P, R	Air blows out of the front and rear center registers, side registers, and front and rear foot well register ducts.
	 FACE	187BE24	I, J, M, O, S	Air blows out of the front and rear center registers, and side register.

*1: Auto FOOT Mode

*2: Manual FOOT Mode

5. Air Outlets and Air Volume Ratios



LHD Model

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Air Outlet Position Symbol			A	B	C	D	E	F	G
Air Outlet Mode	Air Mix Position		Center Face	Side Face	Rear Face	Front Foot	Rear Foot	Center Defroster	Side Defroster
FACE		Max Cool	○	○	○	—	—	—	—
BI-LEVEL		Center	○	○	○	○	○	—	—
FOOT		Max Hot	—	○	○	○	○	○	○
FOOT/DEF		Max Hot	—	○	○	○	○	○	○
DEF		Max Hot	—	○	○	—	—	○	○

The size of the circle ○ indicates the proportion of airflow volume.

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