

AIR CONDITIONING

DESCRIPTION

1. General

The air conditioning system in the '02 ES300 has the following features:

- An automatic control air conditioning system comprising left/right independent temperature control has been adopted as standard equipment.
- A semi-center location air conditioning unit, in which the evaporator and heater core are placed in the vehicle's longitudinal direction, has been adopted.
- A compact, lightweight, and highly efficient straight flow (full-path flow) aluminum heater core has been adopted.
- A multi-tank, super-slim structure evaporator has been adopted.
- A compact, lightweight, and low-noise swash plate type compressor has been adopted.
- The heater exchange efficiency has been improved through the adoption of the sub-cool condenser.
- 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 conditioning 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 and blinks the air conditioning switch indicator.

Performance ◀

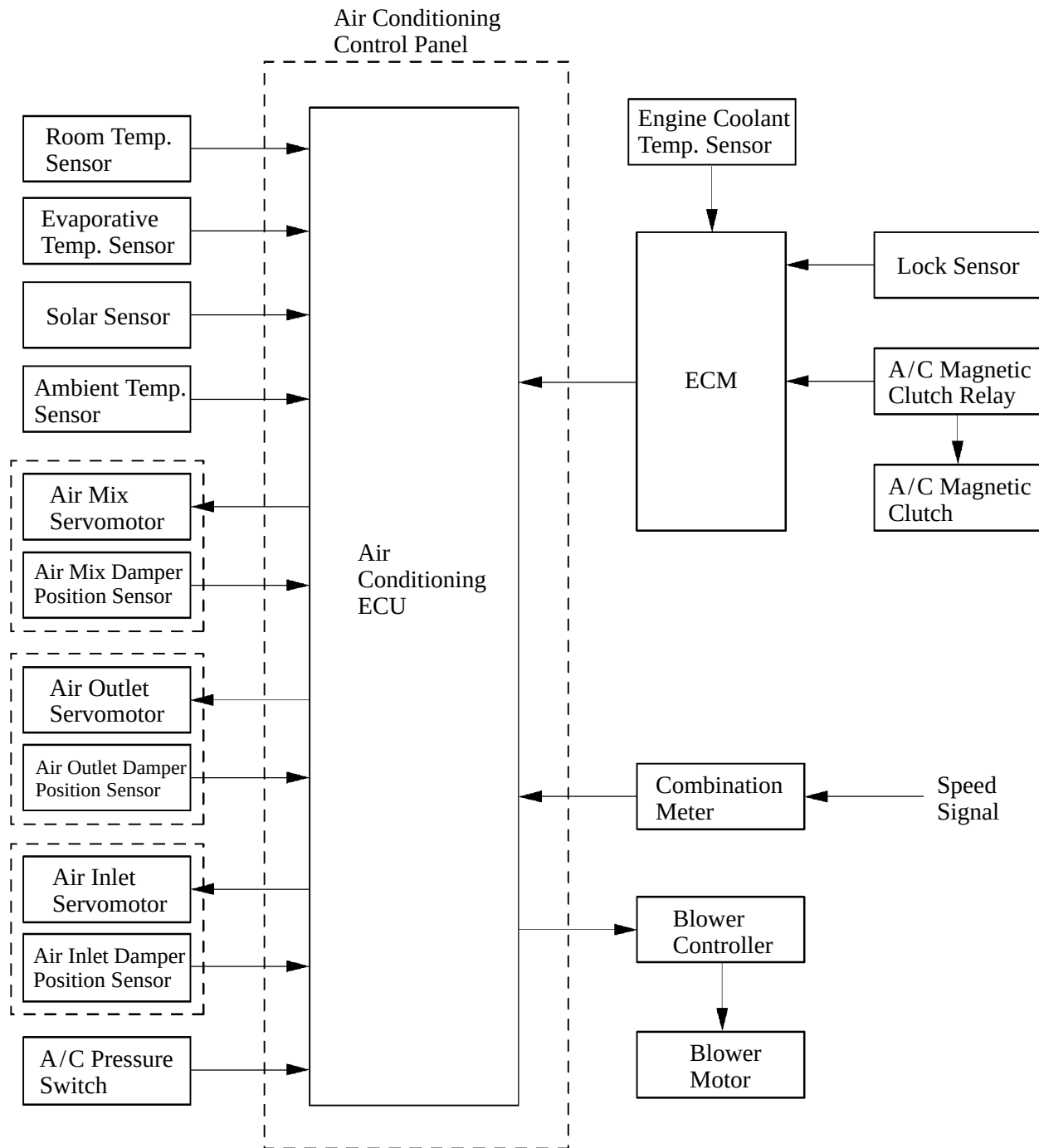
Model		'02 ES300	'01 ES300	
			with Clean Air Filter	without Clean Air Filter
Heater	Heat Output W (Kcal/h)	5750 (4950)	5220 (4490)	5580 (4800)
	Air Flow Volume m ³ /h	360	360	380
	Power Consumption W	210	220*	←
Air Conditioning	Cooling Capacity W (Kcal/h)	5500 (4730)	5230 (4500)	5350 (4600)
	Air Flow Volume m ³ /h	530	505	530
	Power Consumption W	260	260	←

*: With Side Vent Closed

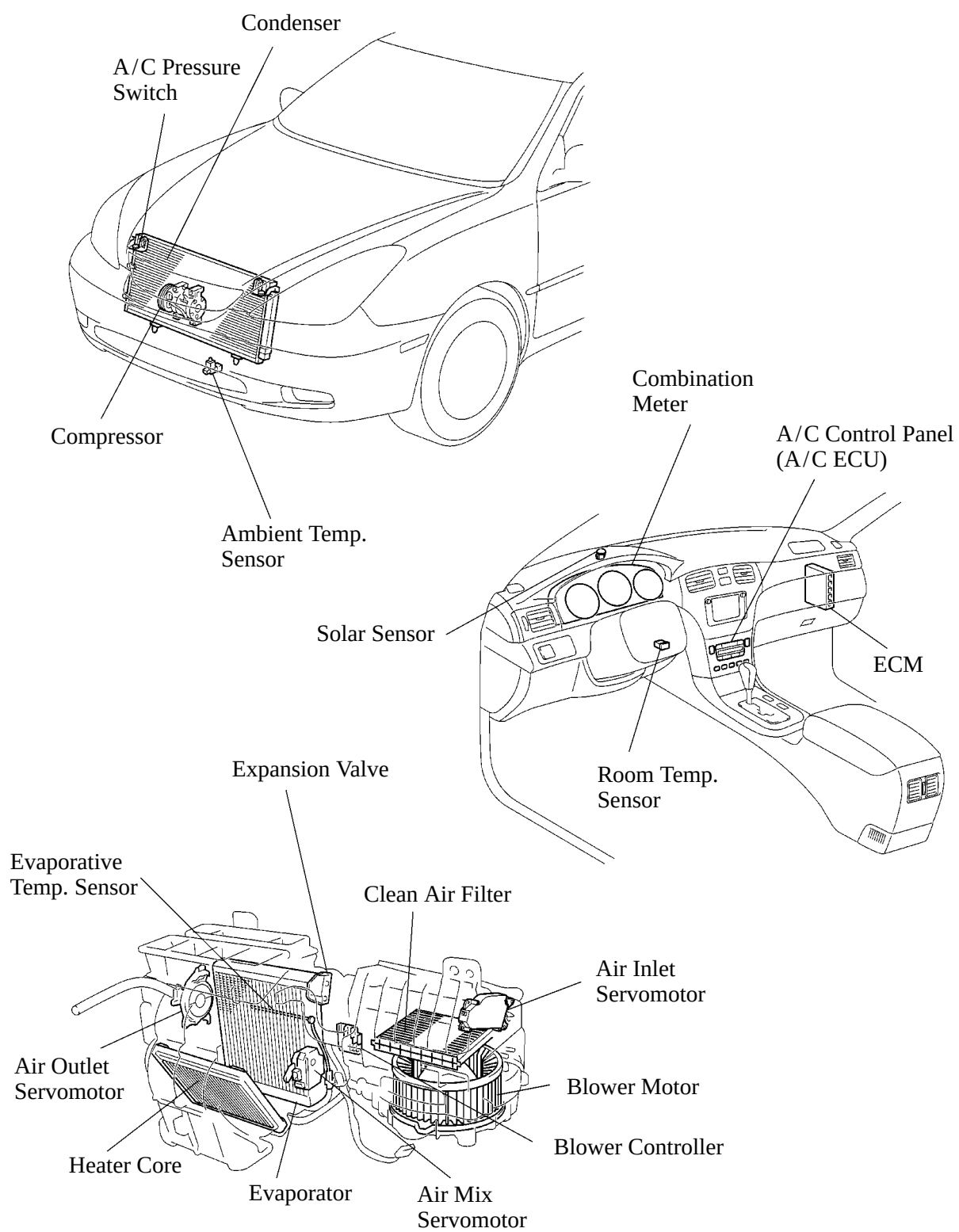
Specification ◀

Model		'02 ES300	'01 ES300
Ventilation and Heater Core	Heater Core	Type	Straight Flow (Full-path Flow)
		Size W x H x L mm (in.)	228.7 x 140 x 27 (9.0 x 5.5 x 1.1)
		Fin Pitch mm (in.)	1.8 (0.07)
	Blower	Motor Type	S80Fs-12.5T
		Fan Size Dia. x H mm (in.)	150 x 75 (5.9 x 3.0)
Air Conditioning	Condenser	Type	Multi-flow (Sub-cool)
		Size W x H x L mm (in.)	670 x 387.8 x 16 (26.4 x 15.3 x 0.6)
		Fin Pitch mm (in.)	3.6 (0.14)
	Evaporator	Type	Multi-tank, Super-slim Structure
		Size W x H x L mm (in.)	266.2 x 255 x 58 (10.5 x 10.0 x 2.3)
		Fin Pitch mm (in.)	3.5 (0.14)
	Compressor	Type	10S17

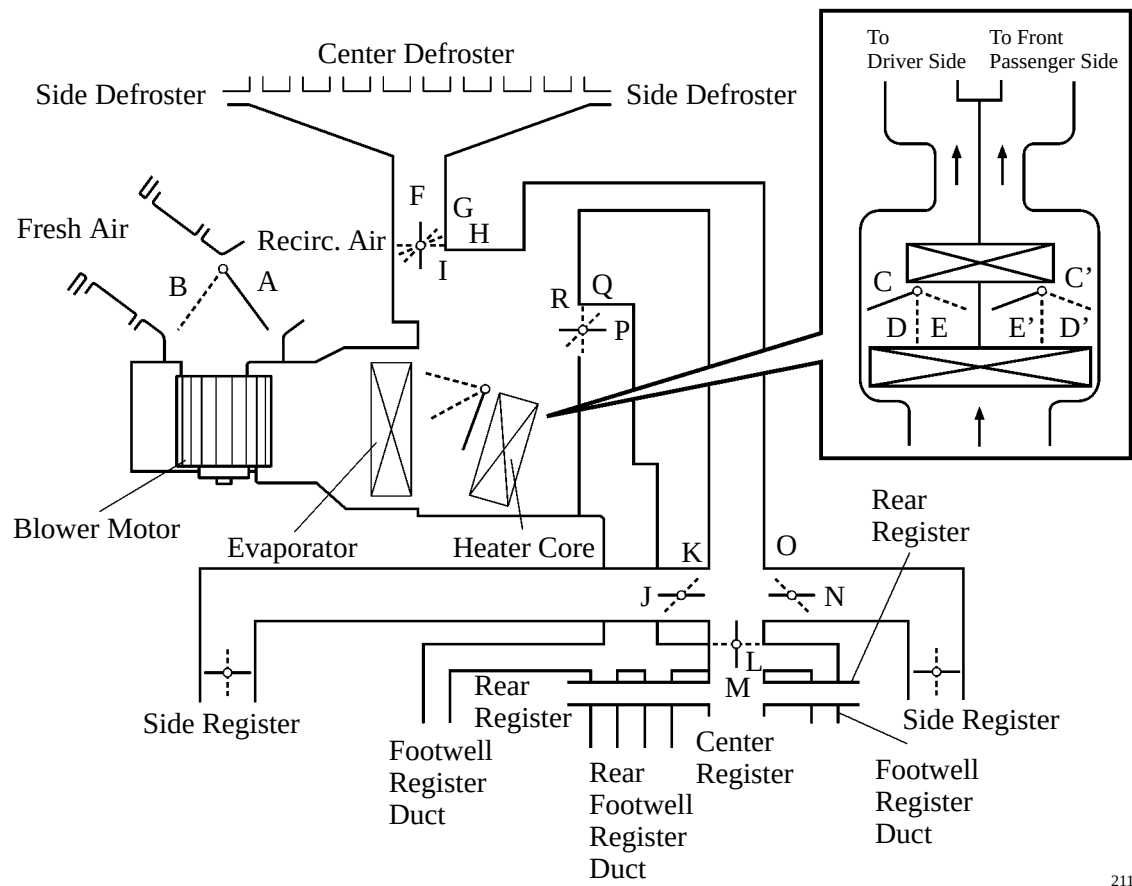
2. System Diagram



3. Layout of Main Component



4. Mode Position and Damper Operation

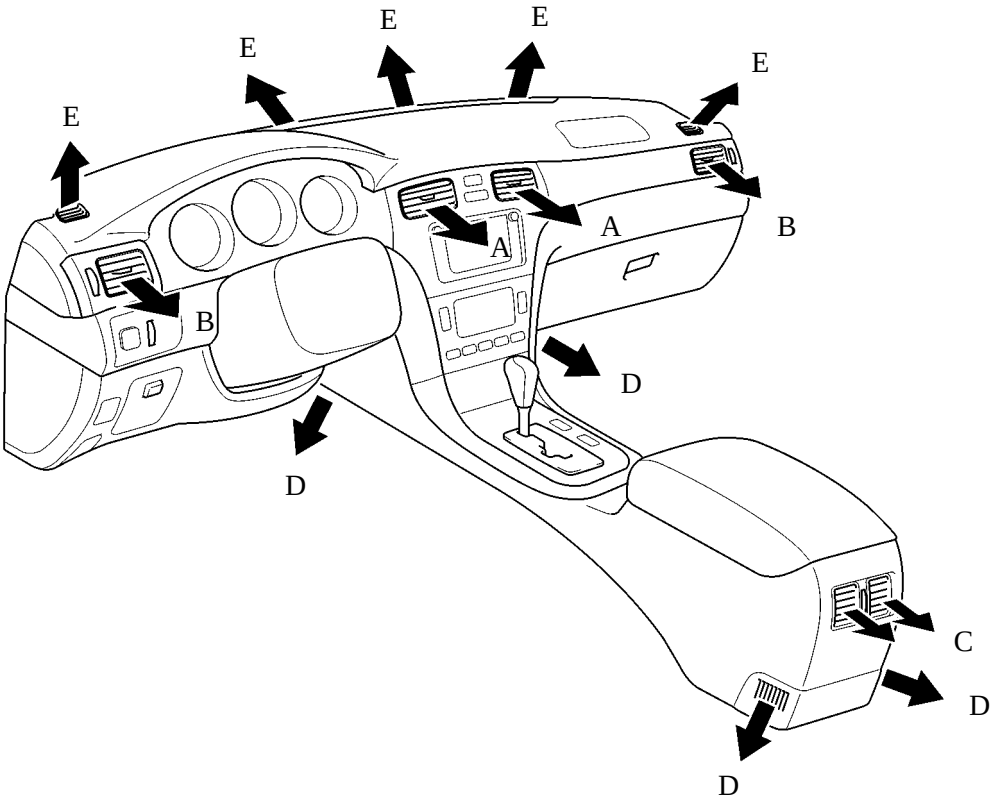


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► Function of Main Damper ◀

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) }	E ~ D ~ C E' ~ D' ~ C'	Varies the mixture ratio of the fresh air and the recirculation air in order to regulate the temperature continuously from HOT to COLD.
Mode Control Damper	DEF 187BE28	F, K, L, O, R	Defrosts the windshield through the center defroster, side defroster, and side register.
	FOOT/DEF 187BE27	G, K, L, O, Q	Defrosts the windshield through the center defroster, side defroster, and side register, while air is also blown out from the front and rear foot well register ducts.
	FOOT 187BE26	H, K, L, O, P	Air blows out of the front and rear foot well register ducts, and side register. In addition, air blows out slightly from the center defroster and side defroster.
	BI-LEVEL 187BE25	I, J, M, N, P	Air blows out of the center registers, side registers, and foot well register ducts.
	FACE 187BE24	I, J, M, N, R	Air blows out of the center registers, and side register.

5. Air Outlets and Air Volume Ratios



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Air Outlet Mode			A	B	C	D	E
			Center Face	Side Face	Rear Face	Foot	Defroster
FACE		187BE24	○	○	○	—	—
BI-LEVEL		187BE25	○	○	○	○	—
FOOT		187BE26	—	○	—	○	○
FOOT/DEF		187BE27	—	○	—	○	○
DEF		187BE28	—	○	—	—	○

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