AIR CONDITIONER

■ DESCRIPTION

1. General

The new model has an air conditioner system with the following equipment.

Destinations		Australia			
Vehicle Type		Van		Commuter	
Engine		2TR-FE	2KD-FTV	2TR-FE	2KD-FTV
Manual A/C		Option	Option	Standard	Standard
Manual Cooler	Front	Option	Option	—	—
	Front + Rear	Option	Option	—	—
PTC		—	Option *10	—	Option
Front Heater		Standard	Standard	Standard	Standard
Rear Heater		—		Option *1	Option *2

Destinations		G.C.C. Countries				Russia & Ukraine
Vehicle Type		Van		Commuter		Commuter
Engine		2TR-FE	2KD-FTV	2TR-FE	2KD-FTV	2TR-FE
Manual A/C		Option	Option	Option	Option	Standard
Manual Cooler	Front	Option	Option	—	—	—
	Front + Rear	Option	Option	—	—	—
PTC		—	—	—	—	—
Front Heater		Option	Option	Option	Option	Standard
Rear Heater		—	—	Option *3	Option *3	Standard

Destinations		General Countries				
Vehicle Type		Van				
Engine		2TR-FE		2KD-FTV		5L-E
Manual A/C		Standard *15	Option *15	Standard *16	Option *16	Option
Manual Cooler	Front	Standard *13	Option *13	Standard *14	Option *14	Option
	Front + Rear	Option		Option		Option
PTC		—		Option *11		—
Front Heater		Standard *7	Option *7	Standard *8	Option *8	Option
Rear Heater		—		—		—

Destinations		General Countries			
Vehicle Type		Commuter			
Engine		2TR-FE		2KD-FTV	5L-E
Manual A/C		Standard *4	Option *4	Option *17	Option *6
Manual Cooler	Front	—		—	—
	Front + Rear	—		—	—
PTC		—		Option *12	—
Front Heater		Standard *4	Option *4	Option *9	Option *6
Rear Heater		Standard *4	Option *4	Option *5	Option *6

*: For the settings for each asterisk, see the following pages.

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▶ Table of Settings for Asterisks ◀

		Door	Roof Type	Body Type	Seating capacity and rear side window	Grade	Steering	Transmission
*1		4	High	Wide	14, Glass	DX	RHD	5-Speed Manual
*2		4	High	Wide	14, Glass	DX	RHD	All
*3		4	High	Wide	16, Glass	GL	LHD	5-Speed Manual
*4	Standard	4	Middle	Wide	10, Glass	GL	LHD	5-Speed Manual
		4	High	Wide	13, Glass	GL	LHD	4-Speed Automatic
	Option	4	Standard	Standard	12 and 15, Glass	DX	All	5-Speed Manual
		4	High	Wide	16, Glass	DX	All	5-Speed Manual
*5		4	Standard	Standard	15, Glass	DX	RHD	5-Speed Manual
		4	Standard	Standard	12, Glass	DX	LHD	5-Speed Manual
		4	Standard	Standard	12, Glass	DX	LHD	4-Speed Automatic
		4	High	Wide	16, Glass	DX	All	5-Speed Manual
*6		4	Standard	Standard	15 and 16, Glass	DX	All	5-Speed Manual
		4	High	Wide	16, Glass	DX	All	5-Speed Manual
*7	Standard	5	Standard	Standard	6, Half-panel and 6, Glass	DX	RHD	All
	Option	4	Standard	Standard	3, Panel	DX	RHD	5-Speed Manual
		5	Standard	Standard	3, Panel	DX	LHD	5-Speed Manual
		5	High	Wide	3, Panel	DX	LHD	5-Speed Manual
*8	Standard	5	Standard	Standard	6, Half-panel	DX	RHD	All
		5	Standard	Standard	6, Half-panel	GL	RHD	4-Speed Automatic
		5	Standard	Standard	6, Glass	DX	RHD	All
		4	High	Wide	3, Glass	DX	RHD	All
	Option	4	Standard	Standard	3, Panel	DX	All	All
		5	Standard	Standard	3, Panel	DX	All	5-Speed Manual
*9		4	Standard	Standard	15, Glass	DX	RHD	5-Speed Manual
		4	Standard	Standard	12, Glass	DX	LHD	5-Speed Manual
		4	Standard	Standard	12, Glass	DX	LHD	4-Speed Automatic
		4	High	Wide	16, Glass	DX	LHD	5-Speed Manual
*10		4	Standard	Standard	3, Panel	DX	RHD	5-Speed Manual
		5	High	Wide	3, Panel	DX	RHD	5-Speed Manual
		4	High	Wide	14, Glass	DX	RHD	All
*11		4	Standard	Standard	3, Panel	DX	All	All
		5	Standard	Standard	3, Panel	DX	All	5-Speed Manual
		5	Standard	Standard	6, Glass	DX	RHD	All
		4	High	Wide	3, Glass	DX	RHD	All
*12		4	Standard	Standard	15, Glass	DX	All	5-Speed Manual
		4	Standard	Standard	12, Glass	DX	LHD	5-Speed Manual
		4	Standard	Standard	12, Glass	DX	LHD	4-Speed Automatic
		4	High	Wide	16, Glass	DX	LHD	5-Speed Manual
*13	Standard	5	Standard	Standard	6, Half-panel	DX	RHD	All
	Option	4	Standard	Standard	3, Panel	DX	RHD	5-Speed Manual
		5	Standard	Standard	6, Glass	DX	RHD	All
		5	High	Wide	3, Panel	DX	LHD	Standard
*14	Standard	5	Standard	Standard	6, Half-panel	DX	RHD	All
		5	Standard	Standard	6, Half-panel	GL	RHD	4-Speed Automatic
	Option	4	Standard	Standard	3, Panel	DX	All	All
		5	Standard	Standard	3, Panel	DX	All	Standard
		5	Standard	Standard	6, Glass	DX	RHD	All
		4	High	Wide	3, Glass	DX	RHD	All
*15	Standard	5	Standard	Standard	6, Half-panel	DX	RHD	All
	Option	4	Standard	Standard	3, Panel	DX	RHD	5-Speed Manual
		5	Standard	Standard	6, Glass	DX	RHD	All
		5	High	Wide	3, Panel	DX	LHD	5-Speed Manual

		Door	Roof Type	Body Type	Seating capacity and rear side window	Grade	Steering	Transmission
*16	Standard	5	Standard	Standard	6, Half-panel	DX	RHD	All
		5	Standard	Standard	6, Half-panel	GL	RHD	4-Speed Automatic
	Option	4	Standard	Standard	3, Panel	DX	All	All
		5	Standard	Standard	3, Panel	DX	All	5-Speed Manual
		5	Standard	Standard	6, Glass	DX	RHD	All
*17		4	Standard	Standard	15, Glass	DX	All	5-Speed Manual
		4	Standard	Standard	12, Glass	DX	LHD	5-Speed Manual
		4	Standard	Standard	12, Glass	DX	LHD	4-Speed Automatic
		4	High	Wide	16, Glass	DX	LHD	4-Speed Automatic

Air Conditioner Unit

- The air conditioner unit has been made compact and lightweight by placing the evaporator and the heater core horizontally, above and below in the unit, and adopting a film type slide door for the air mix door.
- An RS evaporator (RS: Revolutionary Super Slim), which is thin and lightweight and has excellent cooling performance, is used.
- An SFA-II heater core (SFA-II: Straight Flow Aluminum-II), which is compact and lightweight and has superior heating performance, is used in the front heater & cooler unit and the rear heater unit.
- Heater doors that always recirculate some of the inside air even in refresh mode are used for models with the front air conditioner unit to improve the heating performance.
- The PTC (Positive Temperature Coefficient) heater system contains a PTC heater that heats the air that has passed through the heater core to ensure the proper heater performance.

Other Equipment

- The previous air conditioner compressor continues to be used on the diesel engine models, and an external control continuously variable capacity air conditioner compressor is used on the 2TR-FE engine models.
- The heater control panel is the rotary switch type. A rotating cable control mechanism is used to make the control unit more compact.

2. Performance and Specifications

Front Air Conditioner

▶ Performance ◀

Heater	Heat Output	W	5000
	Air Flow Volume	m^3/h	320
	Power Consumption	W	Less than 170
Air Conditioner or Cooler	Cooling Capacity	W	5000
	Air Flow Volume	m^3/h	480
	Power Consumption	W	Less than 200

▶ Specifications ◀

Ventilation and Heater Core	Heater Core	Type		SFA-II (Straight Flow Aluminum-II)
		Size W × H × L	mm (in.)	201.5 × 150 × 21 (7.9 × 5.9 × 0.8)
		Fin Pitch	mm (in.)	1.8 (0.07)
	Blower	Motor Type		K62-14T
		Fan Type		Semi-sirocco
		Fan Size Dia. × H	mm (in.)	155 × 70 (6.2 × 2.6)
Air Conditioner or Cooler	Condenser	Type		MF-IV (Sub-cool)
		Size W × H × L	mm (in.)	600 × 479 × 16 (23.6 × 18.9 × 0.6)
		Fin Pitch	mm (in.)	3.55 (0.14)
	Evaporator	Type		Revolutionary Super Slim
		Size W × H × L	mm (in.)	226.1 × 241 × 38 (8.9 × 9.5 × 1.5)
		Fin Pitch	mm (in.)	3.0 (0.12)
	Compressor	Type	2TR-FE Engine	6SEU16
			2KD-FTV Engine	10S15
			5L-E Engine	10S15
	Refrigerant	Type		HFC134a (R134a)
		Volume	g	550 ± 30

Front and Rear Air Conditioner

▶ Performance ◀

Heater	Heat Output W	Front	5000	
		Rear	4200	
	Air Flow Volume m^3/h	Front	320	
		Rear	240	
	Power Consumption W	Front	Less than 170	
		Rear	Less than 100	
Air Conditioner or Cooler	Cooling Capacity W	Van	6500	
		Commuter	6900	
	Air Flow Volume m^3/h	Front	480	
		Rear	Van	370
			Commuter	430
	Power Consumption W	Front	Less than 200	
		Rear	Less than 120	

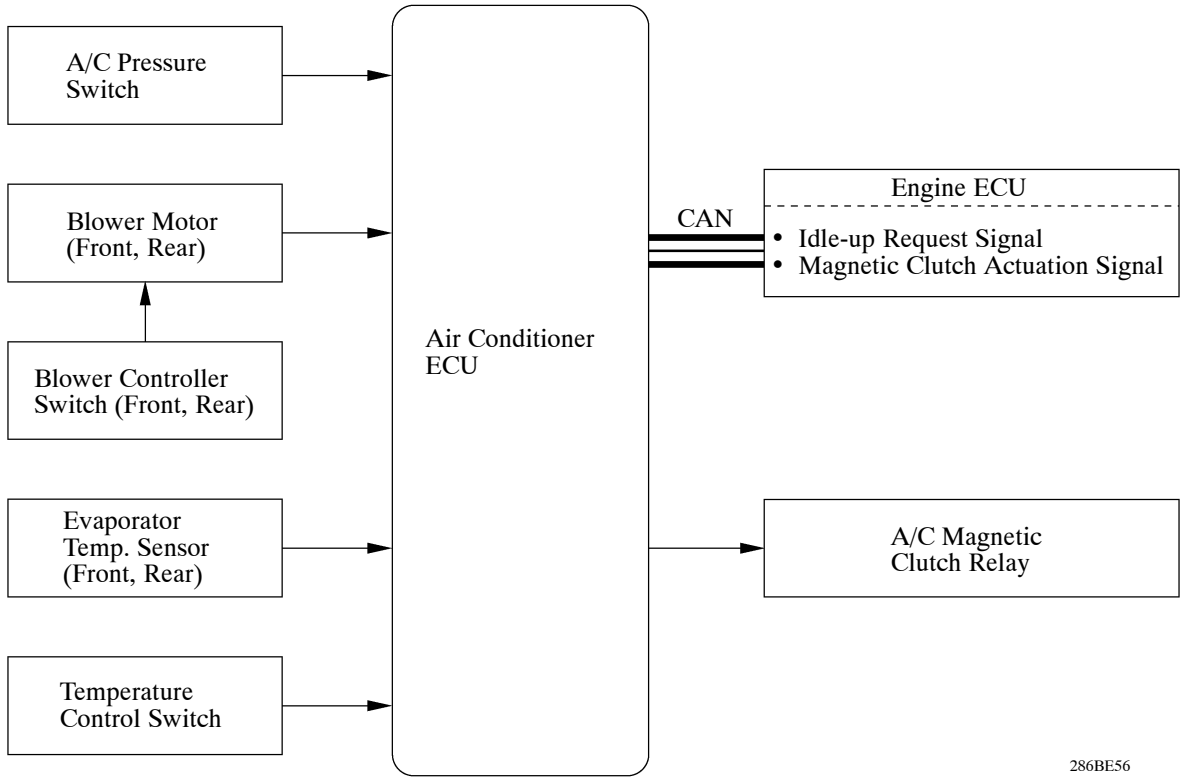
▶ Specifications ◀

Ventilation and Heater Core	Heater Core (Front and Rear)	Type		SFA-II (Straight Flow Aluminum-II)	
		Size W × H × L mm (in.)		Front	201.5 × 150 × 21 (7.9 × 5.9 × 0.8)
				Rear	149.5 × 150 × 27 (5.98 × 5.9 × 1.08)
		Fin Pitch mm (in.)		Front	1.8 (0.07)
				Rear	
	Blower	Motor Type		K62F-14T	
		Fan Type	Front	Semi-sirocco	
			Rear	Sirocco	
		Fan Size Dia. × H mm (in.)	Front	155 × 65 (6.2 × 2.6)	
			Rear	120 × 75 (4.8 × 3.0)	
Air Conditioner or Cooler	Condenser	Type		MF-IV (Sub-cool)	
		Size W × H × L mm (in.)		600 × 479 × 16 (23.6 × 18.9 × 0.6)	
		Fin Pitch mm (in.)		3.55 (0.14)	
	Evaporator	Type		Revolutionary Super Slim	
		Size W × H × L mm (in.)	Front	226.1 × 241 × 38 (8.9 × 9.5 × 1.5)	
			Rear	524 × 93.6 × 40 (20.6 × 3.7 × 1.6)	
		Fin Pitch mm (in.)	Front	3.0 (0.12)	
			Rear	1.5 (0.06)	
	Compressor	Type	2TR-FE Engine	6SEU16	
			2KD-FTV Engine	10S17	
			5L-E Engine	10S17	
	Refrigerant	Type		HFC134a (R134a)	
		Volume g		700 ± 30	

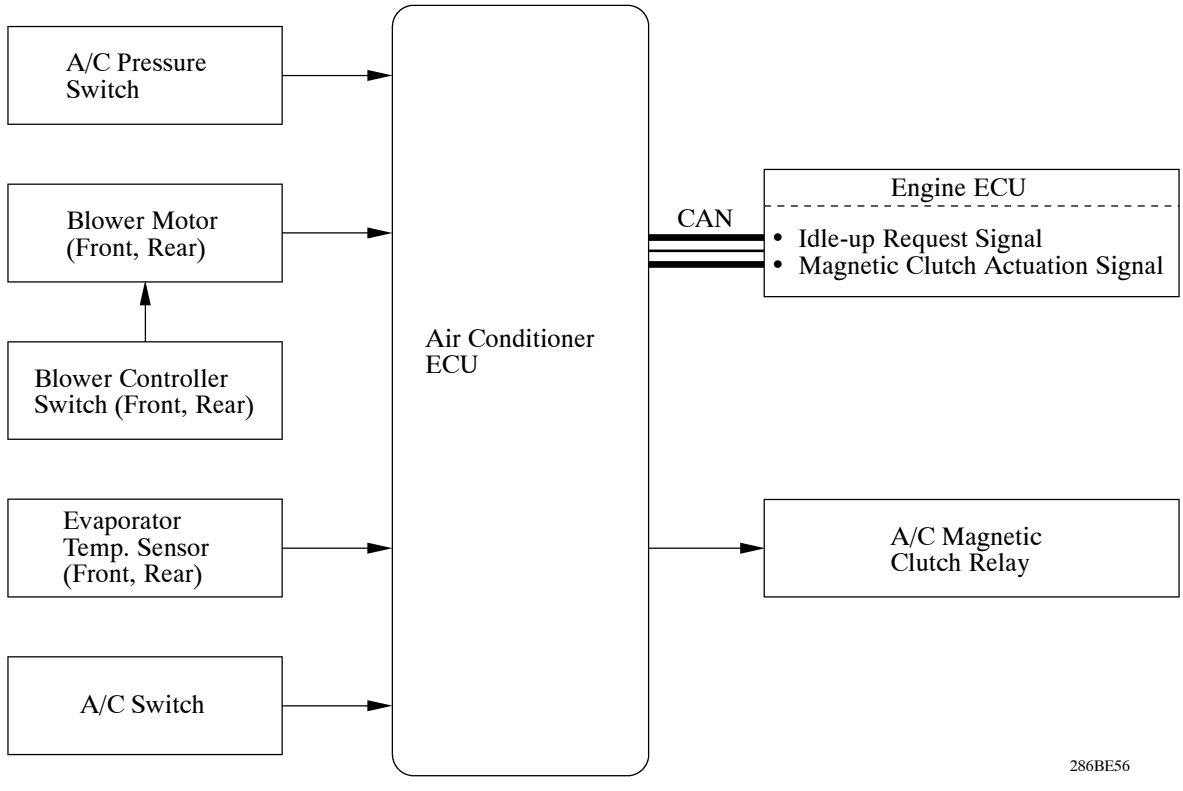
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3. System Diagram

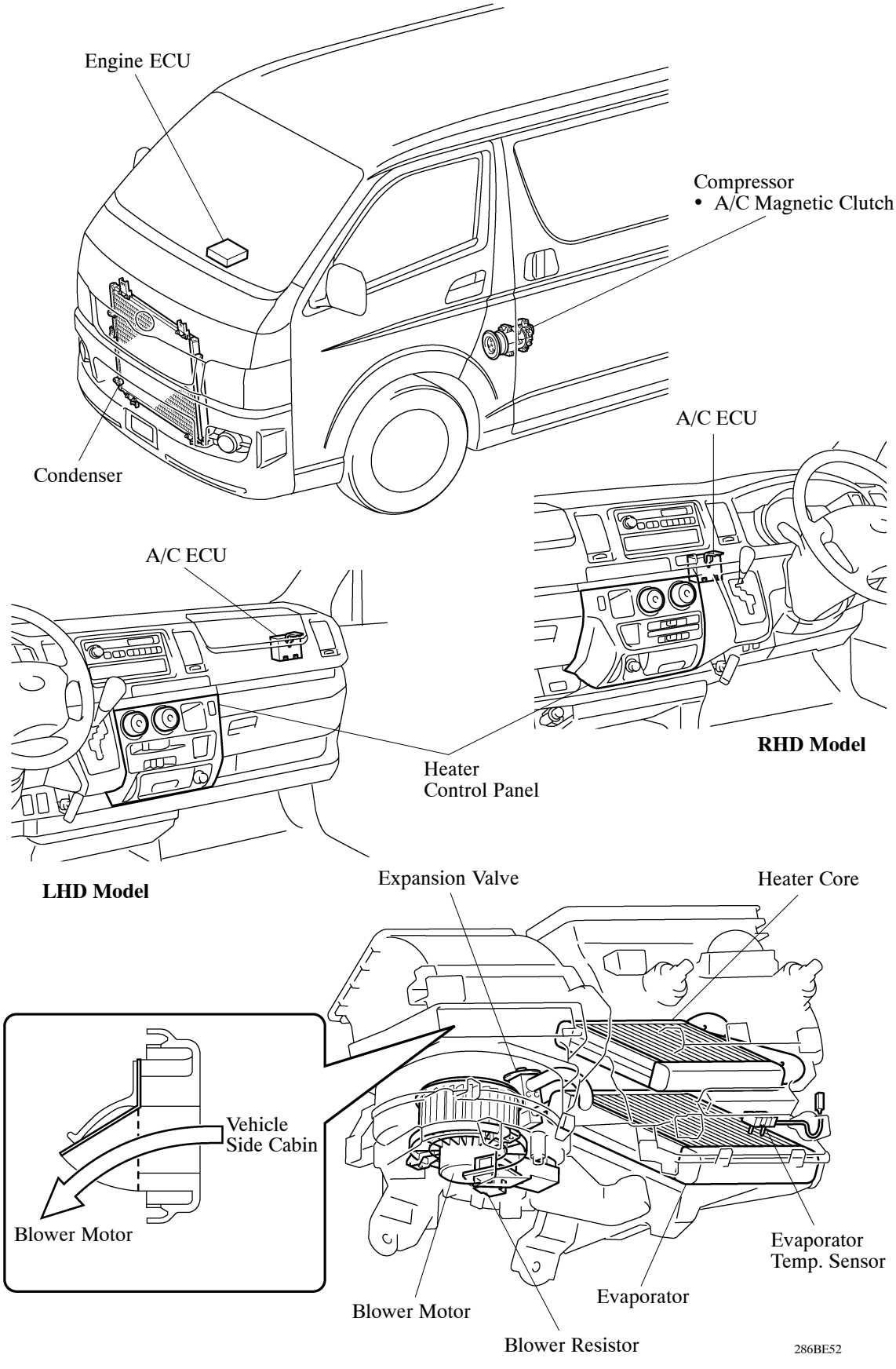
▶ Manual Cooler System ◀



▶ Manual Air Conditioner System ◀

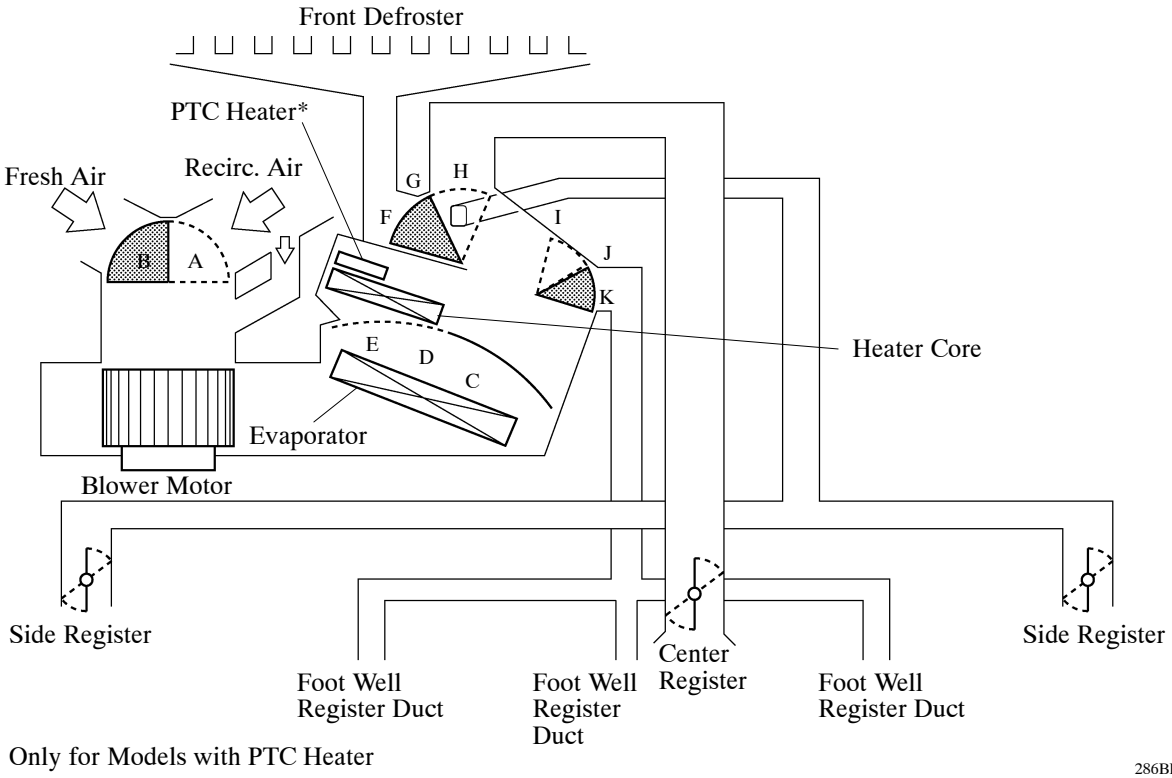


4. Layout of Main Components



5. Model Position and Damper Operation

▶ Manual Air Conditioner ◀



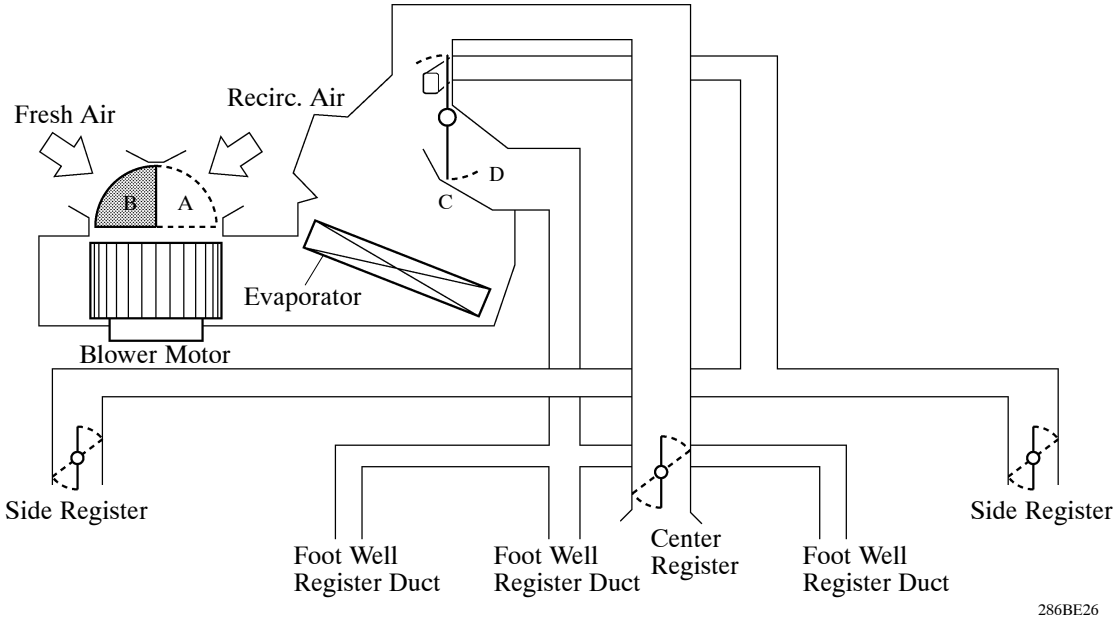
*: Only for Models with PTC Heater

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▶ Function of Main Damper ◀

Control Damper	Control Position	Damper Position	Operation
Air Inlet Control Damper	FRESH	A	Brings in fresh air.
	RECIRC	B	Recirculates internal air.
Air Mix Control Damper	MAX COLD - MAX HOT	C - D - E	The proportion of hot and cold air is varied to adjust the temperature continuously from HOT to COLD.
Mode Control Dampe	 FACE 187BE24	F, K	Air blows out of the center registers and side registers.
	 BI-LEVEL 187BE25	F, I	Air blows out of the center registers, side registers, and foot well register ducts.
	 FOOT 187BE26	H, I	Air blows out of the foot well register ducts, and side registers. In addition, air blows out slightly from the Front defroster.
	 FOOT/DEF 187BE27	H, J	Defrosts the windshield through the front defroster and side registers, while air is also blown out from the foot well register ducts.
	 DEF 187BE28	H, K	Defrosts the windshield through the front defroster and side registers.

▶ Manual Cooler ◀

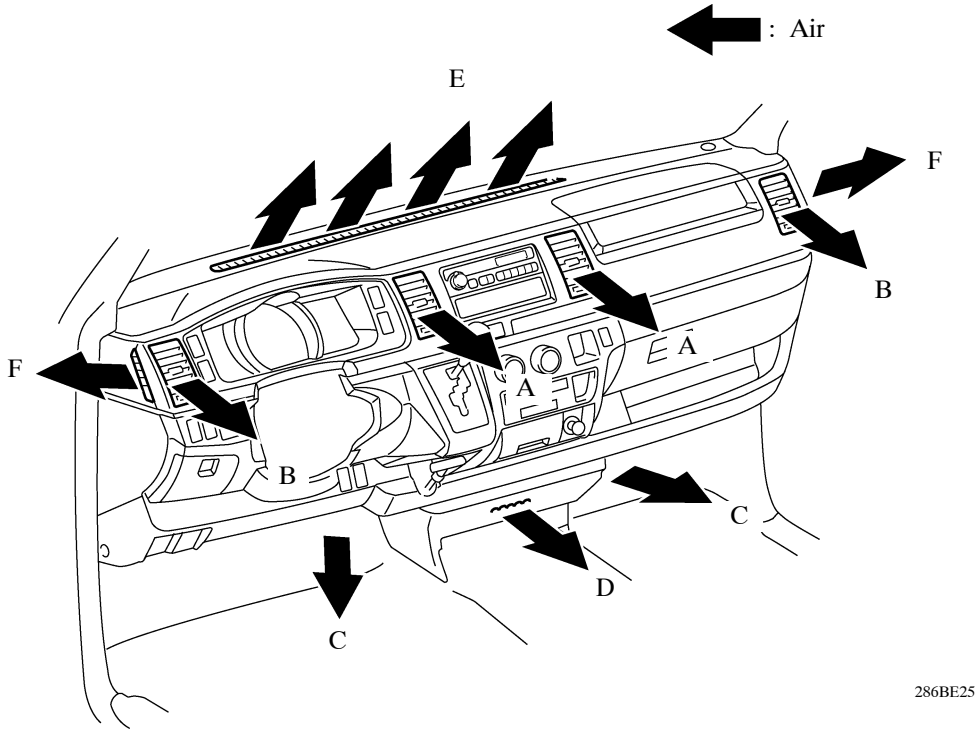


▶ Function of Main Damper ◀

Control Damper	Control Position	Damper Position	Operation
Air Inlet Control Damper	FRESH	A	Brings in fresh air.
	RECIRC	B	Recirculates internal air.
Mode Control Damper	 FACE 187BE24	C	Air blows out of the center registers and side registers.
	 BI-LEVEL 187BE25	D	Air blows out of the center registers, side registers, and foot well register ducts.

6. Air Outlets and Air Volume Rations

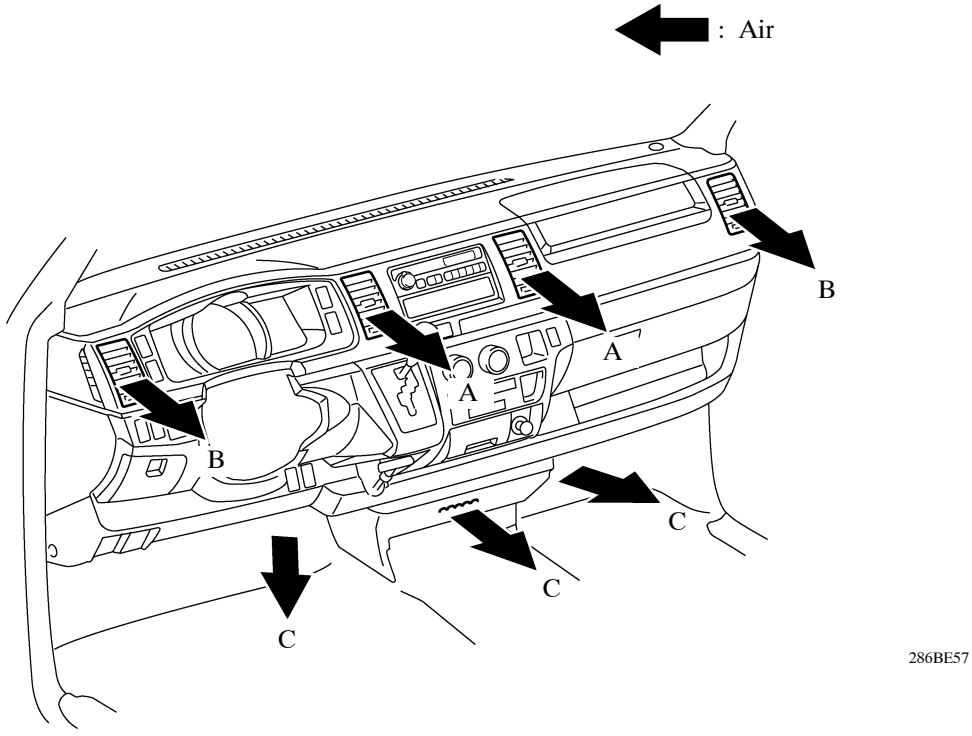
▶ Manual Air Conditioner ◀



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

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

▶ Manual Cooler ◀



Air Outlet Mode	A	B	C
	Center Face	Side Face	Foot
FACE 187BE24	◯	◯	—
BI-LEVEL 187BE25	◯	◯	○

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

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