

COOLING SYSTEM

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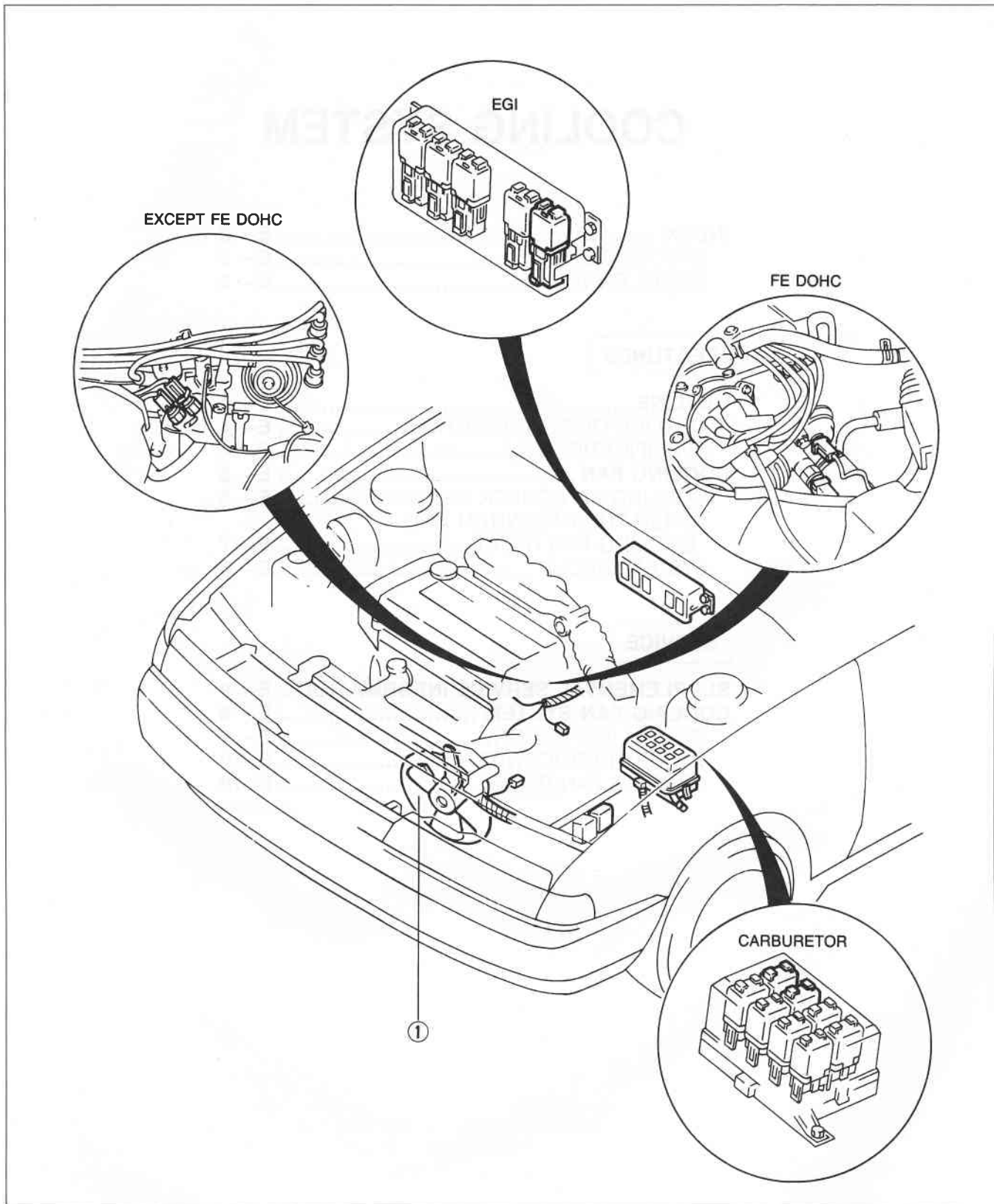
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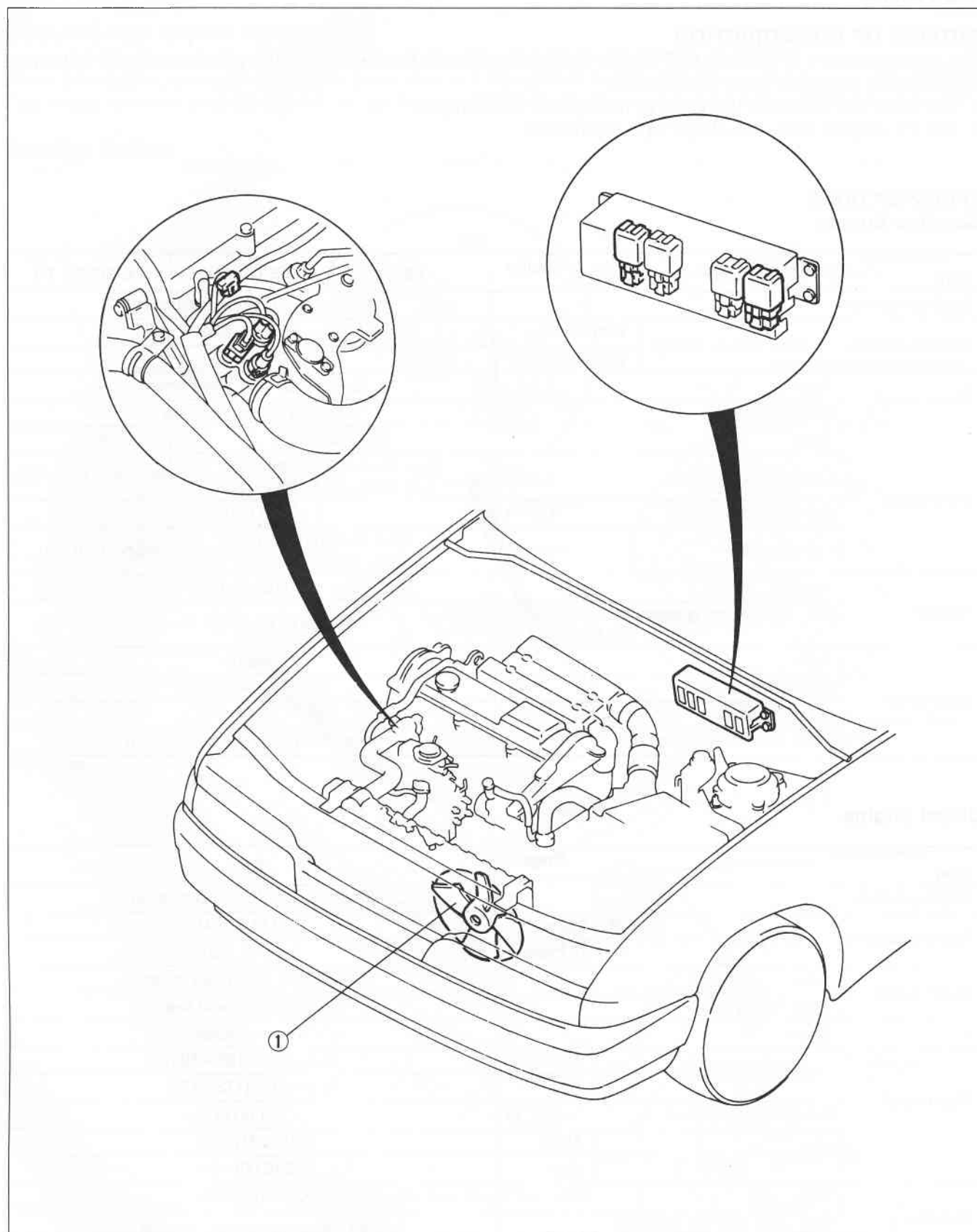
GASOLINE ENGINE



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DIESEL ENGINE



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OUTLINE

OUTLINE OF CONSTRUCTION

The cooling system in the new 626 Station Wagon is basically the same as in the previous model; however, the following changes have been made.

1. The electrical circuit of the cooling fan system is changed.
2. The F2 engine uses two-stage type thermostat.

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SPECIFICATIONS

Gasoline Engine

Item		Engine	F2	FE DOHC	FE SOHC, F8
Cooling method			Water cooled, forced circulation		
Coolant capacity	liters (US qt, Imp qt)	With heater	7.5 (7.9, 6.6)		
		Without heater	7.0 (7.4, 6.2)		
Water pump	Type		Centrifugal, timing belt driven		
	Water seal type		Unified mechanical seal		
Thermostat	Type		Wax, two-stage		Wax
	Opening temperature	°C (°F)	Main: 86.5—89.5 (188—193) Sub: 83.5—86.5 (182—188)		86.5—89.5 (188—193)
	Full-open temperature	°C (°F)	100 (212)		
	Full-open lift	mm (in)	Main: 8.0 (0.31) min. Sub: 1.5 (0.06) min.		8.5 (0.33) min.
Radiator	Type		Corrugated fin		
	Cap valve opening pressure	kPa (kg/cm ² , psi)	74—103 (0.75—1.05, 11—15)		
Cooling fan	Type		Electric		
	Capacity	W	MTX: 80, ATX: 120		
	Number of blade		4		
	Outer diameter of blade	mm (in)	MTX: 320 (12.6), ATX: 340 (13.4)		

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Diesel Engine

Item		Engine	RF
Cooling method			Water cooled, forced circulation
Coolant capacity	liters (US qt, Imp qt)	With heater	9.5 (10.0, 8.4)
		Without heater	9.0 (9.5, 7.9)
Water pump	Type		Centrifugal, timing belt driven
	Water seal type		Unified mechanical seal
Thermostat	Type		Wax, two-stage
	Opening temperature	°C (°F)	Main: 86.5—89.5 (188—193)
		Sub	78.5—81.5 (173—179)
	Full-open temperature	°C (°F)	100 (212)
	Full-open lift	mm (in)	Main: 8.0 (0.31) min.
		Sub	1.5 (0.06) min.
Radiator	Type		Corrugated fin
	Cap valve opening pressure	kPa (kg/cm ² , psi)	74—103 (0.75—1.05, 11—15)
Cooling fan	Type		Electric
	Capacity	W	120
	Number of blade		4
	Outer diameter of blade	mm (in)	340 (13.4)

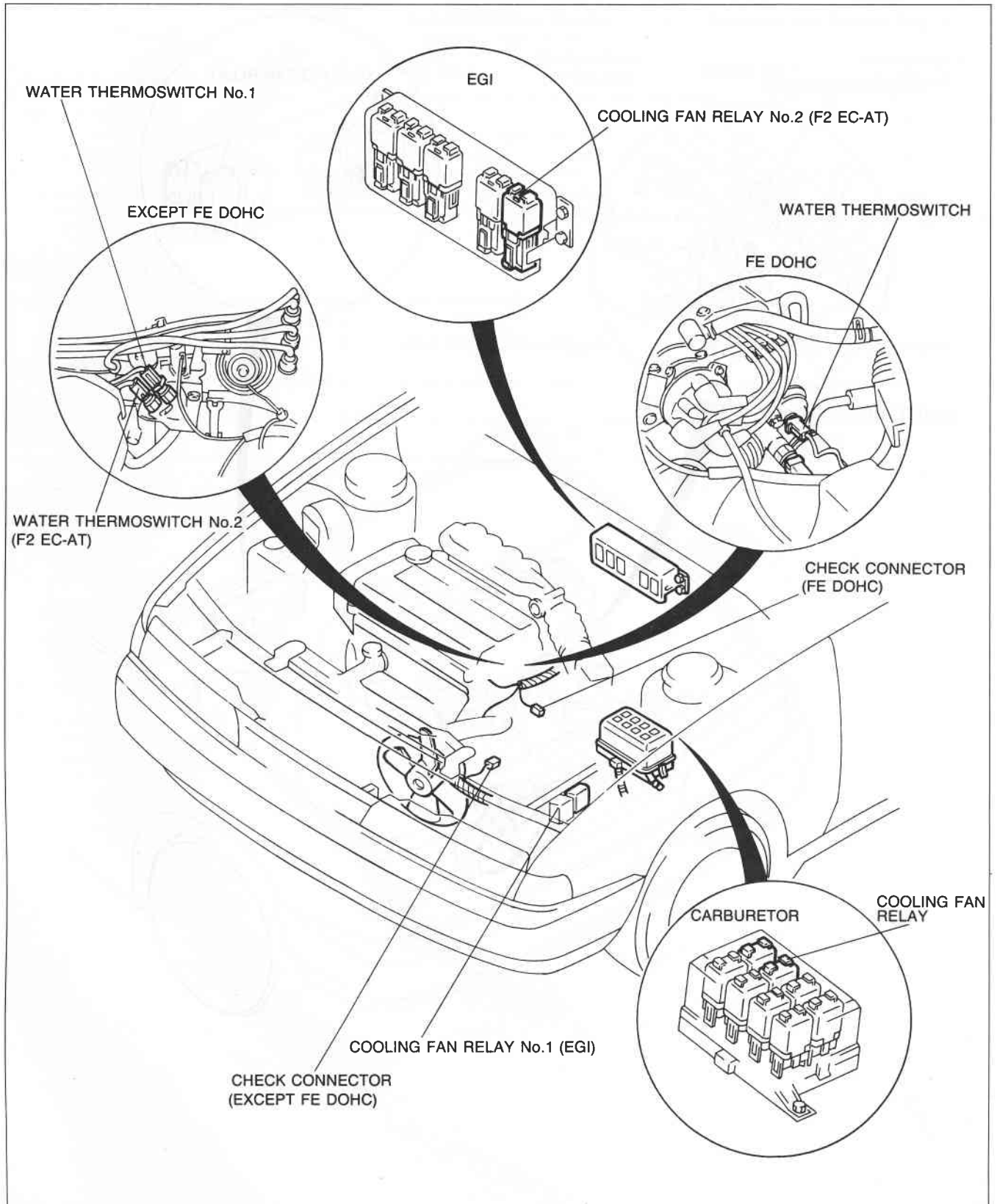
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COOLING FAN

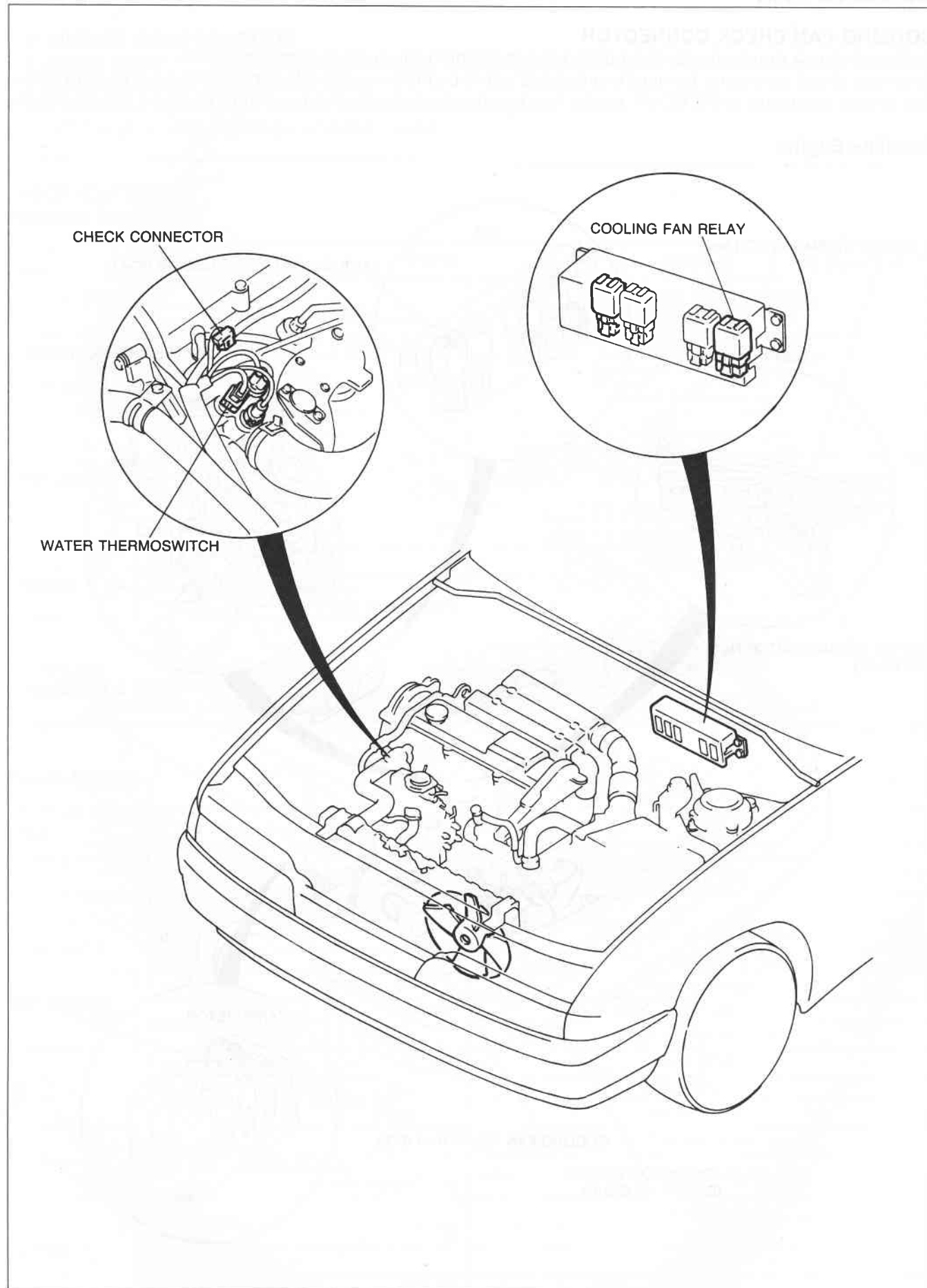
COOLING FAN CHECK CONNECTOR

A special check connector for the cooling fan is adopted for quick system inspection. When the check connector terminal is grounded with the ignition switch ON, the cooling fan should operate. The check connector of F2 EC-AT model has two terminals to check low- and high-speed fan operation.

Gasoline Engine



Diesel Engine



WATER THERMOSWITCH AND COOLING FAN RELAY

Normally-open type switches (OFF when cold) are used for the water thermostats and normally-open type relays (OFF when not energized) are used for the cooling fan relays to simplify the cooling fan circuits.

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Water Thermostat Operation Gasoline engine

Model Coolant temperature	New 626 Station Wagon		Previous 626 Station Wagon	
	Switch No.1	Switch No.2 (F2 EC-AT)	Switch No.1	Switch No.2 (F2 EC-AT)
Below 97°C (207°F)	OFF	OFF	ON	OFF
Above 97°C (207°F)	ON	OFF	OFF	OFF
Above 108°C (226°F)	ON	ON	OFF	ON

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Diesel engine

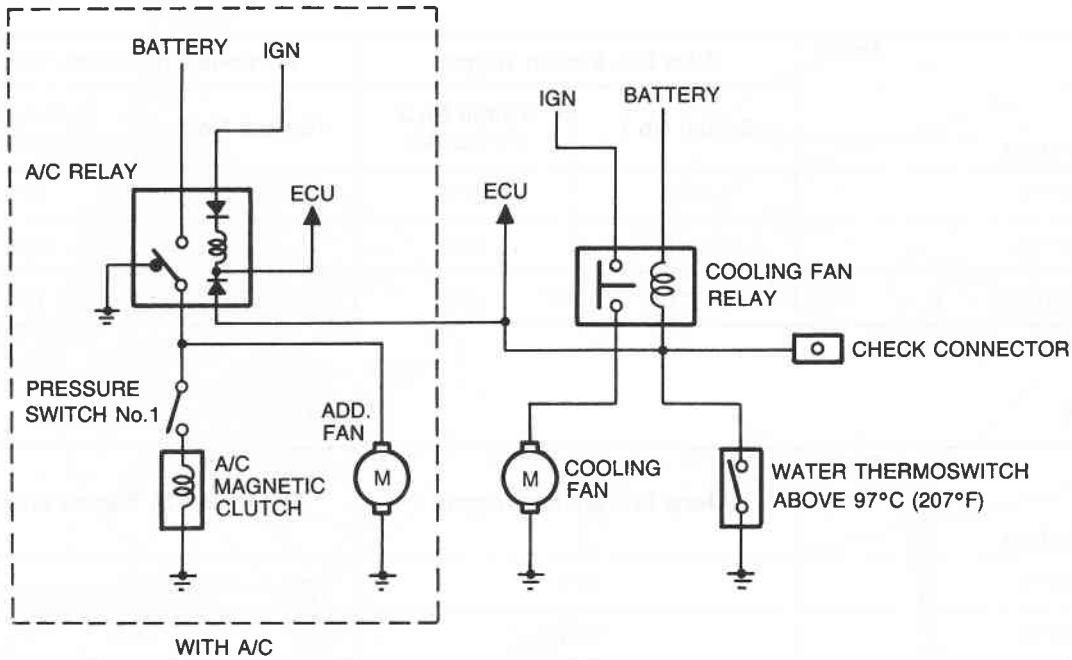
Model Coolant temperature	New 626 Station Wagon	Previous 626 Station Wagon
Below 91°C (196°F)	OFF	ON
Above 91°C (196°F)	ON	OFF

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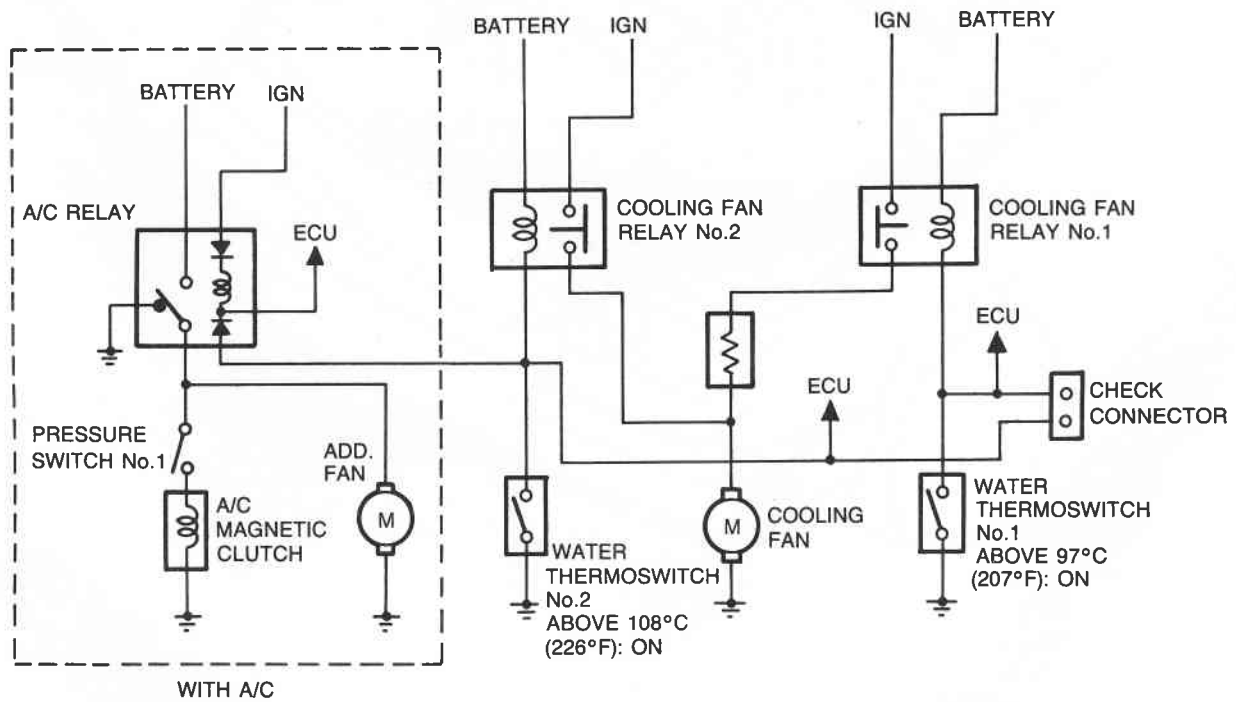
SYSTEM CIRCUIT

Gasoline Engine

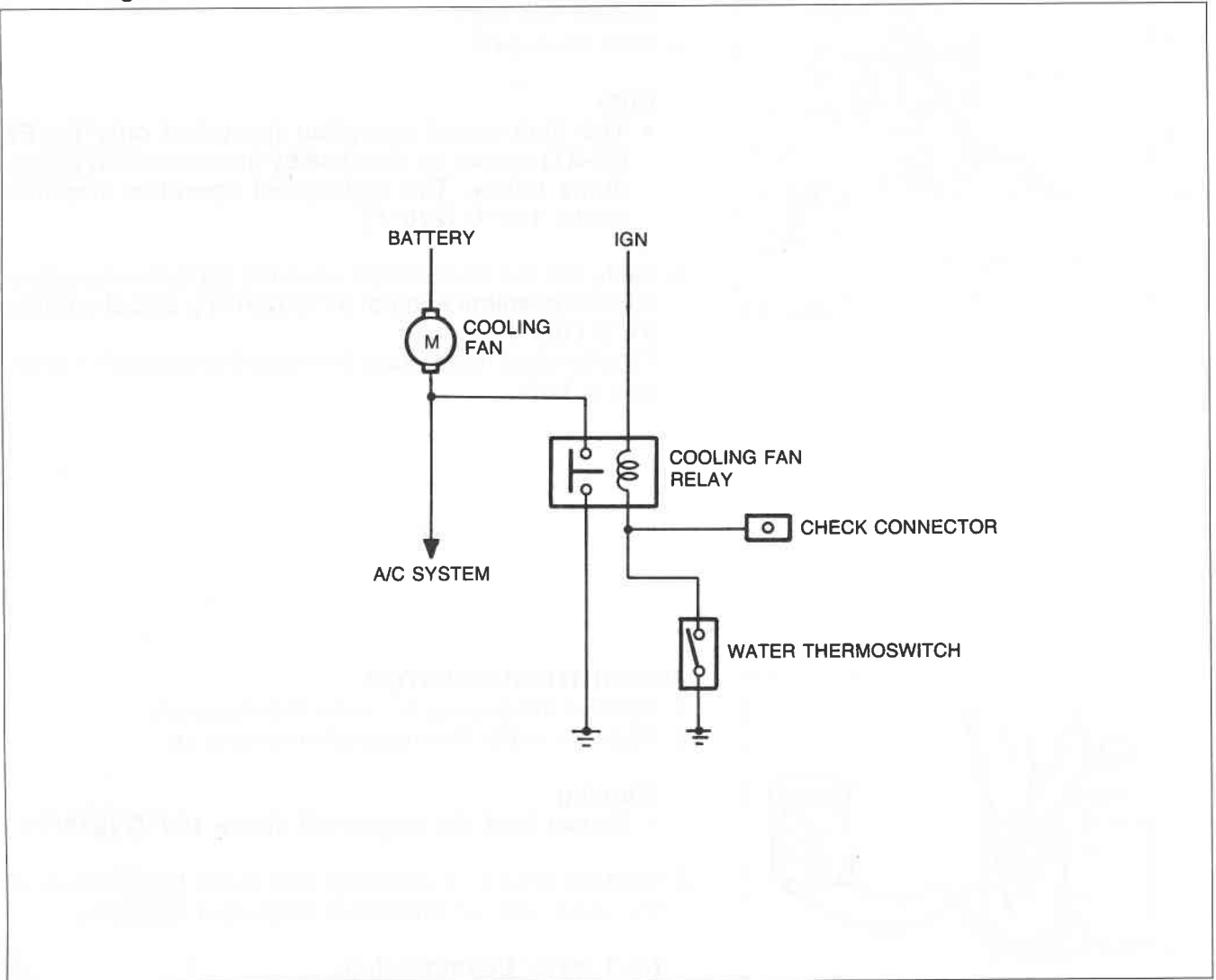
EXCEPT F2 EC-AT



F2 EC-AT



Diesel Engine



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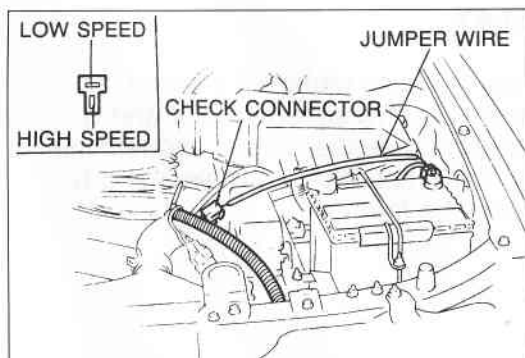
SUPPLEMENTAL SERVICE INFORMATION

The following points shown in this section are changed in comparison with the Mazda 626 Workshop Manual 7/87 (No.1163-10-87G) and the Mazda 626 Station Wagon Workshop Manual Supplement 2/88 (1182-10-88B).

Cooling fan system

- System inspection procedure
- Water thermostatic switch specification
- Cooling fan relay inspection procedure

96G0EX-506

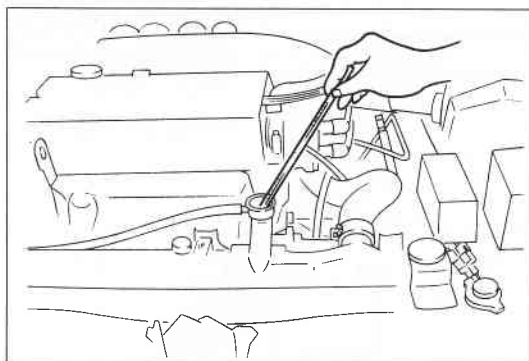


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COOLING FAN SYSTEM

SYSTEM INSPECTION

1. Ground the check connector to a ground with a jumper wire.
2. Turn the ignition switch ON and verify that the fan operates. If the fan does not operate, inspect the cooling fan system components and harness.



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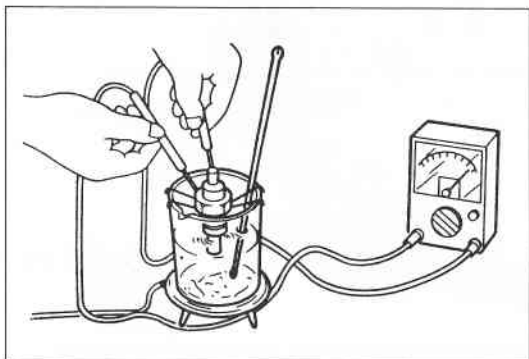
3. Remove the radiator cap and place a thermometer in the radiator filler neck.
4. Start the engine.

Note

- The high-speed operation (provided only for F2 EC-AT) cannot be checked by the inspection procedures below. The high-speed operation requires above 108°C (226°F).

5. Verify that the fan operates when the coolant temperature reaches **gasoline engine: 97°C (207°F), diesel engine: 91°C (196°F)**.

If the fan does not operate, the water thermostatic switch is probably at fault.



96E0EX-017

WATER THERMOSTATIC SWITCH

1. Remove the cooling fan water thermostatic switch.
2. Place the water thermostatic switch in engine oil.

Warning

- Do not heat the engine oil above 120°C (248°F).

3. Heat the engine oil gradually, and check for continuity of the switch with an ohmmeter. Replace if necessary.

No.1 water thermostatic switch:

Gasoline engine over 97°C (207°F)

Diesel engine over 91°C (196°F)

OFF → ON

No.2 water thermostatic switch (F2 EC-AT):

over 108°C (226°F) OFF → ON

Caution

- Do not use sealing tape.

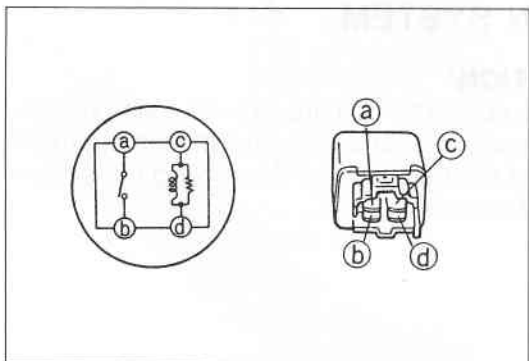
4. Install the water thermostatic switch and a new O-ring.

Tightening torque:

5.9—8.8 N·m (60—90 cm·kg, 52—78 in·lb)

COOLING FAN RELAY**Inspection**

1. Check for continuity between terminals c and d.
2. Check for no continuity between terminals a and b.
3. Apply battery voltage between terminal c and terminal d, and check for continuity between terminals a and b.
4. If necessary, replace the fan relay.



96E0EX-019