FUEL AND EMISSION CONTROL SYSTEMS (CARBURETOR)

96G0F1-501

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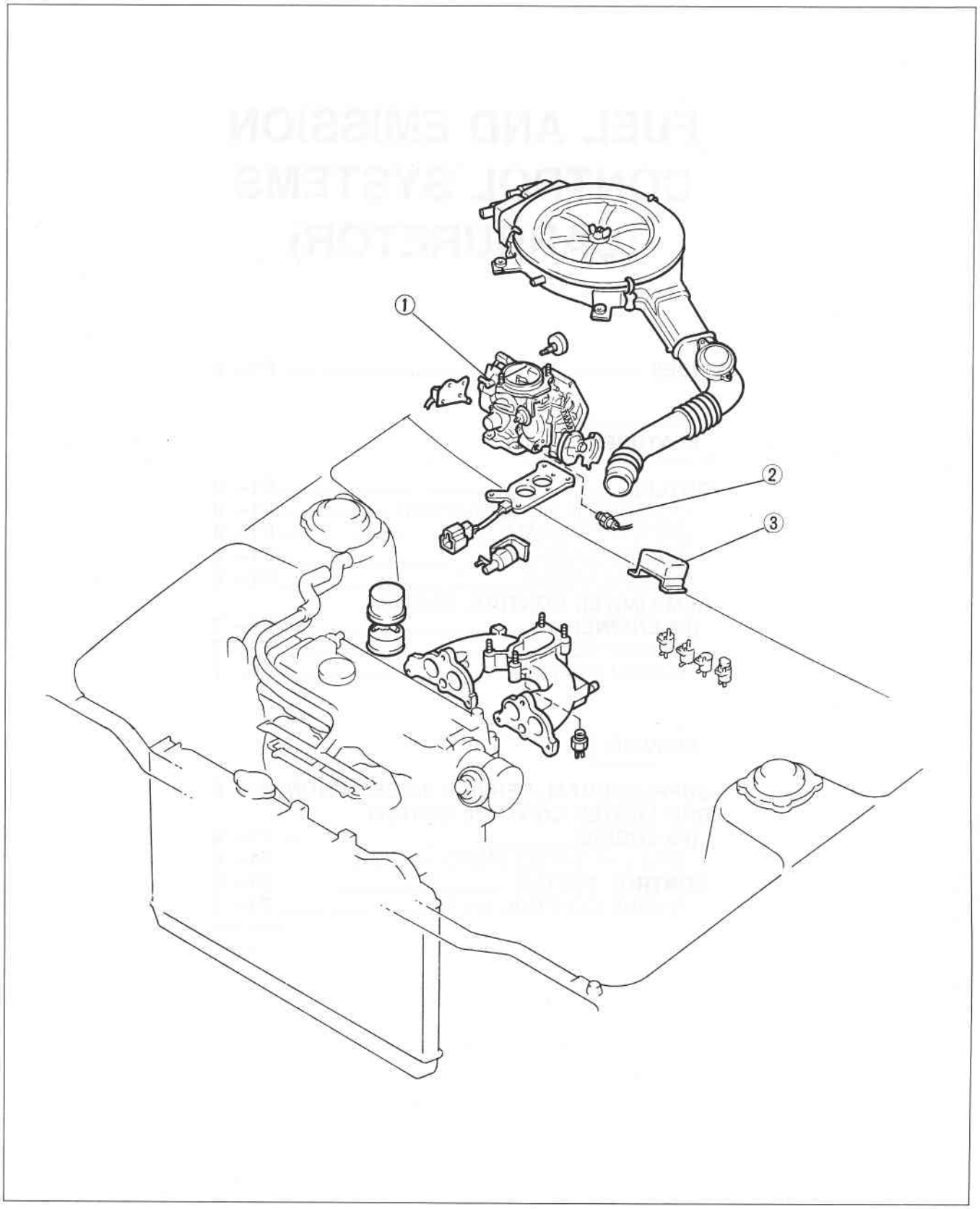
F8 ENGINE



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1. Carburetor
2. RPM limiter solenoid valve
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3. Engine control unit
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OUTLINE

OUTLINE OF CONSTRUCTION

The fuel and emission control system of the new 626 Station Wagon is basically the same as that of the previous model, however some modifications have been made to the F8 engine system.
A comparison of the major parts of the new F8 engines model and the previous F8 engines model are as follows.

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F8 Engine

Item		Application		Remarks
		New model	Previous model	
Fuel system	Carburetor	○	○	Specification changed Shape changed
RPM Limiter control system	RPM Limiter solenoid valve	○	X	For drivability

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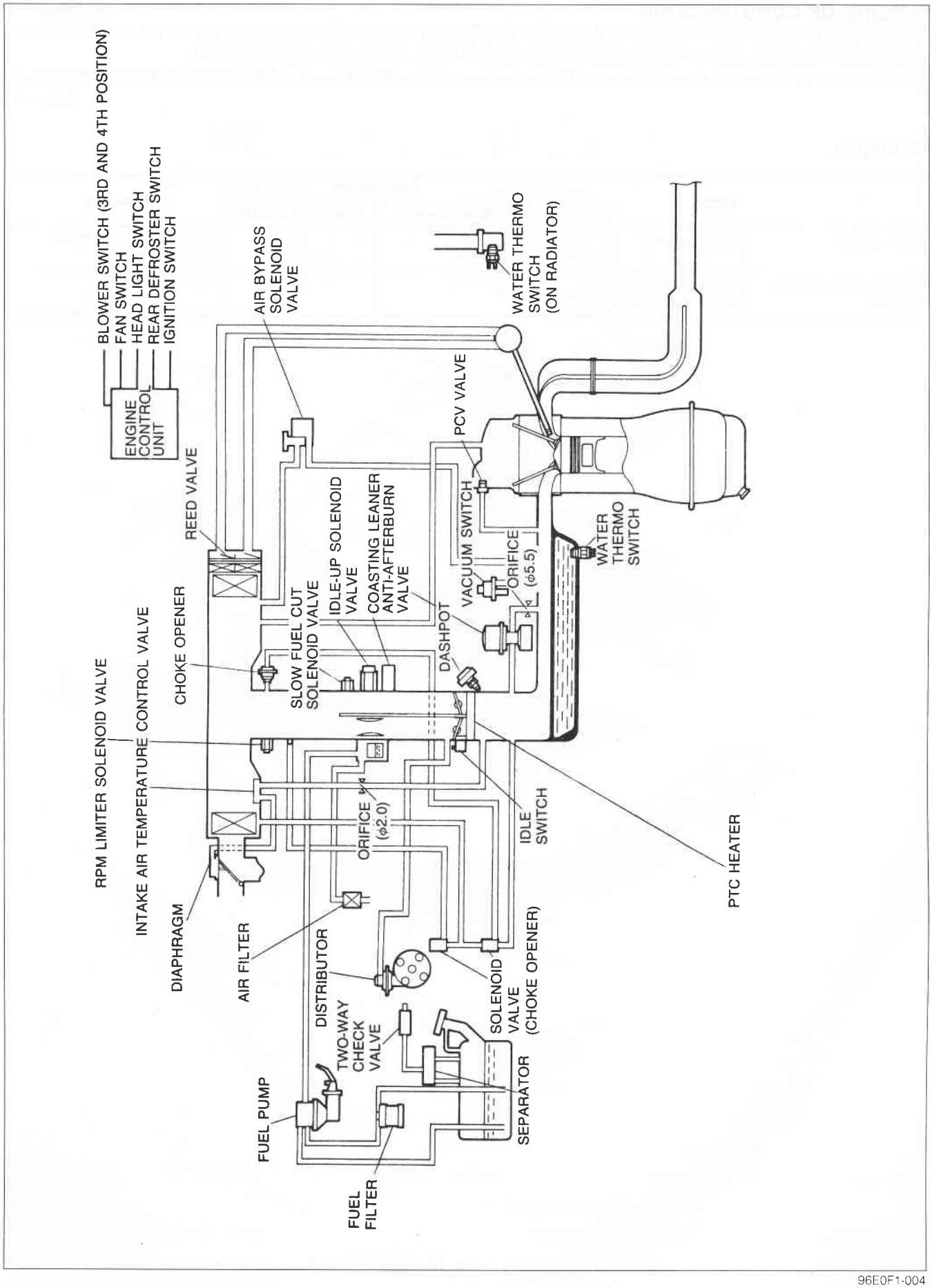
SYSTEM DIAGRAM
F8 Engine



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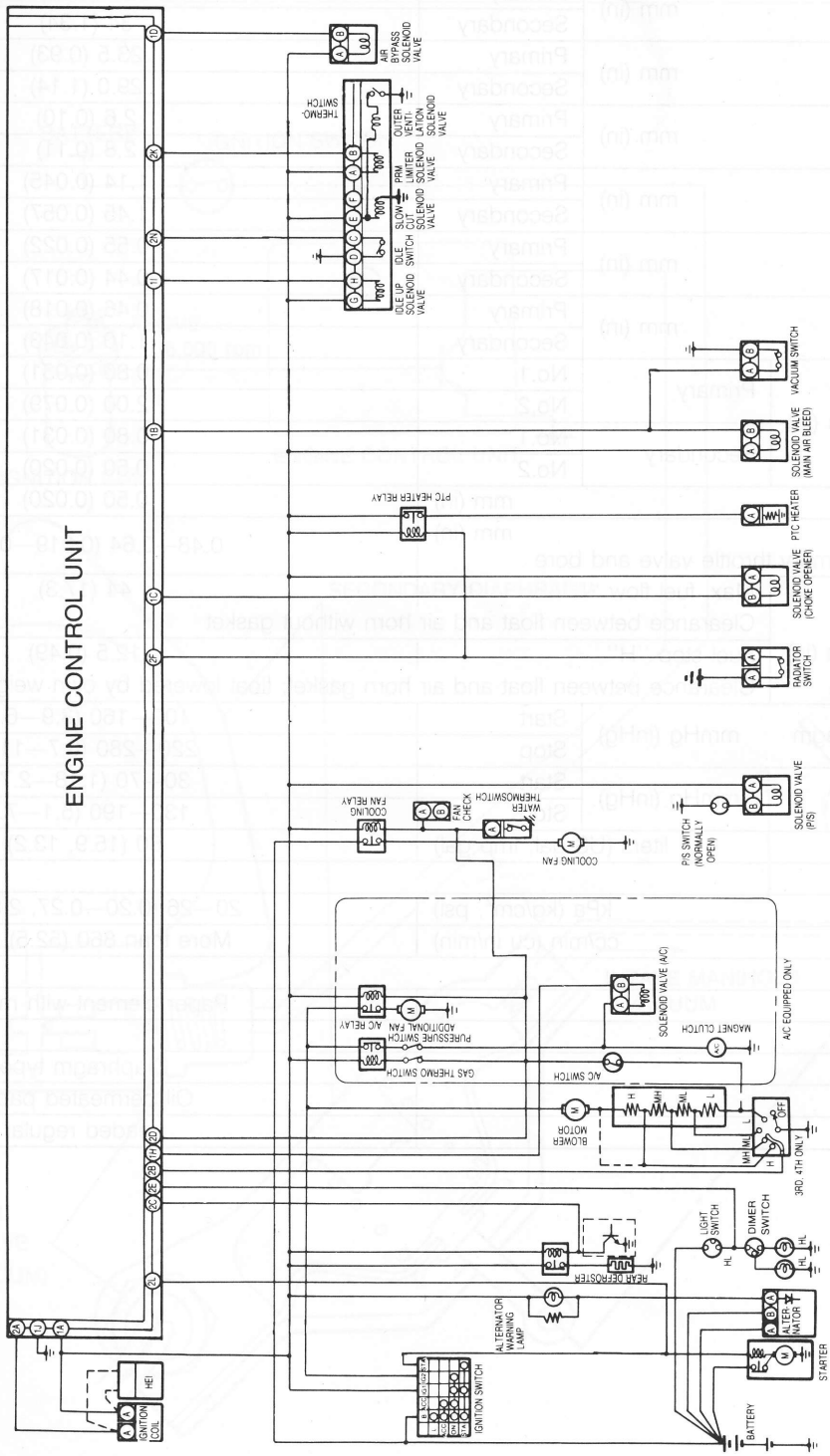
WIRING DIAGRAM
F8 Engine



SECIFICATIONS

Item \ Engine			F8
Idle speed		rpm	800 $^{+50}_{-0}$
CO concentration		%	2.0 ± 0.5
Carburetor			
Type			Down draft, two barrel
Throat diameter	mm (in)	Primary	30 (1.18)
		Secondary	34 (1.34)
Venturi diameter	mm (in)	Primary	23.5 (0.93)
		Secondary	29.0 (1.14)
Main nozzle	mm (in)	Primary	2.6 (0.10)
		Secondary	2.8 (0.11)
Main jet	mm (in)	Primary	1.14 (0.045)
		Secondary	1.45 (0.057)
Main air bleed	mm (in)	Primary	0.55 (0.022)
		Secondary	0.44 (0.017)
Slow jet	mm (in)	Primary	0.46 (0.018)
		Secondary	1.10 (0.043)
Slow air bleed mm (in)	Primary	No.1	0.80 (0.031)
		No.2	2.00 (0.079)
	Secondary	No.1	0.80 (0.031)
		No.2	0.50 (0.020)
Power jet		mm (in)	0.50 (0.020)
Fast idle adjustment Clearance between primary throttle valve and bore		mm (in)	0.48—0.64 (0.019—0.025)
Float level adjustment mm (in)	Max. fuel flow "L" Clearance between float and air horn without gasket		44 (17.3)
	Fuel stop "H" Clearance between float and air horn gasket; float lowered by own weight		12.5 (0.49)
Choke breaker diaphragm		mmHg (inHg)	Start: 100—160 (3.9—6.3) Stop: 220—280 (8.7—11.0)
Choke opener		mmHg (inHg)	Start: 30—70 (1.18—2.76) Stop: 130—190 (5.1—7.5)
Fuel tank capacity		liters (US gal, Imp gal)	60 (15.9, 13.2)
Fuel pump			
Delivery pressure		kPa (kg/cm^2, psi)	20—26 (0.20—0.27, 2.8—3.8)
Feeding capacity		cc/min (cu in/min)	More than 860 (52.5) at idle
Fuel filter			
Type			Paper element with magnet
Air cleaner			
Fresh-Hot switching			Diaphragm type
Element type			Oil permeated paper
Fuel specification			Leaded regular

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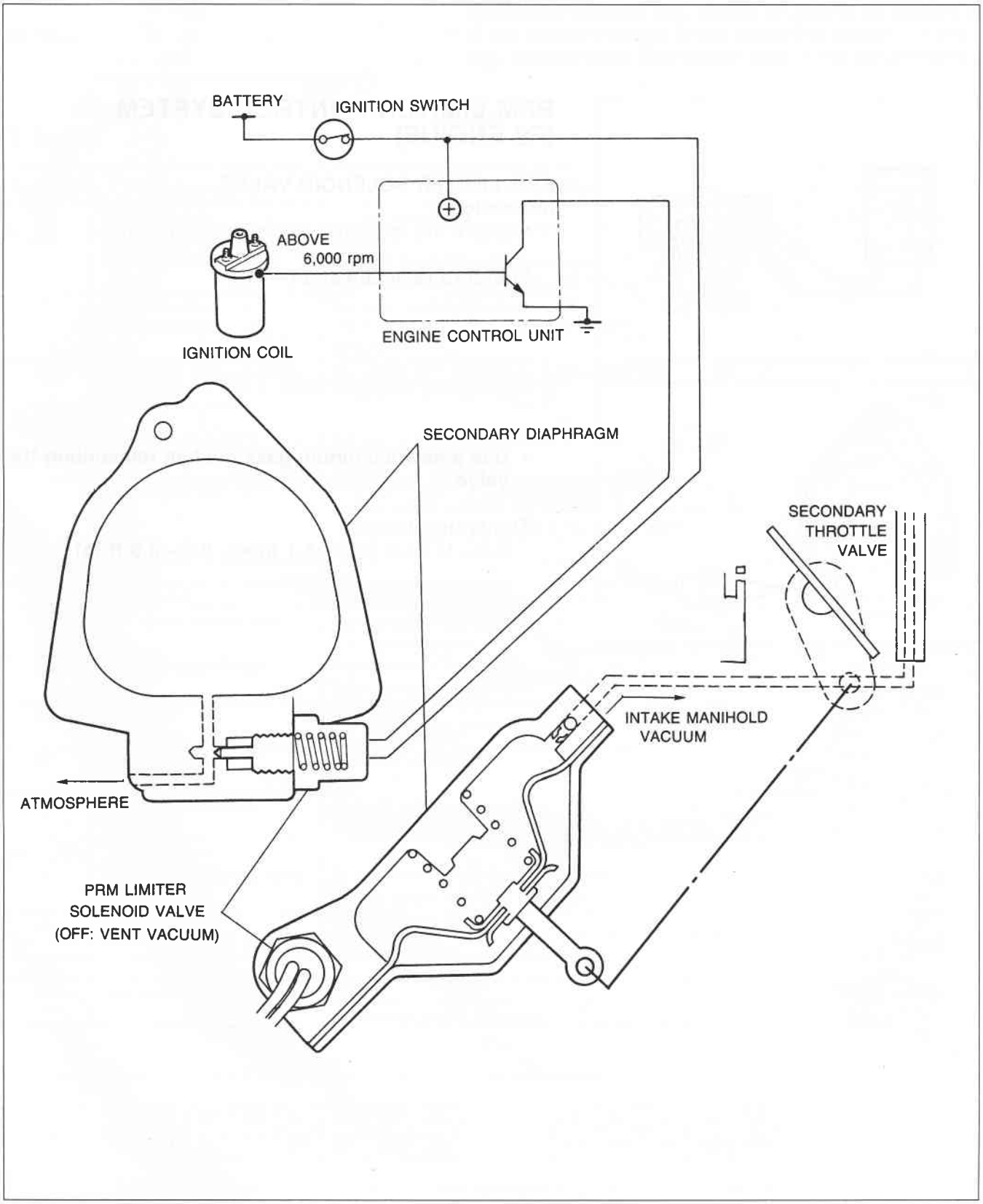
RPM LIMITER CONTROL SYSTEM (F8 ENGINE)

DESCRIPTION

This system operates when engine speed exceeds approx. 6,000 rpm. If the engine speed exceeds the specified speed, the RPM limiter solenoid valve opens the passage from the secondary diaphragm to atmosphere to limit rpm to prevent damage of the engine by overspeeding.

SYSTEM OPERATION



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SUPPLEMENTAL SERVICE INFORMATION

The following points shown in this section are changed in comparison to Mazda 626 Workshop Manual (1163-10-87G) and Mazda 626 Station Wagon Workshop Manual Supplement (1182-10-88B).

RPM limiter control system (F8 engine)
- Newly equipped RPM limiter control system

Control system (F8 engine)
- Inspection of engine control unit terminal voltage

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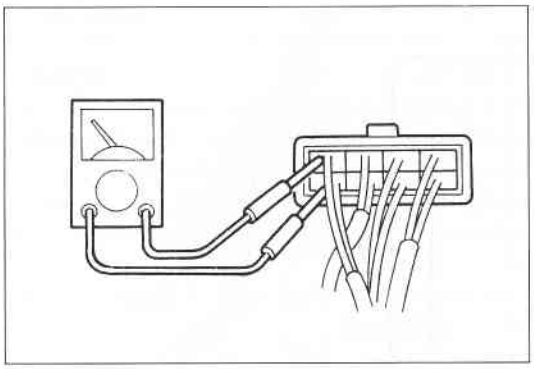

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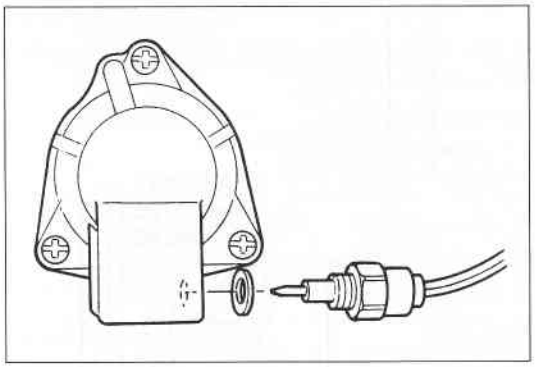

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RPM LIMITER CONTROL SYSTEM (F8 ENGINE)

RPM LIMITER SOLENOID VALVE

Inspection

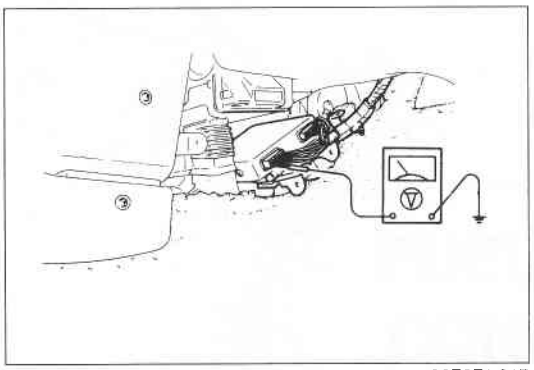
1. Measure the resistance of the solenoid valve.

   Standard resistance: 34—41Ω

2. Replace the solenoid valve, if not as specified.

   Note
   - **Use a new aluminum gasket when reinstalling the valve.**

   Tightening torque:
   7.8—11 N-m (0.8—1.1 m-kg, 5.8—8.0 ft-lb)



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CONTROL SYSTEM

ENGINE CONTROL UNIT

Check the engine control unit terminal voltages with a voltmeter.

Caution

- **Warm up the engine before checking the control unit.**
- **If the proper voltage is not obtained, check the wiring, connections and finally, check the component.**

F8 Engine

Terminal	Connected to	Condition	Voltage
1A	Ignition switch	Ignition switch ON.	Battery voltage
1B	Solenoid valve (Main air bleed control)	Others	Battery voltage
		Radiator coolant temperature below 17°C (63°F) or intake manifold vacuum more than 300 mmHg (11.8 inHg)	Below 1.5V
1C	Solenoid valve (Choke opener)	Radiator coolant temperature below 17°C (63°F) or during cranking and 27 sec. after engine starts	Below 1.5V
		Others	Battery voltage
1D	Air bypass solenoid valve	Idle switch OFF and engine speed above approx. 2,300 rpm	Below 1.5V
		Others	Battery voltage
1E,1F,1G	—	—	—
1H	Solenoid valve (A/C)	A/C switch ON and engine speed below approx. 1,500 rpm	Below 1.5V
		Others	Battery voltage
1I	Idle-up solenoid valve	Headlight switch ON, rear defroster switch ON, fan speed control switch is 3rd or 4th position, A/C operated, or engine coolant temperature below 17°C (63°F)	Below 1.5V
		Others	Battery voltage
1J	Ground	—	Below 1.5V
2A	Ignition coil	Ignition switch ON or engine running	Battery voltage
2B	Fan speed control switch	Fan speed control switch in 3rd or 4th position	Below 1.5V
		Fan speed control switch OFF	Battery voltage
2C	Rear defroster switch	Rear defroster switch ON	Below 1.5V
		Rear defroster switch OFF	Battery voltage
2D	A/C switch	A/C operated	Below 1.5V
		A/C not operated	Battery voltage
2E	Headlight switch	Headlight switch OFF	Below 1.5V
		Headlight switch ON	Battery voltage
2F	Water thermoswitch (Radiator)	Radiator coolant temperature below 17°C (63°F)	Below 1.5V
		Radiator coolant temperature above 17°C (63°F)	Battery voltage
2G,2H,2I,2J	—	—	—
2K	RPM limter selenoid valve	Engine speed more than 6,000 rpm	Battery voltage
		Engine speed less than 6,000 rpm	Below 1.5V
2L	Ignition switch (START position)	Ignition switch ON	Below 1.5V
		Cranking	Battery voltage
2M	—	—	—
2N	Idle switch	Idling	Battery voltage
		Accelerator pedal depressed	Below 1.5V

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2M	2K	2I		2E	2C	2A
2N	2L	2J	2H	2F	2D	2B

1I			1C	1A
1J	1H		1D	1B