[M100] EMISSION CONTROL SYSTEM AND VACUUM FITTING 2-1 1. System Application

1. System Application

There are three emission control systems which are as follows:

- Crankcase emission control system
- Exhaust emission control system
 - Three-way catalyst system
 A/F control system

 - Ignition control system
 - EGR system

- Evaporative emission control system
 ORVR (On-board Refueling Vapor Recovery) System

Item			Main components	Function
Crankcase emission control system			PCV valve	Draws blow-by gas into intake manifold from crankcase and burns it together with air-fuel mixture. Amount of blow-by gas to be drawn in is controlled by intake manifold pressure.
Exhaust emission control system	Catalyst system	Front	Three-way catalyst	Oxidizes HC and CO contained in exhaust gases as well as reducing NOx.
		Rear		
	A/F control system		ECM (Engine control module)	Receives input signals from various sensors, compares signals with stored data, and emits a signal for optimal control of air-fuel mixture ratio.
			Oxygen sensor	Detects density of oxygen contained exhaust gases.
			Mass air flow sensor	Detects amount of intake air.
			Throttle position sensor	Detects throttle position.
	Ignition control system		ECM	Receives various signals, compares signals with basic data stored in memory, and emits a signal for optimal control of ignition timing.
			Crankshaft position sensor	Detects engine speed (Revolution).
			Camshaft position sensor	Detects reference signal for combustion cylinder discrimination.
			Engine coolant tem- perature sensor	Detects coolant temperature.
			Knock sensor	Detects engine knocking.
EGR system			ECM	Receives various signals, compares signals with basic data stored in memory, and emits ON-OFF signal for EGR solenoid valve.
			EGR valve	Controls amount of exhaust gas to send to intake manifold.
			EGR solenoid valve	Controls EGR valve operation for ON-OFF signal emitted from ECM.
			BPT (Back pressure transducer)	Controls the operation of EGR valve according to the engine load.
Evaporative emission control system			Canister	Absorbs evaporative gas which occurs in fuel tank when engine stops, and sends it to combustion chambers for a complete burn when engine is started. This prevents HC from being discharged into atmosphere.
			Purge control solenoid valve	Receives a signal from ECM and controls purge of evaporative gas absorbed by canister.
			Pressure control solenoid valve	Receives a signal from ECM and controls evaporative gas pressure in fuel tank.
			Vent control solenoid valve	Closes the evaporation line by receiving a signal from ECM to check the evaporation gas leak.
ORVR system			Vent valve	Controls evaporation pressure in fuel tank.
			Drain valve	Closes the evaporation line by receiving a signal from ECM to check the evaporation gas leak.