

## SYSTEM OVERVIEW

Emission Control (Aux. Emission Control Devices)

### 1. System Overview

There are three emission control systems which are as follows:

- Crankcase emission control system
- Exhaust emission control system
  - Catalyst system
  - Air/fuel (A/F) control system
  - Ignition control system
- Evaporative emission control system
  - On-board refueling vapor recovery (ORVR) system

Item		Main components	Function	
Crankcase emission control system		Positive crankcase ventilation (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	Three-way catalyst system	Front	Three-way catalyst	Oxidizes HC and CO contained in exhaust gases as well as reducing NOx.
		Rear		
	Air/fuel (A/F) control system	Engine control module (ECM)	Receives input signals from various sensors, compares signals with stored data, and emits a signal for optimal control of air-fuel mixture ratio.	
		Front oxygen (A/F) sensor	Detects quantity of oxygen contained exhaust gases.	
		Rear oxygen sensor	Detects density of oxygen contained exhaust gases.	
		Throttle position sensor	Detects throttle opening.	
		Intake air pressure sensor	Detects absolute pressure of intake manifold.	
		Intake air temperature sensor	Detects intake air temperature of air cleaner case.	
	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 temperature sensor	Detects coolant temperature.	
Evaporative emission control system	Knock sensor	Detects engine knocking.		
	Canister	Absorbs evaporative gas which occurs in fuel tank when engine stops, and releases 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.		
ORVR system	Pressure control solenoid valve	Controls evaporation pressure in fuel tank.		
	Vent valve	Closes the port to the canister when the fuel tank is full of fuel.		
ORVR system	Drain valve	Closes the evaporation line by receiving a signal from ECM to check the evaporation gas leak.		

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**MEMO**