

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
 - Three-way catalytic converter
 - Air/fuel (A/F) control system
 - Ignition control system
- Evaporative emission control system

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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	Catalytic converter	Pre	Catalytic converter Oxidizes HC and CO contained in exhaust gases as well as reducing NOx.	
		Front		
		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 density of oxygen contained exhaust gases.
			Rear oxygen sensor	Detects density of oxygen contained in exhaust gases.
			Throttle position sensor	Detects throttle opening.
			Manifold absolute pressure sensor	Detects absolute pressure of intake manifold.
			Mass air flow and intake air temperature sensor	Detects amount of intake air.
				Detects intake air temperature at 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.	
		Knock sensor	Detects engine knocking.	
Evaporative emission control system		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.	
		Pressure control solenoid valve	Receives a signal from ECM and controls evaporative gas pressure in fuel tank.	
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.	