FUEL SYSTEM 1890-01

GENERAL INFORMATION

1. SPECIFICATIONS

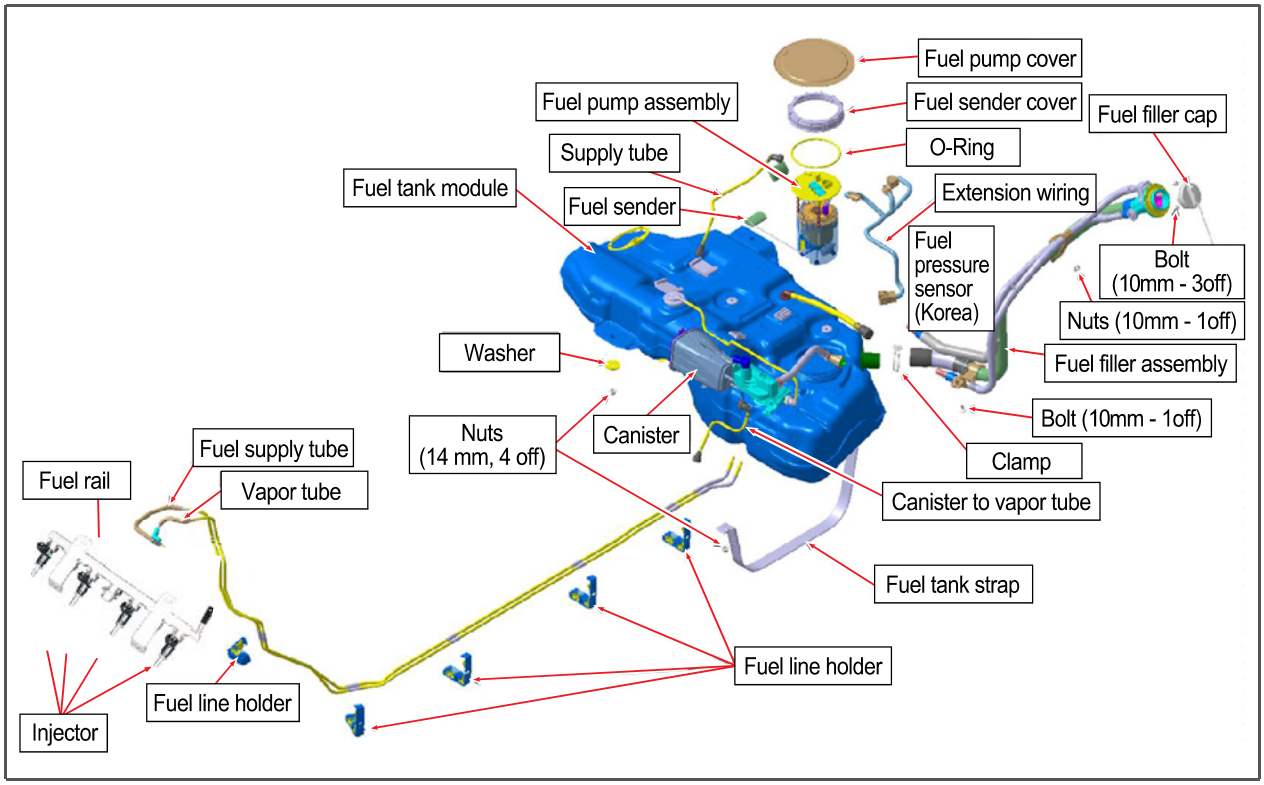
Category		Specifications
Fuel		Gasoline
Fuel tank	Capacity	47 L
	Material	Plastic
Fuel filter	Type	Micro paper type
	Location	Built in the fuel pump
	Service interval	Inspect every 30000 km (if using poor quality of fuel, replace every 50000 km)
Low pressure fuel pump	Type	Built in the tank, electric
	Drive	Electric motor
	Fuel pressure	3.8 bar (110 L/H)
	Current consumption	6.5 A (12 V, 3.8 bar)
Fuel pressure regulator	Type	Built in the fuel pump
	Fuel pressure	3.8 ± 0.05 bar
	Remaining pressure in 30 minutes after key OFF:	2.1 bar or higher
Injector	Injection holes	4 holes
	Component resistance	12 Ω ± 5%
	Rated operating mass flow	2.60 g/sec
	Injector type	Deka 7

OVERVIEW AND OPERATING PROCESS

1. OVERVIEW

The fuel system consists of fuel tank, fuel pipe line, fuel filter, fuel pump, fuel pressure regulator, injectors, fuel rail. The fuel system is a returnless control type system in which the fuel pressure regulator is built in the fuel pump. This system is controlled by the engine ECU and each injector of the system injects the fuel. The system also has a fuel evaporative control system which forces or blocks the vapor gas stored in the canister to the combustion chamber using the operation of purge control solenoid valve based on the engine load condition.

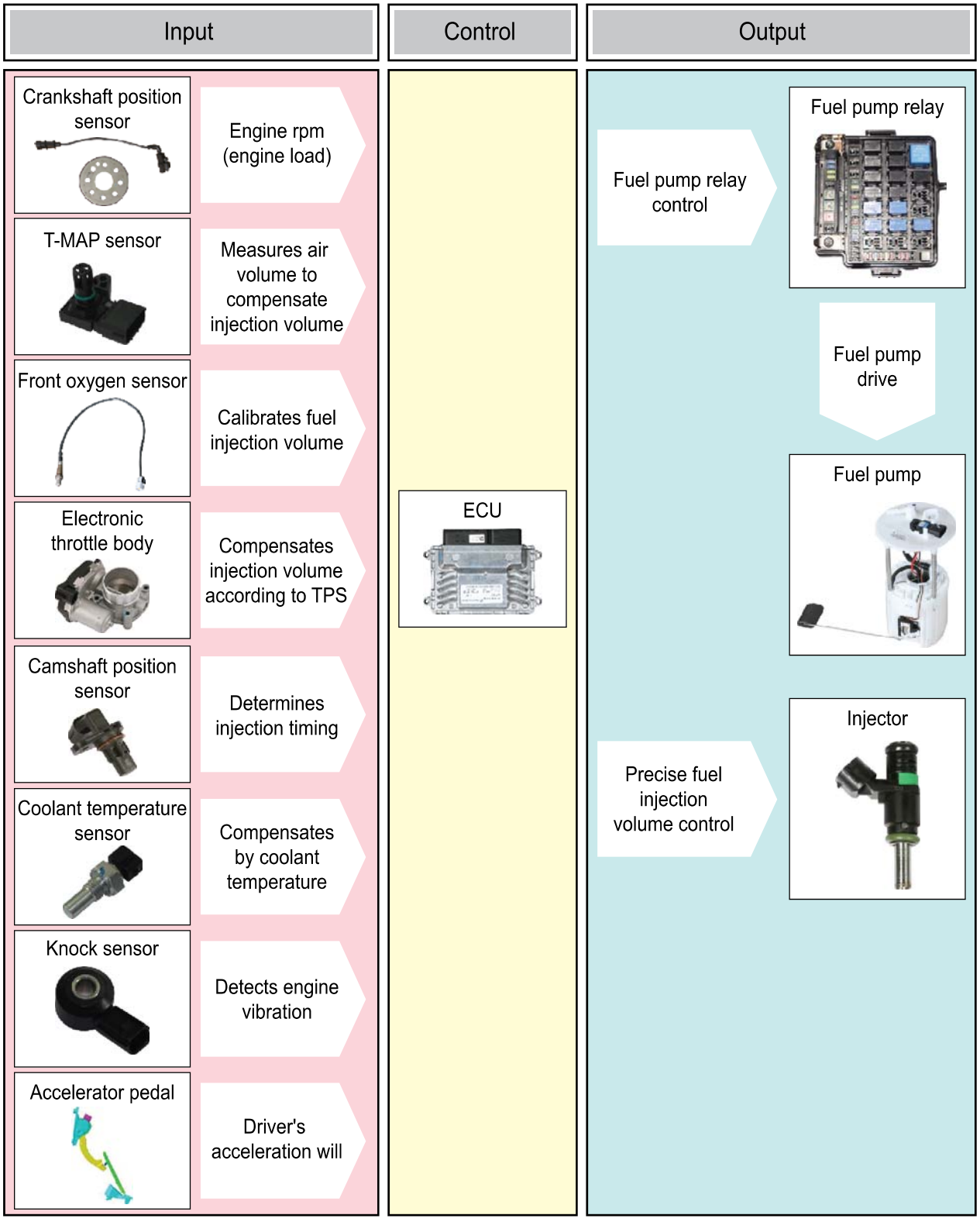
2. COMPONENTS



Modification basis	
Application basis	
Affected VIN	

3. OPERATING PROCESS

The ECU determines fuel injection volume and injection timing based on the engine condition and optimizes the engine operating conditions to reduce the emissions.

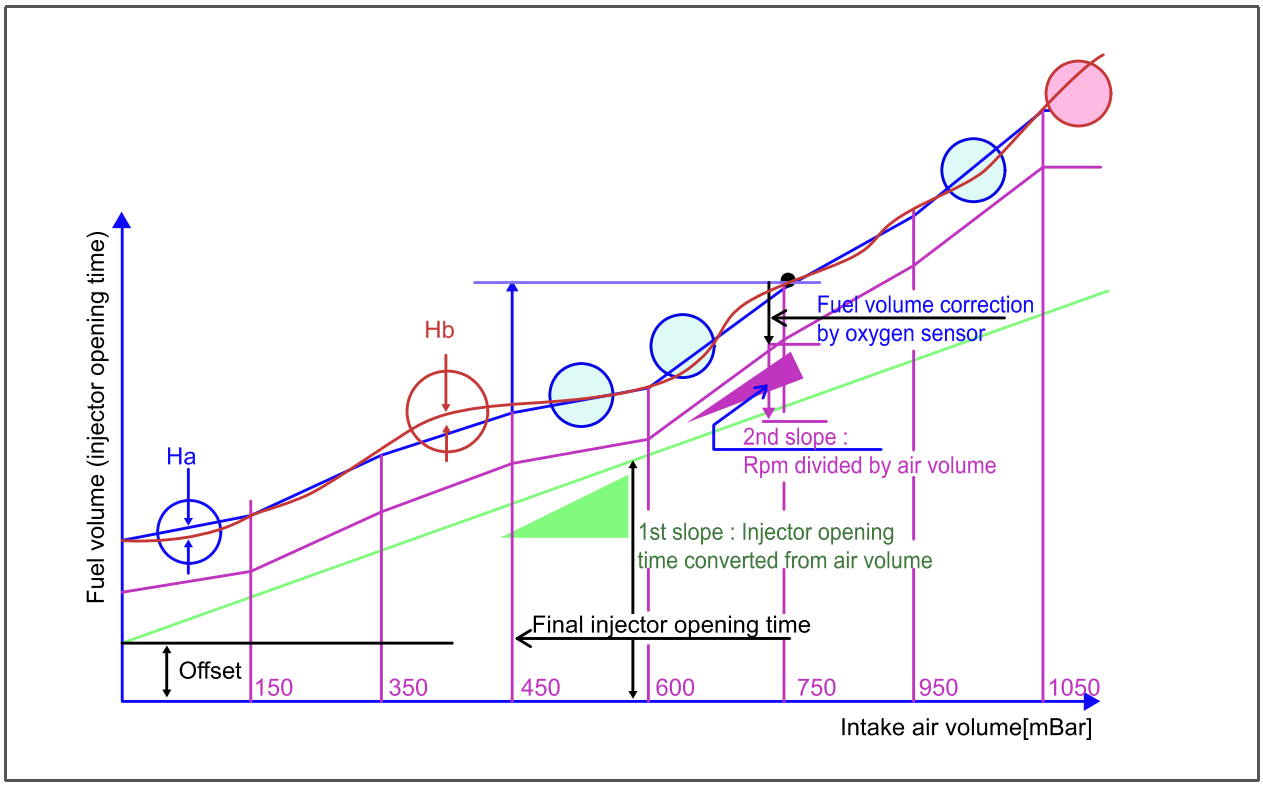


▶ Basic mapping

- **Stepped control**
  The ECU calculates proper injection volume and timing by considering various parameters to achieve the optimal combustion at each stage of operation.
- **Starting injection volume control**
  The fuel injection volume during initial starting is calculated by considering the temperature and engine cranking speed. The starting injection means the injection during the period from when the ignition switch is turned ON until when the engine rpm reaches to the allowable minimum speed.

Driving mode control

- The fuel injection volume during normal driving is calculated based on the accelerator pedal travel and engine rpm and the drive map is used to match the drivers inputs with optimal engine power.



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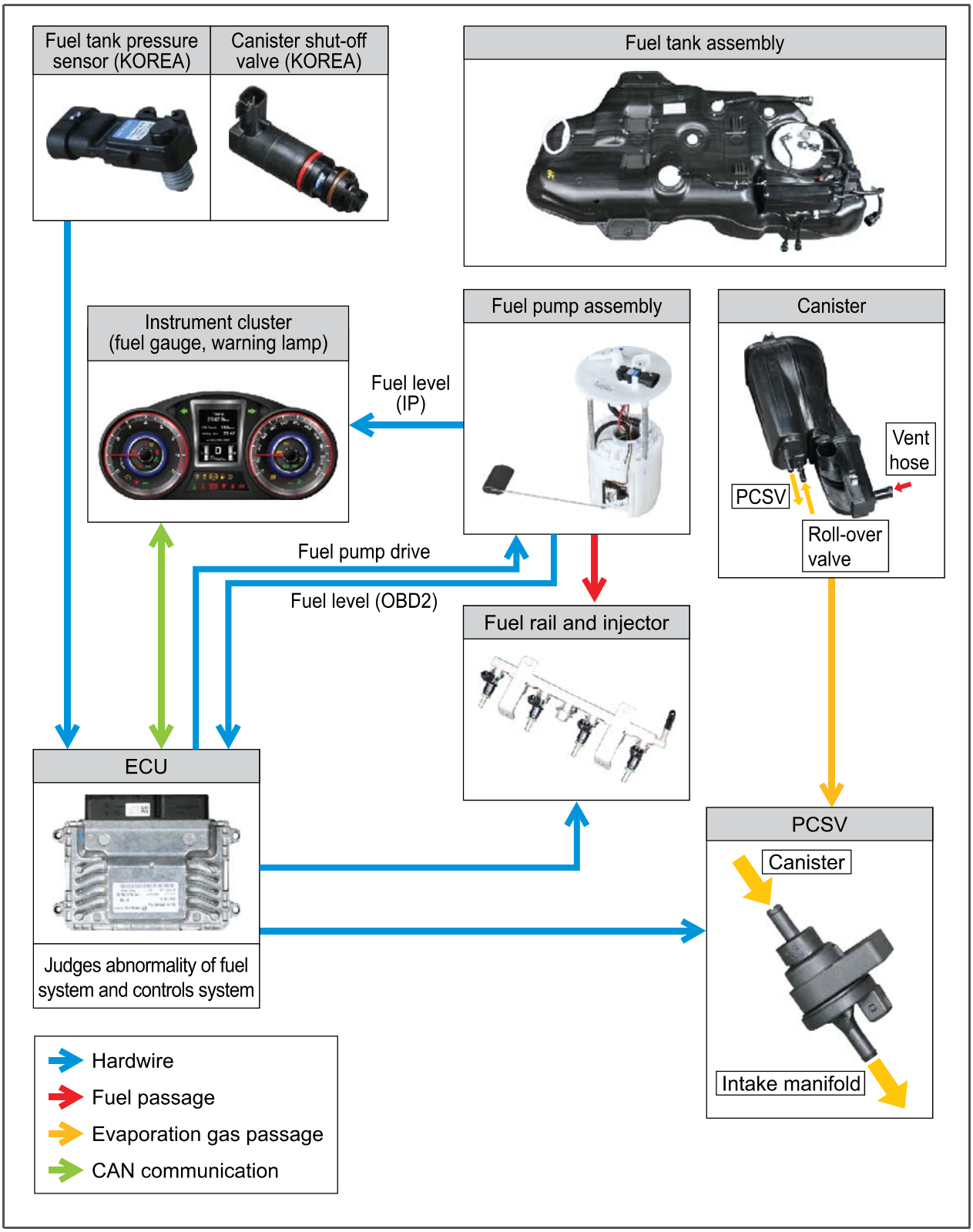
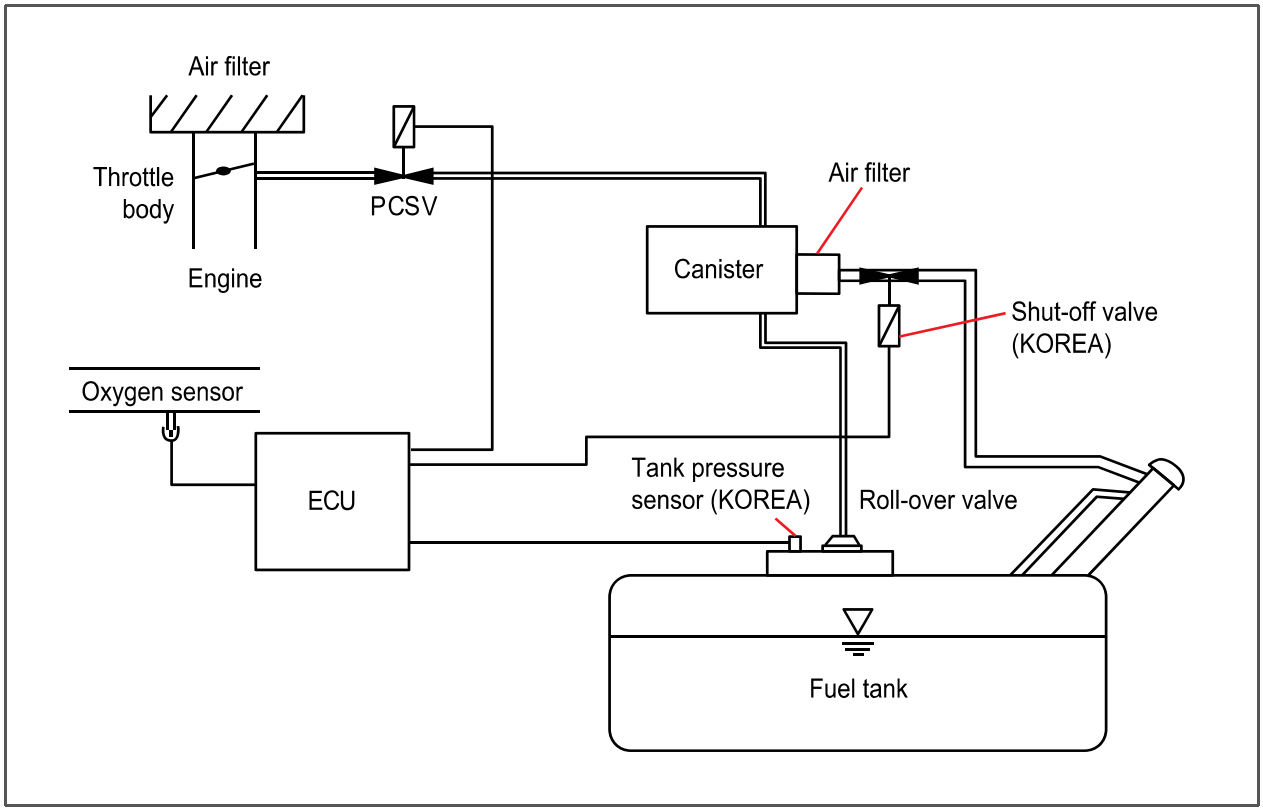
4. SYSTEM DIAGRAM



5. FUEL EVAP CONTROL SYSTEM

The fuel evaporative control system stores the evaporative gas in the canister to prevent the evaporated fuel being released into the atmosphere. This system diagnoses the internal system and checks for abnormalities in the system by using the pressure sensor and canister shut-off valve installed to the fuel tank. The purge control solenoid valve (PCSV) is operated by the engine ECU control according to the engine load condition. The fuel evaporative gas, stored in the canister, is drawn into the engine due to vacuum condition (negative pressure) of the engine when the PCSV is open while the fuel evaporative gas in the fuel system is sucked and stored in the canister when the PCSV is closed.



Modification basis	
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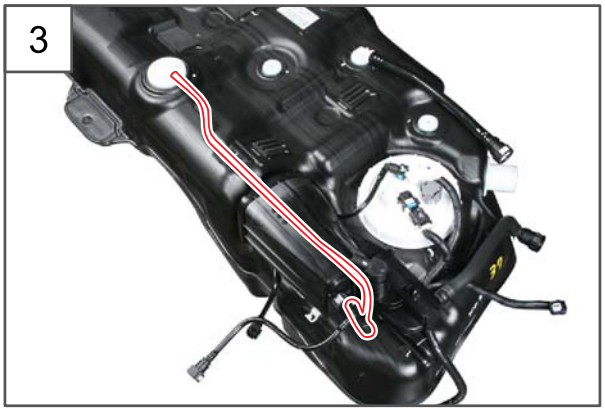
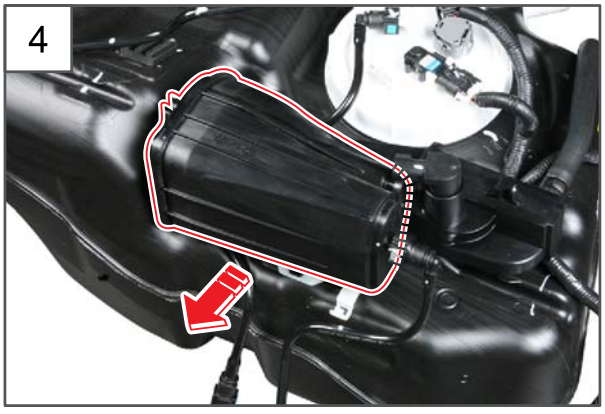
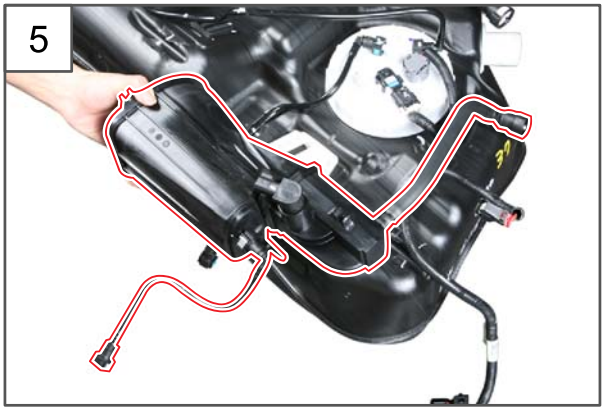
2. Disconnect the canister shut off valve connector on the top of the air filter of the removed fuel tank assembly. (KOREA)



3. Remove the canister pipe connected to the roll-over valve.



4. Tilt the canister in the direction show in the picture.



5. Remove the canister from the fuel tank assembly.

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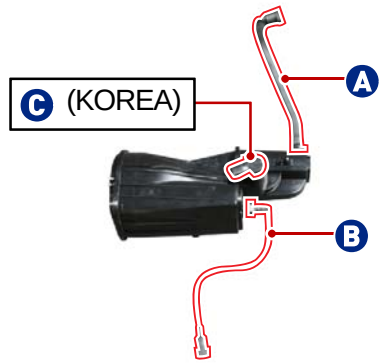

6. Disconnect the hose (A) to the fuel filler and pipe (B) to the PCSV and remove the canister shut off valve (C).

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7. Install in the reverse order of removal.

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