Component Procedures: Emission Control Systems

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Component Procedures: Emission Control Systems

Parts and Labor (itype_189)

Parts

Qualifier	Part #	Name	Price	Note
Emission System > PCV Valve	267402G000	Pcv Valve	24.06	
Vapor Canister	289102E000	Purge Solenoid	33.63	
Vapor Canister	394002C300	Solenoid Valve	60.92	
Vapor Canister > Air Filter	31453F2500	Korea Built	104.69	
Vapor Canister > Air Filter	31453F3500	Us Built	107.63	
Vapor Canister > Sensor	314352J000	Fuel Tank Pressure Sen?	108.77	
Vapor Canister > Valve	31430F3500	Canister Valve	257.29	
Vapor Canister > Vapor Canis?	31420F2500	Korea Built	267.79	
Vapor Canister > Vapor Canis?	31420F3500	Us Built	543.32	

Labor

Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Remove & Replace	Emission System > PCV Valve, R&R	C	0.3	0.0
Remove & Replace	Vapor Canister > Filter, R&R	B	0.8	0.0
Remove & Replace	Vapor Canister > Purge Solenoid, R&R	B	0.4	0.0
Remove & Replace	Vapor Canister > Vapor Canister, R&R	B	0.6	0.0

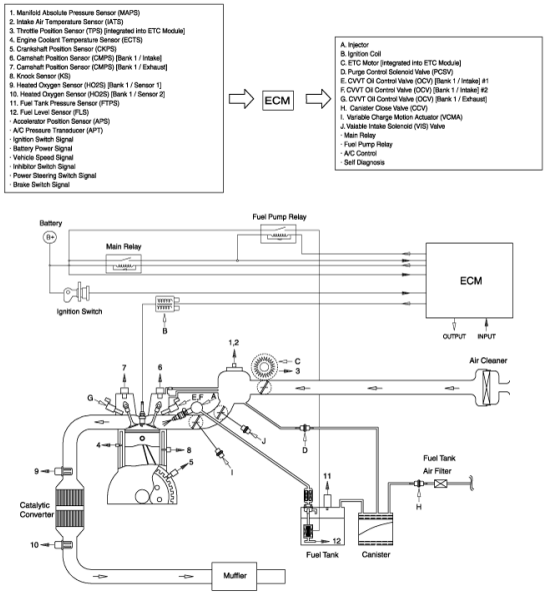
Emission Control System - Description and Operation (Article 44081)

- Description

- The Crankcase Emission Control System prevents blow-by gas from releasing into the atmosphere. This system recycles gas back into the intake manifold (Closed Crankcase Ventilation Type).
- The Evaporative Emission Control System prevents evaporative gas from releasing into the atmosphere. This system burns gas at appropriate engine operating condition after gathering it in the canister .
- The Exhaust Emission Control System converts the three pollutants [hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NOx)] into harmless substances by using the 3-way catalytic converter .

Emission Control System - Schematic Diagrams (Article 44087)

- Schematic Diagram



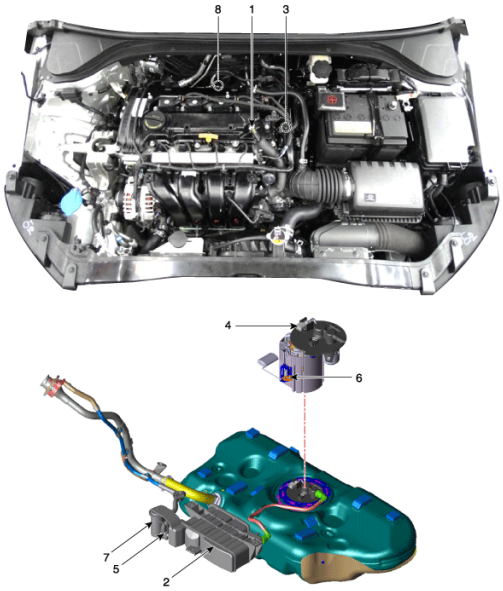
Exhaust Emission Control System - Description and Operation (Article 44107)

- Description

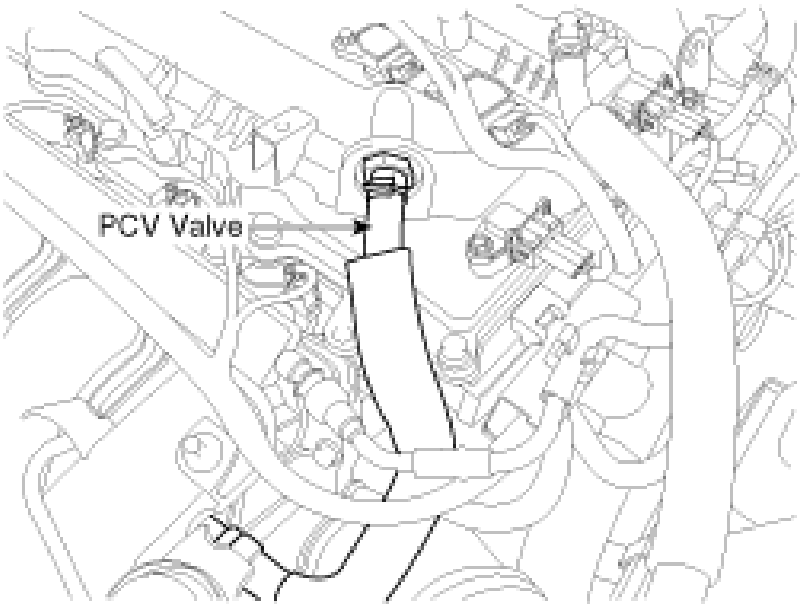
Air/Fuel Mixture Control System [Multiport Fuel Injection (MFI) System]
- Open Loop air/fuel ratio is controlled by information pre-programmed into the ECM .
- Closed Loop air/fuel ratio is constantly adjusted by the ECM based on information supplied by the oxygen sensor .

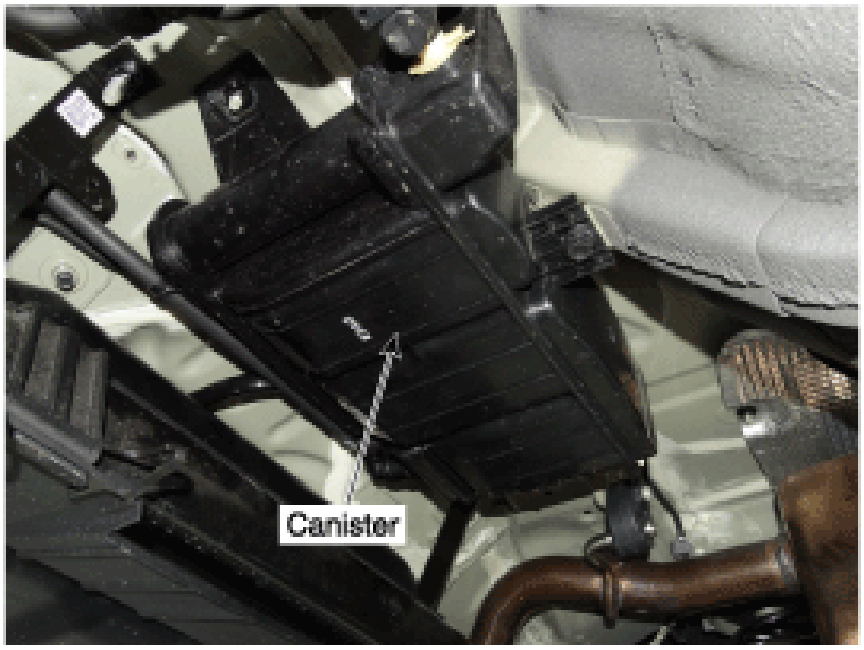
Emission Control System - Components and Components Location (Article 44091)

- Components Location

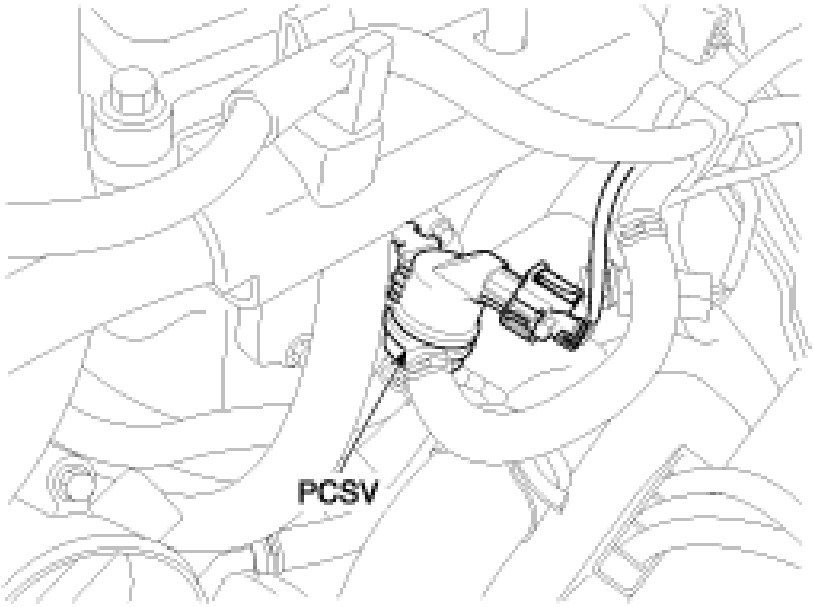


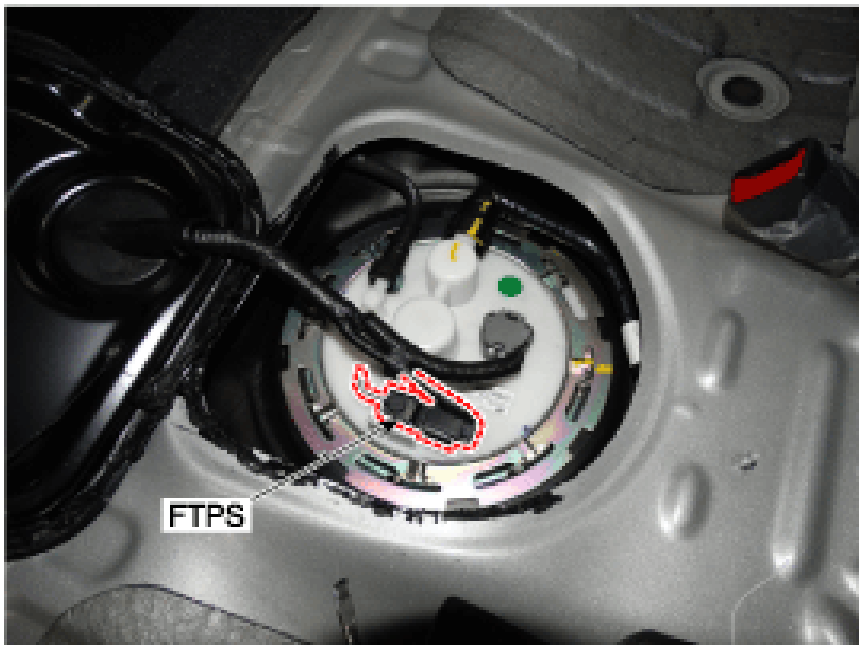
1. PCV valve 2. Canister 3. Purge control solenoid valve (PCSV) 4. Fuel tank pressure sensor (FTPS) 5. Canister close valve (CCV) 6. Fuel level sensor (FLS) 7. Fuel tank air filter 8. Catalytic converter
1. PCV Valve 2. Canister



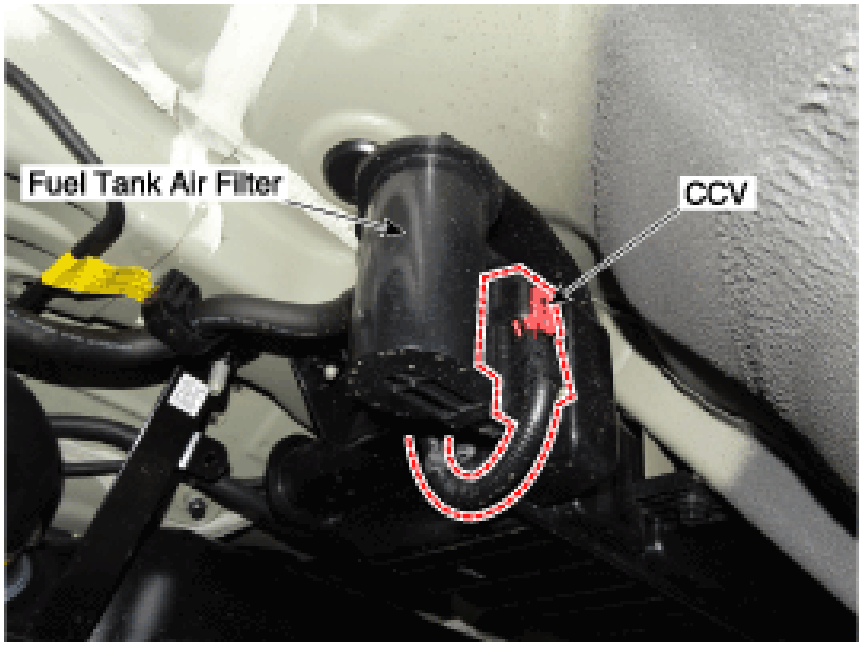


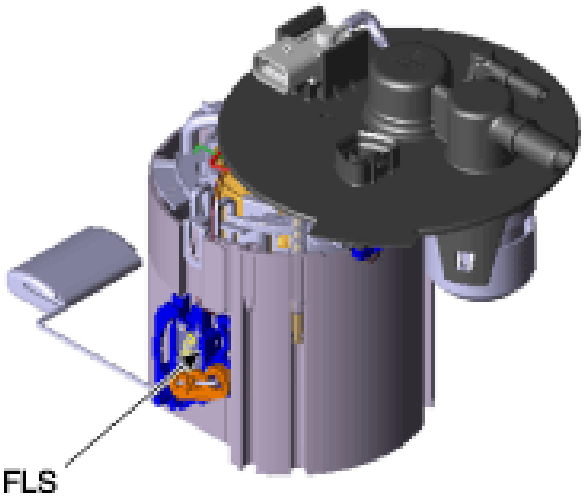
3. Purge Control Solenoid Valve (PCSV) 4. Fuel Tank Pressure Sensor (FTPS)



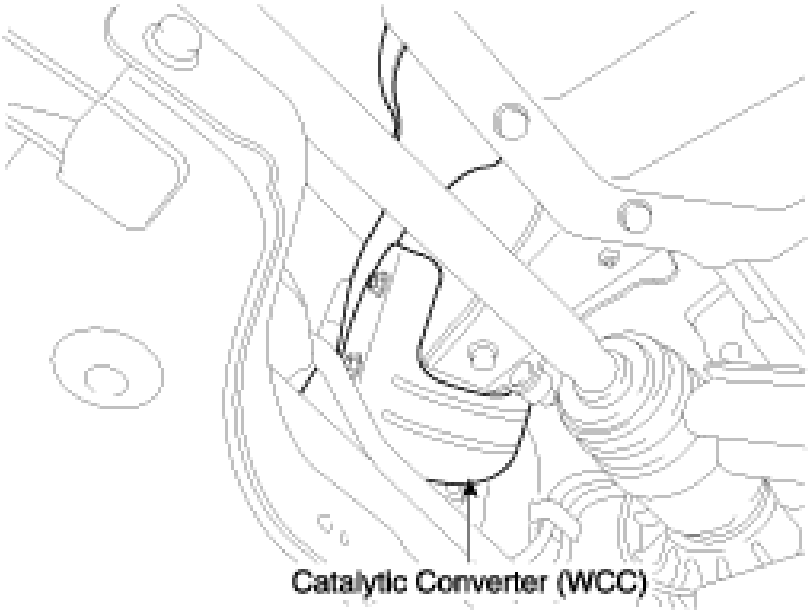


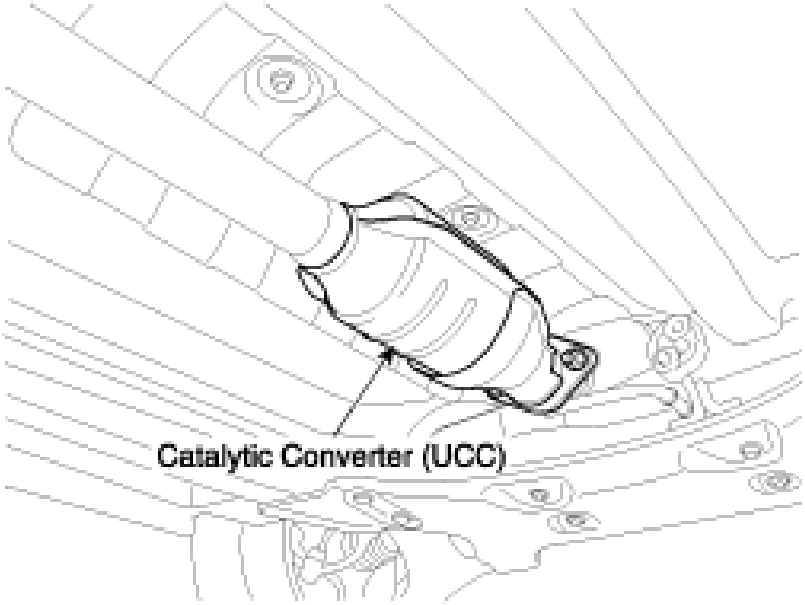
5. Canister Close Valve (CCV) 7. Fuel Tank Air Filter 6. Fuel Level Sensor (FLS)





8. Catalytic Converter (WCC) 8. Catalytic Converter (UCC)





Emission Control System - Specifications (Article 44082)

- Specifications
Purge Control Solenoid Valve (PCSV)
Item Specification
Coil Resistance (Ω) 22.0 - 26.0 [20°C (68°F)]
Fuel Tank Pressure Sensor (FTPS)
Pressure [kPa (kgf/cm², in H2O)] Output Voltage (V)
-6.67 (-0.068, -26.8) 0.5
0 2.5
+6.67 (0.068, 26.8) 4.5
Canister Close Valve (CCV)
Coil Resistance (Ω) 19.5 - 22.5 [20°C (68°F)]
- Tightening Torques
Item kgf.m N.m lb-ft
Positive crankcase ventilation valve installation 0.2 - 0.3 1.96 - 2.94 1.45 - 2.17
Canister installation bolt/nut 2.0 - 3.0 19.6 - 29.4 14.5 - 21.7

Emission Control System - Specifications (Article 44084)

- Specifications
Purge Control Solenoid Valve (PCSV)
Item Specification
Coil Resistance (Ω) 22.0 - 26.0 [20°C (68°F)]
Fuel Tank Pressure Sensor (FTPS)
Pressure [kPa (kgf/cm², in H2O)] Output Voltage (V)
-6.67 (-0.068, -26.8) 0.5
0 2.5
+6.67 (0.068, 26.8) 4.5
Canister Close Valve (CCV)
Coil Resistance (Ω) 19.5 - 22.5 [20°C (68°F)]
- Tightening Torques
Item kgf.m N.m lb-ft
Positive crankcase ventilation valve installation 0.2 - 0.3 1.96 - 2.94 1.45 - 2.17
Canister installation bolt/nut 2.0 - 3.0 19.6 - 29.4 14.5 - 21.7

All New Technical Service Bulletins (itype_432)

Tsbs
- EVAP SYSTEM VACUUM/PRESSURE TESTER USAGE GUIDELINES (25-GI-019H, 2025/08/01)

All Technical Service Bulletins (itype_100)

Tsbs
- EVAP SYSTEM VACUUM/PRESSURE TESTER USAGE GUIDELINES (25-GI-019H, 2025/08/01)

Emission Control System - Troubleshooting (Article 44086)

- Troubleshooting

Symptom Suspect area
Engine will not start or hard to start Vapor hose damaged or disconnected
Engine hard to start Malfunction of the Purge Control Solenoid Valve
Rough idle or engine stalls Vapor hose damaged or disconnected
Malfunction of the PCV valve
Rough idle Malfunction of the Evaporative Emission Control System
Excessive oil consumption Positive crankcase ventilation line clogged