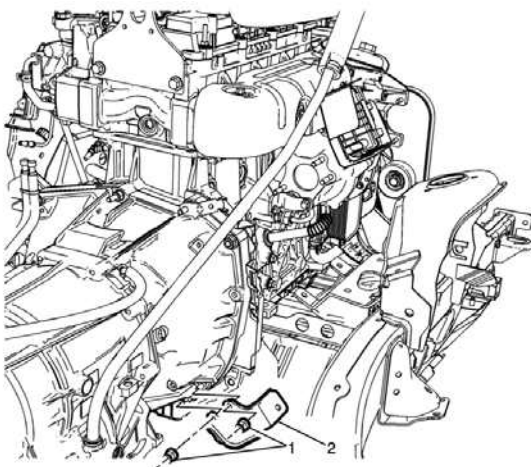


2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Catalytic Converter Brace Replacement

Callout

Component Name

Warning: Refer to Exhaust Service Warning.

Warning: Refer to Eye Protection Warning.

Preliminary Procedure

Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.

Catalytic Converter Brace Fastener (Qty: 2)

Caution: Refer to Fastener Caution.

1

Tighten

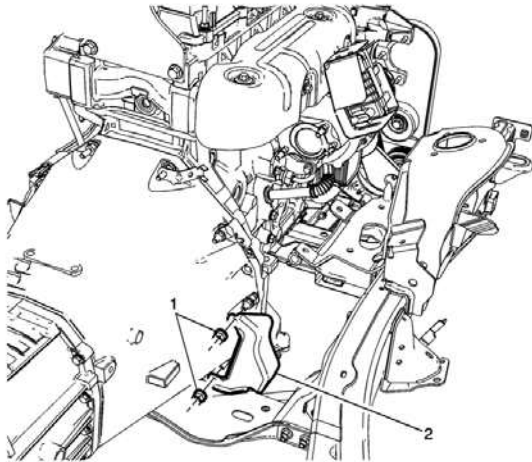
28 Y (21 lb ft)

2

Catalytic Converter Brace

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Catalytic Converter Brace Replacement

Callout

Component Name

Warning: Refer to Exhaust Service Warning.

Warning: Refer to Eye Protection Warning.

Preliminary Procedures

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the oxidation catalytic converter. Refer to Oxidation Catalytic Converter Replacement.

Catalytic Converter Brace Fastener (Qty: 2)

Caution: Refer to Fastener Caution.

1

Tighten

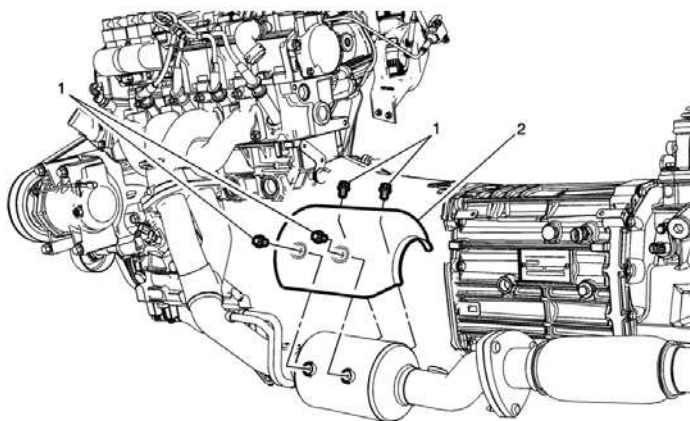
28 Y (21 lb ft)

2

Catalytic Converter Brace

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Catalytic Converter Heat Shield Replacement

Callout

Component Name

Warning: Refer to Exhaust Service Warning.

Warning: Refer to Eye Protection Warning.

Preliminary Procedure

Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.

Catalytic Converter Heat Shield Fasteners (Qty: 4)

Caution: Refer to Fastener Caution.

1

Tighten

8 Y (71 lb in).

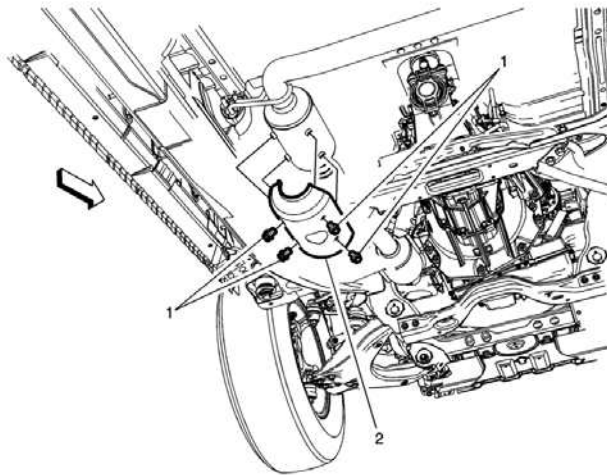
2

Catalytic Converter Heat Shield

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Catalytic Converter Heat Shield Replacement

Callout

Component Name

Warning: Refer to Exhaust Service Warning.

Warning: Refer to Eye Protection Warning.

Preliminary Procedure

Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.

Catalytic Converter Heat Shield Fasteners (Qty: 4)

Caution: Refer to Fastener Caution.

1

Tighten

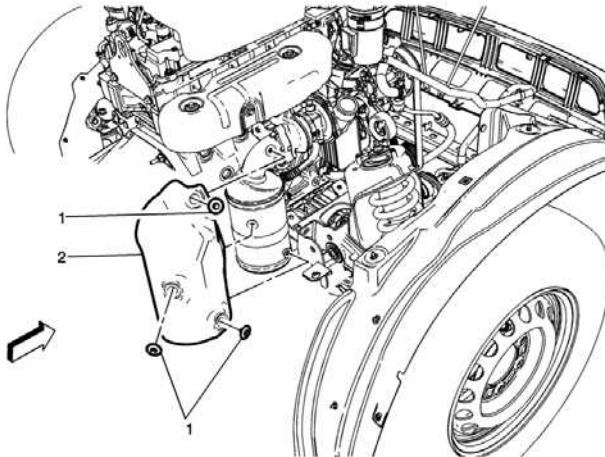
8 Y (71 lb in).

2

Catalytic Converter Heat Shield

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Catalytic Converter Heat Shield Replacement

Callout

Component Name

Warning: Refer to Exhaust Service Warning.

Preliminary Procedures

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the engine protection shield. Refer to Engine Protection Shield Replacement.
3. Remove the left front engine lower front splash shield. Refer to Engine Lower Front Splash Shield Replacement.

Catalytic Converter Heat Shield Fastener (Qty: 3)

Caution: Refer to Fastener Caution.

1

Tighten

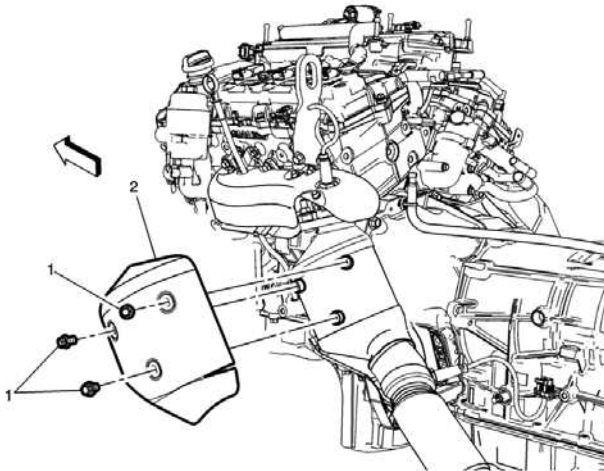
10 Y (89 lb in)

2

Catalytic Converter Heat Shield

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Catalytic Converter Heat Shield Replacement

Callout

Component Name

Warning: Refer to Exhaust Service Warning.

Warning: Refer to Eye Protection Warning.

Preliminary Procedure

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the left front engine lower front splash shield. Refer to Engine Lower Front Splash Shield Replacement.

Catalytic Converter heat Shield - Left Fasteners (Qty: 3)

Caution: Refer to Fastener Caution.

1

Tighten

10 Y (89 lb in).

2

Catalytic Converter Heat Shield - Left

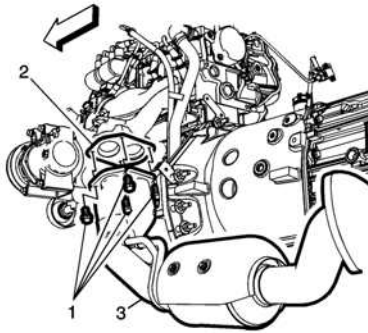
2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

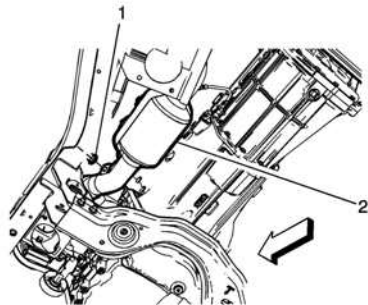
[Removal Procedure](#)

Warning: Refer to Exhaust Service Warning.

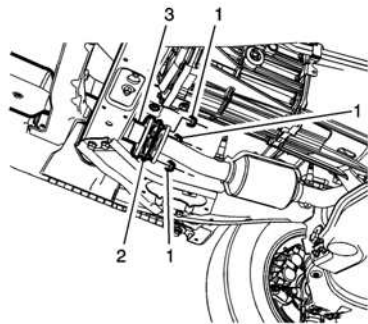
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the heated oxygen sensor - 1. Refer to Heated Oxygen Sensor Replacement - Sensor 1.
3. Remove the heated oxygen sensor - 2. Refer to Heated Oxygen Sensor Replacement - Sensor 2.



4. Remove the exhaust front pipe (3) to the exhaust manifold fasteners (1) and discard the exhaust gasket (2).

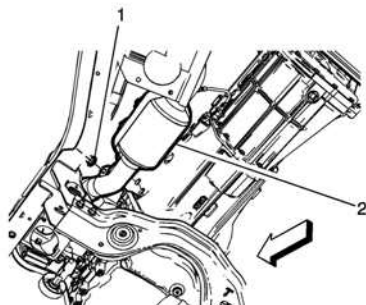


5. Remove the catalytic converter bracket fastener (1) and remove the catalytic converter (2) from the bracket.

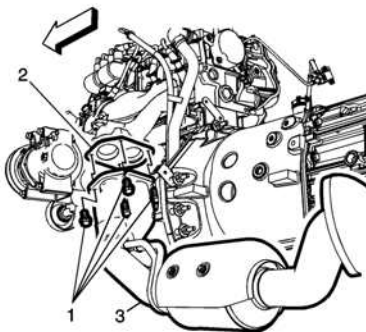


6. Remove the exhaust pipe fasteners (1) and discard the exhaust gasket (2).
7. Remove the exhaust front pipe from the vehicle.

[Installation Procedure](#)

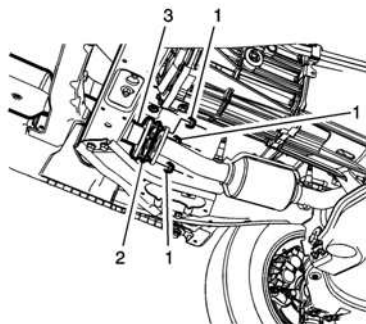


1. Install the catalytic converter (2) onto the catalytic converter bracket and tighten the fastener (1) to **22 Y (16 lb ft)**.



Caution: Refer to Fastener Caution.

2. Install the exhaust front pipe (3) to the exhaust manifold with a NEW gasket (2) and tighten the fasteners (1) to **22 Y (16 lb ft)**.



3. Install the exhaust pipe (3), to the exhaust front pipe with a NEW gasket (2). Tighten the fasteners (1) to **28 Y (21 lb ft)**.
4. Install the heated oxygen sensor - 1. Refer to Heated Oxygen Sensor Replacement - Sensor 1.
5. Install the heated oxygen sensor - 2. Refer to Heated Oxygen Sensor Replacement - Sensor 2.
6. Start the engine and check for exhaust leaks.



2013 Chevrolet Colorado

Submodel: | **Engine Type:** | **Liters:**
Fuel Delivery: | **Fuel:**

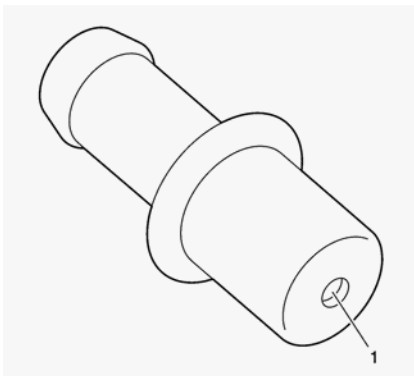
A spring loaded membrane located in the tower of the camshaft cover maintains crankcase pressure. A baffle plate in the camshaft cover provides for oil separation from the crankcase gases. Crankcase gases are routed back to the air intake system.

Because of the use of a closed crankcase ventilation system, it is normal for slight oil residue to be found in the charge air and intake system.

2013 Chevrolet Colorado

Submodel: | **Engine Type:** | **Liters:**

Fuel Delivery: | **Fuel:**



A crankcase ventilation system is used to consume crankcase vapors created during the combustion process instead of venting them to the atmosphere.

Fresh air is supplied through a filter to the crankcase, the crankcase mixes the fresh air with the blow-by gases and then passed through a positive crankcase ventilation (PCV) orificed tube into the intake manifold.

The PCV orificed tube restricts the flow rate of the blow-by gases using an orifice (1) located at the end of the tube. If abnormal operating conditions arise, the system is designed to allow excessive amounts of blow-by gases to back flow through the crankcase vent tube into the throttle body in order to be consumed by normal combustion.

2013 Chevrolet Colorado

Submodel: | **Engine Type:** | **Liters:**
Fuel Delivery: | **Fuel:**

Crankcase Ventilation (CV) System Inspection

- Test for vacuum at the vacuum hose where it connects to the crankcase ventilation housing. There should be manifold vacuum present at the hose. If there is no vacuum, inspect for a plugged hose, leaking hose or a plugged vent adapter.
- Plug the end of the vacuum hose while the engine is running. Inspect the hose for any areas that collapse when the end of the hose is blocked. Replace the hose if it collapses when blocked.
- If oil has accumulated in the intake air duct, inspect for the following conditions:
 - Plugged vacuum orifice in the crankcase ventilation housing
 - Plugged or restricted crankcase ventilation housing
 - Excessive crankcase pressure or blow-by, refer to Oil Consumption Diagnosis.
- Additional items to inspect:
 - Plugged or leaking fresh air vent hose assembly or vent adapter
 - Plugged or restricted passages in the throttle body
 - Missing or damaged O-ring seals on the vent adapter
 - Inspect the cam covers, the oil pan gasket, and other sealing areas for leaks

Results of Incorrect Operation

A plugged crankcase ventilation housing or hose may contribute to the following conditions:

- A rough idle
- Stalling or a slow idle speed
- Oil leaks
- Oil accumulation in the intake air duct
- Sludge in the engine

A leaking housing or hose may contribute to the following conditions:

- A rough idle
- Stalling
- Unstable idle speed

2013 Chevrolet Colorado

Submodel: | **Engine Type:** | **Liters:**
Fuel Delivery: | **Fuel:**

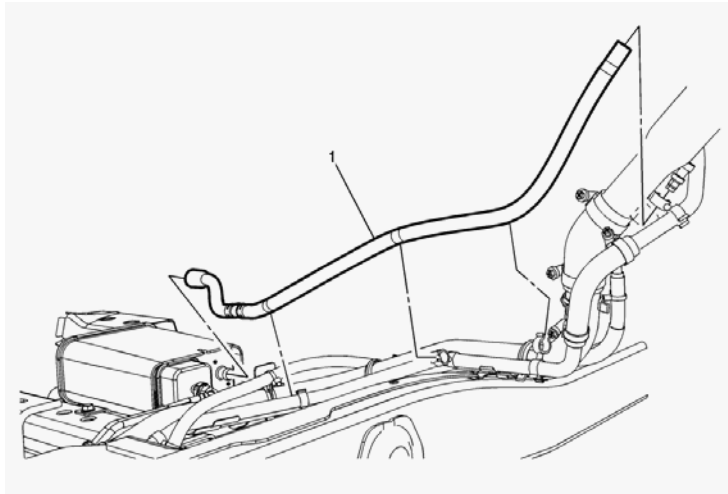
Crankcase Ventilation System Inspection/Diagnosis

Concern	Action
Important: Oil in the charged air cooler, hoses, turbocharger, or intake manifolds is normal with a closed crankcase ventilation system. The maximum crankcase pressure is 4 kPa or 16 in of water at 3,100 RPM measured at the oil level indicator tube.	
PVC check valve stuck closed	- Excessive crankcase pressure - Possible oil leaks. Replace the valve.
Odors	Normal situation
Noise	Cracked hoses
Smoke	Damaged PCV diaphragm
Excessive Oil Consumption	Damaged PCV diaphragm, missing or broken spring

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Evaporative Emission Canister Hose Replacement

Callout

Component Name

Preliminary Procedure

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the spare tire.

Evaporative Emission Canister Hose

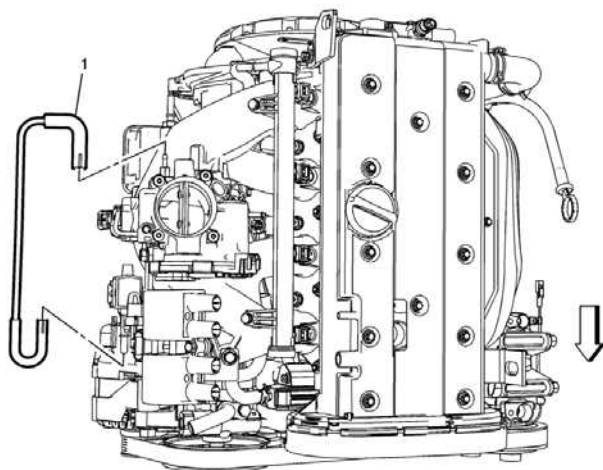
1

Procedure

Disconnect the evaporative emission canister hose from the evaporative emission canister and the fuel fill pipe assembly.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Evaporative Emission Canister Purge Control Vacuum Hose Replacement

Callout

Component Name

Preliminary Procedure

Remove the air cleaner outlet duct. Refer to Air Cleaner Outlet Duct Replacement.

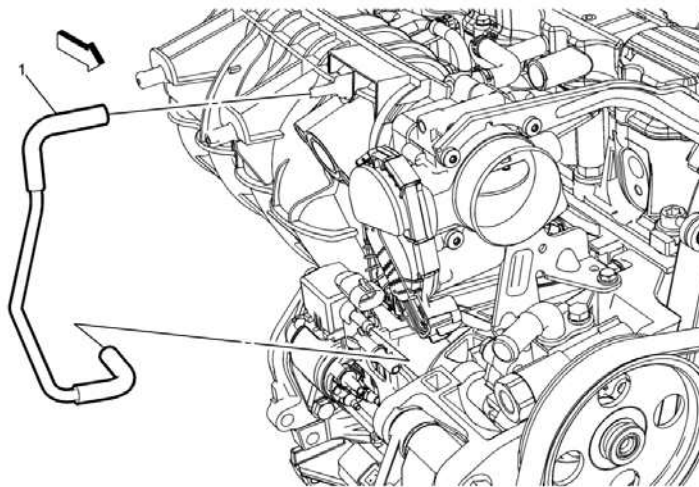
1

Evaporative Emission Canister Purge Control Vacuum Hose

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Evaporative Emission Canister Purge Control Vacuum Hose Replacement

Callout

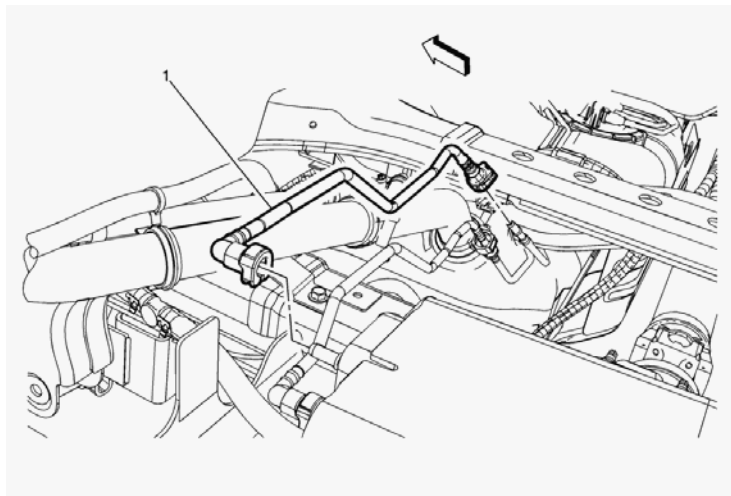
Component Name

1

Evaporative Emission Canister Purge Control Vacuum Hose

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Evaporative Emission Canister Purge Rear Pipe Replacement

Callout

Component Name

Preliminary Procedure

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the spare tire.

Evaporative Emission Canister Purge Rear Pipe

Procedure

1

Disconnect the evaporative emission canister purge rear pipe from the evaporative emission canister and evaporative intermediate pipe. Refer to Plastic Collar Quick Connect Fitting Service.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

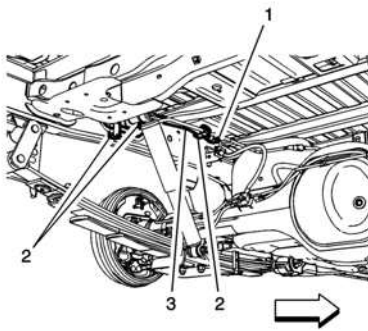
[Removal Procedure](#)

Warning: Refer to Fuel and Evaporative Emission Pipe Warning.

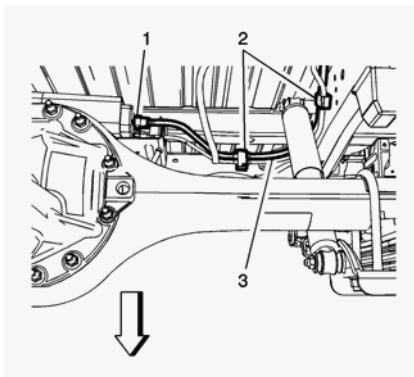
Warning: Refer to Gasoline/Gasoline Vapors Warning.

Caution: Refer to Fuel and Evaporative Emission Hose/Pipe Connection Cleaning Caution.

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.

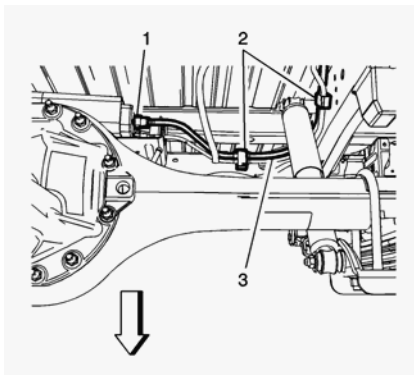


2. Disconnect the evaporative emission canister purge rear pipe (1) from the evaporative emission intermediate pipe. Refer to Plastic Collar Quick Connect Fitting Service.
3. Disconnect the evaporative emission canister purge rear pipe (2) from the retainers.



4. Disconnect the evaporative emission canister purge rear pipe (1) from the evaporative emission canister. Refer to Plastic Collar Quick Connect Fitting Service.
5. Disconnect the evaporative emission canister purge rear pipe (2) from the retainers.
6. Remove the evaporative emission canister purge rear pipe (3) from the vehicle.

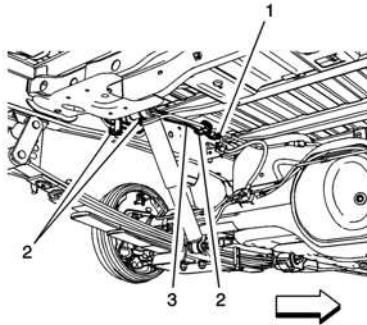
[Installation Procedure](#)



1. Install the evaporative emission canister purge rear pipe (3) to the vehicle.

Evaporative Emission Canister Purge Rear Pipe Replacement

2. Connect the evaporative emission canister purge rear pipe (2) to the retainers.
3. Connect the evaporative emission canister purge rear pipe (1) to the evaporative emission canister. Refer to Plastic Collar Quick Connect Fitting Service.

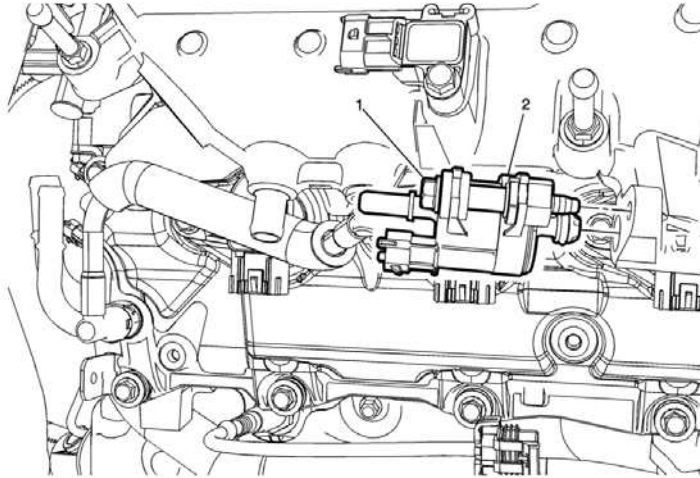


4. Connect the evaporative emission canister purge rear pipe (2) to the retainers.
5. Connect the evaporative emission canister purge rear pipe (1) to the evaporative emission intermediate pipe. Refer to Plastic Collar Quick Connect Fitting Service.
6. Lower the vehicle.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Evaporative Emission Canister Purge Solenoid Valve Replacement

Callout

Component Name

Preliminary Procedures

1. Remove the intake manifold cover. Refer to Intake Manifold Cover Replacement.
2. Disconnect the evaporative emissions front pipe from the evaporative emissions canister purge solenoid valve. Refer to Evaporative Emission Front Pipe Replacement.

Evaporative Emission Canister Purge Solenoid Valve Bolt

Caution: Refer to Fastener Caution.

1

Tighten

10 Y (89 lb in)

Evaporative Emission Canister Purge Solenoid Valve

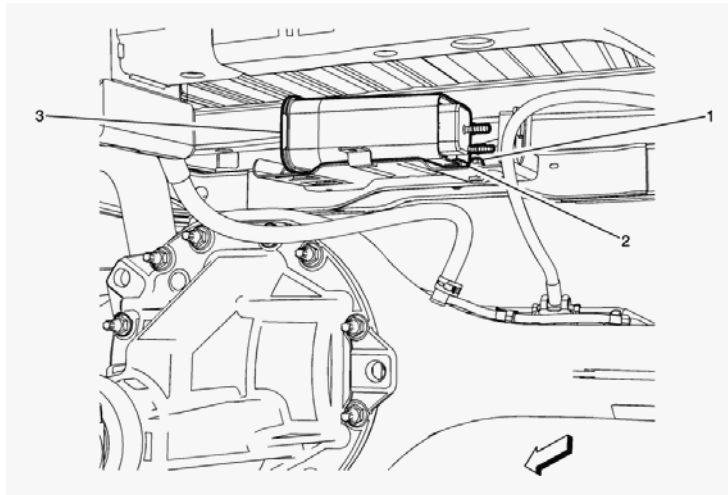
Procedure

2

1. Disconnect the electrical wiring harness connector.
2. Install a NEW O-ring.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Evaporative Emission Canister Replacement

Callout

Component Name

Warning: Refer to Fuel and Evaporative Emission Pipe Warning.

Warning: Refer to Gasoline/Gasoline Vapors Warning.

Caution: Refer to Fuel and Evaporative Emission Hose/Pipe Connection Cleaning Caution.

Preliminary Procedures

1. Remove the spare tire from the vehicle.
2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
3. Disconnect the evaporative emission canister pipes. Refer to Plastic Collar Quick Connect Fitting Service.
4. Disconnect the evaporator emission canister hose from the emission canister.

Evaporative Emission Canister Fastener

Caution: Refer to Fastener Caution.

1

Tighten

17 Y (13 lb ft)

2

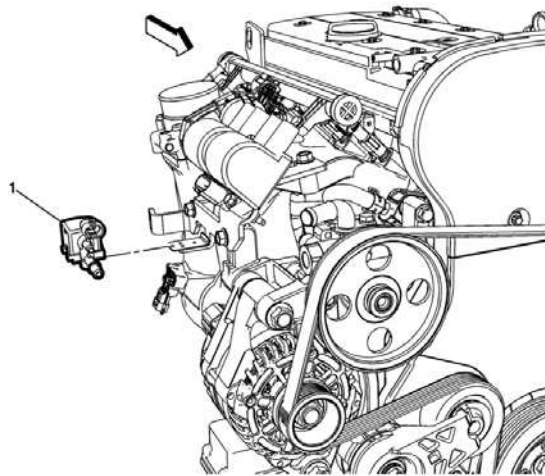
Evaporative Emission Canister Bracket

3

Evaporative Emission Canister

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Evaporative Emission Canister Solenoid Valve Replacement

Callout

Component Name

Preliminary Procedure

1. Remove the air cleaner outlet resonator. Refer to Air Cleaner Outlet Resonator Replacement.
2. Remove the evaporative emission canister purgr control vacuum hose. Refer to Evaporative Emission Canister Purge Control Vacuum Hose Replacement.
3. Remove the evaporative emission pipe. Refer to Evaporative Emission Pipe Replacement.

Evaporative Emission Canister Solenoid Valve.

1

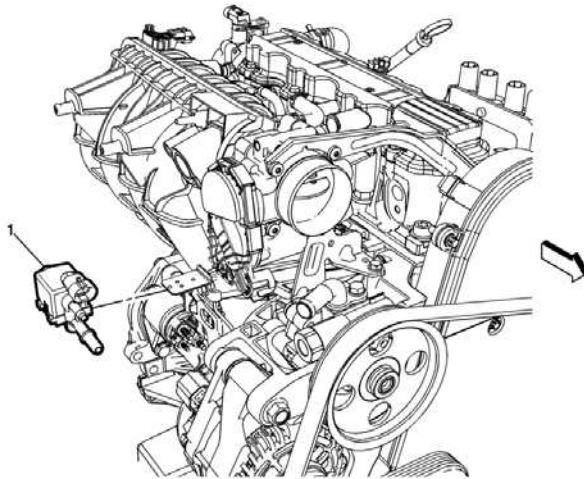
Procedure

Disconnect the electrical connector.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Evaporative Emission Canister Solenoid Valve Replacement

Callout

Component Name

Preliminary Procedure

1. Remove the evaporative emission canister purge control vacuum hose. Refer to Evaporative Emission Canister Purge Control Vacuum Hose Replacement.
2. Remove the evaporative emission pipe. Refer to Evaporative Emission Pipe Replacement.

Evaporative Emission Canister Solenoid Valve.

1

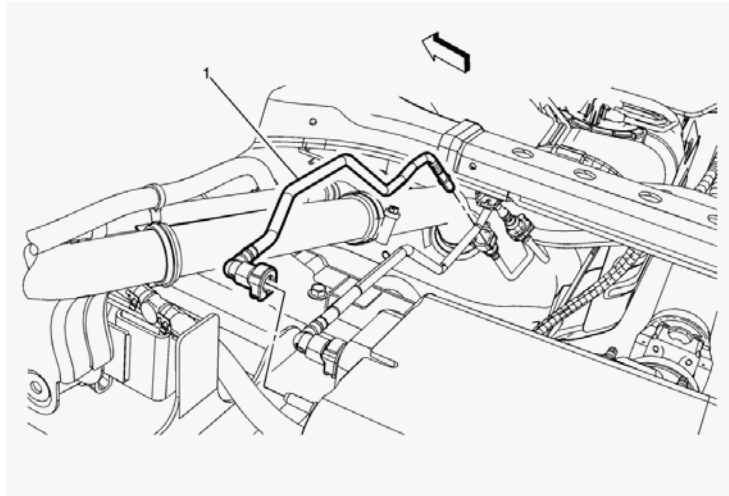
Procedure

Disconnect the electrical connector.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Evaporative Emission Canister Vent Pipe Replacement

Callout

Component Name

Preliminary Procedure

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the spare tire.

Evaporative Emission Canister Purge Vent Pipe

1

Procedure

Disconnect the evaporative emission canister purge rear vent pipe from the evaporative emission canister and evaporative emission fuel tank vent pipe. Refer to Plastic Collar Quick Connect Fitting Service.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

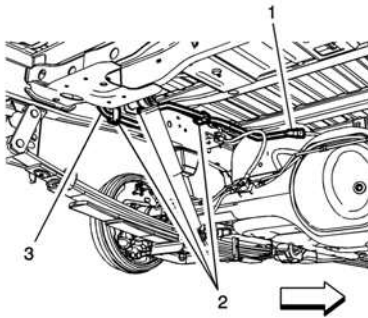
[Removal Procedure](#)

Warning: Refer to Fuel and Evaporative Emission Pipe Warning.

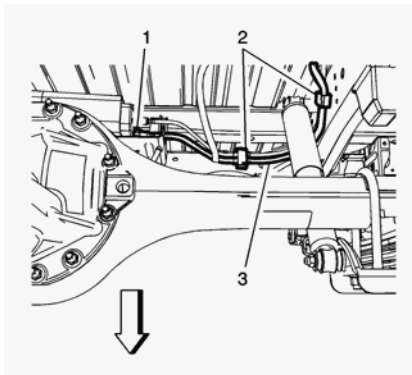
Warning: Refer to Gasoline/Gasoline Vapors Warning.

Caution: Refer to Fuel and Evaporative Emission Hose/Pipe Connection Cleaning Caution.

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.

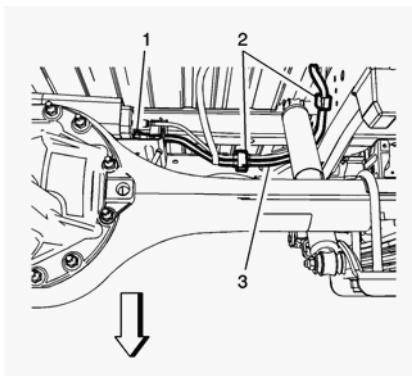


2. Disconnect the evaporative emission canister vent pipe (1) from the fuel tank. Refer to Plastic Collar Quick Connect Fitting Service.
3. Disconnect the evaporative emission canister vent pipe (2) from the retainers.



4. Disconnect the evaporative emission canister vent pipe (1) from the evaporative emission canister. Refer to Plastic Collar Quick Connect Fitting Service.
5. Disconnect the evaporative emission canister vent pipe (2) from the retainers.
6. Remove the evaporative emission canister vent pipe (3) from the vehicle.

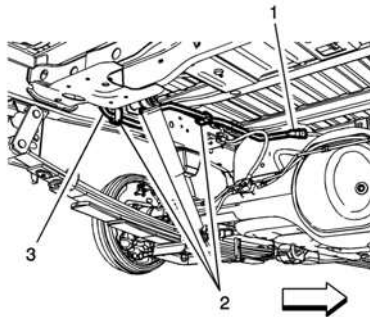
[Installation Procedure](#)



1. Install the evaporative emission canister vent pipe (3) to the vehicle.
2. Connect the evaporative emission canister vent pipe (2) to the retainers.

Evaporative Emission Canister Vent Pipe Replacement

3. Connect the evaporative emission canister vent pipe (1) to the evaporative emission canister. Refer to Plastic Collar Quick Connect Fitting Service.



4. Connect the evaporative emission canister vent pipe (2) to the retainers.
5. Connect the evaporative emission canister vent pipe (1) to the fuel tank. Refer to Plastic Collar Quick Connect Fitting Service.
6. Lower the vehicle.

2013 Chevrolet Colorado

Submodel: | **Engine Type:** | **Liters:**
Fuel Delivery: | **Fuel:**

EVAP System Operation

The evaporative emission (EVAP) control system used is the charcoal canister storage method. This method transfers fuel vapor from the fuel tank to an activated carbon, charcoal, storage device, or canister, to hold the vapors when the vehicle is not operating. When the engine is running, the fuel vapor is purged from the carbon element by intake airflow and consumed in the normal combustion process.

Fuel vapors from the fuel tank flow into the canister. These vapors are absorbed into the carbon. The canister is purged by the engine control module (ECM) when the engine has been running for a specified amount of time. Air is drawn into the canister and mixed with the vapor. This mixture is then drawn into the intake manifold.

The ECM supplies a ground to energize the evaporative emission (EVAP) canister purge solenoid valve. This valve is pulse width modulated (PWM) or turned ON and OFF several times a second. The evaporative emission (EVAP) canister purge solenoid valve PWM duty cycle varies according to operating conditions determined by engine load, fuel trim, and intake air temperature.

Poor idle, stalling, and poor driveability can be caused by the following conditions:

- An inoperative evaporative emission (EVAP) canister purge solenoid valve
- A damaged canister
- Hoses that are split, cracked, or not connected to the proper tubes

EVAP System Components

The evaporative emission (EVAP) system consists of the following components:

EVAP Canister

The canister is filled with carbon pellets used to absorb and store fuel vapors. Fuel vapor is stored in the canister until the engine control module determines that the vapor can be consumed in the normal combustion process.

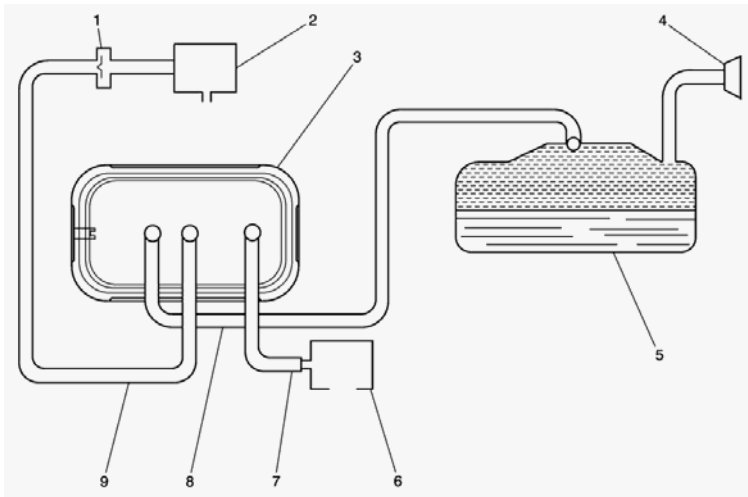
EVAP Purge Solenoid Valve

The EVAP purge solenoid valve controls the flow of vapors from the EVAP system to the intake manifold. The purge solenoid valve opens when commanded ON by the control module. This normally closed valve is pulse width modulated (PWM) by the control module to precisely control the flow of fuel vapor to the engine.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

[EVAP System Operation](#)



- (1) Purge Tube Check Valve, Turbo-Charged Applications Only
- (2) EVAP Canister Purge Solenoid Valve
- (3) EVAP Canister
- (4) Fuel Fill Cap/Fill Neck
- (5) Fuel Tank
- (6) EVAP Air Inlet
- (7) EVAP Vent Pipe
- (8) EVAP Vapor Pipe
- (9) EVAP Purge Pipe

The evaporative emission (EVAP) control system limits fuel vapors from escaping into the atmosphere. Fuel tank vapors are allowed to move from the fuel tank, due to pressure in the tank, through the vapor pipe, into the EVAP canister. Carbon in the canister absorbs and stores the fuel vapors. Excess pressure is vented through the vent pipe and EVAP air inlet to atmosphere. The EVAP canisters store the fuel vapors until the engine is able to use them. At an appropriate time, the control module will command the EVAP purge solenoid valve open, allowing engine vacuum to be applied to the EVAP canister. Fresh air will be drawn through the EVAP air inlet and vent pipe to the EVAP canisters. Fresh air is drawn through the EVAP canister, pulling fuel vapors from the carbon. The air/fuel vapor mixture continues through the EVAP purge pipe and EVAP purge solenoid valve into the intake manifold to be consumed during normal combustion.

[EVAP System Components](#)

The EVAP system is made up of the following components:

- The purge tube check valve, turbo-charged applications only
- The EVAP canister purge solenoid valve
- The EVAP canister
- The fuel fill cap/fill neck
- The fuel tank
- The EVAP air inlet
- The EVAP vent pipe
- The EVAP vapor pipe
- The EVAP purge pipe

[EVAP Canister](#)

The EVAP canister is a sealed unit with 3 ports.

The canister is filled with carbon pellets used to absorb and store fuel vapors. Fuel vapor is stored in the canister until the control module determines that the vapor can be consumed in the normal combustion process.

[EVAP Purge Solenoid Valve](#)

The EVAP purge solenoid valve controls the flow of vapors from the EVAP system to the intake manifold. This normally closed valve is pulse width modulated (PWM) by the control module to precisely control the flow of fuel vapor to the engine.

[EVAP Air Inlet](#)

The EVAP air inlet filters air entering the EVAP canister.

[Purge Tube Check Valve](#)

Turbocharged vehicles have a check valve in the purge tube, between the EVAP purge solenoid valve and the EVAP canister, to prevent pressurization of the EVAP system under boost conditions.

2013 Chevrolet Colorado

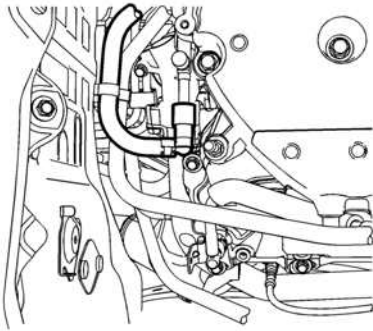
Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

[Removal Procedure](#)

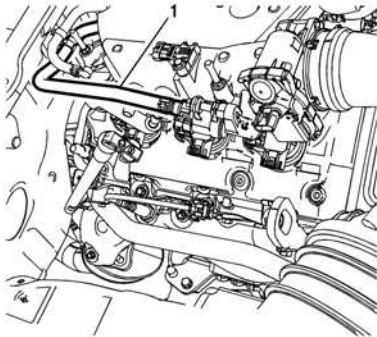
The fuel system fuel feed and evaporative emissions hose/pipes are serviceable individually or as a complete bundled assembly, the following procedure details the removal of both the fuel feed pipe and the evaporative emissions pipe.

Warning: Refer to Relieving Fuel Pressure Warning.

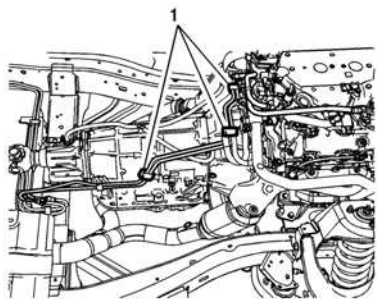
1. Relieve the fuel system pressure. Refer to Fuel Pressure Relief.



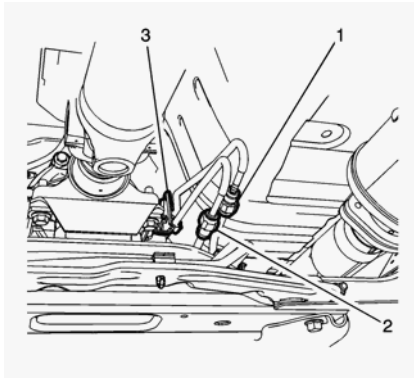
2. Disconnect the fuel feed pipe (1) from the fuel rail. Refer to Metal Collar Quick Connect Fitting Service.



3. Disconnect the evaporative emission (EVAP) purge line (1) from the purge solenoid.
4. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.



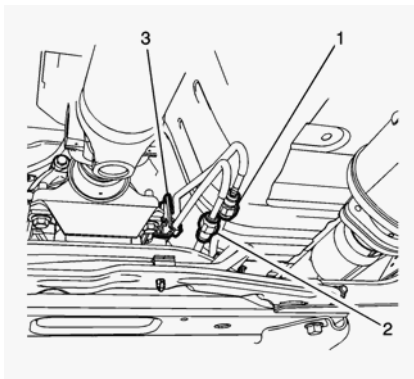
5. Open the retaining clips (1) at the locations shown and remove the pipes from the retainers.



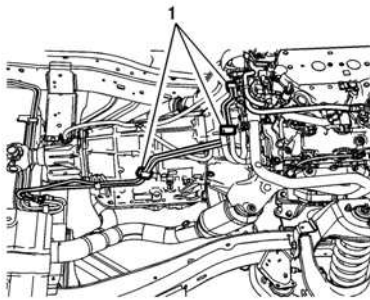
6. Disconnect the fuel feed front pipe (1) and the EVAP front pipe (2) at the location shown. Refer to Plastic Collar Quick Connect Fitting Service.
7. Carefully guide the front fuel feed and EVAP hose/pipes down through the engine compartment, removing from the bottom.

[Installation Procedure](#)

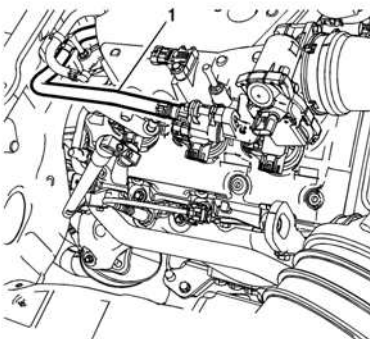
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. With the aid of an assistant, carefully guide the front fuel feed and EVAP hose/pipes up through the engine compartment into position.



3. Connect the fuel feed front pipe (1) and the EVAP front pipe (2) at the location shown. Refer to Plastic Collar Quick Connect Fitting Service.

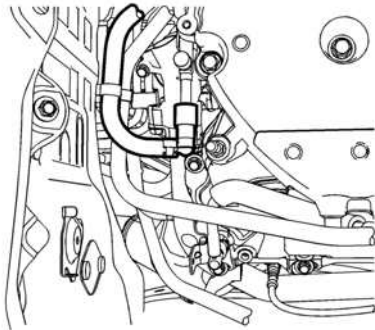


4. Install the pipes to the retaining clips (1) at the locations shown and close the retaining clips.
5. Lower the vehicle.



6. Connect the evaporative emission (EVAP) purge line (1) to the purge solenoid.

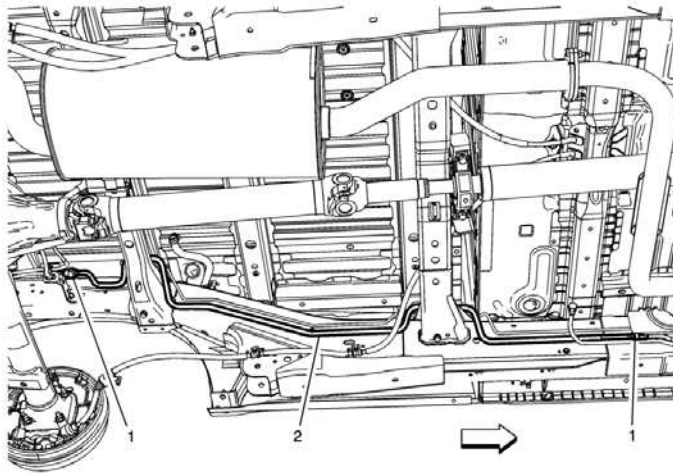
Evaporative Emission Front Pipe Replacement



7. Connect the fuel feed pipe (1) to the fuel rail. Refer to Metal Collar Quick Connect Fitting Service.
8. Start the vehicle and check for leaks.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Evaporative Emission Intermediate Pipe Replacement

Callout

Component Name

Preliminary Procedure

Warning: Refer to Fuel and Evaporative Emission Pipe Warning.

Warning: Refer to Gasoline/Gasoline Vapors Warning.

Caution: Refer to Fuel and Evaporative Emission Hose/Pipe Connection Cleaning Caution.

Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.

Quick Disconnect Fitting

1

Procedure

Disconnect the quick connect fitting at each end of the pipe. Refer to Plastic Collar Quick Connect Fitting Service.

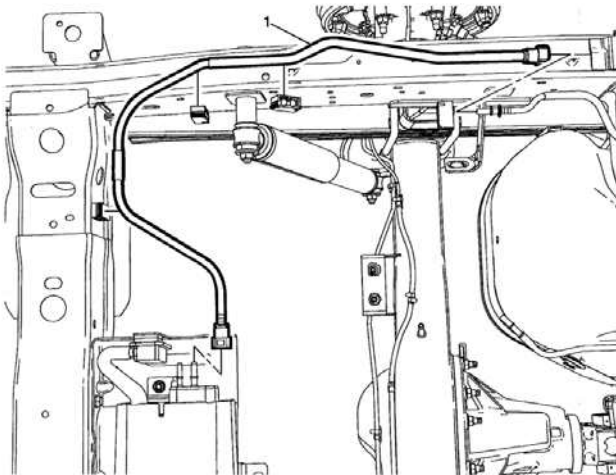
2

Evaporative Emission Intermediate Pipe

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Evaporative Emission Line Replacement - Chassis to Canister

Callout

Component Name

Preliminary Procedure

Raise and properly support the vehicle. Refer to Lifting and Jacking the Vehicle.

Evaporative Emissions Line Chassis to Canister

1

Procedure

Disconnect the evaporative emissions pipe. Refer to Plastic Collar Quick Connect Fitting Service.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

[Removal Procedure](#)

Warning: Refer to Fuel and Evaporative Emission Pipe Warning.

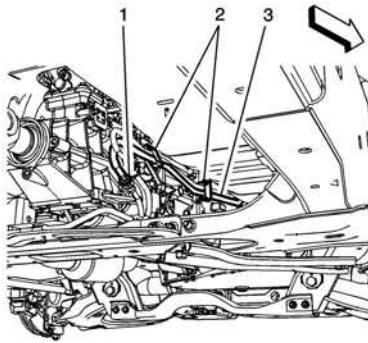
Warning: Refer to Gasoline/Gasoline Vapors Warning.

Caution: Refer to Fuel and Evaporative Emission Hose/Pipe Connection Cleaning Caution.

1. Remove the air cleaner outlet duct. Refer to Air Cleaner Outlet Duct Replacement.



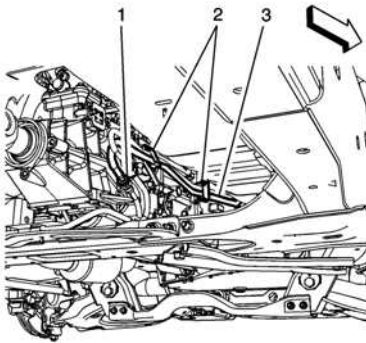
2. Disconnect the evaporative emission pipe quick connect fitting (1) from the evaporative emission canister solenoid valve. Refer to Plastic Collar Quick Connect Fitting Service.
3. Remove the evaporative emission pipe (2) from the evaporative emission canister solenoid valve.
4. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.



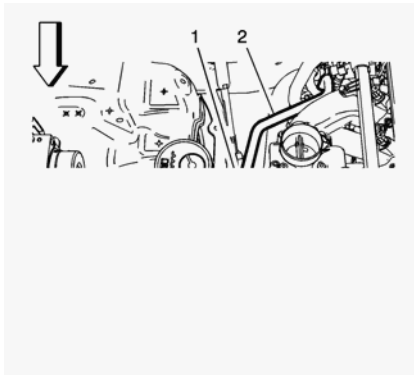
5. Disconnect the evaporative emission pipe quick connect fitting (1) from the fuel feed and evaporative emission pipe. Refer to Plastic Collar Quick Connect Fitting Service.
6. Remove the evaporative emission pipe (3) from the retainers (2).
7. Remove the evaporative emission pipe (3) from the vehicle.

[Installation Procedure](#)

Evaporative Emission Pipe Replacement (LE6)



1. Install the evaporative emission pipe (3) to the vehicle.
2. Install the evaporative emission pipe (3) to the retainers (2).
3. Connect the evaporative emission pipe quick connect fitting (1) to the fuel feed and evaporative emission pipe. Refer to Plastic Collar Quick Connect Fitting Service.
4. Lower the vehicle.



5. Install the evaporative emission pipe (2) to the evaporative emission canister solenoid valve.
6. Connect the evaporative emission pipe quick connect fitting (1) to the evaporative emission canister solenoid valve. Refer to Plastic Collar Quick Connect Fitting Service.
7. Install the air cleaner outlet duct. Refer to Air Cleaner Outlet Duct Replacement.

2013 Chevrolet Colorado

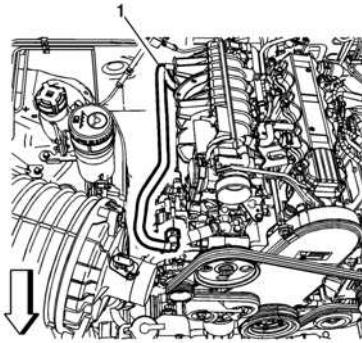
Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

[Removal Procedure](#)

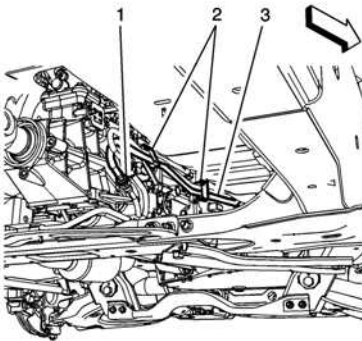
Warning: Refer to Fuel and Evaporative Emission Pipe Warning.

Warning: Refer to Gasoline/Gasoline Vapors Warning.

Caution: Refer to Fuel and Evaporative Emission Hose/Pipe Connection Cleaning Caution.

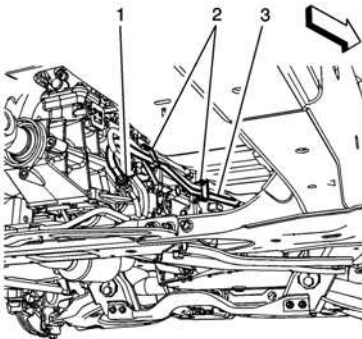


1. Disconnect the evaporative emission pipe (1) from the evaporative emission canister solenoid valve. Refer to Plastic Collar Quick Connect Fitting Service.
2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.



3. Disconnect the evaporative emission pipe quick connect fitting (1) from the fuel feed and evaporative emission pipe. Refer to Plastic Collar Quick Connect Fitting Service.
4. Remove the evaporative emission pipe (3) from the retainers (2).
5. Remove the evaporative emission pipe (3) from the vehicle.

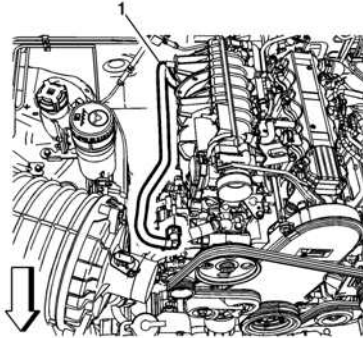
[Installation Procedure](#)



1. Install the evaporative emission pipe (3) to the vehicle.

Evaporative Emission Pipe Replacement (LP8)

2. Install the evaporative emission pipe (3) to the retainers (2).
3. Connect the evaporative emission pipe quick connect fitting (1) to the fuel feed and evaporative emission pipe. Refer to Plastic Collar Quick Connect Fitting Service.
4. Lower the vehicle.

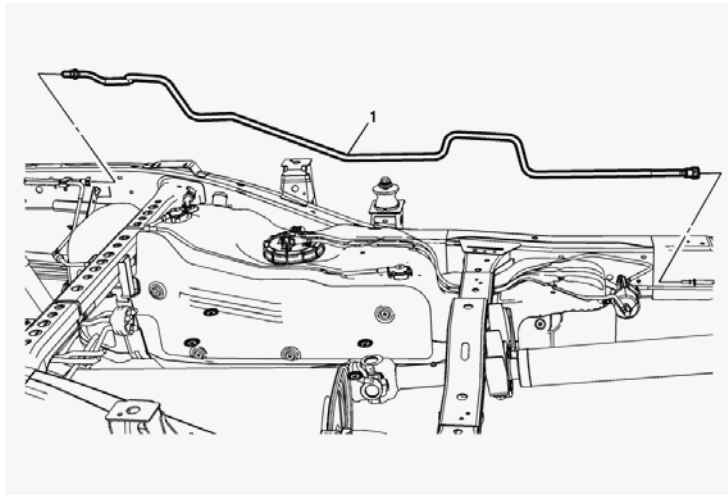


5. Connect the evaporative emission pipe (1) to the evaporative emission canister solenoid valve. Refer to Plastic Collar Quick Connect Fitting Service.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Evaporative Emission Pipe Replacement

Callout

Component Name

Preliminary Procedure

Raise and properly support the vehicle. Refer to Lifting and Jacking the Vehicle.

Evaporative Emissions Pipe

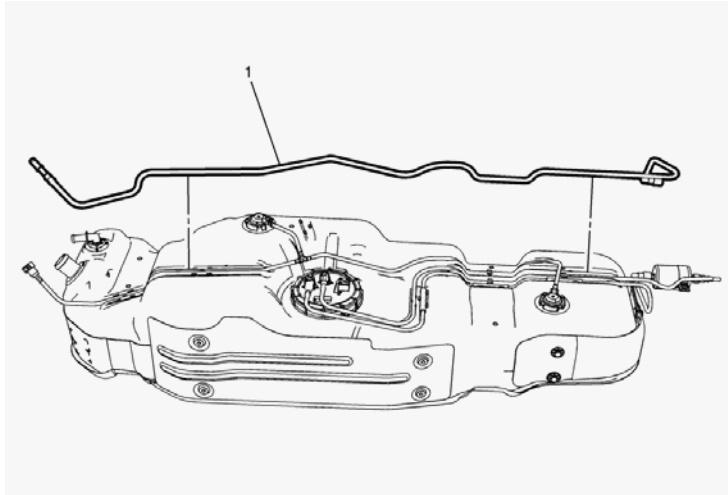
1

Procedure

Disconnect the evaporative emissions pipe. Refer to Plastic Collar Quick Connect Fitting Service.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Evaporative Emission Pipe Replacement

Callout

Component Name

Preliminary Procedure

Remove the fuel tank. Refer to Fuel Tank Replacement.

Evaporative Emissions Pipe

1

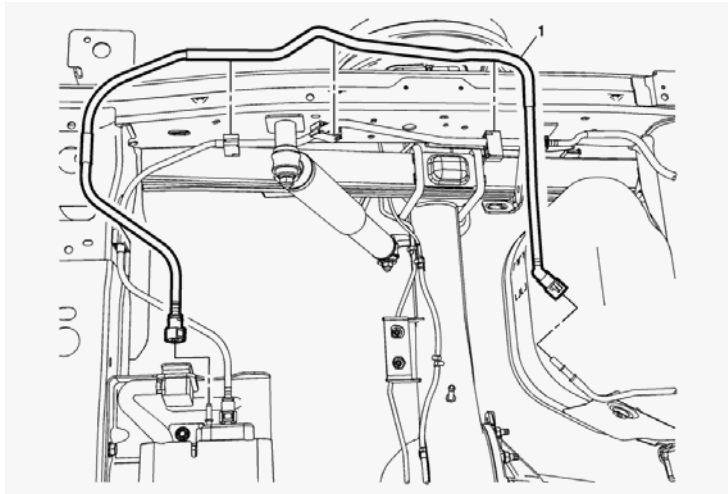
Procedure

Release the evaporative emission pipe from the fuel tank. Note the routing for installation.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Evaporative Emission Rear Pipe Replacement

Callout

Component Name

Preliminary Procedure

Raise and properly support the vehicle. Refer to Lifting and Jacking the Vehicle.

Evaporative Emissions Rear Pipe

1

Procedure

Disconnect the evaporative emissions rear pipe. Refer to Plastic Collar Quick Connect Fitting Service.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

The exhaust gas recirculation (EGR) system is used to reduce the amount of nitrogen oxide (NOx) emission levels caused by high combustion temperatures. At temperatures above 1,371°C (2,500°F), oxygen and nitrogen combine to form NOx. Introducing small amounts of exhaust gas back into the combustion chamber displaces the amount of oxygen entering the engine. With less oxygen in the air/fuel mixture, the combustion pressures are reduced and as a result, combustion temperatures are decreased, restricting the formation of NOx.

System Components

The EGR system consists of the following components:

- EGR valve
- EGR valve solenoid
- EGR valve position sensor
- EGR cooler by-pass valve
- EGR cooler by-pass valve solenoid
- EGR cooler
- Mass air flow (MAF) sensor

System Operation

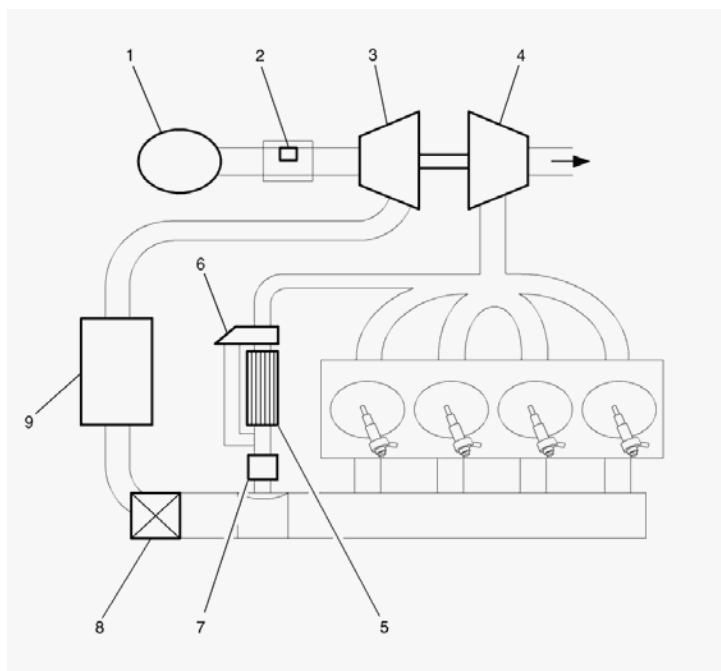
The engine control module (ECM) controls the EGR valve to ensure both driveability and low emissions. The EGR flow amount is based on engine speed, engine coolant temperature (ECT), intake air temperature (IAT), barometric pressure (BARO) and fuel injection quantity. The mass air flow (MAF) sensor monitors EGR flow amount. The expected MAF is compared to actual MAF to determine if the EGR system is functioning correctly.

The EGR valve is vacuum operated through a remote solenoid valve controlled by pulse width modulation (PWM) signal from the ECM. The EGR valve is mounted directly on the intake manifold and consists of a spring-loaded diaphragm connected to a pintle. The valve is held normally closed by the spring tension. As it receives vacuum, the diaphragm rises and pulls the pintle off its seat to enable exhaust flow into the valve's chamber and then on to the intake manifold. An integral valve position sensor detects the position of the pintle and provides a feedback signal to the ECM.

The EGR cooler by-pass valve is a two position, vacuum operated valve. In the rest position, the recirculated gases pass through the cooler. When the by-pass valve is operated, an integral deflector directs the gases directly to the EGR valve. The ECM controls the position of the by-pass valve by means of a solenoid valve.

The cooler by-pass valve is controlled by the ECM to allow cooling of the exhaust gases during high engine load operation or exclusion of the cooling process during idle and light engine load applications.

System Diagram



- (1) Air Filter
- (2) Mass Air Flow Sensor
- (3) Turbocharger Compressor
- (4) Turbocharger Turbine
- (5) EGR Cooler
- (6) EGR Cooler By-Pass Valve
- (7) EGR Valve
- (8) Throttle Body

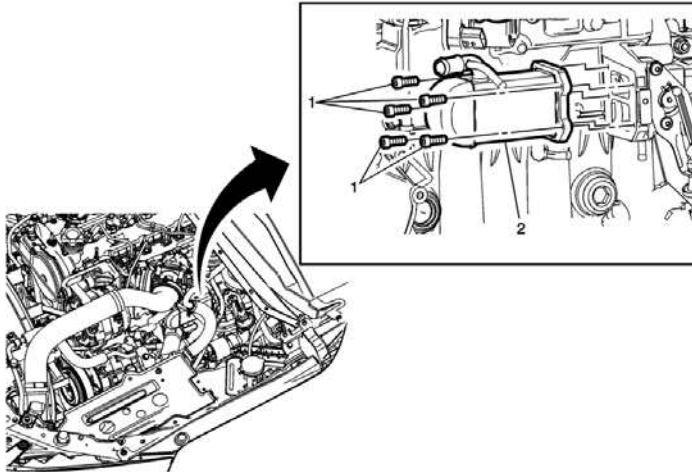
Exhaust Gas Recirculation (EGR) System Description

(9) Turbocharger Intercooler

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Exhaust Gas Recirculation Cooler Replacement

Callout

Component Name

Preliminary Procedure

1. Remove the battery to aid in accessing the EGR Cooler. Refer to Battery Replacement.
2. Partially drain the coolant and refill after repair is complete. Refer to Cooling System Draining and Filling.
3. Disconnect the coolant hoses from the EGR cooler. Refer to Exhaust Gas Recirculation Manifold Cooling Feed Hose Replacement and Exhaust Gas Recirculation Manifold Cooling Return Hose Replacement.

Exhaust Gas Recirculation Cooler Fastener (Qty: 5)

Caution: Refer to Fastener Caution.

1

Tighten

15 Y (11 lb ft)

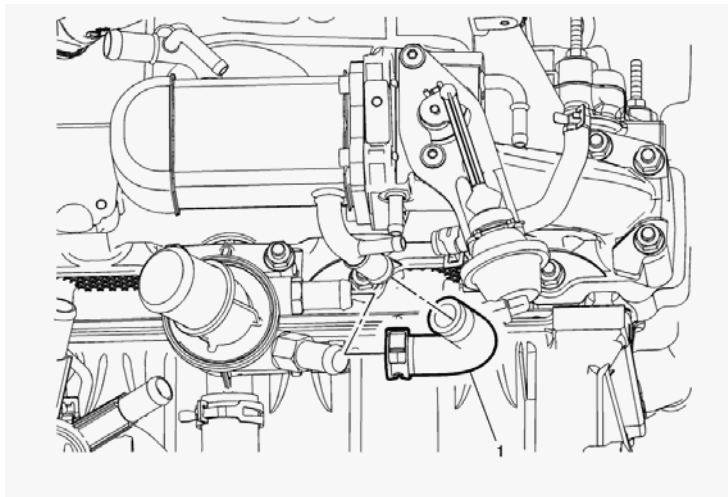
2

Exhaust Gas Recirculation Cooler

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Exhaust Gas Recirculation Manifold Cooling Feed Hose Replacement

Callout

Component Name

Preliminary Procedure

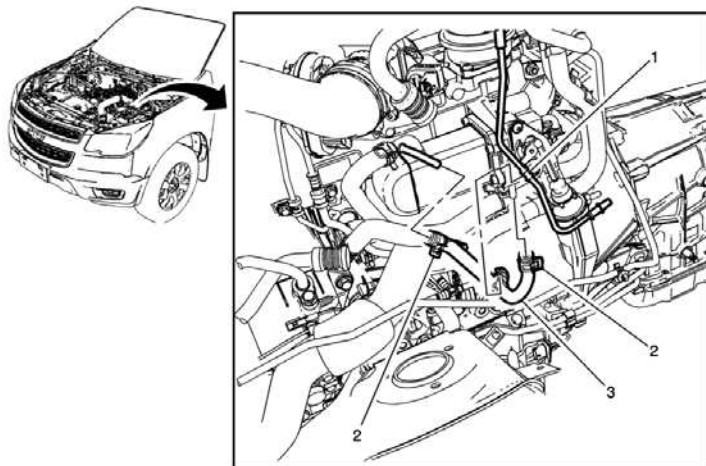
1. Remove the battery to aid in accessing the EGR cooler hoses. Refer to Battery Replacement.
2. Partially drain the coolant and refill after repair is complete. Refer to Cooling System Draining and Filling.

- 1 Exhaust Gas Recirculation Manifold Cooling Feed Hose

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Exhaust Gas Recirculation Manifold Cooling Return Hose Replacement

Callout

Component Name

Preliminary Procedure

Remove the battery. Refer to Battery Replacement.

Special Tools

BO-38185 Hose Clamp Pliers

For equivalent regional tools, refer to Special Tools.

- | | |
|---|--|
| 1 | EGR Valve Vacuum Pipe |
| 2 | EGR Manifold Cooling Return Hose Clamp |
| | EGR Manifold Cooling Return Hose |

Procedure

- | | |
|---|---|
| 3 | 1. Unclip the EGR vacuum pipe (1) from the EGR cooling return hose and set aside. |
| | 2. Remove the EGR manifold cooling return hose. |

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

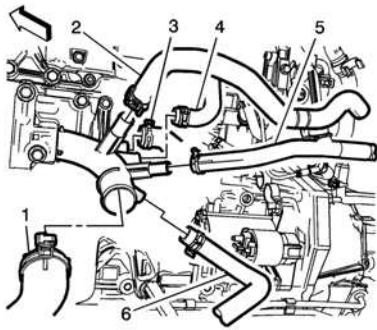
Special Tools

BO-38185 Hose Clamp Pliers

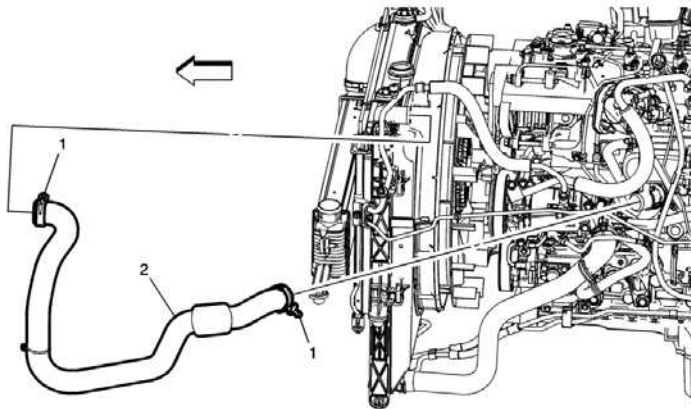
For equivalent regional tools, refer to Special Tools.

Removal Procedure

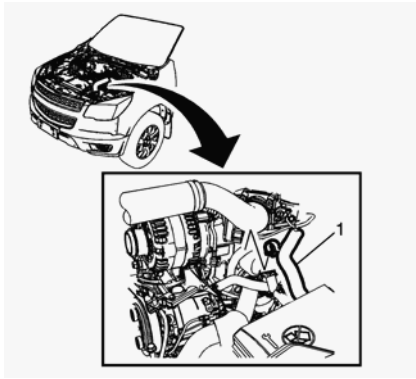
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the wheel. Refer to Tire and Wheel Removal and Installation.
3. Drain the cooling system. Refer to Cooling System Draining and Filling.
4. Remove the engine lower front splash shield. Refer to Engine Lower Front Splash Shield Replacement.
5. Remove the battery. Refer to Battery Replacement.



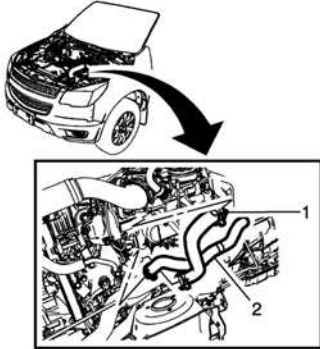
6. Remove the coolant recovery reservoir inlet hose (2) using the BO-38185 pliers from the water pump inlet pipe.



7. Remove the radiator inlet pipe clamp (1) to the thermostat housing and remove the radiator inlet pipe (2).

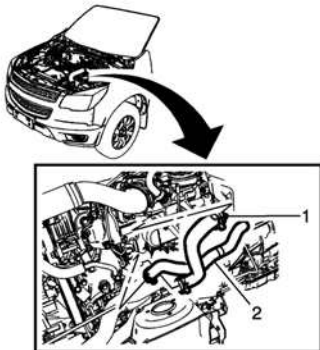


8. Disconnect the fuel injector harness (1) from the EGR manifold cooling return hose and set aside.

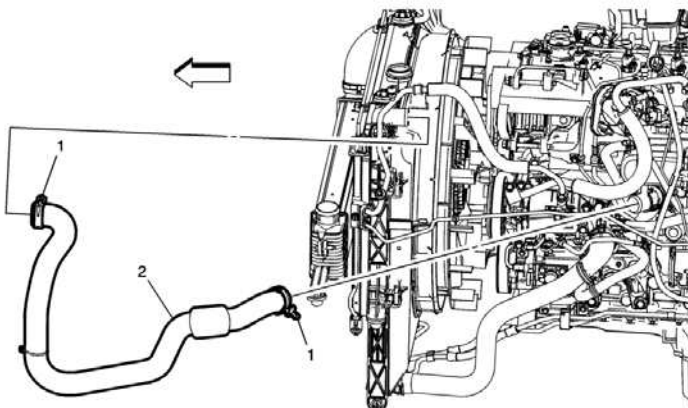


9. Remove the coolant recovery reservoir inlet hose at the water pump inlet pipe.
10. Remove the EGR manifold cooling return hose clamps (1) and remove the EGR manifold cooling return hose.

[Installation Procedure](#)

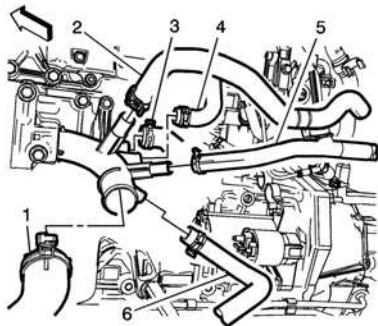


1. Install the EGR manifold cooling return hose (2) with the hose clamps (1).

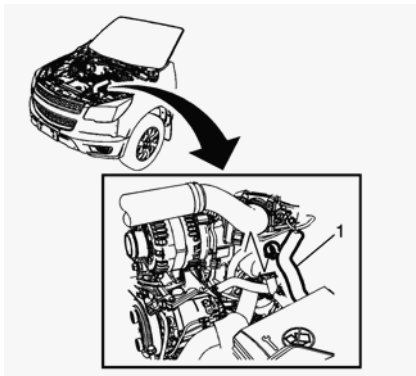


2. Install the radiator inlet pipe (2) to the thermostat housing with the clamp (1).

Exhaust Gas Recirculation Manifold Cooling Return Hose Replacement (Water pump pipe to EGR cooler)



3. Install the coolant recovery reservoir inlet hose (2) to the water pump inlet pipe.

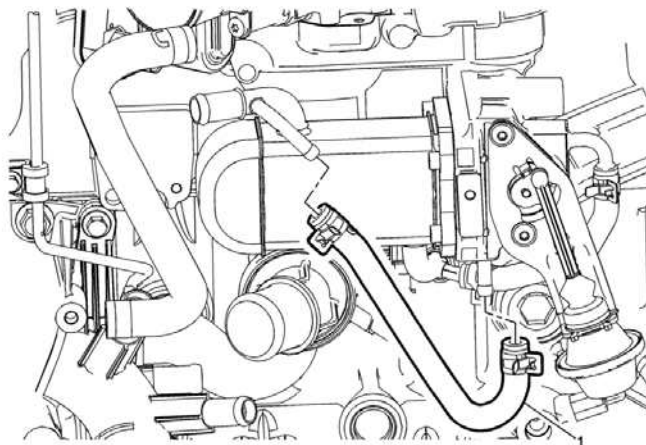


4. Connect the fuel injector harness clip (1) onto the EGR manifold cooling return hose.
5. Install the battery. Refer to Battery Replacement.
6. Install the left front wheelhouse liner. Refer to Front Wheelhouse Liner Replacement.
7. Fill the cooling system. Refer to Cooling System Draining and Filling.
8. Start the engine and check for coolant leaks.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Exhaust Gas Recirculation Manifold Cooling Return Hose Replacement

Callout

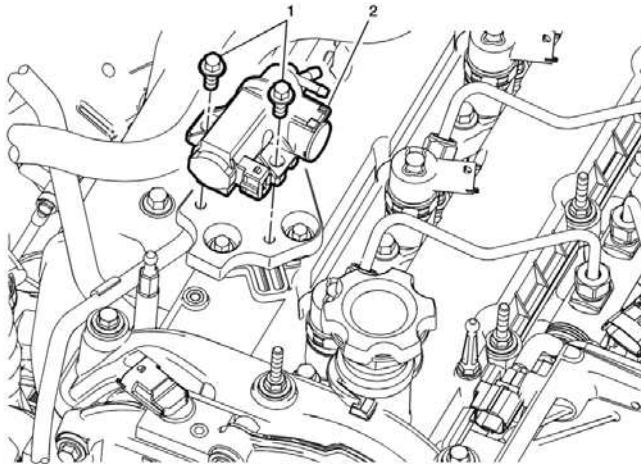
Component Name

Preliminary Procedure

1. Remove the battery to aid in accessing the EGR cooler hoses. Refer to Battery Replacement.
2. Partially drain the coolant and refill after repair is complete. Refer to Cooling System Draining and Filling.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Exhaust Gas Recirculation Vacuum Regulator Valve Solenoid Replacement

Callout

Component Name

Preliminary Procedure

Remove the intake manifold cover. Refer to Intake Manifold Cover Replacement.

Exhaust Gas Recirculation Vacuum Regulator Valve Solenoid Fastener (Qty: 2)

Caution: Refer to Fastener Caution

1

Tighten

10 Y (89 lb in)

Exhaust Gas Recirculation Vacuum Regulator Valve Solenoid

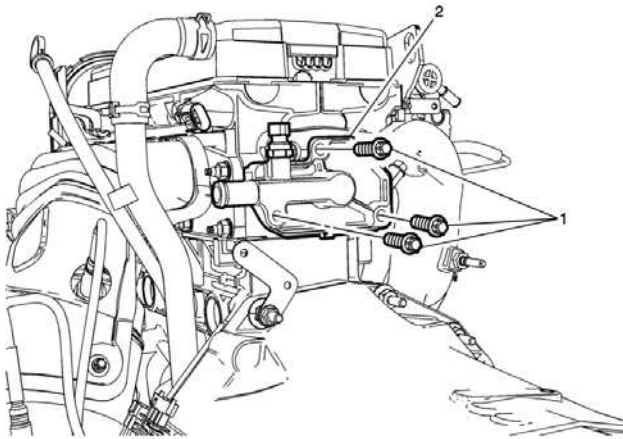
Procedure

2

1. Disconnect the electrical connector.
2. Disconnect the vacuum hoses.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Exhaust Gas Recirculation Valve Adapter Replacement

Callout

Component Name

Preliminary Procedure

1. Drain the coolant. Refer to Cooling System Draining and Filling.
2. Remove the engine coolant temperature sensor. Refer to Engine Coolant Temperature Sensor Replacement.
3. Remove the coolant hose from the exhaust gas recirculation valve adapter.

Exhaust Gas Recirculation Valve Adapter Fasteners (Qty: 3)

Caution: Refer to Fastener Caution.

1

Tighten

11 Y (97 lb in)

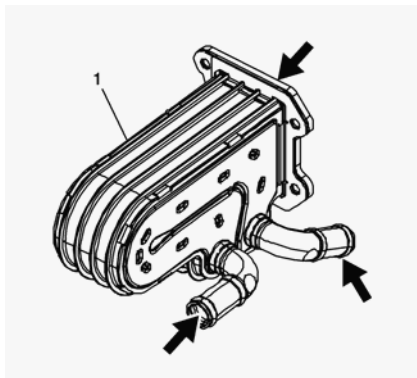
2

Exhaust Gas Recirculation Valve Adapter

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

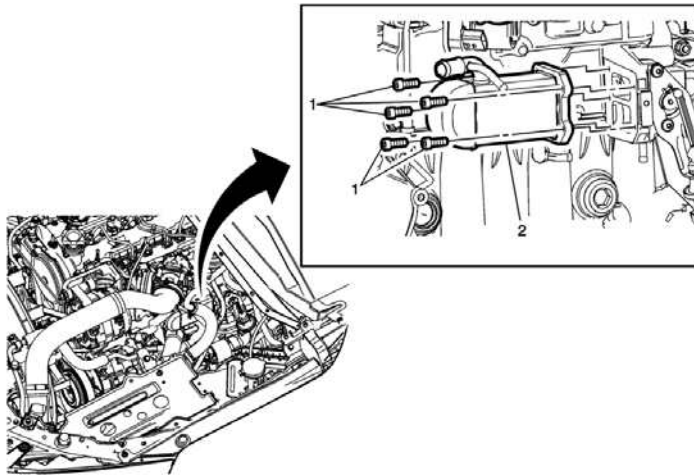
Fuel Delivery: | Fuel:



1. Clean and inspect the EGR cooler (1).
2. Clean and inspect the EGR cooler gasket surfaces.
3. Replace the EGR or cooler if damaged.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Exhaust Gas Recirculation Valve Cooler Replacement

Callout

Component Name

Preliminary Procedure

1. Remove the battery to aid in accessing the EGR Cooler. Refer to Battery Replacement.
2. Partially drain the coolant and refill after repair is complete. Refer to Cooling System Draining and Filling.
3. Disconnect the coolant hoses from the EGR cooler. Refer to Exhaust Gas Recirculation Manifold Cooling Feed Hose Replacement and Exhaust Gas Recirculation Manifold Cooling Return Hose Replacement.

Exhaust Gas Recirculation Cooler Fastener (Qty: 5)

Caution: Refer to Fastener Caution.

1

Tighten

15 Y (11 lb ft)

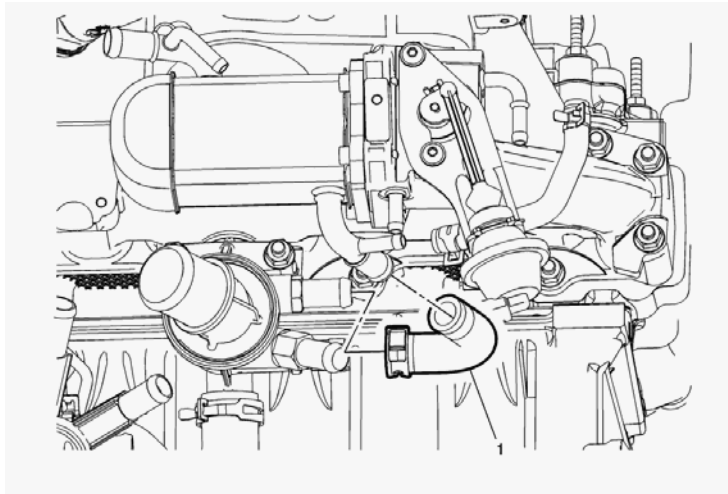
2

Exhaust Gas Recirculation Cooler

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Exhaust Gas Recirculation Valve Cooling Feed Hose Replacement

Callout

Component Name

Preliminary Procedure

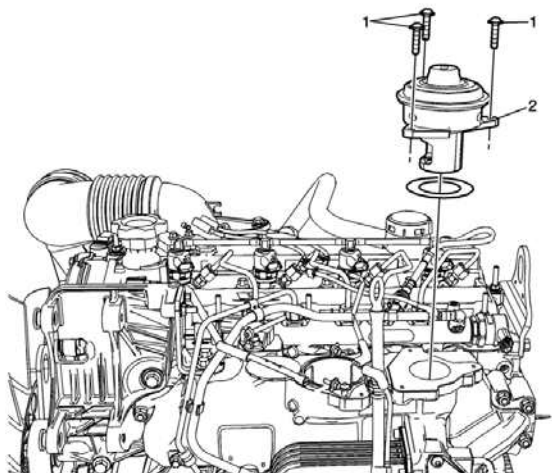
1. Remove the battery to aid in accessing the EGR cooler hoses. Refer to Battery Replacement.
2. Remove the engine lower front splash shield. Refer to Engine Lower Front Splash Shield Replacement.
3. Partially drain the coolant and refill after repair is complete. Refer to Cooling System Draining and Filling.

- 1 Exhaust gas recirculation manifold cooling feed hose

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Exhaust Gas Recirculation Valve Replacement

Callout

Component Name

Preliminary Procedure

Remove the intake manifold cover. Refer to Intake Manifold Cover Replacement.

Exhaust Gas Recirculation Fastener

Caution: Refer to Fastener Caution.

1

Tighten

10 Y (89 lb in)

Exhaust Gas Recirculation

2

Procedure

Reinstall the EGR using a gasket.

2013 Chevrolet Colorado

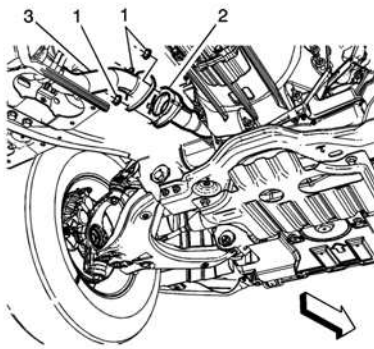
Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

[Removal Procedure](#)

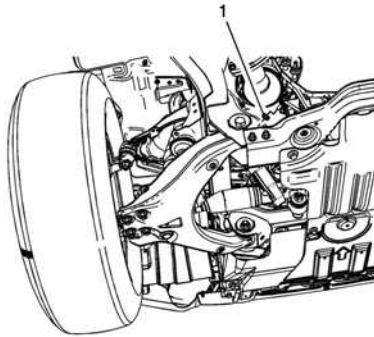
Warning: Refer to Exhaust Service Warning.

Warning: Refer to Eye Protection Warning.

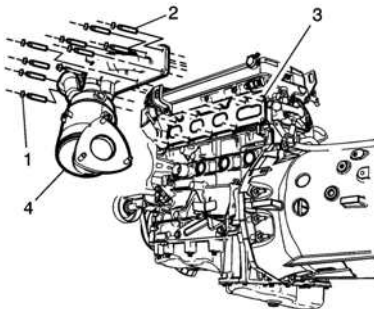
1. Remove the heated oxygen sensor – 1. Refer to Heated Oxygen Sensor Replacement - Sensor 1.
2. Remove the heated oxygen sensor – 2. Refer to Heated Oxygen Sensor Replacement - Sensor 2.
3. Remove the exhaust manifold heat shield. Refer to Exhaust Manifold Heat Shield Replacement.
4. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
5. Remove the left front wheelhouse liner. Refer to Front Wheelhouse Liner Replacement.



6. Remove the exhaust front pipe fasteners (1) and discard the exhaust gasket (2).



7. Remove the catalytic converter brace fastener (1) and slide the large clamp away from the stud.

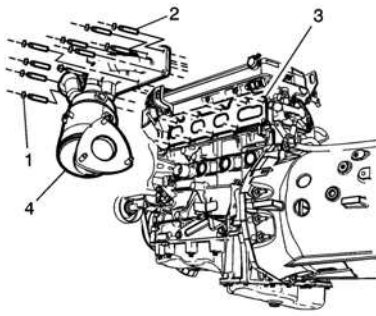


8. Remove the exhaust manifold with catalytic converter fasteners (1).

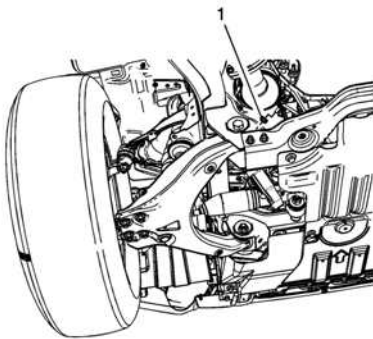
Note: Inspect any exhaust manifold studs (2) for damage and replace as necessary.

9. Remove the exhaust manifold with catalytic converter (4) and discard the exhaust manifold gasket (3).

[Installation Procedure](#)

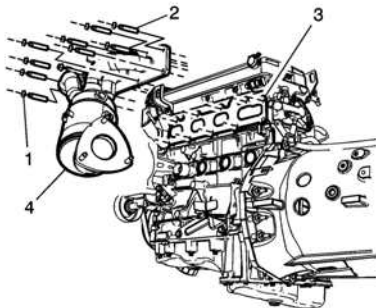


1. Position the exhaust manifold with catalytic converter (4) to the cylinder head with a NEW gasket (3).
2. Finger tighten the exhaust manifold fasteners (1).

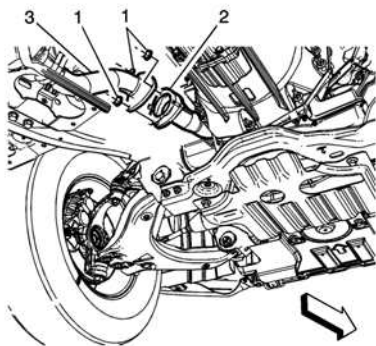


Caution: Refer to Fastener Caution.

3. Install the catalytic converter brace clamp fastener (1), to the catalytic converter brace stud. Tighten the fastener (1) to **20 Y (15 lb ft)**.



4. Tighten the exhaust manifold fasteners (1) to **10 Y (89 lb in) +170-185 degrees**.



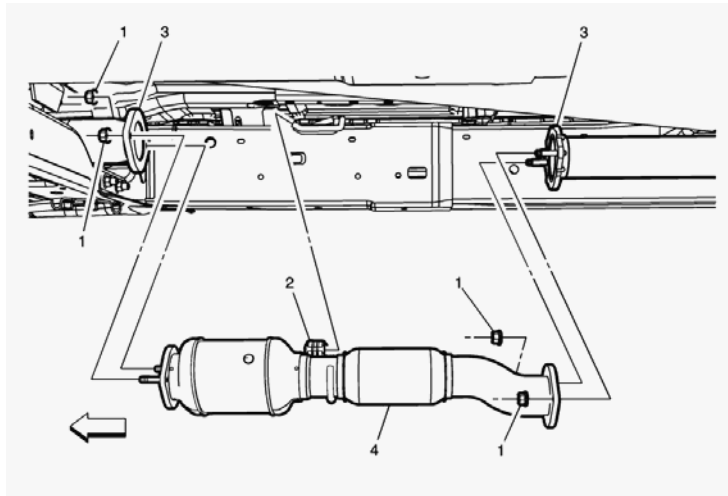
5. Install the exhaust front pipe (3) to the catalytic converter with a NEW gasket (2). Tighten the fasteners (1) to **28 Y (21 lb ft)**.
6. Install the heated oxygen sensor – 2. Refer to Heated Oxygen Sensor Replacement - Sensor 2.
7. Install the heated oxygen sensor – 1. Refer to Heated Oxygen Sensor Replacement - Sensor 1.
8. Install the left front wheelhouse liner. Refer to Front Wheelhouse Liner Replacement.

Exhaust Manifold with Catalytic Converter Replacement (LE6)

9. Install the exhaust manifold heat shield. Refer to Exhaust Manifold Heat Shield Replacement.
10. Start the engine and check for exhaust leaks.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Exhaust Pipe Replacement

Callout

Component Name

Warning: Refer to Exhaust Service Warning.

Warning: Refer to Eye Protection Warning.

Preliminary Procedure

Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.

Exhaust Muffler Fasteners (Qty: 4)

Caution: Refer to Fastener Caution.

1

Tighten

28 Y (21 lb ft).

2

Exhaust Isolator

3

Exhaust Gaskets

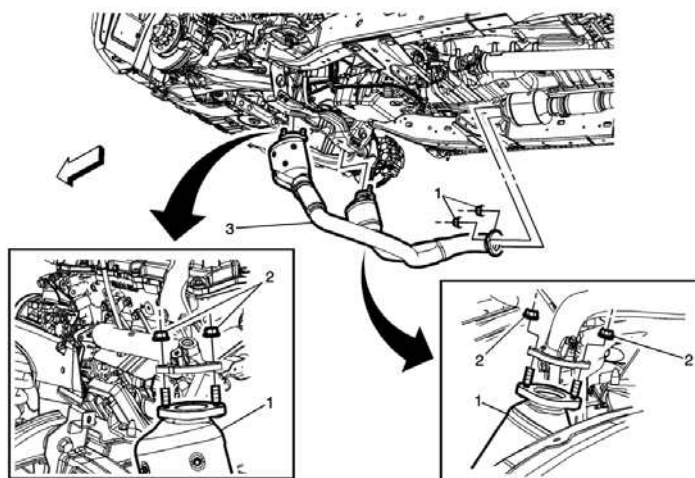
Note: Replace with NEW gaskets.

4

Exhaust Pipe with Catalytic Converter

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Front Pipe Replacement

Callout

Component Name

Warning: Refer to Exhaust Service Warning.

Warning: Refer to Eye Protection Warning.

Preliminary Procedure

1. Remove the transmission rear mount. Refer to Transmission Mount Replacement.
2. Remove the front differential drive pinion gear yoke. Refer to Front Differential Drive Pinion Gear Yoke Replacement.
3. Remove the left exhaust manifold heat shield. Refer to Exhaust Manifold Heat Shield Replacement - Left Side.
4. Remove the right exhaust manifold heat shield. Refer to Exhaust Manifold Heat Shield Replacement - Right Side.
5. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.

Exhaust Muffler Fasteners (Qty: 2)

- 1 **Caution:** Refer to Fastener Caution.

Tighten

28 Y (21 lb ft).

Exhaust Manifold Pipe Fasteners (Qty: 4)

- 2 **Tighten**

45 Y (33 lb ft).

Exhaust Front Pipe and Catalytic Converters

- 3

Note: Replace with NEW gaskets.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

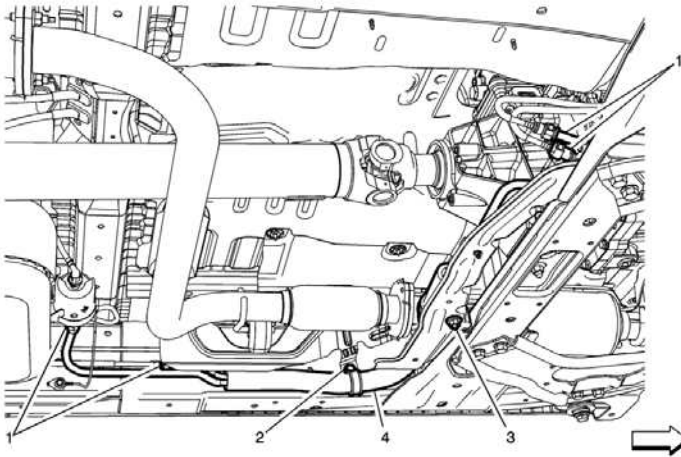
Warning: In order to reduce the risk of fire and personal injury observe the following items:

- Replace all nylon fuel pipes that are nicked, scratched or damaged during installation, do not attempt to repair the sections of the nylon fuel pipes
- Do not hammer directly on the fuel harness body clips when installing new fuel pipes. Damage to the nylon pipes may result in a fuel leak.
- Always cover nylon vapor pipes with a wet towel before using a torch near them. Also, never expose the vehicle to temperatures higher than 115°C (239°F) for more than one hour, or more than 90°C (194°F) for any extended period.
- Apply a few drops of clean engine oil to the male pipe ends before connecting fuel pipe fittings. This will ensure proper reconnection and prevent a possible fuel leak. (During normal operation, the O-rings located in the female connector will swell and may prevent proper reconnection if not lubricated.)

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Fuel Feed and Evaporative Emission Pipe Replacement

Callout

Component Name

Preliminary Procedure

1. Revile the fuel system pressure. Refer to Fuel Pressure Relief.
2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.

Quick Connect Fittings (Qty: 4)

1

Procedure

Disconnect the fuel feed and evaporative emission pipe quick connect fittings. Refer to Plastic Collar Quick Connect Fitting Service.

Fuel Feed and Evaporative Emission Pipe Bolt

2

Caution: Refer to Fastener Caution.

Tighten

25 Y (18 lb ft)

Fuel Feed and Evaporative Emission Pipe Nut

3

Caution: Refer to Fastener Caution.

Tighten

25 Y (18 lb ft)

4

Fuel Feed and Evaporative Emission Pipe

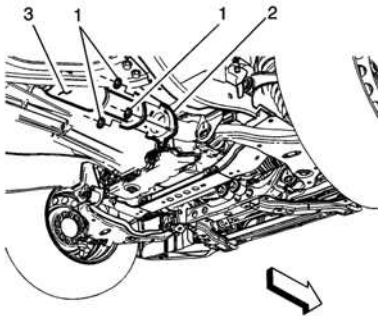
2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

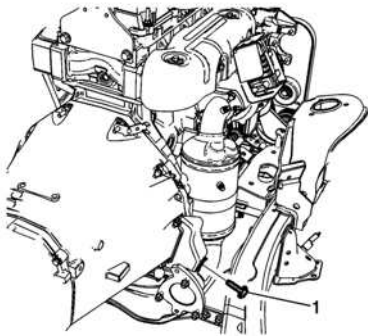
[Removal Procedure](#)

Warning: Refer to Exhaust Service Warning.

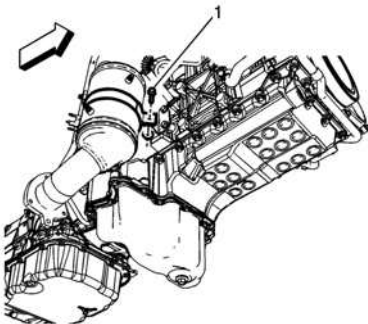
1. Remove the intake manifold cover. Refer to Intake Manifold Cover Replacement.
2. Remove the transmission oil level indicator tube, if equipped.
3. Remove the radiator surge tank and set aside the power steering reservoir. Refer to Radiator Surge Tank Replacement.
4. Remove the exhaust manifold heat shield. Refer to Exhaust Manifold Heat Shield Replacement.
5. Remove the catalytic converter heat shield. Refer to Catalytic Converter Heat Shield Replacement.
6. Remove the engine lower front splash shield. Refer to Engine Lower Front Splash Shield Replacement.



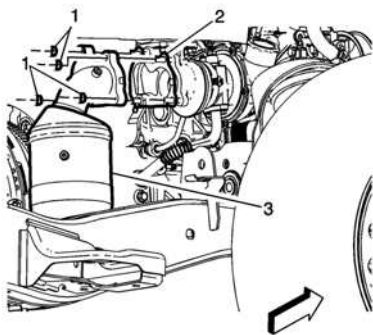
7. Remove the exhaust front pipe fasteners (1) and discard the exhaust gasket (2).



8. Remove the catalytic converter brace fastener (1).

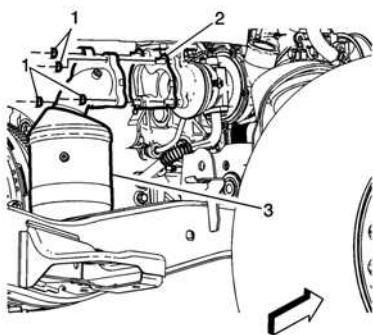


9. Remove the catalytic converter brace bracket fastener (1).

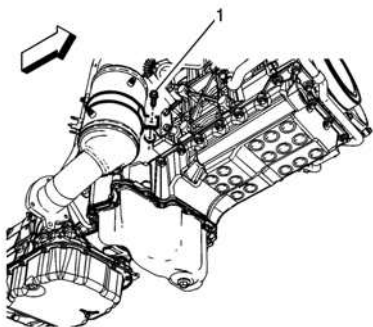


10. Remove the oxidation catalytic converter fasteners (1) and discard the gasket (2).
11. Remove the catalytic converter (3) from the engine compartment.

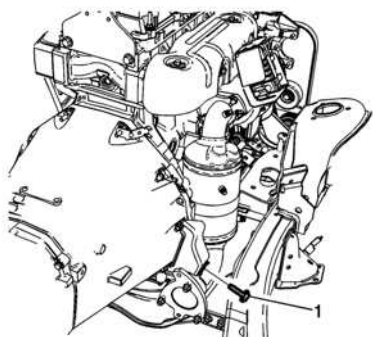
[Installation Procedure](#)



1. Install the catalytic converter (3) onto the turbocharger with a NEW gasket (2).
2. Hand tighten the fasteners (1).



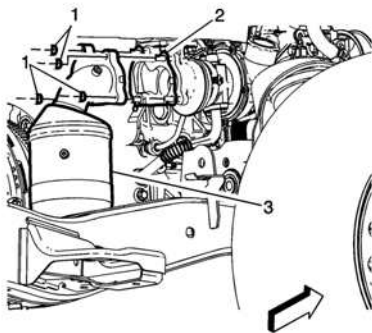
3. Install the catalytic converter brace bracket fastener (1) and tighten to **25 Y (18 lb ft)**.



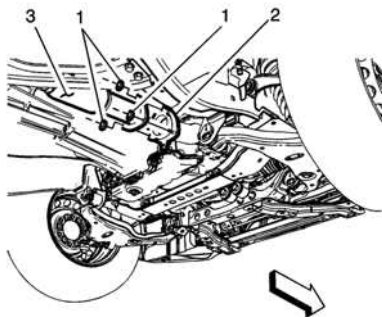
Caution: Refer to Fastener Caution.

4. Install the catalytic converter support fastener (1) to the catalytic converter brace and tighten to **25 Y (18 lb ft)**.

Oxidation Catalytic Converter Replacement (LVN)



5. Tighten the turbocharger fasteners (1) to **25 Y (18 lb ft)**.



6. Install the exhaust front pipe (3) to the catalytic converter with a **NEW** gasket (2) and tighten the fasteners (1) to **28 Y (21 lb ft)**.
7. Install the catalytic converter heat shield. Refer to Catalytic Converter Heat Shield Replacement.
8. Install the exhaust manifold heat shield. Refer to Exhaust Manifold Heat Shield Replacement.
9. Install the transmission oil level indicator tube, if equipped.
10. Install the radiator surge tank and the power steering reservoir. Refer to Radiator Surge Tank Replacement.
11. Install the intake manifold cover. Refer to Intake Manifold Cover Replacement.
12. Start the engine and check for exhaust leaks.

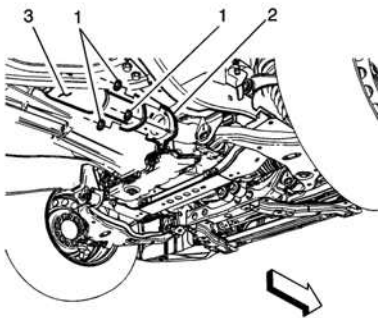
2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

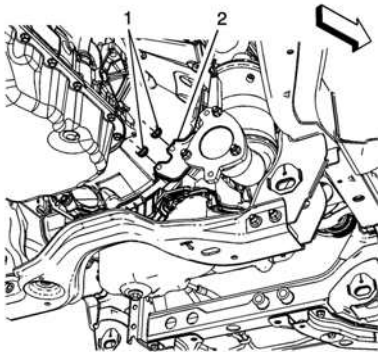
[Removal Procedure](#)

Warning: Refer to Exhaust Service Warning.

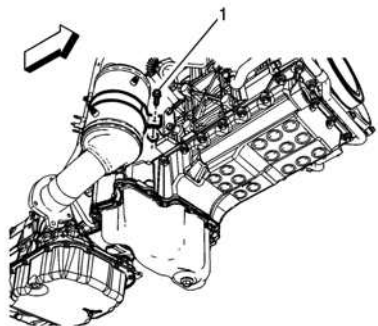
1. Remove the intake manifold cover. Refer to Intake Manifold Cover Replacement.
2. Remove the transmission oil level indicator tube, if equipped.
3. Remove the radiator surge tank and set aside the power steering reservoir. Refer to Radiator Surge Tank Replacement.
4. Remove the exhaust manifold heat shield. Refer to Exhaust Manifold Heat Shield Replacement.
5. Remove the catalytic converter heat shield. Refer to Catalytic Converter Heat Shield Replacement.
6. Remove the engine lower front splash shield. Refer to Engine Lower Front Splash Shield Replacement.



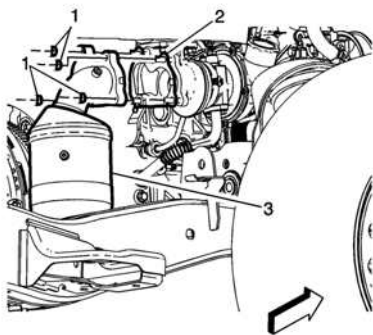
7. Remove the exhaust front pipe fasteners (1) and discard the exhaust gasket (2).



8. Remove the fasteners (1) from the oxidation catalytic converter brace (2).

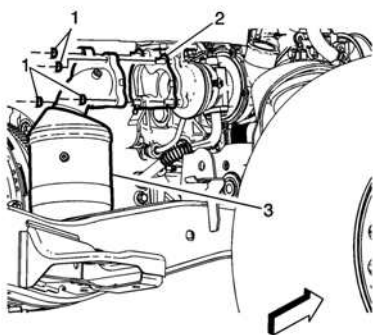


9. Remove the catalytic converter brace bracket fastener (1).

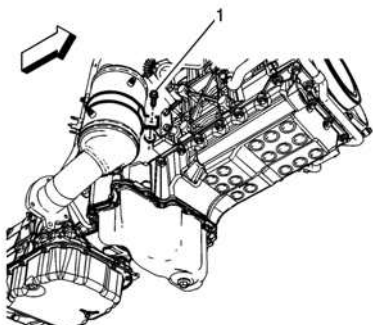


10. Remove the oxidation catalytic converter fasteners (1) and discard the gasket (2).
11. Remove the catalytic converter (3) from the engine compartment.

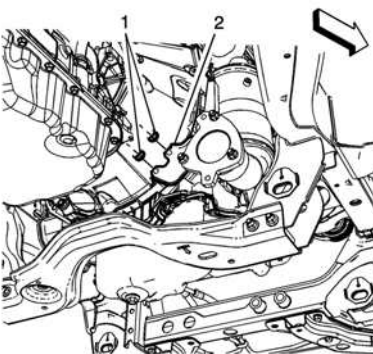
[Installation Procedure](#)



1. Install the catalytic converter (3) onto the turbocharger with a NEW gasket (2).
2. Hand tighten the fasteners (1).

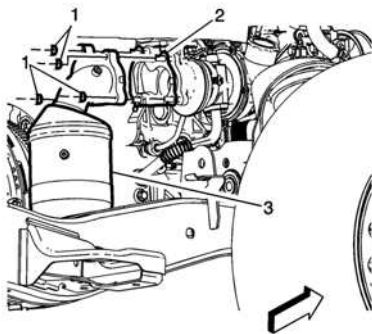


3. Install the catalytic converter brace bracket fastener (1) and tighten to **25 Y (18 lb ft)**.

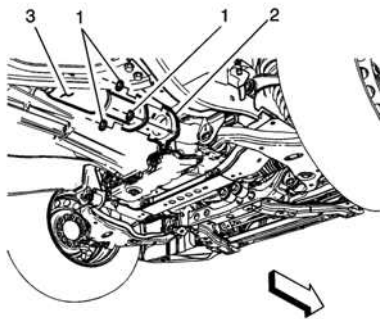


Caution: Refer to Fastener Caution.

4. Install the catalytic converter support fasteners (1) to the catalytic converter brace (2) and tighten to **25 Y (18 lb ft)**.



5. Tighten the turbocharger fasteners (1) to **25 Y (18 lb ft)**.



6. Install the exhaust front pipe (3) to the catalytic converter with a NEW gasket (2) and tighten the fasteners (1) to **28 Y (21 lb ft)**.
7. Install the catalytic converter heat shield. Refer to Catalytic Converter Heat Shield Replacement.
8. Install the exhaust manifold heat shield. Refer to Exhaust Manifold Heat Shield Replacement.
9. Install the transmission oil level indicator tube, if equipped.
10. Install the radiator surge tank and the power steering reservoir. Refer to Radiator Surge Tank Replacement.
11. Install the intake manifold cover. Refer to Intake Manifold Cover Replacement.
12. Start the engine and check for exhaust leaks.

2013 Chevrolet Colorado

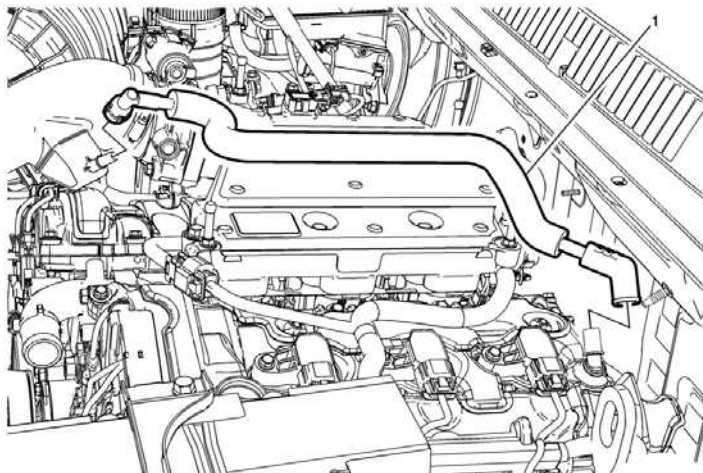
Submodel: | **Engine Type:** | **Liters:**
Fuel Delivery: | **Fuel:**

Caution: Clean all of the following areas before performing any disconnections in order to avoid possible contamination in the system:

- The fuel pipe connections
- The hose connections
- The areas surrounding the connections

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Positive Crankcase Ventilation Hose/Pipe/Tube Replacement

Callout

Component Name

Preliminary Procedure

Remove the intake manifold cover. Refer to Intake Manifold Cover Replacement.

Positive Crankcase Ventilation Tube

1

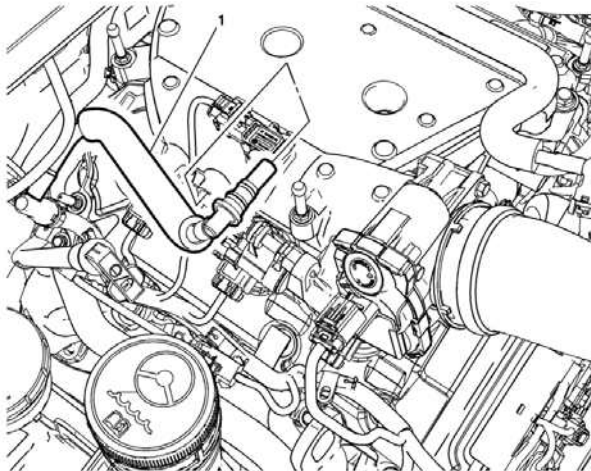
Procedure

Remove tube from valve cover and air cleaner outlet tube. Refer to Plastic Collar Quick Connect Fitting Service.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Positive Crankcase Ventilation Hose/Pipe/Tube Replacement

Callout

Component Name

Preliminary Procedure

Remove the intake manifold cover. Refer to Intake Manifold Cover Replacement.

Positive Crankcase Ventilation Tube

1

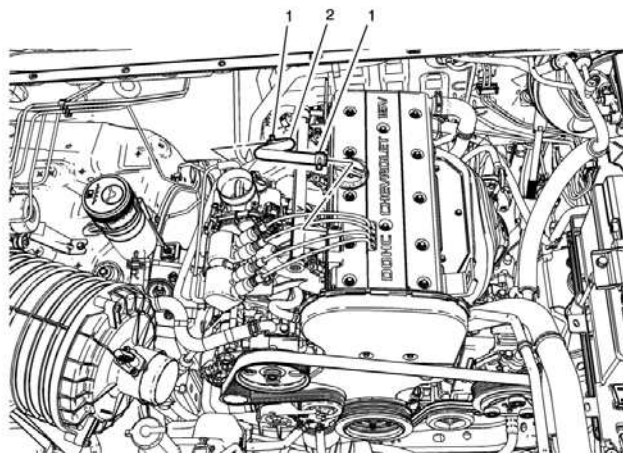
Procedure

Remove tube from valve cover and intake manifold. Refer to Plastic Collar Quick Connect Fitting Service.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Positive Crankcase Ventilation Hose/Pipe/Tube Replacement

Callout

Component Name

Preliminary Procedure

1. Remove air cleaner outlet duct. Refer to Air Cleaner Outlet Duct Replacement.
2. Remove throttle body assembly. Refer to Throttle Body Assembly Replacement.

PCV Hose Clamps (Qty: 2)

1

Special tool

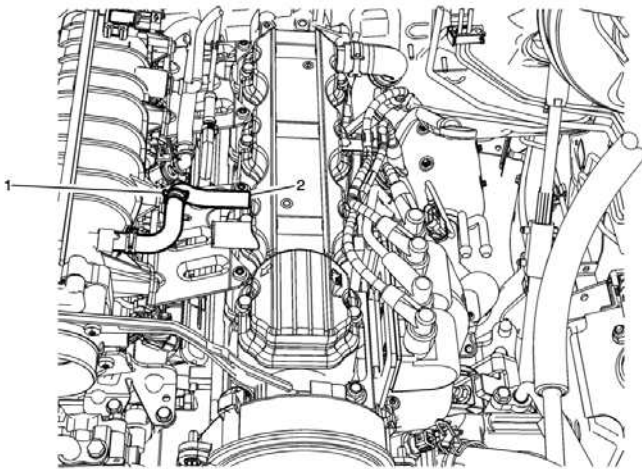
BO- 38185 Hose Clamp

2

PCV hose

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



Positive Crankcase Ventilation Hose/Pipe/Tube Replacement

Callout

Component Name

Preliminary procedure

Remove the air cleaner resonator. Refer to Air Cleaner Outlet Resonator Replacement.

- | | |
|---|--------------------------|
| 1 | PCV Hose Clamps (Qty: 2) |
| 2 | PCV hose |

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

Caution: In order to avoid damaging the replacement three-way catalytic converter, correct the engine misfire or mechanical fault before replacing the three-way catalytic converter.