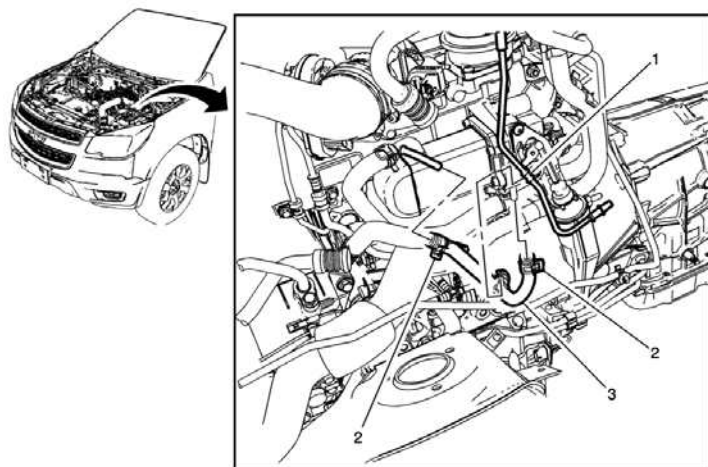


2013 Chevrolet Colorado

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 |

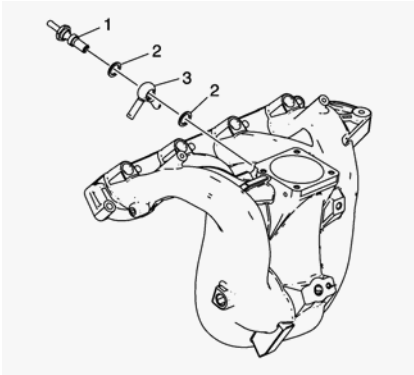
Procedure

3

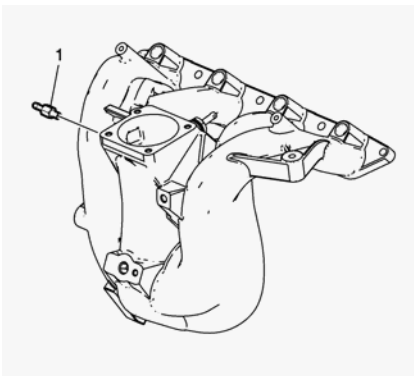
1. Unclip the EGR vacuum pipe (1) from the EGR cooling return hose and set aside.
2. Remove the EGR manifold cooling return hose.

2013 Chevrolet Colorado

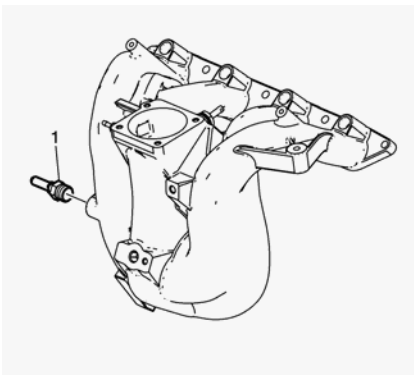
Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



1. Install the seals (2) and vacuum source manifold connector (3).
2. Install the throttle body heater hose fitting (1) and tighten to **35 Y (26 lb ft)**.

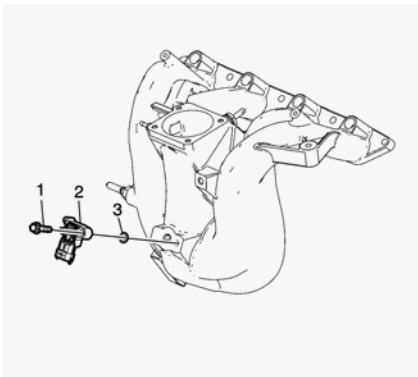


3. Install the intake manifold vacuum fitting assembly (1) and tighten to **23 Y (17 lb ft)**.



4. Install the power brake booster vacuum tube connector (1).

Intake Manifold Assemble (LE6)



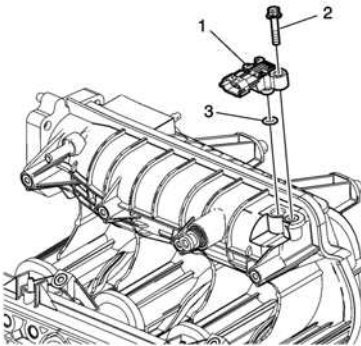
5. Install the manifold absolute pressure (MAP) sensor (2) and NEW O-ring seal (3).

Caution: Refer to Fastener Caution.

6. Install the MAP sensor bolt (1) and tighten to **8.0 Y (70.8 lb in)**.

2013 Chevrolet Colorado

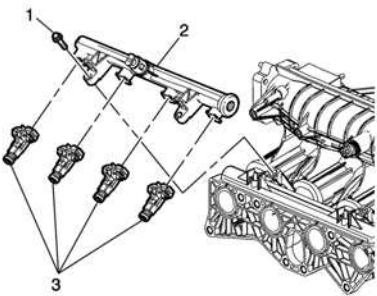
Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



1. Install the manifold absolute pressure (MAP) sensor (1) and NEW O-ring seal (3).

Caution: Refer to Fastener Caution.

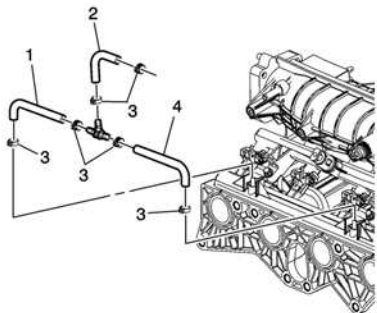
2. Install the MAP sensor bolt (2) and tighten to **8.0 Y (70.8 lb in)**.



3. Install the injectors (3) and fuel rail (2).

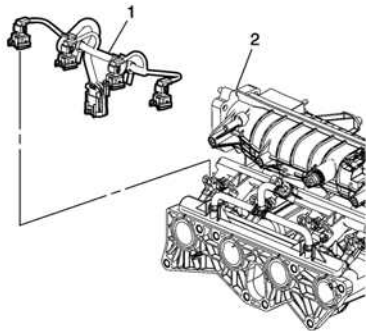
Caution: Refer to Fastener Caution.

4. Install the fuel rail bolts (1) and tighten to **8.0 Y (70.8 lb in)**.



5. Install the cold start fuel injector hoses (1 and 4) with NEW clamps (3).
6. Install the cold start fuel feed hose (2) with NEW clamps (3).

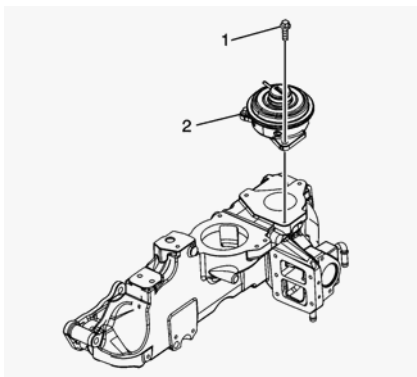
Intake Manifold Assemble (LP8)



7. Install the fuel injection fuel rail wiring harness (1).

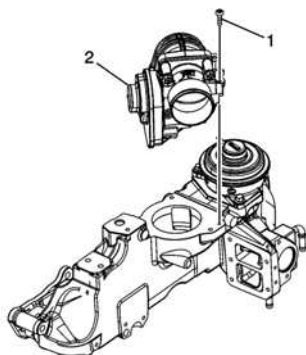
2013 Chevrolet Colorado

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



Caution: Refer to Fastener Caution.

1. Install the EGR valve assembly (2) and bolts (1) on the intake manifold. Tighten the bolts to **11 Y (97 lb in)**.

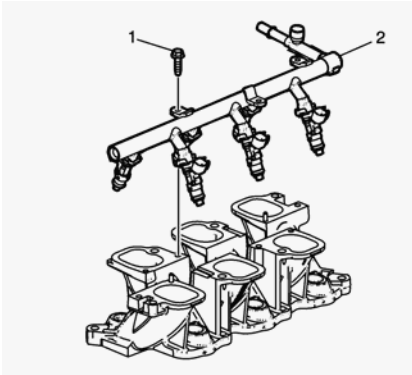


2. Install the throttle body assembly (2) and bolts (1) on the intake manifold. Tighten the bolts to **11 Y (97 lb in)**.

2013 Chevrolet Colorado

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

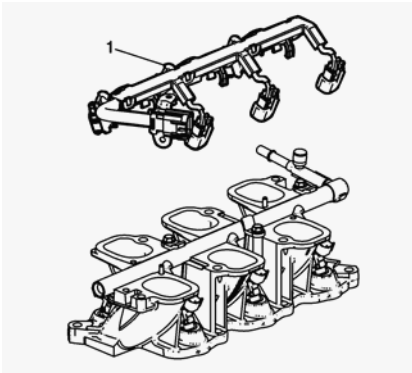
[Lower Intake Manifold Assemble Procedure](#)



1. Install the fuel injector rail (2).

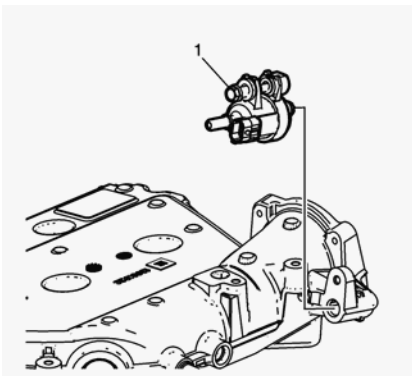
Caution: Refer to Fastener Caution.

2. Install the fuel injector rail bolt (1) and tighten to **10 Y (89 lb in)**.

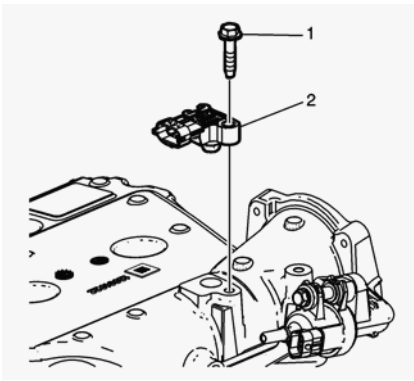


3. Install the fuel injector wiring harness connector (3).

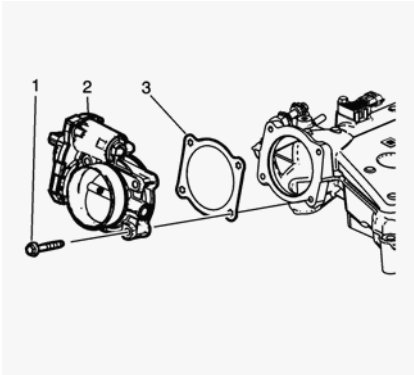
[Upper Intake Manifold Assemble Procedure](#)



1. Install the evaporative (EVAP) solenoid (1).
2. Tighten EVAP solenoid bolt to **10 Y (89 lb in)**.

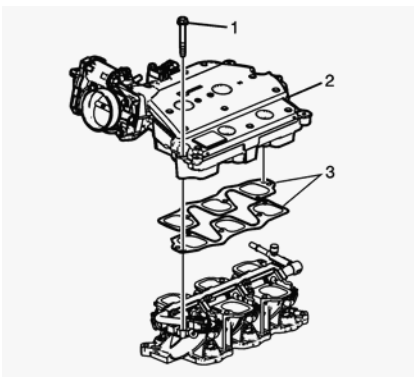


3. Install the Manifold Absolute Pressure (MAP) sensor (1).
4. Install the MAP sensor bolt (2) and tighten to **10 Y (89 lb in)**.



5. Install the NEW throttle body gasket (3).
6. Install the throttle body (2).
7. Install the throttle body bolts (1) and tighten to **10 Y (89 lb in)**.

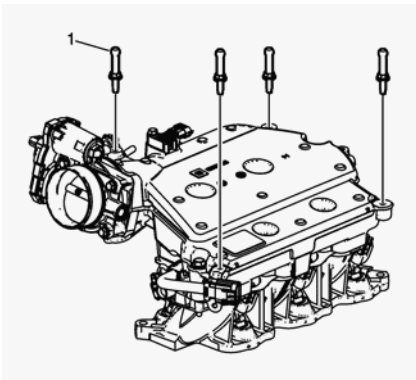
[Upper to Lower Intake Manifold Assemble Procedure](#)



Note: Do not reuse the upper-to-lower intake manifold gasket and the intake manifold-to-cylinder head sealing gaskets.

1. Install the NEW upper-to-lower intake manifold gaskets (3).
2. Install the upper intake manifold (2) to the lower intake manifold.
Install the upper-to-lower intake manifold bolts (1) and tighten to **23 Y (17 lb ft)**.

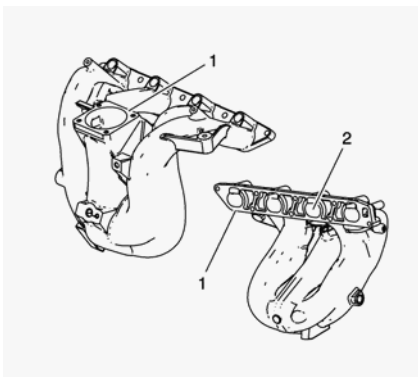
Intake Manifold Assembly



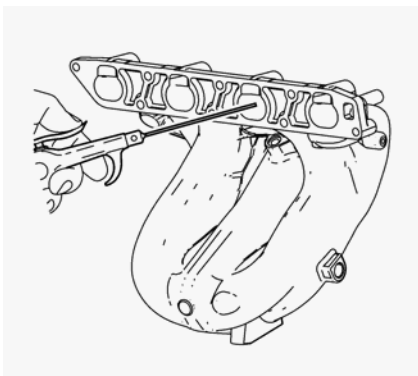
3. Install the sight shield ball studs (1) and tighten to **7 Y (62 lb in)**.

2013 Chevrolet Colorado

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



1. Clean the intake manifold mating (1) surfaces.
2. Inspect the intake manifold for damage.
3. Inspect the intake manifold for cracks near metallic inserts.
4. Inspect the crankcase ventilation passages (2) in the intake manifold face for blockage.

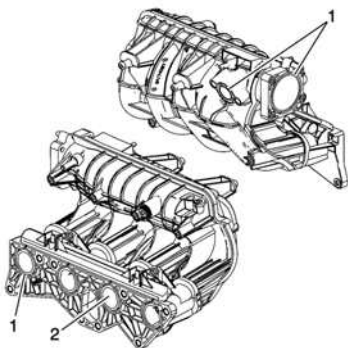


Warning: Refer to Safety Glasses Warning.

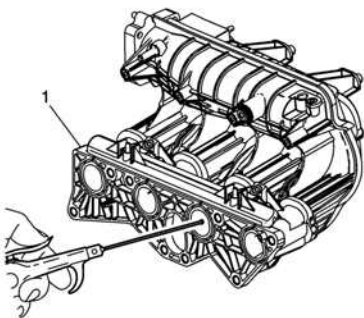
5. Clean the crankcase ventilation passages with compressed air if necessary. Use a maximum of 172 kPa (25 psi) of air pressure.
6. Replace the intake manifold as necessary.

2013 Chevrolet Colorado

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



1. Clean the intake manifold mating (1) surfaces.
2. Inspect the intake manifold for damage.
3. Inspect the intake manifold for cracks near metallic inserts.
4. Inspect the crankcase ventilation passages (2) in the intake manifold face for blockage.



Warning: Refer to Safety Glasses Warning.

5. Clean the crankcase ventilation passages with compressed air if necessary. Use a maximum of 172 kPa (25 psi) of air pressure.
6. Replace the intake manifold as necessary.

2013 Chevrolet Colorado

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

[Upper Intake Manifold Cleaning Procedure](#)

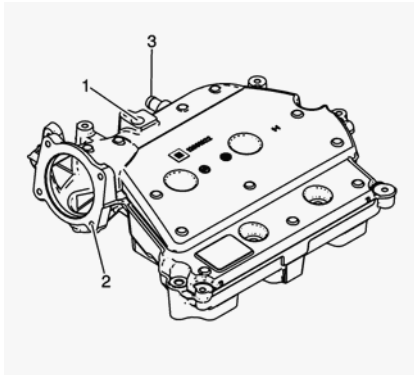
1. Remove any remaining gasket and/or gasket material from the following:

- Throttle body
- Intake manifold
- Clean the following intake manifold areas in solvent.
 - Intake manifold gasket sealing areas
 - Intake manifold passages
 - Evaporative (EVAP) solenoid passage
 - Positive crankcase ventilation (PCV) vacuum hose passages
 - Manifold Absolute Pressure (MAP) sensor passage

Warning: Refer to Safety Glasses Warning.

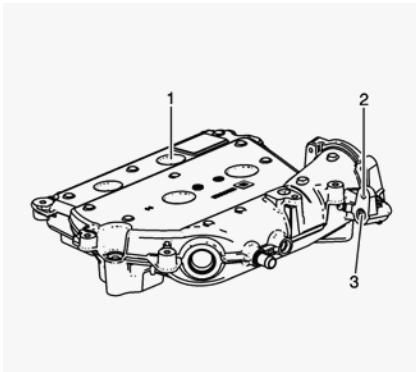
- Dry the upper intake manifold and throttle body with compressed air.

[Inspection Procedure](#)

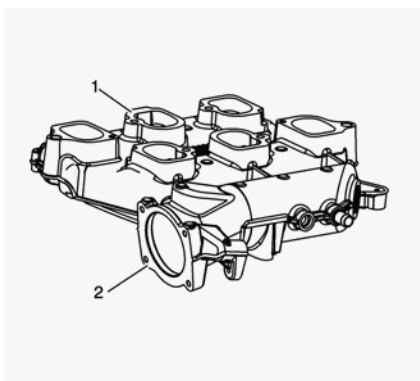


1. Inspect the upper intake manifold for the following conditions:

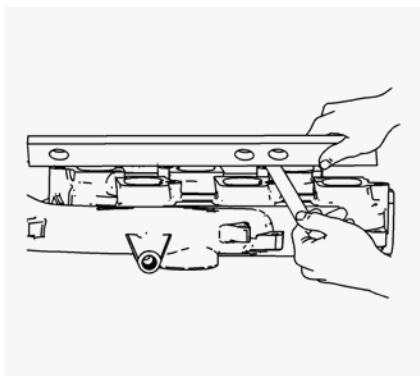
- Damage, debris or restrictions to the MAP sensor mounting port (1).
- Damage to the throttle body bolt holes (2).
- Damage, debris or restrictions to the PCV system hose ports (3).



- Inspect the upper intake manifold for the following conditions:
 - Damage to the intake manifold bolt bosses (1).
 - Damage to the EVAP purge solenoid mounting boss (2).
 - Damage, debris or restrictions to the EVAP purge solenoid port (3).



- Inspect the upper intake manifold for the following conditions:
 - Gouges or damage to the upper intake manifold sealing surfaces (1).
 - Damage to the gasket sealing surface for the throttle body (2).

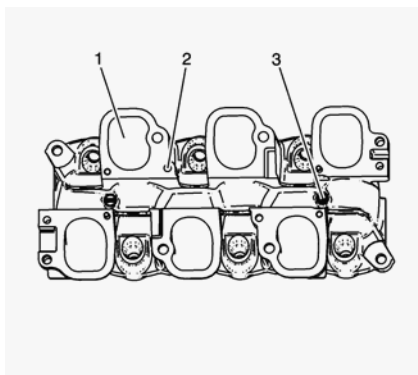


- Inspect the upper intake manifold sealing surface for warpage.
 1. Locate a straight edge across the upper-to-lower intake manifold sealing surface.
 2. Insert a feeler gauge between the upper intake manifold and the straight edge. An upper intake manifold with warpage in excess of 0.50 mm (0.020 in) must be replaced.
- Repair or replace the upper intake manifold as necessary.

Lower Intake Manifold Cleaning Procedure

1. Remove any remaining gasket and/or gasket material from the following:
 - Upper-to-lower intake manifold sealing surface
 - Cylinder head-to-lower intake manifold sealing surface
- Clean the following intake manifold areas in solvent.
- Intake manifold gasket sealing surfaces
 - Intake manifold passages
- Warning:** Refer to Safety Glasses Warning.
- Dry the intake manifold with compressed air.

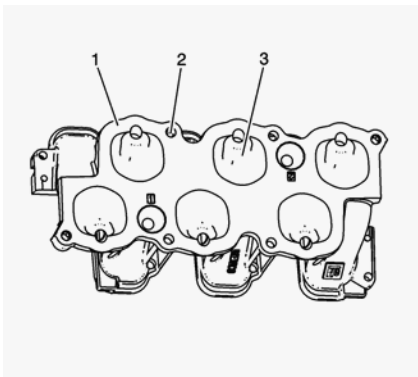
Inspection Procedure



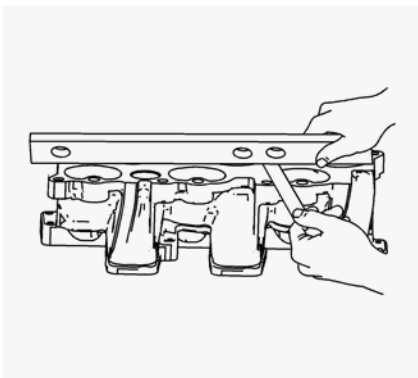
1. Inspect the lower intake manifold for the following conditions:
 - Damage, debris or restrictions to the lower intake manifold ports (1).

Intake Manifold Cleaning and Inspection

- Damage to the fuel rail mounting bolt holes (2).
- Damage to the fuel rail (3).



- Inspect the lower intake manifold for the following conditions:
 - Gouges or damage to the intake manifold sealing surfaces (1).
 - Damage to the lower intake manifold bolt bosses (2).
 - Damage to the fuel injector ports (3).

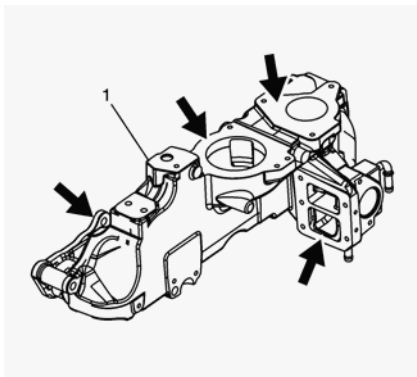


- Inspect the lower intake manifold sealing surfaces for warpage.
 1. Locate a straight edge across the lower intake manifold sealing surfaces.
 2. Insert a feeler gauge between the lower intake manifold and the straight edge. A lower intake manifold with warpage in excess of 0.5 mm (0.020 in) must be replaced.
- Repair or replace the lower intake manifold as necessary.

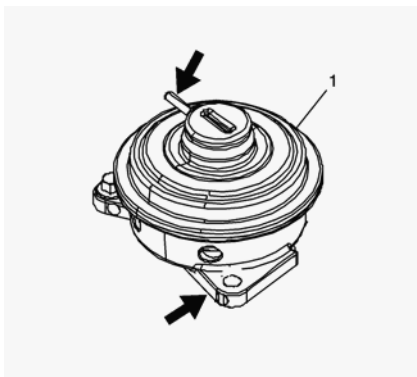
2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



1. Clean the intake manifold mating surfaces.
2. Inspect the intake manifold (1) for damage.
3. Inspect the intake manifold for cracks near metallic inserts.
4. Inspect the crankcase ventilation passages in the intake manifold face for blockage.
5. Replace the intake manifold as necessary.

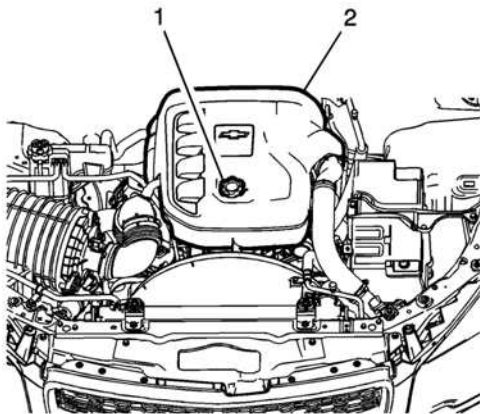


6. Clean the EGR valve assembly (1).
7. Inspect the EGR valve assembly.
8. Replace the EGR valve assembly as necessary.
9. Apply 15 inHg to EGR valve.
10. Verify that the EGR valve opens.
11. Verify that EGR valve does not leak down.
12. Replace the EGR valve if any concern is found.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Intake Manifold Cover Replacement

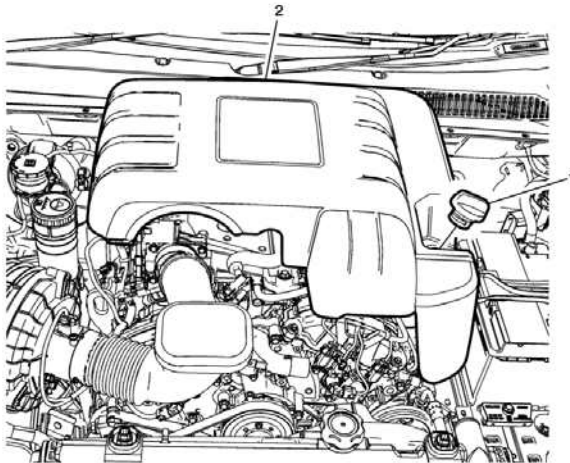
Callout

Component Name

- | | |
|---|---|
| | Oil Cap |
| 1 | Procedure |
| | Remove the oil cap before removing the intake manifold cover. |
| 2 | Intake Manifold Cover |

2013 Chevrolet Colorado

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



Intake Manifold Cover Replacement

Callout

1

Oil Filler Cap

Intake Manifold Cover

1

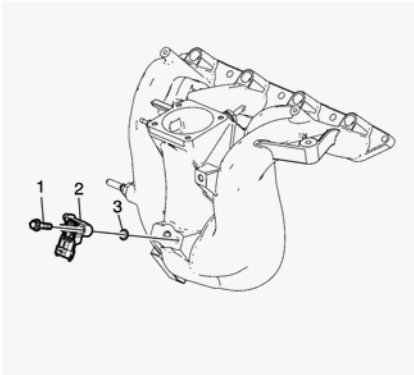
Procedure

Grasp cover on outside edges and lift up to release from retainers.

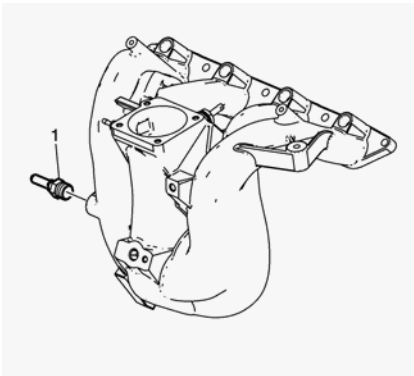
Component Name

2013 Chevrolet Colorado

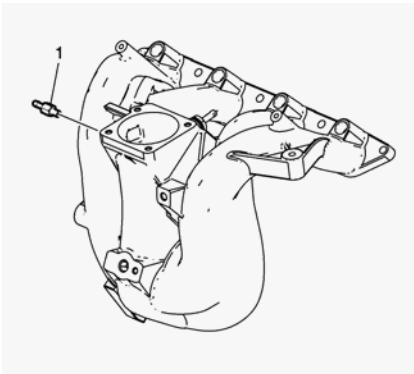
Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



1. Remove the manifold absolute pressure (MAP) sensor bolt (1).
2. Remove the MAP sensor (2).
3. Remove and discard the MAP sensor O-ring seal (3).

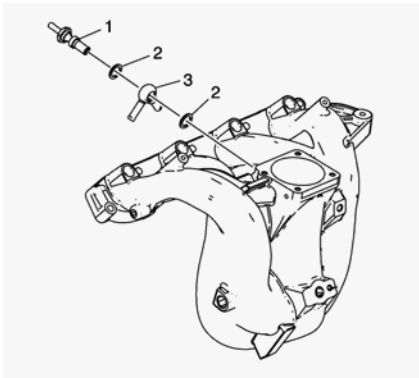


4. Remove the power brake booster vacuum tube connector (1).



5. Remove the intake manifold vacuum fitting assembly (1).

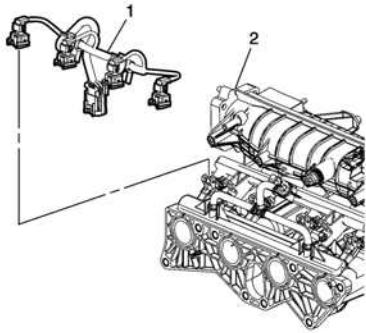
Intake Manifold Disassemble (LE6)



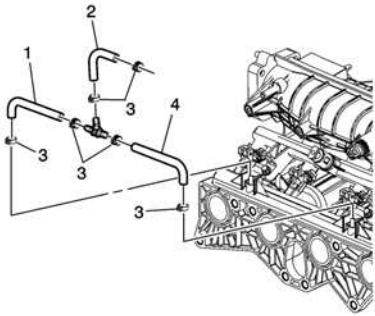
6. Remove the throttle body heater hose fitting (1), seals (2), and vacuum source manifold connector (3).

2013 Chevrolet Colorado

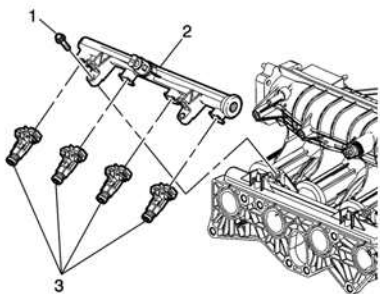
Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



1. Remove the fuel injection fuel rail wiring harness (1).

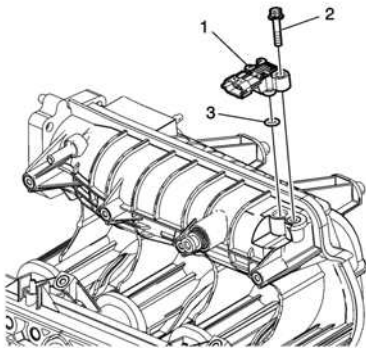


2. Remove the cold start fuel injector hose clamps (3).
3. Remove the cold start fuel feed hose (2) and cold start fuel injector hoses (1 and 4).



4. Remove the fuel injection fuel rail bolts (1).
5. Remove the fuel rail (2) and injectors (3).

Intake Manifold Disassemble (LP8)

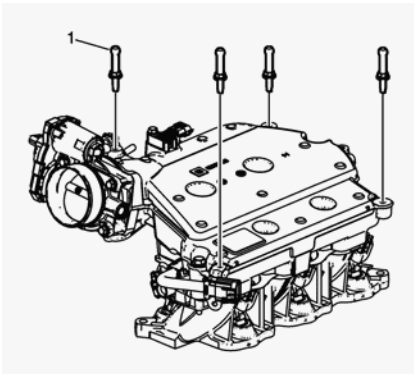


6. Remove the manifold absolute pressure (MAP) sensor bolt (2).
7. Remove the MAP sensor (1).
8. Remove and discard the MAP sensor O-ring seal (3).

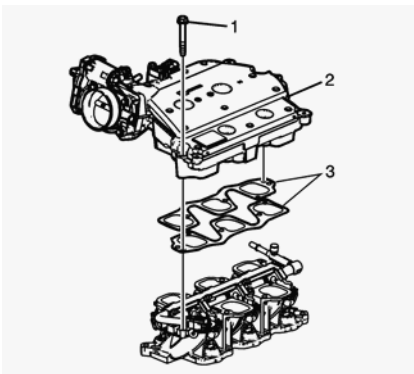
2013 Chevrolet Colorado

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

[Upper to Lower Intake Manifold Disassemble Procedure](#)



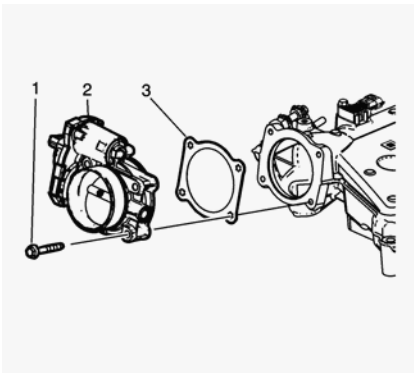
1. Remove the sight shield ball studs (1).



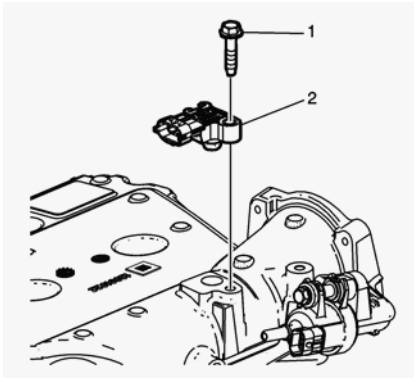
Note: Do not reuse the upper-to-lower intake manifold gasket and the intake manifold-to-cylinder head sealing gaskets.

2. Remove the upper to lower manifold bolts (1).
3. Remove the upper intake manifold (2) from the lower intake manifold.
4. Remove and discard the upper-to-lower intake manifold gaskets (3).

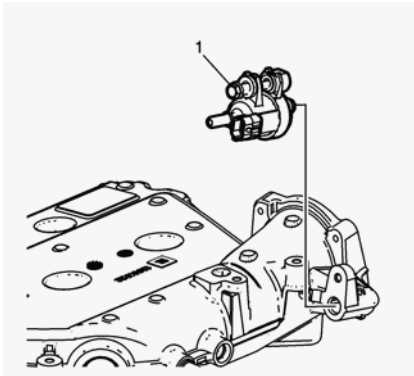
[Upper Intake Manifold Disassemble Procedure](#)



1. Remove the throttle body bolts (1).
2. Remove the throttle body (2).
3. Remove and discard the throttle body gasket (3).

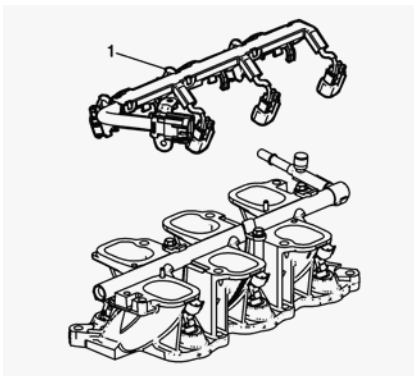


4. Remove the manifold absolute pressure (MAP) sensor bolt (1).
5. Remove the MAP sensor (2).

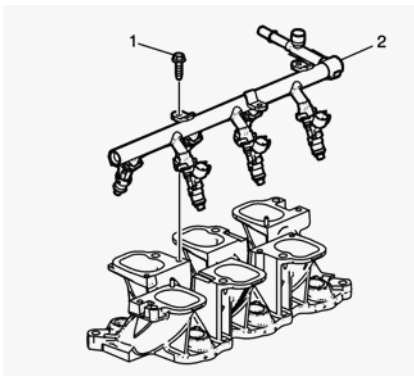


6. Loosen the evaporative (EVAP) solenoid bolt.
7. Remove EVAP solenoid (1).

[Lower Intake Manifold Disassemble Procedure](#)



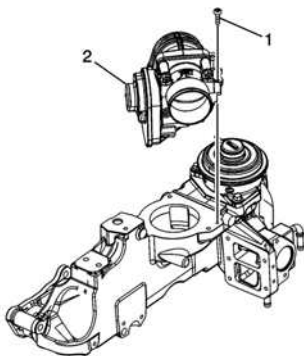
1. Remove the fuel injector wiring harness (1).



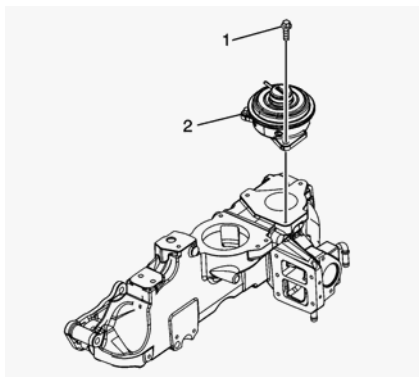
2. Remove the fuel injector rail bolts (1).
3. Remove the fuel injector rail (2).

2013 Chevrolet Colorado

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



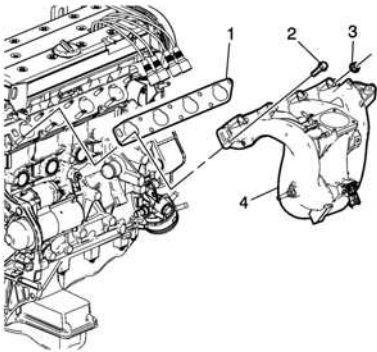
1. Remove the throttle body assembly bolts (1) and throttle body assembly (2) from the intake manifold.



2. Remove the EGR valve assembly bolts (1) and EGR valve (2) from the intake manifold.

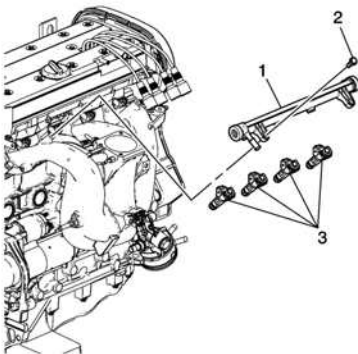
2013 Chevrolet Colorado

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



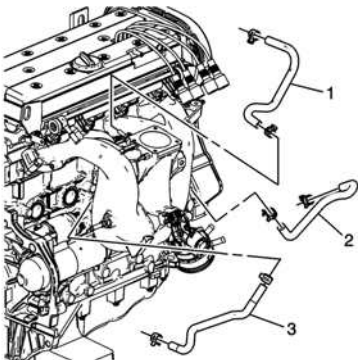
Caution: Refer to Fastener Caution.

1. Install NEW intake manifold gasket (1).
2. Install the intake manifold (4).
3. Install the intake manifold bolt (2) and nuts (3) finger tight.
4. Tighten the intake manifold bolt (2) and nuts (3) to **24 Y (18 lb ft)**.



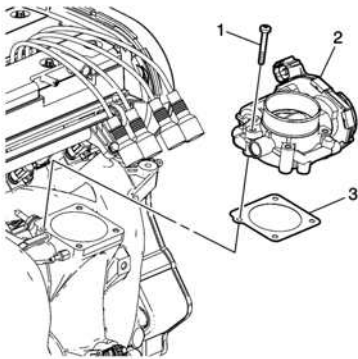
Note: Ensure that the fuel injectors have new O-ring seals, and lubricate before installation.

5. Install the fuel injectors (3) and fuel rail assembly (1).
6. Install the fuel rail bolts (2) and tighten to **10 Y (89 lb in)**.



7. Install the engine ventilation hose (1, 2, and 3) with NEW clamps.

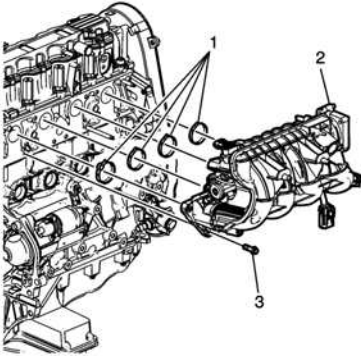
Intake Manifold Installation (LE6)



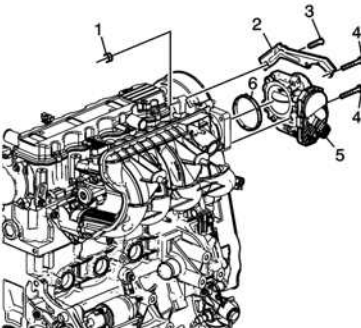
8. Install a NEW throttle body gasket (3) and throttle body (2).
9. Install the throttle body bolts (1) and tighten to **10 Y (89 lb in)**.

2013 Chevrolet Colorado

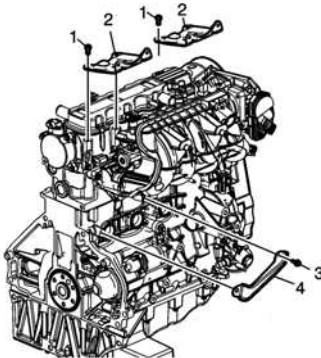
Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



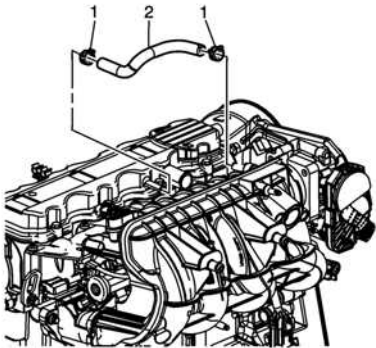
1. Install NEW intake manifold gasket (1).
2. Install the intake manifold (2).
3. Install the intake manifold bolts (3) finger tight.
4. Tighten the intake manifold bolt (2) and nuts (3) to **24 Y (18 lb ft)**.



5. If necessary, install the generator and power steering pump bracket. Refer to Generator and Power Steering Pump Bracket Replacement.
6. If necessary, install the generator. Refer to Generator Replacement.
7. Install a NEW throttle body gasket (6) and the throttle body (5).
8. Install the intake manifold bracket (2).
9. Install the intake manifold bracket bolt (3) and nut (1). Tighten to **10 Y (89 lb in)**.
10. Install the throttle body bolts (4) and tighten to **10 Y (89 lb in)**.



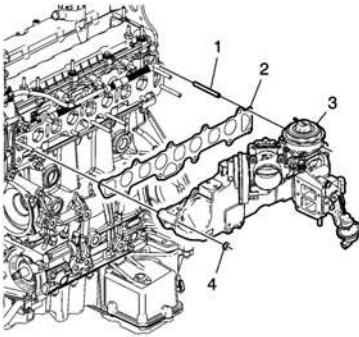
11. Install the throttle body brackets (2 and 4) and bolts (1 and 3).
12. Tighten to **10 Y (89 lb in)**.



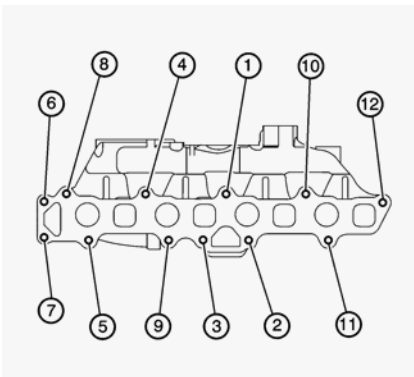
13. Install the engine ventilation hose (2) with NEW clamps (1).

2013 Chevrolet Colorado

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

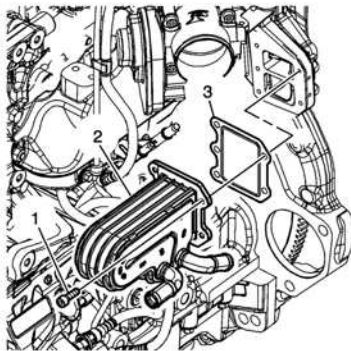


1. Install the intake manifold studs (1) and gasket (2).
2. Install the intake manifold (3) and the intake manifold nuts (4).

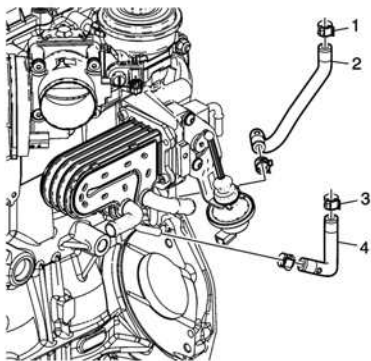


Caution: Refer to Fastener Caution.

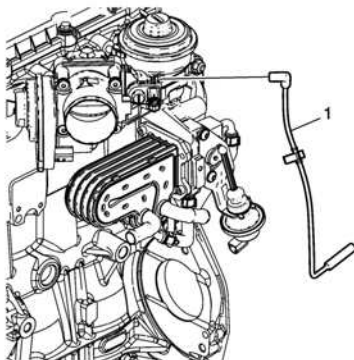
3. Tighten the intake manifold nuts in sequence to **25 Y (19 lb ft)**.



4. Install the EGR cooler gasket (3), EGR cooler (2), and cooler bolts (1), and tighten to **15 Y (11 lb ft)**.



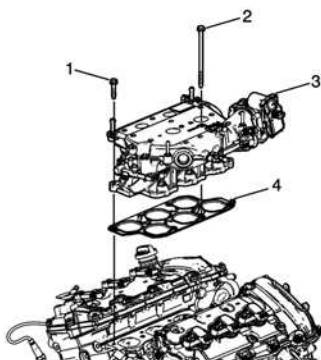
5. Install the EGR valve cooling return hose (4) and hose clamps (3).
6. Install the EGR valve cooling feed hose (2) and hose clamps (1).



7. Install the EGR valve vacuum pipe (1).

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

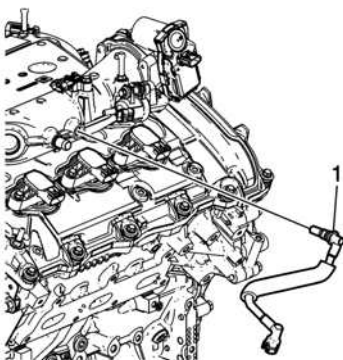


1. Install the NEW intake manifold gasket (4).
2. Install the intake manifold assembly (3).

Caution: Refer to Fastener Caution.

Note: Tighten the intake manifold bolts in an X pattern starting with the inside bolts and moving outward.

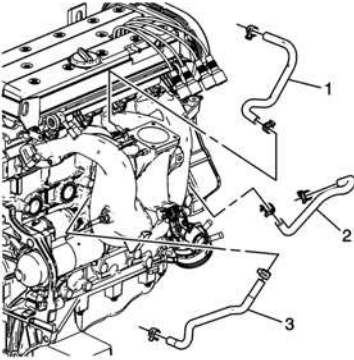
3. Install the intake manifold bolts (1, 2) and tighten to **23 Y (17 lb ft)**.



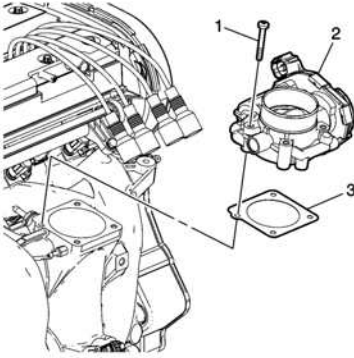
4. Install the positive crankcase ventilation (PCV) tube assembly (1).

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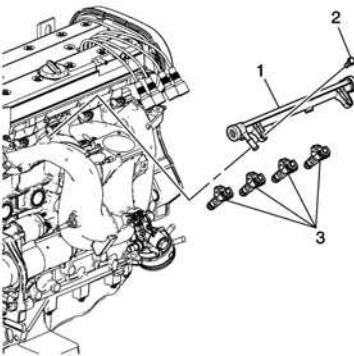
Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



1. Remove the throttle body heater hoses (1, 2, and 3).

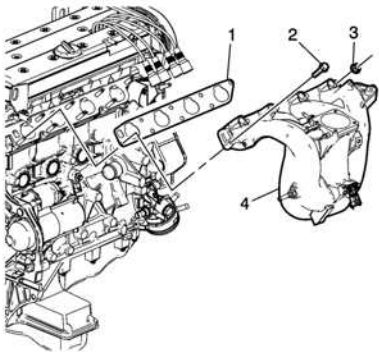


2. Remove the throttle body bolts (1).
3. Remove the throttle body (2) and gasket (3).



4. Remove fuel rail bolts (2).
5. Remove the fuel rail assembly (1).

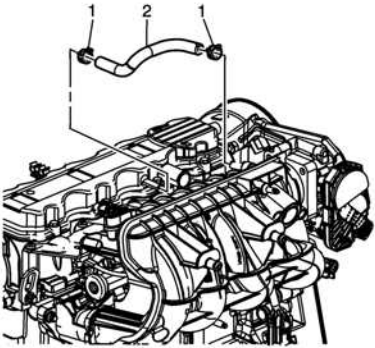
Intake Manifold Removal (LE6)



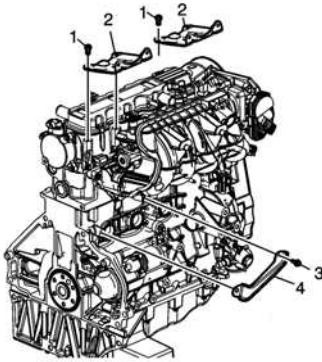
6. Remove the intake manifold bolt (2) and nuts (3).
7. Remove the intake manifold (4) and gasket (1).

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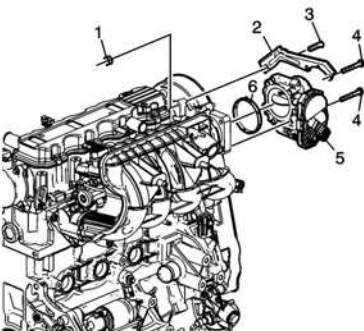
Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



1. Remove the engine ventilation hose (2) and clamps (1).

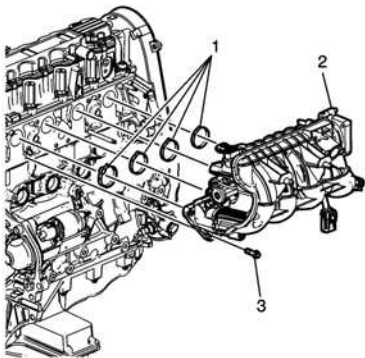


2. Remove the intake manifold bracket bolts (1 and 3).
3. Remove the intake manifold brackets (2 and 4).



4. Remove intake manifold bracket bolt (3) and nut (1).
5. Remove the throttle body bolts (4).
6. Remove the intake manifold bracket (2) and throttle body (5).
7. Remove the throttle body gasket (6).
8. If necessary, remove the generator. Refer to Generator Replacement.
9. If necessary, remove the generator and power steering pump bracket. Refer to Generator and Power Steering Pump Bracket Replacement.

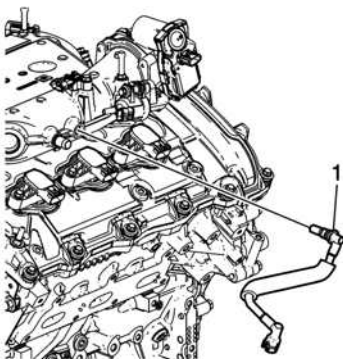
Intake Manifold Removal (LP8)



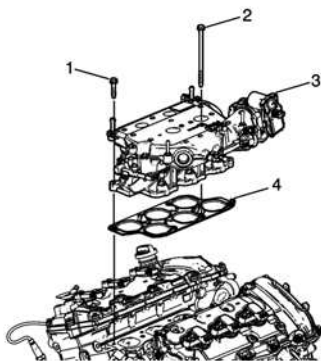
10. Remove the intake manifold bolts (3).
11. Remove the intake manifold (2) and gasket (1).

2013 Chevrolet Colorado

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



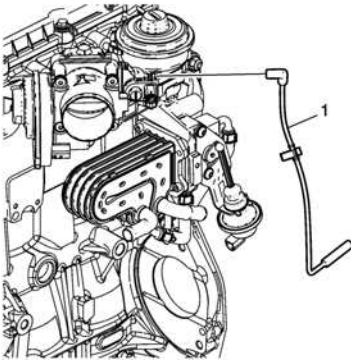
1. Remove the positive crankcase ventilation (PCV) tube assembly (1).



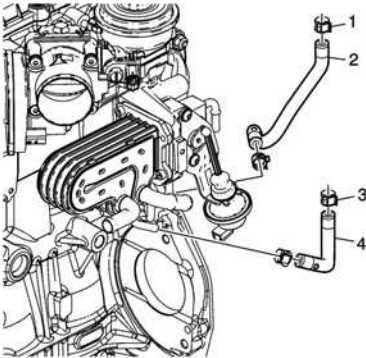
2. Remove the intake manifold bolts (1, 2).
3. Remove the intake manifold assembly (3).
4. Remove and discard the lower intake manifold gasket (4).

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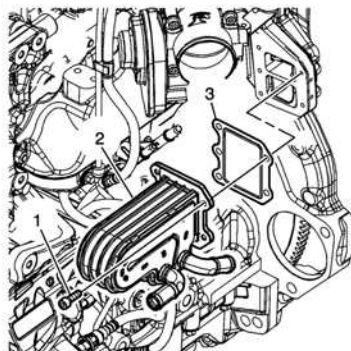
Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:



1. Remove the EGR valve vacuum pipe (1).

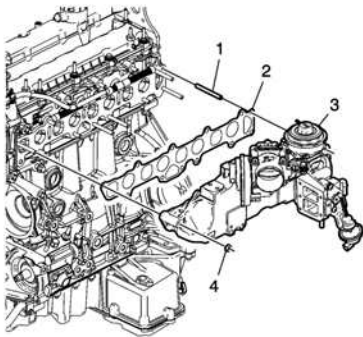


2. Remove the EGR valve cooling feed hose clamps (1) and hose (2).
3. Remove the EGR valve cooling return hose clamps (3) and hose (4).



4. Remove the EGR cooler bolts (1) and EGR cooler (2).
5. Remove the cooler gasket (3).

Intake Manifold Removal



6. Remove the intake manifold nuts (4) and the intake manifold (3).
7. Remove the intake manifold gasket (2).
8. Remove the intake manifold studs (1).

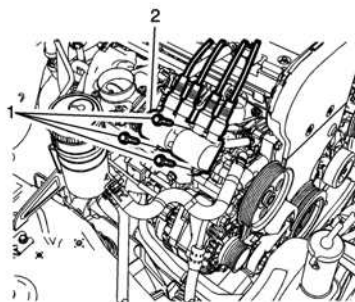
2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

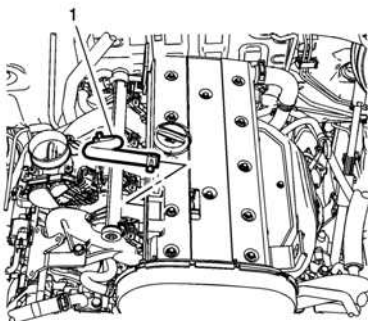
Fuel Delivery: | Fuel:

[Removal Procedure](#)

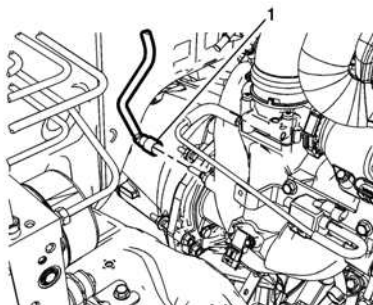
1. Remove the air cleaner outlet duct. Refer to Air Cleaner Outlet Duct Replacement.
2. Disconnect the manifold absolute pressure (MAP) sensor connector. Refer to Manifold Absolute Pressure Sensor Replacement.



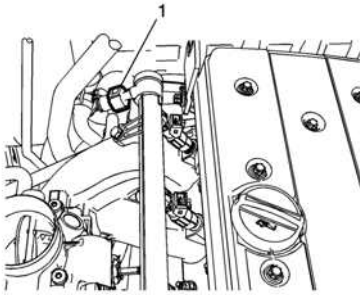
3. Remove the ignition coil fastener (1).
4. Remove the ignition coil (2).



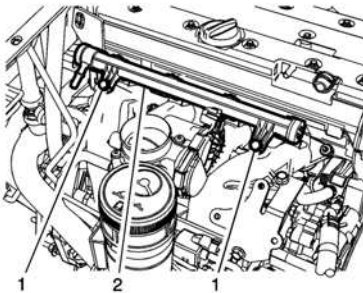
5. Remove the PCV hose (1). Refer to Positive Crankcase Ventilation Hose/Pipe/Tube Replacement.



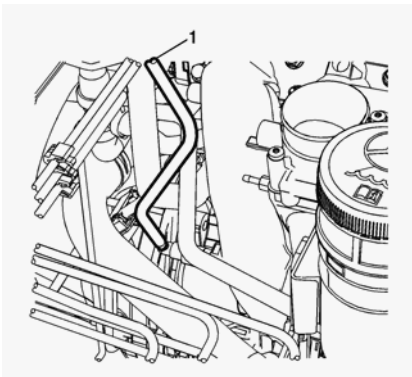
6. Disconnect the power brake booster vacuum hose quick connect (1) from the intake manifold.



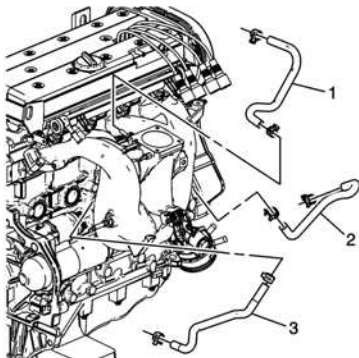
7. Disconnect the fuel injector feed line (1) from the fuel injector rail. Refer to Fuel Pressure Relief.



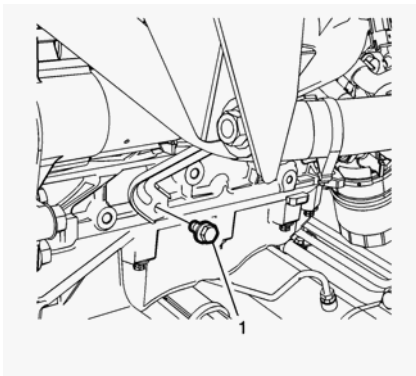
8. Remove the fuel injector rail fastener (1).
9. Disconnect fuel injector harness.
10. Remove the fuel injector rail (2).



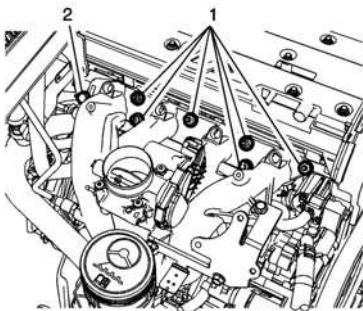
11. Disconnect the intake manifold vacuum hose (1).



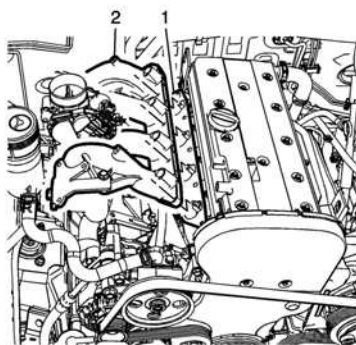
12. Disconnect the throttle body hose (1, 2 and 3).



13. Remove the intake lower manifold fastener. Refer to Intake Manifold Removal.



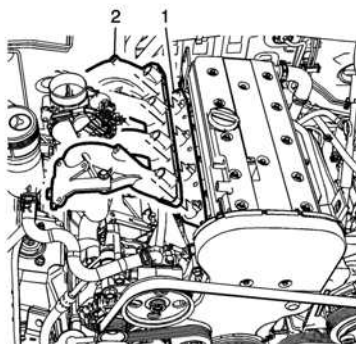
14. Remove the bolt (2) and 7 nuts (1).



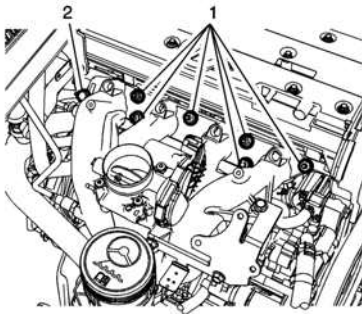
15. Remove the intake manifold (2) and gasket (1).
16. For intake manifold cleaning and inspection, refer to Intake Manifold Cleaning and Inspection.
17. For intake manifold disassembly, refer to Intake Manifold Cleaning and Inspection.

Installation Procedure

1. For intake manifold assembly, refer to Intake Manifold Assemble.

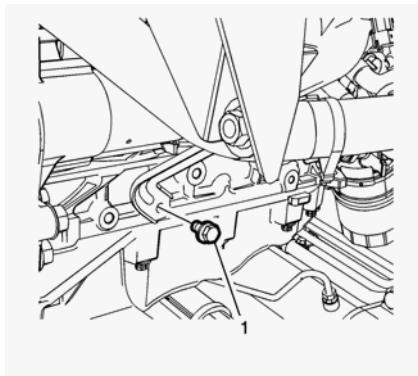


2. Install a NEW intake manifold gasket (1).
3. Install intake manifold (2).

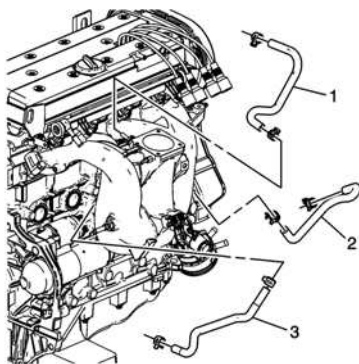


Caution: Refer to Fastener Caution.

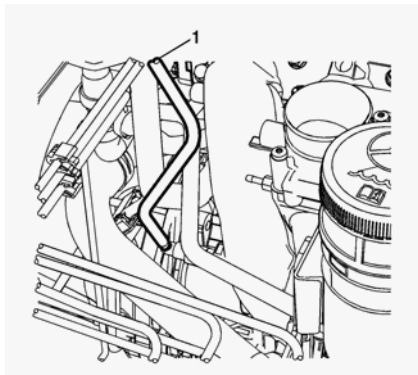
4. Install the intake manifold bolt (2) and 7 nuts (1) finger tight.
5. Tighten the intake manifold bolt (2) and nuts (1) to **10 Y (89 lb in) +170-185 degrees**.



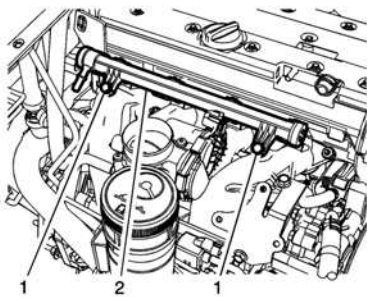
6. Install the lower intake manifold fastener (1) and tighten to **24 Y (18 lb ft)**.



7. Install the throttle body hose (1, 2 and 3).

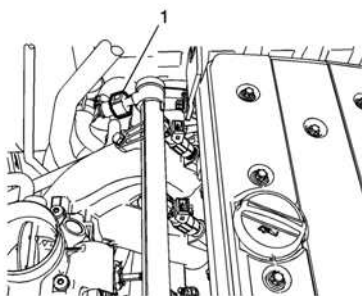


8. Connect intake manifold vacuum hose (1).

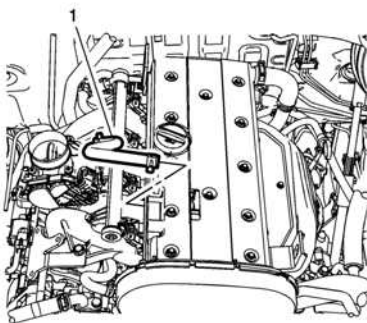


Note: Ensure that the fuel injectors have new O-ring seals, and lubricate before installation.

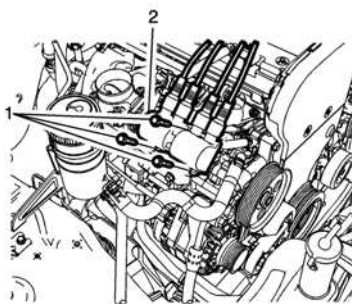
9. Install fuel injector rail (2).
10. Install fuel injector fastener (1) and tighten to **10 Y (89 lb in)**.
11. Connect fuel injector harness.



12. Connect the fuel line feed pipe (1).



13. Install the PCV hose (1).



14. Install ignition coil (2).
15. Install ignition coil (1) and tighten to **9 Y (80 lb in)**.
16. Connect the MAP sensor connector. Refer to Manifold Absolute Pressure Sensor Replacement.
17. Install the air cleaner outlet duct. Refer to Air Cleaner Outlet Duct Replacement.

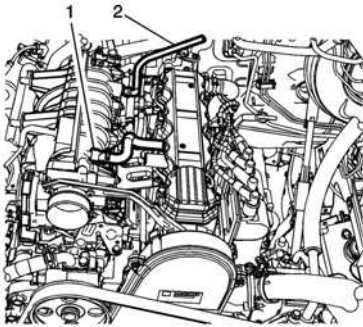
2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

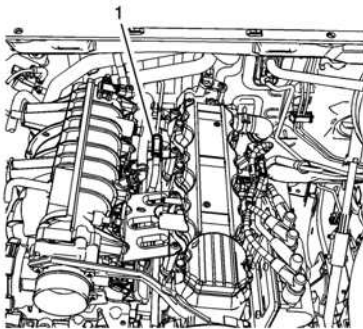
Fuel Delivery: | Fuel:

[Removal Procedure](#)

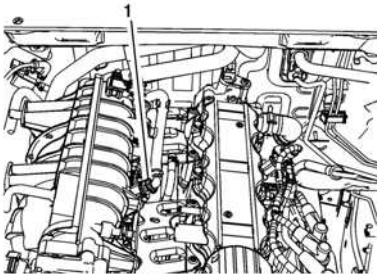
1. Drain the coolant system. Refer to Cooling System Draining and Filling.



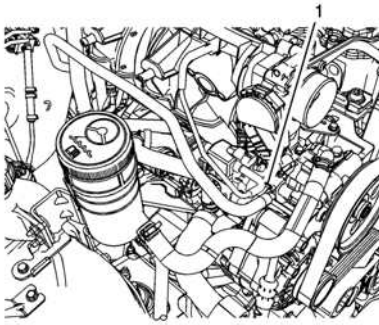
2. Remove the PCV hose (1). Refer to Positive Crankcase Ventilation Hose/Pipe/Tube Replacement.
3. Disconnect the vacuum hose (2) from the intake manifold.



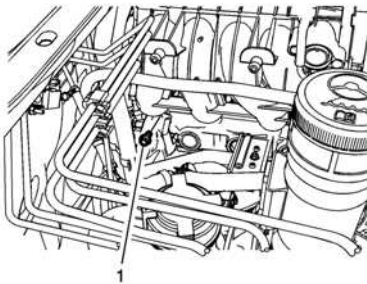
4. Disconnect the cold start hose (1).



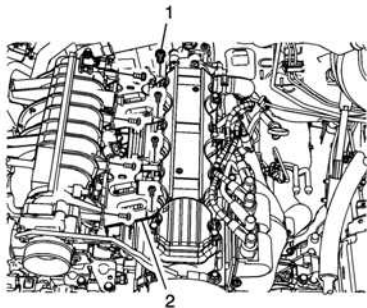
5. Disconnect the fuel feed hose (1). Refer to Plastic Collar Quick Connect Fitting Service.



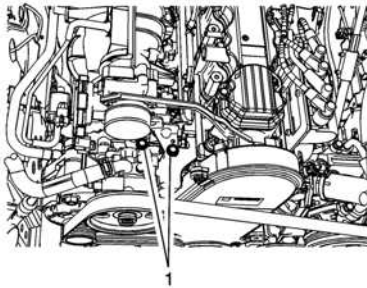
6. Disconnect the EVAP hose (1). Refer to Plastic Collar Quick Connect Fitting Service.



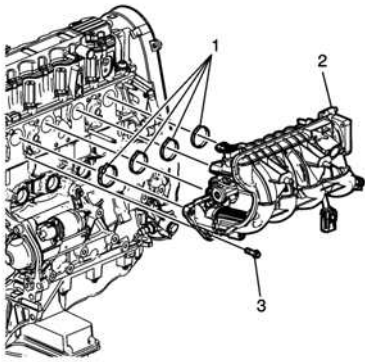
7. Remove the intake manifold bracket fastener (1).



8. Remove the intake manifold upper bracket fastener (1) and bracket (2).



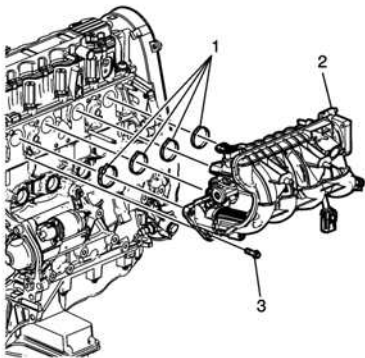
9. Remove the intake manifold front bracket fastener (1).
10. Remove the throttle body. Refer to Throttle Body Assembly Replacement.
11. Remove the generator and power steering pump bracket. Refer to Generator and Power Steering Pump Bracket Replacement.



12. Remove the intake manifold fastener (3).
13. Remove the intake manifold (2) and gasket (1).
14. For intake manifold disassemble. Refer to Intake Manifold Disassemble.
15. For intake manifold cleaning and inspection. Refer to Intake Manifold Cleaning and Inspection.

Installation Procedure

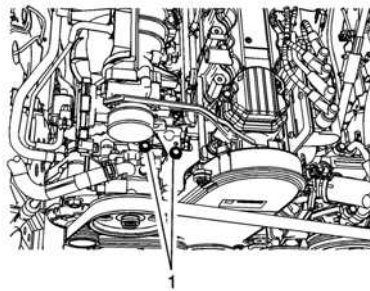
1. For intake manifold assemble. Refer to Intake Manifold Assemble.



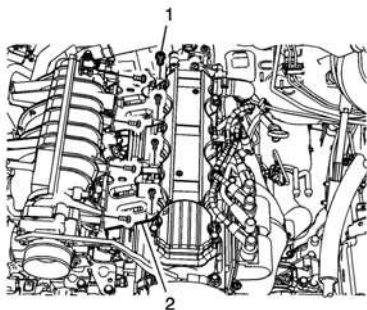
2. Install NEW intake manifold gasket (1).
3. Install the intake manifold (2).
4. Install the intake manifold bolts (3) finger tight.

Caution: Refer to Fastener Caution.

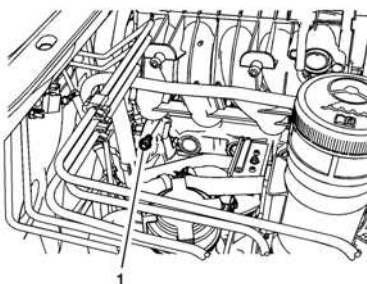
5. Tighten the intake manifold bolt (2) and nuts (3) to **24 Y (18 lb ft)**.
6. Install the generator and power steering pump bracket. Refer to Generator and Power Steering Pump Bracket Replacement.
7. Install the throttle body. Refer to Throttle Body Assembly Replacement.



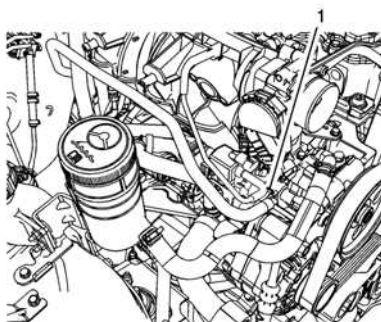
8. Install the intake manifold front bracket fastener (1) and tighten to **10 Y (89 lb in)**.



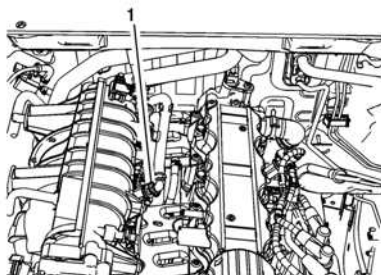
9. Install the intake manifold upper bracket (2) and fastener (1) and tighten to **10 Y (89 lb in)**.



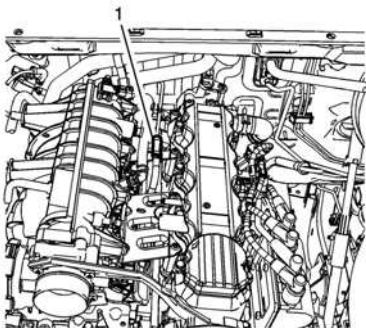
10. Install the intake manifold bracket fastener (1) and tighten to **10 Y (89 lb in)**.



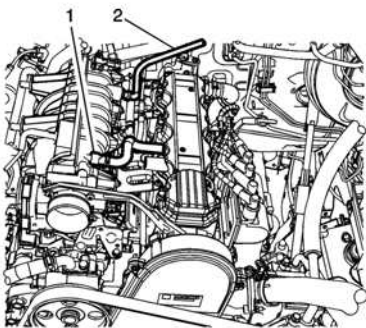
11. Connect the EVAP hose (1).



12. Connect the fuel feed hose (1).



13. Connect the cold start hose (1).

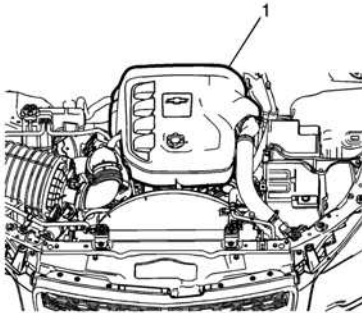


14. Connect the vacuum hose (2) from the intake manifold.
15. Connect the PCV hose (1).
16. Fill the coolant system. Refer to Cooling System Draining and Filling.

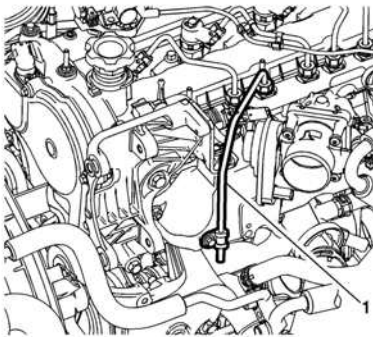
2013 Chevrolet Colorado

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

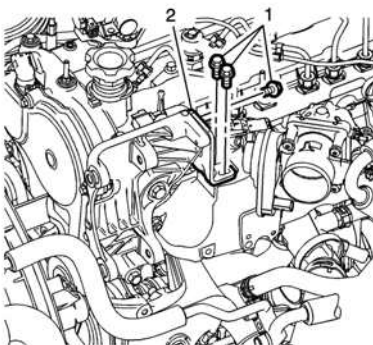
[Removal Procedure](#)



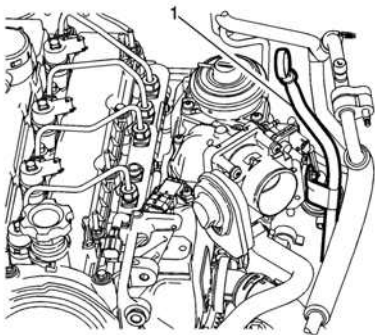
1. Remove the intake manifold cover (1). Refer to Intake Manifold Cover Replacement.
2. Remove the charge air cooler outlet air hose. Refer to Charge Air Cooler Outlet Air Hose Replacement.
3. Remove the battery. Refer to Battery Replacement.
4. Remove the generator. Refer to Generator Replacement.
5. Remove air conditioning compressor. Refer to Air Conditioning Compressor Replacement



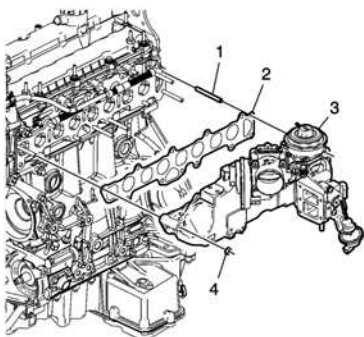
6. Remove the fuel feed pipe (1). Refer to Fuel Injection Fuel Feed Pipe Replacement.
7. Remove the fuel injection fuel return pipe. Refer to Fuel Injection Fuel Return Pipe Replacement
8. Remove the fuel injection fuel rail assembly. Refer to Fuel Injection Fuel Rail Assembly Replacement



9. Remove the generator bracket bolts (1). and bracket (2).
10. If equipped, remove the EGR cooler. Refer to Exhaust Gas Recirculation Cooler Replacement.



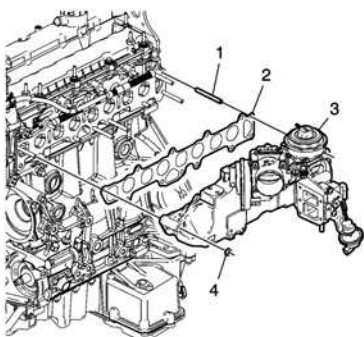
11. Remove the oil level Indicator tube. Refer to Oil Level Indicator Tube Replacement.



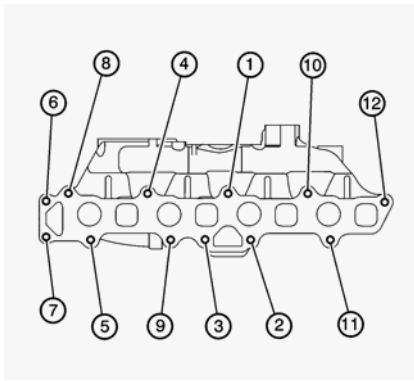
12. Remove the intake manifold nuts (4) and the intake manifold (3).
13. Remove the intake manifold gasket (2).
14. Remove the intake manifold studs (1).
15. Disconnect hoses as necessary.
16. Disconnect electrical connectors as necessary.
17. For cleaning and inspection, refer to Intake Manifold Cleaning and Inspection.
18. For intake manifold disassemble, refer to Intake Manifold Disassemble.
19. Transfer part as needed.

Installation Procedure

1. For intake manifold assemble, refer to Intake Manifold Assemble.

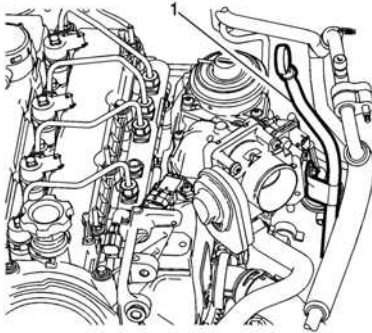


2. Install the intake manifold studs (1) and gasket (2).
3. Install the intake manifold (3) and the intake manifold nuts (4).

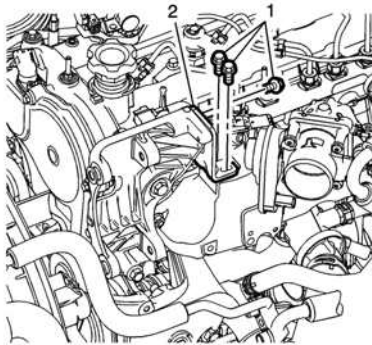


Caution: Refer to Fastener Caution.

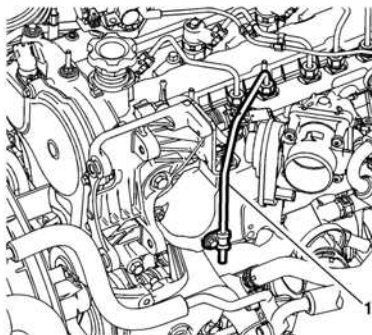
4. Tighten the intake manifold nuts in sequence to **25 Y (19 lb ft)**.



5. Install the oil level Indicator tube. Refer to Oil Level Indicator Tube Replacement.
6. If equipped, install the EGR cooler. Refer to Exhaust Gas Recirculation Cooler Replacement.



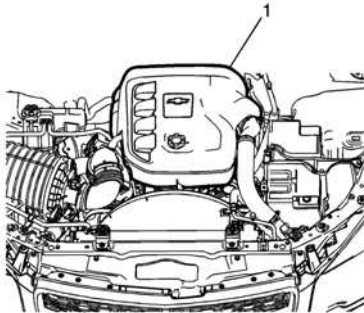
7. Install the generator bracket (2).
8. Install the generator bracket bolts (1) and tighten to **20 Y (15 lb ft)**.
9. Install the fuel injection fuel rail assembly. Refer to Fuel Injection Fuel Rail Assembly Replacement



10. Install the fuel feed pipe (1). Refer to Fuel Injection Fuel Feed Pipe Replacement.
11. Install the fuel injection fuel return pipe. Refer to Fuel Injection Fuel Return Pipe Replacement.
12. Install the generator. Refer to Generator Replacement.

Intake Manifold Replacement

13. Install air conditioning compressor. Refer to Air Conditioning Compressor Replacement.
14. Install the battery . Refer to Battery Replacement.
15. Install the charge air cooler outlet air hose. Refer to Charge Air Cooler Outlet Air Hose Replacement.

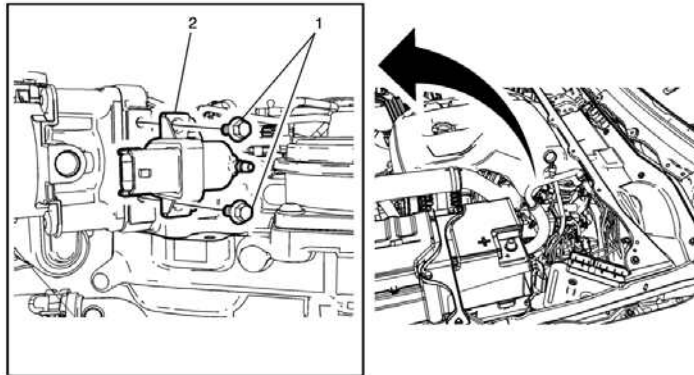


16. Install the intake manifold cover (1). Refer to Intake Manifold Cover Replacement.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Intake Manifold Tuning Vacuum Control Solenoid Valve Replacement

Callout

Component Name

Preliminary Procedure

Remove the engine cover. Refer to Intake Manifold Cover Replacement.

Intake Manifold Tuning Valve Fasteners (Qty: 2)

Caution: Refer to Fastener Caution.

1

Tighten

10 Y (89 lb in)

Intake Manifold Tuning Vacuum Control Solenoid

Procedure

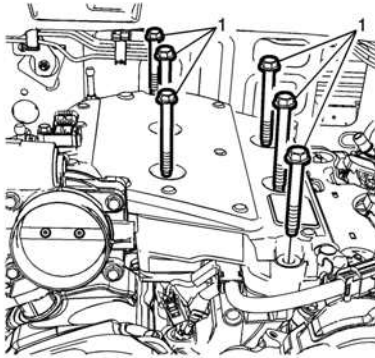
2

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

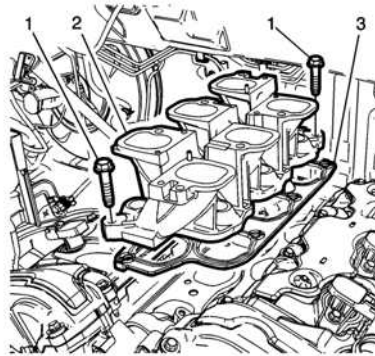
2013 Chevrolet Colorado

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

[Removal Procedure](#)

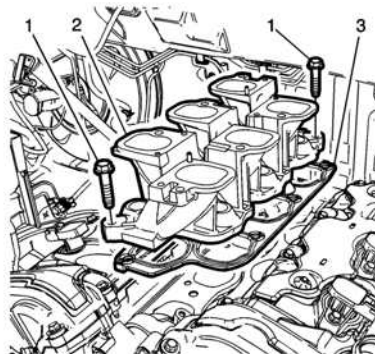


1. Remove the upper intake manifold. Refer to Upper Intake Manifold Replacement.
2. Remove the fuel injector rail. Refer to Fuel Injection Fuel Rail Assembly Replacement.



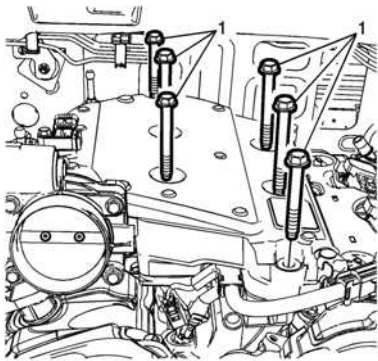
3. Remove the 2 lower intake manifold bolts (1).
4. Remove the lower intake manifold (2).
5. Remove the lower Intake manifold gasket (3).
6. Clean and inspect lower intake manifold. Refer to Intake Manifold Cleaning and Inspection.

[Installation Procedure](#)



1. Install the NEW lower intake manifold gasket (3).
 2. Install the lower intake manifold (2).
- Caution:** Refer to Fastener Caution.
3. Install the 2 lower intake manifold bolts (1) and tighten to **23 Y (17 lb ft)**.
 4. Install the fuel injector rail. Refer to Fuel Injection Fuel Rail Assembly Replacement.

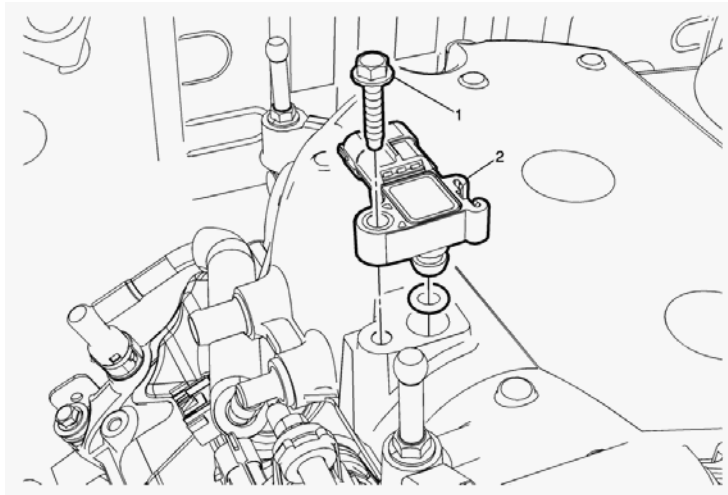
Lower Intake Manifold Replacement



5. Install the upper intake manifold. Refer to Upper Intake Manifold Replacement.

2013 Chevrolet Colorado

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



Manifold Absolute Pressure Sensor Replacement

Callout

Component Name

Preliminary Procedure

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

Manifold Absolute Pressure Sensor Fastener

Caution: Refer to Fastener Caution.

1

Tighten

10 Y (80 lb in)

Manifold Absolute Pressure Sensor

Procedure

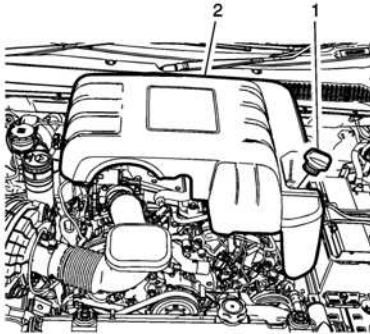
2

1. Disconnect the electrical wiring harness connector from the manifold absolute pressure sensor.
2. Inspect the seal for damage and replace if necessary.

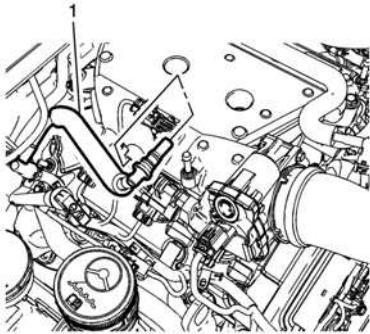
2013 Chevrolet Colorado

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

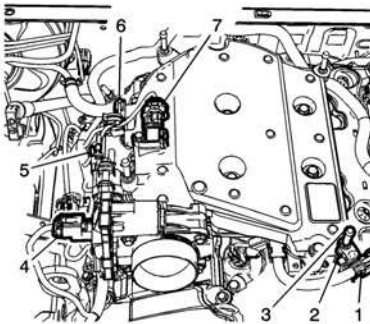
[Removal Procedure](#)



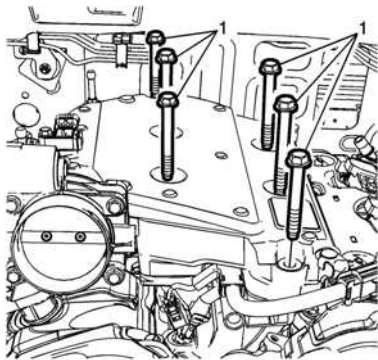
1. Remove the intake manifold cover (2). Refer to Intake Manifold Cover Replacement
2. Remove the air cleaner outlet duct . Refer to Air Cleaner Outlet Duct Replacement



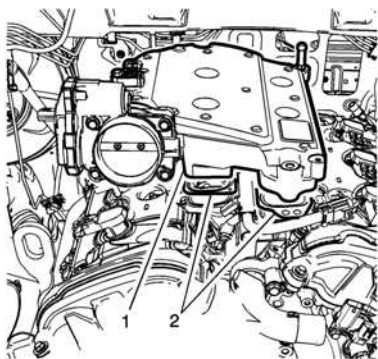
3. Remove the PCV dirty air hose (1).



4. Disconnect the fuel injector harness connector (1).
5. Remove the intake manifold cover stud (3) from the intake manifold and reposition the harness bracket (2) and harness out of the way.
6. Disconnect the MAP sensor (7).
7. Disconnect the brake booster vacuum hose (6) from the intake manifold.
8. Disconnect the throttle body connector (4).
9. Remove the evaporative emission hose and connector from the EVAP solenoid (5).

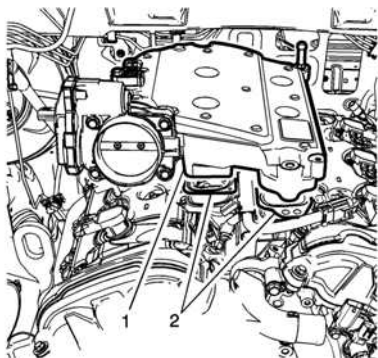


10. Remove the intake manifold bolts (1).

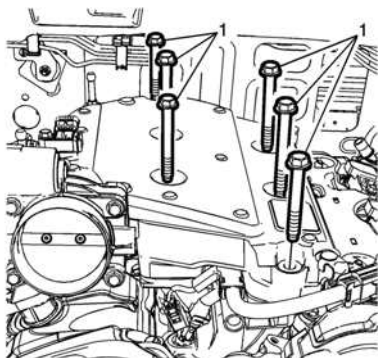


11. Remove the intake manifold assembly (1).
12. Remove and discard the intake manifold gasket (2).
13. If the manifold is being replaced, disassemble and assemble the manifold. Refer to Intake Manifold Disassemble and Intake Manifold Assemble.

[Installation Procedure](#)

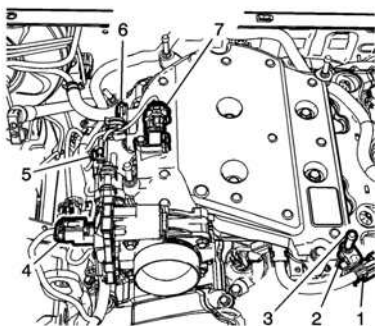


1. Install the NEW intake manifold gasket (2).
2. Install the intake manifold assembly (1).

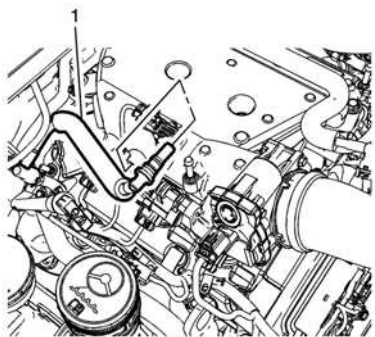


Caution: Refer to Fastener Caution

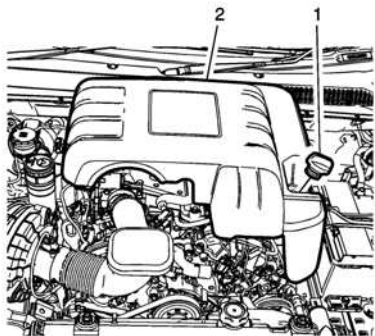
3. Install the intake manifold bolts (1).
4. Tighten the intake manifold bolts in an X sequence to **23 Y (17 lb ft)**.



5. Reposition the harness bracket (2) and harness to the intake manifold and install the intake cover stud (3) to the intake manifold .
6. Connect the fuel injector harness connector (1).
7. Connect the MAP sensor (7).
8. Connect the brake booster vacuum hose (6) to the intake manifold.
9. Connect the throttle body connector (4).
10. Install the evaporative emission hose and connect the connector to the EVAP solenoid (5).
11. Install the air cleaner outlet duct and tighten the clamps (1). Refer to Air Cleaner Outlet Duct Replacement



12. Install the PCV dirty air hose (1).



13. Install intake manifold cover (2). Refer to Intake Manifold Cover Replacement.