

2013 Chevrolet Colorado

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

Fuel Delivery: | **Fuel:**

This vehicle can be equipped with two different versions of electronic brake control modules. Vehicles with Antilock Brake System Only utilize control module version Advics ADS A2. Vehicles equipped with Vehicle Stability Enhancement System will have version Advics ADS V2G installed. The electronic brake control module (EBCM) includes the brake pressure modulator valve. The brake pressure modulator valve uses a 4 way configuration to control hydraulic pressure to each wheel individually.

The following vehicle performance enhancement systems are provided.

- Antilock Brake System (ABS)
- Electronic Brake Distribution
- Traction Control System
- Vehicle Stability Enhancement System

The following components are involved in the operation of the above systems:

- Electronic brake control module (EBCM) – The EBCM controls the system functions and detects failures.
- Brake pressure modulator valve – The brake pressure modulator valve contains the hydraulic valves and pump motor that are controlled electrically by the EBCM. The brake pressure modulator valve uses a 4 circuit configuration with a diagonal split. The brake pressure modulator valve directs fluid from the reservoir of the master cylinder to the left front and right rear wheels and fluid from the other reservoir to the right front and left rear wheels. The diagonal circuits are hydraulically isolated so that a leak or malfunction in one circuit will allow continued braking ability on the other.

The brake pressure modulator valve contains the following components:

- Pump motor
- Inlet valves (one per wheel)
- Outlet valves (one per wheel)
- One traction control/stability control supply valves
- One traction control/stability control isolation valves
- Pressure Sensor
- Wheel speed sensor – The wheel speed sensor receives a 12 V power supply voltage from the electronic brake control module (EBCM) and provides an output signal to the EBCM. As the wheel spins, the wheel speed sensor sends the EBCM a DC square wave signal. The EBCM uses the frequency of the square wave signal to calculate the wheel speed.
- Traction Control Switch – vehicle stability enhancement system and the engine torque reduction function of the traction control system are manually disabled or enabled by pressing the traction control switch.
- Steering angle sensor – The EBCM receives serial data message inputs from the steering angle sensor. The steering angle sensor signal is used to calculate the desired yaw rate.
- Multi-axis acceleration sensor – The yaw rate and lateral acceleration sensors are combined into one multi-axis acceleration sensor, external to the EBCM. The EBCM receives serial data message inputs from the yaw rate and lateral acceleration sensor and activates stability control depending on multi-axis acceleration sensor input.

Initialization Sequence

The EBCM performs 1 initialization test each ignition cycle. The initialization of the EBCM occurs when both the following conditions occur:

- The vehicle speed is greater than 6 km/h (4 MPH).
- The stop lamp switch is not applied.

The initialization sequence cycles each solenoid valve and the pump motor, as well as the necessary relays, for approximately 1.5 s to check component operation. The EBCM sets a DTC if any error is detected. The initialization sequence may be heard and felt while it is taking place, and is considered part of normal system operation.

The EBCM defines a drive cycle as the completion of the initialization sequence.

Antilock Brake System

When wheel slip is detected during a brake application, the ABS enters antilock mode. During antilock braking, hydraulic pressure in the individual wheel circuits is controlled to prevent any wheel from slipping. A separate hydraulic line and specific solenoid valves are provided for each wheel. The ABS can decrease, hold, or increase hydraulic pressure to each wheel brake. The ABS cannot, however, increase hydraulic pressure above the amount which is transmitted by the master cylinder during braking.

During antilock braking, a series of rapid pulsations is felt in the brake pedal. These pulsations are caused by the rapid changes in position of the individual solenoid valves as the EBCM responds to wheel speed sensor inputs and attempts to prevent wheel slip. These pedal pulsations are present only during antilock braking and stop when normal braking is resumed or when the vehicle comes to a stop. A ticking or popping noise may also be heard as the solenoid valves cycle rapidly. During antilock braking on dry pavement, intermittent chirping noises may be heard as the tires approach slipping. These noises and pedal pulsations are considered normal during antilock operation.

Vehicle equipped with ABS may be stopped by applying normal force to the brake pedal. Brake pedal operation during normal braking is no different than that of previous non-ABS systems. Maintaining a constant force on the brake pedal provides the shortest stopping distance while maintaining vehicle stability.

Pressure Hold

The EBCM closes the inlet valve and keeps the outlet valve closed in order to isolate the system when wheel slip occurs. This holds the pressure steady on the brake so that the hydraulic pressure does not increase or decrease.

Pressure Decrease

The EBCM decreases the pressure to individual wheels during a deceleration when wheel slip occurs. The inlet valve is closed and the outlet valve is opened. The excess fluid is stored in the accumulator until the return pump can return the fluid to the master cylinder.

Pressure Increase

The EBCM increases the pressure to individual wheels during a deceleration in order to reduce the speed of the wheel. The inlet valve is opened and the outlet valve is closed. The increased pressure is delivered from the master cylinder.

Electronic Brake Distribution

The electronic brake distribution is a control system that replaces the hydraulic proportioning function of the mechanical proportioning valve in the base brake system. The electronic brake distribution control system is part of the operation software in the EBCM. The electronic brake distribution uses active control with existing ABS in order to regulate the vehicles rear brake pressure.

The red brake warning indicator is illuminated when the electronic brake distribution function is disabled.

Traction Control System

When drive wheel slip is noted while the brake is not applied, the electronic brake control module (EBCM) will enter traction control mode.

First, the EBCM requests the engine control module (ECM) to reduce the amount of torque to the drive wheels via the serial data. The ECM reduces torque to the drive wheels by retarding spark timing and turning off fuel injectors. The ECM reports the amount of torque delivered to the drive wheels via the serial data circuit.

- Pressure hold

- Pressure increase
- Pressure decrease

Vehicle Stability Enhancement System

The Vehicle Stability Enhancement System adds an additional level of vehicle control to the EBCM.

Yaw rate is the rate of rotation about the vehicles vertical axis. The vehicle stability enhancement system is activated when the EBCM determines that the desired yaw rate does not match the actual yaw rate as measured by the yaw rate sensor.

The desired yaw rate is calculated from the following parameters:

- The position of the steering wheel
- The speed of the vehicle
- The lateral acceleration of the vehicle

The difference between the desired yaw rate and the actual yaw rate is the yaw rate error, which is a measurement of oversteer or understeer. If the yaw error becomes too large, the EBCM attempts to correct the vehicles yaw rate motion by applying differential braking to the appropriate wheel. The amount of differential braking applied to the left or right front wheel is based on both the yaw rate error and side slip rate error.

The vehicle stability enhancement system activations generally occur during aggressive driving, in turns or on bumpy roads without much use of the accelerator pedal. When braking during vehicle stability enhancement system activation, the pedal pulsations feel different than the ABS pedal pulsations. The brake pedal pulsates at a higher frequency during vehicle stability enhancement system activation.

Driver Information Indicator

Brake Warning Indicator

The instrument cluster turns the brake warning indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The EBCM detects some faults, such as more than two wheel speed sensors are defective or the failure relating to the basic brake system occurs and sends a serial data message to the instrument cluster requesting illumination.
- The park brake is engaged or the brake fluid level is low.

ABS Warning Indicator

The instrument cluster turns the ABS warning indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The EBCM detects a malfunction which disables the ABS and sends a serial data message to the instrument cluster requesting illumination.

Traction Control System/Vehicle Stability Enhancement System Warning Indicator

The instrument panel cluster turns the traction control system/vehicle stability enhancement system warning indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The EBCM detects a malfunction which disables the traction control or stability control and sends a serial data message to the instrument cluster requesting illumination.

Traction Control System/Vehicle Stability Enhancement System OFF Indicator

The instrument panel cluster turns the traction control system/vehicle stability enhancement system OFF indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The driver manually disables the traction control and stability control by pressing the traction control switch. The EBCM sends a serial data message to the instrument cluster requesting illumination.

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Warning: Refer to Brake Fluid Irritant Warning.

Caution: Refer to Brake Fluid Effects on Paint and Electrical Components Caution.

Note: Before performing the ABS Automated Bleed Procedure, first perform a pressure bleed of the base brake system. Refer to Hydraulic Brake System Bleeding. The automated bleed procedure is recommended when one of the following conditions exist:

- Base brake system bleeding does not achieve the desired pedal height or feel
- Extreme loss of brake fluid has occurred
- Air ingestion is suspected in the secondary circuits of the brake modulator assembly

The ABS Automated Bleed Procedure uses a scan tool to cycle the system solenoid valves and run the pump in order to purge any air from the secondary circuits. These circuits are normally closed off, and are only opened during system initialization at vehicle start up and during ABS operation. The automated bleed procedure opens these secondary circuits and allows any air trapped in these circuits to flow out toward the brake corners.

Performing the Automated Bleed Procedure

Caution: The Auto Bleed Procedure may be terminated at any time during the process by pressing the EXIT button. No further Scan Tool prompts pertaining to the Auto Bleed procedure will be given. After exiting the bleed procedure, relieve bleed pressure and disconnect bleed equipment per manufacturers instructions. Failure to properly relieve pressure may result in spilled brake fluid causing damage to components and painted surfaces.

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove all four tire and wheel assemblies. Refer to Tire and Wheel Removal and Installation.
3. Inspect the brake system for leaks and visual damage. Repair or replace components as needed.
4. Lower the vehicle.
5. Inspect the battery state of charge.
6. Install a scan tool.
7. Turn the ignition ON, with the engine OFF.
8. If the vehicle is equipped with push button start, place the ignition in Service Only Mode.

- Do not apply the brake pedal.
- Press and hold the ignition mode switch for a minimum of 5 seconds.
- Release the ignition mode switch when the switch indicator illuminates green.

- With the scan tool, establish communications with the ABS system. Select Control Functions. Select Automated Bleed from the Control Functions menu.
- Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
- Following the directions given on the scan tool, pressure bleed the base brake system. Refer to Hydraulic Brake System Bleeding.
- Follow the scan tool directions until the desired brake pedal height is achieved.
- If the bleed procedure is aborted, a malfunction exists. Perform the following steps before resuming the bleed procedure:

- If a DTC is detected, refer to Diagnostic Trouble Code (DTC) List - Vehicle, and diagnose the appropriate DTC.
- If the brake pedal feels spongy, perform the conventional brake bleed procedure again. Refer to Hydraulic Brake System Bleeding.

- When the desired pedal height is achieved, press the brake pedal to inspect for firmness.
- Lower the vehicle.
- Remove the scan tool.
- If the vehicle is equipped with push button start, remove the vehicle from Service Only Mode.

- Do not apply the brake pedal.
- Press the ignition mode switch once and release.
- The ignition mode switch will no longer be illuminated.
- The vehicle may be started normally.

- Install the tire and wheel assemblies. Refer to Tire and Wheel Removal and Installation.
- Inspect the brake fluid level. Refer to Master Cylinder Reservoir Filling.
- Road test the vehicle while inspecting that the pedal remains high and firm.

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Removal Procedure

Warning: Refer to Brake Fluid Irritant Warning.

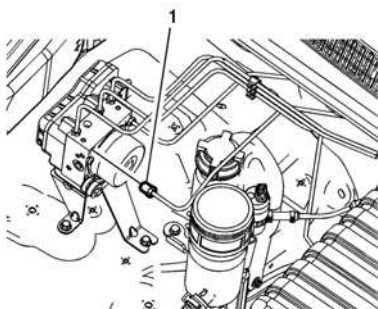
Caution: Refer to Brake Fluid Effects on Paint and Electrical Components Caution.

Caution: Always connect or disconnect the wiring harness connector from the EBCM/EBTCM with the ignition switch in the OFF position. Failure to follow this precaution could result in damage to the EBCM/EBTCM.

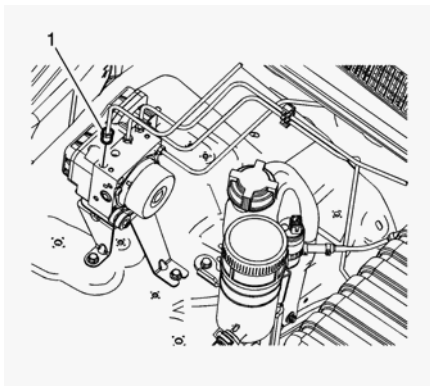
1. Turn the ignition to the OFF position.
2. Remove the air cleaner assembly. Refer to Air Cleaner Assembly Replacement.

Note: The area around the electronic brake control module (EBCM) and brake pressure modulator valve (BPMV) assembly must be free to prevent contamination of disassembled ABS components.

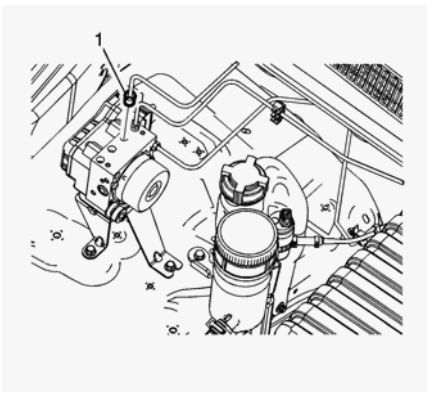
3. Clean the area surrounding the EBCM/BPMV of any accumulated dirt and debris.
4. Disconnect the EBCM electrical connector.



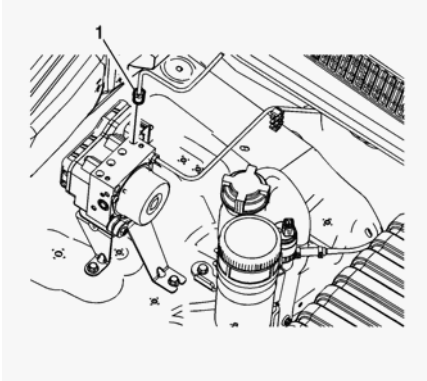
5. Disconnect the master cylinder secondary brake pipe fitting (1) from the BPMV.
6. Cap the brake pipe fitting and plug the BPMV inlet port to prevent brake fluid loss and contamination.



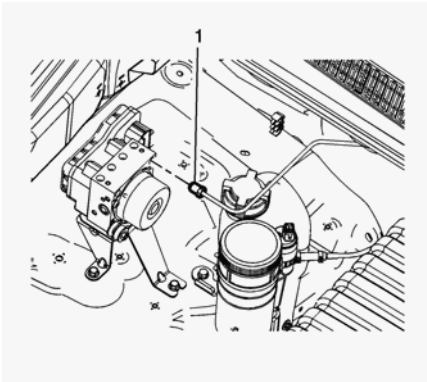
7. Disconnect the rear brake pipe fitting (1) from the BPMV.
8. Cap the brake pipe fitting and plug the BPMV outlet port to prevent brake fluid loss and contamination.



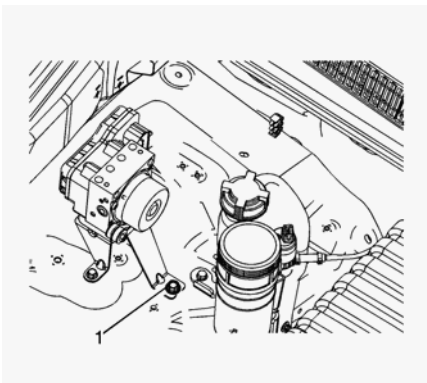
9. Disconnect the right front brake pipe fitting (1) from the BPMV.
10. Cap the brake pipe fitting and plug the BPMV outlet port to prevent brake fluid loss and contamination.



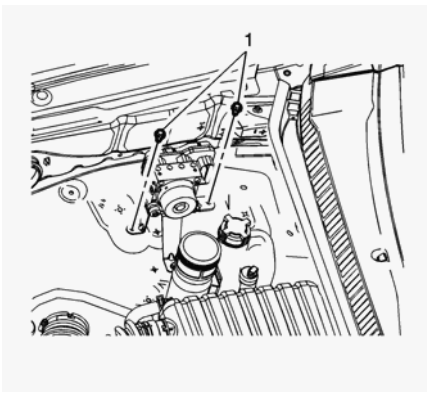
11. Disconnect the left front brake pipe fitting (1) from the BPMV.
12. Cap the brake pipe fitting and plug the BPMV outlet port to prevent brake fluid loss and contamination.



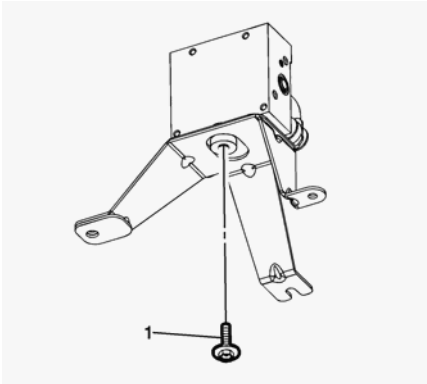
13. Disconnect the master cylinder primary brake pipe fitting (1) from the BPMV.
14. Cap the brake pipe fitting and plug the BPMV inlet port to prevent brake fluid loss and contamination.



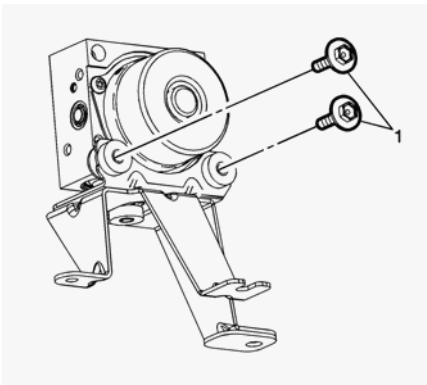
15. Loosen, but do not remove, the BPMV bracket inner bolt (1).



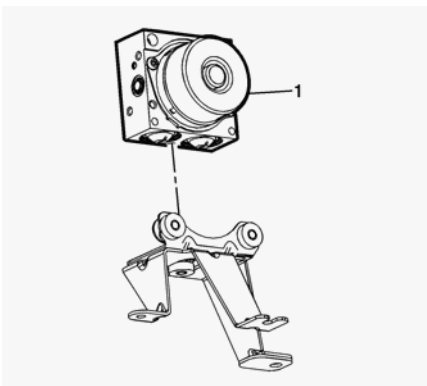
16. Remove the BPMV bracket outer bolts (1).
17. Remove the BPMV and bracket assembly.



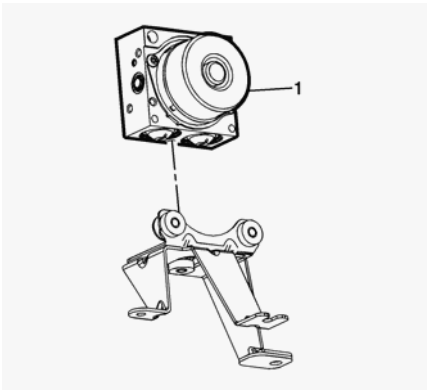
18. Remove the BPMV lower bolt (1).



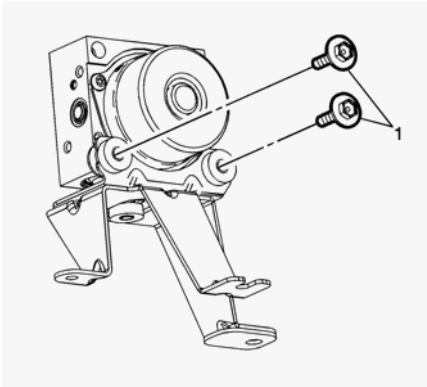
19. Remove the BPMV upper bolts (1).



20. Remove the BPMV (1) from the BPMV bracket.

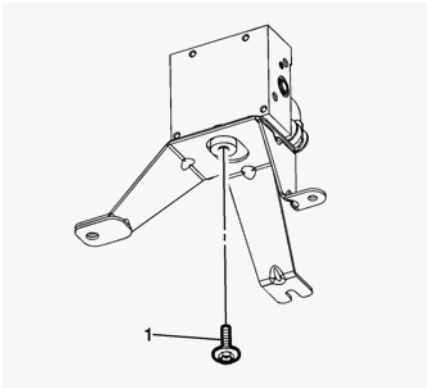


1. Install the BPMV (1) to the BPMV bracket.

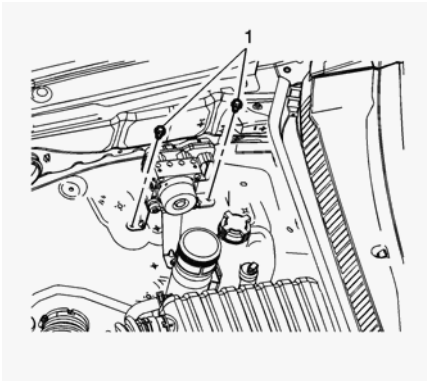


Caution: Refer to Fastener Caution.

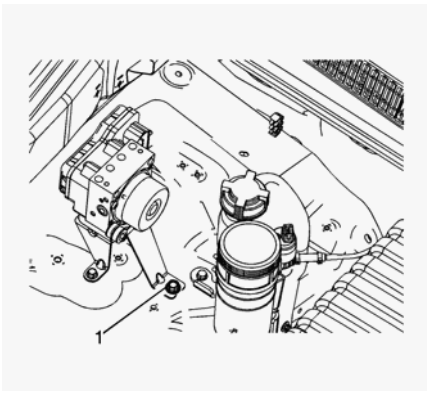
2. Install the BPMV upper bolts (1) and tighten to **5 Y (44 lb in)**.



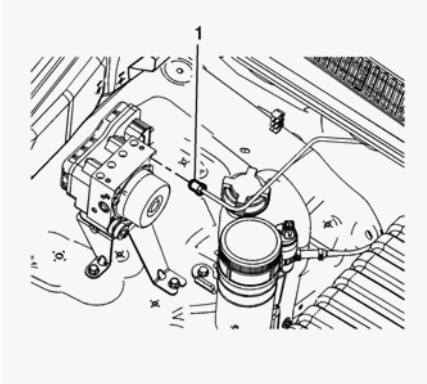
3. Install the BPMV lower bolt (1) and tighten to **5 Y (44 lb in)**.
4. Install the BPMV and bracket assembly to the vehicle.



5. Install the BPMV bracket outer bolts (1) and tighten to **9 Y (80 lb in)**.



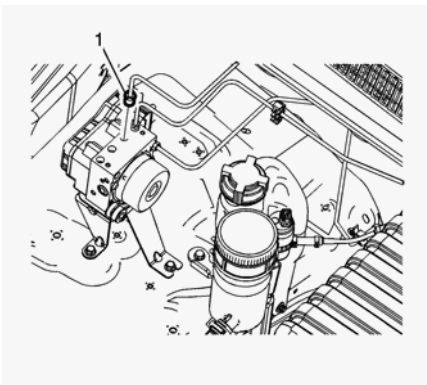
6. Tighten the BPMV bracket inner bolt (1) to **9 Y (80 lb in)**.



7. Connect the master cylinder primary brake pipe fitting (1) and tighten to **16 Y (12 lb ft)**.



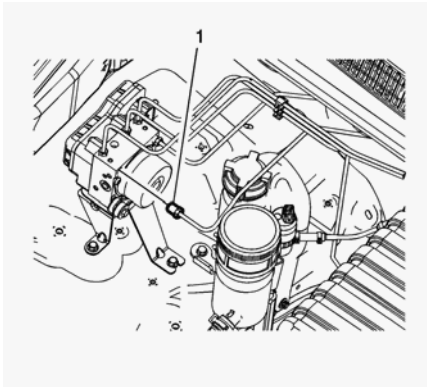
8. Connect the left front brake pipe fitting (1) and tighten to **16 Y (12 lb ft)**.



9. Connect the right front brake pipe fitting (1) and tighten to **16 Y (12 lb ft)**.



10. Connect the rear brake pipe fitting (1) and tighten to **16 Y (12 lb ft)**.



11. Connect the master cylinder secondary brake pipe fitting (1) and tighten to **16 Y (12 lb ft)**.
12. Connect the EBCM electrical connector.
13. Install the air cleaner assembly. Refer to Air Cleaner Assembly Replacement.
14. Bleed the hydraulic brake system. Refer to Hydraulic Brake System Bleeding.
15. Program the EBCM. Refer to Control Module References.
16. Observe the brake pedal feel. If the pedal now feels spongy, air may have been in the secondary hydraulic circuit of the brake module. If the pedal feels spongy, bleed the antilock brake system. Refer to Antilock Brake System Bleed.

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Removal Procedure

Warning: Refer to Brake Fluid Irritant Warning.

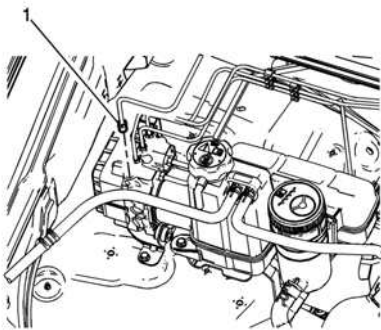
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Caution: Always connect or disconnect the wiring harness connector from the EBCM/EBTCM with the ignition switch in the OFF position. Failure to take this precaution could result in damage to the EBCM/EBTCM.

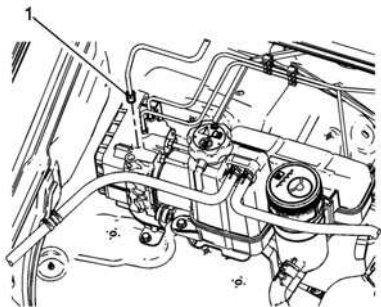
1. Turn the ignition to the OFF position.
2. Remove the air cleaner assembly. Refer to Air Cleaner Assembly Replacement.

Note: The area around the electronic brake control module (EBCM) and brake pressure modulator valve (BPMV) assembly must be free to prevent contamination of disassembled ABS components.

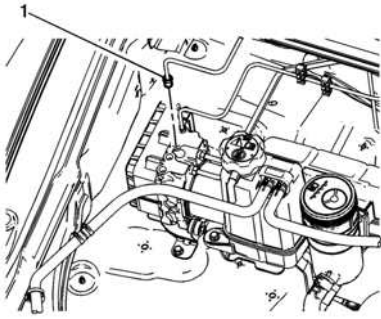
3. Clean the area surrounding the EBCM/BPMV of any accumulated dirt and debris.
4. Disconnect the EBCM electrical connector.



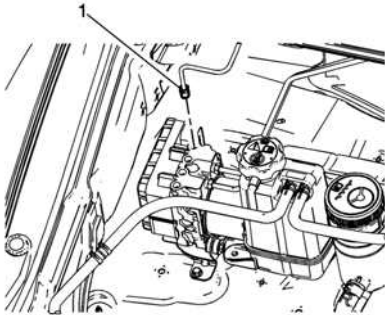
5. Disconnect the right rear brake pipe fitting (1) from the BPMV.
6. Cap the brake pipe fitting and plug the BPMV outlet port to prevent brake fluid loss and contamination.



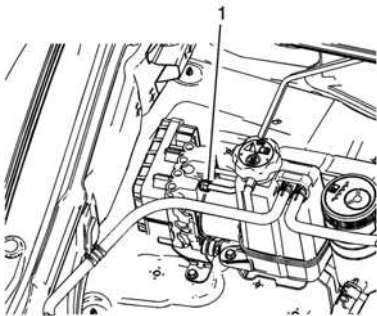
7. Disconnect the left rear brake pipe fitting (1) from the BPMV.
8. Cap the brake pipe fitting and plug the BPMV outlet port to prevent brake fluid loss and contamination.



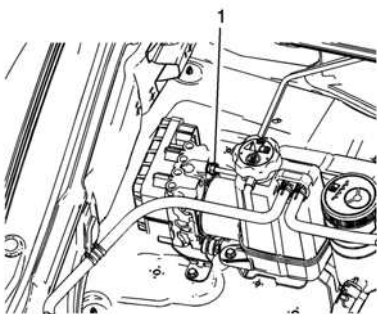
9. Disconnect the right front brake pipe fitting (1) from the BPMV.
10. Cap the brake pipe fitting and plug the BPMV outlet port to prevent brake fluid loss and contamination.



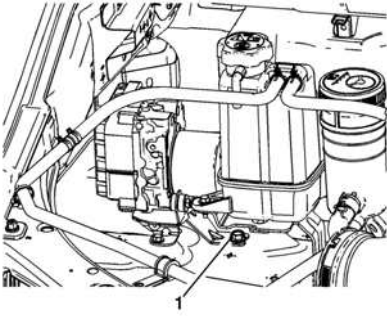
11. Disconnect the left front pipe fitting (1) from the BPMV.
12. Cap the brake pipe fitting and plug the BPMV outlet port to prevent brake fluid loss and contamination.



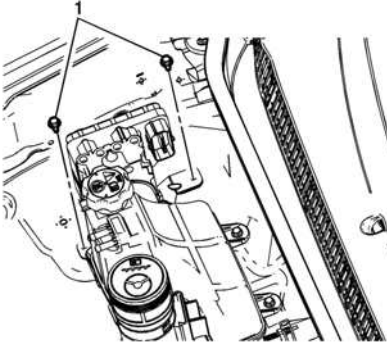
13. Disconnect the master cylinder secondary brake pipe fitting (1) from the BPMV.
14. Cap the brake pipe fitting and plug the BPMV inlet port to prevent brake fluid loss and contamination.



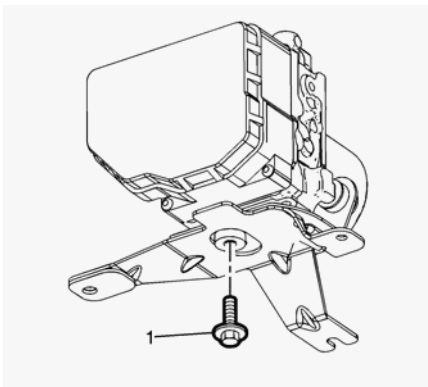
15. Disconnect the master cylinder primary brake pipe fitting (1) from the BPMV.
16. Cap the brake pipe fitting and plug the BPMV inlet port to prevent brake fluid loss and contamination.



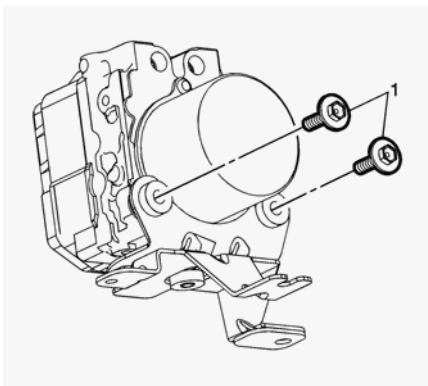
17. Loosen, but do not remove, the BPMV bracket inner bolt (1).



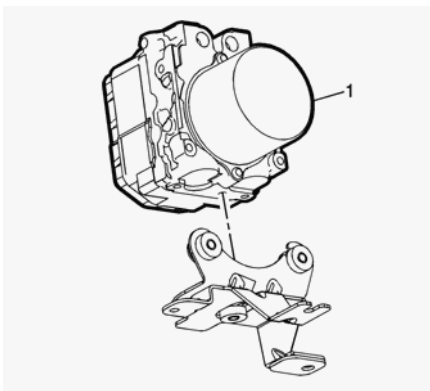
18. Remove the BPMV bracket outer bolts (1).
19. Remove the BPMV and bracket assembly.



20. Remove the BPMV lower bolt (1).

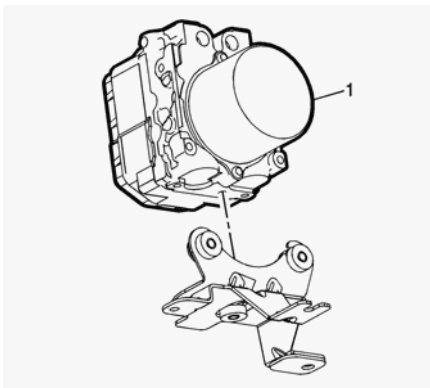


21. Remove the BPMV upper bolts (1).

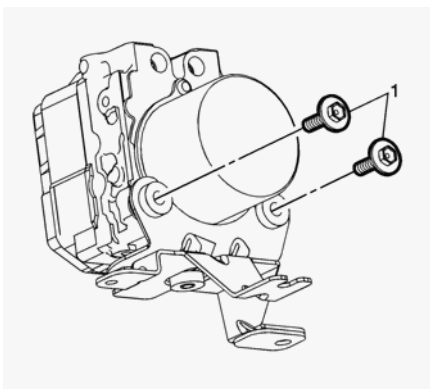


22. Remove the BPMV (1) from the BPMV bracket.

[Installation Procedure](#)

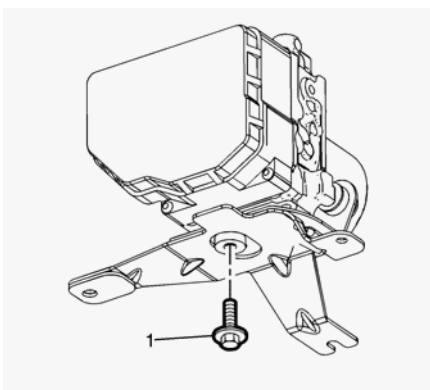


1. Install the BPMV (1) to the BPMV bracket.



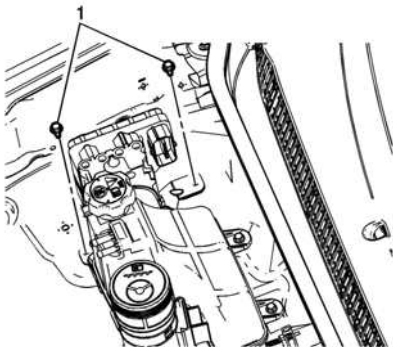
Caution: Refer to Fastener Caution.

2. Install the BPMV upper bolts (1) and tighten to 5 Y (44 lb in).

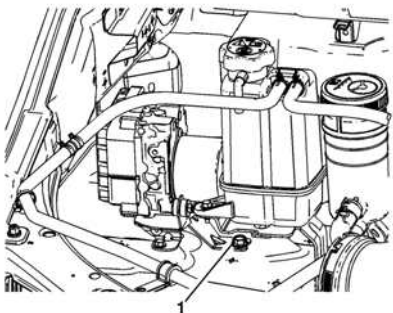


3. Install the BPMV lower bolt (1) and tighten to 5 Y (44 lb in).

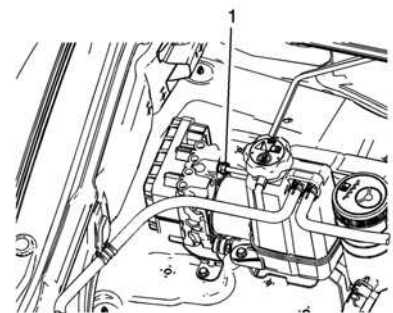
4. Install the BPMV and bracket assembly to the vehicle.



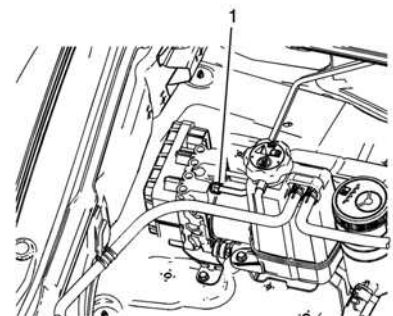
5. Install the BPMV bracket outer bolts (1) and tighten to **9 Y (80 lb in)**.



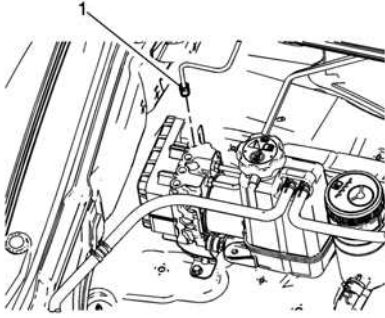
6. Tighten the BPMV bracket inner bolt (1) to **9 Y (80 lb in)**.



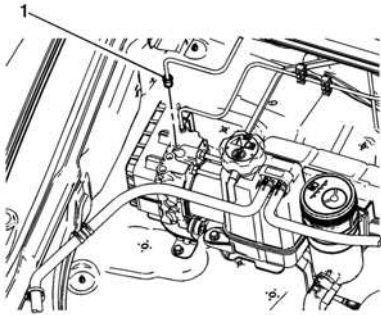
7. Connect the master cylinder primary brake pipe fitting (1) and tighten to **20 Y (15 lb ft)**.



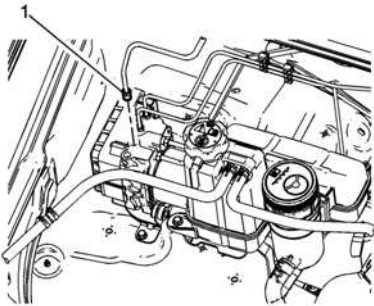
8. Connect the master cylinder secondary brake pipe fitting (1) and tighten to **20 Y (15 lb ft)**.



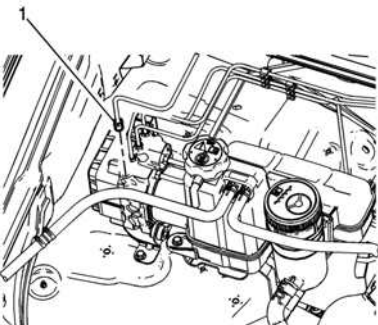
9. Connect the left front brake pipe fitting (1) and tighten to **16 Y (12 lb ft)**.



10. Connect the right front brake pipe fitting (1) and tighten to **16 Y (12 lb ft)**.



11. Connect the left rear brake pipe fitting (1) and tighten to **16 Y (12 lb ft)**.



12. Connect the right rear brake pipe fitting (1) and tighten to **16 Y (12 lb ft)**.
13. Connect the EBCM electrical connector.
14. Install the air cleaner assembly. Refer to Air Cleaner Assembly Replacement.

15. Bleed the hydraulic brake system. Refer to Hydraulic Brake System Bleeding.
16. Program the EBCM. Refer to Control Module References.
17. Observe the brake pedal feel. If the pedal now feels spongy, air may have been in the secondary hydraulic circuit of the brake module or air may have been introduced into the primary circuit. If the pedal feels spongy, bleed the antilock brake system. Refer to Antilock Brake System Bleed.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:

The following service procedures require either a programming or a setup event performed for a complete repair.

[Electronic Brake Control Module Replacement](#)

If the electronic brake control module (EBCM) needs to be replaced, the following procedures must be performed:

1. Connect a scan tool to the vehicle and access SPS. Refer to Service Programming System (SPS).
2. Perform the SPS function Electronic Brake Control Module – Programming and follow the on-screen instructions.
3. Perform the SPS function Electronic Brake Control Module – Configuration & Setup and follow the on-screen instructions. On the screen Control Module – Configuration and Setup Function(s), select both control module Configuration/Reconfiguration and control module Setup.
4. Clear DTCs after completing the programming procedure.

[Electronic Brake Control Module Reprogramming](#)

If the EBCM needs to be reprogrammed, the following procedures must be performed:

1. Connect a scan tool to the vehicle and access SPS. Refer to Service Programming System (SPS).
2. Perform the SPS function Electronic Brake Control Module – Programming and follow the on-screen instructions.
3. Clear DTCs after completing the programming procedure.

[Setup for Component Replacement](#)

The replacement of some components will require a setup procedure for complete repair.

If any of the following components are replaced, the corresponding procedure must be performed.

Steering Angle Sensor

Calibrate the steering angle sensor. Refer to Steering Angle Sensor Centering.

2013 Chevrolet Colorado

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

Table 1: [Electronic Brake Control Module Scan Tool Data Parameter](#)
Table 2: [Electronic Brake Control Module Scan Tool Output Controls](#)

The electronic brake control module (EBCM) scan tool data parameters list contains all ABS related parameters that are available on the scan tool. The list is arranged in alphabetical order. A given parameter may appear in any one of the data lists.

Electronic Brake Control Module Scan Tool Data Parameter

Parameter	System State	Expected Value	Description
Operating Conditions: Ignition ON			
ABS Pump Motor Voltage	—	0–14 V	The scan tool displays the pump motor voltage.
Antilock Braking System	—	OK	The scan tool displays OK or Malfunction. Malfunction is displayed when the ABS is defective.
Brake Pressure Sensor	Brake pedal released	0–1 V	The scan tool displays 0–5 V depending on the applied hydraulic brake pressure.
	Brake pedal applied	1–5 V	
Dynamic Rear Proportioning Status	—	OK	The scan tool displays OK or Malfunction. Malfunction is displayed when the dynamic rear proportioning system is defective.
Front Isolation Solenoid Valve	—	Inactive	The scan tool displays Inactive or Active. Active is displayed when the front isolation solenoid valve is commanded ON.
Lateral Acceleration Signal	—	Varies	The scan tool displays the current lateral acceleration in m/s ² .
Left Front Inlet Solenoid Valve Feedback	—	Inactive	The scan tool displays Inactive or Active. Active is displayed when the left front inlet solenoid valve is commanded ON.
Left Front Outlet Solenoid Valve Feedback	—	Inactive	The scan tool displays Inactive or Active. Active is displayed when the left front outlet solenoid valve is commanded ON.
Left Front Wheel Speed Sensor	—	0 km/h	The scan tool displays km/h depending on the current speed of the left front wheel speed sensor.
Left Rear Inlet Solenoid Valve Feedback	—	Inactive	The scan tool displays Inactive or Active. Active is displayed when the left rear inlet solenoid valve is commanded ON.
Left Rear Outlet Solenoid Valve Feedback	—	Inactive	The scan tool displays Inactive or Active. Active is displayed when the left rear outlet solenoid valve is commanded ON.
Left Rear Wheel Speed Sensor	—	0 km/h	The scan tool displays km/h depending on the current speed of the left rear wheel speed sensor.
Longitudinal Acceleration	—	Varies	The scan tool displays the current longitudinal acceleration in m/s ² .
Pump Motor Relay Feedback	—	Inactive	The scan tool displays Inactive or Active. Active is displayed when the pump motor is commanded ON.
Rear Isolation Solenoid Valve	—	Inactive	The scan tool displays Inactive or Active. Active is displayed when the rear isolation solenoid valve is commanded ON.
Right Front Inlet Solenoid Valve Feedback	—	Inactive	The scan tool displays Inactive or Active. Active is displayed when the right front inlet solenoid valve is commanded ON.
Right Front Outlet Solenoid Valve Feedback	—	Inactive	The scan tool displays Inactive or Active. Active is displayed when the right front outlet solenoid valve is commanded ON.
Right Front Wheel Speed Sensor	—	0 km/h	The scan tool displays km/h depending on the current speed of the right front wheel speed sensor.
Right Rear Inlet Solenoid Valve Feedback	—	Inactive	The scan tool displays Inactive or Active. Active is displayed when the right rear inlet solenoid valve is commanded ON.
Right Rear Outlet Solenoid Valve Feedback	—	Inactive	The scan tool displays Inactive or Active. Active is displayed when the right rear outlet solenoid valve is commanded ON.
Right Rear Wheel Speed Sensor	—	0 km/h	The scan tool displays km/h depending on the current speed of the right rear wheel speed sensor.
Steering Wheel Angle	—	Varies	The scan tool displays the steering wheel angle position.
Steering Wheel Angle Sensor	—	OK	The scan tool displays OK or Malfunction. Malfunction is displayed when the system is defective.
Steering Wheel Angle Sensor Centering	—	OK	The scan tool displays OK or Not OK. The Scan tool displays the steering angle sensor centered status.
System Voltage	—	11–14 V	The scan tool displays V. This is the current battery voltage.
			The scan tool displays Active or Inactive. The scan tool displays

Vehicle Stability Control Left Front/Right Rear Solenoid Valves	—	Inactive	The scan tool displays Active or Inactive. The scan tool displays the commanded state of the vehicle stability control solenoid valve.
Vehicle Stability Control Right Front/Left Rear Solenoid Valves	—	Inactive	The scan tool displays Active or Inactive. The scan tool displays the commanded state of the vehicle stability control solenoid valve.
Yaw Rate Signal	—	Varies	The scan tool displays the current yaw rate in °/s.

Electronic Brake Control Module Scan Tool Output Controls

Output Control	Description
ABS Pump Motor	Commands the ABS pump motor Increase or Decrease.
ABS Left Front Solenoid Valves	Commands the solenoid valves ON or OFF.
ABS Left Rear Solenoid Valves	Commands the solenoid valves ON or OFF.
ABS Right Front Solenoid Valves	Commands the solenoid valves ON or OFF.
ABS Right Rear Solenoid Valves	Commands the solenoid valves ON or OFF.
Front Isolation Solenoid Valve	Commands the solenoid valve ON or OFF.
Rear Isolation Solenoid Valve	Commands the solenoid valve ON or OFF.
Traction Control Left Front Solenoid Valves	Commands the solenoid valve ON or OFF.
Traction Control Left Rear Solenoid Valves	Commands the solenoid valve ON or OFF.
Traction Control Right Front Solenoid Valves	Commands the solenoid valves ON or OFF.
Traction Control Right Rear Solenoid Valves	Commands the solenoid valves ON or OFF.

2013 Chevrolet Colorado

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

Special Tools

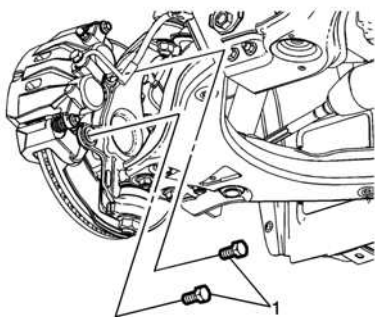
- CH-50787 ABS Sensor Rotor Remover
- CH-50788 ABS Sensor Rotor Installer

For equivalent regional tools refer to Special Tools.

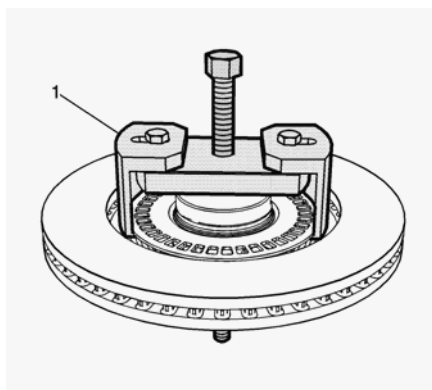
[Removal Procedure](#)

Warning: Refer to Brake Dust Warning.

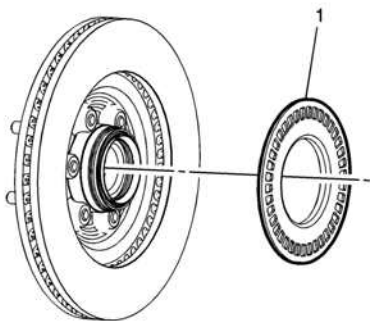
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the front tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.



3. Remove the front caliper bracket bolts (1).
 4. Without disconnecting the brake caliper hose, remove the brake caliper and bracket assembly and support with heavy mechanics wire.
- Note:** It is not necessary to separate the wheel hub from the brake rotor.
5. Remove the brake rotor and hub assembly. Refer to Front Wheel Hub, Bearing, and Seal Replacement.

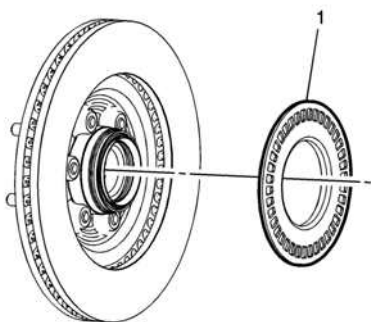


6. Assemble the CH-50787 ABS Sensor Rotor Remover (1) to the front wheel speed sensor reluctor wheel.
- Place the cup squarely over the wheel hub.
 - Assemble the remover hooks under the front wheel speed sensor reluctor wheel.

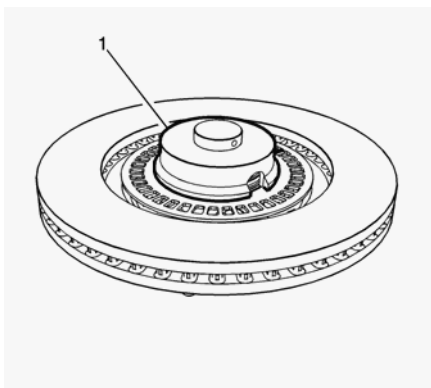


- Slowly tighten the forcing screw of the *CH-50787* ABS Sensor Rotor Remover and remove the front wheel speed sensor reluctor wheel (1) and brake rotor assembly.

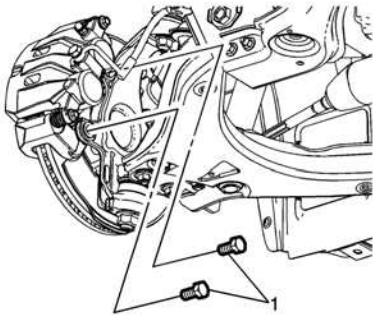
Installation Procedure



1. Place the wheel speed sensor reluctor wheel (1) squarely on to the wheel hub and brake rotor assembly.



2. Using the *CH-50788* ABS Sensor Rotor Installer (1) press the front wheel speed sensor reluctor wheel on to the front brake rotor and hub until fully seated.
3. Install the brake rotor and hub assembly. Refer to Front Wheel Hub, Bearing, and Seal Replacement.
4. Install the brake caliper and bracket assembly to the suspension knuckle.



Caution: Refer to Fastener Caution.

5. Install the front caliper bracket bolts (1) and tighten to **225 Y (166 lb ft)**.
6. Install the front tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.

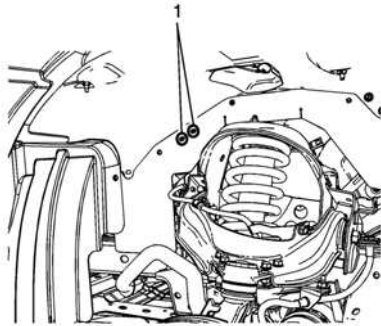
2013 Chevrolet Colorado

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

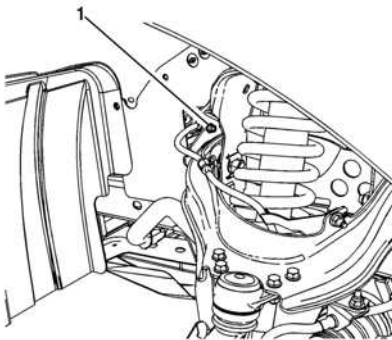
Removal Procedure

Warning: Refer to Brake Dust Warning.

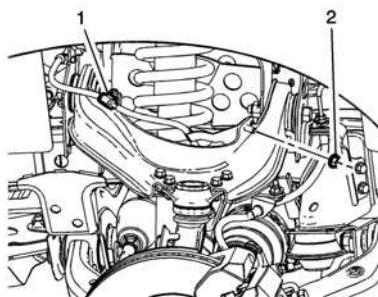
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.



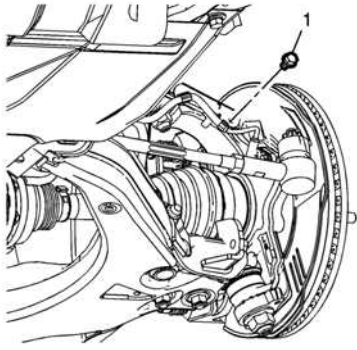
3. From within the wheel house, release the front wheel speed sensor electrical connector harness clip (1).



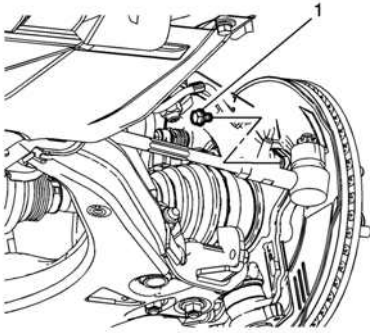
4. Release the front wheel speed sensor harness clip (1) from the vehicle frame.
5. Disconnect the front wheel speed sensor electrical connector.



6. Release the front wheel speed sensor harness clip (1) from the upper control arm.
7. Remove the front wheel speed sensor harness bracket nut (2).



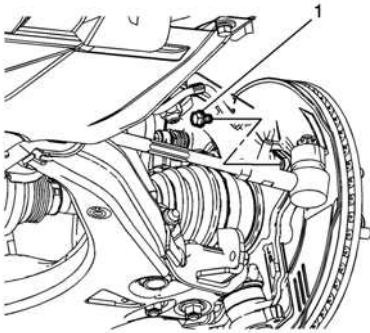
8. Remove the front wheel speed sensor harness bracket bolt (1).



9. Thoroughly clean the wheel speed sensor mounting area of the steering knuckle of any dirt and debris.
 10. Remove the wheel speed sensor bolt (1).
- Note:** Do not pry or lever against the wheel speed sensor to remove.
11. Carefully remove the wheel speed sensor from the suspension knuckle by pulling straight outward.

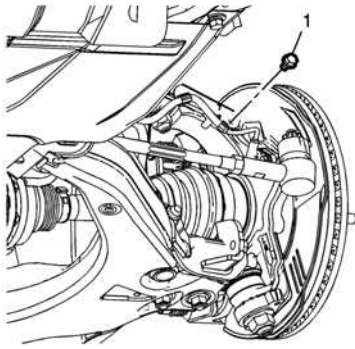
Installation Procedure

1. Install the wheel speed sensor to the suspension knuckle.

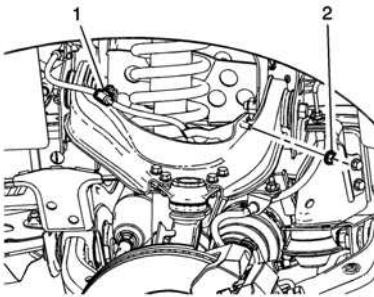


Caution: Refer to Fastener Caution.

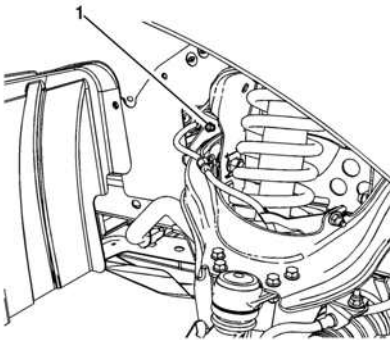
2. Install the wheel speed sensor bolt (1) and tighten to **8 Y (70 lb in)**.



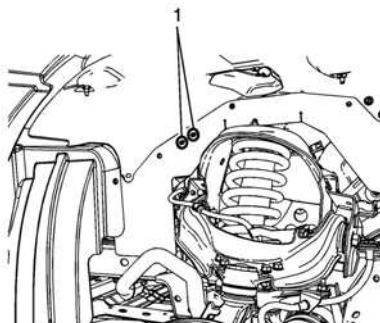
3. Install the front wheel speed sensor harness bracket bolt (1) and tighten to **8 Y (70 lb in)**.



4. Install the front wheel speed sensor harness clip (1).
5. Install the front wheel speed sensor harness bracket nut (2) and tighten to **19 Y (14 lb ft)**.



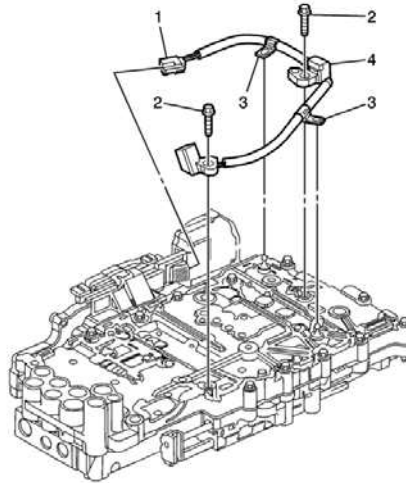
6. Install the front wheel speed sensor harness clip (1) to the vehicle frame.
7. Connect the front wheel speed sensor electrical connector.



8. Install the front wheel speed sensor electrical connector harness clip (1).
9. Install the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.

2013 Chevrolet Colorado

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



Input and Output Speed Sensor Replacement

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Callout	Component Name
Preliminary Procedures	

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the transmission fluid pan and filter. Refer to Automatic Transmission Fluid, Fluid Pan and/or Filter Replacement.
3. Remove the upper and lower valve body assembly. Refer to Control Valve Lower Body and Upper Body Replacement.

- | | |
|---|---|
| 1 | Speed Sensor Electrical Connector |
| | Input and Output Speed Sensor Assembly Bolts (Qty: 2) |
| | Caution: Refer to Fastener Caution. |
| 2 | Tighten |
| | 12 Y (106 lb in) |
| | Input and Output Speed Sensor Assembly Clips (Qty: 2) |
| 3 | Tip: Inspect the wiring harness clips for damage replace if necessary. |
| 4 | Input and Output Speed Sensor Assembly |

2013 Chevrolet Colorado

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

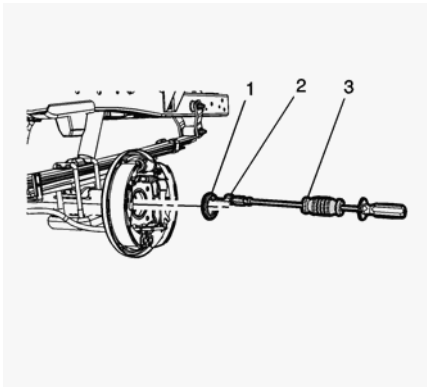
Special Tools

- DT-49275 Pinion Bearing Remover
- DT-50925 Seal Installer
- J-6125-B Slide Hammer
- J-8092 Driver Handle
- J-22912-B Split Plate Bearing Puller
- J-23129 Universal Seal Remover

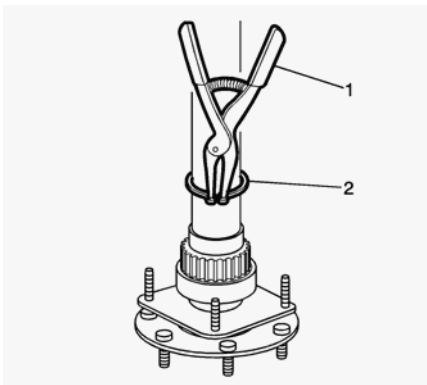
For the equivalent regional tools, refer to Special Tools.

Removal Procedure

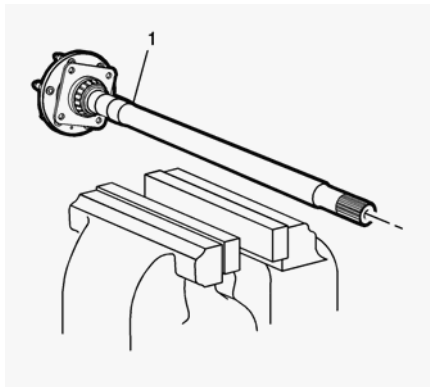
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Drain the rear axle. Refer to Differential Oil Replacement.
3. Remove the tire and wheel. Refer to Tire and Wheel Removal and Installation.
4. Remove the rear axle shaft assembly. Refer to Rear Axle Shaft Replacement.



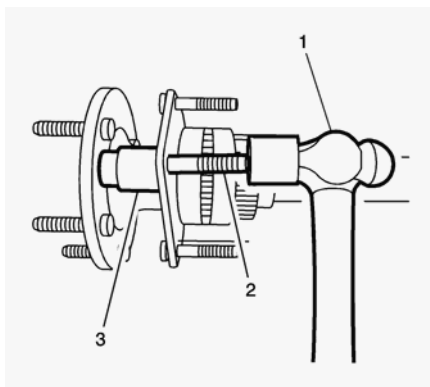
5. Using the J-6125-B hammer (3) and the J-23129 remover (2), remove the inner axle shaft seal (1).



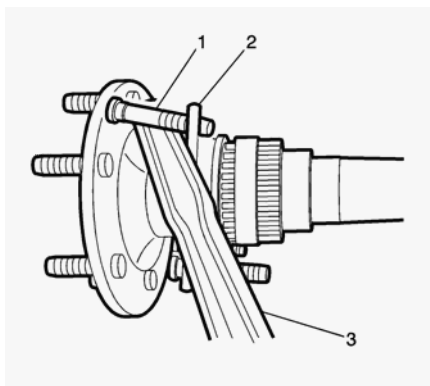
6. Using the appropriate tool (1), remove the retaining ring (2).



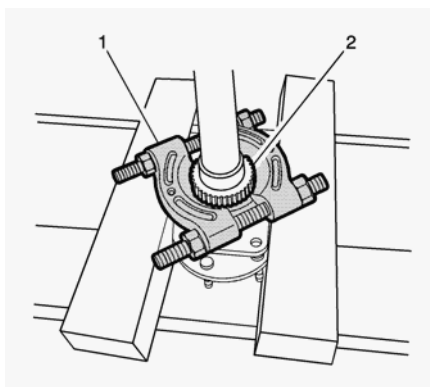
7. Install the rear axle shaft (1) in the vise.



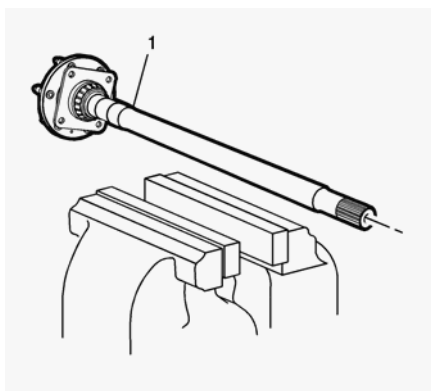
8. Using the socket (3) and the hammer (1), remove the wheel studs (2) from the retaining plate.



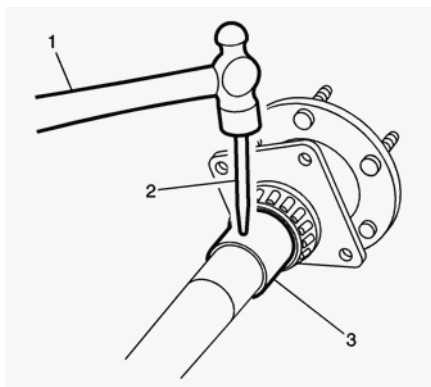
9. Using the appropriate tool (3), move the retaining plate (2) far enough away from the wheel drive axle flange to remove the wheel studs
10. Remove the rear axle shaft from the vise.



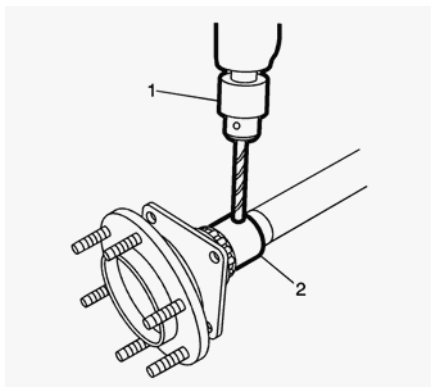
11. Using the J-22912-B puller and the hydraulic press (1), remove the speed sensor gear and the inner bearing cup (2).



12. Install the rear axle shaft (1) in a vise.

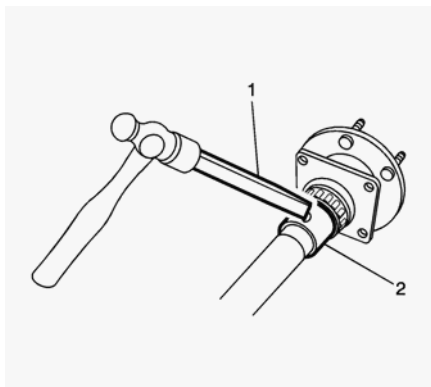


13. Using the hammer (1) and the punch (2), mark the spacer (3).

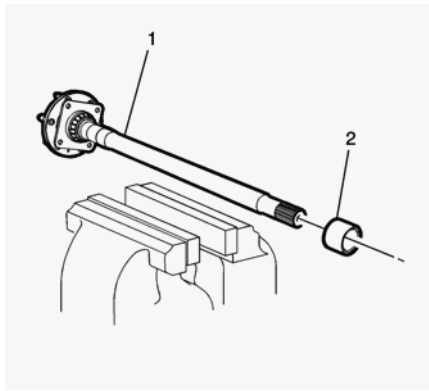


Note: DO NOT drill all the way through the spacer.

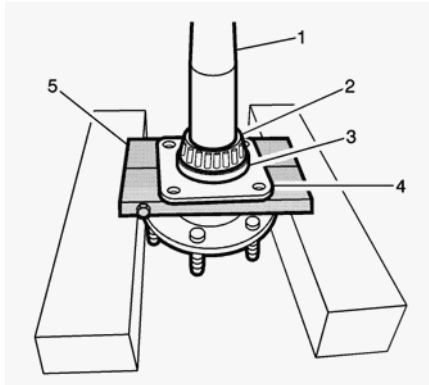
14. Using the drill (1), drill the spacer (2) where marked by the punch.



15. Using the hammer and the chisel (1), break the spacer (2).

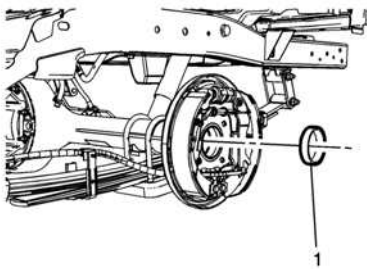


16. Remove the rear axle shaft (1) from the vise.
17. Remove the spacer (2) from the rear axle shaft (1).

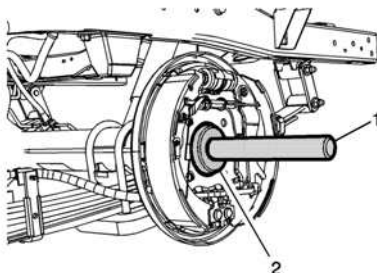


18. Position the axle shaft (1) in the hydraulic press.
19. Using the hydraulic press and the DT-49275 remover (5), remove the wheel bearing race (2), axle outer shaft seal (3) and the retaining the rear axle shaft.

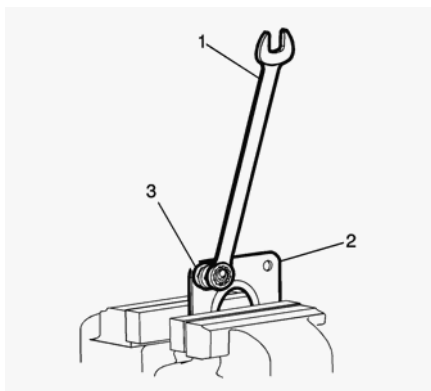
Installation Procedure



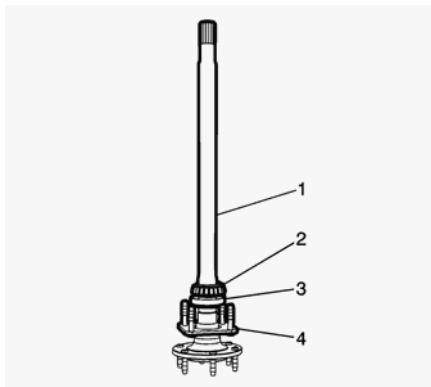
1. Position the inner axle seal (1) in the axle housing.



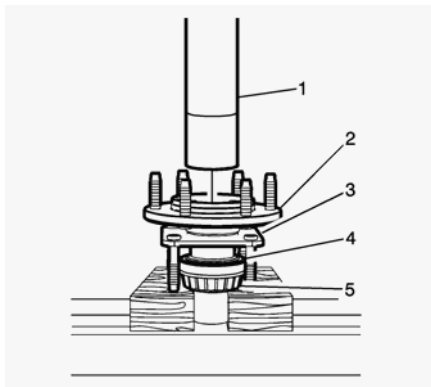
2. Using the *J-8092* handle (1) and the *DT-50925* installer (2), install the inner axle shaft seal.



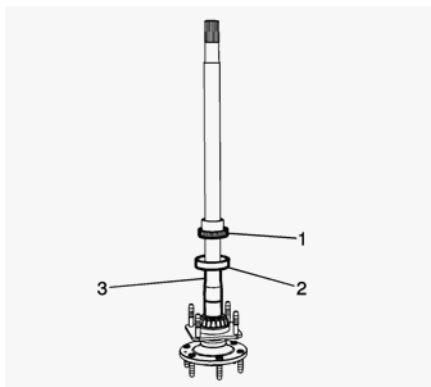
3. Install the retaining plate (2) in the vise.
4. Install the bolts (3) and the 4 nuts in the retaining plate (2).
5. Using the proper size wrench (1), tighten the nuts until the bolt (3) is properly seated in the retaining plate (2).



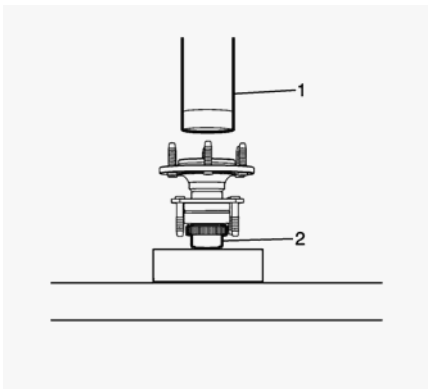
6. Position the retaining plate (4), the NEW axle outer shaft seal (3) and the axle bearing race (2) on the axle shaft (1).



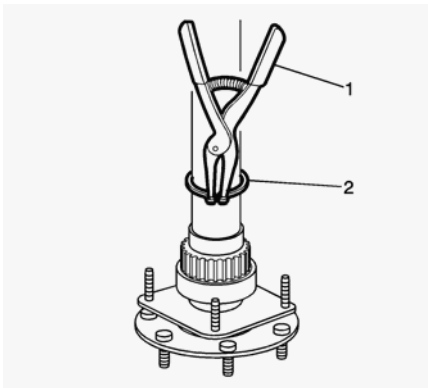
7. Position the rear axle shaft in the hydraulic press (1).
8. Using the hydraulic press (1), install the wheel bearing race (5), axle shaft seal (4) and the retaining plate (3) on to the axle outer shaft (



9. Position the wheel bearing cup (2) and the speed sensor gear and spacer (1) on the axle shaft (3).



10. Using the hydraulic press (1), install the speed sensor gear, spacer and the bearing cup (2).



11. Using the appropriate tool (1), install the retaining clip (2).
12. Install the rear axle shaft assembly. Refer to Rear Axle Shaft Replacement
13. Fill the rear axle. Refer to Differential Oil Replacement
14. Install the tire and wheel. Refer to Tire and Wheel Removal and Installation
15. Remove the support and lower the vehicle.

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:

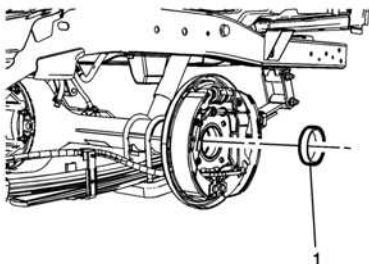
Special Tools

- DT-23129 Universal Seal Remover
- DT-49275 Pinion Bearing Remover
- DT-50925 Seal Installer
- GE-6125-B Slide Hammer
- GE-8092 Driver Handle

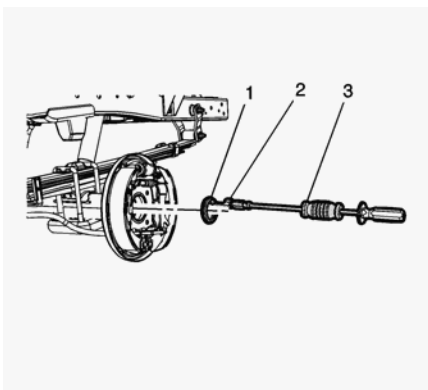
For regional equivalent tools, refer to Special Tools.

Removal Procedure

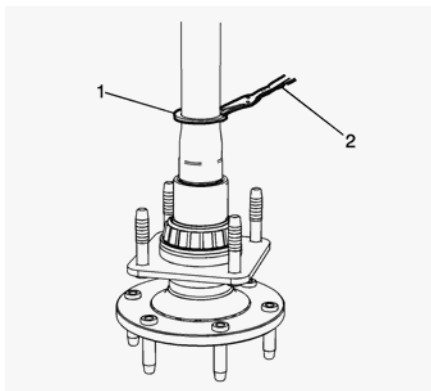
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Drain the rear axle. Refer to Differential Oil Replacement.
3. Remove the tire and wheel. Refer to Tire and Wheel Removal and Installation.
4. Remove the rear axle shaft. Refer to Rear Axle Shaft Replacement.



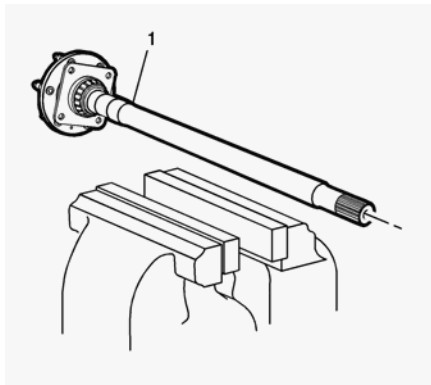
5. Using the appropriate tool, remove the inner bearing cup (1).



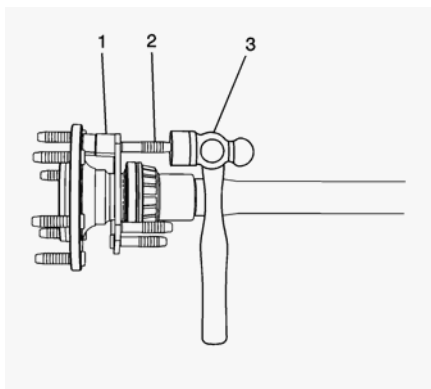
6. Using the GE-6125-B slide hammer (3) and the DT-23129 universal seal remover (2), remove the inner axle seal (1).



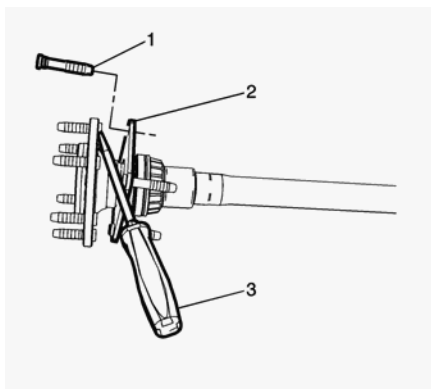
7. Using the appropriate tool (2), remove the retaining clip (1).



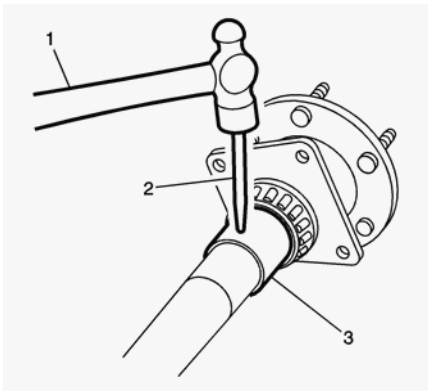
8. Install the rear axle shaft (1) in a suitable vise.



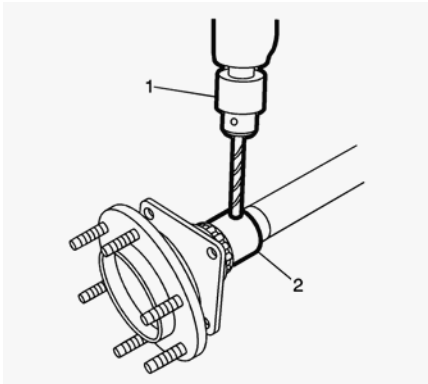
9. Use the appropriate tool (1) and the hammer (3), loosen the stud (2) in the retaining plate.



10. Using the appropriate tool (3), move the retaining plate (2) enough to remove the stud (1) from the retaining plate (3).

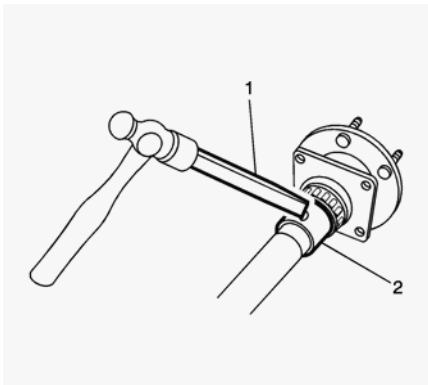


11. Using a hammer (1) and a punch (2), mark the spacer (3).

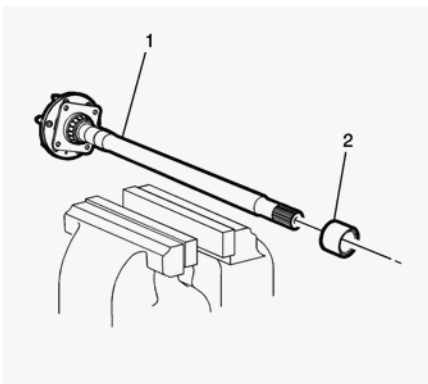


Note: DO NOT drill all the way through the spacer.

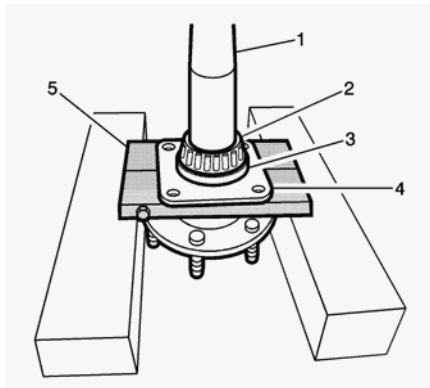
12. Using the drill (1), drill the spacer (2) where marked by the punch.



13. Using the hammer and the chisel (1), break the spacer (2).

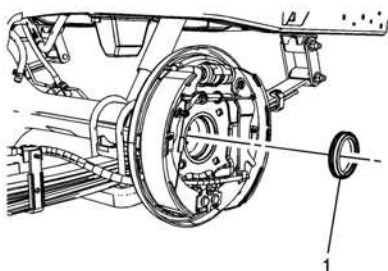


14. Remove the spacer (2) from the rear axle shaft (1).

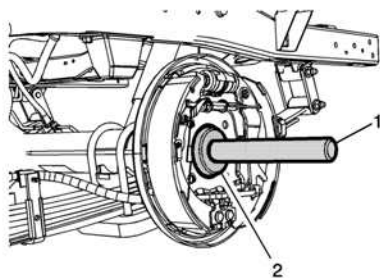


15. Position the rear axle shaft (1) in the hydraulic press.
16. Using the hydraulic press and the *DT-49275* pinion bearing remover (5), remove the wheel bearing race (2), the rear axle outer shaft seal retaining plate (4) from the rear axle shaft (1).

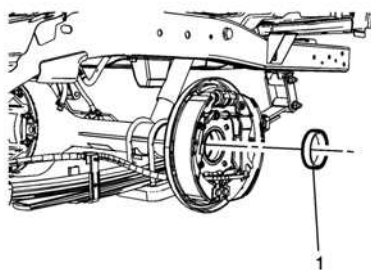
Installation Procedure



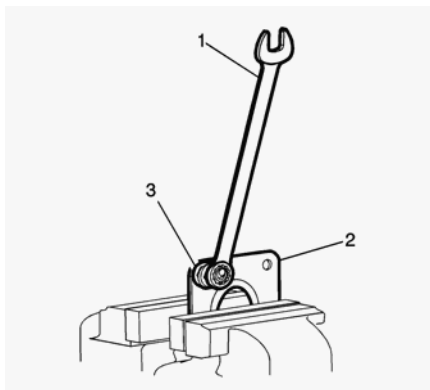
1. Position the inner axle seal (1) in the axle housing.



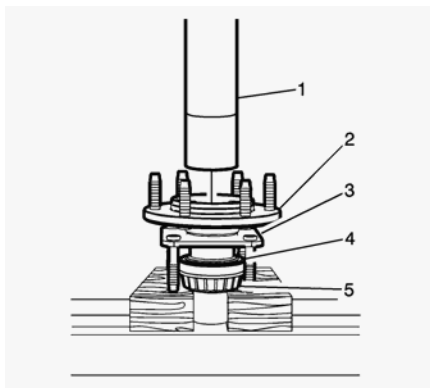
2. Using the *GE-8092* driver handle (1) and the *DT-50925* seal installer (2), install the inner axle seal.



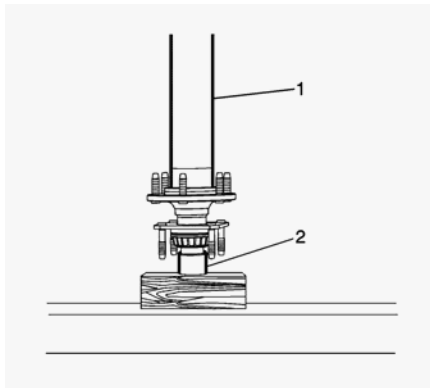
3. Install the inner bearing cup (1) in the rear axle housing.



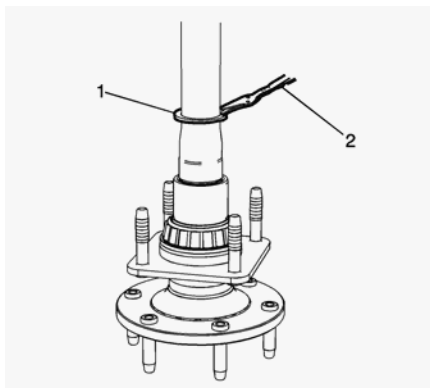
4. Install the retaining plate (2) in the vise.
5. Install the bolts (3) and the 4 nuts in the retaining plate (2).
6. Using the proper size wrench (1), tighten the nuts until the bolt (3) is properly seated in the retaining plate (2).



7. Position the rear axle shaft in the hydraulic press (1).
8. Using the hydraulic press (1), install the wheel bearing race (5), rear axle shaft seal (4) and the retaining plate (3) on the rear axle shaft



9. Using the hydraulic press (1), install the spacer (2).



10. Using the appropriate tool (2), install the retaining clip (1).
11. Install the rear axle shaft. Refer to Rear Axle Shaft Replacement.

12. Fill the rear axle. Refer to Differential Oil Replacement.
13. Install the tire and wheel. Refer to Tire and Wheel Removal and Installation.
14. Remove the support and lower the vehicle.

2013 Chevrolet Colorado

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

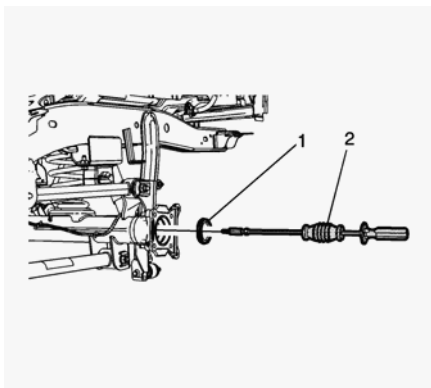
Special Tools

- *DT-49275* Pinion Bearing Remover
- *DT-50925* Seal Installer
- *J-6125-B* Slide Hammer
- *J-8092* Driver Handle
- *J-22912-B* Split Plate Bearing Puller
- *J-23129* Universal Seal Remover

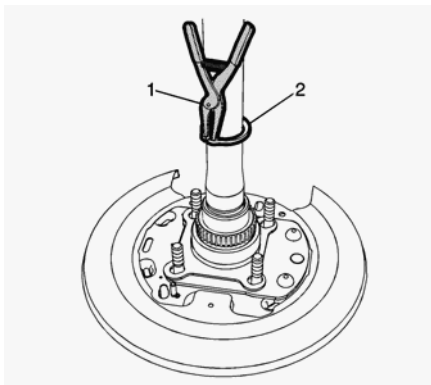
For the equivalent regional tools, refer to Special Tools.

Removal Procedure

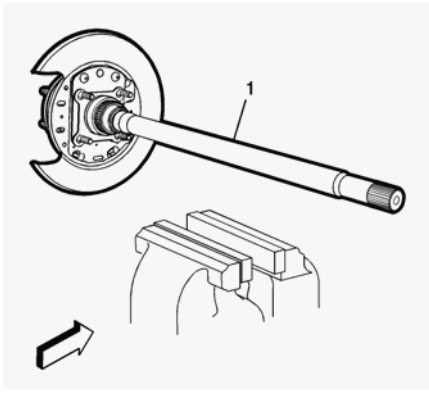
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Drain the rear axle. Refer to Differential Oil Replacement.
3. Remove the tire and wheel. Refer to Tire and Wheel Removal and Installation.
4. Remove the rear axle shaft assembly. Refer to Rear Axle Shaft Replacement.



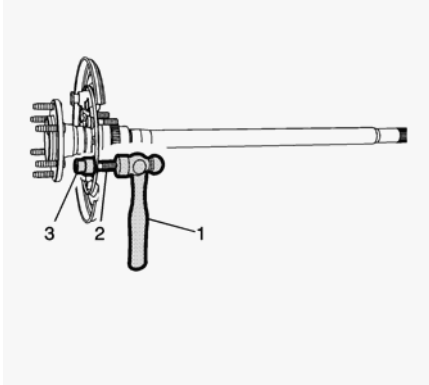
5. Using the *J-6125-B* hammer and the *J-23129* remover (2), remove the axle shaft seal (1).



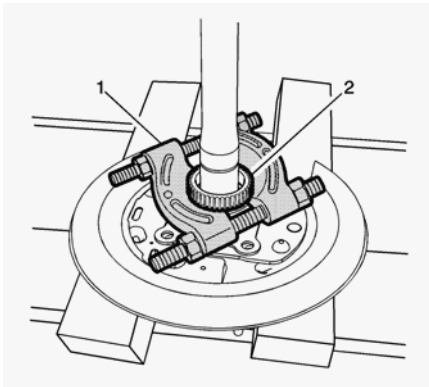
6. Using the appropriate tool (1), remove the retaining ring (2).



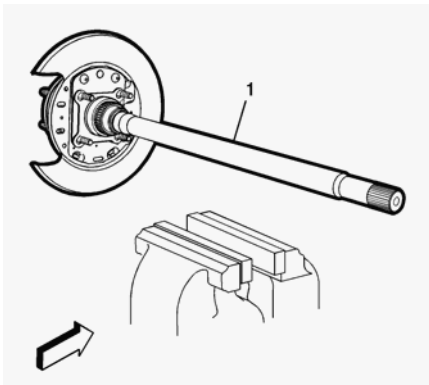
7. Install the rear axle shaft (1) in a suitable vise.



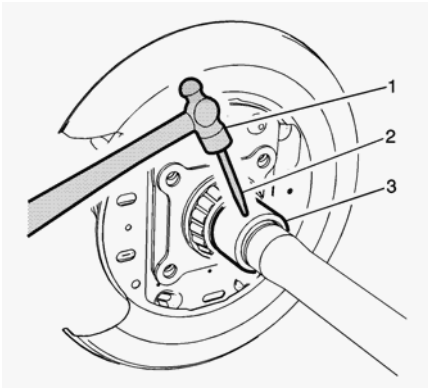
8. Using the appropriate tool (3) and the hammer (1), remove the bolts (2) from the retaining plate.
9. Remove the rear axle shaft from the vise.



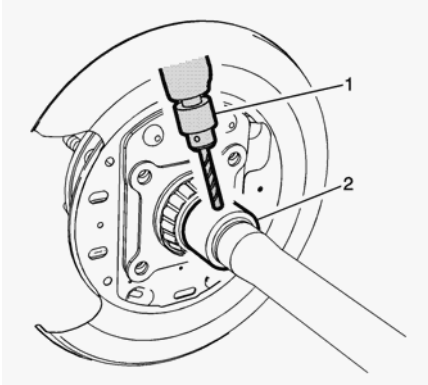
10. Using the J-22912-B puller and the hydraulic press (1), remove the speed sensor gear (2).



11. Install the rear axle shaft (1) in a vise.

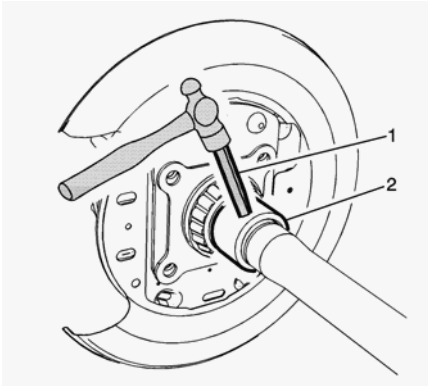


12. Using a hammer (1) and punch (2), mark the spacer (3).

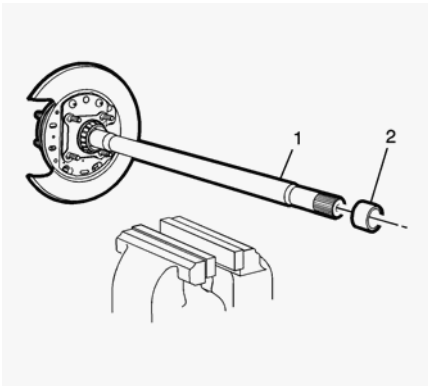


Note: DO NOT drill all the way through the spacer.

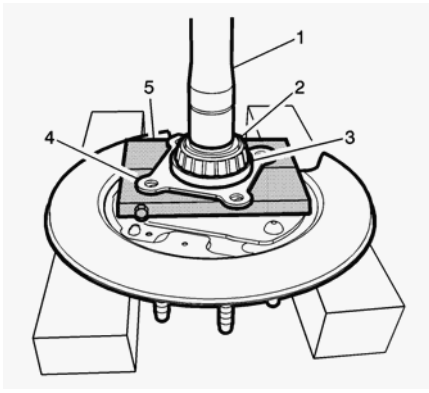
13. Using a drill (1), drill the spacer where marked by the punch marks.



14. Using a hammer and a chisel (1), break the spacer (2).



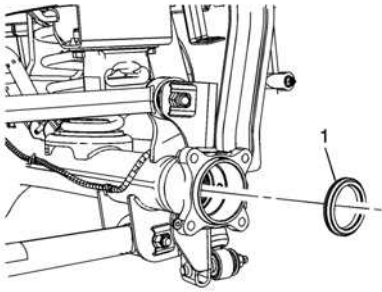
15. Remove the rear axle shaft (1) from the vise and remove the spacer (2).



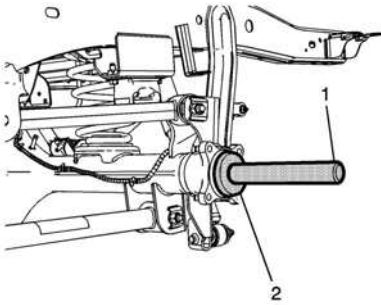
16. Position the axle shaft (1) in the hydraulic press.

17. Using a hydraulic press and the DT-49275 remover (5), remove the wheel bearing race (2), axle shaft seal (3) and the retaining plate (4)

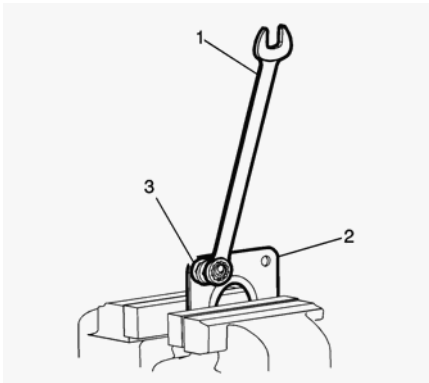
Installation Procedure



1. Position the inner axle seal (1) in the axle housing.

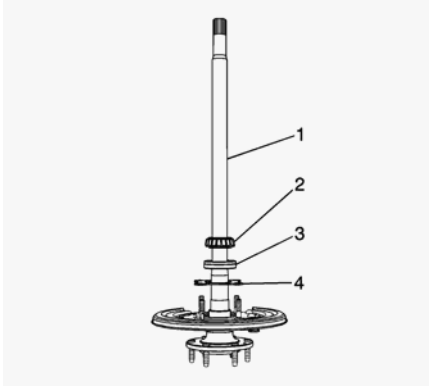


2. Using the J-8092 handle (1) and the DT-50925 installer (2), install the inner axle shaft seal.

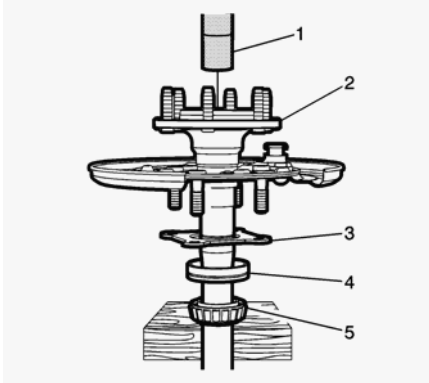


3. Install the retaining plate (2) in a vise.

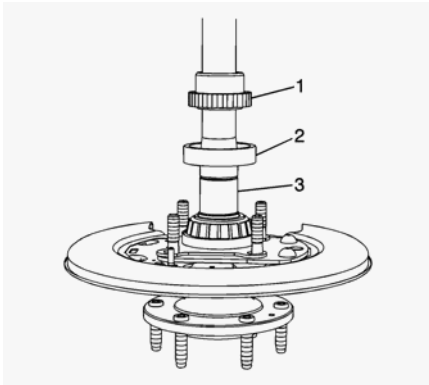
4. Install the bolts (3) and 4 nuts in the retaining plate (2).
5. Using the proper size wrench (1), tighten the nuts until the bolt (3) is properly seated in the retaining plate (2).



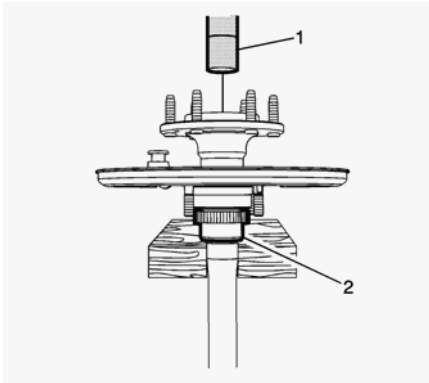
6. Position the retaining plate (4), the NEW axle shaft seal (3) and the axle bearing race (2) on the axle shaft (1).
7. Position the rear axle shaft in the hydraulic press.



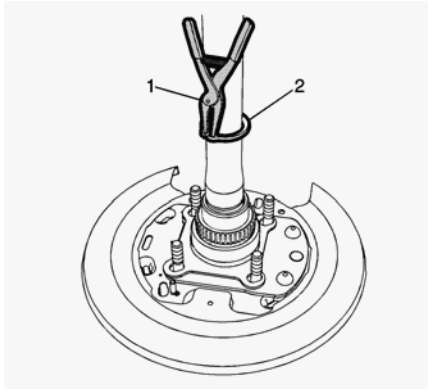
8. Using the hydraulic press (1), install the wheel bearing race (5), axle shaft seal (4) and the retaining plate (3) on the axle shaft (2).



9. Position the inner wheel bearing cup (2) and the speed sensor gear and spacer (1) on the axle shaft (3).



10. Using the hydraulic press (1), install the speed sensor gear, spacer and the bearing cup (2).



11. Using the appropriate tool (1), install the retaining clip (2).
12. Install the rear axle shaft assembly. Refer to Rear Axle Shaft Replacement
13. Fill the rear axle. Refer to Differential Oil Replacement
14. Install the tire and wheel. Refer to Tire and Wheel Removal and Installation
15. Remove the support and lower the vehicle.

2013 Chevrolet Colorado

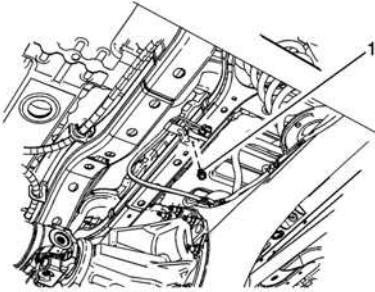
Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

Removal Procedure

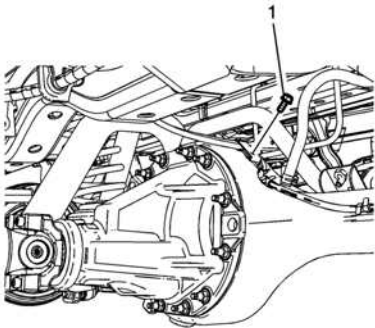
Warning: Refer to Brake Dust Warning.

Note: The left and right rear wheel speed sensor is replaced as an assembly.

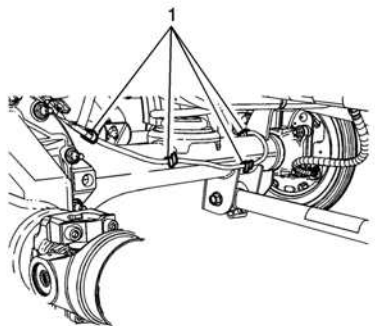
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.



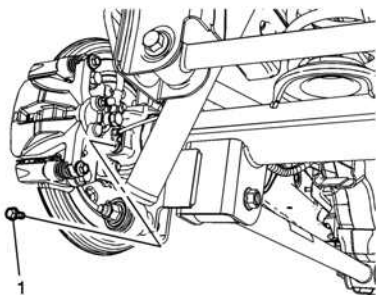
2. Disconnect the wheel speed sensor harness electrical connector.
3. Remove the wheel speed sensor harness bracket bolt (1) from the vehicle floor pan.



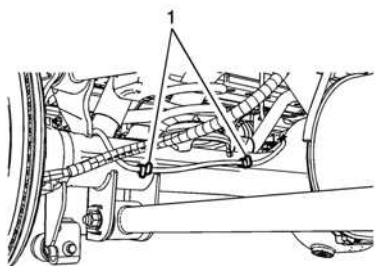
4. Remove the wheel speed sensor harness bracket bolt (1) from the rear axle housing.



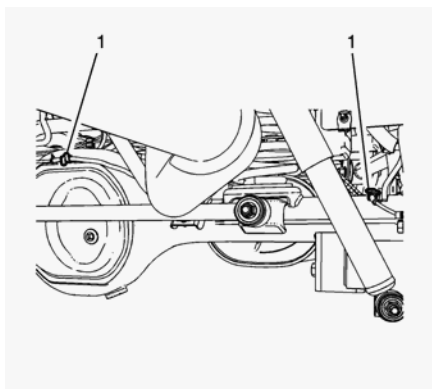
5. Release the left wheel speed sensor harness clip (1).



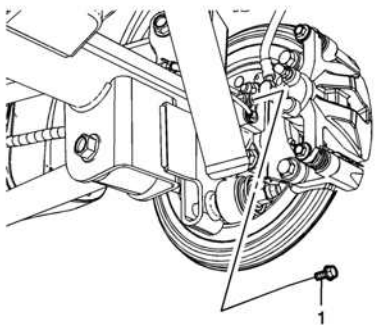
6. Thoroughly clean the wheel speed sensor mounting area of the rear axle of any dirt and debris.
7. Remove the left rear wheel speed sensor bolt (1).
8. Carefully remove the wheel speed sensor from the rear axle by pulling straight outward.



9. Release the right wheel speed sensor harness from the rear axle clips (1).

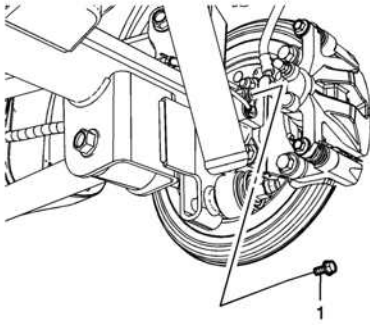


10. Release the right wheel speed sensor harness from the rear axle clips (1).



11. Thoroughly clean the wheel speed sensor mounting area of the rear axle of any dirt and debris.
12. Remove the right rear wheel speed sensor bolt (1).
13. Carefully remove the wheel speed sensor from the rear axle by pulling straight outward.
14. Remove the wheel speed sensor harness assembly.

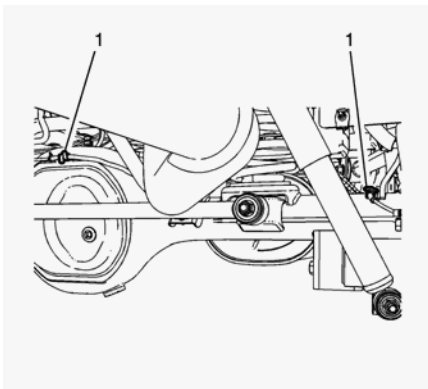
1. Install the wheel speed sensor harness assembly.



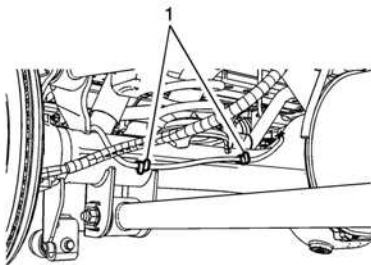
2. Install the right rear wheel speed sensor to the rear axle.

Caution: Refer to Fastener Caution.

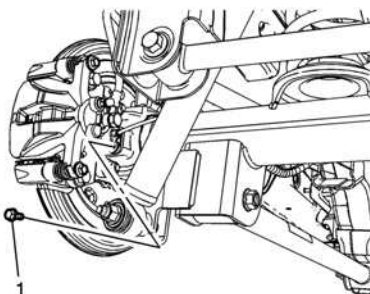
3. Install the right rear wheel speed sensor bolt (1) and tighten to **11 Y (97 lb in)**.



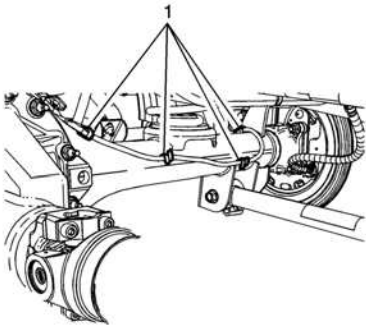
4. Install the right wheel speed sensor harness to the rear axle clips (1).



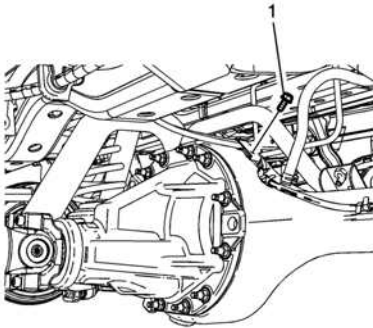
5. Install the right wheel speed sensor harness to the rear axle clips (1).



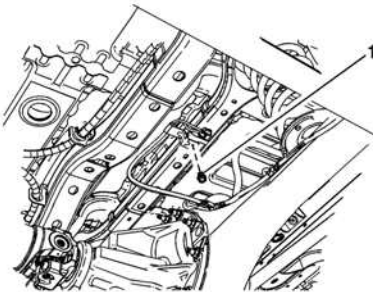
6. Install the left rear wheel speed sensor bolt (1) and tighten to **11 Y (97 lb in)**.



7. Install the left wheel speed sensor harness clip (1).



8. Install the wheel speed sensor harness bracket bolt (1) and tighten to **11 Y (97 lb in)**.
9. Install the right wheel speed sensor harness clip (2).



10. Install the wheel speed sensor harness bracket bolt (1) and tighten to **11 Y (97 lb in)**.
11. Connect the wheel speed sensor harness electrical connector.

2013 Chevrolet Colorado

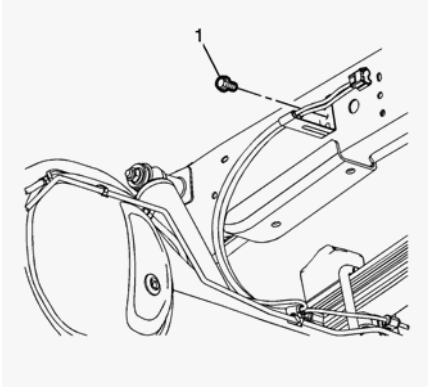
Submodel: | Engine Type: | Liters:
Fuel Delivery: | Fuel:

Removal Procedure

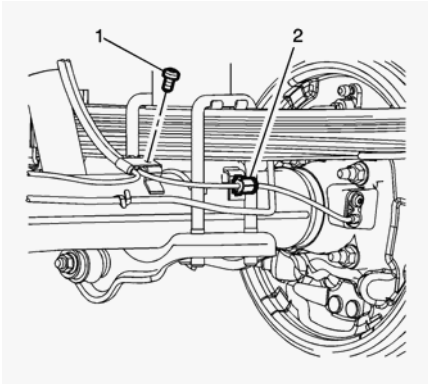
Warning: Refer to Brake Dust Warning.

Note: The left and right rear wheel speed sensor is replaced as an assembly.

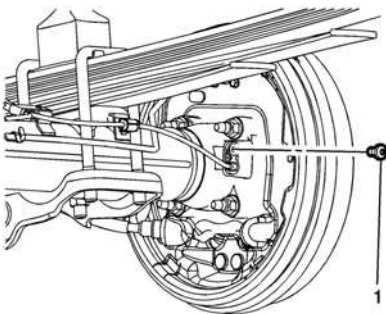
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.



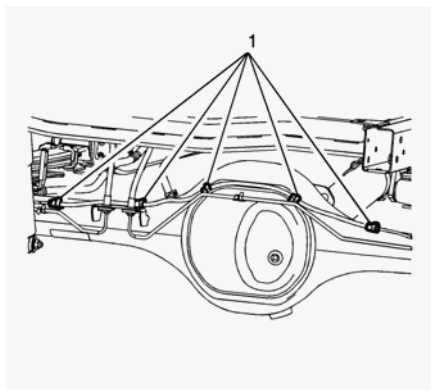
2. Disconnect the wheel speed sensor harness electrical connector.
3. Remove the wheel speed sensor harness bracket bolt (1).



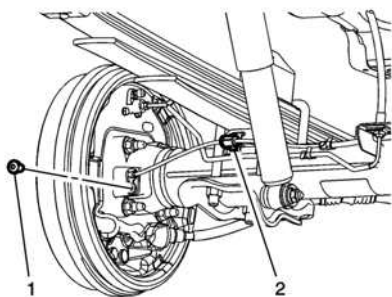
4. Remove the wheel speed sensor harness bracket bolt (1).
5. Release the right wheel speed sensor harness clip (2).



6. Thoroughly clean the wheel speed sensor mounting area of the rear axle of any dirt and debris.
7. Remove the right rear wheel speed sensor bolt (1).
8. Carefully remove the wheel speed sensor from the rear axle by pulling straight outward.



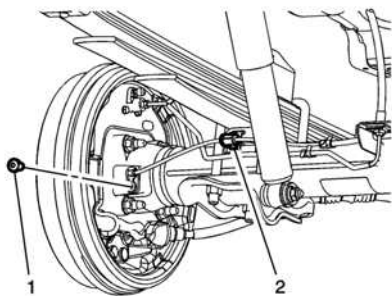
9. Release the wheel speed sensor harness from the rear axle clips (1).



10. Thoroughly clean the wheel speed sensor mounting area of the rear axle of any dirt and debris.
11. Remove the left rear wheel speed sensor bolt (1).
12. Carefully remove the wheel speed sensor from the rear axle by pulling straight outward.
13. Release the wheel speed sensor harness clip (2).
14. Remove the wheel speed sensor harness assembly.

Installation Procedure

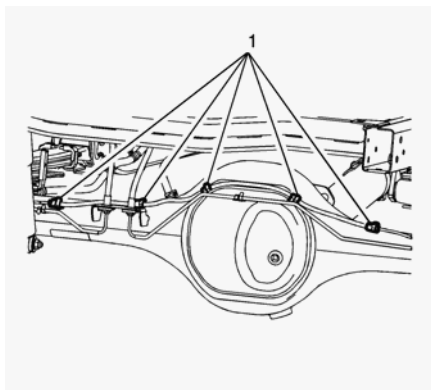
1. Install the wheel speed sensor harness assembly.



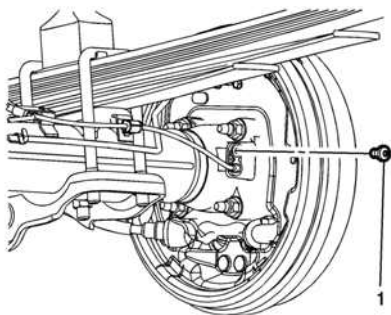
2. Install the left rear wheel speed sensor to the rear axle.

Caution: Refer to Fastener Caution.

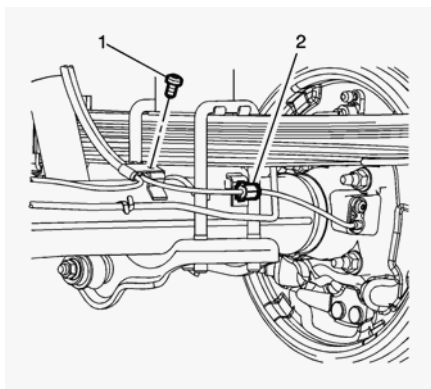
3. Install the left rear wheel speed sensor bolt (1) and tighten to **11 Y (97 lb in)**.
4. Install the wheel speed sensor harness clip (2).



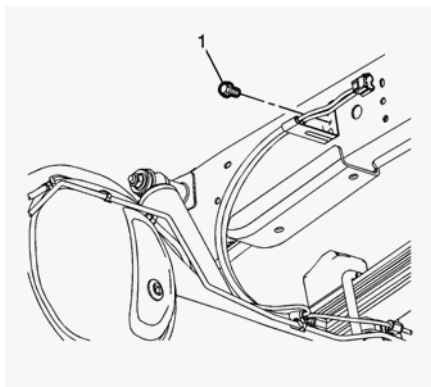
5. Install the wheel speed sensor harness to the rear axle clips (1).



6. Install the right rear wheel speed sensor bolt (1) and tighten to **11 Y (97 lb in)**.



7. Install the wheel speed sensor harness bracket bolt (1) and tighten to **11 Y (97 lb in)**.
8. Install the right wheel speed sensor harness clip (2).

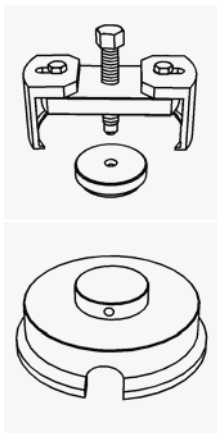


9. Install the wheel speed sensor harness bracket bolt (1) and tighten to **11 Y (97 lb in)**.
10. Connect the wheel speed sensor harness electrical connector.

2013 Chevrolet Colorado

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

Illustration



Tool Number/ Description

CH 50787

ABS Sensor Rotor Remover

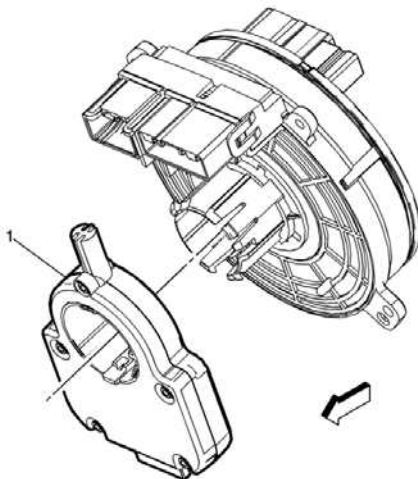
CH 50788

ABS Sensor Rotor Installer

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:



Steering Angle Sensor Replacement

Callout

Component Name

Preliminary Procedure

Remove the steering wheel airbag coil. Refer to Steering Wheel Airbag Coil Replacement.

Steering Angle Sensor

Procedure

1

1. Press in the clip on the steering wheel airbag coil in order to remove the steering angle sensor.
2. After the installation is complete, center the steering angle sensor. Refer to Steering Angle Sensor Centering.

2013 Chevrolet Colorado

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

Fuel Delivery: | **Fuel:**

The steering angle sensor does not require centering often. Centering of the steering angle sensor might be required after certain service procedures are performed. Some of these procedures are as follows:

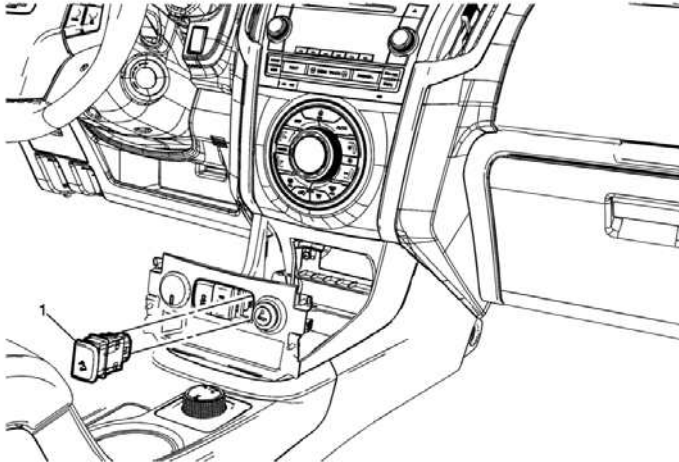
- Electronic brake control module (EBCM) replacement
- Steering angle sensor replacement
- Steering gear replacement
- Steering column replacement
- Collision or other physical damage

The steering angle sensor centering procedure can be completed with a scan tool using the following steps:

1. Using the steering wheel, align the front wheels forward.
2. Apply the parking brake, or set the transmission in the park position.
3. Install the scan tool to the data link connector.
4. Turn the ignition ON, and the engine OFF.
5. Select Steering Wheel Angle Sensor Reset in the Steering Wheel Angle Sensor Module Control Functions list or in the EBCM Module Setup list.
6. Follow the scan tool directions to complete the learn procedure.
7. Select Steering Wheel Angle Sensor Learn in the Steering Wheel Angle Sensor Module Functions list or in the EBCM Module Setup list.
8. Follow the scan tool directions to complete the learn procedure.
9. Clear any DTCs that may be set.

2013 Chevrolet Colorado

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



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Vehicle Pitch Brake Control and Stability Control System Switch Replacement

Callout

Component Name

Preliminary Procedure

Remove the front floor console transmission shift opening bezel. Refer to Front Floor Console Transmission Shift Opening Bezel Replacement.

Vehicle Pitch Brake Control and Stability Control System Switch

Procedure

1

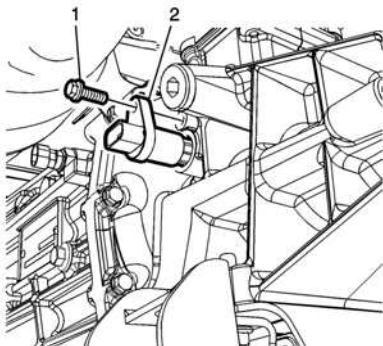
1. Disconnect the electrical connector.
2. Gently depress tabs to remove the switch assembly from the trim plate.

2013 Chevrolet Colorado

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

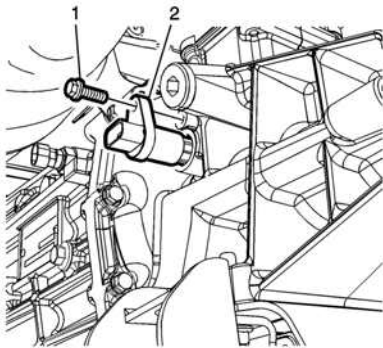
Removal Procedure

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the electrical connector from the speed sensor.



3. Remove the speed sensor retaining fastener (1).
4. Remove the speed sensor (2) from the transmission case.

Installation Procedure

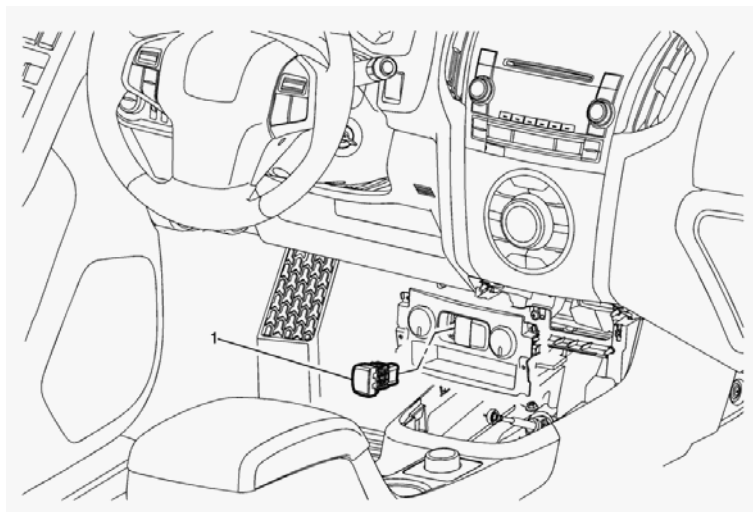


Caution: Refer to Fastener Caution.

1. Install the new speed sensor (2) into the transmission case. Tighten the speed sensor fastener to **12 Y (106 lb in)**.
2. Install the electrical connector to the speed sensor.
3. Lower the vehicle. Refer to Lifting and Jacking the Vehicle.

2013 Chevrolet Colorado

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



Vehicle Stability Control System Switch Replacement

Callout

Component Name

Preliminary Procedure

Remove the front floor console trim plate. Refer to Front Floor Console Trim Plate Replacement

Vehicle Stability Control System Switch

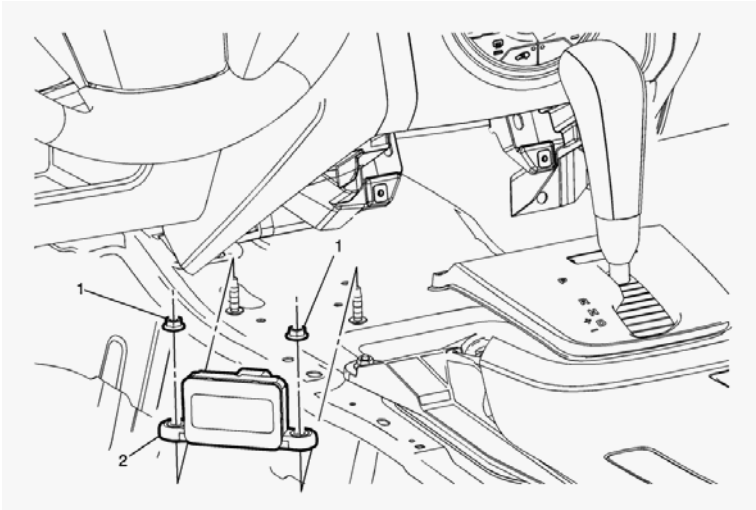
Procedure

1

1. Disconnect the electrical connector.
2. Gently depress tabs to remove the switch assembly from the trim plate.

2013 Chevrolet Colorado

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



Vehicle Yaw Sensor Replacement

Callout	Component Name
Preliminary Procedure	
Remove the front floor console transmission shift opening bezel. Refer to Front Floor Console Transmission Shift Opening Bezel Replacement.	
Vehicle Yaw Sensor Nuts (Qty: 2)	
1	Caution: Refer to Fastener Caution.
	Tighten
	9 Y (80 lb in)
Vehicle Yaw Sensor	
2	Procedure
	1. Disconnect the electrical connector.
	2. After the installation is complete, perform the vehicle yaw learn.

2013 Chevrolet Colorado

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

The yaw sensor does not require calibration often. Calibration of the yaw rate sensor might be required after certain service procedures are performed. Some of these procedures are as follows:

- Electronic brake control module (EBCM) replacement
- Multi-axis acceleration sensor replacement

The yaw rate sensor calibration procedure can be completed with a scan tool using the following steps:

1. Place vehicle on a level surface.
2. Apply the parking brake, or set the transmission in the park position.
3. Install the scan tool to the data link connector.
4. Turn the ignition ON, and the engine OFF.
5. Select Yaw Rate Sensor Reset in the Multi-axis Acceleration Sensor Module Control Functions list.
6. Follow the scan tool directions to complete the calibration procedure.
7. Select Yaw Rate Sensor Learn in the Multi-axis Acceleration Sensor Module Control Functions list.
8. Follow the scan tool directions to complete the calibration procedure.
9. Clear any DTCs that may be set.