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2009 Chevrolet Express - AWD | Express, Savana (VIN G/H) Service Manual | Brakes | Park Brake | Specifications | **Document ID: 2187323** 

## **Fastener Tightening Specifications**

	Specification	
Application	Metric	English
Anchor Plate Bolt (Dual Rear Wheel)	220 N·m	162 lb ft
Backing Plate Bolt (Single Rear Wheel)	135 N·m	100 lb ft
Cable Guide Bolt and Nut	13 N·m	115 lb in
Indicator Switch Retain Screw	4 N·m	35 lb in
Park Brake Lever Assembly Nut	25 N·m	18 lb ft
Park Brake Release Handle Bolt	10 N·m	89 lb in

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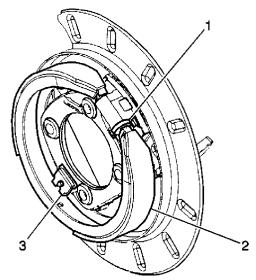
Document ID: 2125795

## Parking Brake Shoe Replacement (Single Rear Wheel - 1500 series)

## **Removal Procedure**

Warning: Refer to <u>Brake Dust Warning</u> in the Preface section.

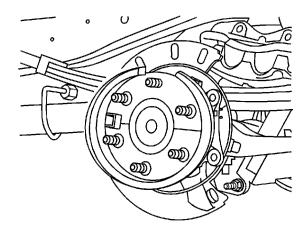
- 1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u>.
- 2. Remove the tire and the wheel. Refer to <u>Tire and Wheel Removal and Installation</u>.
- 3. Disable the park brake cable automatic adjuster. Refer to <u>Parking Brake Cable Adjuster</u> <u>Disabling</u>.
- 4. Remove the park brake cable from the park brake actuator lever.
- 5. Remove the rotor. Refer to Rear Brake Rotor Replacement.





- 6. Turn the adjustment screw (1) to the fully home position in the notched adjustment nut.
- 7. Remove the park brake shoe assembly from the backing plate by removing the tips from the slots and sliding the shoe (2) towards the retaining spring (3) until the shoe disengages from the spring.

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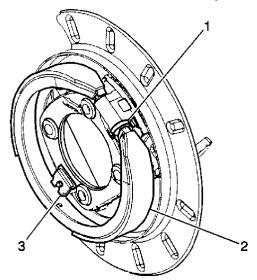




8. Remove the park brake shoe assembly from the vehicle by placing one of the open ends of the shoe over the axle flange and rotating the shoe until it has cleared the flange.

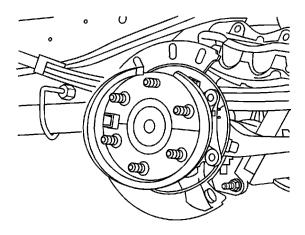
### **Installation Procedure**

1. Clean the debris and the dust from the park brake components using a clean shop cloth.





2. Align the slots in both the adjusting screw (1) and tappet to be parallel with the backing plate face.





- 3. Install the park brake shoe assembly to the vehicle by placing one of the open ends of the shoe over the axle flange and rotating the shoe until it is behind the flange.
- 4. Position the park brake shoe in the inboard side of the actuator.
- 5. Slide the park brake shoe into position and seat into the retaining spring.
- 6. Inspect the shoe assembly position. The shoe must be central on the backing plate with both tips located in the slots.
- 7. Adjust the park brake shoe. Refer to Parking Brake Adjustment.
- 8. Install the rotor. Refer to Rear Brake Rotor Replacement.
- 9. Install the park brake cable to the park brake actuator lever.
- 10. Enable the park brake automatic cable adjuster. Refer to <u>Parking Brake Cable Adjuster Enabling</u>.
- 11. Install the tire and wheel. Refer to <u>Tire and Wheel Removal and Installation</u>.
- 12. Remove the safety stands.
- 13. Lower the vehicle.
- 14. Adjust park brake cable. Refer to Parking Brake Adjustment.

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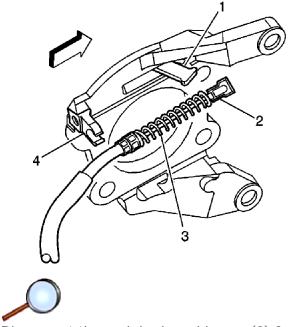
Document ID: 2175956

## Parking Brake Shoe Replacement (Single Rear Wheel - 2500/3500 Series)

#### **Removal Procedure**

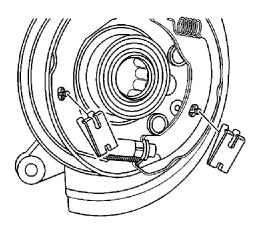
Warning: Refer to <u>Brake Dust Warning</u> in the Preface section.

- 1. Disable the park brake cable automatic adjuster. Refer to <u>Parking Brake Cable Adjuster</u> <u>Disabling</u>.
- 2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
- 3. Remove the rear brake rotor. Refer to Rear Brake Rotor Replacement.



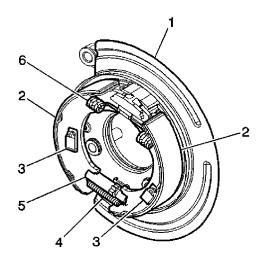
- 4. Disconnect the park brake cable eye (2) from the park brake actuator lever (1).
- 5. Compress the park brake cable return spring (3) and release the park brake cable conduit from the backing plate (4) by pressing the locking tabs on the cable conduit.

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6. Remove the park brake shoe hold down springs by compressing the spring and rotating the springs  $\frac{1}{4}$  turn to release.

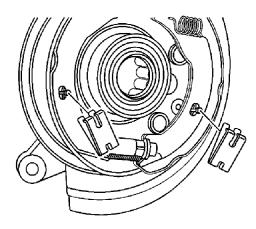




- 7. Remove the park brake shoe return spring (6).
- 8. Carefully spread the top of the park brake shoes (2) enough to clear the top anchor point.
- 9. Remove the park brake shoes.
- 10. Separate the park brake shoes by removing the adjuster spring and the brake shoe adjuster.

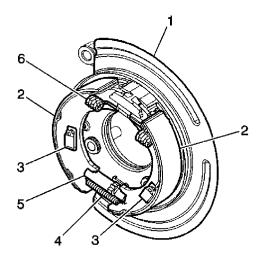
## **Installation Procedure**

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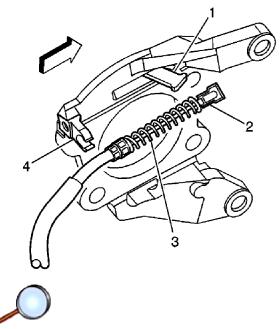


- 1. Clean the debris and the dust from the park brake components using a clean shop cloth.
- 2. Install the brake shoe adjuster and the adjuster to the park brake shoes.
- 3. Carefully spread the top of the park brake shoes enough to clear the top anchor point.





- 4. Install the park brake shoe hold down springs (3) by compressing the spring and rotating the springs  $\frac{1}{4}$  turn.
- 5. Install the park brake shoe return spring (6).
- 6. Adjust the park brake shoe. Refer to Parking Brake Adjustment.
- 7. Install the disc brake rotor. Refer to Rear Brake Rotor Replacement.



- 8. Install the park brake cable eyelet (2) to the actuator lever (1).
- 9. Compress the park brake cable return spring (3) and install the park brake cable conduit to the backing plate (4).
- 10. Push the cable conduit into place until the locking tabs are fully engaged in the park brake cable bracket.
- 11. Install the tire and wheel. Refer to Tire and Wheel Removal and Installation.
- 12. Enable the park brake cable automatic adjuster. Refer to <u>Parking Brake Cable Adjuster Enabling</u>.
- 13. Adjust the park brake cable. Refer to Parking Brake Adjustment.

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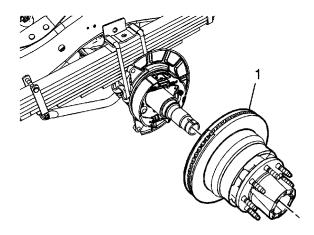
Document ID: 2187310

# Parking Brake Shoe Replacement (Dual Rear Wheel) Removal Procedure

**Warning:** Refer to <u>Brake Dust Warning</u> in the Preface section.

- 1. Disable the parking brake cable adjuster. Refer to Parking Brake Cable Adjuster Disabling.
- 2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
- 3. Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.

**Note:** Do not separate the brake rotor from the wheel hub.

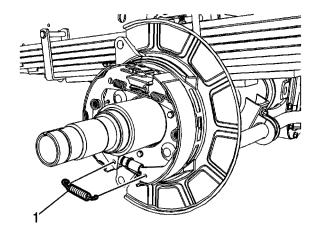




4. Remove the rear brake rotor (1). Refer to Rear Brake Rotor Replacement.

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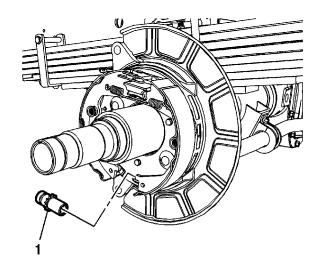
Document ID: 2187310 Page 2 of 8





5. Remove the parking brake shoe adjuster spring (1).

Rotate the parking brake adjuster star wheel to retract the parking brake shoes, if necessary.

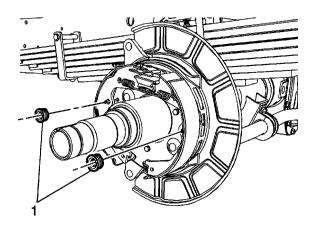




- 6. Remove the parking brake shoe adjuster (1).
- 7. Disassemble and clean the parking brake shoe adjuster assembly.

Apply high temperature brake lubricant to the threads of the parking brake shoe adjuster.

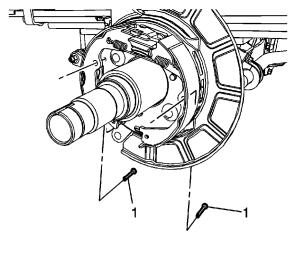
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8. Remove the parking brake shoe hold down springs and cups (1).

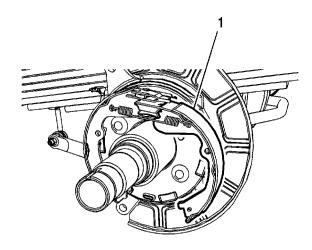
Compress the springs and rotate the springs and cups  $\frac{1}{4}$  turn to disengage the cups from the hold down spring pins.





9. Remove the parking brake shoe hold down spring pins (1).

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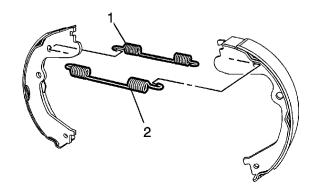




10. Grasp the parking brake shoe (1) and pull out and upward to release the parking brake shoe from the park brake shoe actuator.

Pull the parking brake shoe over the parking brake shoe actuator and remove the parking brake shoes as an assembly.

**Note:** The inner parking brake shoe return spring must be positioned below the outer parking brake shoe return spring.





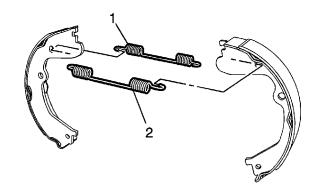
- 11. Remove the inner parking brake shoe return spring (1).
- 12. Remove the outer parking brake shoe return spring (2).
- 13. Clean the parking brake shoe contact surfaces on the parking brake shield.

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#### **Installation Procedure**

1. Apply high temperature brake lubricant to the parking brake shoe contact surfaces on the parking brake shield.

**Note:** The inner parking brake shoe return spring is positioned below the outer parking brake shoe return spring.



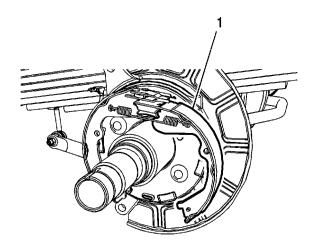


- 2. Install the inner parking brake shoe return spring (1).
- 3. Install the outer parking brake shoe return spring (2).

Ensure the outer parking brake shoe return spring is positioned above the inner parking brake shoe return spring.

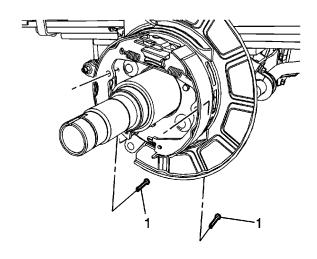
4. Position the parking brake shoe assembly to the parking brake shield.

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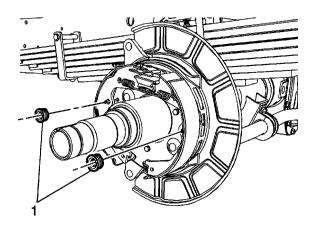
5. Grasp the parking brake shoe (1) and pull the parking brake shoe over the parking brake shoe actuator.





6. Install the parking brake shoe hold down spring pins (1).

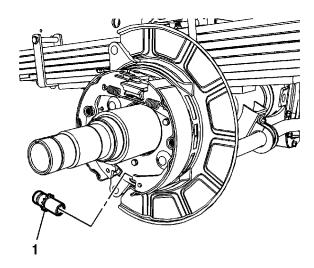
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7. Install the parking brake shoe hold down springs and cups (1).

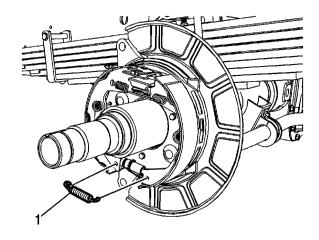
Compress the springs and rotate the springs and cups  $\frac{1}{4}$  turn to engage the cups to the hold down spring pins.





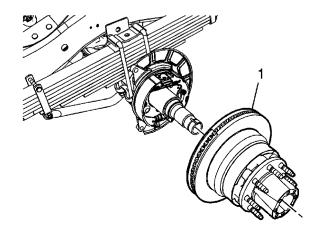
- 8. Assemble the parking brake shoe adjuster to the fully retracted position.
- 9. Install the parking brake shoe adjuster (1).

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10. Install the parking brake shoe adjuster spring (1).





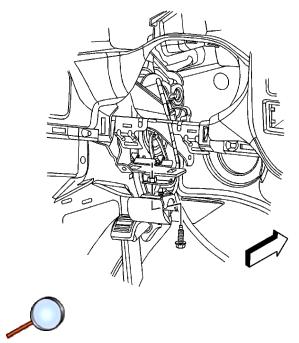
- 11. Install the rear brake rotor (1). Refer to Rear Brake Rotor Replacement.
- 12. Install the tire and wheel assembly. Refer to <u>Tire and Wheel Removal and Installation</u>.
- 13. Enable the parking brake cable adjuster. Refer to <a href="Parking Brake Cable Adjuster Enabling">Parking Brake Cable Adjuster Enabling</a>.

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Document ID: 2125799

# Parking Brake Release Handle Assembly Replacement Removal Procedure

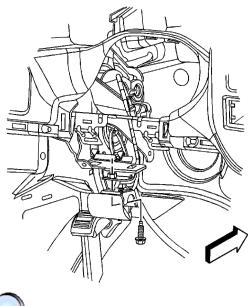
- 1. Disconnect the release cable from the brake lever.
- 2. Disconnect the cable from the retainer on the brake lever.
- 3. Remove the park brake release lever handle mounting bolt.



- 4. Remove the release handle from the instrument panel retainer.
- 5. Remove the release handle and cable from the vehicle. Note the routing of the cable as you remove the park release handle assembly from the vehicle.

## **Installation Procedure**

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- 1. Install the release handle and the cable to the vehicle. Install the cable using the same routing as the original cable.
- 2. Install the release handle to the instrument panel retainer.

**Caution:** Refer to <u>Fastener Caution</u> in the Preface section.

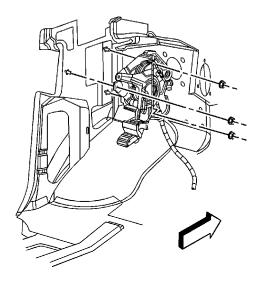
- 3. Install the park brake release lever handle mounting bolt and tighten to 10 N·m (89 lb in).
- 4. Connect the cable to the retainer on the brake lever.
- 5. Connect the release cable to the lever.

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# Parking Brake Lever Pedal Assembly Replacement Removal Procedure

1. Complete the pedal pin up procedure. Refer to Parking Brake Cable Adjuster Disabling.



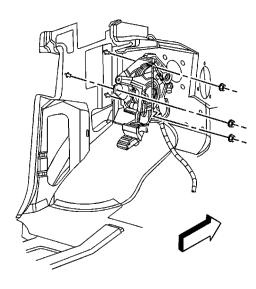


- 2. Remove the release handle. Refer to Parking Brake Release Handle Assembly Replacement.
- 3. Remove the left side kick panel. Refer to **Body Hinge Pillar Trim Panel Replacement**.
- 4. Remove the left floor air outlet duct. Refer to Floor Air Outlet Duct Replacement Left Side.
- 5. Remove the pedal retaining nuts.
- 6. Remove the pedal from the vehicle.
- 7. Remove the front brake cable from the pedal.

## **Installation Procedure**

1. Connect the front brake cable to the pedal.

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2. Install the pedal to the vehicle.

Caution: Refer to Fastener Caution in the Preface section.

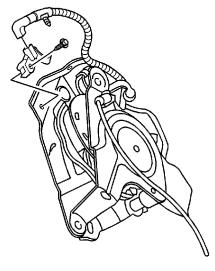
- 3. Install the pedal retaining nuts and tighten to 25 N·m (18 lb ft).
- 4. Install the left floor air outlet duct. Refer to Floor Air Outlet Duct Replacement Left Side.
- 5. Install the left side kick panel. Refer to **Body Hinge Pillar Trim Panel Replacement**.
- 6. Install the release handle. Refer to Parking Brake Release Handle Assembly Replacement.
- 7. Enable the park brake cable automatic adjuster. Refer to <u>Parking Brake Cable Adjuster Enabling</u>.
- 8. Verify that the vehicle will hold position with the brake pedal depressed.
- 9. If additional adjustments need to be made, refer to Park Brake Adjustment.

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## Parking Brake Indicator Switch Replacement **Removal Procedure**

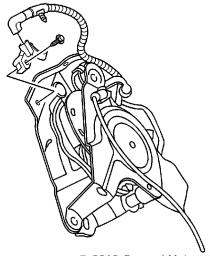
1. Remove the left trim panel. Refer to **Body Hinge Pillar Trim Panel Replacement**.





- 2. Remove the electrical connector.
- 3. Remove the screw from the switch.
- 4. Remove the indicator switch from the vehicle.

## **Installation Procedure**



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1. Connect the indicator switch to the vehicle.

Caution: Refer to Fastener Caution in the Preface section.

- 2. Install the screw to the switch and tighten to 4 N·m (35 lb in).
- 3. Install the electrical connector.
- 4. Install the left trim panel. Refer to <u>Body Hinge Pillar Trim Panel Replacement</u>.

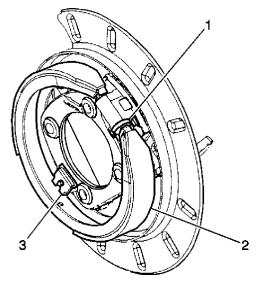
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## Park Brake Hardware Replacement (Without Dual Rear Wheel)

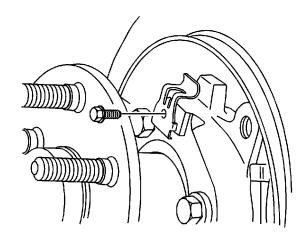
#### **Removal Procedure**

1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u>.





2. Remove the park brake shoe (2). Refer to Parking Brake Shoe Replacement.

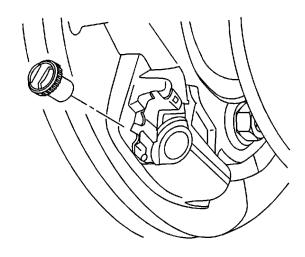




3. Remove the park brake shoe retaining spring and screw.

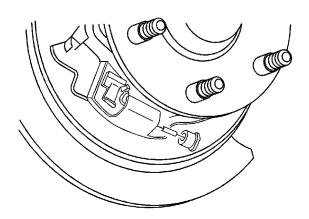
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4. Remove the park brake adjuster nut and screw.



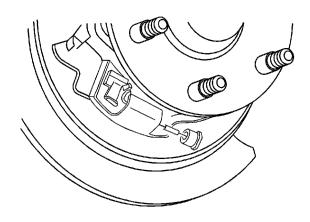


5. Remove the park brake tappet and push rod.

## **Installation Procedure**

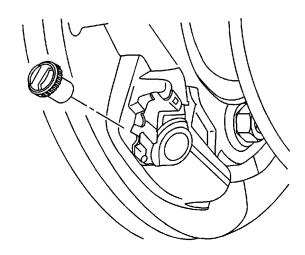
**Important:** Apply a high temperature silicone lubricant to all of the brake component metal contact points where the brake shoe metal contacts the backing plate, the adjuster, and the retaining springs.

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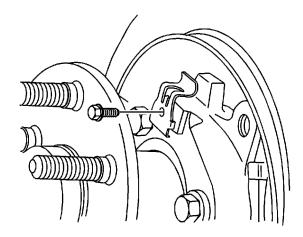
1. Install the park brake tappet and push rod.





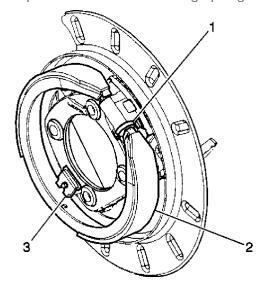
2. Install the park brake adjuster nut and screw.

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3. Install the park brake shoe retaining spring and screw.





- 4. Install the park brake shoe (2). Refer to <a href="Parking Brake Shoe Replacement">Parking Brake Shoe Replacement</a>.
- 5. Lower the vehicle.

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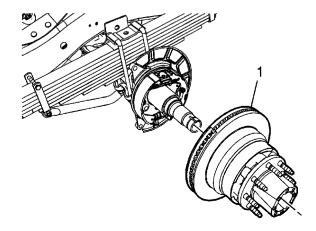
## Park Brake Hardware Replacement (With Dual Rear Wheel)

#### **Removal Procedure**

Warning: Refer to <u>Brake Dust Warning</u> in the Preface section.

- 1. Disable the parking brake cable adjuster. Refer to Parking Brake Cable Adjuster Disabling.
- 2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
- 3. Remove the tire and wheel assembly. Refer to <u>Tire and Wheel Removal and Installation</u>.

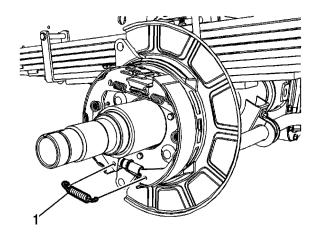
Note: Do not separate the brake rotor from the wheel hub.





4. Remove the rear brake rotor (1). Refer to Rear Brake Rotor Replacement.

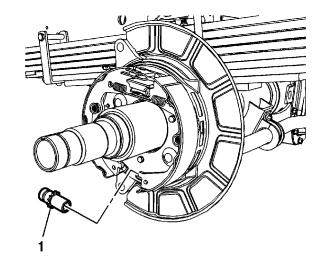
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5. Remove the parking brake shoe adjuster spring (1).

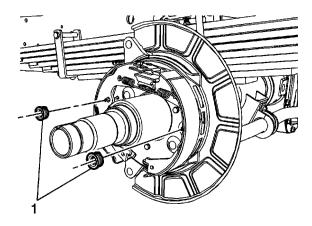
Rotate the parking brake adjuster star wheel to retract the parking brake shoes, if necessary.





6. Remove the parking brake shoe adjuster (1).

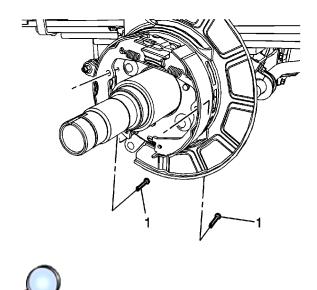
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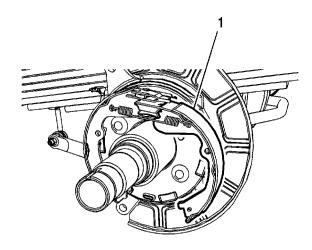
7. Remove the parking brake shoe hold down springs and cups (1).

Compress the spring and rotate the spring and cup assemblies 1/4 turn to disengage from the hold down spring pins.



8. Remove the parking brake shoe hold down spring pins (1).

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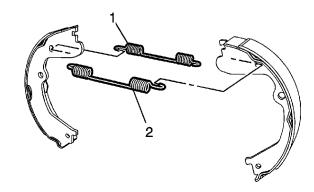




9. Grasp the parking brake shoe (1) and pull out and upward to release the parking brake shoe from the parking brake shoe actuator.

Pull the parking brake shoe over the parking brake shoe actuator and remove the parking brake shoes as an assembly.

**Note:** The inner parking brake shoe return spring is positioned below the outer parking brake shoe return spring.





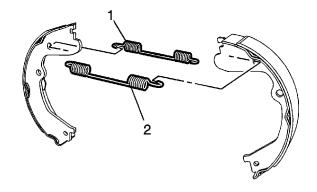
- 10. Remove the inner parking brake shoe return spring (1).
- 11. Remove the outer parking brake shoe return spring (2).
- 12. Inspect the park brake hardware and replace components as necessary. Refer to Park Brake

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**Hardware Inspection**.

#### **Installation Procedure**

**Note:** The inner parking brake shoe return spring must be positioned below the outer parking brake shoe return spring.

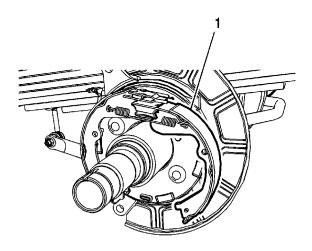




- 1. Install the inner parking brake shoe return spring (1).
- 2. Install the outer parking brake shoe return spring (2).

Ensure the outer parking brake shoe return spring is positioned above the inner parking brake shoe return spring.

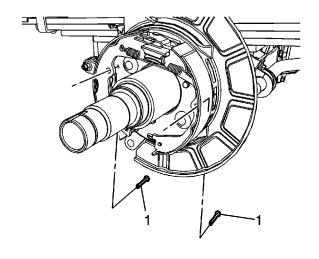
3. Position the parking brake shoe assembly to the parking brake shield.



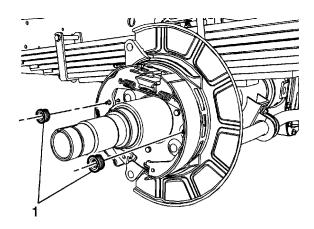
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4. Grasp the parking brake shoe (1) and pull the parking brake shoe over the parking brake shoe actuator.



5. Install the parking brake shoe hold down spring pins (1).

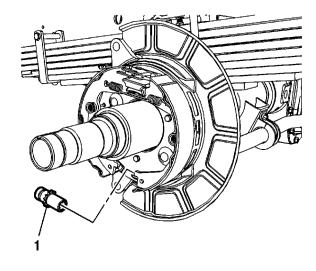




6. Install the parking brake shoe hold down springs and cups (1).

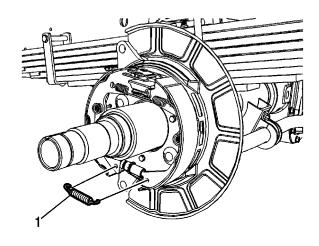
Compress the spring and rotate the spring and cup assemblies ¼ turn to engage the hold down spring pins.

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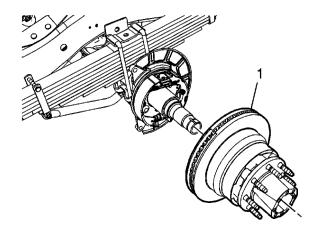
7. Install the parking brake shoe adjuster (1).





8. Install the parking brake shoe adjuster spring (1).

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- 9. Install the rear brake rotor (1). Refer to Rear Brake Rotor Replacement.
- 10. Adjust the parking brake shoes. Refer to Parking Brake Adjustment.
- 11. Install the tire and wheel assembly. Refer to <u>Tire and Wheel Removal and Installation</u>.
- 12. Enable the parking brake cable adjuster. Refer to Parking Brake Cable Adjuster Enabling.

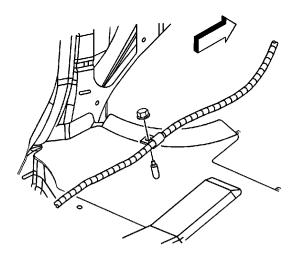
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## Parking Brake Front Cable Replacement

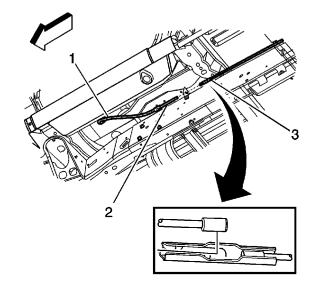
#### **Removal Procedure**

- 1. Release the park brake.
- 2. Remove the park brake pedal. Refer to Parking Brake Lever Pedal Assembly Replacement.





- 3. Roll the carpet back to access the cable anchor nut and grommet.
- 4. Remove the cable anchor nut.

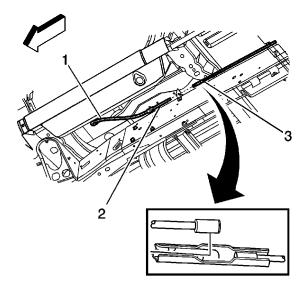




- 5. Remove the cable and grommet from the floor (1).
- 6. Raise and support the vehicle Refer to Lifting and Jacking the Vehicle.

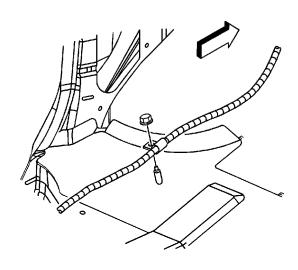
- 7. Disconnect the front cable (2) from the intermediate cable (3).
- 8. Remove the cable from the frame bracket by depressing the retaining tabs.
- 9. Remove the cable.

### **Installation Procedure**





- 1. Install the cable.
- 2. Snap the retainer tabs into the frame bracket.
- 3. Connect the front cable (2) to the intermediate cable (3).
- 4. Route the cable in through the floor pan and engage the grommet (1).
- 5. Remove the safety stands.
- 6. Lower the vehicle.





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7. Install the cable anchor to the stud on the floor.

**Caution:** Refer to <u>Fastener Caution</u> in the Preface section.

- 8. Install the anchor nut and tighten to 13 N·m (115 lb in).
- 9. Roll the carpet into place.
- 10. Install the park brake pedal. Refer to Parking Brake Lever Pedal Assembly Replacement.
- 11. Adjust the park brake system. Refer to Park Brake Adjustment.

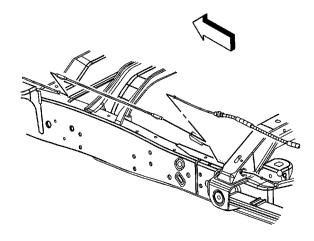
Document ID: 897296 Page 1 of 3

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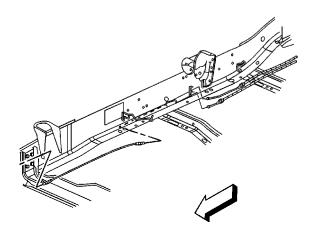
# Parking Brake Intermediate Cable Replacement Removal Procedure

- 1. Release the park brake.
- 2. Disable the park brake cable automatic adjuster. Refer to <u>Parking Brake Cable Adjuster</u> <u>Disabling</u>.
- 3. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle .





4. For passenger and cargo vehicles, disconnect the intermediate cable from the front and rear park brake cables.





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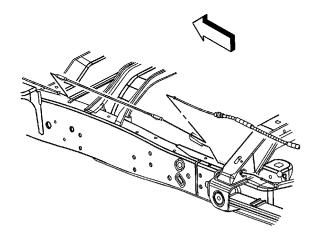
Document ID: 897296 Page 2 of 3

5. For cutaway vehicles, disconnect the intermediate cable from the front and rear park brake cables, passing the it through the cable guide.

6. Remove the intermediate cable from the vehicle.

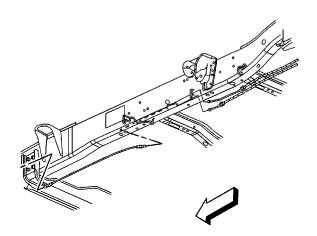
#### **Installation Procedure**

1. Install the intermediate cable to the vehicle.





2. For passenger and cargo vehicles, connect the intermediate park brake cable to the front and rear park brake cables.





- 3. For cutaway vehicles, connect the intermediate cable to the front and rear park brake cables, passing it through the cable guide.
- 4. Remove the safety stands and lower the vehicle.
- 5. Enable the park brake cable automatic adjuster. Refer to Parking Brake Cable Adjuster

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#### Enabling .

6. Adjust the park brake system. Refer to Park Brake Adjustment.

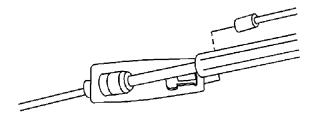
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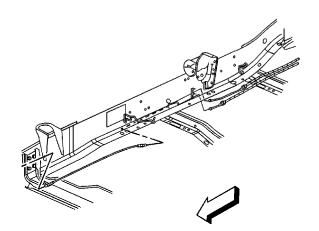
# Parking Brake Rear Cable Replacement - Left Side Removal Procedure

1. Release the park brake.





- 2. Disable the park brake cable automatic adjuster. Refer to <u>Parking Brake Cable Adjuster</u> <u>Disabling</u>.
- 3. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
- 4. Disconnect the cable at the equalizer.

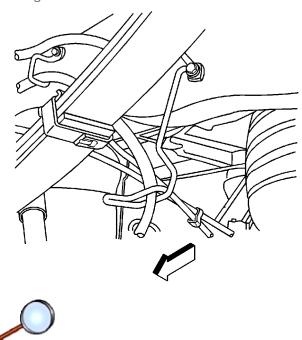




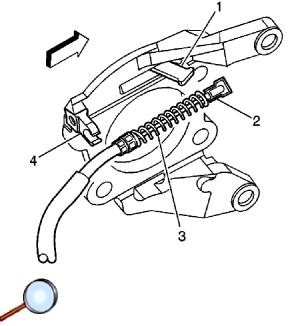
5. For cutaway vehicles enly remove the cable from the mounting bracket by depressing the

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locking tabs.



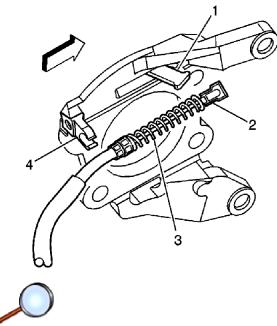
6. Pass the cable through the cable guides on the frame.



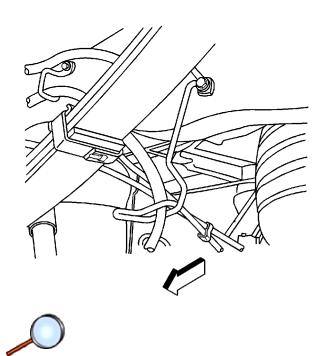
- 7. Perform the following procedure to remove the cable (2) from the backing plate (4).
  - 7.1. Compress the spring (3) by pushing towards the lever (1).
  - 7.2. Depress the locking tabs.
  - 7.3. Pull the cable housing out of the backing plate (4).
  - 7.4. Remove the cable (2) through the slot in the backing plate.
- 8. Remove the park brake cable (2) from the lever (1).
- 9. Remove the cable from the vehicle.

### **Installation Procedure**

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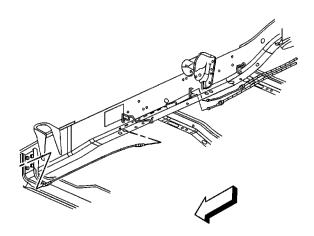


- 1. Install the cable to the vehicle.
- 2. Install the park brake cable (2) to the lever (1).
- 3. Perform the following procedure to install the cable (2) to the backing plate (4).
  - 3.1. Compress the spring (3) by pushing toward the lever (1).
  - 3.2. Route the cable (2) through the slot in the backing plate.
  - 3.3. Push the cable housing into the backing plate (4) until the locking tabs snap into place.



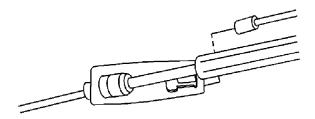
4. Pass the cable through the cable guides on the frame.

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- 5. For cutaway vehicles only, install the cable to the mounting bracket until the locking tabs snap into place.
- 6. Connect cable at the equalizer.
- 7. Remove the safety stands.
- 8. Lower the vehicle.





- 9. Enable the park brake cable automatic adjuster. Refer to <a href="Parking Brake Cable Adjuster Enabling">Parking Brake Cable Adjuster</a>
  <a href="Enabling">Enabling</a>
  <a href="Enabling
- 10. Adjust the park brake cable. Refer to Park Brake Adjustment.

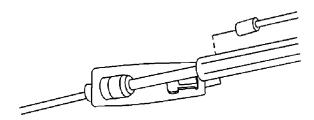
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# Parking Brake Rear Cable Replacement - Right Side Removal Procedure

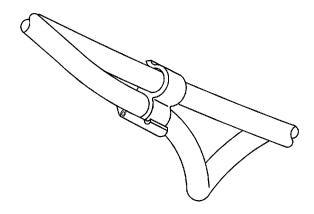
- 1. Release the park brake.
- 2. Disable the park brake cable automatic adjuster. Refer to <u>Parking Brake Cable Adjuster</u> <u>Disabling</u>.
- 3. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.





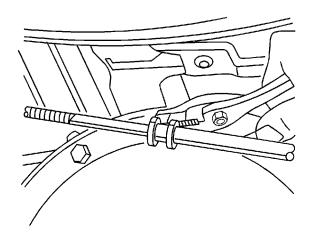
- 4. Disconnect the cable from the equalizer.
- 5. For cargo and passenger vehicles, remove the cable from the rear crossmember by depressing the locking tabs.
- 6. For cutaway vehicles, remove the cable from the mounting bracket by depressing the locking tabs.
- 7. Pass the cable through the cable guide.

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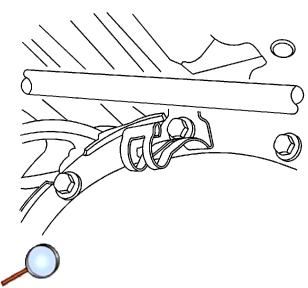
8. Disconnect the rear axle vent hose clip from the cable (1500 Series).



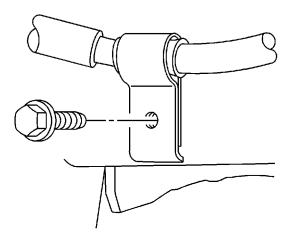


9. Gently open the rear axle clip.

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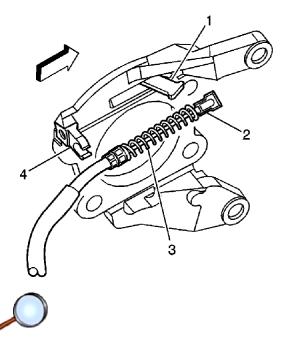
10. Remove the cable from the differential clip.





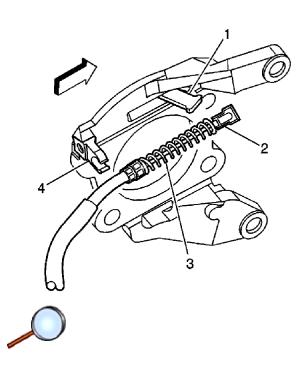
11. Remove the bolt retaining the cable to the lower shock mount.

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- 12. Perform the following procedure to remove the cable (2) from the backing plate (4).
  - 12.1. Compress the spring (3) by pushing towards the lever (1).
  - 12.2. Depress the locking tabs.
  - 12.3. Pull the cable housing out of the backing plate (4).
  - 12.4. Remove the cable (2) through the slot in the backing plate.
- 13. Remove the park brake cable (2) from the lever (1).
- 14. Remove the cable from the vehicle.

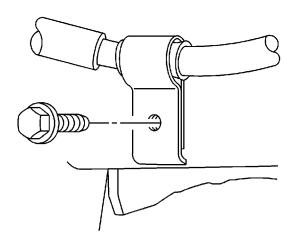
### **Installation Procedure**



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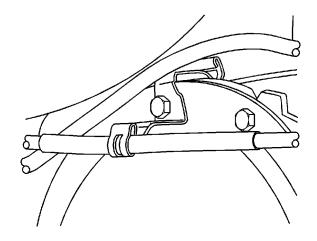
- 1. Install the cable to the vehicle.
- 2. Install the park brake cable (2) to the lever (1).
- 3. Perform the following procedure to install the cable (2) to the backing plate (4).
  - 3.1. Compress the spring (3) by pushing toward the lever (1).
  - 3.2. Route the cable (2) through the slot in the backing plate.
  - 3.3. Push the cable housing into the backing plate (4) until the locking tabs snap into place.

**Caution:** Refer to <u>Fastener Caution</u> in the Preface section.



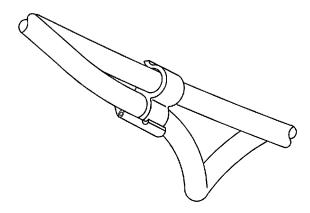


4. Install the bolt retaining the cable to the lower shock mount and tighten to 13 N⋅m (115 lb in).



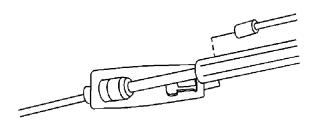


5. Install the cable to the differential clip.





- 6. Connect the rear axle vent hose clip to the cable (1500 Series).
- 7. Pass the cable through the cable guide.
- 8. For cutaway vehicles, install the cable to the mounting bracket until the locking tabs snap into place.
- 9. For cargo and passenger vehicles, install the cable to the rear crossmember until the locking tabs snap into place.





- 10. Connect the cable to the equalizer.
- 11. Remove the safety stands.
- 12. Lower the vehicle.
- 13. Enable the park brake cable automatic adjuster. Refer to <u>Parking Brake Cable Adjuster</u> Enabling
- 14. Adjust the park brake cable. Refer to Park Brake Adjustment.

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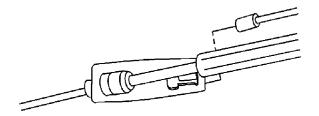
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# Parking Brake Cable Equalizer Replacement

#### **Removal Procedure**

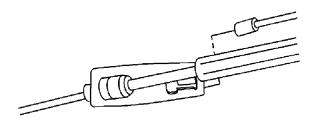
- 1. Disable the park brake cable automatic adjuster. Refer to <u>Parking Brake Cable Adjuster</u> <u>Disabling</u>.
- 2. Raise the vehicle. Refer to Lifting and Jacking the Vehicle .





3. Remove the equalizer.

### **Installation Procedure**



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- 1. Install the equalizer.
- 2. Lower the vehicle.
- 3. Enable the park brake cable automatic adjuster. Refer to <u>Parking Brake Cable Adjuster Enabling</u>.
- 4. Check the adjustment. Refer to Park Brake Adjustment .

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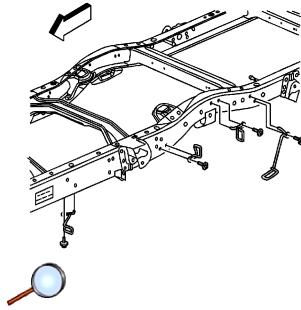
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Document ID: 2125857

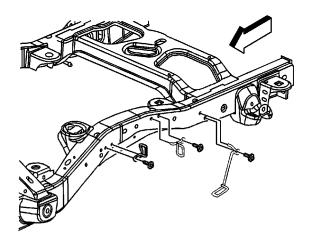
## Parking Brake Cable Guide Replacement

#### **Removal Procedure**

- 1. Release the parking brake.
- 2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.



3. For cutaway vehicles, remove the park brake cable guide bolt from the frame.





- 4. For cargo and passenger vehicles, remove the park brake cable guide bolt from the frame.
- 5. Remove the park brake cable guide.
- 6. Remove the park brake guide from the park brake caple and or served.

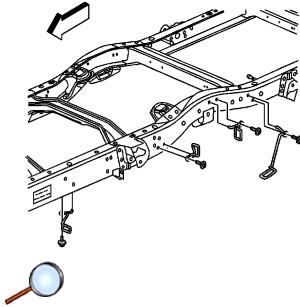
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#### **Installation Procedure**

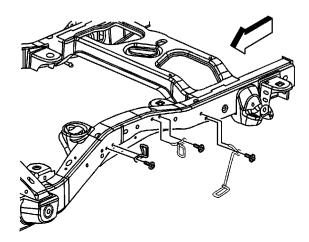
1. Install the park brake cable guide to the park brake cable.

2. Install the park brake cable guide.

**Caution:** Refer to Fastener Caution in the Preface section.



3. For cutaway vehicles, install the park brake cable guide bolt to the frame and tighten to 13 N·m (115 lb in).





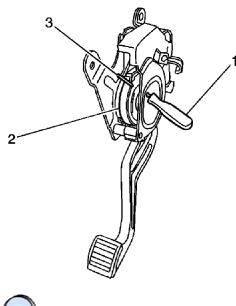
- 4. For cargo and passenger vehicles, install the park brake cable guide bolt to the frame and tighten to 13 N⋅m (115 lb in).
- 5. Lower the vehicle.

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### Parking Brake Cable Adjuster Disabling

Before any components of the parking brake system are serviced, the following procedure must be followed. Two technicians are required to perform this procedure: one inside the vehicle and one outside the vehicle.





- 1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u>.
- 2. Hold the pedal in the FULL upward position.
- 3. Pull rearward on the front park brake cable until the pedal drum (2) reaches its full reset position.
- 4. Insert a scribe or the shaft of a thin screwdriver (1) on an upward angle through the hole in the front of the pedal assembly, past the retracted pedal drum, and into the hole in the back of the pedal assembly (3).
- 5. Slowly release the cable.
- 6. Remove the component that requires service.

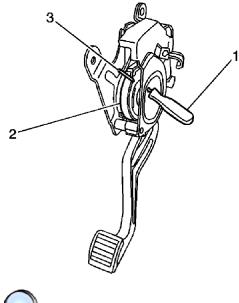
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## Parking Brake Cable Adjuster Enabling

If the park brake automatic adjuster has been disabled, the following two person procedure must be performed.

1. Hold the park brake pedal in the FULL upward position.





- 2. Pull rearward on the front park brake cable until the tension is released from the scribe or nail (1) installed through the holes in the pedal assembly.
- 3. Remove the scribe or screwdriver (1).
- 4. Slowly release the park brake cable until it returns to its original position.
- 5. Release the park brake pedal.
- 6. Lower the vehicle.
- 7. Apply and release the park brake pedal to ensure that there is no binding or sticking.

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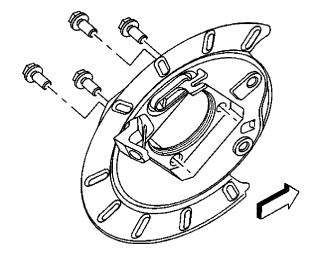
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## Parking Brake Actuator Replacement (Without Dual Rear Wheel)

#### **Removal Procedure**

Warning: Refer to <u>Brake Dust Warning</u> in the Preface section.

- 1. Release the park brake.
- 2. Disable the park brake cable automatic adjuster. Refer to Parking Brake Cable Adjuster
- 3. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
- 4. Remove the tire and wheel assembly. Refer to <u>Tire and Wheel Removal and Installation</u>.
- 5. Remove the rear park brake cable from the park brake actuator lever.
- 6. Remove the park brake cable from the mounting bracket by depressing the locking tabs.
- 7. Remove the rotor. Refer to Rear Brake Rotor Replacement.
- 8. Remove the axle shaft. Refer to Rear Axle Shaft Replacement.
- 9. Remove the park brake shoe. Refer to Parking Brake Shoe Replacement.

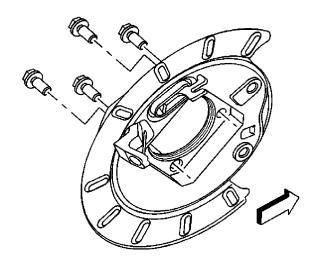




- 10. Remove the backing plate bolts.
- 11. Remove the park brake actuator lever housing from the backing plate.

### **Installation Procedure**

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- 1. Install the park brake actuator lever housing to the backing plate.
- 2. Perform the following procedure before installing the backing plate bolts.
  - 2.1. Remove all traces of the original adhesive patch.
  - 2.2. Clean the threads of the bolt with brake parts cleaner or the equivalent and allow to dry.
  - 2.3. Apply Threadlocker GM P/N 12345493 (Canadian P/N 10953488) to the threads of the bolt.

**Caution:** Refer to <u>Fastener Caution</u> in the Preface section.

- 3. Install the backing plate bolts.
  - Tighten the single rear wheel bolts to 135 N·m (100 lb ft).
  - Tighten the dual rear wheel bolts to 160 N·m plus 30 degrees (118 lb ft plus 30 degrees).
- 4. Install the park brake shoe. Refer to Parking Brake Shoe Replacement.
- 5. Install the axle shaft. Refer to Rear Axle Shaft Replacement.
- 6. Adjust the park brake shoe. Refer to Parking Brake Adjustment.
- 7. Install the rotor. Refer to Rear Brake Rotor Replacement.
- 8. Install the park brake cable to the mounting bracket until the locking tabs snap into place.
- 9. Install the rear park brake cable to the park brake actuator lever.
- 10. Install the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.
- 11. Remove the safety stands.
- 12. Lower vehicle.
- 13. Enable the park brake cable automatic adjuster. Refer to <u>Parking Brake Cable Adjuster</u> Enabling.
- 14. Adjust the park brake. Refer to <a href="Parking Brake Adjustment">Parking Brake Adjustment</a>.

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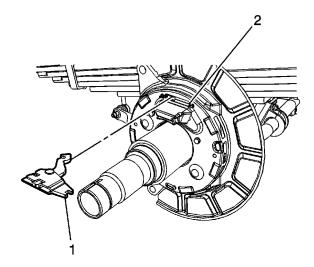
Document ID: 2187315

# Parking Brake Actuator Replacement (With Dual Rear Wheel)

#### **Removal Procedure**

Warning: Refer to <u>Brake Dust Warning</u> in the Preface section.

- 1. Disable the parking brake cable adjuster. Refer to Parking Brake Cable Adjuster Disabling
- 2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
- 3. Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.
- 4. Remove the parking brake shoes. Refer to Parking Brake Shoe Replacement.
- 5. Disconnect the parking brake cable from the parking brake actuator lever.



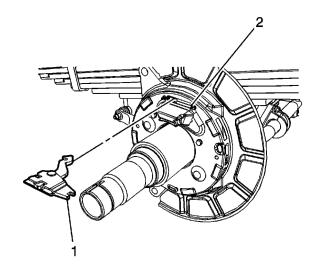


- 6. Remove the parking brake actuator (1).
- 7. Remove the parking brake actuator boot (2).

### **Installation Procedure**

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- 1. Install the parking brake actuator (1) and boot (2).
- 2. Connect the park brake cable from the parking brake actuator lever.
- 3. Install the parking brake shoes. Refer to <u>Parking Brake Shoe Replacement</u>.
- 4. Install the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.
- 5. Enable the parking brake cable adjuster. Refer to Parking Brake Cable Adjuster Enabling

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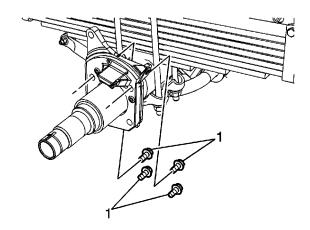
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# Rear Parking Brake Anchor Backing Plate Replacement Removal Procedure

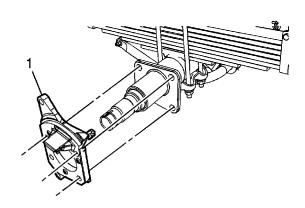
Warning: Refer to Brake Dust Warning in the Preface section.

- 1. Disable the parking brake cable adjuster. Refer to Parking Brake Cable Adjuster Disabling.
- 2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
- 3. Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation.
- 4. Remove the rear brake shield. Refer to Rear Brake Shield Replacement.





5. Remove the anchor plate bolts (1).



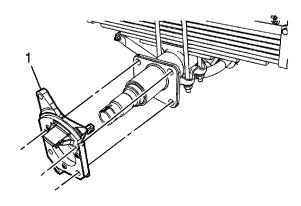
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6. Remove the anchor plate (1).

#### **Installation Procedure**

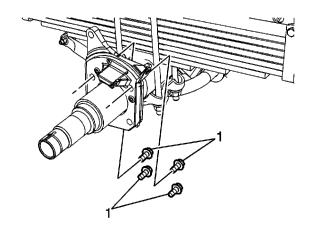




- 1. Install the anchor plate (1).
- 2. If installing the original anchor plate bolts, prepare the bolts for installation as follows:
  - 2.1. Remove all traces of threadlocker from the threaded portion of the anchor plate bolt threads.
  - 2.2. Clean the anchor plate bolt threads with denatured alcohol or equivalent and allow to dry.
  - 2.3. Apply threadlocker GM P/N 89021297 (Canadian P/N 10953488) to 2/3 of the threaded portion of the bolt.

Caution: Refer to <u>Fastener Caution</u> in the Preface section.

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- 3. Install the anchor plate bolts (1) and tighten to 220 N·m (162 lb ft).
- 4. Install the rear brake shield. Refer to Rear Brake Shield Replacement.
- 5. Install the parking brake shoes. Refer to Parking Brake Shoe Replacement.
- 6. Adjust the parking brake. Refer to Parking Brake Adjustment.
- 7. Install the tire and wheel assembly. Refer to <u>Tire and Wheel Removal and Installation</u>.
- 8. Enable the parking brake cable adjuster. Refer to Parking Brake Cable Adjuster Enabling.

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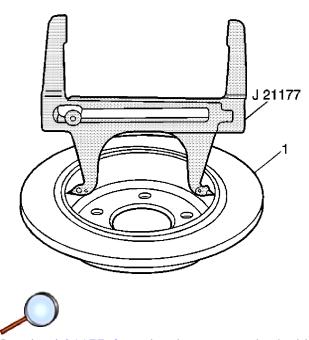
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# Parking Brake Adjustment (Without Dual Rear Wheel) Special Tools

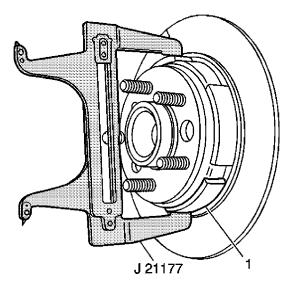
J 21177-A Drum-to-Brake Shoe Clearance Gage

**Warning:** Refer to <u>Brake Dust Warning</u> in the Preface section.

**Note:** The park brake shoes must be adjusted before the park brake pedal is adjusted.



1. Set the <u>J 21177-A</u> so that it contacts the inside diameter of the rotor.



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- 2. Position the J 21177-A over the shoe and the lining at the widest point.
- 3. Turn the adjuster nut until the lining just contacts the <u>J 21177-A</u>.
- 4. Repeat steps 1-3 for the opposite side.
- 5. The clearance between the park brake shoe and the rotor is 0.6604 mm (0.026 in).

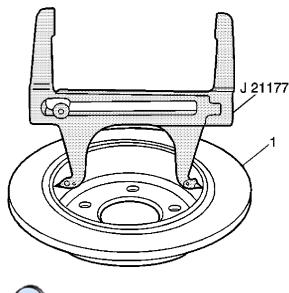
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# Parking Brake Adjustment (With Dual Rear Wheel) **Special Tools**

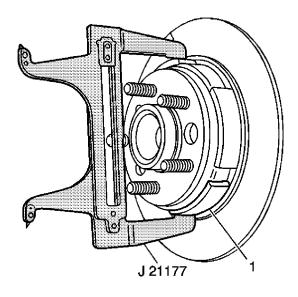
J-21177-A Drum-to-Brake Shoe Clearance Gage

Warning: Refer to <u>Brake Dust Warning</u> in the Preface section.





1. Set the J-21177-A Drum-to-Brake Shoe Clearance Gage so it lightly contacts the parking brake shoe friction surface of the brake rotor.



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- 2. Position the *J-21177-A* Drum-to-Brake Shoe Clearance Gage over the parking brake shoes (1) at the widest point.
- 3. Rotate the parking brake adjuster until the parking brake shoes just contact the *J-21177-A* Drum-to-Brake Shoe Clearance Gage .
- 4. Using a feeler gage, set the parking brake shoe clearance to 0.62 mm (0.024 in.)
- 5. Repeat steps 1-4 for the opposite parking brake assembly.