

Park Brake

Specifications

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Park Brake Indicator Switch Screw	2.8 N·m	25 lb in
Park Brake Lever Bolt	12 N·m	106 lb in

GM SPO Group Numbers

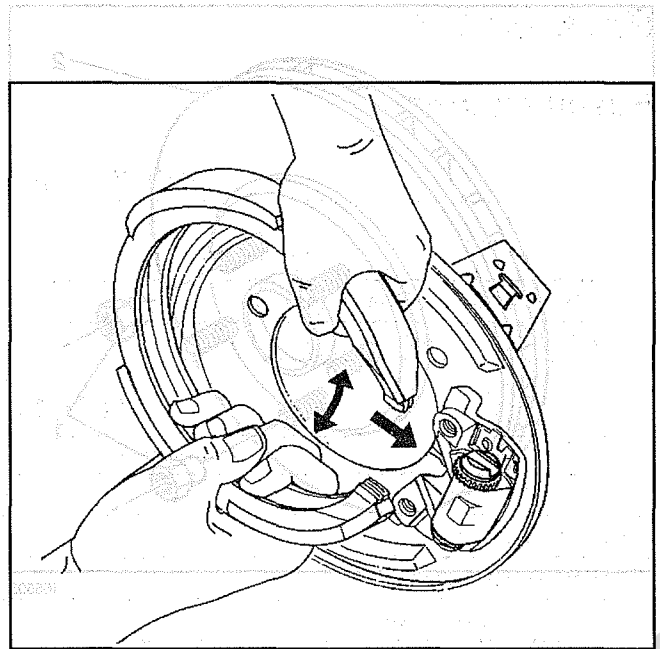
Application	GM SPO Group Number
Backing Plate	5.000
Park Brake Actuator	4.000
Park Brake Cable (Front)	4.000
Park Brake Cable (Rear)	4.000
Park Brake Drum	5.000
Park Brake Lever	4.000
Park Brake Shoe	5.000

Repair Instructions

Park Brake Shoe Replacement

Removal Procedure

1. Remove the brake rotor. Refer to *Brake Rotor Replacement (Rear)* in Disc Brakes.
2. Remove the parking brake shoe retaining clip and attaching screw.
3. Remove the parking brake shoe by sliding the brake shoe downward off tappet slot.



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Installation Procedure

1. Turn the adjustable tappet until the tappet is seated against adjuster nut. Orient the slot radially (parallel with mounting flange).
2. Install the parking brake shoe by sliding the shoe upwards into the tappet slots.

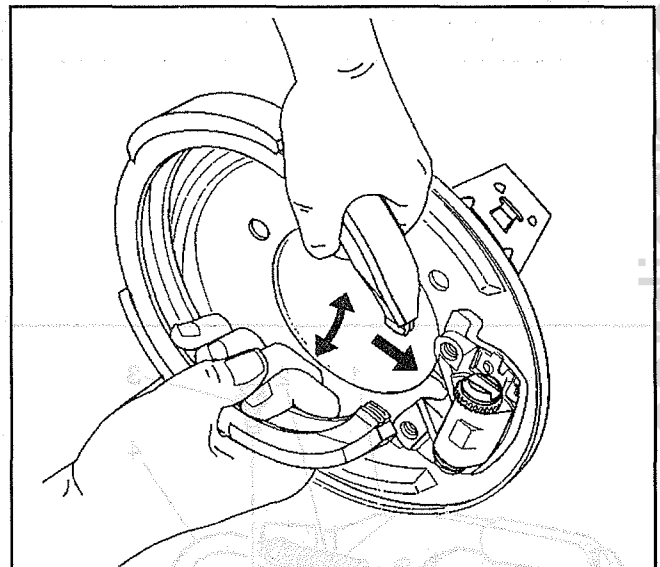
Notice: Refer to *Fastener Notice* in a Cautions and Notices.

3. Install the parking brake shoe retaining clip and the attaching screw.

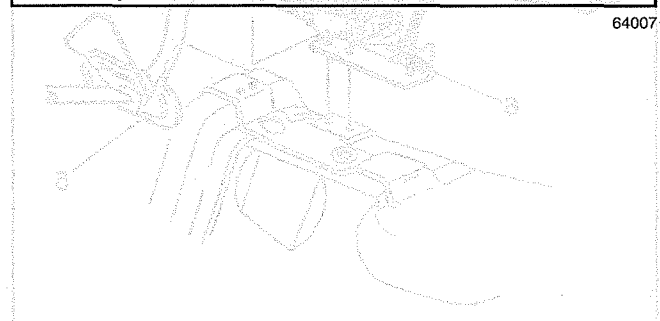
Tighten

Clip screw to 5 N·m (44 lb in).

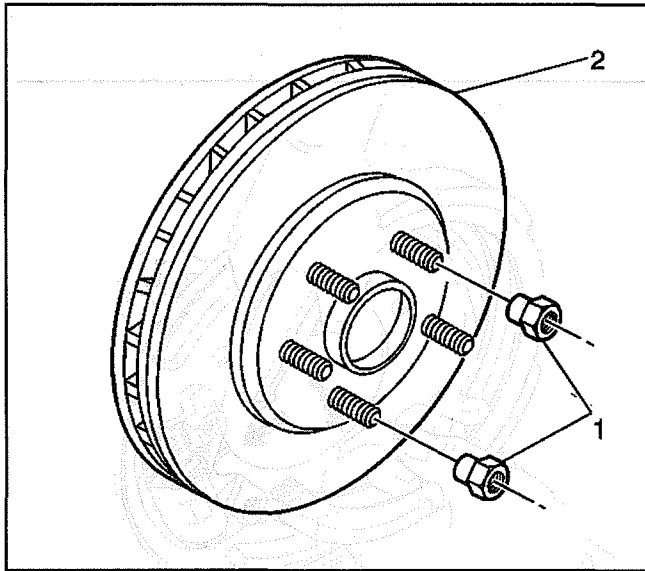
4. Adjust the parking brake shoe to drum clearance. Refer to *Park Brake Shoe Adjustment*.
5. Install the brake rotor. Refer to *Brake Rotor Replacement (Rear)* in Disc Brakes.



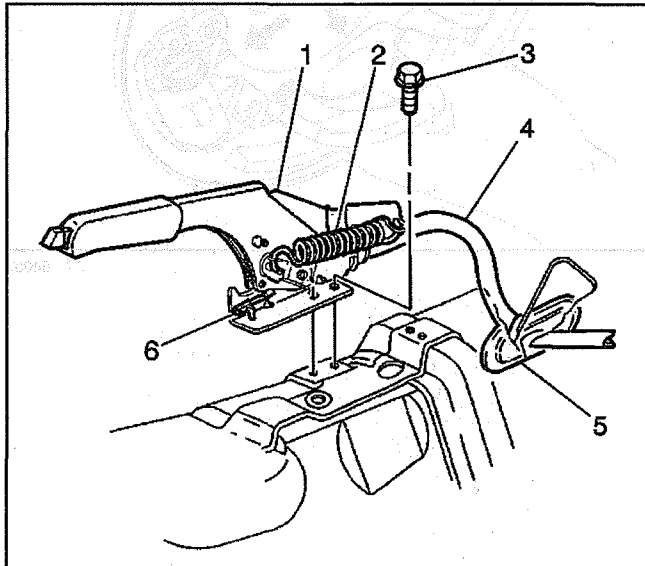
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Park Brake Shoe Adjustment

Important: Do not operate the park brake lever while the rotor is removed.

1. Remove the rear tires and wheels. Refer to *Tire and Wheel Removal and Installation in Tires and Wheels*.
2. Disconnect the rear cable from the brake shoe lever.
3. Pull on the lever until there is a firm stop. Release the lever and measure free lever travel at the cable interface. If the travel is less than 10 mm, adjustment is complete. If the travel is more than 10 mm, further adjust brake shoe.
4. Remove the brake rotor. Refer to *Brake Rotor Replacement (Rear)* in Disc Brakes.
5. Rotate the adjustment nut with a screwdriver in order to extend the slotted tappet in order to increase the gap between the adjuster nut and the screw by .38 mm.
6. Install the rotor onto the axle mounting flange. Ensure that the rotor is flush against the flange. Use two hand-tightened lugnuts (1) in order to keep the rotor (2) in position.
7. Measure the lever (free) travel per step 2. Repeat the adjuster in order to obtain the ideal 3–8 mm free travel of the brake shoe lever.
8. Check the rotor for drag. The rotor must rotate freely within the stud hole clearance.
9. Install rear tires and wheels. Refer to *Tire and Wheel Removal and Installation in Tires and Wheels*.

Park Brake Lever Replacement

Removal Procedure

Notice: Do not lubricate the parking brake cables. Lubrication may damage the plastic coating on the parking brake cables.

If the park brake lever does not adjust the cable, lubricate the following components using chassis lubricant or the equivalent:

- The adjust pawl pin
- The handle ratchet
- The adjusting ratchet

Tools Required

J 37043 Parking Brake Cable Release Tool

1. Remove the front floor console.

Important: If the park brake handle cannot be pulled up far enough in order to lift out console, then release handle and hold the adjuster pawl disengaged. The lever handle can then be pulled up further.

2. Disconnect the electrical connector from the park brake indicator switch (6).
3. With the park brake lever (1) in the up position, remove the park brake lever spring (2).

4. With the park brake lever (1) in the down position, rotate the adjuster arm toward the front of the vehicle until the adjuster arm stops.
5. On the adjuster ratchet, bend the tab at the barrel-shaped front cable end back in order to allow the cable strand to pass by.
6. Unhook cable front end button from adjuster ratchet.
7. Remove the barrel-shaped front cable end fitting from the adjuster track on the pulley.
8. Remove the park brake lever bolts (3) and the park brake lever (1) from the floor pan.
9. Use the J 37043 in order to remove the park brake front cable (4) from the park brake lever (1) and remove the lever from vehicle.

Installation Procedure

1. On the new park brake lever assemblies, pull the lever up to full travel. Remove the adjuster spring (2).
2. Push out the plastic shear pin.
3. Install the park brake front cable (4) to the park brake lever (1).

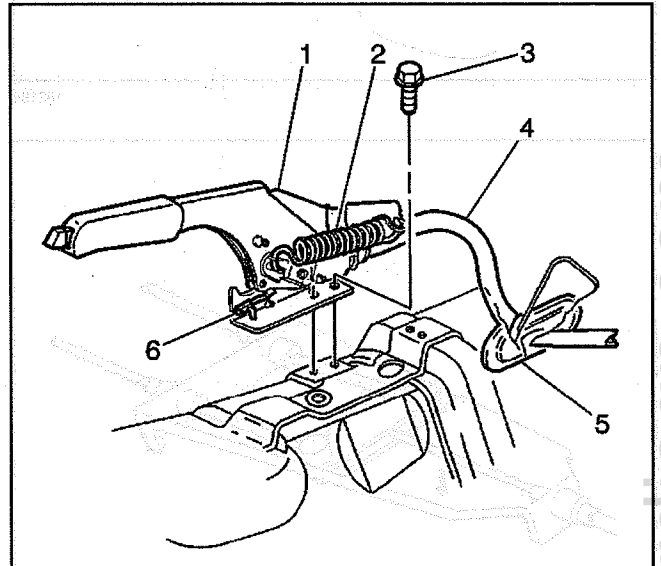
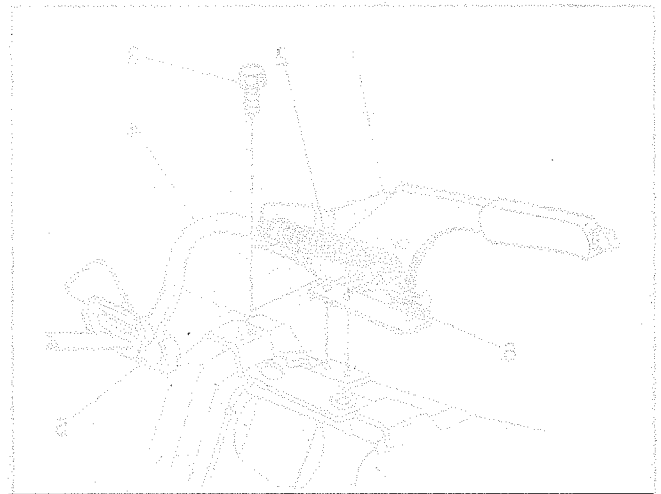
Notice: Refer to *Fastener Notice* in Cautions and Notices.

4. Install the park brake lever (1) and the park brake lever bolts (3) to the floor pan.

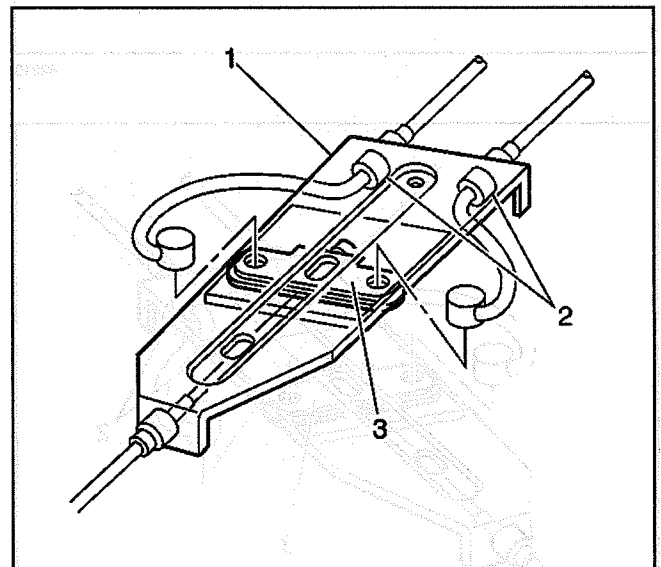
Tighten

Tighten the park brake lever bolts (3) to 12 N·m (106 lb in).

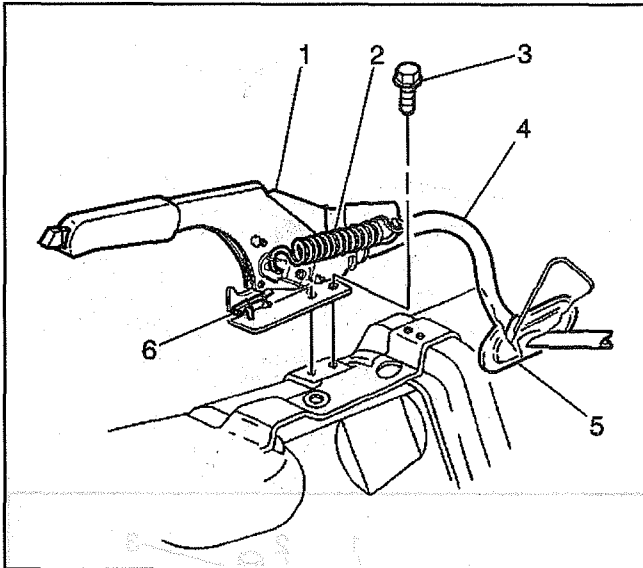
5. Connect the electrical connector to the park brake indicator switch (6).
6. With the park brake lever in the down position and adjuster pawl released, rotate the adjuster arm toward the front of the vehicle until the adjuster arm stops.
7. Connect the barrel-shaped front cable end fitting to the adjuster track on the pulley.
8. If the rear cables were not disconnected from the equalizer, skip to step 12.
9. Raise the vehicle. Suitably support the vehicle. Refer to *Lifting and Jacking the Vehicle* in General Information.
10. Connect the rear cables (2) to the equalizer (1).
11. Lower the vehicle.



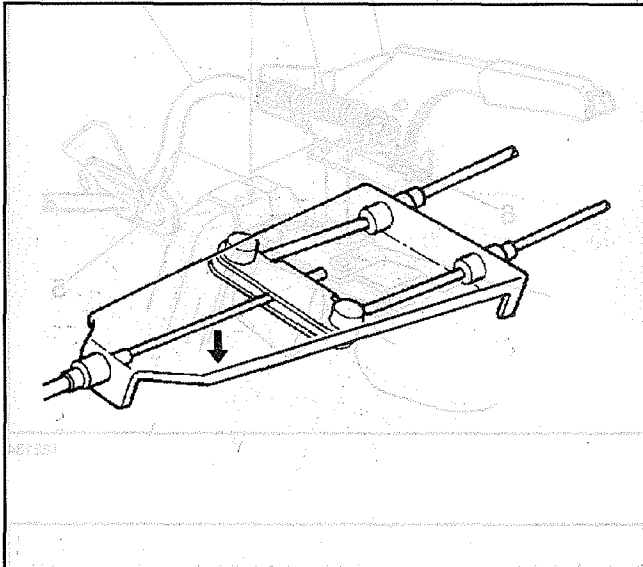
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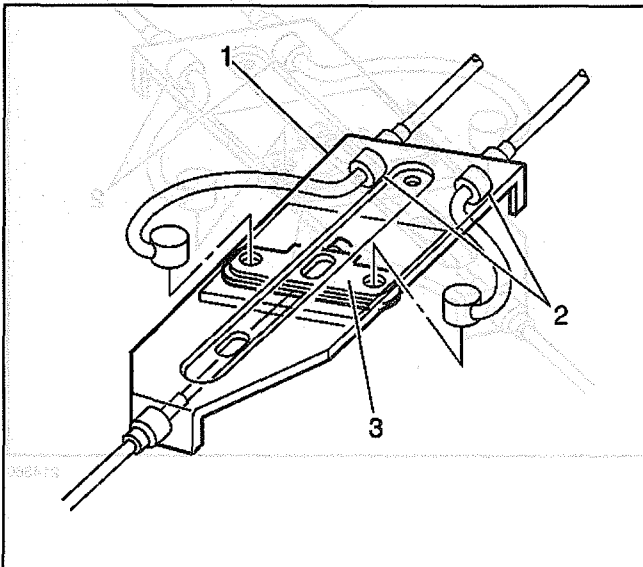
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12. Rotate the adjuster arm toward the rear of the vehicle and completely raise the park brake lever (1).
13. Install the park brake adjuster spring (2).
14. Cycle the park brake lever 3 times.
15. Install the front floor console.

Park Brake Cable Replacement (Front)

Removal Procedure

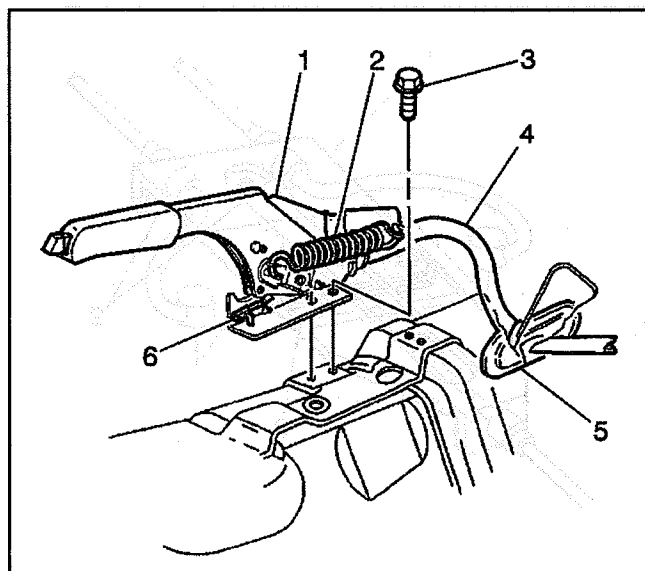
Tool Required

J 37043 Parking Brake Cable Release Tool

Notice: Use care when performing service operations on or around parking brake cables. Damage to the plastic coating will reduce corrosion protection and if the damaged area passes through the seal, increased parking brake effort could result. Contacting the coating with sharp-edged tools, or with sharp surfaces of the vehicle underbody, should be avoided.

1. Ensure that the park brake hand lever is in the down position in order to disengage the adjuster pawl.
2. Raise and suitably support the vehicle. Refer to *Lifting and Jacking the Vehicle* in General Information.
3. Pull down on the front cable strand until the strand stops and stays extended.
4. Remove the rear cables (2) from the equalizer (3).
5. Use the *J 37043* in order to remove the fitting of the park brake front cable from the bracket.

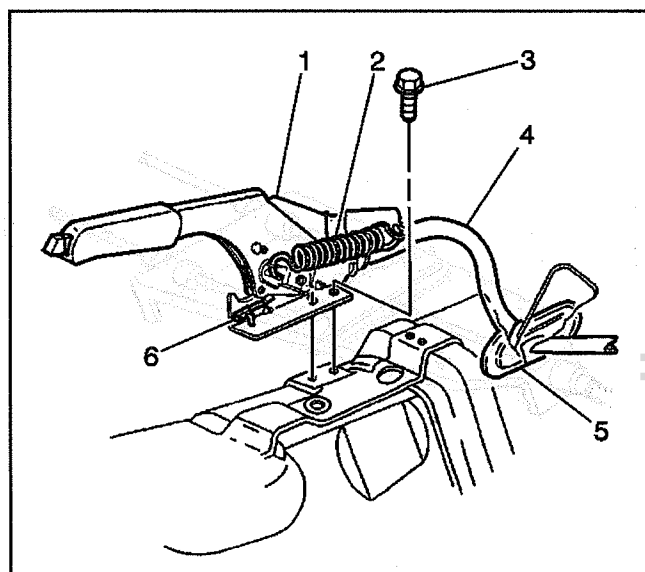
6. Remove the cable grommet from the underbody cavity.
7. Lower the vehicle.
8. Remove the front floor console.
9. Remove the park brake spring (2) while the park brake lever is in the up position.
10. With the park brake lever (1) in the down position, rotate the adjuster arm toward the front of the vehicle until the adjuster arm stops.
11. On adjuster ratchet, bend tab at barrel-shaped front cable end back in order to allow the cable strand to pass by.
12. Remove the barrel-shaped front cable end fitting from the adjuster track on the pulley.
13. Use the *J 37043* in order to remove the park brake front cable (4) from the park brake lever (1).
14. Remove the park brake front cable (4) from the floor plan.



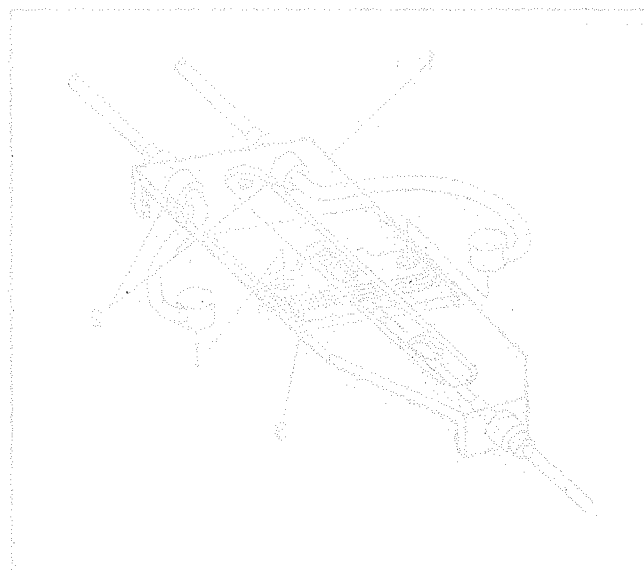
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Installation Procedure

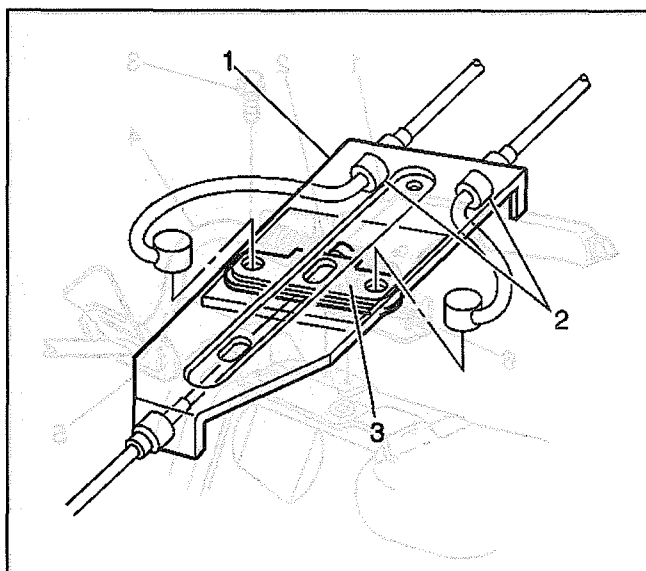
1. Install the park brake front cable (4) and the grommet (5) into the slot in the floor pan. Use the following procedure in order to install the grommet into the floor pan:
 - 1.1. Use soapy water as a lubricant.
 - 1.2. Feed the forward end of the grommet (5) into the slot.
 - 1.3. Use a small, curved, flat-ended pry bar in order to gently press the rearward end of the grommet (5) into the slot.
 - 1.4. Ensure that the grommet (5) is properly seated in the slot in the floor pan.
2. Connect the front park brake cable (4) to the park brake lever (1).
3. Install the barrel-shaped front cable end fitting into the adjuster track on the pulley.
4. Rotate the adjuster arm toward the rear of the vehicle and install the adjuster spring.
5. Ensure that the park brake lever (1) is in the down position.
6. Raise and suitably support the vehicle. Refer to *Lifting and Jacking the Vehicle* in General Information.



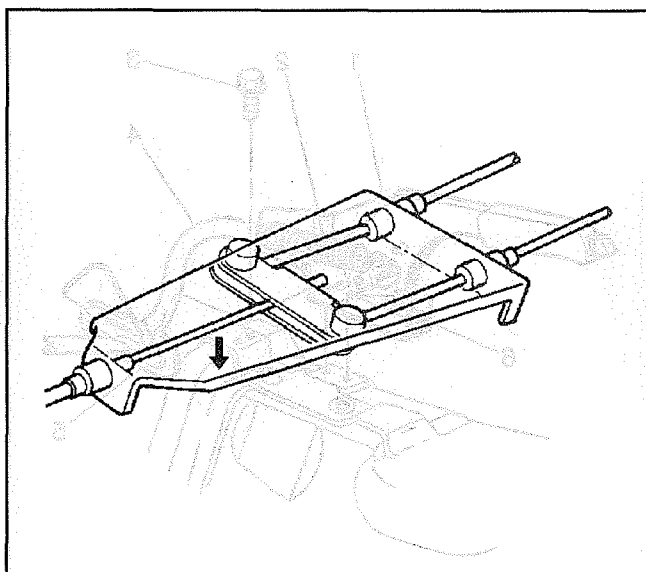
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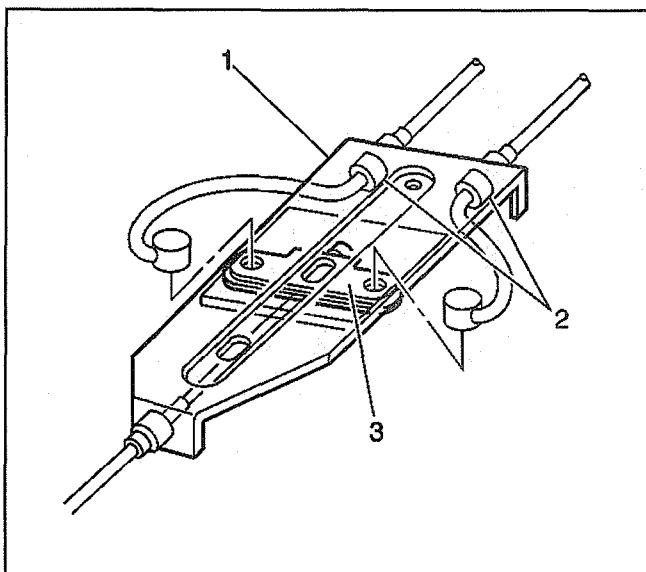
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7. Connect the rear fitting of the front cable conduit to the floor panbracket (1).
 - Pull the equalizer (3) back until the equalizer stops.
 - Connect the rear cables (2) to the equalizer (3).
8. Lower the vehicle.
9. Cycle the park brake lever (1) three times.
10. Install the front floor console.

Park Brake Cable Replacement (Rear)

Removal Procedure

Tools Required

J 37043 Parking Brake Cable Release Tool

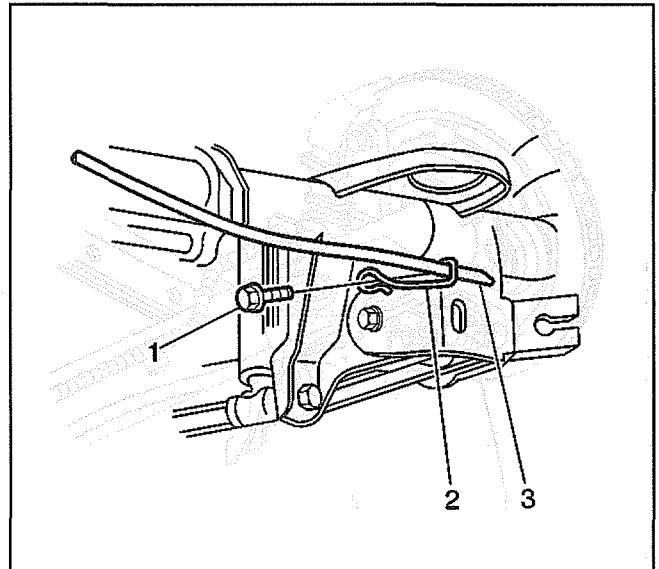
1. Fully disengage the park brake lever. Ensure that the handle is down and that the brake indicator lamp is not lit.

Important: If the park brake lever is partially engaged, you will not be able to pull the equalizer rearward later in this procedure.

2. Raise and suitably support the vehicle. Refer to *Lifting and Jacking the Vehicle* in General Information.
3. Pull down on the front cable strand until the strand stops and stays extended.
4. Cut off the tie strap.
5. Remove the rear cable from the underbody bracket.

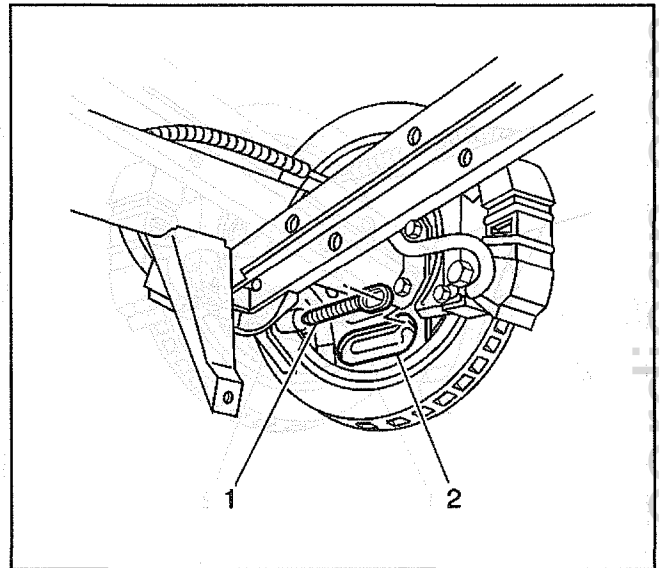
Use the J 37043 in order to compress the retainer fingers on the casing and pull the rear cable from the underbody bracket.
6. Remove the rear park brake cables (2) from the park brake cable equalizer (3).

7. Pull the park brake rear cable (3) through the guides (2) that are installed on the rear axle housing.



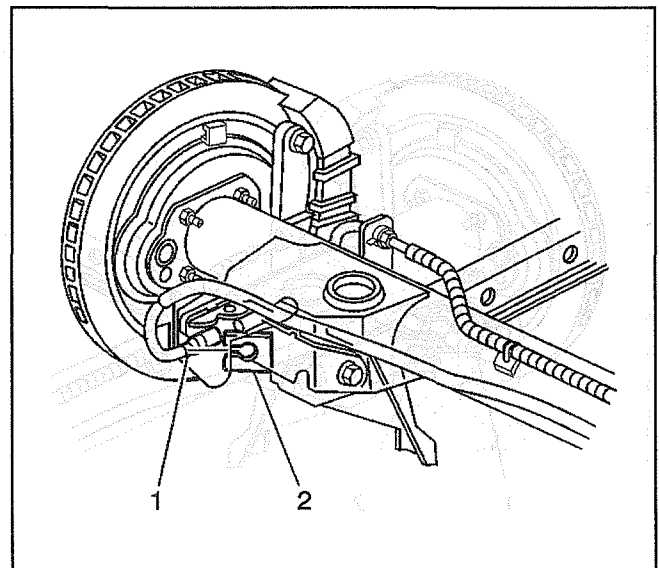
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8. Unhook the rear cable eyelet (1) from the park brake actuator lever (2).

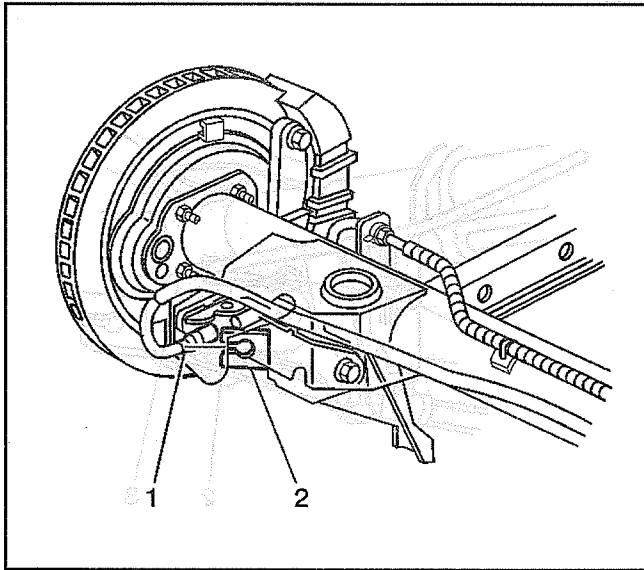


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9. Use the J 37043 in order to compress the retainer fingers on the conduit fitting (1) and pull the rear cable from the cable bracket (2).



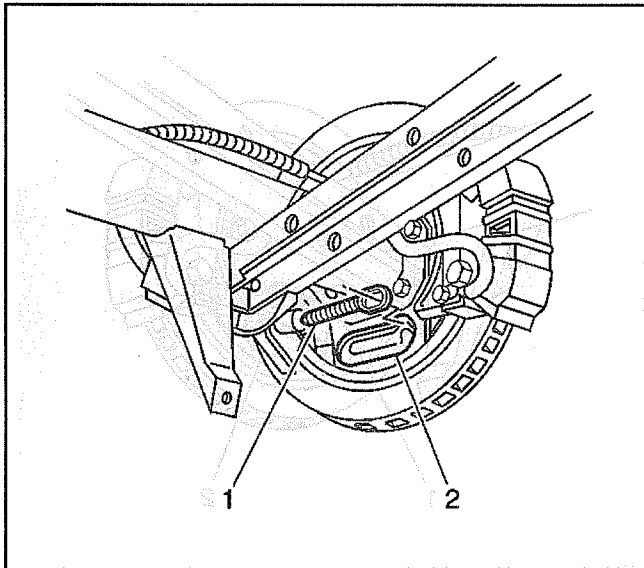
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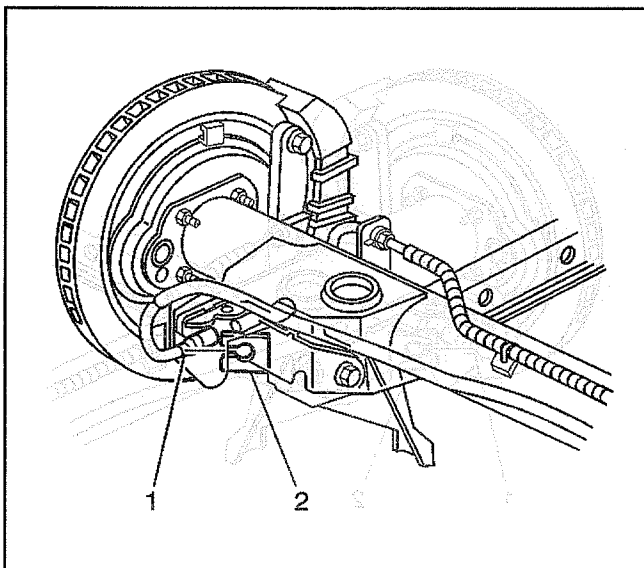
Installation Procedure

1. Install the rear (1) conduit fitting to the park brake cable bracket (2).



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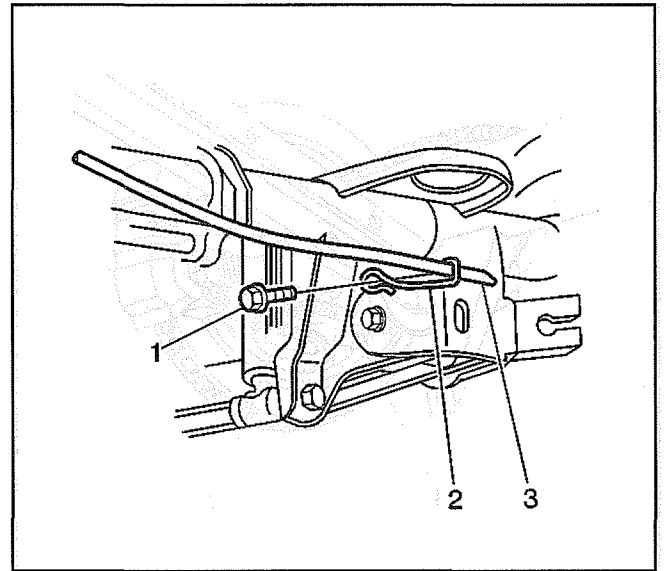
2. Install the rear cable eyelet (1) to the park brake actuator lever (2).



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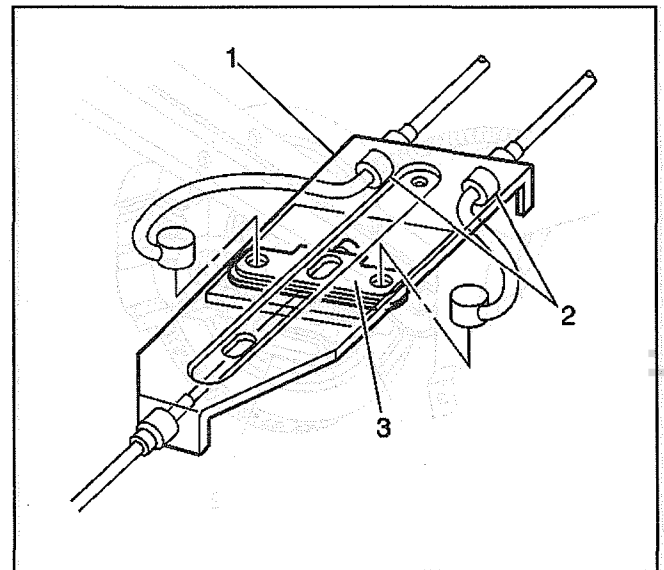
3. Seat the retainer fingers into the park brake cable bracket (2).

4. Pull the rear cable (3) through the park brake cable guides (2) on the rear axle housing. Ensure that the LH cable is routed over the tie rod bracket.



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5. Connect the rear park brake cable to the park brake cable equalizer (3).
6. Install the rear cable (2) into the underbody bracket (1).
- If the tie strap was removed, install a new tie strap.
7. Lower the vehicle.
8. Cycle the park brake lever 3 times.

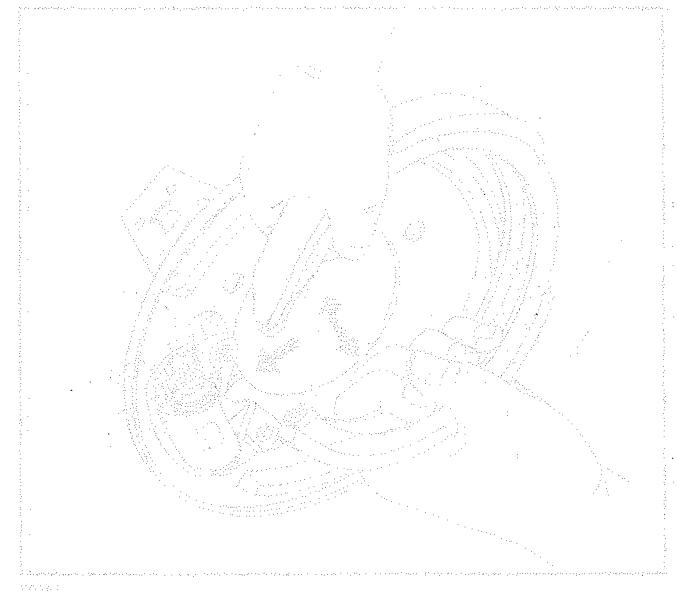


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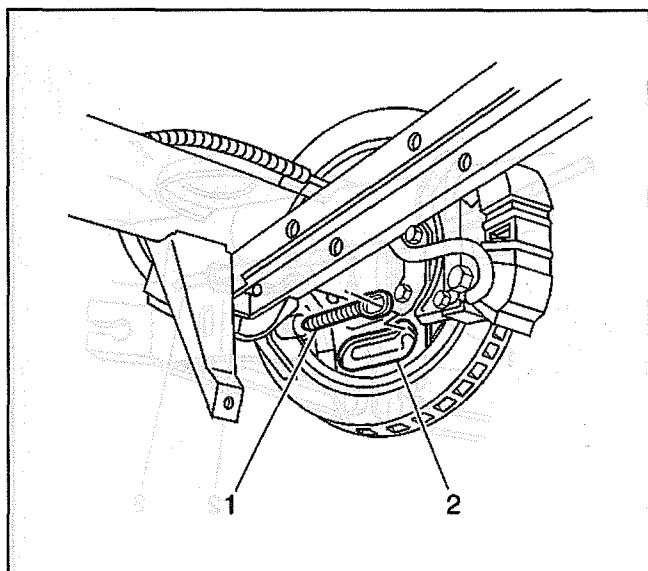
Brake Drum Inspection

Refinishing Rear Brake Rotor Parking Brake Surface

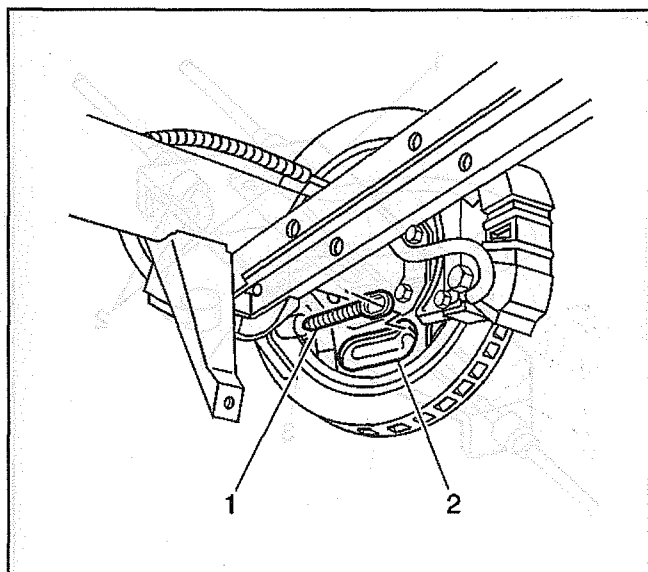
The rear brake rotor parking brake contact surface should not be refinished. If the parking brake system can't effectively hold the vehicle, and all other parking brake components are functioning properly, replace the rotor. In addition, If the parking brake surface is excessively scored (vehicle driven with parking brake on), replace the rotor.



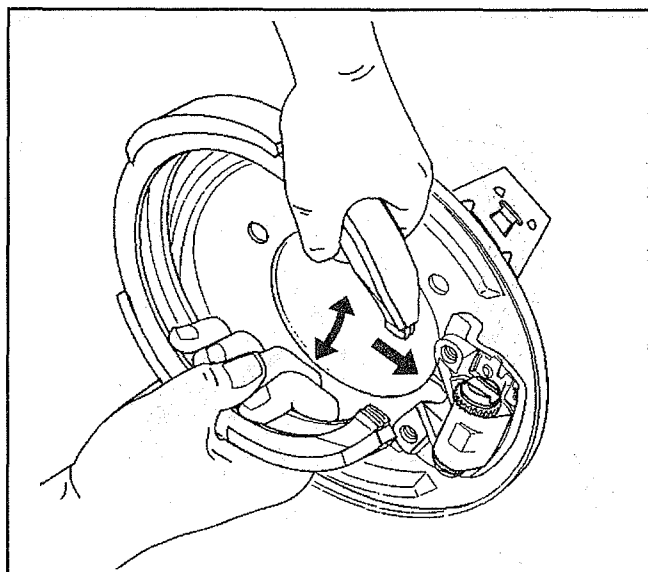
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Backing Plate Replacement

Removal Procedure

1. Unhook the rear cable eyelet (1) from the park brake actuator lever (2).
2. Remove the parking brake shoe. Refer to *Park Brake Shoe Replacement*.
3. Remove the parking brake actuator. Refer to *Park Brake Actuator Replacement*.
4. Remove the brake backing plate bolts.
5. Remove the brake backing plate from the axle.

Installation Procedure

1. Install the brake backing plate to axle.

Notice: Refer to *Fastener Notice* in Cautions and Notices.

2. Install the brake backing plate bolts.

Tighten

Tighten the brake backing plate bolts to 58 N·m (43 lb ft).

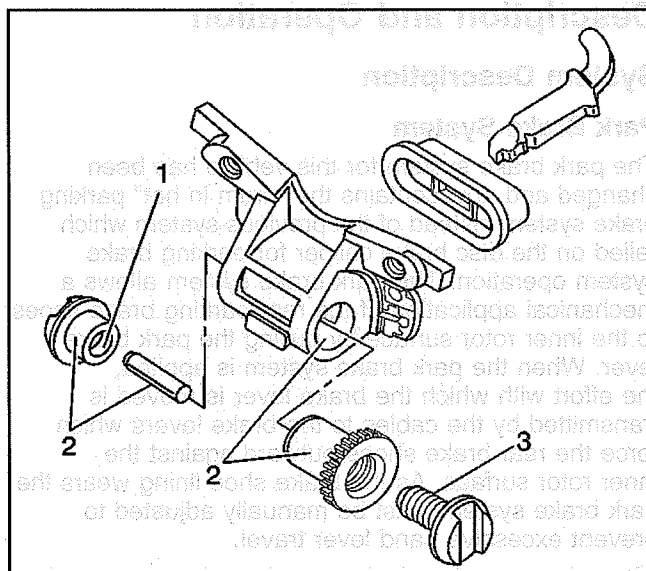
3. Install the parking brake actuator. Refer to *Park Brake Actuator Replacement*.
4. Install the parking brake shoe. Refer to *Park Brake Shoe Replacement*.
5. Hook the rear cable eyelet (1) onto the park brake actuator lever (2).

Park Brake Actuator Replacement

Removal Procedure

1. Remove the parking brake shoe. Refer to *Park Brake Shoe Replacement*.

2. Move the brake lever back and forth in order to push out the tappets (2).
3. Pull out the following components:
 - The tappets (2)
 - The pin (3)
 - The lever (4)



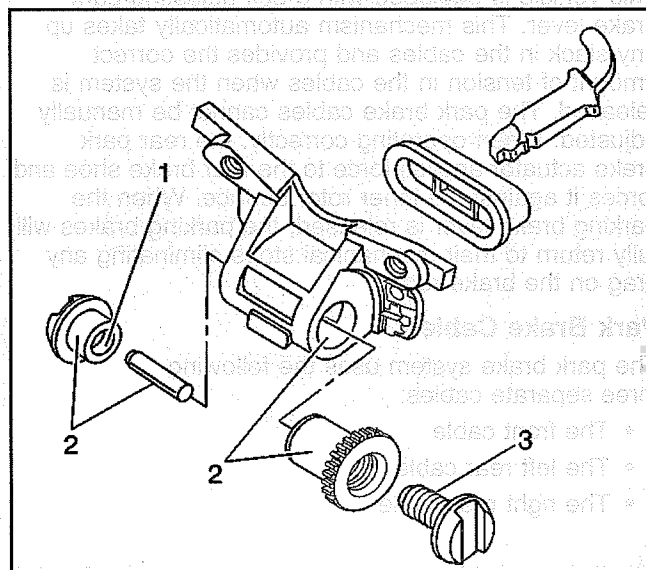
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Installation Procedure

1. Push the brake lever into the housing.
2. Apply grease to positions 1, 2, and 3.

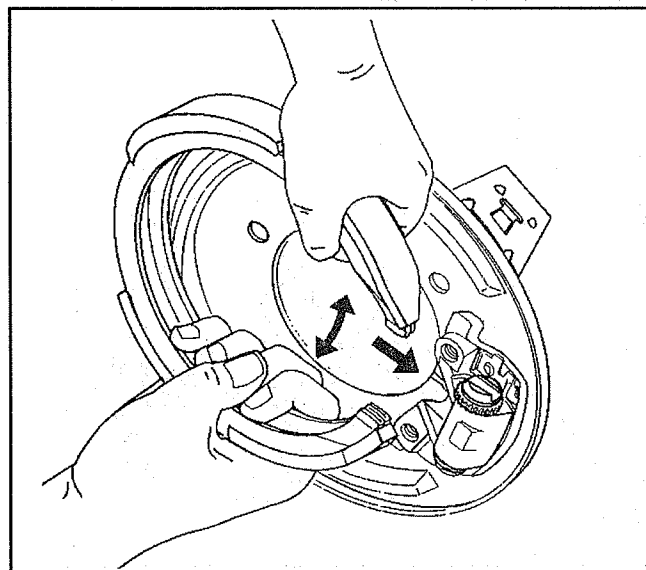
Important: Check operation by pinching the tappets together and moving the brake lever. One or both tappets must extend. With the tappets pinched together, the brake lever must feel firmly seated. You must not be able to pull out the lever.

3. Install the pin and the tappets (2 and 3).



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4. Install the parking brake shoe. Refer to *Park Brake Shoe Replacement*.



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Description and Operation

System Description

Park Brake System

The park brake system for this vehicle has been changed and now contains the “drum in hat” parking brake system instead of the previous system which relied on the disc brake caliper for parking brake system operation. The park brake system allows a mechanical application of the rear parking brake shoes to the inner rotor surface by pulling the park brake lever. When the park brake system is applied, the effort with which the brake lever is moved is transmitted by the cables to the brake levers which force the rear brake shoes outward against the inner rotor surface. As the brake shoe lining wears the park brake system must be manually adjusted to prevent excessive hand lever travel.

Park Brake Lever

This vehicle is equipped with a self-adjusting park brake lever. This mechanism automatically takes up any slack in the cables and provides the correct amount of tension in the cables when the system is released. The park brake cables cannot be manually adjusted. When operating correctly, the rear park brake actuator applies force to the rear brake shoe and forces it against the inner rotor surface. When the parking brake lever is released, the parking brakes will fully return to their mechanical stops eliminating any drag on the brake rotor.

Park Brake Cables

The park brake system uses the following three separate cables:

- The front cable
- The left rear cable
- The right rear cable

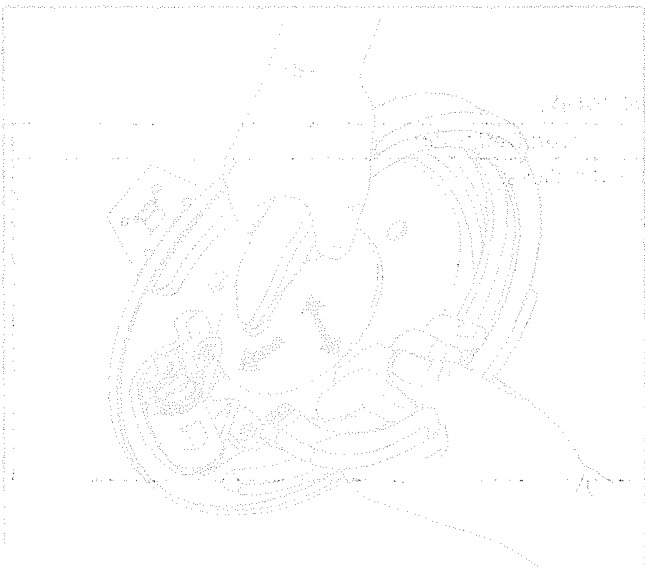
The left and right rear cables are joined to the front cable at the park brake cable equalizer. This vehicle is equipped with coated park brake cables. The cable is coated with a plastic material which slides over the plastic seals inside the conduit end fittings. The plastic material coating is for corrosion protection, and reduced park brake effort.

BRAKE Warning Lamp

- The red BRAKE warning lamp illuminates when the ignition switch is in the START position and the park brake lever is applied or is not fully released.
- The park brake warning switch is located on the park brake lever.
- The park brake lever will ground the BRAKE warning lamp circuit and cause the BRAKE warning lamp to illuminate.

Special Tools and Equipment

Illustration	Tool Number/Description
	J 37043 Parking Brake Cable Release Tool



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