

2006 BRAKES**Park Brake - Impala****SPECIFICATIONS****FASTENER TIGHTENING SPECIFICATIONS****Fastener Tightening Specifications**

Application	Specification	
	Metric	English
Park Brake Bracket Bolts	14 N.m	124 lb in
Park Brake Cable Guide Mounting Bolt	10 N.m	89 lb in
Park Brake Pedal Assembly Retaining Nuts	25 N.m	18 lb ft
Park Brake Warning Lamp Switch Mounting Screw	3 N.m	26 lb in

DIAGNOSTIC INFORMATION AND PROCEDURES**DIAGNOSTIC STARTING POINT - PARK BRAKE**

Begin the system diagnosis by reviewing the system description and operation. Reviewing the description and operation information will help you determine the correct symptom diagnostic procedure when a malfunction exists. Reviewing the description and operation information will also help you determine if the condition described by the customer is normal operation. Refer to **Symptoms - Park Brake** in order to identify the correct procedure for diagnosing the system and where the procedure is located.

SYMPTOMS - PARK BRAKE

IMPORTANT: Review the system operation in order to familiarize yourself with the system functions.

Refer to **Park Brake System Description and Operation**.

Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the park brake system.
- Inspect the easily accessible or visible system components for obvious damage or conditions which could cause the symptom.

Symptom List

Refer to a symptom diagnostic procedure from the following list in order to diagnose the

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symptom:

Park Brake Will Not Hold or Release**PARK BRAKE WILL NOT HOLD OR RELEASE****Park Brake Will Not Hold or Release**

Step	Action	Yes	No
1	Were you sent here from the Park Brake Symptom table?	Go to Step 2	Go to <u>Diagnostic Starting Point - Park Brake</u>
2	Inspect the park brake system for proper operation. Refer to <u>Park Brake System Diagnosis</u> . Did you find and correct a condition?	Go to Step 5	Go to Step 3
3	Inspect the disc brake system for proper operation. Refer to <u>Disc Brake System Diagnosis</u> in Hydraulic Brakes. Did you find and correct a condition?	Go to Step 5	Go to Step 4
4	Inspect the hydraulic brake system for proper operation. Refer to <u>Hydraulic Brake System Diagnosis</u> in Hydraulic Brakes. Did you find and correct a condition?	Go to Step 5	Go to <u>Diagnostic Starting Point - Park Brake</u>
5	Road test the vehicle in order to confirm proper operation. Refer to <u>Brake System Vehicle Road Test</u> in Hydraulic Brakes. Is the condition still present?	Go to Step 2	System OK

PARK BRAKE SYSTEM DIAGNOSIS**Park Brake System Diagnosis**

Step	Action	Yes	No
DEFINITION: This diagnostic table is designed to diagnose ONLY the components of the PARK brake system in order to determine if the PARK brake system is operating properly. You will be directed by the appropriate Symptom table to go to other brake system diagnostic tables as appropriate.			
1	Were you sent here from a Hydraulic Brake Symptom table?	Go to Step 4	Go to Step 2
2	Were you sent here from a Park Brake Symptom table?	Go to Step 4	Go to Step 3
	Is the symptom related to the ability of the park brake system to hold and/or release?		Go to <u>Diagnostic Starting Point -</u>

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3		Go to <u>Diagnostic Starting Point - Park Brake</u>	<u>Hydraulic Brakes</u> in Hydraulic Brakes
4	1. Raise and support the vehicle with the rear axle supported by jack stands. Refer to <u>Lifting and Jacking the Vehicle</u> in General Information. 2. With the park brake RELEASED, attempt to rotate the rear wheels to check the rear brakes for a significant amount of drag. Do the rear brakes have a significant amount of drag?	Go to Step 11	Go to Step 5
5	1. Apply the park brake. 2. Attempt to rotate the rear wheels to check the rear brakes for a significant amount of drag. Do the rear brakes have a significant amount of drag?	Go to Step 6	Go to Step 7
6	1. Release the park brake. 2. Rotate the rear wheels to check the rear brakes for a significant reduction in the amount of drag. Did the rear brakes exhibit a significant reduction in the amount of drag?	Go to Step 21	Go to Step 11
7	Visually inspect the park brake cable connections and the cables that are accessible on the UNDERSIDE of the vehicle for disconnections and/or damage. Were any of the park brake cables disconnected and/or damaged?	Go to Step 8	Go to Step 9
8	Reconnect or replace the park brake cables as necessary. Refer to the following procedures as necessary: • <u>Park Brake Cable Replacement - Front</u> • <u>Park Brake Cable Replacement -</u>		-

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	<u>Rear (Z7U)</u>		
	Did you complete the repair and/or replacement?	Go to Step 9	
9	Check the adjustment of the park brake. Refer to <u>Park Brake Adjustment</u> . Was the park brake adjusted properly?	Go to Step 11	Go to Step 10
10	Adjust the park brake. Refer to <u>Park Brake Adjustment</u> . Were you able to adjust the park brake?	Go to Step 16	Go to Step 11
11	NOTE: Do not depress the brake pedal with the brake rotors and/or the brake drums removed, or with the brake calipers repositioned away from the brake rotors, or damage to the brake system may result. 1. Remove the rear brake rotors. Refer to <u>Brake Rotor Replacement - Rear</u> in Disc Brakes. 2. Inspect the park brake shoe hardware for looseness, damaged, broken or missing components. 3. Check the park brake actuators for a seized condition. Does the park brake hardware and/or the park brake actuators require replacement?	Go to Step 12	Go to Step 13
12	1. Replace park brake hardware components as necessary. Refer to <u>Park Brake Shoe Replacement</u>. 2. Replace the park brake actuators as necessary. Refer to <u>Park Brake Actuator Replacement</u>. Did you complete the replacement?	Go to Step 13	-
13	Have an assistant apply and release the park brake, while you observe the park brake cables for free movement. Did the park brake cables move freely?	Go to Step 14	Go to Step 17
14	Check the adjustment of the park brake. Refer to <u>Park Brake Adjustment</u> .		

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	Was the park brake adjusted properly?	Go to Step 16	Go to Step 15
15	Adjust the park brake. Refer to Park Brake Adjustment . Were you able to adjust the park brake?	Go to Step 16	Go to Step 26
16	1. Apply the park brake. 2. Attempt to rotate the rear wheels to check the rear brakes for a significant amount of drag. 3. Release the park brake. 4. Rotate the rear wheels to check the rear brakes for a significant reduction of drag. Did the park brake apply and release properly?	Go to Step 28	Return to Symptom Table
17	Disconnect the park brake cable connections that are accessible on the UNDERSIDE of the vehicle one at a time and check each cable for free movement. Do any of the park brake cables accessible on the underside of the vehicle require replacement?	Go to Step 18	Go to Step 19
18	Replace any of the park brake cables that do not have free movement - not releasing properly. Refer to the following procedures as necessary: • Park Brake Cable Replacement - Front • Park Brake Cable Replacement - Rear (Z7U) Did you complete the replacement?	Go to Step 19	-
19	1. Disconnect the front park brake cable connection accessible INSIDE the vehicle at the park brake pedal assembly and check for free movement. 2. Replace the front park brake cable if it does not have free movement. Refer to Park Brake Cable Replacement -		

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	Front.		
	Did you find and correct a condition?	Go to Step 24	Go to Step 20
20	Replace the park brake pedal assembly. Refer to Park Brake Pedal Assembly Replacement . Did you complete the replacement?	Go to Step 25	-
21	Check the adjustment of the park brake. Refer to Park Brake Adjustment . Is the park brake adjusted properly?	Go to Step 28	Go to Step 22
22	Adjust the park brake. Refer to Park Brake Adjustment . Were you able to adjust the park brake?	Go to Step 27	Go to Step 23
23	1. Remove the rear brake rotors, if they have not yet been removed. Refer to Brake Rotor Replacement - Rear in Disc Brakes. 2. Check the park brake actuators for a seized condition. 3. Replace the park brake actuators as necessary. Refer to Park Brake Actuator Replacement. Did you find and correct a condition?	Go to Step 24	Go to Step 26
24	Adjust the park brake. Refer to Park Brake Adjustment . Were you able to adjust the park brake?	Go to Step 27	Go to Step 26
25	Adjust the park brake. Refer to Park Brake Adjustment . Were you able to adjust the park brake?	Go to Step 27	Return to Symptom Table
26	1. Replace the component that is used to adjust the park brake system. Refer to Park Brake Cable Equalizer Replacement. 2. Adjust the park brake. Refer to Park Brake Adjustment. Did you complete the replacement and adjustment?	Go to Step 27	Return to Symptom Table
	1. Apply the park brake. 2. Attempt to rotate the rear wheels to		

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27	check the rear brakes for a significant amount of drag. 3. Release the park brake. 4. Rotate the rear wheels to check the rear brakes for a significant reduction of drag. Did the park brake apply and release properly?	Go to Step 28	Return to Symptom Table
28	Install or connect any components that were removed or disconnected during diagnosis. Did you complete the operation?	Park Brake System OK Return to Symptom Table	-

PARK BRAKE SHOE INSPECTION

CAUTION: Refer to Brake Fluid Irritant Caution in Cautions and Notices.

NOTE: Refer to Brake Fluid Effects on Paint and Electrical Components Notice in Cautions and Notices.

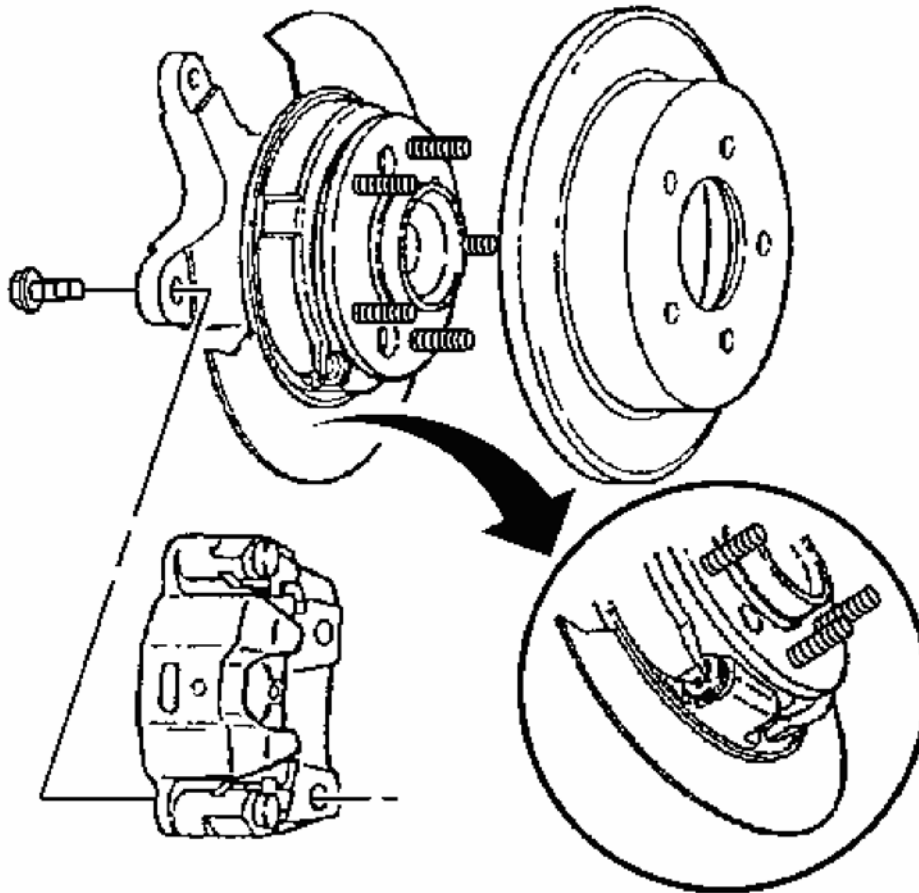


Fig. 1: Identifying Rear Brake Components
Courtesy of GENERAL MOTORS CORP.

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Remove the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
3. Remove the rear brake caliper bracket with the rear brake caliper. Refer to **Brake Caliper Bracket Replacement - Rear** in Disc Brakes.
4. Remove the rear brake rotor. Refer to **Brake Rotor Replacement - Rear** in Disc Brakes.
5. Inspect the park brake shoe and lining. If it exhibits any of the following conditions, then it requires replacement :
 - Excessive wear indicated by the park brake lining being worn down to the shoe

- Brake lining cracking
 - Oil or fluid contamination of the brake lining
6. Install the rear brake rotor. Refer to **Brake Rotor Replacement - Rear** in Disc Brakes.
 7. Install the rear brake caliper with the rear brake caliper bracket. Refer to **Brake Caliper Bracket Replacement - Rear** in Disc Brakes.
 8. Install the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
 9. Lower the vehicle.

REPAIR INSTRUCTIONS

PARK BRAKE SHOE REPLACEMENT

Removal Procedure

CAUTION: Refer to **Brake Dust Caution** in Cautions and Notices.

CAUTION: Refer to **Brake Fluid Irritant Caution** in Cautions and Notices.

NOTE: Refer to **Brake Fluid Effects on Paint and Electrical Components Notice** in Cautions and Notices.

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Remove the rear tire and wheel assemblies. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.

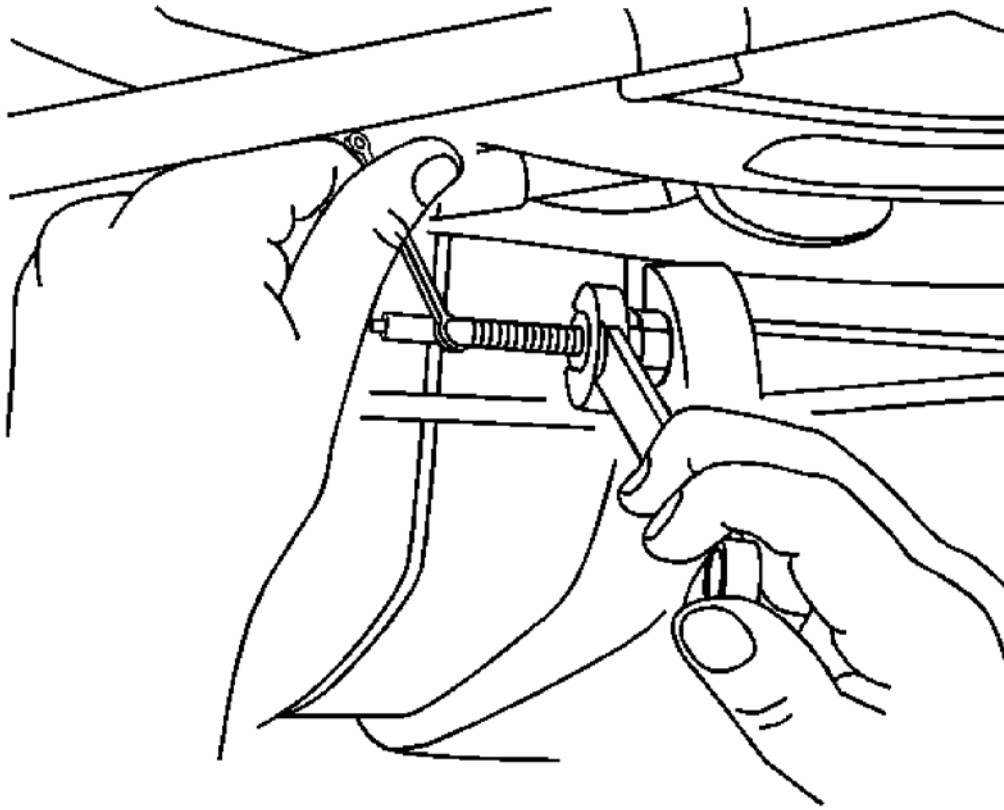


Fig. 2: Adjusting Park Brake Tension At Equalizer Assembly
Courtesy of GENERAL MOTORS CORP.

3. Relieve the park brake system tension at the equalizer assembly.
4. Remove the rear caliper bracket. Refer to **Brake Caliper Bracket Replacement - Rear** in Disc Brakes.
5. Remove the rear rotor. Refer to **Brake Rotor Replacement - Rear** in Disc Brakes.

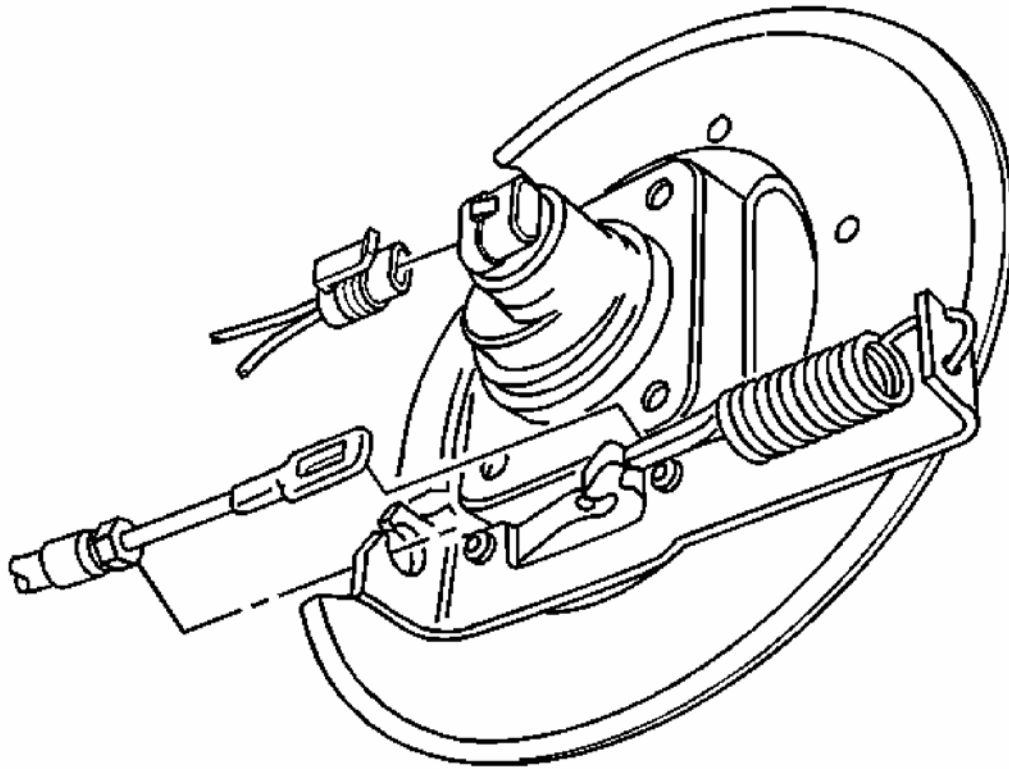


Fig. 3: View Of Rear Park Brake Cable & Wheel Speed Sensor Electrical Connector

Courtesy of GENERAL MOTORS CORP.

6. Disconnect and remove the rear park brake cable from the bracket at the rear wheel. Refer to **Park Brake Cable Replacement - Rear (Z7U)**.
7. Disconnect the park brake cable return spring from the park brake actuator and bracket at the rear wheel.
8. Remove the rear hub. Refer to **Wheel Bearing/Hub Replacement - Rear** in Rear Suspension.

The rear hub, backing plate, park brake cable bracket, and park brake actuator will be removed as an assembly.

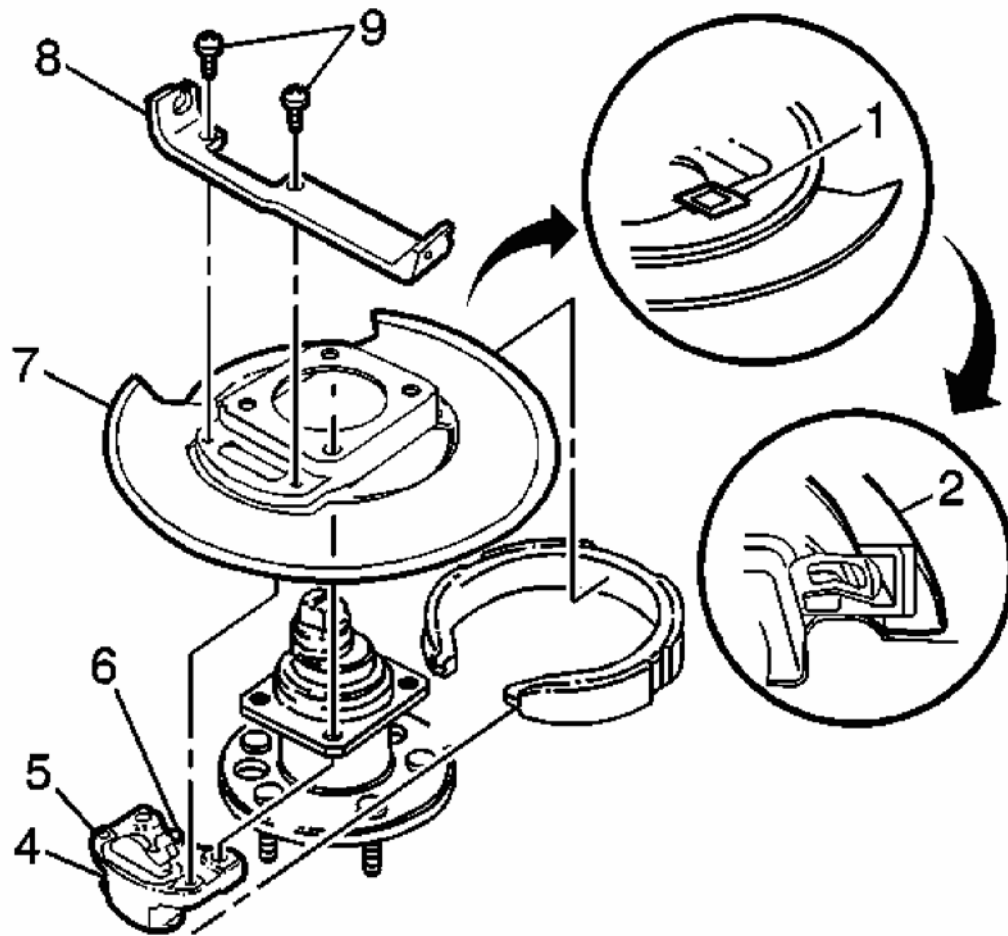


Fig. 4: Identifying Parking Brake Components
Courtesy of GENERAL MOTORS CORP.

9. Remove the 2 retainers (9) and the park brake cable bracket (8) from the park brake actuator (4). Position the rear hub aside.
10. Remove the park brake shoe and actuator (4) from the backing plate (7).
11. Separate the park brake shoe from the actuator.

Installation Procedure

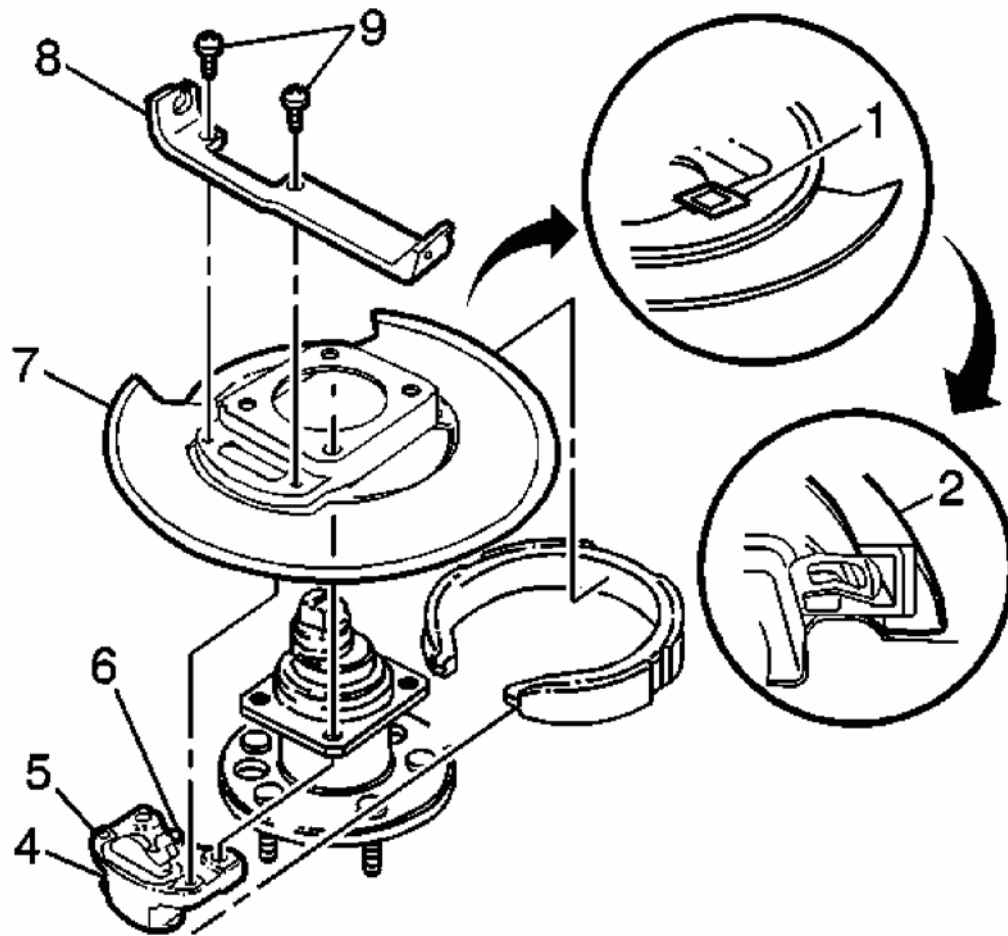


Fig. 5: Identifying Parking Brake Components
Courtesy of GENERAL MOTORS CORP.

1. Assemble the park brake shoe to the actuator (4).
2. Install the park brake shoe and actuator (4) onto the backing plate (7).
3. Position the park brake shoe, actuator (4), and backing plate (7) over the rear hub.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Install the park brake cable bracket (8) and the two retainers (9).

Tighten: Tighten the bracket retainers to 14 N.m (124 lb in).

5. Install the rear hub. Refer to Wheel Bearing/Hub Replacement - Rear in Rear

Suspension.

The rear hub, backing plate, park brake cable bracket, and park brake actuator will be installed as an assembly.

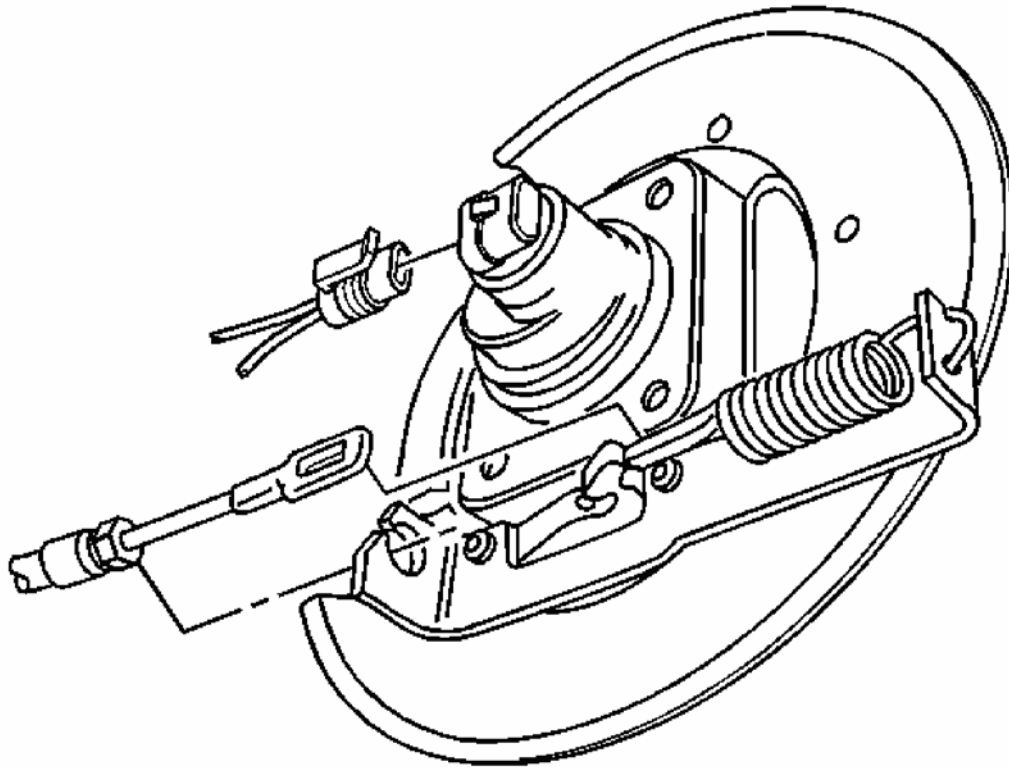


Fig. 6: View Of Rear Park Brake Cable & Wheel Speed Sensor Electrical Connector

Courtesy of GENERAL MOTORS CORP.

6. Install and connect the rear park brake cable to the bracket at the rear wheel.
7. Connect the park brake cable return spring to the park brake actuator and bracket at the rear wheel.
8. Install the rear rotor. Refer to **Brake Rotor Replacement - Rear** in Disc Brakes.
9. Install the rear caliper bracket. Refer to **Brake Caliper Bracket Replacement - Rear** in Disc Brakes.
10. Install the rear tire and wheel assemblies. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
11. Adjust the park brake system. Refer to **Park Brake Adjustment**.

12. Lower the vehicle.

PARK BRAKE PEDAL ASSEMBLY REPLACEMENT

Tools Required

J 37043 Parking Brake Cable Release Tool. See Special Tools.

Removal Procedure

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

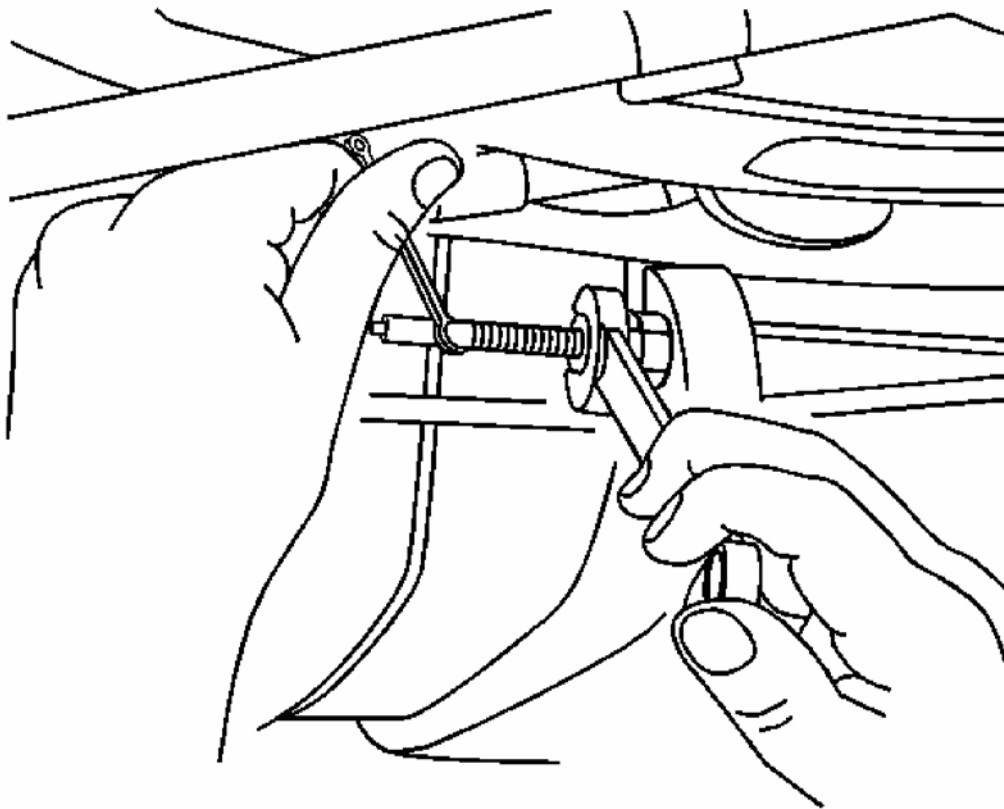


Fig. 7: Adjusting Park Brake Tension At Equalizer Assembly
Courtesy of GENERAL MOTORS CORP.

2. Relieve the cable tension at the park brake equalizer.

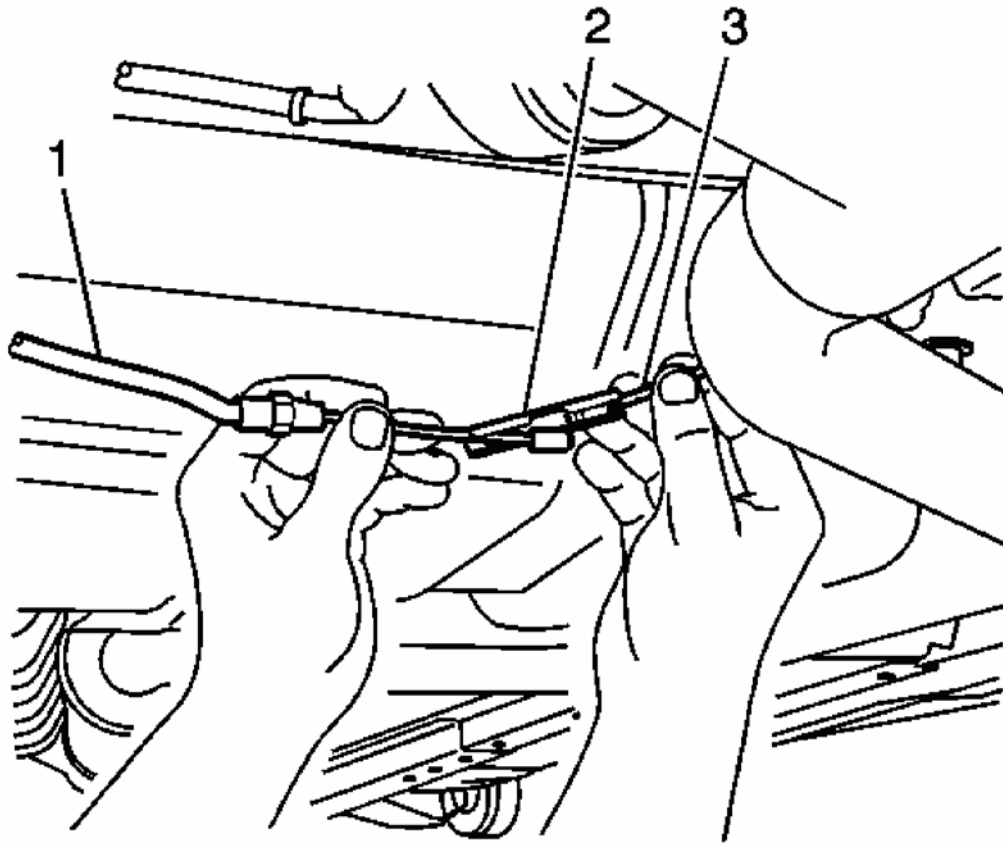


Fig. 8: View Of Front Brake Cable Connected To Right Rear Cable
Courtesy of GENERAL MOTORS CORP.

3. Disconnect the front cable from the connector (2).
4. Lower the vehicle.
5. Remove the left side closeout/insulator panel. Refer to **Closeout/Insulator Panel Replacement - Left** in Instrument Panel, Gages, and Console.
6. Remove the left side front carpet retainers. Refer to **Trim Panel Replacement - Lower Center Pillar** in Interior Trim.
7. Disconnect the electrical connector at the park brake switch.

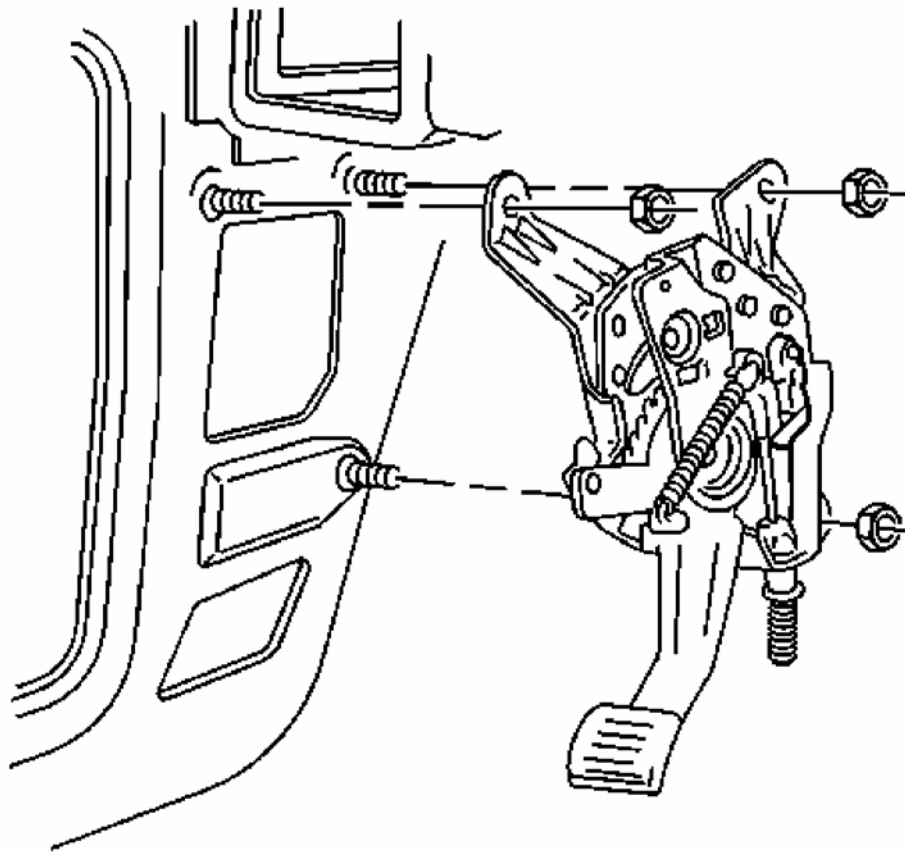


Fig. 9: Park Brake Pedal Assembly
Courtesy of GENERAL MOTORS CORP.

8. Remove the 3 park brake pedal assembly retraining nuts from the body mounting studs.

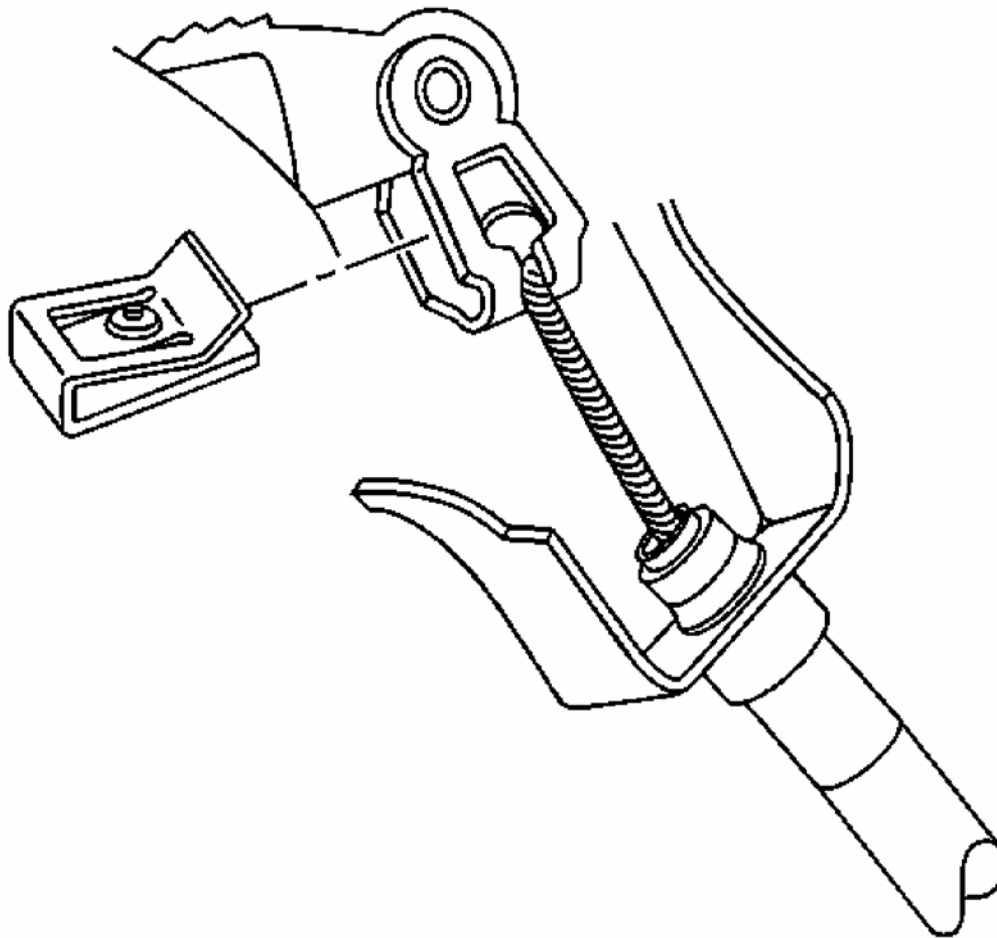


Fig. 10: View Of Retaining Clip
Courtesy of GENERAL MOTORS CORP.

9. Remove the retaining clip and disconnect the cable button from the clevis.
10. Use the **J 37043** to release and remove cable from the bracket on the pedal assembly.
See **Special Tools**.
11. Remove the park brake pedal assembly.

Installation Procedure

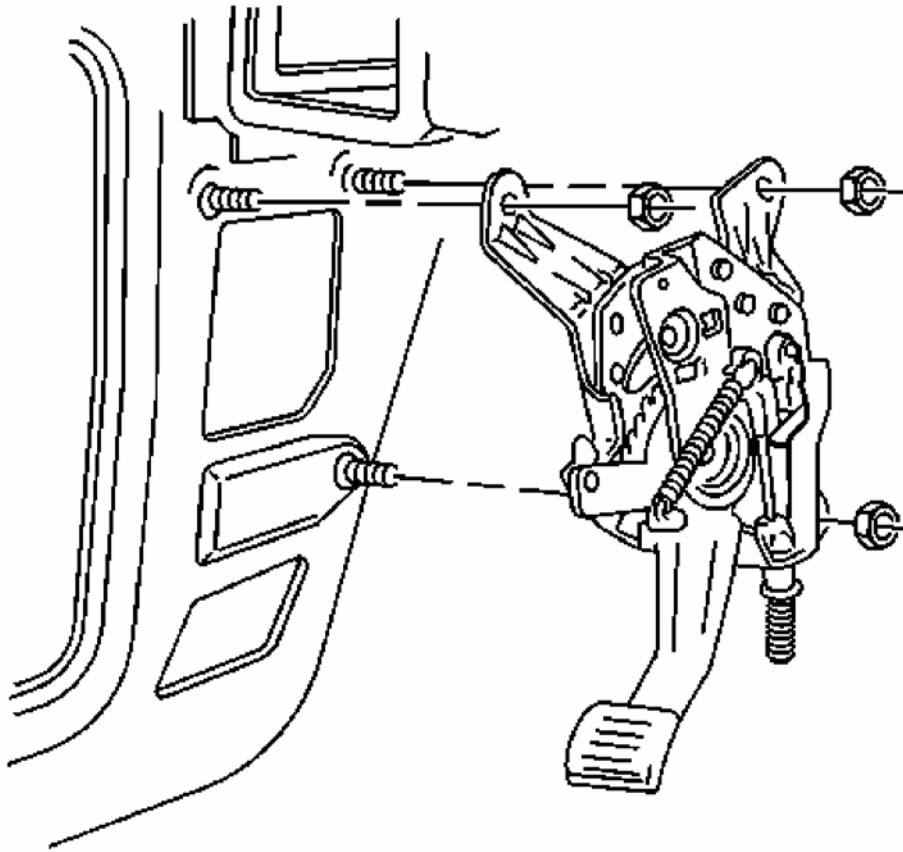


Fig. 11: Park Brake Pedal Assembly
Courtesy of GENERAL MOTORS CORP.

1. Install the park brake assembly onto the body mounting studs.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the 3 park brake pedal assembly retaining nuts.

Tighten: Tighten the nuts to 25 N.m (18 lb ft).

3. Install the front park brake cable into the bracket on the park brake pedal assembly.

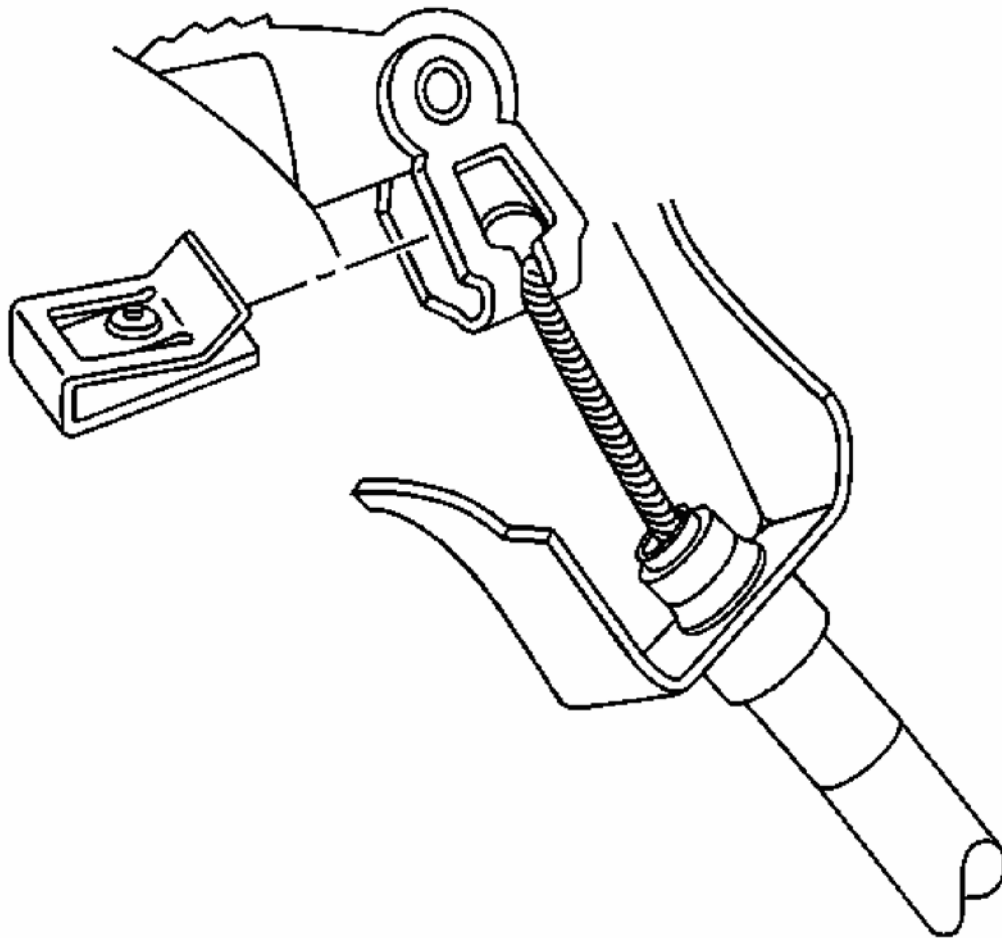


Fig. 12: View Of Retaining Clip
Courtesy of GENERAL MOTORS CORP.

4. Insert the cable button into the clevis and install the retaining clip.
5. Connect the electrical connector to the park brake switch.
6. Reposition the carpeting properly.
7. Install the left side carpet retainers and the lower center pillar trim panel on the left side. Refer to **Trim Panel Replacement - Lower Center Pillar** in Interior Trim.
8. Install the left side closeout/insulator panel. Refer to **Closeout/Insulator Panel Replacement - Left** in Instrument Panel, Gages, and Console.
9. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
10. Install the front park brake cable through the park brake cable guides.

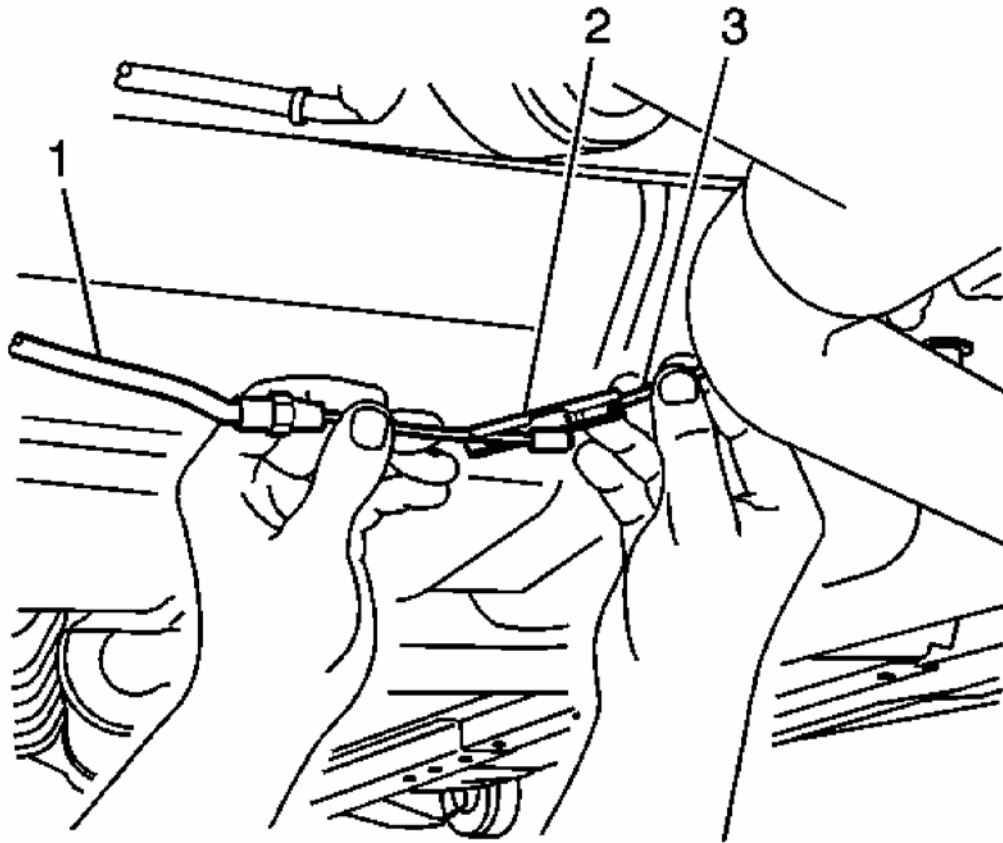


Fig. 13: View Of Front Brake Cable Connected To Right Rear Cable
Courtesy of GENERAL MOTORS CORP.

11. Connect the front park brake cable (1) to the rear cable (3) at the connector clip (2).

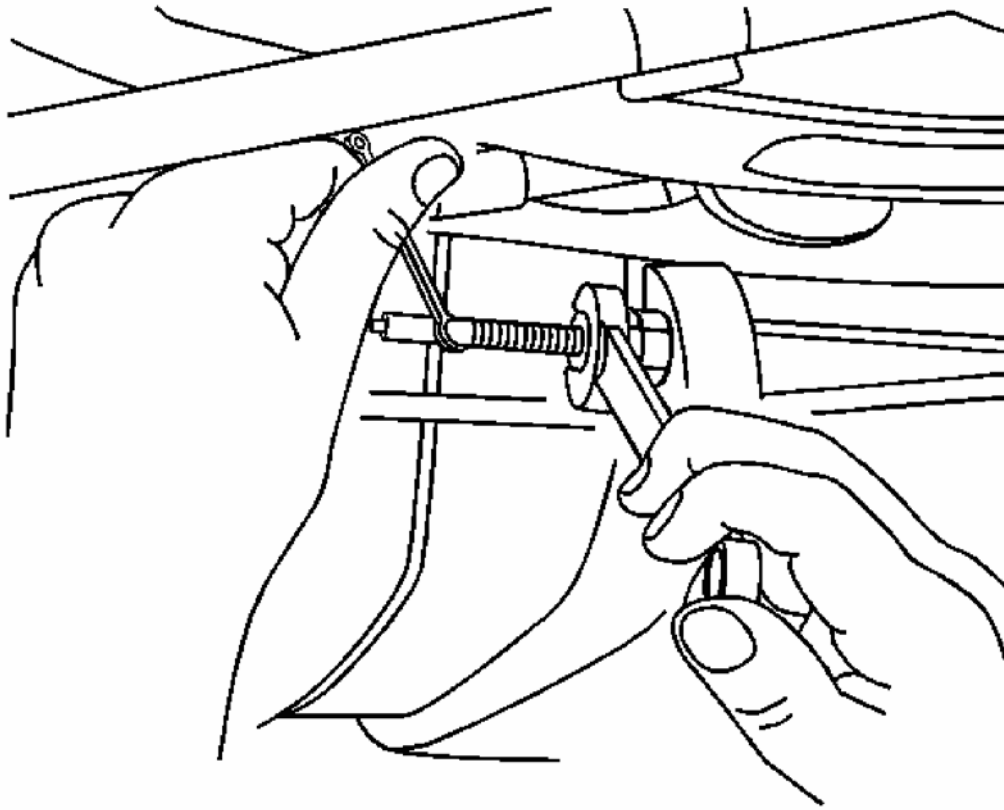


Fig. 14: Adjusting Park Brake Tension At Equalizer Assembly
Courtesy of GENERAL MOTORS CORP.

12. Tighten the nut on the equalizer in order to remove slack in the cable.
13. Lower the vehicle.

PARK BRAKE WARNING LAMP SWITCH REPLACEMENT

Removal Procedure

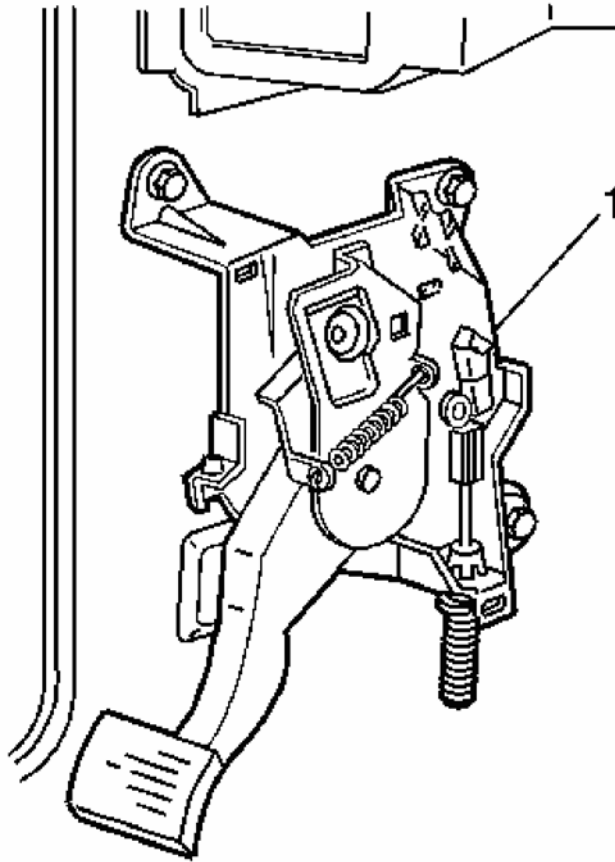


Fig. 15: Parking Brake Indicator Switch
Courtesy of GENERAL MOTORS CORP.

1. Remove the left side instrument panel insulator.
2. Remove the left carpet retainers. Refer to **Carpet Retainer Replacement - Front (Impala)** or **Carpet Retainer Replacement - Front (Monte Carlo)** in Interior Trim.
3. Disconnect the electrical connector from the switch.
4. Remove the mounting screw.
5. Remove the parking brake indicator switch (1).

Installation Procedure

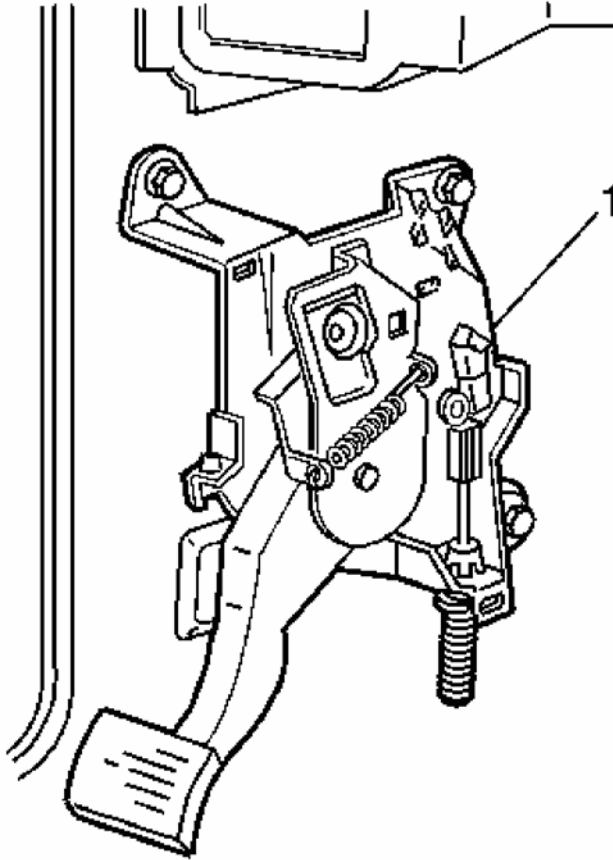


Fig. 16: Parking Brake Indicator Switch
Courtesy of GENERAL MOTORS CORP.

1. Install the parking brake indicator switch (1).

NOTE: Refer to **FASTENER NOTICE** in Cautions and Notices.

2. Install the mounting screw.

Tighten: Tighten the mounting screw to 3 N.m (26 lb in).

3. Connect the electrical connector to the switch.

Check the operation of the switch.

4. Install the left carpet retainers. Refer to **Carpet Retainer Replacement - Front (Impala)** or **Carpet Retainer Replacement - Front (Monte Carlo)** in Interior Trim.
5. Install the left side instrument panel insulator.

FRONT PARK BRAKE CABLE REPLACEMENT

Tools Required

J 37043 Parking Brake Cable Release Tool. See **Special Tools**.

Removal Procedure

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.

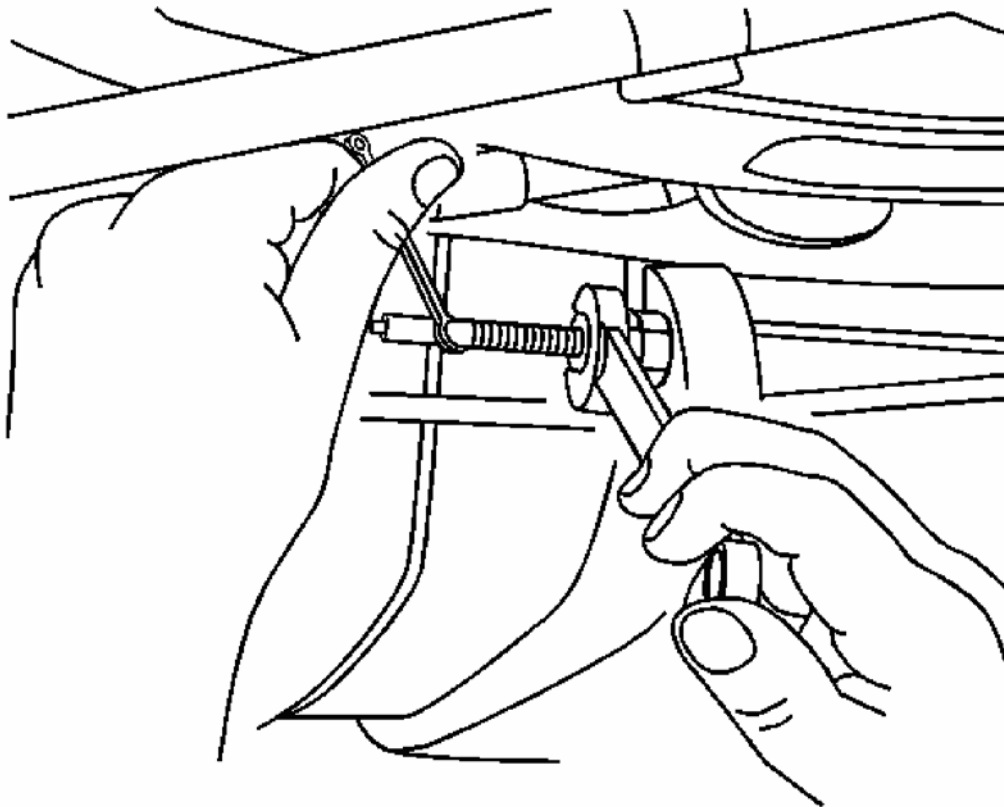


Fig. 17: Adjusting Park Brake Tension At Equalizer Assembly
Courtesy of GENERAL MOTORS CORP.

2. Relieve the cable tension at the park brake equalizer.

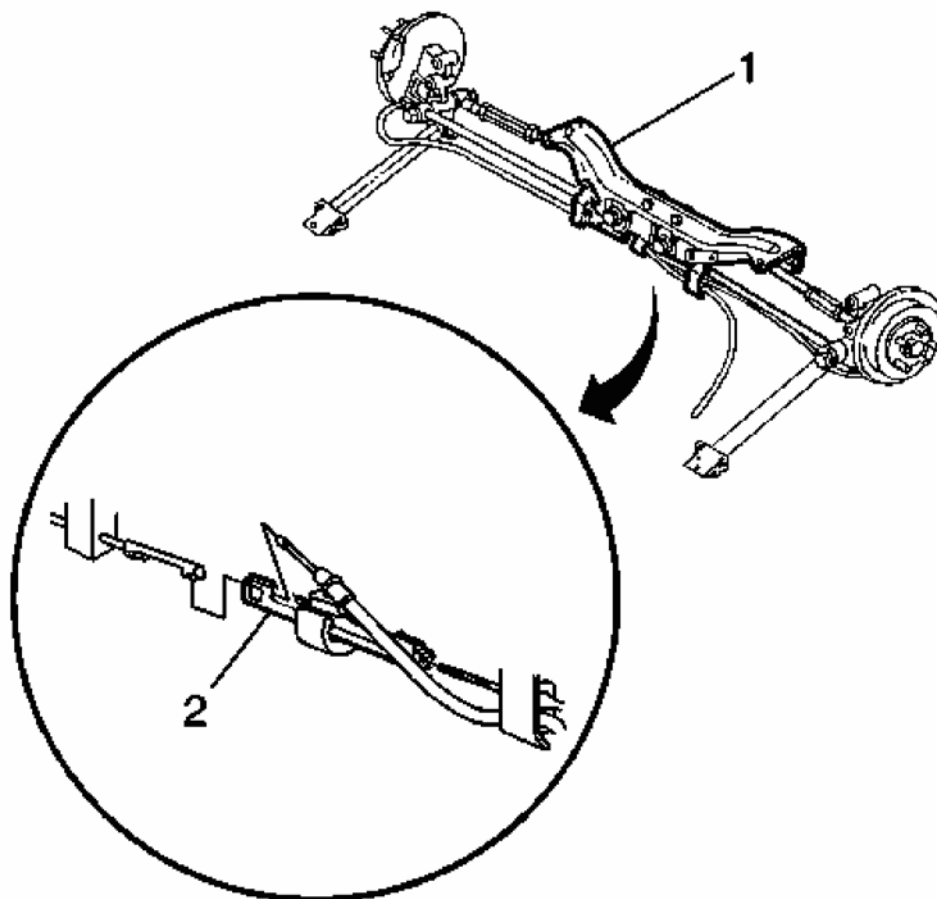


Fig. 18: View Of Parking Brake Adjustment
Courtesy of GENERAL MOTORS CORP.

3. Disconnect the front cable from the connector (2).

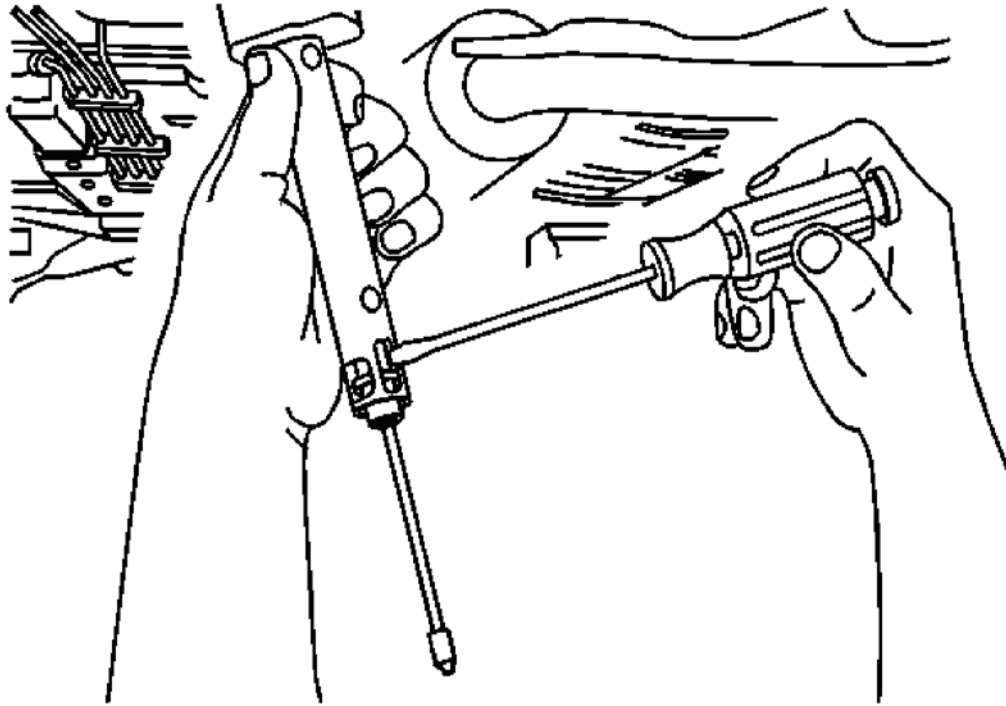


Fig. 19: Installing/Removing Equalizer Assembly From Front Park Brake Cable
Courtesy of GENERAL MOTORS CORP.

4. Remove the front cable from the equalizer.
5. Remove the front cable from the cable guides.
6. Lower the vehicle.
7. Remove the left side closeout/insulator panel. Refer to **Closeout/Insulator Panel Replacement - Left** in Instrument Panel, Gages, and Console.
8. Remove the lower center pillar panel on the left side and the left side carpet retainers. Refer to **Trim Panel Replacement - Lower Center Pillar** in Interior Trim.
9. Fold back the carpeting in order to gain access to the front park brake cable.

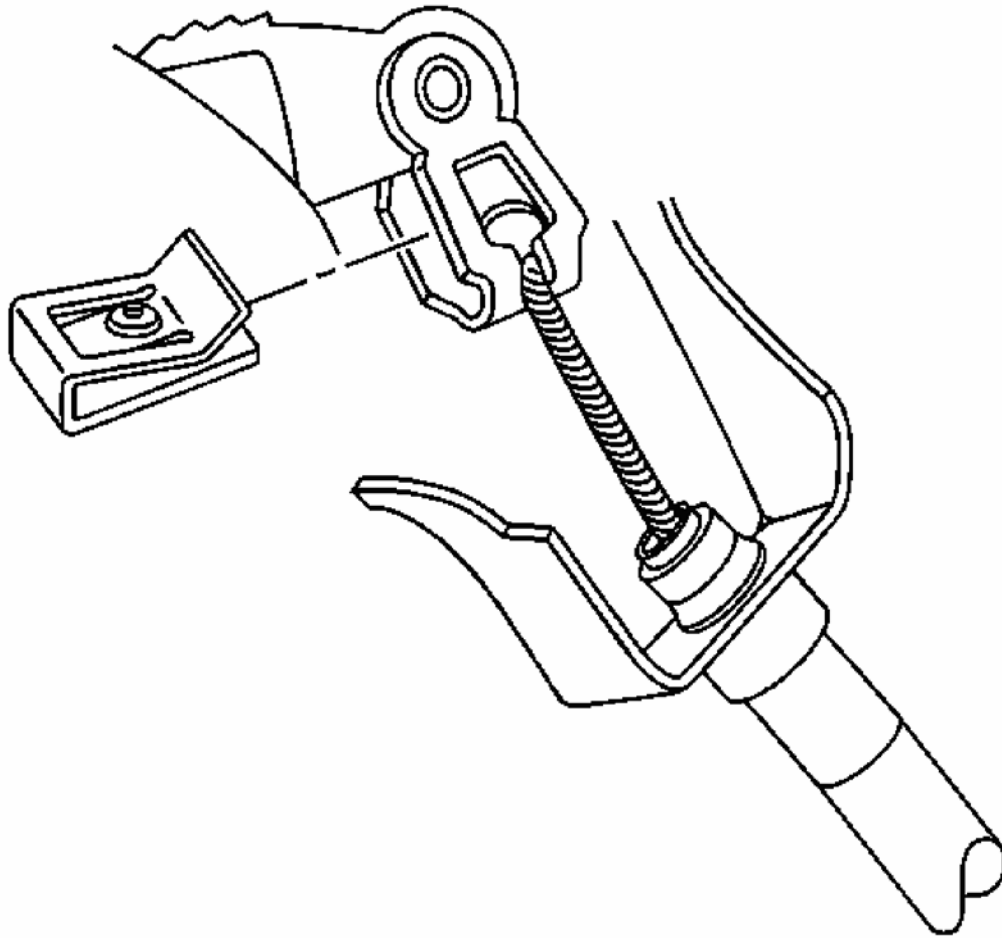


Fig. 20: View Of Retaining Clip
Courtesy of GENERAL MOTORS CORP.

10. Remove the retaining clip and disconnect the cable from the clevis.
11. Use the **J 37043** to release the retainer holding cable to the bracket on the pedal assembly. See **Special Tools**.
12. Remove the front cable from the vehicle.

Note routing of the cable for installation.

Installation Procedure

1. Install the front cable into the vehicle as noted in the removal procedure.
2. Install the front park brake cable into the bracket on the park brake pedal assembly.

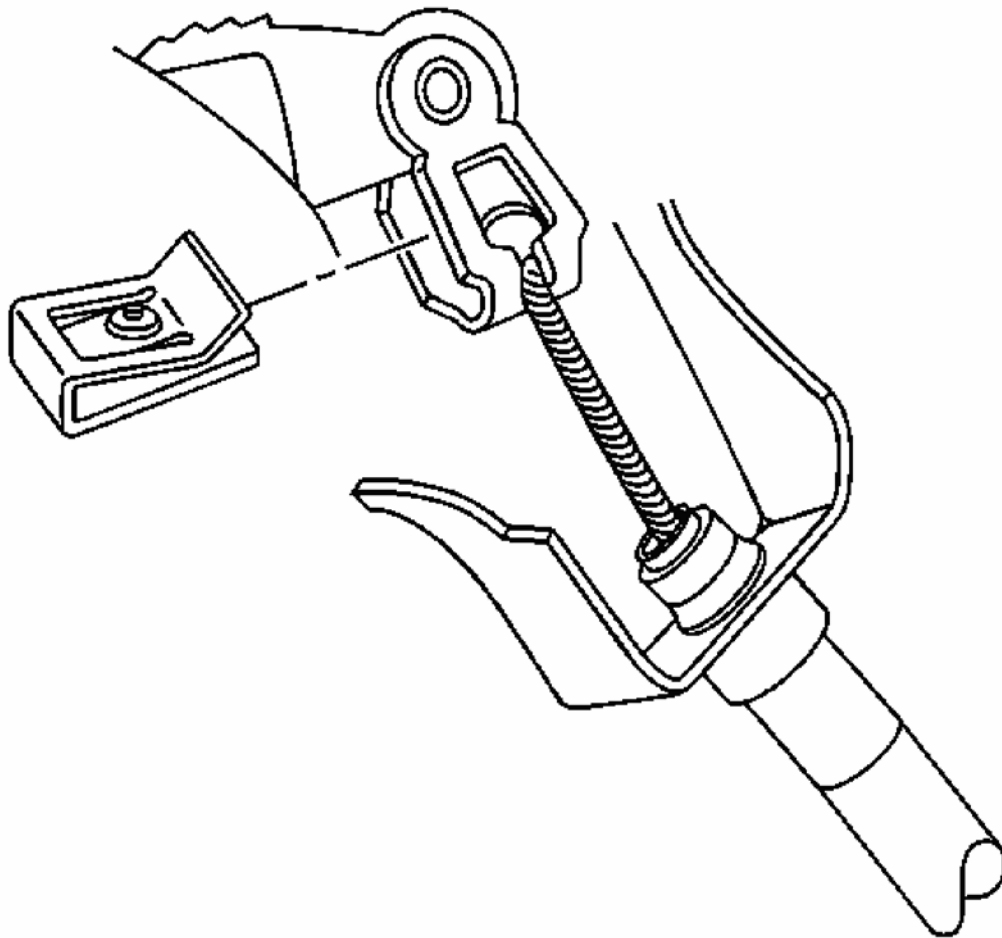


Fig. 21: View Of Retaining Clip
Courtesy of GENERAL MOTORS CORP.

3. Insert the cable button end into the clevis and install the retaining clip.
4. Reposition the carpeting properly.
5. Install the left side carpet retainers and the lower center pillar trim panel on the left side. Refer to **Trim Panel Replacement - Lower Center Pillar** in Interior Trim.
6. Install the left side closeout/insulator panel. Refer to **Closeout/Insulator Panel Replacement - Left** in Instrument Panel, Gages, and Console.
7. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
8. Install the front park brake cable through the park brake cable guides.
9. Install the front park brake cable into the equalizer.

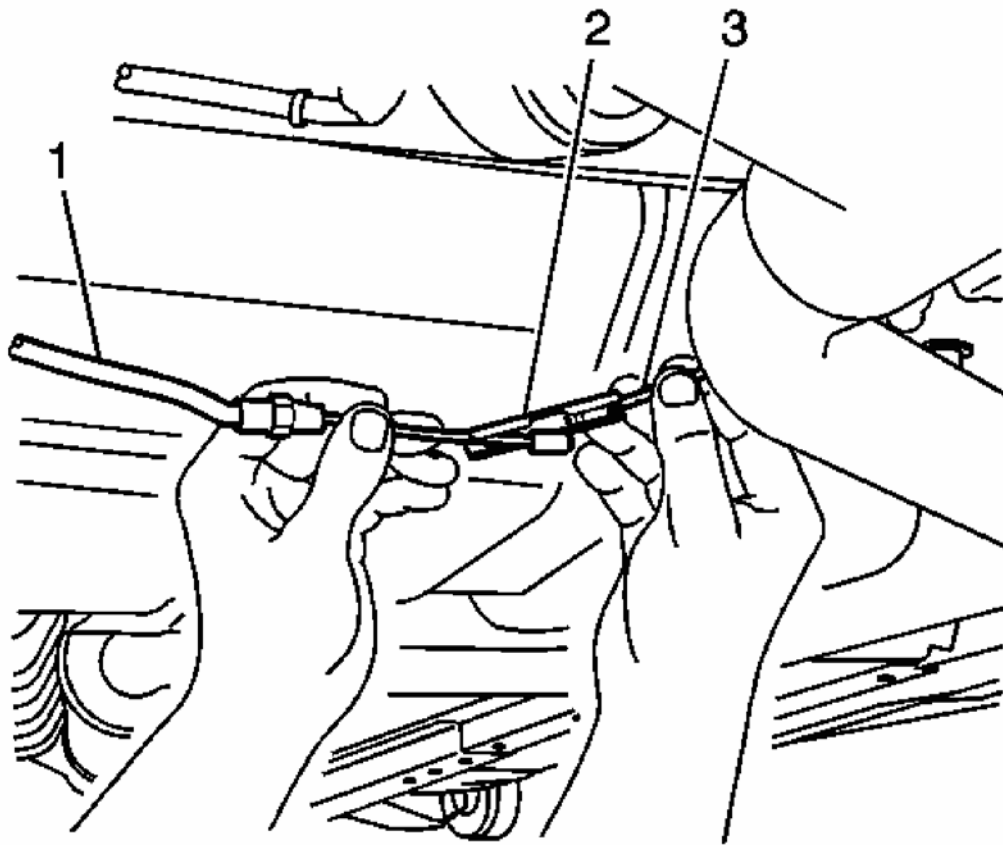


Fig. 22: View Of Front Brake Cable Connected To Right Rear Cable
Courtesy of GENERAL MOTORS CORP.

10. Connect the front park brake cable (1) to the rear cable (3) at the connector clip (2).

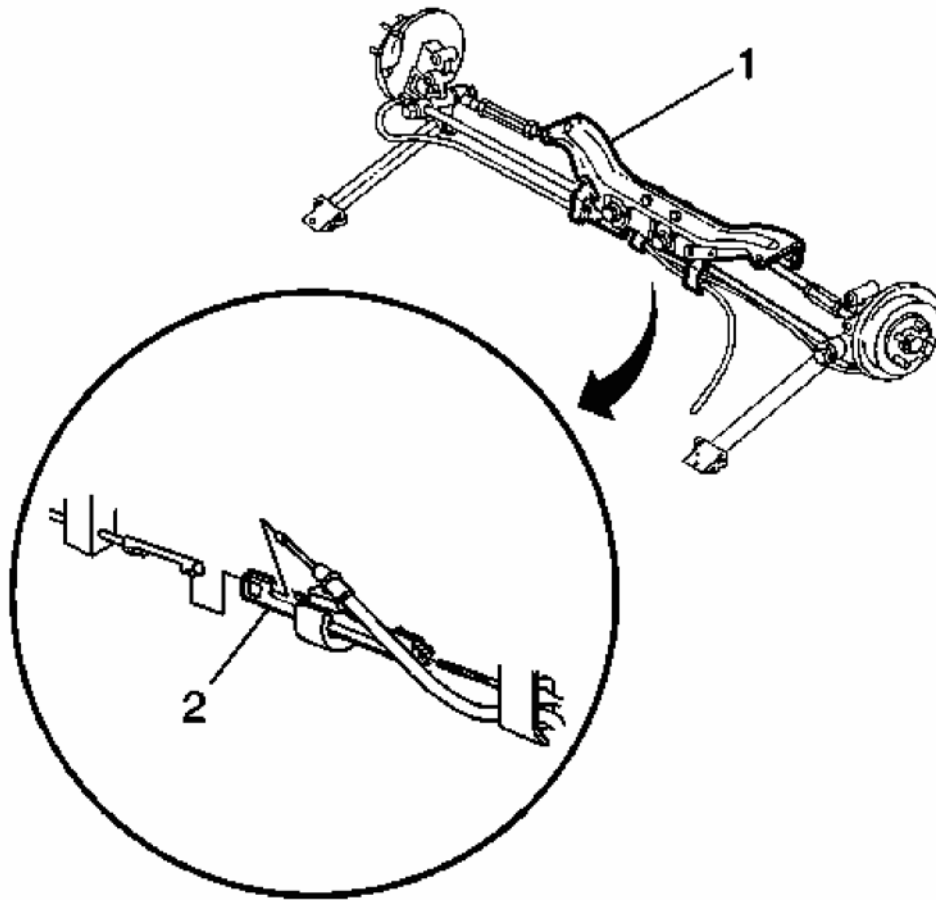


Fig. 23: View Of Parking Brake Adjustment
Courtesy of GENERAL MOTORS CORP.

11. Tighten the nut on the equalizer (2) in order to remove slack in the cable.
12. Lower the vehicle.

PARK BRAKE CABLE REPLACEMENT - REAR (Z7U)

Tools Required

J 37043 Parking Brake Cable Release Tool. See Special Tools.

Removal Procedure

CAUTION: Refer to Brake Fluid Irritant Caution in Cautions and Notices.

NOTE: Refer to Brake Fluid Effects on Paint and Electrical Components Notice in Cautions and Notices.

1. Raise and suitably support the vehicle. Refer to Lifting and Jacking the Vehicle in General Information.
2. Relieve the park brake cable tension at the equalizer.
3. Disconnect the front cable from the rear cable that is to be replaced.

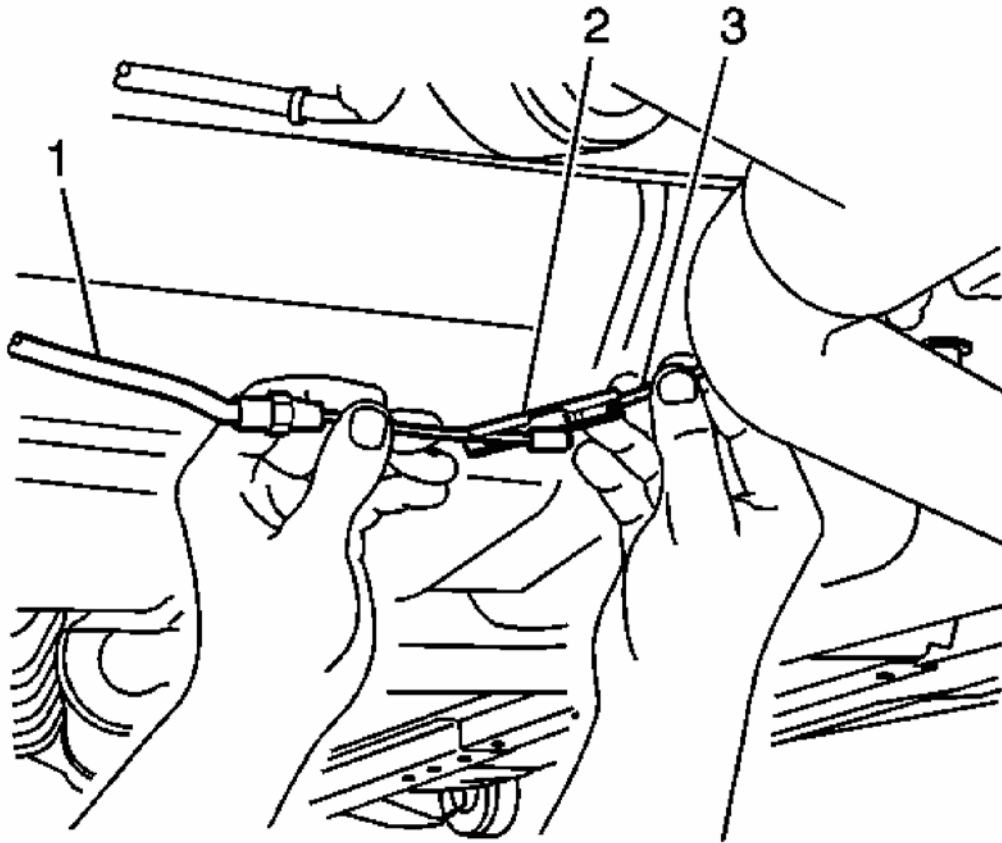


Fig. 24: View Of Front Brake Cable Connected To Right Rear Cable
Courtesy of GENERAL MOTORS CORP.

- For the right rear cable, disconnect the cable (3) from the clip (2).
- For the left rear cable, fully remove the equalizer nut from the equalizer stud, which is part of the left rear cable.

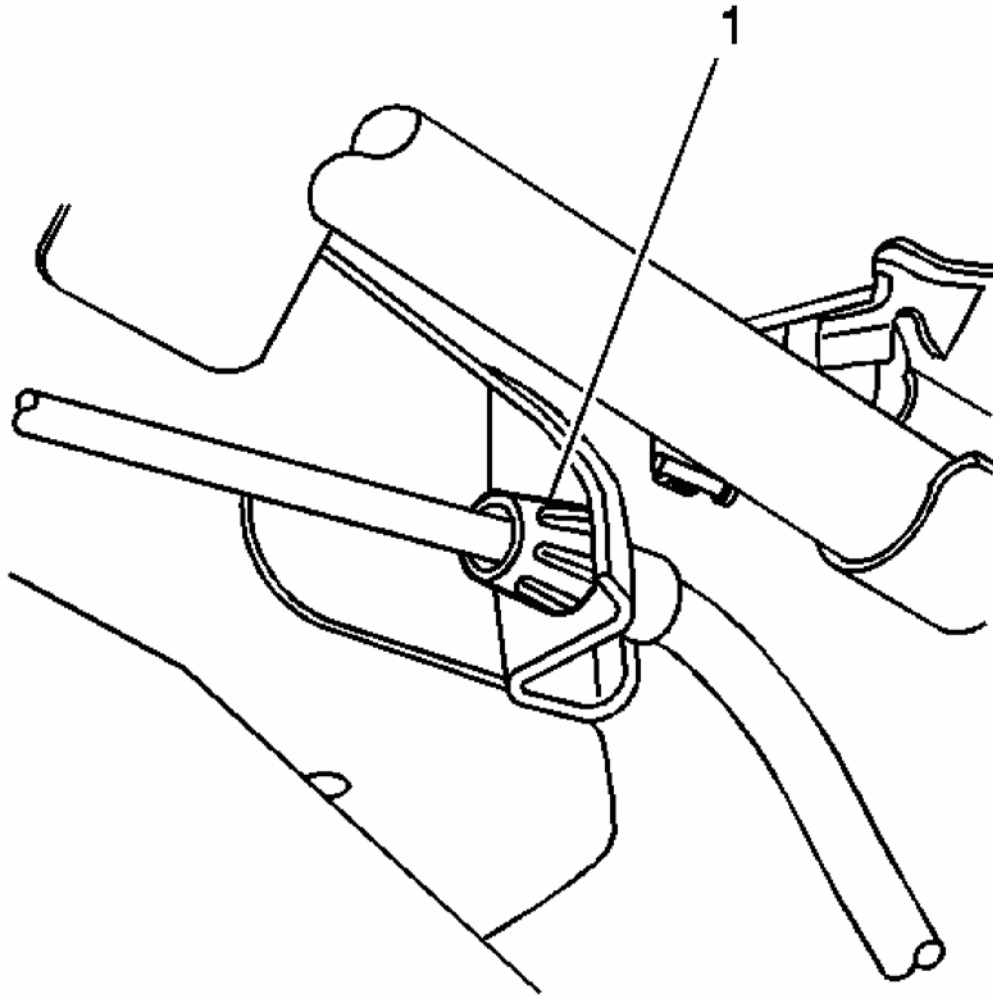


Fig. 25: Rear Park Brake Cable To Support Bracket Retainer (Z7U)
Courtesy of GENERAL MOTORS CORP.

4. Disconnect the retainer (1) that holds the cable to the support bracket. Use the **J 37043** to release the retainer. See **Special Tools**.

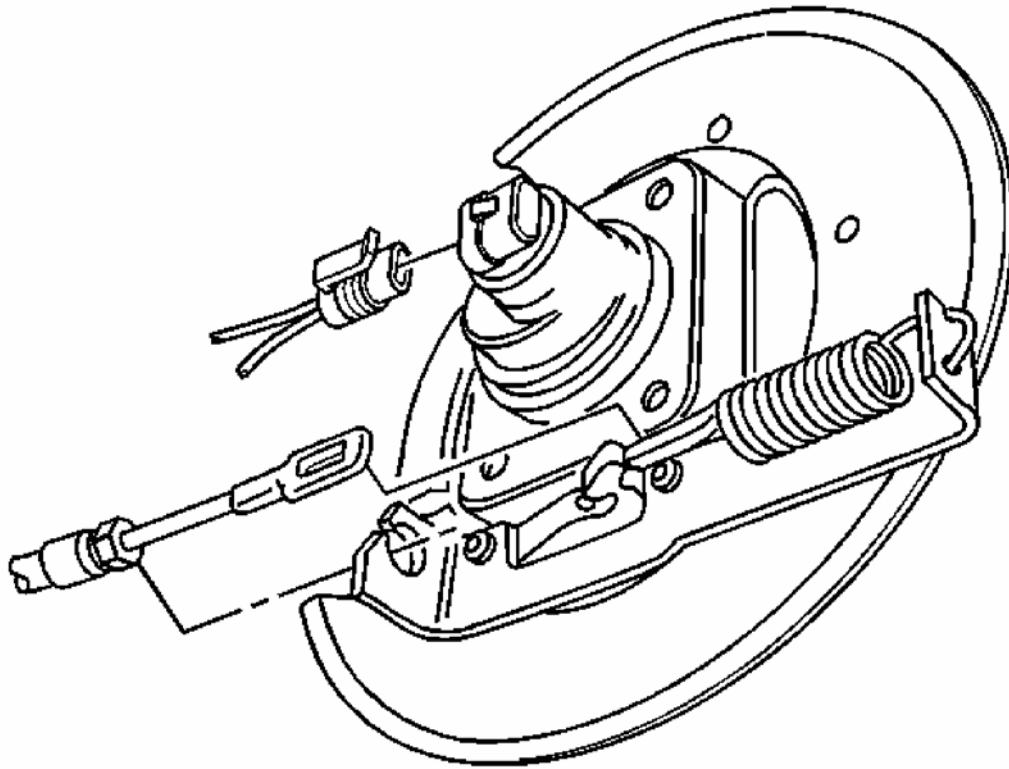


Fig. 26: View Of Rear Park Brake Cable & Wheel Speed Sensor Electrical Connector

Courtesy of GENERAL MOTORS CORP.

5. Disconnect the park brake cable from the actuator lever.
6. Remove cable retaining pin from the support bracket and remove the park brake cable.

Installation Procedure

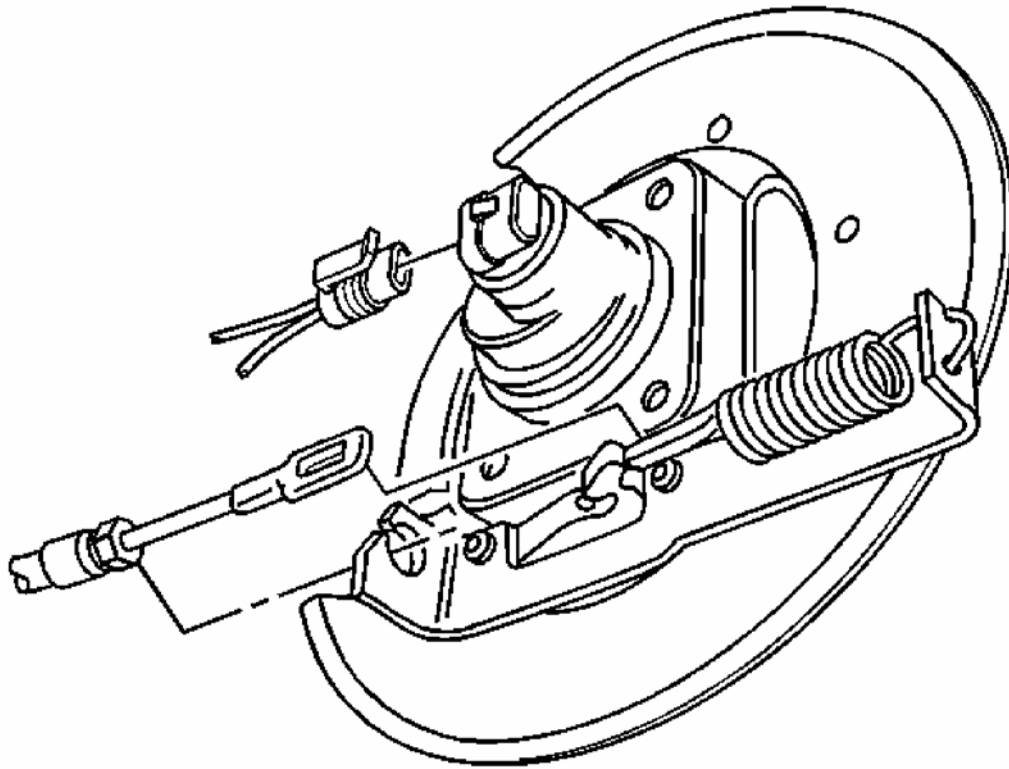


Fig. 27: View Of Rear Park Brake Cable & Wheel Speed Sensor Electrical Connector

Courtesy of GENERAL MOTORS CORP.

1. Position the park brake cable into the support bracket and install the cable retaining pin.
2. Install the park brake cable to the actuator lever.

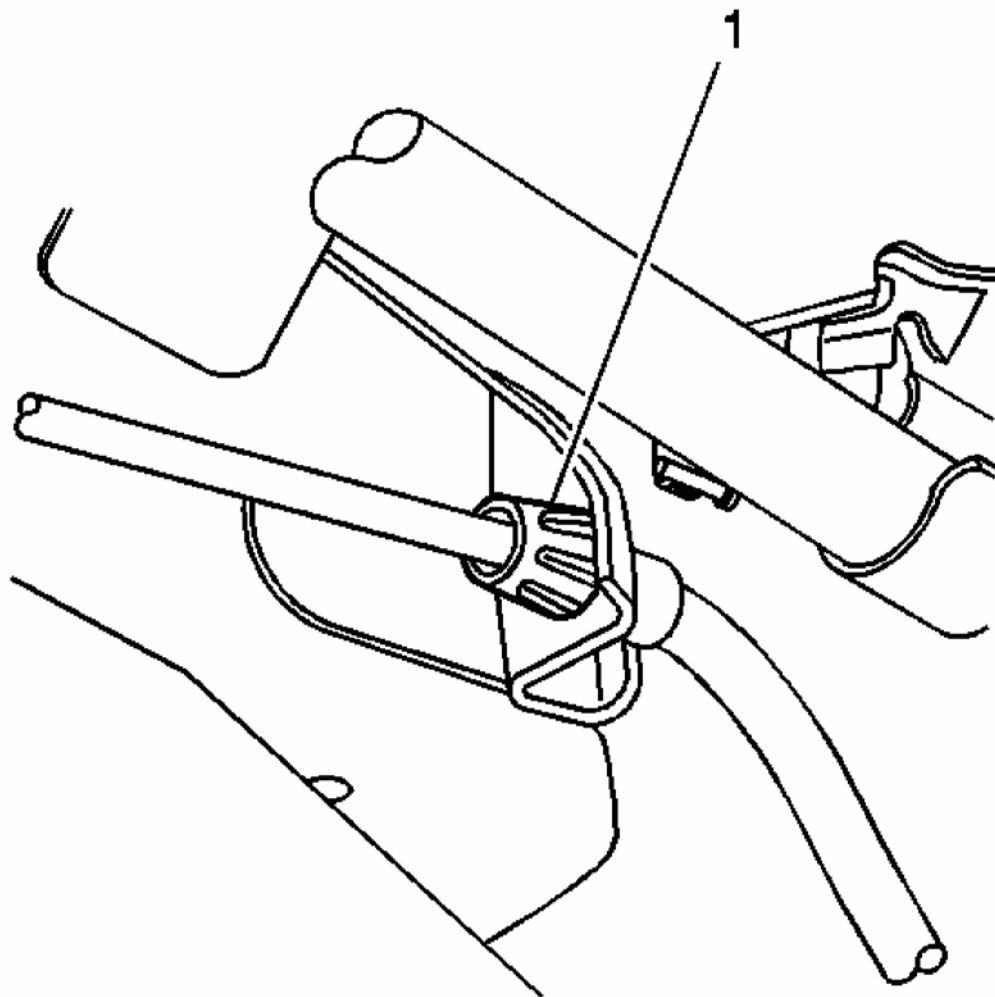


Fig. 28: Rear Park Brake Cable To Support Bracket Retainer (Z7U)
Courtesy of GENERAL MOTORS CORP.

3. Connect the retainer (1) that holds the cable to the support bracket.
4. Connect the rear cable to the front cable.

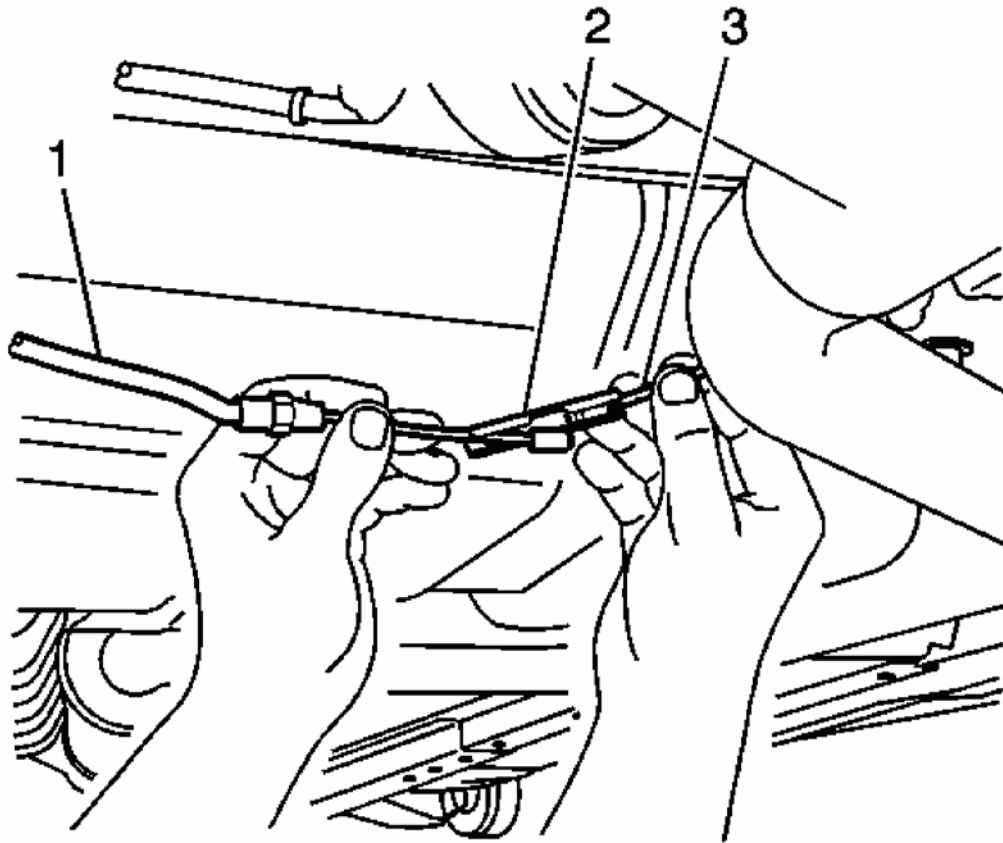


Fig. 29: View Of Front Brake Cable Connected To Right Rear Cable
Courtesy of GENERAL MOTORS CORP.

- For the right rear cable, connect the cable (3) to the clip (2).
 - For the left rear cable, install the equalizer stud to the equalizer nut, which is part of the equalizer assembly.
5. Adjust the park brake. Refer to **Park Brake Adjustment**.
 6. Lower the vehicle.

PARK BRAKE CABLE EQUALIZER REPLACEMENT

Removal Procedure

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.

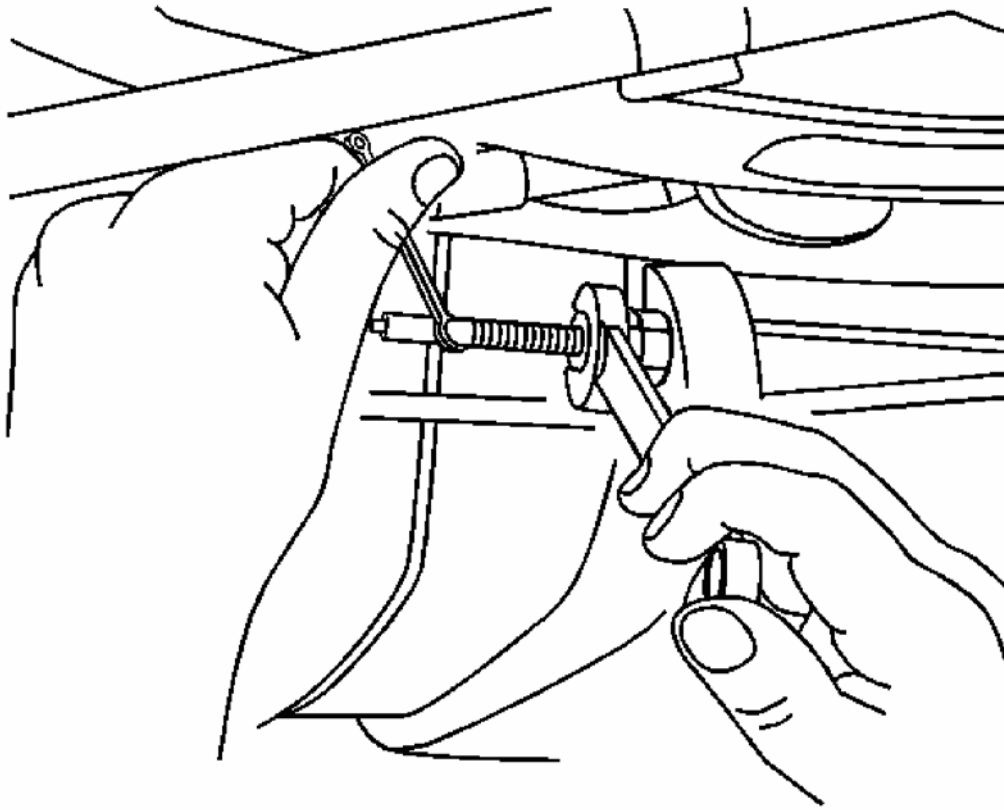


Fig. 30: Adjusting Park Brake Tension At Equalizer Assembly
Courtesy of GENERAL MOTORS CORP.

2. Disconnect the left rear park brake cable and adjustment stud assembly from the equalizer assembly by removing the equalizer nut from the adjustment stud.

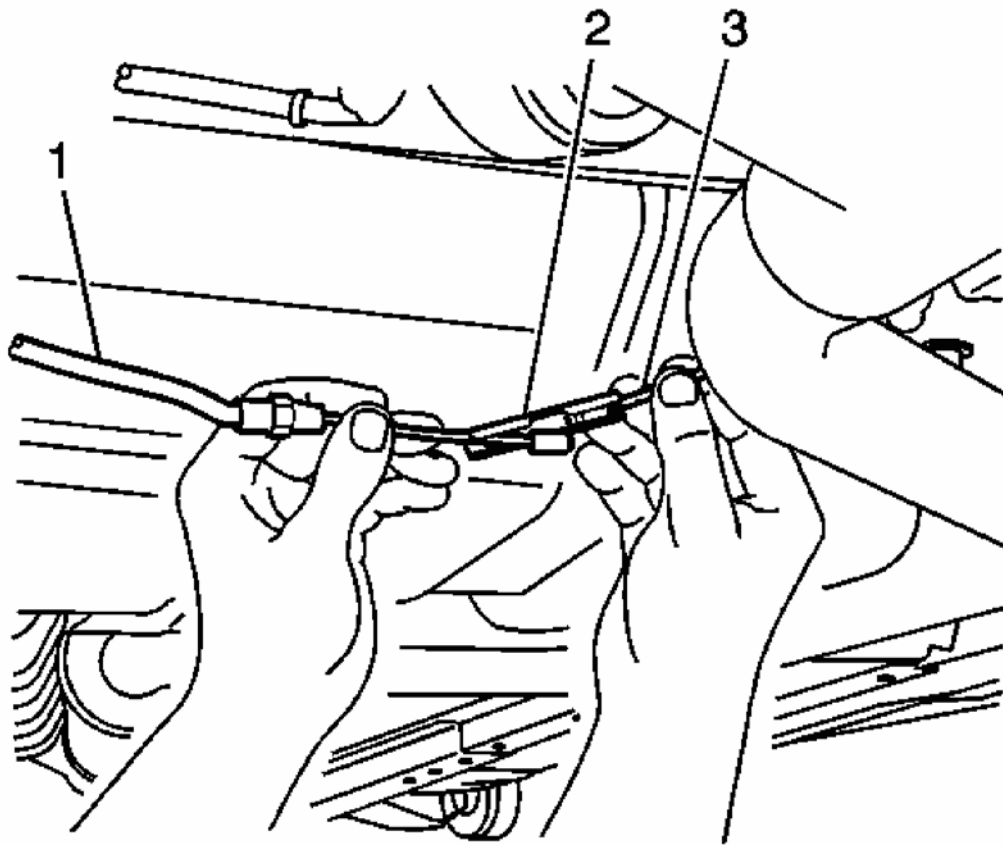


Fig. 31: View Of Front Brake Cable Connected To Right Rear Cable
Courtesy of GENERAL MOTORS CORP.

3. Disconnect the front park brake cable (1) from the right rear cable (3) at the connector clip (2).

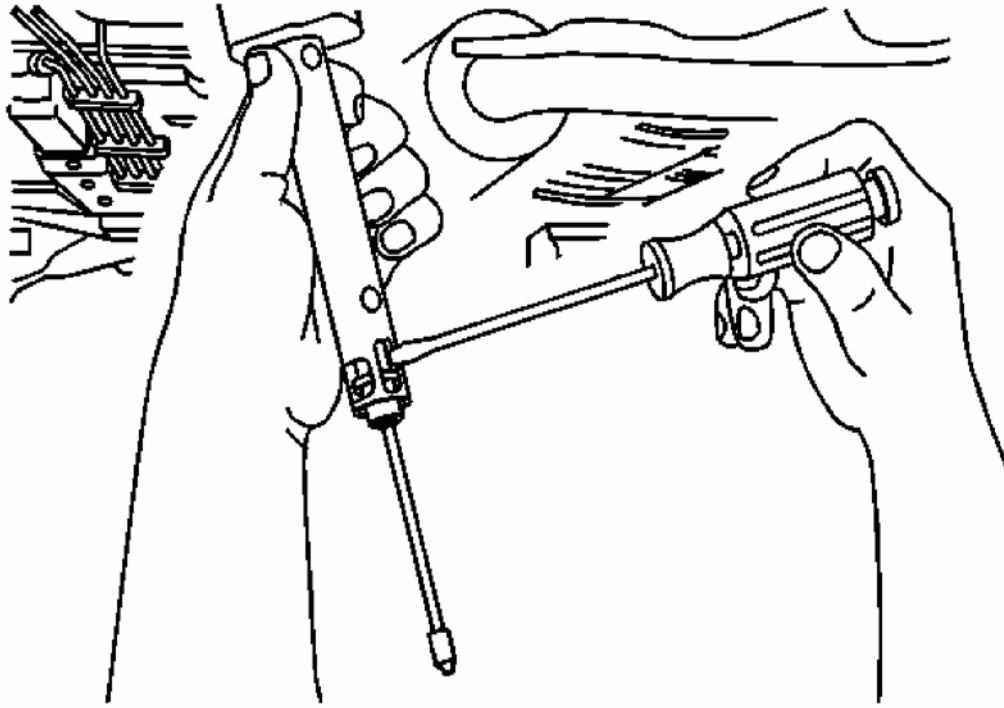


Fig. 32: Installing/Removing Equalizer Assembly From Front Park Brake Cable
Courtesy of GENERAL MOTORS CORP.

4. Remove the equalizer assembly from the front park brake cable. Insert a flat bladed tool into the equalizer and lightly twist to reposition the equalizer retaining tab. This will release the assembly from the cable.

Installation Procedure

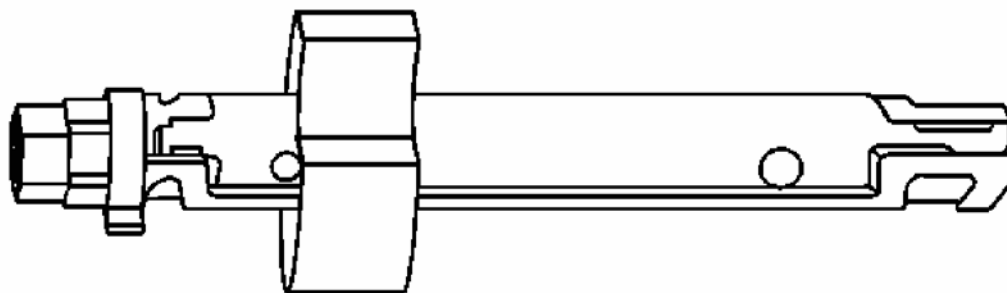


Fig. 33: View Of Equalizer Assembly
Courtesy of GENERAL MOTORS CORP.

1. Install the equalizer assembly to the front park brake cable.

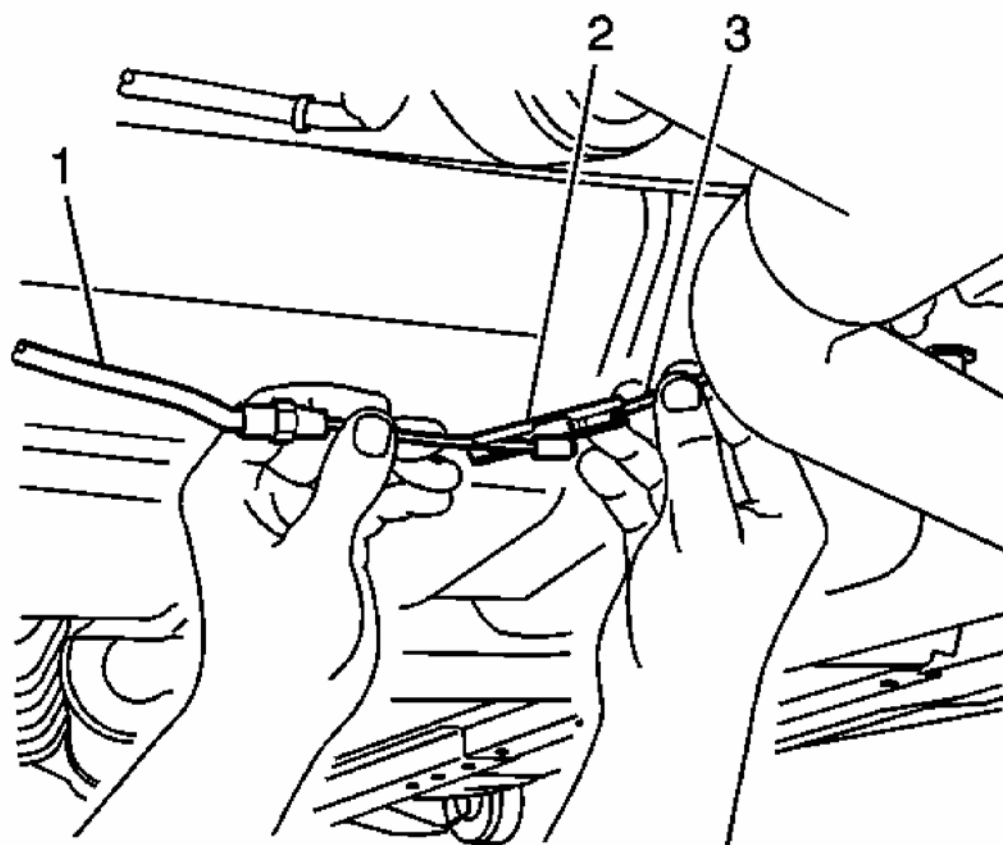


Fig. 34: View Of Front Brake Cable Connected To Right Rear Cable
Courtesy of GENERAL MOTORS CORP.

2. Connect the front brake cable (1) to the right rear cable (3) at the connector clip (2).
3. Connect the left rear brake cable and adjustment stud assembly to the equalizer assembly by installing the adjustment stud to the equalizer nut.
4. Adjust the Park Brake System. Refer to **Park Brake Adjustment**.
5. Lower the vehicle.

PARK BRAKE ACTUATOR REPLACEMENT

Removal Procedure

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Remove the rear tire and wheel assemblies. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.

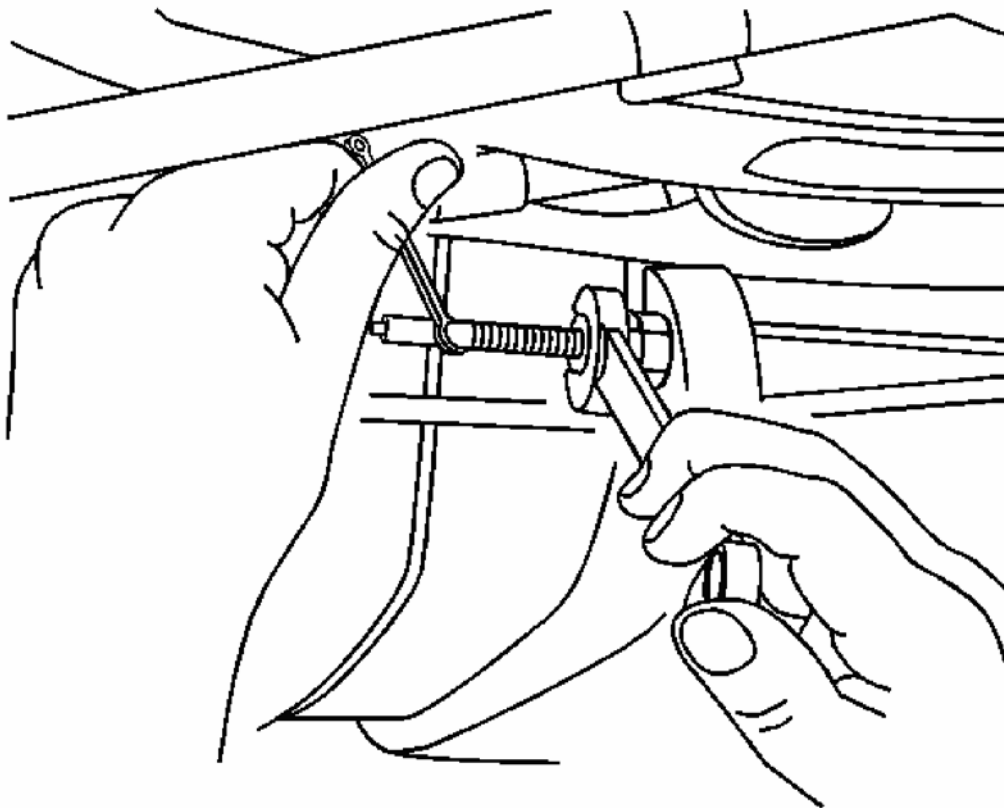


Fig. 35: Adjusting Park Brake Tension At Equalizer Assembly
Courtesy of GENERAL MOTORS CORP.

3. Relieve the park brake system tension at the equalizer assembly.
4. Remove the rear caliper bracket. Refer to **Brake Caliper Bracket Replacement - Rear** in Disc Brakes.
5. Remove the rear rotor. Refer to **Brake Rotor Replacement - Rear** in Disc Brakes.

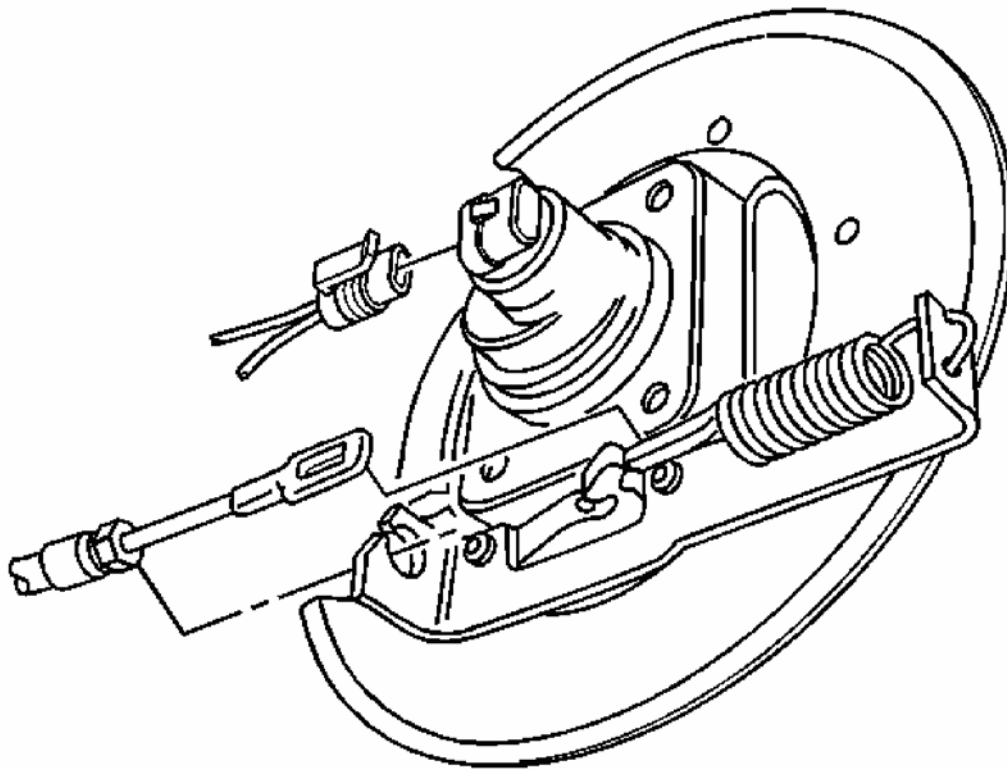


Fig. 36: View Of Rear Park Brake Cable & Wheel Speed Sensor Electrical Connector
Courtesy of GENERAL MOTORS CORP.

6. Disconnect and remove the rear park brake cable from the bracket at the rear wheel. Refer to **Park Brake Cable Replacement - Rear (Z7U)**.
7. Disconnect the park brake cable return spring from the park brake actuator and bracket at the rear wheel.
8. Remove the rear hub. Refer to **Wheel Bearing/Hub Replacement - Rear** in Rear Suspension.

The rear hub, backing plate, park brake cable bracket, and park brake actuator will be removed as an assembly.

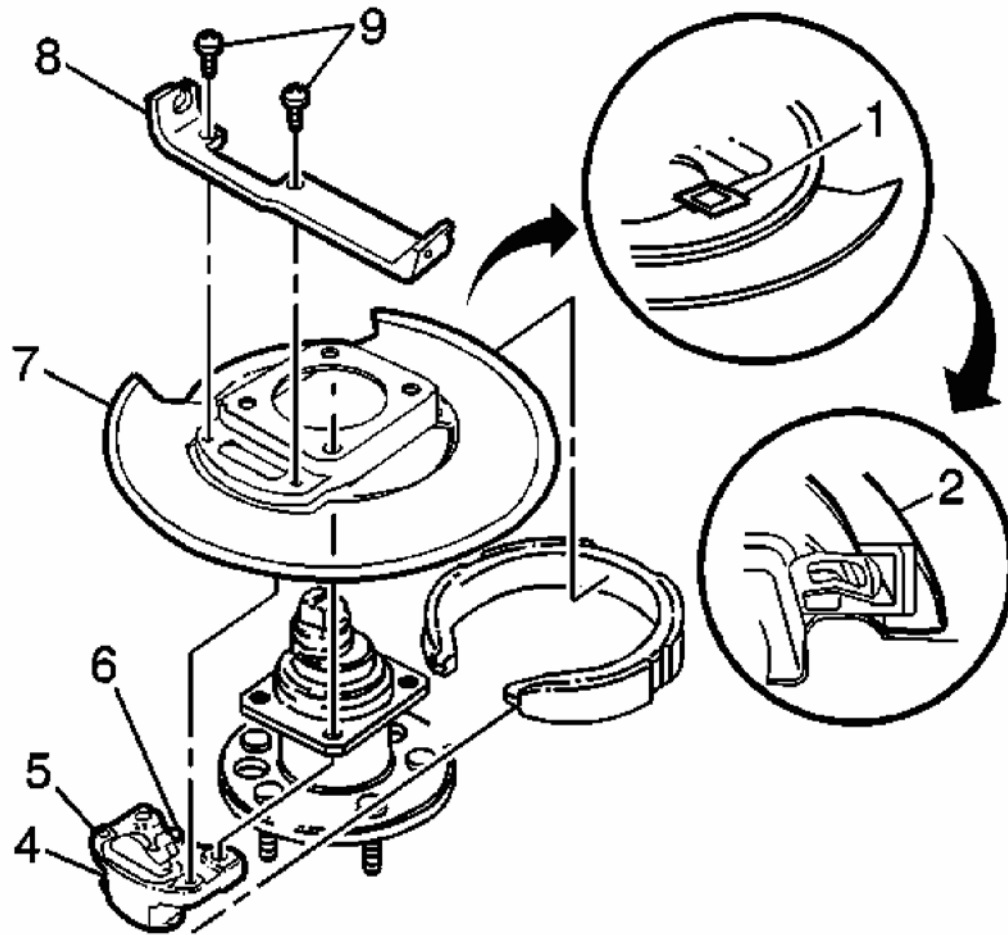


Fig. 37: Identifying Parking Brake Components
Courtesy of GENERAL MOTORS CORP.

9. Remove the 2 retainers (9) and the park brake cable bracket (8) from the park brake actuator (4). Position the rear hub aside.
10. Remove the park brake shoe and actuator (4) from the backing plate (7).
11. Separate the actuator (4) from the park brake shoe.

Installation Procedure

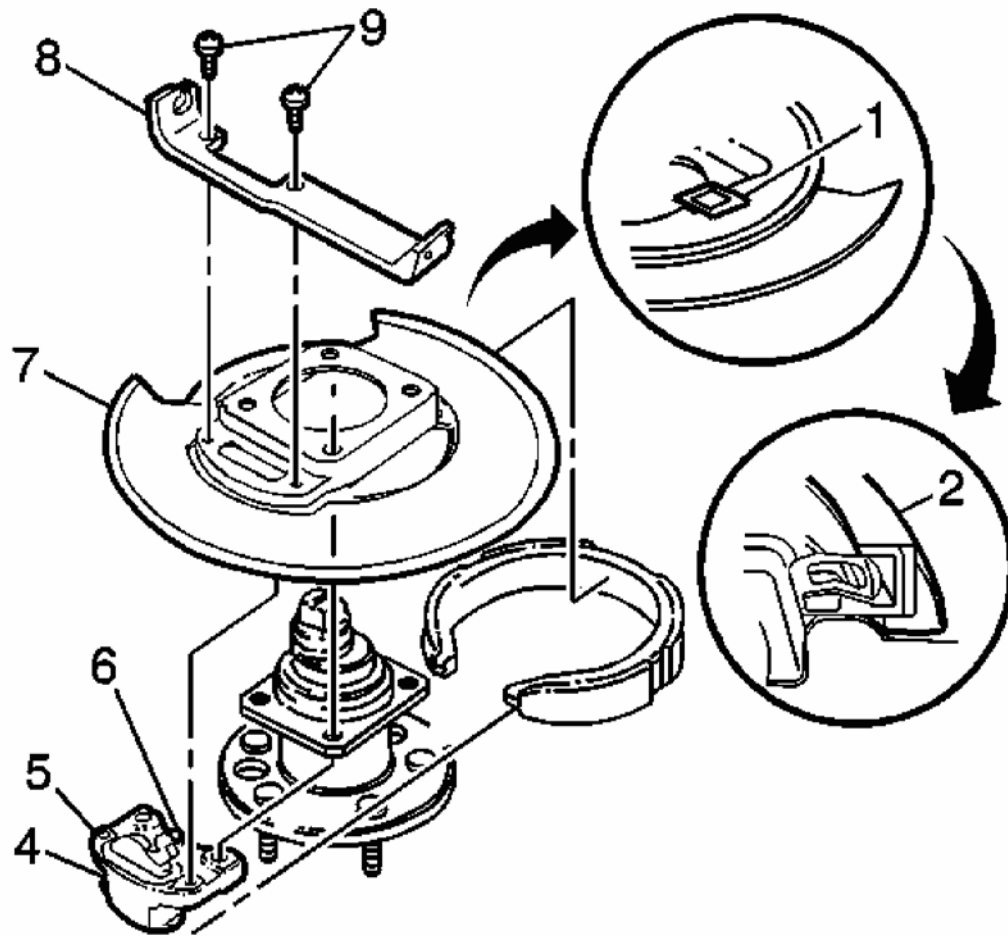


Fig. 38: Identifying Parking Brake Components
Courtesy of GENERAL MOTORS CORP.

1. Assemble the actuator (4) to the park brake shoe.
2. Install the park brake shoe and actuator (4) onto the backing plate (7).
3. Position the park brake shoe, actuator (4), and backing plate (7) over the rear hub.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Install the park brake cable bracket (8) and the two retainers (9)

Tighten: Tighten the bracket retainers to 14 N.m (124 lb in).

5. Install the rear hub. Refer to Wheel Bearing/Hub Replacement - Rear in Rear

Suspension.

The rear hub, backing plate, park brake cable bracket, and park brake actuator will be installed as an assembly.

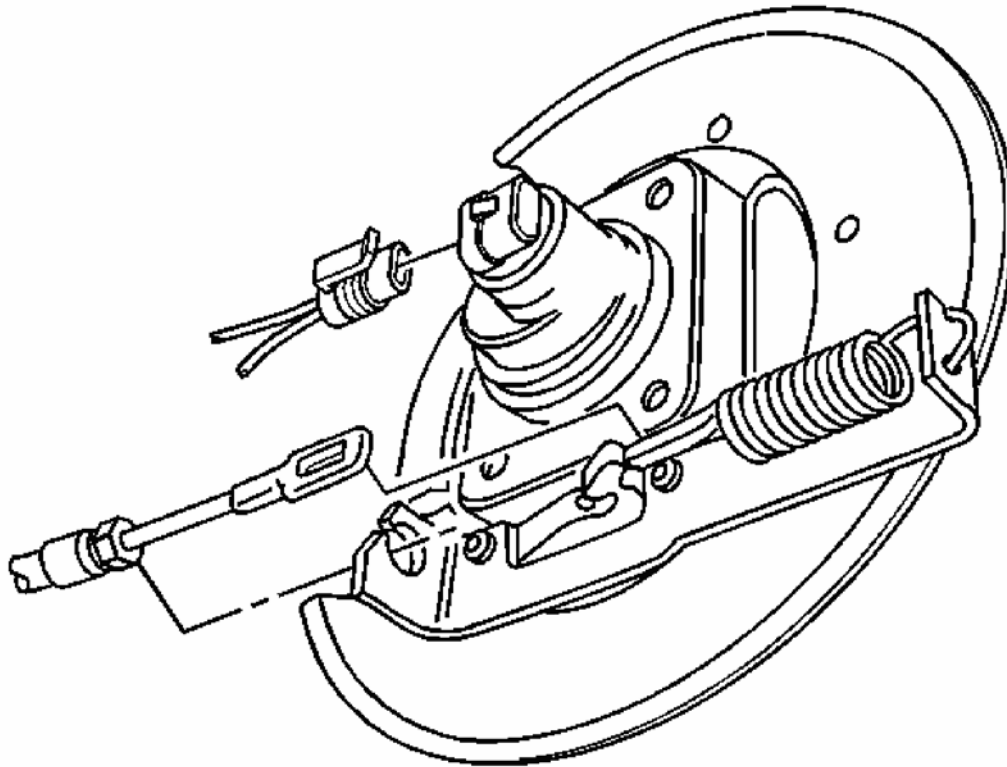


Fig. 39: View Of Rear Park Brake Cable & Wheel Speed Sensor Electrical Connector

Courtesy of GENERAL MOTORS CORP.

6. Install and connect the rear park brake cable to the bracket at the rear wheel. Refer to **Park Brake Cable Replacement - Rear (Z7U)**.
7. Connect the park brake cable return spring to the park brake actuator and bracket at the rear wheel.
8. Install the rear rotor. Refer to **Brake Rotor Replacement - Rear** in Disc Brakes.
9. Install the rear caliper bracket. Refer to **Brake Caliper Bracket Replacement - Rear** in Disc Brakes.
10. Install the rear tire and wheel assemblies. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
11. Adjust the park brake system. Refer to **Park Brake Adjustment** in Park Brake.

12. Lower the vehicle.

PARK BRAKE ADJUSTMENT

Tools Required

J 21177-A Drum-to-Brake Shoe Clearance Gage. See **Special Tools**.

CAUTION: Refer to **Brake Dust Caution** in Cautions and Notices.

CAUTION: Refer to **Brake Fluid Irritant Caution** in Cautions and Notices.

NOTE: Refer to **Brake Fluid Effects on Paint and Electrical Components Notice** in Cautions and Notices.

1. Apply and fully release the parking brake 6 times.
2. Verify that the parking brake pedal releases completely.
 - Turn ON the ignition. Verify that the BRAKE indicator lamp is off.
 - If the BRAKE indicator lamp is on, ensure that the parking brake pedal is in release mode and fully returned to stop. Remove the slack in the front parking brake cable by pulling downward on the cable.
3. Raise and suitably support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
4. Remove the rear tire and wheel assemblies. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.

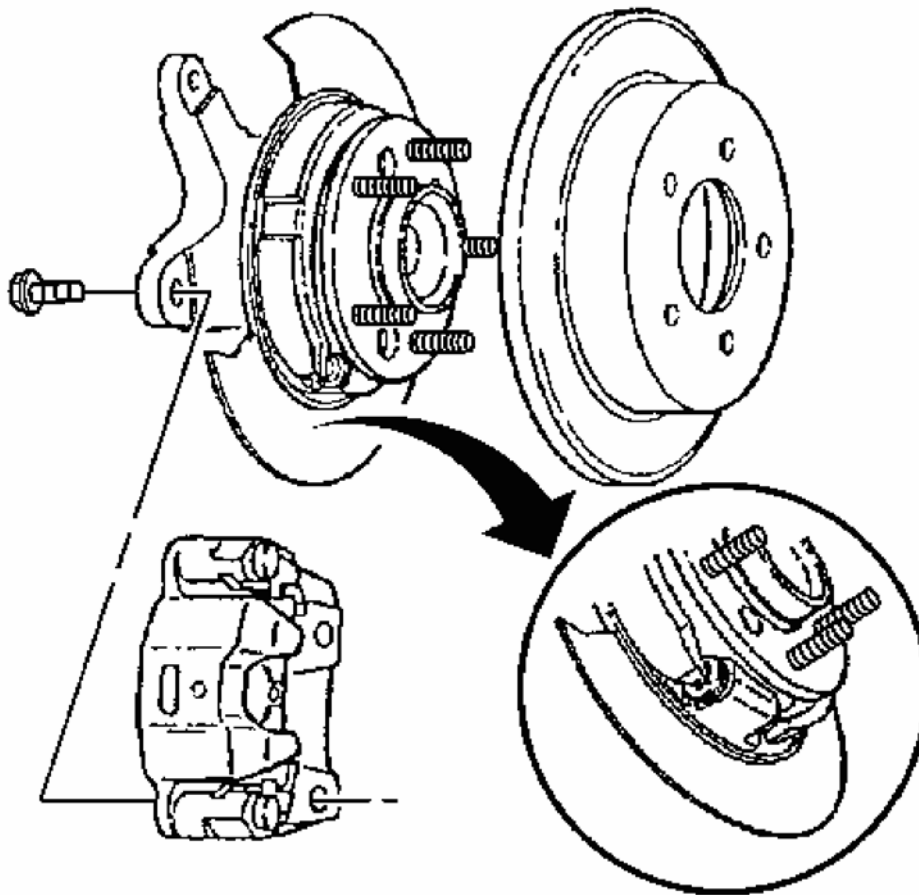


Fig. 40: Identifying Rear Brake Components
Courtesy of GENERAL MOTORS CORP.

5. Remove both rear caliper brackets. Refer to **Brake Caliper Bracket Replacement - Rear** in Disc Brakes.
6. Relieve tension on the park brake system at the park brake equalizer.
7. Remove both rear brake rotors. Refer to **Brake Rotor Replacement - Rear** in Disc Brakes.

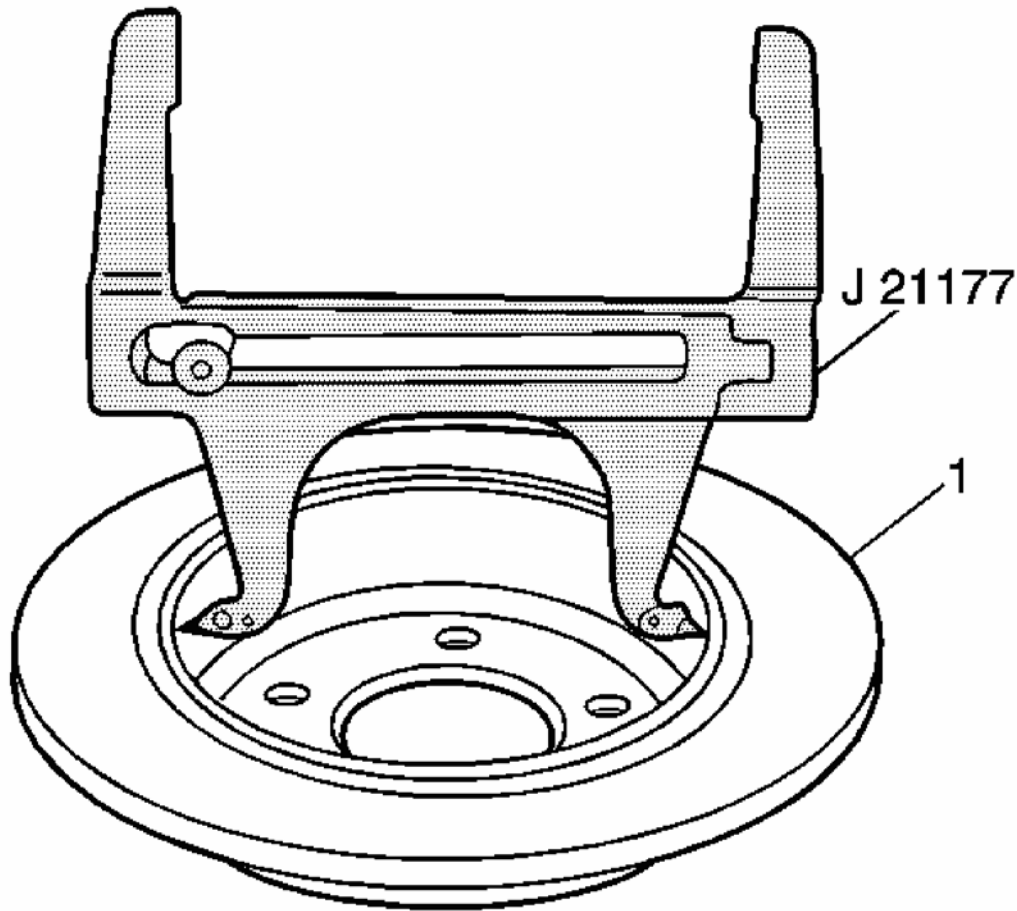


Fig. 41: Measuring Inside Of Rotor
Courtesy of GENERAL MOTORS CORP.

8. Set the J 21177-A inside of the park brake drum (1) at the widest point. See **Special Tools**.
 - Place the contacts on the tool to the widest point of the drum.
 - Tighten the set screw on the tool to ensure the proper measurement when removing the tool from the drum.

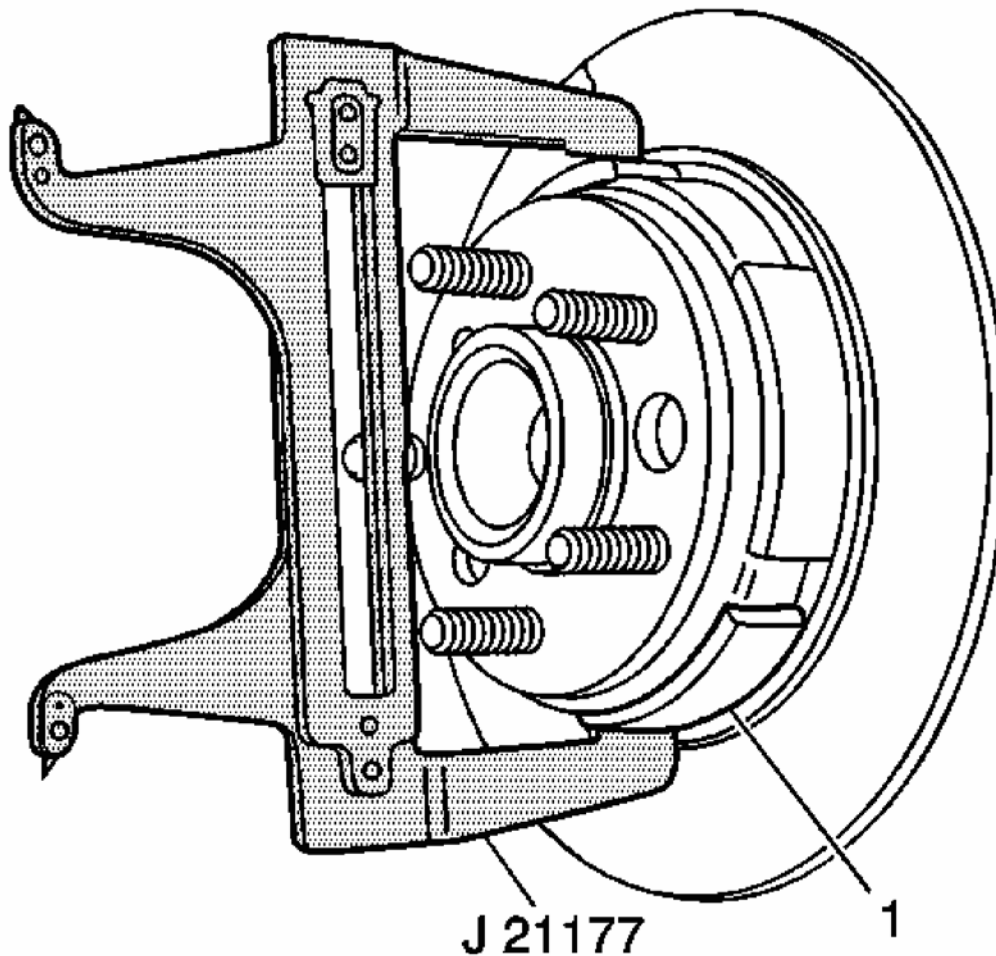


Fig. 42: Adjusting Parking Brake Shoes Using Special Tool
Courtesy of GENERAL MOTORS CORP.

9. Position the **J 21177-A** over the park brake shoe (1) at the widest point. See **Special Tools**.
10. Turn the adjuster on the actuator until the park brake shoe just contacts the **J 21177-A** . See **Special Tools**.
11. Repeat steps 8-10 for the opposite side.
12. Install both rear brake rotors. Refer to **Brake Rotor Replacement - Rear** in Disc Brakes.
13. Install both rear caliper brackets. Refer to **Brake Caliper Bracket Replacement - Rear** in Disc Brakes.
14. Install the rear tire and wheel assemblies. Refer to **Tire and Wheel Removal and**

Installation in Tires and Wheels.

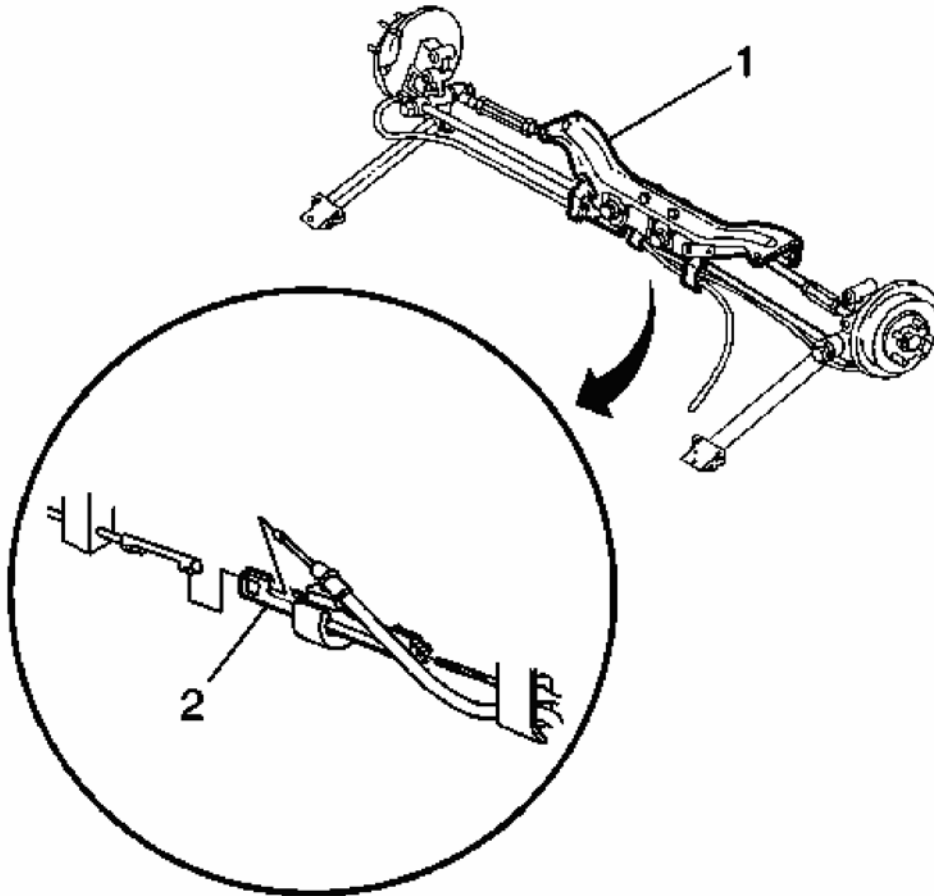


Fig. 43: View Of Parking Brake Adjustment
Courtesy of GENERAL MOTORS CORP.

15. Adjust the parking brake by turning the nut at the equalizer (2) while spinning both rear wheels. When either rear wheel starts to drag, back off the nut one full turn.
16. Lower the vehicle to curb height.
17. Apply the parking brake, then inspect for rotation of the rear wheels. If the rear wheels rotate during this inspection, then readjust the parking brake shoes.
18. Release the parking brake. Verify that the wheels rotate freely.
19. Lower the vehicle.

DESCRIPTION AND OPERATION

PARK BRAKE SYSTEM DESCRIPTION AND OPERATION

System Component Description

The park brake system consists of the following:

Park Brake Pedal Assembly

Receives and transfers park brake system apply input force from driver to park brake cable system.

Releases applied park brake system when depressed again.

Park Brake Cables

Transfers input force received from park brake pedal, through park brake cable equalizer, to park brake apply lever.

Park Brake Cable Equalizer

Evenly distributes input force to both the left and right park brake units.

Threaded park brake cable equalizers are also used to remove slack in park brake cables.

Park Brake Apply Lever

Multiplies and transfers input force to park brake actuator.

Park Brake Actuator/Adjuster

Uses multiplied input force from apply lever to expand park brake shoe toward the friction surface of the drum-in-hat portion of the rear brake rotor.

Threaded park brake actuators are also used to control clearance between the park brake shoe and the friction surface of the drum-in-hat portion of the rear brake rotor.

Park Brake Shoe

Applies mechanical output force from park brake actuator to friction surface of the drum-in-hat portion of the rear brake rotor.

System Operation

Park brake apply input force is received by the park brake pedal assembly being depressed, transferred and evenly distributed, through the park brake cables and the park brake cable equalizer, to the left and right park brake apply levers. The park brake apply levers multiply and transfer the apply input force to the park brake actuators which expand the park brake shoe toward the friction surface of the drum-in-hat portion of the rear brake rotor in order to

2006 Chevrolet Impala LS

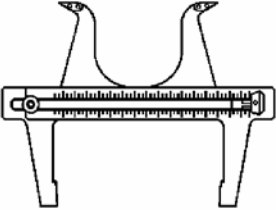
2006 BRAKES Park Brake - Impala

prevent the rotation of the rear tire and wheel assemblies. The park brake pedal assembly releases an applied park brake system when it is depressed again.

SPECIAL TOOLS AND EQUIPMENT

SPECIAL TOOLS

Special Tools

Illustration	Tool Number/ Description
	J 21177-A Drum-to-Brake Shoe Clearance Gage
	J 37043 Parking Brake Cable Release Tool