

2017 BRAKES**Park Brake - Encore, Trax****SPECIFICATIONS****FASTENER SPECIFICATIONS****Reusable Threaded Fastener Tightening Specifications****NOTE:**

All fasteners listed in this table can be reused after removal.

Application	Specification
	Metric (English)
Parking Brake Cable Bracket Bolt	22 N.m (16 lb ft)
Parking Brake Cable Bracket Nut	22 N.m (16 lb ft)
Parking Brake Indicator Switch Bolt	2 N.m (18 lb in)
Parking Brake Lever Assembly Nut	22 N.m (16 lb ft)

DIAGNOSTIC INFORMATION AND PROCEDURES**SYMPTOMS - PARK BRAKE****NOTE:**

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 symptom:

- [Park Brake Will Not Hold or Release](#)
- [Park Brake System Diagnosis \(Disc Brake\)](#)[Park Brake System Diagnosis \(Drum Brake\)](#)

PARK BRAKE WILL NOT HOLD OR RELEASE

Step	Action	Yes	No
1	Were you sent here from a Park Brake Symptom table?	Go to Step 2	Go to Symptoms - Park Brake
2	Inspect the park brake system for proper operation. Refer to Park Brake System Diagnosis (Disc Brake) Park Brake System Diagnosis (Drum Brake) . Did you find and correct a condition?	Go to Step 6	Go to Step 3
3	Inspect the drum brake system for proper operation. Refer to Drum Brake System Diagnosis . Did you find and correct a condition?	Go to Step 6	Go to Step 4
4	Inspect the disc brake system for proper operation. Refer to Disc Brake System Diagnosis . Did you find and correct a condition?	Go to Step 6	Go to Step 5
5	Inspect the hydraulic brake system for proper operation. Refer to Hydraulic Brake System Diagnosis . Did you find and correct a condition?	Go to Step 6	Go to Symptoms - Park Brake

Step	Action	Yes	No
6	Road test the vehicle in order to confirm correct operation. Refer to <u>Brake System Vehicle Road Test</u> . Is the condition still present?	Go to Step 2	System OK

PARK BRAKE SYSTEM DIAGNOSIS (DISC BRAKE)

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
3	Is the symptom related to the ability of the park brake system to hold and/or release?	Go to <u>Symptoms - Park Brake</u>	Go to <u>Symptoms - Hydraulic Brakes</u>
4	1. Raise and support the vehicle with the rear axle supported by jack stands. Refer to <u>Lifting and Jacking the Vehicle</u> . 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 8	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 13	Go to Step 6
6	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 7	Go to Step 8
7	Reconnect or replace the park brake cables as necessary. Refer to <u>Parking Brake Rear Cable Replacement (Disc Brake)</u> . Did you complete the repair and/or replacement?	Go to Step 13	-
8	1. Disconnect the rear park brake cables from the equalizer and from the brake caliper piston apply levers. Refer to <u>Parking Brake Rear Cable Replacement (Disc Brake)</u>. 2. Have an assistant apply and maintain the caliper piston apply lever to apply the caliper piston. 3. Attempt to rotate the rear wheels to check the rear brakes for a significant amount of drag. 4. Release the caliper piston apply lever. 5. Repeat steps 2, 3, and 4 for the other side of the vehicle. 6. Rotate the rear wheels to check the brake for a significant reduction of drag. Did the brake calipers apply and release properly?	Go to Step 10	Go to Step 9
9	Replace the appropriate rear brake caliper. Refer to <u>Rear Brake Caliper Replacement</u> . Did you complete the replacement?	Go to Step 13	-

Step	Action	Yes	No
10	With the aid of an assistant, apply and release the parking brake while observing the cables for free movement. Did the park brake cables move freely?	Go to Step 12	Go to Step 11
11	Replace any of the park brake cables inspected that do not have free movement. Refer to <u>Parking Brake Rear Cable Replacement (Disc Brake)</u> . Did you complete the replacement?	Go to Step 13	-
12	Inspect the park brake level assembly for proper operation and replace if necessary. Refer to <u>Parking Brake Lever Replacement (Disc Brake)</u> . Did you complete the replacement?	Go to Step 13	-
13	Install or connect any components that were removed or disconnected during diagnosis. Did you complete the operation?	Park Brake System OK Go to <u>Symptoms - Park Brake</u>	-

PARK BRAKE SYSTEM DIAGNOSIS (DRUM BRAKE)

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
3	Is the symptom related to the ability of the park brake system to hold and/or release?	Go to <u>Symptoms - Park Brake</u>	Go to <u>Symptoms - Hydraulic Brakes</u>
4	1. Raise and support the vehicle with the rear axle supported by jack stands. Refer to <u>Lifting and Jacking the Vehicle</u> . 2. Shift the transmission into NEUTRAL. 3. 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 substantial amount of drag?	Go to Step 11	Go to Step 5
5	1. With the transmission still in NEUTRAL, 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 20	Go to Step 11

Step	Action	Yes	No
7	1. Remove the brake drums. Refer to Brake Drum Replacement. 2. Visually check the park brake cable connections and the cables that are accessible on the UNDERSIDE of the vehicle for disconnections and/or damage. Were any or 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 Parking Brake Cable Replacement. Did you complete the repair and/or replacement?	Go to Step 9	-
9	Check the adjustment of the park brake. Refer to Parking Brake Adjustment (Drum Brake). Was the park brake adjusted properly?	Go to Step 11	Go to Step 10
10	Adjust the park brake. Refer to Parking Brake Adjustment (Drum Brake). Were you able to attain adjustment of the park brake?	Go to Step 16	Go to Step 11
11	CAUTION: 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 brake drums. Refer to Brake Drum Replacement. 2. Inspect the park brake hardware for loose, damaged, broken or missing components. Refer to Park Brake Hardware Inspection. 3. Check the drum brake adjusters for a seized condition. Do the park brake hardware and/or the drum brake adjusters require replacement?	Go to Step 12	Go to Step 13
12	1. Replace park brake hardware components as necessary. Refer to Brake Shoe Replacement. 2. Replace the drum brake adjusting hardware as necessary. Refer to Drum Brake Adjusting Hardware Replacement. 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. Do the park brake cables move freely?	Go to Step 14	Go to Step 17
14	Check the adjustment of the park brake. Refer to Parking Brake Adjustment (Drum Brake). Was the park brake adjusted properly?	Go to Step 16	Go to Step 15
15	Adjust the park brake. Refer to Parking Brake Adjustment (Drum Brake). Were you able to attain adjustment of the park brake?	Go to Step 16	Go to Step 25

Step	Action	Yes	No
16	1. With the transmission still in NEUTRAL, 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. Does the park brake apply and release properly?	Go to Step 27	Return to Symptom Table
17	1. Remove the brake drums. Refer to <u>Brake Drum Replacement</u>. 2. 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. Did 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 <u>Parking Brake Cable Replacement</u>. Did you complete the replacement?	Go to Step 23	-
19	Replace the park brake lever assembly - not releasing properly. Refer to <u>Parking Brake Lever Replacement (Drum Brake)</u>. Did you complete the replacement?	Go to Step 24	-
20	Check the adjustment of the park brake. Refer to <u>Parking Brake Adjustment (Drum Brake)</u>. Was the park brake adjusted properly?	Go to Step 27	Go to Step 21
21	Adjust the park brake. Refer to <u>Parking Brake Adjustment (Drum Brake)</u>. Were you able to attain adjustment of the park brake system?	Go to Step 26	Go to Step 22
22	1. Remove the brake drums. Refer to <u>Brake Drum Replacement</u>. 2. Check the drum brake adjuster for a seized condition. 3. Replace the drum brake adjusting hardware as necessary. Refer to <u>Drum Brake Adjusting Hardware Replacement</u>. Did you find and correct a condition?	Go to Step 23	Go to Step 25
23	Adjust the park brake. Refer to <u>Parking Brake Adjustment (Drum Brake)</u>. Were you able to attain adjustment of the park brake system?	Go to Step 26	Go to Step 25
24	Adjust the park brake. Refer to <u>Parking Brake Adjustment (Drum Brake)</u>. Were you able to attain adjustment of the park brake system?	Go to Step 26	Return to Symptom Table
25	1. Replace the component that is used to adjust the park brake system. Refer to <u>Parking Brake Lever Replacement (Drum Brake)</u>. 2. Adjust the park brake. Refer to <u>Parking Brake Adjustment (Drum Brake)</u>. Did you complete the replacement and adjustment?	Go to Step 26	Return to Symptom Table

Step	Action	Yes	No
26	1. With the transmission in NEUTRAL, 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 27	Return to Symptom Table
27	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 HARDWARE INSPECTION

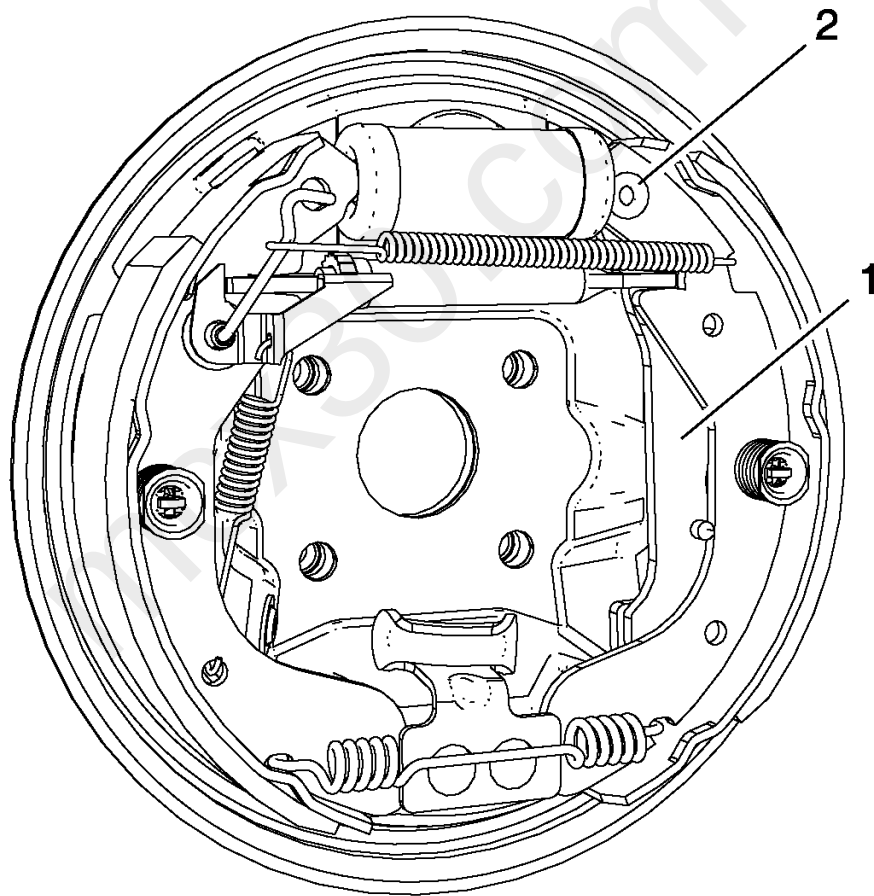


Fig. 1: Park Brake Lever And Pivot Pin

Courtesy of GENERAL MOTORS COMPANY

WARNING: Refer to **Brake Dust Warning** .

1. Visually inspect the park brake lever (1) and the lever pivot pin (2) for the following conditions:
 - The lever being bent or broken at any point - particularly at the cable attachment
 - A seized or binding condition at lever pivot pin
 - A broken lever pivot pin

NOTE:

The brake shoe and park brake lever are not serviced separately. If either component requires replacement, they must be replaced as an assembly.

2. If any of the conditions listed were found, the park brake lever and brake shoe assembly requires replacement.

REPAIR INSTRUCTIONS

PARKING BRAKE LEVER REPLACEMENT (DISC BRAKE)

Removal Procedure

1. Remove the front floor console. Refer to [Front Floor Console Replacement \(Buick\)](#) [Front Floor Console Replacement \(Chevrolet\)](#).
2. Ensure that the parking brake lever is in the fully released position.
3. Disconnect the electrical connector from the parking brake indicator switch.

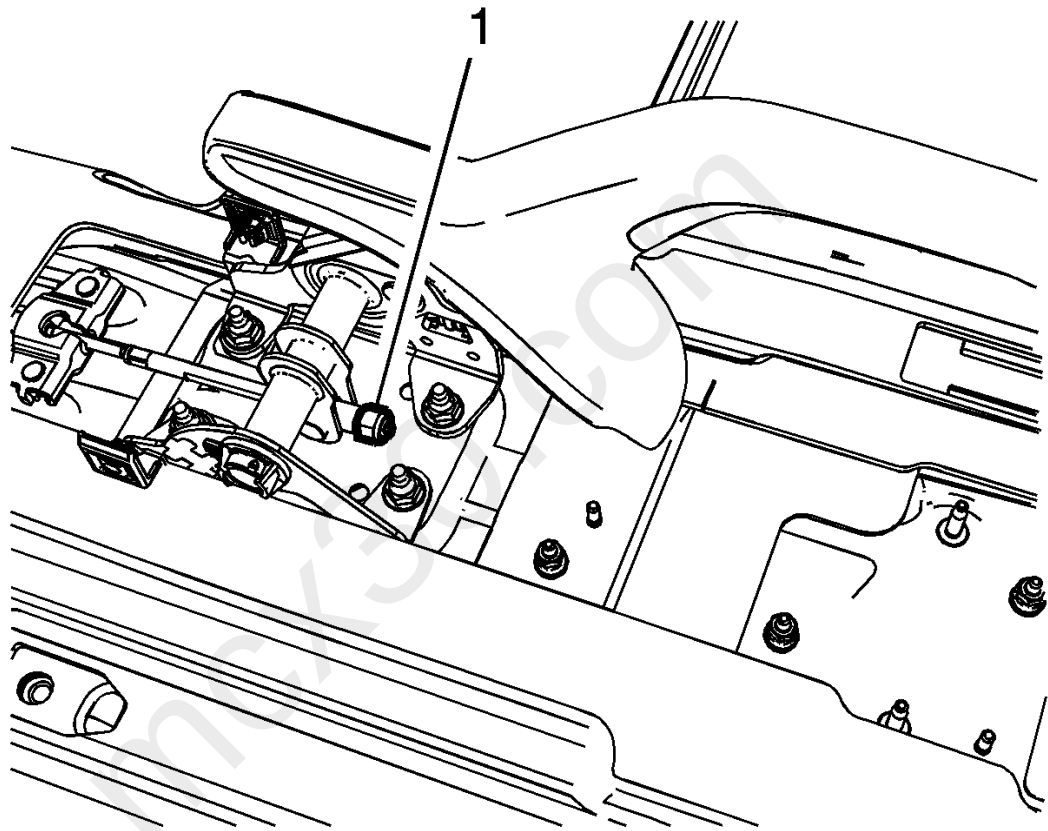


Fig. 2: Parking Brake Cable Adjusting Nut

Courtesy of GENERAL MOTORS COMPANY

4. Using ONLY HAND TOOLS, remove the adjusting nut (1) from the front cable threaded rod.

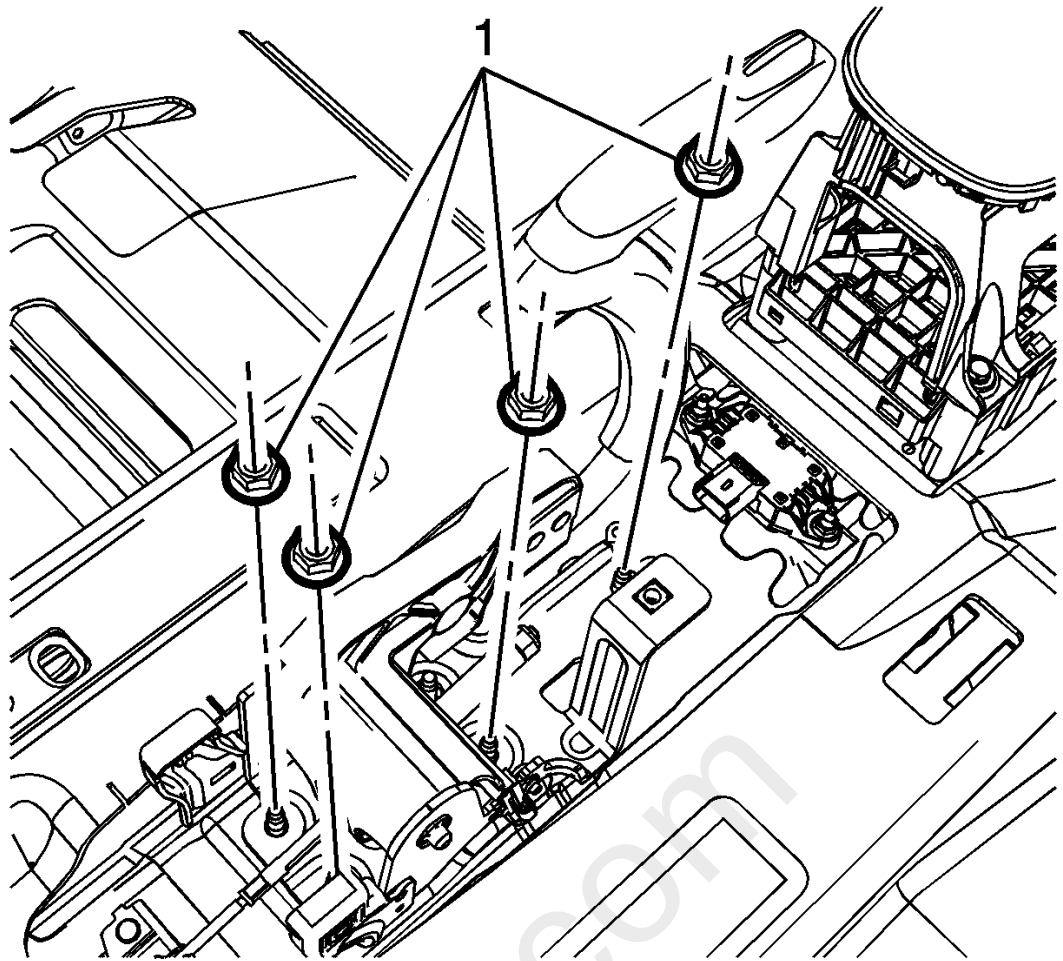


Fig. 3: Parking Brake Lever Mounting Nuts
Courtesy of GENERAL MOTORS COMPANY

5. Remove the parking brake lever mounting nuts (1).
6. While removing the front cable threaded rod from the parking brake lever assembly, remove the parking brake lever assembly from the vehicle.

Installation Procedure

1. While installing the front cable threaded rod to the parking brake lever assembly, install the parking brake lever assembly to the vehicle.

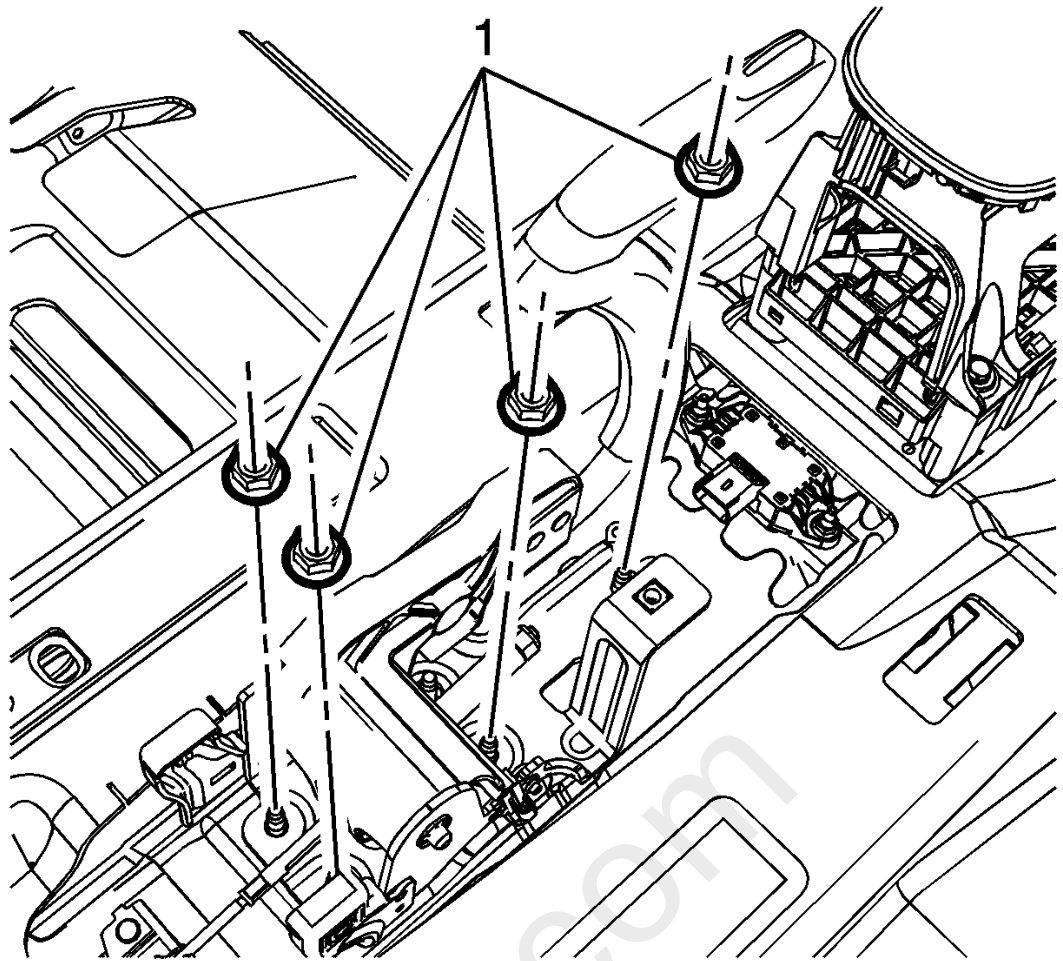


Fig. 4: Parking Brake Lever Mounting Nuts
Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to **Fastener Caution** .

2. Install the parking brake lever mounting nuts (1) and tighten to 22 N.m (16 lb ft).
3. Connect the electrical connector to the parking brake indicator switch.

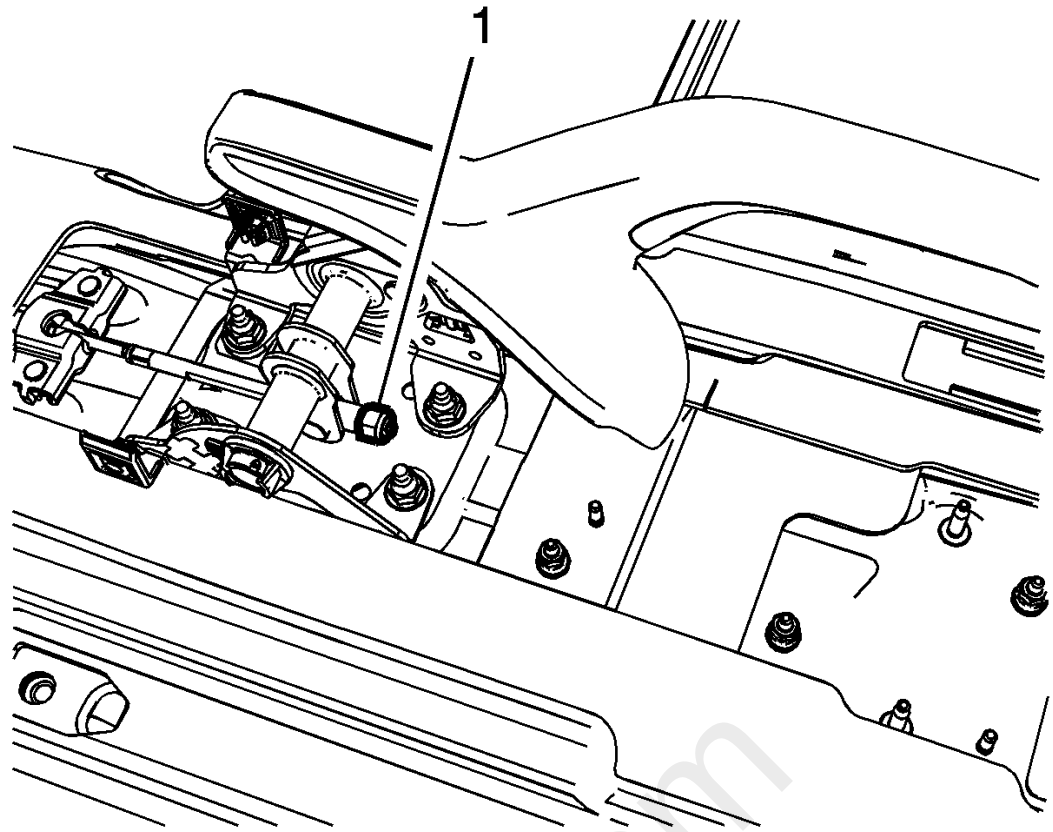


Fig. 5: Parking Brake Cable Adjusting Nut
Courtesy of GENERAL MOTORS COMPANY

4. Loosely install the adjusting nut (1) to front cable threaded rod.
5. Adjust the parking brake cable tension. Refer to [Parking Brake Adjustment \(Disc Brake\)](#).
6. Install the front floor console. Refer to [Front Floor Console Replacement \(Buick\)](#) [Front Floor Console Replacement \(Chevrolet\)](#) .

PARKING BRAKE LEVER REPLACEMENT (DRUM BRAKE)

Removal Procedure

1. Remove the front floor console. Refer to [Front Floor Console Replacement \(Buick\)](#) [Front Floor Console Replacement \(Chevrolet\)](#) .
2. Ensure that the parking brake lever is in the fully released position.
3. Disconnect the electrical connector from the parking brake warning lamp switch.

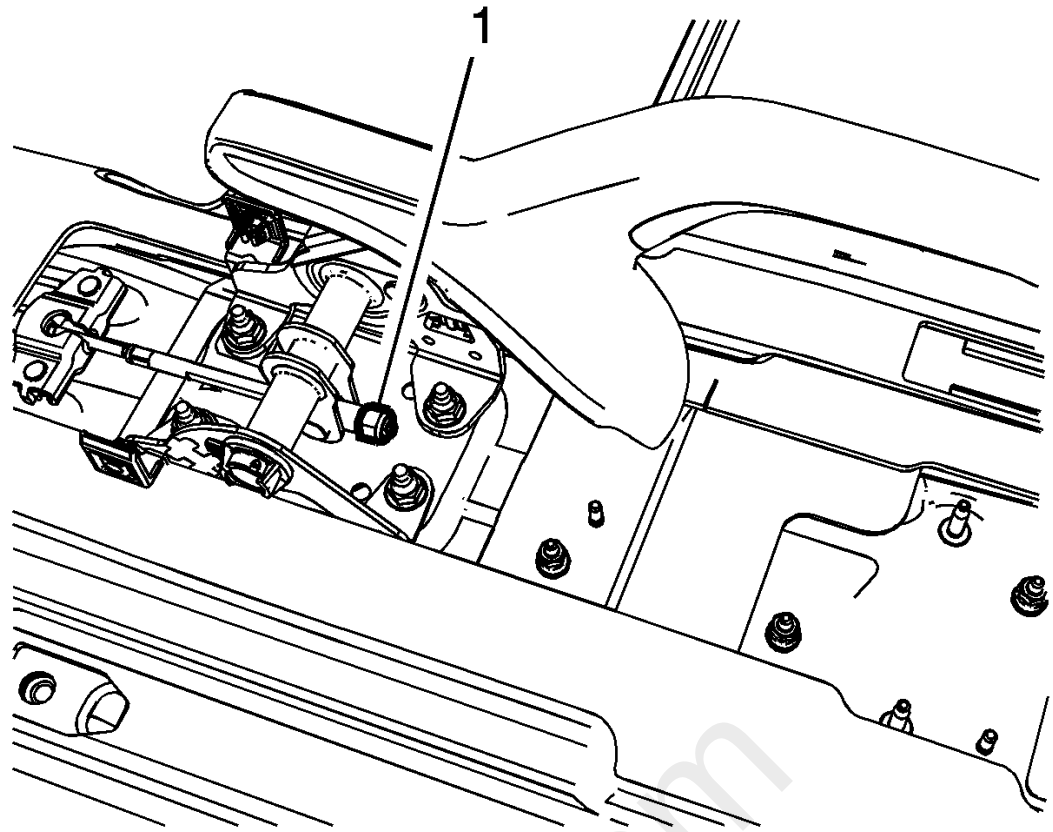


Fig. 6: Parking Brake Cable Adjusting Nut
Courtesy of GENERAL MOTORS COMPANY

4. Using ONLY HAND TOOLS, remove the adjusting nut (1) from the front cable threaded rod.

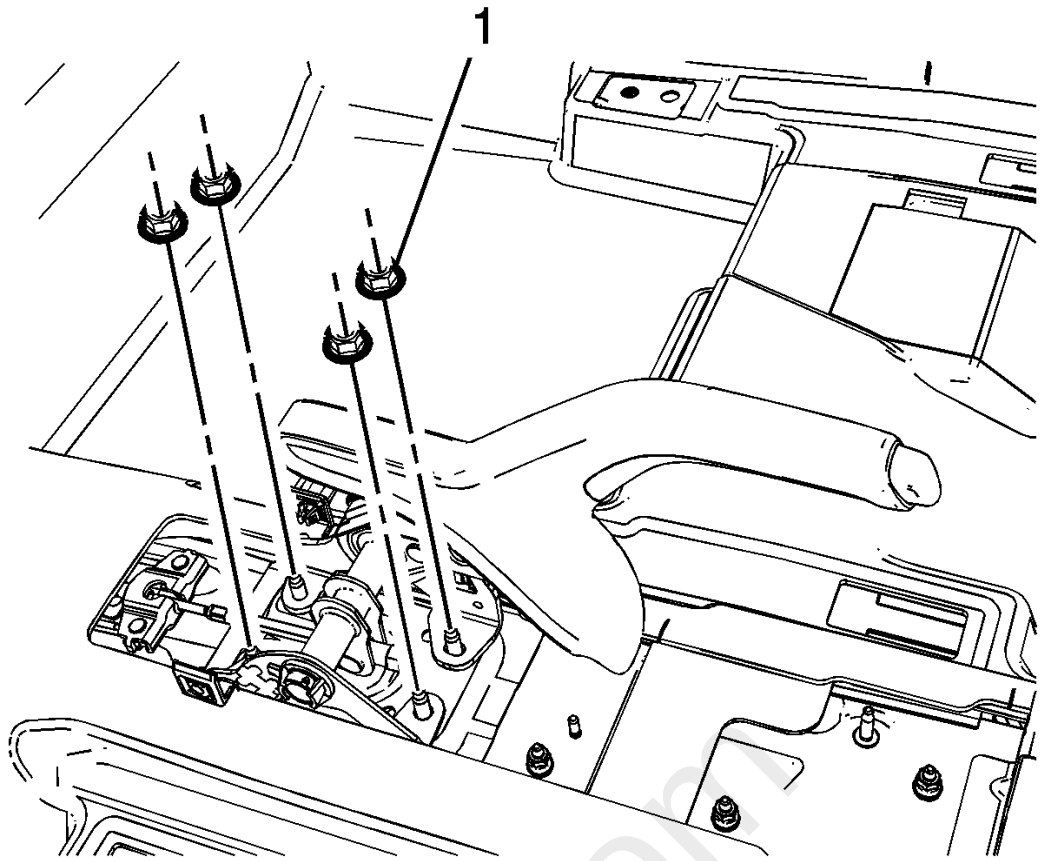


Fig. 7: Parking Brake Lever Mounting Nuts
Courtesy of GENERAL MOTORS COMPANY

5. Remove the parking brake lever mounting nuts (1).
6. While removing the front cable threaded rod from the parking brake lever assembly, remove the parking brake lever assembly from the vehicle.

Installation Procedure

1. While installing the front cable threaded rod to the parking brake lever assembly, install the parking brake lever assembly to the vehicle.

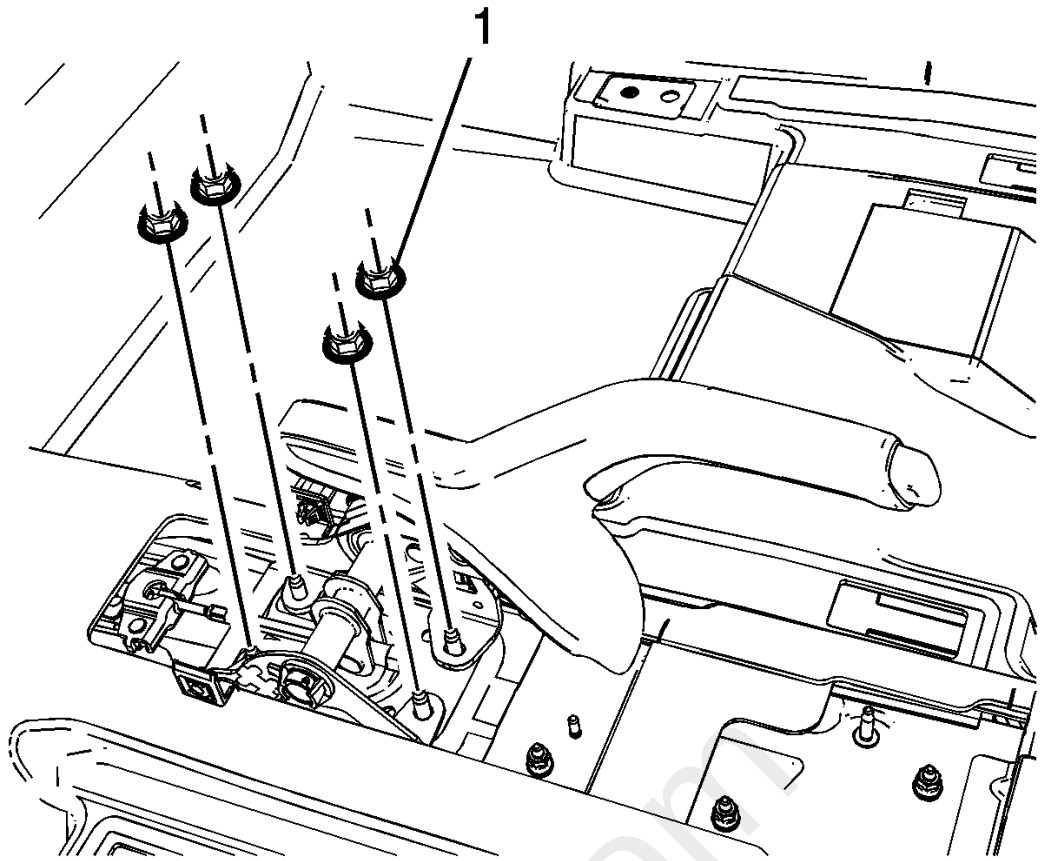


Fig. 8: Parking Brake Lever Mounting Nuts
Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to **Fastener Caution** .

2. Install the parking brake lever mounting nuts (1) and tighten to 22 N.m (16 lb ft).
3. Connect the electrical connector to the parking brake warning lamp switch.

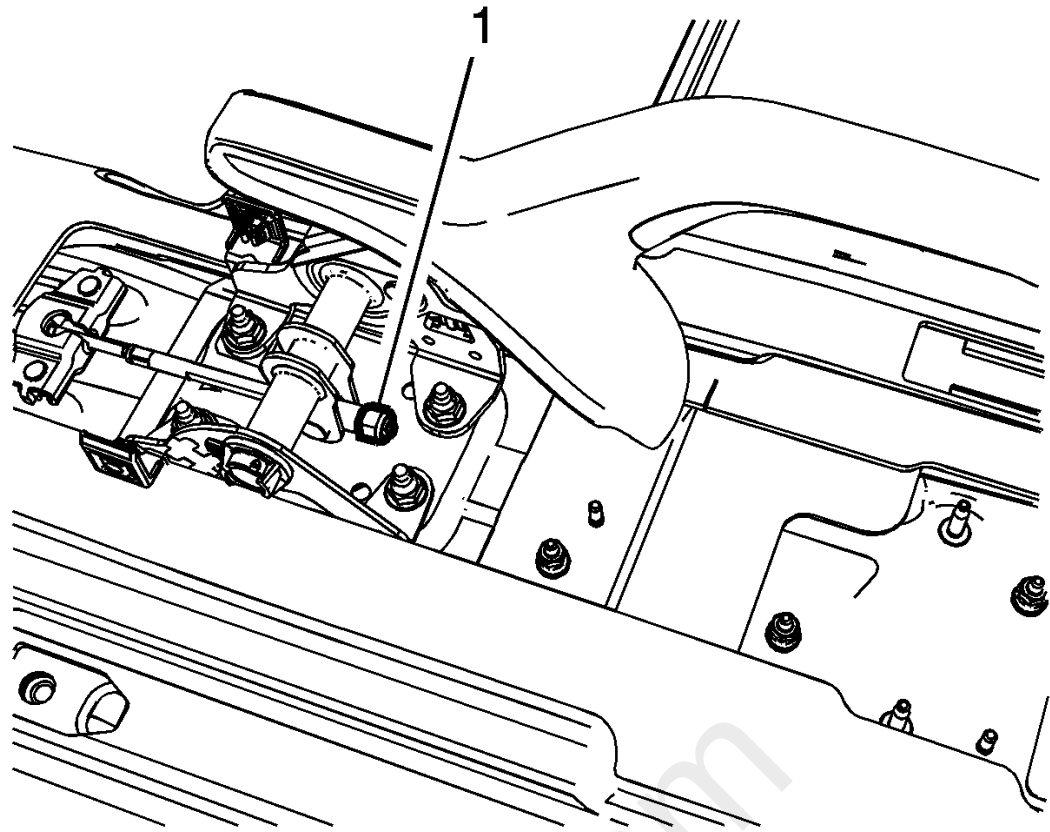


Fig. 9: Parking Brake Cable Adjusting Nut
Courtesy of GENERAL MOTORS COMPANY

4. Loosely install the adjusting nut (1) to front cable threaded rod.
5. Adjust the parking brake. Refer to [Parking Brake Adjustment \(Drum Brake\)](#).
6. Install the front floor console. Refer to [Front Floor Console Replacement \(Buick\)](#) [Front Floor Console Replacement \(Chevrolet\)](#) .

PARKING BRAKE INDICATOR SWITCH REPLACEMENT

Removal Procedure

1. Remove the front floor console assembly. Refer to [Front Floor Console Replacement \(Buick\)](#) [Front Floor Console Replacement \(Chevrolet\)](#) .
2. Ensure that the park brake lever is in the fully released position.
3. Disconnect the electrical connector from the parking brake indicator switch.

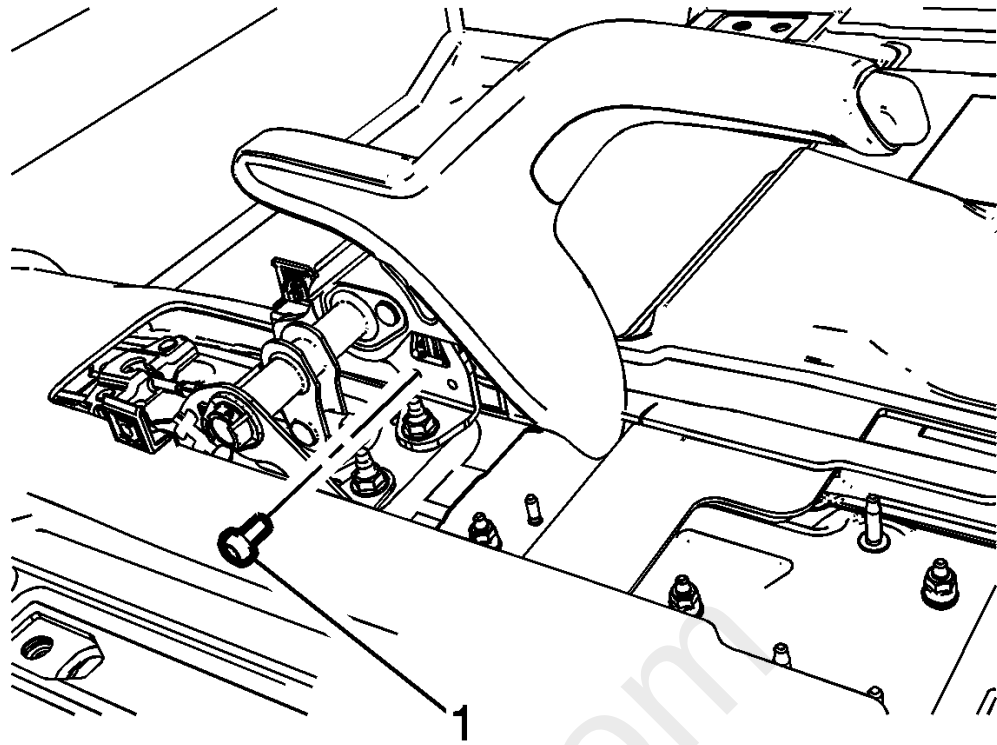


Fig. 10: Parking Brake Indicator Switch Bolt
Courtesy of GENERAL MOTORS COMPANY

4. Remove the parking brake indicator switch bolt (1).

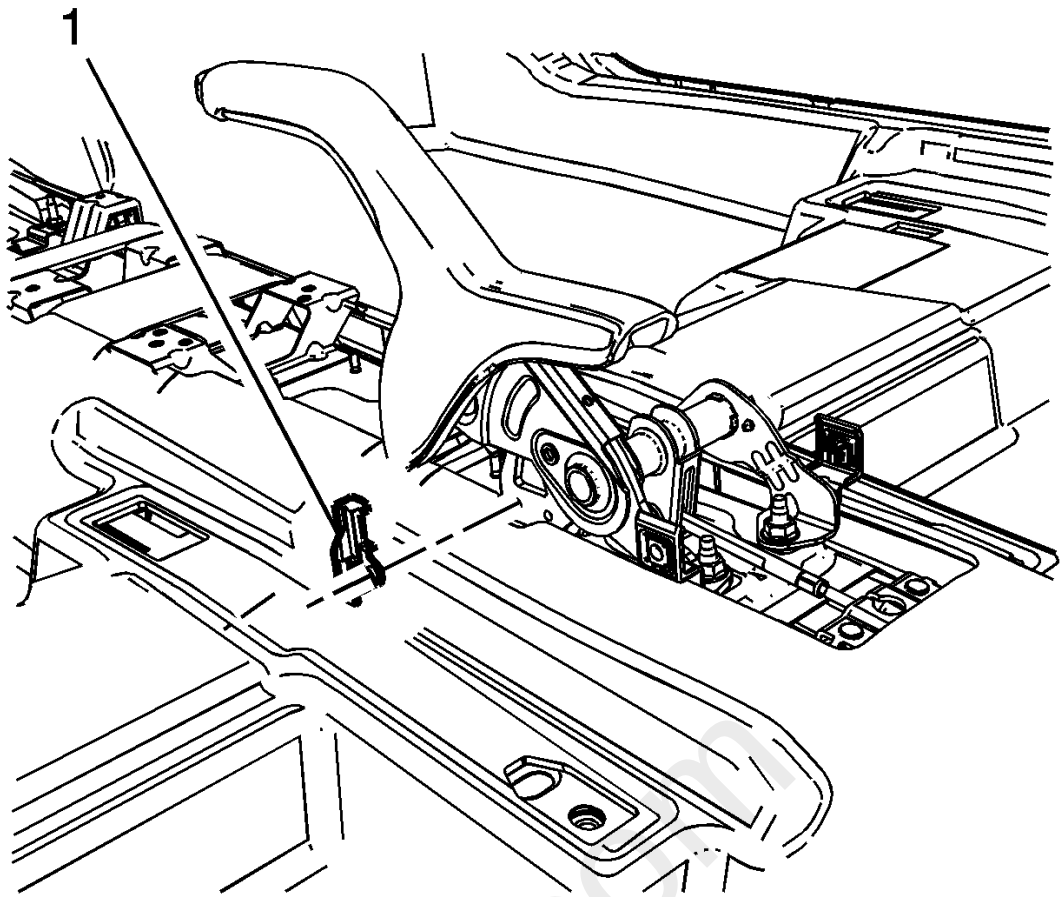


Fig. 11: Parking Brake Indicator Switch
Courtesy of GENERAL MOTORS COMPANY

5. Remove the parking brake indicator switch (1).

Installation Procedure

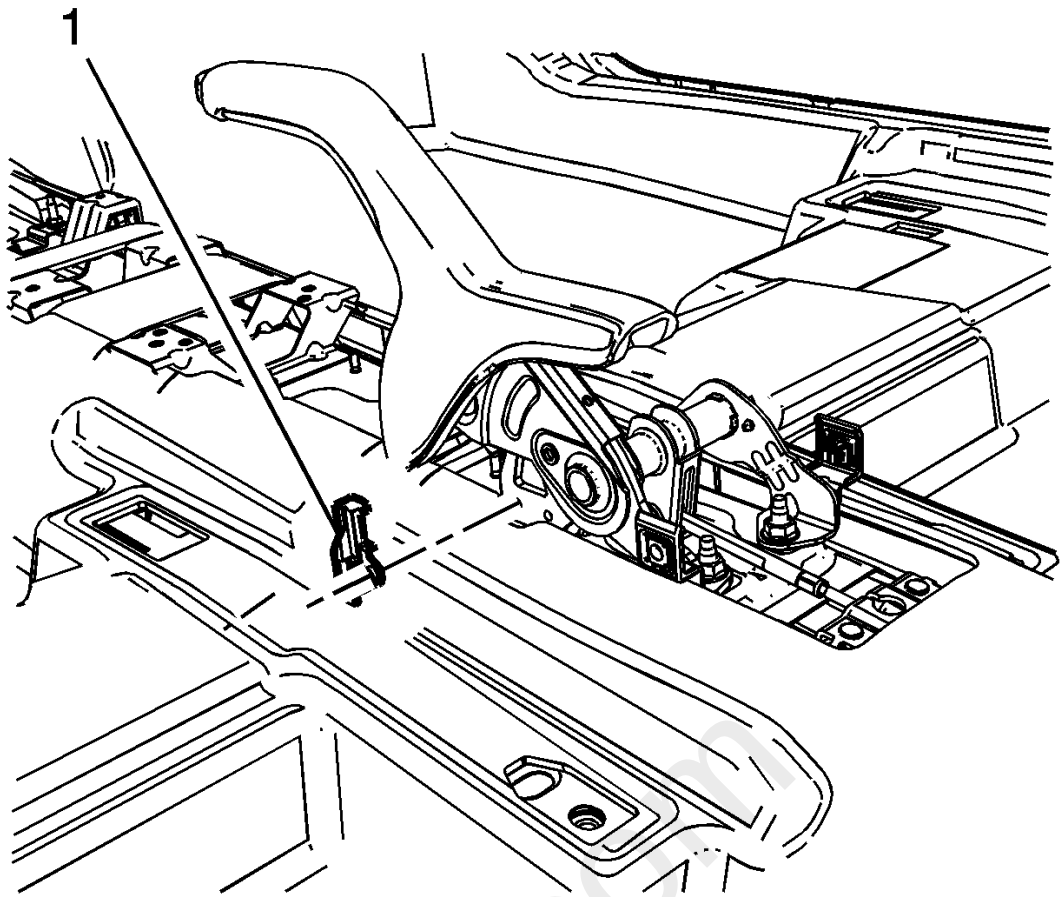


Fig. 12: Parking Brake Indicator Switch
Courtesy of GENERAL MOTORS COMPANY

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

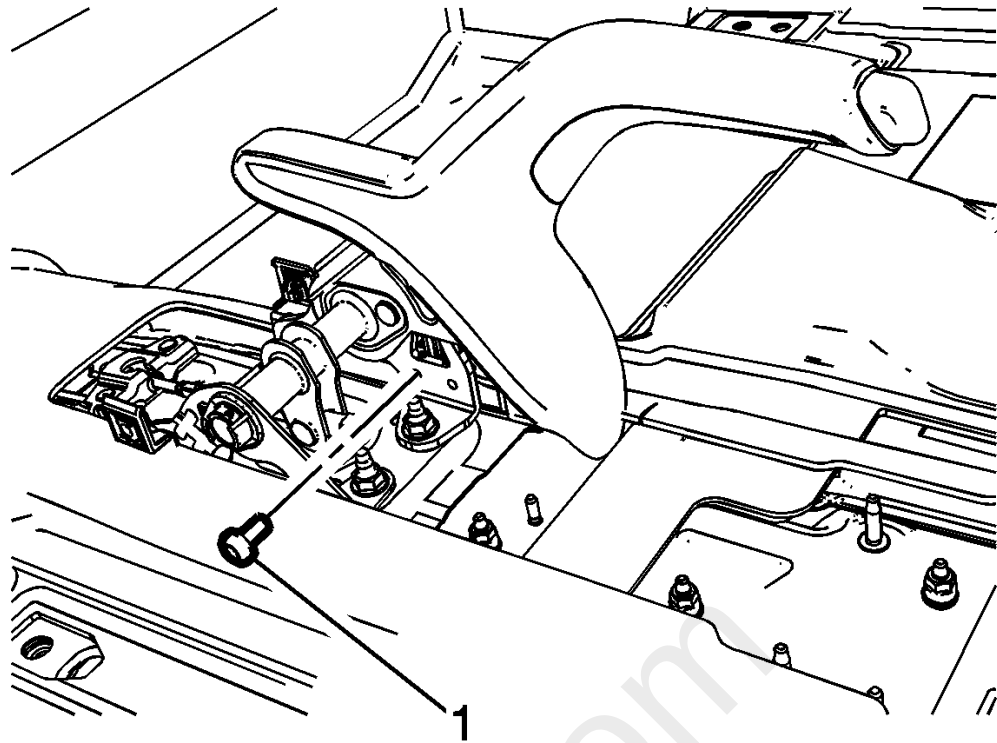


Fig. 13: Parking Brake Indicator Switch Bolt
Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to [Fastener Caution](#) .

2. Install the parking brake indicator switch bolt (1) and tighten to 2 N.m (18 lb in).
3. Connect the electrical connector to the parking brake indicator switch.
4. Install the front floor console assembly. Refer to [Front Floor Console Replacement \(Buick\)](#) [Front Floor Console Replacement \(Chevrolet\)](#) .

PARKING BRAKE CABLE REPLACEMENT

Removal Procedure

WARNING: Refer to [Brake Dust Warning](#) .

1. Raise and support the vehicle. Refer to [Lifting and Jacking the Vehicle](#) .
2. Remove the tire and wheel assembly. Refer to [Tire and Wheel Removal and Installation](#) .
3. Remove the brake shoes. Refer to [Brake Shoe Replacement](#) .

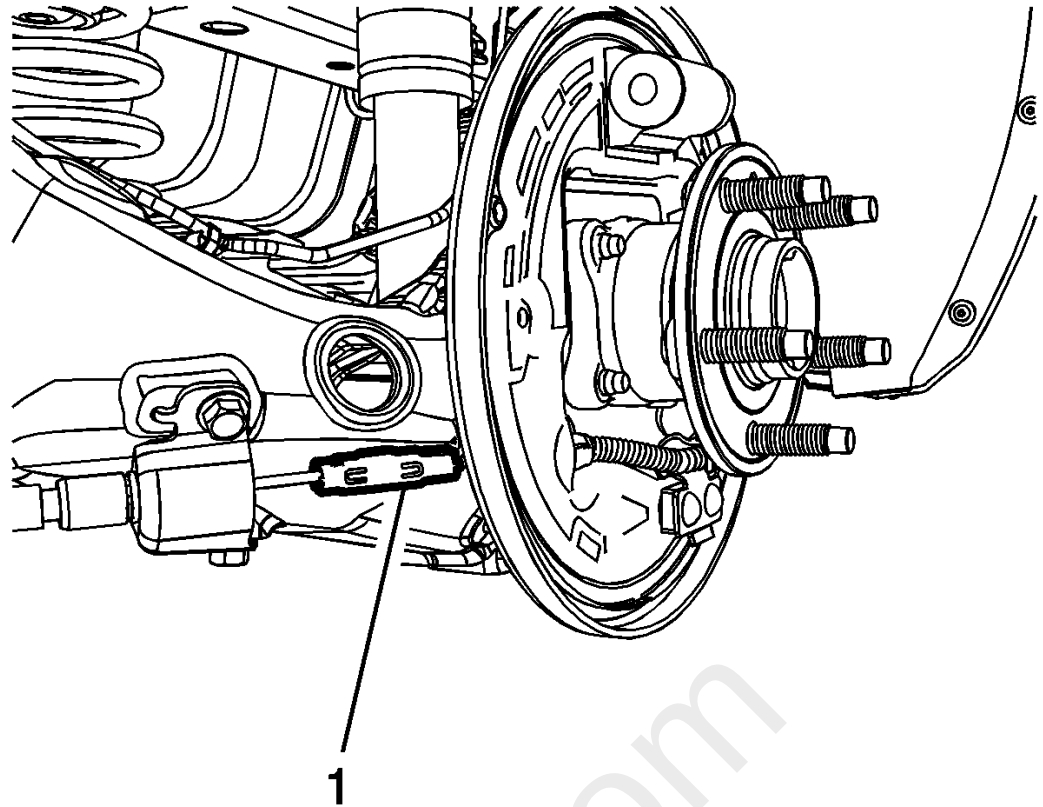


Fig. 14: Parking Brake Rear Cable And Cable Connector

Courtesy of GENERAL MOTORS COMPANY

NOTE: Pull the parking brake rear cable forward to remove the cable from the parking brake cable connector.

4. Disconnect the parking brake cable from the parking brake rear cable connector (1).

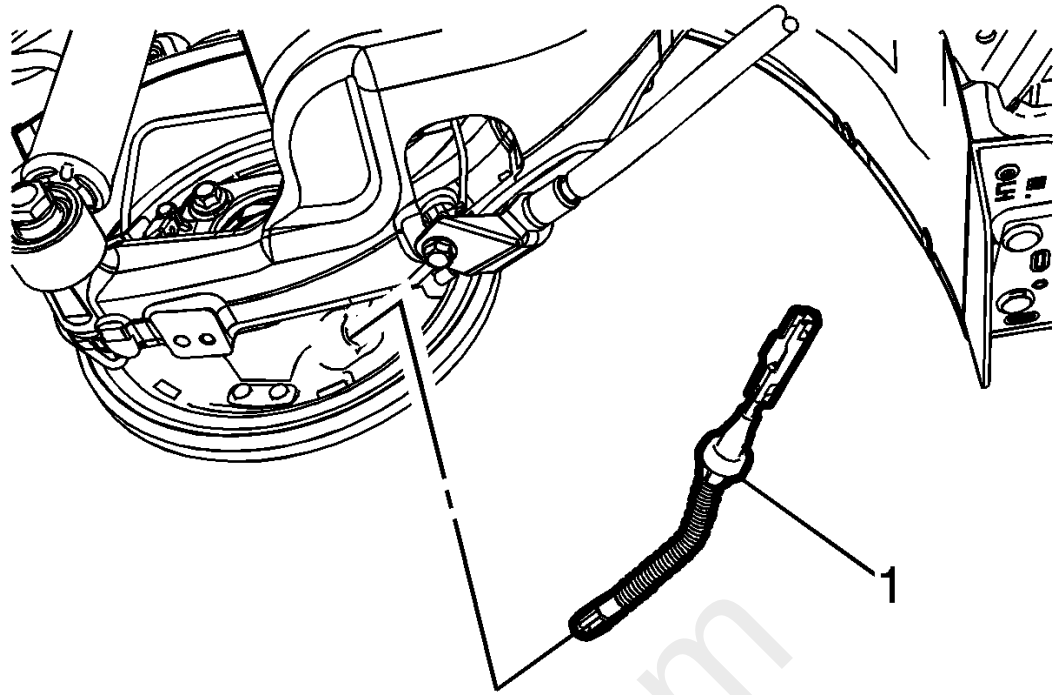


Fig. 15: Parking Brake Rear Cable

Courtesy of GENERAL MOTORS COMPANY

5. Compress the parking brake rear cable locking tabs and remove the parking brake rear cable (1) from the rear brake backing plate.

Installation Procedure

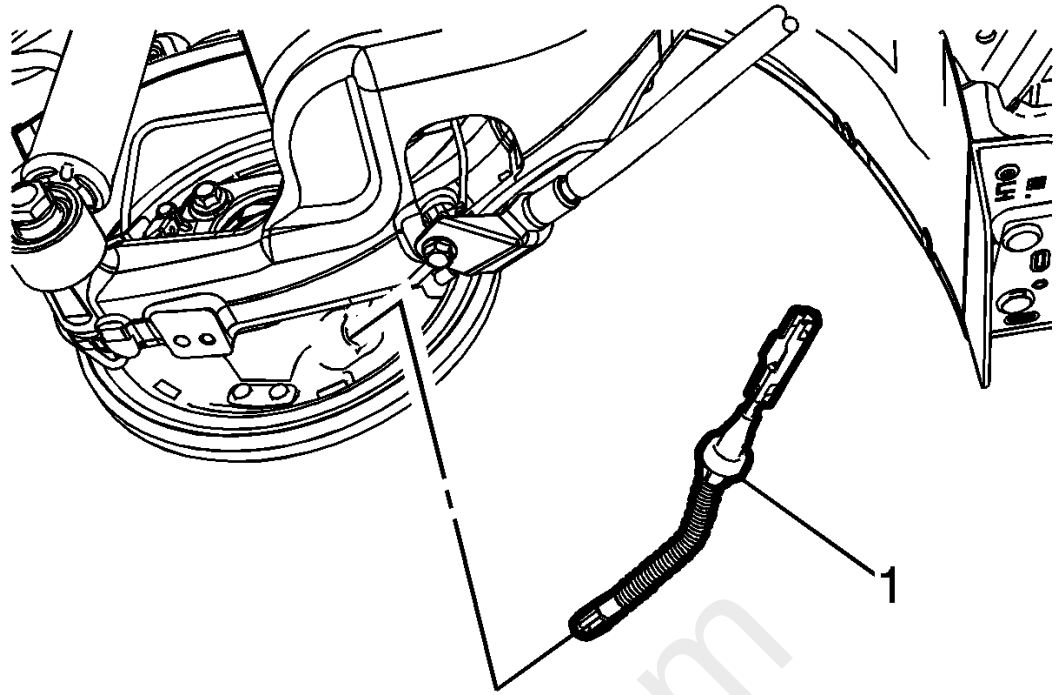


Fig. 16: Parking Brake Rear Cable

Courtesy of GENERAL MOTORS COMPANY

NOTE: Ensure the locking tabs on the parking brake rear cable are fully engaged to the rear brake backing plate.

1. Install the parking brake rear cable (1) to the rear brake backing plate.
2. Ensure the parking brake rear cable locking tabs are fully engaged in the rear brake backing plate.

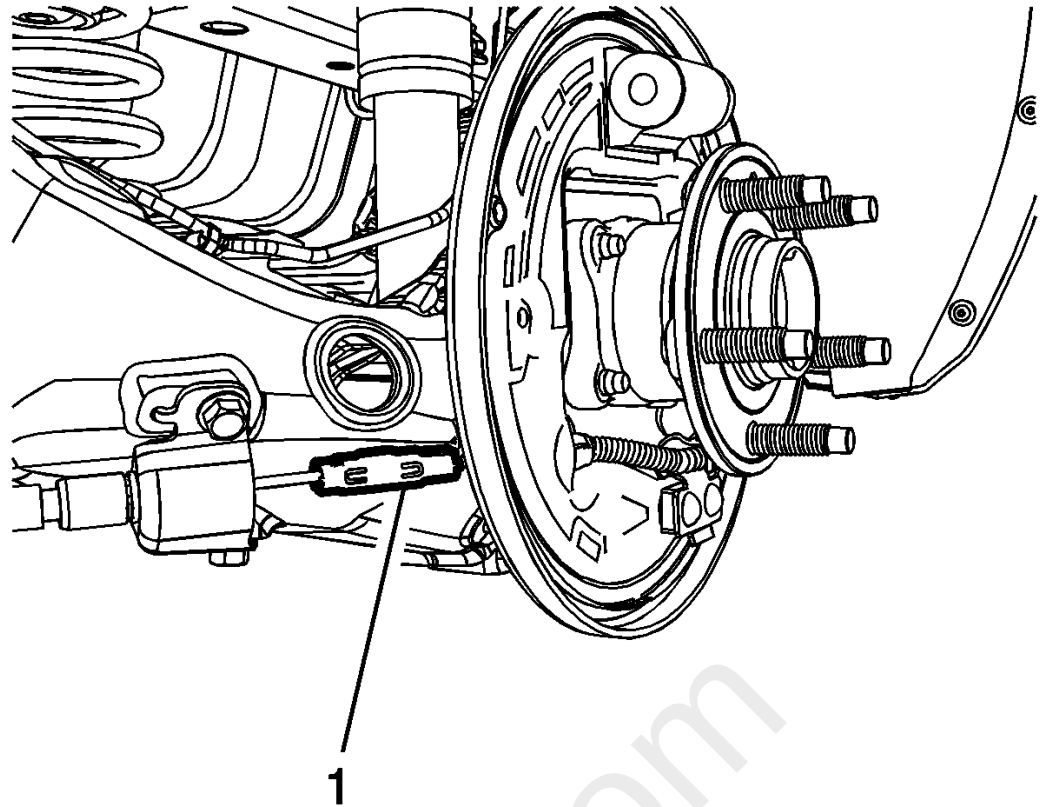


Fig. 17: Parking Brake Rear Cable And Cable Connector
Courtesy of GENERAL MOTORS COMPANY

NOTE: Pull the parking brake rear cable forward to install the cable to the parking brake cable connector.

3. Connect the parking brake cable to the parking brake rear cable connector (1).
4. Install the brake shoes. Refer to [Brake Shoe Replacement](#) .
5. Install the tire and wheel assembly. Refer to [Tire and Wheel Removal and Installation](#) .

PARKING BRAKE FRONT CABLE REPLACEMENT

Removal Procedure

1. Remove the front floor console. Refer to [Front Floor Console Replacement \(Buick\)](#) [Front Floor Console Replacement \(Chevrolet\)](#) .
2. Ensure that the park brake lever is in the fully released position.
3. Disconnect the electrical connector from the parking brake indicator switch.

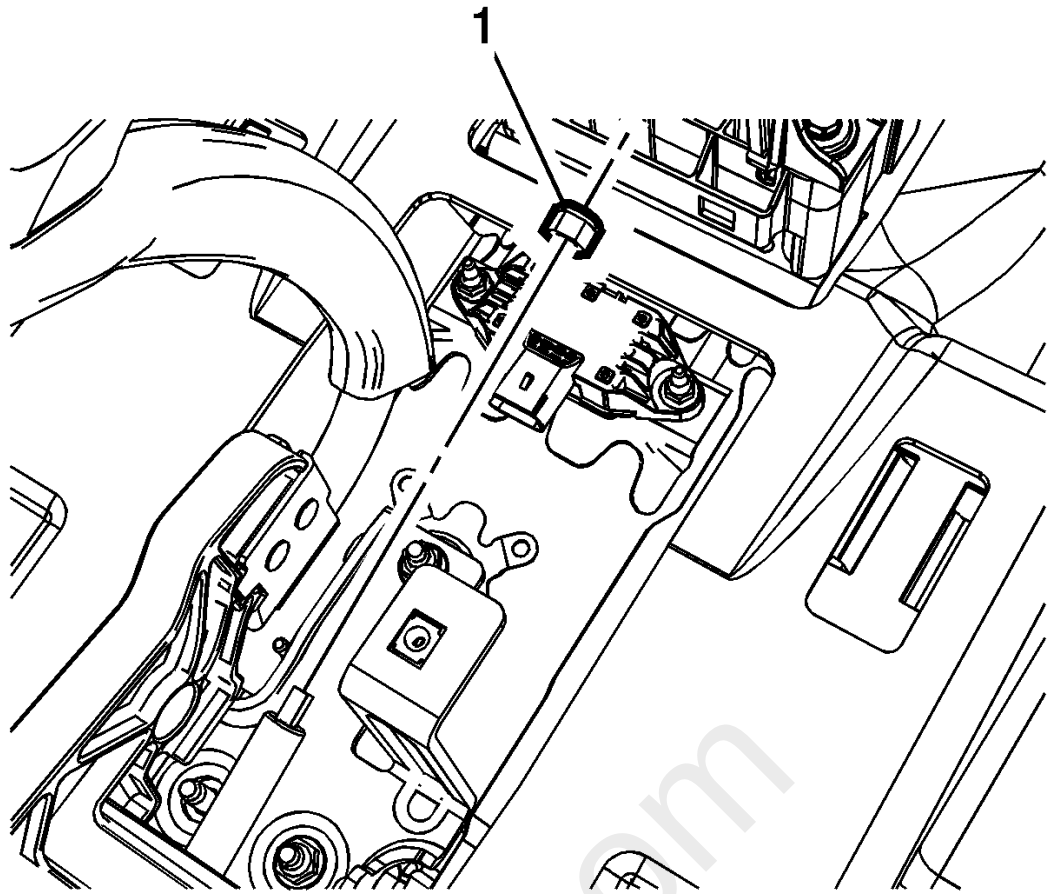


Fig. 18: Parking Brake Front Cable Adjuster Nut
Courtesy of GENERAL MOTORS COMPANY

4. Using ONLY HAND TOOLS, remove the adjusting nut (1) from the parking brake front cable threaded rod.

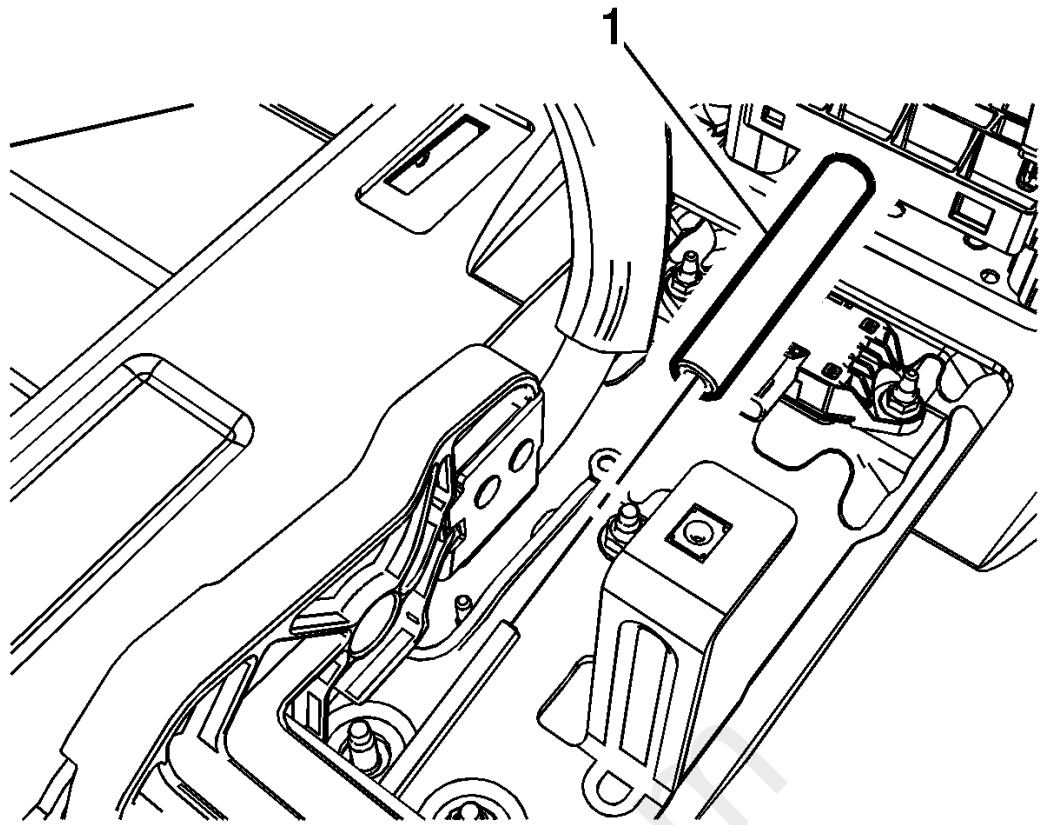


Fig. 19: Front Cable Tube Spacer

Courtesy of GENERAL MOTORS COMPANY

5. Remove the parking brake front cable tube spacer washer (1).

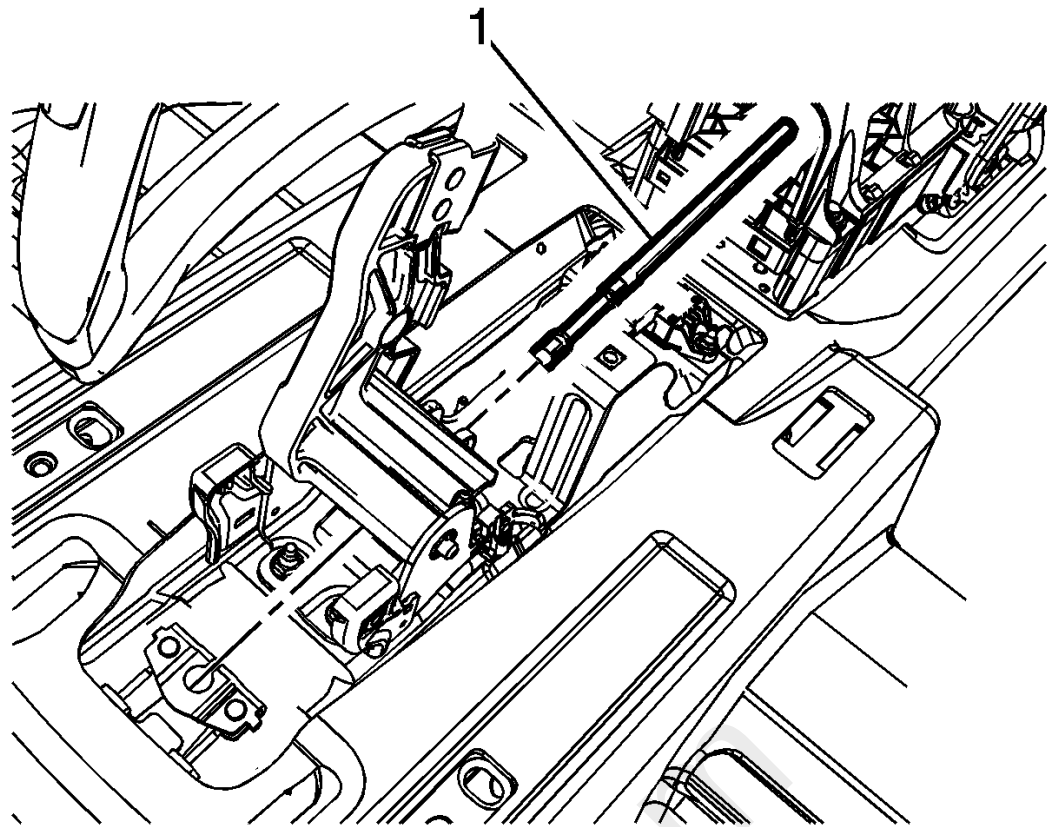


Fig. 20: Front Parking Brake Cable

Courtesy of GENERAL MOTORS COMPANY

6. Disconnect the front parking brake cable from the rear parking brake cable equalizer.
7. Remove the front parking brake cable (1) from the parking brake lever.

Installation Procedure

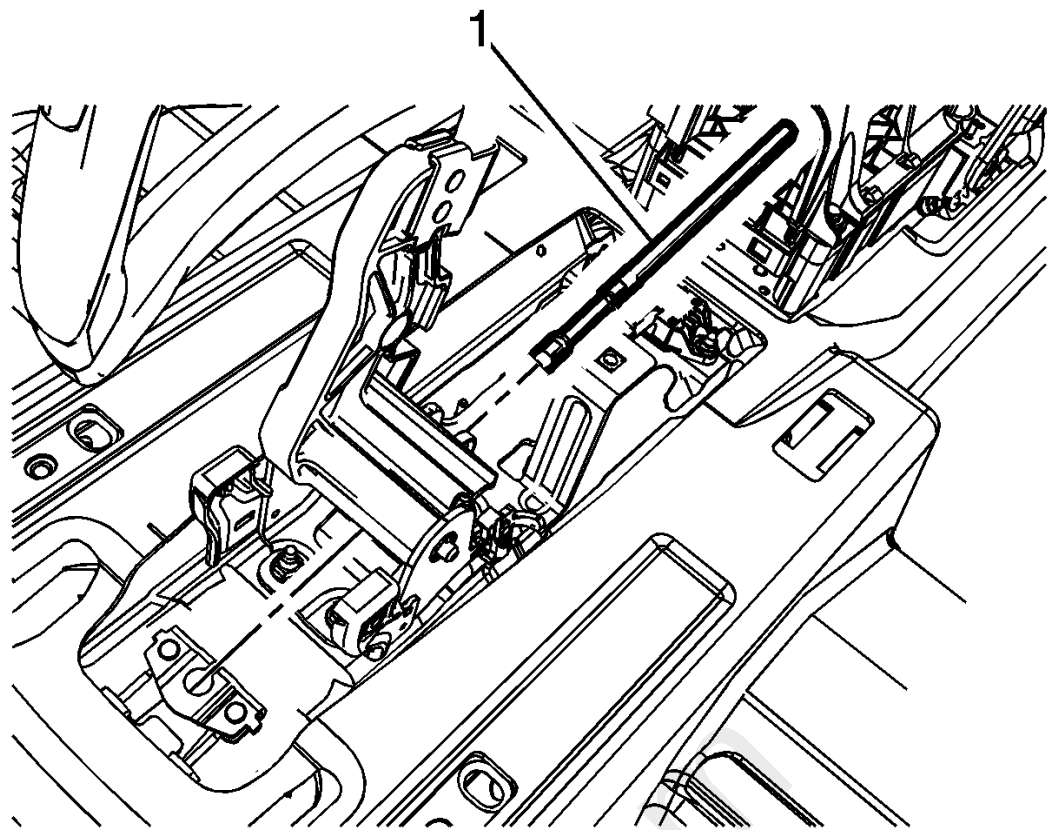


Fig. 21: Front Parking Brake Cable

Courtesy of GENERAL MOTORS COMPANY

1. Install the front parking brake cable (1) to the parking brake lever.
2. Connect the front parking brake cable to the rear parking brake cable equalizer.
3. Visually inspect that the front parking brake cable is securely installed to the rear parking brake cable equalizer.

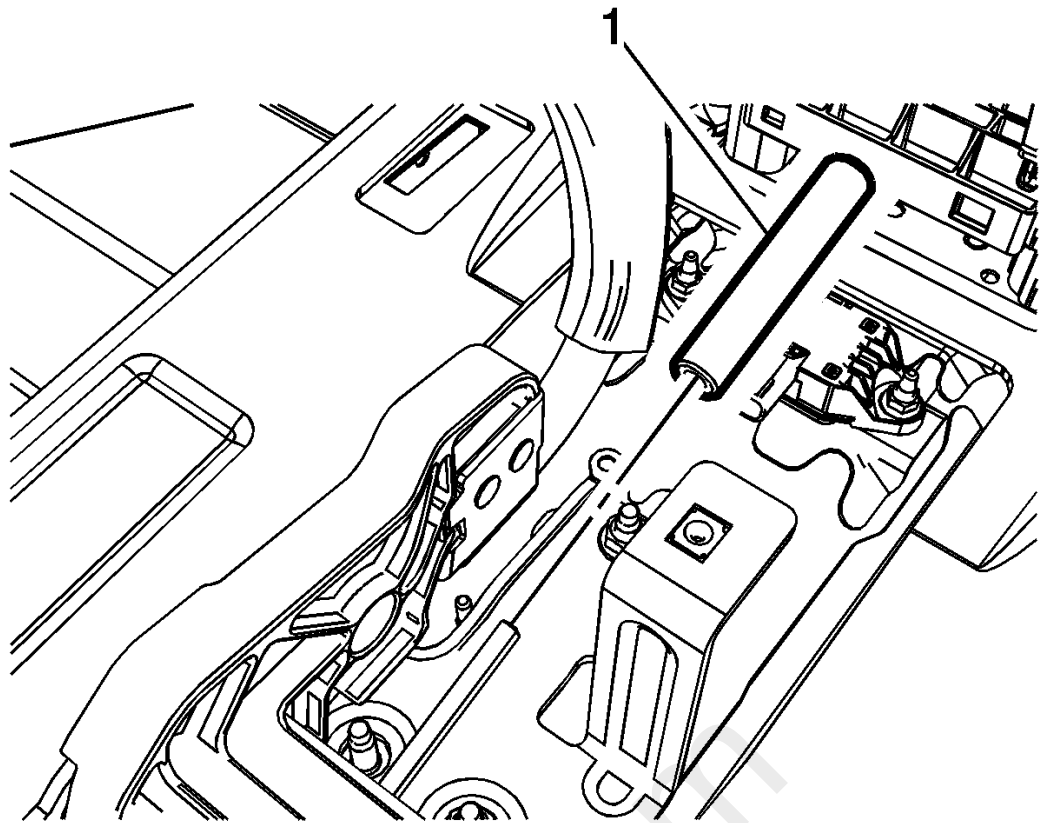


Fig. 22: Front Cable Tube Spacer

Courtesy of GENERAL MOTORS COMPANY

4. Install the parking brake front cable tube spacer washer (1).

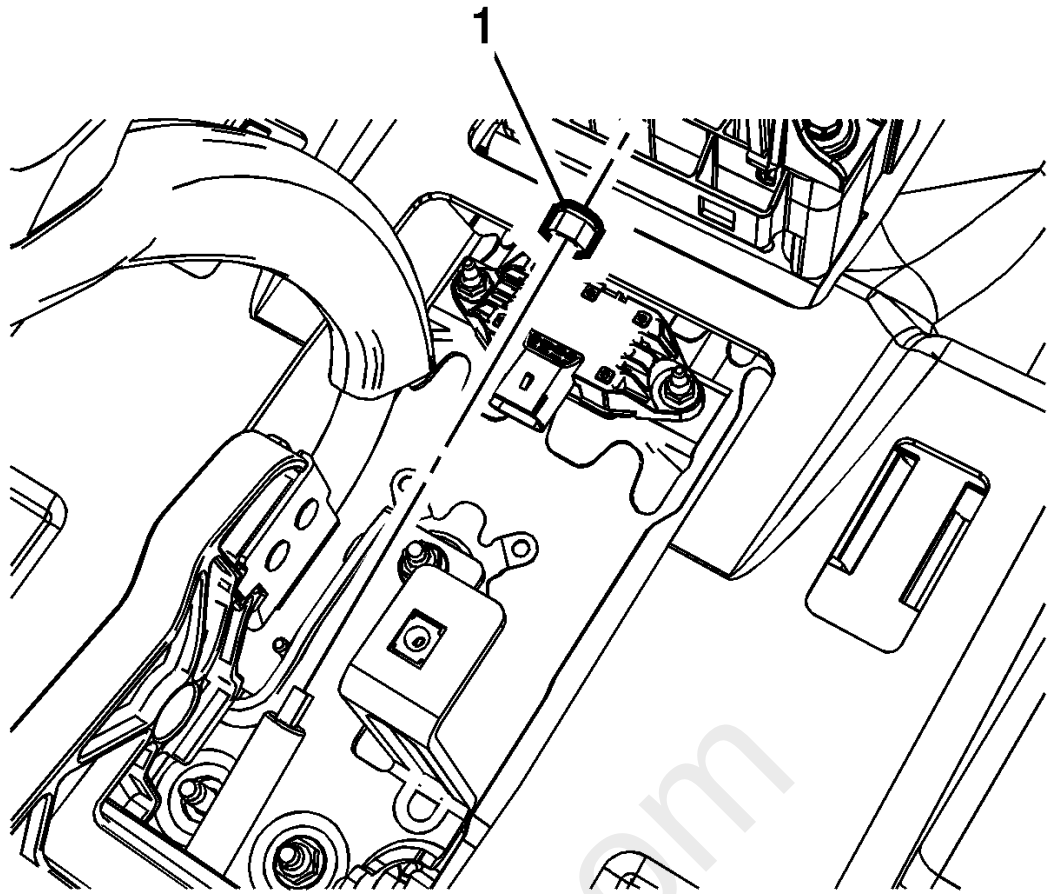


Fig. 23: Parking Brake Front Cable Adjuster Nut
Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to [Fastener Caution](#) .

5. Loosely install the adjusting nut (1) to front cable threaded rod.
6. Adjust the parking brake cable tension. Refer to [Parking Brake Adjustment \(Disc Brake\)](#)[Parking Brake Adjustment \(Drum Brake\)](#).
7. Install the front floor console. Refer to [Front Floor Console Replacement \(Buick\)](#) [Front Floor Console Replacement \(Chevrolet\)](#) .

PARKING BRAKE REAR CABLE REPLACEMENT (DISC BRAKE)

Removal Procedure

1. Remove the front floor console. Refer to [Front Floor Console Replacement \(Buick\)](#) [Front Floor Console Replacement \(Chevrolet\)](#) .
2. Ensure that the parking brake lever is in the fully released position.

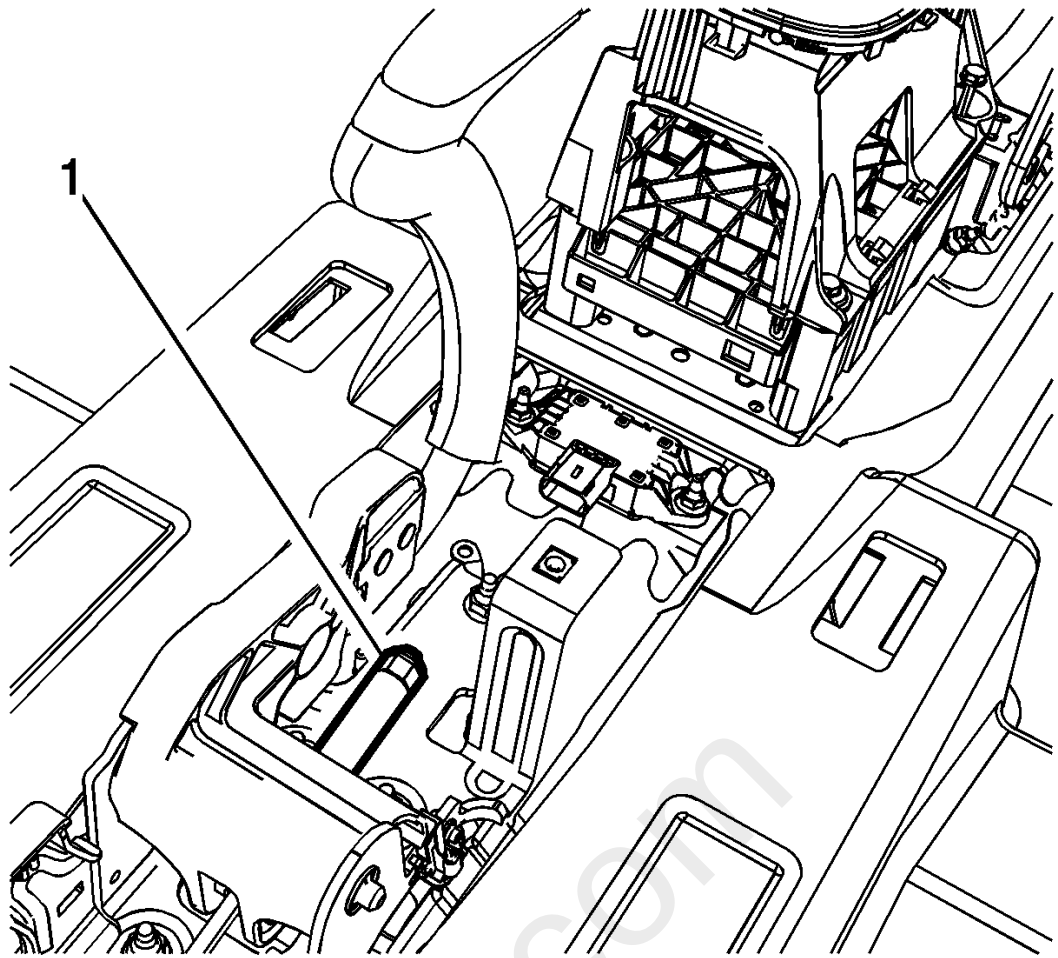


Fig. 24: Front Park Brake Cable Threaded Rod Adjusting Nut
Courtesy of GENERAL MOTORS COMPANY

3. Using ONLY HAND TOOLS, loosen the adjusting nut (1) to the end of the front park brake cable threaded rod.
4. Remove the rear seat cushion. Refer to [Rear Seat Cushion Removal and Installation](#) .
5. Position the rear floor carpet forward to access the parking brake cable pass through grommets.

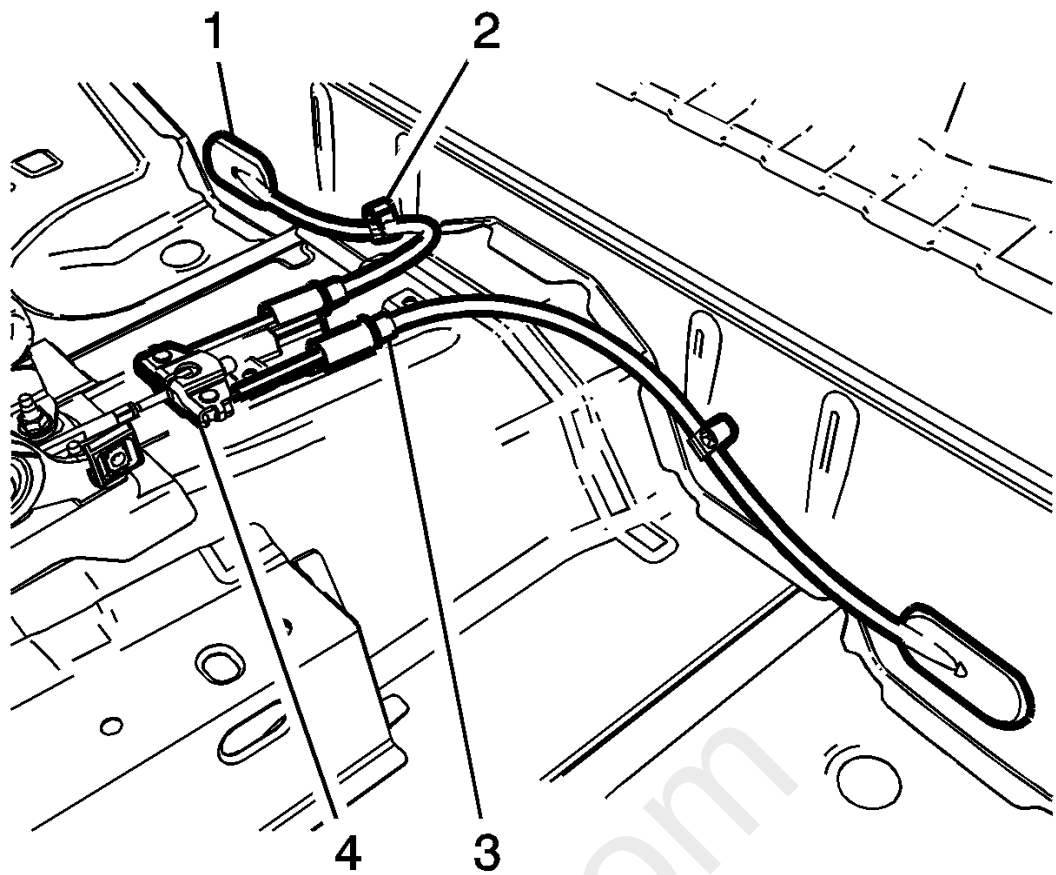


Fig. 25: Parking Brake Cable Components

Courtesy of GENERAL MOTORS COMPANY

6. Release the parking brake cable pass through grommets (1).
7. Release the parking brake cable routing clips (2).
8. Release the parking brake cable collars (3) from the floor tunnel bracket.
9. Disconnect the park brake lever cable from the equalizer (4).
10. Raise and support the vehicle. Refer to [Lifting and Jacking the Vehicle](#) .

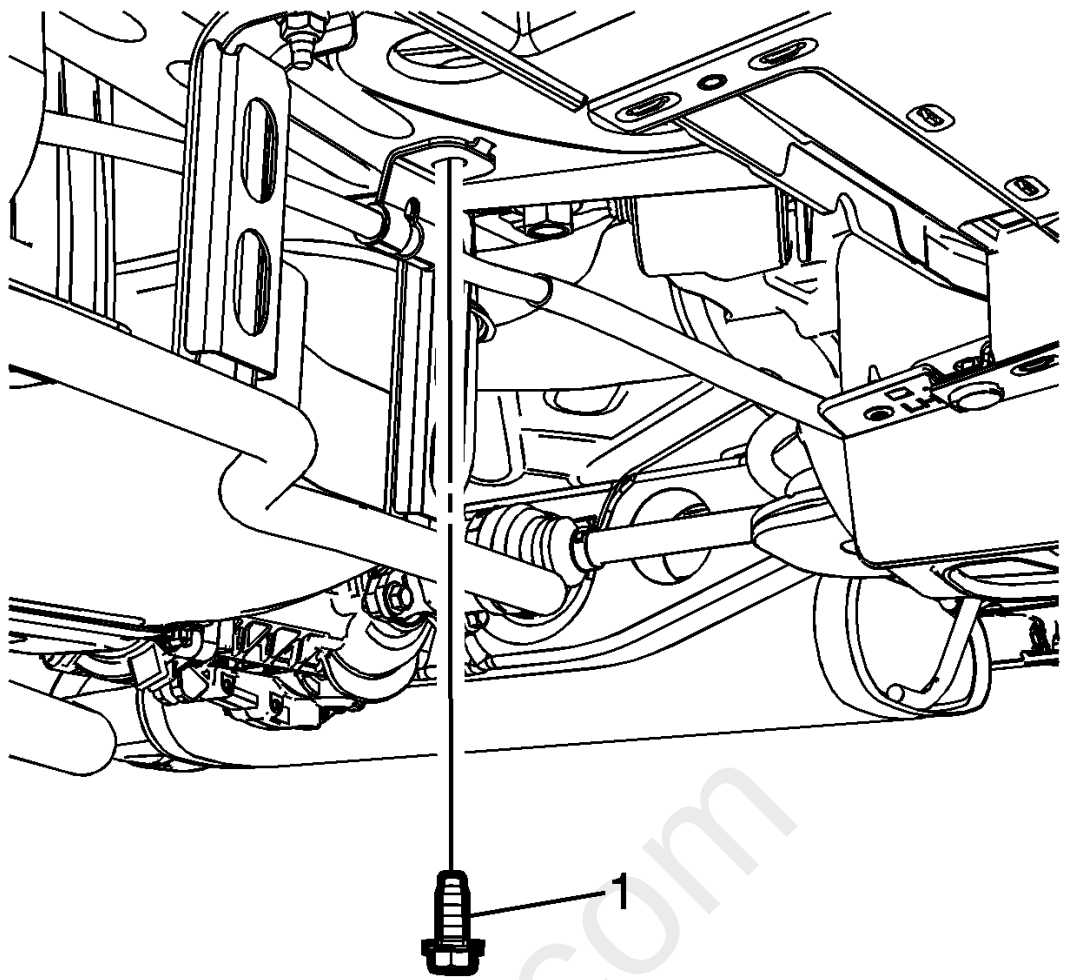


Fig. 26: Front Left Parking Brake Cable Bracket Bolt
Courtesy of GENERAL MOTORS COMPANY

11. Remove the front left parking brake cable bracket bolt (1).

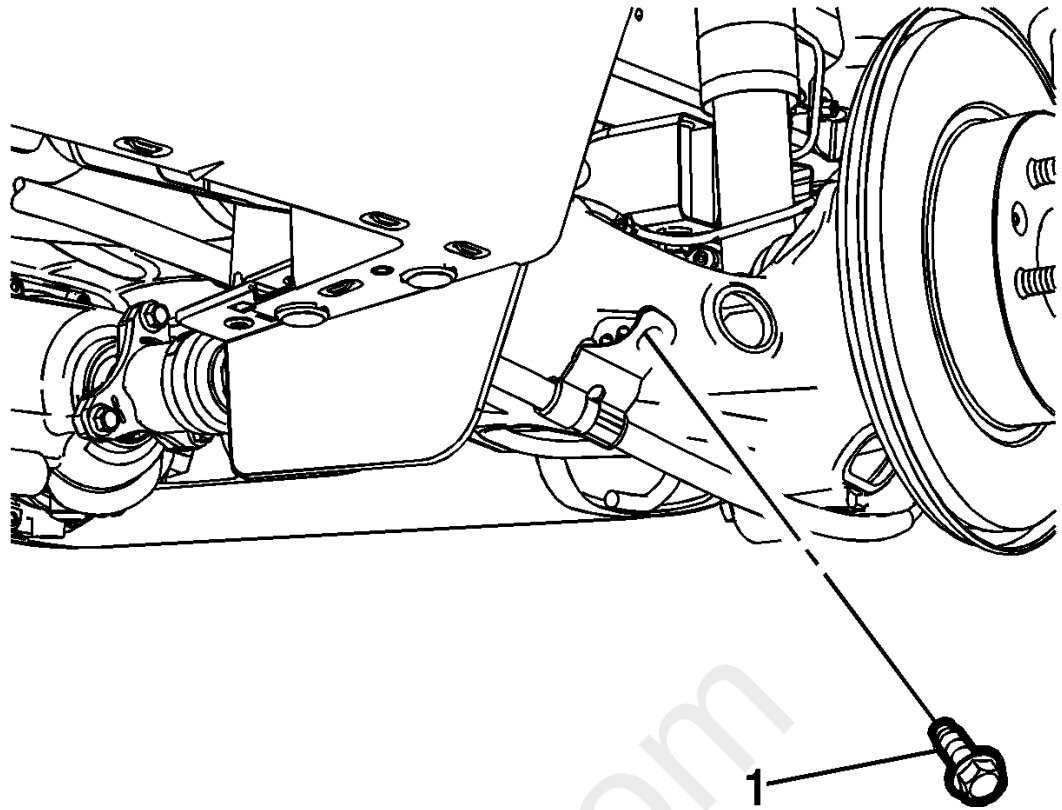


Fig. 27: Rear Left Parking Brake Cable Bracket Bolt
Courtesy of GENERAL MOTORS COMPANY

12. Remove the rear left parking brake cable bracket bolt (1).

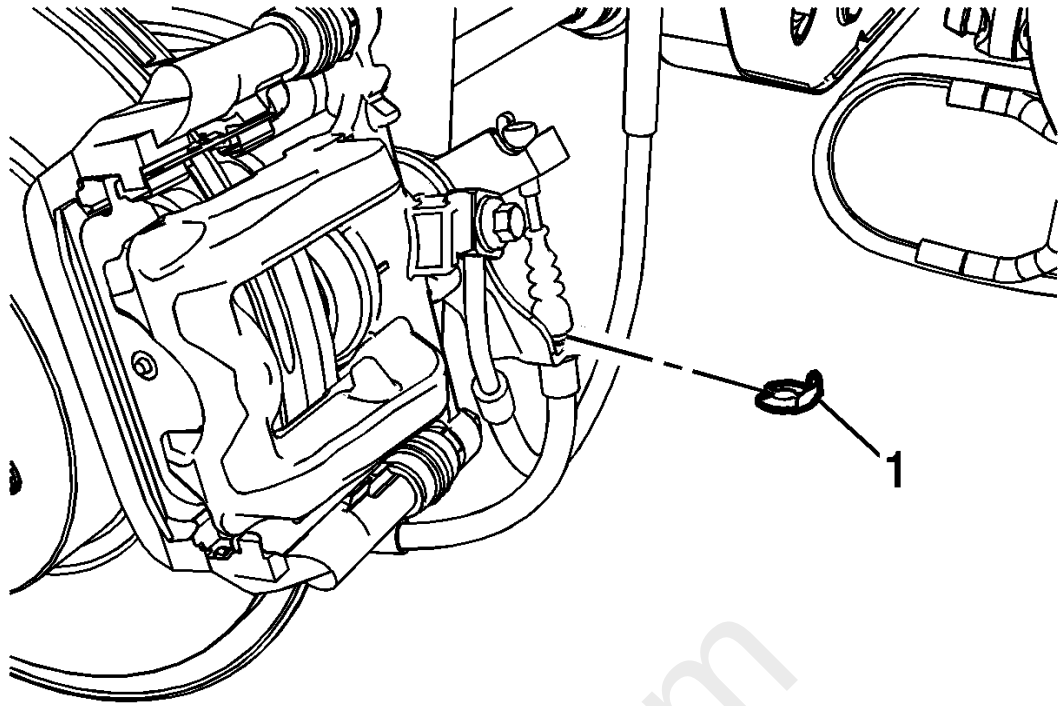


Fig. 28: Parking Brake Cable Retainer

Courtesy of GENERAL MOTORS COMPANY

13. Remove the parking brake cable retainer (1).

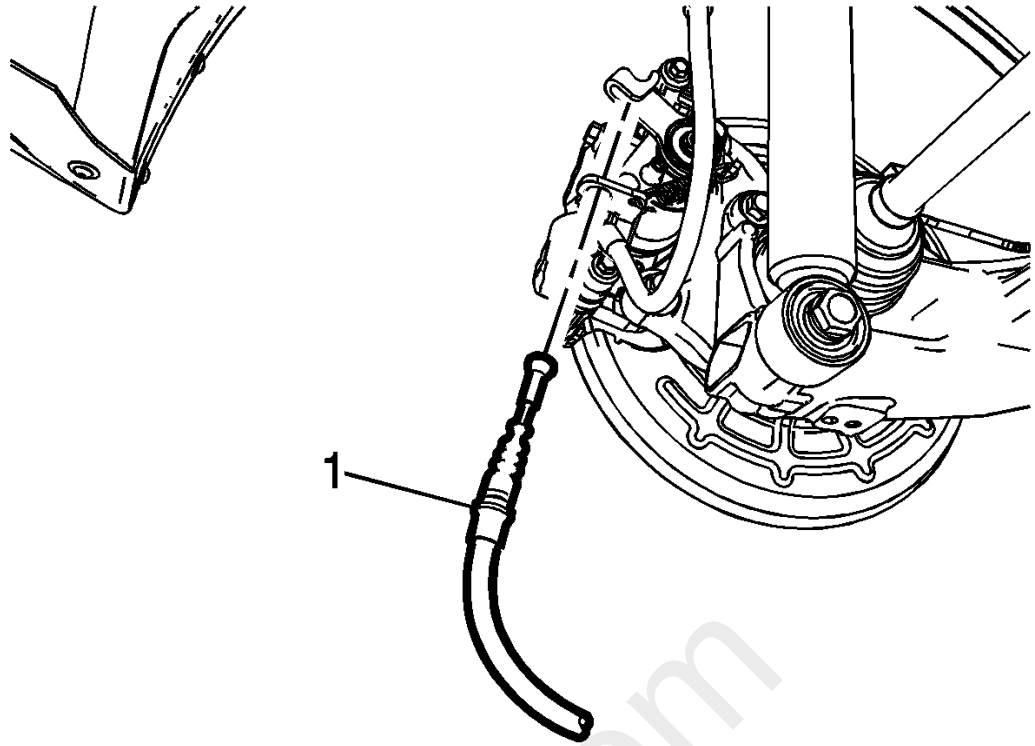


Fig. 29: Left Parking Brake Cable

Courtesy of GENERAL MOTORS COMPANY

14. Disconnect the left parking brake cable (1) from the parking brake actuator lever.

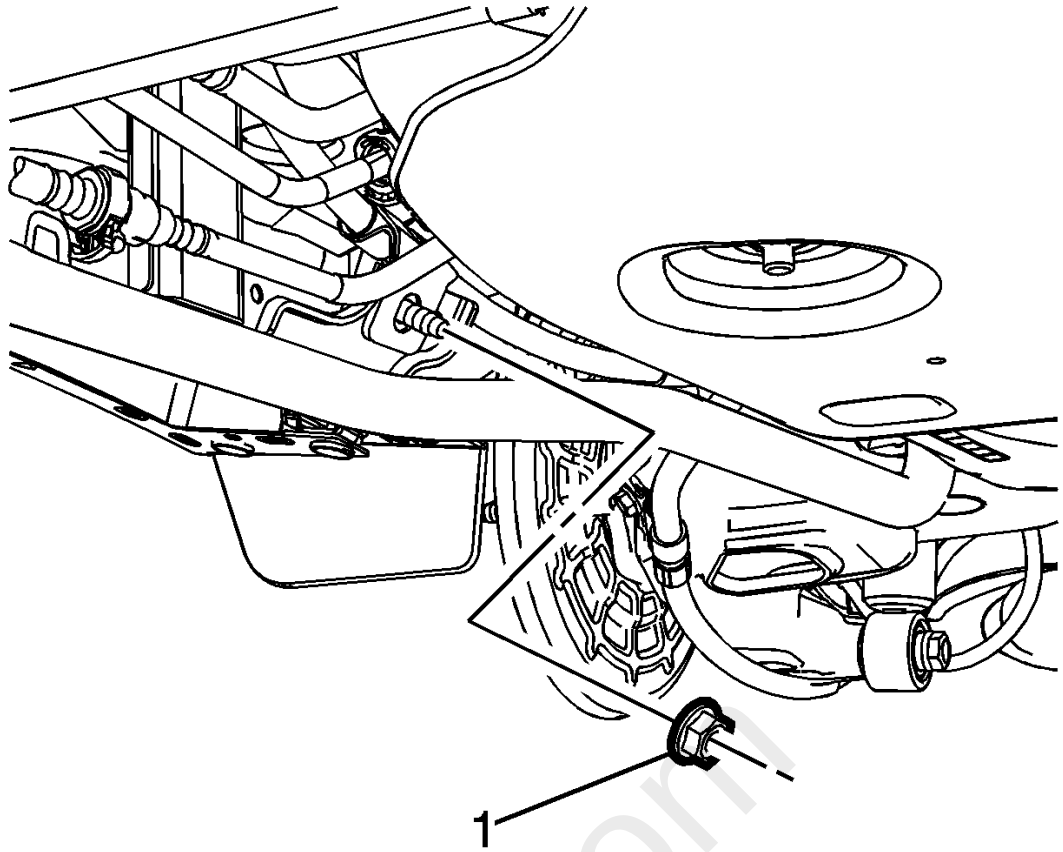


Fig. 30: Front Right Parking Brake Cable Bracket Nut
Courtesy of GENERAL MOTORS COMPANY

15. Remove the front right parking brake cable bracket nut (1).

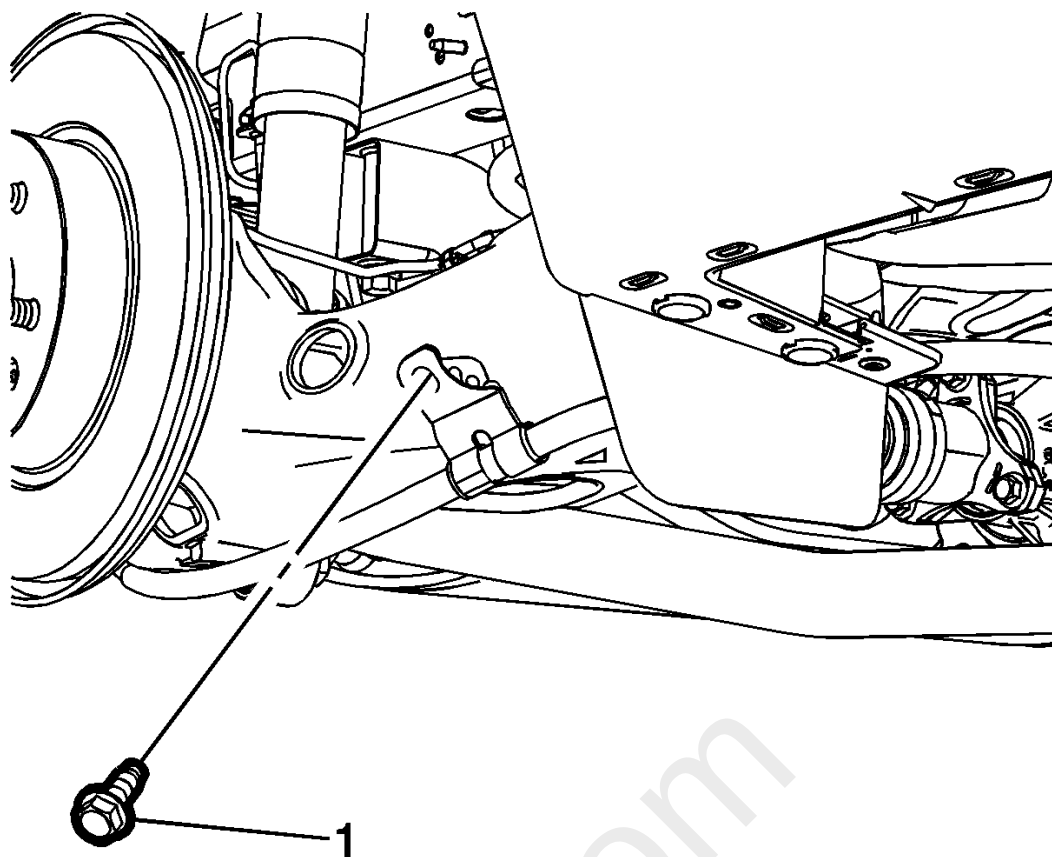


Fig. 31: Cable Bracket Bolt

Courtesy of GENERAL MOTORS COMPANY

16. Remove the rear right parking brake cable bracket bolt (1).

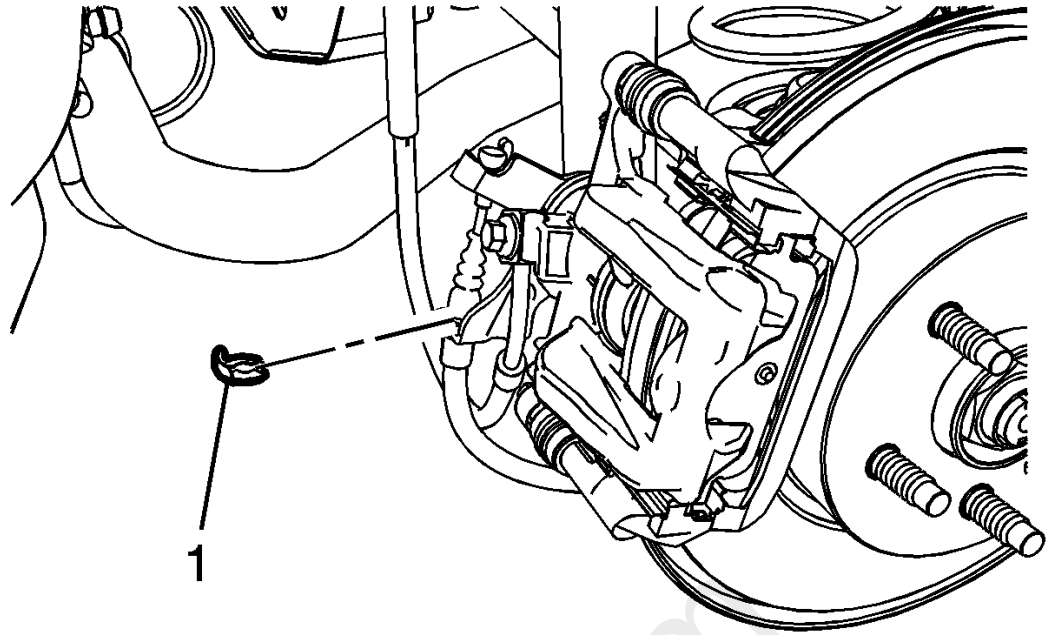


Fig. 32: Parking Brake Cable Retainer
Courtesy of GENERAL MOTORS COMPANY

17. Remove the parking brake cable retainer (1).

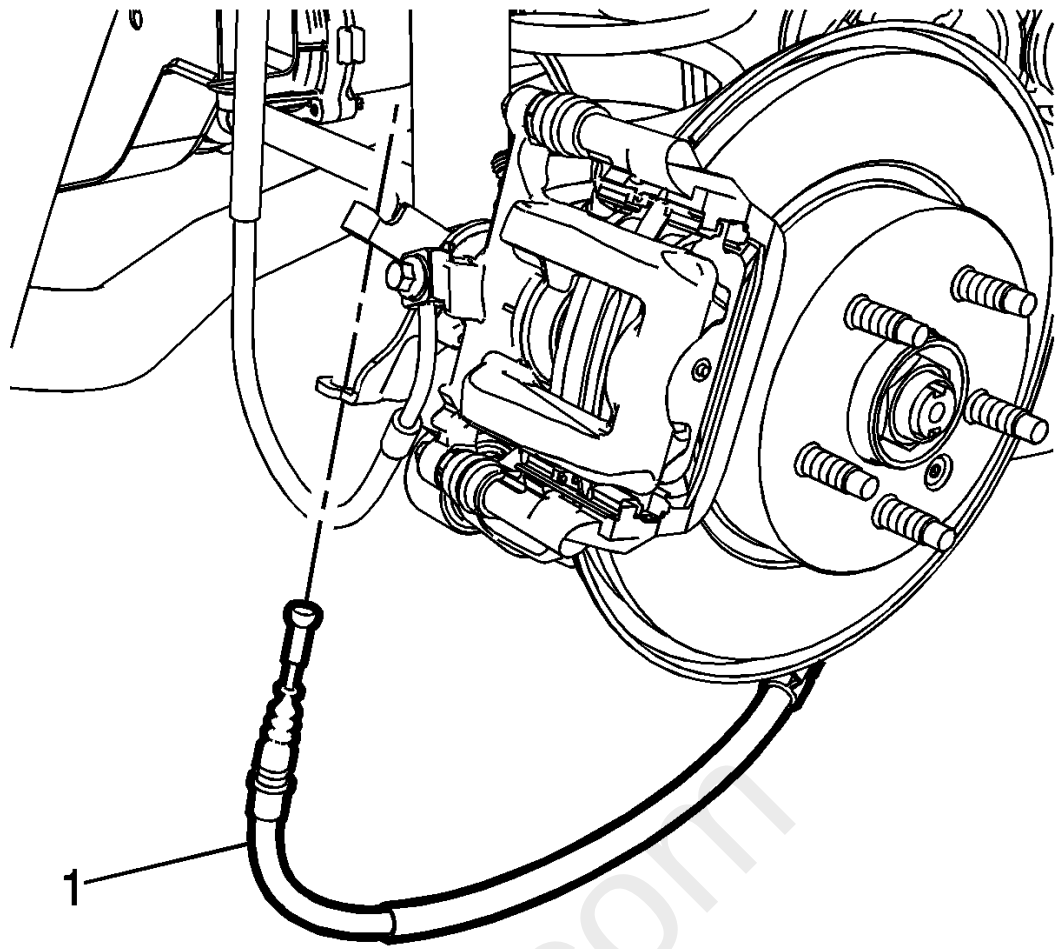


Fig. 33: Right Parking Brake Cable

Courtesy of GENERAL MOTORS COMPANY

18. Disconnect the right parking brake cable (1) from the parking brake actuator lever.
19. Feed the parking brake cable through the vehicle body.
20. Lower the vehicle and remove the parking brake cable and equalizer assembly from inside the vehicle.

Installation Procedure

1. From inside the vehicle, feed the parking brake cable ends through the vehicle body.

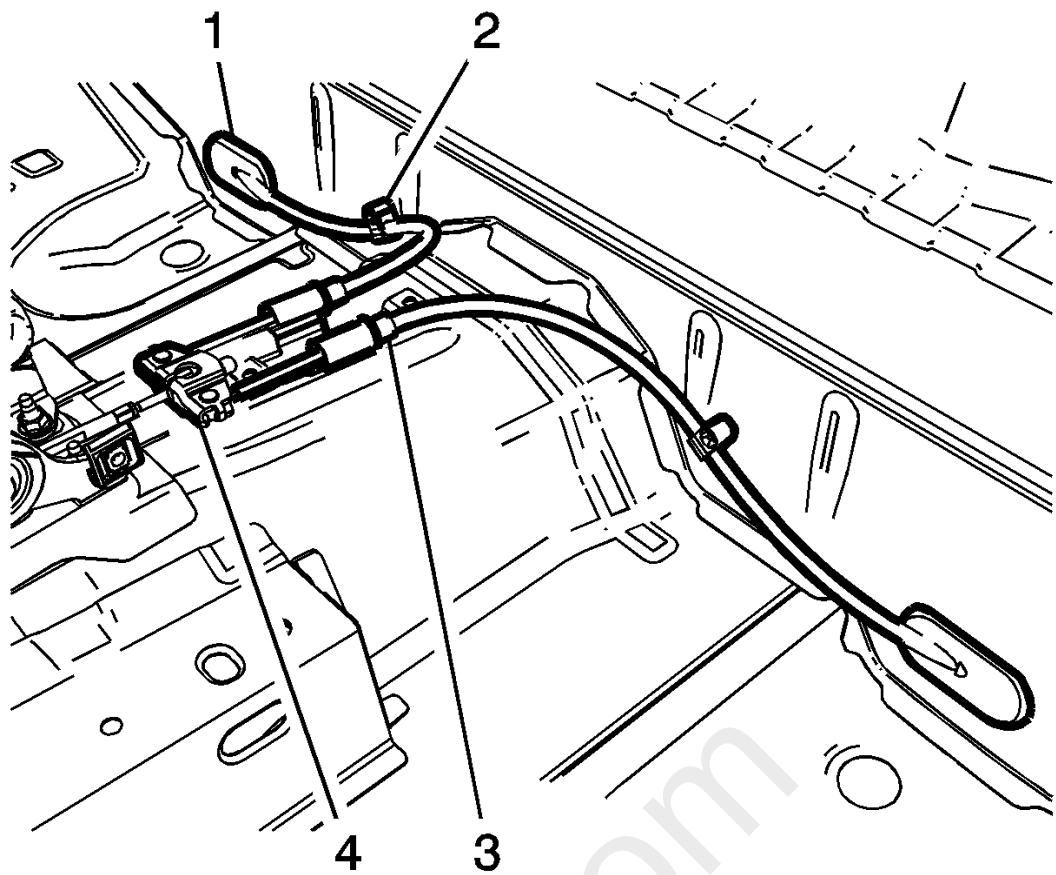


Fig. 34: Parking Brake Cable Components
Courtesy of GENERAL MOTORS COMPANY

2. Install the parking brake cable pass through grommets (1).
3. Install the parking brake cable routing clips (2).
4. Install the parking brake cable collars (3) to the floor tunnel bracket.
5. Connect the park brake lever cable to the park brake cable equalizer (4).
6. Reposition the rear floor carpet.
7. Install the rear seat cushion. Refer to [**Rear Seat Cushion Removal and Installation**](#) .
8. Raise and support the vehicle. Refer to [**Lifting and Jacking the Vehicle**](#) .

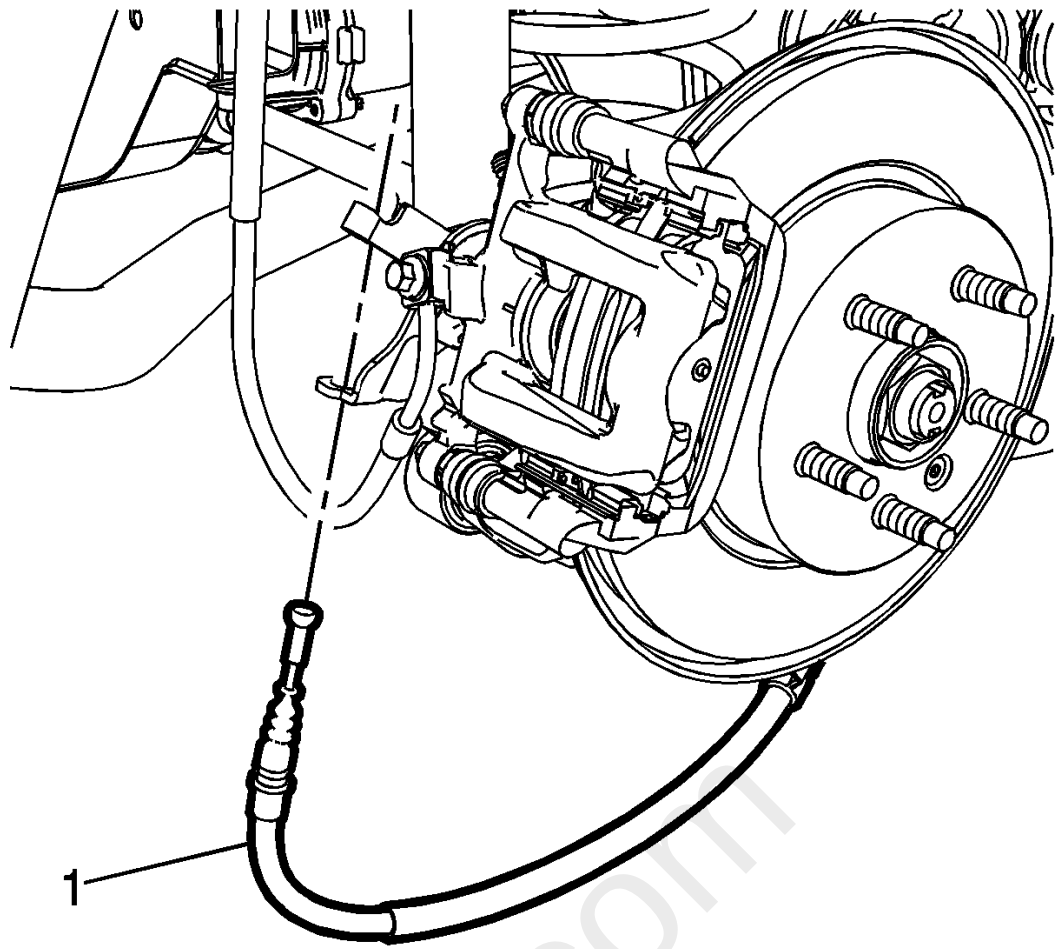


Fig. 35: Right Parking Brake Cable

Courtesy of GENERAL MOTORS COMPANY

9. Connect the right parking brake cable (1) to the parking brake actuator lever.

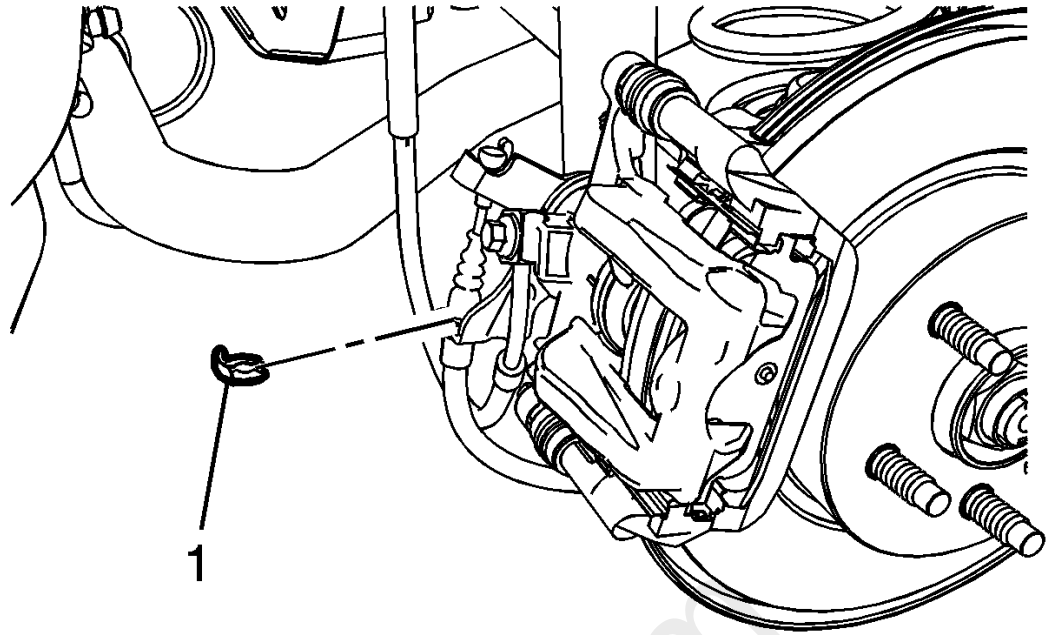


Fig. 36: Parking Brake Cable Retainer

Courtesy of GENERAL MOTORS COMPANY

10. Install the parking brake cable retainer (1).

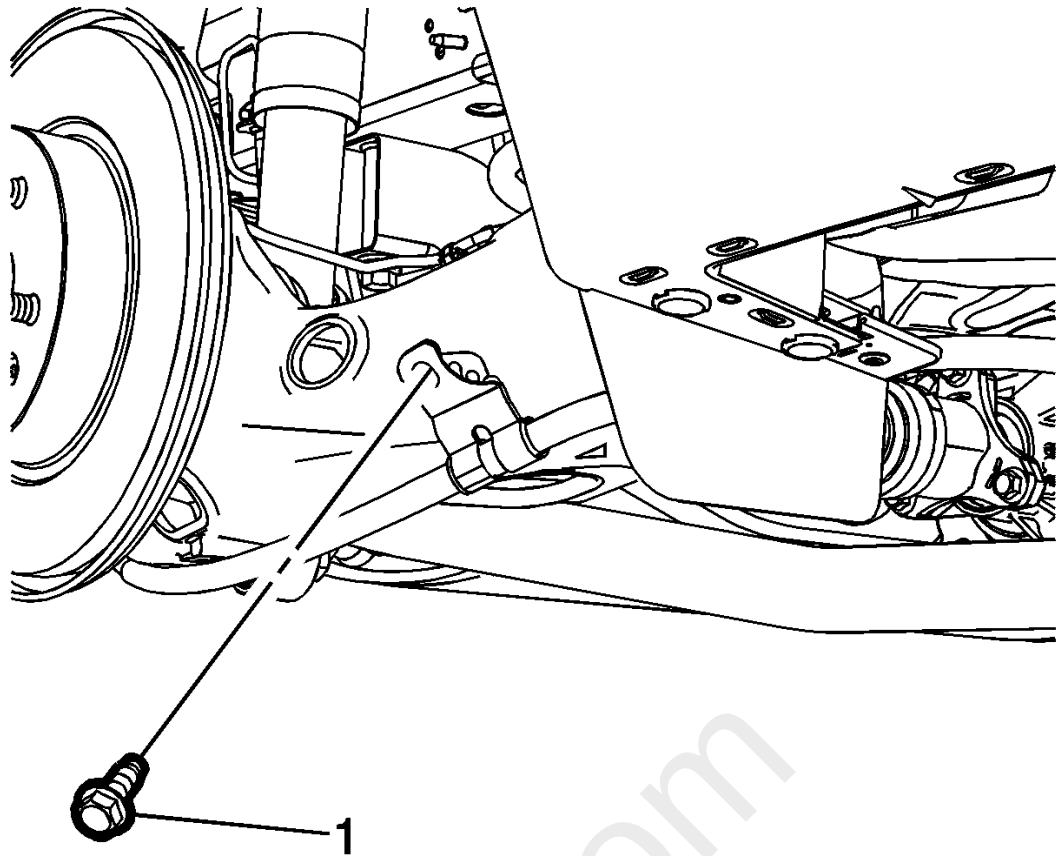


Fig. 37: Cable Bracket Bolt

Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to **Fastener Caution** .

11. Install the rear right parking brake cable bracket bolt (1) and tighten to 22 N.m (16 lb ft).

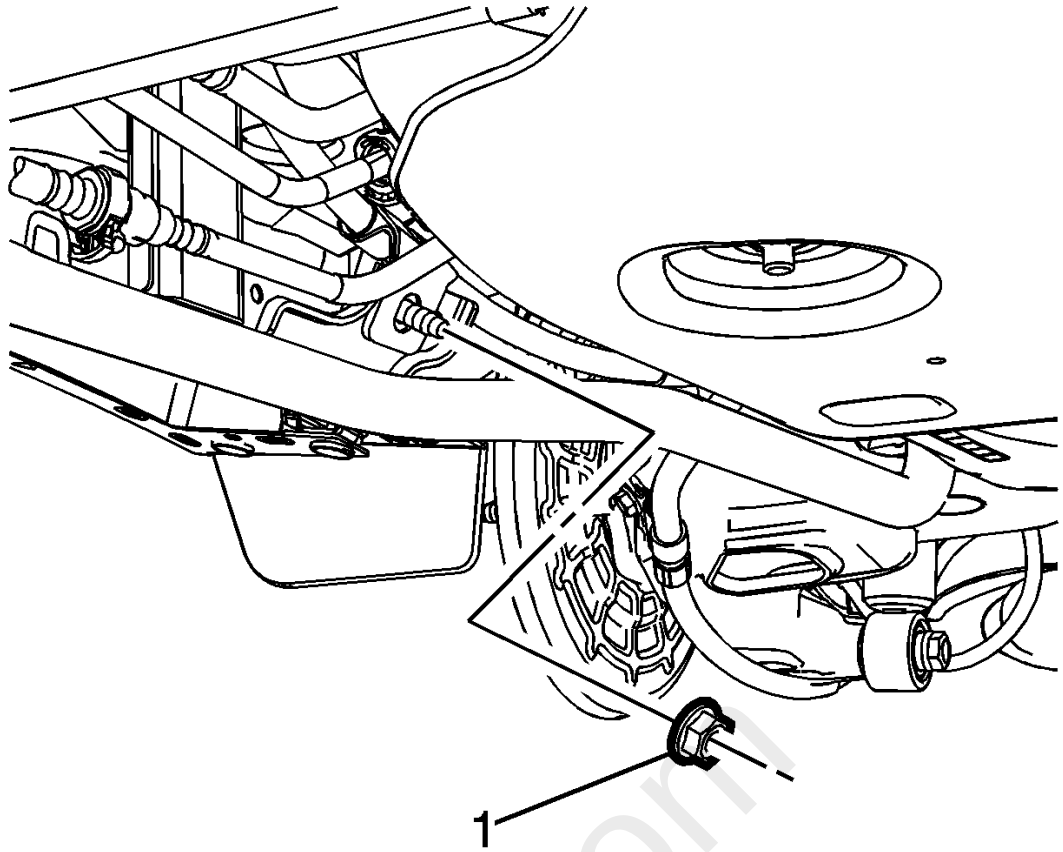


Fig. 38: Front Right Parking Brake Cable Bracket Nut
Courtesy of GENERAL MOTORS COMPANY

12. Install the front right parking brake cable bracket nut (1) and tighten to 22 N.m (16 lb ft).

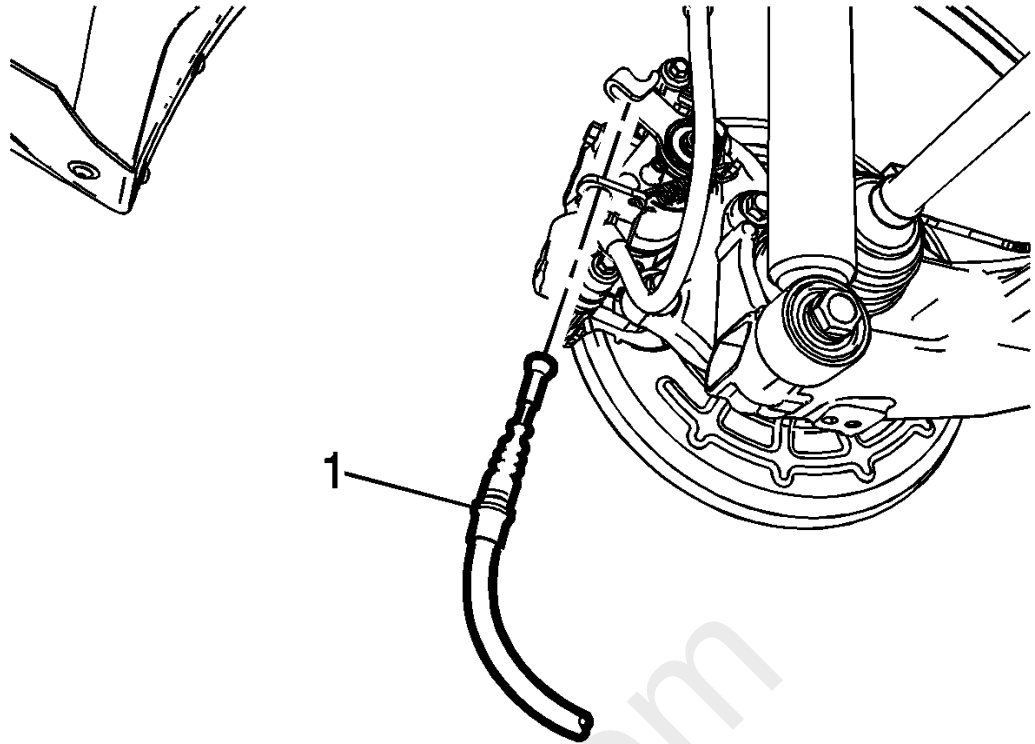


Fig. 39: Left Parking Brake Cable

Courtesy of GENERAL MOTORS COMPANY

13. Connect the left parking brake cable (1) to the parking brake actuator lever.

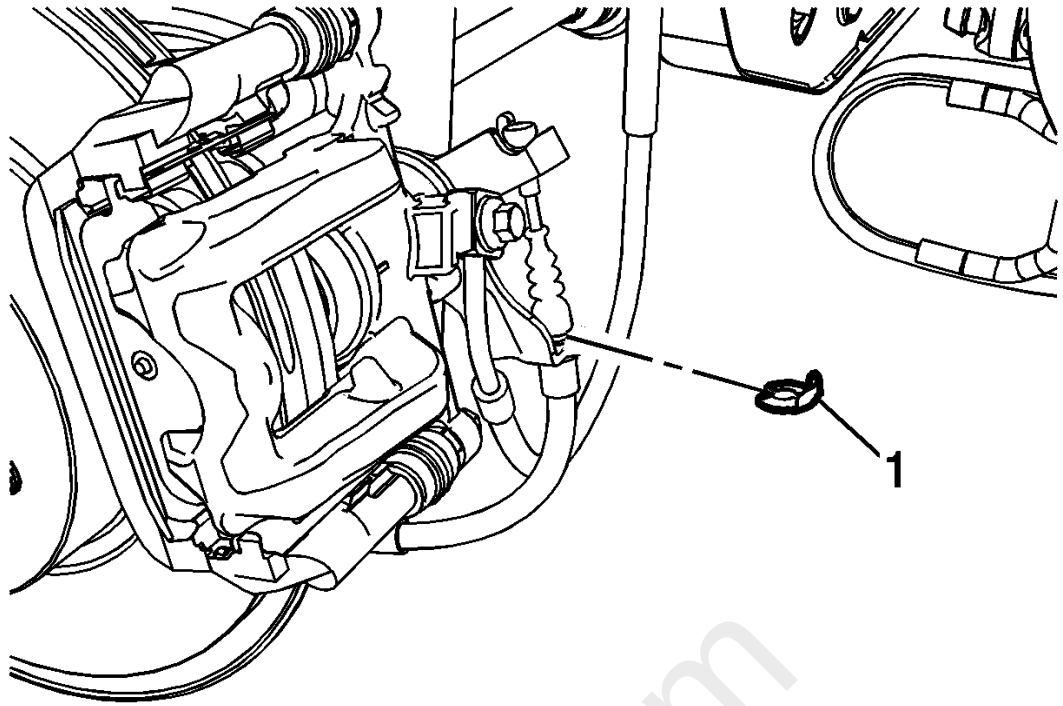


Fig. 40: Parking Brake Cable Retainer

Courtesy of GENERAL MOTORS COMPANY

14. Install the parking brake cable retainer (1).

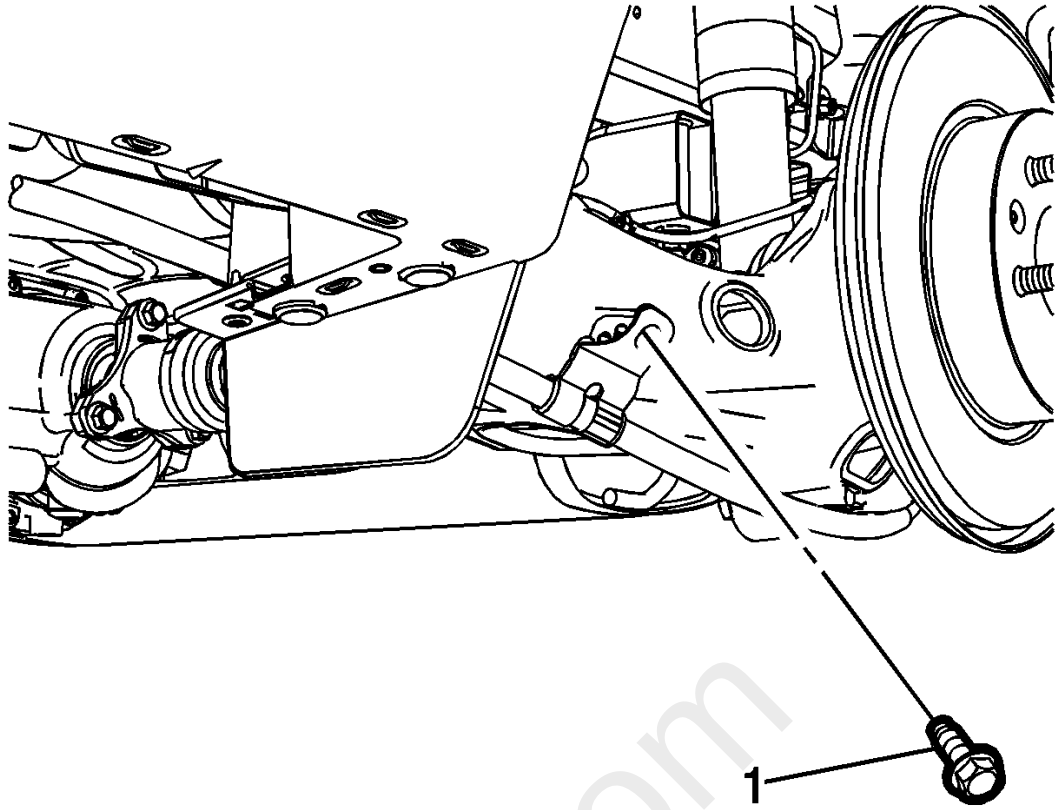


Fig. 41: Rear Left Parking Brake Cable Bracket Bolt
Courtesy of GENERAL MOTORS COMPANY

15. Install the rear left parking brake cable bracket bolt (1) and tighten to 22 N.m (16 lb ft).

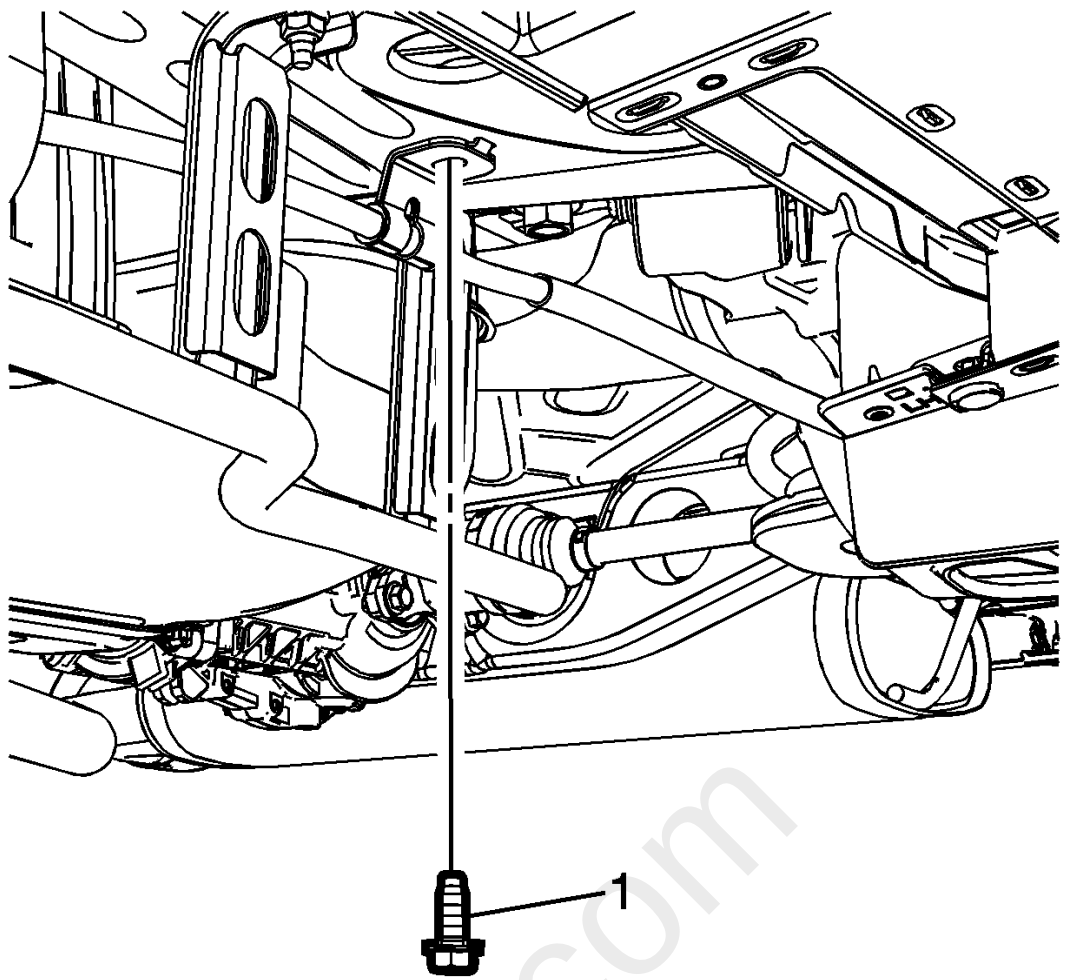


Fig. 42: Front Left Parking Brake Cable Bracket Bolt
Courtesy of GENERAL MOTORS COMPANY

16. Install the front left parking brake cable bracket bolt (1) and tighten to 22 N.m (16 lb ft).
17. Lower the vehicle.

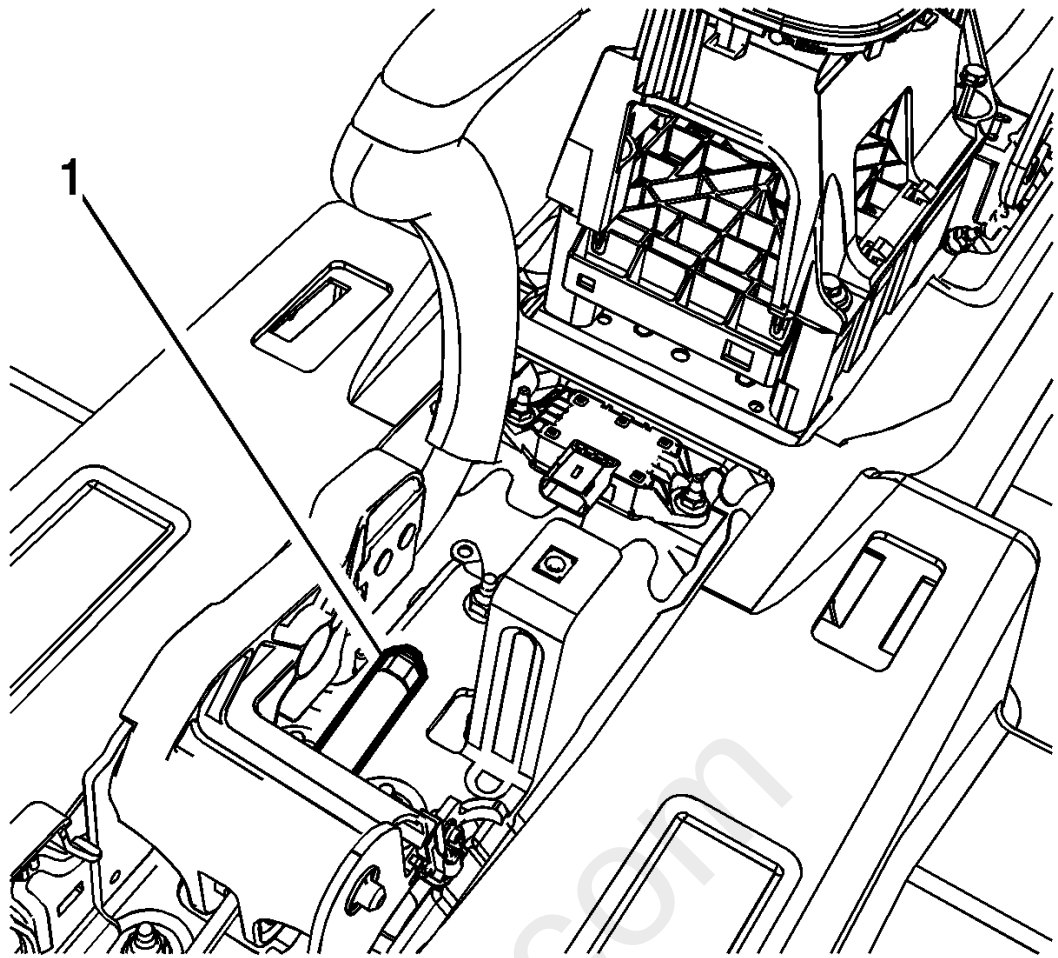


Fig. 43: Front Park Brake Cable Threaded Rod Adjusting Nut
Courtesy of GENERAL MOTORS COMPANY

18. Using ONLY HAND TOOLS, loosely install the adjusting nut (1) to the front park brake cable threaded rod.
19. Adjust the parking brake. Refer to [**Parking Brake Adjustment \(Disc Brake\)**](#).
20. Install the front floor console. Refer to [**Front Floor Console Replacement \(Buick\)**](#) [**Front Floor Console Replacement \(Chevrolet\)**](#).

PARKING BRAKE REAR CABLE REPLACEMENT (DRUM BRAKE)

Removal Procedure

1. Remove the front floor console. Refer to [**Front Floor Console Replacement \(Buick\)**](#) [**Front Floor Console Replacement \(Chevrolet\)**](#).
2. Ensure that the parking brake lever is in the fully released position.

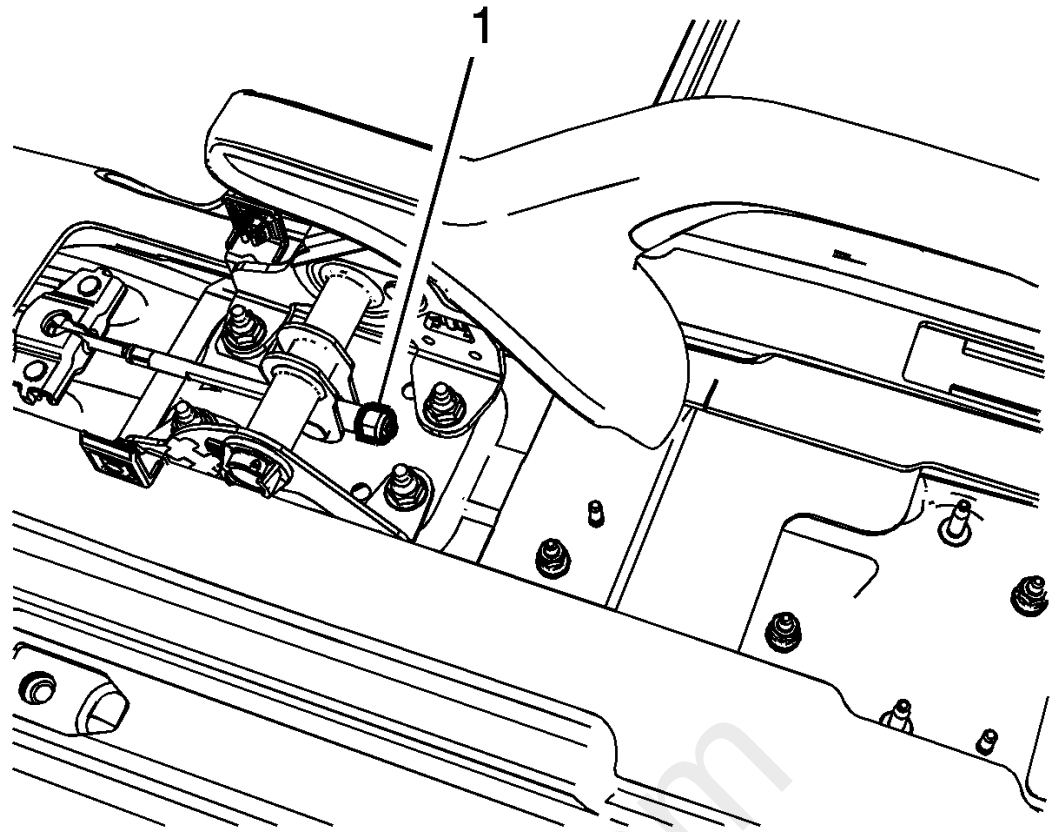


Fig. 44: Parking Brake Cable Threaded Rod Adjusting Nut
Courtesy of GENERAL MOTORS COMPANY

3. Using ONLY HAND TOOLS, loosen the adjusting nut (1) to the end of the front park brake cable threaded rod.
4. Remove the rear seat cushion. Refer to [Rear Seat Cushion Removal and Installation](#) .
5. Position the rear floor carpet forward to access the parking brake cable pass through grommets.

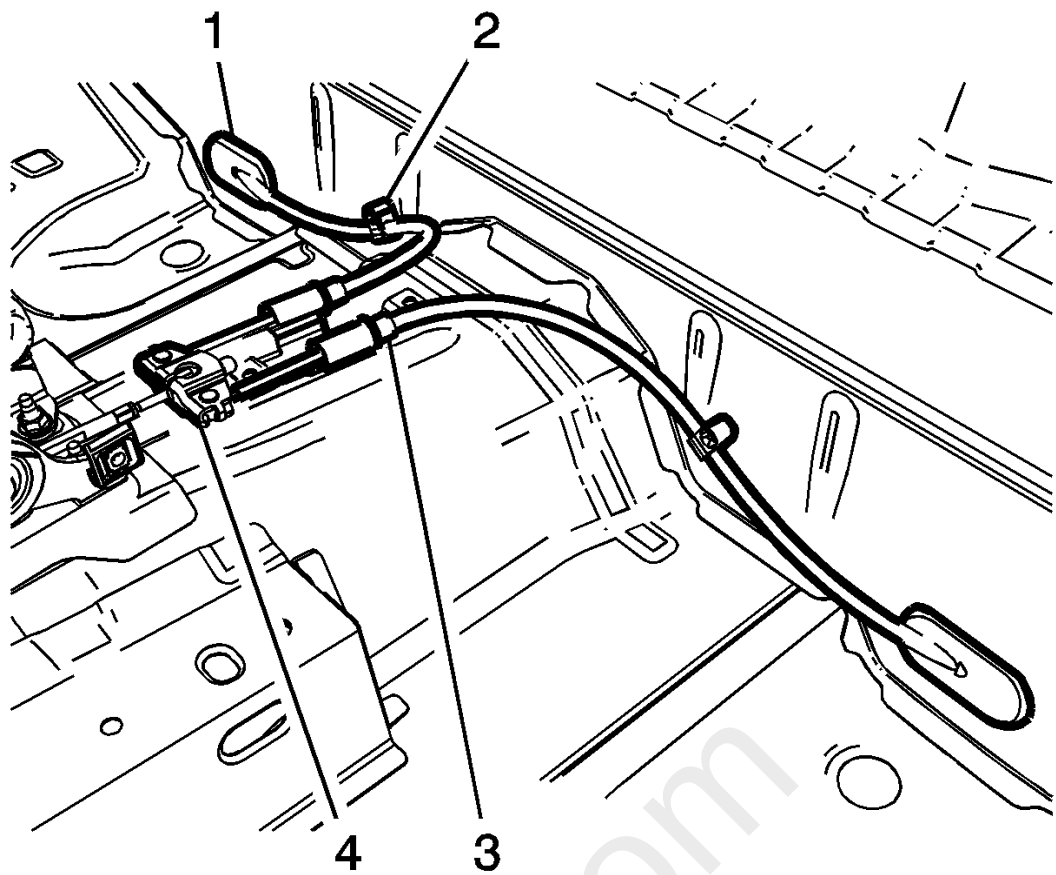


Fig. 45: Parking Brake Cable Components

Courtesy of GENERAL MOTORS COMPANY

6. Release the parking brake cable pass through grommets (1).
7. Release the parking brake cable routing clips (2).
8. Release the parking brake cable collars (3) from the floor tunnel bracket.
9. Disconnect the park brake lever cable from the equalizer (4).
10. Raise and support the vehicle. Refer to [Lifting and Jacking the Vehicle](#) .

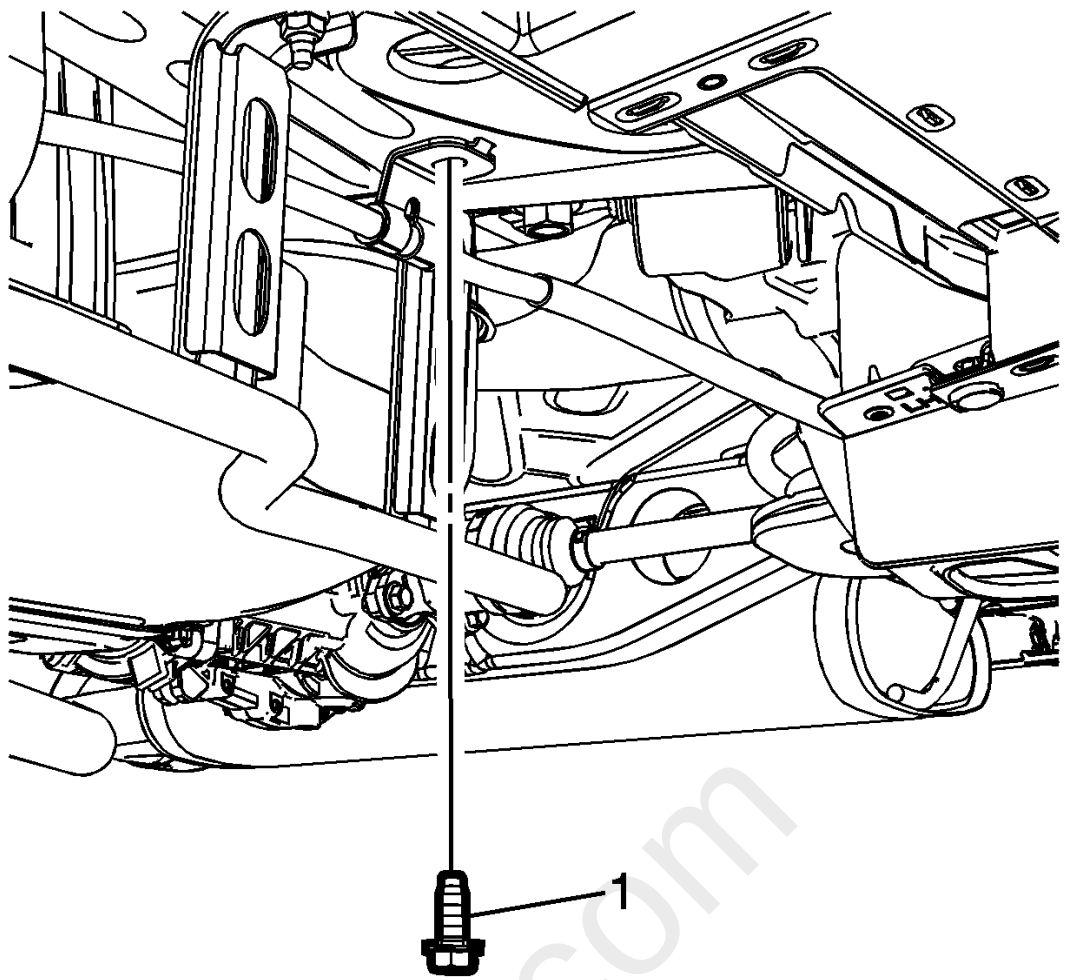


Fig. 46: Front Left Parking Brake Cable Bracket Bolt
Courtesy of GENERAL MOTORS COMPANY

11. Remove the front left parking brake cable bracket bolt (1).

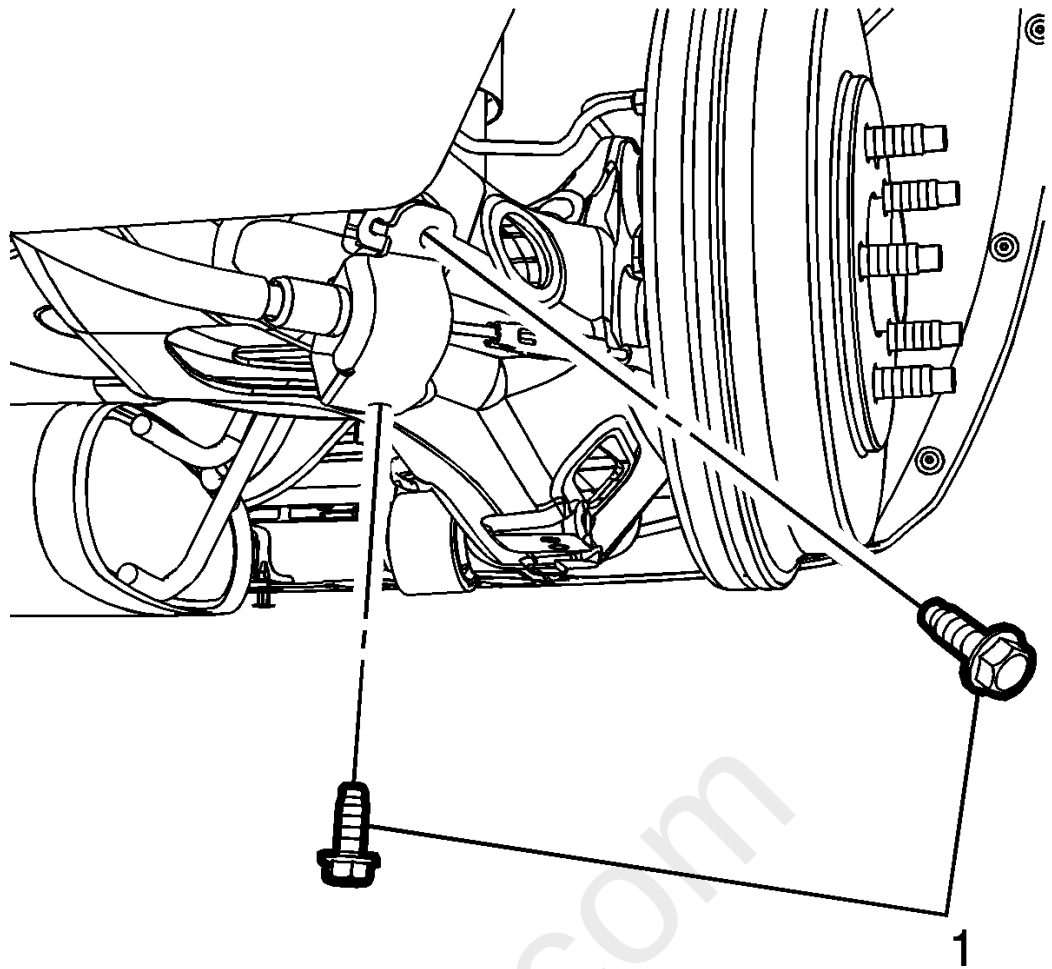


Fig. 47: Rear Left Parking Brake Cable Bracket Bolts

Courtesy of GENERAL MOTORS COMPANY

12. Remove the rear left parking brake cable bracket bolts (1).
13. Disconnect the left parking brake cable connector.

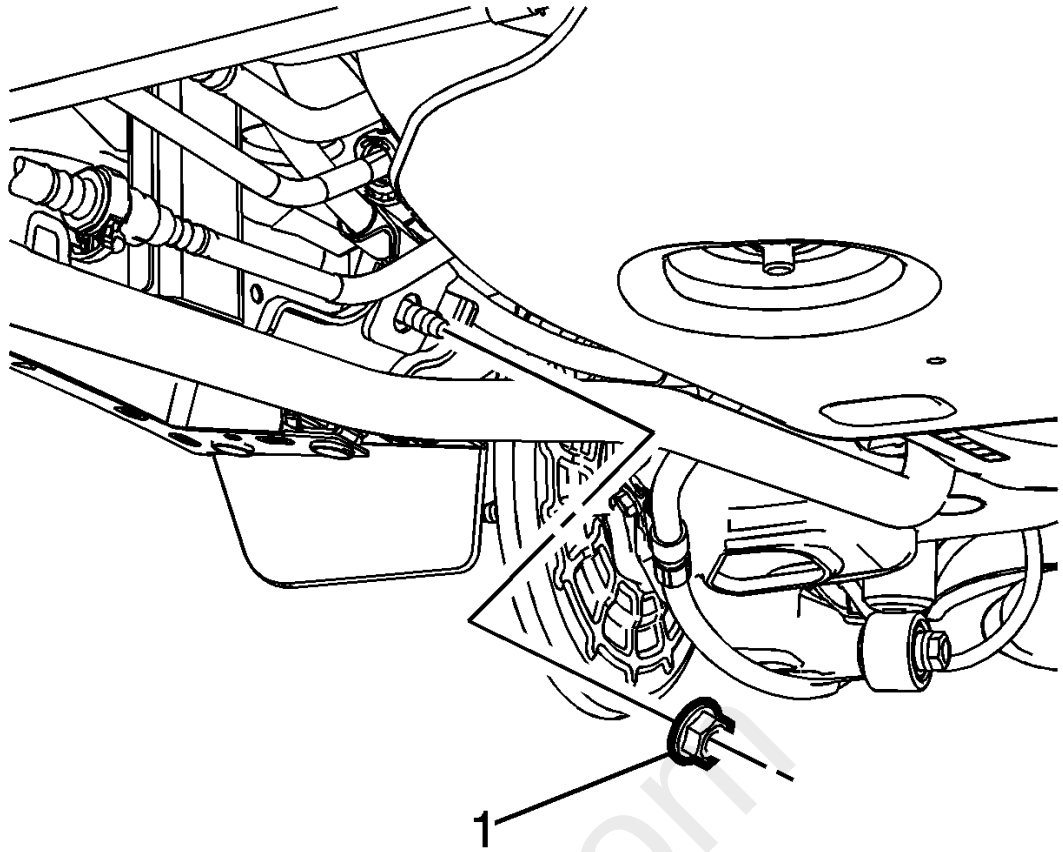


Fig. 48: Front Right Parking Brake Cable Bracket Nut
Courtesy of GENERAL MOTORS COMPANY

14. Remove the front right parking brake cable bracket nut (1).

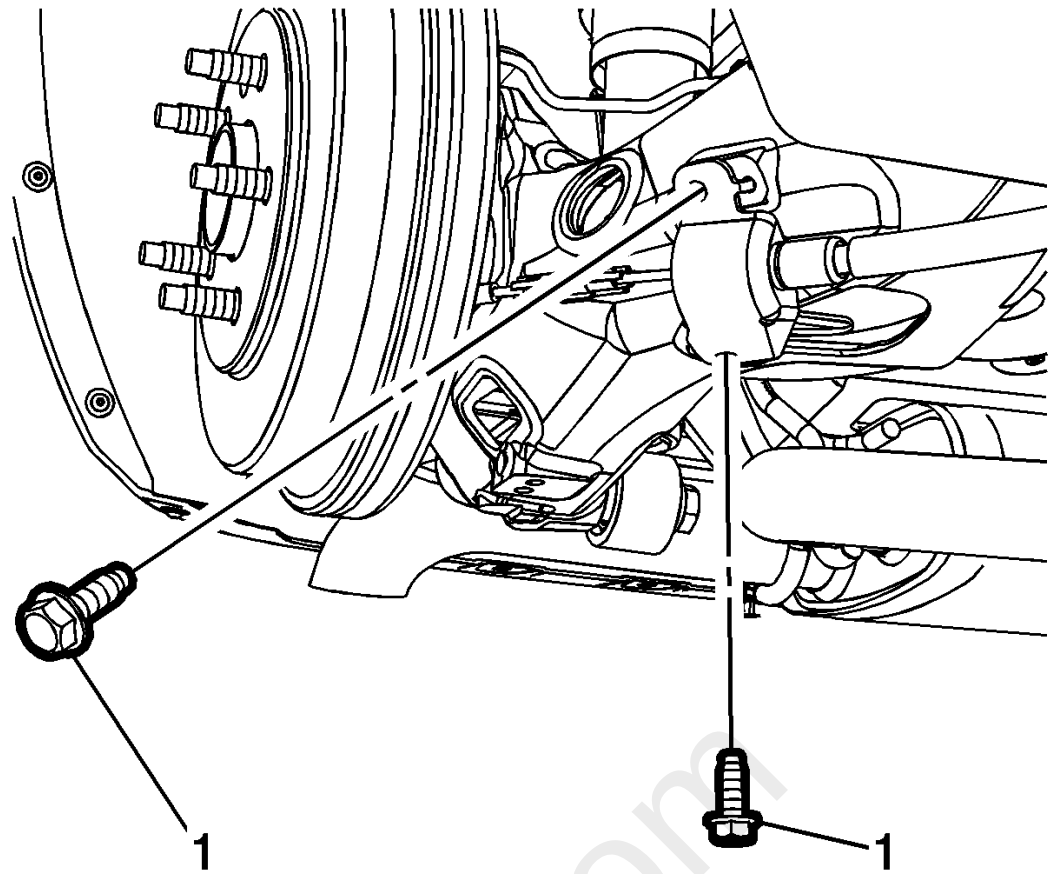


Fig. 49: Rear Right Parking Brake Cable Bracket Bolts
Courtesy of GENERAL MOTORS COMPANY

15. Remove the rear right parking brake cable bracket bolts (1).
16. Disconnect the right parking brake cable connector.
17. Feed the parking brake cable through the vehicle body.
18. Lower the vehicle and remove the parking brake cable and equalizer assembly from inside the vehicle.

Installation Procedure

1. From inside the vehicle, feed the parking brake cable ends through the vehicle body.

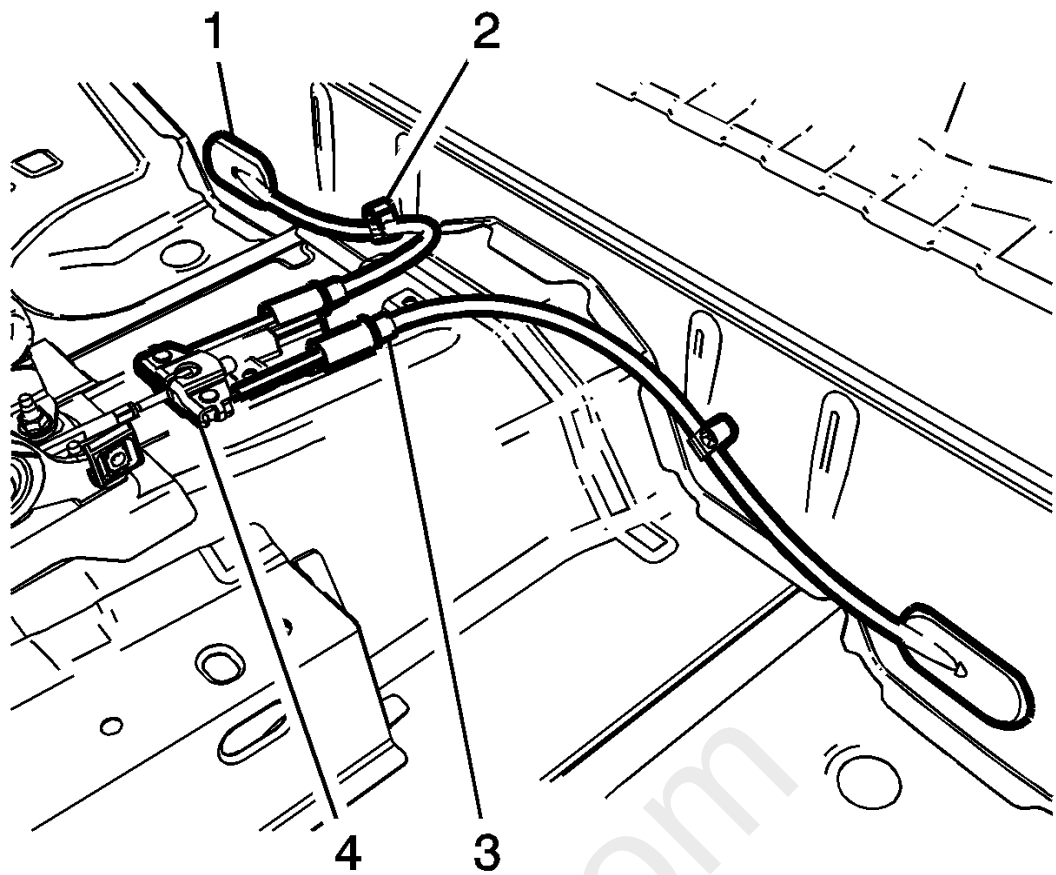


Fig. 50: Parking Brake Cable Components
Courtesy of GENERAL MOTORS COMPANY

2. Install the parking brake cable pass through grommets (1).
3. Install the parking brake cable routing clips (2).
4. Install the parking brake cable collars (3) to the floor tunnel bracket.
5. Connect the park brake lever cable to the park brake cable equalizer (4).
6. Reposition the rear floor carpet.
7. Install the rear seat cushion. Refer to [**Rear Seat Cushion Removal and Installation**](#) .
8. Raise and support the vehicle. Refer to [**Lifting and Jacking the Vehicle**](#) .

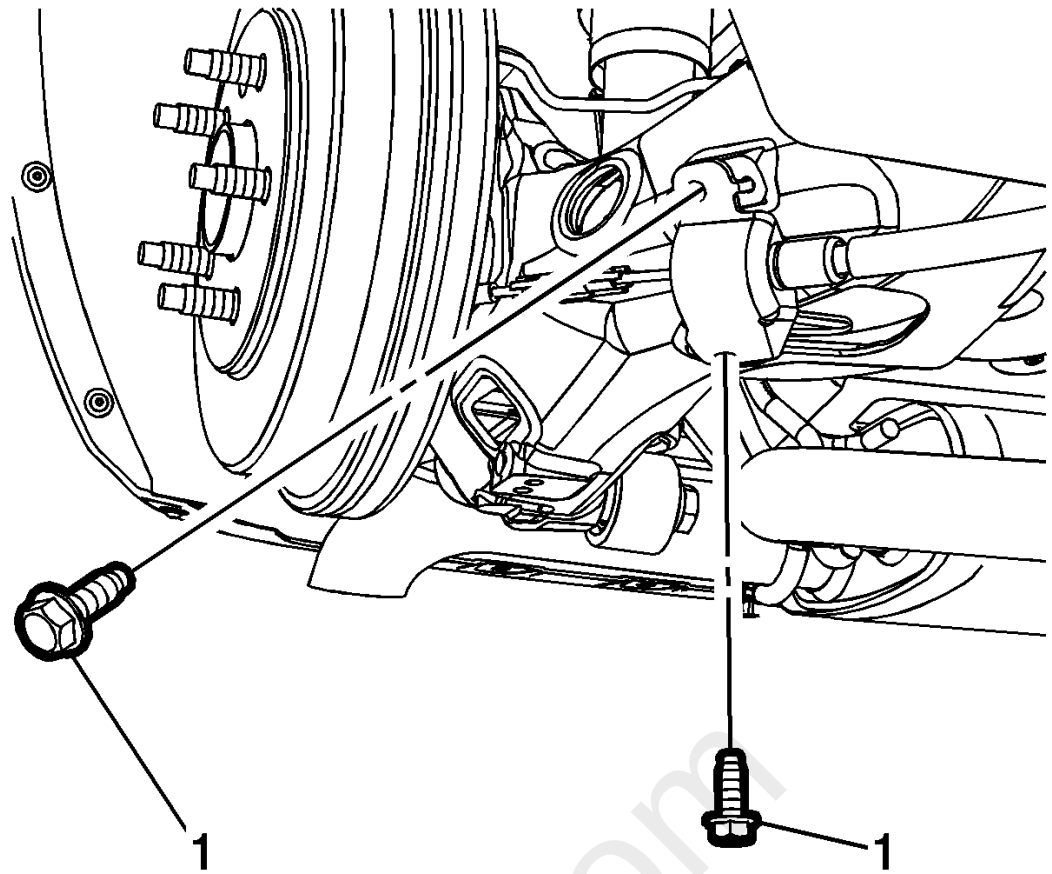


Fig. 51: Rear Right Parking Brake Cable Bracket Bolts
Courtesy of GENERAL MOTORS COMPANY

CAUTION: Refer to **Fastener Caution** .

9. Install the rear right parking brake cable bracket bolts (1) and tighten to 22 N.m (16 lb ft).
10. Connect the right parking brake cable connector.

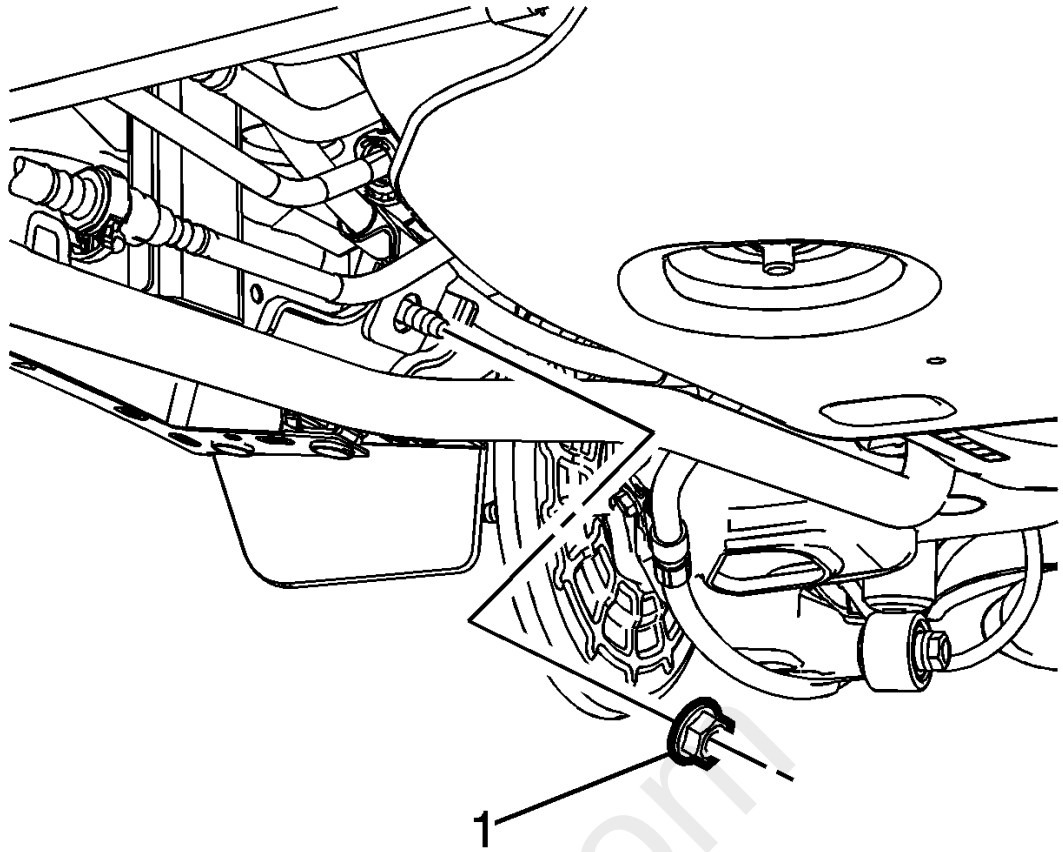


Fig. 52: Front Right Parking Brake Cable Bracket Nut
Courtesy of GENERAL MOTORS COMPANY

11. Install the front right parking brake cable bracket nut (1) and tighten to 22 N.m (16 lb ft).

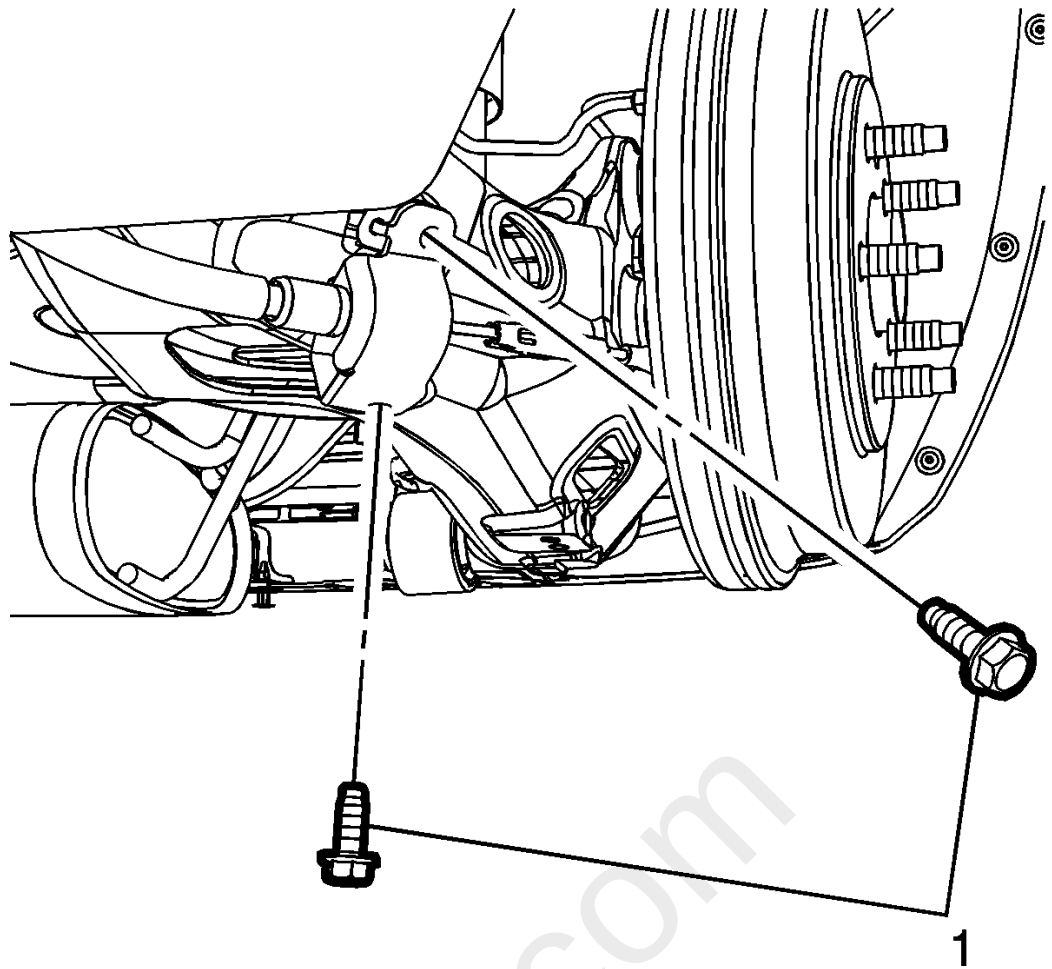


Fig. 53: Rear Left Parking Brake Cable Bracket Bolts

Courtesy of GENERAL MOTORS COMPANY

12. Install the rear left parking brake cable bracket bolts (1) and tighten to 22 N.m (16 lb ft).
13. Connect the left parking brake cable connector.

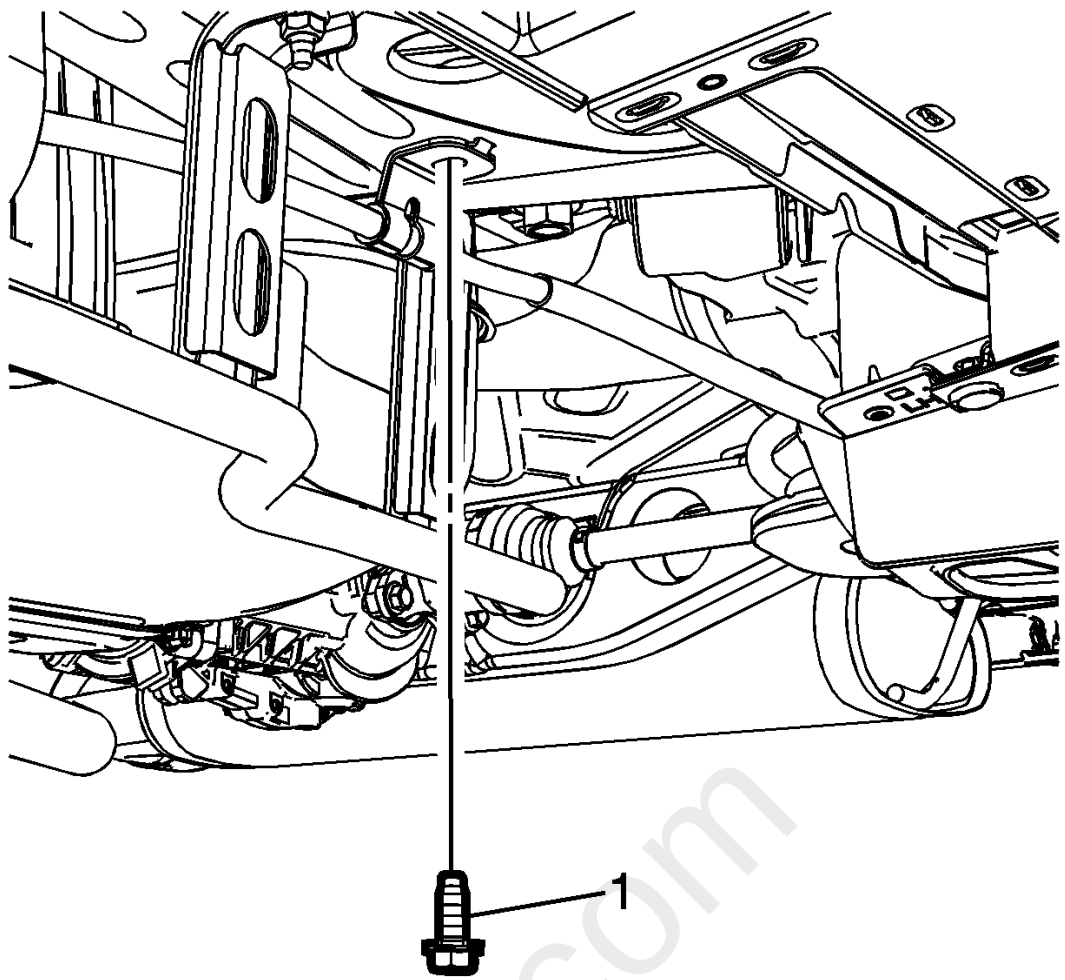


Fig. 54: Front Left Parking Brake Cable Bracket Bolt

Courtesy of GENERAL MOTORS COMPANY

14. Install the front left parking brake cable bracket bolt (1) and tighten to 22 N.m (16 lb ft).
15. Lower the vehicle.

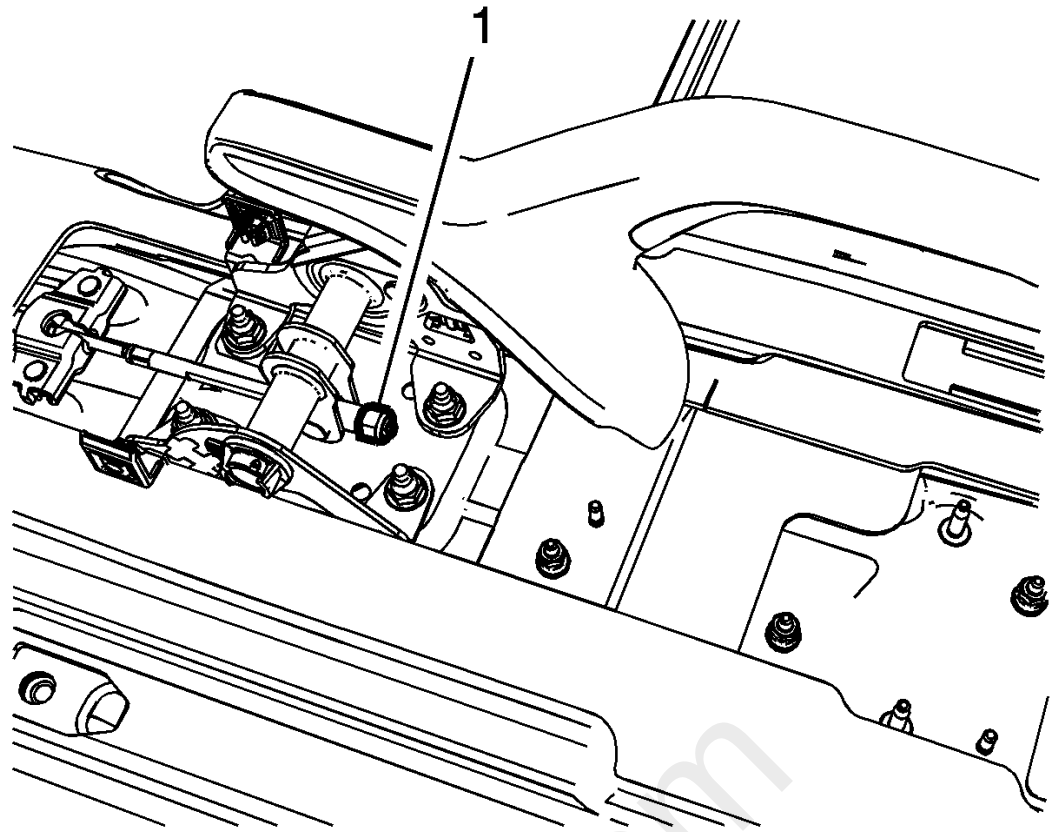


Fig. 55: Parking Brake Cable Adjusting Nut
 Courtesy of GENERAL MOTORS COMPANY

16. Using ONLY HAND TOOLS, loosely install the adjusting nut (1) to the front park brake cable threaded rod.
17. Adjust the parking brake. Refer to [Parking Brake Adjustment \(Drum Brake\)](#).
18. Install the front floor console. Refer to [Front Floor Console Replacement \(Buick\)](#) [Front Floor Console Replacement \(Chevrolet\)](#).

PARKING BRAKE ADJUSTMENT (DISC BRAKE)

NOTE: The park brake cable adjusting nut is a nylon lock type. Use ONLY HAND TOOLS whenever tightening or loosening the adjusting nut.

1. Apply and fully release the park brake several times. Verify that the park brake lever releases completely.
2. Turn ON the ignition. Verify the red BRAKE warning lamp is not illuminated.
3. If the red BRAKE warning lamp is illuminated, verify the following:
 - The park brake lever is in the fully released position and against the stop.
 - There is no slack in the park brake cables.
4. If the red BRAKE warning lamp remained illuminated and there were no other visible causes, refer to [Symptoms - Hydraulic Brakes](#).
5. Turn OFF the ignition.
6. Apply the brake pedal 3 times.
7. Remove the front floor console. Refer to [Front Floor Console Replacement \(Buick\)](#) [Front Floor Console Replacement \(Chevrolet\)](#).

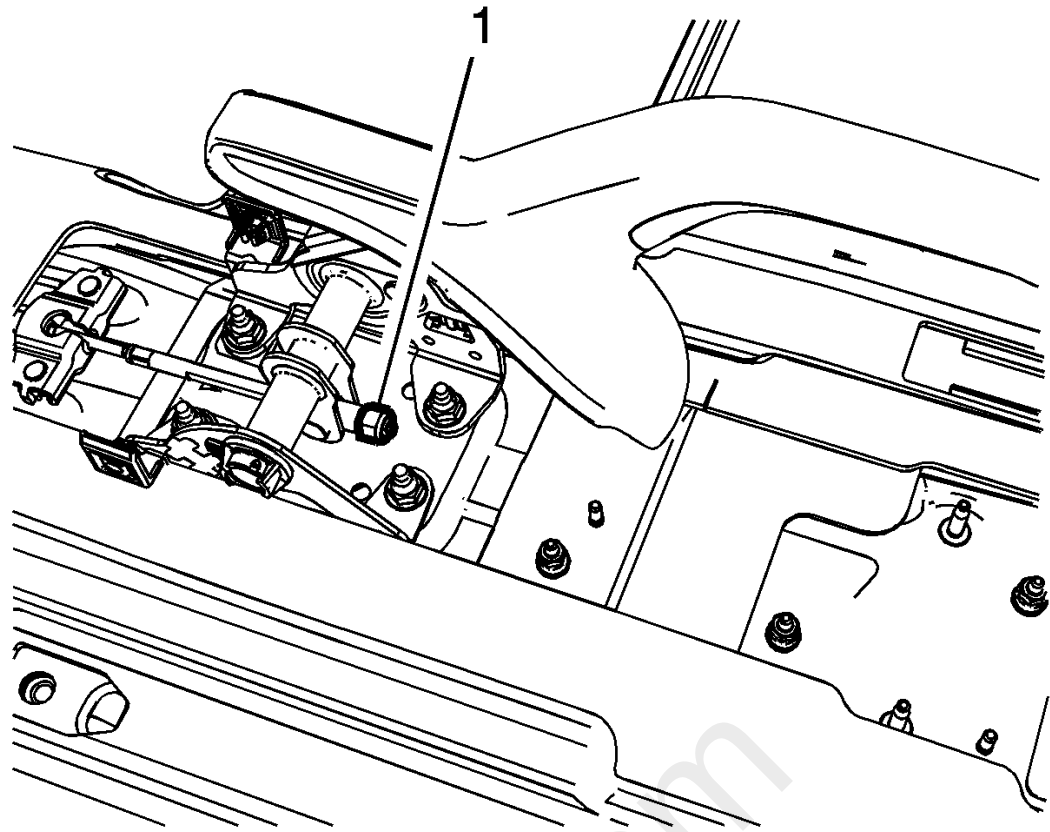


Fig. 56: Parking Brake Cable Adjusting Nut
 Courtesy of GENERAL MOTORS COMPANY

8. With the park brake lever in the released position, loosen the adjusting nut (1) enough to completely relieve tension on the front cable.
9. Raise and support the vehicle. Refer to [Lifting and Jacking the Vehicle](#) .

CAUTION: Refer to [Fastener Caution](#) .

10. Tighten the park brake cable adjusting nut (1) until the threaded portion of the front park brake cable extends beyond the adjusting nut approximately 20 mm (0.79 in).
11. Apply the park brake lever.
12. Attempt to rotate the rear wheels. There should be no rotation forward or rearward.
13. Fully release the park brake lever.
14. Verify the park brake is released by rotating the rear wheels. The wheels should rotate freely and exhibit no brake drag.
15. If the wheels do not rotate freely, repeat the park brake cable adjustment procedure.
16. Raise the park brake lever 3 detent positions and attempt to rotate the rear wheels:
 - One of the wheels should not rotate forward or rearward.
 - The other wheel should not rotate forward or rearward, or should require substantial effort to rotate.
17. Raise the park brake lever 1 additional detent position and attempt to rotate the rear wheels.
18. Verify that the left and right wheels cannot be rotated.
19. Lower the vehicle.
20. Install the front floor console. Refer to [Front Floor Console Replacement \(Buick\)](#) [Front Floor Console Replacement \(Chevrolet\)](#) .
21. Release the park brake lever.

PARKING BRAKE ADJUSTMENT (DRUM BRAKE)

NOTE: The park brake cable adjusting nut is a nylon lock type. Use **ONLY HAND TOOLS** whenever tightening or loosening the adjusting nut.

1. Apply and fully release the park brake several times. Verify that the park brake lever releases completely.
2. Turn ON the ignition. Verify the red BRAKE warning lamp is not illuminated.
3. If the red BRAKE warning lamp is illuminated, verify the following:
 - The park brake lever is in the fully released position and against the stop.
 - There is no slack in the park brake cables.
4. If the red BRAKE warning lamp remained illuminated and there were no other visible causes, refer to [Symptoms - Hydraulic Brakes](#).
5. Turn OFF the ignition.
6. Remove the front floor console. Refer to [Front Floor Console Replacement \(Buick\)](#) [Front Floor Console Replacement \(Chevrolet\)](#).

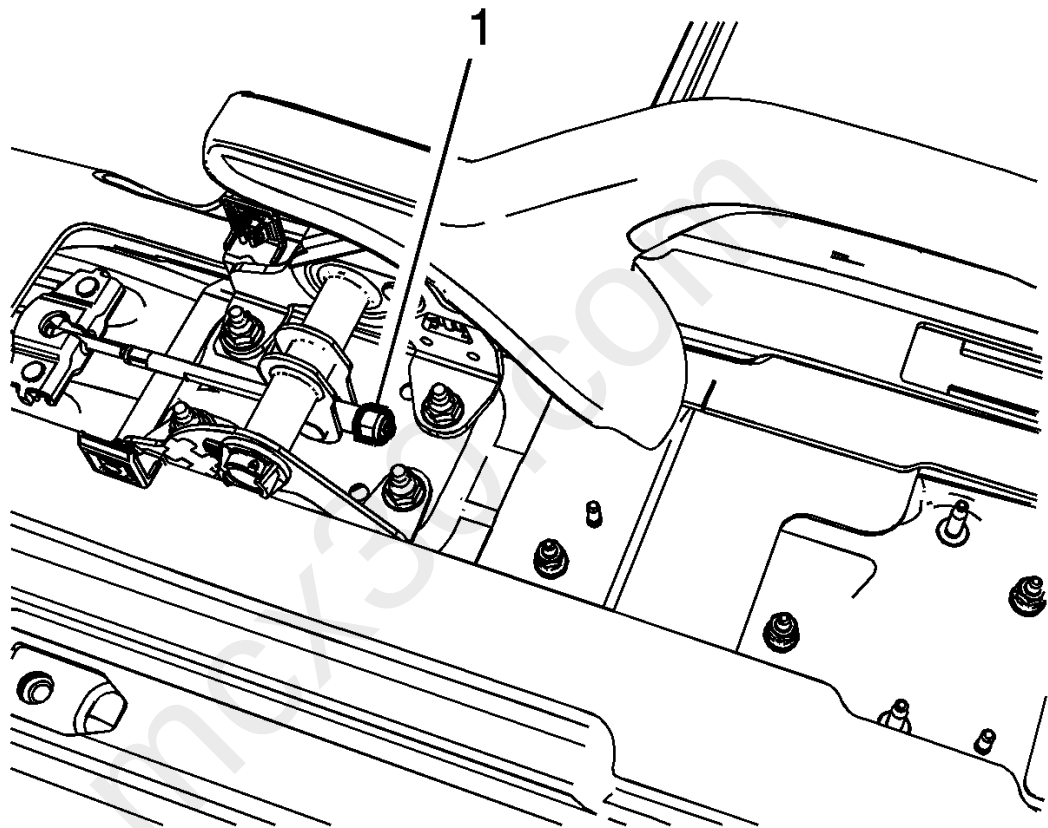


Fig. 57: Parking Brake Cable Adjusting Nut
Courtesy of GENERAL MOTORS COMPANY

7. With the park brake lever in the released position, loosen the adjusting nut (1) enough to completely relieve tension on the front cable.
8. Raise and support the vehicle. Raise the vehicle just enough to allow rear tire and wheel assembly removal and rear drum adjustment. Refer to [Lifting and Jacking the Vehicle](#).
9. Remove the rear tire and wheel assemblies. Refer to [Tire and Wheel Removal and Installation](#).
10. Adjust the rear drum brakes. Refer to [Drum Brake Adjustment](#).
11. Ensure there is no brake shoe drag after adjustment by rotating the brake drums. If drag exists, re-center the brake shoes and perform the brake shoe adjustment again.
12. Install 2 wheel nuts to the wheel studs and firmly hand tighten in order to retain the brake drums.
13. Fully release the park brake lever.

CAUTION: Refer to [Fastener Caution](#).

14. Tighten the park brake cable adjusting nut (1) until the threaded portion of the front park brake cable extends beyond the adjusting nut approximately 20 mm (0.79 in).
15. Apply the park brake lever.
16. Attempt to rotate the rear brake drums. There should be no rotation forward or rearward.
17. Fully release the park brake lever.
18. Verify the park brake is released by rotating the rear brake drums. The drums should rotate freely and exhibit no brake shoe drag.
19. If the drums do not rotate freely, repeat the park brake cable adjustment procedure.
20. Raise the park brake lever 3 detent positions and attempt to rotate the rear brake drums:
 - One of the brake drums should not rotate forward or rearward.
 - The other brake drum should not rotate forward or rearward, or should require substantial effort to rotate.
21. Raise the park brake lever one additional detent position and attempt to rotate the rear brake drums.
22. Verify that the left and right brake drums cannot be rotated.
23. Remove the wheel nuts retaining the brake drums.
24. Install the rear tire and wheel assemblies. Refer to [Tire and Wheel Removal and Installation](#) .
25. Lower the vehicle.
26. Install the front floor console. Refer to [Front Floor Console Replacement \(Buick\)](#) [Front Floor Console Replacement \(Chevrolet\)](#) .
27. Release the park brake lever.

DESCRIPTION AND OPERATION

PARK BRAKE SYSTEM DESCRIPTION AND OPERATION

System Component Description

The park brake system consists of the following:

Park Brake Lever Assembly

Receives, multiplies, and transfers park brake system apply input force from driver to park brake cable system. Releases applied park brake system when lever release button is depressed and lever is returned to the at-rest position.

Park Brake Cables

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

Park Brake Cable Equalizer

Evenly distributes input force to both the left and right park brake units. Threaded front park brake cable adjuster is also used to remove slack in park brake cables.

Park Brake Apply Lever

Multiplies and transfers input force to park brake actuator/adjuster.

Drum Brake Actuator/Adjuster

Uses multiplied input force from park brake apply lever to expand drum brake shoes toward the friction surface of the brake drum. Threaded drum brake actuators/adjusters are also used to control clearance between the drum brake shoes and the friction surface of the brake drum.

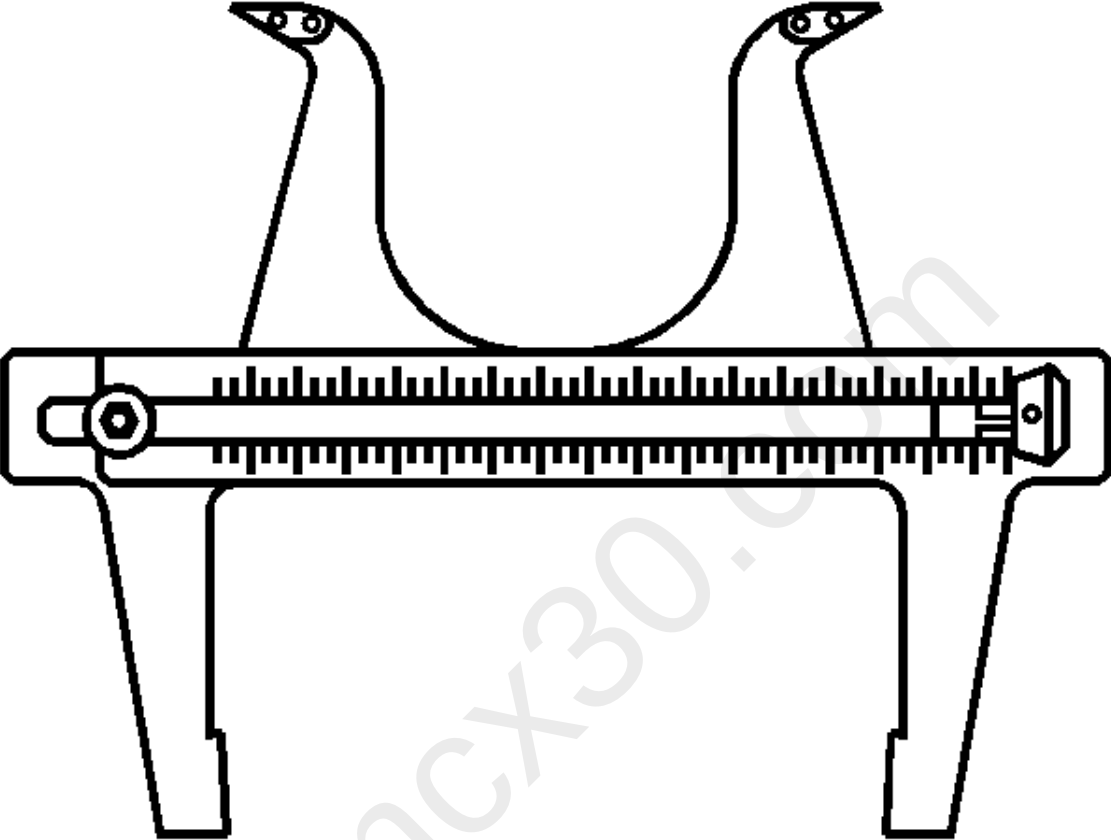
System Operation

Park brake apply input force is received by the park brake lever assembly being applied. The input force is multiplied by the lever assembly, 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 drum brake actuators/adjusters which expand the drum brake shoes toward the friction surface of the brake drum in order to prevent the rotation of the rear tire and wheel assemblies. The park brake lever assembly releases an applied park brake system when it is released and returned to the at-rest position.

SPECIAL TOOLS AND EQUIPMENT

SPECIAL TOOLS

Illustration	Tool Number/Description
	CH 230-A J 21177-A Gauge