

SECTION 5F

PARKING BRAKE

CAUTION: When servicing brake parts, do not create dust by grinding, sanding brake linings, or by cleaning brake parts with a dry brush or compressed air. Many brake parts contain asbestos fibers which can become airborne if dust is created during servicing. Breathing dust containing asbestos fibers may cause serious bodily harm. A water dampened cloth or water based solution should be used to remove any dust on brake parts. Equipment is commercially available to perform this washing function. These wet methods will prevent asbestos fibers from becoming airborne.

NOTICE: When fasteners are removed, always reinstall them at the same location from which they were removed. If a fastener needs to be replaced, use the correct part number fastener for that application. If the correct part number fastener is not available, a fastener of equal size and strength (or stronger) may be used. Fasteners that are not reused, and those requiring thread locking compound will be called out. The correct torque value must be used when installing fasteners that require it. If the above conditions are not followed, parts or system damage could result.

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"BRAKE" Indicator Lamp	5F-1	Unit Repair	
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GENERAL DESCRIPTION

PARKING BRAKE SYSTEM

The parking brake system allows the rear brake assemblies to be mechanically applied by lifting the parking brake lever assembly. On vehicles with rear drum brakes, this system mechanically forces the rear brake shoes outward, forcing the rear primary and secondary shoes against the brake drum assemblies. On vehicles with rear disc brakes, this system mechanically forces the rear brake inner and outer pad assemblies against the brake rotor assembly.

PARKING BRAKE LEVER ASSEMBLY

This vehicle is equipped with a self-adjusting parking brake lever assembly. This mechanism automatically takes up any slack in the cable assemblies and provides the correct amount of tension in the cable assemblies when the system is engaged. The parking brake cable assemblies cannot be manually adjusted.

When operating correctly, the rear parking brake actuator levers on the rear disc brake caliper assemblies or the rear drum brake assemblies will fully return to their

mechanical stops when the parking brake lever assembly is fully released.

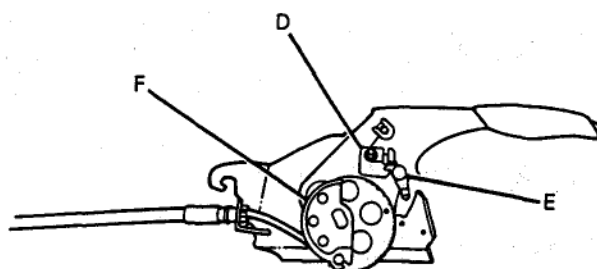
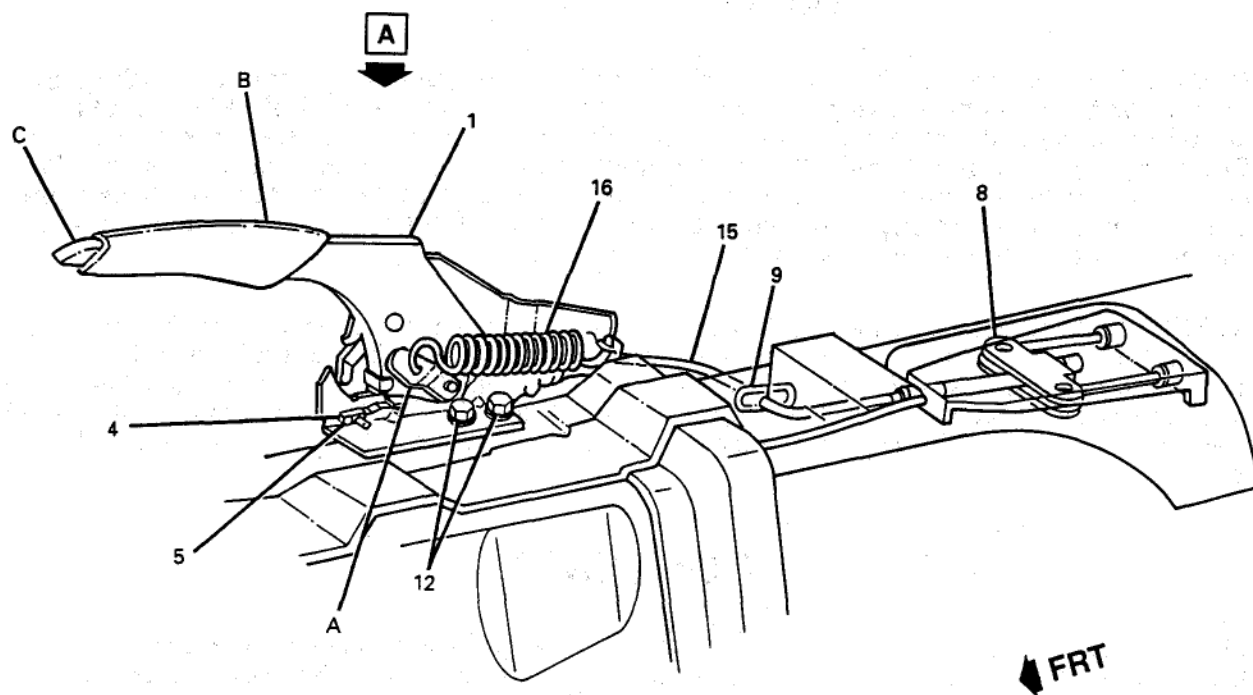
CABLE ASSEMBLIES

Three separate cables are used in the parking brake system. The left and right rear cable assemblies are joined to the front cable assembly at the equalizer, with the rear cable assemblies running to the rear of the vehicle.

This vehicle is equipped with coated parking brake cable assemblies. The wire strand is coated with a plastic material which slides over plastic seals inside the conduit end fittings. This is for corrosion protection and reduced parking brake effort.

"BRAKE" INDICATOR LAMP

The red "BRAKE" indicator lamp will illuminate when the ignition switch is in "START" and the parking brake lever assembly is applied or not fully released. The parking brake indicator switch assembly, located in the parking brake lever assembly, will ground the "BRAKE" indicator lamp circuit and cause the "BRAKE" indicator lamp to illuminate.



VIEW A

- A ARM, ADJUSTER
- B GRIP, PARKING BRAKE LEVER
- C BUTTON, PARKING BRAKE LEVER RELEASE
- D PAWL, ADJUST
- E PIN, ADJUST PAWL
- F PULLEY, PARKING BRAKE LEVER
- 1 LEVER ASSEMBLY, PARKING BRAKE
- 4 SWITCH, PARKING BRAKE INDICATOR
- 5 BOLT/SCREW, PARKING BRAKE INDICATOR SWITCH, 2.8 N·m (25 LB. IN.)
- 8 EQUALIZER, PARKING BRAKE CABLE
- 9 GROMMET, PARKING BRAKE CABLE
- 12 BOLT/SCREW, PARKING BRAKE LEVER, 12 N·m (106 LB. IN.)
- 15 CABLE ASSEMBLY, PARKING BRAKE FRONT
- 16 SPRING, PRETENSION

Figure 1 – Parking Brake Lever Assembly

ON-VEHICLE SERVICE

LUBRICATION

Figure 1

NOTICE: Do not lubricate the parking brake cable assemblies. Lubrication destroys the plastic coating on the parking brake cable assemblies.

If the parking brake lever assembly (1) does not fully return, lubricate the following parts using GM P/N 1052497:

- Adjust pawl pin.
- Handle ratchet.
- Adjusting ratchet.

PARKING BRAKE LEVER ASSEMBLY

Figures 1 and 2

Tool Required:

J 37043 Parking Brake Cable Release Tool

Remove or Disconnect

1. Front floor console assembly. Refer to SECTION 8C.
2. Light switch and wiring from parking brake indicator switch (4).
3. Bolt/screw (5) and parking brake indicator switch (4) from parking brake lever assembly (1).
4. With parking brake lever assembly (1) in up position, remove pretension spring (16).
5. With parking brake lever assembly (1) in down position, rotate adjuster arm toward front of vehicle until a 3 mm metal pin can be inserted into hole.
 - A. Remove and discard remaining piece of plastic shear pin.
 - B. Insert 3 mm metal pin into hole, locking out self adjuster.
6. If there is sufficient parking brake cable slack, skip to step 10.
7. Raise and suitably support vehicle. Refer to SECTION 0A.
8. Rear cable assemblies (17 and 18) from equalizer (8).
9. Lower vehicle.
10. Bend back cable retainer tab on pulley.
11. Barrel-shaped front cable end fitting from adjuster track on pulley.
12. Two bolts/screws (12) and parking brake lever assembly (1) from floor pan.
13. Front cable assembly (15) and casing from parking brake lever assembly (1) and bracket, using J 37043.

Install or Connect

NOTICE: See "Notice" on page 5F-1 of this section.

1. Front cable assembly (15) and casing to parking brake lever assembly (1) and bracket.
2. Two bolts/screws (12) and parking brake lever assembly (1) to floor pan.

Tighten

- Bolts/screws (12) to 12 N•m (106 lb. in.).

3. Bolt/screw (5) and parking brake indicator switch (4).

Tighten

- Bolt/screw (5) to 2.8 N•m (25 lb. in.).

4. Light switch and wiring to parking brake indicator switch (4).
5. Barrel-shaped front cable end fitting to adjuster track on pulley.
6. Bend cable retainer tab to original position on pulley.
7. If rear cable assemblies (17 and 18) were not disconnected from equalizer, skip to step 11.
8. Raise and suitably support vehicle. Refer to SECTION 0A.
9. Rear cable assemblies (17 and 18) to equalizer (8).
10. Lower vehicle.
11. Rotate adjuster arm toward rear of vehicle and fully raise parking brake lever assembly (1).
12. Pretension spring (16).
13. Remove 3 mm metal pin from hole.
14. Cycle parking brake lever assembly (1) three times.
15. Front floor console assembly. Refer to SECTION 8C.

CABLE ASSEMBLIES

NOTICE: Handling these cables while servicing the parking brake system requires extra care. 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.

Front Cable Assembly

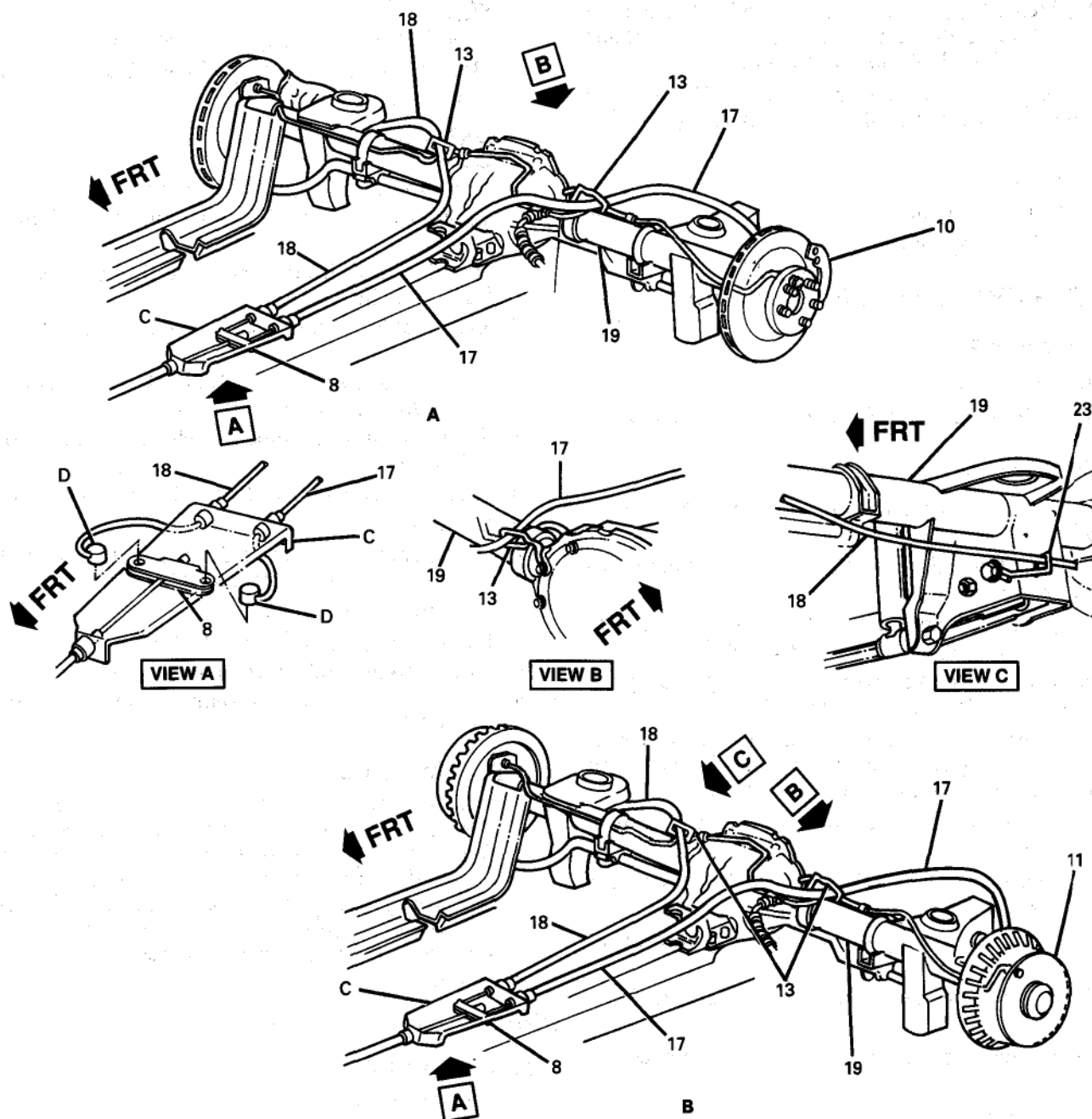
Figures 1 and 2

Tool Required:

J 37043 Parking Brake Cable Release Tool

Remove or Disconnect

1. Front floor console assembly. Refer to SECTION 8C.
2. With parking brake lever assembly (1) in up position, remove pretension spring (16).
3. With parking brake lever assembly (1) in down position, rotate adjuster arm toward front of vehicle until a 3 mm metal pin can be inserted into hole.
 - A. Remove remaining piece of plastic shear pin from hole.



- A WITH DISC BRAKE ASSEMBLIES
- B WITH DRUM BRAKE ASSEMBLIES
- C BRACKET, UNDERBODY
- D FITTING, PARKING BRAKE REAR CABLE END
- 8 EQUALIZER, PARKING BRAKE CABLE
- 10 CALIPER ASSEMBLY, REAR BRAKE
- 11 DRUM ASSEMBLY, REAR BRAKE
- 13 GUIDE, PARKING BRAKE REAR CABLE
- 17 CABLE ASSEMBLY, LEFT PARKING BRAKE REAR
- 18 CABLE ASSEMBLY, RIGHT PARKING BRAKE REAR
- 19 HOUSING ASSEMBLY, REAR AXLE
- 23 GUIDE, PARKING BRAKE REAR CABLE (DRUM BRAKE ASSEMBLIES ONLY)

Figure 2 – Parking Brake Cable Routing

- B. Insert 3 mm metal pin into hole, locking out self adjuster.
4. Pull parking brake lever assembly (1) all the way back.
5. Raise and suitably support vehicle. Refer to SECTION 0A.
6. Left and right rear cable assemblies (17 and 18) from equalizer (8).
7. Fitting of front cable assembly (15) from bracket, using J 37043.
8. Grommet (9) from slot in underbody assembly.
9. Lower vehicle.
10. Bend back cable retainer tab on pulley.
11. Barrel-shaped front cable end fitting from adjuster track on pulley.
12. Front cable assembly (15) and casing from parking brake lever assembly (1), using J 37043.
13. Front cable assembly (15) from floor pan.

➡➡ Install or Connect

1. Front cable assembly (15) and grommet (9) into slot in floor pan.
 - A. Soapy water can be used as lubricant.
 - B. Feed forward end of grommet (9) into slot.
 - C. Use a small, curved, flat-ended pry bar to gently press rearward end into slot.

- Be sure grommet (9) is properly seated in slot in floor pan.

2. Front parking brake cable casing to parking brake lever assembly (1).
3. Barrel-shaped front cable end fitting into adjuster track on pulley.
4. Bend cable retainer tab to original position on pulley.
5. Make sure parking brake lever assembly (1) is in down position.
6. Raise and suitably support vehicle. Refer to SECTION 0A.
7. Rear cable assemblies (17 and 18) to equalizer (8).
8. Lower vehicle.
9. With parking brake lever assembly (1) in up position, install pretension spring (16).
10. Remove 3 mm metal pin from hole.
11. Cycle parking brake lever assembly (1) three times.
12. Front floor console assembly. Refer to SECTION 8C.

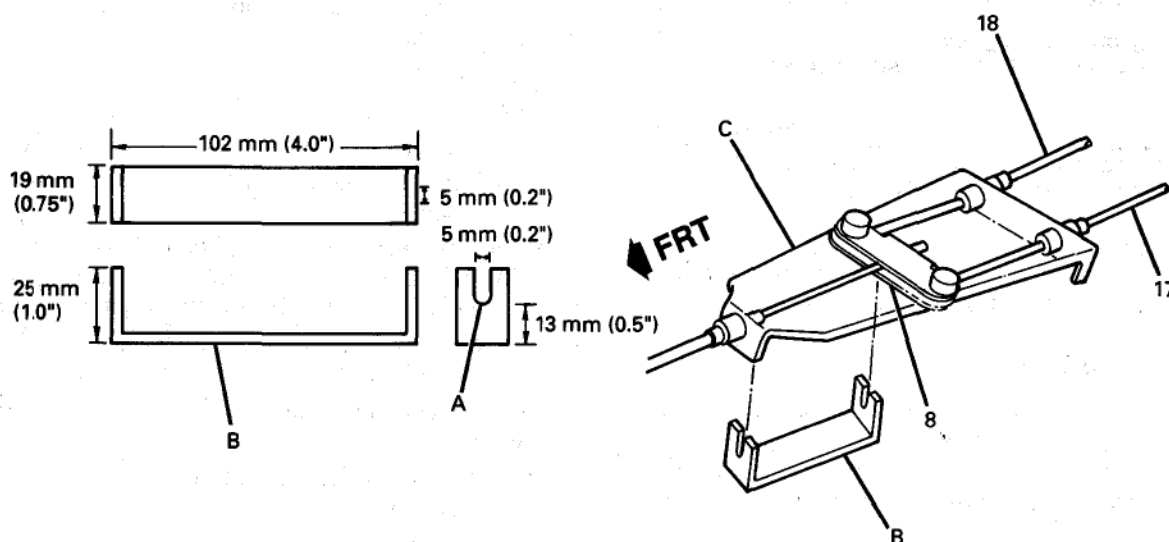
Rear Cable Assembly (Drum Brakes)

Figures 2, 3 and 4

Tool Required:

J 37043 Parking Brake Cable Release Tool

This vehicle is equipped with a blind cable system at the brake drum assembly. The rear parking brake cable



- A SURFACE OF NOTCHES MUST BE SMOOTH
 B SPACER, PARKING BRAKE CABLE EQUALIZER
 C BRACKET, UNDERBODY
 8 EQUALIZER, PARKING BRAKE CABLE
 17 CABLE ASSEMBLY, LEFT PARKING BRAKE REAR
 18 CABLE ASSEMBLY, RIGHT PARKING BRAKE REAR

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Figure 3 – Parking Brake Cable Equalizer Spacer (Locally Fabricated)

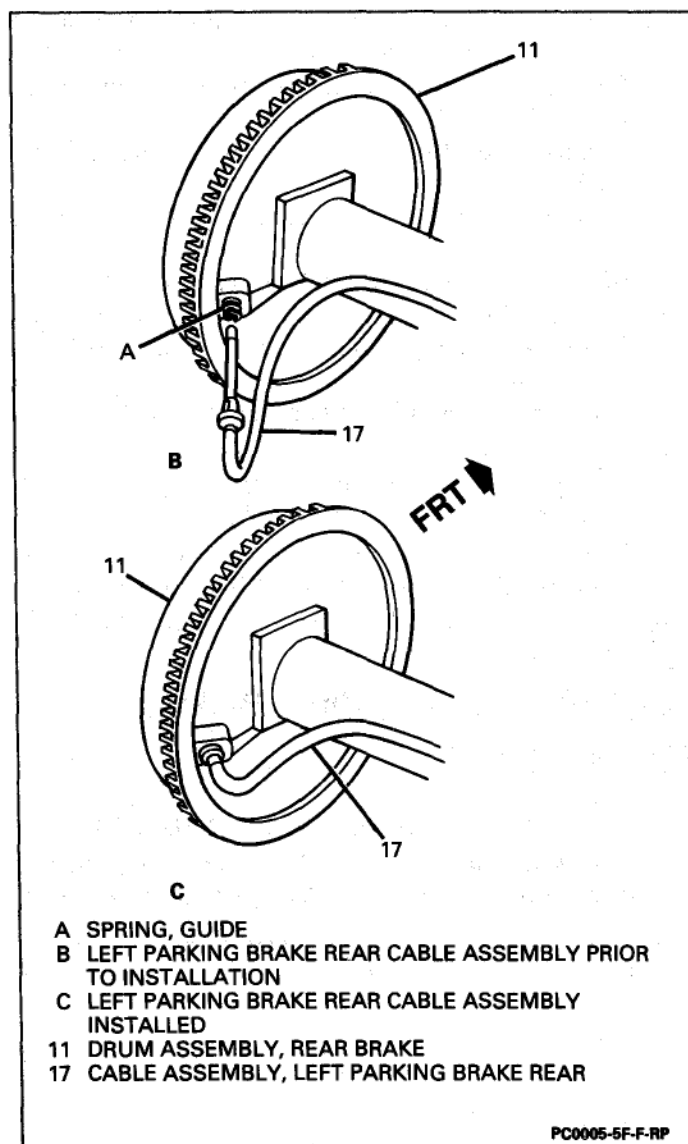


Figure 4 – Installing Rear Parking Brake Cable Assembly to Rear Brake Drum Assembly

assembly can be installed to the brake drum assembly without disassembling the brake drum assembly.

Remove or Disconnect

1. Fully disengage parking brake lever assembly. Be sure handle is down and brake indicator lamp is not lit. If parking brake lever assembly is partially engaged, it will not be possible to pull equalizer (8) rearward in step 3.
2. Raise and suitably support vehicle. Refer to SECTION 0A.
3. Left or right rear cable assembly (17 or 18) from equalizer (8).
 - A. Pull equalizer (8) rearward to gain necessary cable slack.
 - B. Insert locally fabricated spacer to hold equalizer (8) in place as shown in Figure 3.
 - C. Remove left or right rear cable assembly (17 or 18) from equalizer (8).

4. Left or right rear cable assembly (17 or 18) and casing from underbody bracket and retainer.
 - Use J 37043 to compress retainer fingers on casing and pull left or right rear cable assembly (17 or 18) from underbody bracket.
5. Pull rear cable assemblies (17 and 18) through guides (13 and 23) installed on rear axle housing assembly (19).
6. Tire and wheel assembly. Refer to SECTION 3E.
 - Mark relationship of wheel to axle flange.
7. Drum assembly (11).
8. Left or right rear cable assembly (17 or 18) from backing plate.
 - Use J 37043 to compress retainer fingers and pull out left or right rear cable assembly (17 or 18).
9. Cable end fitting from parking brake lever assembly. Refer to SECTION 5C2.

Install or Connect

1. Drum assembly (11).
2. Cable end fitting into parking brake lever assembly. This can be done by inserting tear-drop shaped end fitting into guide spring until a click is heard.

Important

- When reassembling drum brake assembly, make sure guide spring projects through hole in backing plate so that cable insertion can be performed. After click is heard, pull on cable to ensure connection has been made.
3. Left or right rear cable assembly (17 or 18) to backing plate.
 - Ensure that retainer fingers are seated.
 4. Tire and wheel assembly. Refer to SECTION 3E.
 - Align previous marks on axle flange and wheel.
 5. Feed left rear cable assembly (17) through guide (13) or right rear cable assembly (18) through guides (13 and 23) on rear axle housing assembly (19).
 6. Left or right rear cable assembly (17 or 18) into underbody bracket.
 7. Left or right rear cable assembly (17 or 18) to equalizer (8).
 8. Remove locally fabricated spacer.
 9. Lower vehicle.
 10. Cycle parking brake lever assembly three times.

Rear Cable Assembly (Disc Brakes)

Figures 2, 3 and 5

Tool Required:

J 37043 Parking Brake Cable Release Tool

Remove or Disconnect

1. Fully disengage parking brake lever assembly. Be sure handle is down and brake indicator lamp is not

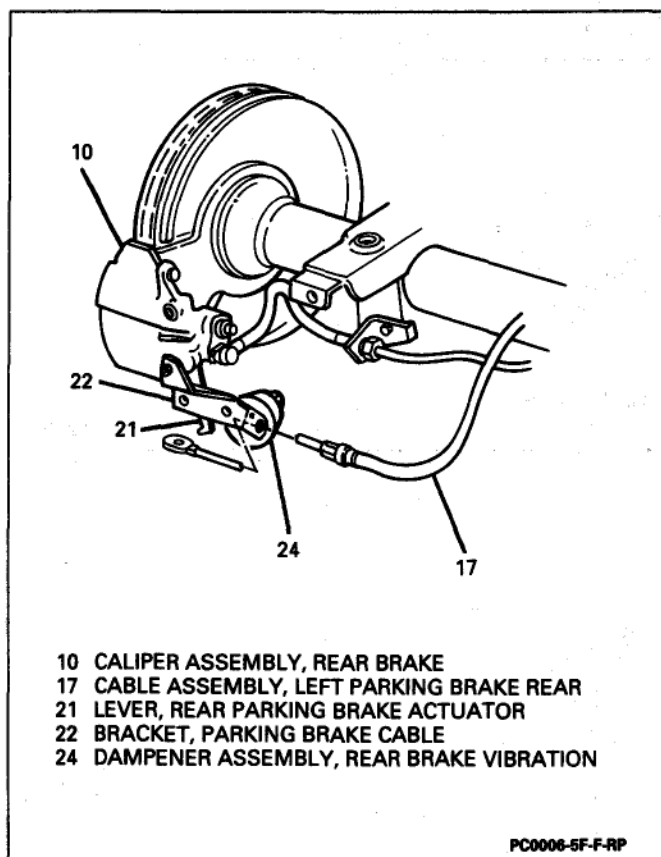


Figure 5 – Installing Rear Parking Brake Cable Assembly to Rear Disc Brake Caliper Assembly

lit. If parking brake lever assembly is partially engaged, it will not be possible to pull equalizer (8) rearward in step 3.

2. Raise and suitably support vehicle. Refer to SECTION 0A.
3. Left or right rear cable assembly (17 or 18) from equalizer (8).
 - A. Pull equalizer (8) rearward to gain necessary parking brake cable slack.
 - B. Insert locally fabricated spacer to hold equalizer (8) in place as shown in Figure 3.
 - C. Remove left or right rear cable assembly (17 or 18) from equalizer (8).
4. Left or right rear cable assembly (17 or 18) and casing from underbody bracket.

- Compress retainer fingers on casing using J 37043 and pull left or right rear cable assembly (17 or 18) from underbody bracket.

5. Pull left or right rear cable assembly (17 or 18) through guide (13) installed on rear axle housing assembly (19).

6. Tire and wheel assembly. Refer to SECTION 3E.

- Mark relationship of wheel to axle flange.

7. Left or right rear cable assembly (17 or 18) from actuator lever (21) and cable bracket (22).

- A. Pull all parking brake cable slack to caliper end of parking brake cable assembly.
- B. Remove left or right rear cable assembly (17 or 18) from tang on actuator lever (21).
- C. Using J 37043, compress retainer fingers on cable casing and pull from cable bracket (22).

Install or Connect

1. Left or right rear cable assembly (17 or 18) to actuator lever (21) and cable bracket (22).
 - Seat retainer fingers into cable bracket (22).
2. Tire and wheel assembly. Refer to SECTION 3E.
3. Feed left or right rear cable assembly (17 or 18) through guide (13) on rear axle housing assembly (19).
4. Left or right rear cable assembly (17 or 18) into underbody bracket.
5. Left or right rear cable assembly (17 or 18) to equalizer (8).
6. Remove locally fabricated spacer.
7. Lower vehicle.
8. Cycle parking brake lever assembly three times.

PARKING BRAKE ADJUSTMENT

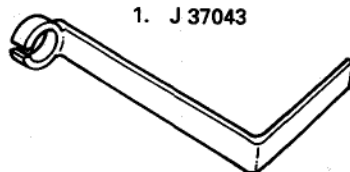
Adjustments are not normally necessary after replacing the parking brake cable assemblies or the parking brake lever assembly. Refer to SECTION 5B2 for parking brake free-travel adjustment procedures and to SECTION 5C2 for rear drum brake adjustment.

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Parking Brake Indicator Switch Bolt/Screw	2.8 N•m (25 lb. in.)
Parking Brake Lever Bolt/Screw	12 N•m (106 lb. in.)

SPECIAL TOOLS



1. PARKING BRAKE CABLE RELEASE TOOL

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