8. Install the rotor (Refer to 5 - BRAKES/HYDRAULIC/MECHANICAL/ROTORS - INSTALLATION).

9. Install the caliper and the slide bolts (4) (Refer to 5 - BRAKES/HYDRAULIC/MECHANICAL/DISC BRAKE CALIPERS - INSTALLATION).

10. Install the wheel and tire assembly (Refer to 22 - TIRES/WHEELS/WHEELS - STANDARD PROCEDURE).

PARKING BRAKE

OPERATION

The parking brakes operated by a automatic tensioner mechanism built into the hand lever and cable system. The front cable is connected to the hand lever and the equalizer. The rear cables attached to the equalizer and the parking brake shoe actuator.

A set of drum type brake shoes are used for parking brakes. The shoes are mounted to the rear disc brake adaptor. The parking brake drum is integrated into the rear disc brake rotor.

Parking brake cable adjustment is controlled by an automatic tensioner mechanism. The only adjustment if necessary is to the park brake shoes if the linings are worn.

DIAGNOSIS AND TESTING - PARKING BRAKE

NOTE: Parking brake adjustment is controlled by an automatic cable tensioner and does not require adjustment. The only adjustment that may be necessary would be to the park brake shoes if they are worn.
The parking brake switch is in circuit with the red warning lamp in the dash. The switch will cause the lamp to illuminate only when the parking brakes are applied. If the lamp remains on after parking brake release, the switch or wires are faulty.

If the red lamp comes on a fault has occurred in the front or rear brake hydraulic system.

If the red warning lamp and yellow warning lamp come on, the electronic brake distribution may be at fault.

In most cases, the actual cause of an improperly functioning parking brake (too loose/too tight/won’t hold), can be traced to a parking brake component.

**NOTE:** The leading cause of improper parking brake operation, is excessive clearance between the parking brake shoes and the shoe braking surface. Excessive clearance is a result of lining and/or drum wear, drum surface machined oversize.

Excessive parking brake lever travel (sometimes described as a loose lever or too loose condition), is the result of worn brake shoes, improper brake shoe adjustment, or improperly assembled brake parts.

A too loose condition can also be caused by inoperative or improperly assembled parking brake shoe parts.

A condition where the parking brakes do not hold, will most probably be due to a wheel brake component.

Items to look for when diagnosing a parking brake problem, are:

- Brake shoe wear
- Drum surface (in rear rotor) machined oversize
- Front cable not secured to lever
- Rear cable not attached to actuator
- Rear cable seized
- Parking brake lever not seated
- Parking brake lever bind

**CABLES**

**REMOVAL**

**FRONT PARKING BRAKE CABLE**

1. Disconnect the negative battery cable.
2. Remove the drivers seat (Refer to 23 - BODY/SEATS/SEAT - REMOVAL).
3. Remove the left sill plate.
4. Remove the left B-pillar trim panel (Refer to 23 - BODY/INTERIOR/B-PILLAR UPPER TRIM - REMOVAL).

5. Remove the console rear cover (2) or the DVD player (if equipped).

6. Remove center console (1) , (Refer to 23 - BODY/INTERIOR/FLOOR CONSOLE - REMOVAL).
7. Remove the rear seat bottom (Refer to 23 - BODY/SEATS/SEAT CUSHION - REMOVAL).

8. Disconnect the modules electrical connectors (1).
9. Remove the module mounting nuts from the bracket (2).

10. Remove the rear sill plates.
11. Pull and roll the rear carpet upwards to gain access to the front park brake cable.
12. Lock out the front park brake cable.
13. Remove the front cable (2) at the equalizer (1).

14. Remove the 2 front cable routing clamps and the 3 nuts (2&4).
15. Remove the front cable at the rear floor bracket.
16. Remove the front cable (3) at the hand lever (1).
17. Remove the front cable at the hand lever mounting bracket.
REAR PARKING BRAKE CABLES

1. Remove the rear seat bottom (Refer to 23 - BODY/SEATS/SEAT CUSHION - REMOVAL).

2. Disconnect the (FDCM) final drive control module electrical connectors (1).

3. Remove the (FDCM) module bracket (2) mounting nuts.

4. Remove the rear sill plates.

5. Roll the carpet back to access the rear park brake cables.
6. Lock-out the park brake cable (1).

7. Disconnect the brake cables from the equalizer (1).

8. Remove the park brake cables (2) thru the floor (1).
9. Raise and support the vehicle.
10. Remove the tire and wheel assembly.
11. Remove the rear caliper (1) (Refer to 5 - BRAKES/HYDRAULIC/MECHANICAL/DISC BRAKE CALIPERS - REMOVAL).

12. Remove the disc brake rotor.

13. Remove the axle flange bolts (1).
14. Remove the axle (1).

15. Disconnect the park brake cable at the brake actuator lever (2).

16. Disconnect the rear park brake shoes (1) (Refer to 5 - BRAKES/PARKING BRAKE/SHOES - REMOVAL).

17. Remove the park brake cable (2) thru the support plate.

18. Remove the stabilizer bar bushing clamp bolts.

19. Remove the 2 push pins for the park brake cable to the axle.

20. Remove the cable (2) from the vehicle.
INSTALLATION

FRONT PARKING BRAKE CABLE

1. Install the front cable (3) at the hand lever mounting bracket (1).
2. Install the front cable (3) at the hand lever (1).
3. Install the front cable at the rear floor bracket.
4. Install the 2 front cable routing clamps and the 3 nuts (2&4).

5. Install the front cable (2) at the equalizer (1).
6. Unlock the front park brake cable (1).

7. Install the rear carpet back in place.
8. Install the module bracket (2) mounting nuts.
9. Reconnect the module electrical connectors (1).

10. Install the rear sill plates.
11. Install the drivers seat (Refer to 23 - BODY/SEATS/SEAT - INSTALLATION).

12. Install the left B-pillar trim panel (Refer to 23 - BODY/INTERIOR/B-PILLAR UPPER TRIM - INSTALLATION).

13. Install the left sill plate.

15. Install the console rear cover (2) or the DVD player (if equipped).

16. Install the rear seat bottom (Refer to 23 - BODY/SEATS/SEAT CUSHION - INSTALLATION).

17. Reconnect the negative battery cable.
REAR PARKING BRAKE CABLES

1. Install the cable (2) to the vehicle.
2. Install the 2 push pins for the park brake cable to the stabilizer bar bracket.
3. Install the stabilizer bar bushing clamp bolts.
4. Install the park brake cable (2) into the support plate.

5. Reconnect the park brake cable at the brake actuator lever (2).
6. Reconnect the rear park brake shoes (1) (Refer to BRAKES/PARKING BRAKE/SHOES - INSTALLATION).

7. Install the axle shaft (1).
8. Install the axle flange nuts (1). (Refer to 3 - DIFFERENTIAL & DRIVELINE/REAR AXLE - C213R/AXLE SHAFTS - INSTALLATION).

9. Adjust rear park brake shoes (Refer to 5 - BRAKES/PARKING BRAKE/SHOES - ADJUSTMENTS).

10. Install the disc brake rotor.

11. Install the rear caliper (1) (Refer to 5 - BRAKES/ HYDRAULIC/MECHANICAL/DISC BRAKE CALIPERS - INSTALLATION).
12. Install the park brake cables (2) thru the floor (1).

13. Install the tire and wheel assembly.
14. Lower the vehicle.
15. Reconnect the brake cables to the equalizer (1).
16. Unlock the park brake cable (1).

17. Fold down the rear carpet.
18. Install the rear sill plates.
19. Install the (FDCM) module bracket (2) mounting nuts.
20. Reconnect the (FDCM) module electrical connectors (1).

21. Install the rear seat bottom (Refer to 23 - BODY/SEATS/SEAT CUSHION - INSTALLATION).
22. Verify parking brake operation.
LEVER

REMOVAL

1. Remove the console rear cover (2) or DVD player (if equipped).

2. Remove the center console (1), (Refer to 23 - BODY/INTERIOR/FLOOR CONSOLE REMOVAL).

3. Disconnect the park brake switch wire connector.

4. Lock out the park brake hand lever.
5. Disconnect the front cable (3) at the hand brake lever (1).
6. Remove the 3 hand brake lever mounting bolts.
7. Disconnect the wire harness routing clips to the lever.
8. Pull the hand lever (1) up to remove the front cable (3).

INSTALLATION
1. Reconnect the wire harness routing clips to the lever.
2. Reconnect the front cable (3) at the hand brake lever (1).
3. Install the 3 hand brake lever (1) mounting bolts.
4. Unlock out the park brake hand lever (1).
5. Reconnect the park brake switch wire connector.
6. Check the operation of the parking brake lever (1) and cable (3).

7. Install the center console (1), (Refer to 23 - BODY/INTERIOR/FLOOR CONSOLE INSTALLATION).
8. Install the rear cover (2) or the DVD player (if equipped).

SHOES

DESCRIPTION

Drum in hat park brakes are dual shoe, internal expanding units with an automatic self adjusting mechanism.

OPERATION

When the parking brake pedal is depressed the brake cable pulls the brake shoes outward against the brake drum. When the brake pedal is released the return springs attached to the brake shoes pull the shoes back to their original position.
REMOVAL
1. Raise vehicle.
2. Remove rear wheel and tire assembly.
3. Remove the 2 caliper bolts (4) then remove the caliper. Support the caliper, Do not let the caliper hang by the brake hose.
4. Remove rubber access plug (1) from back of rear disc brake support plate (3).
5. If necessary retract parking brake shoes with brake adjuster tool (2). Position tool at top of star wheel and rotate wheel.
6. Remove rotor from axle hub flange.
7. Remove the four axle flange nuts (1).

8. Remove the axle shaft (1) from the rear differential (Refer to 3 - DIFFERENTIAL & DRIVELINE/REAR AXLE - C213R/AXLE SHAFTS - REMOVAL).

9. Remove the shoe to shoe return spring (6) with needle nose pliers & then remove the adjuster (5).

10. Remove the shoe to shoe return spring (3) with brake pliers.

11. Remove shoe hold-down clips (4) and pins. Clip is held in place by pin which fits in clip notch. To remove clip, first push clip ends together and slide clip until head of pin clears narrow part of notch. Then remove clip (4) and pin.

12. Remove shoes (1) off the actuator lever (2) for the park brake then remove the shoes (1).
CLEANING - REAR DRUM IN HAT BRAKE

Clean the individual brake components, including the support plate exterior, with a water dampened cloth or with brake cleaner. Do not use any other cleaning agents. Remove light rust and scale from the brake shoe contact pads on the support plate with fine sandpaper.

INSPECTION - REAR DRUM IN HAT BRAKE

As a general rule, riveted brake shoes should be replaced when worn to within 0.78 mm (1/32 in.) of the rivet heads. Bonded lining should be replaced when worn to a thickness of 1.6 mm (1/16 in.).

Examine the lining contact pattern to determine if the shoes are bent or the drum is tapered. The lining should exhibit contact across its entire width. Shoes exhibiting contact only on one side should be replaced and the drum checked for runout or taper.

Inspect the adjuster screw assembly. Replace the assembly if the star wheel or threads are damaged, or the components are severely rusted or corroded.

Discard the brake springs and retainer components if worn, distorted or collapsed. Also replace the springs if a brake drag condition had occurred. Overheating will distort and weaken the springs.

Inspect the brake shoe contact pads on the support plate, replace the support plate if any of the pads are worn or rusted through. Also replace the plate if it is bent or distorted.
INSTALLATION

1. Install the park brake shoes (1) onto the actuator lever (2).

2. Install shoes on support plate with hold down clips and pins (4). Be sure shoes are properly engaged in the park brake actuator lever (2).

3. Install thr return spring (3).

4. Lubricate and install adjuster screw assembly (5). Be sure notched ends of screw assembly are properly seated on shoes and that star wheel is aligned with access hole in the support plate.

5. Install shoe to shoe adjuster spring (6). Needle nose pliers can be used to connect spring to each shoe.

6. Install the axle shaft (1) to the rear differential (Refer to 3 - DIFFERENTIAL & DRIVELINE/REAR AXLE - C213R/AXLE SHAFTS - INSTALLATION).

7. Install and tighten the axle flange nuts (1).
8. Install rotor to the axle hub.

9. Install the caliper and the 2 mounting bolts (4) to 90-115 N·m (66-85 ft. lbs.).

10. Adjust the parking brake shoes.
11. Install wheel and tire assembly.
12. Lower vehicle and verify correct parking brake operation.
ADJUSTMENTS

ADJUSTMENT - REAR DRUM IN HAT PARK BRAKE (ROTOR REMOVED)

Under normal circumstances, the only time adjustment is required is when the shoes are replaced, removed for access to other parts, or when one or both rotors are replaced.

Adjustment can be made with a standard brake gauge or with adjusting tool. Adjustment is performed with the complete brake assembly installed on the backing plate.

CAUTION: Before adjusting the park brake shoes be sure that the park brake pedal is in the fully released position. If park brake pedal is not in the fully released position, the park brake shoes can not be accurately adjusted.

1. Raise vehicle.
2. Remove tire and wheel.
3. Remove disc brake caliper from caliper adapter (Refer to 5 - BRAKES/HYDRAULIC/MECHANICAL/DISC BRAKE CALIPERS - REMOVAL).
4. Remove rotor from the axleshaft (Refer to 5 - BRAKES/HYDRAULIC/MECHANICAL/ROTORS - REMOVAL).

NOTE: When measuring the brake drum diameter, the diameter should be measured in the center of the area in which the park brake shoes contact the surface of the brake drum.

5. Using Brake Shoe Gauge, Special Tool C-3919 (1), or equivalent, accurately measure the inside diameter of the park brake drum portion of the rotor.
6. Using a ruler (2) that reads in 64th of an inch, accurately read the measurement of the inside diameter of the park brake drum from the special tool.
7. Reduce the inside diameter measurement of the brake drum that was taken using Special Tool C-3919 (2) by 1/64 of an inch. Reset Gauge, Brake Shoe, Special Tool C-3919 (2) or the equivalent used, so that the outside measurement jaws are set to the reduced measurement.

8. Place Gauge, Brake Shoe, Special Tool C-3919 (2), or equivalent over the park brake shoes. The special tool must be located diagonally across at the top of one shoe and bottom of opposite shoe (widest point) of the park brake shoes.

9. Using the star wheel adjuster, adjust the park brake shoes until the lining on the park brake shoes just touches the jaws on the special tool.

10. Repeat step 8 above and measure shoes in both directions.

11. Install brake rotor on the axleshaft (Refer to 5 - BRAKES/HYDRAULIC/MECHANICAL/ROUTERS - INSTALLATION).

12. Rotate rotor to verify that the park brake shoes are not dragging on the brake drum. If park brake shoes are dragging, remove rotor and back off star wheel adjuster one notch and recheck for brake shoe drag against drum. Continue with the previous step until brake shoes are not dragging on brake drum.

13. Install disc brake caliper on caliper adapter (Refer to 5 - BRAKES/HYDRAULIC/MECHANICAL/DISC BRAKE CALIPERS - INSTALLATION).


15. Tighten the wheel mounting nuts in the proper sequence until all nuts are torqued to half the specified torque. Then repeat the tightening sequence to the full specified torque of 129 N·m (95 ft. lbs.).

16. Lower vehicle.

**CAUTION:** Before moving vehicle, pump brake pedal several times to ensure the vehicle has a firm enough pedal to stop the vehicle.

**NOTE:** After parking brake lining replacement, it is recommended that the parking brake system be conditioned prior to use. This is done by making one stop from 25 mph on dry pavement or concrete using light to moderate force on the parking brake hand lever.

17. Road test the vehicle to ensure proper function of the vehicle’s brake system.

**ADJUSTMENT - WITH ADJUSTING TOOL**

Adjustment can be made with a standard brake gauge or with adjusting tool. Adjustment is performed with the complete brake assembly installed on the backing plate.

1. Be sure parking brake lever is fully released.

2. Raise vehicle so rear wheels can be rotated freely.

3. Remove plug from each access hole in brake support plates.

4. Loosen parking brake cable adjustment nut until there is slack in front cable.

5. Insert adjusting tool through support plate access hole and engage tool in teeth of adjusting screw star wheel.
6. Rotate adjuster screw star wheel (move tool handle upward) until slight drag can be felt when wheel is rotated.

7. Push and hold adjuster lever away from star wheel with thin screwdriver.

8. Back off adjuster screw star wheel until brake drag is eliminated.

9. Repeat adjustment at opposite wheel. Be sure adjustment is equal at both wheels.

10. Install support plate access hole plugs.

11. Adjust parking brake cable and lower vehicle.

12. Depress park brake lever and make sure park brakes hold the vehicle stationary.

13. Release park brake lever.