BRAKES

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GENERAL INFORMATION

BASE BRAKE SYSTEM COMPONENT DESCRIPTION

The standard brake system on this vehicle contains the same components as brake systems described in group 5 of the service manual, with the exception of the brake pedal system and master cylinder. These differences are mainly related to service procedures. The major differences are as follows:

- Use of a torque shaft assembly to transfer brake pedal travel to the power brake booster and master cylinder on the left side of the vehicle
- A unique power brake booster and master cylinder.

Refer to the Base Brake System Component Description in the General Information section of group 5 for more information on components used in the base brake system.

DESCRIPTION AND OPERATION

MASTER CYLINDER

The master cylinder used on this vehicle functions the same as master cylinders used in other brake systems. Refer to the Master Cylinder in the Description and Operation section of group 5 for more information.

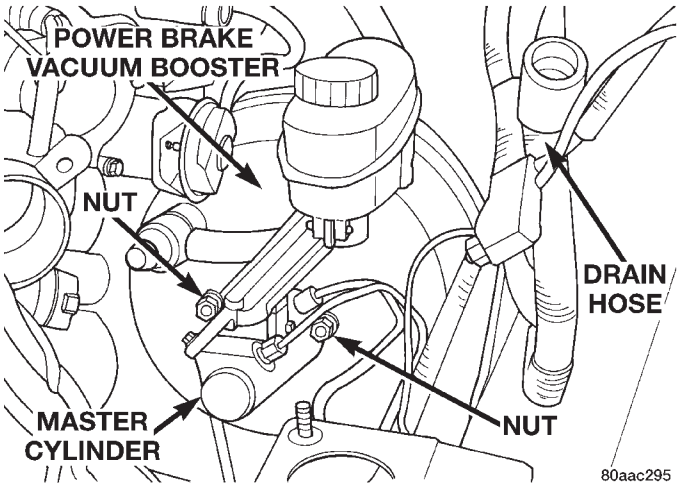

Fig. 1 Master Cylinder Assembly

DIAGNOSIS AND TESTING

REAR DRUM BRAKE ADJUSTMENT

The rear drum brakes on front wheel drive vehicles automatically adjust, when required, during the normal operation of the vehicle every time the brakes are applied. Use the following procedure to test the operation of the automatic adjuster.

Place the vehicle on a hoist with a helper in the driver's seat to apply the brakes. Remove the access plug from the adjustment slot in each brake support plate to provide visual access of brake adjuster star wheel. Disconnect parking brake cable from one side of the vehicle at the equalizer under the vehicle at the left frame rail. Working on the side of the vehicle that parking brake cable is connected to, hold the adjuster lever off the star wheel with a suitable tool, and loosen the star wheel approximately 30 notches in relation to the adjuster lever. This is to eliminate the possibility that the brake is already properly adjusted. Reconnect the parking brake cable and repeat the procedure for the other side of the vehicle.

DIAGNOSIS AND TESTING (Continued)

Upon application of the brake pedal, the lever should move down, turning the star wheel. A definite rotation of the star wheel should be seen if the automatic adjuster is working properly. If no rotation of the star wheel is observed when the pedal is consecutively pressed and released, the respective drum will have to be removed and the adjuster serviced.

MASTER CYLINDER FLUID LEVEL CHECK

The master cylinder used in this vehicle has the same fluid level markings as the master cylinders used in other brake systems on the side of the fluid resevoir. Refer to the Master Cylinder Fluid Level Check in the Diagnosis and Testing section of group 5 for more information

REMOVAL AND INSTALLATION

FRONT PARK BRAKE CABLE AND LEVER ASSEMBLY-RHD&LHD VEHICLES

REMOVE

(1) Raise vehicle on jackstands or centered on a hoist. See Hoisting in the Lubrication and Maintenance group of this service manual.

(2) Remove the intermediate and left rear park brake cable from the park brake cable equalizer (Fig. 2).

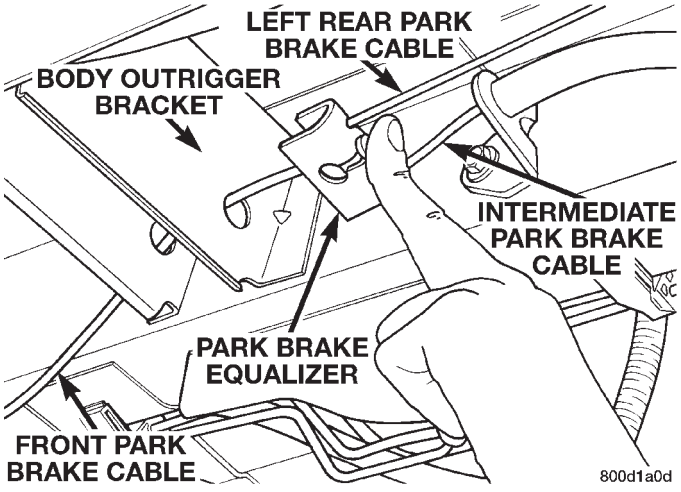

Fig. 2 Park Brake Cable Attachment To Equalizer

(3) Remove the front park cable housing retainer from body outrigger bracket (Fig. 3). Cable is removable by sliding a 14 mm box wrench over cable retainer and compressing the three retaining fingers. Alternate method is to use an aircraft type hose clamp and screwdriver.

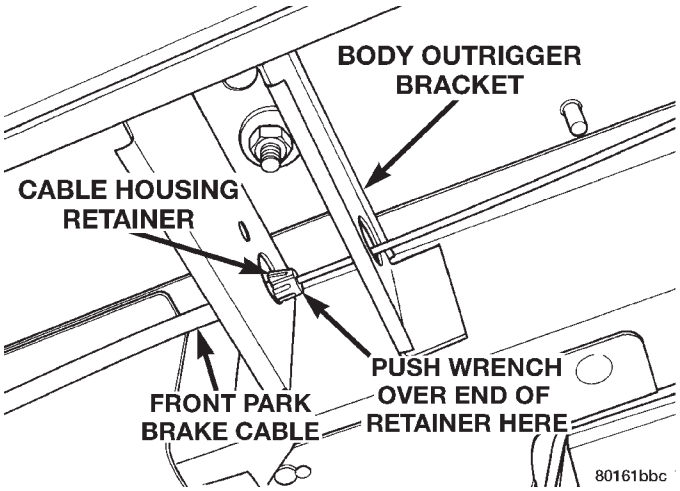

Fig. 3 Front Park Brake Cable Attachment To Body

(4) Remove the two (2) retaining nuts and (2) retaining bolts from the bottom of the parking brake/ gearshift lever bracket.

(5) Lower vehicle.

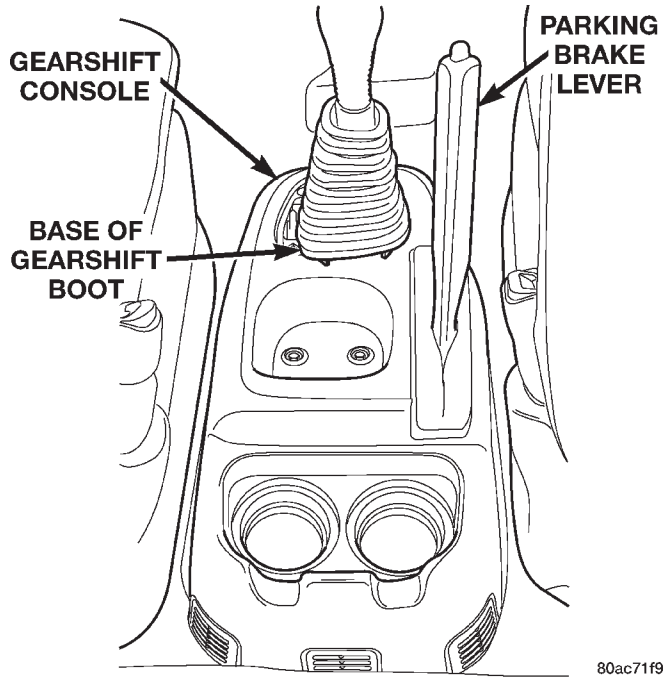

Fig. 4 Console and Gearshift boot

(6) Carefully lift the base of the gearshift boot from the gearshift console to access the screws (Fig. 4).

REMOVAL AND INSTALLATION (Continued)

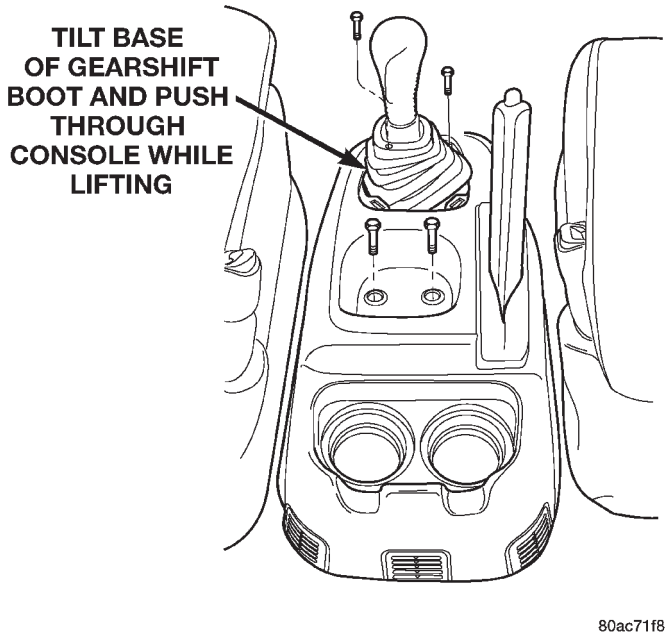

Fig. 5 Console Retaining Screws

(7) Remove the four (4) retaining screws (Fig. 5).

(8) Pull the parking brake lever to the “up” position and lift the console (Fig. 5).

(9) Tilt the base of the gearshift boot and carefully push through the opening in the console while lifting.

(10) Remove the three (3) nuts at the base of the parking brake assembly.

(11) Release the parking brake assembly and lift assembly off of the parking brake/gearshift lever bracket.

(12) Unhook the loop on the end of the parking brake from the equalizer bar on the parking brake/ gearshift lever bracket.

(13) Compress the parking brake cable retainer by sliding a 14 mm box wrench over the cable retainer and compress the three (3) retaining fingers.

(14) Remove the three (3) screws from the parking brake grommet on the floor pan of the passenger compartment.

(15) Lift the parking brake /gearshift lever bracket and slide the parking brake cable out.

(16) Pull the cable through the floor pan from inside the vehicle.

INSTALL

(1) Pass park brake cable assembly through hole in floor pan from the inside of the vehicle.

(2) Pass cable strand button through the hole in the pedal assembly bracket.

(3) Install parking brake cable to the brake/gearshift lever bracket by lifting the bracket and sliding the cable in.

(4) Install the three (3) screws to the parking brake grommet on the floor pan of the passenger compartment.

(5) Compress the parking brake cable retainer by sliding a 14 mm box wrench over the cable retainer and compress the three (3) retaining fingers.

(6) Hook the loop on the end of the parking brake to the equalizer bar on the parking brake/gearshift lever bracket.

(7) Attach the parking brake assembly and place assembly on the parking brake/gearshift lever bracket.

(8) Install the three (3) nuts at the base of the parking brake assembly.

(9) Pull the parking brake lever to the “up” position.

(10) Place the console over the parking brake/gearshift lever and tilt the base of the gearshift boot and carefully pull it through the opening in the console.

(11) Install the four (4) retaining screws (Fig. 5).

(12) Carefully press the three (3) clips at the base of the gearshift boot into the slots on the gearshift console.

(13) Raise the vehicle.

(14) install the two (2) retaining nuts and (2) retaining bolts to the bottom of the parking brake/ gearshift lever bracket.

(15) Install the front park cable housing retainer to the body outrigger bracket (Fig. 3). Cable is installed by sliding a 14 mm box wrench over cable retainer and compressing the three retaining fingers. Alternate method is to use an aircraft type hose clamp and screwdriver.

(16) Install the intermediate and left rear park brake cable to the park brake cable equalizer (Fig. 2).

(17) Lower the vehicle.

REMOVAL AND INSTALLATION (Continued)

BRAKE PEDAL TORQUE SHAFT ASSEMBLY

REMOVE

(1) Disconnect Brake Pedal Switch Electrical Connector

(2) Loosen the six (6) retaining nuts from the Brake Pedal Bracket. Do not remove nuts from studs. (Fig. 6)

(3) Remove steering column intermediate shaft. Loosen 72 and 36 way electrical connector brackets. Move components out of the way of the brake pedal bracket.

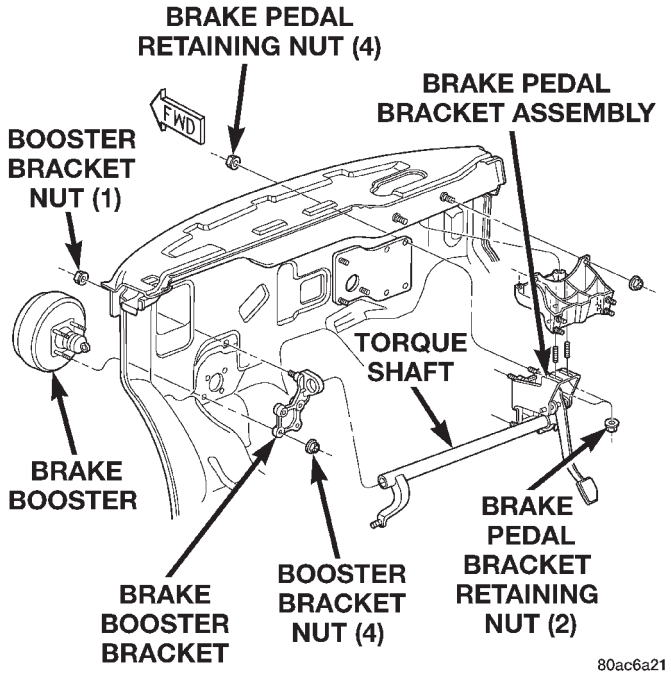

Fig. 6 Torque Shaft and Brake Pedal Assembly

(4) Access the brake booster bracket inside the passenger compartment. Remove the retaining clip from brake pedal torque shaft. **Discard retaining clip. It is not to be re-used. Replace only with a new clip when reassembled.** (Fig. 7)

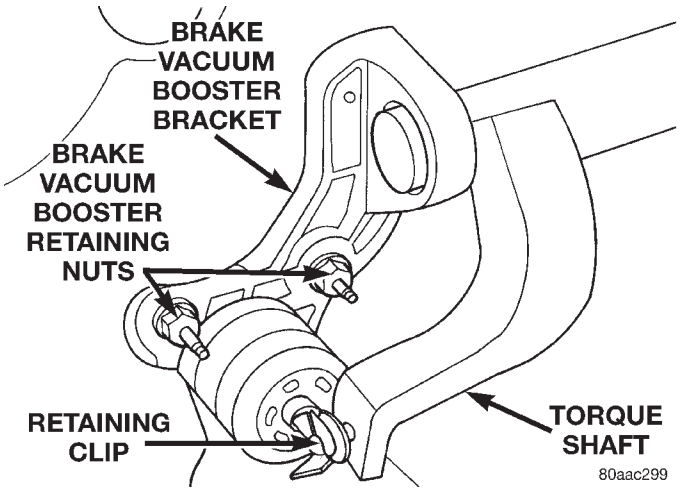

Fig. 7 Brake Vacuum Booster Bracket

(5) Loosen the retaining nut (1) from the Brake Booster Bracket in the engine compartment. Do not remove nut from stud. Loosen the four Brake Booster retaining nuts from inside the passenger compartment. Do not remove nuts from stud (Fig. 6)

(6) The pedal arm, link and pedal bracket can be disconnected from the torque shaft to make it easier to remove.

(7) Remove torque shaft from vehicle

INSTALL

(1) Install torque shaft. Reconnect pedal arm, link and pedal bracket assembly to torque shaft as necessary.

(2) Tighten the retaining nut (1) for the Brake Booster Bracket in the engine compartment. Tighten the four (4) Brake Booster retaining nuts from inside the passenger compartment.

(3) Install new retaining clip on torque shaft.

(4) Install steering column intermediate shaft. Install 72 and 36 way connector brackets.

(5) Tighten the six (6) retaining nuts for the Brake Pedal Bracket assembly.

(6) Connect the Brake Pedal Switch connector.