

2009 BRAKES**Base - Service Information - Journey****DESCRIPTION****DESCRIPTION**

The base brake system consists of the following components:

- Brake pedal
- Power brake booster
- Master cylinder
- Brake tubes and hoses
- Disc brakes (four-wheel)
- Brake lamp switch
- Brake fluid level switch
- Parking brakes

Antilock brakes with traction control and Electronic Stability Program (ESP) are standard equipment on this vehicle. ABS and ESP components are described in detail in ABS SERVICE INFORMATION.

For information on the brake lamp switch. Refer to **Electrical - Lamps and Lighting/Lamps/Lighting - Exterior/SWITCH, Stop Lamp - Description**

WARNING**WARNING**

WARNING: Chrysler LLC does not manufacture any vehicles or replacement parts that contain asbestos. Aftermarket products may or may not contain asbestos. Refer to aftermarket product packaging for product information.

Whether the product contains asbestos or not, dust and dirt can accumulate on brake parts during normal use. Follow practices prescribed by appropriate regulations for the handling, processing and disposing of dust and debris.

CAUTION**CAUTION**

CAUTION: During service procedures, grease or any other foreign material must be

kept off brake shoes and braking surfaces of brake rotor or drum, and external surfaces of hub and bearing assembly.

CAUTION: Brake rotor and caliper handling must be done in such a way as to avoid damage to the rotor, especially the machined surfaces, and scratching or nicking of the brake linings.

CAUTION: Only the recommended jacking or hoisting procedures for this vehicle are to be used whenever it is necessary to lift a vehicle. Failure to raise a vehicle utilizing the recommended lift points can result in damage to the vehicle. Refer to Vehicle Quick Reference/Hoisting - Standard Procedure .

DIAGNOSIS AND TESTING

BASE BRAKE SYSTEM

NOTE: There are three diagnosis charts following that cover the RED BRAKE WARNING INDICATOR LAMP, BRAKE NOISE and OTHER BRAKE CONDITIONS.

RED BRAKE WARNING INDICATOR LAMP

CONDITION	POSSIBLE CAUSES	CORRECTION
RED BRAKE WARNING LAMP ON	1. Parking brake lever not fully released. 2. Parking brake warning lamp switch on parking brake lever. 3. Brake fluid level low in reservoir. 4. Brake fluid level switch. 5. Mechanical instrument cluster (MIC) problem. 6. Amber ABS Warning Indicator Lamp also illuminated.	1. Release parking brake lever. 2. Inspect and replace switch as necessary. 3. Fill reservoir. Check entire system for leaks. Repair or replace as required. 4. Disconnect switch wiring connector. If lamp goes out, replace switch. 5. Refer to appropriate Diagnostic information. 6. Refer to appropriate Diagnostic information.

BRAKE NOISE

CONDITION	POSSIBLE CAUSES	CORRECTION
CLICK OR SQUAWK ON PEDAL APPLICATION	1. Brake lamp switch. 2. Brake Transmission Shift Interlock Linkage. 3. Pedal pivot bushings	1. Replace switch. 2. Lubricate BTSI linkage. 3. Lubricate pivot bushings. Replace

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		if necessary.
DISC BRAKE CHIRP	1. Excessive brake rotor runout. 2. Lack of lubricant on brake caliper slides. 3. Caliper/shoes not fully seated.	1. Follow brake rotor diagnosis and testing. Correct as necessary. 2. Lubricate brake caliper slides. 3. Reseat caliper/shoes.
DISC BRAKE RATTLE OR CLUNK	1. Broken or missing anti-rattle spring clips. 2. Caliper guide pins/bolts loose.	1. Replace anti-rattle spring clips. 2. Tighten guide pins/bolts.
DISC BRAKE SQUEAK AT LOW SPEED (WHILE APPLYING LIGHT BRAKE PEDAL EFFORT)	1. Brake shoe linings.	1. Replace brake shoes.
SCRAPING (METAL-TO-METAL).	1. Foreign object interference with brakes. 2. Brake shoes worn out.	1. Inspect brakes and remove foreign object. 2. Replace brake shoes. Inspect rotors. Reface or replace as necessary.

OTHER BRAKE CONDITIONS

CONDITION	POSSIBLE CAUSES	CORRECTION
BRAKES CHATTER	1. Disc brake rotor has excessive thickness variation.	1. Isolate condition as rear or front. Reface or replace brake rotors as necessary.
BRAKES DRAG (FRONT OR ALL)	1. Contaminated brake fluid. 2. Binding caliper pins or bushings. 3. Binding master cylinder. 4. Binding brake pedal. 5. Brake lamp switch not adjusted properly and mounting bracket is bent.	1. Check for swollen seals. Replace all system components containing rubber. 2. Replace pins and bushings. 3. Replace master cylinder. 4. Replace brake pedal. 5. Straighten mounting bracket and replace brake lamp switch.
BRAKES DRAG (REAR ONLY)	1. Parking brake cables binding or froze up. 2. Parking brake cable return spring not returning shoes. 3. Rear disc brake parking brake not properly adjusted.	1. Check cable routing. Replace cables as necessary. 2. Replace cables as necessary. 3. Adjust parking brake shoes.
BRAKES GRAB	1. Contaminated brake shoe linings.	1. Inspect and clean, or replace shoes. Repair source of contamination.

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	2. Improper power brake booster assist.	2. Refer to <u>BOOSTER, Power Brake.</u>
EXCESSIVE PEDAL EFFORT	1. Obstruction of brake pedal. 2. Low power brake booster assist (vacuum leak). 3. Glazed brake linings. 4. Brake shoe lining transfer to brake rotor.	1. Inspect, remove or move obstruction. 2. Refer to <u>BOOSTER, Power Brake.</u> 3. Reface or replace brake rotors as necessary. Replace brake shoes. 4. Reface or replace brake rotors as necessary. Replace brake shoes.
EXCESSIVE PEDAL TRAVEL (VEHICLE STOPS OK)	1. Air in brake lines.	1. Bleed brakes.
EXCESSIVE PEDAL TRAVEL (ONE FRONT WHEEL LOCKS UP DURING HARD BRAKING)	1. One of the two hydraulic circuits to the front brakes is malfunctioning.	1. Inspect system for leaks. Check master cylinder for internal malfunction.
PEDAL PULSATES/SURGES DURING BRAKING	1. Disc brake rotor has excessive thickness variation.	1. Isolate condition as rear or front. Reface or replace brake rotors as necessary.
PEDAL IS SPONGY	1. Air in brake lines. 2. Power brake booster runout (vacuum assist).	1. Bleed brakes. 2. Check booster vacuum hose and engine tune for adequate vacuum supply. Refer to <u>BOOSTER, Power Brake.</u>
PREMATURE WHEEL LOCKUP	1. Contaminated brake shoe linings. 2. Antilock brake system function issue.	1. Inspect and clean, or replace shoes. Repair source of contamination. 2. Refer to appropriate antilock brake diagnostic information.
STOP/BRAKE LAMPS STAY ON	1. Brake lamp switch out of adjustment. 2. Brake pedal binding. 3. Obstruction in pedal linkage. 4. Power Brake Booster not allowing pedal to return completely.	1. Replace brake lamp switch. 2. Inspect and replace as necessary. 3. Remove obstruction. 4. Replace power brake booster.
VEHICLE PULLS TO RIGHT OR LEFT ON BRAKING	1. Frozen brake caliper piston. 2. Contaminated brake shoe lining. 3. Pinched brake lines.	1. Replace frozen piston or caliper. Bleed brakes. 2. Inspect and clean, or replace shoes. Repair source of contamination. 3. Replace pinched line.

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	4. Leaking piston seal. 5. Suspension problem.	4. Replace piston seal or brake caliper. 5. Refer to <u>FRONT SUSPENSION</u> or <u>REAR SUSPENSION</u> .
PARKING BRAKE - EXCESSIVE LEVER TRAVEL	1. Broke cable. 2. Binding cable. 3. Damaged lever at rear brake caliper. 4. Binding/frozen rear brake caliper piston.	1. Replace broken cable. 2. Replace binding cable. 3. Replace rear brake caliper. 4. Replace rear brake caliper.

STANDARD PROCEDURE

BASE BRAKE BLEEDING

NOTE: This bleeding procedure is only for the vehicle's base brakes hydraulic system. For bleeding the antilock brakes hydraulic system. See **Brakes - Standard Procedure**

CAUTION: Before removing the master cylinder reservoir cap, thoroughly clean the cap and master cylinder fluid reservoir to prevent dirt and other foreign matter from dropping into the master cylinder fluid reservoir.

NOTE: The following wheel sequence should be used when bleeding the brake hydraulic system. The use of this wheel sequence will ensure adequate removal of all trapped air from the brake hydraulic system.

- Left Rear Wheel
- Right Front Wheel
- Right Rear Wheel
- Left Front Wheel

NOTE: When bleeding the brake system, some air may be trapped in the brake lines far upstream, as much as ten feet from the bleeder screw. Therefore, it is essential to have a fast flow of a large volume of brake fluid when bleeding the brakes to ensure all the air gets out.

Pressure bleeding the brakes is recommended, although the brakes may be manually bled or pressure bled. Refer to the appropriate following procedure.

PRESSURE BLEEDING PROCEDURE

Follow the pressure bleeder manufacturer's instructions for use of the pressure bleeding equipment.

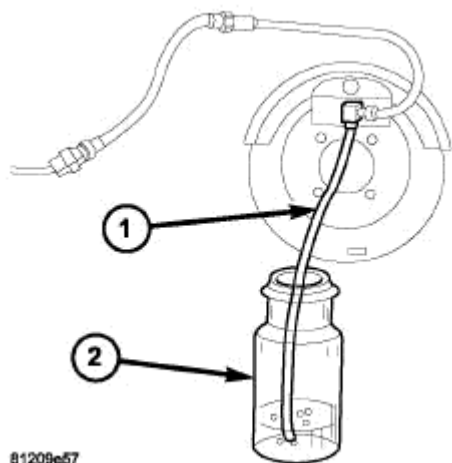


Fig. 1: BLEED HOSE SET UP
Courtesy of CHRYSLER LLC

1. Install Master Cylinder Pressure Bleed Cap, Special Tool 6921, or equivalent on the master cylinder fluid reservoir. Attach the fluid hose from the pressure bleeder to the fitting on Special Tool 6921.
2. Attach a clear plastic hose (1) to the bleeder screw and feed the hose into a clear jar (2) containing enough fresh brake fluid to submerge the end of the hose.
3. Open the bleeder screw at least one full turn or more to obtain a steady stream of brake fluid.
4. After approximately 120-240 ml (4-8 ounces) of fluid have been bled through the brake circuit and an air-free flow is maintained in the clear plastic hose and jar, close the bleeder screw.
5. Repeat this procedure at all the remaining bleeder screws.
6. Check and adjust brake fluid level to the FULL mark on the reservoir.
7. Check brake pedal travel and feel. If pedal travel is excessive or if the pedal feels excessively spongy, some air may still be trapped in the system. Re-bleed the brakes as necessary including the IPB Caliper Brake Bleeding Procedure on the rear calipers as listed below.
8. Test drive the vehicle to verify the brakes are operating properly and pedal feel is correct.

MANUAL BLEEDING PROCEDURE

NOTE: To bleed the brakes manually, the aid of a helper will be required.

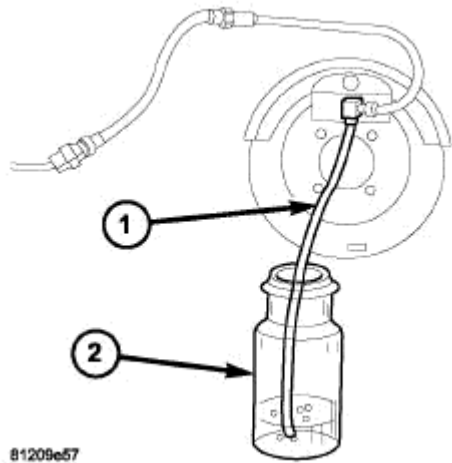


Fig. 2: BLEED HOSE SET UP
 Courtesy of CHRYSLER LLC

1. Attach a clear plastic hose (1) to the bleeder screw and feed the hose into a clear jar (2) containing enough fresh brake fluid to submerge the end of the hose.
2. Have a helper pump the brake pedal three or four times and hold it in the down position.
3. With the pedal in the down position, open the bleeder screw at least one full turn.
4. Once the brake pedal has dropped, close the bleeder screw. After the bleeder screw is closed, release the brake pedal.
5. Repeat the above steps until all trapped air is removed from that wheel circuit (usually four or five times).
6. Bleed the remaining wheel circuits in the same manner until all air is removed from the brake system. Monitor the fluid level in the master cylinder reservoir to make sure it does not go dry.
7. Check and adjust brake fluid level to the FULL mark.
8. Check brake pedal travel and feel. If pedal travel is excessive or if the pedal feels excessively spongy, some air may still be trapped in the system. Re-bleed the brakes as necessary including the IPB Caliper Brake Bleeding Procedure on the rear calipers as listed below.
9. Test drive the vehicle to verify the brakes are operating properly and pedal feel is correct.

IPB CALIPER BRAKE BLEEDING PROCEDURE

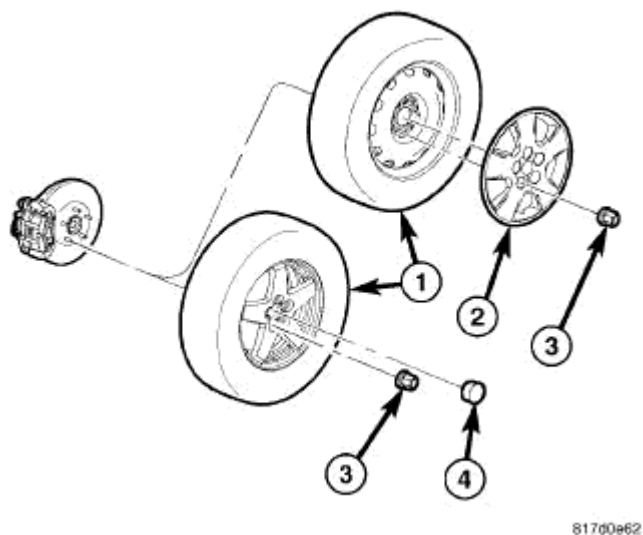


Fig. 3: TIRE AND WHEEL MOUNTING

Courtesy of CHRYSLER LLC

NOTE: The following procedure is normally only necessary if a rear brake caliper has been removed and installed, or replaced.

Perform the following procedure on each rear brake caliper as necessary.

1. Raise and support vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**
2. Remove the wheel mounting nuts (3), then the tire and wheel assembly (1).

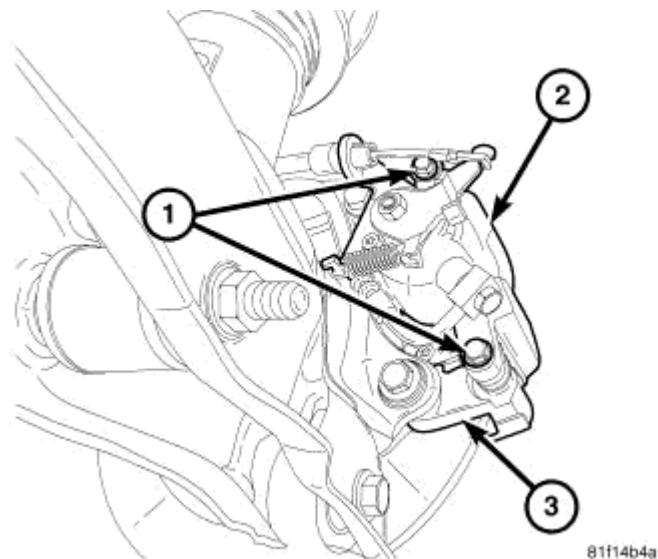


Fig. 4: REAR CALIPER MOUNTING

Courtesy of CHRYSLER LLC

3. Remove the brake caliper lower guide pin bolt (1).
4. Swing the caliper assembly upward, pivoting off the upper guide pin, until clear of the adapter bracket.

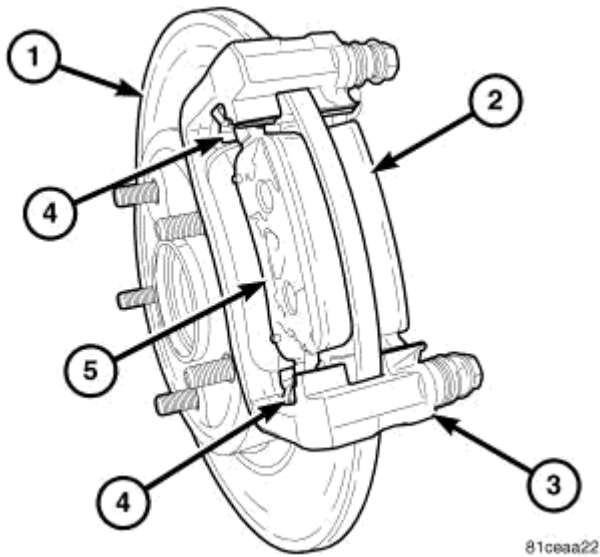


Fig. 5: REAR BRAKE PADS
Courtesy of CHRYSLER LLC

5. Remove the outboard pad (5) from the adapter bracket.
6. Return the caliper back down over the adapter bracket into mounted position and install the lower guide pin bolt finger tight.
7. Slowly pump the brake pedal until the caliper fingers touch the outboard surface of the brake rotor. Release the pedal.
8. Remove the brake caliper lower guide pin bolt.
9. Swing the caliper assembly upward, pivoting off the upper guide pin, until clear of the adapter bracket.
10. Reinstall the outboard pad in the adapter bracket.
11. Open the caliper bleeder screw at least one full turn.

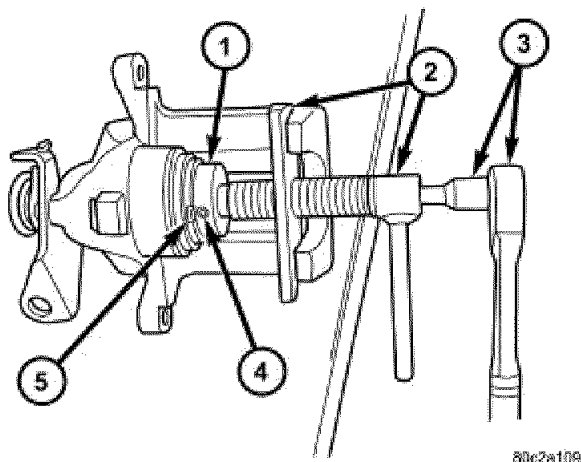


Fig. 6: SEATING PISTON WITH SPECIAL TOOL

Courtesy of CHRYSLER LLC

12. Seat (bottom) the caliper piston in the bore as follows:
 - a. Assemble a 3/8 in. drive ratchet handle and an extension (3).
 - b. Insert the extension through Special Tool 8807-1 (2).
 - c. Place Special Tool 8807-2 (1) on the end of the extension.
 - d. Insert lugs on Special Tool 8807-2 into notches in face of caliper piston (5).
 - e. Thread the screw drive on 8807-1 down until it contacts the top of 8807-2 which is against the caliper piston. **Do not over tighten the screw-drive. Damage to the piston can occur.**
 - f. Turn 8807-2 with the ratchet, rotating the piston in a **clockwise** direction until fully seated (bottomed) in the bore. **It may be necessary to turn 8807-1 with 8807-2 to start the process of piston retraction.**
13. Close the bleeder screw.
14. Return the caliper back down over the adapter bracket into mounted position and install the lower guide pin bolt finger tight.
15. Have a helper pump the brake pedal three or four times and hold it in the down position.
16. With the pedal in the down position, open the bleeder screw at least one full turn and let out fluid and air, if any.
17. Once the brake pedal has dropped, close the bleeder screw. Once the bleeder screw is closed, release the brake pedal.
18. Repeat the previous three steps until all trapped air is removed.
19. Tighten the guide pin bolt to 35 N.m (26 ft. lbs.).
20. Repeat the above procedure on the opposite rear brake caliper as necessary.
21. Check brake pedal travel and feel. If pedal travel is still excessive or if the pedal feels excessively spongy, repeat the entire procedure as necessary.
22. Install the tire and wheel assembly. Refer to **Tires and Wheels - Installation** . Install and tighten wheel mounting nuts to 135 N.m (100 ft. lbs.).
23. Lower the vehicle.

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24. Test drive the vehicle to verify the brakes are operating properly and pedal feel is correct.

SPECIFICATIONS**BRAKE FASTENER TORQUE****BRAKE FASTENER TORQUE**

DESCRIPTION	N.m	Ft. Lbs.	In. Lbs.
ABS ABM Mounting Screws (To HCU)	2	-	17
ABS ICU Mounting Bolt (To Bracket)	11	8	97
ABS ICU Mounting Pins	11	8	97
ABS ICU Mounting Bracket Screws (To Frame)	23	17	203
ABS ICU Mounting Bracket Screw And Nut (To Body) - Right-Hand-Drive	23	17	203
ABS Wheel Speed Sensor Head Mounting Bolt - Front	12	9	106
ABS Wheel Speed Sensor Head Mounting Bolt - Rear	6	4.5	55
ABS Wheel Speed Sensor Routing Bracket Screws - Front	20	15	177
ABS Wheel Speed Sensor Routing Bracket Screws - Rear	20	15	177
Brake Tube Nuts	17	12.5	150
Brake Hose Bracket Bolt	18	13	160
Brake Hose Caliper Banjo Bolt	26	19	230
Brake Shield Mounting Screws	8	6	71
Disc Brake Caliper Adapter Mounting Bolts - Front	169	125	-
Disc Brake Caliper Adapter Mounting Bolts - Rear	100	74	-
Disc Brake Caliper Guide Pin Bolts - Front	35	26	-
Disc Brake Caliper Guide Pin Bolts - Rear	35	26	-
Disc Brake Caliper Bleeder Screw	10	7	88
Dynamics (ESP) Sensor Mounting Nuts	9	6.5	80
Master Cylinder Mounting Nuts	25	19	225
Pedal Bracket Upper Mounting Nuts	28	21	250
Power Brake Booster Mounting Nuts	28	21	250
Parking Brake Cable Mounting Screws to Hand Lever - Front	28	21	250
Parking Brake Cable Routing Clamp Screws/Nuts	6	4.5	55
Parking Brake Cable Routing Loop Mounting Nuts	6	4.5	55
Parking Brake Lever Mounting Nuts - Foot Lever System	28	21	250
Parking Brake Lever Mounting Nuts - Hand Lever System	20	15	177
Wheel Mounting (Lug) Nuts	135	100	-

SPECIAL TOOLS

SPECIAL TOOLS

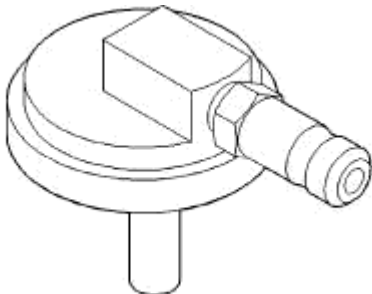


Fig. 7: Adapter, Master Cylinder Pressure Bleed Cap 6921
Courtesy of CHRYSLER LLC

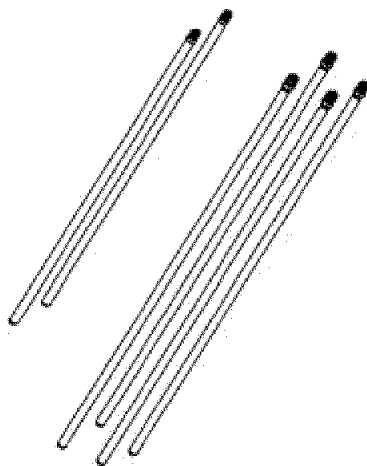


Fig. 8: Bleeder Tubes 8358A
Courtesy of CHRYSLER LLC

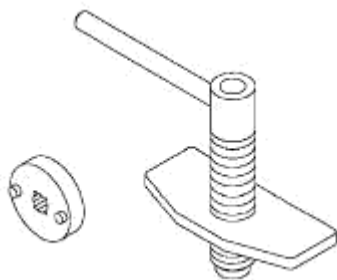


Fig. 9: Retractor, Rear Caliper Piston 8807
Courtesy of CHRYSLER LLC

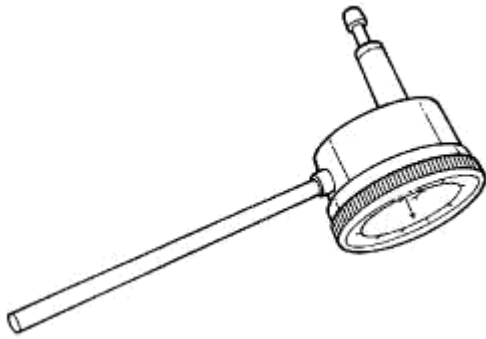


Fig. 10: Dial Indicator 9524
Courtesy of CHRYSLER LLC

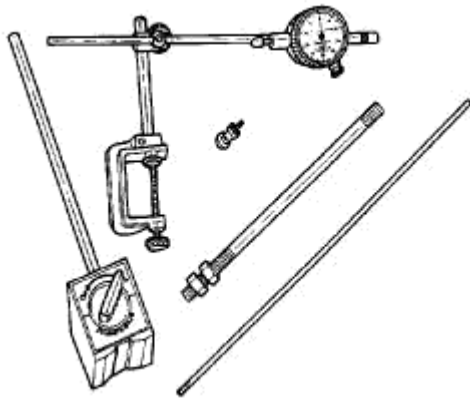


Fig. 11: Dial Indicator C-3339A
Courtesy of CHRYSLER LLC

ELECTRICAL

SWITCH, BRAKE FLUID LEVEL

Description

DESCRIPTION

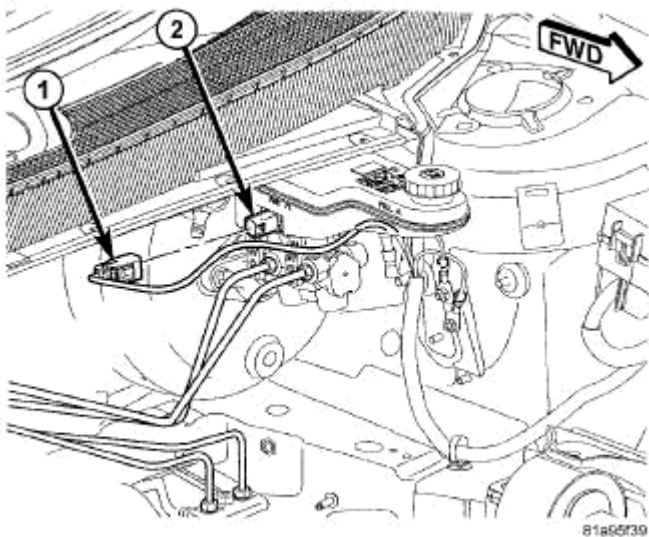


Fig. 12: BRAKE FLUID LEVEL SWITCH CONNECTOR

Courtesy of CHRYSLER LLC

The brake fluid level switch (2) is mounted through the center of the fluid reservoir. The switch can be serviced separately from the master cylinder fluid reservoir.

Removal

REMOVAL

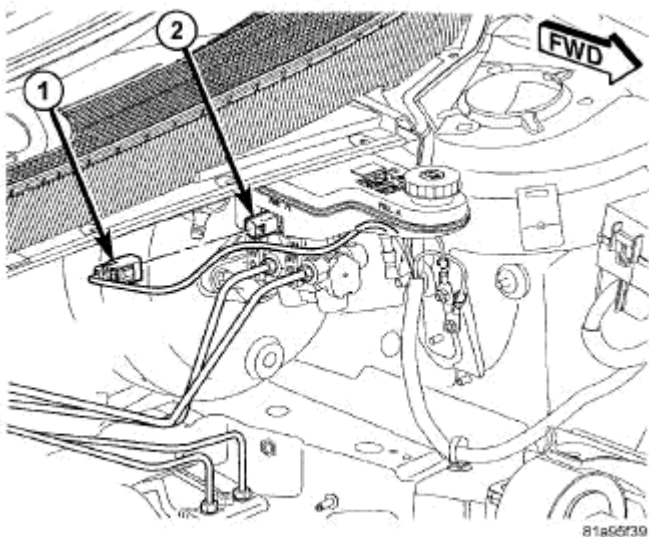
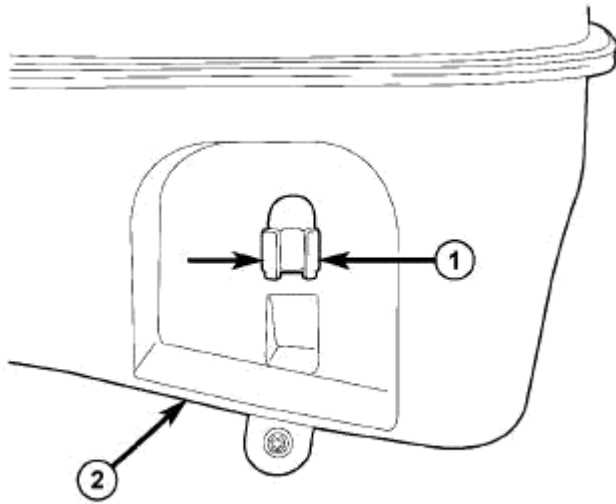


Fig. 13: BRAKE FLUID LEVEL SWITCH CONNECTOR

Courtesy of CHRYSLER LLC

NOTE: Before proceeding. See Brakes - Warning. See Brakes - Caution.

1. Remove the wiring harness connector (1) from the brake fluid level switch (2) in the master cylinder brake fluid reservoir.



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Fig. 14: LEVEL SWITCH RETAINING TABS
Courtesy of CHRYSLER LLC

2. Push together the retaining tabs (1) that hold the brake fluid level switch in place in the brake fluid reservoir (2).
3. Pull the brake fluid level switch out the right side of the reservoir.

Installation

INSTALLATION

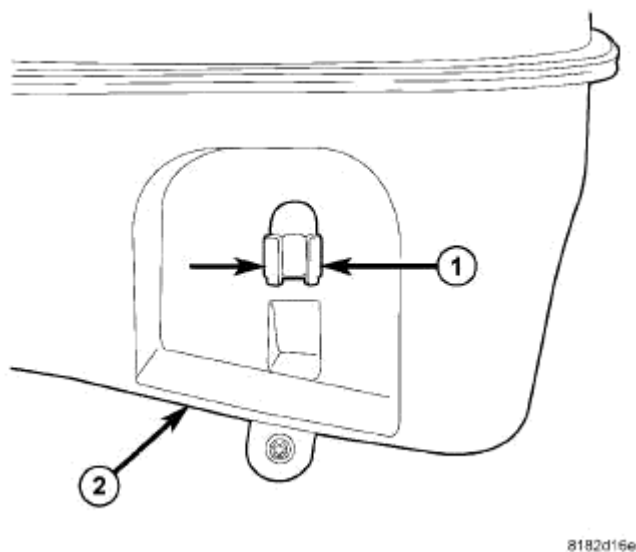


Fig. 15: LEVEL SWITCH RETAINING TABS

Courtesy of CHRYSLER LLC

1. Align the brake fluid level switch with its mounting hole on the right side of the master cylinder brake fluid reservoir. Push the switch into the fluid reservoir until the switch retaining tabs (1) are expanded on the opposite side of the reservoir (2), locking it in place.

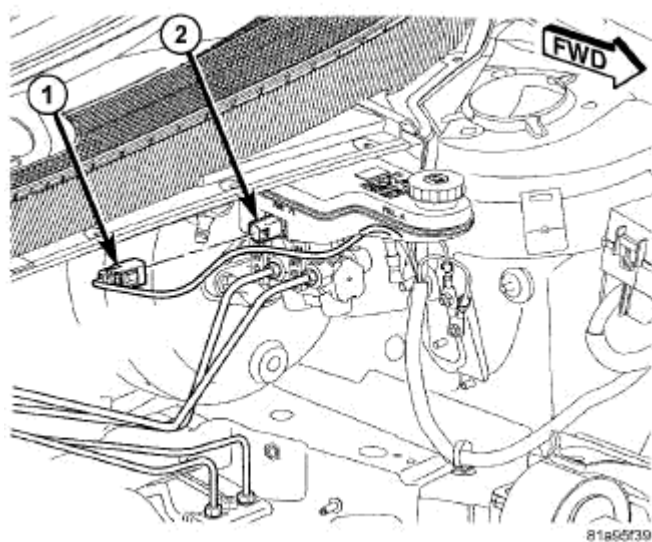


Fig. 16: BRAKE FLUID LEVEL SWITCH CONNECTOR

Courtesy of CHRYSLER LLC

2. Connect the wiring harness connector (1) to the switch (2).

HYDRAULIC/MECHANICAL

DESCRIPTION**DESCRIPTION**

Four-wheel disc brakes are standard on this vehicle. Each disc brake assembly consists of the following major components:

- Caliper
- Caliper adapter bracket
- Pads (Shoe and lining assemblies)
- Rotor

FRONT DISC BRAKES

Each front disc brake features a single 2.6 in. (66 mm) piston floating caliper acting on a 11.9 x 1.1 in. (302 x 28 mm) vented rotor. The brake caliper is a low-drag type. The vented rotor utilizes an inverted hat construction (vent openings are on the outboard side of the rotor versus inboard side) to improve cooling and minimize high-temperature deformation for long-term smooth operation. The front brake caliper piston and seals are serviceable.

REAR DISC BRAKES

Each rear disc brake features a single 1.7 in. (43 mm) piston floating caliper acting on a 12.0 x .47 in. (305 x 12 mm) solid rotor. The brake caliper used features an Integral Parking Brake (IPB) mechanism which combines a mechanical parking brake function with a conventional rear caliper. Refer to **Parking Brake** for additional information on this feature. The rear brake caliper with integrated parking brake is not serviceable.

All brake calipers are coated in zinc nickel and dipped after machining with clear coat for excellent corrosion protection and a neat appearance. They use adapter bracket mounted guide pins for caliper slide functions.

All rotors are made from high-carbon, damped iron for quiet operation. They are fully coated with zinc dust water-soluble, environmental friendly corrosion preventive. Both the friction surfaces and the vents are coated. During initial brake applications, the brake pads scrub the coating off the friction surfaces, ensuring that the remainder will be rust free. Coating the vents also maintains their heat capacity over time.

Front disc brakes are equipped with an audible wear indicator on the left side inboard brake pad only. The right side pads do not include an audible wear indicator.

Rear disc brakes are equipped with audible wear indicators on both left side and right side inboard brake pads.

When the brake pads are replaced, only brake pads meeting the Original Equipment Manufacturer (OEM) formulation (such as Mopar® replacement parts) should be used.

BOOSTER, POWER BRAKE**Description**

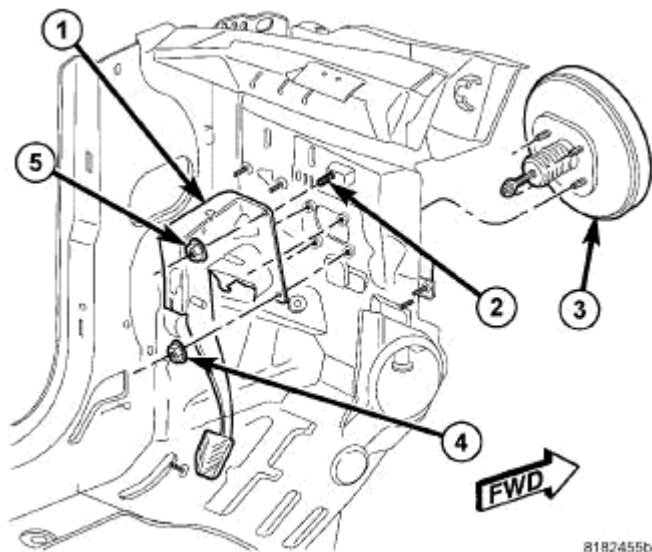
DESCRIPTION

Fig. 17: PEDAL AND BOOSTER MOUNTING - LHD
Courtesy of CHRYSLER LLC

The power brake booster (3) is mounted to the engine side of the dash panel. The master cylinder is bolted to the front of the booster. A vacuum check valve is also mounted on the front of the booster. A vacuum line connects the check valve to engine source vacuum. The booster input rod extends through the dash panel and connects to the brake pedal.

This vehicle uses a tandem diaphragm, single rate vacuum power brake booster with 203 and 229 mm (8 and 9 in.) diaphragms. Power brake boosters are internally tuned differently depending on whether the vehicle is equipped with ABS or without ABS. If the power brake booster requires replacement, be sure it is replaced with the correct part.

The power brake booster can be identified by the tag attached to the body of the booster. This tag contains the following information:

- The production part number
- The date it was built, and
- The booster manufacturer.

Diagnosis and Testing**POWER BRAKE BOOSTER****BASIC TEST**

1. With engine off, depress and release the brake pedal several times to purge all vacuum from the power brake booster.

2. Depress and hold the pedal with light effort (15 to 25 lbs. (6.8 to 11.3 kg) pressure), then start the engine.

The pedal should fall slightly, then hold. Less effort should be needed to apply the pedal at this time. If the pedal fell as indicated, perform the **VACUUM LEAK TEST** listed after the **BASIC TEST**. If the pedal did not fall, continue on with this BASIC TEST.

3. Disconnect the vacuum hose at the vacuum check and tee-in a vacuum gauge.
4. Start the engine.
5. When the engine is at warm operating temperature, allow it to idle and check the vacuum at the gauge.

If the vacuum supply is 12 inches Hg (40.5 kPa) or more, the power brake booster is defective and must be replaced. If the vacuum supply is below 12 inches Hg, continue on with this BASIC TEST.

6. Shut off the engine.
7. Connect the vacuum gauge to the vacuum reference port on the engine intake manifold.
8. Start the engine and observe the vacuum gauge.

If the vacuum is still low, check the engine tune and repair as necessary. If the vacuum is above 12 inches, the hose or check to the booster has a restriction or leak.

Once an adequate vacuum supply is obtained, repeat the BASIC TEST.

VACUUM LEAK TEST

1. Disconnect the vacuum hose at the vacuum check and tee-in a vacuum gauge.
2. Start the engine.
3. Allow the engine to warm up to normal operating temperature and engine idle.
4. Using vacuum line pliers, close off the vacuum supply hose near the booster and observe the vacuum gauge.

If the vacuum drop exceeds 1.0 inch Hg (3.3 kPa) in one minute, repeat the above steps to confirm the reading. The vacuum loss should be less than 1.0 inch Hg in one minute time span. If the loss is more than 1.0 inch Hg, replace the power brake booster. If it is not, continue on with this test.

5. Remove the pliers from the hose temporarily.
6. Apply light effort (approximately 15 lbs. (6.8 kg) of force) to the brake pedal and hold the pedal steady. Do not move the pedal once the pressure is applied or the test results may vary.
7. Have an assistant reattach the pliers to the vacuum supply hose.
8. Allow 5 seconds for stabilization, then observe the vacuum gauge.

If the vacuum drop exceeds 3.0 inches Hg (10 kPa) in 15 seconds, repeat the above steps to confirm the reading. The vacuum loss should be less than 3.0 inches Hg in 15 seconds time span. If the loss is more than 3.0 inches Hg, replace the power brake booster. If it is not, the booster is not defective.

Removal**LEFT-HAND-DRIVE**

NOTE: Before proceeding. See Brakes - Warning. See Brakes - Caution.

CAUTION: The vacuum in the power brake booster must be pumped down before removing the master cylinder to prevent the booster from sucking in any contamination. This can be done by pumping the brake pedal while the engine is not running until a firm brake pedal is achieved.

1. With the engine not running, pump the brake pedal 4-5 strokes until the pedal feel is firm.
2. Disconnect the negative (ground) cable from the battery and isolate the cable.

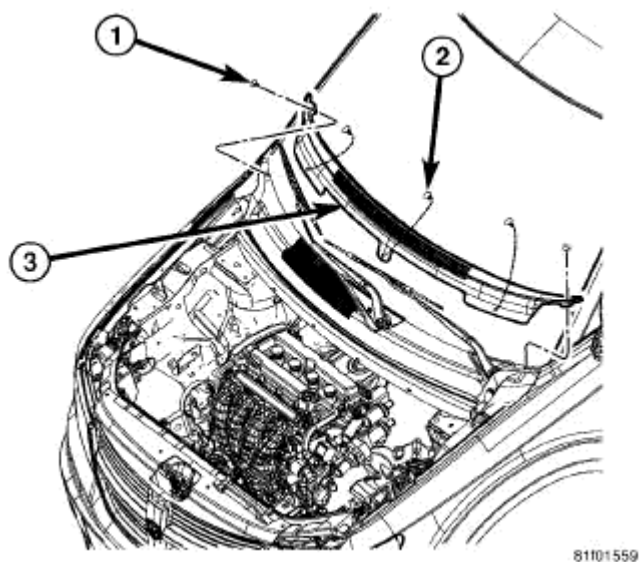


Fig. 18: COWL TOP SCREEN
Courtesy of CHRYSLER LLC

3. Remove the two push-pins (1) securing the cowl top screen at the ends. Remove the remaining push-pins (2). Remove the cowl top screen (3).
4. Remove the wiper arms. Refer to Electrical - Wipers/Washers/Wipers/Washers/ARM, Wiper - Removal

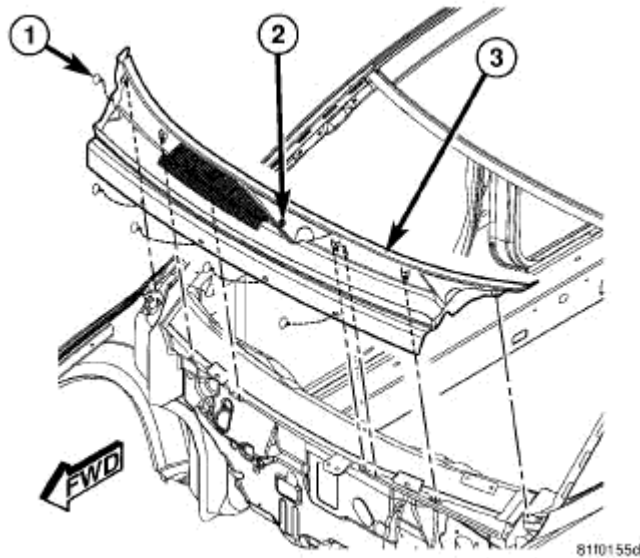


Fig. 19: COWL SCREEN

Courtesy of CHRYSLER LLC

5. Remove the push-pins (1) securing the cowl screen to the wheelhouse brace and cowl. Rotate the screw (2) in the center of the cowl screen 90° clockwise to release the screen. Remove the cowl screen (3).

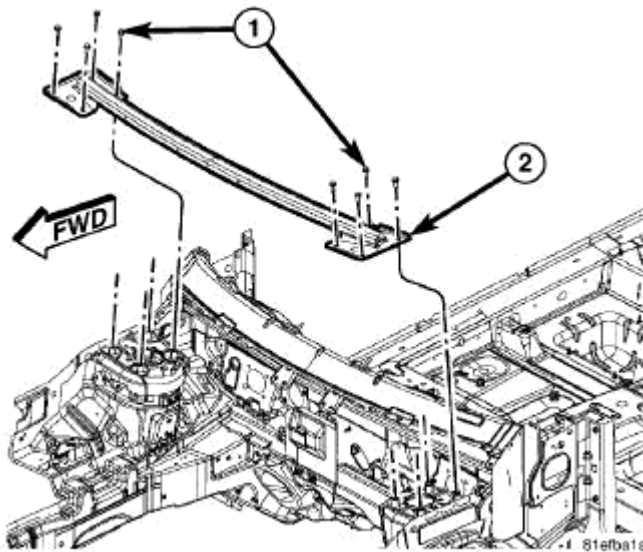


Fig. 20: WHEELHOUSE BRACE

Courtesy of CHRYSLER LLC

6. Remove the eight mounting bolts (four each side) (1) securing the wheel house brace to the strut towers.
7. Remove the wheelhouse brace (2).
8. Remove the master cylinder. See **Brakes/Hydraulic/Mechanical/MASTER CYLINDER, Brake - Removal**

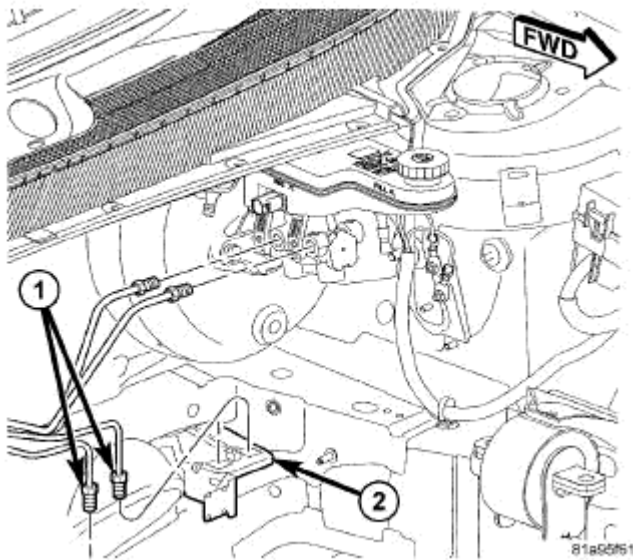


Fig. 21: REAR BRAKE TUBES AT JUNCTION BLOCK
Courtesy of CHRYSLER LLC

9. Disconnect the rear brake tubes (1) at the junction block (2). Install plugs at all of the open brake tubes.

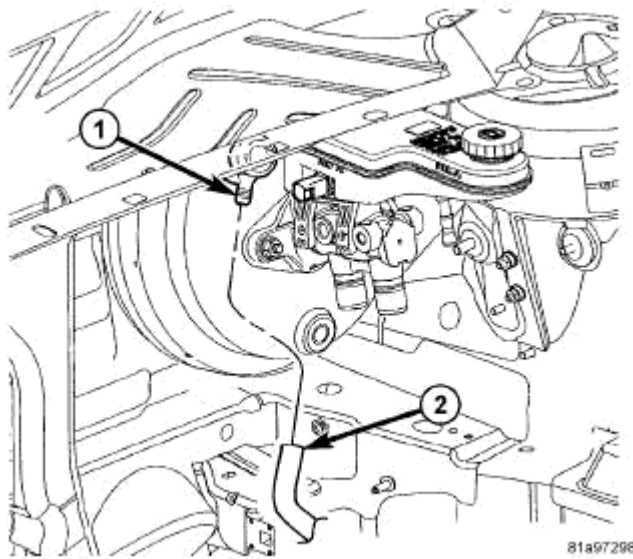


Fig. 22: VACUUM HOSE AT BOOSTER - LHD
Courtesy of CHRYSLER LLC

10. Disconnect the vacuum hose (2) from the check valve (1) on the power brake booster. **Do not remove the check valve from power brake booster.**
11. If equipped, remove the silencer pad below the steering column opening cover.

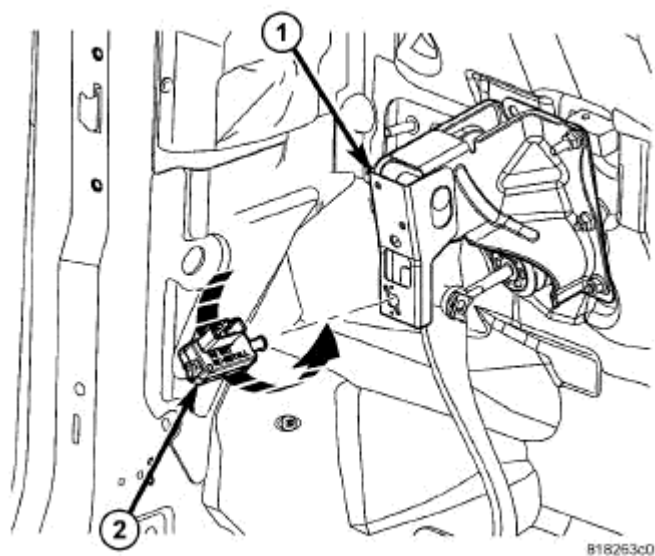


Fig. 23: STOP LAMP SWITCH REMOVAL

Courtesy of CHRYSLER LLC

12. Remove the stop lamp switch (2). **Do not reuse the stop lamp switch on vehicles built prior to July 21, 2008.** . Refer to **Electrical - Lamps and Lighting/Lamps/Lighting - Exterior/SWITCH, Stop Lamp - Removal**

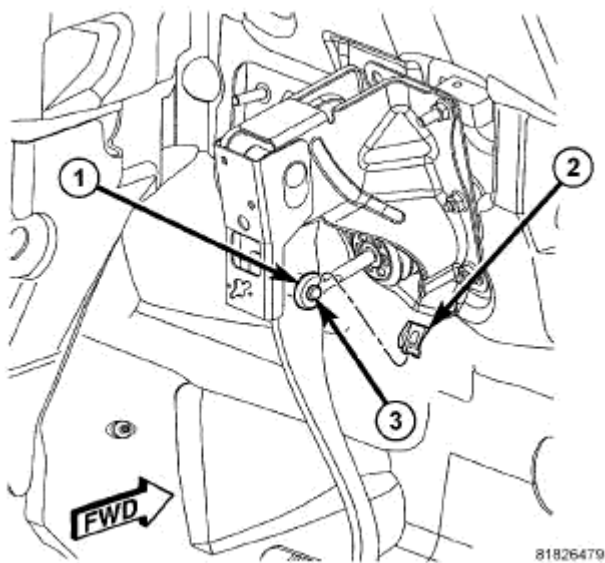


Fig. 24: BRAKE PEDAL CLIP

Courtesy of CHRYSLER LLC

13. Remove the retaining clip (2) securing the power brake booster push rod (1) to the brake pedal. To do so, position a small screwdriver under the center tang of the retaining clip, then rotate the screwdriver enough to allow the retaining clip tang to pass over the end of the brake pedal pin (3). Remove and discard the

clip. **Do not reuse the clip.**

14. Slide the booster push rod (1) off the brake pedal pin (3).

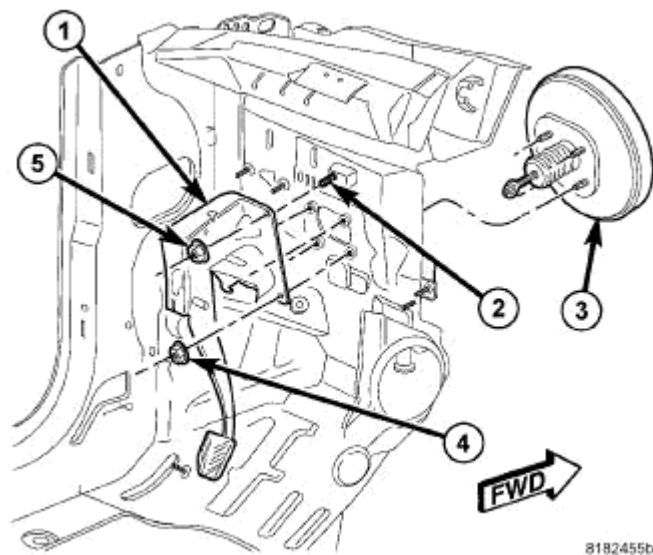


Fig. 25: PEDAL AND BOOSTER MOUNTING - LHD

Courtesy of CHRYSLER LLC

15. Remove the four nuts (4) attaching the power brake booster (3) to the dash panel.
16. Slide the power brake booster (3) forward until its mounting studs clear the dash panel, then remove it through the engine compartment.

RIGHT-HAND-DRIVE

NOTE: Before proceeding. See Brakes - Warning. See Brakes - Caution.

CAUTION: The vacuum in the power brake booster must be pumped down before removing the master cylinder to prevent the booster from sucking in any contamination. This can be done by pumping the brake pedal while the engine is not running until a firm brake pedal is achieved.

1. With the engine not running, pump the brake pedal 4-5 strokes until the pedal feel is firm.
2. Disconnect the negative (ground) cable from the battery and isolate the cable.
3. Remove the engine appearance cover.

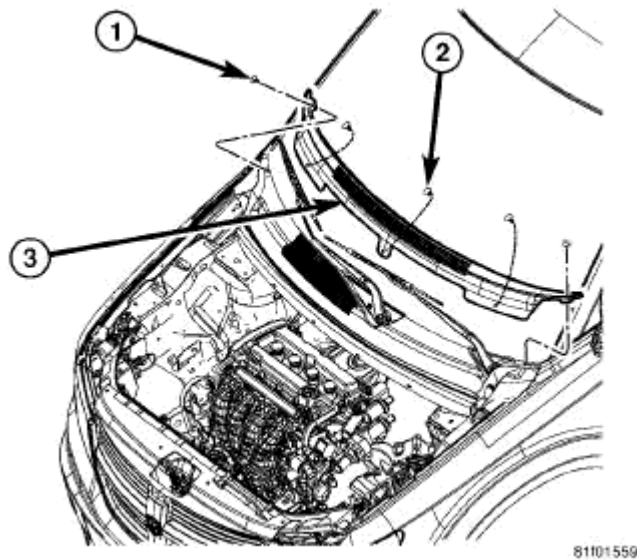


Fig. 26: COWL TOP SCREEN
Courtesy of CHRYSLER LLC

4. Remove the two push-pins (1) securing the cowl top screen at the ends. Remove the remaining push-pins (2). Remove the cowl top screen (3).
5. Remove the wiper arms. Refer to **Electrical - Wipers/Washers/Wipers/Washers/ARM, Wiper - Removal**

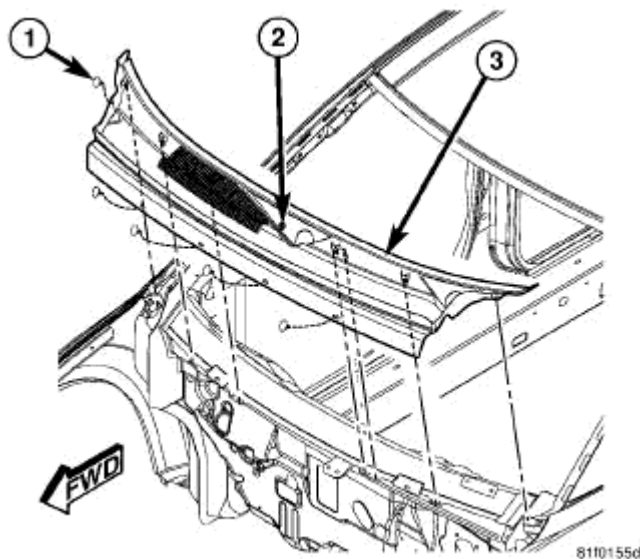


Fig. 27: COWL SCREEN
Courtesy of CHRYSLER LLC

6. Remove the push-pins (1) securing the cowl screen to the wheelhouse brace and cowl. Rotate the screw (2) in the center of the cowl screen 90° clockwise to release the screen. Remove the cowl screen (3).

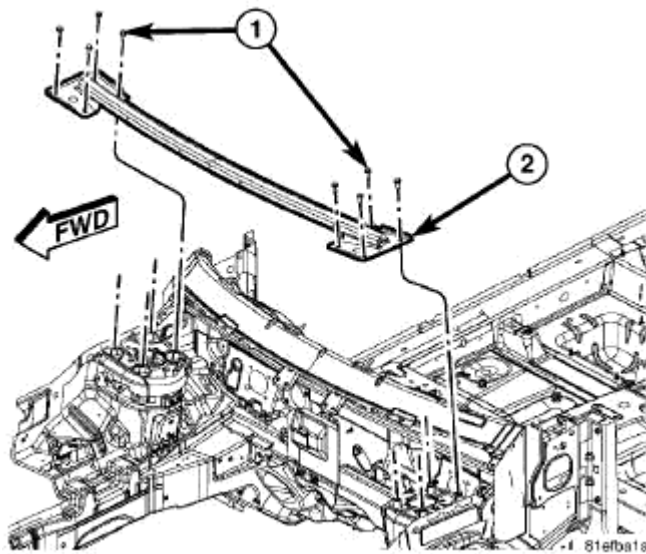


Fig. 28: WHEELHOUSE BRACE
Courtesy of CHRYSLER LLC

7. Remove the eight mounting bolts (four each side) (1) securing the wheel house brace to the strut towers.
8. Remove the wheelhouse brace (2).

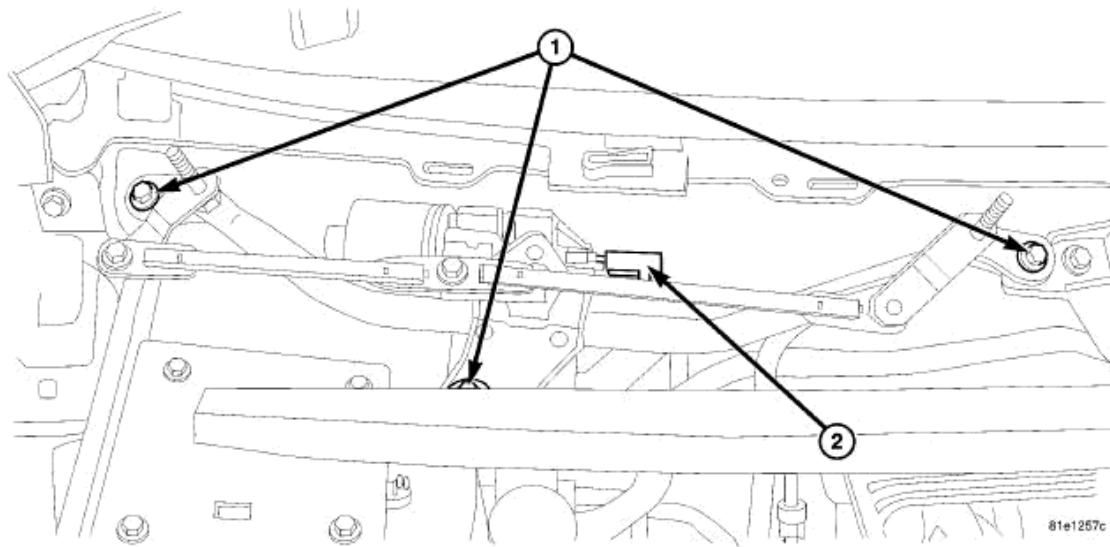


Fig. 29: MODULE -WIPER
Courtesy of CHRYSLER LLC

9. Disconnect the electrical connector (2) from the wiper motor.
10. Remove three bolts (1) from the wiper module.
11. Remove the wiper module from the vehicle.

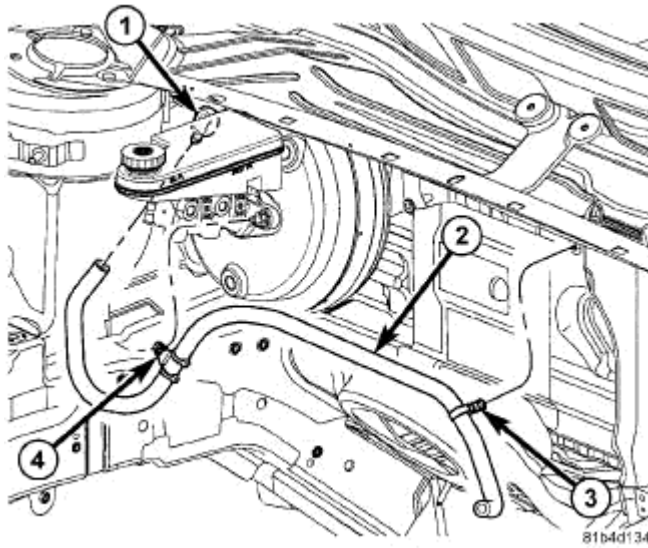


Fig. 30: VACUUM HOSE AT BOOSTER - RHD
Courtesy of CHRYSLER LLC

12. Remove the booster vacuum hose routing clip (4) from the master cylinder mounting stud.
13. Remove the vacuum hose routing clip (3) from the stud on the dash panel.
14. Remove the master cylinder. See **Brakes/Hydraulic/Mechanical/MASTER CYLINDER, Brake - Removal**

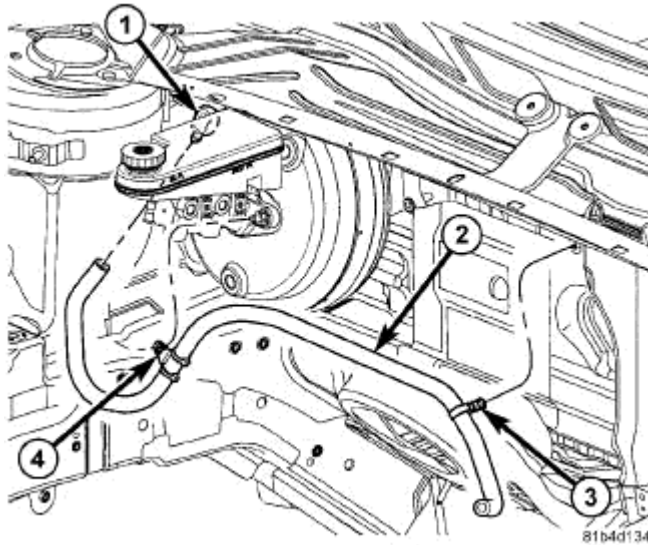


Fig. 31: VACUUM HOSE AT BOOSTER - RHD
Courtesy of CHRYSLER LLC

15. Disconnect the vacuum hose (2) from the check valve (1) on the power brake booster. **Do not remove the check valve from the power brake booster.**

16. Remove both brake tube routing clips with tubes from the studs on the dash panel. Do not bend the brake tubes.

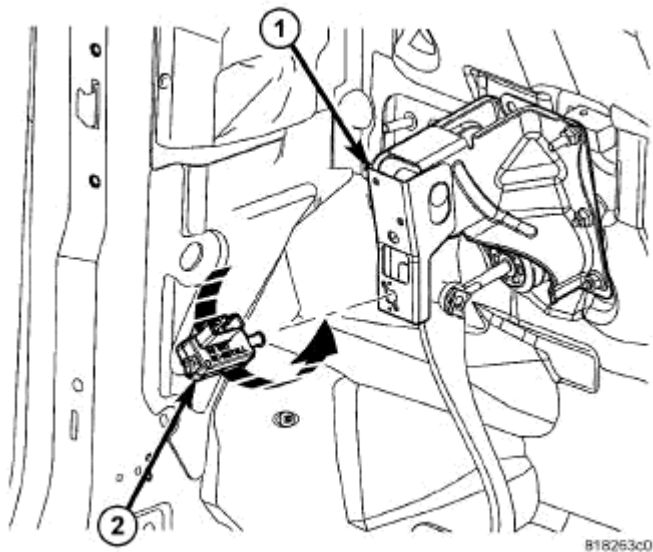


Fig. 32: STOP LAMP SWITCH REMOVAL
Courtesy of CHRYSLER LLC

17. Remove the stop lamp switch (2). **Do not reuse the stop lamp switch on vehicles built prior to July 21, 2008.** . Refer to **Electrical - Lamps and Lighting/Lamps/Lighting - Exterior/SWITCH, Stop Lamp - Removal**

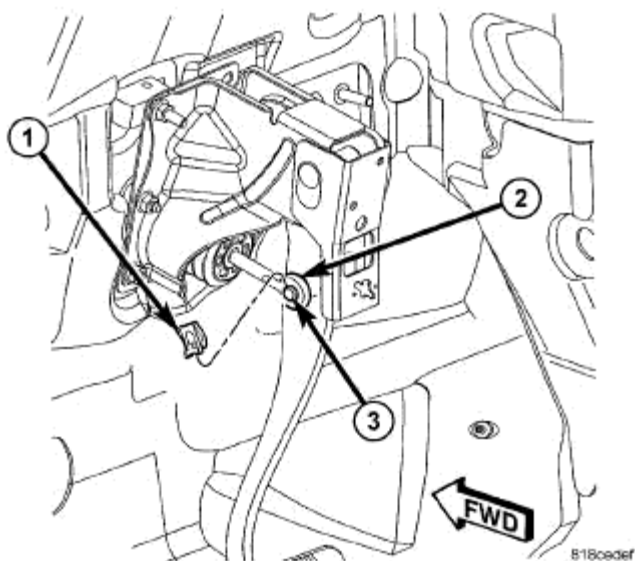


Fig. 33: BRAKE PEDAL CLIP - RHD
Courtesy of CHRYSLER LLC

18. Remove the retaining clip (1) securing the power brake booster push rod (2) to the brake pedal. To do so, position a small screwdriver under the center tang of the retaining clip, then rotate the screwdriver enough to allow the retaining clip tang to pass over the end of the brake pedal pin (3). Remove and discard the clip. **Do not reuse the clip.**
19. Slide the booster push rod (2) off the brake pedal pin (3).
20. If equipped with a manual transaxle, remove the clutch master cylinder from the pedal bracket assembly and dash panel. Refer to **Clutch/CYLINDER, Clutch Master - Removal**

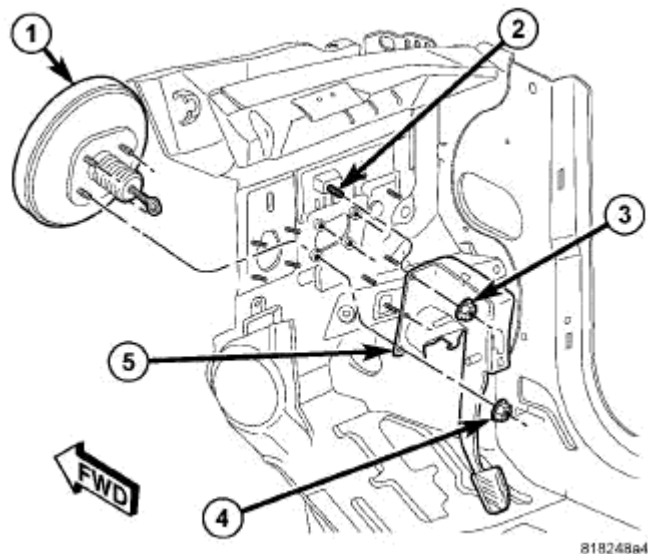


Fig. 34: PEDAL AND BOOSTER MOUNTING - RHD
Courtesy of CHRYSLER LLC

21. Remove the four nuts (4) attaching the power brake booster (1) to the dash panel.
22. Slide the power brake booster (1) forward clearing the dash panel, then remove it from the vehicle.

Installation

LEFT-HAND-DRIVE

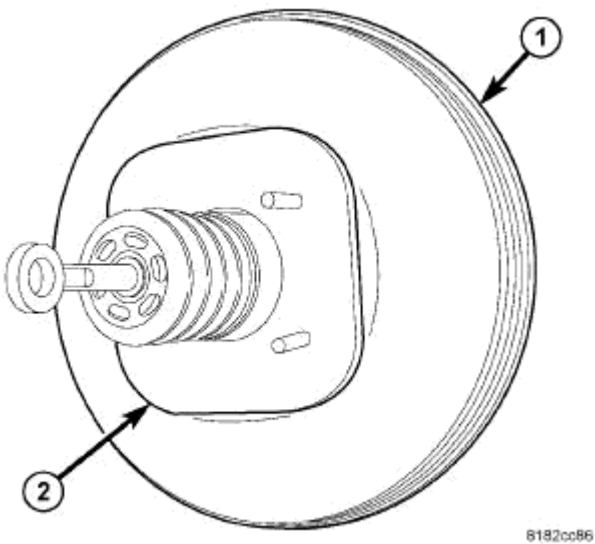


Fig. 35: BOOSTER SEAL

Courtesy of CHRYSLER LLC

NOTE: Before power brake booster (1) installation, be certain a NEW dash seal (2) is installed on the booster mounting studs.

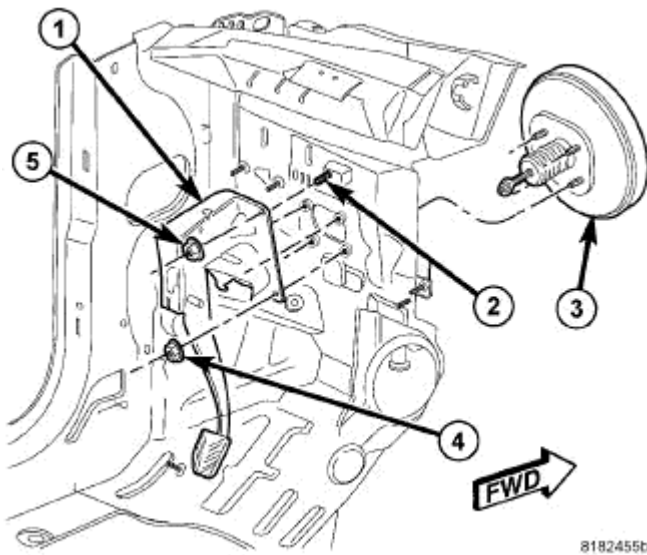


Fig. 36: PEDAL AND BOOSTER MOUNTING - LHD

Courtesy of CHRYSLER LLC

1. Install the power brake booster (3) by sliding the push rod and studs through the dash panel and into mounting position.
2. Under the instrument panel, install the four power brake booster mounting nuts (4). To tighten the nuts, refer to the following step.

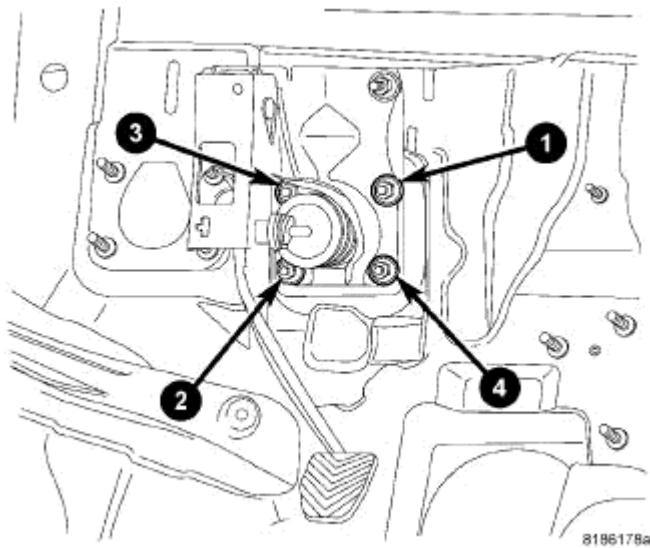


Fig. 37: MOUNTING NUT TORQUE SEQUENCE

Courtesy of CHRYSLER LLC

CAUTION: Because of power brake booster design, it is very important to tighten the mounting nuts in the proper sequence.

3. Tighten the brake pedal/booster mounting nuts in the proper sequence to 23 N.m (17 ft. lbs.).

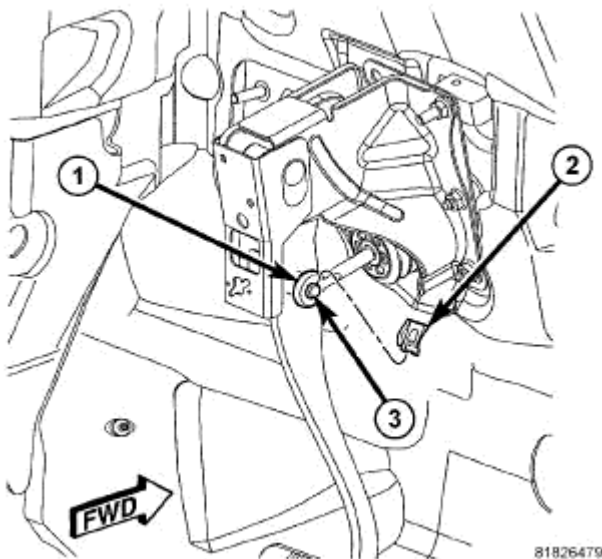


Fig. 38: BRAKE PEDAL CLIP

Courtesy of CHRYSLER LLC

4. Using Mopar® Lubriplate, or an equivalent, coat the surface of the brake pedal pin (3) where it contacts the brake booster input rod (1).

5. Install the power brake booster push rod (1) on the pin (3) mounted on the side of the brake pedal. Install a NEW retaining clip (2) on the end of the pin. **Do not reuse the old clip.**

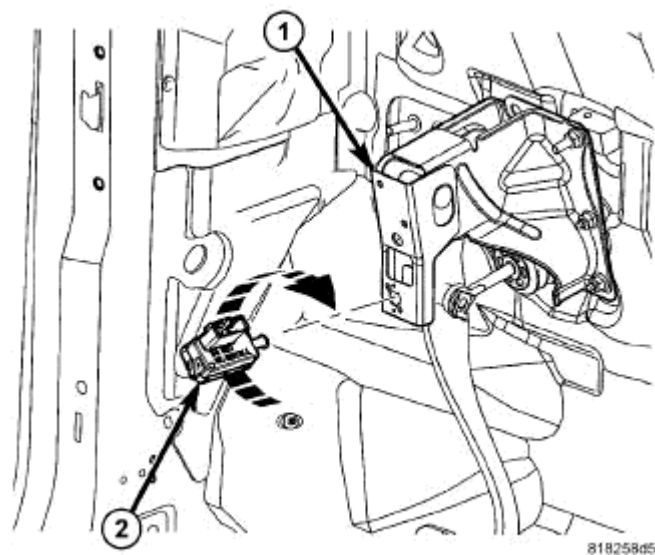


Fig. 39: STOP LAMP SWITCH AND PEDAL CLIP

Courtesy of CHRYSLER LLC

CAUTION: Do not reuse the original stop lamp switch on vehicles built prior to July 21, 2008. Anytime a switch has been removed or its position compromised, a new switch must be installed and adjusted. Do not attempt to readjust the switch. The original brake lamp switch can be reused and adjusted on vehicles built on or after July 21, 2008.

6. Install and adjust a NEW stop lamp switch (2) in the brake pedal bracket (1) on vehicle built prior to July 21, 2008. The original brake lamp switch can be reused on vehicles built on or after July 21, 2008. Refer to **Electrical - Lamps and Lighting/Lamps/Lighting - Exterior/SWITCH, Stop Lamp - Installation**
7. If equipped, install the silencer pad below the instrument panel.

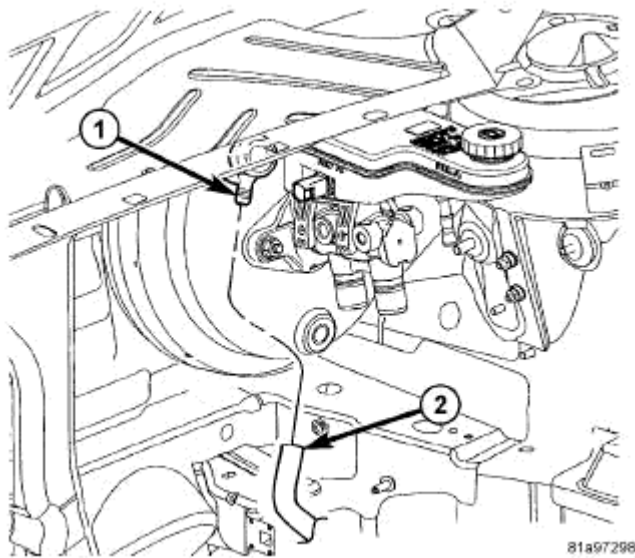


Fig. 40: VACUUM HOSE AT BOOSTER - LHD
Courtesy of CHRYSLER LLC

CAUTION: When installing the vacuum hose on the check valve (1), make sure the hose is routed properly to avoid possible contact with unfriendly surfaces.

8. Connect the vacuum hose (2) to the vacuum check valve (1).

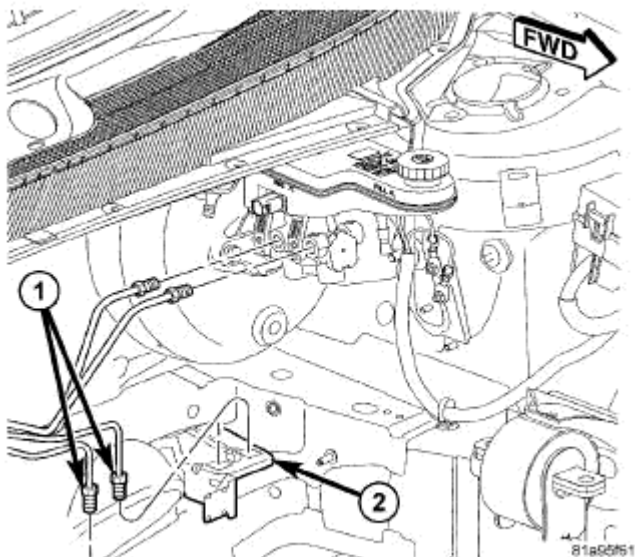


Fig. 41: REAR BRAKE TUBES AT JUNCTION BLOCK
Courtesy of CHRYSLER LLC

9. Connect the rear brake tubes (1) to the junction block (2). Tighten the tube nuts to 17 N.m (150 in. lbs.).

10. Install the master cylinder. See **Brakes/Hydraulic/Mechanical/MASTER CYLINDER, Brake - Installation**

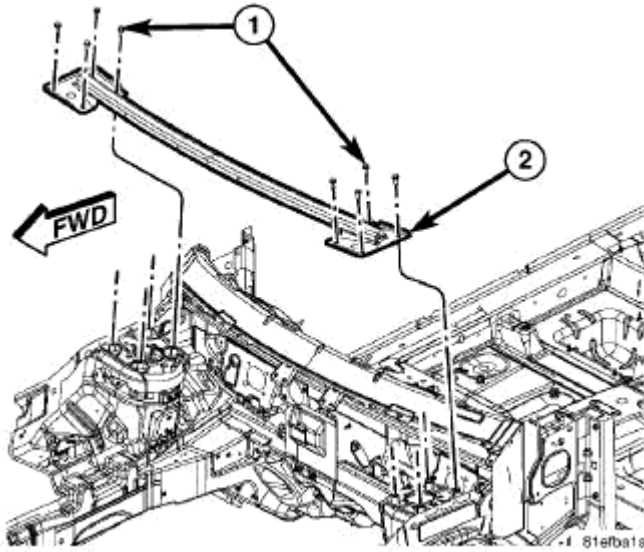


Fig. 42: WHEELHOUSE BRACE
Courtesy of CHRYSLER LLC

11. Install the wheelhouse brace (2). Install and tighten the eight mounting bolts (four each side) (1) to 48 N.m (35 ft. lbs.).

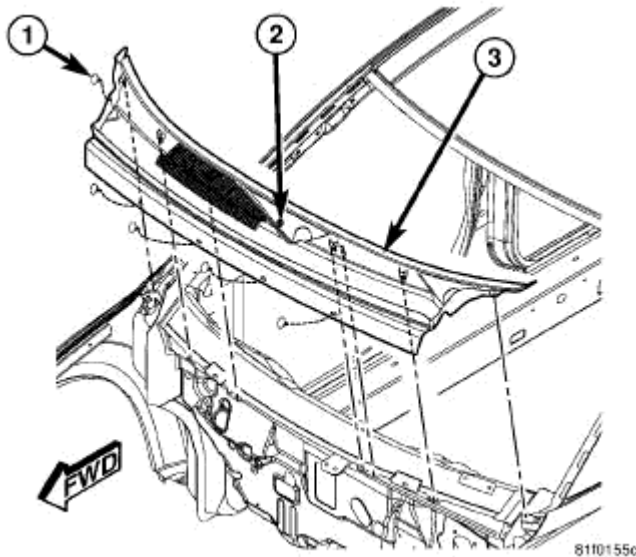


Fig. 43: COWL SCREEN
Courtesy of CHRYSLER LLC

12. Install the cowl screen. Install the push-pins (1) securing the cowl screen to the wheelhouse brace and

cowl. Rotate the screw (2) in the center of the cowl screen 90° counterclockwise to lock the screen in place.

13. Install the wiper arms. Refer to **Electrical - Wipers/Washers/Wipers/Washers/ARM, Wiper - Installation**

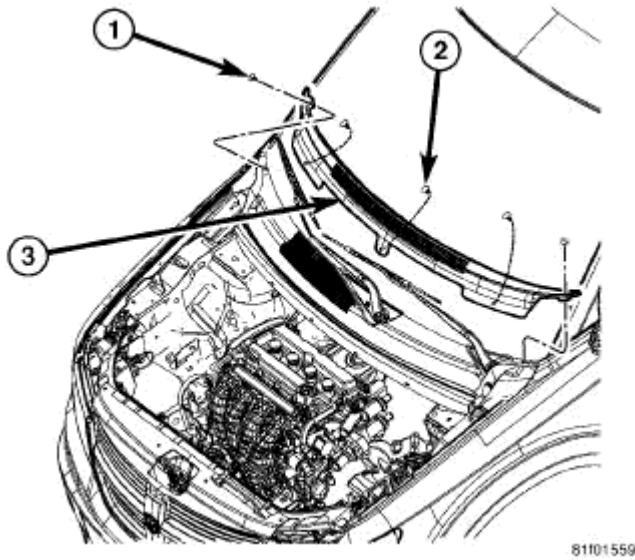


Fig. 44: COWL TOP SCREEN
Courtesy of CHRYSLER LLC

14. Install the cowl top screen (3). Install the two push-pins (1) securing the cowl top screen at the ends. Install the remaining push-pins (2).
15. Connect the battery negative cable to its post on the battery.
16. Bleed the base brake system. See **Brakes - Standard Procedure**
17. Road test the vehicle to ensure proper operation of the brakes.

RIGHT-HAND-DRIVE

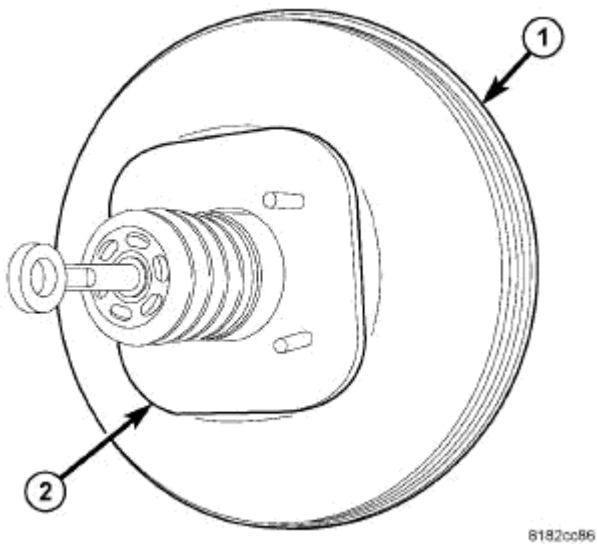


Fig. 45: BOOSTER SEAL

Courtesy of CHRYSLER LLC

NOTE: Before power brake booster (1) installation, be certain a NEW dash seal (2) is installed on the booster mounting studs.

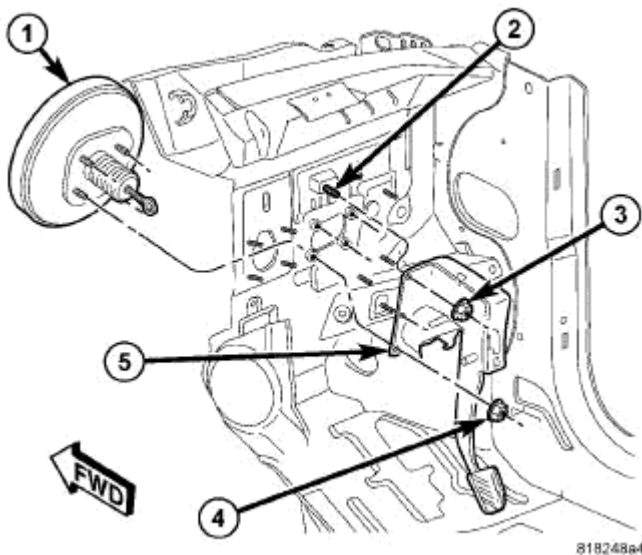


Fig. 46: PEDAL AND BOOSTER MOUNTING - RHD

Courtesy of CHRYSLER LLC

1. Install the power brake booster (1) into the engine compartment using the reverse version of how it was removed. Slide the power brake booster push rod and studs through the dash panel and into mounting position.
2. Under the instrument panel, install the four power brake booster mounting nuts (4). To tighten the nuts,

refer to the following step.

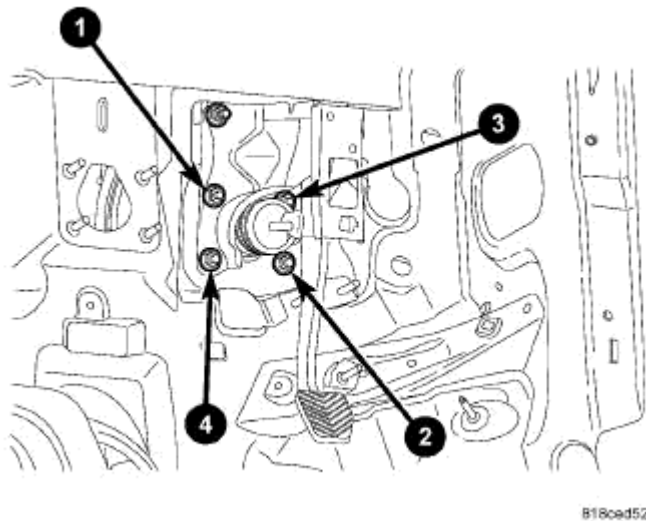


Fig. 47: MOUNTING NUT TORQUE SEQUENCE - RHD

Courtesy of CHRYSLER LLC

CAUTION: Because of power brake booster design, it is very important to tighten the mounting nuts in the proper sequence.

3. Tighten the four brake pedal/booster mounting nuts in the proper sequence to 23 N.m (17 ft. lbs.).
4. If equipped with a manual transaxle, install the clutch master cylinder on the dash panel and clutch pedal bracket assembly. Refer to **Clutch/CYLINDER, Clutch Master - Installation**

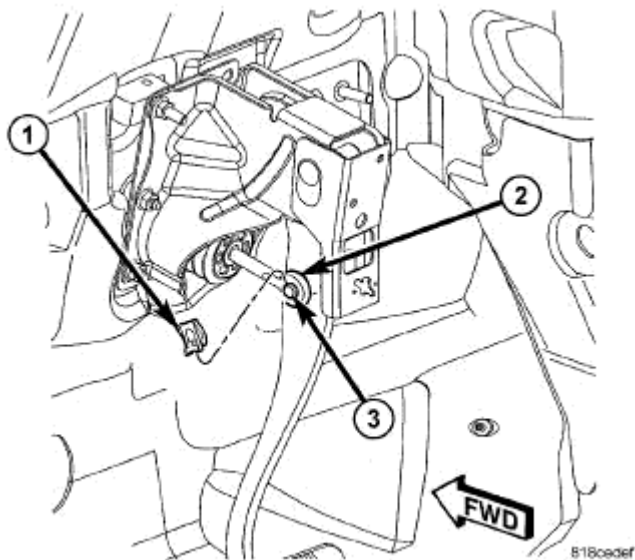
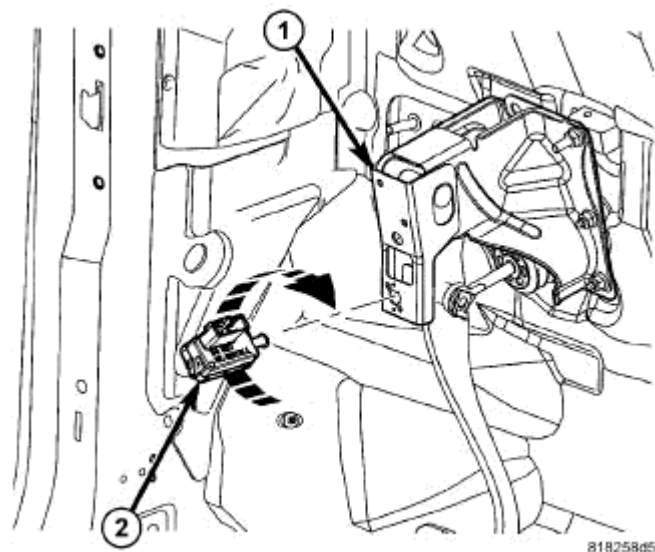


Fig. 48: BRAKE PEDAL CLIP - RHD

Courtesy of CHRYSLER LLC

5. Using Mopar® Lubriplate, or an equivalent, coat the surface of the brake pedal pin (3) where it contacts the brake booster input rod (2).
6. Install the power brake booster push rod (2) on the pin (3) mounted on the side of the brake pedal. Install a NEW retaining clip (1) on the end of the pin. **Do not reuse the old clip.**

**Fig. 49: STOP LAMP SWITCH AND PEDAL CLIP**

Courtesy of CHRYSLER LLC

CAUTION: Do not reuse the original stop lamp switch on vehicles built prior to July 21, 2008. Anytime a switch has been removed or its position compromised, a new switch must be installed and adjusted. Do not attempt to readjust the switch. The original brake lamp switch can be reused and adjusted on vehicles built on or after July 21, 2008.

7. Install and adjust a NEW stop lamp switch (2) in the brake pedal bracket (1) on vehicle built prior to July 21, 2008. The original brake lamp switch can be reused on vehicles built on or after July 21, 2008. Refer to **Electrical - Lamps and Lighting/Lamps/Lighting - Exterior/SWITCH, Stop Lamp - Installation**
8. Install the brake tube routing clips with tubes onto the studs on the dash panel.

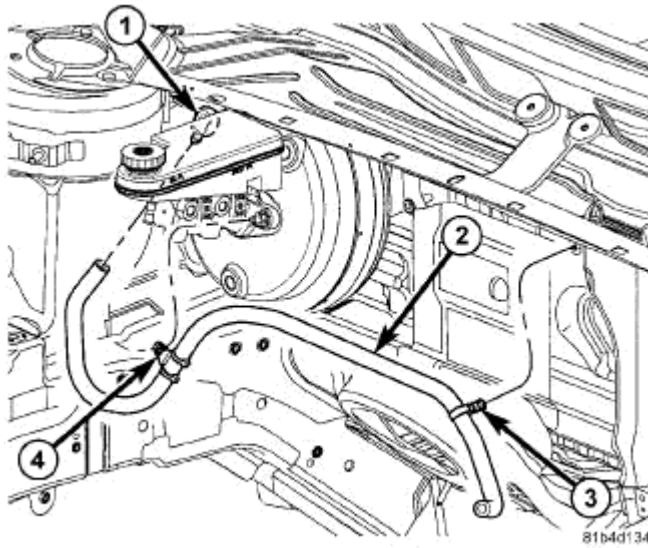


Fig. 50: VACUUM HOSE AT BOOSTER - RHD
Courtesy of CHRYSLER LLC

9. Connect the vacuum hose (2) to the check valve (1) on the power brake booster.
10. Install the master cylinder. See **Brakes/Hydraulic/Mechanical/MASTER CYLINDER, Brake - Installation**

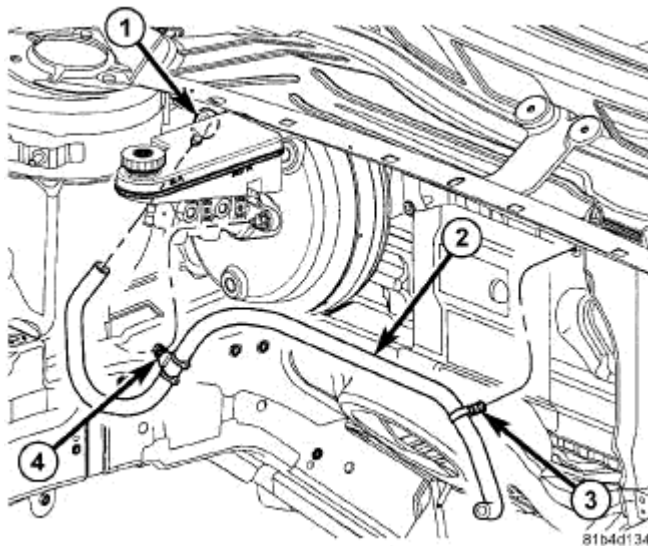


Fig. 51: VACUUM HOSE AT BOOSTER - RHD
Courtesy of CHRYSLER LLC

11. Install the booster vacuum hose routing clip (4) onto the master cylinder mounting stud.
12. Install the vacuum hose routing clip (3) onto the stud on the dash panel.

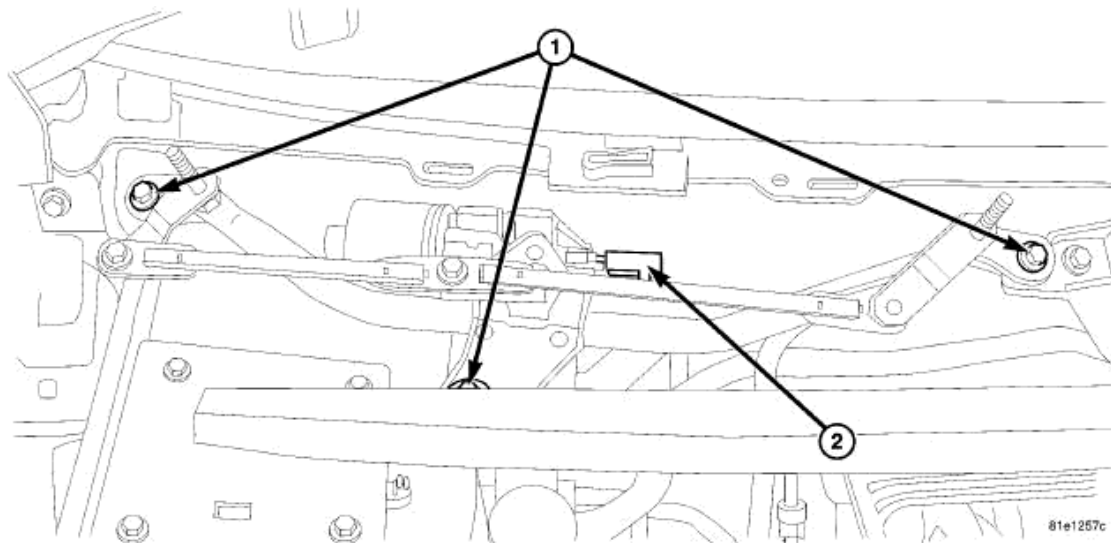


Fig. 52: MODULE -WIPER
Courtesy of CHRYSLER LLC

13. Place the wiper module into position, install the three mounting bolts (1), Tighten bolts to 11 N.m (97 in. lbs.).
14. Connect the electrical connector (2) to the wiper motor.

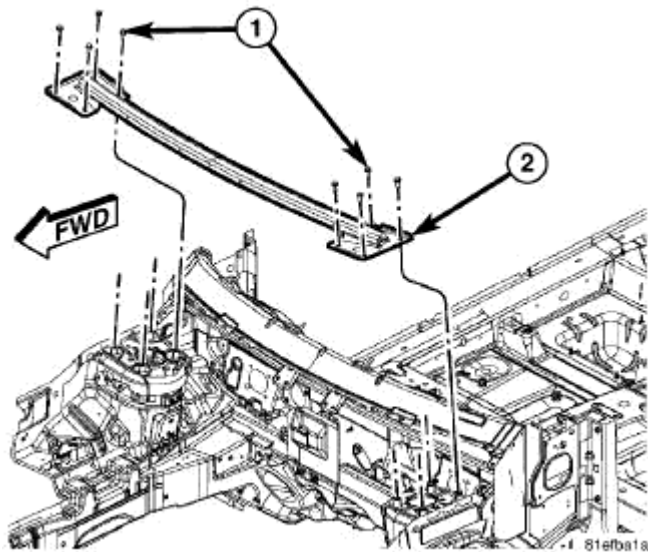


Fig. 53: WHEELHOUSE BRACE
Courtesy of CHRYSLER LLC

15. Install the wheelhouse brace (2). Install and tighten the eight mounting bolts (four each side) (1) to 48 N.m (35 ft. lbs.).

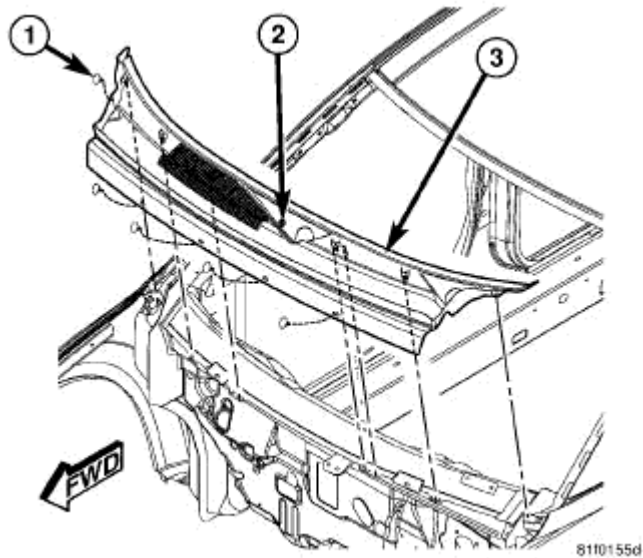


Fig. 54: COWL SCREEN

Courtesy of CHRYSLER LLC

16. Install the cowl screen. Install the push-pins (1) securing the cowl screen to the wheelhouse brace and cowl. Rotate the screw (2) in the center of the cowl screen 90° counterclockwise to lock the screen in place.
17. Install the wiper arms. Refer to **Electrical - Wipers/Washers/Wipers/Washers/ARM, Wiper - Installation**

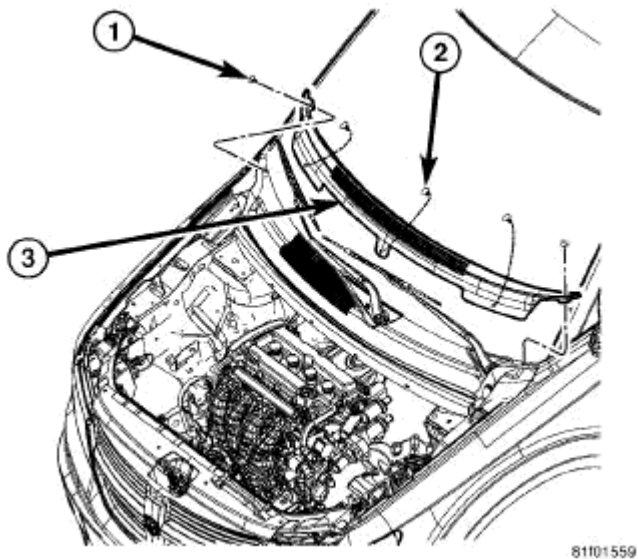


Fig. 55: COWL TOP SCREEN

Courtesy of CHRYSLER LLC

18. Install the cowl top screen (3). Install the two push-pins (1) securing the cowl top screen at the ends.

- Install the remaining push-pins (2).
19. Install the engine appearance cover.
 20. Connect the battery negative (ground) cable to its post on the battery.
 21. Bleed the base brake system as necessary. See **Brakes - Standard Procedure**

WARNING: Be certain a firm brake pedal is achieved prior to attempting to operate the vehicle.

22. Road test the vehicle to ensure proper operation of the brakes.

CALIPER, DISC BRAKE, FRONT

Removal

REMOVAL

NOTE: Before proceeding. See **Brakes - Warning**. See **Brakes - Caution**.

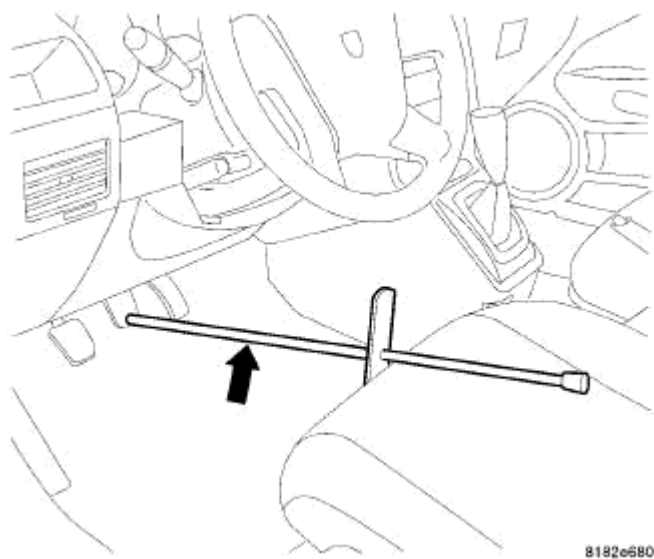


Fig. 56: BRAKE PEDAL HOLDING TOOL
Courtesy of CHRYSLER LLC

1. Using a brake pedal holding tool as shown, depress the brake pedal past its first one inch (25 mm) of travel and hold it in this position. This will isolate the master cylinder from the brake hydraulic system and will not allow the brake fluid to drain out of the master cylinder reservoir when the lines are opened.
2. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**

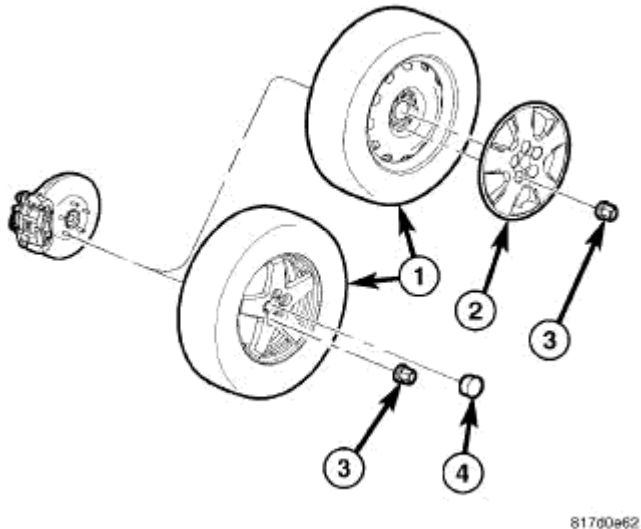


Fig. 57: TIRE AND WHEEL MOUNTING
Courtesy of CHRYSLER LLC

3. Remove the wheel mounting nuts (3), then the tire and wheel assembly.

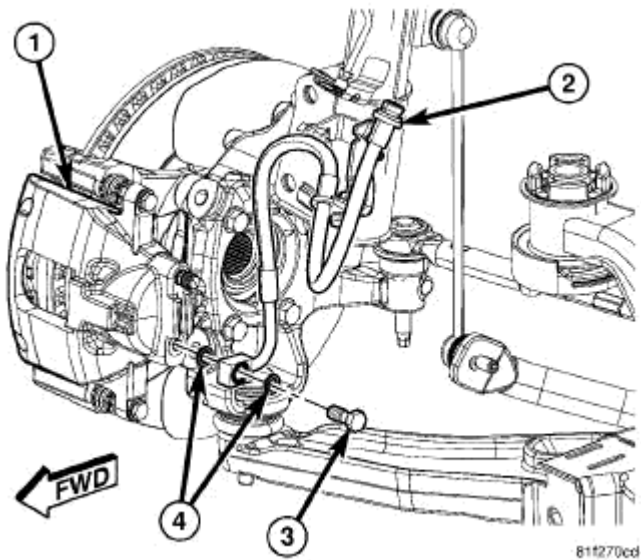


Fig. 58: BRAKE HOSE MOUNTING TO CALIPER
Courtesy of CHRYSLER LLC

4. Remove the banjo bolt (3) connecting the brake flex hose (2) to the brake caliper (1). There are two washers (4) that will come off with the banjo bolt. Discard the washers. They should not be reused.

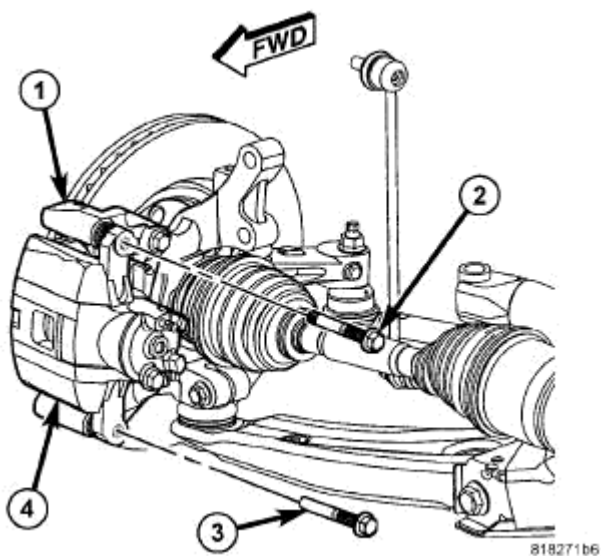


Fig. 59: CALIPER GUIDE PIN BOLTS

Courtesy of CHRYSLER LLC

CAUTION: When removing or installing a caliper guide pin bolt, it is necessary to hold the guide pin stationary while turning the bolt. Hold the guide pin stationary using a wrench placed upon the pin's hex-shaped head.

5. Remove the two brake caliper guide pin bolts (2, 3).
6. Slide the disc brake caliper (4) from the disc brake adapter bracket (1) and brake pads and remove.

Disassembly

DISASSEMBLY

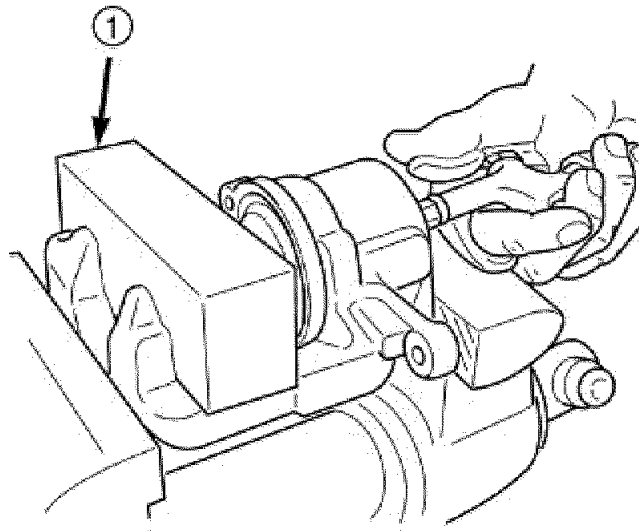
NOTE: Before disassembling the brake caliper, remove it from the vehicle. See Brakes/Hydraulic/Mechanical/CALIPER, Disc Brake - Removal

NOTE: Before disassembling the brake caliper, clean and inspect it. See Brakes/Hydraulic/Mechanical/CALIPER, Disc Brake - Cleaning. See Brakes/Hydraulic/Mechanical/CALIPER, Disc Brake - Inspection

WARNING: Under no condition should high pressure air ever be used to remove a piston from a caliper bore. Personal injury could result from such a practice.

CAUTION: Do not use excessive force when clamping caliper in vise. Excessive vise pressure will cause bore distortion.

1. Mount the caliper in a vise equipped with protective jaws.



80c4f337

Fig. 60: Piston Removal
Courtesy of CHRYSLER LLC

1 - WOOD BLOCK

WARNING: Do not place face or hands near caliper and piston if using compressed air pressure to remove piston. Do not use high pressure.

2. Place a wooden block (1) in the caliper as shown.
3. If necessary, apply low pressure compressed air to the caliper fluid inlet in short spurts to force the piston out.
4. Remove the piston from the caliper.
5. Remove the dust boot from the piston and discard it.

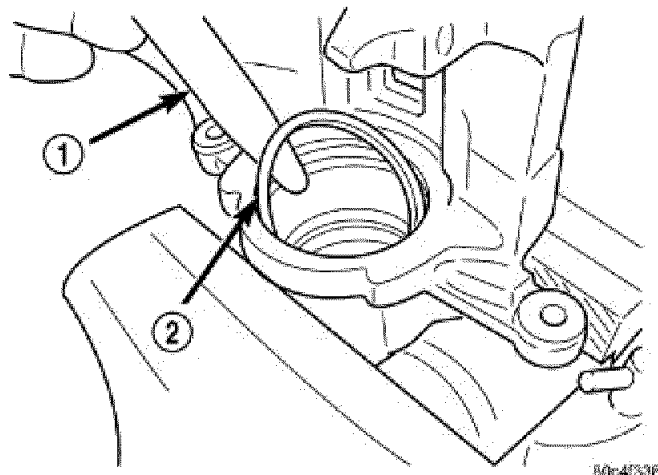


Fig. 61: Piston Seal Removal
Courtesy of CHRYSLER LLC

- | |
|----------------|
| 1 - TRIM STICK |
| 2 - SEAL |

CAUTION: Do not use a screw driver or other metal tool for seal removal. Using such tools can scratch the bore or leave burrs on the seal groove edges.

6. Using a soft tool such as a plastic trim stick (1), work the piston seal (2) out of its groove in caliper piston bore. Discard the used seal.
7. Clean the piston bore and drilled passage ways with alcohol or a suitable solvent. Wipe it dry using only a lint-free cloth.
8. Inspect both the piston and bore for scoring or pitting. Bores that show light scratches or corrosion can usually be cleared of the light scratches or corrosion using crocus cloth.

Cleaning

CLEANING

WARNING: Chrysler LLC does not manufacture any vehicles or replacement parts that contain asbestos. Aftermarket products may or may not contain asbestos. Refer to aftermarket product packaging for product information.

Whether the product contains asbestos or not, dust and dirt can accumulate on brake parts during normal use. Follow practices prescribed by appropriate regulations for the handling, processing and disposing of dust and debris.

To clean or flush the internal passages of the brake caliper, use fresh brake fluid or Mopar® Non-Chlorinated Brake Parts Cleaner. Never use gasoline, kerosene, alcohol, oil, transmission fluid or any fluid containing

mineral oil to clean the caliper. These fluids will damage rubber cups and seals.

Inspection

INSPECTION

Inspect the disc brake caliper for the following:

- Brake fluid leaks in and around piston boot area
- Ruptures, brittleness or damage to the piston dust boot

If caliper fails inspection, disassemble and recondition caliper, replacing the seals and dust boots.

Assembly

ASSEMBLY

NOTE: Always have clean hands when assembling a brake caliper.

NOTE: Always use fresh, clean brake fluid when assembling a brake caliper.

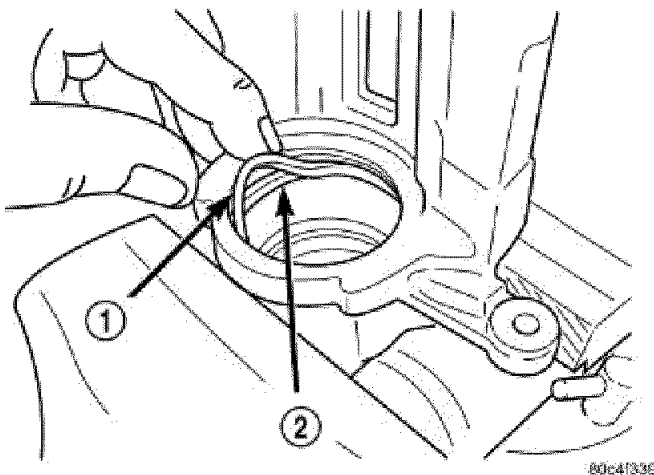


Fig. 62: New Piston Seal Installation

Courtesy of CHRYSLER LLC

1 - SEAL

2 - GROOVE

NOTE: Never use an old piston seal.

1. Dip the NEW piston seal in clean brake fluid and install it in the groove (2) of the caliper bore. The seal (1) should be started at one area of the groove and gently worked around into the groove using only your clean fingers to seat it.

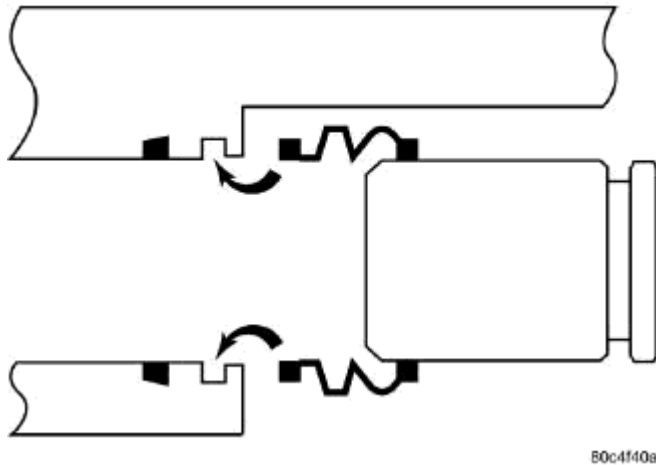


Fig. 63: Boot Installation
Courtesy of CHRYSLER LLC

2. Coat the NEW piston with clean brake fluid.
3. Coat the NEW piston boot with clean brake fluid leaving a generous amount inside the boot.
4. Position the dust boot over the lower section of the piston.
5. Extend the dust boot below the bottom of the piston and guide the lip seal into the groove in the caliper piston bore.

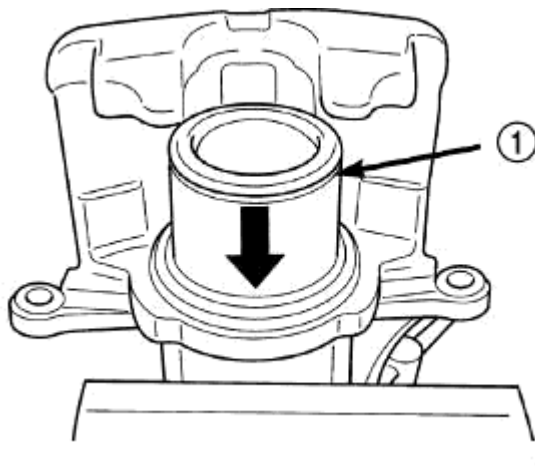


Fig. 64: Piston Installation
Courtesy of CHRYSLER LLC

1 -
PISTON
GROOVE

CAUTION: Force applied to the piston (1) to seat it in the bore must be applied uniformly to avoid cocking and binding of the piston.

6. Install the piston (1) into the bore, carefully pushing it past the piston seal using **hand pressure** . Push the piston in until it bottoms in the caliper bore and the dust boot lip seal falls into the groove near the top of the piston.
7. Install the caliper on the vehicle and bleed the brakes as necessary. See **Brakes/Hydraulic/Mechanical/CALIPER, Disc Brake - Installation**

Installation

INSTALLATION

1. Completely retract the caliper piston back into the bore of the caliper. Use a C-clamp to retract the piston. Place a wood block over the piston before installing the C-clamp to avoid damaging the piston.

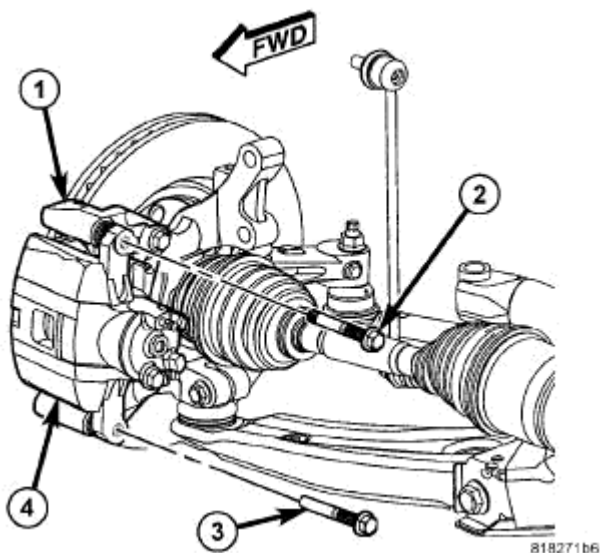


Fig. 65: CALIPER GUIDE PIN BOLTS

Courtesy of CHRYSLER LLC

CAUTION: Use care when installing the caliper (4) onto the adapter bracket (1) to avoid damaging the guide pin boots.

2. Install the disc brake caliper over the brake pads on the brake caliper adapter bracket.

CAUTION: When removing or installing a caliper guide pin bolt, it is necessary to hold the guide pin stationary while turning the bolt. Hold the guide pin stationary using a wrench placed upon the pin's hex-shaped head.

3. Align the caliper guide pin bolt holes with the adapter bracket. Install the upper (2) and lower (3) caliper guide pin bolts. Tighten the guide pin bolts to 35 N.m (26 ft. lbs.).

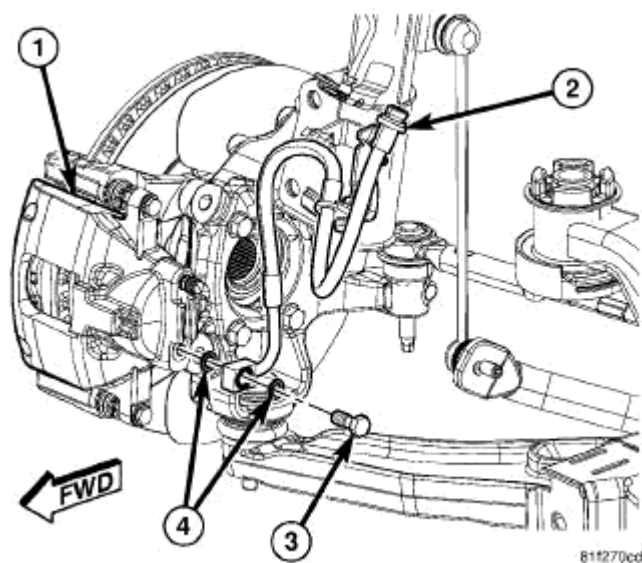


Fig. 66: BRAKE HOSE MOUNTING TO CALIPER

Courtesy of CHRYSLER LLC

4. Install the banjo bolt (3) connecting the brake flex hose (2) to the brake caliper (1). Install NEW brake hose washers (4) on each side of the hose fitting as the banjo bolt is guided through the fitting. Thread the banjo bolt into the caliper and tighten it to 26 N.m (19 ft. lbs.).

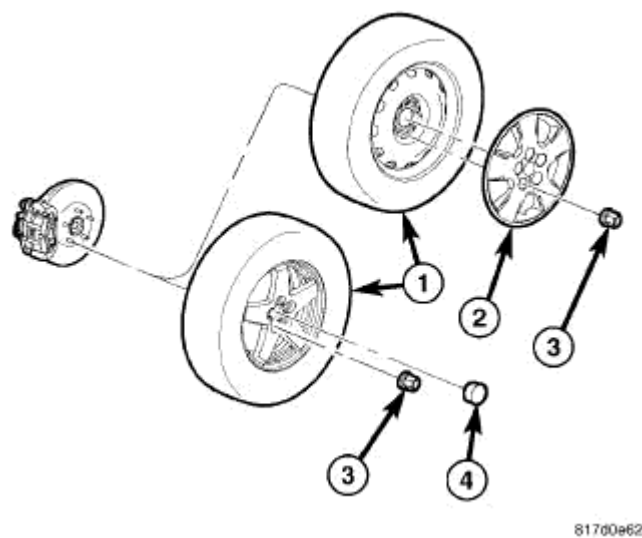


Fig. 67: TIRE AND WHEEL MOUNTING

Courtesy of CHRYSLER LLC

5. Install the tire and wheel assembly (1). Refer to **Tires and Wheels - Installation** . Install and tighten the wheel mounting nuts (3) to 135 N.m (100 ft. lbs.).
6. Lower the vehicle.

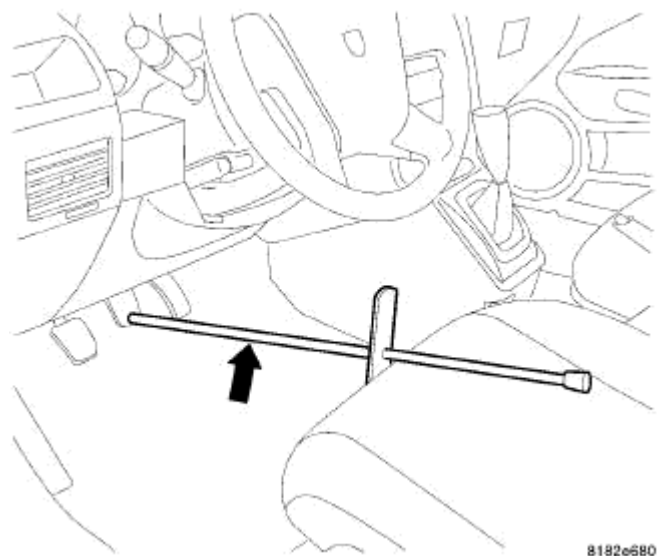


Fig. 68: BRAKE PEDAL HOLDING TOOL
Courtesy of CHRYSLER LLC

7. Remove the brake pedal holding tool.

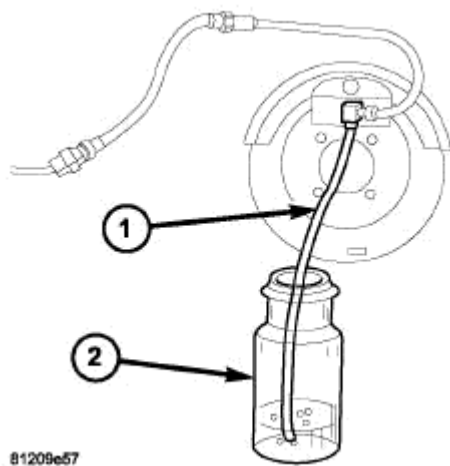


Fig. 69: BLEED HOSE SET UP
Courtesy of CHRYSLER LLC

8. Bleed the caliper as necessary. See **Brakes - Standard Procedure**
9. Road test the vehicle and make several stops to wear off any foreign material on the brakes and to seat the brake shoes.

CALIPER, DISC BRAKE, REAR

Removal

REMOVAL

NOTE: Before proceeding. See Brakes - Warning. See Brakes - Caution.

1. Disconnect and isolate battery negative cable from battery post.

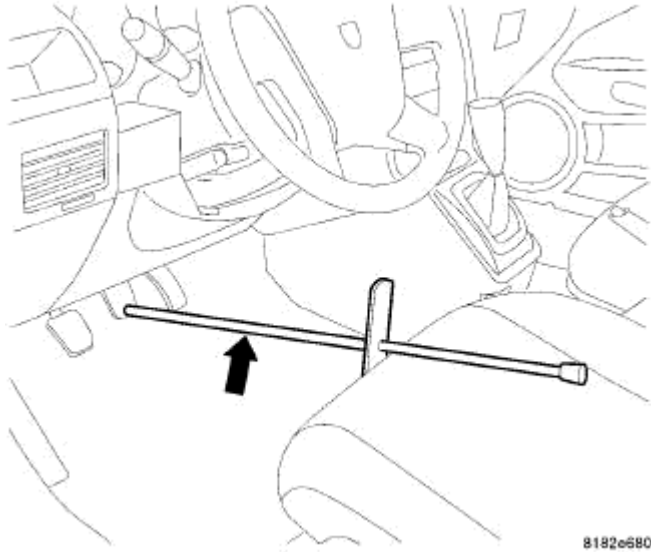


Fig. 70: BRAKE PEDAL HOLDING TOOL
Courtesy of CHRYSLER LLC

2. Using a brake pedal holding tool as shown, depress brake pedal past its first inch of travel and hold it in this position. Holding pedal in this position will isolate master cylinder from hydraulic brake system and will not allow brake fluid to drain out of brake fluid reservoir while brake lines are open.
3. Raise and support vehicle. Refer to Vehicle Quick Reference/Hoisting - Standard Procedure

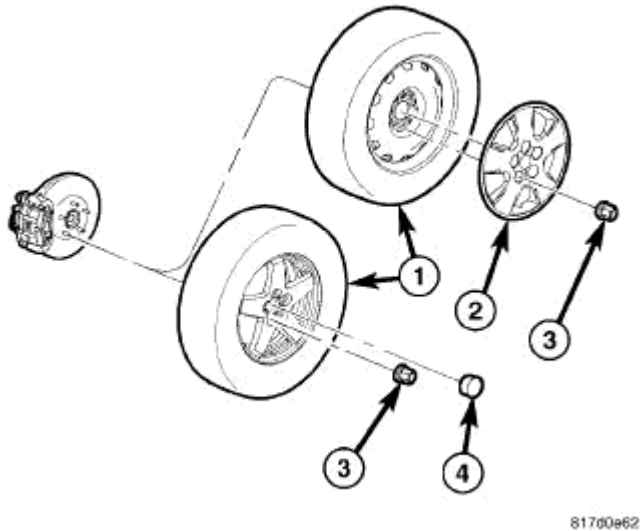


Fig. 71: TIRE AND WHEEL MOUNTING
Courtesy of CHRYSLER LLC

4. Remove wheel mounting nuts (3), then tire and wheel assembly (1).
5. Manually release the parking brake cable tension. See **Brakes/Parking Brake - Standard Procedure**

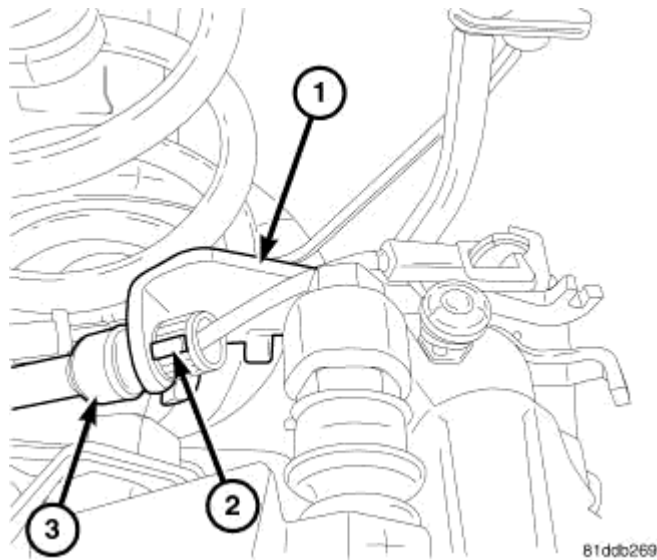


Fig. 72: PARKING BRAKE CABLE AT BRACKET
Courtesy of CHRYSLER LLC

6. Collapse the cable retainer fingers (2) at the end of the cable housing (3), then pull the cable housing out of the mounting bracket (1).

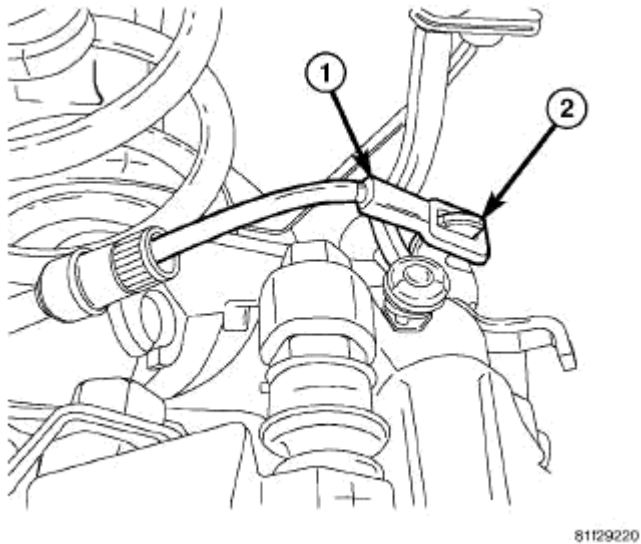


Fig. 73: PARKING BRAKE CABLE AT LEVER
Courtesy of CHRYSLER LLC

7. Slide the cable strand out of the mounting bracket, then pull the parking brake cable strand (1) upward and unhook it from the caliper lever (2).

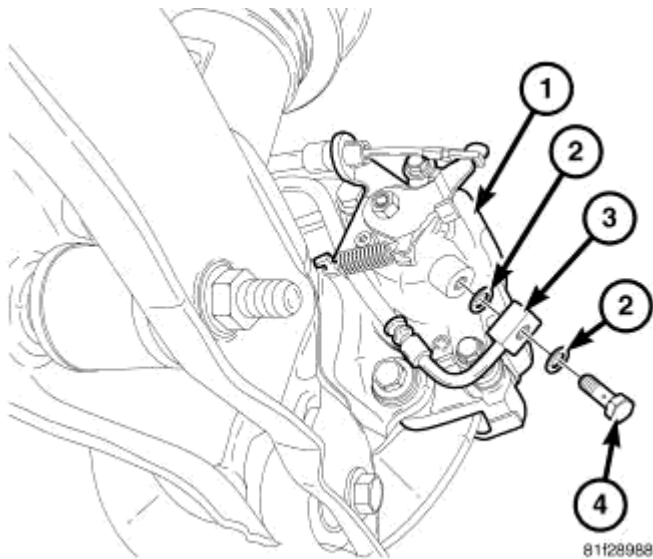


Fig. 74: BRAKE HOSE MOUNTING TO CALIPER
Courtesy of CHRYSLER LLC

8. Remove the banjo bolt (4) connecting the brake flex hose (3) to the brake caliper (1). There are two washers (2) that will come off with the banjo bolt. Discard the washers. They should not be reused.

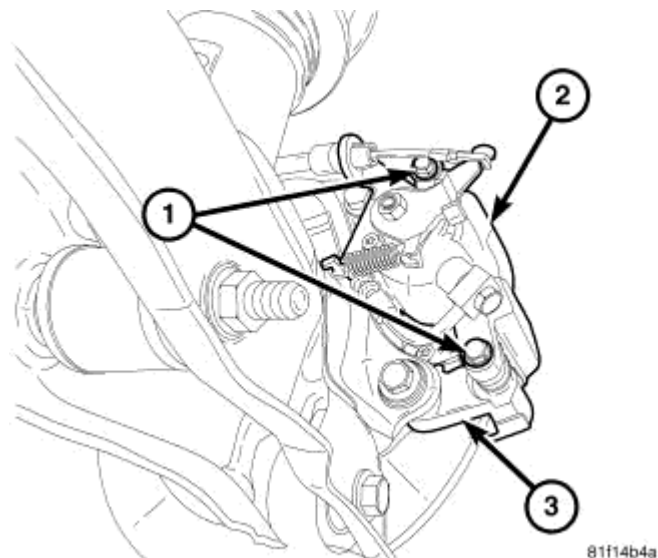


Fig. 75: REAR CALIPER MOUNTING

Courtesy of CHRYSLER LLC

CAUTION: When removing or installing a caliper guide pin bolt, it is necessary to hold the guide pin stationary while turning the bolt. Hold the guide pin stationary using a wrench placed upon the pin's hex-shaped head.

9. Remove two caliper guide pin bolts (1).
10. Slide the disc brake caliper (2) from the disc brake adapter bracket (3) and brake pads.

Cleaning

CLEANING

WARNING: Chrysler LLC does not manufacture any vehicles or replacement parts that contain asbestos. Aftermarket products may or may not contain asbestos. Refer to aftermarket product packaging for product information.

Whether the product contains asbestos or not, dust and dirt can accumulate on brake parts during normal use. Follow practices prescribed by appropriate regulations for the handling, processing and disposing of dust and debris.

To clean or flush the internal passages of the brake caliper, use fresh brake fluid or Mopar® Non-Chlorinated Brake Parts Cleaner. Never use gasoline, kerosene, alcohol, oil, transmission fluid or any fluid containing mineral oil to clean the caliper. These fluids will damage rubber cups and seals.

Inspection

INSPECTION

Inspect the disc brake caliper for the following:

- Brake fluid leaks in and around piston boot area
- Ruptures, brittleness or damage to the piston dust boot

If caliper fails inspection, disassemble and recondition caliper, replacing the seals and dust boots.

Installation

INSTALLATION

CAUTION: When installing a NEW brake caliper it is necessary to bleed the brakes using a special procedure which has been integrated to this installation procedure.

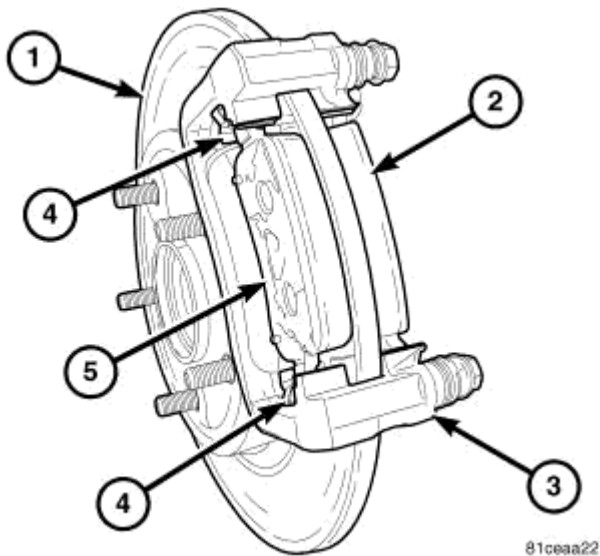


Fig. 76: REAR BRAKE PADS
Courtesy of CHRYSLER LLC

1. Remove the outboard pad (5) from the adapter bracket.

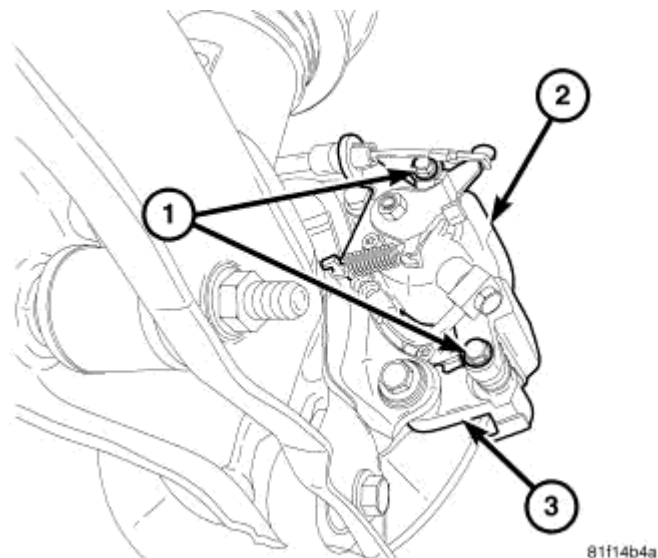


Fig. 77: REAR CALIPER MOUNTING

Courtesy of CHRYSLER LLC

CAUTION: Use care when installing the caliper (2) onto the adapter bracket to avoid damaging the guide pin boots.

2. Install the disc brake caliper (2) over the inboard brake pad on the brake caliper adapter bracket and the brake rotor.

CAUTION: When removing or installing a caliper guide pin bolt, it is necessary to hold the guide pin stationary while turning the bolt. Hold the guide pin stationary using a wrench placed upon the pin's hex-shaped head.

3. Align the caliper guide pin bolt holes with the adapter bracket. Install the upper and lower caliper guide pin bolts (1). Lightly tighten the guide pin bolts at this time.

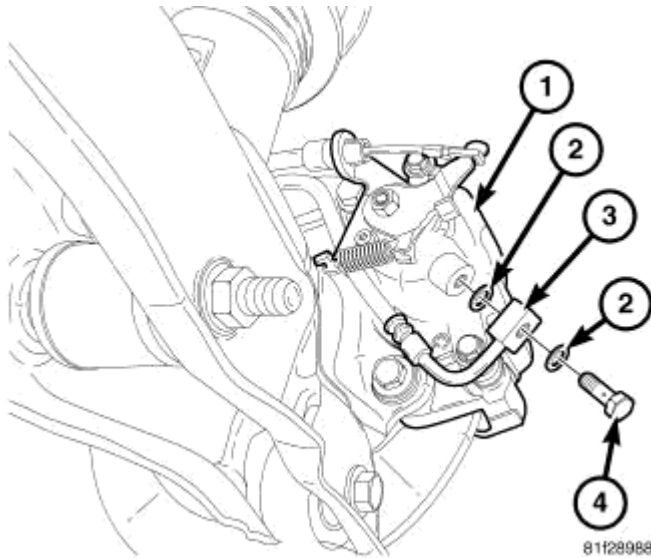


Fig. 78: BRAKE HOSE MOUNTING TO CALIPER

Courtesy of CHRYSLER LLC

4. Install the banjo bolt (4) connecting the brake flex hose (3) to the brake caliper (1). **Be sure to install a NEW brake hose washer (2) on each side of the hose fitting as the banjo bolt is guided through the fitting.** Thread the banjo bolt into the caliper and tighten it to 26 N.m (19 ft. lbs.).

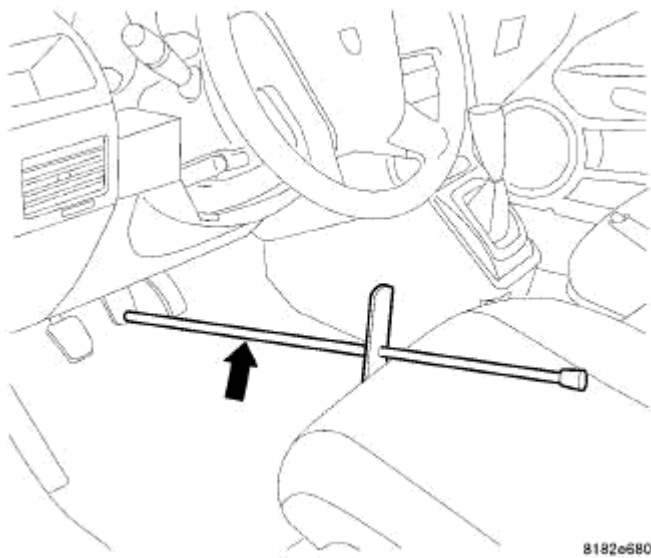
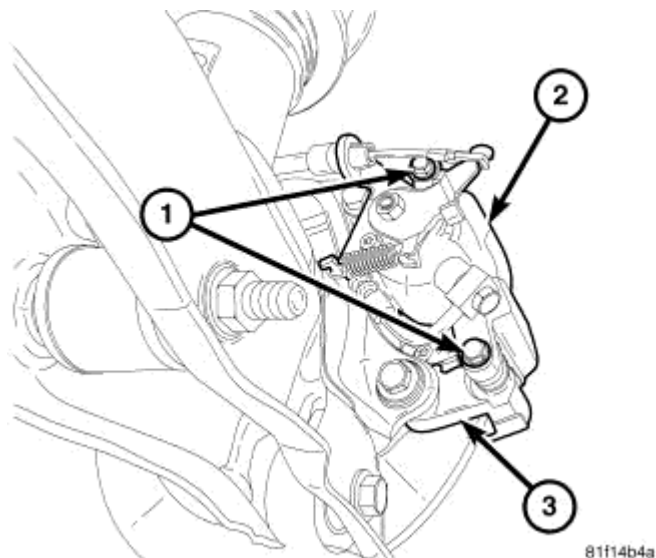


Fig. 79: BRAKE PEDAL HOLDING TOOL

Courtesy of CHRYSLER LLC

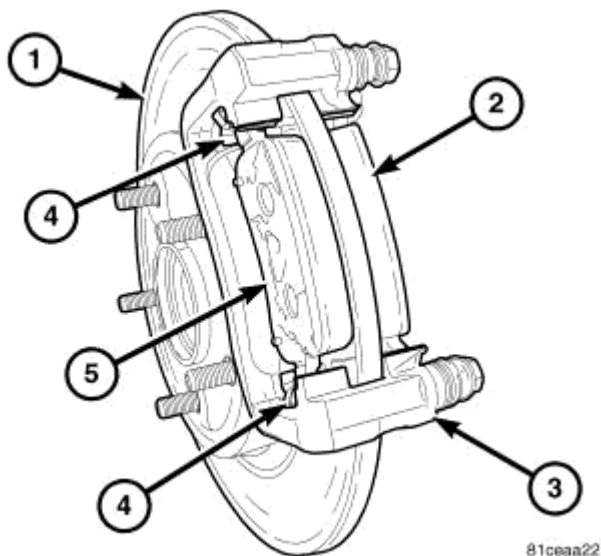
5. Access the interior of the vehicle, remove the brake pedal holder, then slowly pump the brake pedal until the rear caliper fingers touch the outboard surface of the brake rotor where the brake pad was removed. Release the pedal.

**Fig. 80: REAR CALIPER MOUNTING**

Courtesy of CHRYSLER LLC

CAUTION: When removing or installing a caliper guide pin bolt, it is necessary to hold the guide pin stationary while turning the bolt. Hold the guide pin stationary using a wrench placed upon the pin's hex-shaped head.

6. Remove two caliper guide pin bolts (1).
7. Slide the disc brake caliper (2) from the disc brake adapter bracket (3).

**Fig. 81: REAR BRAKE PADS**

Courtesy of CHRYSLER LLC

8. Reinstall the outboard pad (5) in the adapter bracket (3).

9. Open the caliper bleeder screw at least one full turn.

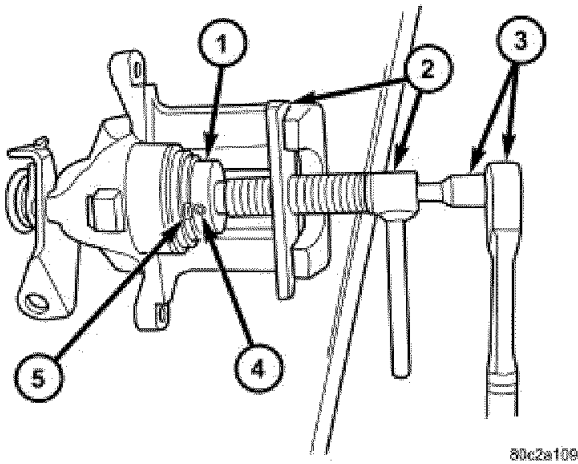


Fig. 82: SEATING PISTON WITH SPECIAL TOOL
Courtesy of CHRYSLER LLC

10. Seat (bottom) the caliper piston in the bore as follows:
 - a. Assemble a 3/8 in. drive ratchet handle and an extension (3).
 - b. Insert the extension through Special Tool 8807-1 (2).
 - c. Place Special Tool 8807-2 (1) on the end of the extension.
 - d. Insert lugs on Special Tool 8807-2 into notches in face of caliper piston (5).
 - e. Thread the screw drive on 8807-1 down until it contacts the top of 8807-2 which is against the caliper piston. **Do not over tighten the screw-drive. Damage to the piston can occur.**
 - f. Turn 8807-2 with the ratchet, rotating the piston in a **clockwise** direction until fully seated (bottomed) in the bore. **It may be necessary to turn 8807-1 with 8807-2 to start the process of piston retraction.**
11. Close the bleeder screw.

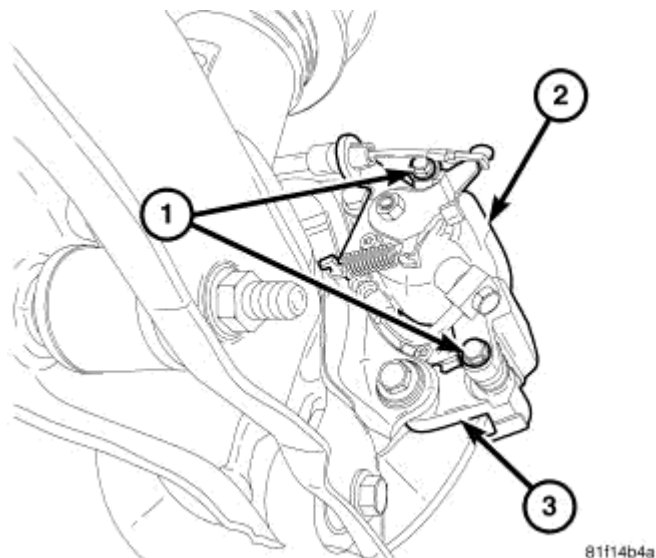


Fig. 83: REAR CALIPER MOUNTING

Courtesy of CHRYSLER LLC

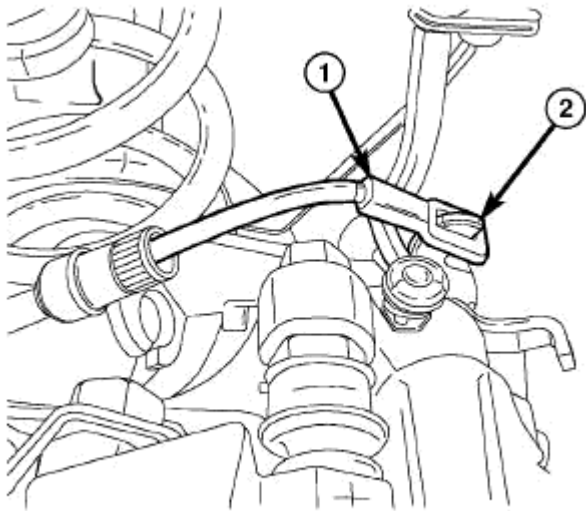
CAUTION: Use care when installing the caliper onto the adapter bracket to avoid damaging the guide pin boots.

CAUTION: When removing or installing a caliper guide pin bolt, it is necessary to hold the guide pin stationary while turning the bolt. Hold the guide pin stationary using a wrench placed upon the pin's hex-shaped head.

12. Return the brake caliper back down over the adapter bracket into mounted position and install the guide pin bolts (1). Tighten both guide pin bolts to 35 N.m (26 ft. lbs.).

NOTE: While bleeding air from the brake caliper in the following steps, be sure to monitor the fluid level in the master cylinder reservoir making sure it does not go dry.

13. Have a helper pump the brake pedal three or four times and hold it in the down position.
14. With the pedal in the down position, open the bleeder screw at least one full turn and let out fluid and air, if any.
15. Once the brake pedal has dropped, close the bleeder screw. Once the bleeder screw is closed, release the brake pedal.
16. Repeat the previous three steps as necessary until all trapped air is removed.
17. If necessary, bleed remaining wheel circuits as necessary using normal bleeding procedure. See **Brakes - Standard Procedure**

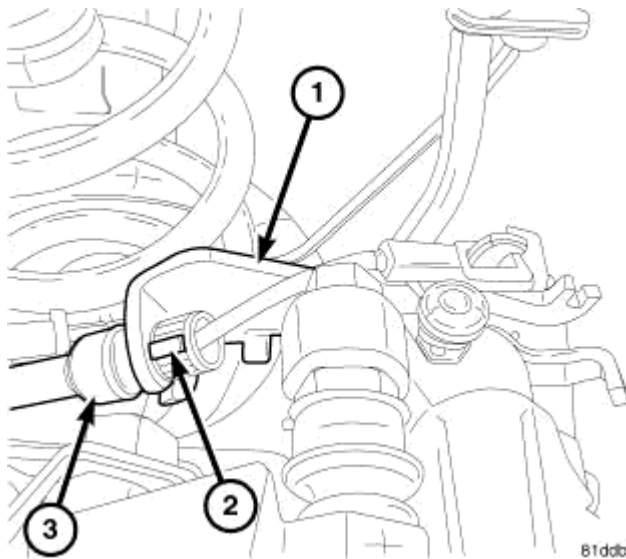


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Fig. 84: PARKING BRAKE CABLE AT LEVER

Courtesy of CHRYSLER LLC

18. Pull the parking brake cable strand (1) outward from the cable housing and hook it onto the caliper lever (2).

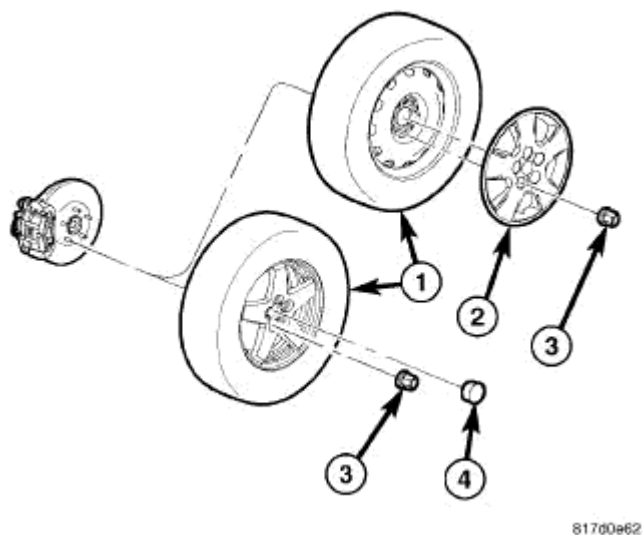


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Fig. 85: PARKING BRAKE CABLE AT BRACKET

Courtesy of CHRYSLER LLC

19. Push the excess cable strand back into the cable housing, then insert the cable housing (3) into the mounting bracket (1) until the retainer fingers (2) lock into place. Make sure both fingers are engaged preventing removal of the cable from the bracket.

**Fig. 86: TIRE AND WHEEL MOUNTING**

Courtesy of CHRYSLER LLC

20. Install tire and wheel assembly (1). Refer to **Tires and Wheels - Installation** . Install and tighten wheel mounting nuts (3) to 135 N.m (100 ft. lbs.).
21. Reconnect the parking brake cable equalizer and reset the cable tension. See **Brakes/Parking Brake - Standard Procedure**
22. Lower vehicle.
23. Connect battery negative (-) cable to battery post.
24. Road test vehicle making several stops to wear off any foreign material on brakes and to seat brake pads.

FLUID**Diagnosis and Testing****BRAKE FLUID CONTAMINATION**

Indications of fluid contamination are swollen or deteriorated rubber parts. Swelling indicates the presence of petroleum in the brake fluid.

To test for contamination, put a small amount of drained brake fluid in clear glass jar. If the fluid separates into layers, there is mineral oil or other fluid contamination of the brake fluid.

If the brake fluid is contaminated, drain and thoroughly flush the brake system. Replace all the rubber parts or components containing rubber coming into contact with the brake fluid including: the master cylinder and reservoir; proportioning valves (non-ABS); caliper seals; wheel cylinder seals; ABS hydraulic control unit; and all hydraulic fluid hoses.

Standard Procedure

BRAKE FLUID LEVEL CHECKING

NOTE: Brake fluid level should be checked a minimum of twice a year.

Master cylinder reservoirs are marked, FULL and ADD, indicating the allowable brake fluid level range in the master cylinder fluid reservoir.

CAUTION: Use only Mopar® Brake Fluid DOT 3 Motor Vehicle or equivalent from a tightly sealed container. Do not use petroleum-based fluid because seal damage in the brake system will result. See Brakes/Hydraulic/Mechanical/FLUID - Specifications

NOTE: Although there is a range, the preferred level is FULL.

1. Remove the cap.
2. Adjust the brake fluid level to the FULL mark listed on the side of the master cylinder fluid reservoir as necessary. Do not overfill the system.
3. Install the cap.

Specifications**BRAKE FLUID**

The brake fluid used in this vehicle must conform to DOT 3 specifications and SAE J1703 standards. No other type of brake fluid is recommended or approved for usage in the vehicle brake system. Use only Mopar® Brake Fluid DOT 3 Motor Vehicle or equivalent from a tightly sealed container.

CAUTION: Never use reclaimed brake fluid or fluid from a container which has been left open. An open container will absorb moisture from the air and contaminate the fluid.

CAUTION: Never use any type of a petroleum-based fluid in the brake hydraulic system. Use of such type fluids will result in seal damage of the vehicle brake hydraulic system causing a failure of the vehicle brake system. Petroleum based fluids would be items such as engine oil, transmission fluid, power steering fluid, etc.

MASTER CYLINDER, BRAKE**Description****DESCRIPTION**

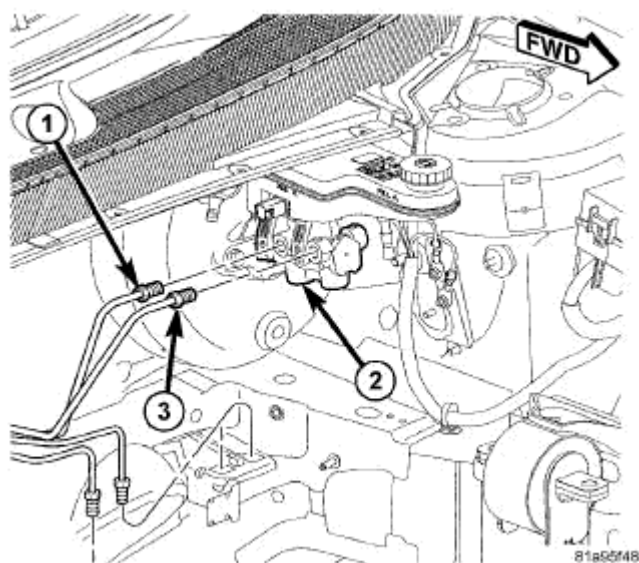


Fig. 87: PRIMARY AND SECONDARY BRAKE TUBES

Courtesy of CHRYSLER LLC

All master cylinders (2) are a two-outlet design and the brake tubes from these primary and secondary outlet ports lead directly to the Integrated Control Unit (ICU) before going to each wheel brake.

All master cylinders mount to the power brake booster in the same manner.

The master cylinder body is an anodized aluminum casting. It has a machined bore to accept the master cylinder pistons and also has threaded ports with seats for hydraulic brake tube connections.

The master cylinder has the brake fluid reservoir mounted on top of it which gravity feeds brake fluid to the master cylinder when it is required. On manual transmission model vehicles the brake fluid reservoir also feeds the clutch hydraulic circuit. The reservoir is made of see-through plastic and it houses the brake fluid level switch. A removable brake fluid level switch is mounted in the right side.

Operation

OPERATION

When the brake pedal is pressed, the master cylinder primary and secondary pistons apply brake pressure through the chassis brake tubes to each brake assembly. The brake fluid reservoir supplies the brake hydraulic system with the necessary fluid to operate properly.

The master cylinder's outlet ports supply hydraulic pressure to the Integrated Control Unit (ICU) where it is distributed to the individual wheel brakes.

The master cylinder reservoir cap diaphragm is slit to allow atmospheric pressure to equalize on both sides of the diaphragm.

MASTER CYLINDER BLEEDING

1. Clamp the master cylinder in a vise with soft-jaw caps.

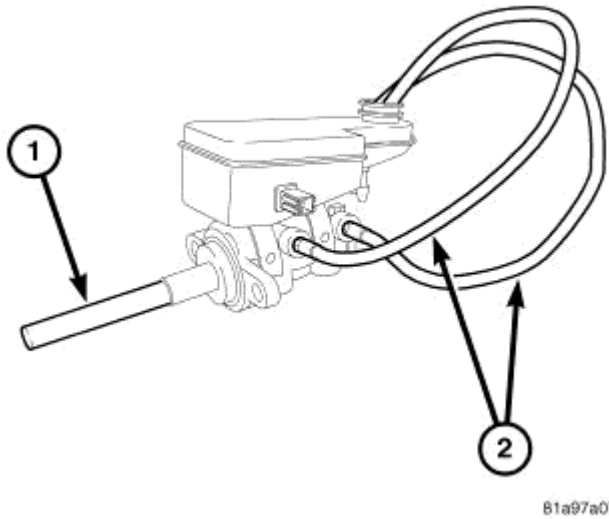


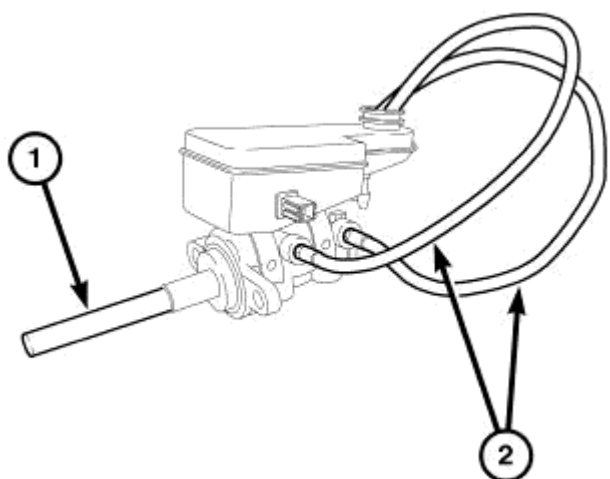
Fig. 88: BLEEDING MASTER CYLINDER WITH ABS

Courtesy of CHRYSLER LLC

2. Thread a Bleeder Tube (2), Special Tool 8358-1, into the primary and secondary ports. Tighten bleeder tube nuts to 17 N.m (150 in. lbs.).
3. Flex each Bleeder Tube and place the open ends into the neck of the master cylinder reservoir. Position the open ends of the tubes into the reservoir so their outlets are below the surface of the brake fluid in the reservoir when filled.

NOTE: **Make sure the ends of the Bleeder Tubes stay below the surface of the brake fluid in the reservoir at all times during the bleeding procedure.**

4. Fill the brake fluid reservoir with fresh Mopar® Brake Fluid DOT 3 Motor Vehicle, or equivalent. See **Brakes/Hydraulic/Mechanical/FLUID - Specifications**



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Fig. 89: BLEEDING MASTER CYLINDER WITH ABS

Courtesy of CHRYSLER LLC

5. Using an appropriately sized wooden dowel as a pushrod (1), slowly press the pistons inward discharging brake fluid through the Bleeder Tubes (2), then release the pressure, allowing the pistons to return to the released position. Repeat this several times until all air bubbles are expelled from the master cylinder bore and Bleeder Tubes.
6. Remove the Bleeder Tubes from the master cylinder and plug the master cylinder outlet ports.
7. Install the fill cap on the reservoir.
8. Remove the master cylinder from the vise.
9. Install the master cylinder on the vehicle. See **Brakes/Hydraulic/Mechanical/MASTER CYLINDER, Brake - Installation**

Removal**LEFT-HAND-DRIVE**

NOTE: Before proceeding. See **Brakes - Warning**. See **Brakes - Caution**.

CAUTION: The vacuum in the power brake booster must be depleted before removing the master cylinder to avoid damaging the master cylinder and to prevent inhalation of the o-ring or any other contamination into the booster. The preferred method is to pump the brake pedal while the engine is not running until the brake pedal becomes firm. An alternative method is to remove and immediately reinstall the check valve located on the booster. If the check valve is removed, special care should be taken to ensure that the grommet is not damaged and remains seated, the check valve is dry and free of debris, and that contaminants cannot be ingested during removal.

1. With the engine not running, pump the brake pedal 4-5 strokes until the pedal feel is firm.
2. Disconnect the negative (ground) cable from the battery and isolate the cable.

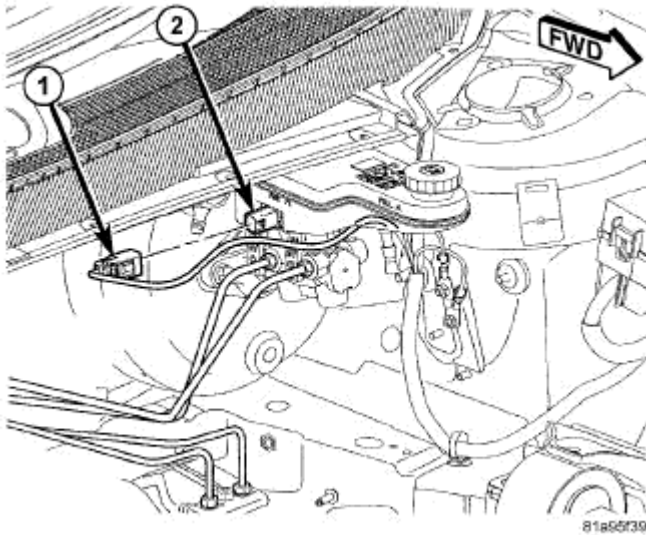


Fig. 90: BRAKE FLUID LEVEL SWITCH CONNECTOR
Courtesy of CHRYSLER LLC

3. Disconnect the wiring harness connector (1) from the brake fluid level switch (2) in the master cylinder brake fluid reservoir.

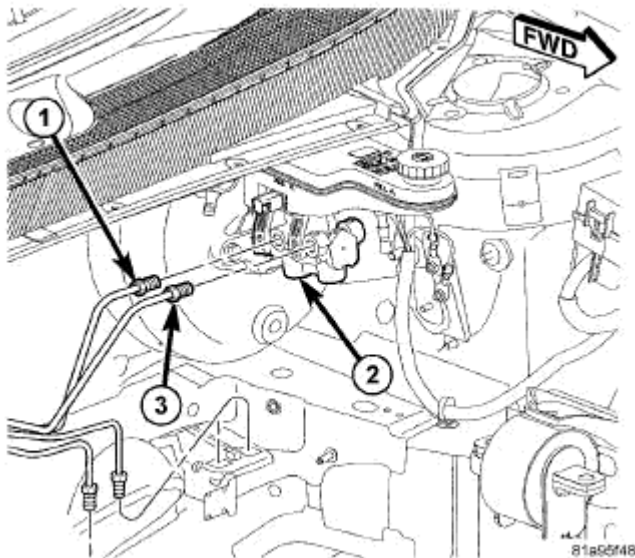


Fig. 91: PRIMARY AND SECONDARY BRAKE TUBES
Courtesy of CHRYSLER LLC

4. Disconnect the primary (1) and secondary (3) brake tubes at the master cylinder (2) outlet ports. Install

plugs at all of the open brake tube outlets on the master cylinder.

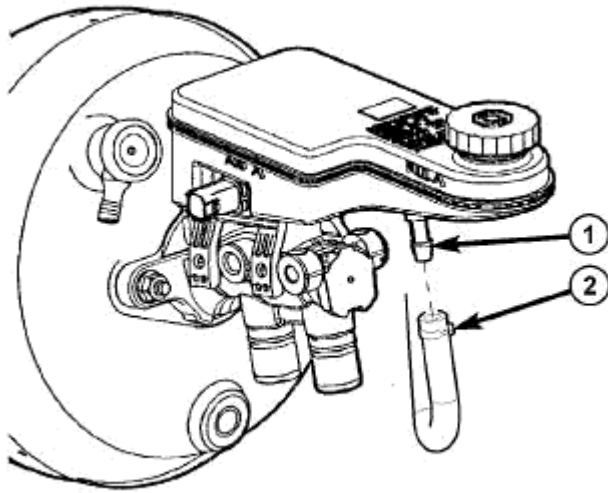


Fig. 92: CLUTCH ACTUATOR HOSE AT MASTER CYLINDER

Courtesy of CHRYSLER LLC

5. If equipped with a manual transaxle, remove the clamp and slide the clutch actuator hose (2) off the reservoir port (1).

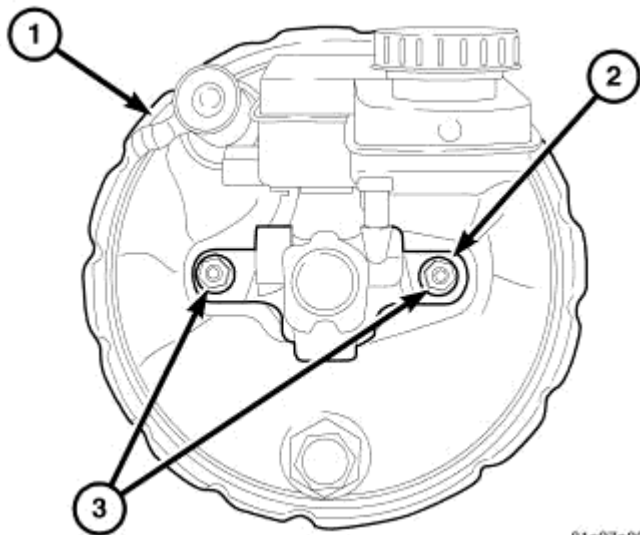


Fig. 93: MASTER CYLINDER MOUNTING NUTS

Courtesy of CHRYSLER LLC

6. Clean the area around where the master cylinder (2) attaches to the power brake booster (1) using a suitable brake cleaner such as Mopar® Brake Parts Cleaner or an equivalent.
7. Remove the two nuts (3) attaching the master cylinder (2) to the power brake booster (1).

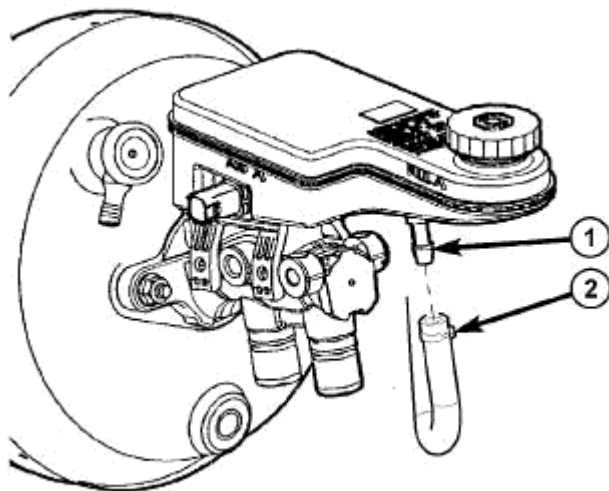
8. Slide the master cylinder straight out of the power brake booster.

RIGHT-HAND-DRIVE

NOTE: Before proceeding. See Brakes - Warning. See Brakes - Caution.

CAUTION: The vacuum in the power brake booster must be depleted before removing the master cylinder to avoid damaging the master cylinder and to prevent inhalation of the o-ring or any other contamination into the booster. The preferred method is to pump the brake pedal while the engine is not running until the brake pedal becomes firm. An alternative method is to remove and immediately reinstall the check valve located on the booster. If the check valve is removed, special care should be taken to ensure that the grommet is not damaged and remains seated, the check valve is dry and free of debris, and that contaminants cannot be ingested during removal.

1. With the engine not running, pump the brake pedal 4-5 strokes until the pedal feel is firm.
2. Disconnect the negative (ground) cable from the battery and isolate the cable.
3. Remove the engine appearance cover.



81a97255

Fig. 94: CLUTCH ACTUATOR HOSE AT MASTER CYLINDER
Courtesy of CHRYSLER LLC

4. If equipped with a manual transaxle, remove the clamp and slide the clutch actuator hose (2) off the reservoir port (1).

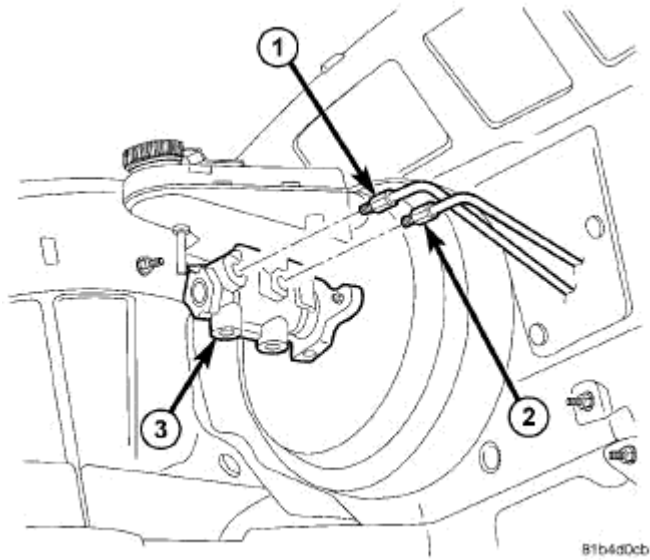


Fig. 95: PRIMARY AND SECONDARY BRAKE TUBES - RHD
Courtesy of CHRYSLER LLC

5. Disconnect the primary (2) and secondary (1) brake tubes at the master cylinder outlet ports. Install plugs at both of the open brake tube outlets on the master cylinder (3).

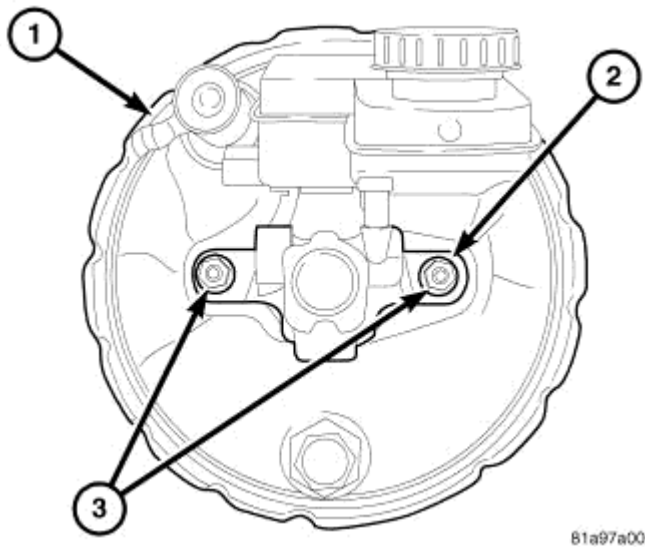


Fig. 96: MASTER CYLINDER MOUNTING NUTS
Courtesy of CHRYSLER LLC

6. Clean the area around where the master cylinder (2) attaches to the power brake booster (1) using a suitable brake cleaner such as Mopar® Brake Parts Cleaner or an equivalent.

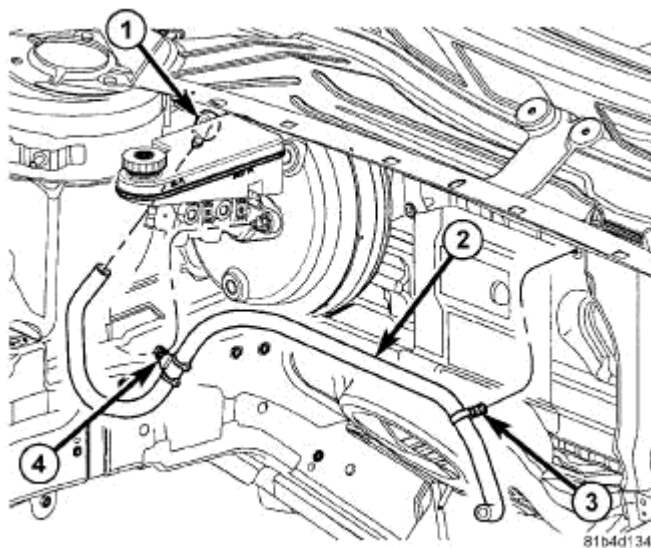


Fig. 97: VACUUM HOSE AT BOOSTER - RHD
Courtesy of CHRYSLER LLC

7. Remove the booster vacuum hose routing clip (4) from the master cylinder mounting stud.

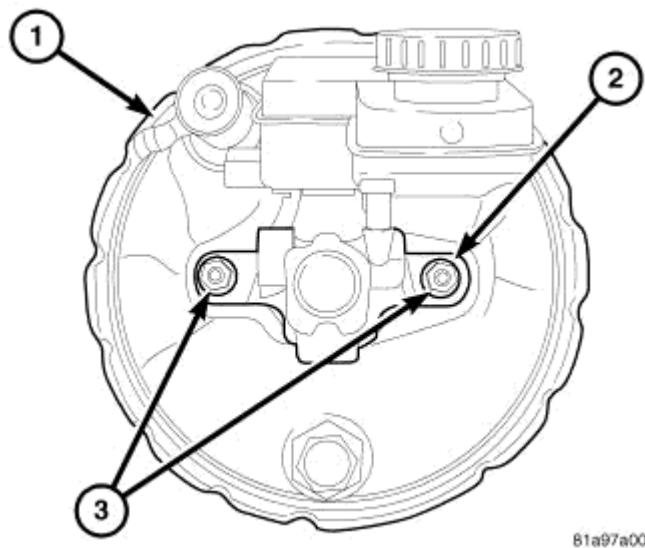
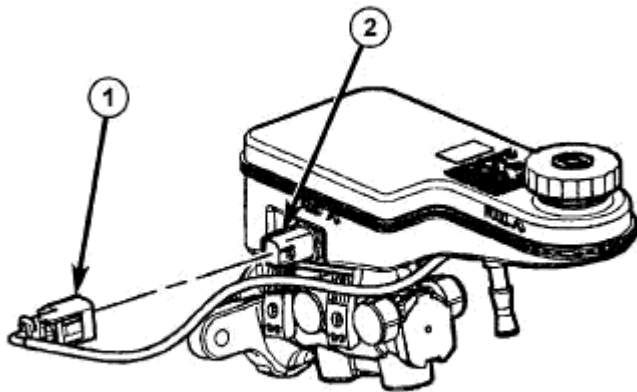


Fig. 98: MASTER CYLINDER MOUNTING NUTS
Courtesy of CHRYSLER LLC

8. Remove the two nuts (3) attaching the master cylinder (2) to the power brake booster (1).



81b4d32f

Fig. 99: BRAKE FLUID LEVEL SWITCH CONNECTOR - RHD
Courtesy of CHRYSLER LLC

9. Slide the master cylinder straight out of the power brake booster, then disconnect the wiring harness connector (1) from the brake fluid level switch (2).
10. Remove the master cylinder from the engine compartment.

Disassembly

DISASSEMBLY

NOTE: If the reservoir is being replaced, the new reservoir will come with a brake fluid level switch installed. The old fluid switch does not need to be transferred from the old reservoir to the new reservoir.

1. Clean the master cylinder housing and brake fluid reservoir. Use only Mopar® Brake Parts Cleaner or equivalent.
2. Remove the brake fluid reservoir cap. Using a syringe or equivalent type tool, empty as much brake fluid as possible from the reservoir.

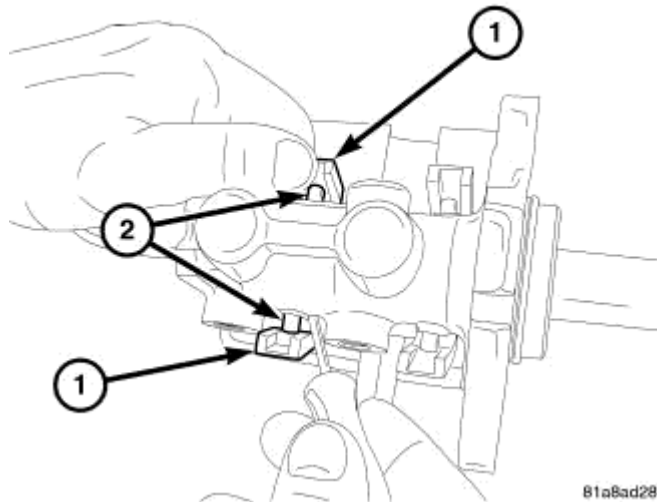


Fig. 100: REMOVING RESERVOIR FROM MASTER CYLINDER PINS

Courtesy of CHRYSLER LLC

3. Remove the four reservoir retaining tabs from the mounting posts on the master cylinder housing.
4. Pull the reservoir straight up and remove it from the grommet seals in master cylinder housing.

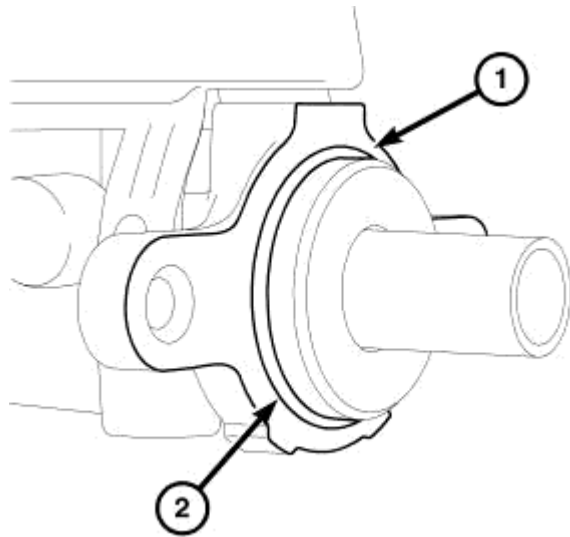


Fig. 101: SEAL ON REAR OF MASTER CYLINDER

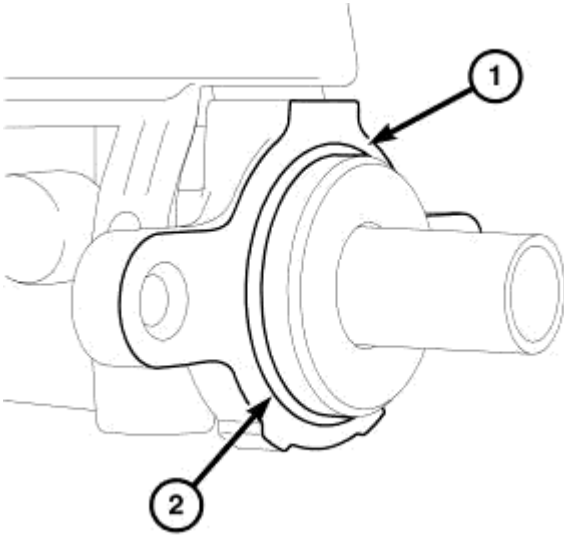
Courtesy of CHRYSLER LLC

5. Remove the vacuum O-ring seal (2) from the master cylinder mounting flange (1).

Assembly

ASSEMBLY

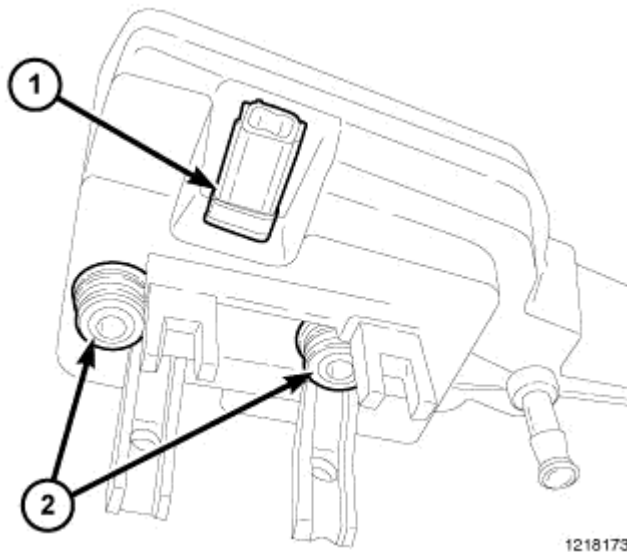
NOTE: If the reservoir is being replaced, the new reservoir will come with a brake fluid level switch installed. The old fluid switch does not need to be transferred from the old reservoir to the new reservoir.



81aa071b

Fig. 102: SEAL ON REAR OF MASTER CYLINDER
Courtesy of CHRYSLER LLC

1. Install a NEW vacuum O-ring seal (2) on the master cylinder mounting flange (1) making sure the O-ring fits evenly against the mounting flange.



1218173

Fig. 103: Grommet Seals
Courtesy of CHRYSLER LLC

2. Lubricate the reservoir mounting area with fresh clean brake fluid. With the grommet seals (2) on the fluid reservoir spigots, place the reservoir in position over the master cylinder. Install the fluid reservoir by firmly pressing down on the fluid reservoir. Once installed, make sure the fluid reservoir is touching

the top of both grommet seals.

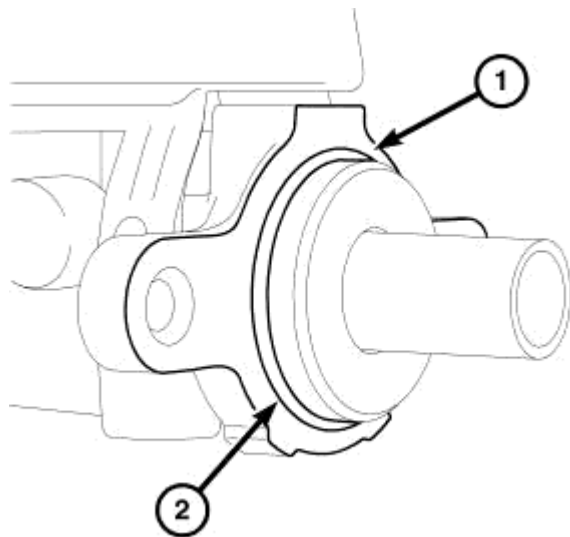
3. Push the reservoir retaining tabs over the mounting posts on the master cylinder housing. Make sure the retaining tabs are securely engaged.
4. Fill and thoroughly bleed the master cylinder before installing it. See **Brakes/Hydraulic/Mechanical/MASTER CYLINDER, Brake - Standard Procedure**
5. Install the master cylinder. See **Brakes/Hydraulic/Mechanical/MASTER CYLINDER, Brake - Installation**

Installation

LEFT-HAND-DRIVE

NOTE: The master cylinder must be bled before installing it on the vehicle.

1. Bench bleed the master cylinder. See **Brakes/Hydraulic/Mechanical/MASTER CYLINDER, Brake - Standard Procedure**
2. Wipe the face of the power brake booster clean where the vacuum seal on the rear of the master cylinder comes in contact when it's installed. Do not get any cleaner or debris inside the booster.



81aa071b

Fig. 104: SEAL ON REAR OF MASTER CYLINDER
Courtesy of CHRYSLER LLC

CAUTION: When installing a master cylinder on the vehicle, a NEW vacuum O-ring seal (2) MUST be installed on the master cylinder mounting flange (1).

3. If the master cylinder does not have a new vacuum O-ring seal (2) on the mounting flange (1), remove it. Install a NEW vacuum O-ring seal on the master cylinder mounting flange making sure the O-ring fits evenly against the mounting flange.

CAUTION: If resistance is met during master cylinder insertion into power brake booster, the master cylinder push rod may not be lined up with the booster push rod. Remove the master cylinder, realign and insert it again.

4. Line the master cylinder mounting holes up with the mounting studs on the power brake booster. Ensure the master cylinder piston push rod lines up with the booster push rod, then carefully slide the master cylinder into the power brake booster until it contacts the face of the booster.

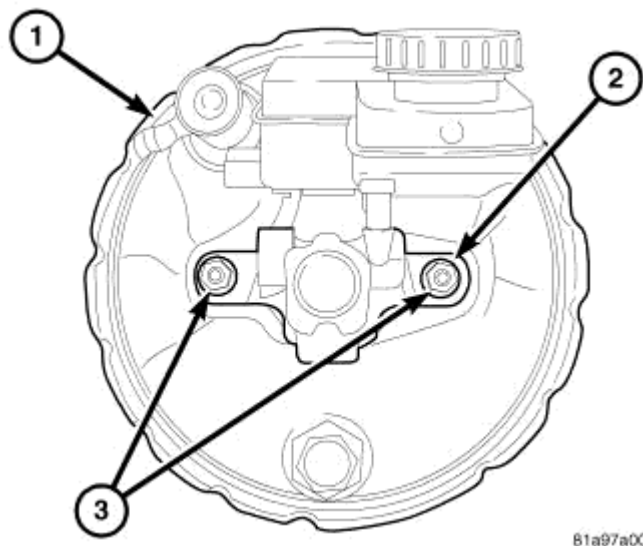


Fig. 105: MASTER CYLINDER MOUNTING NUTS

Courtesy of CHRYSLER LLC

5. Install two NEW master cylinder mounting nuts (3). Tighten each nut to 25 N.m (18 ft. lbs.).

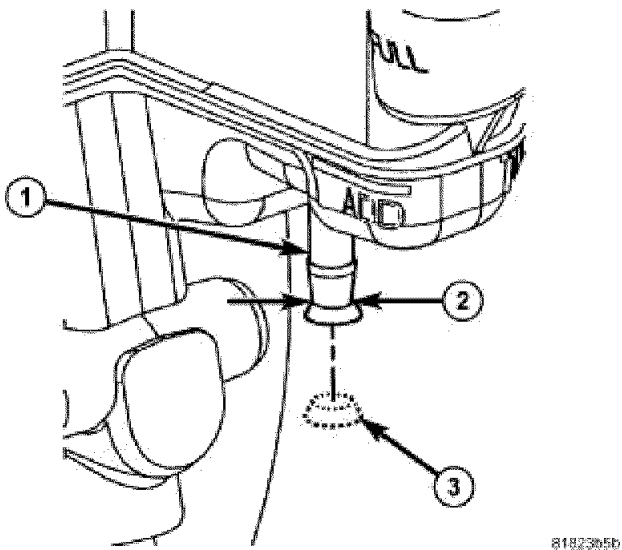
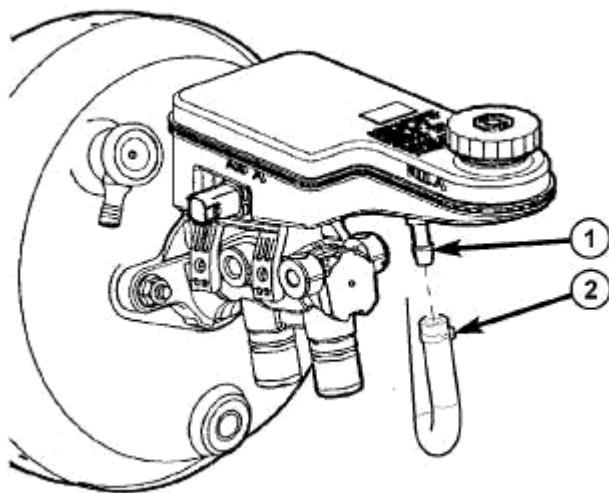


Fig. 106: CUT AND REMOVE CLUTCH PORT PLUG

Courtesy of CHRYSLER LLC

6. If equipped with a manual transaxle and a new reservoir is being installed, using an appropriate cutting tool, cut the clutch actuator port at the center of the "V" groove (2) opening the hydraulic clutch port (1). Discard the severed plug (3).

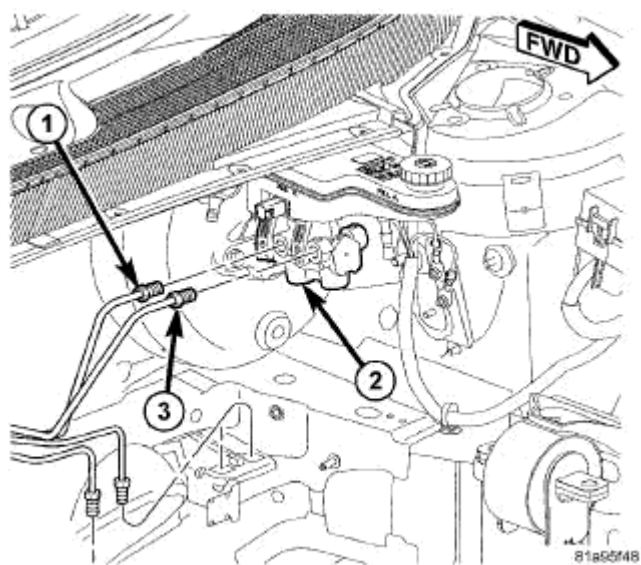


81a97255

Fig. 107: CLUTCH ACTUATOR HOSE AT MASTER CYLINDER

Courtesy of CHRYSLER LLC

7. If equipped with a manual transaxle, slide the clutch actuator hose (2) onto the reservoir port (1). Install the hose clamp just past the upset bead on the port.

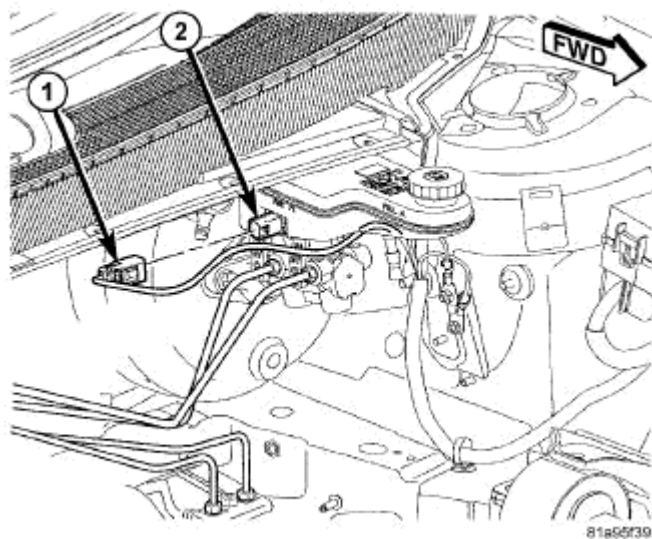


81a95f48

Fig. 108: PRIMARY AND SECONDARY BRAKE TUBES

Courtesy of CHRYSLER LLC

8. Connect the primary (1) and secondary (3) brake tubes to the master cylinder (2) outlet ports. Tighten the tube nuts to 17 N.m (150 in. lbs.).

**Fig. 109: BRAKE FLUID LEVEL SWITCH CONNECTOR**

Courtesy of CHRYSLER LLC

9. Connect the wiring harness connector (1) to the brake fluid level switch (2).
10. Connect the negative (ground) cable on the battery.
11. Fill the master cylinder reservoir to the proper level. See **Brakes/Hydraulic/Mechanical/FLUID - Standard Procedure**

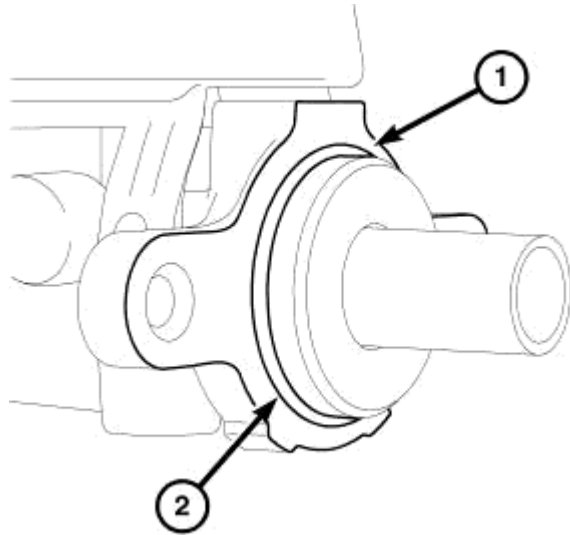
WARNING: Be certain a firm brake pedal is achieved prior to attempting to operate the vehicle. If a firm brake pedal cannot be achieved, bleed the brake hydraulic system and check for leaks. See **Brakes - Standard Procedure**

12. Road test the vehicle to ensure proper operation of the brakes.

RIGHT-HAND-DRIVE

NOTE: The master cylinder must be bled before installing it on the vehicle.

1. Bench bleed the master cylinder. See **Brakes/Hydraulic/Mechanical/MASTER CYLINDER, Brake - Standard Procedure**
2. Wipe the face of the power brake booster clean where the vacuum seal on the rear of the master cylinder comes in contact when it's installed. Do not get any cleaner or debris inside the booster.



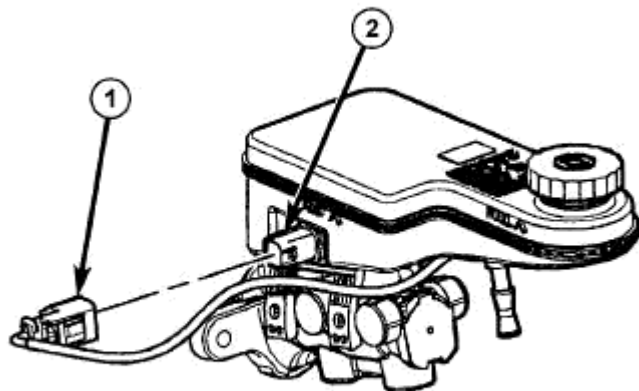
81aa071b

Fig. 110: SEAL ON REAR OF MASTER CYLINDER

Courtesy of CHRYSLER LLC

CAUTION: When installing a master cylinder on the vehicle, a **NEW** vacuum O-ring seal (2) **MUST** be installed on the master cylinder mounting flange (1).

3. If the master cylinder does not have a new vacuum O-ring seal (2) on the mounting flange (1), remove it. Install a **NEW** vacuum O-ring seal on the master cylinder mounting flange making sure the O-ring fits evenly against the mounting flange.



81b4d02f

Fig. 111: BRAKE FLUID LEVEL SWITCH CONNECTOR - RHD

Courtesy of CHRYSLER LLC

4. Line the master cylinder mounting holes up with the mounting studs on the power brake booster, then connect the wiring harness connector (1) to the brake fluid level switch (2).

CAUTION: If resistance is met during master cylinder insertion into power brake booster, the master cylinder push rod may not be lined up with the booster push rod. Remove the master cylinder, realign and insert it again.

5. Ensure the master cylinder piston push rod lines up with the booster push rod, then carefully slide the master cylinder into the power brake booster until it contacts the face of the booster.

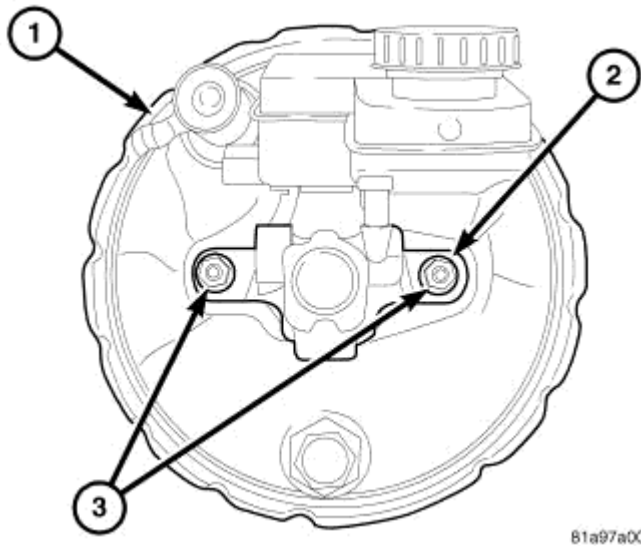


Fig. 112: MASTER CYLINDER MOUNTING NUTS

Courtesy of CHRYSLER LLC

6. Install two NEW master cylinder mounting nuts (3). Tighten each nut to 25 N.m (18 ft. lbs.).

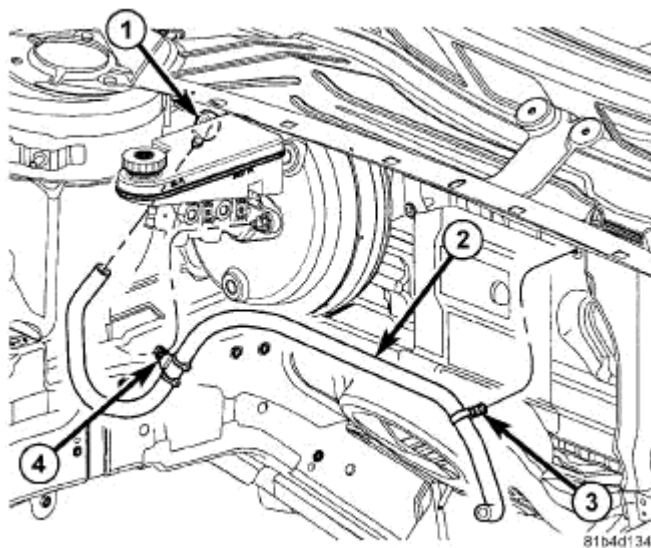


Fig. 113: VACUUM HOSE AT BOOSTER - RHD
Courtesy of CHRYSLER LLC

7. Install the booster vacuum hose routing clip (4) onto the master cylinder mounting stud.

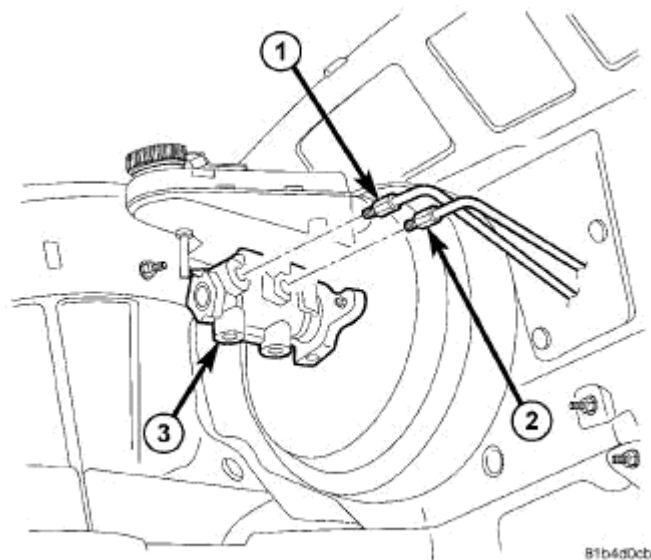


Fig. 114: PRIMARY AND SECONDARY BRAKE TUBES - RHD
Courtesy of CHRYSLER LLC

8. Connect the primary (2) and secondary (1) brake tubes to the master cylinder outlet ports. Tighten the tube nuts to 17 N.m (150 in. lbs.).

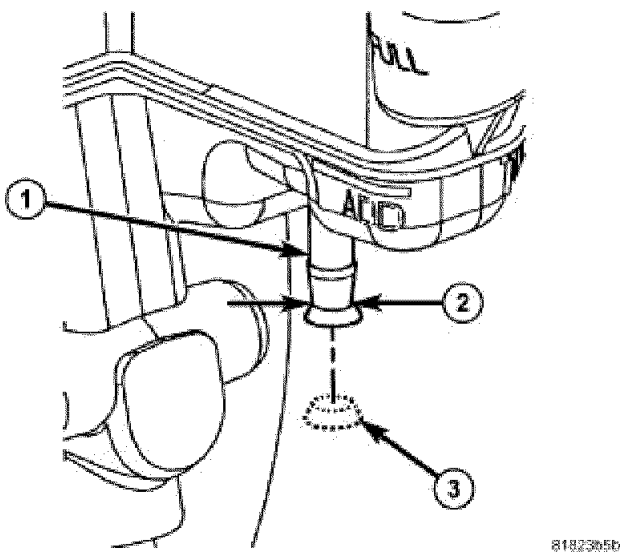


Fig. 115: CUT AND REMOVE CLUTCH PORT PLUG

Courtesy of CHRYSLER LLC

9. If equipped with a manual transaxle and a new reservoir is being installed, using an appropriate cutting tool, cut the clutch actuator port at the center of the "V" groove (2) opening the hydraulic clutch port (1). Discard the severed plug (3).

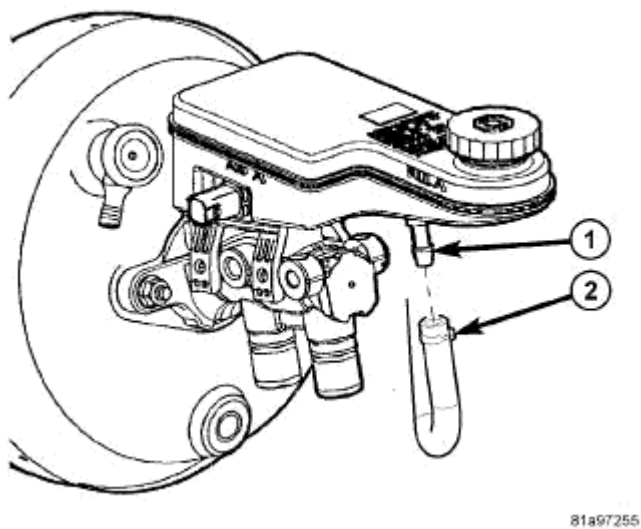


Fig. 116: CLUTCH ACTUATOR HOSE AT MASTER CYLINDER

Courtesy of CHRYSLER LLC

10. If equipped with a manual transaxle, slide the clutch actuator hose (2) onto the reservoir port (1). Install the hose clamp just past the upset bead on the port.
11. Install the engine appearance cover.

12. Connect the negative (ground) cable on the battery.
13. Fill the master cylinder reservoir to the proper level. See **Brakes/Hydraulic/Mechanical/FLUID - Standard Procedure**

WARNING: Be certain a firm brake pedal is achieved prior to attempting to operate the vehicle. If a firm brake pedal cannot be achieved, bleed the brake hydraulic system and check for leaks. See **Brakes - Standard Procedure**

14. Road test the vehicle to ensure proper operation of the brakes.

PADS, BRAKE, FRONT

Removal

REMOVAL

NOTE: Before proceeding. See **Brakes - Warning**. See **Brakes - Caution**.

1. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**

NOTE: Perform 2 through 5 on each side of the vehicle to complete pad set removal.

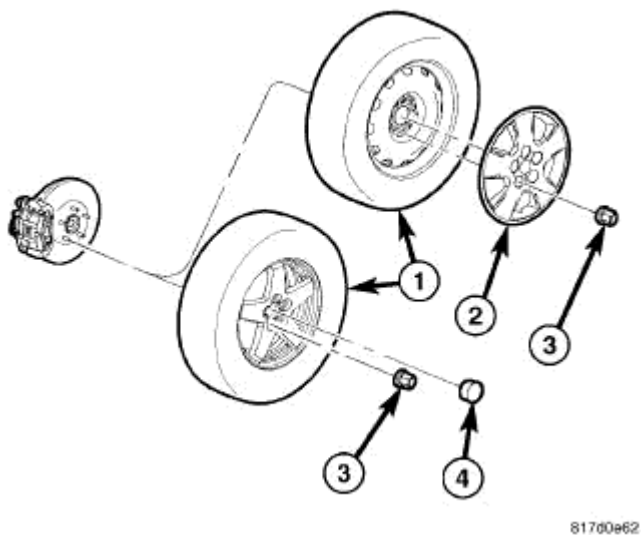


Fig. 117: TIRE AND WHEEL MOUNTING
Courtesy of CHRYSLER LLC

2. Remove the wheel mounting nuts (3), then the tire and wheel assembly (1).

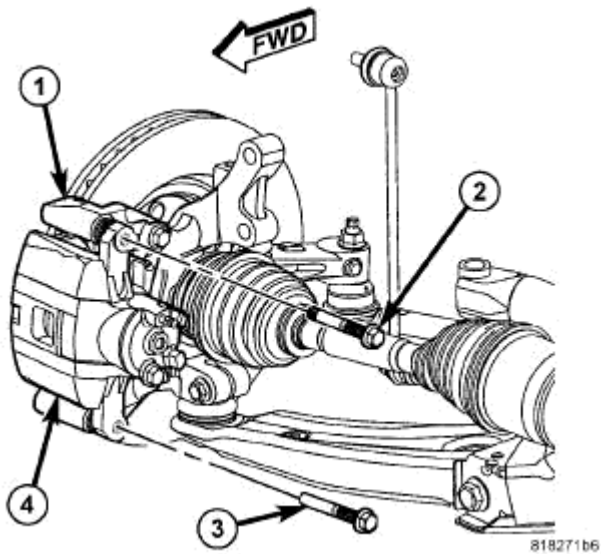


Fig. 118: CALIPER GUIDE PIN BOLTS

Courtesy of CHRYSLER LLC

CAUTION: When removing or installing a caliper guide pin bolt, it is necessary to hold the guide pin stationary while turning the bolt. Hold the guide pin stationary using a wrench placed upon the pin's hex-shaped head.

3. Remove the two brake caliper guide pin bolts (2, 3).
4. Remove the disc brake caliper (4) from the disc brake adapter bracket (1) and hang it out of the way using wire or a bungee cord. Use care not to overextend the brake hose when doing this.

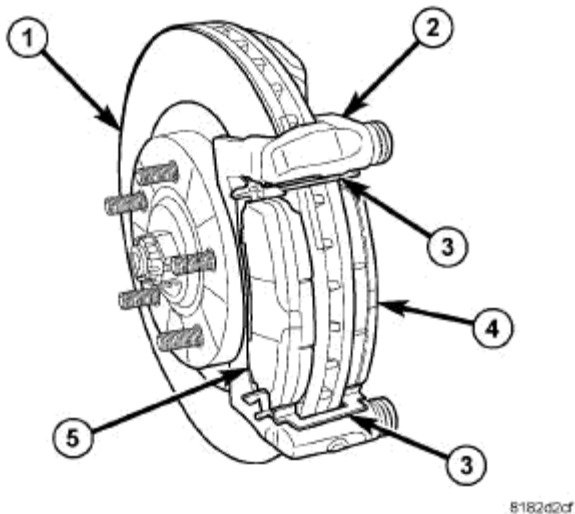


Fig. 119: FRONT BRAKE PADS

Courtesy of CHRYSLER LLC

5. Remove the brake pads (4, 5) from the caliper adapter bracket (2).

Cleaning**CLEANING**

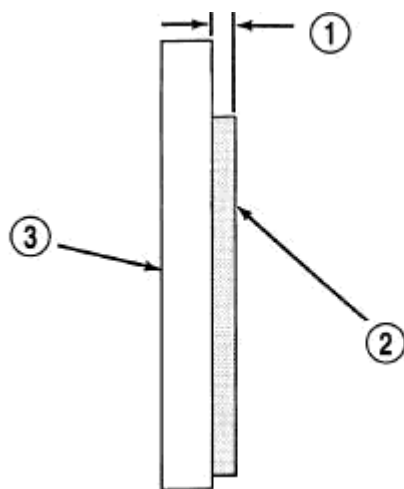
WARNING: Chrysler LLC does not manufacture any vehicles or replacement parts that contain asbestos. Aftermarket products may or may not contain asbestos. Refer to aftermarket product packaging for product information.

Whether the product contains asbestos or not, dust and dirt can accumulate on brake parts during normal use. Follow practices prescribed by appropriate regulations for the handling, processing and disposing of dust and debris.

Inspection**INSPECTION**

Visually inspect brake pads for uneven lining wear. Also inspect for excessive lining deterioration. Check the clearance between the tips of the wear indicators (if equipped) on the pads and the brake rotors.

If a visual inspection does not adequately determine the condition of the lining, a physical check will be necessary. To check the amount of lining wear, remove the disc brake pads from the vehicle.



9205-315

Fig. 120: Brake pad Friction Material Thickness Measurement

Courtesy of CHRYSLER LLC

1 - BRAKE SHOE ASSEMBLY FRICTION MATERIAL THICKNESS IS TO BE MEASURED AT THE THINNEST POINT.

2 - BRAKE Shoe ASSEMBLY FRICTION MATERIAL

3 - BRAKE SHOE ASSEMBLY BACKING PLATE

Measure brake pad minimum thickness (1). Brake pads must be replaced when usable material on a brake pad lining (2) measured at its **thinnest point** measures one millimeter (0.04 inches) or less.

If a brake pad fails inspection, replace **both** disc brake pads (inboard and outboard) at each caliper. It is also necessary to replace the pads on the opposite side of the vehicle as well as the pads failing inspection to maintain proper braking characteristics.

If the brake pad assemblies do not require replacement, be sure to reinstall the brake pads in the original position they were removed from.

NOTE: It is important to inspect both front and rear brake pads during the same inspection.

Installation

INSTALLATION

NOTE: Perform 1 through 5 on each side of the vehicle to complete pad set installation, then proceed to 6.

NOTE: Make sure that the audible wear indicator (if equipped) is placed toward the top when the inboard brake pad is installed on each side of the vehicle.

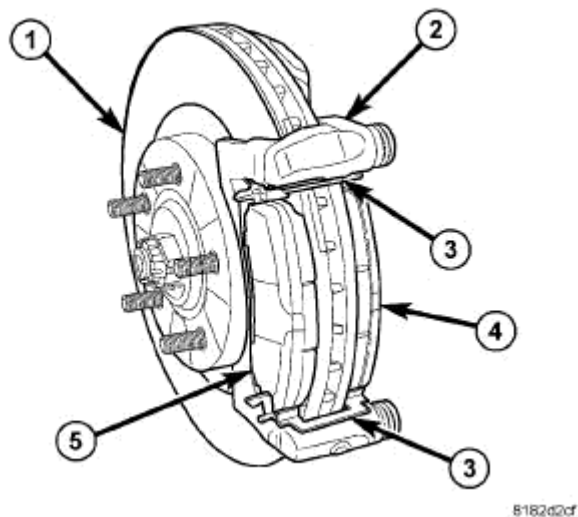


Fig. 121: FRONT BRAKE PADS

Courtesy of CHRYSLER LLC

NOTE: If the brake pads have a protective paper on the rear face of the brake pad plate,

it must be removed before pad installation.

1. Place the brake pads (4, 5) in the abutment shims (3) clipped into the disc brake caliper adapter bracket (2) as shown. Place the pad with the wear indicator (if equipped) attached on the inboard side (2).
2. Completely retract the caliper piston back into the bore of the caliper.

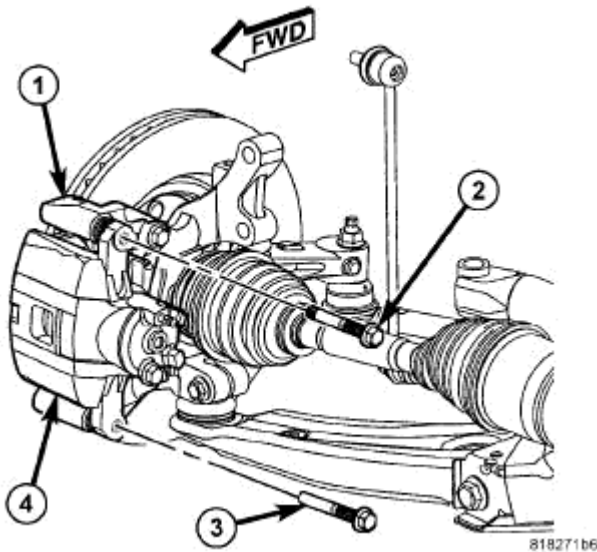


Fig. 122: CALIPER GUIDE PIN BOLTS

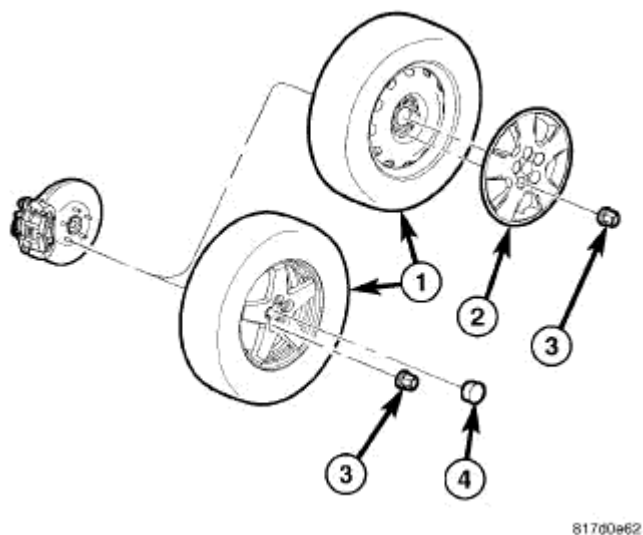
Courtesy of CHRYSLER LLC

CAUTION: Use care when installing the caliper (4) onto the adapter bracket (1) to avoid damaging the boots.

3. Install the disc brake caliper over the brake pads on the brake caliper adapter bracket.

CAUTION: When removing or installing a caliper guide pin bolt, it is necessary to hold the guide pin stationary while turning the bolt. Hold the guide pin stationary using a wrench placed upon the pin's hex-shaped head.

4. Align the caliper guide pin bolt holes with the adapter bracket. Install the upper (2) and lower (3) caliper guide pin bolts. Tighten the guide pin bolts to 35 N.m (26 ft. lbs.).

**Fig. 123: TIRE AND WHEEL MOUNTING**

Courtesy of CHRYSLER LLC

5. Install tire and wheel assembly (1). Refer to **Tires and Wheels - Installation** . Install and tighten wheel mounting nuts (3) to 135 N.m (100 ft. lbs.).
6. Lower the vehicle.
7. Pump the brake pedal several times before moving the vehicle to set the pads to the brake rotor.
8. Check and adjust the brake fluid level in the reservoir as necessary.
9. Road test the vehicle and make several stops to wear off any foreign material on the brakes and to seat the brake pads.

PADS, BRAKE, REAR

Removal

REMOVAL

NOTE: Before proceeding. See **Brakes - Warning**. See **Brakes - Caution**.

1. Raise and support vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**

NOTE: Perform 2 through 5 on each side of vehicle to complete pad set removal.

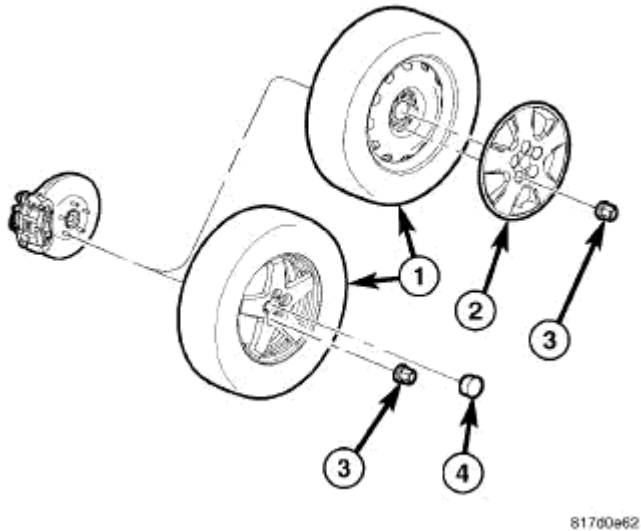


Fig. 124: TIRE AND WHEEL MOUNTING
Courtesy of CHRYSLER LLC

2. Remove wheel mounting nuts (3), then tire and wheel assembly (1).

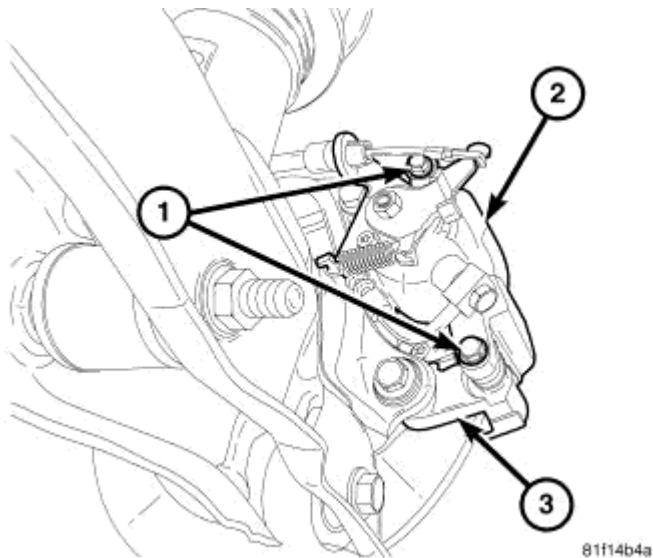


Fig. 125: REAR CALIPER MOUNTING
Courtesy of CHRYSLER LLC

CAUTION: When removing or installing a caliper guide pin bolt, it is necessary to hold the guide pin stationary while turning the bolt. Hold the guide pin stationary using a wrench placed upon the pin's hex-shaped head.

3. Remove two caliper guide pin bolts (1).

4. Remove the disc brake caliper (2) from the disc brake adapter bracket (3) and hang it out of the way using wire or a bungee cord. Use care not to overextend the brake hose or parking brake cable when doing this.

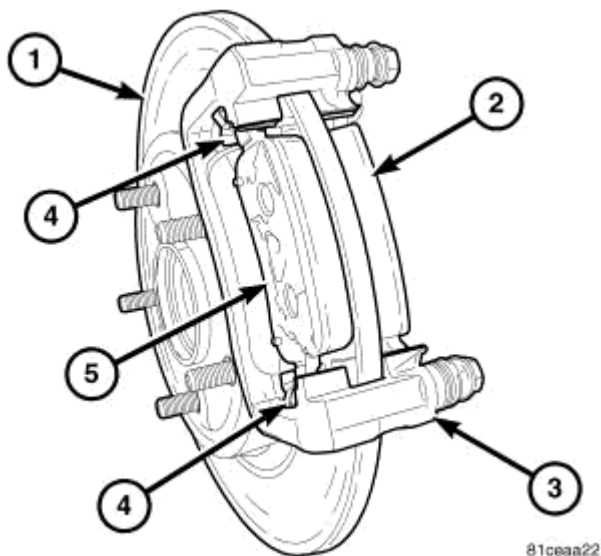


Fig. 126: REAR BRAKE PADS

Courtesy of CHRYSLER LLC

5. Remove the brake pads (2, 5) from the caliper adapter bracket (3).

Cleaning

CLEANING

WARNING: Chrysler LLC does not manufacture any vehicles or replacement parts that contain asbestos. Aftermarket products may or may not contain asbestos. Refer to aftermarket product packaging for product information.

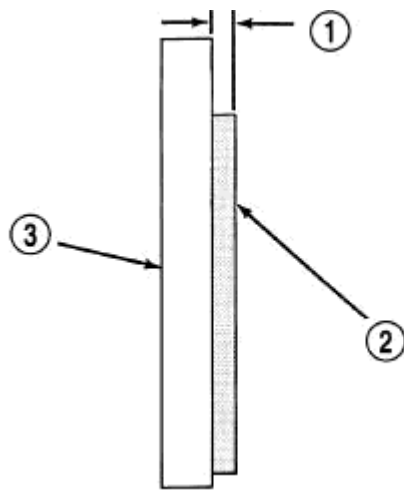
Whether the product contains asbestos or not, dust and dirt can accumulate on brake parts during normal use. Follow practices prescribed by appropriate regulations for the handling, processing and disposing of dust and debris.

Inspection

INSPECTION

Visually inspect brake pads for uneven lining wear. Also inspect for excessive lining deterioration. Check the clearance between the tips of the wear indicators (if equipped) on the pads and the brake rotors.

If a visual inspection does not adequately determine the condition of the lining, a physical check will be necessary. To check the amount of lining wear, remove the disc brake pads from the vehicle.



9205-315

Fig. 127: Brake pad Friction Material Thickness Measurement
Courtesy of CHRYSLER LLC

1 - BRAKE SHOE ASSEMBLY FRICTION MATERIAL THICKNESS IS TO BE MEASURED AT THE THINNEST POINT.

2 - BRAKE Shoe ASSEMBLY FRICTION MATERIAL

3 - BRAKE SHOE ASSEMBLY BACKING PLATE

Measure brake pad minimum thickness (1). Brake pads must be replaced when usable material on a brake pad lining (2) measured at its **thinnest point** measures one millimeter (0.04 inches) or less.

If a brake pad fails inspection, replace **both** disc brake pads (inboard and outboard) at each caliper. It is also necessary to replace the pads on the opposite side of the vehicle as well as the pads failing inspection to maintain proper braking characteristics.

If the brake pad assemblies do not require replacement, be sure to reinstall the brake pads in the original position they were removed from.

NOTE: It is important to inspect both front and rear brake pads during the same inspection.

Installation

INSTALLATION

NOTE: Perform 1 through 6 on each side of vehicle to complete pad set installation, then proceed to [7](#).

CAUTION: Anytime the brake rotor or brake pads are being replaced, the rear caliper piston must be seated (bottomed) to compensate for the new brake rotor or lining. Because the parking brake self-adjuster mechanism is attached to the piston, a special seating method is required. The only acceptable

method is by rotating the piston back into the bore using Retractor, Special Tool 8807, as described below. Any other seating method will damage the self-adjuster mechanism.

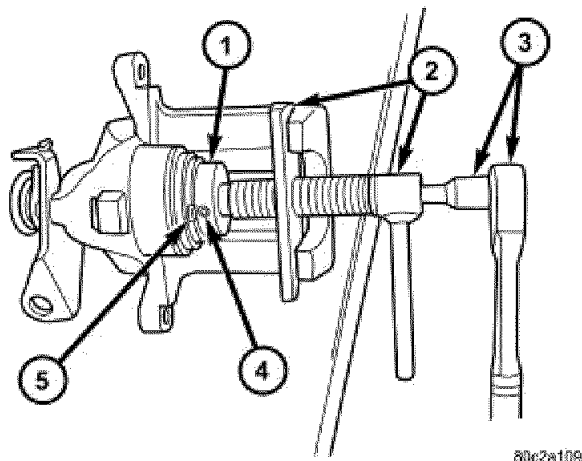
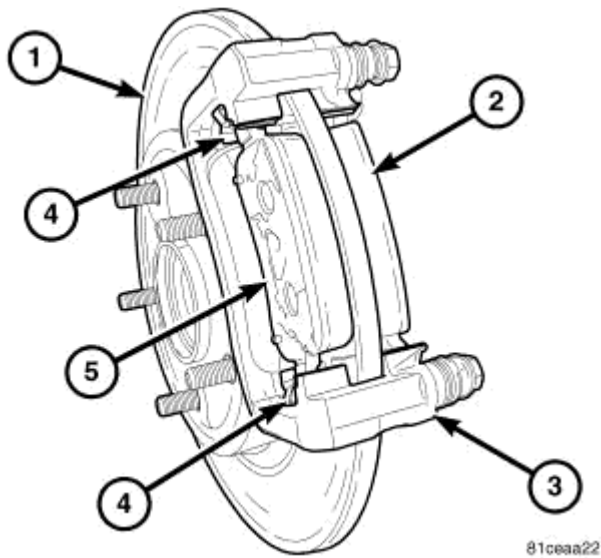


Fig. 128: SEATING PISTON WITH SPECIAL TOOL
Courtesy of CHRYSLER LLC

1. If necessary, seat (bottom) the caliper piston in the bore as follows:
 - a. Assemble a 3/8 in. drive ratchet handle and an extension (3).
 - b. Insert the extension through Special Tool 8807-1 (2).
 - c. Place Special Tool 8807-2 (1) on the end of the extension.
 - d. Insert lugs on Special Tool 8807-2 into notches in face of caliper piston (5).
 - e. Thread the screw drive on 8807-1 down until it contacts the top of 8807-2 which is against the caliper piston. **Do not over tighten the screw-drive. Damage to the piston can occur.**
 - f. Turn 8807-2 with the ratchet, rotating the piston in a **clockwise** direction until fully seated (bottomed) in the bore. **It may be necessary to turn 8807-1 with 8807-2 to start the process of piston retraction.**

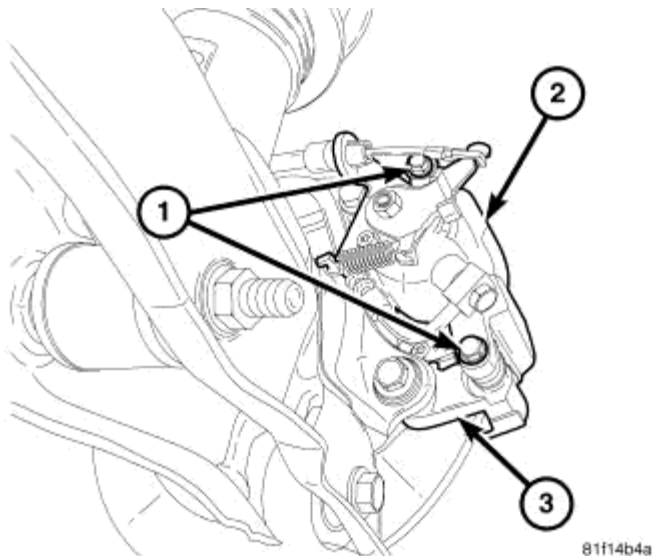
**Fig. 129: REAR BRAKE PADS**

Courtesy of CHRYSLER LLC

2. Make sure abutment shims (4) are in place on both upper and lower slide abutments of caliper adapter (3).

NOTE: If the brake pads have a protective paper on the rear face of the brake pad plate, it must be removed before pad installation.

3. Place the brake pads (2, 5) in the abutment shims (3) clipped into the disc brake caliper adapter bracket (3) as shown.

**Fig. 130: REAR CALIPER MOUNTING**

Courtesy of CHRYSLER LLC

CAUTION: Use care when installing the caliper (2) onto the adapter bracket to

avoid damaging the guide pin boots.

4. Install the disc brake caliper (2) over the brake pads on the brake caliper adapter bracket (3).

CAUTION: When removing or installing a caliper guide pin bolt, it is necessary to hold the guide pin stationary while turning the bolt. Hold the guide pin stationary using a wrench placed upon the pin's hex-shaped head.

5. Align the caliper guide pin bolt holes with the adapter bracket. Install the upper and lower caliper guide pin bolts (1). Tighten the guide pin bolts to 35 N.m (26 ft. lbs.).

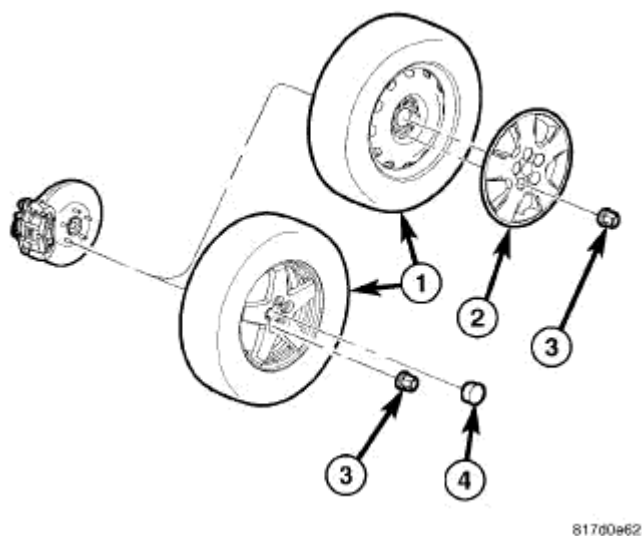


Fig. 131: TIRE AND WHEEL MOUNTING
Courtesy of CHRYSLER LLC

6. Install tire and wheel assembly (1). Refer to **Tires and Wheels - Installation** . Install and tighten wheel mounting nuts (3) to 135 N.m (100 ft. lbs.).
7. Lower vehicle.
8. Pump brake pedal several times to ensure vehicle has a firm brake pedal before moving vehicle.
9. Check and adjust brake fluid level as necessary.
10. Road test vehicle and make several stops to wear off any foreign material on brakes and to seat brake pads.

PEDAL(S), BRAKE AND/OR ACCELERATOR

Removal

LEFT-HAND-DRIVE

NOTE: Before proceeding. See Brakes - Warning. See Brakes - Caution.

1. Disconnect and isolate the battery negative cable from its post on the battery.
2. If equipped, remove the silencer pad below the steering column opening cover.

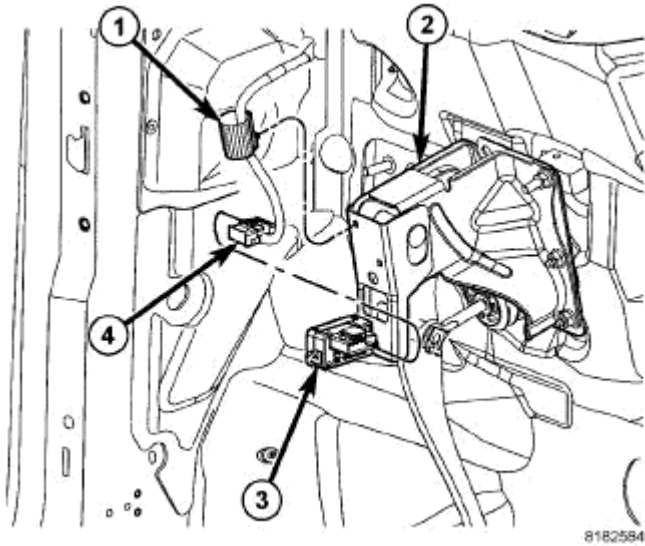


Fig. 132: STOP LAMP SWITCH WIRING CONNECTOR
Courtesy of CHRYSLER LLC

3. Disconnect the wiring connector (4) at the stop lamp switch (3).
4. Remove the stop lamp switch wiring routing clip (1) from the brake pedal bracket (2).

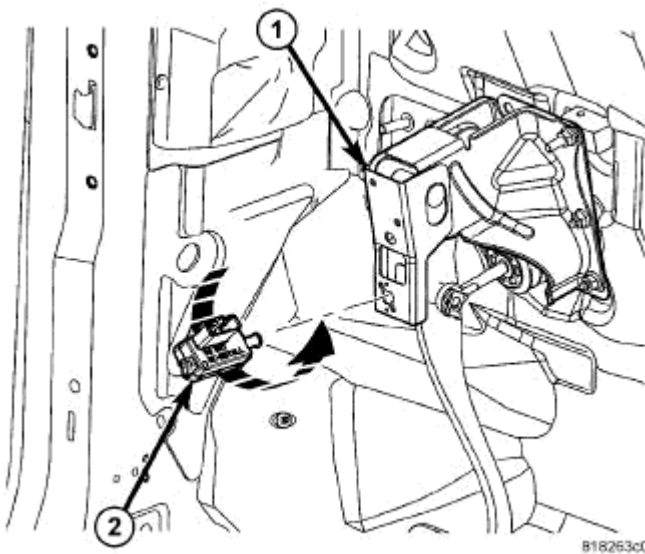


Fig. 133: STOP LAMP SWITCH REMOVAL

Courtesy of CHRYSLER LLC

5. Remove the stop lamp switch (2). **Do not reuse the stop lamp switch on vehicles built prior to July 21, 2008.** . Refer to **Electrical - Lamps and Lighting/Lamps/Lighting - Exterior/SWITCH, Stop Lamp - Removal**

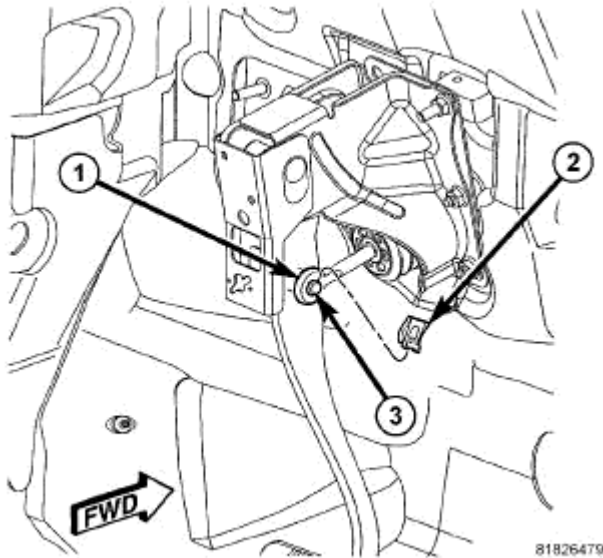


Fig. 134: BRAKE PEDAL CLIP
Courtesy of CHRYSLER LLC

6. Remove the retaining clip (2) securing the power brake booster push rod (1) to the brake pedal. To do so, position a small screwdriver under the center tang of the retaining clip, then rotate the screwdriver enough to allow the retaining clip tang to pass over the end of the brake pedal pin (3). Remove and discard the clip. **Do not reuse the clip.**
7. Slide the booster push rod (1) off the brake pedal pin (3).

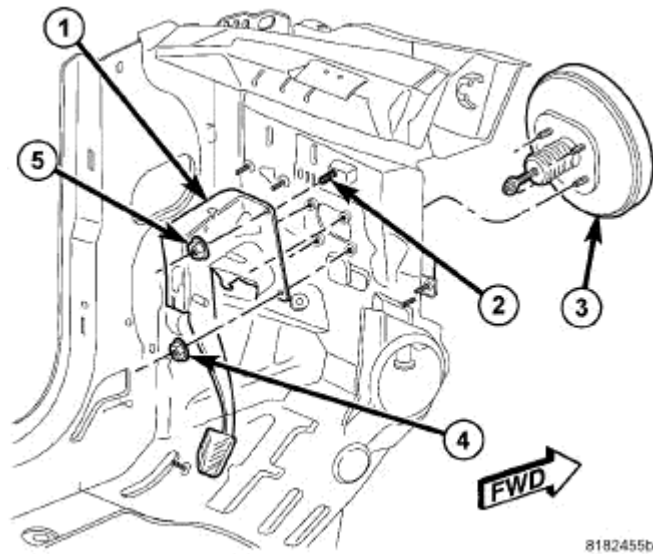


Fig. 135: PEDAL AND BOOSTER MOUNTING - LHD
 Courtesy of CHRYSLER LLC

8. Remove the four nuts (4) attaching the brake pedal (1) (and power brake booster) to the dash panel.
9. Remove the remaining nut (5) attaching the brake pedal (1) to the dash panel.
10. Remove the brake pedal (1).

RIGHT-HAND-DRIVE

NOTE: Before proceeding. See Brakes - Warning. See Brakes - Caution.

1. Disconnect and isolate the battery negative cable from its post on the battery.
2. If equipped, remove the silencer pad below the steering column opening cover.

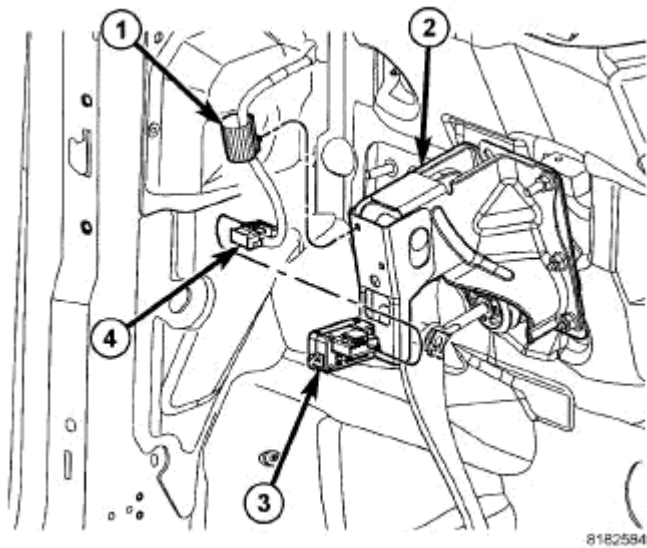


Fig. 136: STOP LAMP SWITCH WIRING CONNECTOR
Courtesy of CHRYSLER LLC

3. Disconnect the wiring connector (4) at the stop lamp switch (3).
4. Remove the stop lamp switch wiring routing clip (1) from the brake pedal bracket (2).

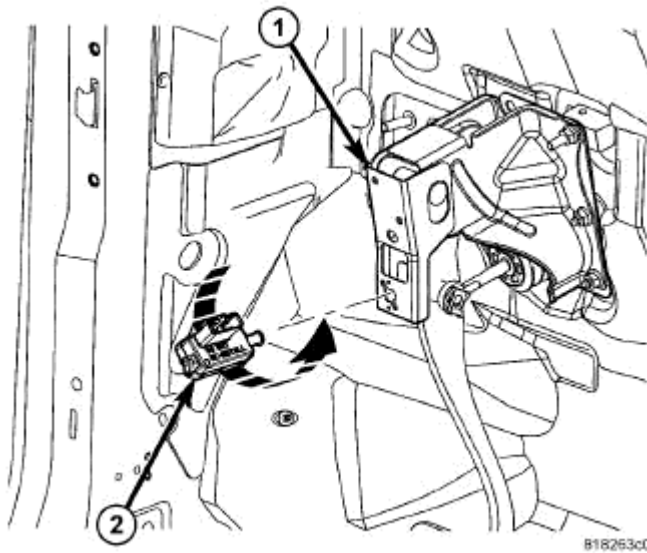


Fig. 137: STOP LAMP SWITCH REMOVAL
Courtesy of CHRYSLER LLC

5. Remove the stop lamp switch (2). **Do not reuse the stop lamp switch on vehicles built prior to July 21, 2008.** . Refer to **Electrical - Lamps and Lighting/Lamps/Lighting - Exterior/SWITCH, Stop Lamp - Removal**

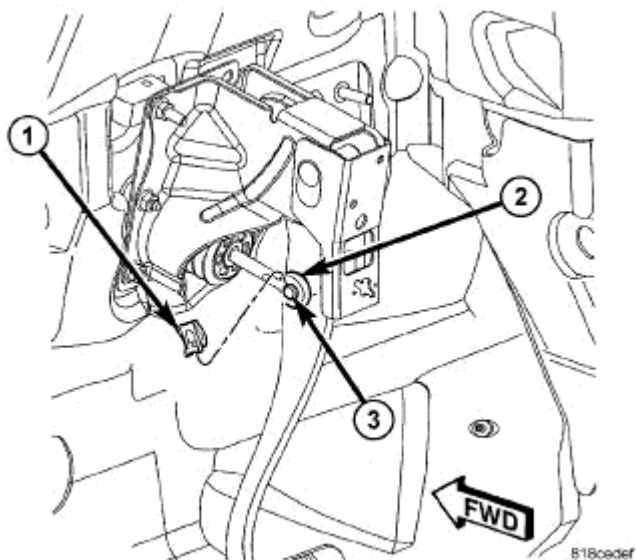


Fig. 138: BRAKE PEDAL CLIP - RHD

Courtesy of CHRYSLER LLC

6. Remove the retaining clip (1) securing the power brake booster push rod (2) to the brake pedal. To do so, position a small screwdriver under the center tang of the retaining clip, then rotate the screwdriver enough to allow the retaining clip tang to pass over the end of the brake pedal pin (3). Remove and discard the clip. **Do not reuse the clip.**
7. Slide the booster push rod (2) off the brake pedal pin (3).

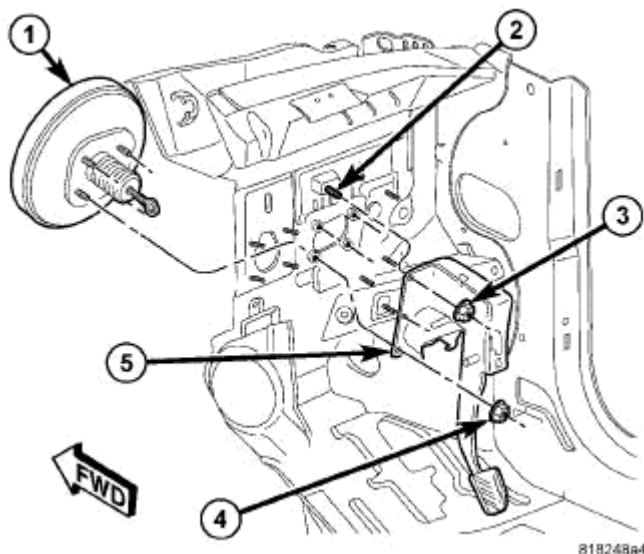


Fig. 139: PEDAL AND BOOSTER MOUNTING - RHD

Courtesy of CHRYSLER LLC

8. Remove the four nuts (4) attaching the brake pedal (5) (and power brake booster) to the dash panel.

9. Remove the remaining nut (3) attaching the brake pedal (5) to the dash panel.
10. Remove the brake pedal (5).

Installation

LEFT-HAND-DRIVE

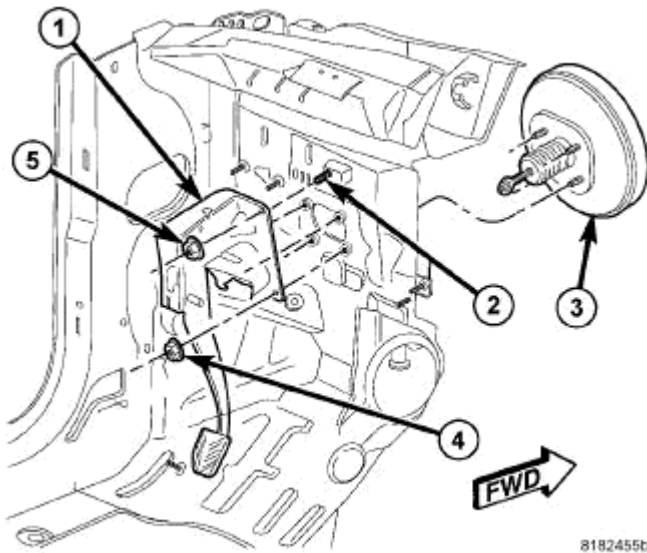


Fig. 140: PEDAL AND BOOSTER MOUNTING - LHD

Courtesy of CHRYSLER LLC

1. Carefully install the brake pedal and bracket assembly (1) in the vehicle lining up the bracket with the power brake booster mounting studs and the stud (2) on the dash panel.
2. Install the four nuts (4) attaching the brake pedal (1) (and power brake booster) to the dash panel. **Do not tighten the nuts at this time.**
3. Install the remaining nut (5) attaching the brake pedal (1) to the dash panel. To tighten this nut (and the other four from the preceding step), refer to the following step.

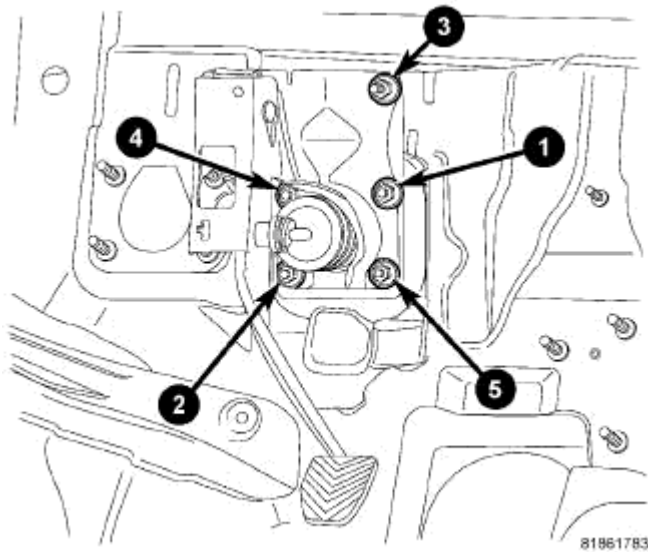


Fig. 141: MOUNTING NUT TORQUE SEQUENCE
Courtesy of CHRYSLER LLC

CAUTION: Because of power brake booster design, it is very important to tighten the mounting nuts in the proper sequence.

4. Tighten the brake pedal/booster mounting nuts in the proper sequence to 23 N.m (17 ft. lbs.).

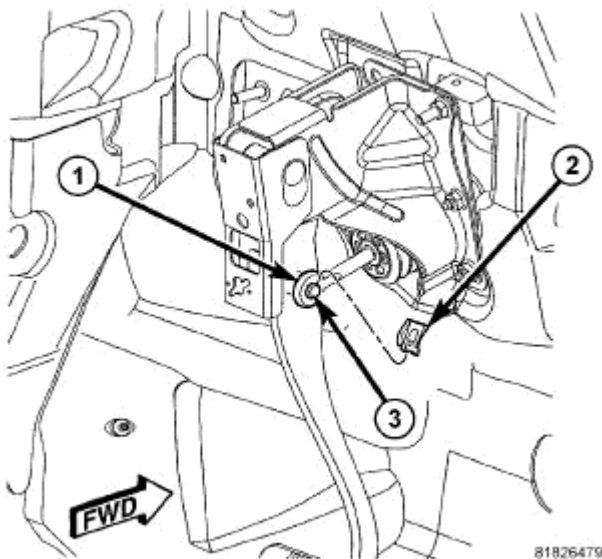


Fig. 142: BRAKE PEDAL CLIP
Courtesy of CHRYSLER LLC

5. Using Mopar® Lubriplate, or an equivalent, coat the surface of the brake pedal pin (3) where it contacts the brake booster push rod (1).

6. Install the power brake booster push rod (1) on the pin (3) mounted on the side of the brake pedal. Install a NEW retaining clip (2) on the end of the pin. **Do not reuse the old clip.**

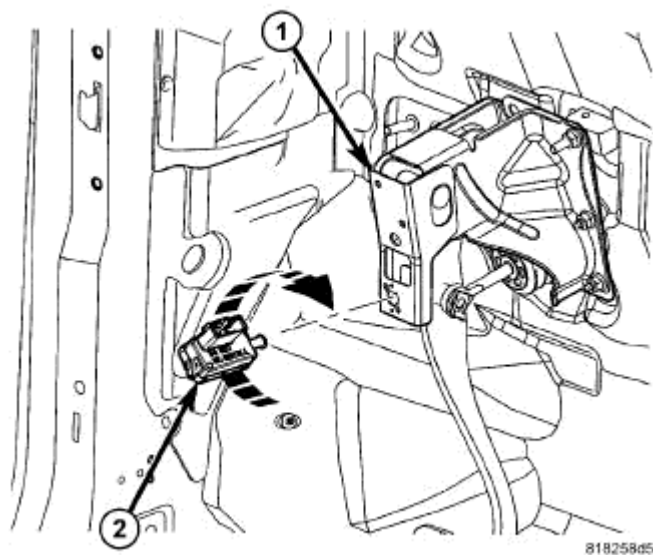


Fig. 143: STOP LAMP SWITCH AND PEDAL CLIP

Courtesy of CHRYSLER LLC

CAUTION: Do not reuse the original stop lamp switch on vehicles built prior to July 21, 2008. Anytime a switch has been removed or its position compromised, a new switch must be installed and adjusted. Do not attempt to readjust the switch. The original brake lamp switch can be reused and adjusted on vehicles built on or after July 21, 2008.

7. Install and adjust a NEW stop lamp switch (2) in the brake pedal bracket (1) on vehicle built prior to July 21, 2008. The original brake lamp switch can be reused on vehicles built on or after July 21, 2008. Refer to **Electrical - Lamps and Lighting/Lamps/Lighting - Exterior/SWITCH, Stop Lamp - Installation**

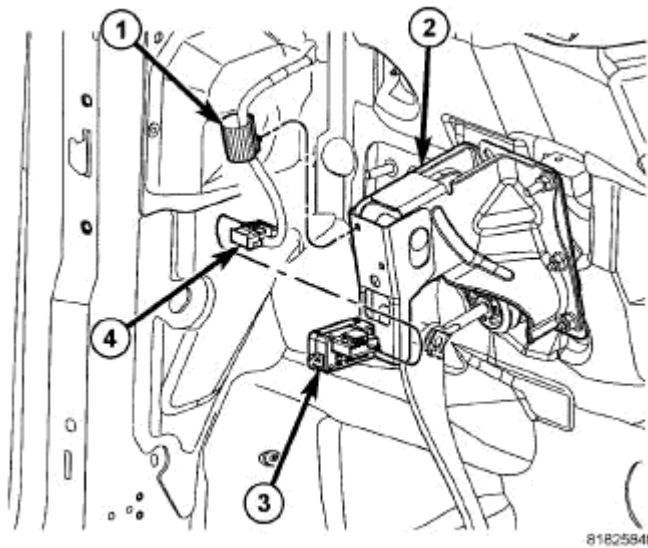


Fig. 144: STOP LAMP SWITCH WIRING CONNECTOR

Courtesy of CHRYSLER LLC

8. If not already performed, connect the wiring connector (4) at the stop lamp switch (3).
9. Attach the stop lamp switch wiring routing clip (1) at the brake pedal bracket (2).
10. If equipped, install the silencer pad below the instrument panel.
11. Connect the battery negative cable to its post on the battery.
12. Check the stop lamps to verify they are operating properly and not staying on when the pedal is in the released position.
13. Road test the vehicle to ensure proper operation of the brakes.

RIGHT-HAND-DRIVE

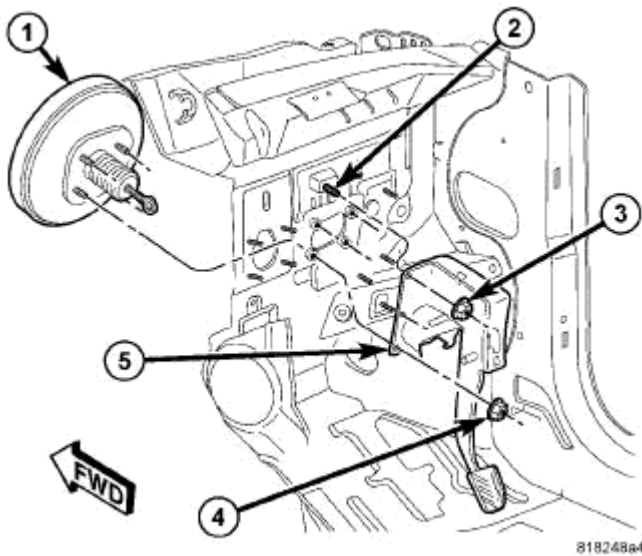


Fig. 145: PEDAL AND BOOSTER MOUNTING - RHD
Courtesy of CHRYSLER LLC

1. Carefully install the brake pedal and bracket assembly (5) in the vehicle lining up the bracket with the power brake booster mounting studs and the stud (2) on the dash panel.
2. Install the four nuts (4) attaching the brake pedal (5) (and power brake booster) to the dash panel. **Do not tighten the nuts at this time.**
3. Install the remaining nut (3) attaching the brake pedal (5) to the dash panel. To tighten these nuts, refer to the following step.

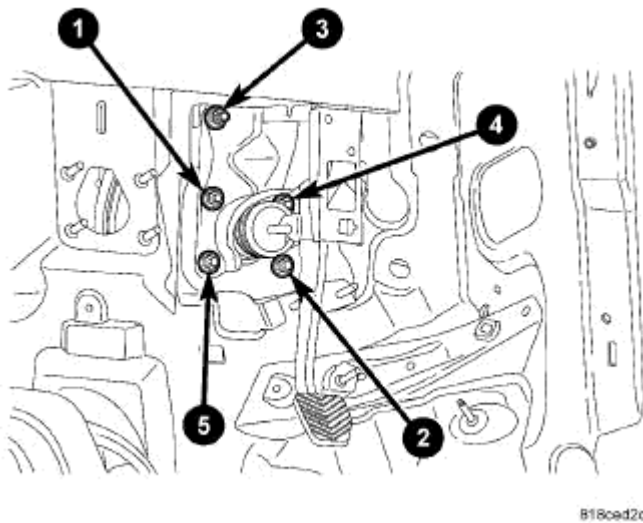


Fig. 146: MOUNTING NUT TORQUE SEQUENCE - RHD
Courtesy of CHRYSLER LLC

CAUTION: Because of power brake booster design, it is very important to tighten the mounting nuts in the proper sequence.

4. Tighten the brake pedal/booster mounting nuts in the proper sequence to 23 N.m (17 ft. lbs.).

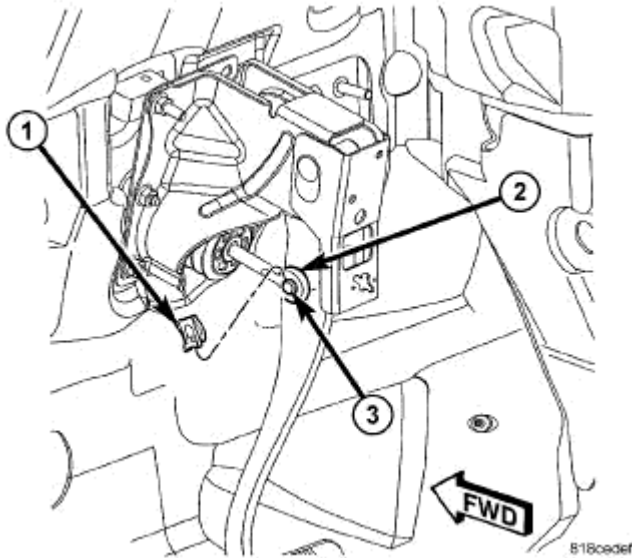


Fig. 147: BRAKE PEDAL CLIP - RHD
Courtesy of CHRYSLER LLC

5. Using Mopar® Lubriplate, or an equivalent, coat the surface of the brake pedal pin (3) where it contacts the brake booster push rod.
6. Install the power brake booster push rod (2) on the pin (3) mounted on the side of the brake pedal. Install a NEW retaining clip (1) on the end of the pin. **Do not reuse the old clip.**

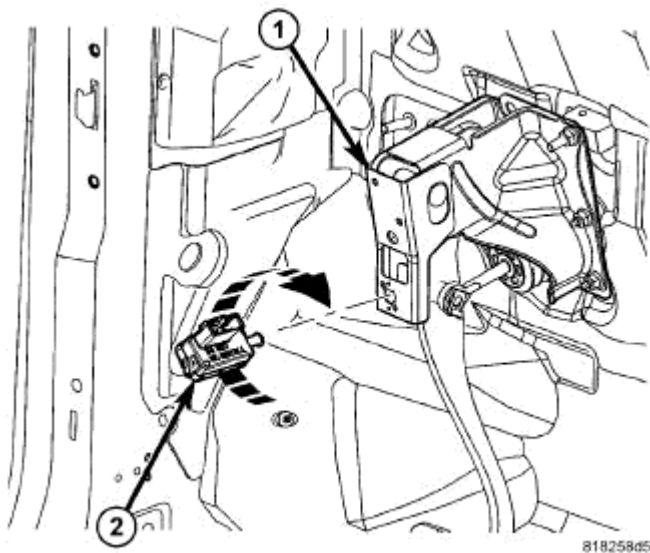
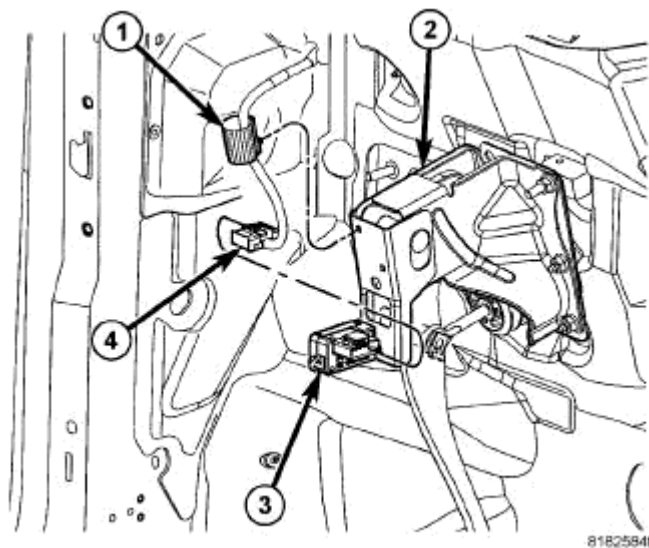


Fig. 148: STOP LAMP SWITCH AND PEDAL CLIP

Courtesy of CHRYSLER LLC

CAUTION: Do not reuse the original stop lamp switch on vehicles built prior to July 21, 2008. Anytime a switch has been removed or its position compromised, a new switch must be installed and adjusted. Do not attempt to readjust the switch. The original brake lamp switch can be reused and adjusted on vehicles built on or after July 21, 2008.

7. Install and adjust a NEW stop lamp switch (2) in the brake pedal bracket (1) on vehicle built prior to July 21, 2008. The original brake lamp switch can be reused on vehicles built on or after July 21, 2008. Refer to **Electrical - Lamps and Lighting/Lamps/Lighting - Exterior/SWITCH, Stop Lamp - Installation**

**Fig. 149: STOP LAMP SWITCH WIRING CONNECTOR**

Courtesy of CHRYSLER LLC

8. If not already performed, connect the wiring connector (4) at the stop lamp switch (3).
9. Attach the stop lamp switch wiring routing clip (1) at the brake pedal bracket (2).
10. If equipped, install the silencer pad below the instrument panel.
11. Connect the battery negative cable to its post on the battery.
12. Check the stop lamps to verify they are operating properly and not staying on when the pedal is in the released position.
13. Road test the vehicle to ensure proper operation of the brakes.

RESERVOIR, BRAKE MASTER CYLINDER

Removal

REMOVAL

CAUTION: If at any time the master cylinder is loosened or removed, you must perform the master cylinder installation procedure to ensure that the seal (o-ring) is still on the hub of the master cylinder. See Brakes/Hydraulic/Mechanical/MASTER CYLINDER, Brake - Installation.

NOTE: The brake fluid level switch is mounted through the center of the fluid reservoir. The switch can be serviced separately from the master cylinder fluid reservoir. See Brakes/Electrical/SWITCH, Brake Fluid Level - Removal

NOTE: Before proceeding. See Brakes - Warning. See Brakes - Caution.

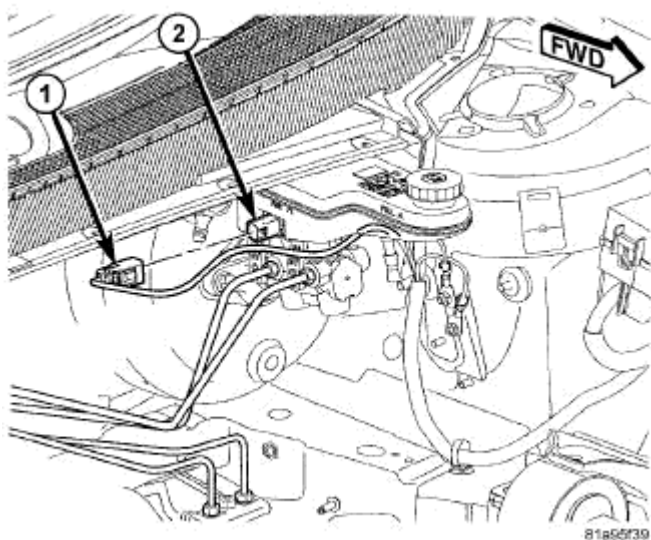
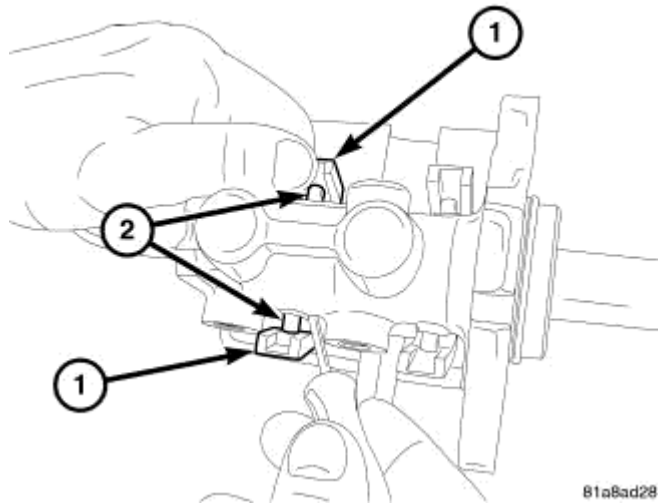


Fig. 150: BRAKE FLUID LEVEL SWITCH CONNECTOR

Courtesy of CHRYSLER LLC

1. Remove the outer and inner cowl covers. Refer to Body/Exterior/COVER, Cowl Panel - Removal
2. Remove the front wiper motor module. Refer to Electrical - Wipers/Washers/Wipers/Washers/LINKAGE, Wiper Arm - Removal
3. Clean the master cylinder housing and brake fluid reservoir. Use only Mopar® Brake Parts Cleaner or equivalent.
4. Remove the wiring harness connector (1) from the brake fluid level switch (2) in the master cylinder brake fluid reservoir.
5. Remove the brake fluid reservoir cap. Using a syringe or equivalent type tool, empty as much brake fluid as possible from the reservoir.



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Fig. 151: REMOVING RESERVOIR FROM MASTER CYLINDER PINS

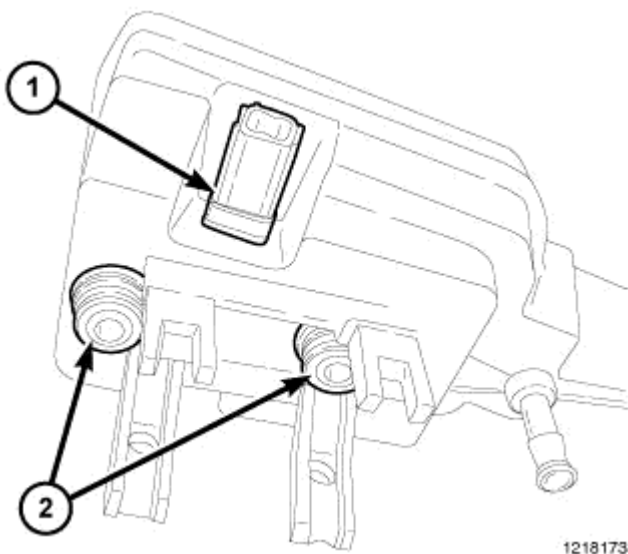
Courtesy of CHRYSLER LLC

6. Remove the four reservoir retaining tabs from the mounting posts on the master cylinder housing.
7. Pull the reservoir straight up and remove it from the grommet seals in master cylinder housing.

Installation

INSTALLATION

NOTE: The brake fluid level switch is mounted through the center of the fluid reservoir. The switch can be serviced separately from the master cylinder fluid reservoir. See Brakes/Electrical/SWITCH, Brake Fluid Level - Installation



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Fig. 152: Grommet Seals

Courtesy of CHRYSLER LLC

1. Lubricate the reservoir mounting area with fresh clean brake fluid. With the grommet seals (2) on the fluid reservoir spigots, place the reservoir in position over the master cylinder. Install the fluid reservoir by firmly pressing down on the fluid reservoir. Once installed, make sure the fluid reservoir is touching the top of both grommet seals.
2. Push the reservoir retaining tabs over the mounting posts on the master cylinder housing. Make sure the retaining tabs are securely engaged.
3. Fill the brake fluid reservoir with fresh Mopar® Brake Fluid DOT 3 Motor Vehicle, or equivalent. See **Brakes/Hydraulic/Mechanical/FLUID - Specifications**
4. Install the front wiper motor module. Refer to **Electrical - Wipers/Washers/Wipers/Washers/LINKAGE, Wiper Arm - Installation**
5. Install the inner and outer cowl covers. Refer to **Body/Exterior/COVER, Cowl Panel - Installation**

ROTOR, BRAKE

Diagnosis and Testing

BRAKE ROTOR

Any servicing of the rotor requires extreme care to maintain the rotor within service tolerances to ensure proper brake action.

Excessive runout or wobble in a rotor can increase pedal travel due to piston knock-back. This increases guide pin sleeve wear due to the tendency of the caliper to follow the rotor wobble.

When diagnosing a brake noise or pulsation, the machined disc braking surface should be inspected.

BRAKING SURFACE INSPECTION

Light braking surface scoring and wear is acceptable. If heavy scoring or warping is evident, the rotor must be refaced or replaced. See **Brakes/Hydraulic/Mechanical/ROTOR, Brake - Standard Procedure**.

Excessive wear and scoring of the rotor can cause improper lining contact on the rotor's braking surface. If the ridges on the rotor are not removed before new brake shoes are installed, improper wear of the shoes will result.

If a vehicle has not been driven for a period of time, the rotor's braking surface will rust in the areas not covered by the brake shoes at that time. Once the vehicle is driven, noise and chatter from the disc brakes can result when the brakes are applied.

Some discoloration or wear of the rotor surface is normal and does not require resurfacing when linings are replaced. If cracks or burned spots are evident, the rotor must be replaced.

ROTOR MINIMUM THICKNESS

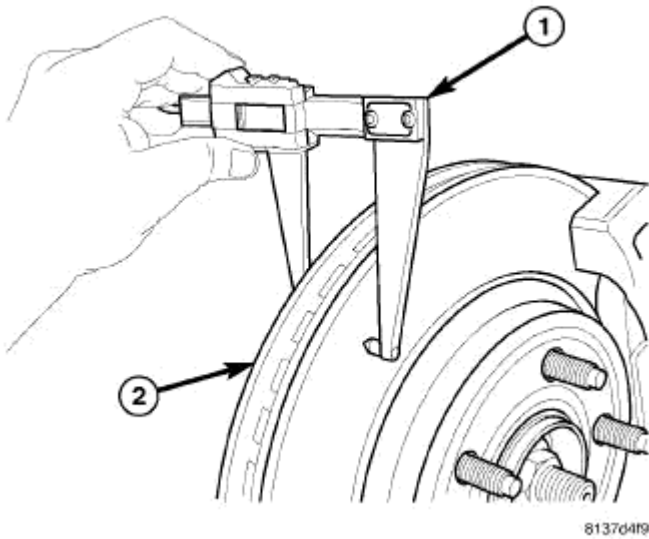


Fig. 153: MEASURING ROTOR THICKNESS
Courtesy of CHRYSLER LLC

Measure rotor thickness (1) at the center of the brake pad contact surface. Replace the rotor if it is worn below minimum thickness or if machining the rotor will cause its thickness to fall below specifications.

CAUTION: Do not machine the rotor if it will cause the rotor to fall below minimum thickness.

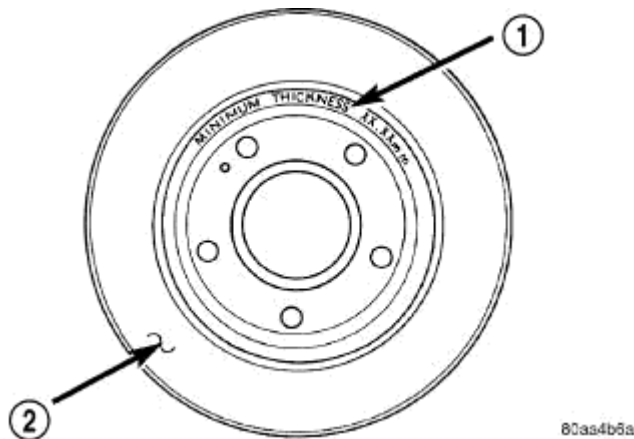


Fig. 154: Minimum
Courtesy of CHRYSLER LLC

1 - ROTOR MINIMUM THICKNESS MARKING
2 - ROTOR

Minimum thickness specifications are cast on the rotor's unmachined surface (1). Limits can also be found in **Brakes/Hydraulic/Mechanical/ROTOR, Brake - Specifications**

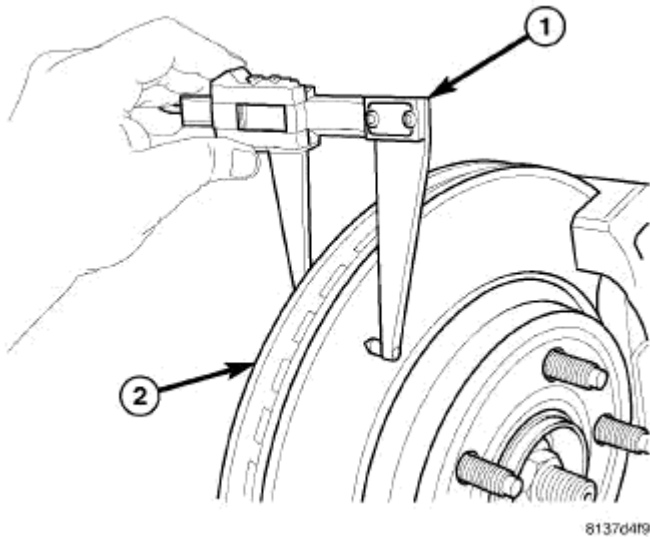
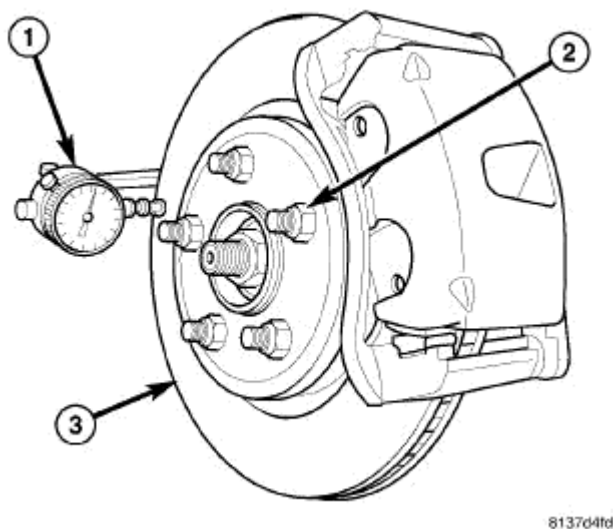
ROTOR THICKNESS VARIATION

Fig. 155: MEASURING ROTOR THICKNESS
Courtesy of CHRYSLER LLC

Thickness variation in a rotor's braking surface can result in pedal pulsation, chatter and surge. This can also be caused by excessive runout in the rotor or the hub.

Rotor thickness variation measurements should be made in conjunction with measuring runout. Measure thickness of the brake rotor (2) at 12 equal points around the rotor braking surface with a micrometer (1) at a radius approximately 25 mm (1 inch) from edge of rotor. If thickness measurements vary beyond the specification listed in the specification table. See **Brakes/Hydraulic/Mechanical/ROTOR, Brake - Specifications**, the rotor should be refaced or replaced. See **Brakes/Hydraulic/Mechanical/ROTOR, Brake - Standard Procedure**.

ROTOR RUNOUT

**Fig. 156: MEASURING ROTOR RUNOUT**

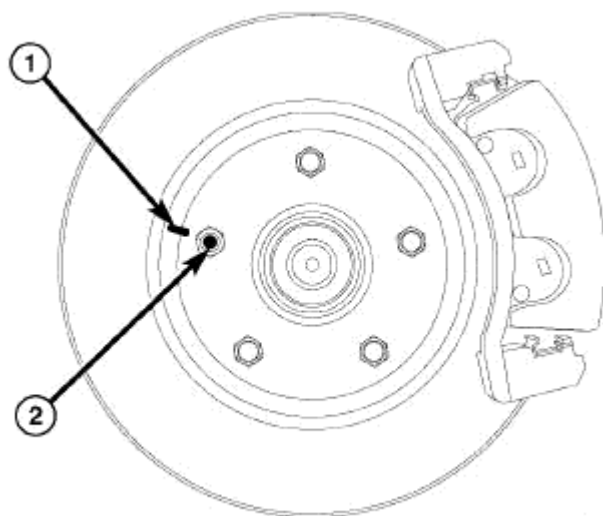
Courtesy of CHRYSLER LLC

On-vehicle rotor runout is the combination of the individual runout of the hub face and the runout of the brake rotor (hub runout can be measured separately). To measure rotor runout on the vehicle:

1. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**
2. Remove the tire and wheel assembly. Refer to **Tires and Wheels - Removal**
3. Install standard wheel mounting nuts, flat side to rotor, on all the wheel studs (2). Progressively tighten the nuts in a crisscross (star) pattern to 135 N.m (100 ft. lbs.).

NOTE: Dial Indicator, Special Tool 9524, can be used in conjunction with C-3339A to measure in millimeters instead of inches. Dial indicator 9524 includes a finer scale to measure lower, tighter tolerances.

4. Mount Dial Indicator (1), Special Tool C-3339A, with Wheel, Special Tool 25w, or equivalent, to the knuckle. Position the dial indicator wheel to contact the rotor braking surface approximately 10 millimeters from the outer edge of the rotor (3).
5. Slowly rotate the brake rotor checking lateral runout, marking the low and high spots. Record these measurements.
6. Check and record the runout on the opposite side of the rotor in the same fashion, marking the low and high spots.
7. Compare runout measurement to specifications. See **Brakes/Hydraulic/Mechanical/ROTOR, Brake - Specifications**



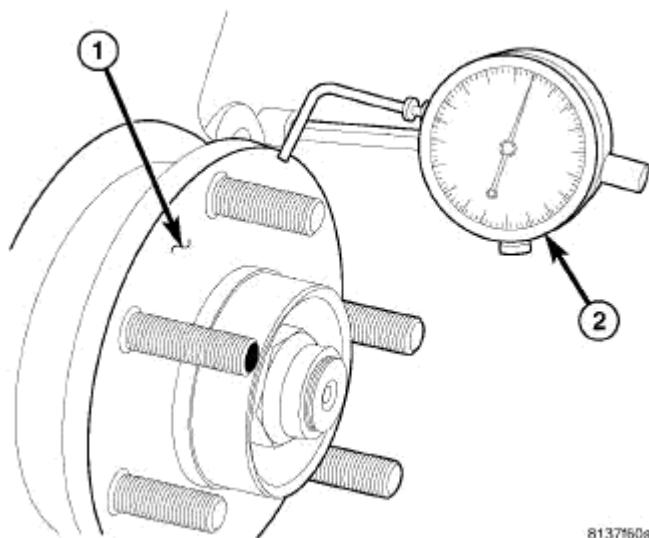
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Fig. 157: WHEEL STUD AND ROTOR INDEX MARKED

Courtesy of CHRYSLER LLC

If runout is in excess of specifications, check the lateral runout of the hub face. Before removing the rotor from the hub, place a chalk mark across both the rotor (1) and the one wheel stud (2) closest to where the high runout measurement was taken. This way, the original mounting spot of the rotor on the hub is indexed.

8. Remove the rotor from the hub. See **Brakes/Hydraulic/Mechanical/ROTOR, Brake - Removal**



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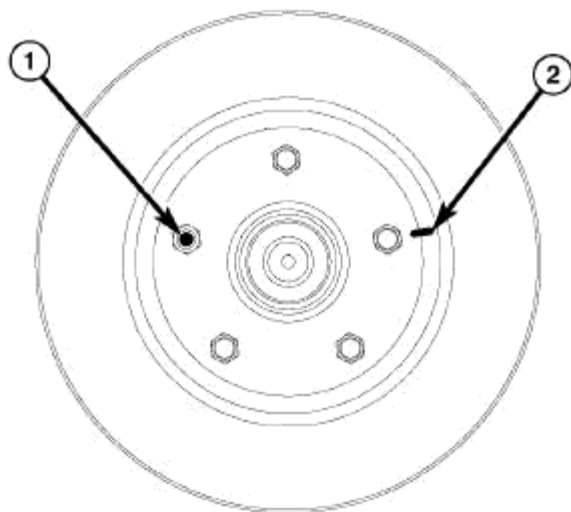
Fig. 158: MEASURING HUB RUNOUT

Courtesy of CHRYSLER LLC

NOTE: Before measuring hub runout, clean the hub face surface with an appropriate cleaner. This provides a clean surface to get an accurate indicator reading.

NOTE: Dial Indicator, Special Tool 9524, can be used in conjunction with C-3339A to measure in millimeters instead of inches. Dial indicator 9524 includes a finer scale to measure lower, tighter tolerances.

9. Mount Dial Indicator (2), Special Tool C-3339A, to the knuckle. Position the dial indicator stem so it contacts the hub face (1) near the outer diameter. Care must be taken to position the stem outside of the stud circle, but inside of the chamfer on the hub rim.
10. Slowly rotate the hub measuring runout. Hub runout should not exceed 0.01 mm (0.0004 inch). If runout exceeds this specification, the hub must be replaced. Refer to **Front Suspension/Front/KNUCKLE, Steering - Removal** . Refer to **Rear Suspension/HUB AND BEARING - Removal**



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Fig. 159: ROTOR REINDEXED ON WHEEL STUDS

Courtesy of CHRYSLER LLC

11. If hub runout does not exceed this specification, install the original rotor back on the hub, aligning the chalk mark on the rotor (2) with a wheel mounting stud, two studs apart from the original stud (1).

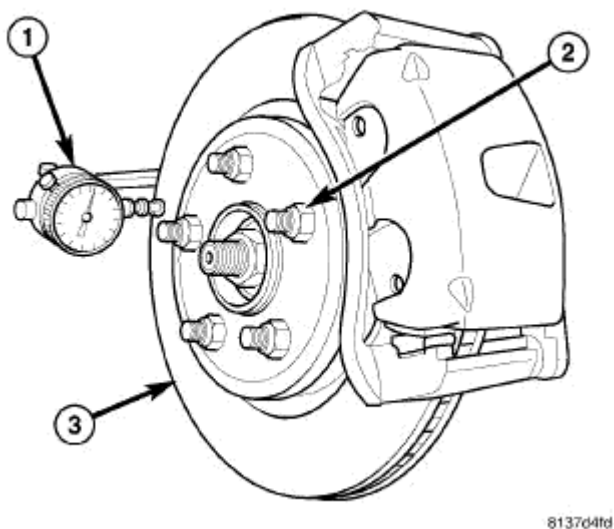


Fig. 160: MEASURING ROTOR RUNOUT

Courtesy of CHRYSLER LLC

12. Install standard wheel mounting nuts, flat side to rotor, on all the wheel studs (2). Progressively tighten the nuts in a crisscross (star) pattern to 135 N.m (100 ft. lbs.).
13. Mount the Dial Indicator (1), Special Tool C-3339A, and remeasure runout on both sides of the brake rotor as explained in earlier steps to see if runout is now within specifications. See **Brakes/Hydraulic/Mechanical/ROTOR, Brake - Specifications**
14. If runout is still not within specifications, reface or replace brake rotor. See **Brakes/Hydraulic/Mechanical/ROTOR, Brake - Standard Procedure**

Standard Procedure

BRAKE ROTOR MACHINING

NOTE: Refacing the rotor is not required each time the brake pads are replaced, only when the need is foreseen.

Any servicing of the rotor requires extreme care to maintain the rotor within service tolerances to ensure proper brake action.

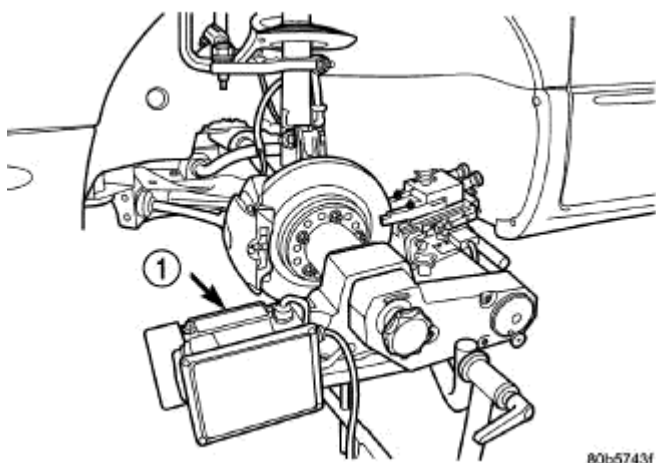


Fig. 161: On-Car Brake Lathe
Courtesy of CHRYSLER LLC

1 - ON-CAR BRAKE LATHE

If the rotor surface is deeply scored or warped, or there is a complaint of brake roughness or brake pedal pulsation, the rotor should be refaced using a hub-mounted on-car brake lathe (1), or replaced.

The use of a hub-mounted on-car brake lathe (1) is highly recommended to eliminate the possibility of excessive runout. It trues the brake rotor to the vehicle's hub and bearing.

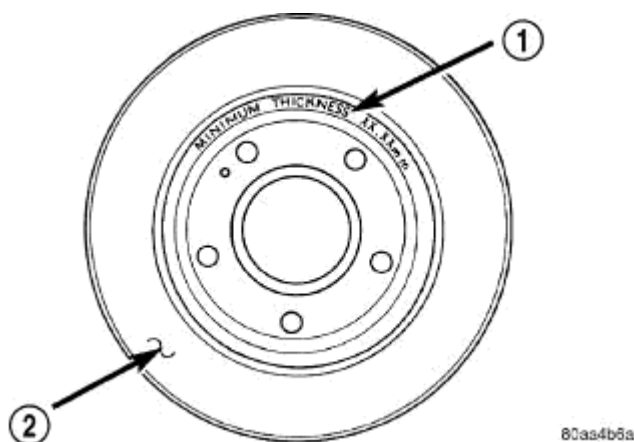


Fig. 162: Minimum Brake Rotor Thickness (Typical)
Courtesy of CHRYSLER LLC

1 - ROTOR MINIMUM THICKNESS MARKING

2 - ROTOR

NOTE: All brake rotors (2) have markings for minimum allowable thickness cast on an unmachined surface of the rotor (1) or stamped into the hat section. Minimum thickness specifications can also be found in

Brakes/Hydraulic/Mechanical/ROTOR, Brake - Specifications

Minimum allowable thickness is the minimum thickness which the brake rotor machined surface may be cut to.

CAUTION: Do not machine the rotor if it will cause the rotor to fall below minimum thickness.

Before lathe installation, verify the brake rotor face and the hub adapters are free of any chips, rust, or contamination.

When mounting and using the brake lathe, strict attention to the brake lathe manufacturer's operating instructions is required.

Machine both sides of the brake rotor at the same time. Cutting both sides at the same time minimizes the possibility of a tapered or uneven cut.

When refacing a rotor, the required TIR (Total Indicator Reading) and thickness variation limits **MUST BE MAINTAINED**. Extreme care in the operation of rotor turning equipment is required. Specifications for brake rotor machining can be found in **Brakes/Hydraulic/Mechanical/ROTOR, Brake - Specifications**

Removal**FRONT**

NOTE: Before proceeding. See **Brakes - Warning**. See **Brakes - Caution**.

1. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**

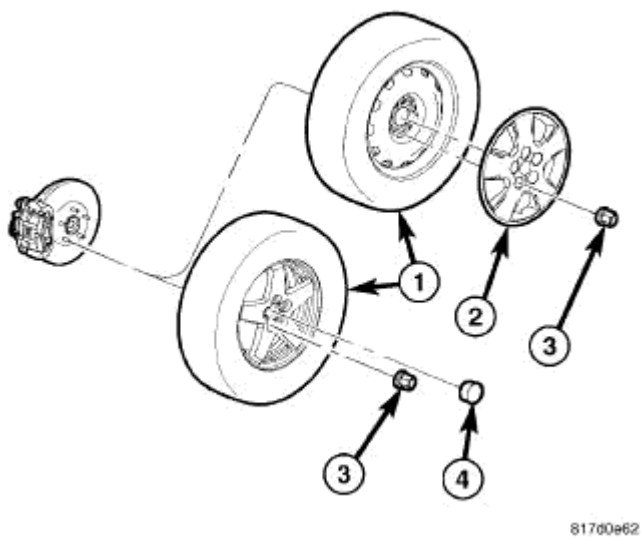


Fig. 163: TIRE AND WHEEL MOUNTING

Courtesy of CHRYSLER LLC

2. Remove the wheel mounting nuts (3), then the tire and wheel assembly (1).

NOTE: In some cases, it may be necessary to retract the caliper piston in its bore a small amount in order to provide sufficient clearance between the pads and the rotor to easily remove the caliper from the knuckle. This can usually be accomplished before removal by grasping the inboard side of the caliper and pulling outward working with the guide pins, thus retracting the piston. Never push on the piston directly as it may get damaged.

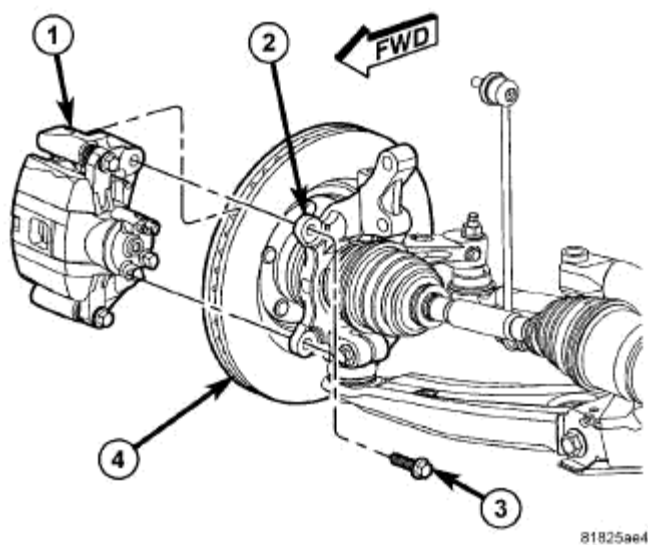
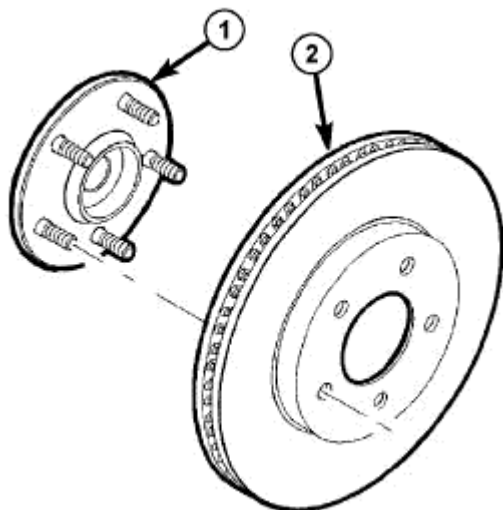


Fig. 164: CALIPER/ADAPTER MOUNTING

Courtesy of CHRYSLER LLC

3. Remove the two bolts (3) securing disc brake caliper and adapter bracket (1) to the steering knuckle (2).
4. Remove the disc brake caliper and adapter bracket (1) from the knuckle (2) and rotor (4) as an assembly. Hang the assembly out of the way using wire or a bungee cord. **Use care not to overextend the brake hose when doing this.**



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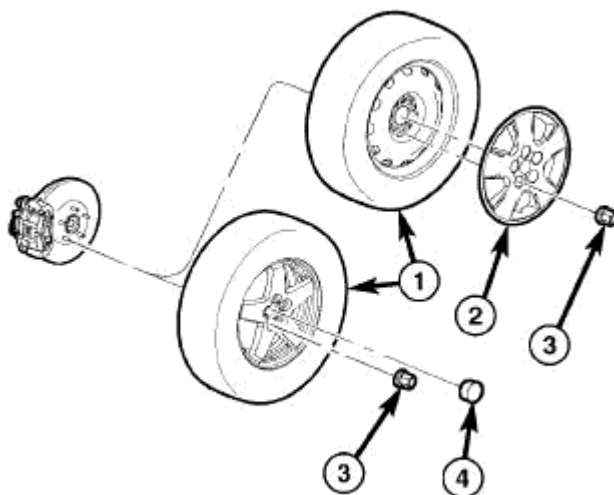
Fig. 165: VENTED BRAKE ROTOR MOUNTING
Courtesy of CHRYSLER LLC

5. Remove any clips retaining the brake rotor to the wheel mounting studs.
6. Slide the brake rotor (2) off the hub and bearing (1).

REAR

NOTE: Before proceeding. See Brakes - Warning. See Brakes - Caution.

1. Raise and support the vehicle. Refer to Vehicle Quick Reference/Hoisting - Standard Procedure



81700e62

Fig. 166: TIRE AND WHEEL MOUNTING

Courtesy of CHRYSLER LLC

2. Remove the wheel mounting nuts (3), then the tire and wheel assembly (1).

NOTE: In some cases, it may be necessary to retract the caliper piston in its bore a small amount in order to provide sufficient clearance between the pads and the rotor to easily remove the caliper from the knuckle. This can usually be accomplished before removal by grasping the inboard side of the caliper and pulling outward working with the guide pins, thus retracting the piston. Never push on the piston directly as it may get damaged.

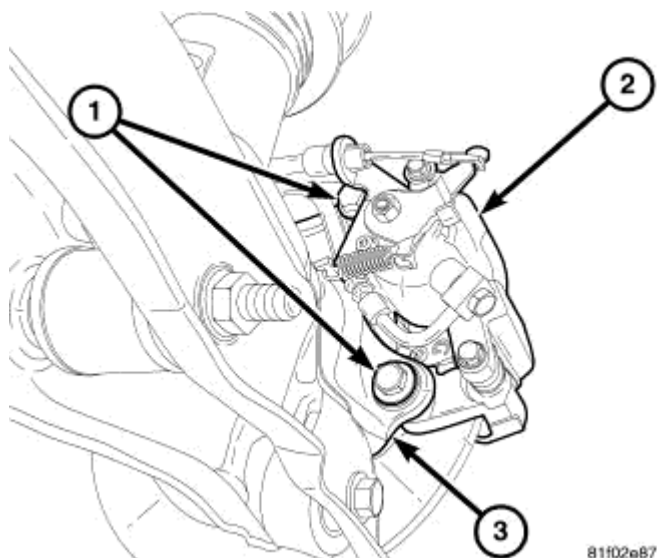
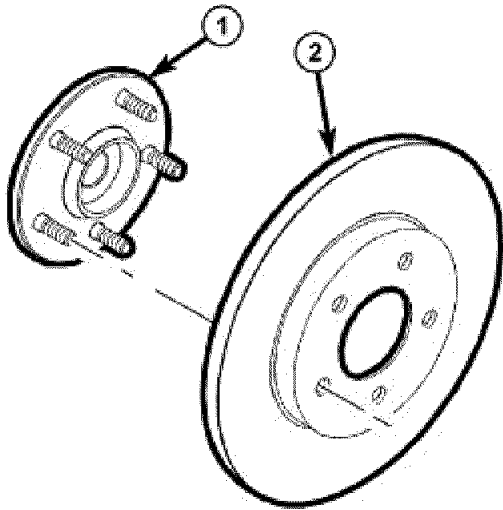


Fig. 167: REAR CALIPER ADAPTER MOUNTING
Courtesy of CHRYSLER LLC

3. Remove two bolts (1) securing the disc brake caliper and adapter bracket (2) to the knuckle (3).
4. Remove the disc brake caliper and adapter bracket (2) as an assembly from the knuckle (3) and rotor. Hang the assembly out of the way using wire or a bungee cord. Use care not to overextend the brake hose when doing this.



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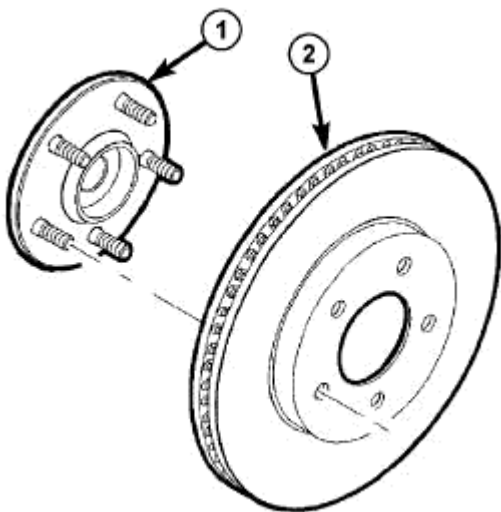
Fig. 168: SOLID BRAKE ROTOR MOUNTING
 Courtesy of CHRYSLER LLC

5. Remove any retaining clips, then slide the brake rotor (2) off the hub and bearing (1).

Installation

FRONT

NOTE: Inspect disc brake pads before installation. See Brakes/Hydraulic/Mechanical/PADS, Brake - Inspection.



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Fig. 169: VENTED BRAKE ROTOR MOUNTING

Courtesy of CHRYSLER LLC

1. Clean the hub face (1) to remove any dirt or corrosion where the rotor mounts.
2. Install the brake rotor (2) over the studs on the hub and bearing.

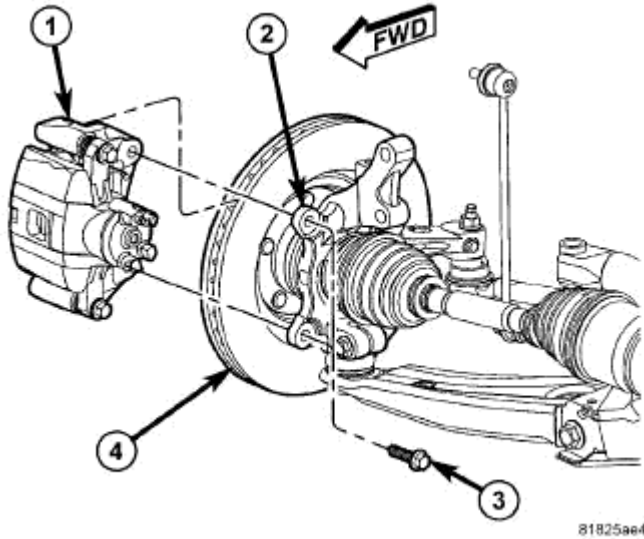


Fig. 170: CALIPER/ADAPTER MOUNTING
Courtesy of CHRYSLER LLC

3. Install the disc brake caliper and adapter bracket assembly (1) over the brake rotor (4) and knuckle (2).
4. Install the mounting bolts (3) securing the caliper adapter bracket to the knuckle (2). Tighten the bolts to 169 N.m (125 ft. lbs.).

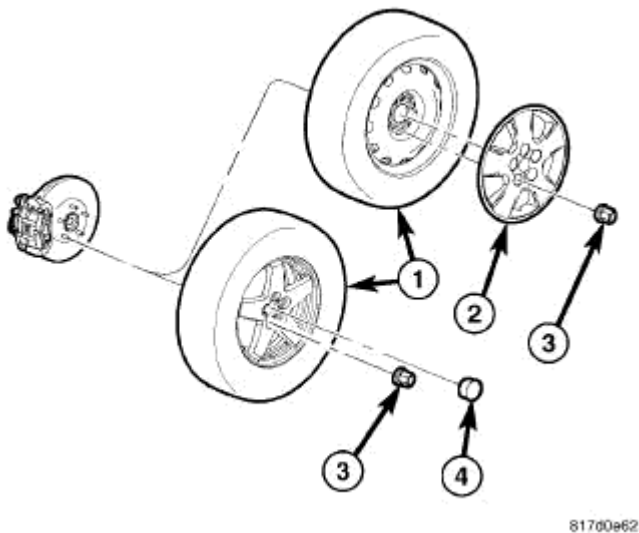


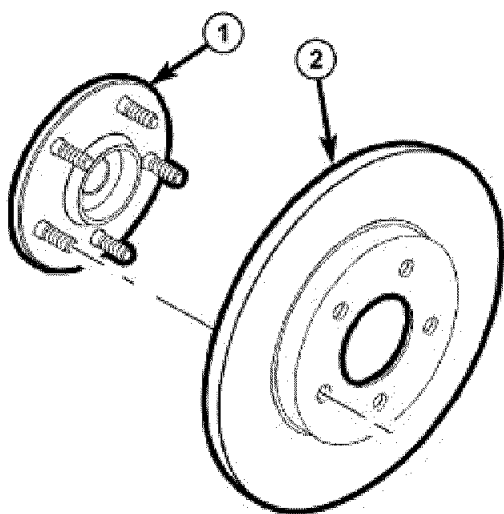
Fig. 171: TIRE AND WHEEL MOUNTING

Courtesy of CHRYSLER LLC

5. Install the tire and wheel assembly (1). Refer to **Tires and Wheels - Installation** . Tighten the wheel mounting nuts (3) to 135 N.m (100 ft. lbs.).
6. Lower the vehicle.
7. Pump the brake pedal several times before moving the vehicle to set the pads to the brake rotor.
8. Check and adjust the brake fluid level in the reservoir as necessary.
9. Road test the vehicle and make several stops to seat the brake pads to the rotor.

REAR

NOTE: **Inspect disc brake pads before installation. Replace as necessary.**



81ccb111

Fig. 172: SOLID BRAKE ROTOR MOUNTING

Courtesy of CHRYSLER LLC

1. Clean the rotor mounting face of the hub and bearing (1) to remove any dirt or corrosion.
2. Install the brake rotor (2) over the hub and bearing (1).

CAUTION: If the brake rotor or brake pads are being replaced, the rear caliper piston must be seated (bottomed) to compensate for the new brake rotor or lining. Because the parking brake self-adjuster mechanism is attached to the piston, a special seating method is required. The only acceptable method is by rotating the piston back into the bore using Retractor, Special Tool 8807, as described below. Any other seating method will damage the self-adjuster mechanism.

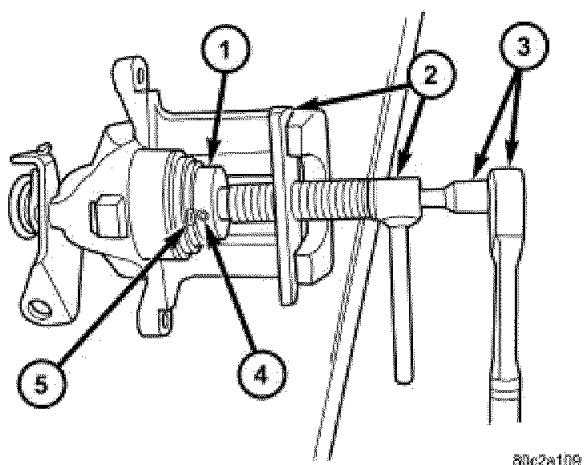


Fig. 173: SEATING PISTON WITH SPECIAL TOOL
 Courtesy of CHRYSLER LLC

3. If necessary, seat (bottom) the caliper piston in the bore as follows:
 - a. Assemble a 3/8 in. drive ratchet handle and an extension (3).
 - b. Insert the extension through Special Tool 8807-1 (2).
 - c. Place Special Tool 8807-2 (1) on the end of the extension.
 - d. Insert lugs on Special Tool 8807-2 into notches in face of caliper piston (5).
 - e. Thread the screw drive on 8807-1 down until it contacts the top of 8807-2 which is against the caliper piston. **Do not over tighten the screw-drive. Damage to the piston can occur.**
 - f. Turn 8807-2 with the ratchet, rotating the piston in a **clockwise** direction until fully seated (bottomed) in the bore. **It may be necessary to turn 8807-1 with 8807-2 to start the process of piston retraction.**

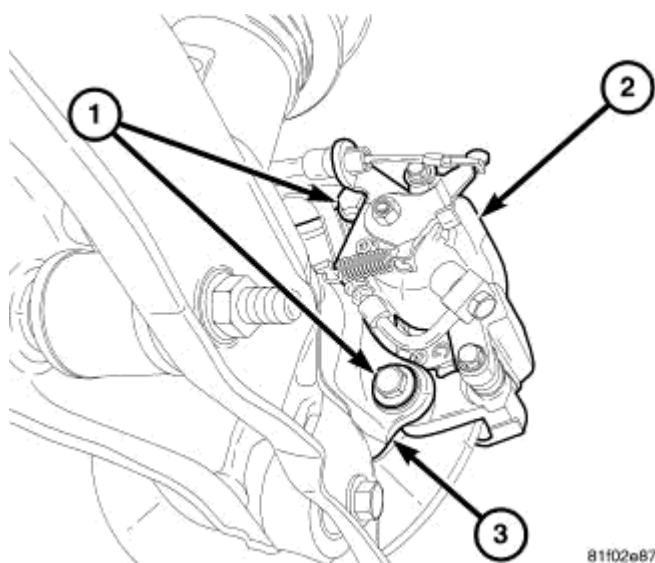


Fig. 174: REAR CALIPER ADAPTER MOUNTING
 Courtesy of CHRYSLER LLC

4. Install the disc brake caliper and adapter bracket (2) over the knuckle and rotor as an assembly.
5. Install the two bolts (1) securing the disc brake caliper and adapter bracket (2) to the knuckle. Tighten the mounting bolts to 100 N.m (74 ft. lbs.).

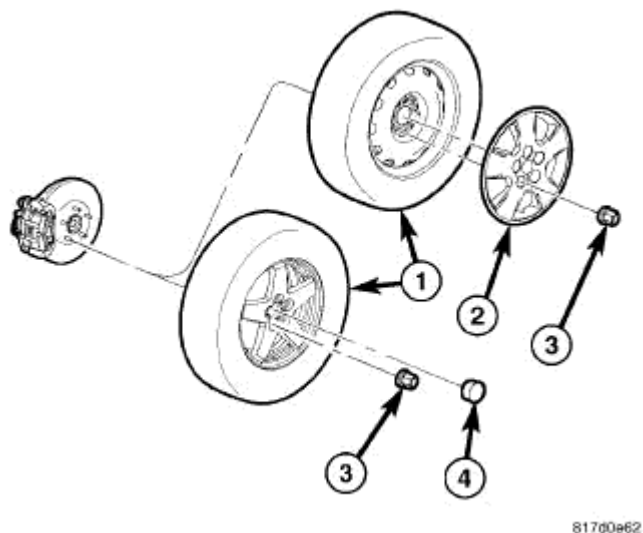


Fig. 175: TIRE AND WHEEL MOUNTING

Courtesy of CHRYSLER LLC

6. Install the tire and wheel assembly (1). Refer to **Tires and Wheels - Installation** . Install and tighten the wheel mounting nuts (3) to 135 N.m (100 ft. lbs.).
7. Lower the vehicle.
8. Pump the brake pedal several times to ensure the vehicle has a firm brake pedal before moving vehicle.
9. Check and adjust the brake fluid level as necessary.
10. Road test the vehicle and make several stops to wear off any foreign material on the brakes and to seat the brake pads.

Specifications

SPECIFICATIONS

NOTE: When refacing a rotor, the required TIR (Total Indicator Reading) and thickness variation limits **MUST BE MAINTAINED**. Extreme care in the operation of rotor turning (machining) equipment is required.

LIMITS/SPECIFICATIONS

Brake Rotor	Rotor Thickness	Minimum Rotor Thickness	Rotor Thickness Variation	Rotor Runout *
Front	27.87-28.13 mm 1.097-1.107 in.	26.4 mm 1.040 in	0.009 mm 0.0004 in.	0.050 mm 0.002 in.

2009 Dodge Journey R/T

2009 BRAKES Base - Service Information - Journey

Rear	11.75-12.25 mm 0.463-0.482 in.	10.4 mm 0.409 in.	0.009 mm 0.0004 in.	0.050 mm 0.002 in.
* TIR Total Indicator Reading (Measured On Vehicle)				

TUBES AND HOSES, BRAKE

Description

DESCRIPTION

The brake tubes are steel with a corrosion-resistant nylon coating applied to the external surfaces.

The flex hoses used at each wheel brake are made of reinforced rubber with fittings at each end. The fitting at each brake caliper is the banjo-type and requires a special banjo bolt and copper washers.

Operation

OPERATION

The purpose of the chassis brake tubes and flex hoses is to transfer the pressurized brake fluid developed by the master cylinder to the wheel brakes of the vehicle. The flex hoses are made of rubber to allow for the movement of the vehicle's suspension.

Inspection

INSPECTION

Brake tubing should be inspected periodically for evidence of physical damage or contact with moving or hot components.

Flexible rubber hose is used at both the front and rear wheel brakes. Inspection of the flexible brake hoses should be performed whenever the brake system is serviced and every 12,000 km (7,500 miles) or 12 months, whichever comes first. Inspect hydraulic brake hoses for surface cracking, scuffing, or worn spots. If the fabric casing of the hose becomes exposed due to cracks or abrasions in the hose cover, the hose should be replaced immediately. Eventual deterioration of the hose can take place with possible burst failure. Faulty installation can cause twisting, resulting in wheel, tire, or chassis interference.

NOTE: This vehicle is equipped with more than one size (diameter) brake tube depending on location on the vehicle. If a brake tube must be replaced, always use the same size brake tubing as that being replaced. Never use under-size brake tubing.

PARKING BRAKE

DESCRIPTION

DESCRIPTION

The parking brake consists of the following components:

- Foot-operated parking brake lever *
- Cables (front, left rear, right rear)
- Cable equalizer
- Caliper with Integral Parking Brake (IPB)

* Right-Hand-Drive Export models feature a hand-operated parking brake lever.

The parking brake lever is an automatic-adjusting type that continuously applies minimal tension to the parking brake cables to keep them in adjustment at all times.

The front cable extends from the lever to the parking brake cable equalizer. The equalizer joins the front cable to the left and right rear cables that extend to the individual rear calipers with Integral Parking Brake (IPB). The parking brake cables are made of flexible steel cable.

The brake caliper used for the foundation brakes features an Integral Parking Brake (IPB) which combines a mechanical parking brake function with a conventional rear caliper.

This caliper features a lever attached to a shaft on the outside of the caliper. The lever uses a ball-ramp mechanism to mechanically apply piston clamp force to the rear rotor when the parking brake lever is applied. As the lever and shaft rotate, the ball-ramp interface causes the shaft to lift and the piston to travel toward the rotor.

The IPB includes an automatic adjuster mechanism that keeps the mechanical park brake mechanism in contact with the piston as the pads wear. The auto-adjuster is linked to the piston through a friction clutch that is used to detect pad wear.

STANDARD PROCEDURE

PARKING BRAKE CABLE TENSION RELEASE - FOOT LEVER

Use the following procedure to release the tension from the parking brake cables and the automatic adjuster in the parking brake lever (pedal) mechanism when required.

1. Release the parking brake.
2. Raise the vehicle to a comfortable working position and support. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**

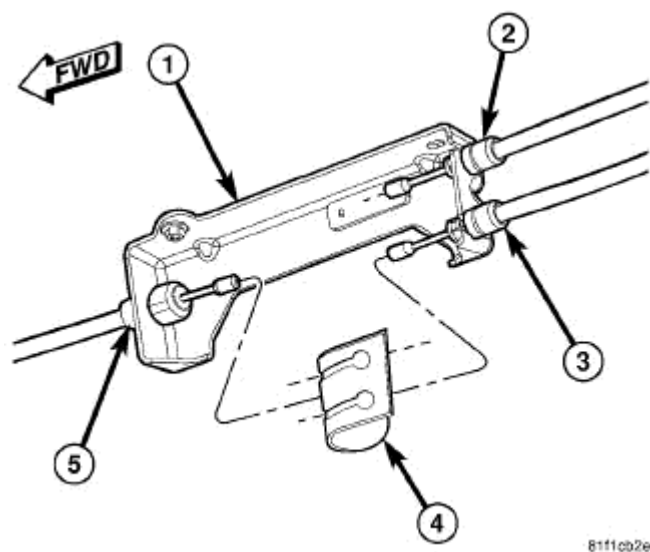


Fig. 176: PARKING BRAKE CABLE EQUALIZER

Courtesy of CHRYSLER LLC

3. Wipe the parking brake cable strands (front and both rear) clean where visible at the intermediate bracket.

CAUTION: Do not use any type of sharp instrument to hold the cable strand in place. Damage to the cable strand or coating can occur.

4. Pull rearward on the equalizer (4) until the front cable stops, then grasp the front cable (5) strand and hold it in this position. Disconnect the equalizer from the front cable strand.
5. Release the front cable strand allowing the lever automatic self-adjusting mechanism to pull the front cable strand forward. This action allows the adjuster mechanism to rotate around to its stop, removing tension from the adjuster and front parking brake cable.

PARKING BRAKE CABLE TENSION RELEASE - HAND LEVER

1. Release the parking brake.
2. Block the tire and wheel assemblies so the vehicle does not move once the parking brake lever is released.
3. Release the parking brake.

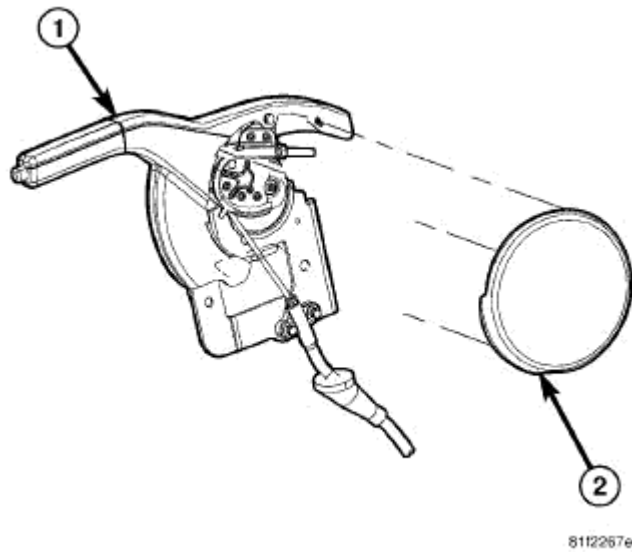


Fig. 177: HAND LEVER COVER MOUNTING
Courtesy of CHRYSLER LLC

4. Remove the cover from the side of the parking brake lever. To remove the cover, unclip it at the top and rotate it counterclockwise.

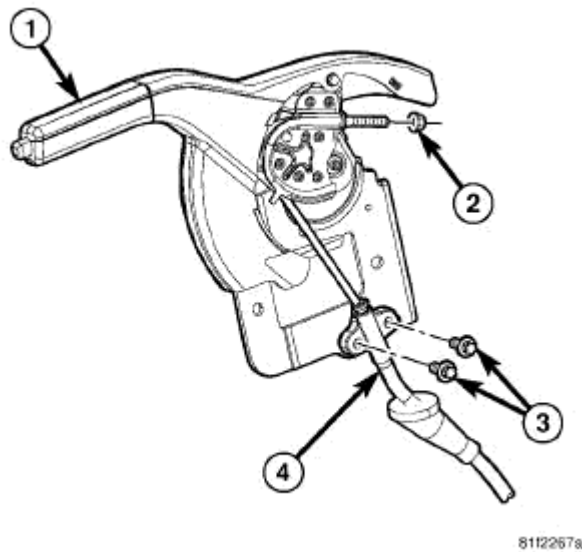


Fig. 178: CABLE MOUNTING TO HAND LEVER
Courtesy of CHRYSLER LLC

5. Place the parking brake lever (1) in the fully released (down) position.
6. Loosen the adjusting nut (2) on the end of the front parking brake cable. Back it off to the end of the cable.

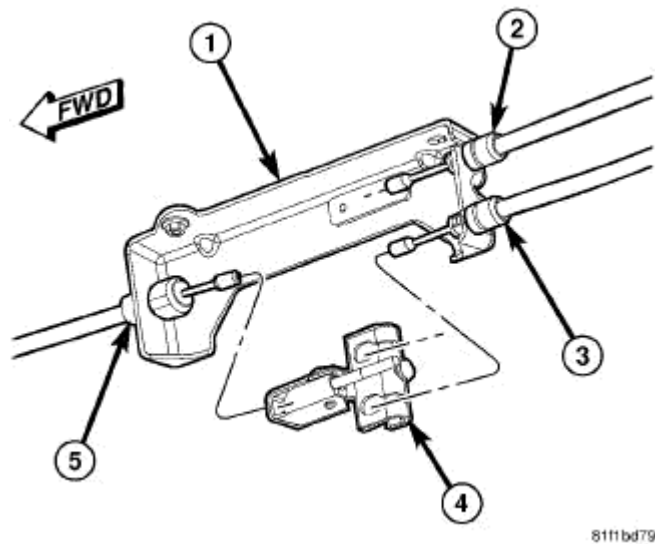


Fig. 179: CABLE EQUALIZER/TENSIONER

Courtesy of CHRYSLER LLC

7. If the cable equalizer/bent nail tensioner needs to be removed, perform the following:
 - a. Raise the vehicle to a comfortable working position and support. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**
 - b. Remove the parking brake cable equalizer/bent nail tensioner (4) from the three parking brake cables (2, 3, 5).

PARKING BRAKE CABLE TENSION RESET - FOOT LEVER

1. Raise the vehicle to a comfortable working position and support. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**

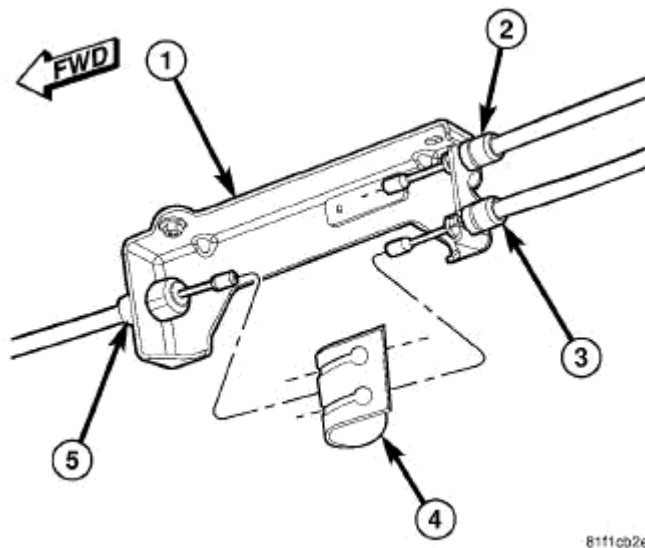


Fig. 180: PARKING BRAKE CABLE EQUALIZER
Courtesy of CHRYSLER LLC

2. Wipe the front parking brake cable strand clean at the intermediate bracket (1) area.

CAUTION: Do use any type of sharp instrument directly on the cable strand to hold it in place. Damage to the cable strand or coating can occur.

3. Clamp an appropriate pair of pliers on the front parking brake cable **button (2) only** and pull the cable stand rearward until it stops, then grasp the front cable strand and hold it in this position. Remove the pliers from the button.

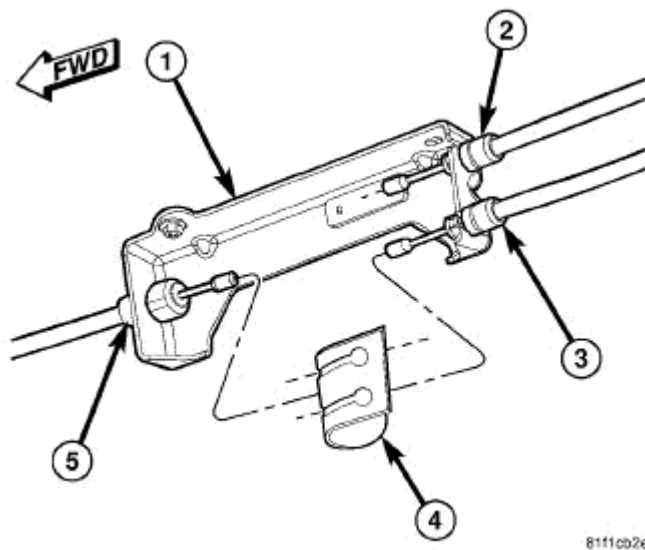
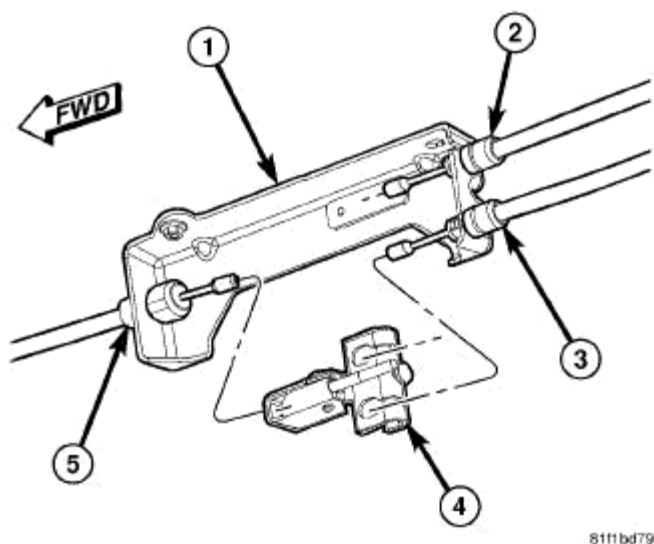


Fig. 181: PARKING BRAKE CABLE EQUALIZER

Courtesy of CHRYSLER LLC

4. While holding the front cable in this position, install the equalizer (2) (attached to both rear cables) on the front parking brake cable.
5. Release the grasp on the front parking brake cable.
6. Lower the vehicle.
7. Apply and release the parking brake lever one time. This will seat the parking brake cables and allow the auto adjuster in the parking brake lever mechanism to correctly tension the parking brake cables.

PARKING BRAKE CABLE TENSION RESET - HAND LEVER**Fig. 182: CABLE EQUALIZER/TENSIONER****Courtesy of CHRYSLER LLC**

1. If the cable equalizer/bent nail tensioner needs to be installed on the cables, perform the following:
 - a. Raise the vehicle to a comfortable working position and support. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**
 - b. Connect the parking brake cable equalizer/bent nail tensioner (4) to the three parking brake cables (2, 3, 5).
 - c. Remove any slack from the parking brake cables by pushing the front cable strand forward into the housing until slack is removed.
 - d. Lower the vehicle.
2. If not installed during Step (1), make sure the parking brake cable equalizer/bent nail tensioner is attached to all three parking brake cables
3. Make sure that the front parking brake cable is properly aligned and installed on the cable track of the parking brake lever.

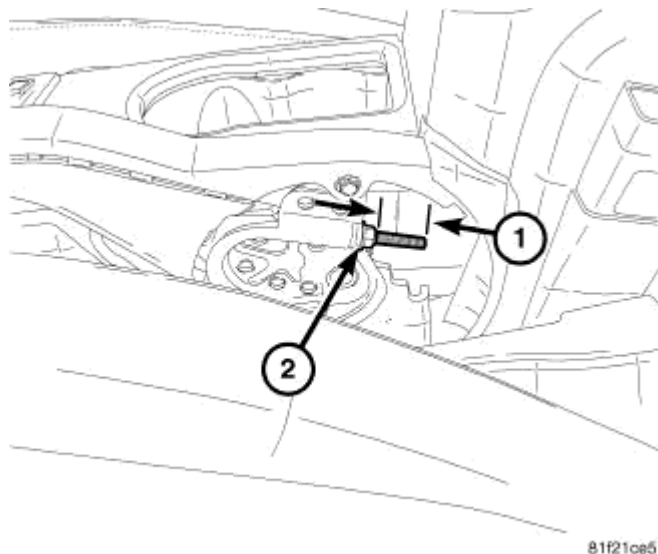


Fig. 183: CABLE STUD-TO-NUT DIMENSION

Courtesy of CHRYSLER LLC

NOTE: Actuating the parking brake lever to its fully applied position one time after tightening the adjustment nut will yield (stretch) the bent nail portion of the equalizer approximately 1/4 inch (6 mm). This process will correctly set the parking brake cable tension.

4. Adjust parking brake cable tension using the following steps:
 - a. Make sure the parking brake lever is in the fully released (down) position.
 - b. While maintaining tension on the cable, tighten the adjusting nut (2) on the front parking brake cable until 34 millimeters (1.34 in.) of thread (1) is out past the end of the adjustment nut.
 - c. Actuate the parking brake lever to its fully applied position one time, then reposition it to its fully released (down) position.
5. Raise the vehicle to a point where the rear wheels just clear the floor.
6. Check the rear wheels of the vehicle; they should rotate freely without dragging.
7. Apply the parking brake. Check the rear wheels of the vehicle. They should not rotate.
8. Return the parking brake lever to its fully released (down) position and check the rear wheels. They should rotate freely without dragging.
9. Apply the parking brake.
10. Lower the vehicle.

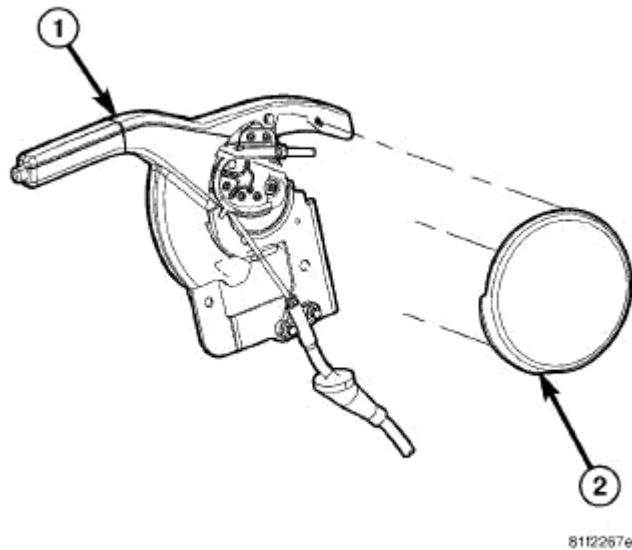


Fig. 184: HAND LEVER COVER MOUNTING
Courtesy of CHRYSLER LLC

11. Install the cover on the side of the parking brake lever.

CABLE END CLEANING AND LUBRICATION

Periodic cleaning and lubrication can be done to ensure proper operation of the parking brake cables. This procedure applies to the trailing end of all parking brake cables.

CAUTION: If a liquid cleaner is necessary, use a cleaner such as Mopar® Non-Chlorinated Brake Parts Cleaner or equivalent.

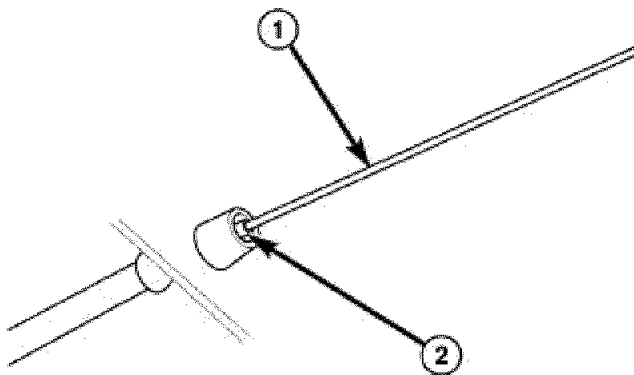


Fig. 185: Areas To Be Cleaned And Lubricated

Courtesy of CHRYSLER LLC

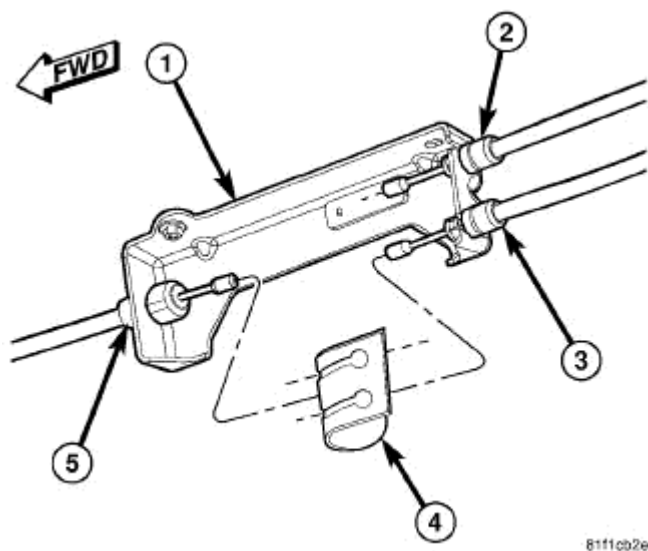
1 - STRAND AREA

2 - SEAL AREA

1. Using an appropriate bristle brush, clean the cable strand (1) in the area that retracts into the cable housing when the parking brake lever is applied.
2. Clean the cable seal area (2) at the end of the cable housing.
3. Lubricate the cleaned area with a general purpose grease lubricant.

CABLE, PARKING BRAKE, FRONT**Removal****WITH FOOT LEVER**

1. Release the parking brake.
2. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**
3. Manually release the parking brake cable tension. See **Brakes/Parking Brake - Standard Procedure**

**Fig. 186: PARKING BRAKE CABLE EQUALIZER**

Courtesy of CHRYSLER LLC

4. Collapse the front cable retainer fingers at the end of the cable housing where it contacts the intermediate bracket (1). Pull the cable (5) forward and remove it from the intermediate bracket.
5. Push the front cable strand into the housing until it bottoms.

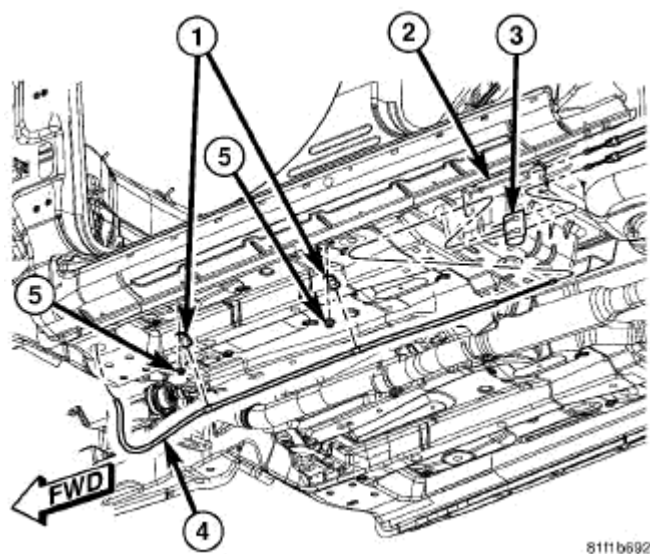


Fig. 187: CABLE MOUNTING TO UNDERBODY WITH FOOT LEVER

Courtesy of CHRYSLER LLC

6. Remove the nuts (5) securing the front cable routing clamps (1) to the underbody of the vehicle.
7. Remove the cable routing clamps (1) from the cable (4).
8. Lower the vehicle.
9. Remove the left front door opening sill scuff plate.
10. Remove the lower cowl trim.
11. Remove the steering column opening cover. Refer to **Body/Instrument Panel/COVER, Steering Column Opening - Removal**.

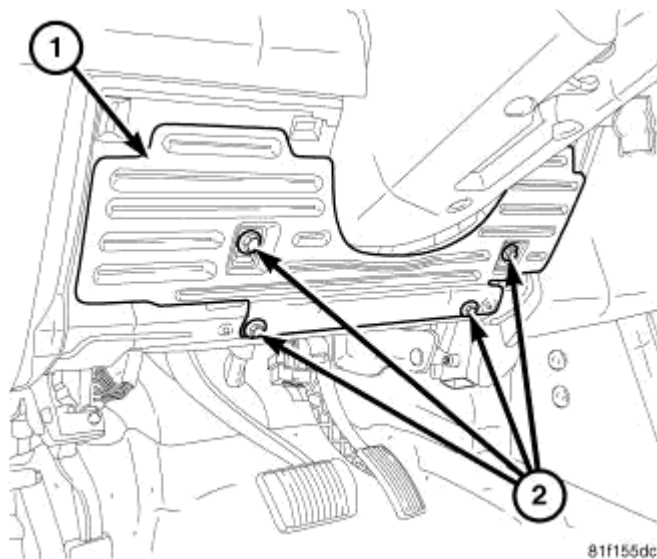


Fig. 188: STEERING COLUMN COVER REINFORCEMENT

Courtesy of CHRYSLER LLC

12. Remove the steering column cover reinforcement mounting screws (2). Remove the steering column cover reinforcement (1).
13. Pull the parking brake lever pedal up and hold it in this position.

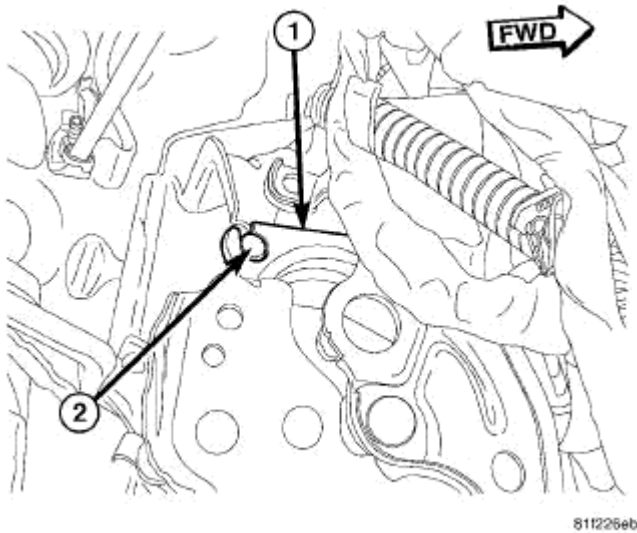


Fig. 189: CABLE BUTTON LOCATED IN LEVER
Courtesy of CHRYSLER LLC

14. Rotate the cable strand around at the lever mechanism until the strand lines up with the slot, then remove the cable end button (2) from the lever mechanism (1).

NOTE: Prior to removing cable from lever, note cable routing through lever for ease in reassembly.

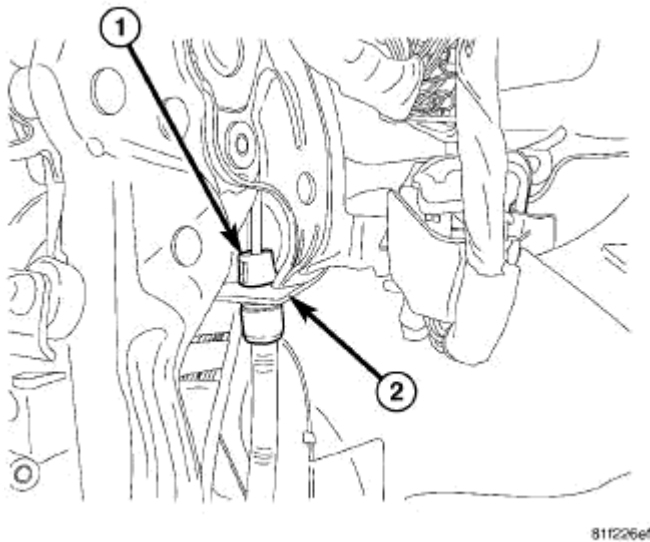
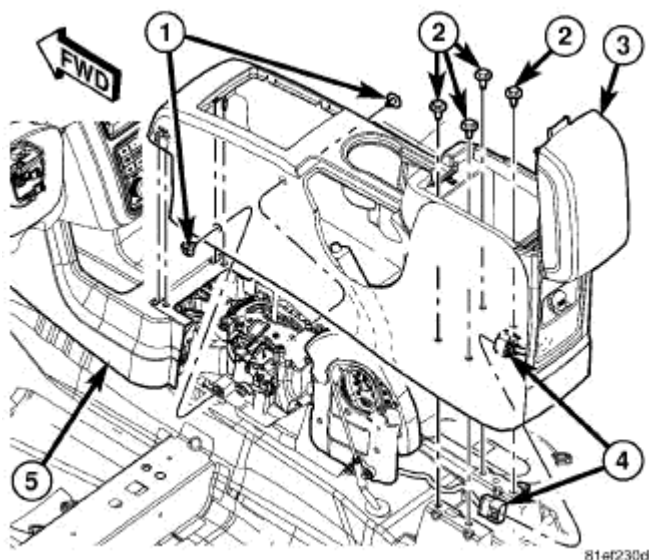


Fig. 190: CABLE HOUSING RETAINED IN LEVER

Courtesy of CHRYSLER LLC

15. Collapse the front cable retainer fingers on the end of the cable housing (1) at the lever (2).
16. Remove the cable from the parking brake lever (3).
17. Lift back the carpet and pull the cable seal loose from the floor pan.
18. Remove the front parking brake cable from the vehicle through the hole in the floor pan.

WITH HAND LEVER**Fig. 191: CENTER CONSOLE**

Courtesy of CHRYSLER LLC

1. Remove the floor center console. Refer to **Body/Interior/CONSOLE, Center - Removal**
2. Manually release the parking brake cable tension. See **Brakes/Parking Brake - Standard Procedure**
3. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**

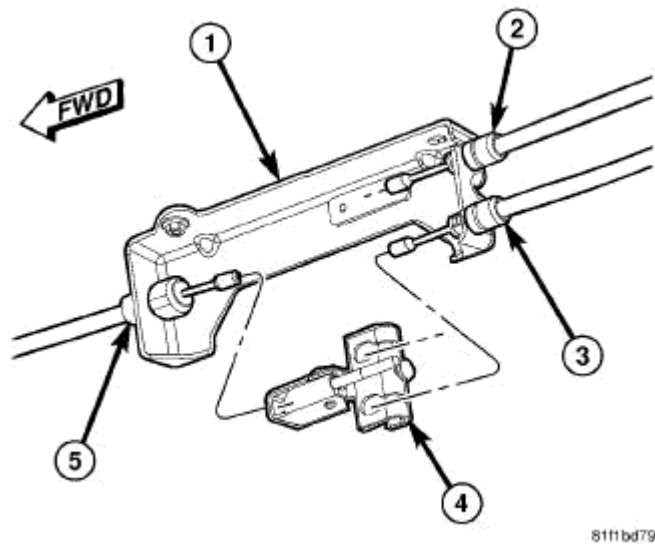


Fig. 192: CABLE EQUALIZER/TENSIONER
Courtesy of CHRYSLER LLC

4. Remove the parking brake cable equalizer/bent nail tensioner (4) from the three parking brake cables (2, 3, 5).
5. Collapse the front cable retainer fingers at the end of the cable housing where it contacts the intermediate bracket (1). Pull the cable (5) forward and remove it from the intermediate bracket.

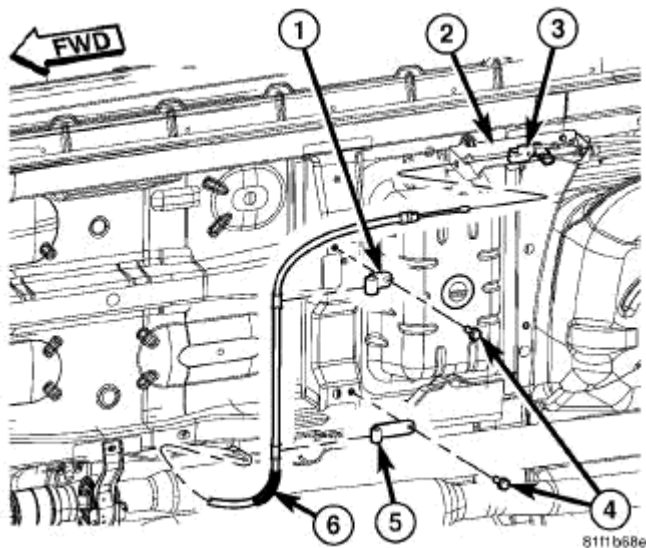


Fig. 193: CABLE MOUNTING TO UNDERBODY WITH HAND LEVER
Courtesy of CHRYSLER LLC

6. Remove the screws (4) securing the front cable routing clamps (1, 5) to the underbody of the vehicle.
7. Remove the cable routing clamps (1, 5) from the cable (6).

8. Lower the vehicle.

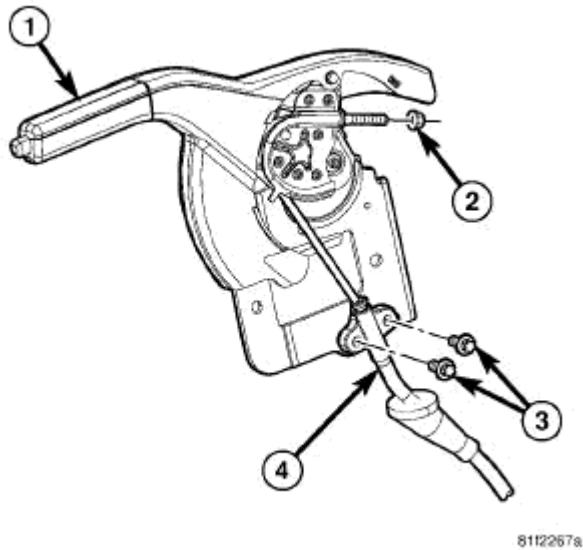


Fig. 194: CABLE MOUNTING TO HAND LEVER
Courtesy of CHRYSLER LLC

9. Remove the mounting screws (3) fastening the front cable (4) to the side of the parking brake lever (1).
10. Remove the adjusting nut (2) from the end of the front parking brake cable.
11. Remove the cable strand from the lever.
12. Pull the cable seal loose from the floor pan and remove the front parking brake cable from the vehicle through the access hole in the floor pan.

Installation

WITH FOOT LEVER

1. Pass most of the front parking brake cable down through the access hole in the floor pan from inside the vehicle.

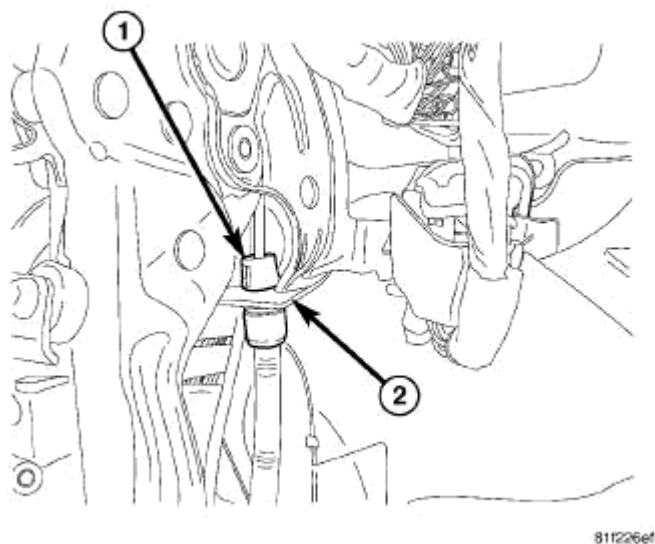


Fig. 195: CABLE HOUSING RETAINED IN LEVER

Courtesy of CHRYSLER LLC

2. Insert the lever end of the front parking brake cable through the mounting hole in the parking brake lever (2). Slide it through until the cable retainer fingers on the end of the housing (1) lock in place. Make sure all fingers are engaged preventing removal of the cable from the bracket.

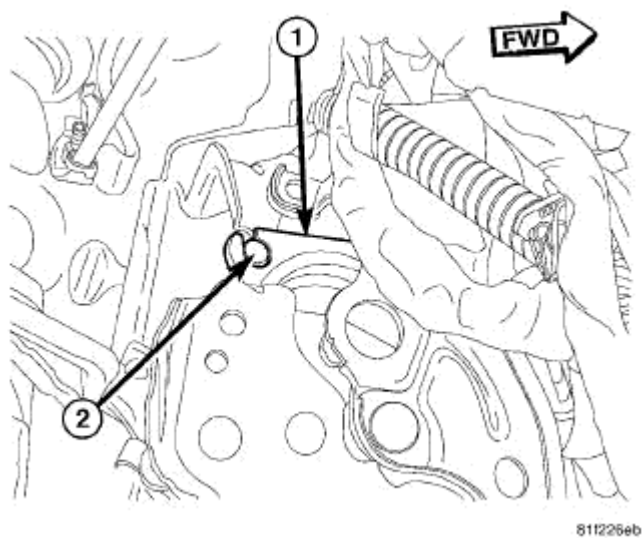


Fig. 196: CABLE BUTTON LOCATED IN LEVER

Courtesy of CHRYSLER LLC

3. Pull the button on the end of cable strand out of housing and route the strand around the cable guide, then rotate the cable strand up and align the cable with the slot in lever mechanism (1). Slide the cable button (2) into the slot and rotate the cable down into mounted position with the cable inserted into the guide on

the mechanism.

4. Slide any extra cable back into the cable housing. This can be easily done by pulling on the trailing end of the front cable strand that is now under the vehicle.
5. Install the front parking brake cable floor pan seal into the access hole in the floor pan.
6. Reposition the carpeting back down on the floor.

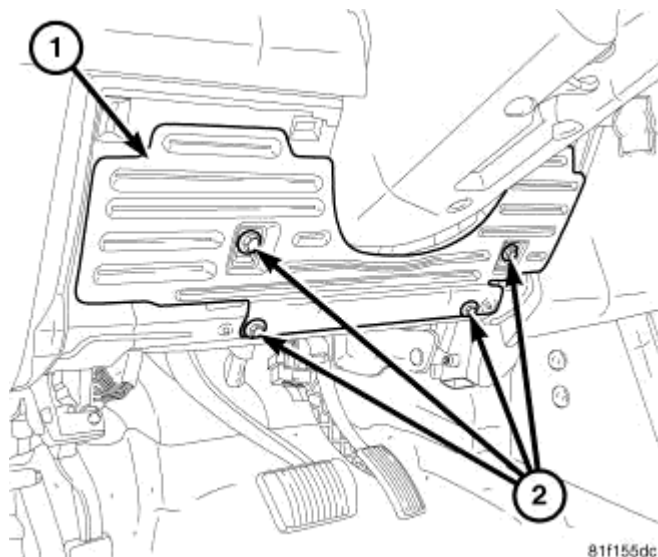


Fig. 197: STEERING COLUMN COVER REINFORCEMENT
Courtesy of CHRYSLER LLC

7. Install the steering column cover reinforcement (1) using the four mounting screws (2).
8. Install the steering column opening cover. Refer to **Body/Instrument Panel/COVER, Steering Column Opening - Installation**
9. Install the lower cowl trim.
10. Install the left front door opening sill scuff plate.
11. Raise and support the vehicle.

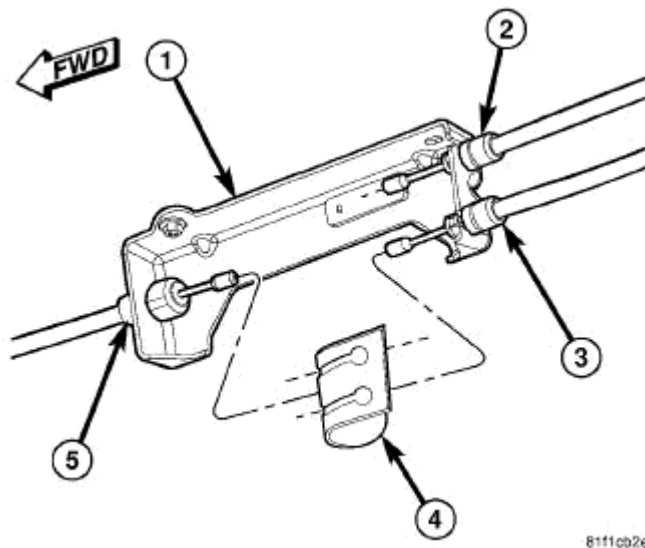


Fig. 198: PARKING BRAKE CABLE EQUALIZER
Courtesy of CHRYSLER LLC

12. Pass the end of the front cable (5) through the hole in the end of the intermediate bracket (1). Press the cable housing retainer through the hole until the fingers on the retainer lock it into place.

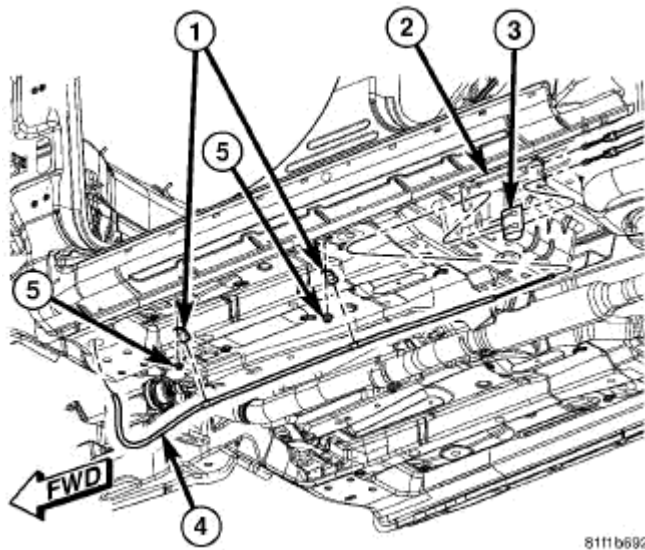


Fig. 199: CABLE MOUNTING TO UNDERBODY WITH FOOT LEVER
Courtesy of CHRYSLER LLC

13. Install the cable routing clamps (1) over the metal sleeves on the front cable (4).
14. Position the front cable routing clamps over the studs on the underbody of the vehicle and install the nuts (5). Tighten the nuts to 6 N.m (55 in. lbs.).

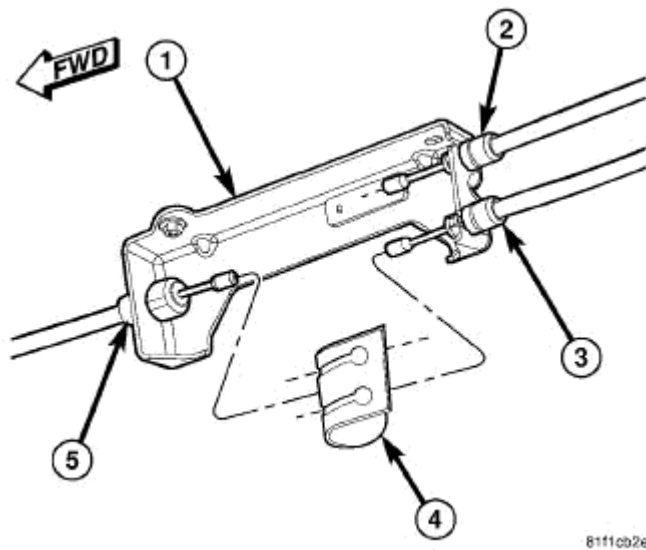


Fig. 200: PARKING BRAKE CABLE EQUALIZER

Courtesy of CHRYSLER LLC

15. Reconnect the parking brake cable equalizer (4) and reset the cable tension. See **Brakes/Parking Brake - Standard Procedure**
16. Lower the vehicle.
17. Apply and release the parking brake lever (pedal) one time. This will seat the parking brake cables.
18. Check operation of parking brakes.

WITH HAND LEVER

1. Pass most of the front parking brake cable down through the access hole in the floor pan from inside the vehicle.
2. Install the front parking brake cable floor pan seal into the access hole in the floor pan.

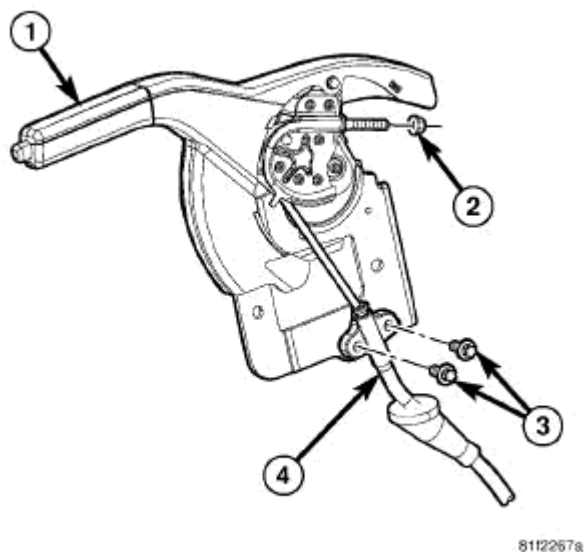


Fig. 201: CABLE MOUNTING TO HAND LEVER

Courtesy of CHRYSLER LLC

3. Install the mounting screws (3) fastening the front cable (4) to the side of the parking brake lever (1). Tighten the mounting screws to 28 N.m (21 ft. lbs.).
4. Route the cable strand around the lever cable guide and start the adjusting nut (2) on the end of the cable stud. **Do not install the nut any further than having the threads flush with the top of the nut.** Otherwise, cable equalizer/bent nail tensioner installation later in this procedure could be difficult.
5. Slide any extra cable back into the cable housing.
6. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**

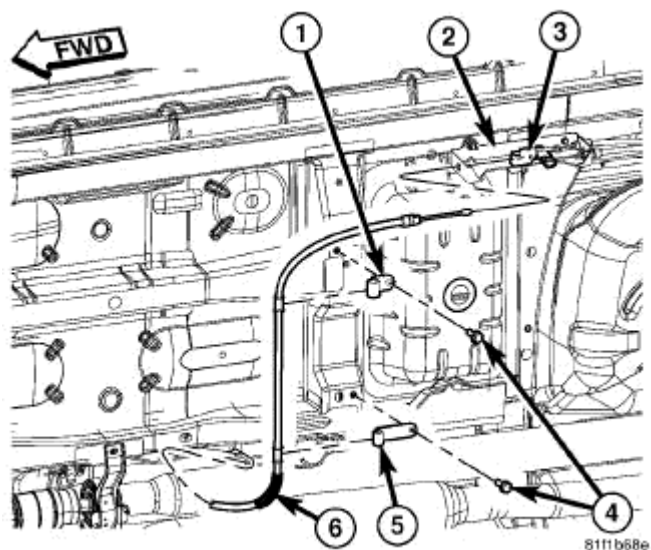
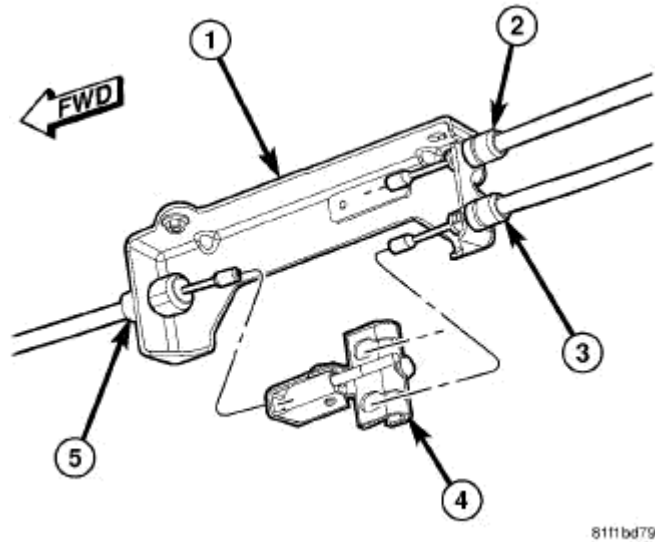


Fig. 202: CABLE MOUNTING TO UNDERBODY WITH HAND LEVER

Courtesy of CHRYSLER LLC



9. Pass the end of the front cable (5) through the hole in the end of the intermediate bracket (1). Press the cable housing retainer through the hole until the fingers on the retainer lock it into place.
10. Connect the parking brake cable equalizer/bent nail tensioner (4) to the three parking brake cables (2, 3, 5).
11. Remove any slack from the parking brake cables by pushing the front cable strand forward into the housing until slack is removed.
12. Lower the vehicle.
13. Reset the hand lever cable tension and verify check operation of the parking brake. See **Brakes/Parking Brake - Standard Procedure**

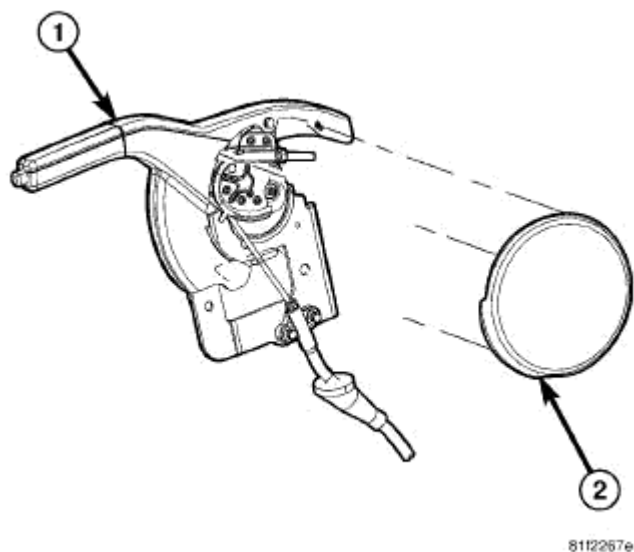


Fig. 204: HAND LEVER COVER MOUNTING
Courtesy of CHRYSLER LLC

14. Install the cover on the side of the parking brake lever.

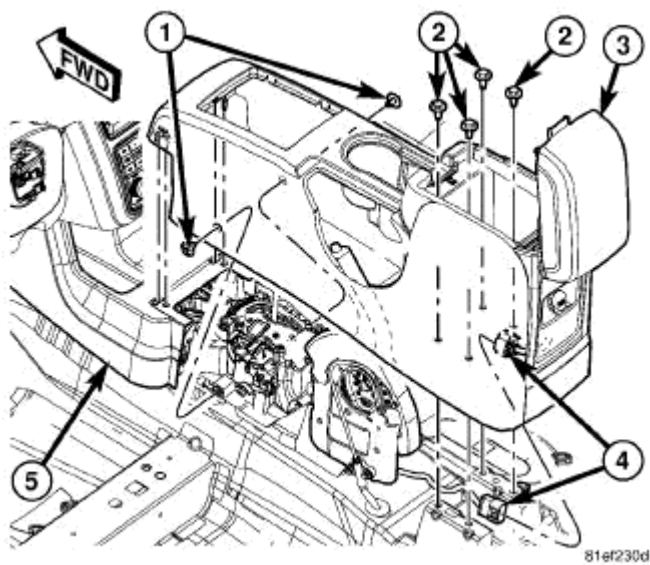


Fig. 205: CENTER CONSOLE
Courtesy of CHRYSLER LLC

15. Install the floor center console. Refer to **Body/Interior/CONSOLE, Center - Removal**

CABLE, PARKING BRAKE, REAR

Removal

REMOVAL

1. Release the parking brake.
2. Manually release the parking brake cable tension. See [Brakes/Parking Brake - Standard Procedure](#)
3. Raise and support the vehicle. Refer to [Vehicle Quick Reference/Hoisting - Standard Procedure](#)

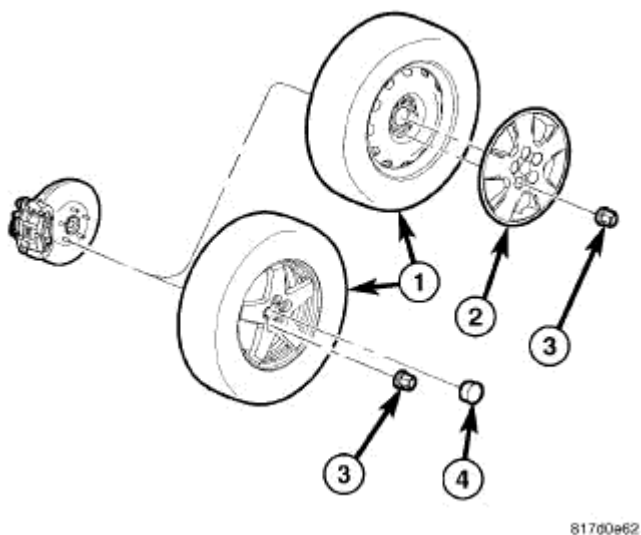


Fig. 206: TIRE AND WHEEL MOUNTING
Courtesy of CHRYSLER LLC

4. Remove wheel mounting nuts (3), then tire and wheel assembly (1).

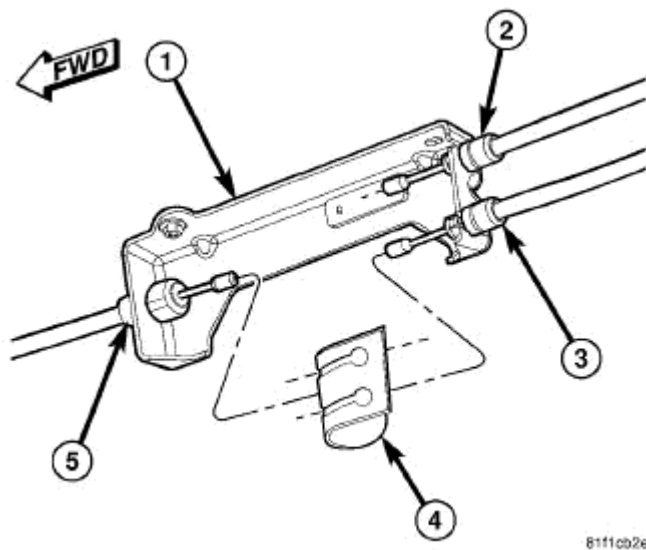


Fig. 207: PARKING BRAKE CABLE EQUALIZER
Courtesy of CHRYSLER LLC

5. If not removed, remove the cable equalizer (4) (with foot lever) or equalizer/tensioner (with hand lever) from the front and rear cables.
6. Collapse the right rear cable (3) retainer fingers at the end of the cable housing where it contacts the intermediate bracket (1). Pull the right rear cable out of the intermediate bracket.

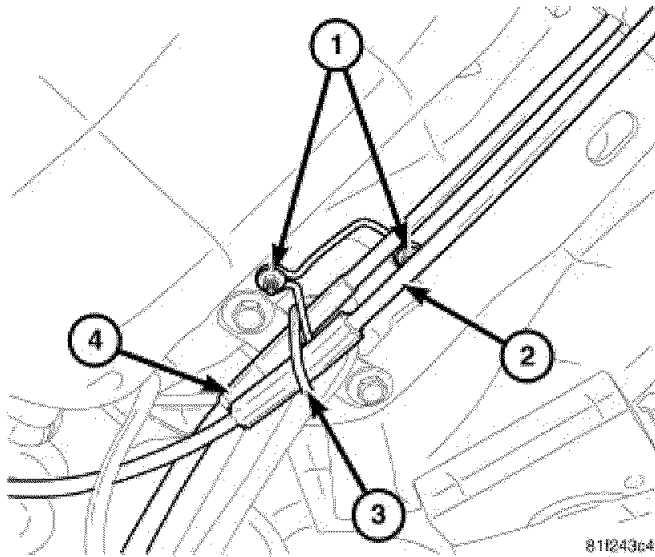


Fig. 208: PARKING BRAKE CABLE ROUTING LOOP
Courtesy of CHRYSLER LLC

7. Pull the right rear cable (2) out of the cable routing loop (3).

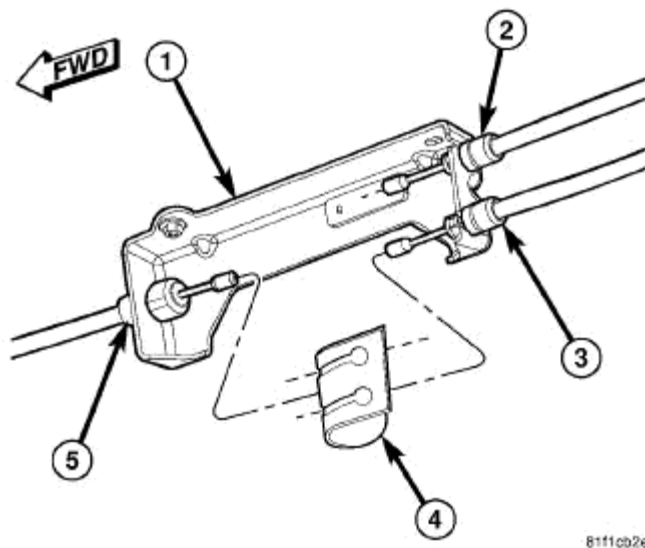


Fig. 209: PARKING BRAKE CABLE EQUALIZER
Courtesy of CHRYSLER LLC

8. If servicing the left rear cable, collapse the left rear cable (2) retainer fingers at the end of the cable

housing where it contacts the intermediate bracket (1). Pull the left rear cable out of the intermediate bracket.

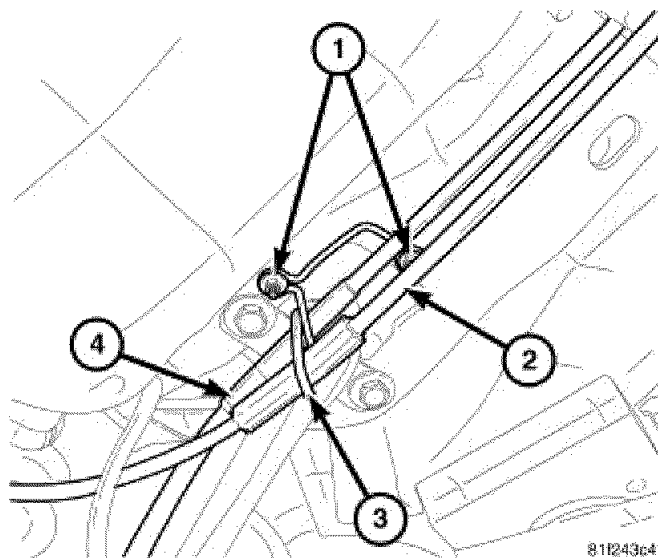


Fig. 210: PARKING BRAKE CABLE ROUTING LOOP

Courtesy of CHRYSLER LLC

9. If servicing the left rear cable, remove the nuts (1) fastening the cable routing loop (3) to the vehicle underbody near the trailing link forward mounting point.

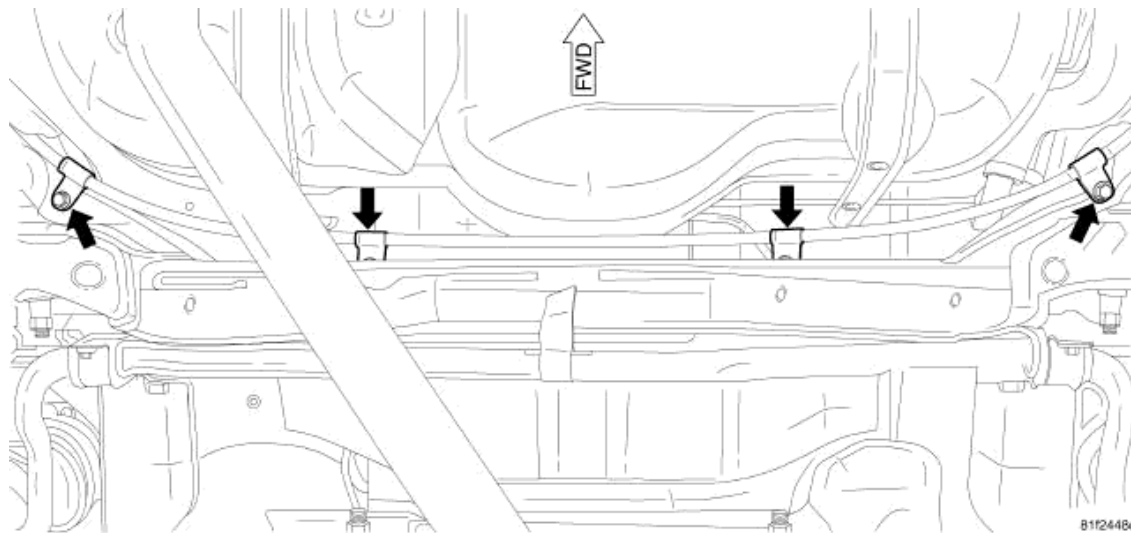


Fig. 211: RIGHT CABLE AT CROSSMEMBER

Courtesy of CHRYSLER LLC

10. If servicing the right rear cable, remove the four screws securing the right rear cable to the rear crossmember.

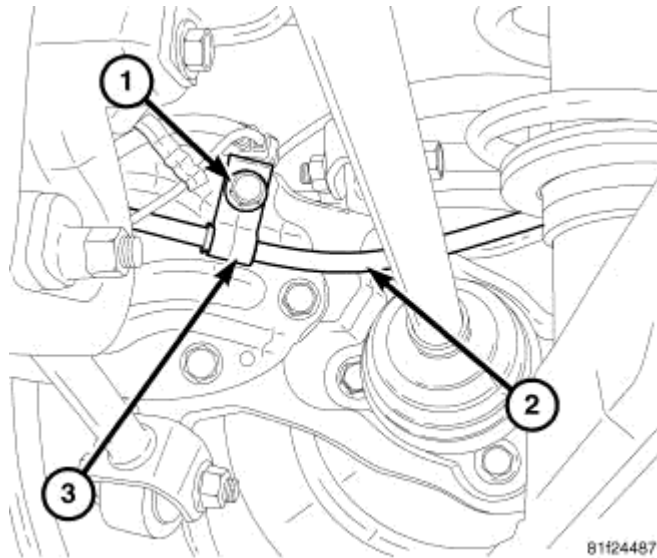


Fig. 212: CABLE AT RIGHT TRAILING LINK
Courtesy of CHRYSLER LLC

11. If servicing the right rear cable, remove the upper bolt (1) securing the knuckle to the trailing link. This bolt also fastens the cable routing clamp (3) in place.

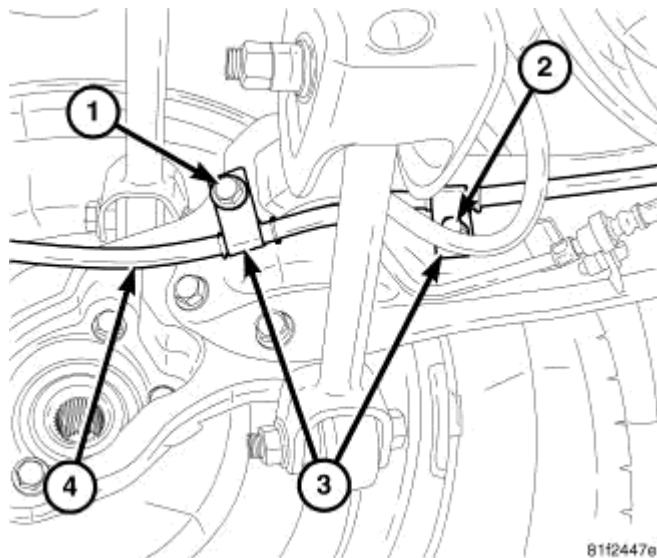


Fig. 213: CABLE AT LEFT TRAILING LINK
Courtesy of CHRYSLER LLC

12. If servicing the left rear cable:
 - a. Remove the upper bolt (1) securing the knuckle to the trailing link as well as the rear cable routing clamp (3).
 - b. Remove the other bolt (2) fastening the rear cable (4) to the trailing arm.

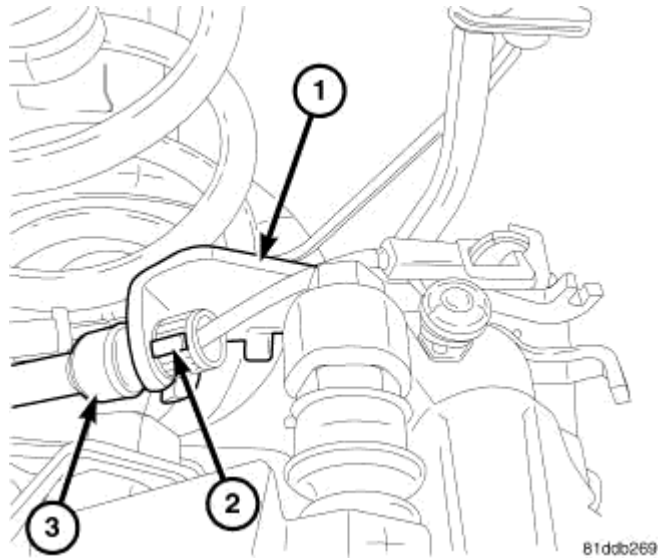


Fig. 214: PARKING BRAKE CABLE AT BRACKET
Courtesy of CHRYSLER LLC

13. Collapse the cable retainer fingers (2) at the end of the cable housing (3), then pull the cable housing out of the mounting bracket (1).

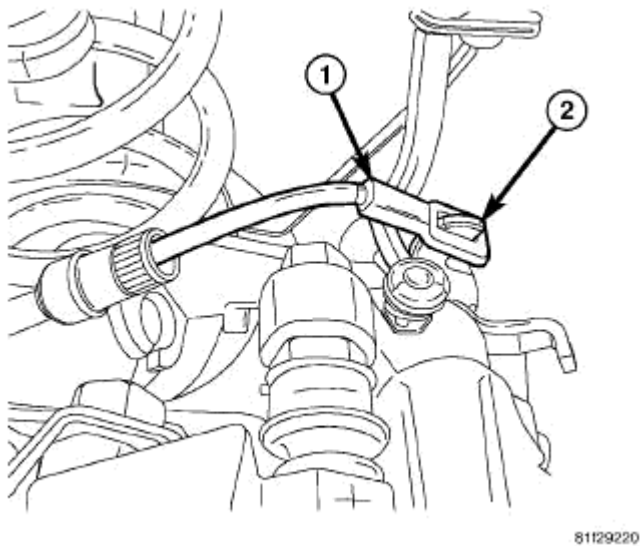


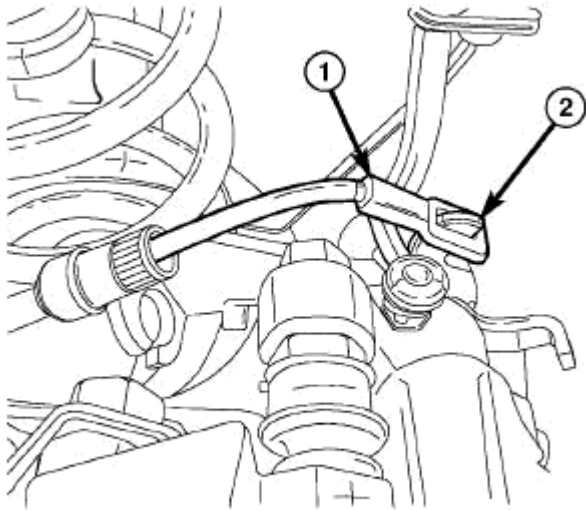
Fig. 215: PARKING BRAKE CABLE AT LEVER
Courtesy of CHRYSLER LLC

14. Slide the cable strand out of the mounting bracket, then pull the parking brake cable strand (1) upward and unhook it from the caliper lever (2).
15. Remove the cable from the vehicle.

Installation

INSTALLATION

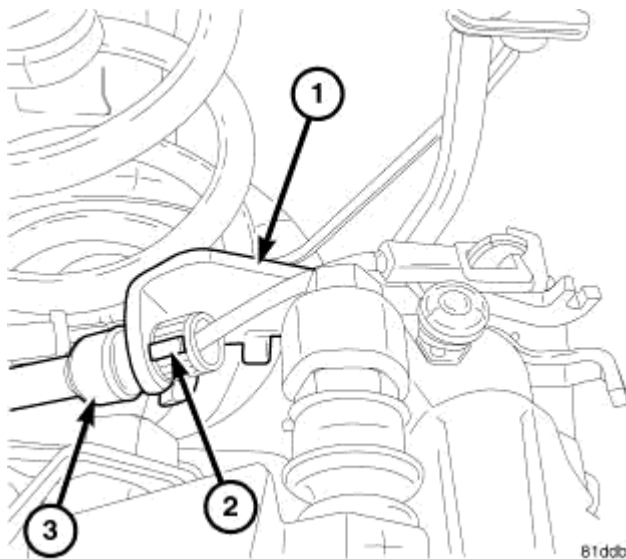
1. Guide the trailing end of the parking brake cable along the inboard side of the axle trailing arm up to the rear brake caliper. Make sure the cable is routed between the brake line and the trailing arm.



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Fig. 216: PARKING BRAKE CABLE AT LEVER
Courtesy of CHRYSLER LLC

2. Pull the parking brake cable strand (1) outward from the cable housing and hook it onto the caliper lever (2).



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Fig. 217: PARKING BRAKE CABLE AT BRACKET
Courtesy of CHRYSLER LLC

3. Push the excess cable strand back into the cable housing, then insert the cable housing (3) into the

mounting bracket (1) until the retainer fingers (2) lock into place. Make sure both fingers are engaged preventing removal of the cable from the bracket.

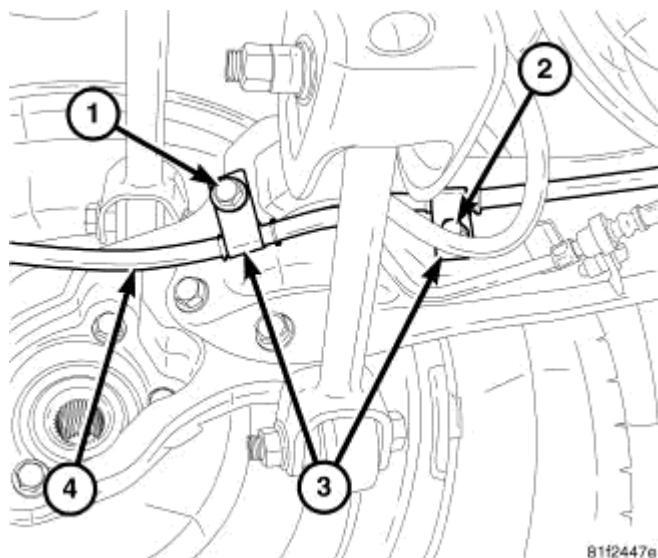


Fig. 218: CABLE AT LEFT TRAILING LINK
Courtesy of CHRYSLER LLC

CAUTION: Before installing bolt (1) in the following step, it is especially important to clean the threads and apply Mopar® Lock AND Seal Adhesive or equivalent.

4. If servicing the left rear cable, position the cable routing clamps (3) against the axle trailing link and:
 - a. Install the upper mounting bolt (1) securing the trailing link (and cable routing clamp) to the knuckle. Tighten the mounting bolt to 60 N.m (44 ft. lbs.).
 - b. Install the bolt (2) attaching the other cable routing clamp to the axle trailing link. Tighten the bolt to 28 N.m (21 ft. lbs.).

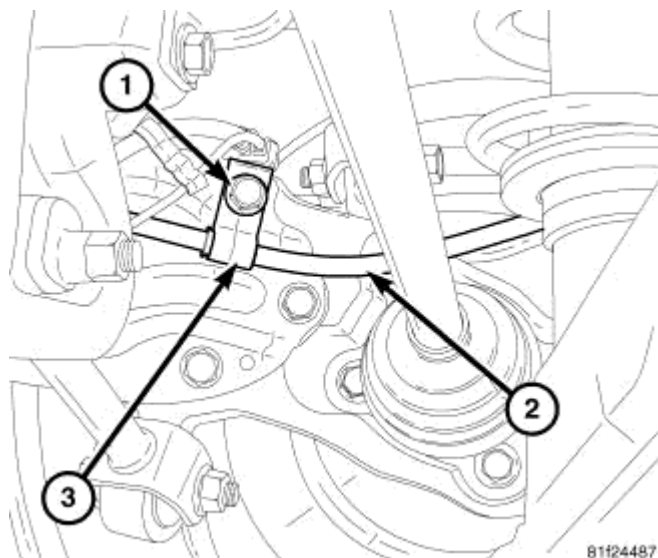


Fig. 219: CABLE AT RIGHT TRAILING LINK

Courtesy of CHRYSLER LLC

CAUTION: Before installing bolt (1) in the following step, it is especially important to clean the threads and apply Mopar® Lock AND Seal Adhesive or equivalent.

5. If servicing the right rear cable, position the cable routing clamps (3) against the axle trailing link and install the upper mounting bolt (1) securing the trailing link (and cable routing clamp) to the knuckle. Tighten the mounting bolt to 60 N.m (44 ft. lbs.).

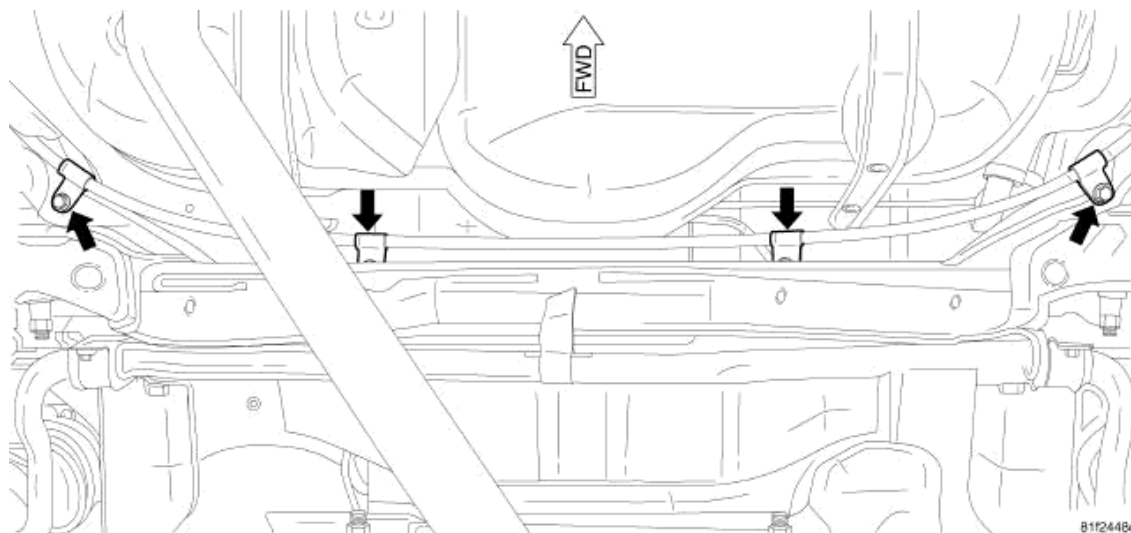


Fig. 220: RIGHT CABLE AT CROSSMEMBER

Courtesy of CHRYSLER LLC

6. If servicing the right rear cable, route the cable over the rear axle (if equipped with AWD) along the front of the rear suspension crossmember. Position the four routing clamps on the rear crossmember and install

the screws. Tighten the screws to 6 N.m (55 in. lbs.).

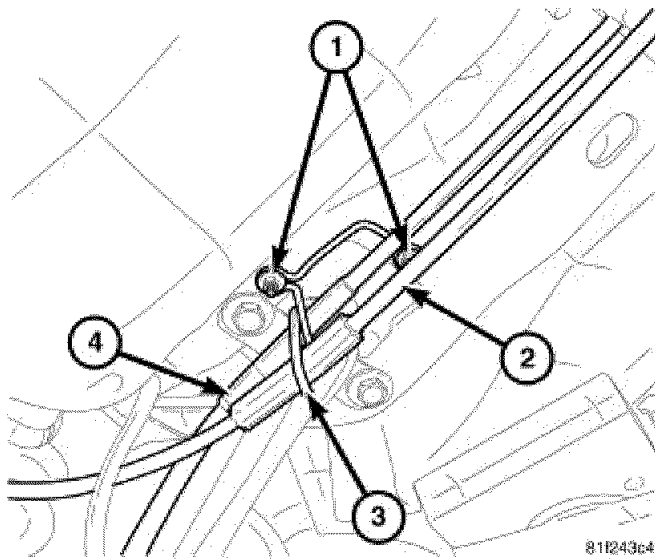


Fig. 221: PARKING BRAKE CABLE ROUTING LOOP
Courtesy of CHRYSLER LLC

7. If servicing the left rear cable, place the routing loop (3) over the studs on the vehicle underbody near the trailing link forward mounting point and install the mounting nuts. Tighten the nuts to 6 N.m (55 in. lbs.).
8. Insert the right rear cable (2) through the lower loop of the cable routing loop (3).

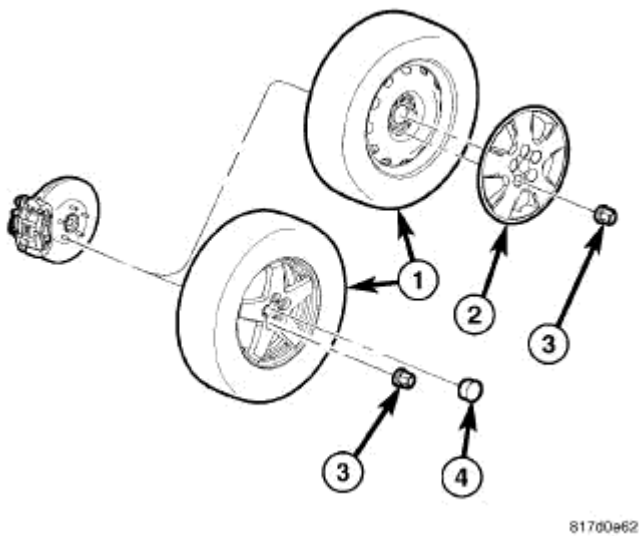


Fig. 222: TIRE AND WHEEL MOUNTING
Courtesy of CHRYSLER LLC

9. Install tire and wheel assembly (1). Refer to **Tires and Wheels - Installation** . Install and tighten wheel mounting nuts (3) to 135 N.m (100 ft. lbs.).

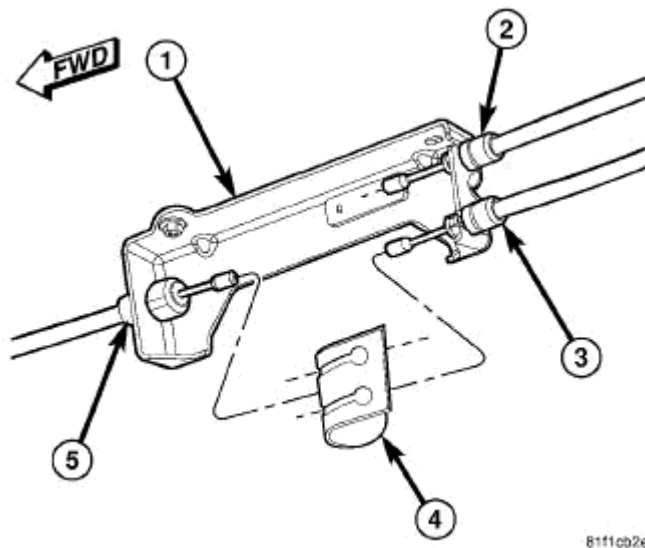


Fig. 223: PARKING BRAKE CABLE EQUALIZER
Courtesy of CHRYSLER LLC

10. If servicing the left rear cable, pass the leading end of the left rear cable (2) through the upper hole in the intermediate bracket (1). Press the cable housing through the hole until the fingers on the retainer lock it into place.
11. If servicing a vehicle equipped with a foot lever:
 - a. Connect the parking brake cable equalizer (4) to the three parking brake cables (2, 3, 5) and reset the cable tension. See **Brakes/Parking Brake - Standard Procedure**
 - b. Lower the vehicle.

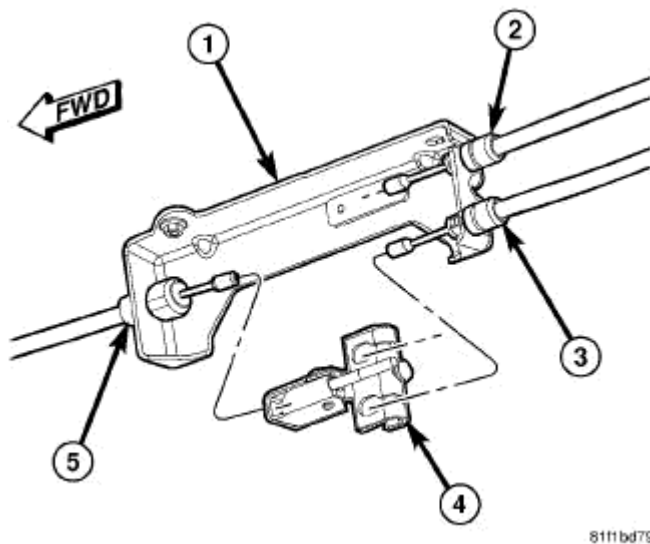


Fig. 224: CABLE EQUALIZER/TENSIONER
Courtesy of CHRYSLER LLC

12. If servicing a vehicle equipped with a hand lever:
 - a. Connect the parking brake cable equalizer/bent nail tensioner (4) to the three parking brake cables (2, 3, 5).
 - b. Remove any slack from the parking brake cables by pushing the front cable strand forward into the housing until slack is removed.
 - c. Lower the vehicle.
 - d. Reset the hand lever cable tension and verify check operation of the parking brake. See **Brakes/Parking Brake - Standard Procedure**
13. Check operation of parking brakes.

LEVER, PARKING BRAKE

Removal

FOOT OPERATED PARKING BRAKE LEVER

1. Release the parking brake.
2. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**
3. Manually release the parking brake cable tension. See **Brakes/Parking Brake - Standard Procedure**
4. Push the front cable strand into the housing until it bottoms.
5. Lower the vehicle.
6. Remove the left front door opening sill scuff plate.
7. Remove the lower cowl trim.
8. Remove the steering column opening cover. Refer to **Body/Instrument Panel/COVER, Steering Column Opening - Removal**.

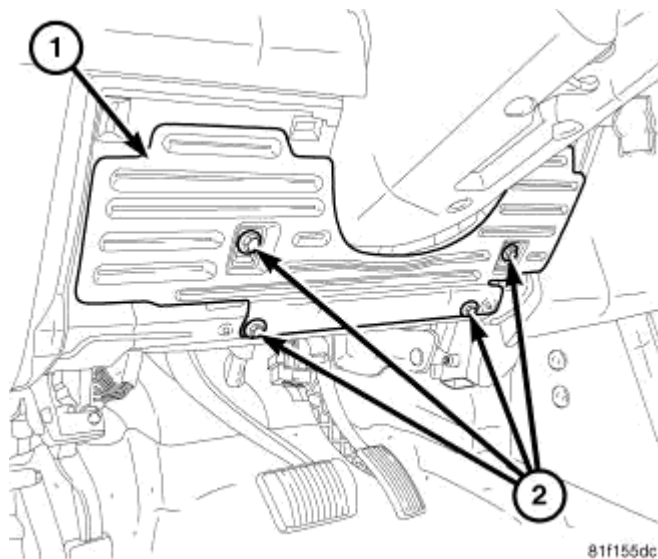


Fig. 225: STEERING COLUMN COVER REINFORCEMENT

Courtesy of CHRYSLER LLC

9. Remove the steering column cover reinforcement mounting screws (2). Remove the steering column cover reinforcement (1).
10. Pull the parking brake lever pedal up and hold it in this position.

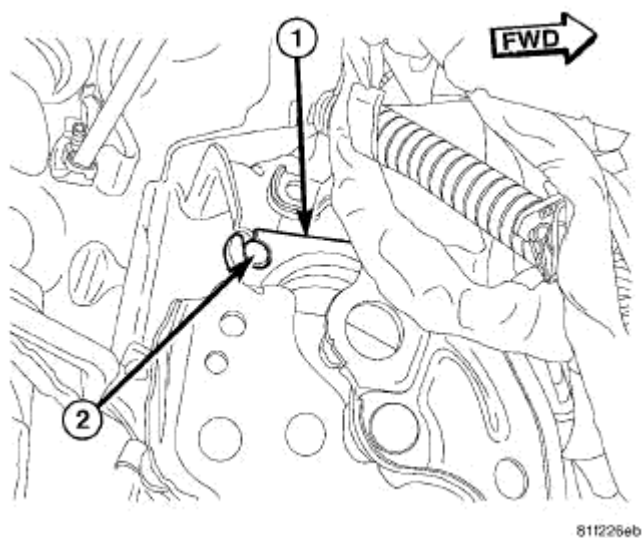


Fig. 226: CABLE BUTTON LOCATED IN LEVER
Courtesy of CHRYSLER LLC

11. Rotate the cable strand around at the lever mechanism until the strand lines up with the slot, then remove the cable end button (2) from the lever mechanism (1).

NOTE: Prior to removing cable from lever, note cable routing through lever for ease in reassembly.

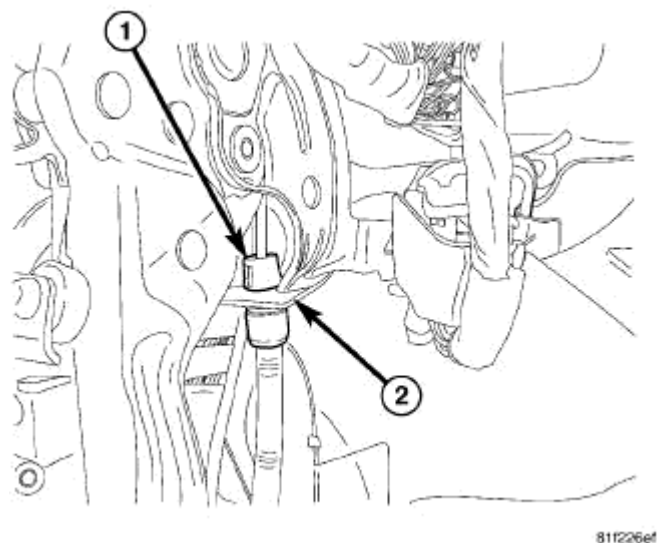
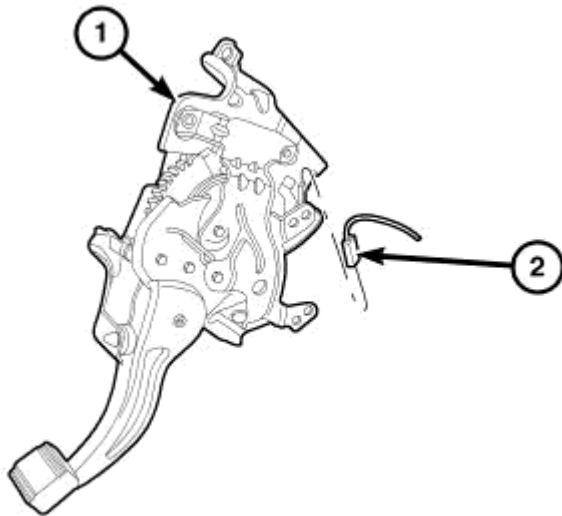


Fig. 227: CABLE HOUSING RETAINED IN LEVER

Courtesy of CHRYSLER LLC

12. Collapse the front cable retainer fingers on the end of the cable housing (1) at the lever (2).
13. Remove the cable from the parking brake lever (3).

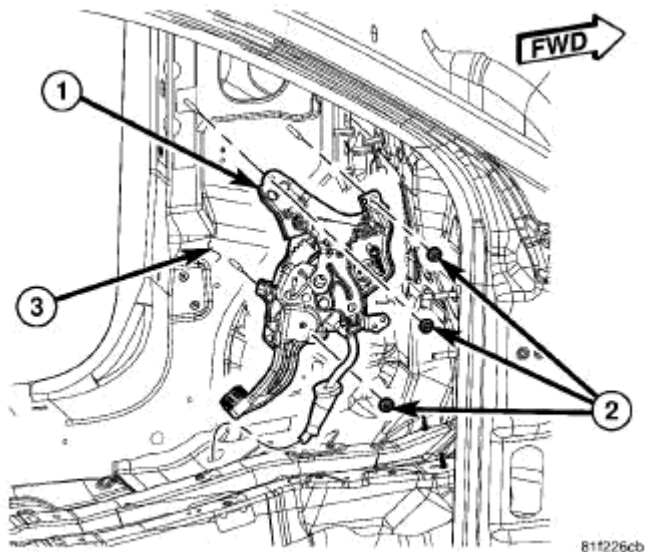


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Fig. 228: WIRING AT PARKING BRAKE LEVER

Courtesy of CHRYSLER LLC

14. Disconnect the wiring connector (2) at parking brake indicator lamp switch.



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Fig. 229: FOOT LEVER MOUNTING

Courtesy of CHRYSLER LLC

15. Remove the three mounting nuts (2), then remove the parking brake lever (1) from the cowl (3).

HAND OPERATED PARKING BRAKE LEVER

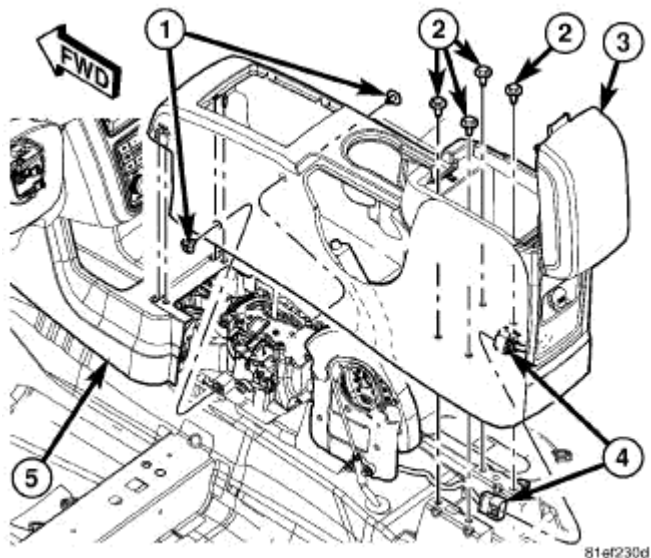


Fig. 230: CENTER CONSOLE
Courtesy of CHRYSLER LLC

1. Remove the floor center console. Refer to **Body/Interior/CONSOLE, Center - Removal**
2. Manually release the parking brake cable tension. See **Brakes/Parking Brake - Standard Procedure**

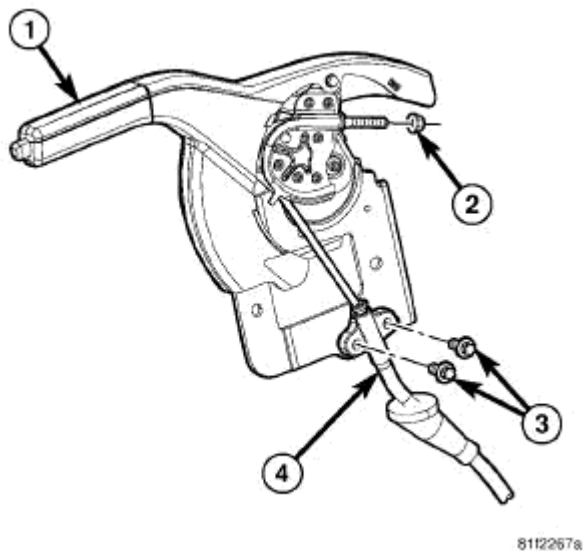


Fig. 231: CABLE MOUNTING TO HAND LEVER
Courtesy of CHRYSLER LLC

3. Remove the mounting screws (3) fastening the front cable (4) to the side of the parking brake lever (1).
4. Remove the adjusting nut (2) from the end of the front parking brake cable.
5. Remove the cable strand from the lever.

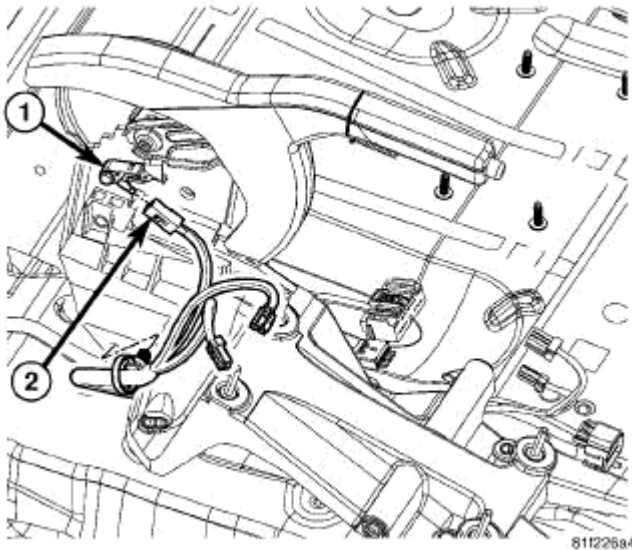


Fig. 232: HAND LEVER PARKING BRAKE SWITCH
Courtesy of CHRYSLER LLC

6. Disconnect the wiring connector (2) at parking brake indicator lamp switch (1).

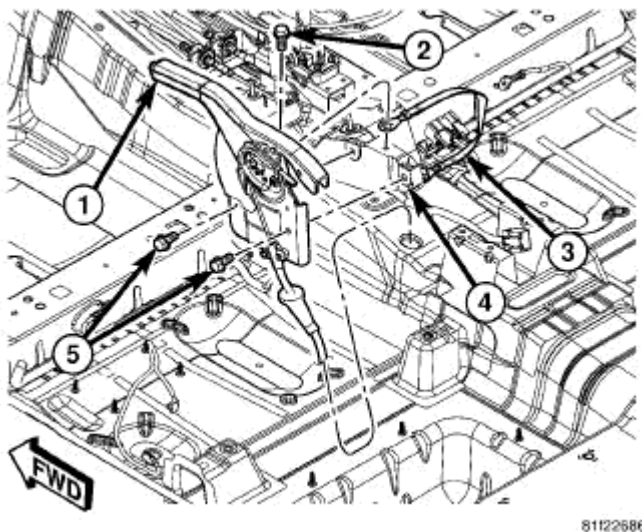


Fig. 233: HAND LEVER MOUNTING
Courtesy of CHRYSLER LLC

7. Remove the two horizontal (5) and one vertical (2) mounting bolts, then remove the parking brake lever (1) from the shifter bracket (4).

Installation

FOOT OPERATED PARKING BRAKE LEVER

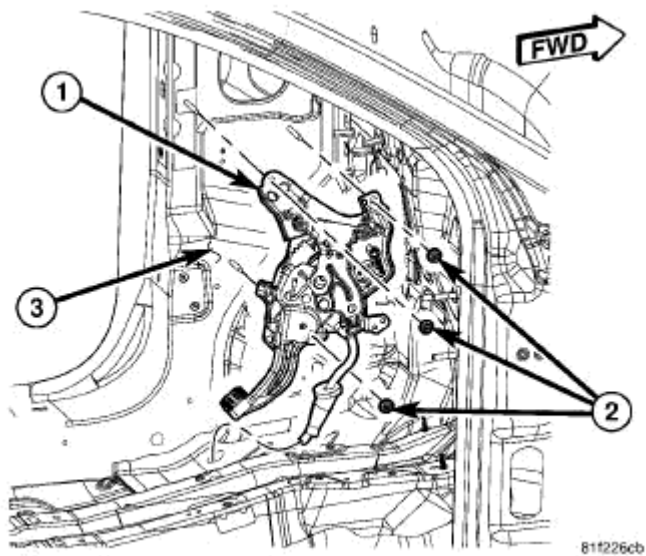


Fig. 234: FOOT LEVER MOUNTING

Courtesy of CHRYSLER LLC

1. Position the parking brake lever (1) over the mounting studs, against the left lower cowl (3).
2. Install the three mounting nuts (2). Tighten the nuts to 28 N.m (21 ft. lbs.).

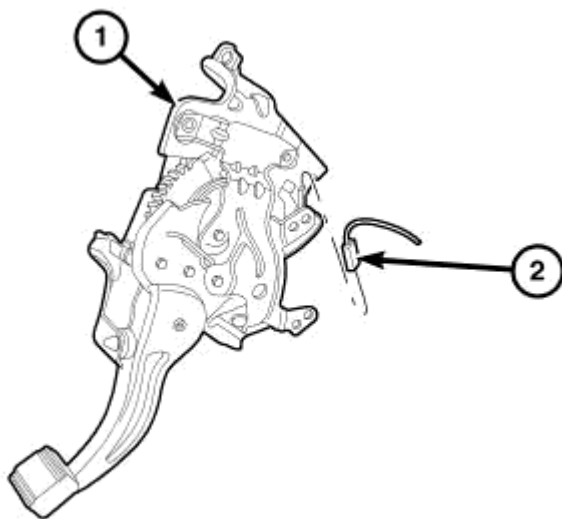
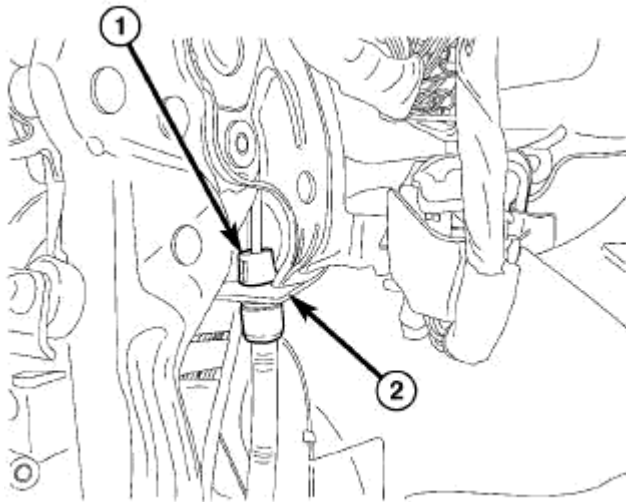


Fig. 235: WIRING AT PARKING BRAKE LEVER

Courtesy of CHRYSLER LLC

3. Connect the wiring connector (2) at the parking brake indicator lamp switch on the parking brake lever (1).

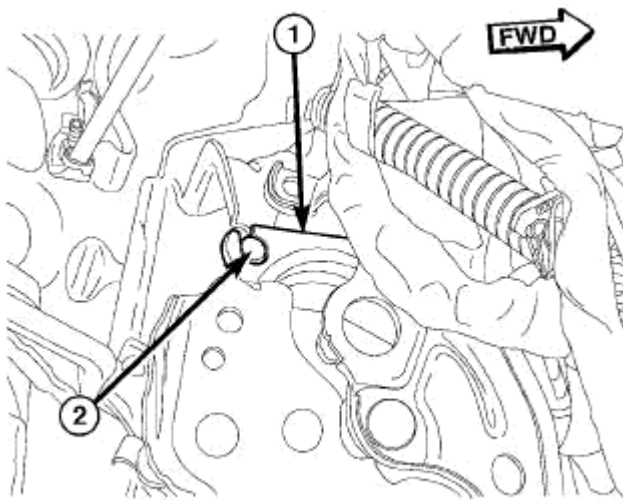


811226ef

Fig. 236: CABLE HOUSING RETAINED IN LEVER

Courtesy of CHRYSLER LLC

4. Insert the lever end of the front parking brake cable through the mounting hole in the parking brake lever (2). Slide it through until the cable retainer fingers on the end of the housing (1) lock in place. Make sure all fingers are engaged preventing removal of the cable from the bracket.



811226eb

Fig. 237: CABLE BUTTON LOCATED IN LEVER

Courtesy of CHRYSLER LLC

5. Pull the button on the end of cable strand out of housing and route the strand around the cable guide, then rotate the cable strand up and align the cable with the slot in lever mechanism (1). Slide the cable button (2) into the slot and rotate the cable down into mounted position with the cable inserted into the guide on the mechanism.
6. Slide any extra cable back into the cable housing. This can be easily done by pulling on the trailing end of the front cable strand that is now under the vehicle.
7. Install the front parking brake cable floor pan seal into the access hole in the floor pan.
8. Reposition the carpeting back down on the floor.

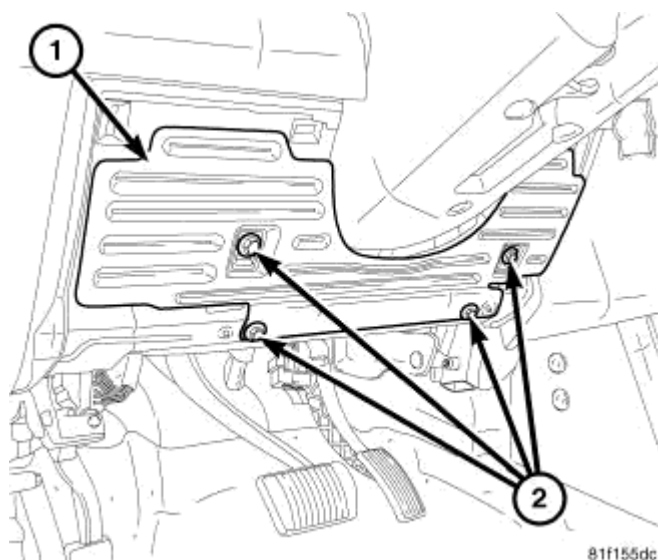


Fig. 238: STEERING COLUMN COVER REINFORCEMENT

Courtesy of CHRYSLER LLC

9. Install the steering column cover reinforcement (1) using the four mounting screws (2).
10. Install the steering column opening cover. Refer to **Body/Instrument Panel/COVER, Steering Column Opening - Installation**
11. Install the lower cowl trim.
12. Install the left front door opening sill scuff plate.
13. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**

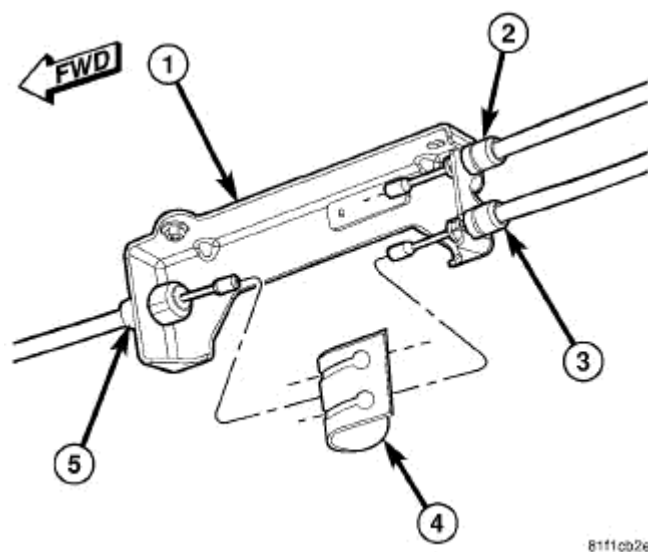


Fig. 239: PARKING BRAKE CABLE EQUALIZER

Courtesy of CHRYSLER LLC

14. If the original parking brake lever is being reinstalled, reconnect the parking brake cable equalizer (4) and reset the cable tension. See **Brakes/Parking Brake - Standard Procedure**
15. If a NEW parking brake lever is being installed, connect the parking brake cable equalizer to the cables, then remove the pin locking the lever mechanism spring tension at the lever.
16. Lower the vehicle.
17. Apply and release the parking brake lever (pedal) one time. This will seat the parking brake cables.
18. Check operation of parking brake lever and parking brakes.

HAND OPERATED PARKING BRAKE LEVER

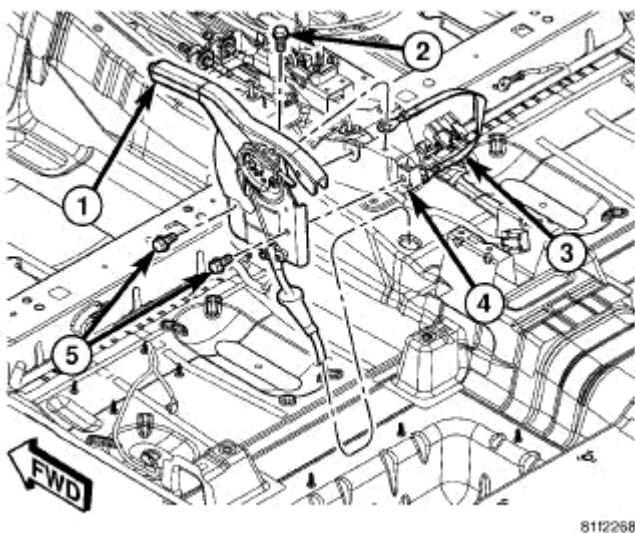


Fig. 240: HAND LEVER MOUNTING

Courtesy of CHRYSLER LLC

1. Position the parking brake lever (1) on the shifter bracket (4).

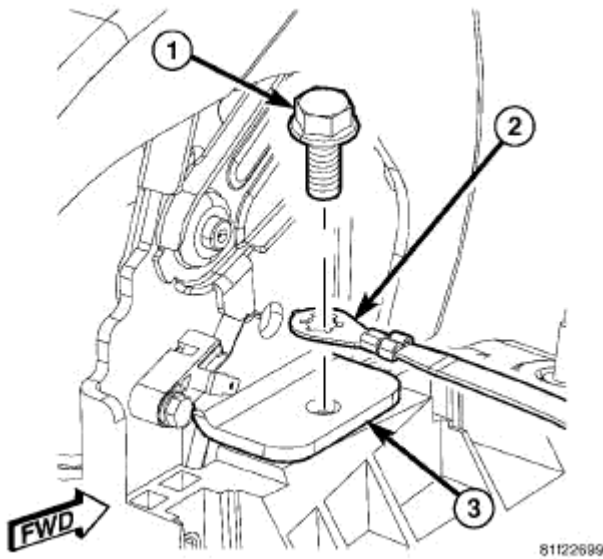


Fig. 241: HAND LEVER MOUNTING VERTICAL BOLT

Courtesy of CHRYSLER LLC

NOTE: When installing the vertical mounting bolt in the following step make sure to capture the ground strap (2) with the mounting bolt (1) before installation.

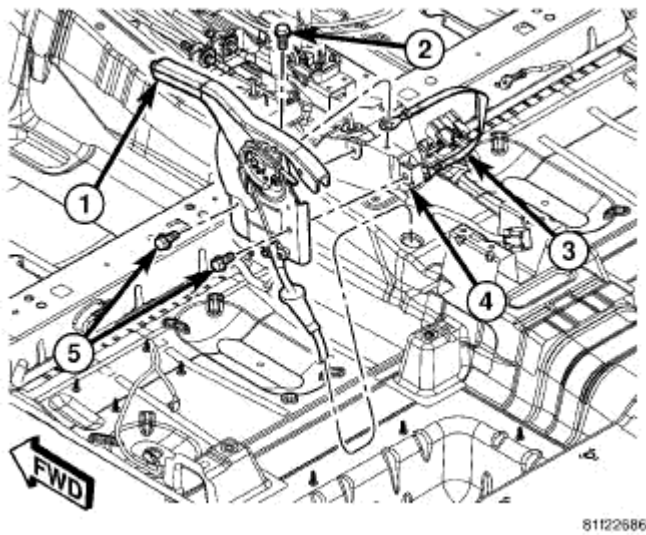


Fig. 242: HAND LEVER MOUNTING

Courtesy of CHRYSLER LLC

2. Install the two horizontal (5) and one vertical (2) mounting bolts. Tighten the nuts to 20 N.m (15 ft. lbs.).

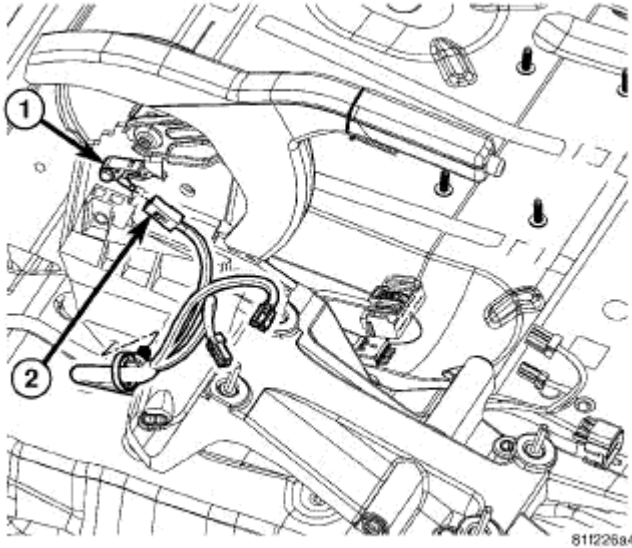


Fig. 243: HAND LEVER PARKING BRAKE SWITCH
Courtesy of CHRYSLER LLC

3. Connect the wiring connector (2) at the parking brake indicator lamp switch (1).

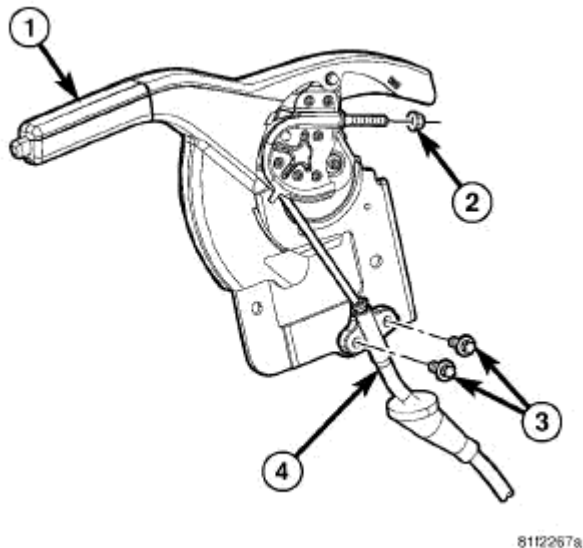


Fig. 244: CABLE MOUNTING TO HAND LEVER
Courtesy of CHRYSLER LLC

4. Install the mounting screws (3) fastening the front cable (4) to the side of the parking brake lever (1).

Tighten the mounting screws to 28 N.m (21 ft. lbs.).

5. Route the cable strand around the lever cable guide and start the adjusting nut (2) on the end of the cable stud. **Do not install the nut any further than having the threads flush with the top of the nut before the next step is performed.**

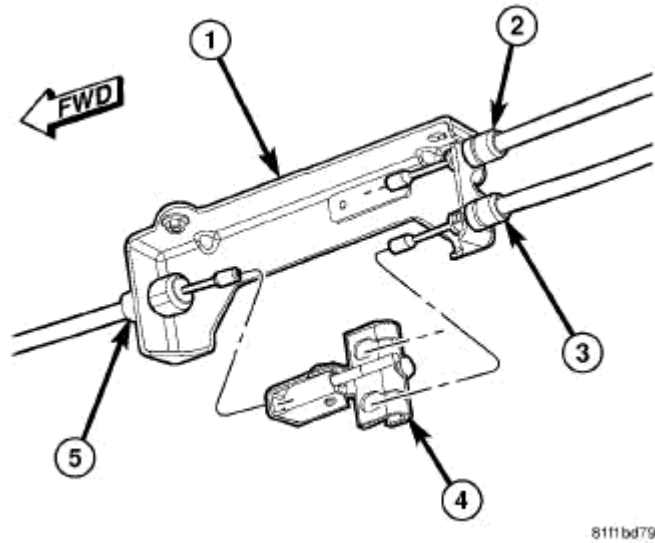


Fig. 245: CABLE EQUALIZER/TENSIONER
Courtesy of CHRYSLER LLC

6. Make sure the cables (2, 3, 5) are connected to the cable equalizer/bent nail tensioner (4) at the intermediate bracket (1) under the vehicle.
7. Reset the hand lever cable tension and verify check operation of the parking brake. See **Brakes/Parking Brake - Standard Procedure**

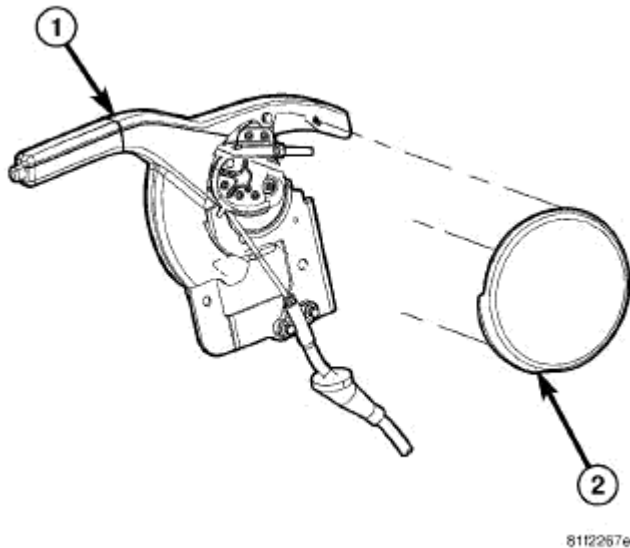


Fig. 246: HAND LEVER COVER MOUNTING

Courtesy of CHRYSLER LLC

8. Install the cover on the side of the parking brake lever.

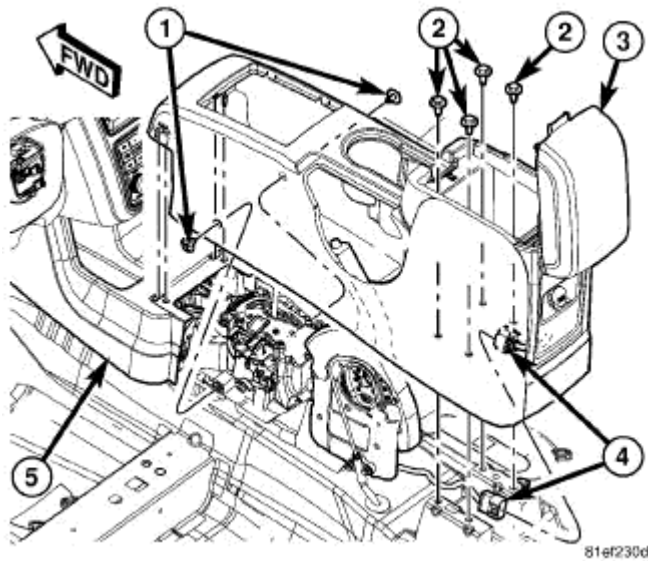


Fig. 247: CENTER CONSOLE

Courtesy of CHRYSLER LLC

9. Install the floor center console. Refer to **Body/Interior/CONSOLE, Center - Removal**