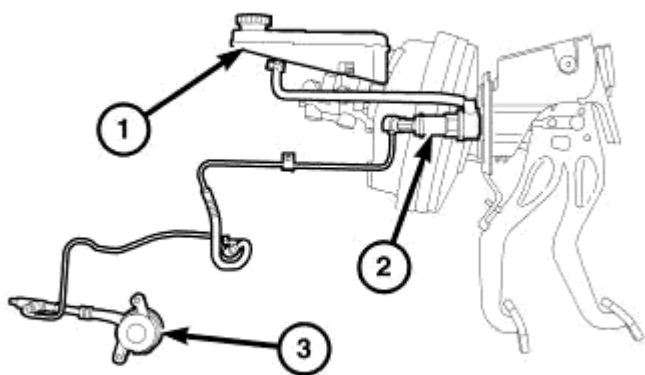


2009 CLUTCH

Clutch - Journey

DESCRIPTION

DESCRIPTION



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Fig. 1: Clutch Hydraulic System - Typical
Courtesy of CHRYSLER LLC

The typical clutch hydraulic system consists of a clutch master cylinder (2), slave cylinder (3), and an interconnecting hydraulic line. Clutch hydraulic fluid is supplied by the brake system via the brake master cylinder reservoir (1).

FLUID

CAUTION: Never use any type of petroleum-based fluid (engine oil, transmission oil, power steering fluid, etc.) in the clutch hydraulic system. Use of such fluids will result in master/slave cylinder seal damage, and cause a failure of the hydraulic clutch release system.

NOTE: Under normal operating conditions, the clutch hydraulic system does not require additional fluid for the life of the vehicle. Since the clutch shares the brake reservoir, the fluid level will be maintained whenever the brake system is checked.

The fluid required for use in the clutch hydraulic system is brake fluid conforming to DOT 3 specifications and J1703 standards. No other type of fluid is recommended or approved for use in the clutch hydraulic system. Use only MOPAR® brake fluid or equivalent from a tightly sealed container.

OPERATION

OPERATION

The clutch hydraulic system is responsible for engaging and disengaging the clutch. Depressing the clutch pedal develops fluid pressure in the clutch master cylinder. This pressure is transmitted to the integral release bearing which is in contact with the pressure plate diaphragm spring. As additional force is applied, the bearing depresses the diaphragm spring fingers inward on the fulcrums. The action moves the pressure plate rearward, relieving clamping force on the clutch disc.

DIAGNOSIS AND TESTING

CLUTCH SYSTEM

Clutch problem diagnosis will generally require a road test to determine the type of fault. Component inspection will then determine the problem after road testing.

Drive the vehicle at normal speeds during road test. Shift the transaxle through all gear ranges and observe clutch action. If chatter, grab, slip, or improper release is experienced, remove and inspect the clutch components. If the problem is noise or hard shifting, further diagnosis may be needed. The transaxle or other driveline components may actually be at fault.

CLUTCH GRAB/CHATTER

CONDITION	POSSIBLE CAUSES	CORRECTION
CLUTCH DISC FACING COVERED WITH OIL OR GREASE	Oil leak at engine rear main or transaxle input shaft seal.	T355 equipped- Correct leak and replace modular clutch assembly. NOTE: The BG6 clutch disc and cover are available only as a matched set. If the cover or disc must be replaced, do not replace only the disc or only the cover. BG6 equipped - Clean the flywheel, and install a new clutch disc/cover set.
	Too much grease applied to splines of disc and input shaft.	Apply lighter coating of grease to splines.
NO FAULT FOUND WITH CLUTCH COMPONENTS	Problem actually related to suspension or driveline component.	Further diagnosis required. Check engine/transmission mounts, suspension attaching parts and other driveline components as needed.
	Engine related problems.	Check EFI and ignition systems.
PARTIAL ENGAGEMENT OF CLUTCH DISC	Clutch cover, spring, or release fingers bent, distorted (rough handling, improper assembly).	Replace clutch assembly.

2009 Dodge Journey R/T

2009 CLUTCH Clutch - Journey

	Clutch disc damaged or distorted.	Replace clutch assembly.
	Clutch Misalignment	BG6 equipped - Check alignment and runout of flywheel, disc, or cover. Check clutch housing to engine dowels and dowel holes for damage. Correct as necessary.

CLUTCH SLIPS

CONDITION	POSSIBLE CAUSES	CORRECTION
DISC FACING WORN OUT	Normal wear.	Replace clutch assembly.
	Driver frequently rides (slips) clutch, results in rapid wear, overheating.	Replace clutch assembly.
	Insufficient clutch cover diaphragm spring tension	Replace clutch assembly.
CLUTCH DISC FACING CONTAMINATED WITH OIL OR GREASE	Leak at rear main oil seal or transaxle input shaft seal	T355 equipped - Replace leaking seals. Replace clutch assembly. NOTE: The BG6 clutch disc and cover are available only as a matched set. If the cover or disc must be replaced, do not replace only the disc or only the cover. BG6 equipped - Replace leaking seals. Clean the flywheel surface and install a new clutch disc/cover set.
	Excessive amount of grease applied to input shaft splines	T355 equipped - Apply less grease to input shaft. Replace clutch assembly. NOTE: The BG6 clutch disc and cover are available only as a matched set. If the cover or disc must be replaced, do not replace only the disc or only the cover. BG6 equipped - Apply less grease to input shaft. Clean the flywheel surface and install a new clutch disc/cover set.
	Road splash, water entering housing	Seal housing. Inspect clutch assembly.
	Concentric Slave Cylinder leaking hydraulic fluid	Replace Concentric Slave Cylinder (CSC)
CLUTCH IS RUNNING PARTIALLY DISENGAGED	Release bearing sticking or binding, does not return to normal running position.	Verify that bearing is actually binding. Then, replace bearing and transmission front bearing retainer if sleeve surface is damaged.

2009 Dodge Journey R/T

2009 CLUTCH Clutch - Journey

CLUTCH DISC FACINGS HAVE FRACTURED INTO SMALL PIECES	Concentric Slave cylinder (CSC) binding	Replace Concentric Slave cylinder (CSC)
	Driver performs a 5-1 downshift at vehicle speed in excess of 60 miles per hour	Alert driver to problem cause. Replace clutch assembly. Inspect slave cylinder and bearing for damage.
	Leak at rear main or transaxle input shaft seal	T355 equipped - Replace seal. Replace clutch assembly. NOTE: The BG6 clutch disc and cover are available only as a matched set. If the cover or disc must be replaced, do not replace only the disc or only the cover. BG6 equipped - Replace seal. Clean the flywheel surface and replace clutch disc.
	Excessive heat from slippage	Replace Clutch Assembly

IMPROPER CLUTCH RELEASE

CONDITION	POSSIBLE CAUSES	CORRECTION
CLUTCH DISC BINDS ON INPUT SHAFT SPLINES	Clutch disc hub splines damaged during installation	Clean, smooth, and lubricate disc and shaft splines. Replace modular clutch assembly, or clutch disc, and/or input shaft if splines are severely damaged.
	Input shaft splines rough, damaged.	Clean input shaft splines. Then lube.
	Corrosion or rust formations on splines of input shaft and disc	Clean input shaft splines and disc splines, then lube
CLUTCH DISC RUSTED TO FLYWHEEL AND/OR PRESSURE PLATE	Occurs in vehicles stored or not driven for extended period of time. Also occurs after steam cleaning if vehicle is not used for extended period.	Replace clutch assembly.
CLUTCH WILL NOT DISENGAGE PROPERLY	Disc bent, distorted during transaxle installation	Replace clutch assembly.
	Clutch cover diaphragm spring damaged during transaxle installation	Replace clutch assembly.
	Air in clutch hydraulic system.	Bleed clutch hydraulic system to purge air.
	Clutch master cylinder or slave cylinder leaking	Check and replace master and/or slave cylinder

CLUTCH PEDAL NOISE

CONDITION	POSSIBLE CAUSES	CORRECTION
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CLUTCH PEDAL SQUEAKS WHEN DEPRESSED TO FLOOR	Pedal bushings worn out or inadequate lubrication	Replace the Pedal assembly
	Push rod ball joint worn out	Lubricate or replace the push rod
	Clutch pedal return spring worn out	Replace the Pedal assembly

CLUTCH CHATTER COMPLAINTS

For all clutch chatter complaints, perform the following:

1. Check for loose, misaligned, or broken engine and transmission mounts. If present, they should be corrected at this time. Test vehicle for chatter. If chatter is gone, there is no need to go any further.
2. If chatter persists, check hydraulic clutch release system is functioning properly.
3. Check for loose connections in drivetrain. Correct any problems and determine if clutch chatter complaints have been satisfied. If not:
 - a. Remove transaxle.
 - b. Check to see if the release bearing is sticky or binding. Replace bearing, if needed.
 - c. Check clutch assembly for contamination (dirt, oil). Replace clutch assembly, if required.
 - d. Check to see if the clutch disc hub splines are damaged. Replace with new clutch assembly, if necessary.
 - e. Check input shaft splines for damage. Replace, if necessary.
 - f. Check for uneven wear on clutch fingers.
 - g. Check for broken clutch cover diaphragm spring fingers. Replace with new clutch assembly, if necessary.

DRIVE PLATE MISALIGNMENT

Common causes of misalignment are:

- Heat warping
- Mounting drive plate on a dirty crankshaft flange
- Incorrect bolt tightening
- Improper seating on the crankshaft shoulder
- Loose crankshaft bolts

Clean the crankshaft flange before mounting the drive plate. Dirt and grease on the flange surface may misalignment the flywheel, causing excessive runout. Use new bolts when mounting drive plate to crankshaft. Tighten drive plate bolts to specified torque only. Over-tightening can distort the drive plate hub causing excessive runout.

CLASH-INTO-REVERSE COMPLAINTS

All T355 manual transaxles are equipped with a reverse brake. It prevents clash when shifting into reverse, but only if the vehicle is not moving.

1. Depress clutch pedal to floor and hold. After three seconds, shift to reverse. If clash is present, clutch has excessive spin time, and the reverse brake may not be functioning.
2. Remove transaxle.
3. Check the input shaft spline, clutch disc splines, and release bearing for dry rust. If present, clean rust off and apply a light coat of bearing grease to the input shaft splines. Apply grease on the input shaft splines only where the clutch disc slides. Verify that the clutch disc slides freely along the input shaft spline.
4. Check to see if the clutch disc hub splines are damaged, and replace with new clutch assembly if required.
5. Check the input shaft for damaged splines. Replace as necessary.
6. Check for broken clutch cover diaphragm spring fingers.
7. Install clutch assembly and transaxle.

STANDARD PROCEDURE

MANUAL BLEEDING CLUTCH HYDRAULIC CIRCUIT

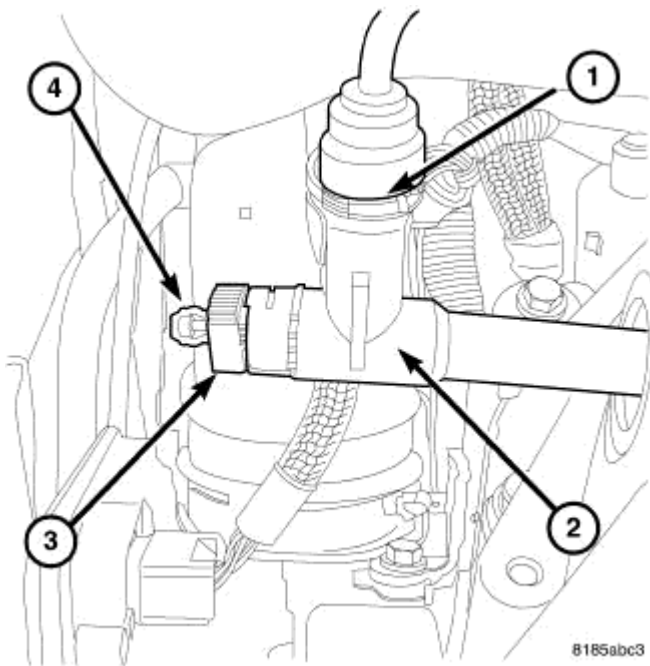


Fig. 2: Identifying Clutch Hydraulic Circuit Components
Courtesy of CHRYSLER LLC

NOTE: An assistant is required to perform this procedure

1. Verify fluid level in clutch/brake cylinder. Top off with DOT 3 brake fluid as necessary. Leave cap off.
2. Raise vehicle on hoist.

NOTE: The container must be positioned at a lower level than the bleeder valve on the clutch slave cylinder

3. Remove the dust cap from the bleed port on the clutch slave cylinder and install suitable size and length of clear hose (4) to monitor and divert fluid into a suitable container.
4. Lower vehicle, but only enough to gain access to and fill the brake master cylinder.
5. Have the assistant press down and hold the clutch pedal until it reaches the floor.

NOTE: Do not allow clutch/brake fluid reservoir to run dry while fluid exits bleed port. If the reservoir runs dry during this procedure, it must be refilled. and this step must be repeated.

NOTE: Ensure the assistant does not release the clutch pedal from the floor while the bleed port on the clutch slave cylinder is open. Otherwise, air will enter the clutch hydraulic circuit.

6. Open the bleed port on the clutch slave cylinder enough to allow hydraulic fluid to drain. Any air in the system will escape at this time.
7. Close the bleed port on the clutch slave cylinder, and have the assistant release the clutch pedal to the full up position.
8. Repeat steps 5 through 7 at least 15 times or until air bubbles are no longer present in the clutch hydraulic fluid.
9. Slowly actuate the clutch pedal 10 times between the full up and pedal stop position.
10. **Apply parking brake** . Start engine and verify clutch operation and pedal feel. If the clutch pedal feels fine and the transaxle can be easily shifted from neutral to any gear, the clutch is operating correctly. If pedal still feels spongy or clutch does not fully disengage, excessive air is still trapped within the system, most likely at the master cylinder.
11. Disconnect the hose from the bleed port on the clutch master cylinder and install the dust cap.
12. Top off brake master cylinder fluid level with DOT 3 brake fluid as necessary.

POWER BLEEDING CLUTCH HYDRAULIC CIRCUIT

1. Remove reservoir cap and connect bleeder cap to clutch/brake fluid reservoir.

NOTE: Use Bleeder Cap/Modified reservoir cap adapter Snap-on #901-059 or equivalent.

2. Connect service filling machine to bleeder cap.

NOTE: Use Service Filling Machine/Brake power bleeder or equivalent.

3. Service filling machine should be pressurized between 2.0 and 2.5 bar (29 - 36 PSI).
4. Remove dust cap from bleeder valve and connect the transparent bleeder hose to bleeder valve.

NOTE: Use Bleeder Container to capture hydraulic fluid and the Transparent Bleeder Hose to route fluid to container.

NOTE: The Container must be at a lower level than the bleeder valve on the clutch slave cylinder.

5. Place the other end of hose in the bleeder container to capture the used fluid. The end of the hose **MUST** be submerged in the DOT 3 brake fluid.
6. Turn on the service filling machine.

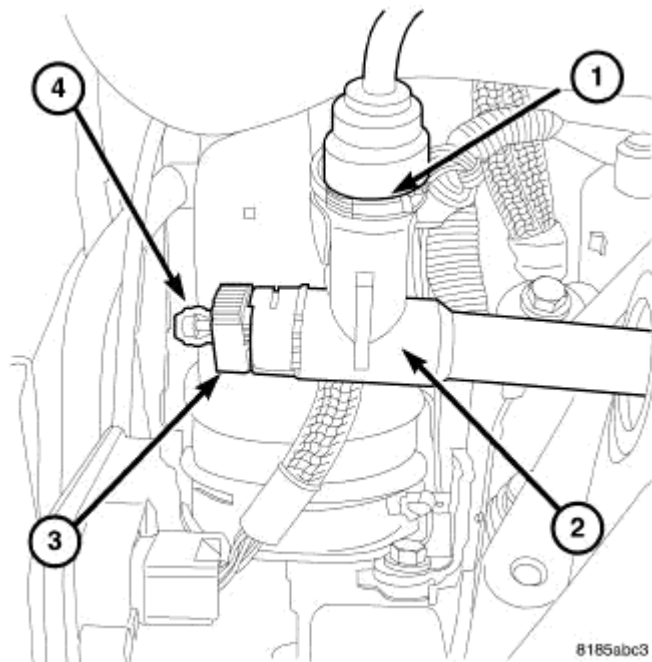


Fig. 3: Identifying Clutch Hydraulic Circuit Components
Courtesy of CHRYSLER LLC

NOTE: While bleeding the system, do not allow the clutch fluid reservoir to completely empty out. If this happens, refill the clutch fluid reservoir, and repeat the procedure.

7. Open the bleeder valve (3) on the clutch slave cylinder enough to allow fluid to flow from the clutch hydraulic system.
8. Allow fluid to flow out of bleed port until no more air bubbles can be seen in the transparent bleeder hose.
9. Once fluid is free of air bubbles; make 15 quick actuations between clutch pedal stop positions.
10. Close the bleeder valve at the clutch slave cylinder and disconnect the service filling machine.
11. Check clutch pedal to see if vehicle is properly bled.
12. If vehicle is not properly bled, repeat procedure.

13. Remove bleeder cap from the clutch fluid reservoir and replace reservoir cap.
14. Disconnect transparent bleeder hose from bleeder valve and replace dust cap.

SPECIFICATIONS

TORQUE

TORQUE SPECIFICATIONS

DESCRIPTION	N.m	Ft. Lbs.	In. Lbs.
Clutch Pedal Assembly-to-Instrument Panel Fasteners	34	-	300
Pressure Plate-to-Flywheel Bolts	20	15	177
Damper-to-Transaxle Nuts	24	-	215
Driveplate-to-Crankshaft Bolts	95	70	-
Flywheel-to-Crankshaft Bolts Diesel	70	52	620
Modular Clutch-to-Drive Plate Bolts	88	65	-
Slave Cylinder-to-Transaxle (2.0/2.4L Models)	10	-	88
Clutch pipe to Transaxle Mounting Bolts	18	-	159
Transaxle-to-Engine Mounting Bolts	95	70	-

SPECIAL TOOLS

SPECIAL TOOLS

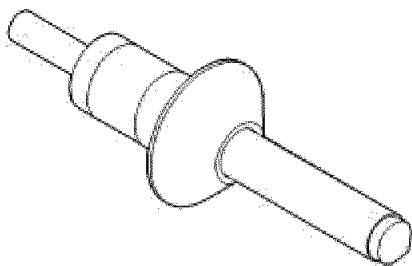


Fig. 4: Clutch Disc Alignment Tool - 6724
Courtesy of CHRYSLER LLC

CLUTCH ASSEMBLY, MODULAR

DESCRIPTION

DESCRIPTION

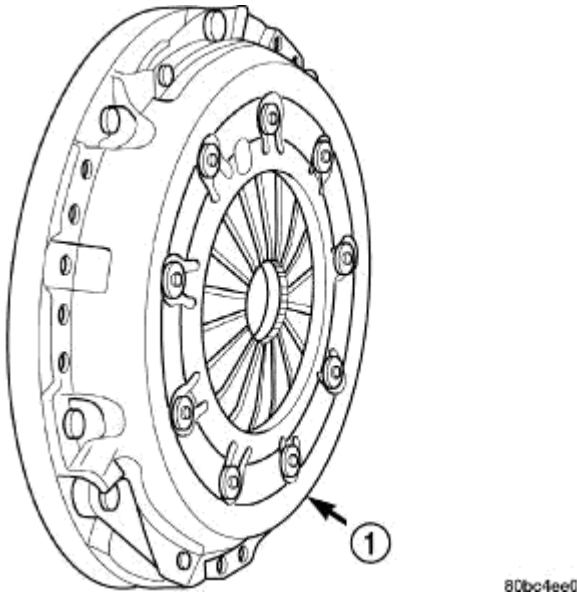


Fig. 5: Modular Clutch Assembly-Typical
Courtesy of CHRYSLER LLC

1 - MODULAR CLUTCH ASSEMBLY

The modular clutch assembly (1) is located between the engine and manual transaxle in the transaxle bellhousing, and is responsible for transmitting engine power to the transaxle. The modular clutch is an assembly which incorporates a the following components:

- Flywheel
- Clutch Disc
- Pressure Plate
- Diaphragm Spring
- Cover

OPERATION

OPERATION

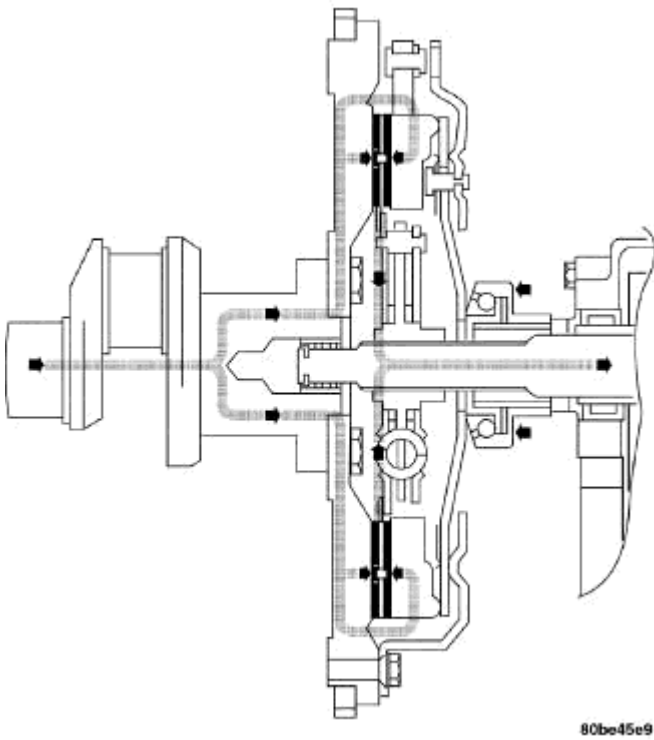


Fig. 6: Clutch Coupling Powerflow - Typical
Courtesy of CHRYSLER LLC

The modular clutch assembly is designed to transmit power from the engine to the manual transaxle. This is accomplished by the friction and clamping force generated when the spring loaded pressure plate locks the clutch disc to the flywheel. The clutch disc, which is splined to the transaxle input shaft, transmits power until the center of the diaphragm spring is depressed, and the clamp force is removed from the disc.

REMOVAL

REMOVAL

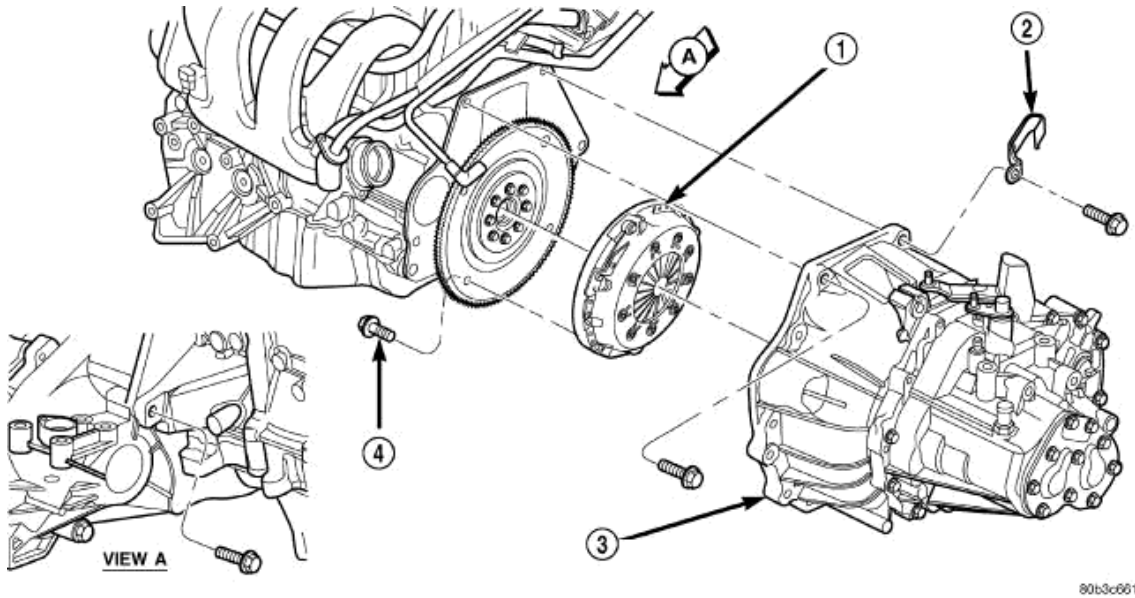


Fig. 7: Modular Clutch Assembly-Typical
Courtesy of CHRYSLER LLC

1 - MODULAR CLUTCH ASSEMBLY
2 - CLIP
3 - TRANSAXLE
4 - CLUTCH TO DRIVE PLATE BOLTS (4)

WARNING: Chrysler 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 manual clutch parts during normal use. Follow practices prescribed by appropriate regulations for the handling, processing and disposing of dust and debris

1. Remove transaxle (3) from vehicle. Refer to Transmission and Transfer Case/Manual - Removal .

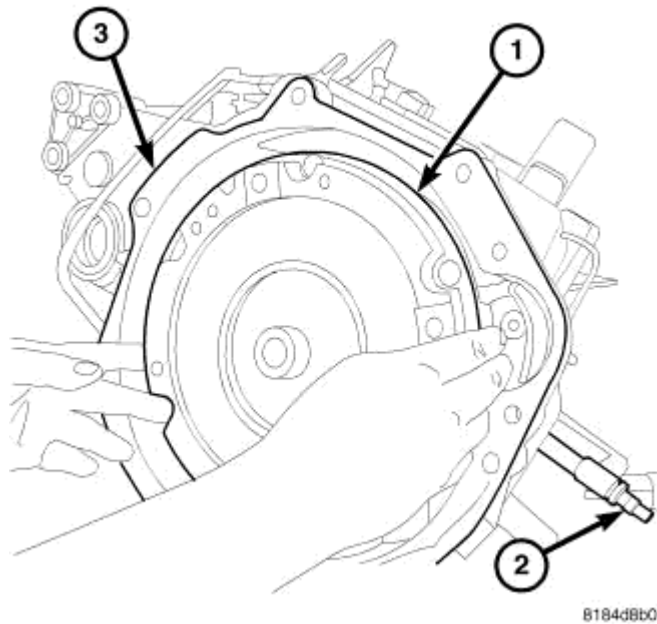


Fig. 8: Removing/Installing Modular Clutch Assembly
Courtesy of CHRYSLER LLC

2. Remove modular clutch assembly (1) from transaxle input shaft.

INSPECTION

INSPECTION

Fluid contamination is a frequent cause of clutch malfunctions. Oil, grease, water, or other fluids on the clutch contact surfaces will cause faulty operation.

During inspection, note if any components are contaminated. Look for evidence of oil, grease, or water/road splash on clutch components.

OIL CONTAMINATION

Oil contamination indicates a leak at the rear main seal and/or transaxle input shaft. Oil leaks produce a residue of oil on the transaxle housing interior, clutch cover and flywheel. Heat buildup caused by slippage can bake the oil residue onto the components. This glaze-like residue ranges in color from amber to black.

GREASE CONTAMINATION

Grease contamination is usually a product of over-lubrication. During clutch service, apply only a small amount of grease to the input shaft splines. Excess grease may be thrown off during operation, contaminating the disc.

ROAD SPLASH/WATER CONTAMINATION

Road splash contamination is usually caused by driving the vehicle through deep water puddles. Water can be

forced into the clutch housing, causing clutch components to become contaminated. Facing of disc will absorb moisture and bond to the flywheel and/or, pressure plate, if vehicle is allowed to stand for some time before use. If this condition occurs, replacement of clutch assembly may be required. Drive the vehicle until normal clutch operating temperature has been obtained. This will dry off disc assembly, pressure plate, and flywheel.

INSTALLATION

INSTALLATION

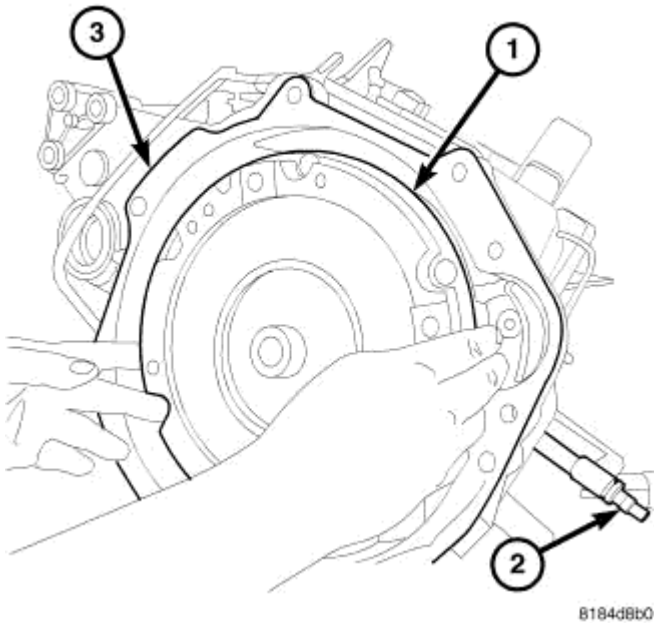


Fig. 9: Removing/Installing Modular Clutch Assembly
Courtesy of CHRYSLER LLC

WARNING: Chrysler 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 manual clutch parts during normal use. Follow practices prescribed by appropriate regulations for the handling, processing and disposing of dust and debris

1. Install clutch module onto input shaft.
2. Install transaxle into vehicle. Refer to [Transmission and Transfer Case/Manual - Installation](#) .

CYLINDER, CLUTCH MASTER, LHD

DESCRIPTION

DESCRIPTION

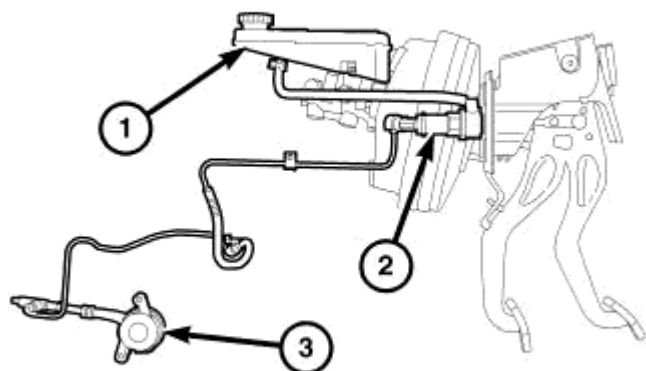


Fig. 10: Clutch Hydraulic System - Typical

Courtesy of CHRYSLER LLC

NOTE: The clutch master cylinder/hydraulic release system does not have its own reservoir. This system is supplied fluid from the brake master cylinder reservoir.

The clutch master cylinder (2) mounts to the clutch pedal and consists of a push rod, a piston and cylinder housing, an interconnecting hydraulic tube and a supply hose which connects to the brake master cylinder reservoir (1) for fluid supply.

OPERATION

OPERATION

When the clutch pedal is depressed, the push rod moves the piston in the master cylinder (2), displacing fluid through the hydraulic line and into the release bearing. The release bearing is forced into the fingers of the clutch diaphragm springs. As the fingers move, they release the clamping pressure on the clutch disc between the clutch pressure plate and the flywheel. The clutch becomes disengaged as this pressure is released.

When the clutch pedal is released, the system hydraulic pressure is released. This allows the force of the clutch diaphragm springs to return to their original position, re-clamping the clutch disc between the flywheel and the clutch pressure plate. Also, the release bearing and lever are forced to return, which reverses the movement of the hydraulic system and returns the pedal to its original position against the up-stop.

REMOVAL

REMOVAL

CAUTION: Brake fluid will damage painted surfaces. If brake fluid is spilled on any painted surfaces, wash it off immediately with water.

NOTE: Before proceeding. Refer to Brakes - Warning . Refer to Brakes - Caution .

1. Remove engine cover.
2. Disconnect and isolate the battery negative cable from its post on the battery.

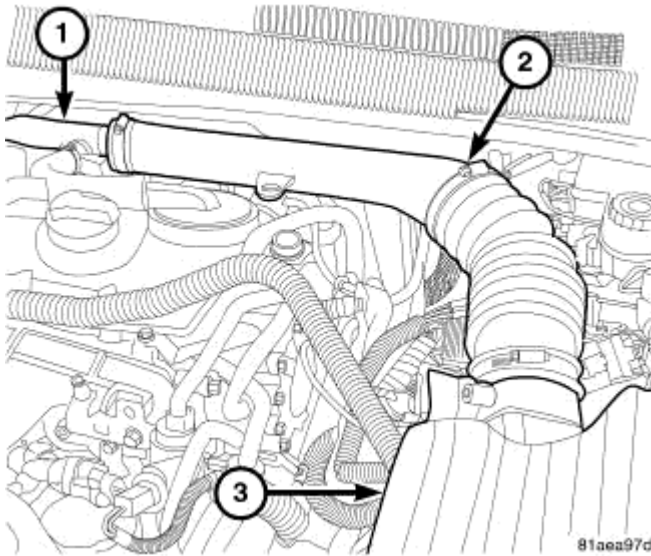


Fig. 11: Identifying Air Cleaner Cover And Hoses- Diesel
Courtesy of CHRYSLER LLC

3. Remove the air cleaner cover (3) and the air intake hose (2) to the hose (1) leading down the back of the engine.

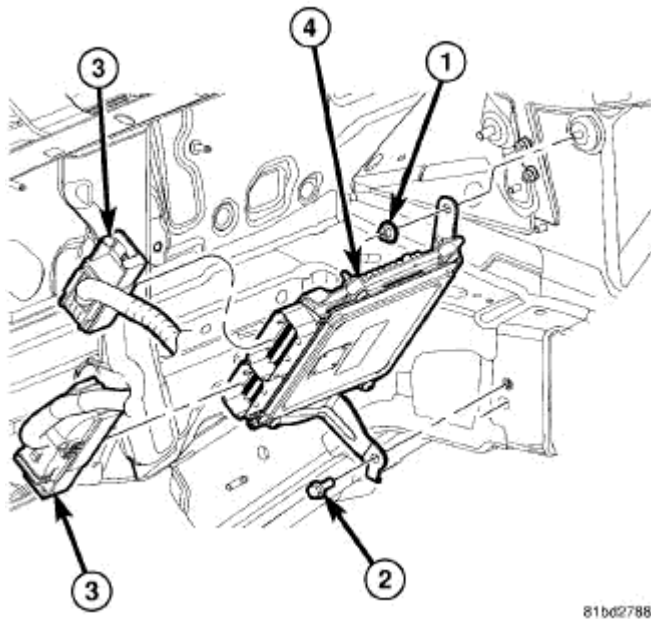


Fig. 12: Removing/Installing PCM Bracket Mounting Nut And Bolt
Courtesy of CHRYSLER LLC

4. Remove the PCM bracket mounting nut (1) to upper shock tower stud (if equipped).
5. Remove the PCM bracket mounting bolt (2) to lower shock tower (if equipped).
6. Reposition the PCM and bracket (4) out of the way (if equipped).
7. Remove the master cylinder. Refer to **Brakes/Hydraulic/Mechanical/MASTER CYLINDER, Brake - Removal** .
8. Remove the left front brake tube from the clip located on the left body rail.

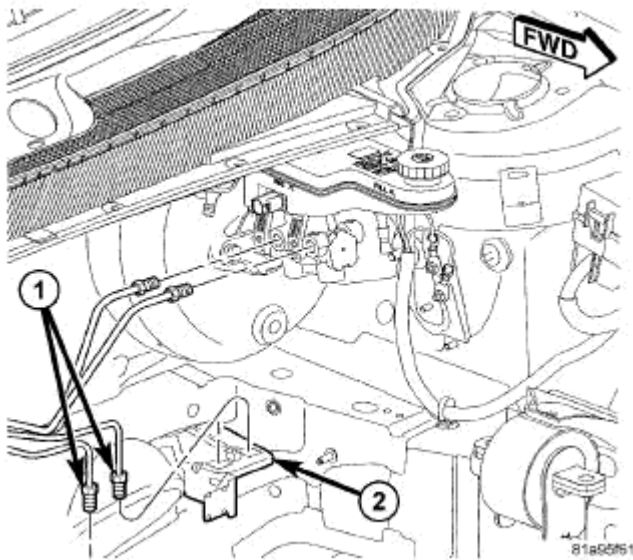


Fig. 13: Rear Brake Tubes At Junction Block
Courtesy of CHRYSLER LLC

9. Disconnect the rear brake tubes (1) at the junction block (2). Install plugs at all of the open brake tubes.
10. Pull the tube bundle routing clip (with tubes) loose from the stud on the left side of the dash panel.

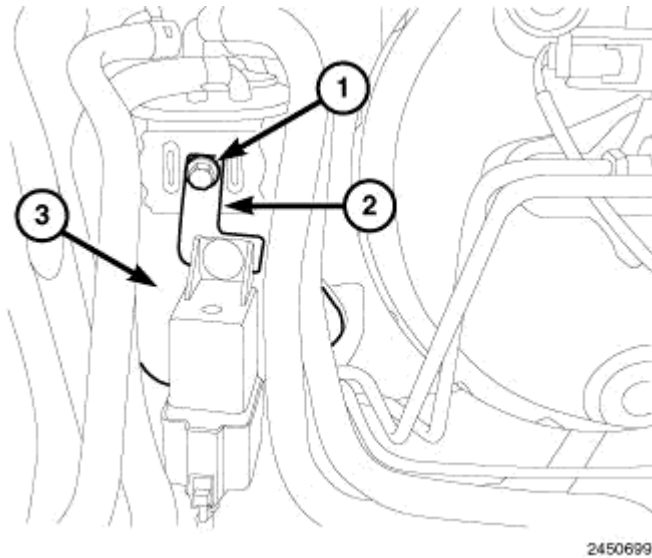


Fig. 14: Relay Bracket & Fuel Filter
Courtesy of CHRYSLER LLC

11. Remove the bolt (1) for the relay bracket (2) on the fuel filter (3) and reposition the relay out of the way of the brake booster (if equipped).

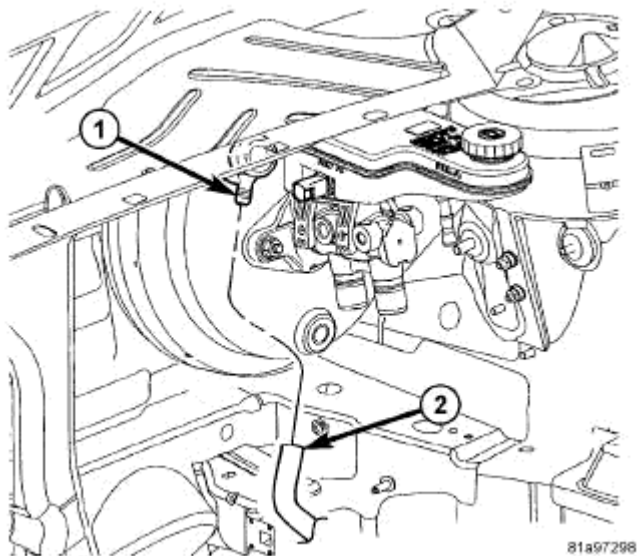


Fig. 15: Identifying Vacuum Hose & Check Valve
Courtesy of CHRYSLER LLC

12. 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.**

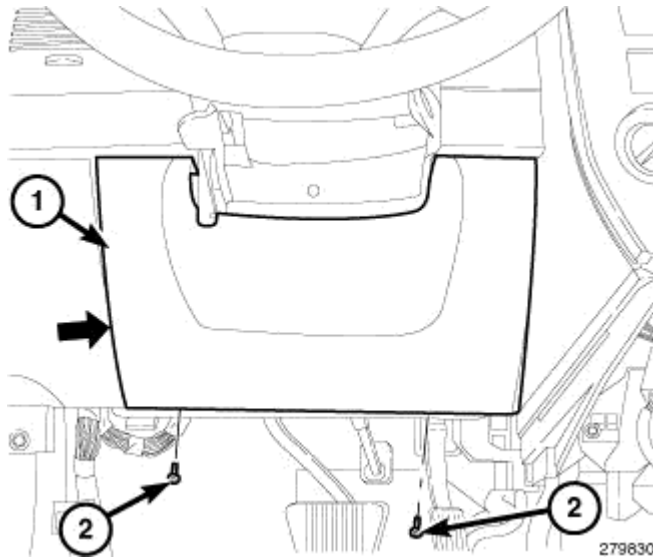


Fig. 16: Steering Column Opening Cover
Courtesy of CHRYSLER LLC

13. Remove the steering column opening cover from the instrument panel.

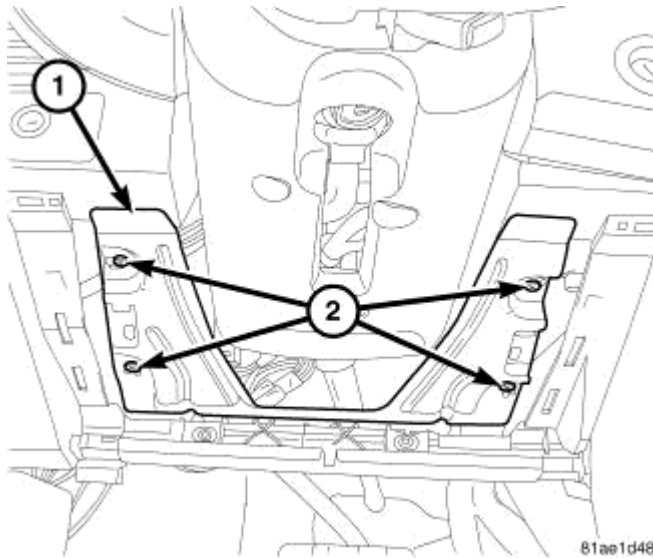


Fig. 17: Steering Column Cover Reinforcement Mounting Screws
Courtesy of CHRYSLER LLC

14. Remove the steering column cover reinforcement mounting screws (2). Remove the steering column cover reinforcement (1) (if equipped).
15. Remove the stop lamp switch. Refer to **Electrical - Lamps and Lighting/Lamps/Lighting - Exterior/SWITCH, Stop Lamp - Removal** .

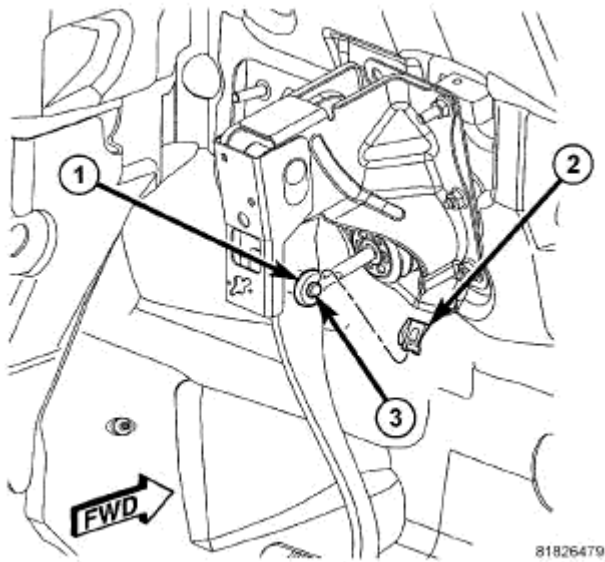


Fig. 18: Identifying Brake Pedal Retaining Clip, Power Brake Booster Push Rod, & Brake Pedal Pin

Courtesy of CHRYSLER LLC

16. 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.**
17. Slide the booster push rod (1) off the brake pedal pin (3).

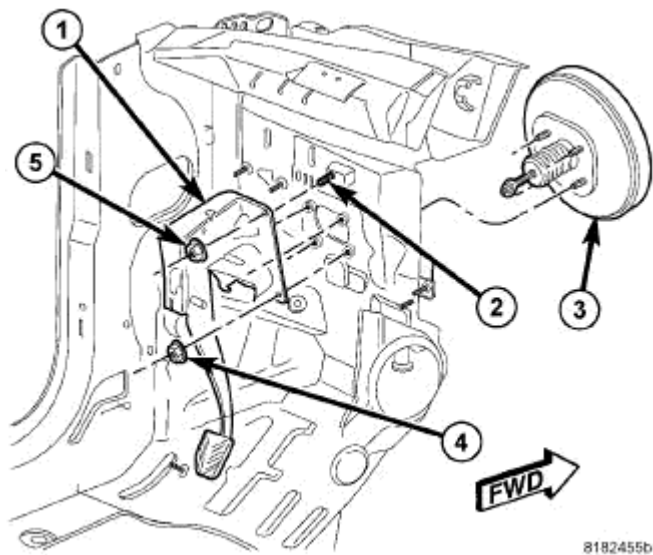
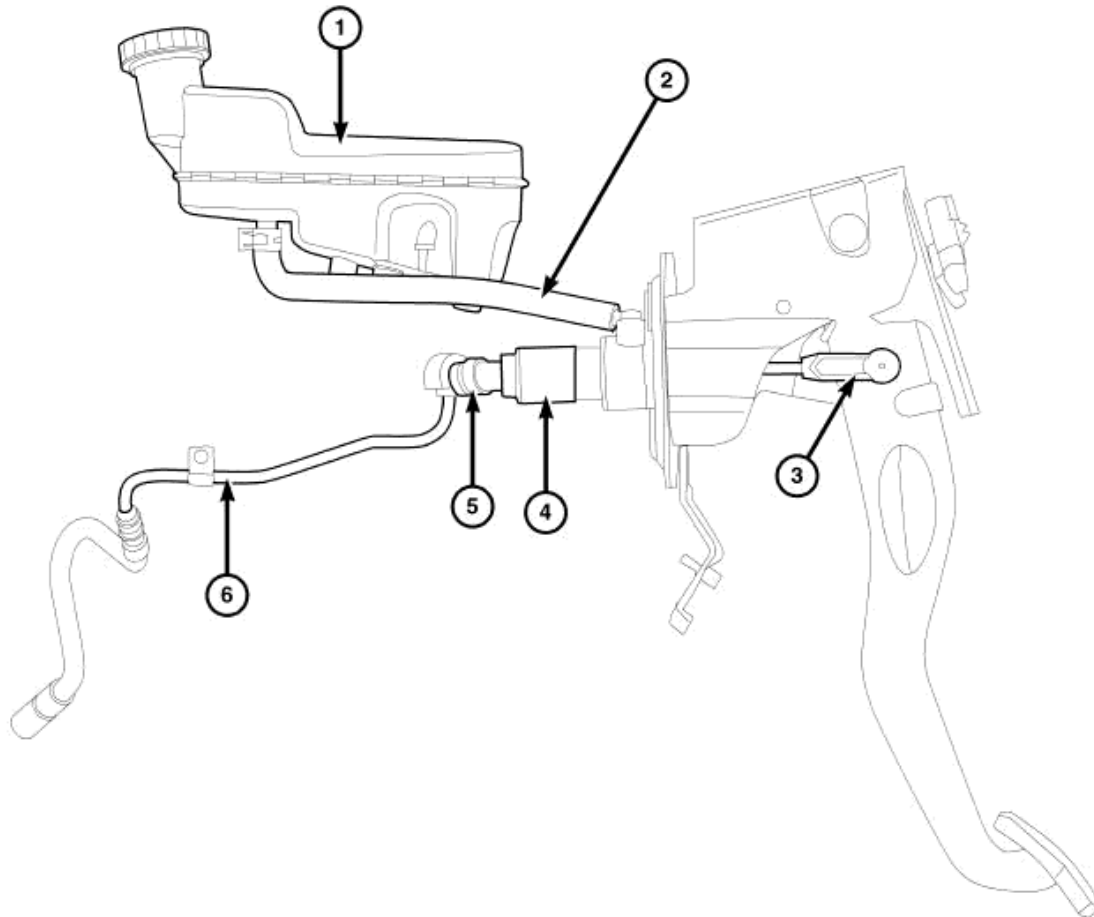


Fig. 19: Pedal And Booster Mounting

Courtesy of CHRYSLER LLC

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



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Fig. 20: Identifying Clutch Hydraulic System Components
Courtesy of CHRYSLER LLC

CAUTION: Brake fluid will damage painted surfaces. If brake fluid is spilled on any painted surfaces, wash it off immediately with water.

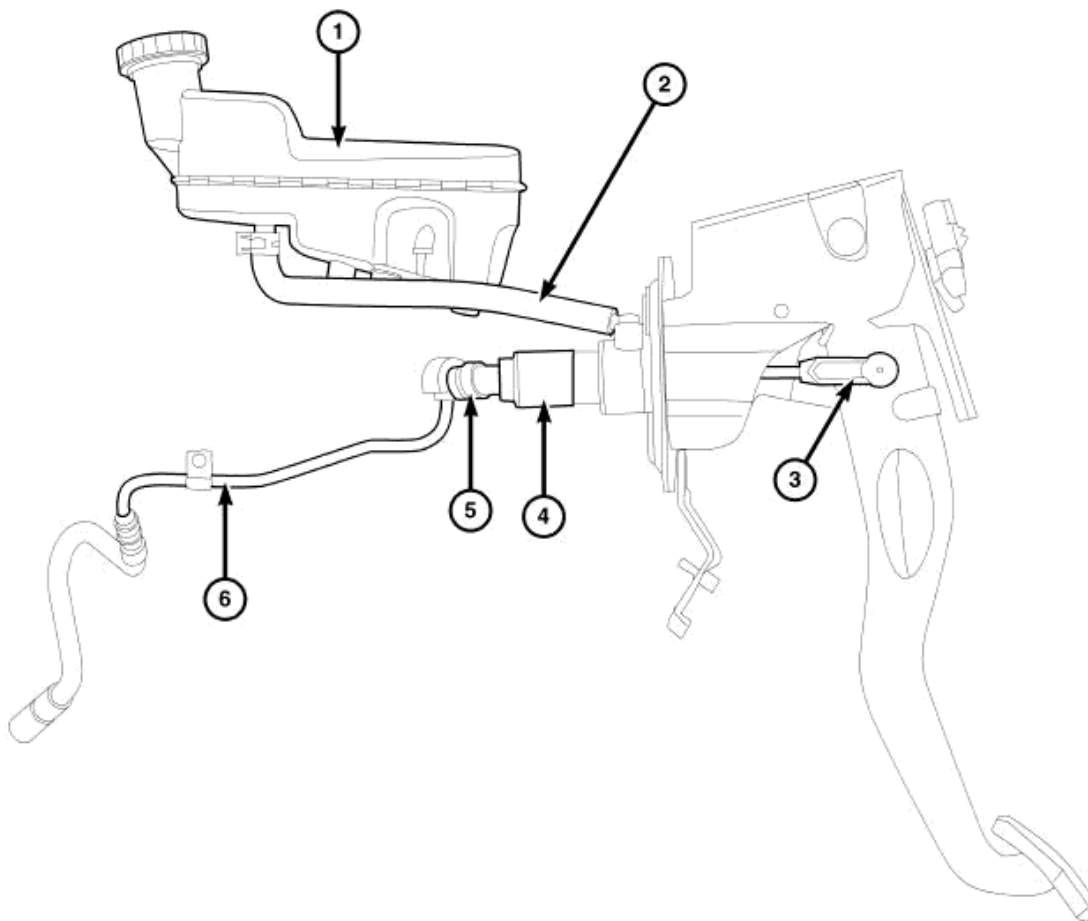
20. Disconnect hydraulic tube (6) at the clutch master cylinder pressure line connector (5) by pulling retaining clip then pulling out on tube. Cap off hydraulic tube to prevent fluid loss. To completely drain clutch master cylinder and tubing, remove brake master cylinder cap and drain fluid into suitable container.
21. Disconnect clutch master cylinder pushrod (3) from clutch pedal.

22. Remove master cylinder assembly (4) from mounting position by turning 1/4 turn clockwise.

INSTALLATION

INSTALLATION

CAUTION: Brake fluid will damage painted surfaces. If brake fluid is spilled on any painted surfaces, wash it off immediately with water.



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Fig. 21: Identifying Clutch Hydraulic System Components
Courtesy of CHRYSLER LLC

1. Install clutch master cylinder body (4) to the clutch pedal bracket assembly and 1/4 turn counter clockwise to secure.
2. Insert hydraulic tube (6) into master cylinder pressure line connector (5) and install retaining clip.

3. Connect clutch master cylinder rod (3) to clutch pedal pin. An audible "click" should be heard.

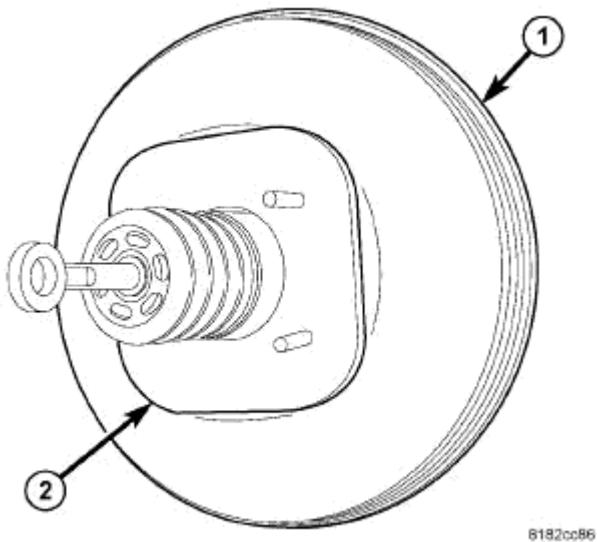


Fig. 22: Identifying Power Brake Booster & Dash Seal
Courtesy of CHRYSLER LLC

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

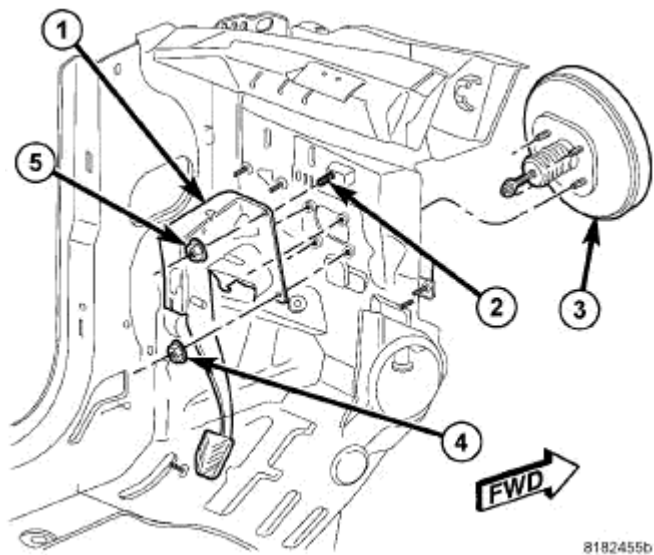


Fig. 23: Pedal And Booster Mounting
Courtesy of CHRYSLER LLC

4. Install the power brake booster (3) by sliding the push rod and studs through the dash panel and into mounting position.

5. Under the instrument panel, install the four power brake booster mounting nuts (4). To tighten the nuts, refer to the following step.

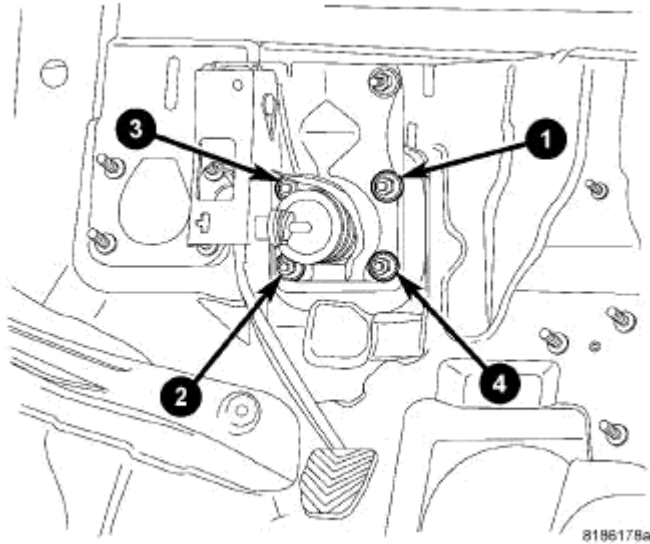


Fig. 24: Mounting Nut Torque Sequence
Courtesy of CHRYSLER LLC

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

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

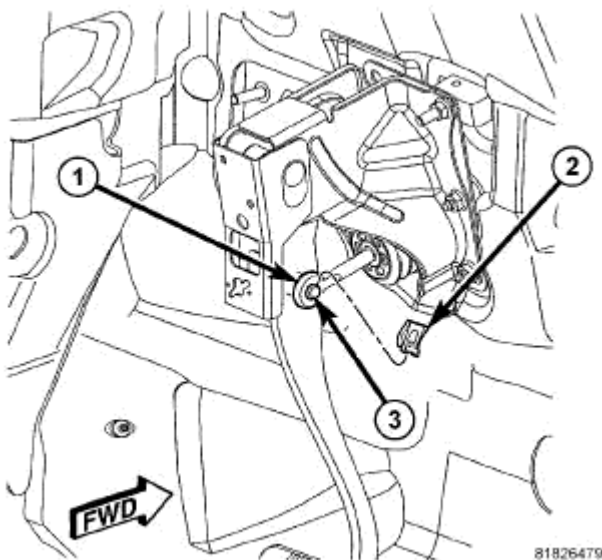
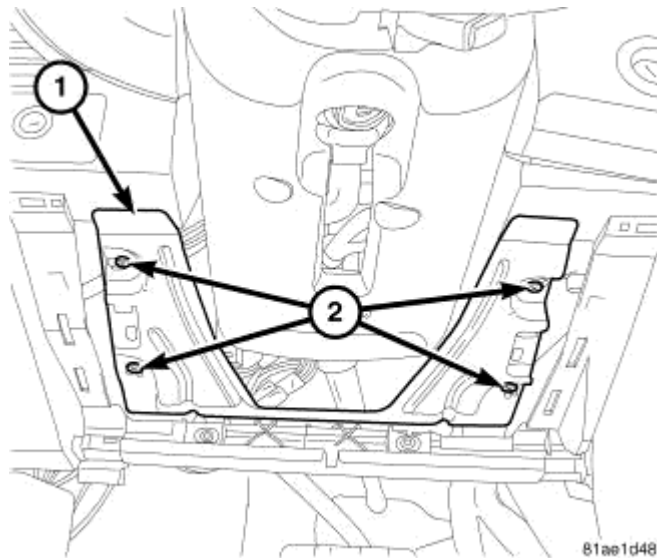


Fig. 25: Identifying Brake Pedal Retaining Clip, Power Brake Booster Push Rod, & Brake Pedal

Pin

Courtesy of CHRYSLER LLC

7. Using Mopar® Lubriplate, or an equivalent, coat the surface of the brake pedal pin (3) where it contacts the brake booster input rod (1).
8. 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.**
9. Install and adjust the stop lamp switch in the brake pedal bracket. Refer to **Electrical - Lamps and Lighting/Lamps/Lighting - Exterior/SWITCH, Stop Lamp - Installation** .

**Fig. 26: Steering Column Cover Reinforcement Mounting Screws**

Courtesy of CHRYSLER LLC

10. Install the steering column cover reinforcement (1) (if equipped) using the four mounting screws (2).

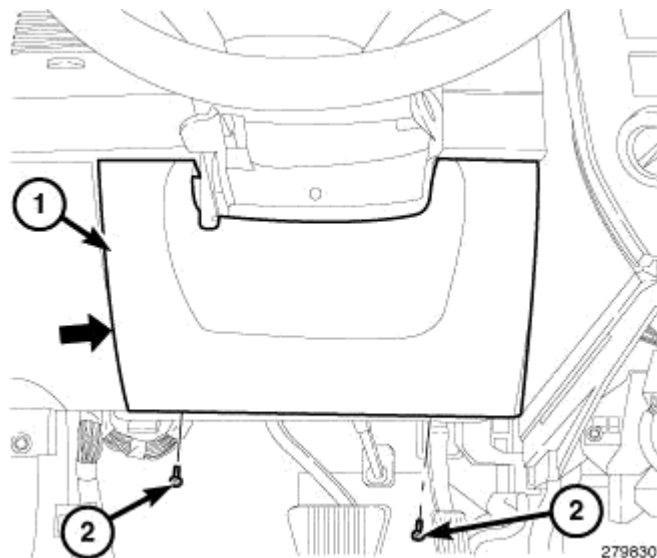


Fig. 27: Steering Column Opening Cover
Courtesy of CHRYSLER LLC

11. Install the steering column opening cover on the instrument panel.

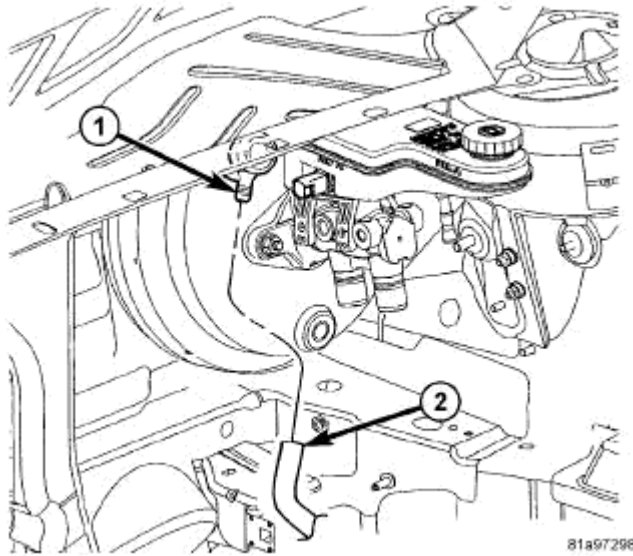


Fig. 28: Identifying Vacuum Hose & Check Valve
Courtesy of CHRYSLER LLC

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.

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

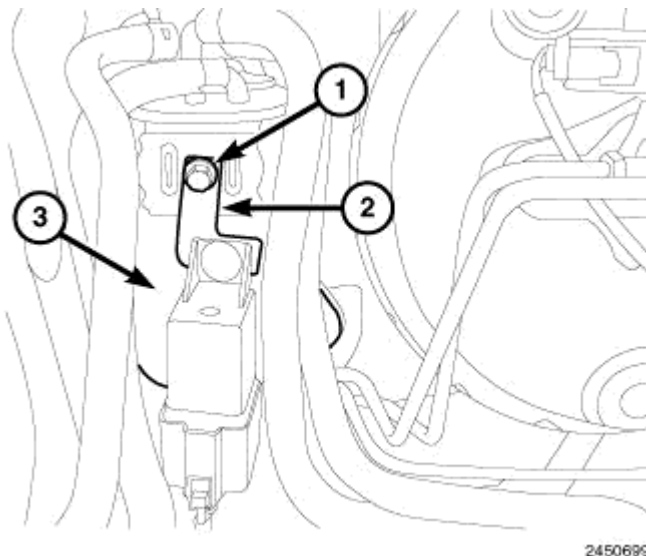
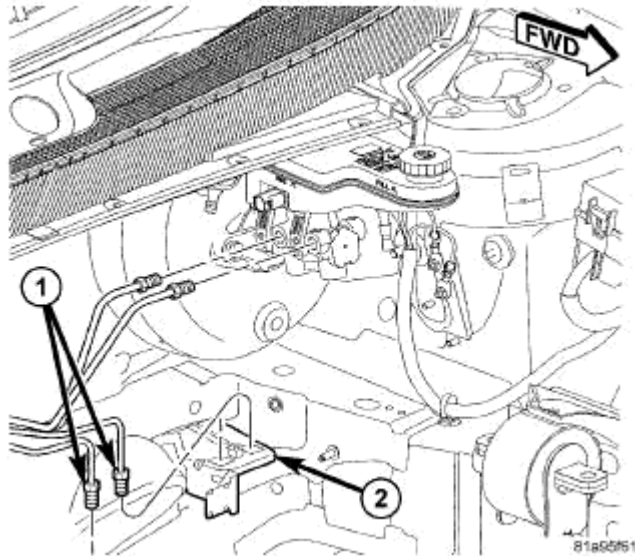


Fig. 29: Relay Bracket & Fuel Filter

Courtesy of CHRYSLER LLC

13. Install the relay bracket (2) to the fuel filter (3) using mounting bolt (1) (if equipped).
14. Install the tube bundle routing clip (with tubes) onto the stud on the left side of the dash panel.

**Fig. 30: Rear Brake Tubes At Junction Block**

Courtesy of CHRYSLER LLC

15. Connect the rear brake tubes (1) to the junction block (2). Tighten the tube nuts to 17 N.m (150 in. lbs.).
16. Install the left front brake tube into the clip located on the left body rail.
17. Install the master cylinder. Refer to **Brakes/Hydraulic/Mechanical/MASTER CYLINDER, Brake - Installation**.
18. Verify that brake master cylinder reservoir (1) is full. Top off with DOT 3 brake fluid if necessary.

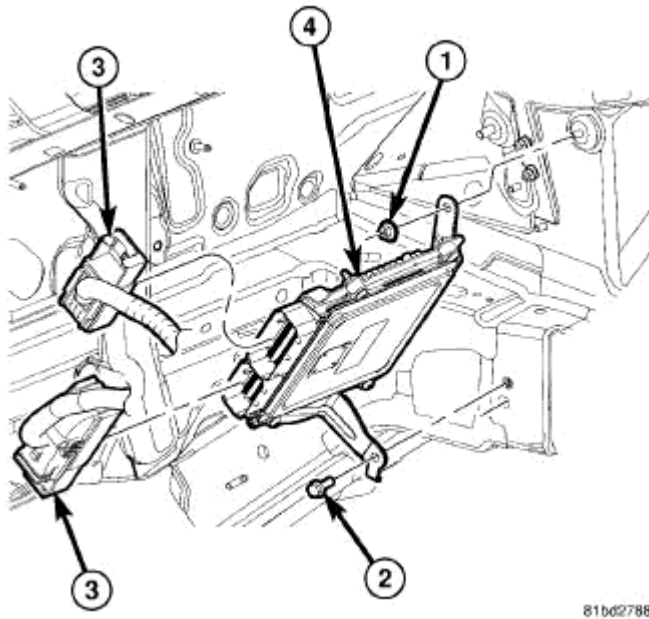


Fig. 31: Removing/Installing PCM Bracket Mounting Nut And Bolt
Courtesy of CHRYSLER LLC

19. Reposition the PCM and bracket (4) into mounting position (if equipped).
20. Install bolt (2) for the PCM mounting bracket to lower shock tower and tighten to 9 N.m (80 in. lbs.) (if equipped).
21. Install nut (1) for the PCM mounting bracket to upper shock tower stud and tighten to 9 N.m (80 in. lbs.) (if equipped).
22. Connect battery negative cable. Refer to **Electrical - Engine Systems/Battery System/CABLES, Battery - Installation** .
23. Bleed the base brake system. Refer to **Brakes - Standard Procedure** .
24. Bleed clutch system. See **Standard Procedure** .
25. Actuate clutch pedal a minimum of fifteen times to allow any air ingested into the system to vent to the master cylinder reservoir.

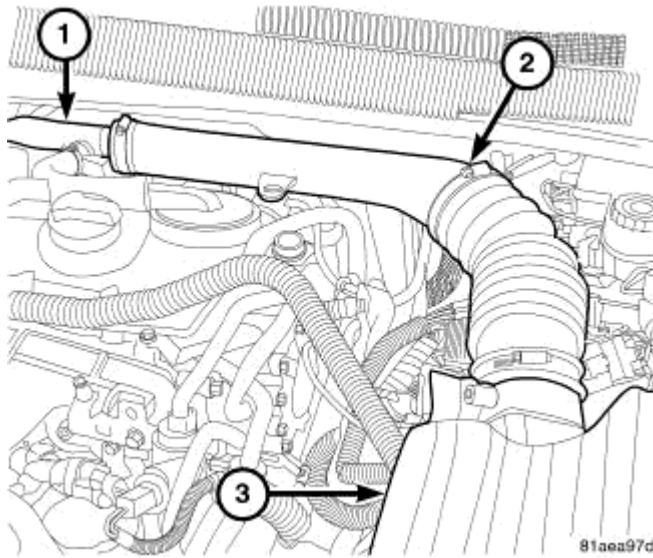


Fig. 32: Identifying Air Cleaner Cover And Hoses- Diesel
Courtesy of CHRYSLER LLC

26. Install the air cleaner cover (3) and the air intake hose (2) to the hose (1) leading down the back of the engine.
27. Road test the vehicle to ensure proper operation of the clutch and brakes.

CYLINDER, CLUTCH MASTER, RHD

DESCRIPTION

DESCRIPTION

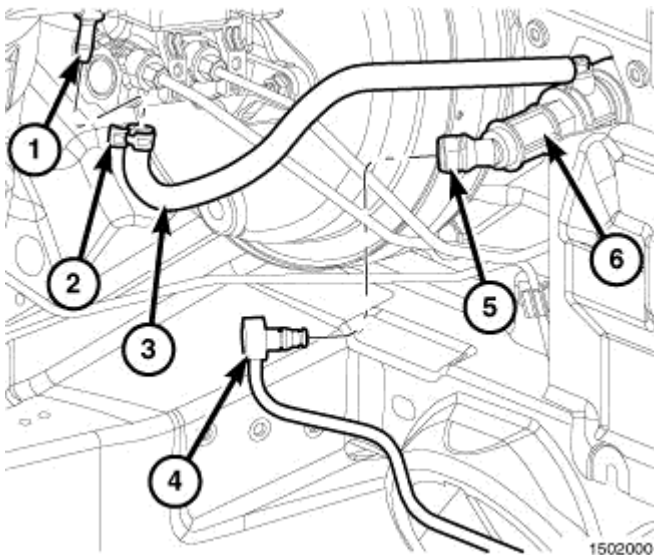


Fig. 33: Clutch Master Cylinder Mounts
Courtesy of CHRYSLER LLC

The clutch master cylinder (6) mounts to the clutch pedal and consists of a piston and cylinder housing, an actuating push rod, and an interconnecting hydraulic tube. Fluid is supplied to the clutch master cylinder via the brake master cylinder reservoir.

OPERATION

OPERATION

When the clutch pedal is depressed, the push rod moves the piston in the master cylinder, displacing fluid through the hydraulic line and into the release bearing. As the release bearing extends it is forced into the fingers of the clutch diaphragm springs. As the fingers move, they release the clamping pressure on the clutch disc between the clutch pressure plate and the flywheel. The clutch becomes disengaged as this pressure is released.

When the clutch pedal is released, the system hydraulic pressure is released. This allows the force of the clutch diaphragm springs to return themselves to their original position, re-clamping the clutch disc between the flywheel and the clutch pressure plate. Also, the release bearing is forced to return, which reverses the movement of the hydraulic system and returns the pedal to its original position against the upstop.

REMOVAL

REMOVAL

1. Remove the engine cover.
2. Disconnect battery negative cable. Refer to **Electrical/Battery System/CABLES, Battery - Removal**.
3. Remove front skid plate (if equipped).

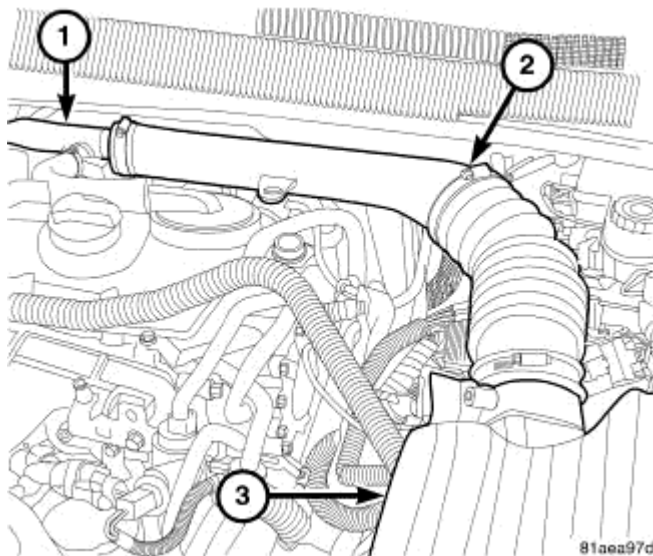


Fig. 34: Identifying Air Cleaner Cover And Hoses- Diesel
Courtesy of CHRYSLER LLC

4. Remove air intake tube (2) from air cleaner housing (3) and the tube (1) leading down the back of the engine.

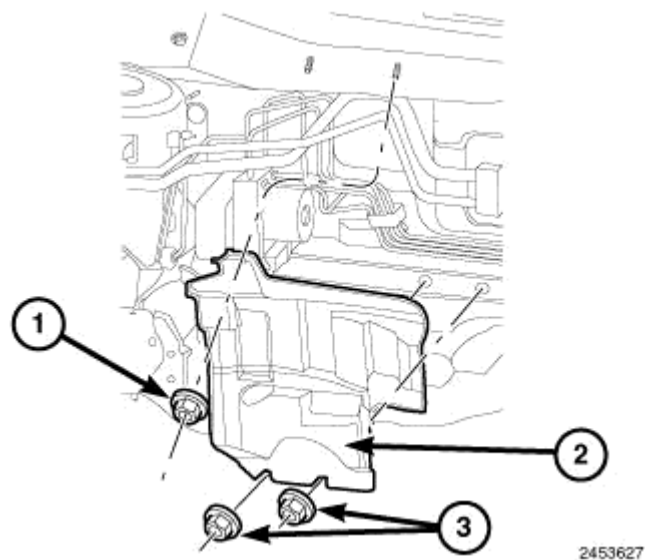
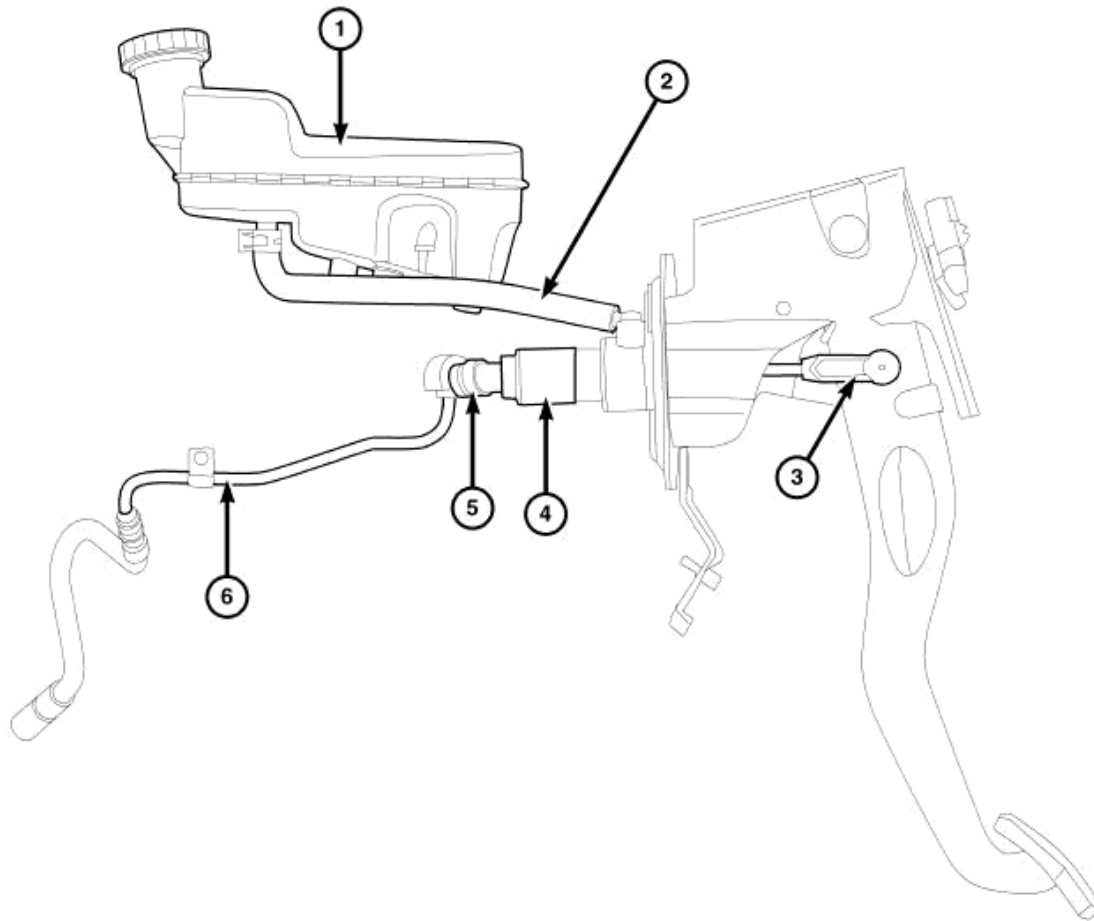


Fig. 35: Heat Shield Upper Mounting Nut
Courtesy of CHRYSLER LLC

5. Remove heat shield upper mounting nut (1) and two lower mounting nuts (3).
6. Remove heat shield (2).



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Fig. 36: Identifying Clutch Hydraulic System Components
Courtesy of CHRYSLER LLC

CAUTION: Brake fluid will damage painted surfaces. If brake fluid is spilled on any painted surfaces, wash it off immediately with water.

7. Disconnect hydraulic tube (6) at the clutch master cylinder pressure line connector (5) by pulling retaining clip then pulling out on tube. Cap off hydraulic tube to prevent fluid loss. To completely drain clutch master cylinder and tubing, remove brake master cylinder cap and drain fluid into suitable container.
8. Disconnect hydraulic supply tube (2) at the clutch master cylinder (4).
9. Remove lower instrument panel bezel.
10. Disconnect clutch master cylinder pushrod (3) from clutch pedal.

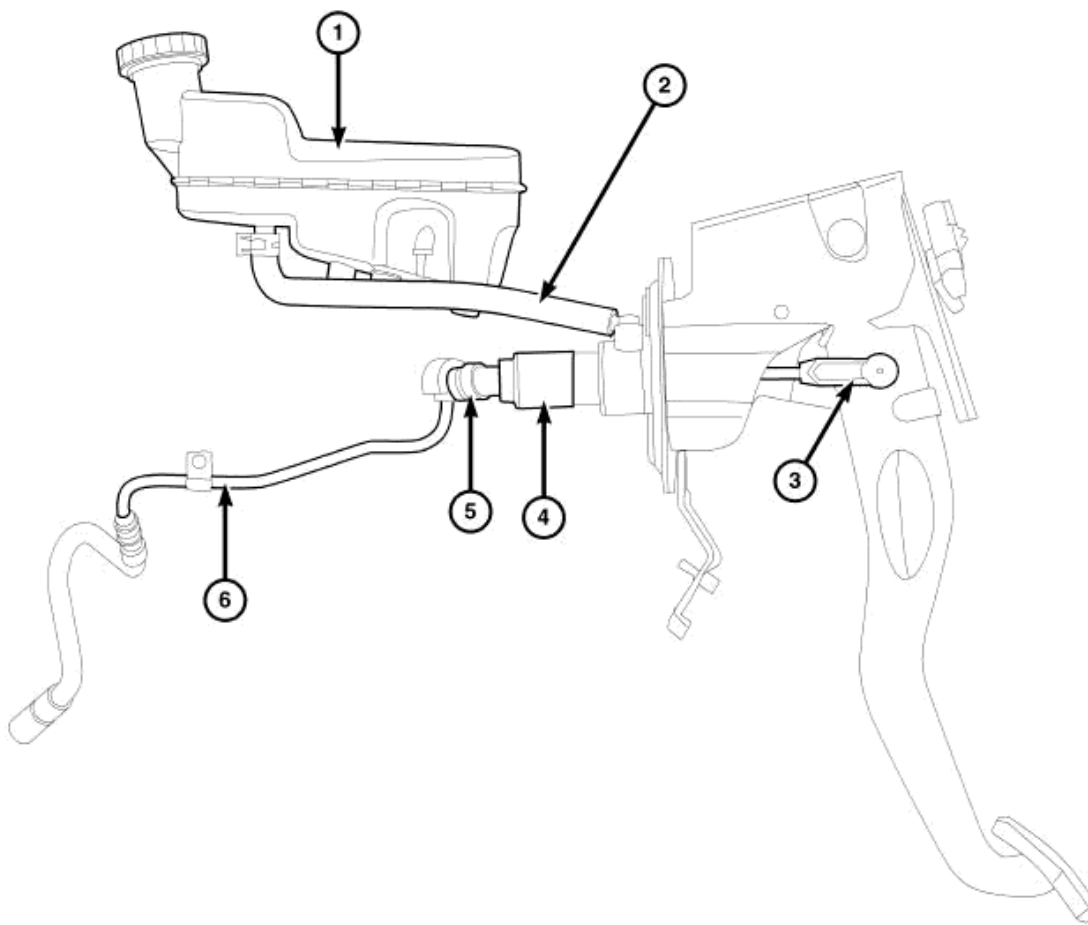
CAUTION: Use care when removing clutch master cylinder from engine

compartment. Aggressive handling can result in a damaged hydraulic tube and improper clutch release operation upon reassembly.

11. Remove master cylinder assembly (4) from mounting position by turning 1/4 turn and carefully remove from engine compartment.

INSTALLATION

INSTALLATION



61a70042

Fig. 37: Identifying Clutch Hydraulic System Components
Courtesy of CHRYSLER LLC

CAUTION: Brake fluid will damage painted surfaces. If brake fluid is spilled on any painted surfaces, wash it off immediately with water.

1. Connect clutch master cylinder supply hose (2) to clutch master cylinder (4).
2. Verify that brake master cylinder reservoir (1) is full and cap is off.
3. Position clutch master cylinder body vertically, with pushrod pointing down, for about ten seconds to purge air trapped from end of cylinder.
4. Install clutch master cylinder body (4) to dash panel and 1/4 turn to secure.
5. Insert hydraulic tube (6) into master cylinder pressure line connector (5) and install retaining clip.
6. Connect clutch master cylinder rod (3) to clutch pedal pin. An audible "click" should be heard.
7. Install lower instrument panel bezel.
8. Connect battery negative cable. Refer to **Electrical/Battery System/CABLES, Battery - Installation**.
9. Verify that brake master cylinder reservoir (1) is full. Top off with DOT 3 brake fluid if necessary.
10. Bleed clutch system. See **Standard Procedure**.
11. Actuate clutch pedal a minimum of fifteen times to allow any air ingested into the system to vent to the master cylinder reservoir. If residual air becomes trapped in the system, it is necessary to bleed the clutch hydraulic system.
12. Verify proper clutch release system operation.

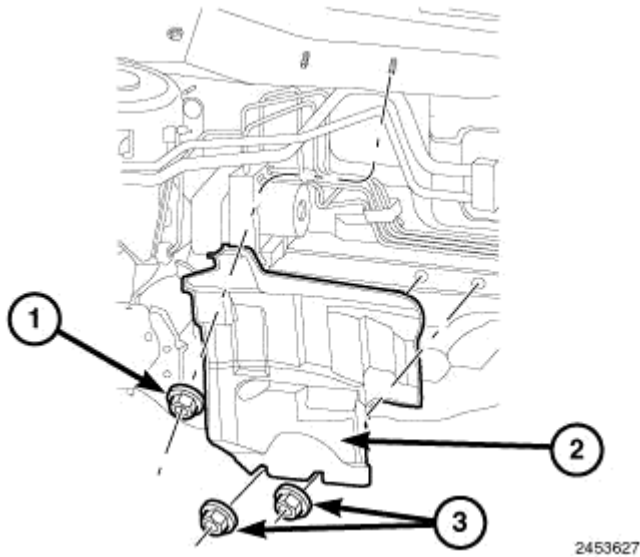


Fig. 38: Heat Shield Upper Mounting Nut
Courtesy of CHRYSLER LLC

13. Install heat shield.
14. Install heat shield upper mounting nut (1) and two lower mounting nuts (3).

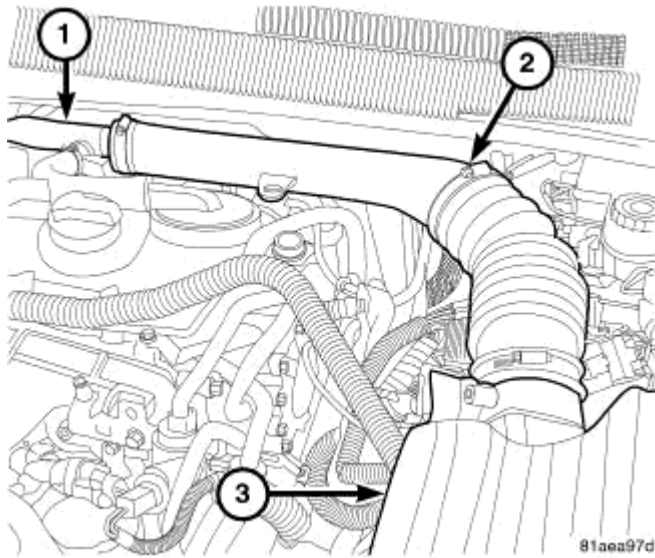


Fig. 39: Identifying Air Cleaner Cover And Hoses- Diesel
Courtesy of CHRYSLER LLC

15. Install air intake tube (2) from air cleaner housing (3) and the tube (1) leading down the back of the engine.
16. Install the engine cover.

CYLINDER, CLUTCH SLAVE

REMOVAL

REMOVAL

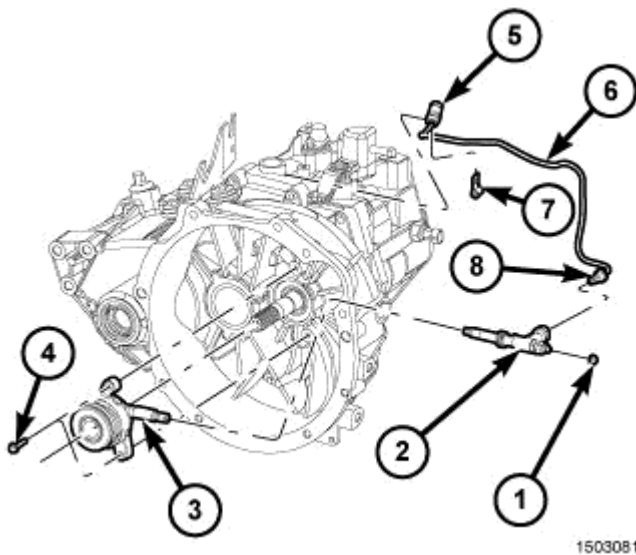


Fig. 40: Removing/Installing Concentric Slave Cylinder
Courtesy of CHRYSLER LLC

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NOTE: To prevent drainage of clutch master cylinder assembly upon slave cylinder removal, it is necessary to make sure brake master cylinder fluid level is full and reservoir cap is installed tight.

1. Remove transaxle from vehicle. Refer to Transmission and Transfer Case/Manual - Removal .
2. Disconnect the clutch hydraulic line (6) from the bleeder assembly (2).
3. Disconnect and remove bleeder assembly (2) from the clutch master cylinder (3).
4. Remove the slave cylinder-to-clutch bellhousing bolts (4) and remove slave cylinder (3) from transaxle.

INSTALLATION

INSTALLATION

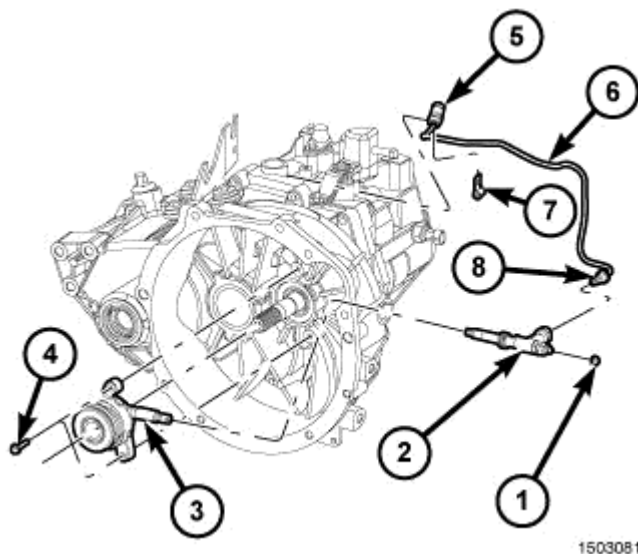


Fig. 41: Removing/Installing Concentric Slave Cylinder
Courtesy of CHRYSLER LLC

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dust and debris

1. Install slave cylinder (3) to transaxle using new bolts (4).

NOTE: Torque three CSC body screws first, then torque the fluid tube attachment.

2. Torque slave cylinder-to-case bolts in three steps:
 1. 2 N.m (18 in. lbs.)
 2. 5 N.m (44 in. lbs.)
 3. 10 N.m (88 in. lbs.)
3. Install the bleeder (2).
4. Reconnect the clutch hydraulic line (6) to the bleeder (2).
5. Install transaxle. Refer to **Transmission and Transfer Case/Manual - Installation** .
6. Bleed clutch hydraulic system. See **Standard Procedure** .

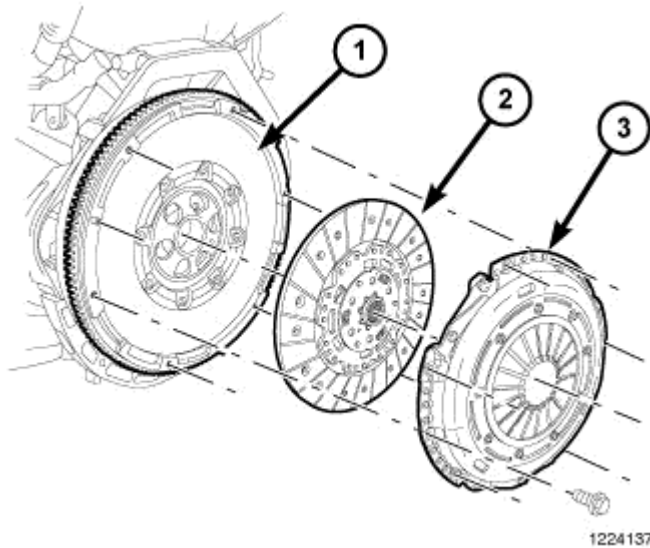
DISC, CLUTCH**REMOVAL****REMOVAL****DIESEL**

Fig. 42: Flywheel & Clutch Disc And Pressure Plate
Courtesy of CHRYSLER LLC

- | |
|--------------------------|
| 1 - FLYWHEEL (DUAL-MASS) |
| 2 - CLUTCH DISC |

3 - PRESSURE PLATE

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1. Remove transaxle assembly. Refer to Transmission and Transfer Case/Manual - Removal .
2. Mark position of pressure plate (3) on flywheel (1) with paint or scribe for assembly reference.
3. Loosen and remove six pressure plate-to-flywheel bolts. Remove pressure plate (3) and clutch disc (2).

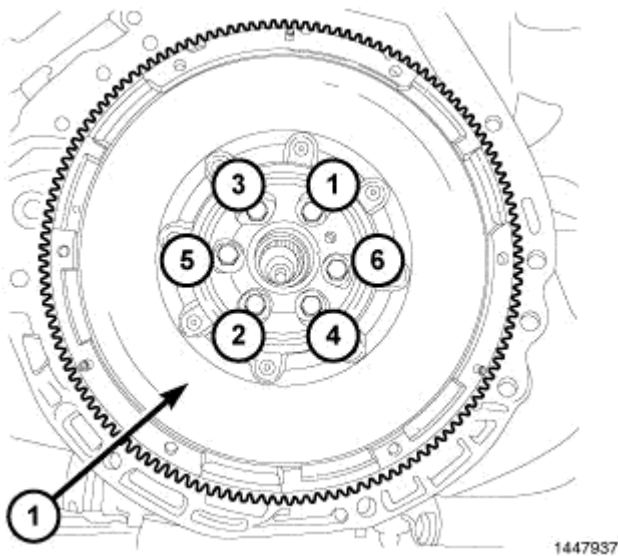


Fig. 43: Flywheel And Pressure Plate
Courtesy of CHRYSLER LLC

4. Remove the flywheel-to-crankshaft bolts and remove flywheel assembly (1)

GAS

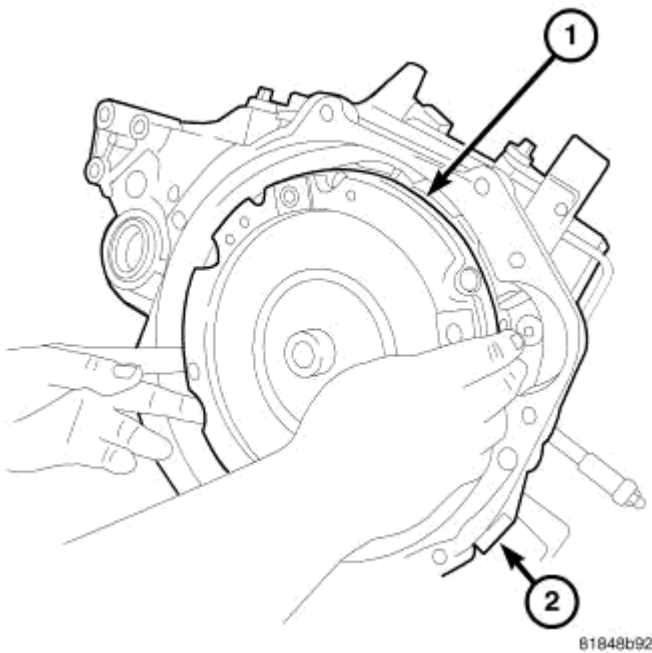


Fig. 44: Removing/Installing Modular Clutch Assembly
Courtesy of CHRYSLER LLC

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1. Remove transaxle assembly. Refer to **Transmission and Transfer Case/Manual - Removal** .
2. Remove the modular clutch assembly (1).

INSTALLATION

INSTALLATION

DIESEL

WARNING: Chrysler 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 manual clutch parts during normal use. Follow practices prescribed by appropriate regulations for the handling, processing and disposing of dust and debris

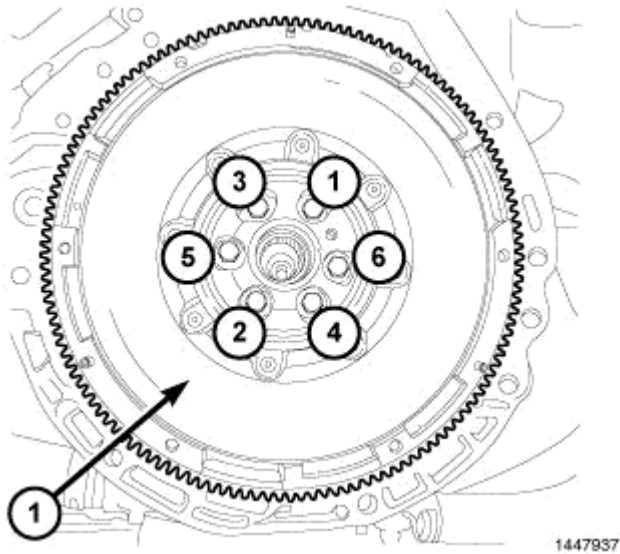


Fig. 45: Flywheel And Pressure Plate
Courtesy of CHRYSLER LLC

1. Inspect clutch release bearing and lever for excessive wear and replace as necessary. The release bearing is integral to the Concentric Slave Cylinder (CSC).
2. Clean the surfaces of the flywheel (1) and pressure plate to make certain that all oil, grease, and rust have been removed.
3. Verify the crankshaft mounting flange is free of debris, oil, grease, etc. Position the flywheel (1) onto the engine crankshaft.
4. Install flywheel to crankshaft. Install flywheel-to-crankshaft bolts. Do not tighten at this time.
5. Tighten the first flywheel-to-crankshaft bolt slightly beyond hand tight. Then use a star pattern to tighten the remaining flywheel-to-crankshaft bolts to 70 N.m (52 ft. lbs.), then finally tighten the first flywheel-to-crankshaft bolt to 70 N.m (52 ft. lbs.).

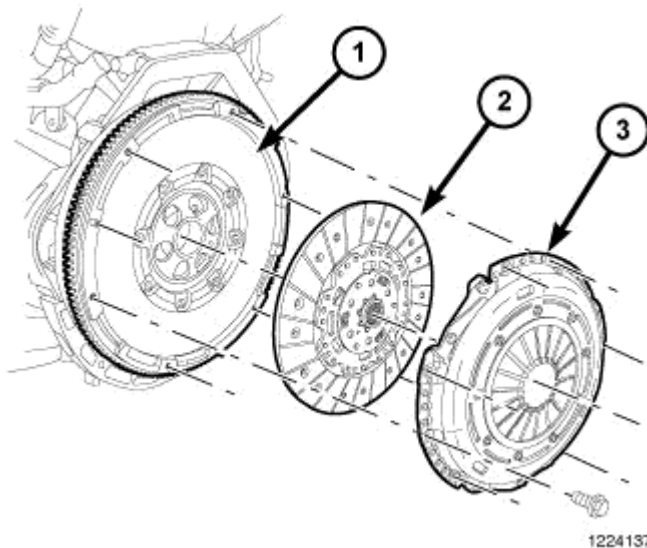


Fig. 46: Flywheel & Clutch Disc And Pressure Plate

Courtesy of CHRYSLER LLC

1 - FLYWHEEL (DUAL-MASS)
2 - CLUTCH DISC
3 - PRESSURE PLATE

6. Apply a very light coating of grease to the splines in the clutch disc hub.

NOTE: The pressure plate and clutch disc are serviced as a matched set. Do not replace one without replacing the other.

7. Position the clutch disc (2) to the flywheel (1). Make sure the side marked "FLYWHEEL SIDE" faces the flywheel (1).
8. Install the clutch pressure plate (1) to the flywheel and clutch disc. Finger tighten the six pressure plate-to-flywheel bolts.

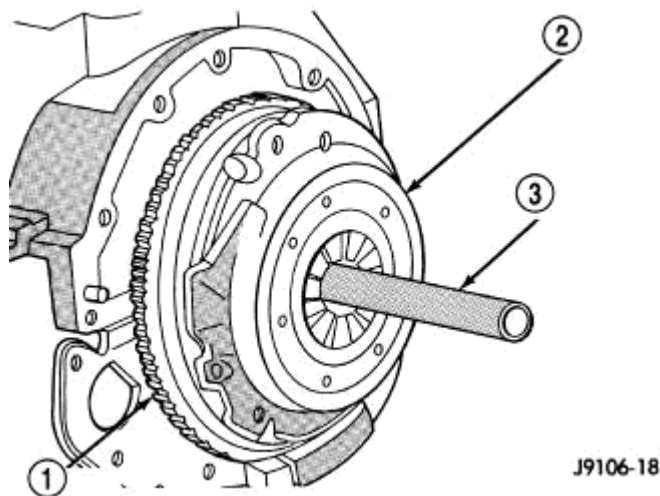


Fig. 47: Aligning Clutch Disc-Typical
Courtesy of CHRYSLER LLC

1 - FLYWHEEL
2 - PRESSURE PLATE
3 - CLUTCH DISC ALIGNMENT TOOL

9. Use Clutch Alignment Tool 6724 (3) to position the clutch disc (2) to the center of the flywheel (1).

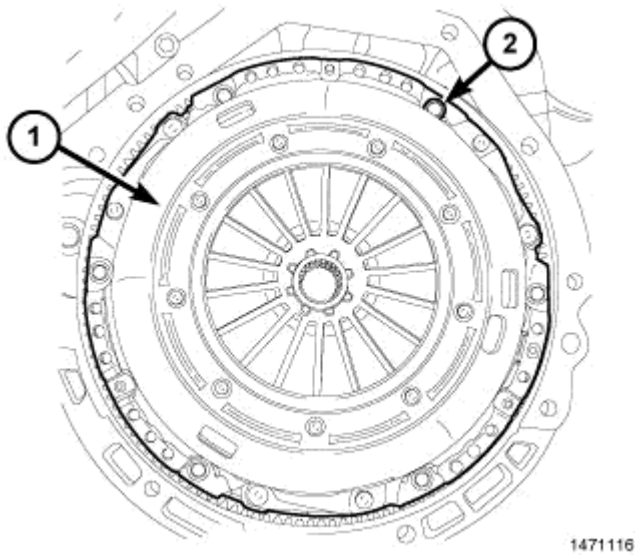


Fig. 48: Pressure Plate Assembly
Courtesy of CHRYSLER LLC

1 - PRESSURE PLATE ASSEMBLY
2 - BOLT (6)

10. Tighten pressure plate bolts (2) evenly and in rotation a few threads at a time **The bolts must be tightened evenly and to specified torque to avoid distorting the pressure plate.**
11. Using a "criss-cross" pattern, torque pressure plate bolts (2) to 31 N.m (23 ft. lbs.). Remove the clutch disc alignment tool.
12. Apply light coat of MOPAR® High Temperature Bearing Grease or equivalent to clutch disc hub and splines of transmission input shaft.

CAUTION: Do not over lubricate shaft splines. This will result in grease contamination of disc.

13. Install transaxle. Refer to **Transmission and Transfer Case/Manual - Installation** .

GAS

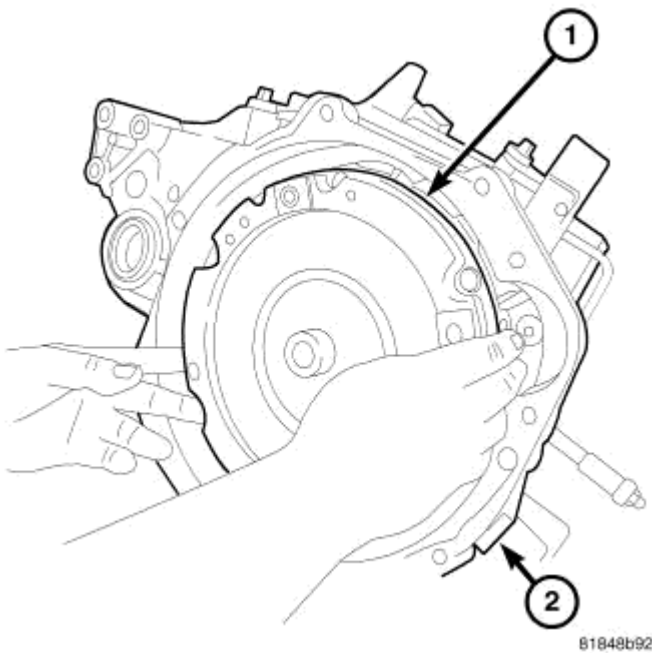


Fig. 49: Removing/Installing Modular Clutch Assembly
Courtesy of CHRYSLER LLC

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1. Install new modular clutch assembly onto input shaft of transmission.
2. Install the transmission. Refer to **Transmission and Transfer Case/Manual - Installation** .

FLYWHEEL

OPERATION

OPERATION

The flywheel serves to dampen the engine firing pulses. The heavy weight of the flywheel relative to the rotating mass of the engine components serves to stabilize the flow of power to the remainder of the drivetrain. The crankshaft has the tendency to attempt to speed up and slow down in response to the cylinder firing pulses. The flywheel dampens these impulses by absorbing energy when the crankshaft speeds and releasing the energy back into the system when the crankshaft slows down.

On a Dual Mass Flywheel, the additional secondary mass coupled to the transmission lowers the natural frequency of the transmission rotating elements. This decreases the transmission gear rattle. The damper springs

between the two flywheel masses replace the clutch disc damper springs and assist in a smooth transfer of torque to the transmission.

CAUTION: The Dual Mass Flywheel is serviced as an assembly only and should never be disassembled.

REMOVAL

REMOVAL

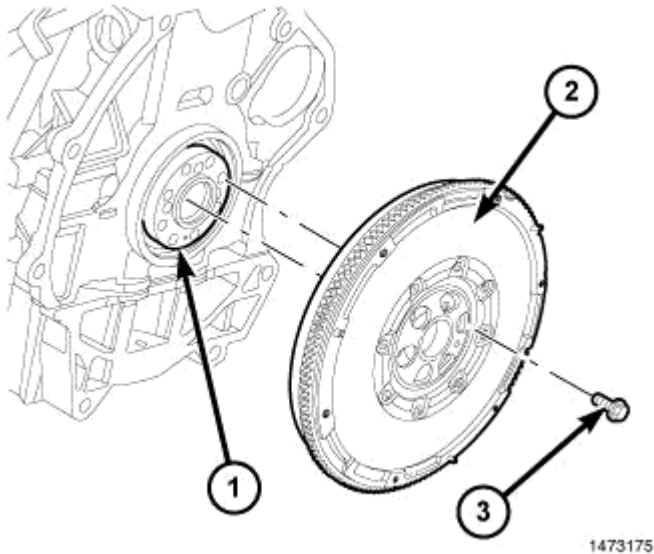


Fig. 50: Removing/Installing Flywheel-To-Crankshaft Bolts And Flywheel Assembly
Courtesy of CHRYSLER LLC

- | |
|---|
| 1 - CRANKSHAFT FLANGE
2 - FLYWHEEL
3 - BOLT (6) |
|---|

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1. Remove transaxle. Refer to Transmission and Transfer Case/Manual - Removal .
2. Remove clutch pressure plate and disc. See Removal .
3. Remove the six flywheel-to-crankshaft bolts (3) and remove flywheel assembly (2).

INSTALLATION

INSTALLATION

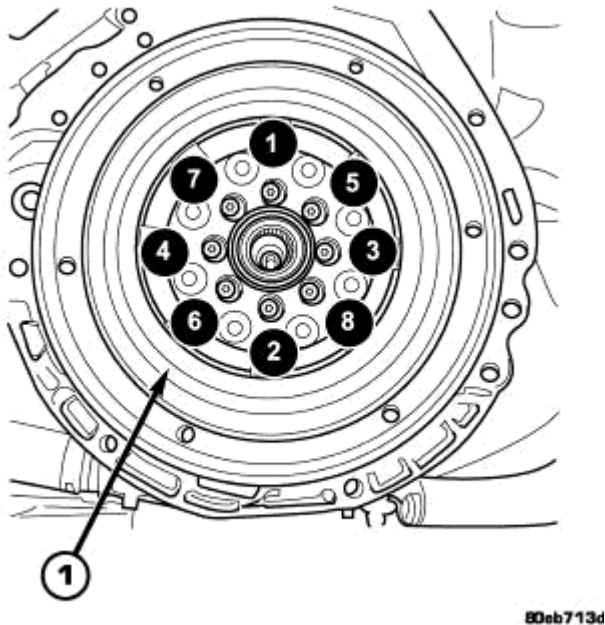


Fig. 51: Flywheel-to-Crankshaft Bolt Pattern

Courtesy of CHRYSLER LLC

1 - FLYWHEEL ASSEMBLY

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1. Clean the surfaces of the flywheel and pressure plate to make certain that all oil, grease, and rust have been removed.
2. Install and torque the flywheel-to-crankshaft bolts to 95 N.m (70 ft.lbs.).
3. Install clutch pressure plate and disc. See Installation .
4. Install transaxle assembly. Refer to Transmission and Transfer Case/Manual - Installation .

PEDAL AND PAD, CLUTCH

REMOVAL

REMOVAL

CAUTION: Brake fluid will damage painted surfaces. If brake fluid is spilled on any painted surfaces, wash it off immediately with water.

NOTE: Before proceeding. Refer to Brakes - Warning . Refer to Brakes - Caution .

1. Remove engine cover.
2. Disconnect and isolate the battery negative cable from its post on the battery.

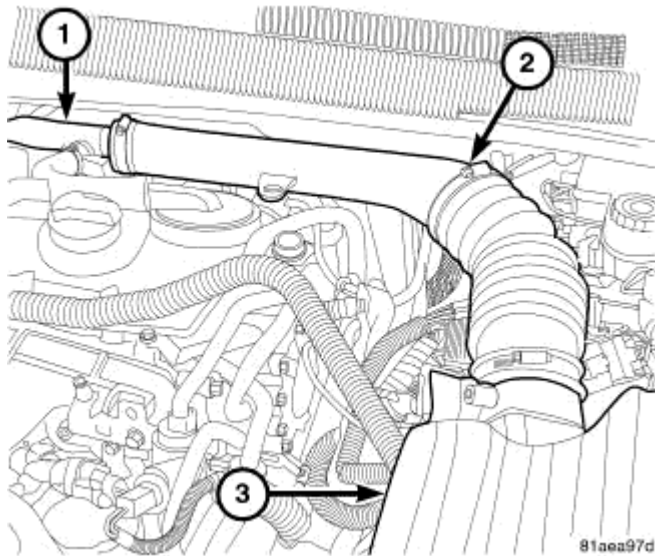


Fig. 52: Identifying Air Cleaner Cover And Hoses- Diesel
Courtesy of CHRYSLER LLC

3. Remove the air cleaner cover (3) and the air intake hose (2) to the hose (1) leading down the back of the engine.

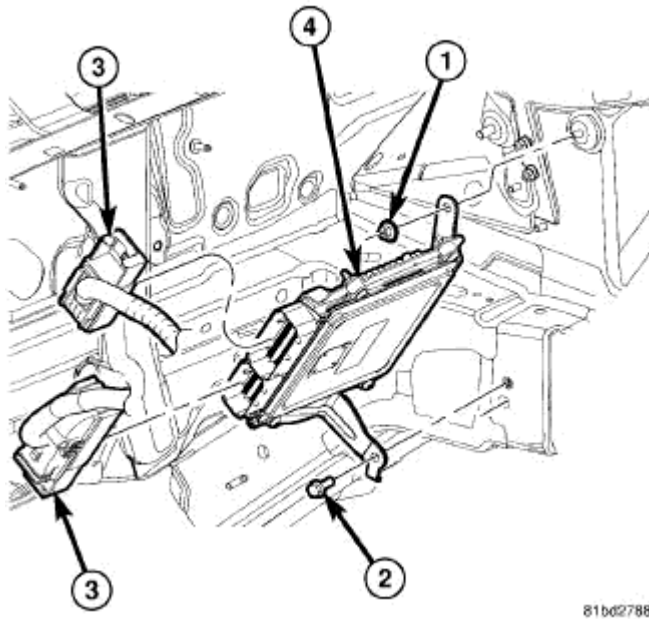


Fig. 53: Removing/Installing PCM Bracket Mounting Nut And Bolt
Courtesy of CHRYSLER LLC

4. Remove the PCM bracket mounting nut (1) to upper shock tower stud (if equipped).
5. Remove the PCM bracket mounting bolt (2) to lower shock tower (if equipped).
6. Reposition the PCM and bracket (4) out of the way (if equipped).
7. Remove the master cylinder. Refer to **Brakes/Hydraulic/Mechanical/MASTER CYLINDER, Brake - Removal**.
8. Remove the left front brake tube from the clip located on the left body rail.

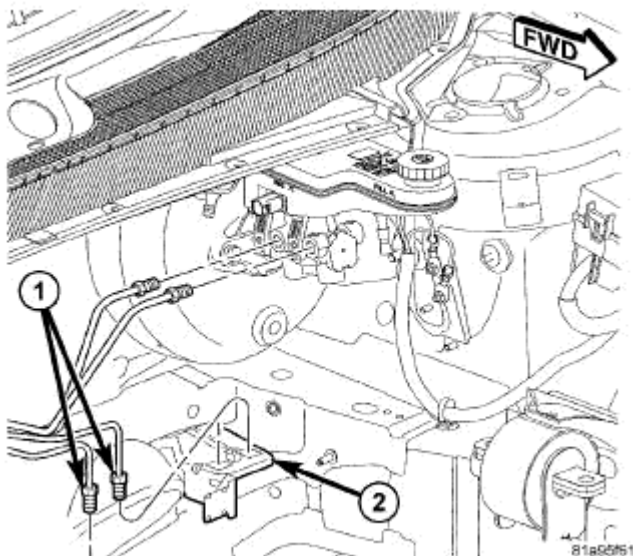
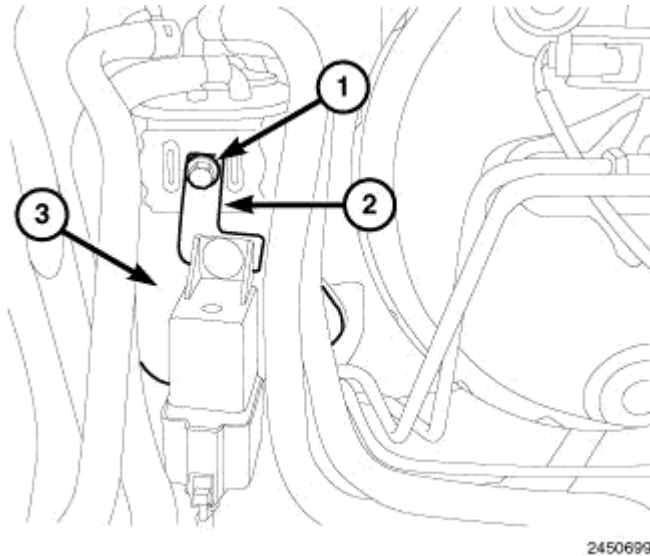


Fig. 54: Rear Brake Tubes At Junction Block

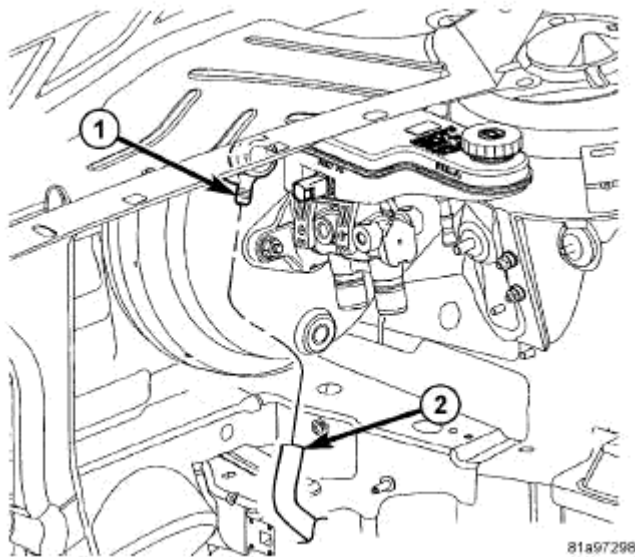
Courtesy of CHRYSLER LLC

9. Disconnect the rear brake tubes (1) at the junction block (2). Install plugs at all of the open brake tubes.
10. Pull the tube bundle routing clip (with tubes) loose from the stud on the left side of the dash panel.

**Fig. 55: Relay Bracket & Fuel Filter**

Courtesy of CHRYSLER LLC

11. Remove the bolt (1) for the relay bracket (2) on the fuel filter (3) and reposition the relay out of the way of the brake booster (if equipped).

**Fig. 56: Identifying Vacuum Hose & Check Valve**

Courtesy of CHRYSLER LLC

12. 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.**

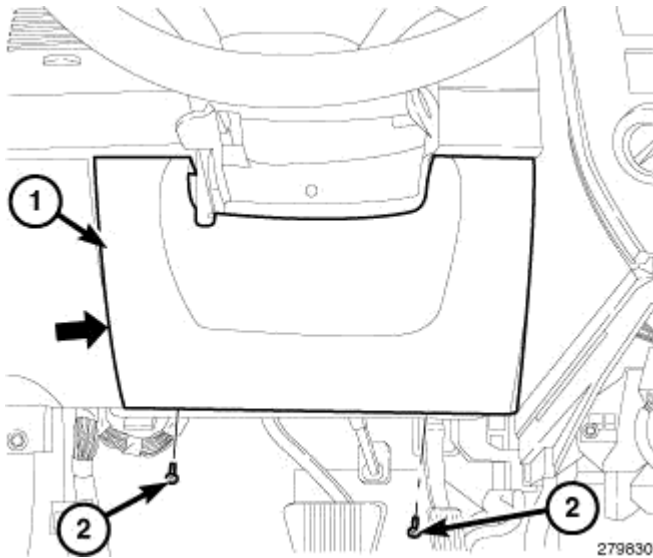


Fig. 57: Steering Column Opening Cover
Courtesy of CHRYSLER LLC

13. Remove the steering column opening cover from the instrument panel.

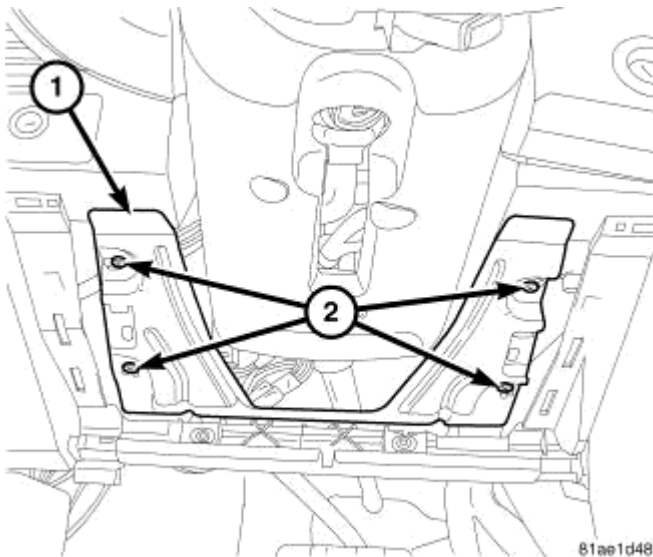


Fig. 58: Steering Column Cover Reinforcement Mounting Screws
Courtesy of CHRYSLER LLC

14. Remove the steering column cover reinforcement mounting screws (2). Remove the steering column cover reinforcement (1) (if equipped).
15. Remove the stop lamp switch. Refer to **Electrical - Lamps and Lighting/Lamps/Lighting - Exterior/SWITCH, Stop Lamp - Removal** .

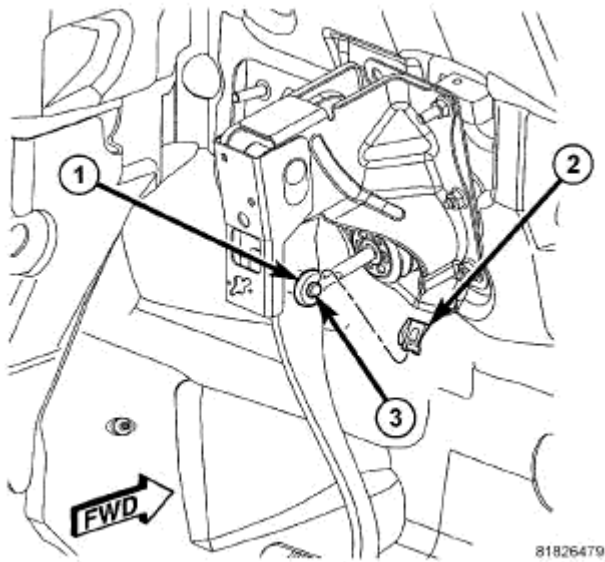


Fig. 59: Identifying Brake Pedal Retaining Clip, Power Brake Booster Push Rod, & Brake Pedal Pin

Courtesy of CHRYSLER LLC

16. 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.**
17. Slide the booster push rod (1) off the brake pedal pin (3).

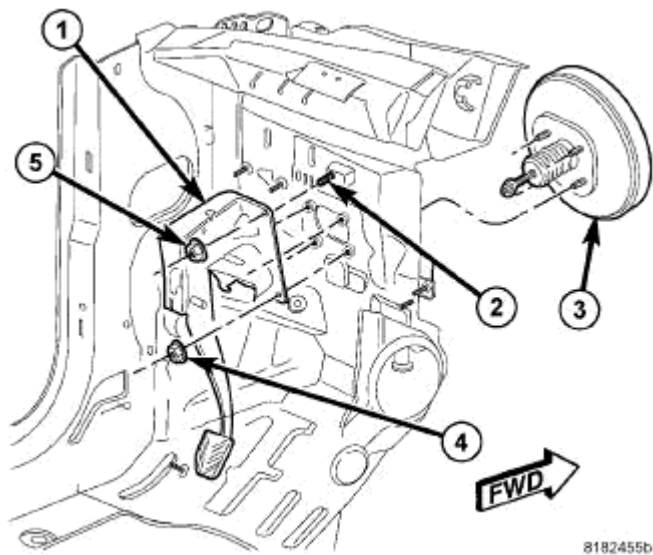
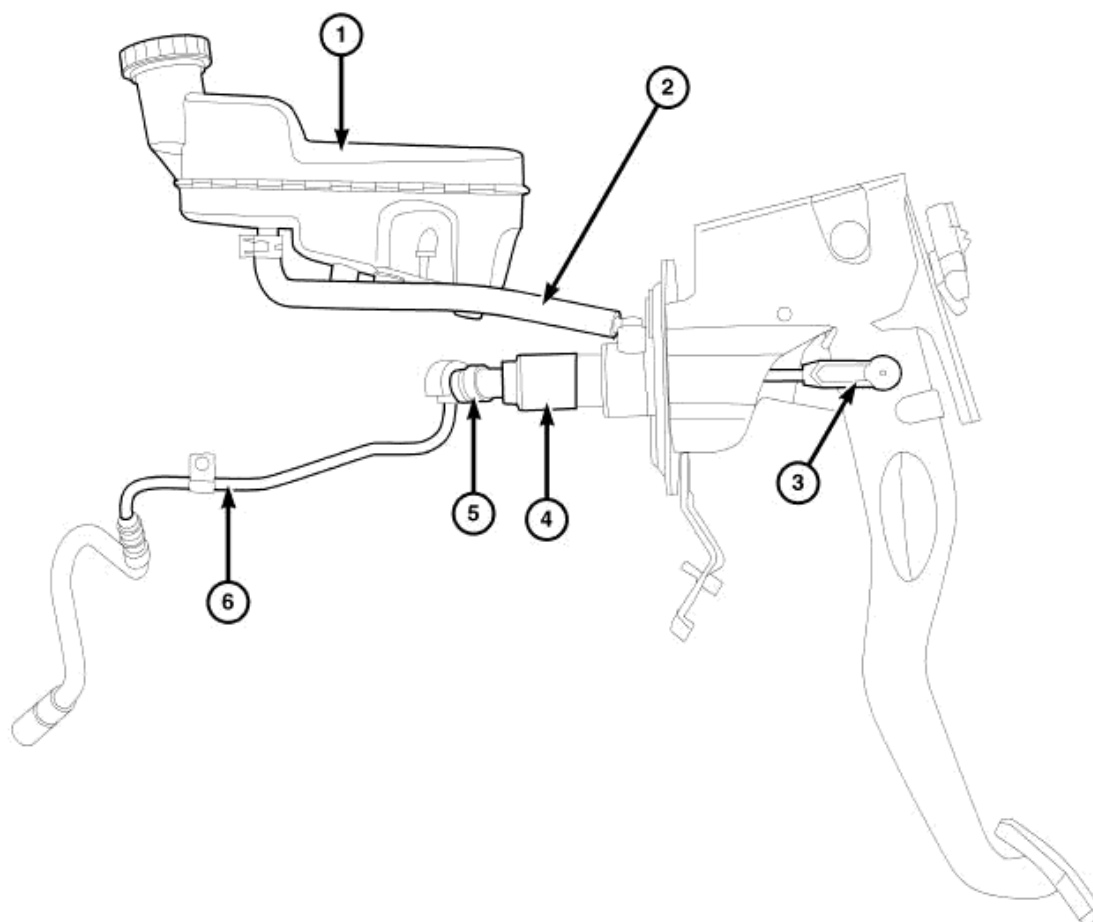


Fig. 60: Pedal And Booster Mounting

Courtesy of CHRYSLER LLC



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20. Disconnect hydraulic tube (6) at the clutch master cylinder pressure line connector (5) by pulling retaining clip then pulling out on tube. Cap off hydraulic tube to prevent fluid loss. To completely drain clutch master cylinder and tubing, remove brake master cylinder cap and drain fluid into suitable container.
21. Disconnect clutch master cylinder pushrod (3) from clutch pedal.

22. Remove master cylinder assembly (4) from mounting position by turning 1/4 turn clockwise.

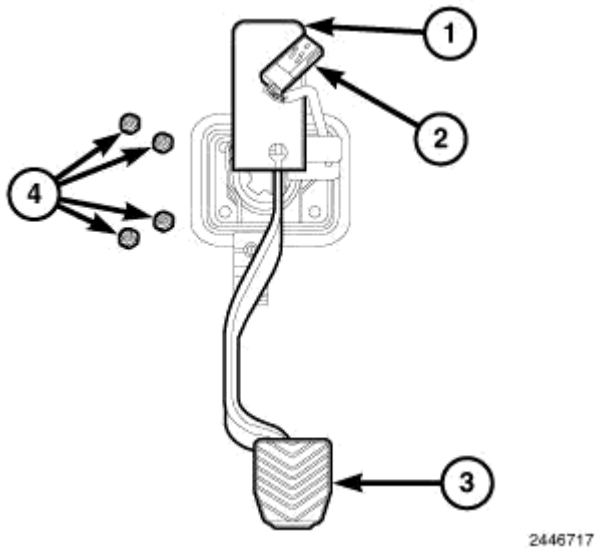


Fig. 62: Removing/Installing Clutch Starter Interlock Switch Connector & Clutch Pedal Bracket Assembly

Courtesy of CHRYSLER LLC

23. Disconnect the clutch starter interlock switch connector (2).
24. Remove the four nuts (4) attaching the clutch pedal bracket assembly (1) to the dash panel.
25. Remove the clutch pedal bracket assembly (1).

INSTALLATION

INSTALLATION

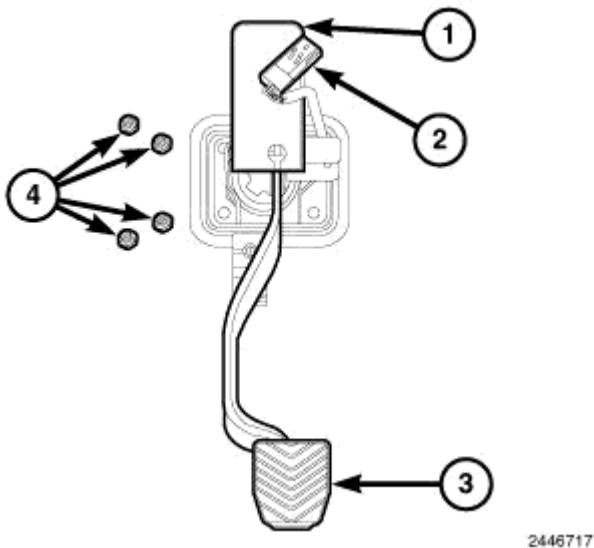
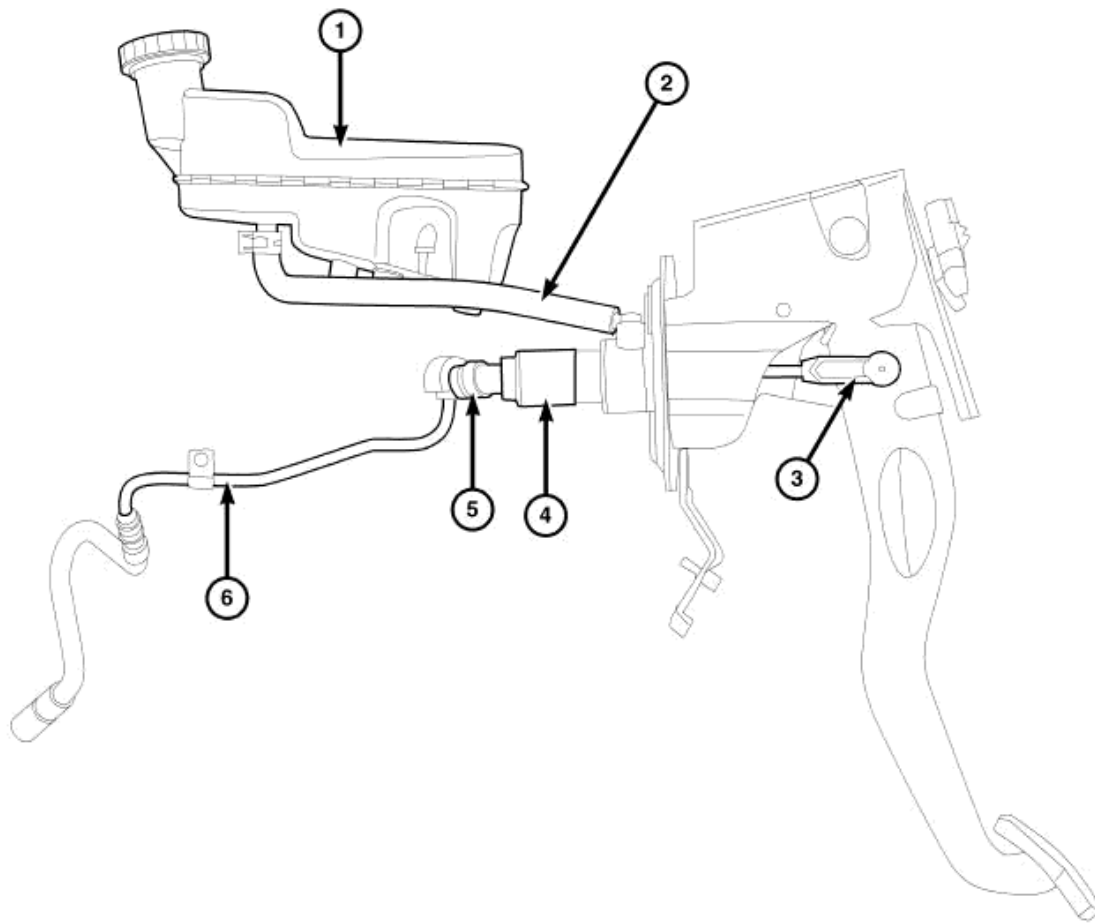


Fig. 63: Removing/Installing Clutch Starter Interlock Switch Connector & Clutch Pedal Bracket

Assembly

Courtesy of CHRYSLER LLC

1. Carefully install the clutch pedal bracket assembly (1) in the vehicle lining up the bracket with the clutch mounting studs on the dash panel.
2. Install the four nuts (4) attaching the clutch pedal bracket assembly (1) to the dash panel.
3. Tighten the four clutch pedal and bracket assembly mounting nuts (4) to 23 N.m (17 ft. lbs.).



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Fig. 64: Identifying Clutch Hydraulic System Components

Courtesy of CHRYSLER LLC

CAUTION: Brake fluid will damage painted surfaces. If brake fluid is spilled on any painted surfaces, wash it off immediately with water.

4. Install clutch master cylinder body (4) to the clutch pedal bracket assembly and 1/4 turn counter

clockwise to secure.

5. Insert hydraulic tube (6) into master cylinder pressureline connector (5) and install retaining clip.
6. Connect clutch master cylinder rod (3) to clutch pedal pin. An audible "click" should be heard.

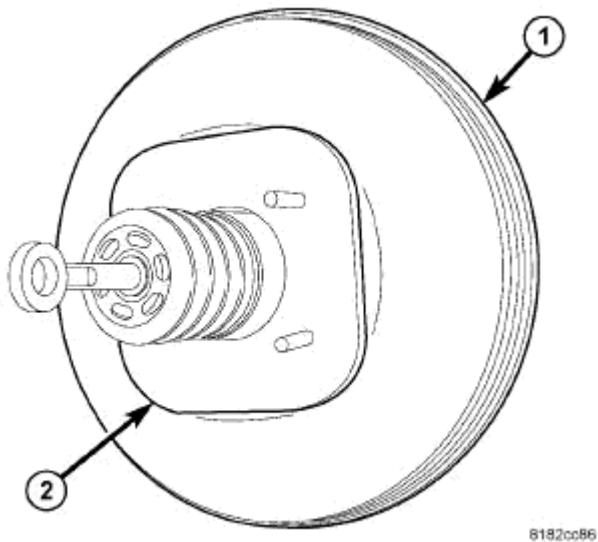


Fig. 65: Identifying Power Brake Booster & Dash Seal

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.

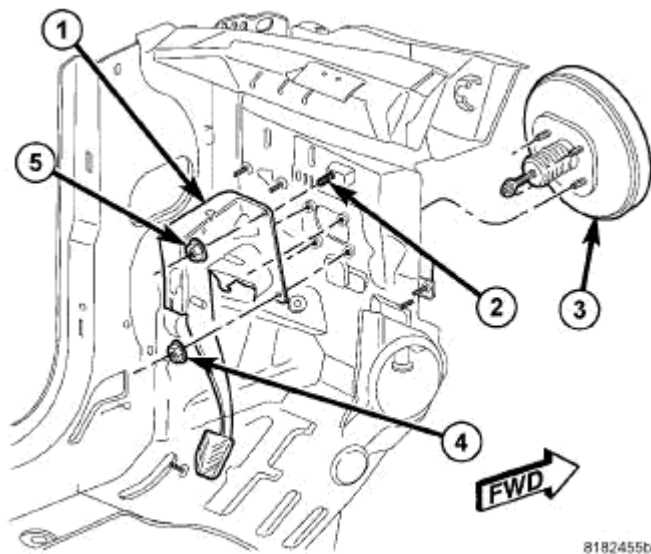


Fig. 66: Pedal And Booster Mounting

Courtesy of CHRYSLER LLC

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

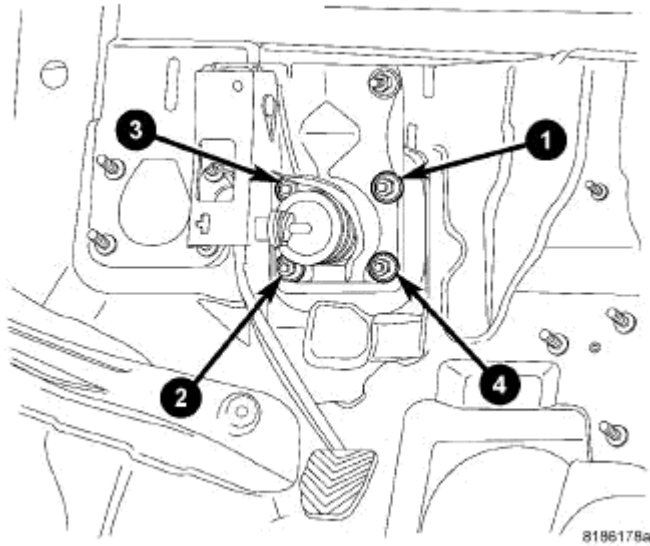


Fig. 67: Mounting Nut Torque Sequence
Courtesy of CHRYSLER LLC

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

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

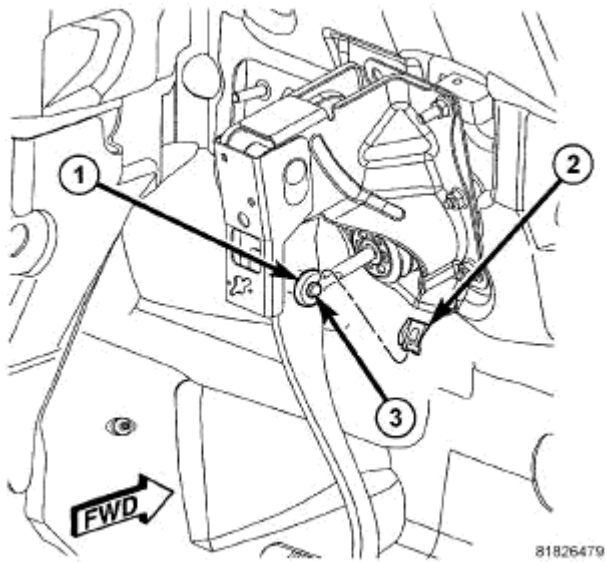


Fig. 68: Identifying Brake Pedal Retaining Clip, Power Brake Booster Push Rod, & Brake Pedal Pin

Courtesy of CHRYSLER LLC

10. Using Mopar® Lubriplate, or an equivalent, coat the surface of the brake pedal pin (3) where it contacts the brake booster input rod (1).
11. 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.**
12. Install and adjust the stop lamp switch in the brake pedal bracket. Refer to **Electrical - Lamps and Lighting/Lamps/Lighting - Exterior/SWITCH, Stop Lamp - Installation** .

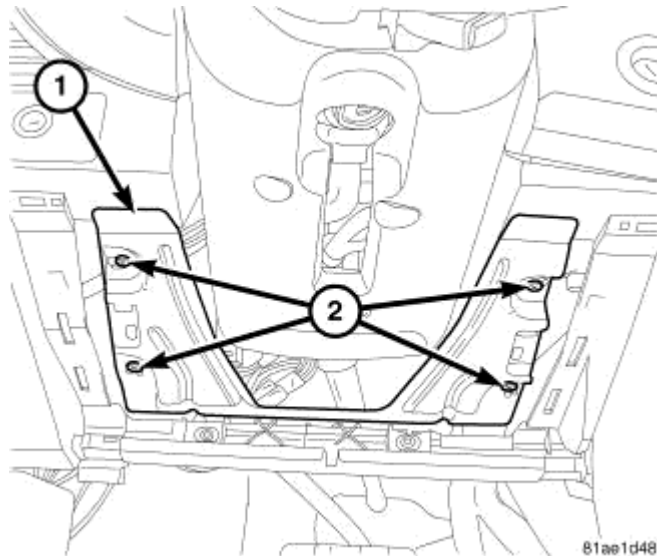


Fig. 69: Steering Column Cover Reinforcement Mounting Screws

Courtesy of CHRYSLER LLC

13. Install the steering column cover reinforcement (1) (if equipped) using the four mounting screws (2).

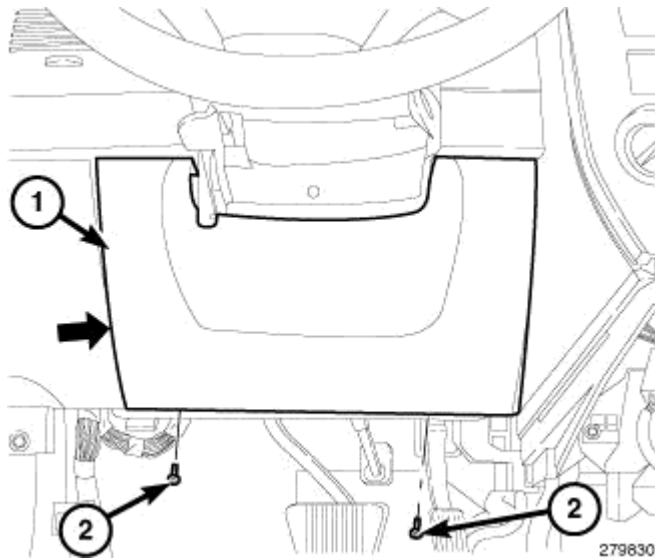


Fig. 70: Steering Column Opening Cover
Courtesy of CHRYSLER LLC

14. Install the steering column opening cover on the instrument panel.

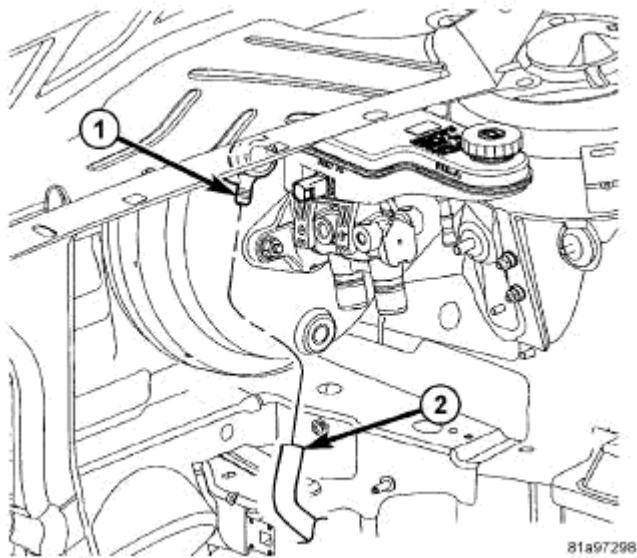


Fig. 71: Identifying Vacuum Hose & Check Valve
Courtesy of CHRYSLER LLC

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.

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

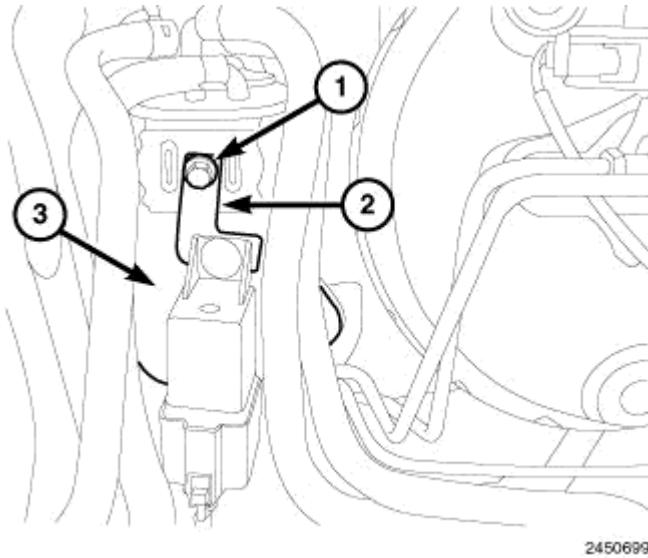


Fig. 72: Relay Bracket & Fuel Filter
Courtesy of CHRYSLER LLC

16. Install the relay bracket (2) to the fuel filter (3) using mounting bolt (1) (if equipped).
17. Install the tube bundle routing clip (with tubes) onto the stud on the left side of the dash panel.

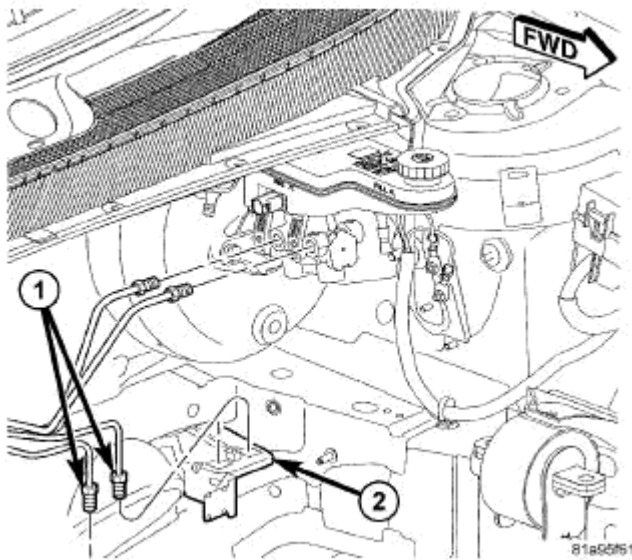


Fig. 73: Rear Brake Tubes At Junction Block
Courtesy of CHRYSLER LLC

18. Connect the rear brake tubes (1) to the junction block (2). Tighten the tube nuts to 17 N.m (150 in. lbs.).
19. Install the left front brake tube into the clip located on the left body rail.

20. Install the master cylinder. Refer to **Brakes/Hydraulic/Mechanical/MASTER CYLINDER, Brake - Installation**.
21. Verify that brake master cylinder reservoir (1) is full. Top off with DOT 3 brake fluid if necessary.

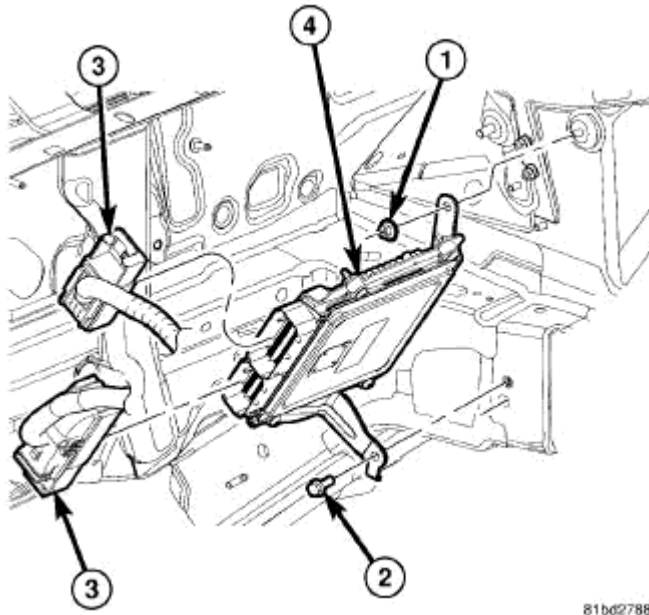


Fig. 74: Removing/Installing PCM Bracket Mounting Nut And Bolt
Courtesy of CHRYSLER LLC

22. Reposition the PCM and bracket (4) into mounting position (if equipped).
23. Install bolt (2) for the PCM mounting bracket to lower shock tower and tighten to 9 N.m (80 in. lbs.) (if equipped).
24. Install nut (1) for the PCM mounting bracket to upper shock tower stud and tighten to 9 N.m (80 in. lbs.) (if equipped).
25. Connect battery negative cable. Refer to **Electrical - Engine Systems/Battery System/CABLES, Battery - Installation**.
26. Bleed the base brake system. Refer to **Brakes - Standard Procedure**.
27. Bleed clutch system. See **Standard Procedure**.
28. Actuate clutch pedal a minimum of fifteen times to allow any air ingested into the system to vent to the master cylinder reservoir.

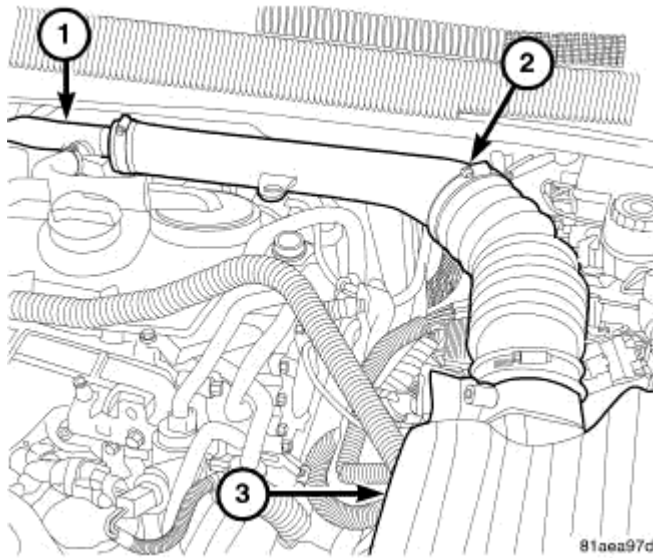


Fig. 75: Identifying Air Cleaner Cover And Hoses- Diesel
Courtesy of CHRYSLER LLC

29. Install the air cleaner cover (3) and the air intake hose (2) to the hose (1) leading down the back of the engine.
30. Road test the vehicle to ensure proper operation of the clutch and brakes.