

2009 STEERING**Steering - Journey****DESCRIPTION****DESCRIPTION**

This vehicle comes with power steering as standard equipment and it is the only steering system available. The power steering system consists of these major components:

- Power Steering Pump
- Power Steering Gear
- Power Steering Fluid Reservoir
- Power Steering Fluid Pressure Hose
- Power Steering Fluid Return Hose
- Power Steering Fluid Cooler

For information on the first two components, refer to their respective parts within this service information. Information on the remaining components can be found in Power Steering Pump.

OPERATION**OPERATION**

Turning of the steering wheel is converted into linear (side-to-side) travel through the meshing of the helical pinion teeth with the rack teeth within the steering gear. The lateral travel pushes and pulls the tie rods to change the direction of the vehicle's front wheels.

Power assist steering is provided by a belt driven rotary type pump. It directs fluid through power steering fluid hoses to the power steering gear where it is used to assist the driver's turning effort.

Manual steering control of the vehicle can be maintained if power steering assist is lost. However, under this condition, steering effort is significantly increased.

WARNING**WARNINGS AND CAUTIONS**

WARNING: Power steering fluid, engine parts and exhaust system may be extremely hot if engine has been running. Do not start engine with any loose or disconnected hoses. Do not allow hoses to touch hot exhaust manifold or catalyst.

WARNING: Fluid level should be checked with the engine off to prevent personal injury from moving parts.

CAUTION: When the system is open, cap all open ends of the hoses, power steering pump fittings or power steering gear ports to prevent entry of foreign material into the components.

DIAGNOSIS AND TESTING

HYDRAULIC FLOW AND PRESSURE TEST

WARNING: To prevent personal injury, safety goggles should be worn at all times while performing any test procedures on the power steering system.

The following procedure is to be used to test the operation of the power steering system on this vehicle. This test will provide the flow rate (Gallons Per Minute (GPM)) of the power steering pump along with the maximum relief pressure. Perform this test any time a power steering system problem is present. This test will help determine if the power steering pump or power steering gear is not functioning properly. The test is performed using tools in the Power Steering Analyzer Kit 6815 with appropriate hoses and adapters. See **Steering - Special Tools**

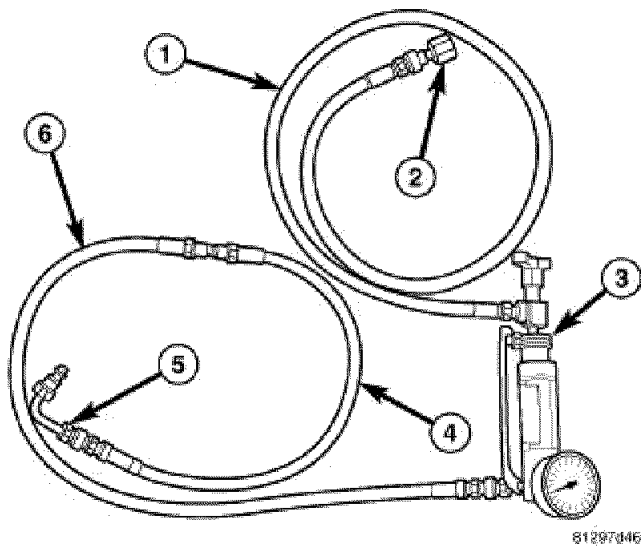


Fig. 1: Analyzer Setup To Test At Pump
Courtesy of CHRYSLER LLC

1. Check the power steering belt to ensure it is in good condition and adjusted properly.
2. Assemble the following hoses and adapters on the Flow Meter And Gauge 6800 (3):
 - a. Gauge end (inlet) - Hose 6905 (6) (in 6893A kit), Hose 6713 (4) (in 6815 kit), Adapter Tube 6844 (5) (in 6893A kit)

- b. Valve end (outlet) - Hose 6959 (1), Adapter Fitting 6826 (2)

NOTE: In the following steps, figures showing the four-cylinder gas engine have been used. Pump location differs depending on engine application, but a standard pressure hose tube nut fitting is used by all.

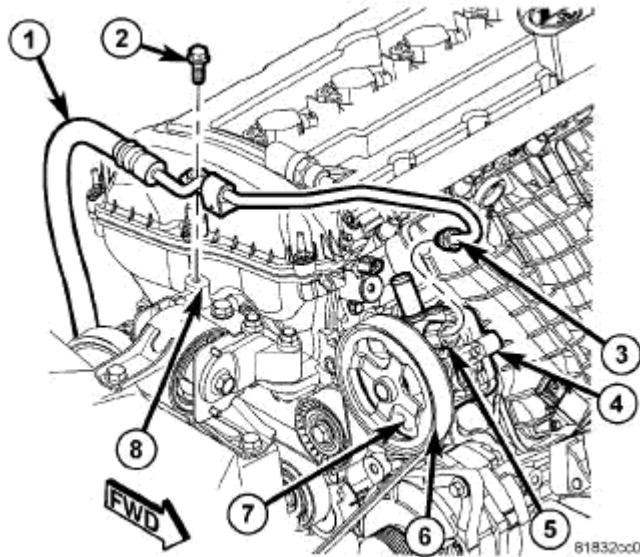


Fig. 2: PRESSURE HOSE
Courtesy of CHRYSLER LLC

3. Unthread the tube nut (3) and disconnect the power steering pressure hose (1) at the power steering pump pressure fitting (5).

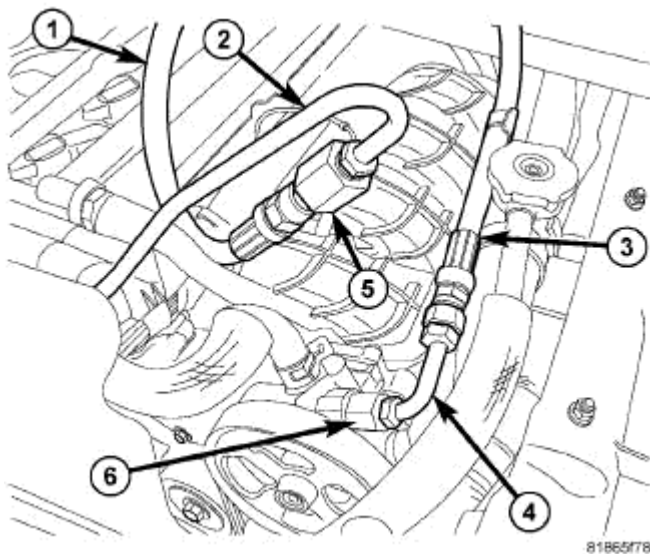


Fig. 3: ANALYZER CONNECTED TO PUMP

Courtesy of CHRYSLER LLC

4. Connect the vehicle's power steering pressure hose (2) to Adapter Fitting 6826 (5) (on Hose 6959 (1) leading to Analyzer outlet). Tighten the tube nut. See **Steering - Specifications**
5. Connect Adapter Fitting 6844 (4) (on Hose 6713 (3) leading to Analyzer inlet), to the open power steering pump pressure fitting (6). Tighten the tube nut. See **Steering - Specifications**
6. Route the hoses away from the exhaust system as well as possible.

TEST PROCEDURE

1. Completely open the valve on the Power Steering Analyzer flow meter.
2. Start the engine and let idle long enough to circulate power steering fluid through the analyzer and hoses, until the air is out of the fluid. Shut off the engine.
3. Check the power steering fluid level and add fluid as necessary. Start the engine again and let idle.
4. The analyzer gauge should read below 862 kPa (125 psi). If above, inspect the hoses for restrictions and repair as necessary. The pressure once the engine is warm should be in the range of 345-552 kPa (50-80 psi). The flow meter should read above 1.5 GPM.

CAUTION: The following test procedure step involves testing maximum pump pressure output and flow control valve operation. Do not leave valve closed for more than five seconds as the pump could be damaged.

NOTE: Power steering pump maximum relief pressure is 10,500 to 11,900 kPa (1525 to 1725 psi).

5. Close the flow meter valve fully three times and record highest pressure indicated each time. **All three readings must be within specifications and within 690 kPa (100 psi) of each other.**

CAUTION: During the next step, do not force the pump to operate against the stops for more than 5 seconds at a time as pump damage may result.

- If the power steering pump pressures are within specifications, but not within 690 kPa (100 psi) of each other, replace the power steering pump.
- If the pressures are within 690 kPa (100 psi) of each other, but are outside of specifications, replace the power steering pump.

If the power steering pump requires replacement. See **Steering/Pump - Removal**.

6. Completely open the valve on the Power Steering Analyzer flow meter. Turn the steering wheel to the extreme left until the stop in the steering gear is met, then turn the steering wheel to the right until the right stop is met. Record the highest indicated pressure at each position. Compare the recorded readings to the specifications. If the highest output pressure reading against one stop is not within 690 kPa (100 psi) of the highest reading at the other stop, the steering gear is leaking internally and must be replaced.

If the power steering gear requires replacement. See **Steering/Gear - Removal**.

STEERING DIAGNOSIS CHARTS

NOTE: There are three diagnosis charts following that cover **NOISE, VIBRATION AND HARSHNESS (NVH) ISSUES, PERFORMANCE ISSUES, and FLUID ISSUES.**

NOISE, VIBRATION AND HARSHNESS (NVH) ISSUES

CONDITION	POSSIBLE CAUSES	EVALUATION/CORRECTION
OBJECTIONABLE HISS OR WHISTLE WHILE TURNING STEERING WHEEL WHEN STATIONARY OR MOVING SLOWLY*	1. Damaged or mispositioned steering column shaft/coupling dash boot seal. 2. Mis-routed power steering hose. 3. Restriction in pressure or return hose. 4. Noisy valve in power steering gear.	1. Check to ensure boot is properly installed and seals against sheet metal. Reposition or replace steering column shaft/coupling dash boot seal as necessary. 2. Check routing of power steering hoses. Ensure hoses do not come in unwanted contact with other components and objects. 3. Using an electronic listening tool, determine if noise is coming from either pressure or return hose. Replace hose that noise is present within. 4. For evaluation and correction. See <u>Steering/Gear - Diagnosis and Testing</u> .
RATTLE OR EXCESSIVE CLUNK**	1. Power steering gear loose on engine cradle/crossmember. 2. Loose strut assembly mounting fasteners at tower or knuckle. 3. Excessive play in outer tie rod. 4. Engine cradle/crossmember mounting fasteners loose at frame or bushings worn. 5. Wheel mounting (lug) nuts loose. 6. Power steering hose touching the body or frame of vehicle. 7. Stabilizer bar link joints worn (occurs with steering input only when moving,	1. Check fastener torque and tighten to specifications. Replace as necessary. Check steering wheel center following repair. 2. Check fastener torque and tighten to specifications. 3. For evaluation and correction. See <u>Steering/Gear/TIE ROD, Steering - Diagnosis and Testing</u> . 4. Check fastener torque and tighten to specifications. Inspect bushings and repair as necessary. 5. Inspect wheel mounting (Lug) nuts and studs and repair as necessary. Tighten nuts to specifications. 6. For evaluation and correction. See <u>Steering/Pump - Diagnosis and Testing</u> . 7. At park, jounce only one side of vehicle front to exercise stabilizer bar. Replace stabilizer bar link.

2009 Dodge Journey R/T

2009 STEERING Steering - Journey

	not stationary). 8. Loose lower control arm mounting bolts at engine cradle, frame or crossmember (occurs with steering input only when moving, not stationary). 9. Loose intermediate shaft or column. 10. Lower control arm pivot bushing worn (occurs with steering input only when moving, not stationary). 11. Internal power steering gear noise. 12. Loose inner tie rod. 13. Damaged engine cradle/crossmember.	8. Check control arm mounting bolts and tighten to specified torque. 9. Rotate intermediate (steering) shaft in relationship to gear, checking for free-play. Check column fasteners and tighten to specifications as necessary. 10. Inspect bushings for wear and replace lower control arm as necessary. 11. Drive vehicle on rough road, then steer rapidly back and forth when stopped. Replace power steering gear as necessary. 12. For evaluation and correction. See <u>Steering/Gear/TIE ROD, Steering - Diagnosis and Testing</u>. 13. Inspect the cradle/crossmember for cracks or other damage. Replace as necessary.
POPPING NOISE	1. Loose steering gear mounting fasteners. 2. Loose outer tie rod mounting nut or jam nut. 3. Loose intermediate (steering) shaft coupling at gear input shaft. 4. Worn tie rod (outer or inner). 5. Worn axle half-shaft.	1. Check fasteners for proper torque and retighten as necessary. 2. Check fastener torque. Replace nuts as necessary and tighten to specifications. 3. Make sure coupling is fully seated on gear input shaft. Retighten or re-seat as necessary. 4. For evaluation and correction. See <u>Steering/Gear/TIE ROD, Steering - Diagnosis and Testing</u>. 5. For evaluation and correction. Refer to <u>Differential and Driveline/Half Shaft - Diagnosis and Testing</u>.
CHIRP OR SQUEAL (POWER STEERING PUMP)	1. Loose power steering pump drive belt. 2. Pulley alignment incorrect. 3. Malfunctioning belt auto-tensioner. 4. Power steering pump noisy (worn bearing/bushing noise).	1. Inspect belt. Replace belt if worn or glazed. Tighten/adjust power steering pump drive belt if equipped with a manual tensioner. 2. Realign accessory drives. 3. Verify belt tension. Replace belt auto-tensioner. 4. Using an electronic listening tool, determine if noise is coming from pump. Replace power steering pump as required.

2009 Dodge Journey R/T

2009 STEERING Steering - Journey

-	5. Generator or water pump noisy.	5. Using an electronic listening tool, determine if noise is coming from generator or water pump. Replace faulty component.
WHINE, GROWL, MOAN OR GROAN (POWER STEERING PUMP)***	1. Low power steering fluid level. 2. Air in power steering fluid. 3. Power steering hose touching body or frame of vehicle. 4. Wear of power steering pump internal components.	1. Fill power steering fluid reservoir to proper level and check for leaks (make sure all air is bled from the system fluid). 2. Inspect for excessive air bubbles in fluid (fluid will appear foamy and lighter in color). Inspect hoses for leaks and replace as necessary. Bleed air from fluid. See <u>Steering - Standard Procedure</u> 3. For evaluation and correction. See <u>Steering/Pump - Diagnosis and Testing</u> . 4. For evaluation and correction. See <u>Steering/Pump - Diagnosis and Testing</u> .
COLD START WHINE OR MOAN (POWER STEERING PUMP)***	1. Low power steering fluid level. 2. Extremely low ambient temperature (near 0 F° (-18 C°) or below).	1. Fill power steering fluid reservoir to proper level and check for leaks (make sure all air is bled from the system fluid). 2. Some noise is expected as pump attempts to pull cold, thick fluid. Noise should go away as vehicle warms up. Acceptable levels of excessive noise are one second at 0 F° (-18 C°) and 15 seconds at -20 F° (-29 C°). If noise is excessive, look for poor sealing on the return hose or a possible fluid leak.
SQUEAKING OR RUBBING SOUND	1. Steering column shroud or shaft rubbing. 2. Clockspring inside steering column noisy. 3. Boot/dash seal lubrication inadequate. 4. Steering gear outer tie rod noisy. 5. Steering gear internally noisy.	1. While turning the steering wheel, listen down column to locate. Check interference between moving components. Move or realign shrouds or shaft as necessary. Replace components if this does not correct problem. 2. Remove clockspring and reinstall steering wheel for testing. If noise is gone, replace clockspring. 3. Remove boot seal and recheck for noise. Lubricate seal as necessary. 4. While a helper turns the steering wheel, use an electronic listening tool to determine if noise is coming from either outer tie rod. Replace outer tie rods as necessary. 5. Remove dash seal boot, then exercise the steering wheel. If noise is still present at gear, replace steering gear.
SCRUBBING OR KNOCKING SOUND	1. Incorrect tire or wheel size.	1. Replace incorrect size tire or wheel with original equipment size. 2. Drive vehicle, moving accelerator pedal

2009 Dodge Journey R/T

2009 STEERING Steering - Journey

-	2. Worn motor or transmission mount.	rapidly up and down attempting to locate noise. Try in both forward and reverse. Replace mounts as necessary.
-	3. Tires contacting wheel well.	3. Make sure wheel house is properly positioned. If not, reposition as necessary. If steering wheel is properly centered, check steering gear travel left to right by rotating the steering wheel to each stop. Steering wheel should rotate the same amount in both directions from center. If not, replace steering gear.
-	4. Interference between moving steering components and other components.	4. Check for bent or misaligned components. Correct or replace as necessary.
-	5. Accessory drive pulley rubbing against another component.	5. Check pulleys for wear. Check for worn engine or transmission mount. Reposition components or replace mounts as necessary.

NOTE: * There is some noise in all power steering systems. One of the most common is a hissing sound evident when turning the steering wheel when at a standstill or when parking and the steering wheel is at the end of its travel. Hiss is a very high frequency noise similar to that experienced while slowly closing a water tap. The noise is present in every valve and results when high velocity fluid passes valve orifice edges. There is no relationship between this noise and the performance of the steering system.

NOTE: ** A light clunk may be felt or heard during steering wheel reversal while vehicle is stationary. This results from internal steering gear rack movement at the bushings and in no way affects the performance of the steering system. This movement may be felt in the steering components during steering wheel reversal.

NOTE: *** Power steering pump growl/moan/groan results from the development of high pressure fluid flow. Normally this noise level should not be high enough to be objectionable.

PERFORMANCE ISSUES

CONDITION	POSSIBLE CAUSES	EVALUATION/CORRECTION
STEERING WHEEL OR COLUMN HAS FREE-PLAY/LASH/LOOSENESS (CLUNKING OR RATTLING)	1. Loose coupling pinch bolt at gear input shaft.	1. Check pinch bolt torque. Replace pinch bolt if equipped with thread locker patch and tighten to specifications.
	2. Power steering gear	2. Inspect gear mounting bolts. Replace if

2009 Dodge Journey R/T

2009 STEERING Steering - Journey

	loose on cradle/crossmember. 3. Excessive free-play or noise from steering column bearings. 4. Excessive intermediate (steering) shaft coupling U-joint free-play. 5. Loose or worn outer tie rod. 6. Lack of lubrication in lower ball joint or ball joint is damaged. 7. Excessive lash inside steering gear.	necessary and tighten to specifications. 3. Replace steering column. 4. Rotate steering wheel back-and-forth while watching coupling. Observe for free-play. Replace steering column as necessary. 5. For evaluation and correction. See <u>Steering/Gear/TIE ROD, Steering - Diagnosis and Testing</u>. 6. Lubricate ball joint if equipped with a zerk fitting and check for function. If not equipped with a zerk fitting, test and replace ball joint/lower control arm as necessary. 7. Disconnect intermediate shaft and turn steering gear input shaft. Observe for any movement without a corresponding tire movement. Replace steering gear as necessary.
STEERING WHEEL HAS FORE AND AFT LOOSENESS	1. Steering wheel retaining bolt loose. 2. Loose steering column to instrument panel fasteners.	1. Check steering wheel retaining bolt torque and tighten to specifications as necessary. 2. Check steering column to instrument panel fastener torque and tighten to specifications as necessary.
STEERING WHEEL, DASH OR VEHICLE VIBRATES DURING STEERING MANEUVERS (ESPECIALLY AT LOW SPEED OR STANDSTILL)	1. Air in power steering fluid. 2. Tire(s) not properly inflated. 3. Excessive engine vibration. 4. Loose tie rod end jam nut. 5. Overcharged air conditioning (A/C) system. 6. Grounded, damaged or loose engine mount.	1. Inspect for excessive air bubbles in fluid (fluid will appear foamy and lighter in color). Inspect hoses for leaks and replace as necessary. Bleed air from fluid. See <u>Steering - Standard Procedure</u> 2. Check and inflate tires to the specified pressure. 3. Ensure that the engine is tuned properly. 4. Check torque and tighten the inner to outer tie rod jam nut to specifications. 5. Turn A/C off and verify issue goes away. Repair A/C as necessary. 6. Visually inspect for damaged or misaligned mounts. Check fastener torque. Replace or realign as necessary. 7. For evaluation and correction. See

2009 Dodge Journey R/T

2009 STEERING Steering - Journey

	7. Loose or worn outer tie rod. 8. Steering gear noisy.	<u>Steering/Gear/TIE ROD, Steering - Diagnosis and Testing.</u> 8. During a parking event at 0 mph, verify there is vibration only with steering. Steer in both directions and verify that the noise follows the steering input. Check TSB's for any known issues. Replace steering gear as necessary.
STEERING CATCHES, SURGES OR STICKS IN CERTAIN POSITIONS OR IS DIFFICULT TO TURN	1. Low power steering fluid level. 2. Tire(s) not properly inflated. 3. Loose or slipping power steering/accessory drive belt. 4. Lack of lubrication in lower ball joint or ball joint is damaged. 5. Lack of lubrication in steering gear outer tie rod end(s). 6. Faulty power steering pump. 7. Excessive friction in intermediate shaft/coupler joint. 8. Excessive friction in steering column. 9. Worn or binding seat and bearing in front strut assembly.	1. Check fluid level and fill to proper level as necessary. Check for leaks. Make sure all air is bled from system. 2. Check and inflate tires to the specified pressure. 3. Verify belt tension. Replace belt auto-tensioner and belt as necessary. 4. Lubricate ball joint if equipped with a zerk fitting and check for function. If not equipped with a zerk fitting, test and replace ball joint/lower control arm as necessary. 5. For evaluation and correction. See <u>Steering/Gear/TIE ROD, Steering - Diagnosis and Testing.</u> 6. Perform Power Steering Flow and Pressure Test. See <u>Steering - Diagnosis and Testing.</u> Look for low or erratic flow or pressure. Replace power steering pump as necessary. 7. Disconnect intermediate shaft/coupler at steering gear and check joint for smooth operation in all directions. Replace steering column. 8. Disconnect intermediate shaft/coupler at steering gear. Turn steering wheel two revolutions in either direction from on center and check for smooth operation. DO NOT turn past two revolutions. Damage to the clockspring may occur. Replace steering column as necessary. 9. Disconnect outer tie rod ends from knuckles, then turn tire and wheel assembly checking for smooth operation. Replace front strut assembly seat and bearing.

2009 Dodge Journey R/T

2009 STEERING Steering - Journey

-	10. Faulty steering gear.	10. With vehicle on hoist, tires unsupported and engine off, steer gear throughout travel and check for smooth operation. Replace steering gear (only after all previous components have been checked).
STEERING WHEEL DOES NOT RETURN TO CENTER POSITION	1. Tire(s) not properly inflated. 2. Improper front wheel alignment. 3. Lack of lubrication in lower ball joint or ball joint is damaged. 4. Excessive friction in intermediate shaft/coupler joint. 5. Excessive friction in steering column. 6. Worn or binding seat and bearing in front strut assembly. 7. Excessive friction in power steering gear.	1. Check and inflate tires to the specified pressure. 2. Check and adjust wheel alignment as necessary. 3. Lubricate ball joint if equipped with a zerk fitting and check for function. If not equipped with a zerk fitting, test and replace ball joint/lower control arm as necessary. 4. Disconnect intermediate shaft/coupler at steering gear and check joint for smooth operation in all directions. Replace steering column. 5. Disconnect intermediate shaft/coupler at steering gear. Turn steering wheel two revolutions in either direction from on center and check for smooth operation. DO NOT turn past two revolutions. Damage to the clockspring may occur. Replace steering column as necessary. 6. Disconnect steering gear outer tie rod ends at knuckles, then turn tire and wheel assembly in and out checking for smooth operation. Replace seat and bearing as necessary. 7. With vehicle on hoist, tires unsupported and engine off, steer gear throughout travel and check for smooth operation. Replace steering gear (only after all previous components have been checked).
EXCESSIVE STEERING WHEEL KICKBACK FROM ROAD INPUTS	1. Air in power steering fluid. 2. Power steering gear loose on cradle/crossmember. 3. Steering column,	1. Inspect for excessive air bubbles in fluid (fluid will appear foamy and lighter in color). Inspect hoses for leaks and replace as necessary. Bleed air from fluid. See <u>Steering - Standard Procedure</u> 2. Inspect gear mounting bolts. Replace if necessary and tighten to specifications. 3. Rotate steering wheel back-and-forth

2009 Dodge Journey R/T

2009 STEERING Steering - Journey

-	coupling or intermediate shaft worn or loose.	while inspecting intermediate shaft going into steering gear. Look for excessive free-play. Retighten if loose bolt is found. Replace steering column, coupling or intermediate shaft if necessary.
-	4. Power steering pump flow is too low.	4. Perform Power Steering Flow and Pressure Test. See <u>Steering - Diagnosis and Testing</u> . Look for low or erratic flow or pressure. Replace power steering pump as necessary.

FLUID ISSUES

CONDITION	POSSIBLE CAUSES	EVALUATION/CORRECTION
LOW FLUID LEVEL WITH VISIBLE LEAK	1. Loose power steering hose fittings or connections. 2. Damaged or missing O-ring at power steering hose tube nuts. 3. Power steering line or hose failure. 4. Power steering component leaking (reservoir, pump, gear).	1. Check torque on all tube nuts (at gear and pump). Inspect clamps at all rubber hose connections for correct position, damage and tension. Tighten tube nuts to specifications as required. Reposition or replace clamps at hose connections. Clean joints and reinspect for leaks. 2. Remove tube nut and inspect O-ring. If damaged or missing, replace O-ring. Clean joints and reinspect for leaks. 3. Clean fluid from around suspect areas. Run vehicle and inspect for leaks. Look inside reservoir to see if air is being ingested. Replace hoses as necessary. 4. Clean fluid from around suspect areas. Run vehicle and inspect for leaks. Look inside reservoir to see if air is being ingested. Replace power steering component as necessary.
AERATED FLUID*	1. Low power steering fluid level. 2. Air leak at power steering supply hose, reservoir or pump.	1. Check fluid level and fill to proper level as necessary. Check for leaks. Make sure all air is bled from system. 2. Inspect components. Place a hand vacuum pump with Adapter 9688 on reservoir and verify that system can sustain vacuum. System should not lose more than 1 psi in 2 minutes (make sure vacuum pump is sealed well to the reservoir). Replace steering component as necessary.
RESERVOIR FLUID OVERFLOW OR FLUID THAT IS MILKY IN COLOR	1. Water contamination of power steering fluid.	1. Inspect fluid for milky appearance. Completely drain power steering fluid. Refill and bleed system. See <u>Steering - Standard Procedure</u>

NOTE: * Extremely cold temperatures may cause power steering fluid aeration. The air should work its way out of the system as the fluid warms.

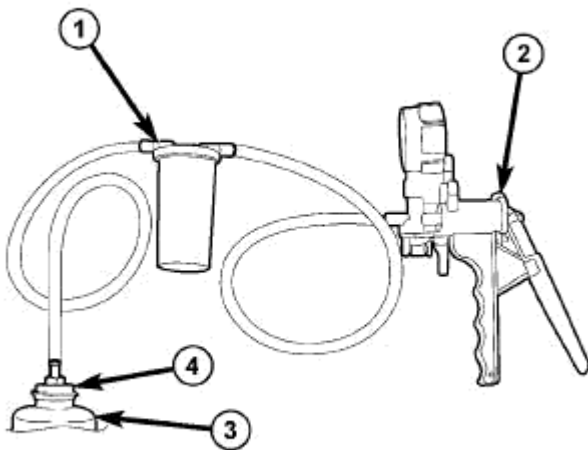
STANDARD PROCEDURE

POWER STEERING SYSTEM BLEEDING

WARNING: The fluid level should be checked with engine off to prevent injury from moving components.

CAUTION: Mopar® Power Steering Fluid + 4 or Mopar® ATF+4 Automatic Transmission Fluid is to be used in the power steering system. Both Fluids have the same material standard specifications (MS-9602). No other power steering or automatic transmission fluid is to be used in the system. Damage may result to the power steering pump and system if another fluid is used. Do not overfill the system.

CAUTION: If the air is not purged from the power steering system correctly, pump failure could result.



81873a49

Fig. 4: HAND VACUUM PUMP ON RESERVOIR

Courtesy of CHRYSLER LLC

NOTE: Be sure the vacuum tool used in the following procedure is clean and free of any fluids.

1. Check the fluid level. As measured on the side of the reservoir, the level should indicate between MAX and MIN when the fluid is at normal ambient temperature. Adjust the fluid level as necessary. See **Steering/Pump/FLUID - Standard Procedure**
2. Tightly insert Power Steering Adapter (4), Special Tool 9688, into the mouth of the reservoir (3).

CAUTION: Failure to use a vacuum pump reservoir (1) may allow power steering

fluid to be sucked into the hand vacuum pump.

3. Attach Hand Vacuum Pump (2), Special Tool C-4207 or equivalent, with reservoir (1) attached, to the Power Steering Cap Adapter (4).

CAUTION: Do not run the engine while vacuum is applied to the power steering system. Damage to the power steering pump can occur.

NOTE: When performing the following step make sure the vacuum level is maintained during the entire time period.

4. Using Hand Vacuum Pump (2), apply 68-85 kPa (20-25 in. Hg) of vacuum to the system for a minimum of three minutes.
5. Slowly release the vacuum and remove the special tools.
6. Adjust the fluid level as necessary. Refer to 1.
7. Repeat 1 through 6 until the fluid no longer drops when vacuum is applied.
8. Start the engine and cycle the steering wheel lock-to-lock three times.

NOTE: Do not hold the steering wheel at the stops.

9. Stop the engine and check for leaks at all connections.
10. Check for any signs of air in the reservoir and check the fluid level. If air is present, repeat the procedure as necessary.

SPECIFICATIONS

SPECIFICATIONS

SPECIFICATIONS

DESCRIPTION	N.m	Ft. Lbs.	In. Lbs.
Gear Heat Shield Screws	6	-	53
Gear Mounting Bolts	100	74	-
Hose Routing Clamp Screws to Crossmember	8	6	71
Hose Tube Nut at Gear - Pressure	32	24	-
Hose Tube Nut at Gear - Return	32	24	-
Hose Tube Nut at Pump	32	24	-
Intermediate Shaft Coupling Bolt	47	35	-
Pump Mounting Bolts - 4-Cylinder Gas Engine	26	19	230
Pump Mounting Bolts - All except 4-Cylinder Gas Engine	30	22	-
Pump Mounting Bracket Bolts - 2.7L Engine	30	22	-
Pressure Hose Routing Clamp Bolt to Engine Front -			

2009 Dodge Journey R/T

2009 STEERING Steering - Journey

3.5L Engine	22	16	195
Pressure Hose Routing Clamp Bolt to Engine Mount	24	18	212
Pressure Hose Routing Clamp Screw to Crossmember - 3.5L Engine	14	10	124
Pressure/Return Hose Routing Clamp Screws to Crossmember	8	6	71
Reservoir Mounting Screw	12	9	106
Return Hose Routing Clamp Screw to Frame Rail	8	6	71
Suspension Crossmember Mounting Bolts	140	103	-
Tie Rod End Knuckle Nut	85	63	-
Tie Rod Jam Nut	75	55	-

SPECIAL TOOLS

SPECIAL TOOLS

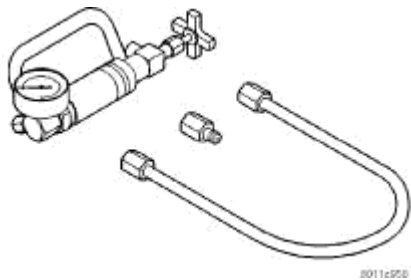


Fig. 5: Kit, Power Steering Analyzer 6815
Courtesy of CHRYSLER LLC

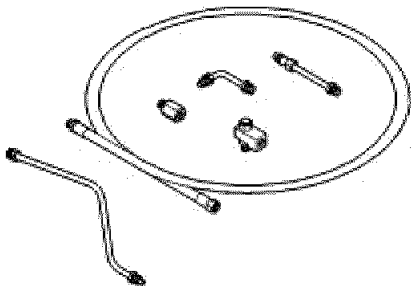


Fig. 6: Kit, Power Steering Adapter 6893
Courtesy of CHRYSLER LLC



Fig. 7: Hose, Power Steering Analyzer 6959
Courtesy of CHRYSLER LLC

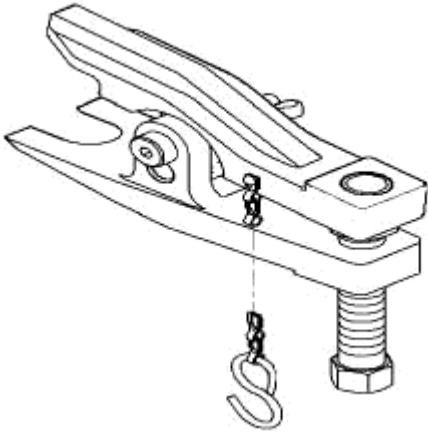


Fig. 8: Remover, Ball Joint 9360
Courtesy of CHRYSLER LLC

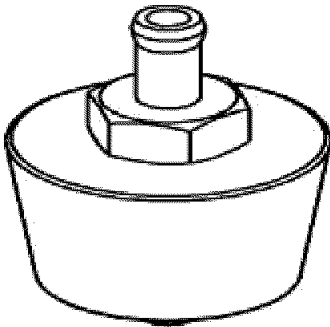


Fig. 9: Adapter, Power Steering Cap 9688
Courtesy of CHRYSLER LLC

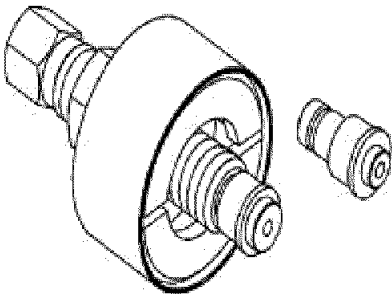


Fig. 10: Puller, Pulley 9962
Courtesy of CHRYSLER LLC

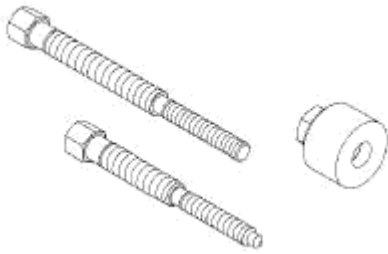
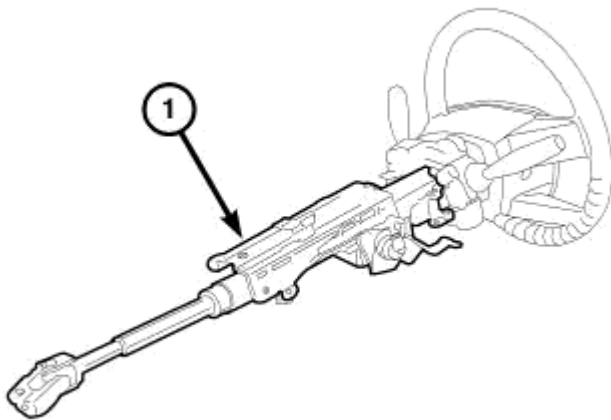


Fig. 11: Installer, Pulley C-4063C
Courtesy of CHRYSLER LLC

COLUMN

DESCRIPTION

DESCRIPTION



81a63f65

Fig. 12: STEERING COLUMN
Courtesy of CHRYSLER LLC

This vehicle is equipped with a tilt/telescoping type steering column (1). It is of the Corporate Low Pivot Column (CLPC) design family. When the lever is in the released position, the column can be tilted or telescoped manually.

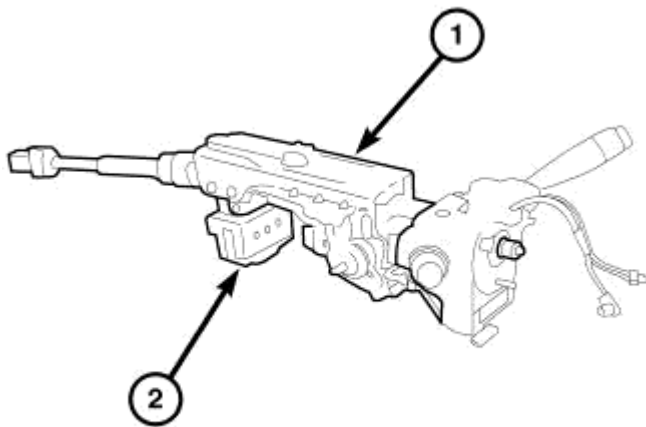
The steering column is designed to be serviced only as a complete assembly if an internal component is found to be defective. The shaft, bearings and intermediate shaft are all serviced with the column.

The major components on the steering column assembly are:

- Clockspring (Integral part of Steering Column Control Module (SCCM))
- Driver Airbag

- Multi-Function Switches (left and right)
- Tilt Lever
- Shrouds
- Steering Wheel

These components can be serviced without removal of the steering column from the vehicle. Refer to the appropriate part for servicing these components separately.



81a63f93

Fig. 13: STEERING COLUMN WITH SHAFT LOCK MODULE

Courtesy of CHRYSLER LLC

A theft deterrent device, shaft lock module (2), is located on some steering columns (1). The electronically controlled shaft lock module locks the steering column shaft in place when the key is removed from the ignition key cylinder.

WARNING

WARNINGS AND CAUTIONS

WARNING: Safety goggles should be worn at all times when working on steering columns.

WARNING: Before beginning any service procedure that involves removing the air bag: Remove and isolate the negative (-) battery cable (ground) from the vehicle battery. This is the only sure way to disable the air bag system. Failure to do this could result in accidental air bag deployment and possible personal injury.

WARNING: The air bag system is a sensitive, complex electro-mechanical unit.

Before attempting to diagnose, remove or install the air bag system components you must first disconnect and isolate the battery negative (ground) cable. Failure to do so could result in accidental deployment of the air bag and possible personal injury. The fasteners, screws, and bolts, originally used for the air bag components, have special coatings and are specifically designed for the air bag system. They must never be replaced with any substitutes. Anytime a new fastener is needed, replace with the correct fasteners provided in the service package or fasteners listed in the parts books. Before servicing a steering column equipped with an air bag. Refer to Restraints - Warning

WARNING: When handling an undeployed air bag during servicing of the steering column, the following precautions should be observed:

- At no time should any source of electricity be permitted near the inflator on the back of the air bag.
- When carrying a live air bag, the trim cover should be pointed away from the body to minimize injury if the air bag should accidentally deploy.
- If the air bag is placed on a bench or other surface, the plastic cover should be face-up to minimize movement, in case of accidental deployment.

CAUTION: Disconnect negative (ground) cable from the battery before servicing any column component.

DIAGNOSIS AND TESTING

STEERING COLUMN

The two steering column bracket halves are riveted together above the steering column with raised locator pads under the rivets (when viewed from the top). These rivets and locator pads can help determine if column has been compromised. If the steering column has collapsed, the rivets will slide down the slotted upper half of the bracket with the steering column. A collapse may occur with the tube housing moving into the rear bracket assembly OR the tube may move inside the tube housing. Typically if a collapse happens, the rivets/locator pads should indicate damage. However, if **any** of the following steps indicate a collapse, the steering column will still need replacement.

NOTE: All illustrations within this procedure are typical; however the steering column functionality is the same in all vehicles.

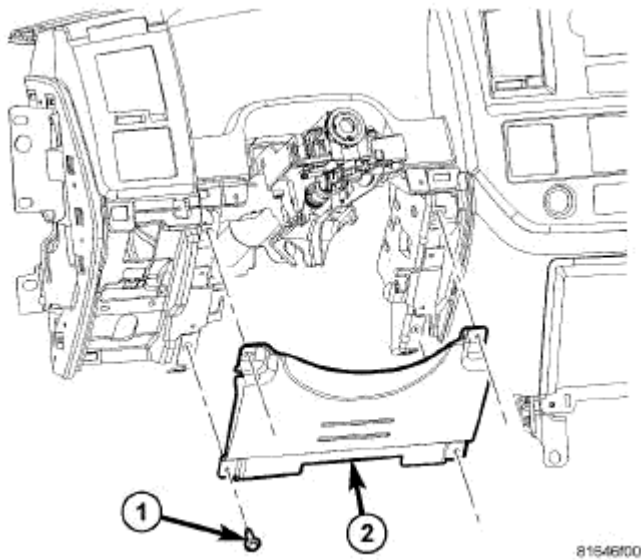


Fig. 14: Retaining Screws And Steering Column Opening Cover Reinforcement
Courtesy of CHRYSLER LLC

1. Grasp the steering wheel at the 9 and 3 o'clock positions, and again at the 12 and 6 o'clock positions and attempt to rock the steering wheel back and forth and up and down. If there is excessive movement or an audible clunking or grinding sound, replace the steering column. See **Steering/Column - Removal**.
2. Remove the steering column opening cover, and if equipped, remove the retaining screws (1) and the steering column opening cover reinforcement (2).

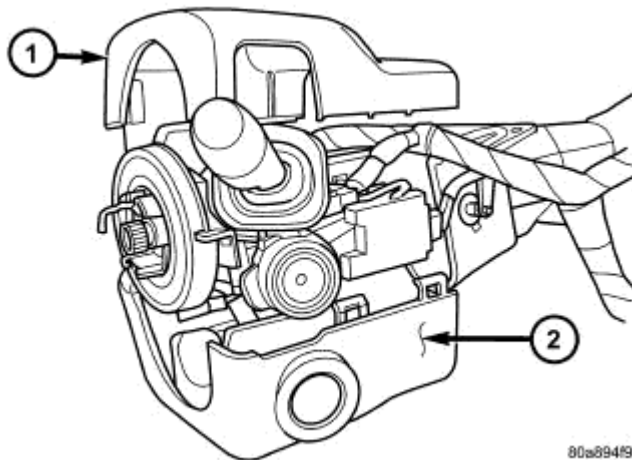


Fig. 15: Shroud Removal/Install
Courtesy of CHRYSLER LLC

3. Remove screws from the lower column shroud (2) and remove both the upper and lower shrouds.

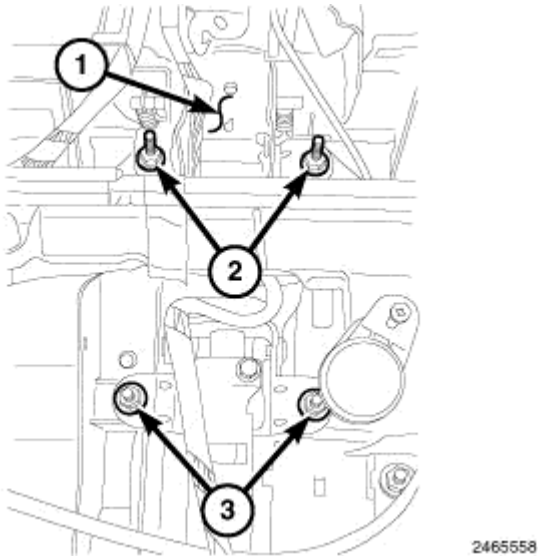


Fig. 16: Steering Column Mounting Bolts
Courtesy of CHRYSLER LLC

4. Remove the rear steering column mounting bolts (2).

NOTE: This illustration shows two vertical front steering column mounting bolts (3). Some steering column mounting brackets may have only one vertical mounting bolt in this position and another horizontal bolt. The horizontal bolt does not need to be loosened for this procedure.

5. Loosen the front steering column retaining bolts/nuts (3) several turns, but do not remove.

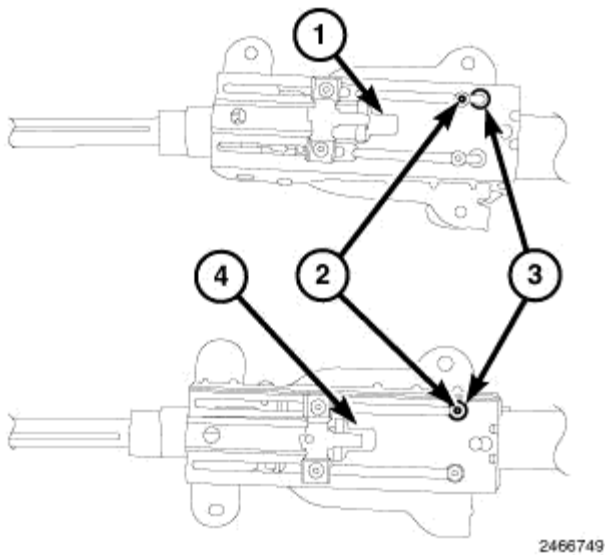
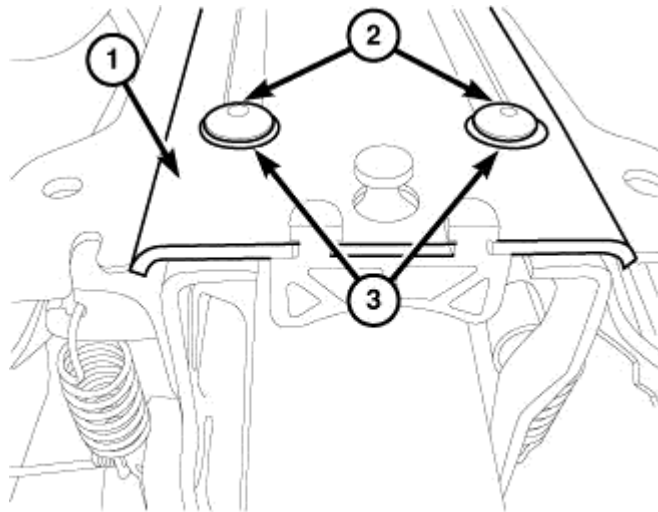


Fig. 17: Rivets And Locator Pads
Courtesy of CHRYSLER LLC

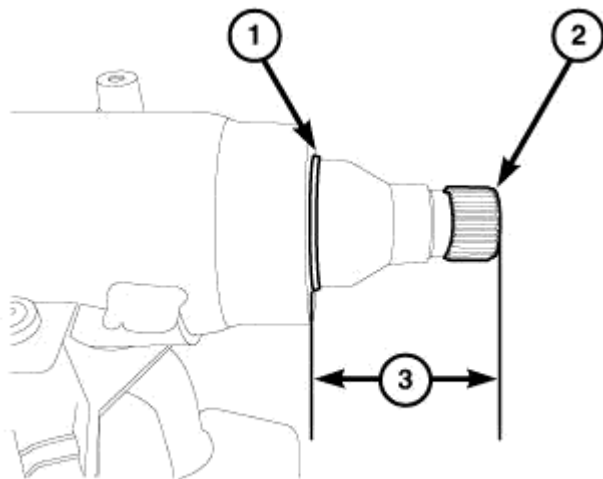
NOTE: A steering column which is in good condition (4) will have the rivets (2) centered on the raised locator pads (3). When a steering column is compromised (1), the rivets (2) should be moved off the locator pads (3).



2465671

Fig. 18: Identifying Steering Column, Rivets, & Locator Pads
Courtesy of CHRYSLER LLC

6. Move the steering column assembly (1) down to view the rivets (2) in the top of the bracket (between instrument cluster and steering column). Verify that the rivets (2) have not moved off center of the locator pads (3). If the rivets (2) have moved, replace the steering column. See **Steering/Column - Removal**.



2466724

Fig. 19: Measuring Distance From Edge Of Steering Column Housing Tube To Edge Of Splined Shaft
Courtesy of CHRYSLER LLC

7. Remove the clockspring. Refer to **Restraints/CLOCKSPRING - Removal**.

8. Measure the distance from the edge of the steering column housing tube (1) to the edge of the splined shaft (2). If the measurement (3) is less than 40 mm (1.574 in.), replace the steering column. See **Steering/Column - Removal**.
9. If the steering column passes all tests and measurements above, the steering column is not collapsed and should not need to be replaced.

REMOVAL

LEFT-HAND DRIVE

NOTE: Before proceeding. See **Steering/Column - Warning**.

1. Remove the steering column opening cover. Refer to **Body/Instrument Panel/COVER, Steering Column Opening - Removal**.

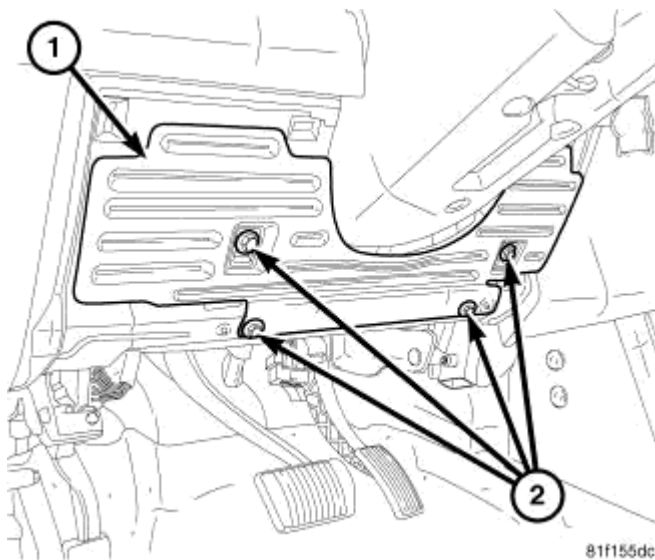


Fig. 20: STEERING COLUMN COVER REINFORCEMENT

Courtesy of CHRYSLER LLC

2. Remove the steering column cover reinforcement mounting screws (2). Remove the steering column cover reinforcement (1).

NOTE: If equipped with a shaft lock module, the module cannot be removed from the steering column while the locking bolt is in the locked position without irreversibly damaging the column. Before attempting service, the ignition key must be inserted into the ignition lock cylinder. Once inserted, rotate the steering wheel from side to side. If the steering wheel can be rotated, the locking bolt is in the unlocked position. Leave the key in the ignition lock cylinder until shaft lock module removal has been completed.

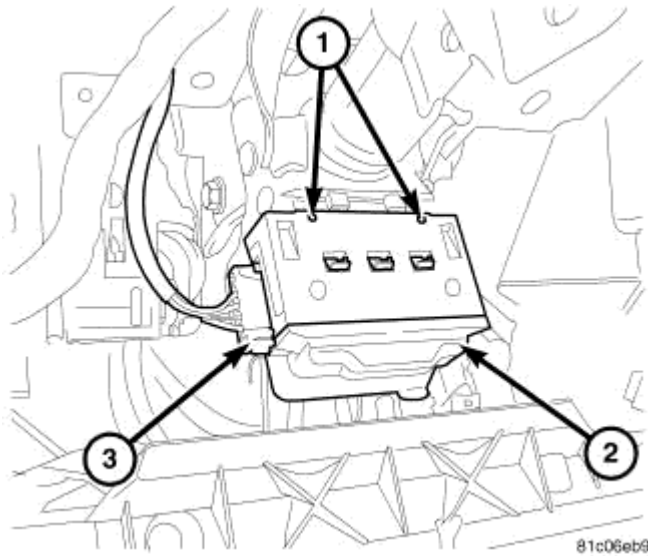


Fig. 21: SHAFT LOCK MODULE REMOVAL
Courtesy of CHRYSLER LLC

3. If equipped with a shaft lock module (2), perform the following steps.
 - a. Insert the ignition key into the ignition lock cylinder. This will move the shaft lock module locking bolt to the unlocked position. Leave the key in the lock cylinder while the shaft lock module is being removed.
 - b. Insert a suitable drift or pin punch (no more than 4 mm (5/32 in.) in diameter) into each release hole (1) on the module mounting bracket. Insert each drift or punch until it bottoms and leave in place. This will depress the two spring clips that secure the shaft lock module to the mounting bracket.
 - c. Slide (and wiggle) the module toward the base of the column far enough to disengage the module from the mounting bracket.
 - d. Remove the module from the steering column.
 - e. Leave the wiring connector in place, but support the module to keep it away from the column and avoid wiring harness overextension.

WARNING: When an undeployed airbag module is to be removed from the vehicle, first disconnect the battery ground cable and isolate it. Allow the system capacitor to discharge for a minimum of two minutes before starting any removal.

4. Disconnect the negative (-) cable from the battery and isolate the cable.

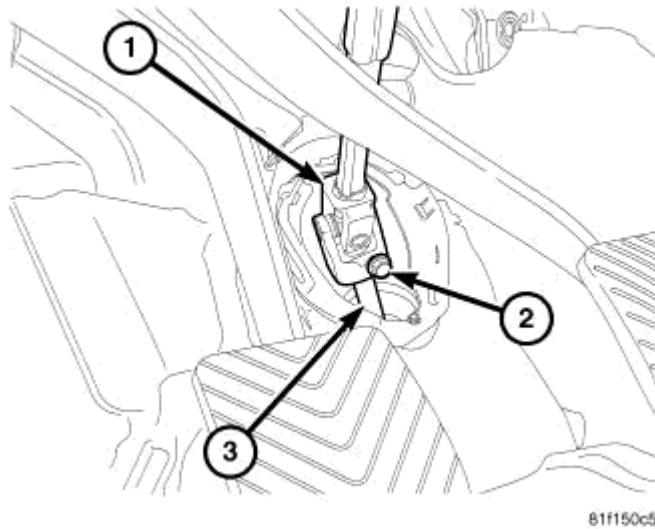


Fig. 22: COUPLING PINCH BOLT
Courtesy of CHRYSLER LLC

5. Reposition the floor carpeting and sound deadening insulation to access the intermediate shaft coupling (1) at the base of the column.
6. Place the front wheels of the vehicle (and steering wheel) in the STRAIGHT-AHEAD position.
7. Remove the intermediate shaft coupling bolt (2). **Do not separate the intermediate shaft coupling (1) from the steering gear pinion shaft (3) at this time.**
8. Return the front wheels of vehicle (and steering wheel) to the STRAIGHT-AHEAD position.

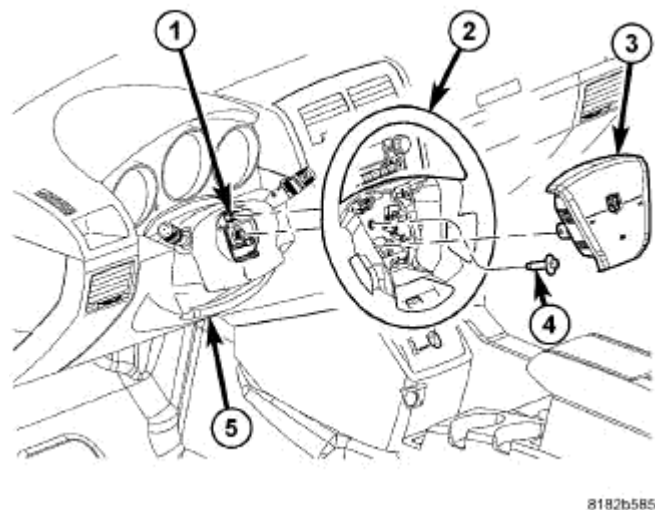


Fig. 23: AIR BAG REMOVAL
Courtesy of CHRYSLER LLC

9. Remove the driver airbag (3). Refer to **Restraints/AIR BAG, Driver - Removal**

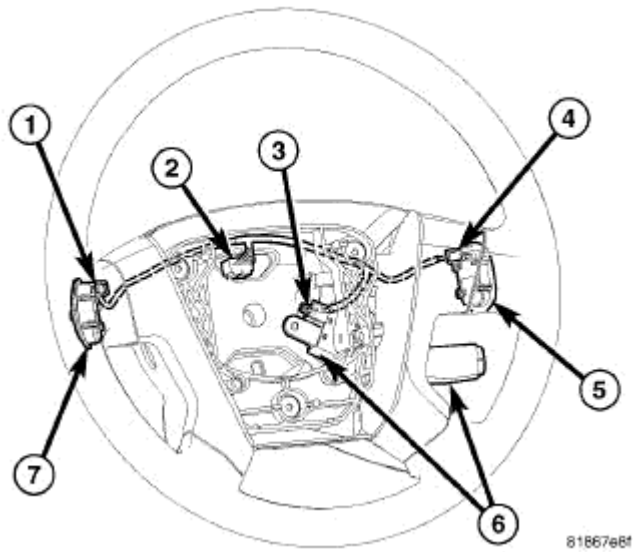


Fig. 24: STEERING WHEEL WIRING
Courtesy of CHRYSLER LLC

10. Disconnect the wiring connector (2) at the clockspring.

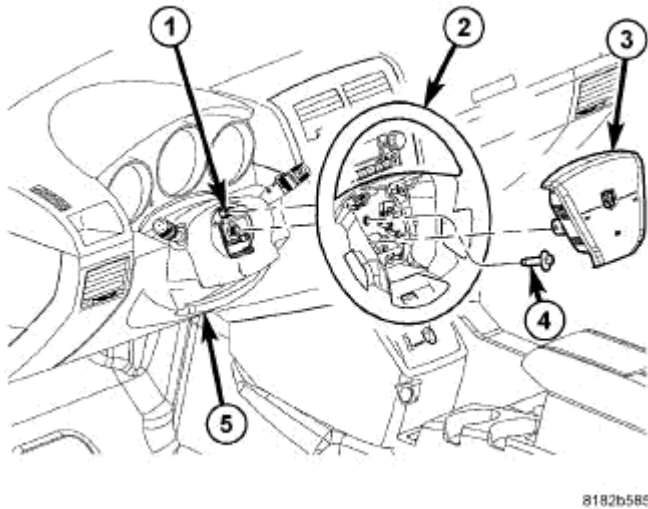


Fig. 25: Air Bag Removal/Installation
Courtesy of CHRYSLER LLC

11. While holding the steering wheel firmly in place, remove the steering wheel retaining bolt (4) from the steering column shaft.

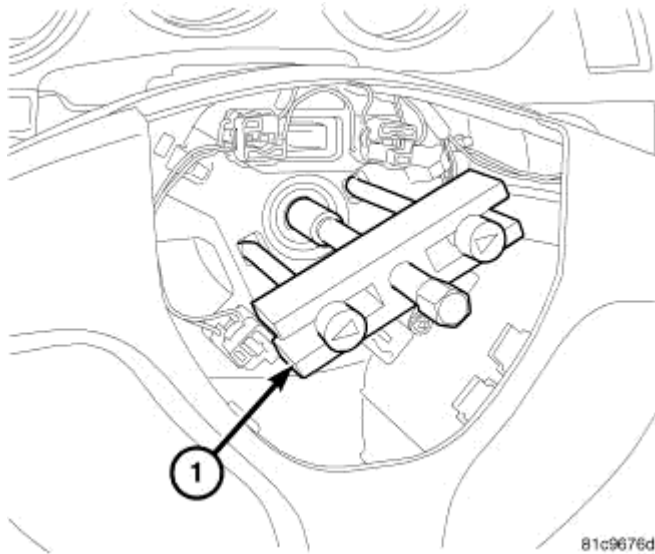


Fig. 26: STEERING WHEEL PULLER

Courtesy of CHRYSLER LLC

CAUTION: Do not bump or hammer on the steering wheel or steering column shaft when removing the steering wheel.

12. Install an appropriate wheel puller with hooked legs (1) on the steering wheel over the steering shaft. See Steering/Column/WHEEL, Steering - Removal.

CAUTION: Do not attempt to rotate the clockspring rotor once the steering wheel is removed. The clockspring must remain centered in its travel to avoid overextending the clockspring inner parts, causing the clockspring to become inoperative. If removed and handled properly using the correct procedures, it should remain in the "centered" position. If there is any question as to whether the clockspring is in the "centered" position of travel, perform the clockspring centering procedure before installing the steering wheel. Refer to Restraints/CLOCKSPRING - Standard Procedure .

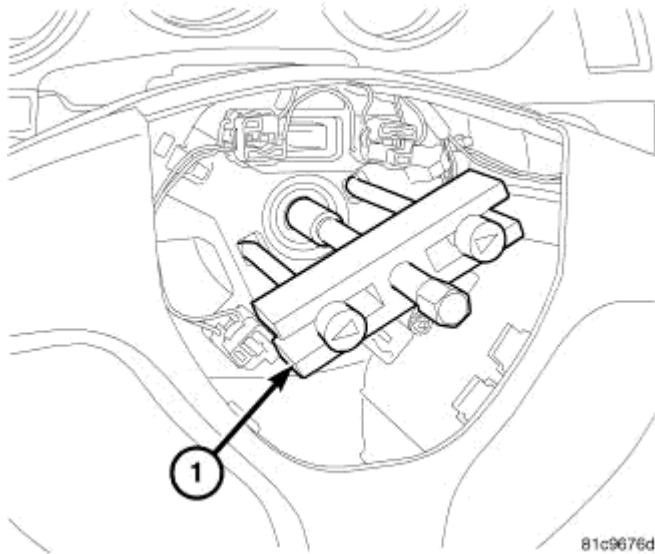


Fig. 27: Identifying Steering Wheel Puller
Courtesy of CHRYSLER LLC

13. While holding the steering wheel firmly in the STRAIGHT-AHEAD position, release the steering wheel from the steering column shaft splines using the wheel puller (1). Remove the steering wheel from the column.

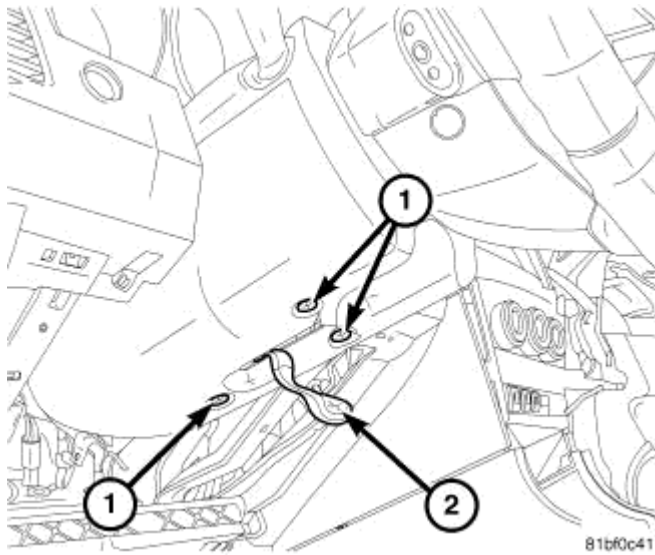


Fig. 28: LOWER SHROUD MOUNTING SCREWS
Courtesy of CHRYSLER LLC

14. Push the tilt lever (2) downward to the released position.
15. Remove the three screws (1) attaching the lower shroud. After removing the screws, un-clip the upper and lower shrouds from one another by applying hand pressure along the seams where the shrouds connect on the sides.
16. Remove the lower shroud.

NOTE: The upper shroud can remain in place for the remainder of the procedure. It is attached to the instrument cluster, but not the column. Use when removing column.

17. Push the tilt lever upward, locking the column in place.

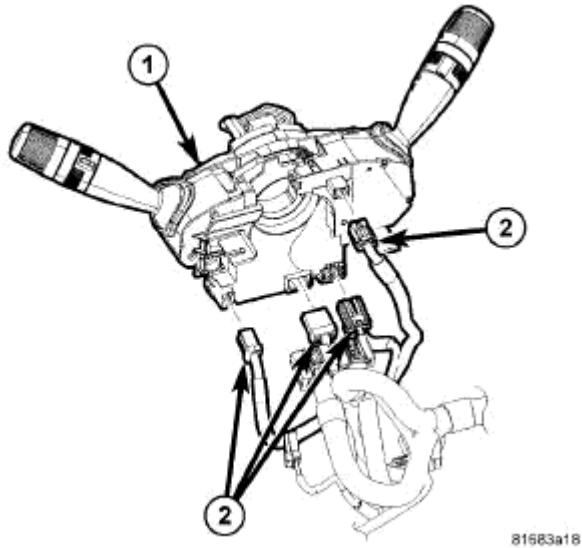


Fig. 29: MULTI-FUNCTION SWITCH CONNECTORS
Courtesy of CHRYSLER LLC

18. Disconnect the wiring harness connectors (2) at the Steering Column Control Module (SCCM) (1).
19. Disconnect all other wiring harness connectors at column components.

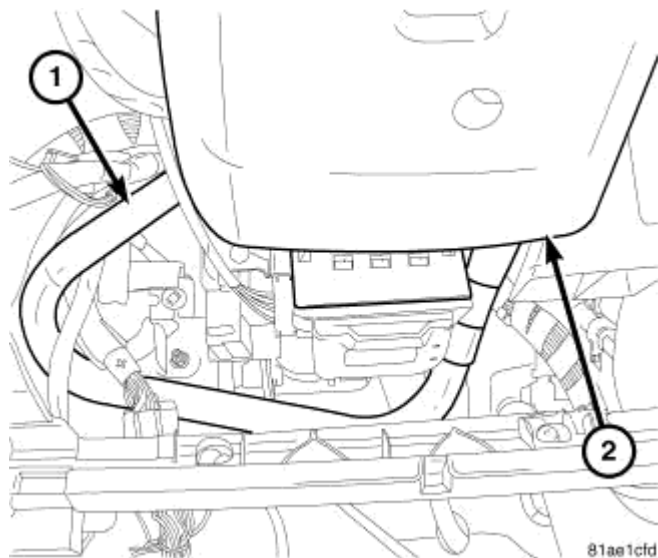


Fig. 30: CLUTCH PEDAL BLOCKER
Courtesy of CHRYSLER LLC

20. If equipped, remove the three clutch pedal blocker mounting screws, then remove the blocker (1).

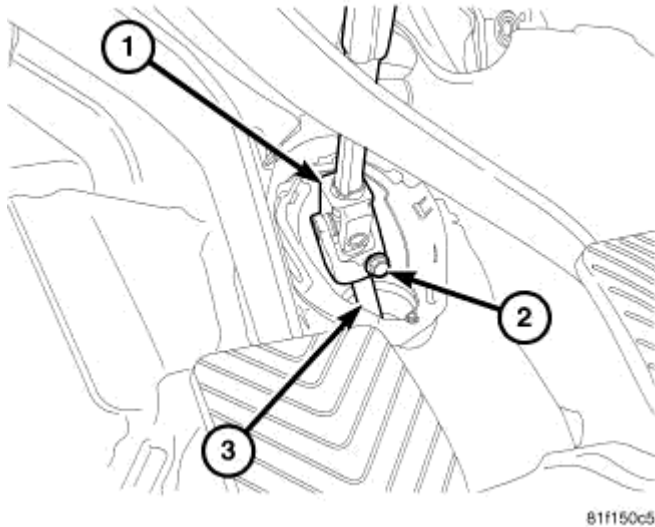


Fig. 31: COUPLING PINCH BOLT
Courtesy of CHRYSLER LLC

21. Separate the intermediate shaft coupling (1) at the base of the column from the steering gear pinion shaft (3).

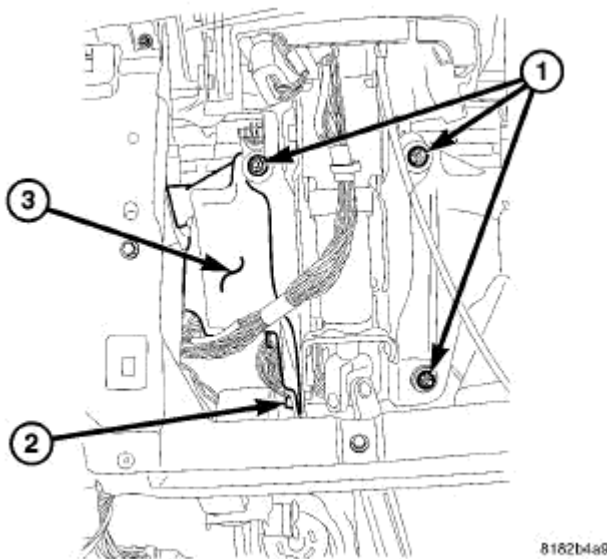


Fig. 32: COLUMN MOUNTING
Courtesy of CHRYSLER LLC

NOTE: If the same steering column is to be reinstalled, clamp the tilt lever to lock the column in place so that it can be easily reinstalled in the same orientation.

22. Remove the one mounting bolt (left lower) (2) attaching the steering column to the instrument panel (3).
23. Remove the three mounting nuts (1) attaching the steering column to the instrument panel (3).
24. Remove the steering column from the vehicle.
25. To remove remaining components from the column. See Steering/Column - Disassembly.

RIGHT-HAND DRIVE

Right-Hand Drive steering column is typical of Left-Hand Drive. See Steering/Column - Removal

DISASSEMBLY

DISASSEMBLY

STEERING COLUMN CONTROL MODULE

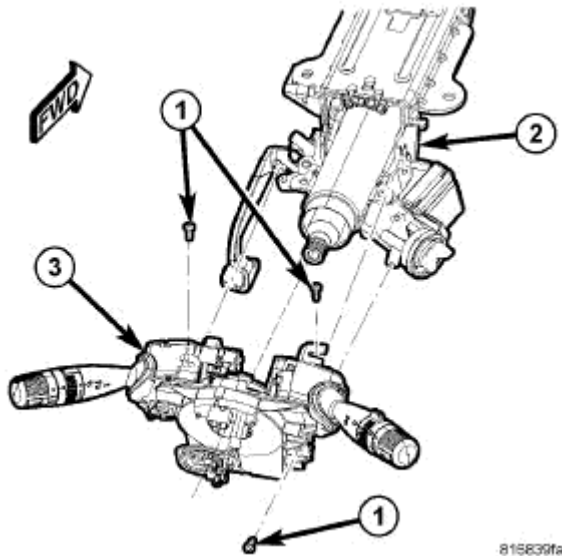


Fig. 33: STEERING COLUMN CONTROL MODULE MOUNTING

Courtesy of CHRYSLER LLC

1. Remove the screws (1) attaching the Steering Column Control Module (SCCM) (with switch stalks) (3) to the steering column (2).
2. Slide the SCCM (with switch stalks) (3) off the steering column (2).

INSPECTION

INSPECTION

Inspect the column for damage any time the driver airbag has deployed.

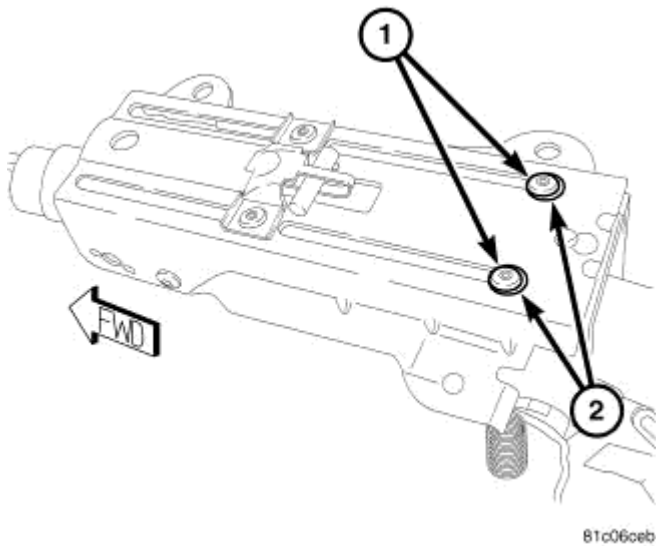


Fig. 34: COLUMN RIVETS
Courtesy of CHRYSLER LLC

Lower the steering column from its mount and inspect the column collapse feature. If the rearmost rivets (1) have dislodged from top of their mounting pads (2), into the mounting bracket slots, the column must be replaced. **NO attempt should be made to return the rivets to the top of the pads.**

If any physical damage or stress cracks are present on the column, the column must be replaced.

ASSEMBLY

ASSEMBLY

STEERING COLUMN CONTROL MODULE

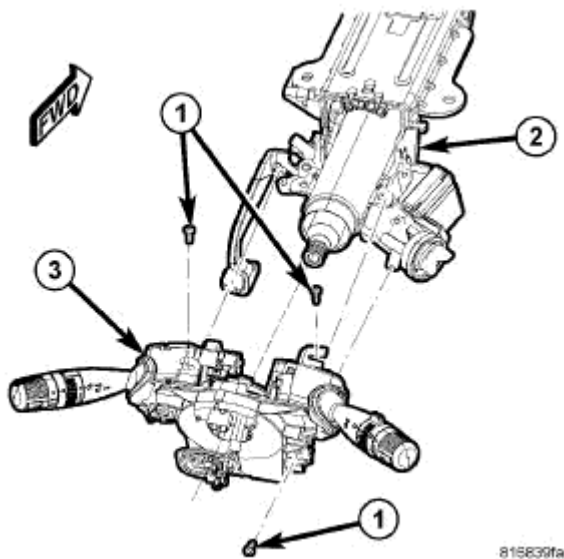


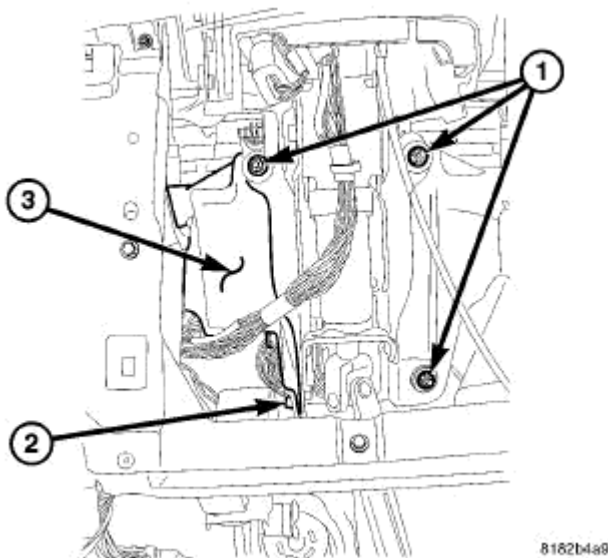
Fig. 35: STEERING COLUMN CONTROL MODULE MOUNTING

Courtesy of CHRYSLER LLC

1. Slide the Steering Column Control Module (SCCM) (with switch stalks) (3) onto the steering column (2).
2. Install the screws (1) attaching the SCCM (with switch stalks) (3) to the steering column (2). Tighten the screws to 3 N.m (27 in. lbs.).

INSTALLATION**LEFT-HAND DRIVE**

1. If the steering column is being replaced, assemble components on the steering column as necessary before column installation. See **Steering/Column - Assembly**

**Fig. 36: COLUMN MOUNTING**

Courtesy of CHRYSLER LLC

NOTE: When installing a tilt column, do not release the tilt lever from the locked position until after the column is installed on the instrument panel.

2. Install the steering column through the steering column opening.
3. Raise the column onto the mounting studs and install the three mounting nuts (1) on the studs and the one bolt (2).

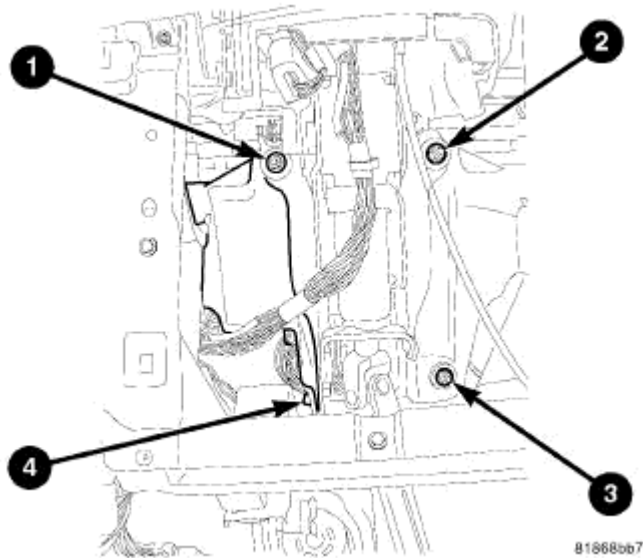


Fig. 37: COLUMN TIGHTENING SEQUENCE

Courtesy of CHRYSLER LLC

NOTE: When tightening the fasteners in the following step, make sure there is no gap between the column flange and the instrument panel support at bolt (4).

- Starting with the left upper nut and proceeding in a clockwise tightening sequence ending at the bolt (left lower), tighten all four mounting fasteners to 28 N.m (21 ft. lbs.).

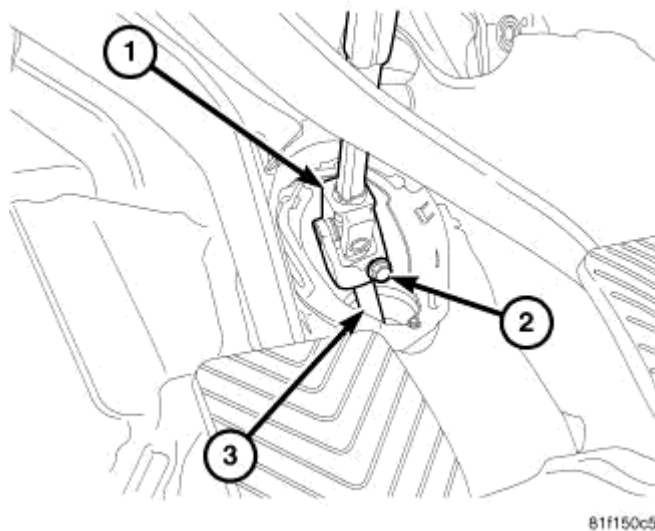


Fig. 38: COUPLING PINCH BOLT

Courtesy of CHRYSLER LLC

- Verify the front wheels of vehicle are in the STRAIGHT-AHEAD position.

6. Collapse the intermediate shaft (2). Center the intermediate shaft coupling (1) over the steering gear pinion shaft (3), then slide the intermediate shaft onto the steering gear pinion shaft.
7. Install the intermediate shaft coupling bolt (2). Tighten the bolt to 42 N.m (31 ft. lbs.).
8. Position the sound deadening insulation and floor carpet back into place.

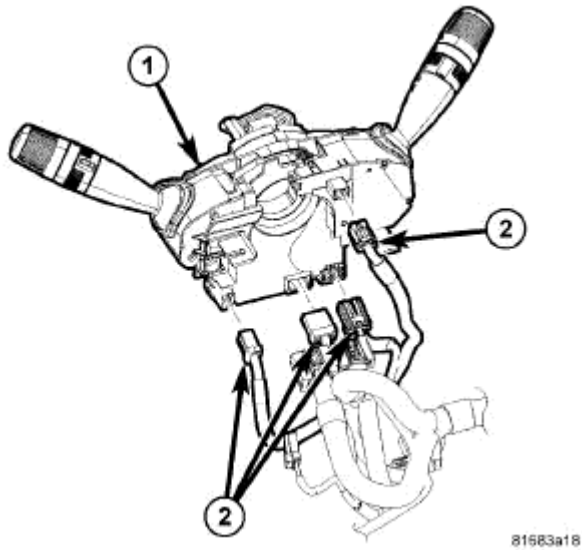


Fig. 39: MULTI-FUNCTION SWITCH CONNECTORS

Courtesy of CHRYSLER LLC

9. Connect the wiring harness connectors (2) to the Steering Column Control Module (SCCM) (1).
10. Connect any other the wiring harness connectors.

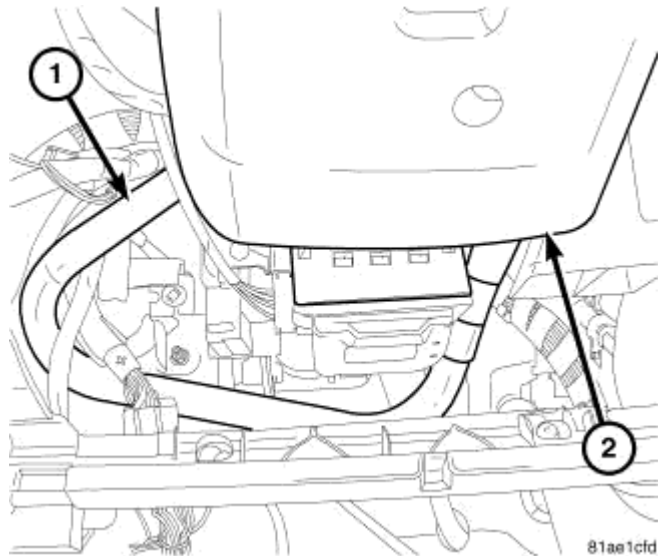


Fig. 40: CLUTCH PEDAL BLOCKER

Courtesy of CHRYSLER LLC

11. If equipped, Install the clutch pedal blocker (1) using three mounting screws.

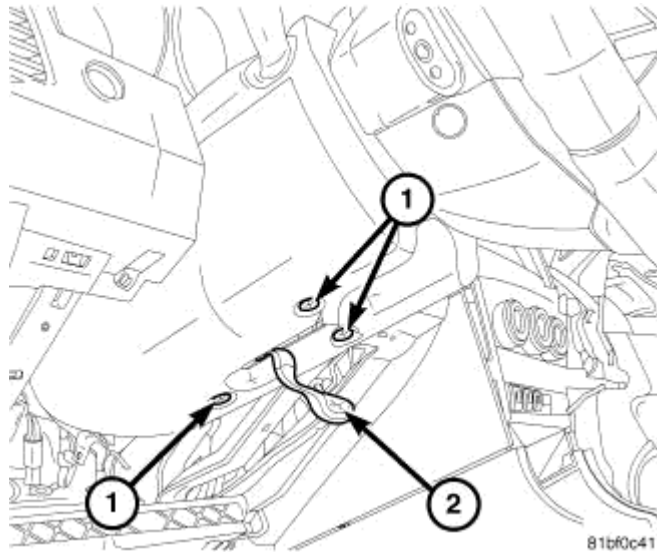


Fig. 41: LOWER SHROUD MOUNTING SCREWS
Courtesy of CHRYSLER LLC

12. Push the tilt lever (2) downward (released position).
13. Install the lower shroud (2) over the tilt lever and onto the column.
14. Install the upper shroud onto the lower shroud, clipping the shrouds to one another.
15. Install the three screws (1) attaching the lower shroud to the steering column.
16. Position the column tilt (5) at the full-upward position.
17. Push the tilt lever upward, locking the column in place.

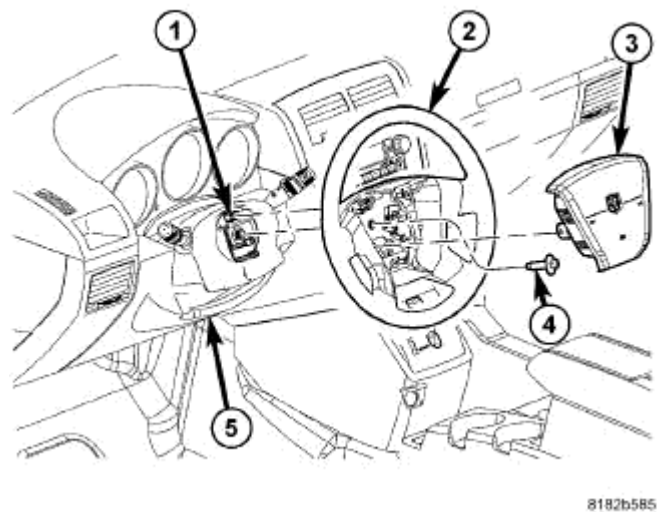


Fig. 42: AIR BAG REMOVAL

Courtesy of CHRYSLER LLC

CAUTION: When installing the steering wheel, the clockspring must be centered in its travel to avoid overextending the clockspring inner parts, causing the clockspring to become inoperative. If removed and handled properly using the correct procedures, it should be in the "centered" position. If there is any question as to whether the clockspring is in the "centered" position of travel, perform the clockspring centering procedure before proceeding. Refer to Restraints/CLOCKSPRING - Standard Procedure .

18. Install the steering wheel (2) and the retaining bolt (4). Tighten the steering wheel retaining bolt to 50 N.m (37 ft. lbs.). See Steering/Column/WHEEL, Steering - Installation.

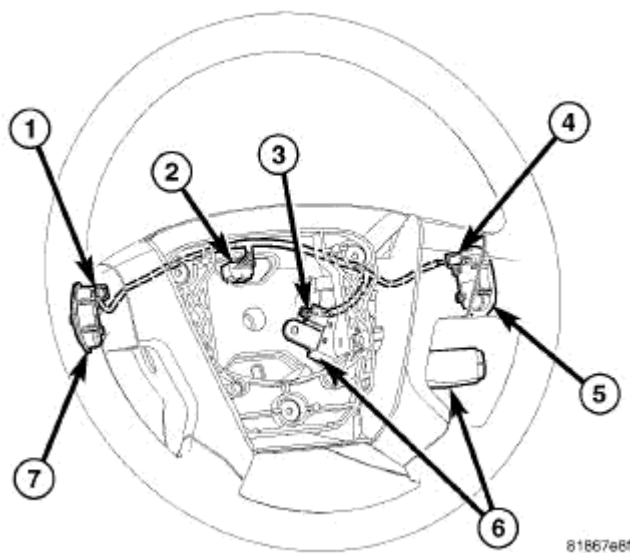
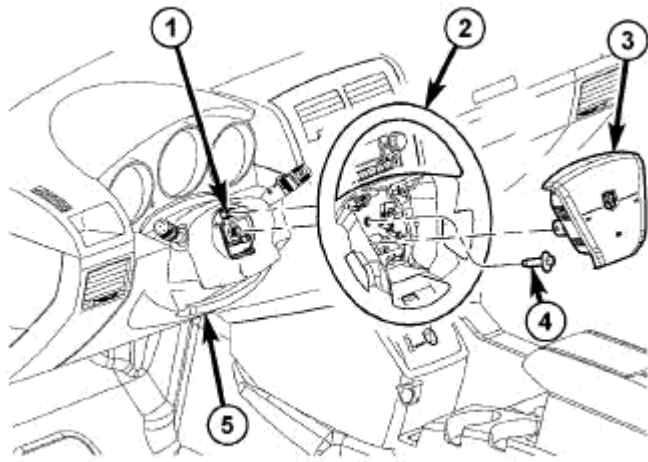


Fig. 43: STEERING WHEEL WIRING

Courtesy of CHRYSLER LLC

19. Connect the wiring connector (2) at the clockspring.



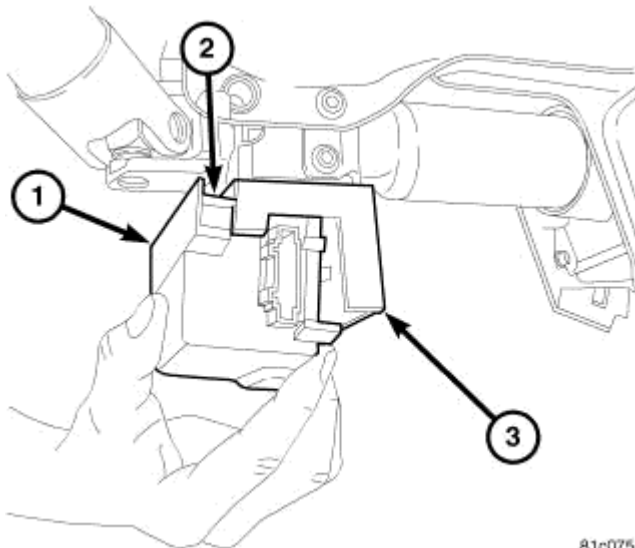
8182b585

Fig. 44: AIR BAG REMOVAL
Courtesy of CHRYSLER LLC

20. Install the driver airbag (3). Refer to **Restraints/AIR BAG, Driver - Installation**

WARNING: Do not connect the battery ground cable without following the proper procedure as indicated in the following step. Personal injury or death may result if the Airbag System Test is not performed first.

21. Reconnect the battery ground terminal following the Airbag System Test found in Restraints. Refer to **Restraints - Diagnosis and Testing**



81c07551

Fig. 45: SHAFT LOCK MODULE INSTALLATION
Courtesy of CHRYSLER LLC

22. If the steering column being installed requires the installation of a shaft lock module, perform the following:
- If not present, insert the ignition key into the ignition lock cylinder. This will move the shaft lock module locking bolt to the unlocked position. Leave the key in the lock cylinder while the shaft lock module service is being completed.
 - Make sure the wiring harness connector is properly connected to the module.
 - Align the engagement and slide tabs (2) on the shaft lock module housing (1) with the slots and channels in the mounting bracket (3) on the steering column.
 - Carefully slide the module toward the top (steering wheel end) of the column until it is in mounted position and the spring clips on the module have engaged the bracket, locking it in place.

NOTE: If a **NEW** shaft lock module has been installed, a **Wireless Ignition Node (WIN)** must also be installed, then a diagnostic scan tool **MUST** be used to initialize the new module before the vehicle can be operated (perform WIN Verification Test). Refer to Electrical - Vehicle Theft Security/Vehicle Theft Security - Standard Procedure

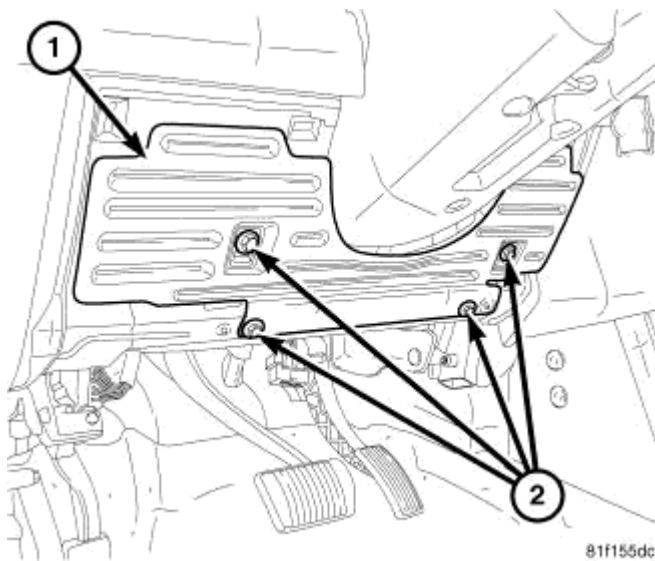


Fig. 46: STEERING COLUMN COVER REINFORCEMENT
Courtesy of CHRYSLER LLC

- Install the steering column cover reinforcement (1) using the four mounting screws (2).
- Install the steering column opening cover. Refer to Body/Instrument Panel/COVER, Steering Column Opening - Installation
- Test the operation of the all column mounted components. If applicable, reset the radio and the clock as necessary.
- Road test the vehicle to ensure proper operation of the steering system.

RIGHT-HAND DRIVE

Right-Hand Drive steering column is typical of Left-Hand Drive. See [Steering/Column - Installation](#)

SPECIFICATIONS

SPECIFICATIONS

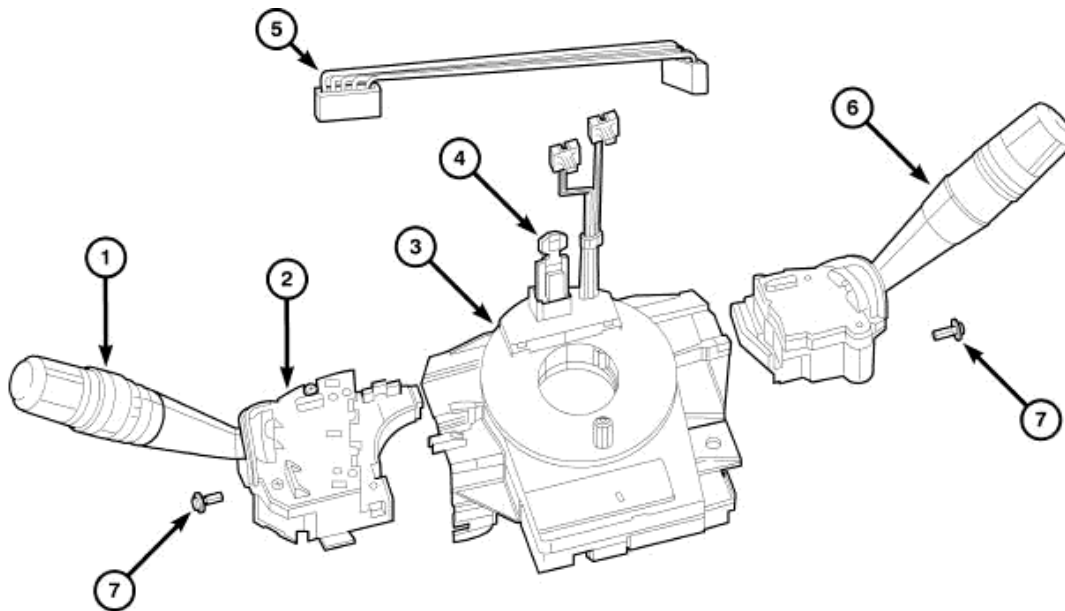
SPECIFICATIONS

DESCRIPTION	N.m	Ft. Lbs.	In. Lbs.
Intermediate Shaft Coupling Bolt	42	31	-
SCCM Mounting Screws	3	-	27
Steering Column Mounting Bolt	28	21	250
Steering Column Mounting Nuts	28	21	250
Steering Wheel Retaining Bolt	50	37	-

MODULE, STEERING COLUMN CONTROL

Description

DESCRIPTION



817850e2

Fig. 47: Steering Control Module
Courtesy of CHRYSLER LLC

This vehicle is equipped with a Steering Column Control Module (SCCM). The SCCM is secured near the top of the steering column below the steering wheel and is completely concealed beneath the steering column shrouds. It is installed as a modular unit that supports the left (lighting) multi-function switch (1) and right (wiper) multi-function switch (6). The controls for each of these switches extend through appropriate clearance holes provided in the steering column shrouds.

The microprocessor-based Steering Control Module (SCM) (2) utilizes integrated circuitry and information carried on the Controller Area Network (CAN) data bus along with several hard wired analog and multiplexed inputs to monitor both the right and left multi-function switches. The SCCM uses a Local Interconnect Network (LIN) data bus for exterior lighting and wiper functions. The LIN data is sent to the Cab Compartment Node (CCN) and the CCN then sends it out on the CAN data bus. Refer to **Electrical - Electronic Control Modules/Electronic Control Modules/COMMUNICATION - Description** . The SCCM is available for service replacement as a unit or each individual component:

- Clockspring (with integral Steering Angle Sensor if equipped)
- Left Multi-Function Switch (with integral Steering Control Module)
- Right Multi-Function Switch

Operation

OPERATION

The Steering Control Module (SCM) communicates over the Local Interconnect Network (LIN) data bus with other electronic modules in the vehicle and/or a diagnostic scan tool. The horn switch circuits pass through the clockspring to the Cab Compartment Node (CCN) and the CCN sends a CAN message to the Totally Integrated Power Module (TIPM) to control the horn. The CCN stores Diagnostic Trouble Codes (DTC's) for the SCM. The right (wiper) multi-function switch has several inputs to the CCN.

The SCM is connected to a fused B(+) circuit and receives a path to ground at all times. These connections allow it to remain functional regardless of the ignition switch position. The driver airbag squib circuits of the clockspring, the horn, and the speed control switch circuits pass through the SCM, but the SCM does not monitor, and has no control outputs related to these circuits. Any other input to the SCM that would cause a vehicle system to function but does not require that the ignition switch be in the On position, such as turning on the lights or sounding the horn, prompts the SCM to wake up and transmit on the CAN data bus.

The most reliable, efficient, and accurate means to diagnose the SCM, the CAN data bus, the hard wired inputs or the electronic communication related to SCM operation requires the use of a diagnostic scan tool. Refer to the appropriate diagnostic information.

The integral SCM is not available for separate service replacement. If found inoperative or defective, the entire left (lighting) multi-function switch must be replaced. Refer to **Electrical - Lamps and Lighting/Lamps/Lighting - Exterior/SWITCH, Multifunction - Removal** .

Removal

REMOVAL

SCCM

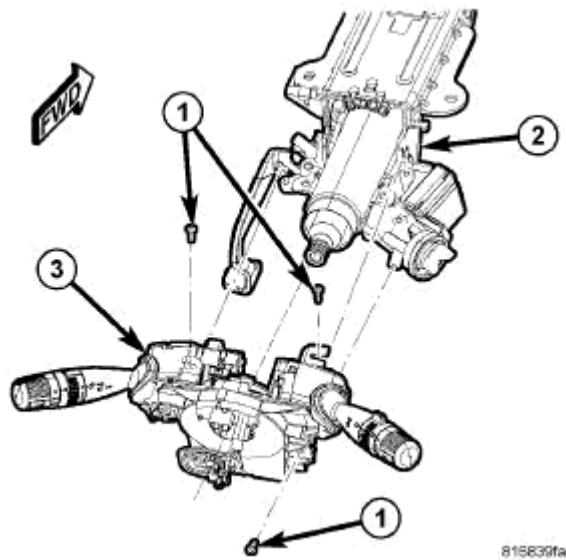


Fig. 48: STEERING COLUMN CONTROL MODULE MOUNTING

Courtesy of CHRYSLER LLC

1. Place the front road wheels in the STRAIGHT-AHEAD position.
2. Open hood.
3. Disconnect and isolate the battery negative cable.

WARNING: Wait two minutes for the airbag system reserve capacitor to discharge before beginning any airbag system or component service. Failure to do so may result in accidental airbag deployment, personal injury or death.

4. Remove steering wheel. See Steering/Column/WHEEL, Steering - Removal.
5. Remove upper and lower steering column shrouds to gain access to the Steering Column Control Module (SCCM). See Steering/Column/SHROUD, Steering Column - Removal.
6. Lock the clockspring rotor in the center position as follows: Insert a grenade pin through the hole in the rotor at the 10 o'clock position.
7. Remove the three screws (1) to the Steering Column Control Module (SCCM) (3).

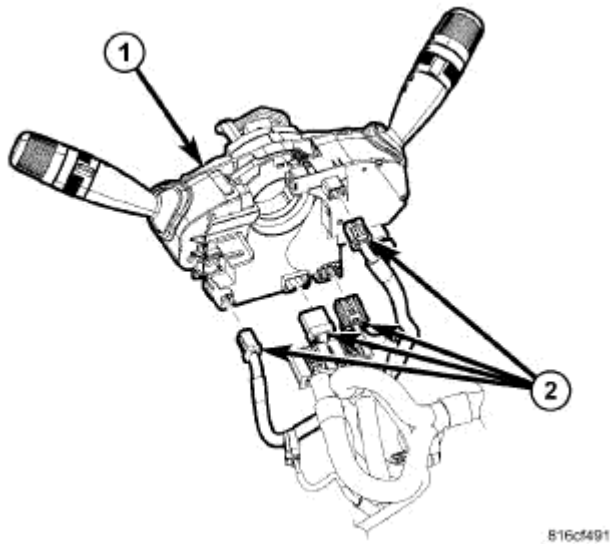


Fig. 49: STEERING COLUMN CONTROL MODULE ELECTRICAL CONNECTORS
 Courtesy of CHRYSLER LLC

8. Disconnect the electrical connectors (2) between the SCCM (1) and the instrument panel wiring harness at the base of the SCCM and remove from column.

NOTE: If only removing the SCCM from column, there is no need to continue to next step.

DISASSEMBLY

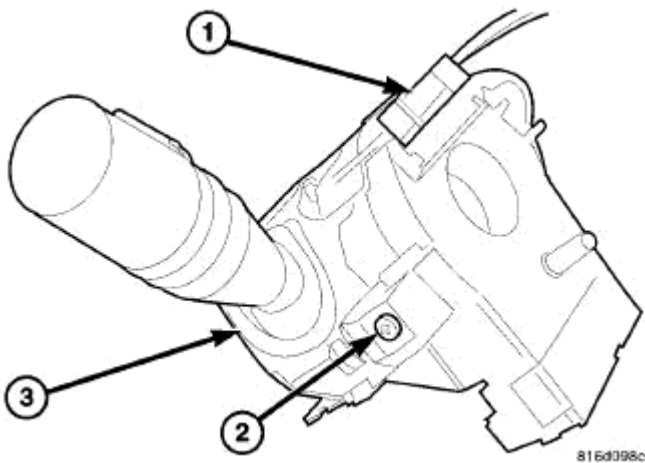


Fig. 50: LEFT STALK RETAINING SCREW
 Courtesy of CHRYSLER LLC

1. Remove the left multi-function switch stalk retaining screw (2).
2. Pull the left stalk out of the SCCM.

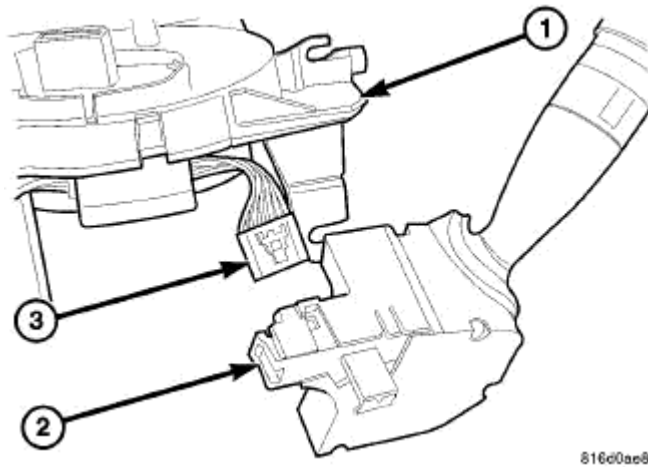


Fig. 51: LEFT STALK ELECTRICAL CONNECTOR
Courtesy of CHRYSLER LLC

3. Disconnect the left stalk electrical connector.
4. Separate the left switch from the SCCM.

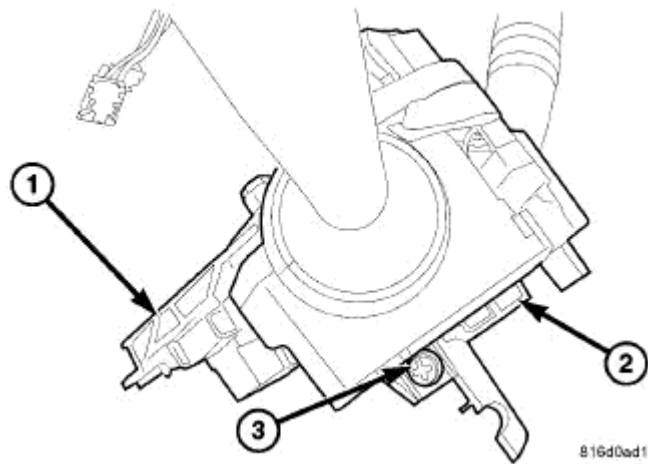


Fig. 52: RIGHT STALK RETAINING SCREW
Courtesy of CHRYSLER LLC

5. Remove the one right multi-function switch retaining screw.
6. Pull right switch out of SCCM.

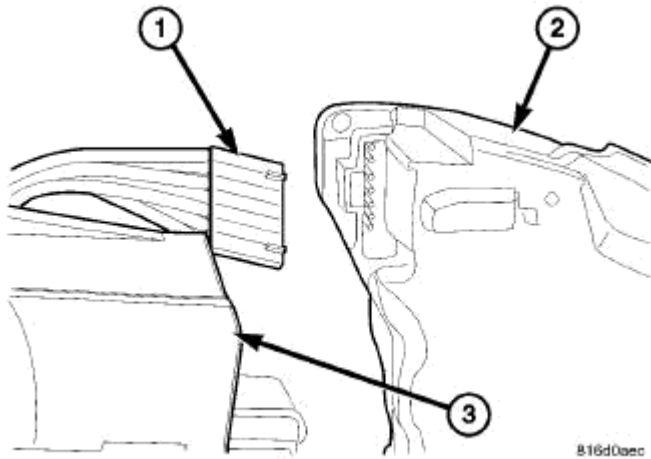


Fig. 53: RIGHT STALK ELECTRICAL CONNECTOR

Courtesy of CHRYSLER LLC

7. Disconnect the right switch electrical connector.

Installation

INSTALLATION

NOTE: If SCCM is already assembled and needs to be installed, bypass ASSEMBLY and proceed with SCCM 1.

ASSEMBLY

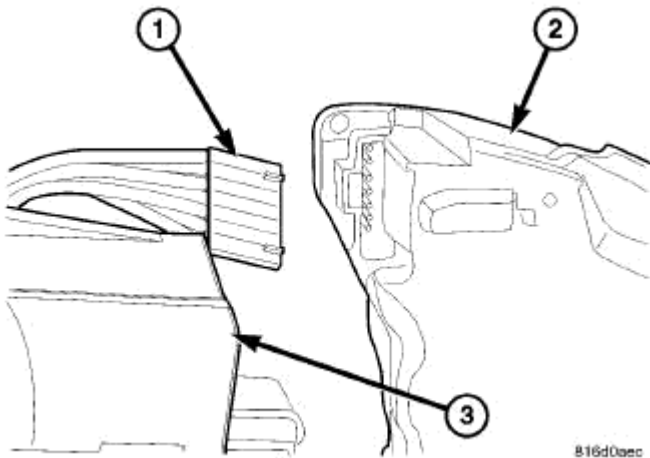


Fig. 54: RIGHT STALK ELECTRICAL CONNECTOR

Courtesy of CHRYSLER LLC

1. Connect the right stalk electrical connector.

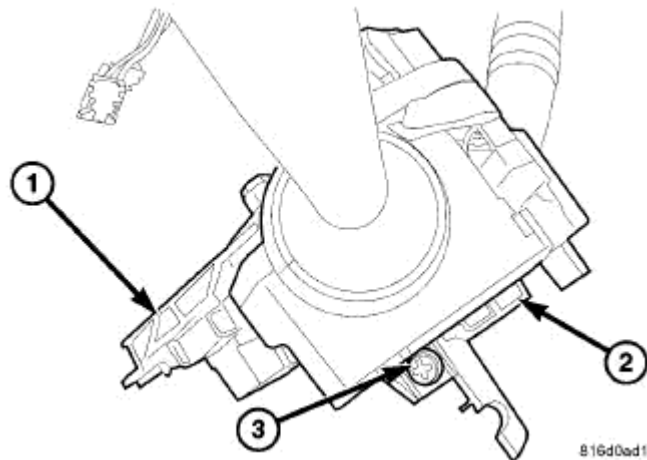


Fig. 55: RIGHT STALK RETAINING SCREW
Courtesy of CHRYSLER LLC

2. Slide the right stalk into the groove and install the one retaining screw.

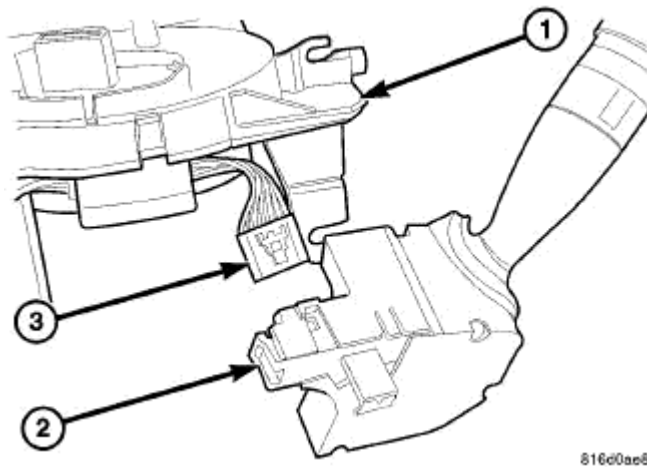


Fig. 56: LEFT STALK ELECTRICAL CONNECTOR
Courtesy of CHRYSLER LLC

3. Connect the left stalk switch electrical connector.

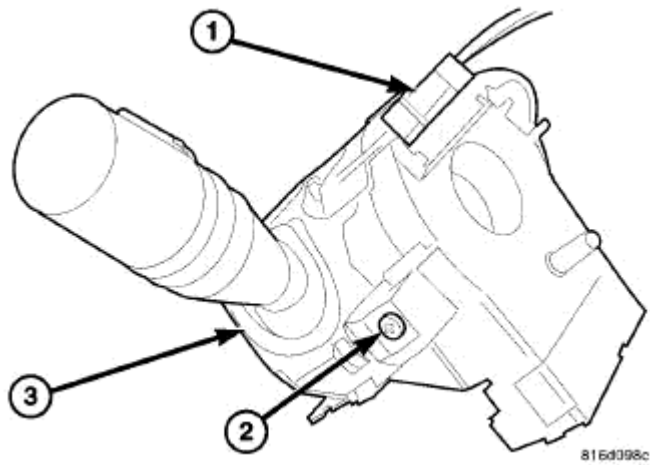


Fig. 57: LEFT STALK RETAINING SCREW

Courtesy of CHRYSLER LLC

4. Install the left stalk switch retaining screw.

SCCM

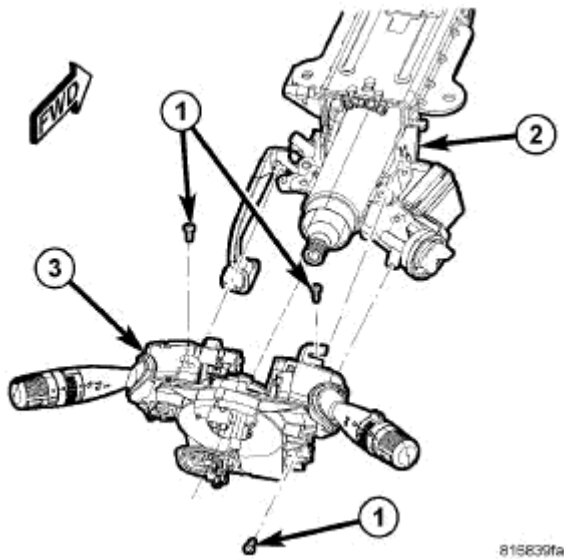


Fig. 58: MULTI-FUNCTION SWITCH MOUNTING

Courtesy of CHRYSLER LLC

1. Position the SCCM (3) over the steering column shaft (2).
2. Install the three screws (1).

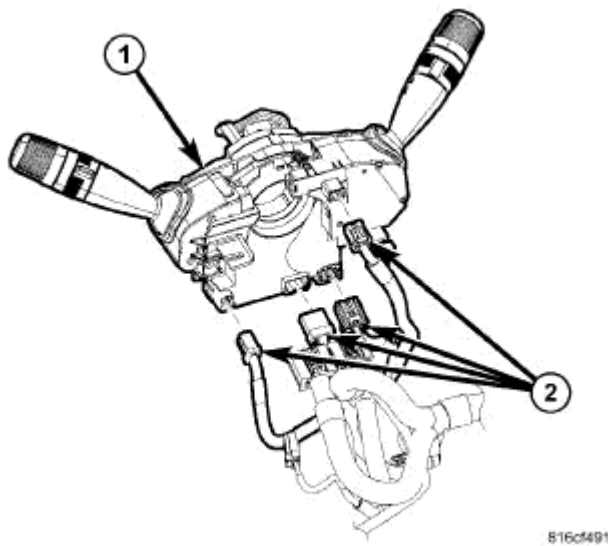


Fig. 59: SCM ELECTRICAL CONNECTORS

Courtesy of CHRYSLER LLC

3. Connect the electrical connectors (2) to the instrument panel harness, ensure wiring is properly routed. Then check that the connectors, locking tabs are properly engaged.
4. Install steering column shrouds. See **Steering/Column/SHROUD, Steering Column - Installation**. Be sure all wires are inside of shrouds.
5. Install steering wheel ensuring the flats on hub align with the clockspring. See **Steering/Column/WHEEL, Steering - Installation**. Pull the airbag leads through the larger slot. Ensure leads do not get pinched under the steering wheel.

NOTE: There is a small wire harness in the steering wheel and it contains the horn circuits and speed control circuits.

6. Connect the speed control and horn wire connector into the clockspring.
7. Pull the grenade pin out of the clockspring.
8. Install the driver airbag. Refer to **Restraints/AIR BAG, Driver - Installation**

WARNING: Do not connect the negative battery cable at this time. Perform the Air Bag System Test prior to connecting the negative battery cable. Refer to **Restraints - Diagnosis and Testing** . Failure to follow this warning may result in accidental air bag deployment and possible serious or fatal injury.

SHROUD, STEERING COLUMN, LOWER

Removal

REMOVAL

1. Position the column tilt at the full-upward position.
2. Remove the steering column opening cover. Refer to **Body/Instrument Panel/COVER, Steering Column Opening - Removal**.

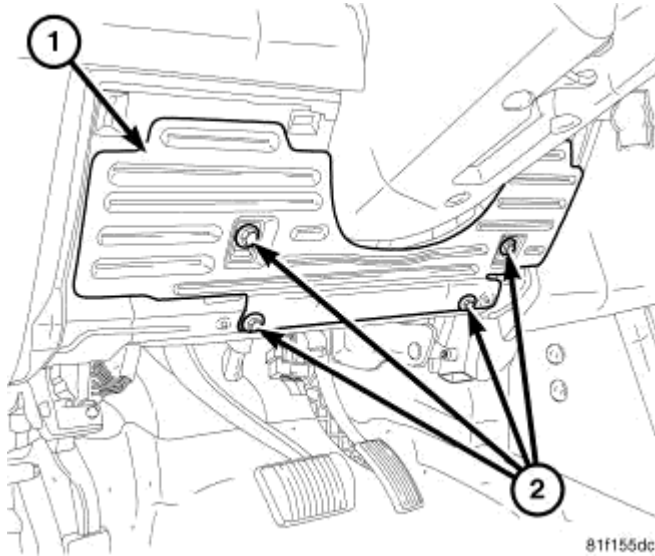


Fig. 60: STEERING COLUMN COVER REINFORCEMENT
Courtesy of CHRYSLER LLC

3. Remove the steering column cover reinforcement mounting screws (2). Remove the steering column cover reinforcement (1).

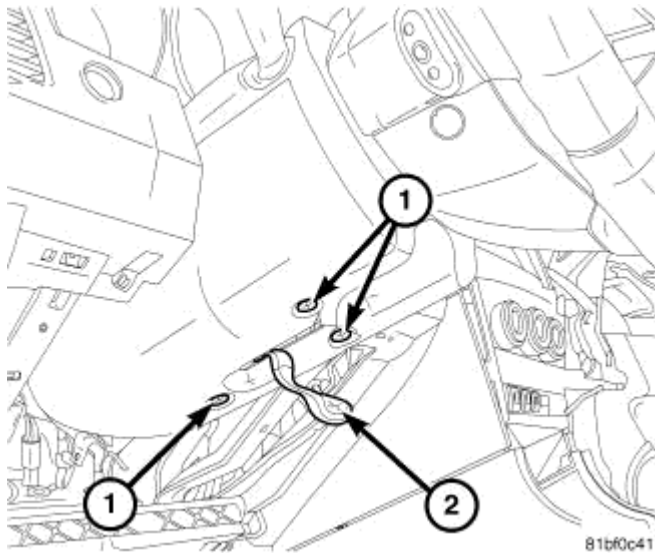


Fig. 61: LOWER SHROUD MOUNTING SCREWS
Courtesy of CHRYSLER LLC

4. Position the column tilt at the full-downward position. Leave the tilt lever (2) in the released position.
5. Remove the screws (1) attaching the lower shroud. After removing the screws, un-clip the shrouds from

one another by applying hand pressure along the seams where the shrouds connect on the sides.

6. Remove the lower shroud.

Installation

INSTALLATION

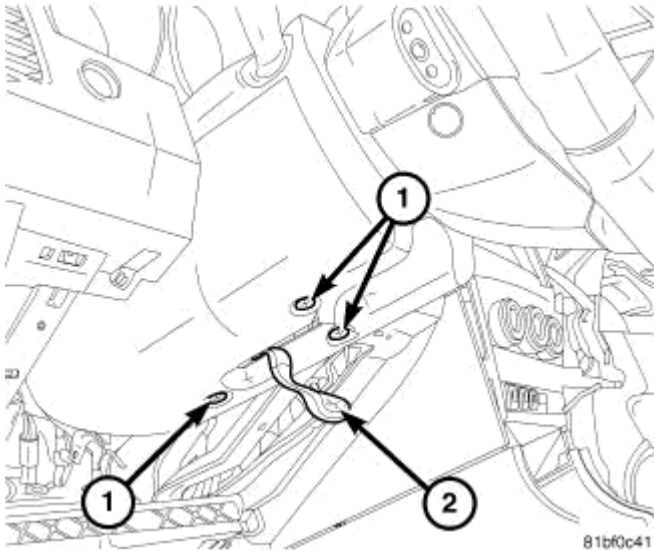


Fig. 62: LOWER SHROUD MOUNTING SCREWS

Courtesy of CHRYSLER LLC

1. Push the tilt lever (2) downward (released position).
2. Install the lower shroud (2) over the tilt lever and onto the column.
3. Install the upper shroud onto the lower shroud, clipping the shrouds to one another.
4. Install the three screws (1) attaching the lower shroud to the steering column.
5. Position the column tilt (5) at the full-upward position.
6. Push the tilt lever upward, locking the column in place.

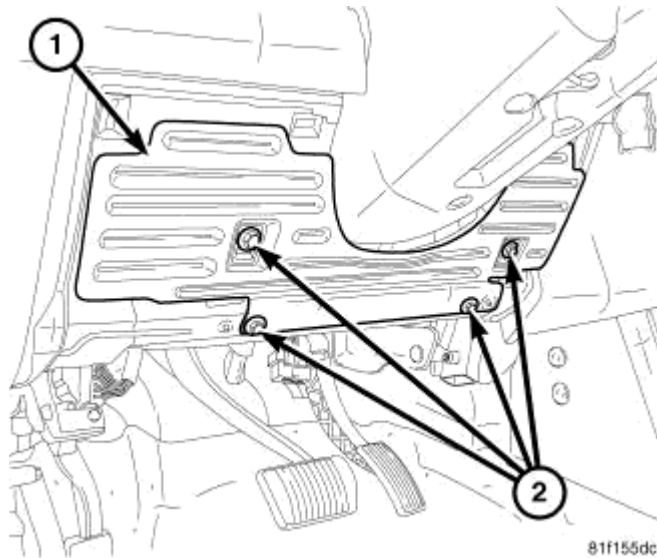


Fig. 63: STEERING COLUMN COVER REINFORCEMENT

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** .

SHROUD, STEERING COLUMN, UPPER

Removal

REMOVAL

1. Position the column tilt at the full-upward position.
2. Remove the steering column opening cover. Refer to **Body/Instrument Panel/COVER, Steering Column Opening - Removal** .

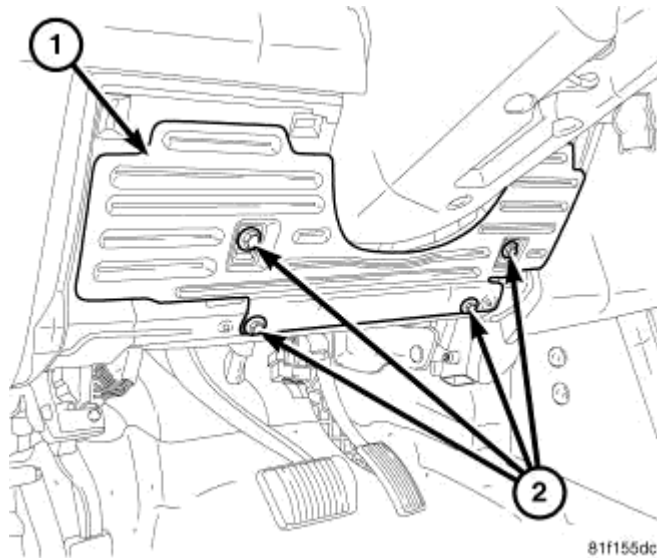


Fig. 64: STEERING COLUMN COVER REINFORCEMENT

Courtesy of CHRYSLER LLC

3. Remove the steering column cover reinforcement mounting screws (2). Remove the steering column cover reinforcement (1).

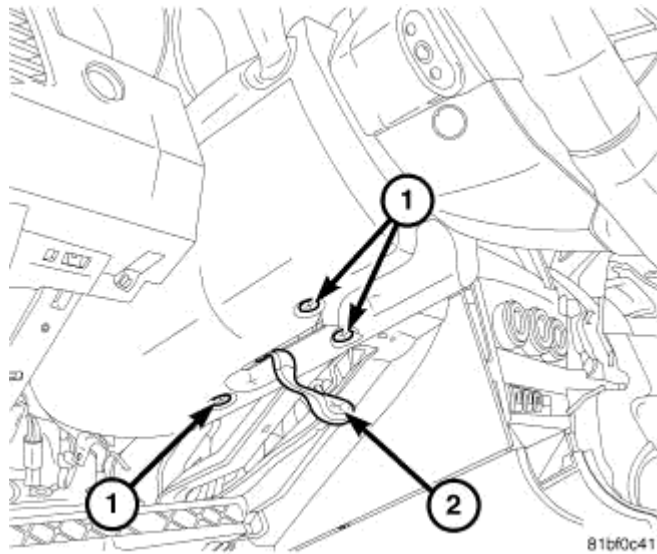


Fig. 65: LOWER SHROUD MOUNTING SCREWS

Courtesy of CHRYSLER LLC

4. Position the column tilt at the full-downward position. Leave the tilt lever (2) in the released position.
5. Remove the screws (1) attaching the lower shroud. After removing the screws, un-clip the shrouds from one another by applying hand pressure along the seams where the shrouds connect on the sides.
6. Remove the lower shroud.

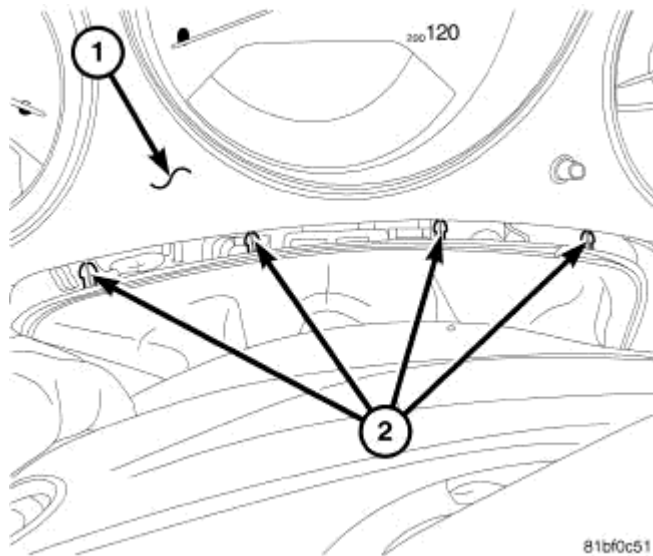


Fig. 66: GAP HIDER RETAINING TABS

Courtesy of CHRYSLER LLC

NOTE: The gap hider on the upper shroud is attached to the instrument cluster (1) by four retaining tabs (2) along the top and two along the sides (one each side). These tabs can be easily released by hand in the following step. Do not use a tool that could damage the gap hider.

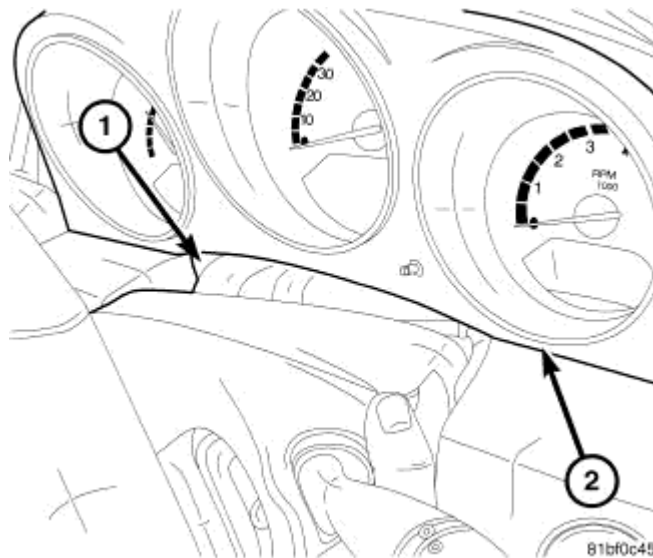
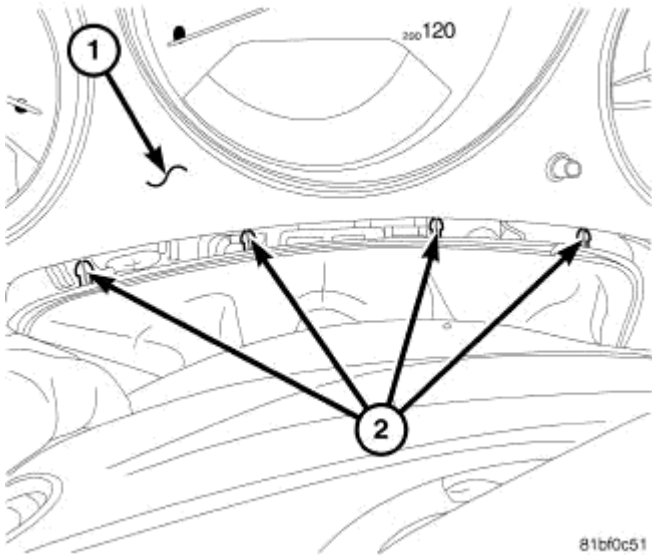


Fig. 67: UPPER SHROUD GAP HIDER

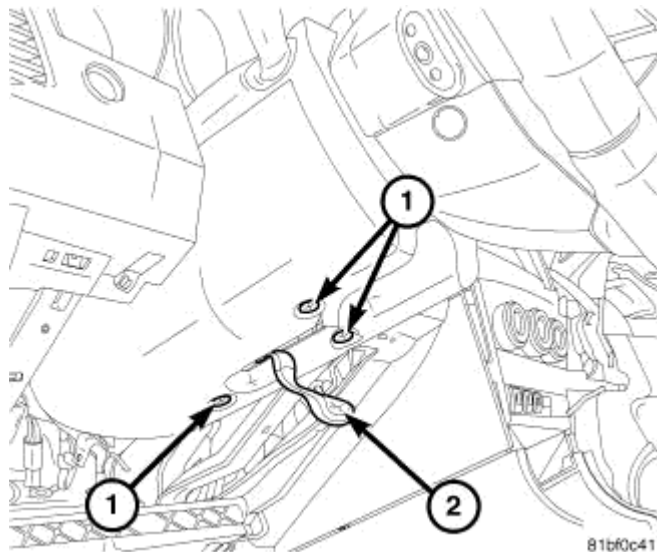
Courtesy of CHRYSLER LLC

7. Pull the column outward to the full-extended position.
8. Reach up behind the shroud gap hider (1) and release the two side and four upper tabs retaining the shroud gap hider to the instrument cluster (2).
9. Remove the upper shroud from the column.

Installation**INSTALLATION****Fig. 68: GAP HIDER RETAINING TABS**

Courtesy of CHRYSLER LLC

1. Position the upper shroud over the steering column.
2. Align the four upper shroud gap hider retaining tabs (2) with the mounting holes in the instrument cluster (1), then push the tabs upward, securing the shroud.
3. Align the two shroud gap hider side retaining tabs (one each side) with the mounting holes, then push the tabs into place, securing the shroud.

**Fig. 69: LOWER SHROUD MOUNTING SCREWS**

Courtesy of CHRYSLER LLC

4. Push the column tilt lever (2) downward (released position).
5. Install the lower shroud (2) over the tilt lever and onto the column.
6. Install the upper shroud onto the lower shroud, clipping the shrouds to one another.
7. Install the three screws (1) attaching the lower shroud to the steering column.
8. Position the column tilt (5) at the full-upward position.
9. Push the tilt lever upward, locking the column in place.

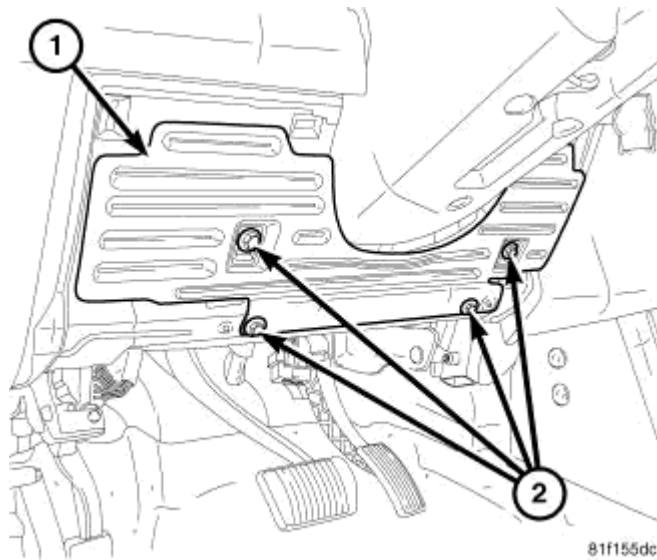


Fig. 70: STEERING COLUMN COVER REINFORCEMENT

Courtesy of CHRYSLER LLC

10. Install the steering column cover reinforcement (1) using the four mounting screws (2).
11. Install the steering column opening cover. Refer to **Body/Instrument Panel/COVER, Steering Column Opening - Installation** .

WHEEL, STEERING

Removal

REMOVAL

WARNING:

- Do not place a non-deployed airbag face down on a hard surface. The airbag will propel into the air if accidentally deployed. Failure to follow this instruction may result in possible serious or fatal injury.
- Disconnect and isolate the battery negative (ground) cable before beginning steering wheel removal or installation. This will disable the airbag system. Failure to follow this instruction may result in accidental airbag deployment and possible serious or fatal injury.
- Allow the airbag system capacitor to discharge for two minutes before removing the steering wheel or any airbag system

component. Failure to follow this instruction may result in accidental airbag deployment and possible serious or fatal injury.

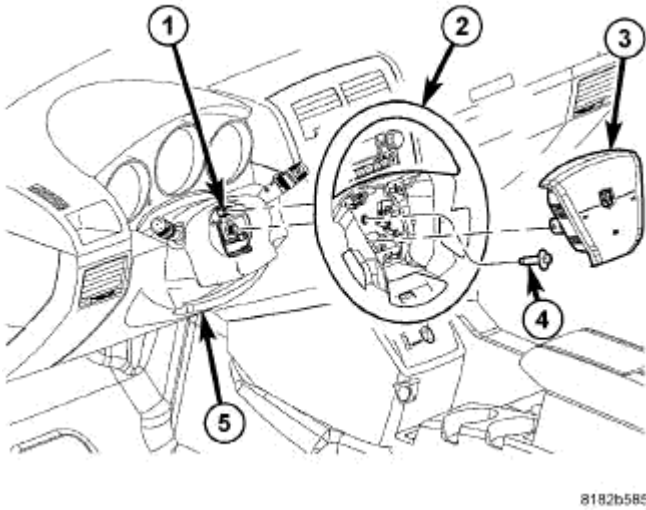


Fig. 71: AIR BAG REMOVAL
Courtesy of CHRYSLER LLC

1. Adjust the steering wheel so that the tires are in the STRAIGHT-AHEAD position.
2. Disconnect and isolate the negative battery cable.
3. Remove the driver airbag (3). Refer to **Restraints/AIR BAG, Driver - Removal**.

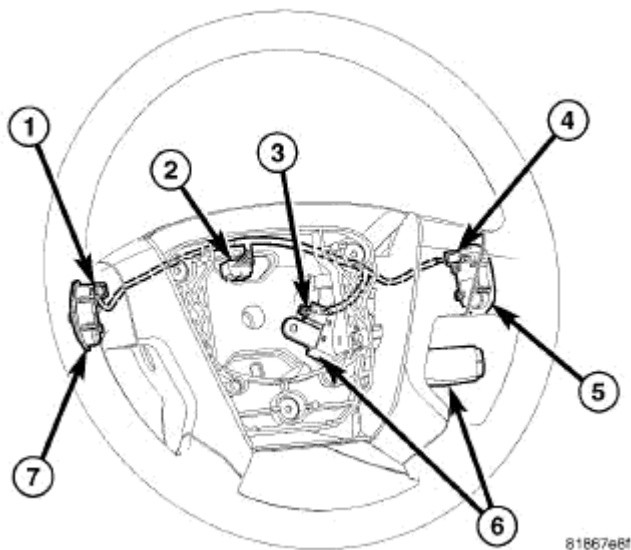
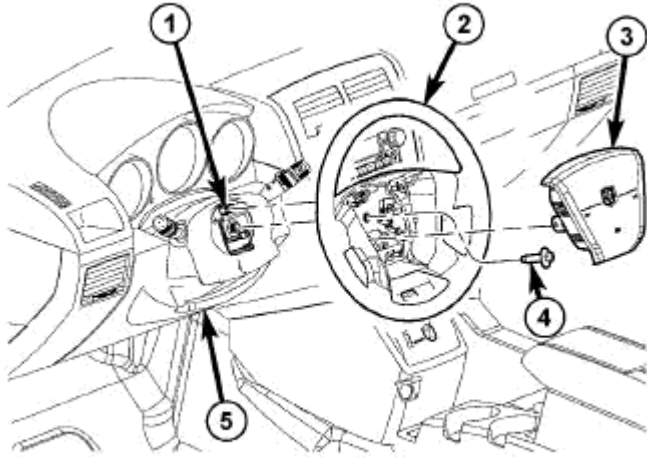


Fig. 72: STEERING WHEEL WIRING
Courtesy of CHRYSLER LLC

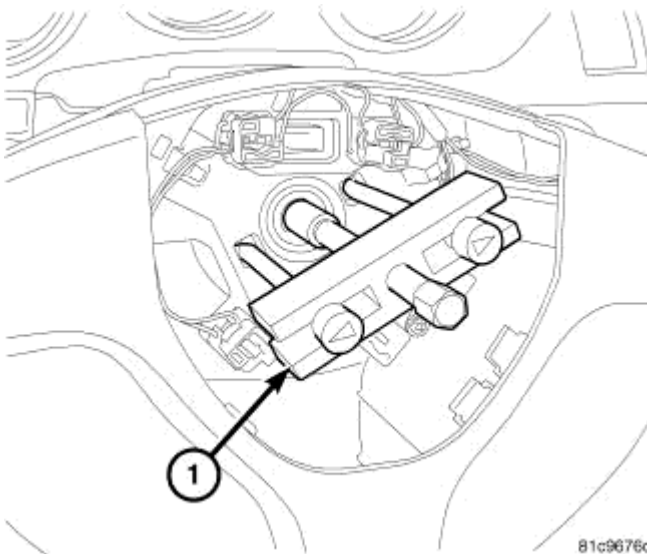
4. Disconnect the wiring connector (2) at the clockspring.



8182b585

Fig. 73: AIR BAG REMOVAL
Courtesy of CHRYSLER LLC

5. While holding the steering wheel (2) firmly in place, remove the bolt (4) that secures the steering wheel to the steering column shaft (1).



81c9676d

Fig. 74: STEERING WHEEL PULLER
Courtesy of CHRYSLER LLC

CAUTION: Do not bump or hammer on the steering wheel or steering column shaft when removing the steering wheel.

6. Install an appropriate wheel puller with hooked legs (1) on the steering wheel over the steering shaft.

CAUTION: Do not attempt to rotate the clockspring rotor once the steering wheel is removed. The clockspring must remain centered in its travel to avoid overextending the clockspring inner parts, causing the clockspring to become inoperative. If removed and handled properly using the correct procedures, it should remain in the "centered" position. If there is any question as to whether the clockspring is in the "centered" position of travel, perform the clockspring centering procedure before installing the steering wheel. Refer to Restraints/CLOCKSPRING - Standard Procedure .

7. While holding the steering wheel firmly in the STRAIGHT-AHEAD position, remove the steering wheel from the steering column shaft splines using the wheel puller.

Installation

INSTALLATION

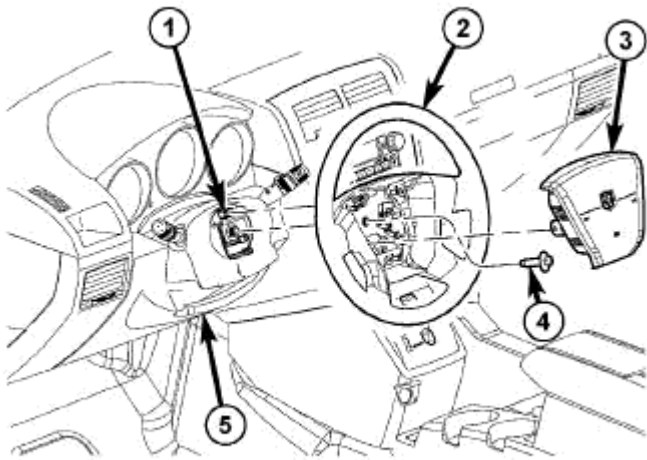


Fig. 75: AIR BAG REMOVAL
Courtesy of CHRYSLER LLC

1. Confirm that:
 - a. The front wheels are in the STRAIGHT-AHEAD position.
 - b. The turn signal stalk is in the NEUTRAL position.

CAUTION: Do not install the steering wheel onto the shaft of the steering column by driving it onto the shaft.

2. Align the wide mounting spline of the steering wheel (2) with the missing spline area of the steering column shaft (1) and push the wheel onto the shaft. Make sure the clockspring lines up with the back of the wheel and does not bind.
3. Install the steering wheel retaining bolt (4). Tighten the steering wheel retaining bolt to 50 N.m (37 ft. lbs.).

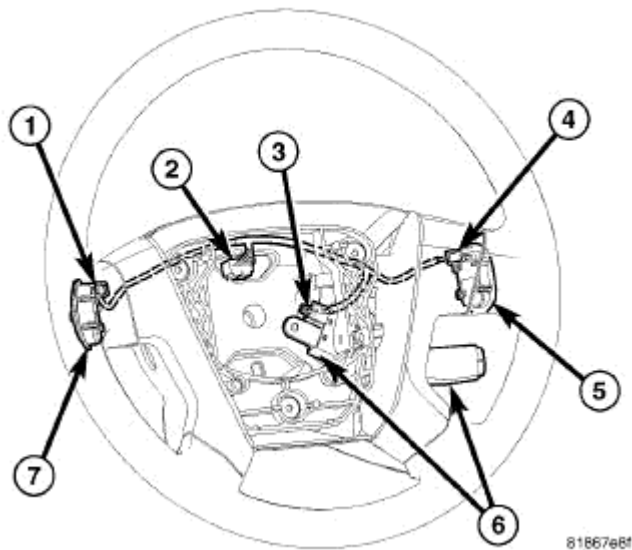


Fig. 76: STEERING WHEEL WIRING
Courtesy of CHRYSLER LLC

4. Connect the wiring connector (2) at the clockspring.

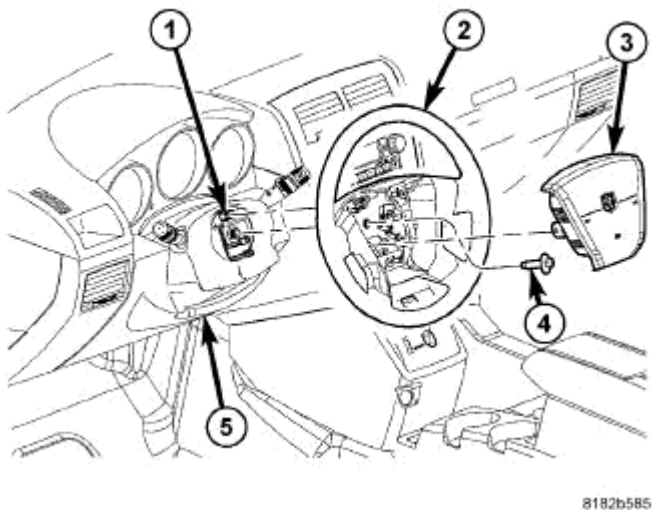


Fig. 77: AIR BAG REMOVAL
Courtesy of CHRYSLER LLC

5. Install the driver airbag (3). Refer to Restraints/AIR BAG, Driver - Installation .

WARNING: Do not reconnect the battery without first performing the Airbag System Test procedure. Refer to Restraints - Diagnosis and Testing . Failure to perform the Airbag System Test may result in accidental airbag deployment and serious or fatal injury.

6. Reconnect the battery using the Airbag System Test procedure. Refer to Restraints - Diagnosis and Testing .
7. Verify vehicle and system operation.

GEAR

DESCRIPTION

DESCRIPTION

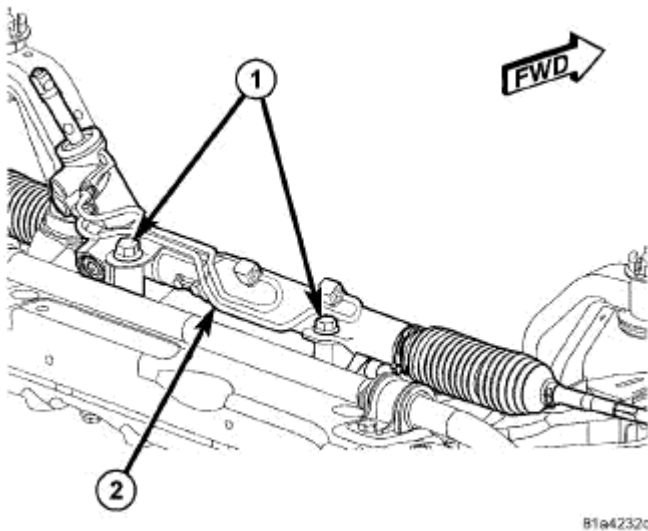


Fig. 78: STEERING GEAR MOUNTING

Courtesy of CHRYSLER LLC

The steering gear (2) used is the rack-and-pinion type with power assist. It is mounted on the front suspension crossmember. The outer ends of the outer tie rods attach to the front (steering) knuckles.

NOTE: The power steering gear should not be serviced or adjusted. If a malfunction or oil leak occurs with the steering gear, the complete steering gear needs to be replaced.

DIAGNOSIS AND TESTING

POWER STEERING GEAR

NOTE: This information is designed to be used in conjunction with the diagnostic charts at the beginning of Steering - Diagnosis and Testing

OBJECTIONABLE HISS OR WHISTLE POSSIBLY CAUSED BY A NOISY STEERING GEAR

1. Check and adjust power steering fluid level in the reservoir as necessary. See Steering/Pump/FLUID - Standard Procedure
2. Start the vehicle and heat system by steering lock-to-lock 5 times with the engine running at 3000 RPM. Do not hold the gear against the stops for more than 5 seconds at a time.
3. Return the engine to idle speed.
4. Listen for the noise when turning the wheel slowly off center during a dry park maneuver.
5. Replace power steering gear if the hiss or whistle is present. See Steering/Gear - Removal

REMOVAL

LEFT-HAND DRIVE

NOTE: Before proceeding. See Steering - Warning.

1. Siphon out as much power steering fluid as possible from the reservoir.

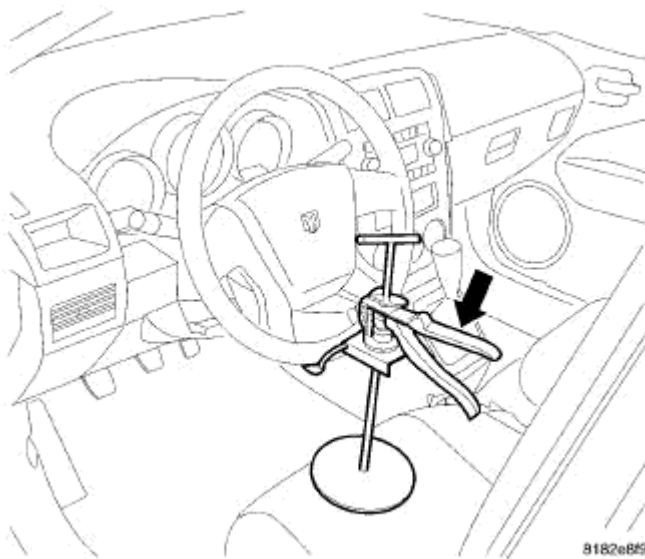


Fig. 79: STEERING WHEEL HOLDING TOOL
Courtesy of CHRYSLER LLC

2. Place the front wheels of vehicle (and steering wheel) in the STRAIGHT-AHEAD position. Using a steering wheel holder, lock the steering wheel in place to keep it from rotating. This keeps the clockspring in the proper orientation while the intermediate shaft is disconnected.

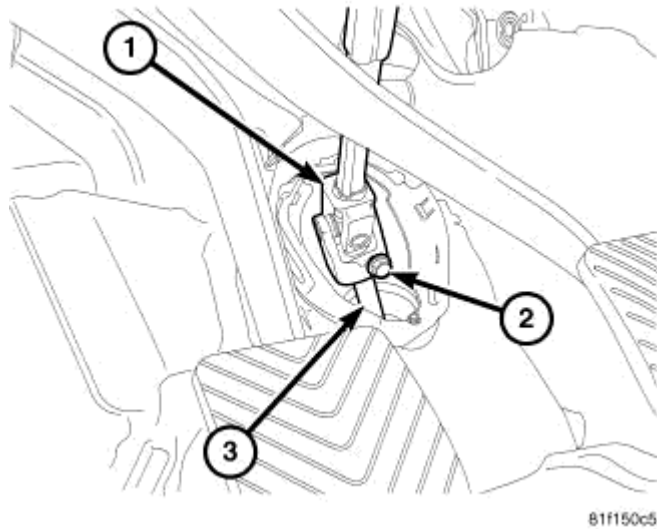


Fig. 80: COUPLING PINCH BOLT
Courtesy of CHRYSLER LLC

3. Reposition the floor carpeting and sound deadening insulation to access the intermediate shaft coupling (1) at the base of the column.
4. Remove the intermediate shaft coupling bolt (2).
5. Separate the intermediate shaft coupling (1) from the steering gear pinion shaft (3).

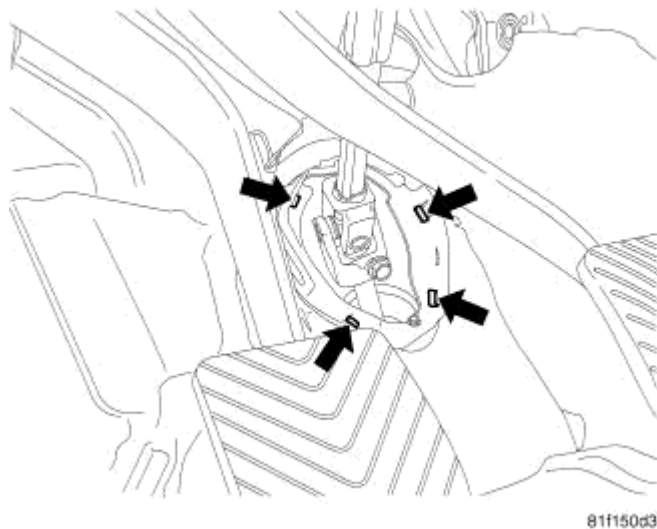


Fig. 81: DASH SEAL RETAINER CLIPS
Courtesy of CHRYSLER LLC

6. Release the clips securing the dash seal to the dash panel and push the seal away from the dash panel.

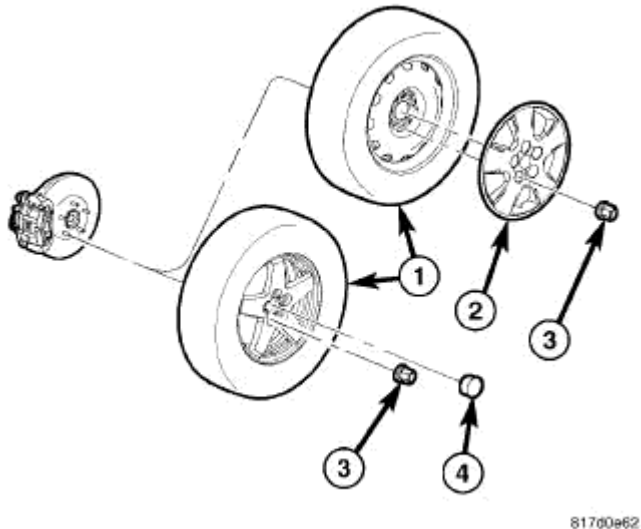


Fig. 82: TIRE AND WHEEL MOUNTING
Courtesy of CHRYSLER LLC

7. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**
8. On each side of the vehicle, remove the wheel mounting nuts (3), then the tire and wheel assembly (1).

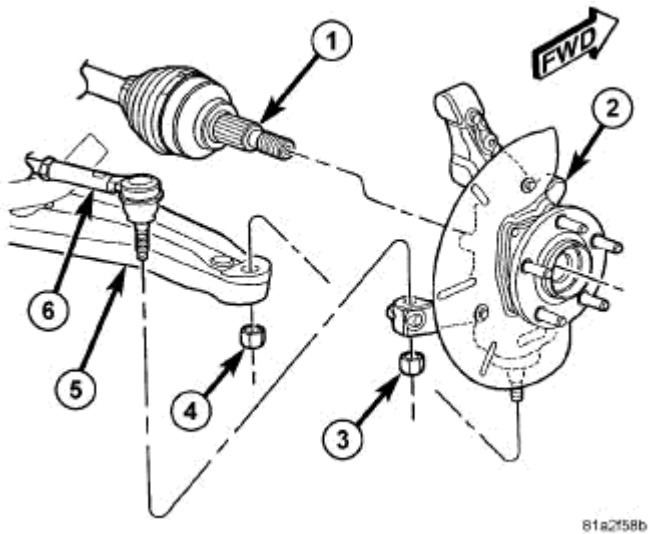


Fig. 83: FRONT KNUCKLE MOUNTING
Courtesy of CHRYSLER LLC

9. On each side of the gear, remove the nut (3) from the out tie rod end (6) at the knuckle (2).

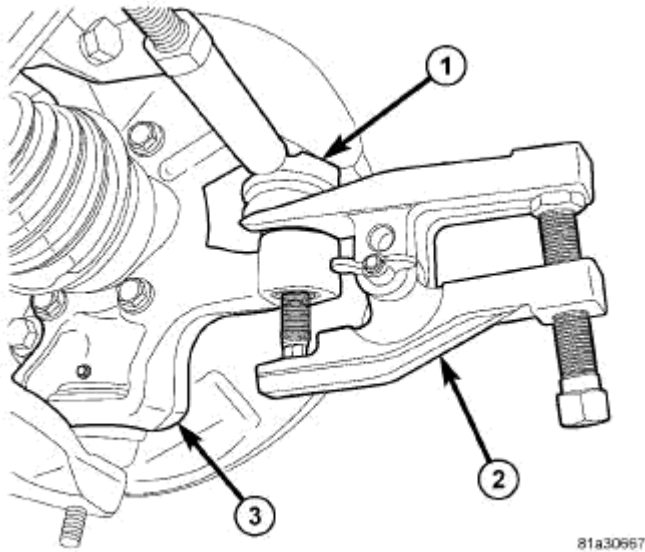


Fig. 84: USING 9360 ON TIE ROD END
Courtesy of CHRYSLER LLC

10. On each side of the gear, separate the outer tie rod end (1) from the knuckle (3) using Remover (2), Special Tool 9360.
11. If equipped, remove the engine belly pan.

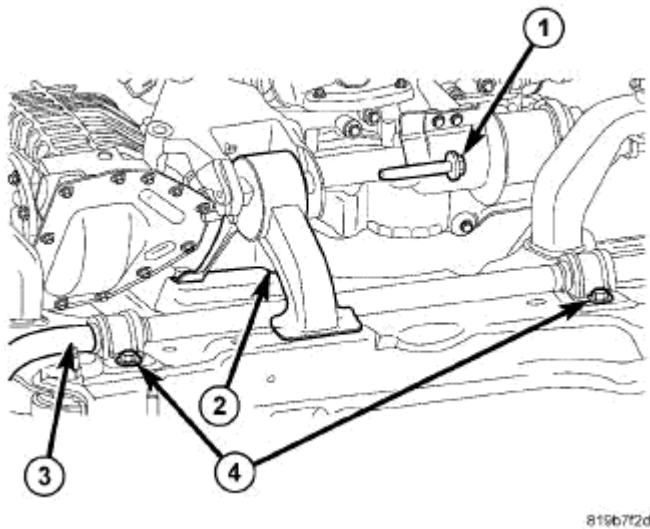


Fig. 85: REAR TORQUE MOUNT
Courtesy of CHRYSLER LLC

12. Remove the rear engine mount through-bolt (1).

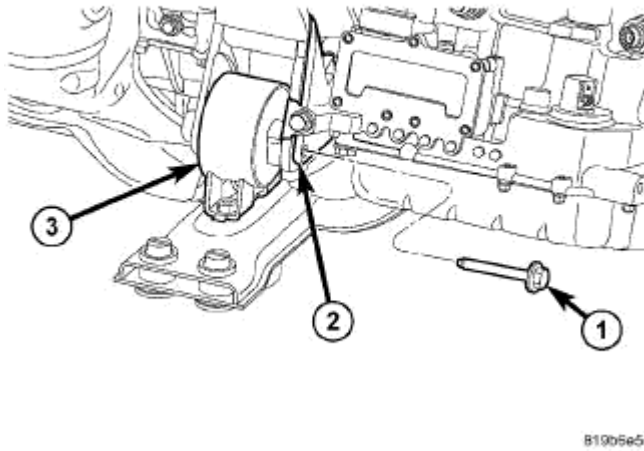


Fig. 86: HORIZONTAL BOLT
Courtesy of CHRYSLER LLC

13. Remove the front engine mount through-bolt (1).

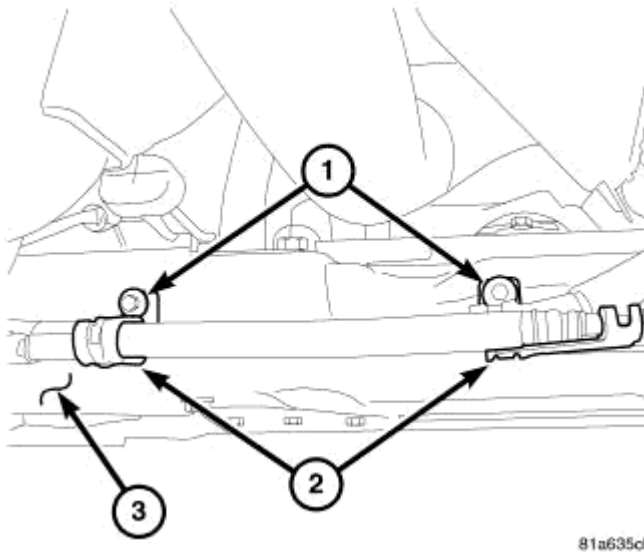


Fig. 87: HOSES AT REAR OF CROSSMEMBER
Courtesy of CHRYSLER LLC

14. Remove the screws (1) securing the power steering hose routing clamps (2) to the rear of the crossmember.

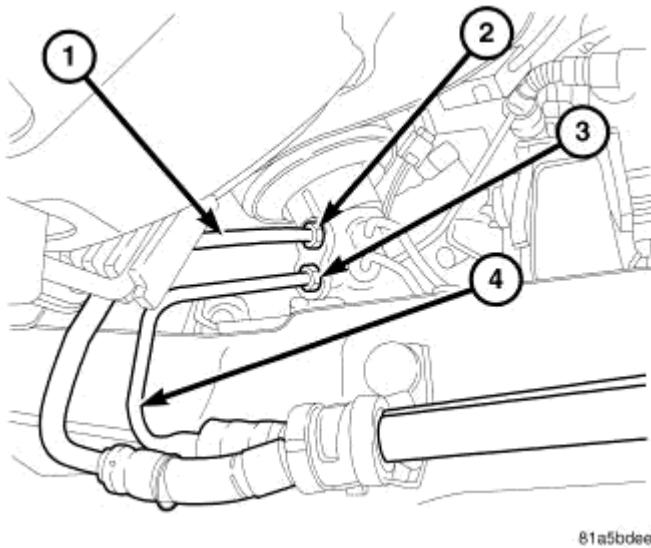


Fig. 88: HOSES AT GEAR
Courtesy of CHRYSLER LLC

15. Unscrew the tube nut (2), then remove the return hose (1) at the steering gear.
16. Unscrew the tube nut (3), then remove the pressure hose (4) at the steering gear.

NOTE: Before lowering the front suspension crossmember, the location of the crossmember must be marked on the body of the vehicle. Do this so the crossmember can be relocated, upon reinstallation, against the body of vehicle in the same location as before removal. If the front suspension crossmember is not reinstalled in exactly the same location as before removal, the preset front wheel alignment settings (caster and camber) may be lost.

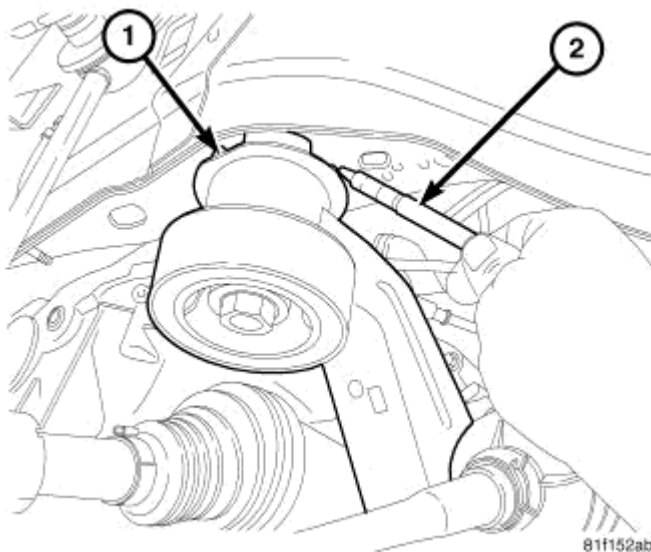


Fig. 89: MARKING LOCATION OF CROSSMEMBER

Courtesy of CHRYSLER LLC

17. Using a crayon or marker (2) that will not break the paint surface, mark the location of the front crossmember (1) on the body near each mounting bolt. **Do not use any type of sharp instrument that will damage the underbody of the vehicle.**

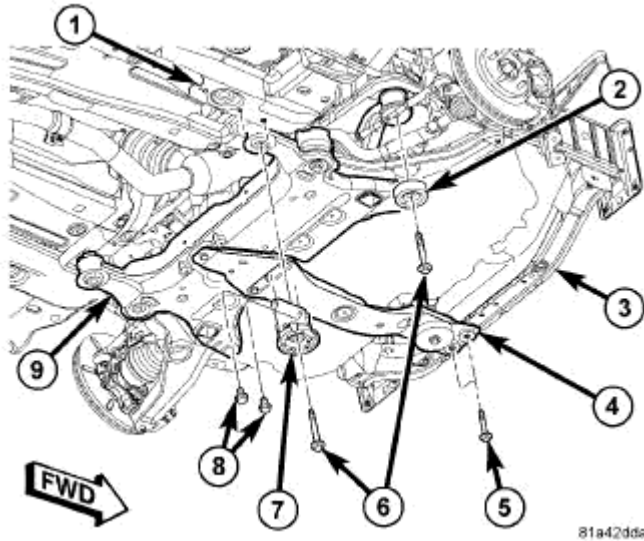


Fig. 90: FRONT CROSSMEMBER MOUNTING

Courtesy of CHRYSLER LLC

18. Support the crossmember (9) with a transmission jack.
19. Remove the four mounting bolts (6) securing the front crossmember (9) to the body.
20. Remove the mounting screws (8) securing the front crossmember reinforcement brackets (7) (one each side of vehicle) to the body (1). Remove the brackets.
21. Using the jack, slowly lower the crossmember approximately 3 inches (76 mm) (as measured at the rear crossmember mounts). **Do not lower the crossmember more than necessary as the fore/aft crossmember is still attached to the radiator support and damage may occur.**

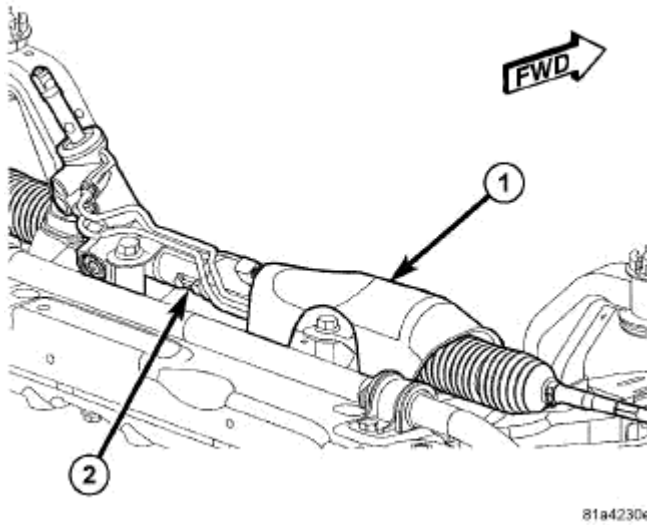


Fig. 91: HEAT SHIELD

Courtesy of CHRYSLER LLC

22. Remove the screws and push-pins securing the heat shield (1) over the right side of the steering gear (2). Remove the shield.

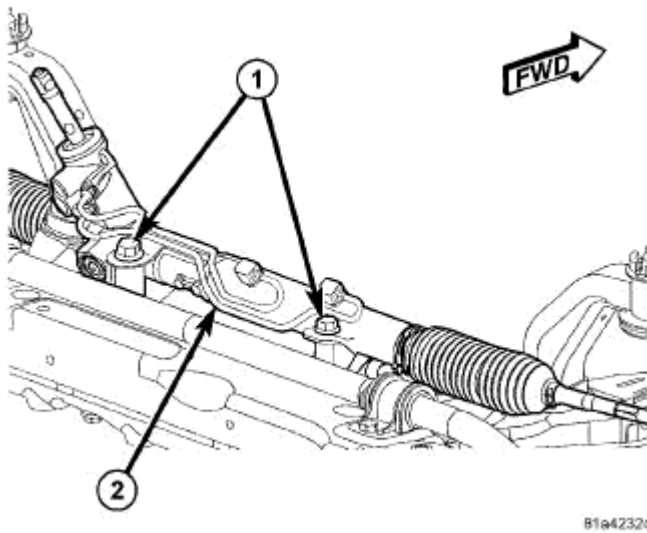


Fig. 92: STEERING GEAR MOUNTING

Courtesy of CHRYSLER LLC

23. Remove the two bolts (1) securing the steering gear (2) to the crossmember.

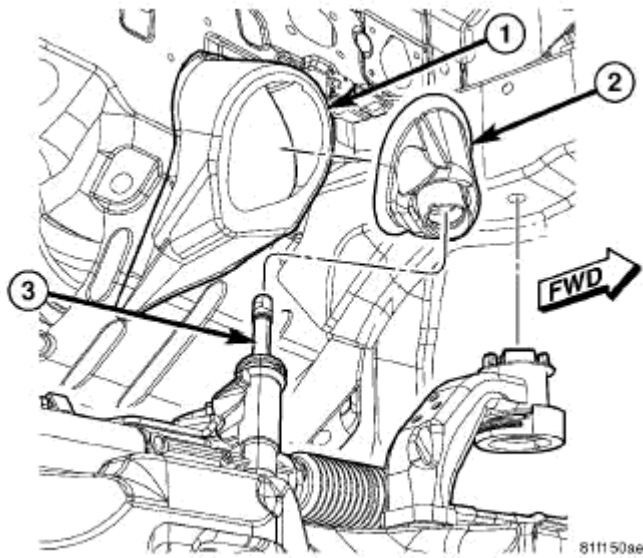


Fig. 93: DASH SEAL

Courtesy of CHRYSLER LLC

24. Tip the steering gear pinion shaft (3) straight up and remove the dash seal (2) from the steering gear.

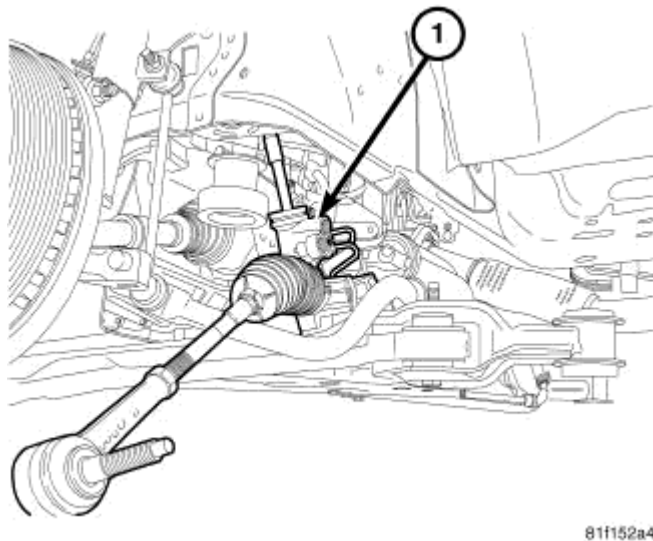


Fig. 94: STEERING GEAR REMOVAL/INSTALLATION

Courtesy of CHRYSLER LLC

25. Slide the steering gear across the crossmember and out through left wheel opening.
26. If necessary, remove outer tie rods from inner tie rod threads. Count how many rotations it takes to remove each outer tie rod for installation reference.

RIGHT-HAND DRIVE

NOTE: Before proceeding. See Steering - Warning.

1. Siphon out as much power steering fluid as possible from the reservoir.

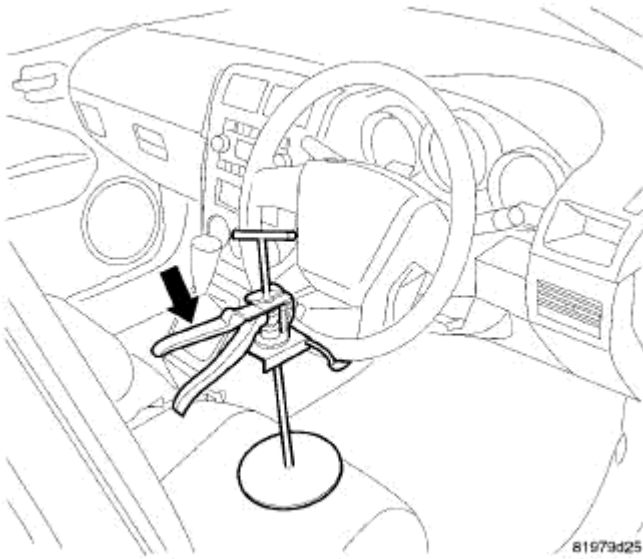


Fig. 95: STEERING WHEEL HOLDING TOOL - RHD

Courtesy of CHRYSLER LLC

2. Place the front wheels of the vehicle (and steering wheel) in the STRAIGHT-AHEAD position. Using a steering wheel holder, lock the steering wheel in place to keep it from rotating. This keeps the clockspring in the proper orientation while the intermediate shaft is disconnected.

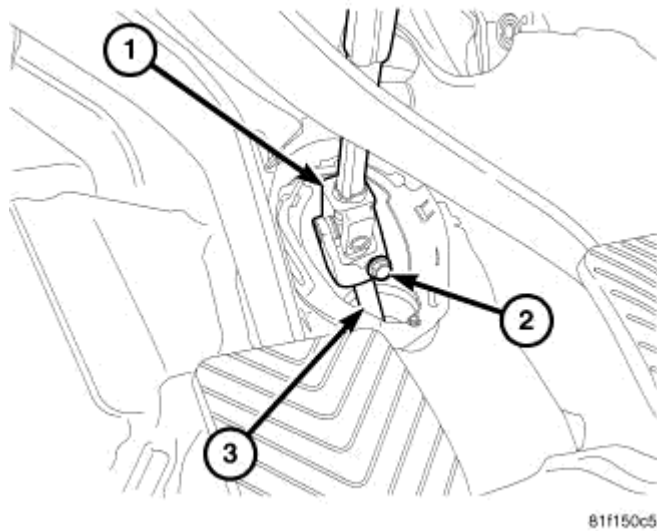


Fig. 96: COUPLING PINCH BOLT

Courtesy of CHRYSLER LLC

3. Reposition the floor carpeting and sound deadening insulation to access the intermediate shaft coupling (1) at the base of the column.
4. Remove the intermediate shaft coupling bolt (2).
5. Separate the intermediate shaft coupling (1) from the steering gear pinion shaft (3).

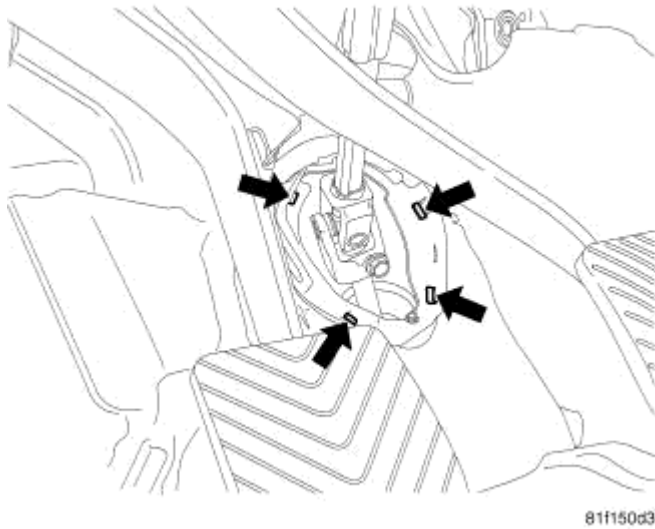


Fig. 97: DASH SEAL RETAINER CLIPS

Courtesy of CHRYSLER LLC

6. Release the clips securing the dash seal to the dash panel and push the seal away from the dash panel.

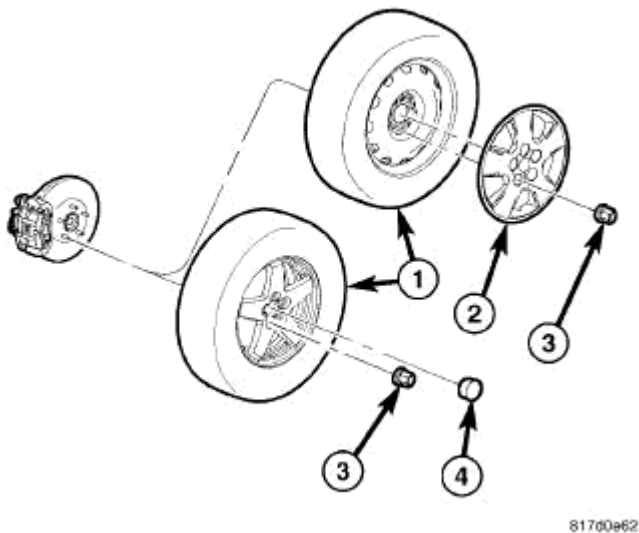


Fig. 98: TIRE AND WHEEL MOUNTING

Courtesy of CHRYSLER LLC

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

8. On each side of the vehicle, remove the wheel mounting nuts (3), then the tire and wheel assembly (1).

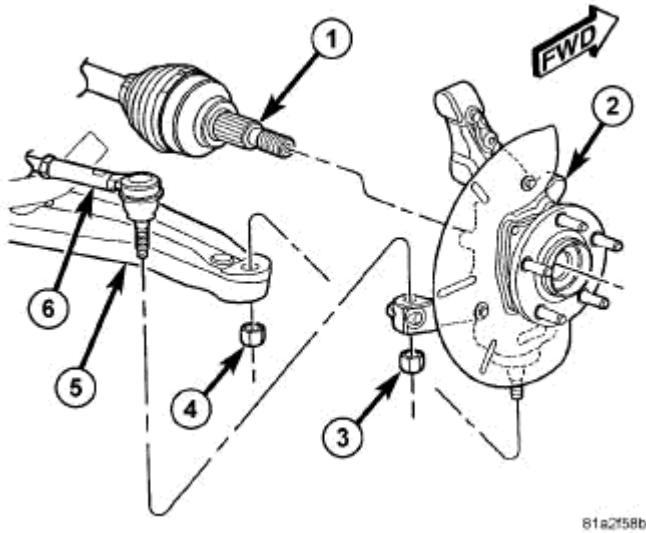


Fig. 99: FRONT KNUCKLE MOUNTING
Courtesy of CHRYSLER LLC

9. On each side of the gear, remove the nut (3) from the out tie rod end (6) at the knuckle (2).

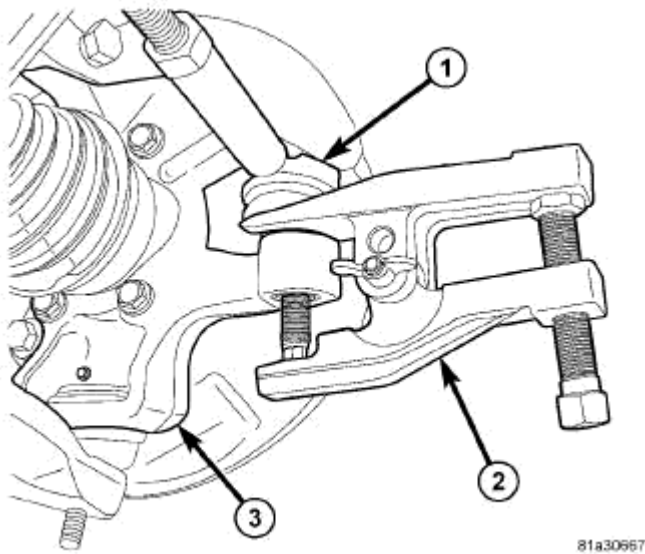


Fig. 100: USING 9360 ON TIE ROD END
Courtesy of CHRYSLER LLC

10. On each side of the gear, separate the outer tie rod end (1) from the knuckle (3) using Remover (2), Special Tool 9360.
11. If equipped, remove the engine belly pan.

12. Remove the rear engine mount. Refer to **REMOVAL** .

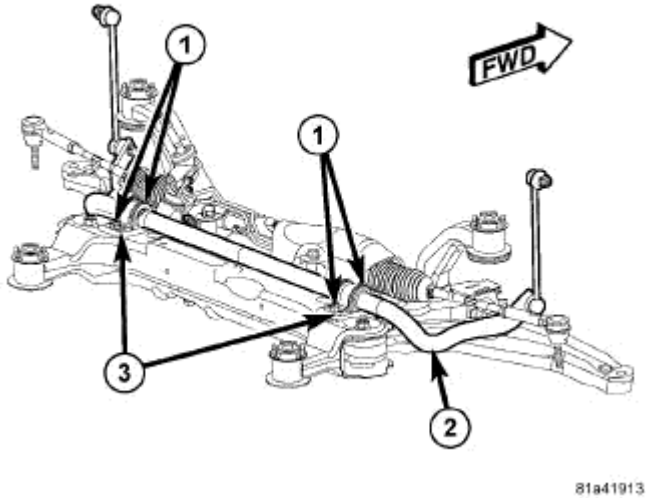


Fig. 101: STABILIZER BAR MOUNTING
Courtesy of CHRYSLER LLC

13. Remove the screws (1) securing the stabilizer bushing retainers (3) to the crossmember.
14. Move the stabilizer bar rearward on the crossmember.

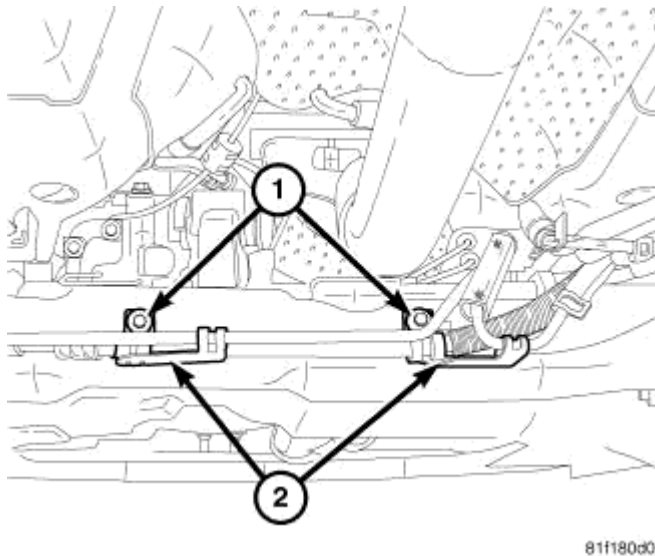


Fig. 102: RHD PRESSURE HOSE AT CROSSMEMBER
Courtesy of CHRYSLER LLC

15. Remove the screws (1) securing the power steering hose routing clamps (2) to the rear of the crossmember.

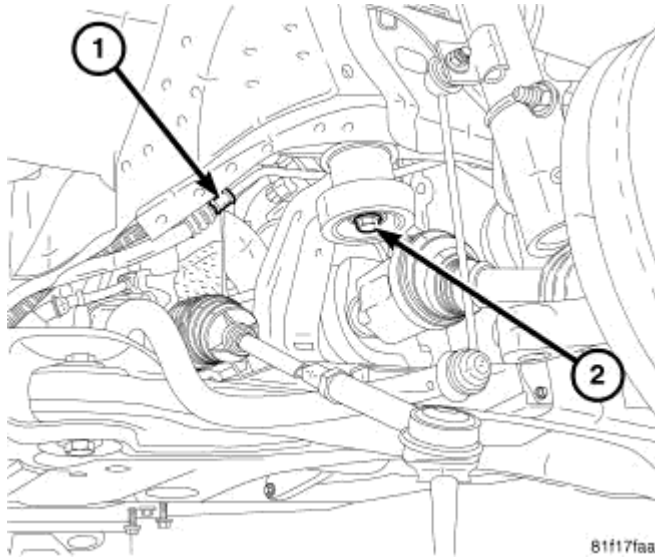


Fig. 103: RIGHT FRONT CROSSMEMBER BOLT
Courtesy of CHRYSLER LLC

16. Remove the screw securing the power steering hose routing clamp (1) to right frame rail.

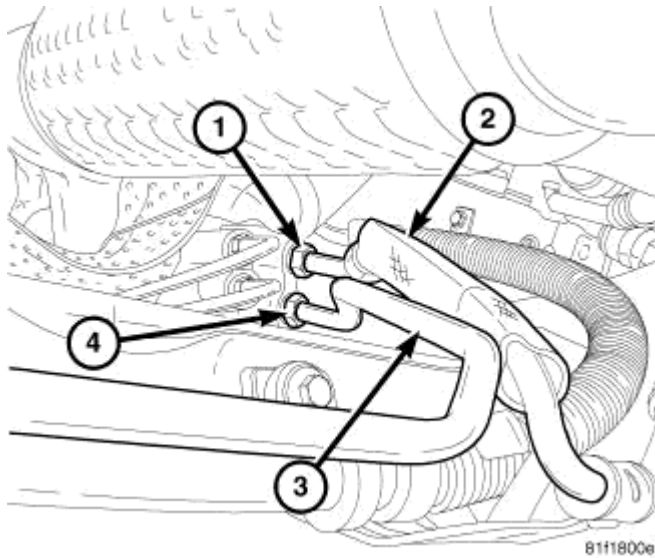


Fig. 104: RHD STEERING HOSES AT GEAR
Courtesy of CHRYSLER LLC

17. Unscrew the tube nut (1), then remove the return hose (2) from the steering gear. Move the hose away from the gear.
18. Unscrew the tube nut (4), then remove the pressure hose (3) from the steering gear. Move the hose away from the gear.

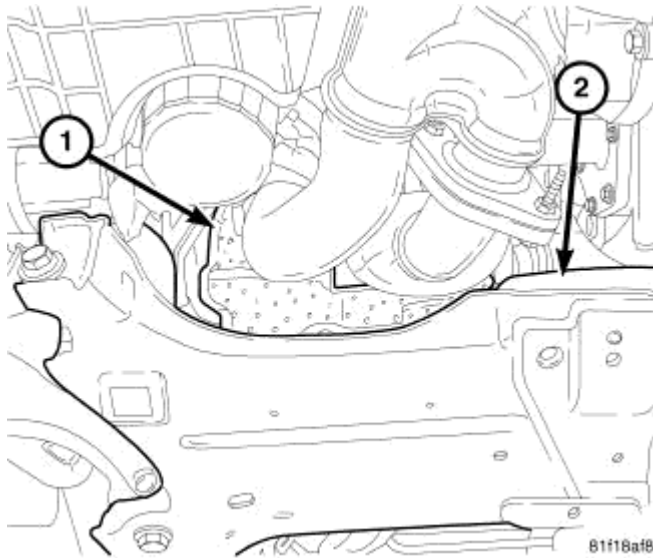


Fig. 105: RHD STEERING GEAR HEAT SHIELD
Courtesy of CHRYSLER LLC

19. Remove the screws and push-pins securing the heat shield (1) over the steering gear.

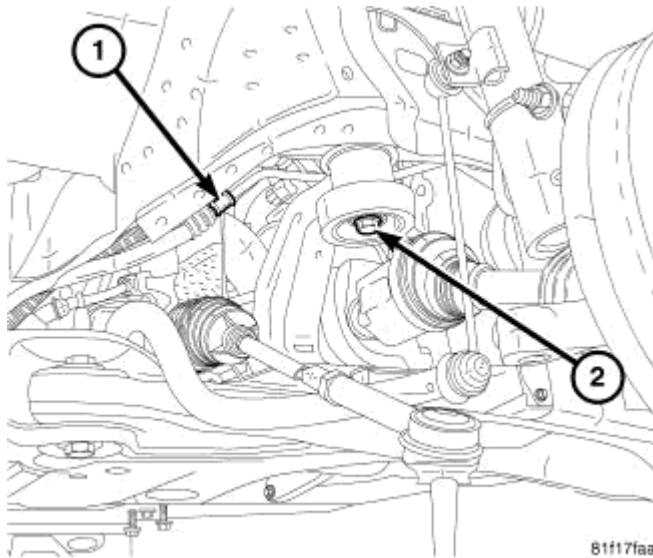


Fig. 106: RIGHT FRONT CROSSMEMBER BOLT
Courtesy of CHRYSLER LLC

20. Remove the right front crossmember mounting bolt (2) allowing that corner of the front crossmember to sag downward.

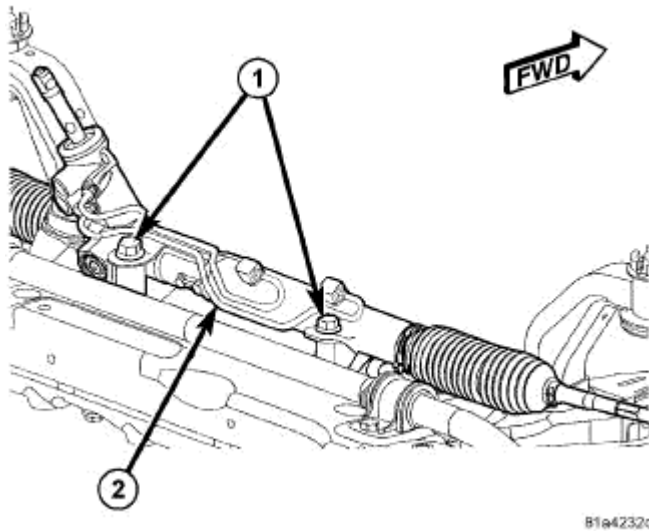


Fig. 107: STEERING GEAR MOUNTING
Courtesy of CHRYSLER LLC

21. Remove the two bolts (1) securing the steering gear (2) to the crossmember.

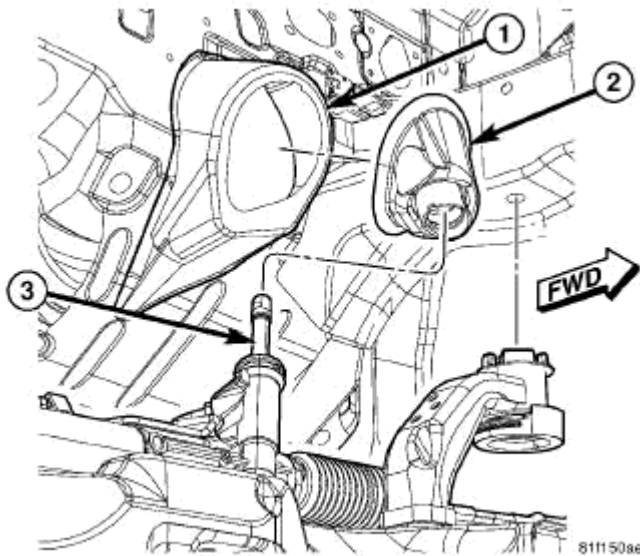


Fig. 108: DASH SEAL
Courtesy of CHRYSLER LLC

22. Tip the steering gear pinion shaft (3) straight up and remove the dash seal (2) from the steering gear. Move the seal upward, away from the gear and support there.

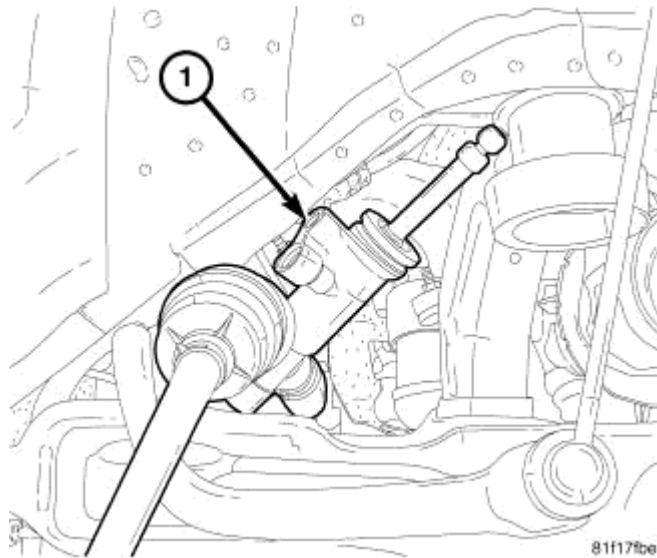


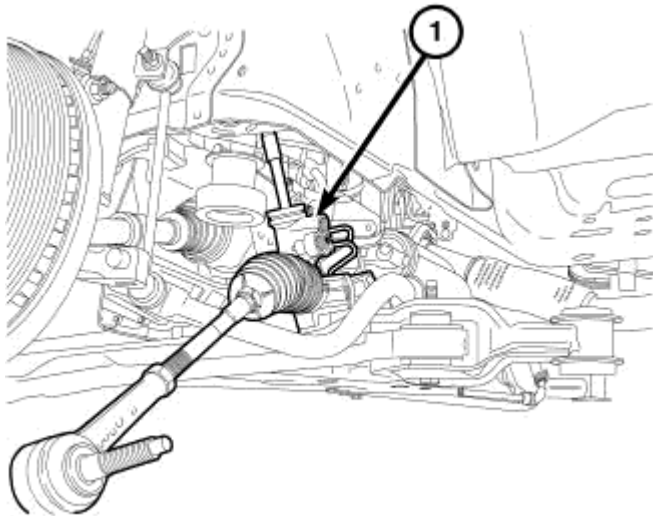
Fig. 109: RHD STEERING GEAR REMOVAL/INSTALLATION
Courtesy of CHRYSLER LLC

23. Tip the steering gear input shaft forward as needed, then slide the steering gear across the crossmember and out through right wheel opening.
24. If necessary, remove outer tie rods from inner tie rod threads. Count how many rotations it takes to remove each outer tie rod for installation reference.

INSTALLATION

LEFT-HAND DRIVE

1. If necessary, install the outer tie rods onto the inner tie rod threads. As the outer tie rods are installed, count out same number rotations as were counted on tie rod removal. This will get the toe setting somewhat close to specification before the vehicle is aligned at end of this procedure. Snug the tie rod jam nuts on both ends of gear. Tighten the tie rod jam nuts to specification while performing the wheel alignment at end of this procedure.

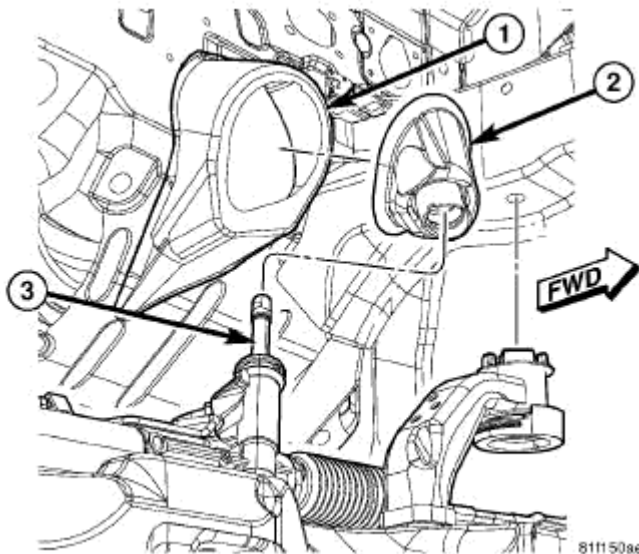


81ft152a4

Fig. 110: STEERING GEAR REMOVAL/INSTALLATION

Courtesy of CHRYSLER LLC

2. Carefully install the steering gear (1) through the left wheel opening using the reverse of how it was removed. Move it across the crossmember until centered.



81ft153ae

Fig. 111: DASH SEAL

Courtesy of CHRYSLER LLC

3. Tip the steering gear pinion shaft (3) straight up and install the dash seal (2) matching it to the contour of the steering gear housing.

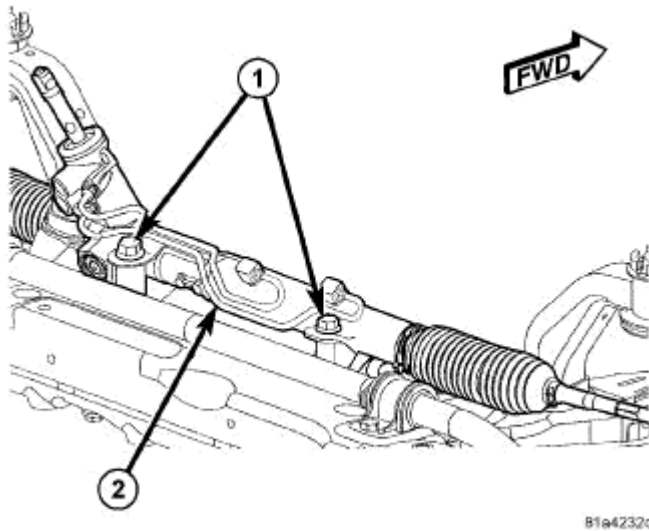


Fig. 112: STEERING GEAR MOUNTING

Courtesy of CHRYSLER LLC

4. Position the steering gear in mounted position on the crossmember.
5. Install the two bolts (1) securing the steering gear (2) to the crossmember. Tighten the gear mounting bolts to 100 N.m (74 ft. lbs.).

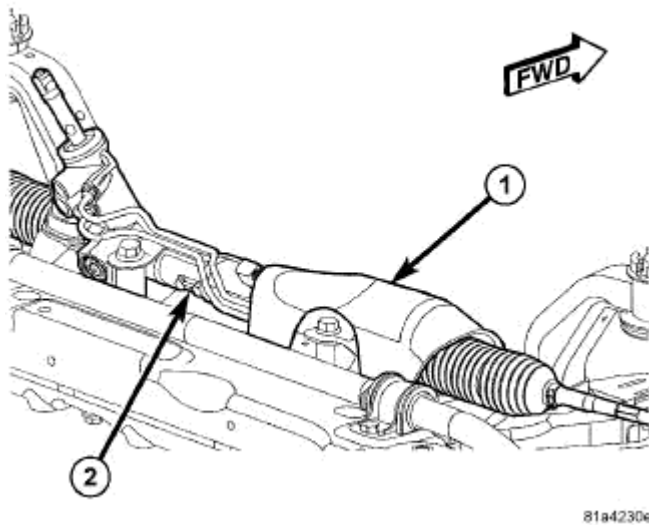


Fig. 113: HEAT SHIELD OVER GEAR

Courtesy of CHRYSLER LLC

6. Install the heat shield (1) over the steering gear (2). Install the mounting screws and push-pins. Tighten the screws to 6 N.m (53 in. lbs.).

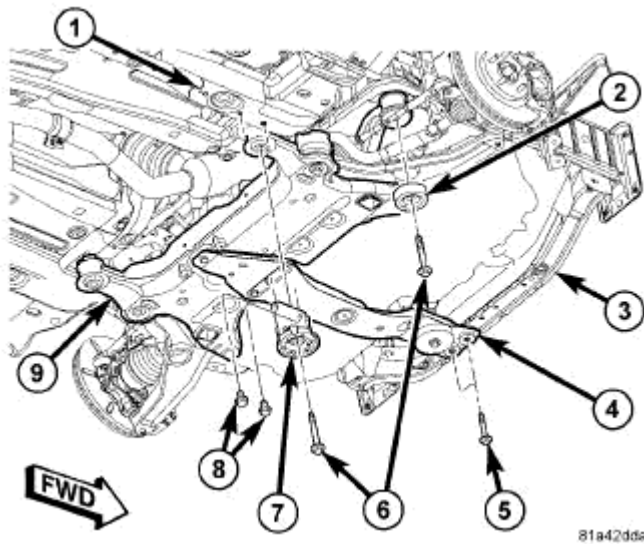


Fig. 114: FRONT CROSSMEMBER MOUNTING

Courtesy of CHRYSLER LLC

7. Center the power steering gear rack in its travel as necessary.

NOTE:

When installing the front suspension crossmember (1) it is very important that the crossmember be attached to the body in exactly the same spot as when it was removed. Otherwise, the vehicle's wheel alignment settings (caster and camber) will be lost making wheel alignment more difficult.

8. Slowly raise the crossmember (9) into mounted position using the transmission jack matching the crossmember to the marked locations on the body made during removal.
9. Position the front crossmember reinforcement brackets (7) (one each side of vehicle) over the crossmember rear mounting bushings and install the mounting screws (8), but do not tighten at this time.

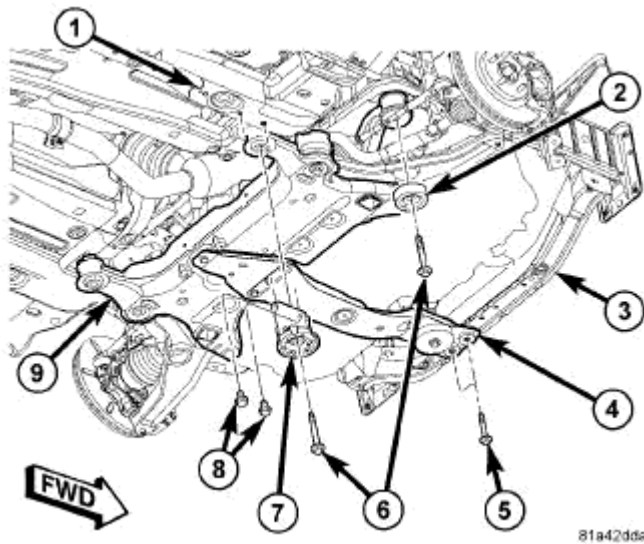


Fig. 115: FRONT CROSSMEMBER MOUNTING
Courtesy of CHRYSLER LLC

10. Install the four mounting bolts (6) securing the front crossmember (1) to the body. Tighten the crossmember mounting bolts to 135 N.m (100 ft. lbs.).
11. Tighten the crossmember reinforcement bracket mounting screws (8) to 50 N.m (37 ft. lbs.).
12. Remove the transmission jack.

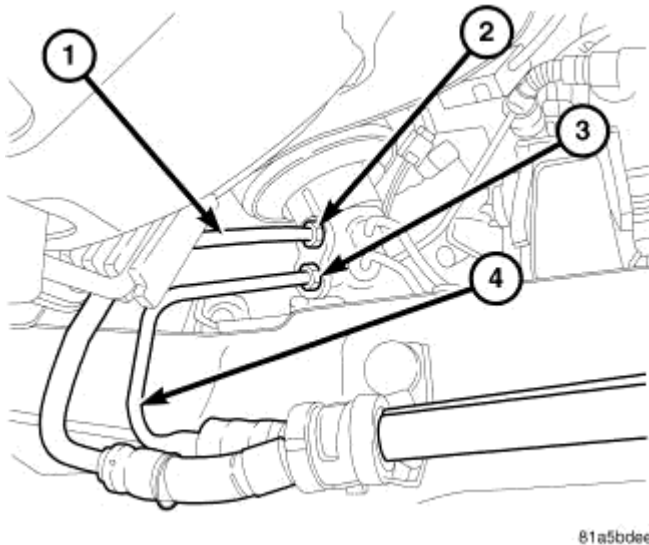


Fig. 116: HOSES AT GEAR
Courtesy of CHRYSLER LLC

13. Install the pressure hose tube (4) at the gear. Tighten the tube nut (3) to 32 N.m (24 ft. lbs.).
14. Install the return hose tube (1) at the gear. Tighten the tube nut (2) to 32 N.m (24 ft. lbs.).

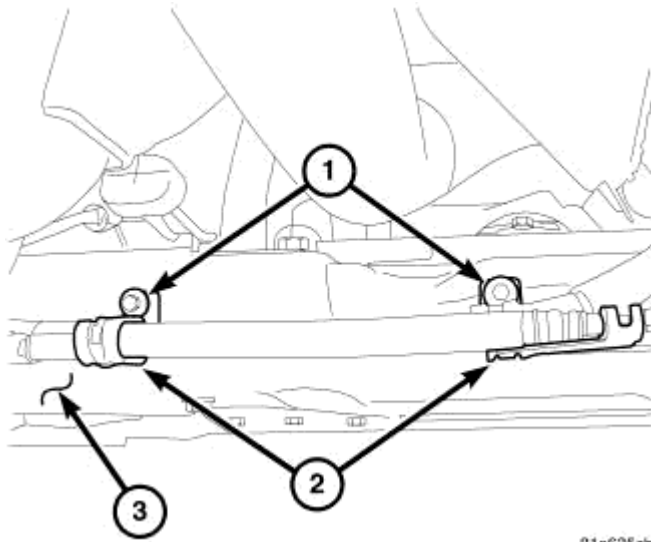


Fig. 117: HOSES AT REAR OF CROSSMEMBER
Courtesy of CHRYSLER LLC

15. Position the power steering hose routing clamps (2) on the crossmember. Install and tighten the screws to 8 N.m (71 in. lbs.).

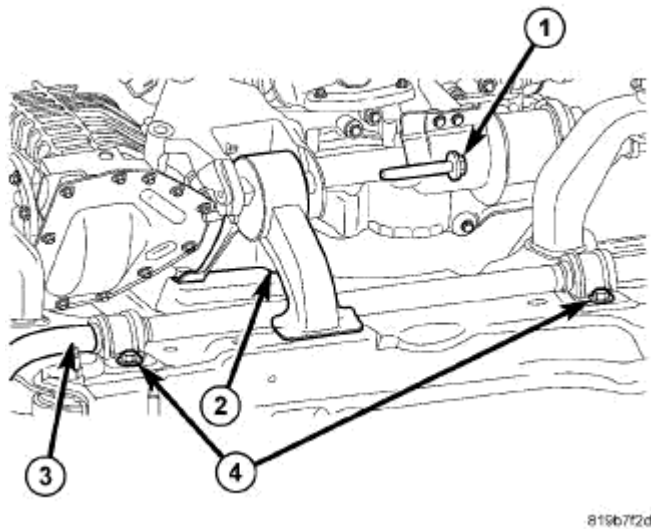


Fig. 118: REAR TORQUE MOUNT
Courtesy of CHRYSLER LLC

16. Install the rear engine mount through-bolt (1). Refer to **INSTALLATION**.

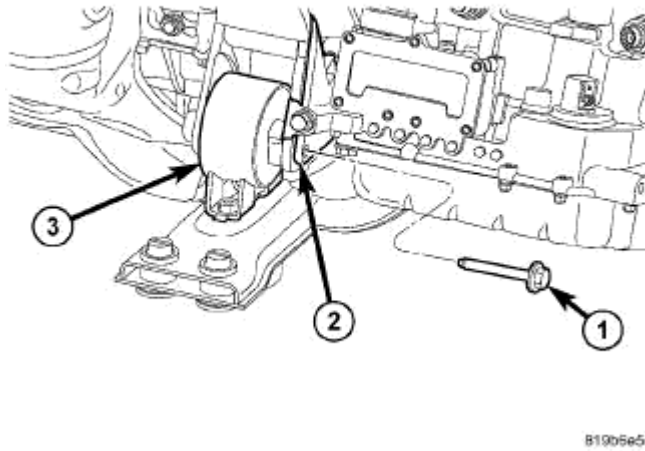


Fig. 119: HORIZONTAL BOLT
Courtesy of CHRYSLER LLC

17. Install the front engine mount through-bolt (1). Refer to **Engine/Engine Mounting/INSULATOR, Engine Mount - Installation**
18. If equipped, install the engine belly pan.

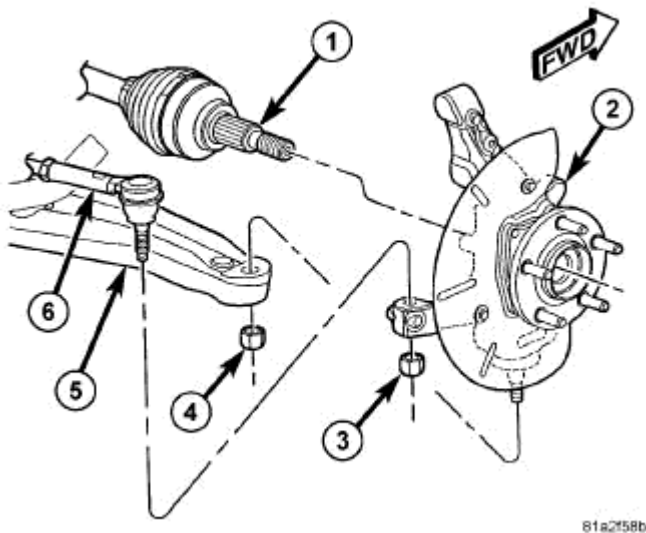


Fig. 120: FRONT KNUCKLE MOUNTING
Courtesy of CHRYSLER LLC

NOTE: Prior to attaching the outer tie rod end to the knuckle, inspect the tie rod seal boot. If the seal boot is damaged, replace the outer tie rod end.

19. On each side of the gear, install the outer tie rod end (6) into the hole in the knuckle (2) arm. Start a NEW tie rod mounting nut (3) onto the stud. While holding the tie rod end stud with a wrench, tighten the nut with a wrench or crowfoot wrench. Tighten the nut to 85 N.m (63 ft. lbs.).

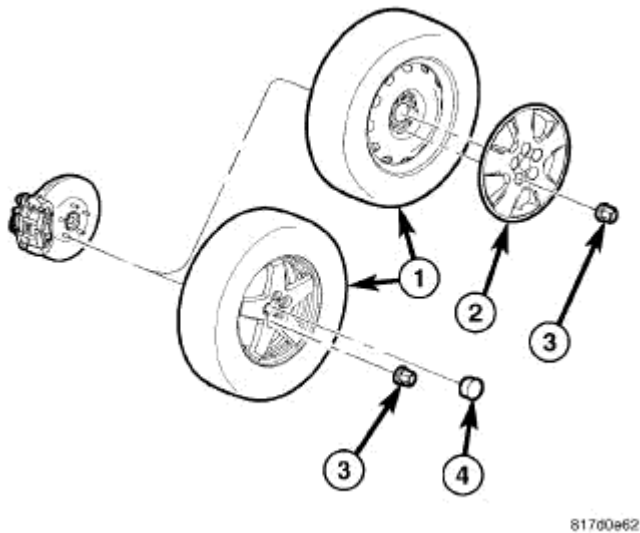


Fig. 121: TIRE AND WHEEL MOUNTING

Courtesy of CHRYSLER LLC

20. On each side of the vehicle, 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.).
21. Lower the vehicle.

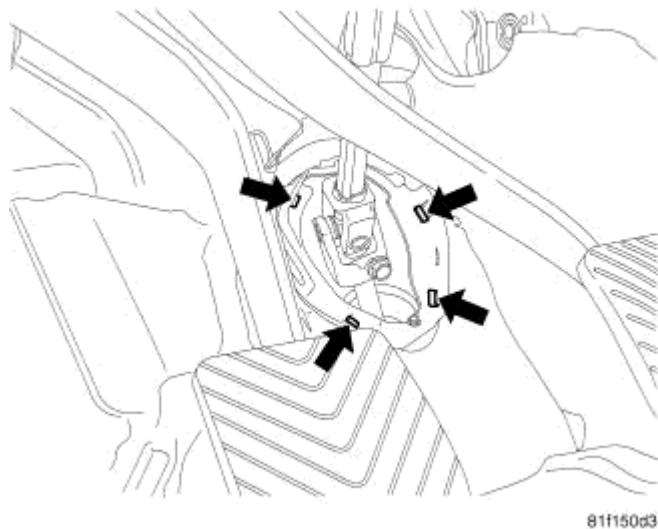


Fig. 122: DASH SEAL RETAINER CLIPS

Courtesy of CHRYSLER LLC

22. Lift the dash seal into position and engage the retaining clips securing the dash seal to the dash panel.

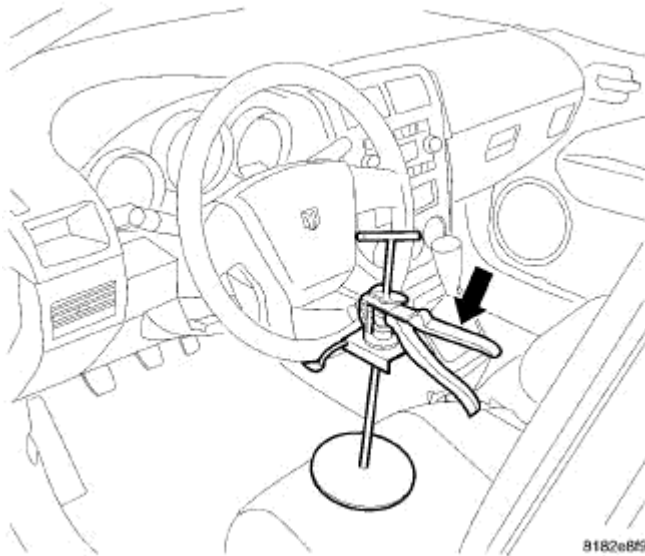


Fig. 123: STEERING WHEEL HOLDING TOOL
Courtesy of CHRYSLER LLC

23. Remove the steering wheel holder using care not to rotate the steering wheel.

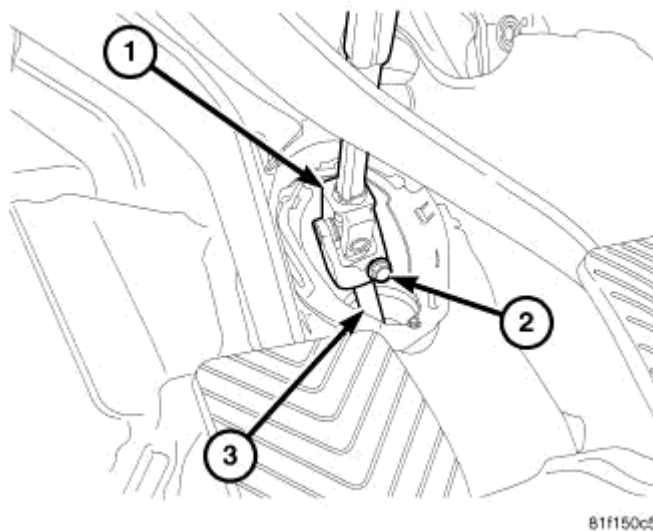


Fig. 124: COUPLING PINCH BOLT
Courtesy of CHRYSLER LLC

24. Verify the front wheels of vehicle are in the STRAIGHT-AHEAD position.
25. Center the intermediate shaft coupling (1) over the steering gear pinion shaft (3), then slide the intermediate shaft onto the steering gear pinion shaft.
26. Install the intermediate shaft coupling bolt (2). Tighten the bolt to 42 N.m (31 ft. lbs.).

27. Position the sound deadening insulation and floor carpet back into place.
28. Fill and bleed the power steering system. See **Steering - Standard Procedure**
29. Check for fluid leaks.
30. Perform wheel alignment as necessary. Refer to **Front Suspension/Wheel Alignment - Standard Procedure**

RIGHT-HAND DRIVE

1. If necessary, install the outer tie rods onto the inner tie rod threads. As the outer tie rods are installed, count out same number rotations as were counted on tie rod removal. This will get the toe setting somewhat close to specification before the vehicle is aligned at end of this procedure. Snug the tie rod jam nuts on both ends of gear. Tighten the tie rod jam nuts to specification while performing the wheel alignment at end of this procedure.

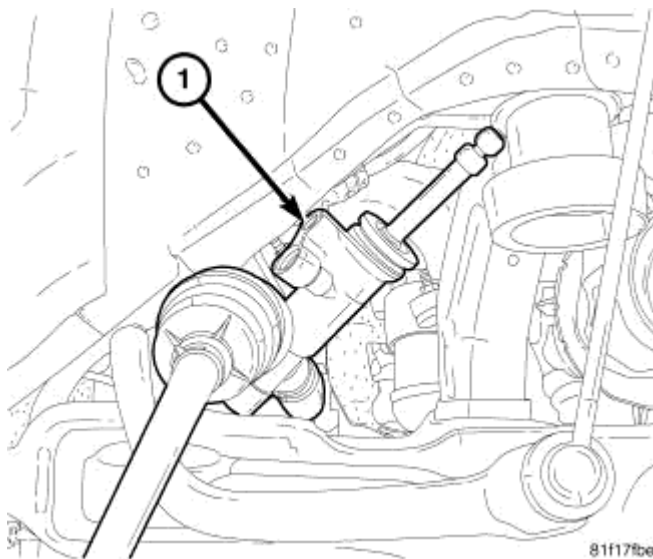


Fig. 125: RHD STEERING GEAR REMOVAL/INSTALLATION
Courtesy of CHRYSLER LLC

2. Tip the steering gear input shaft forward as needed, then slide the steering gear across the crossmember and out through right wheel opening.
3. Carefully install the steering gear (1) through the right wheel opening using the reverse of how it was removed. Slide it under the heat shield and move it across the crossmember until centered.

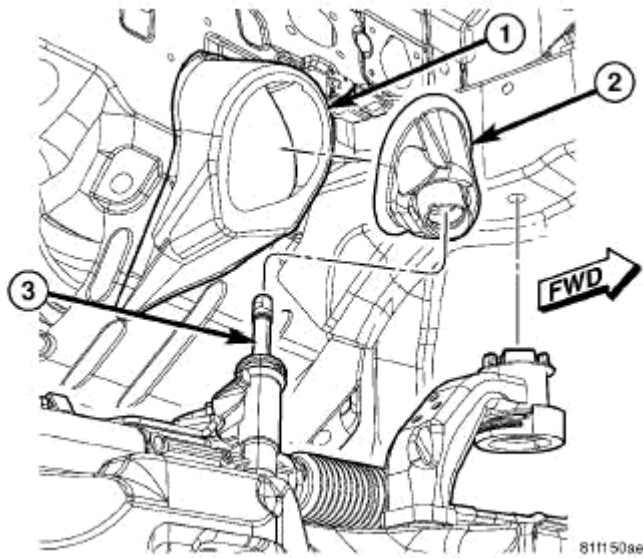


Fig. 126: DASH SEAL

Courtesy of CHRYSLER LLC

4. Tip the steering gear pinion shaft (3) straight up and install the dash seal (2) matching it to the contour of the steering gear housing.

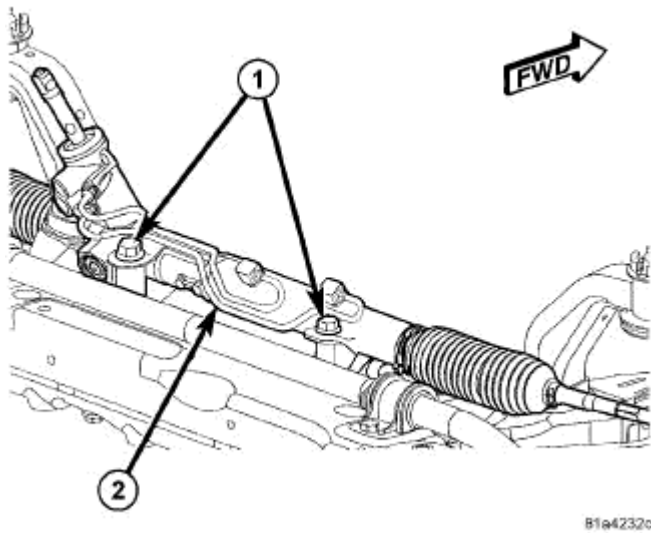


Fig. 127: STEERING GEAR MOUNTING

Courtesy of CHRYSLER LLC

5. Place the steering gear in mounted position and install the two bolts (1) securing the steering gear (2) to the crossmember. Tighten the gear mounting bolts to 100 N.m (74 ft. lbs.).

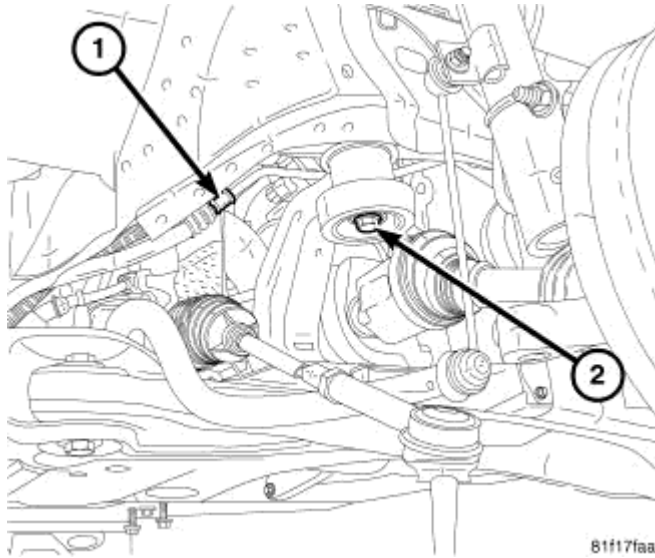


Fig. 128: RIGHT FRONT CROSSMEMBER BOLT
Courtesy of CHRYSLER LLC

6. Install the right front crossmember mounting bolt (2). Tighten the mounting bolt to 135 N.m (100 ft. lbs.).
7. Center the power steering gear rack in its travel as necessary.

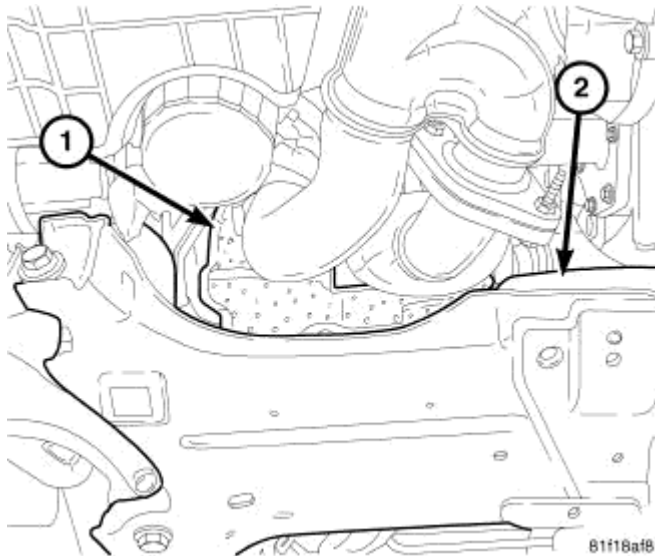


Fig. 129: RHD STEERING GEAR HEAT SHIELD
Courtesy of CHRYSLER LLC

8. Install the heat shield over the steering gear. Install the mounting screws and push pins. Tighten the screws to 6 N.m (53 in. lbs.).

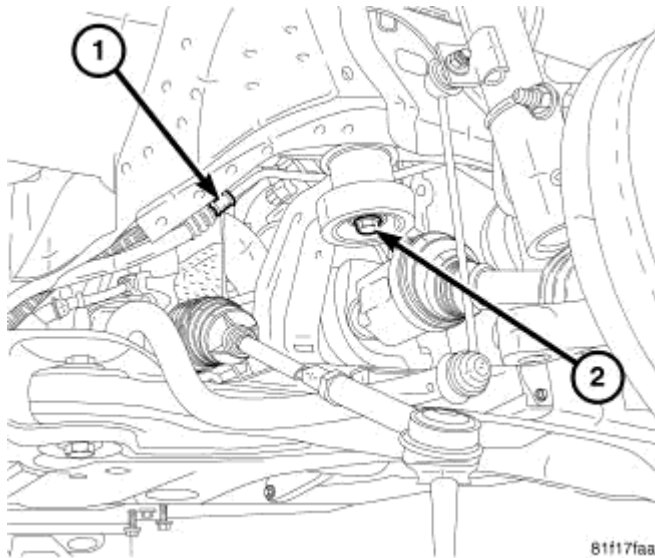


Fig. 130: RIGHT FRONT CROSSMEMBER BOLT
Courtesy of CHRYSLER LLC

9. Position the power steering hose routing clamp on the right frame rail. Install and tighten the screw to 8 N.m (71 in. lbs.).

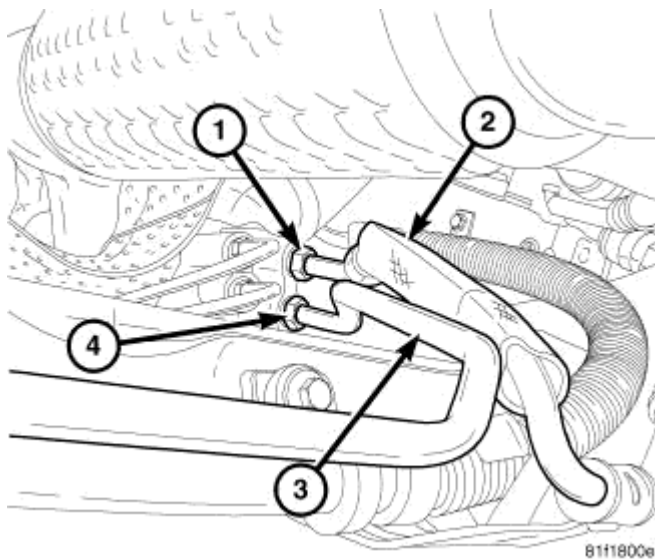
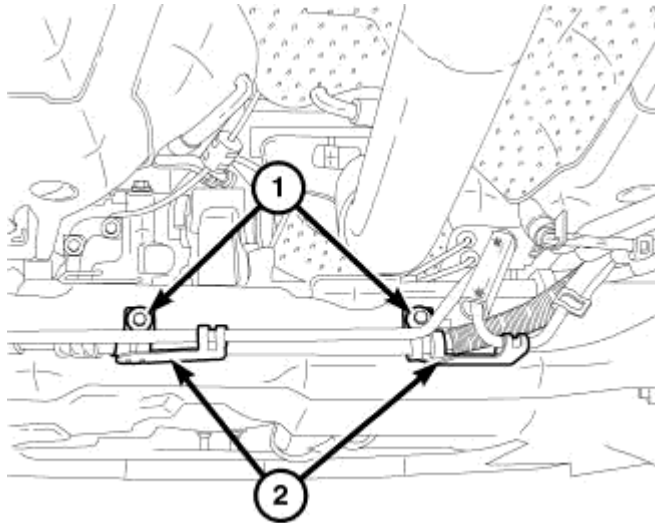


Fig. 131: RHD STEERING HOSES AT GEAR
Courtesy of CHRYSLER LLC

10. Install the pressure hose (3) tube at the gear. Tighten the tube nut (4) to 32 N.m (24 ft. lbs.).
11. Install the return hose (2) tube at the gear. Tighten the tube nut (1) to 32 N.m (24 ft. lbs.).

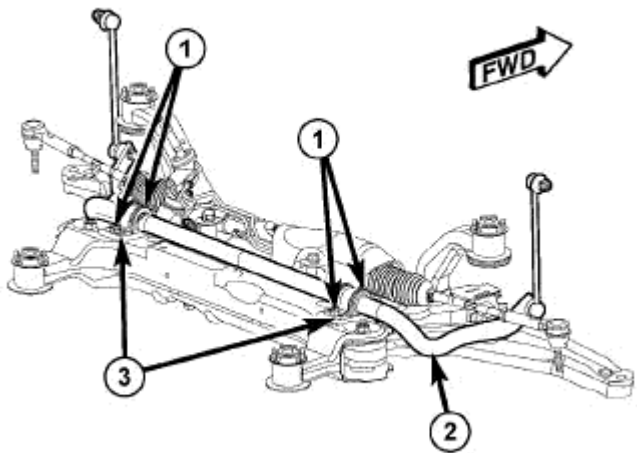


81f180d0

Fig. 132: RHD PRESSURE HOSE AT CROSSMEMBER

Courtesy of CHRYSLER LLC

12. Position the power steering hose routing clamps (2) on the rear of the crossmember. Install and tighten the screws (1) to 8 N.m (71 in. lbs.).

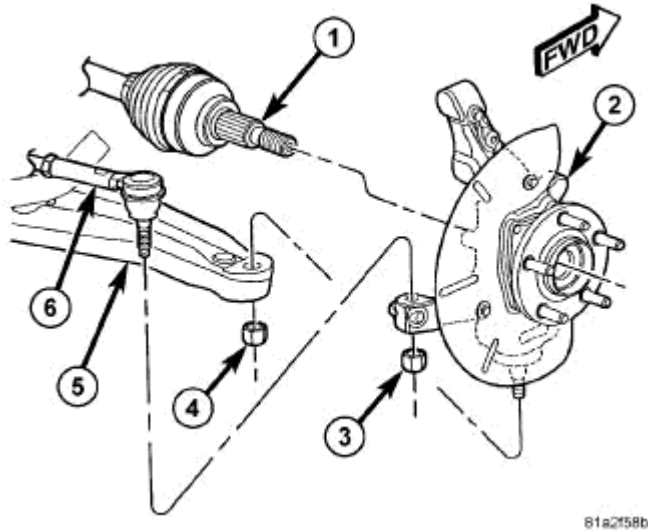


81a41913

Fig. 133: STABILIZER BAR MOUNTING

Courtesy of CHRYSLER LLC

13. Install the screws (1) securing the stabilizer bushing retainers (3) to the crossmember. Tighten all four stabilizer bar cushion retainer screws to 60 N.m (44 ft. lbs.).
14. Install the rear engine mount. Refer to **INSTALLATION** .
15. If equipped, install the engine belly pan.



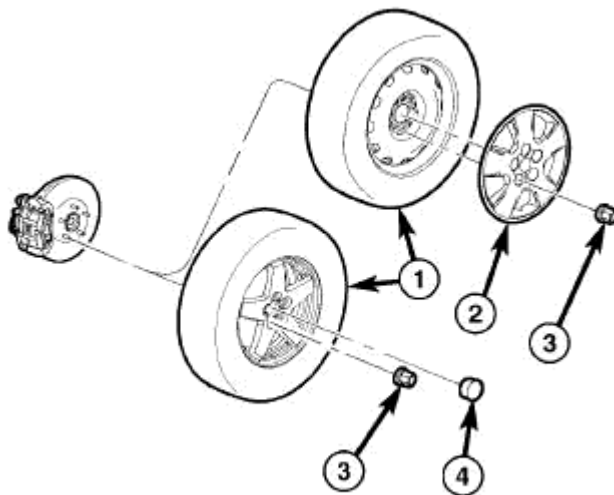
81a2f58b

Fig. 134: FRONT KNUCKLE MOUNTING

Courtesy of CHRYSLER LLC

NOTE: Prior to attaching the outer tie rod end to the knuckle, inspect the tie rod seal boot. If the seal boot is damaged, replace the outer tie rod end.

16. On each side of the gear, install the outer tie rod end (6) into the hole in the knuckle (2) arm. Start a NEW tie rod mounting nut (3) onto the stud. While holding the tie rod end stud with a wrench, tighten the nut with a wrench or crowfoot wrench. Tighten the nut to 85 N.m (63 ft. lbs.).



81760a62

Fig. 135: TIRE AND WHEEL MOUNTING

Courtesy of CHRYSLER LLC

17. On each side of the vehicle, 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.).
18. Lower the vehicle.

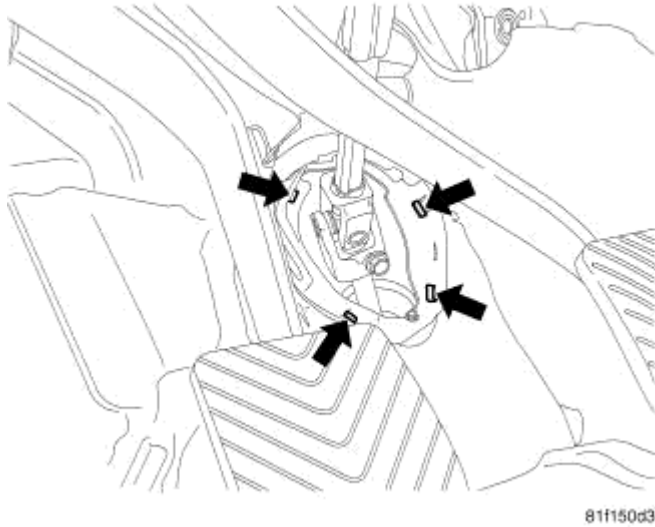


Fig. 136: DASH SEAL RETAINER CLIPS
Courtesy of CHRYSLER LLC

19. Lift the dash seal into position and engage the retaining clips securing the dash seal to the dash panel.

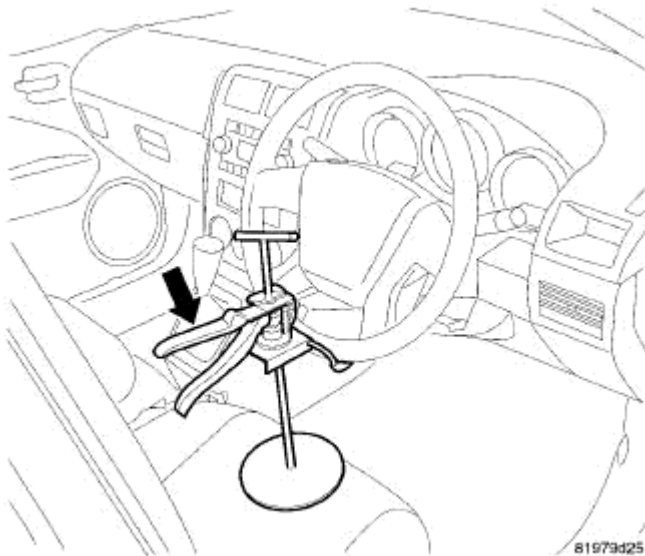


Fig. 137: STEERING WHEEL HOLDING TOOL - RHD
Courtesy of CHRYSLER LLC

20. Remove the steering wheel holder.

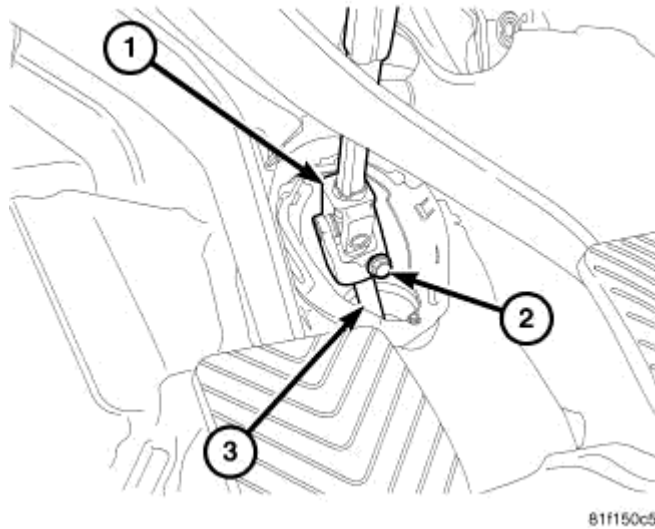


Fig. 138: COUPLING PINCH BOLT
Courtesy of CHRYSLER LLC

21. Verify the front wheels of vehicle are in the STRAIGHT-AHEAD position.
22. Center the intermediate shaft coupling (1) over the steering gear pinion shaft (3), then slide the intermediate shaft onto the steering gear pinion shaft.
23. Install the intermediate shaft coupling bolt (2). Tighten the bolt to 42 N.m (31 ft. lbs.).
24. Position the sound deadening insulation and floor carpet back into place.
25. Fill and bleed the power steering system. See **Steering - Standard Procedure**
26. Check for fluid leaks.
27. Perform wheel alignment as necessary. Refer to **Front Suspension/Wheel Alignment - Standard Procedure**

TIE ROD, STEERING

Diagnosis and Testing

TIE ROD

Tie rod free-play can be measured using the following hand methods:

OUTER TIE ROD

1. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure** .
2. Remove the front wheels. Refer to **Tires and Wheels - Removal** .
3. Install two standard wheel mounting nuts, flat side to rotor, diagonally opposite to each on the rotor.

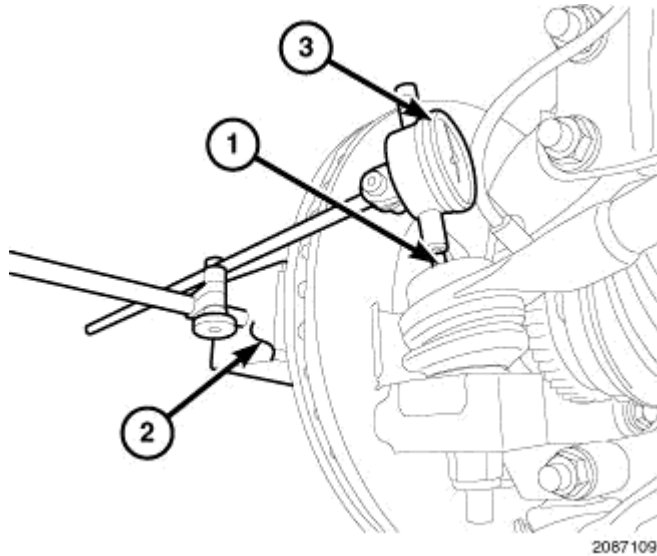


Fig. 139: Magnetic Dial Indicator (2)

Courtesy of CHRYSLER LLC

4. Attach a magnetic dial indicator (2) to the inside or outside of the brake rotor, then align the dial indicator's contact pointer (1) with the direction of the stud axis and touch the outer tie rod.
5. Zero the dial indicator. (3)

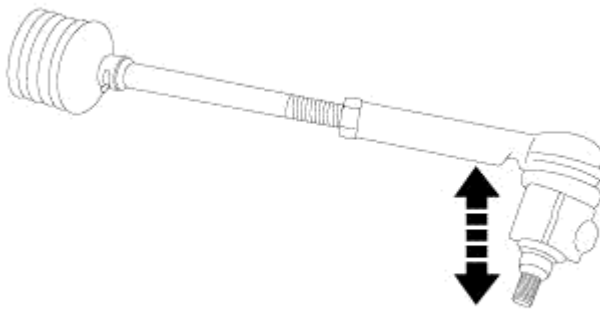


Fig. 140: Checking Outer Tie Rod Free-Play

Courtesy of CHRYSLER LLC

NOTE: When checking free-play, DO NOT rotate the tie rod. Just because a tie rod rotates easily does not mean that it is necessarily faulty. Using more than light hand pressure will result in a false reading.

6. Grasp the outer tie rod near the ball stud and attempt to move the tie rod straight up and down using light

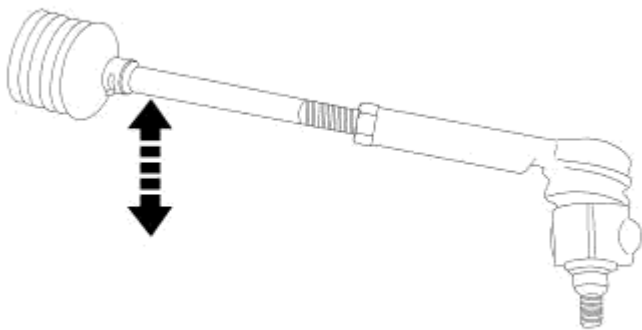
hand pressure. (Less than 10 lbs. of force.)

7. Measure and record any tie rod free-play movement.
8. Remove the magnetic dial indicator.
9. Remove the standard wheel mounting nuts from the two studs.

If the free-play in the tie rod exceeds 0.05 mm (.002 in.), replace the outer tie rod. See **Steering/Gear/TIE ROD, Steering - Removal**. If the free-play is less than 0.05 mm (.002 in.) at the outer tie rod check the inner tie rod for free-play. Refer to the following procedure.

INNER TIE ROD

NOTE: Always check and repair (if necessary) outer tie rod free-play before checking inner tie rod free-play. False results can otherwise be obtained.



81896138

Fig. 141: Checking Inner Tie Rod Free-Play
Courtesy of CHRYSLER LLC

1. Grasp the inner tie rod near the steering gear bellows and attempt to move the tie rod straight up and down. If any free-play is felt, replace the inner tie rod. See **Steering/Gear/TIE ROD, Steering - Removal**.
2. If no free-play is felt, install the front wheels. Refer to **Tires and Wheels - Installation**
3. Remove support and lower the vehicle.

Removal

INNER TIE ROD

1. Remove the outer tie rod. See **Steering/Gear/TIE ROD, Steering - Removal**
2. Remove the tie rod jam nut from the inner tie rod.

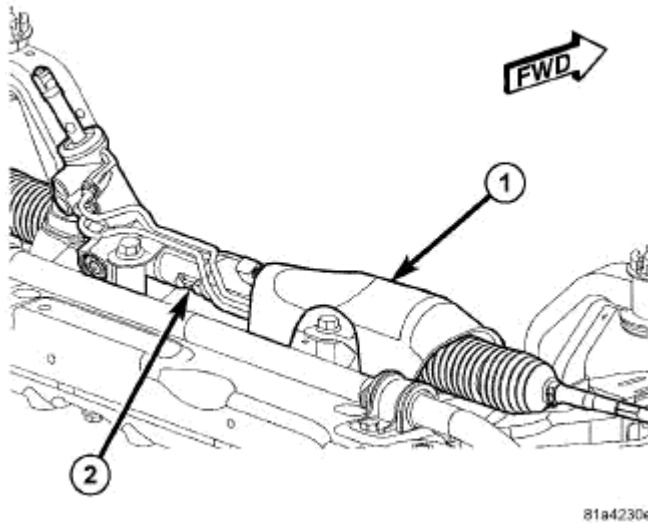


Fig. 142: HEAT SHIELD

Courtesy of CHRYSLER LLC

3. If servicing the right inner tie rod, remove the screws and push-pins securing the heat shield (1) over the right side of the steering gear (2). Remove the heat shield from over the bellows.

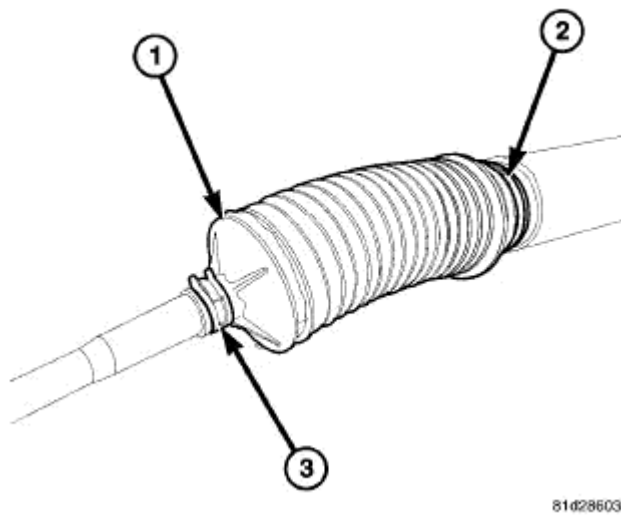


Fig. 143: BELLOWS CLAMPS

Courtesy of CHRYSLER LLC

4. Remove the clamp (3) securing the bellows (1) to the inner tie rod.
5. Remove the clamp (2) securing the bellows (1) to the steering gear body.
6. Remove the bellows.

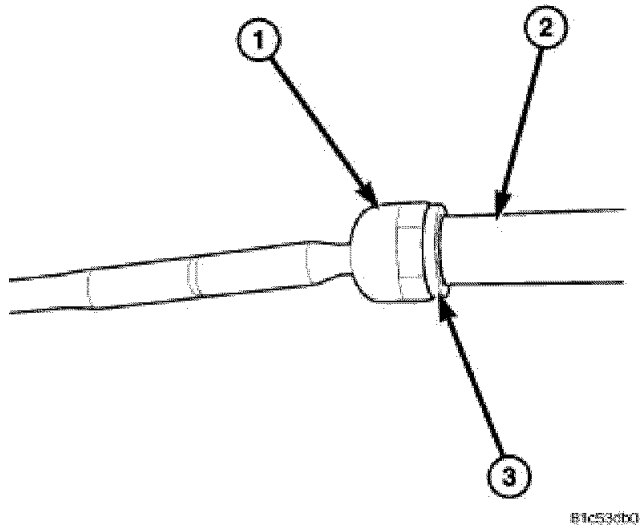


Fig. 144: INNER TIE ROD TO GEAR
Courtesy of CHRYSLER LLC

7. Remove the travel restrictor (3) from the inner tie rod (1).
8. Install an appropriate inner tie rod removal tool on the inner tie rod (1) hex.

CAUTION: If the inner tie rod cannot be removed using the specified tools, do not use a hammer or heat to loosen. Damage to the steering gear will occur. Replace the entire steering gear.

9. Unthread and remove the inner tie rod (1) from the steering gear (2).

OUTER TIE ROD END

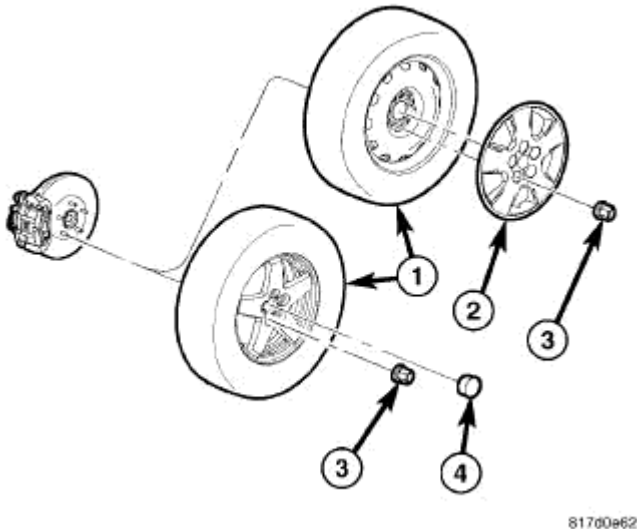


Fig. 145: TIRE AND WHEEL MOUNTING
Courtesy of CHRYSLER LLC

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

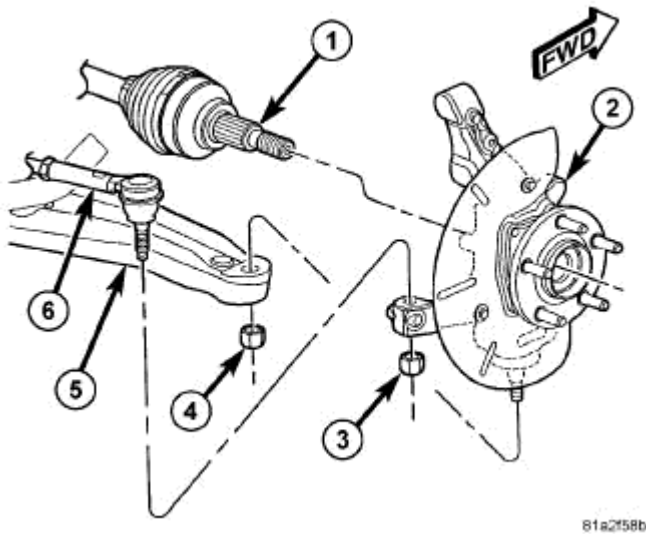


Fig. 146: FRONT KNUCKLE MOUNTING
Courtesy of CHRYSLER LLC

3. Loosen the tie rod jam nut.
4. Remove the nut (3) attaching the outer tie rod end (6) to the knuckle (2). To do this, hold the tie rod end stud with a wrench while loosening and removing the nut with a standard wrench or crowfoot wrench.

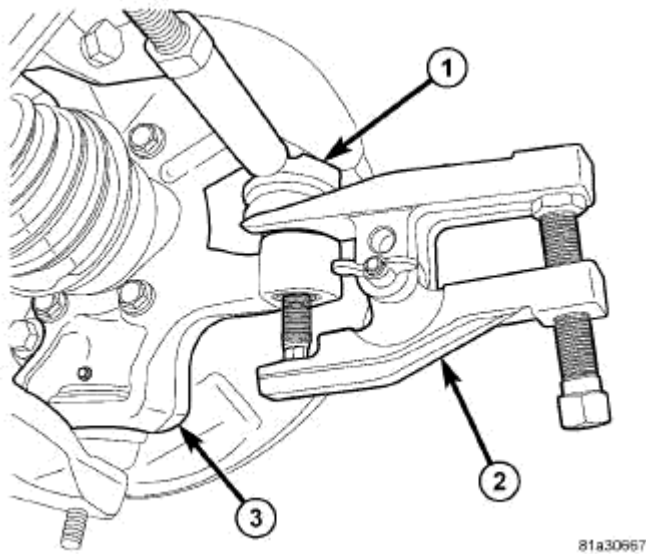


Fig. 147: USING 9360 ON TIE ROD END
Courtesy of CHRYSLER LLC

5. Separate the outer tie rod end (1) from the knuckle (3) using Remover (2), Special Tool 9360. Remove the outer tie rod from the knuckle.

NOTE: When unscrewing the outer tie rod from inner, count the number of revolutions to take it off. This action will aid in installation, getting the toe close to where it needs to be when setting the wheel alignment.

6. Remove the outer tie rod from the inner tie rod.

Installation

INNER TIE ROD

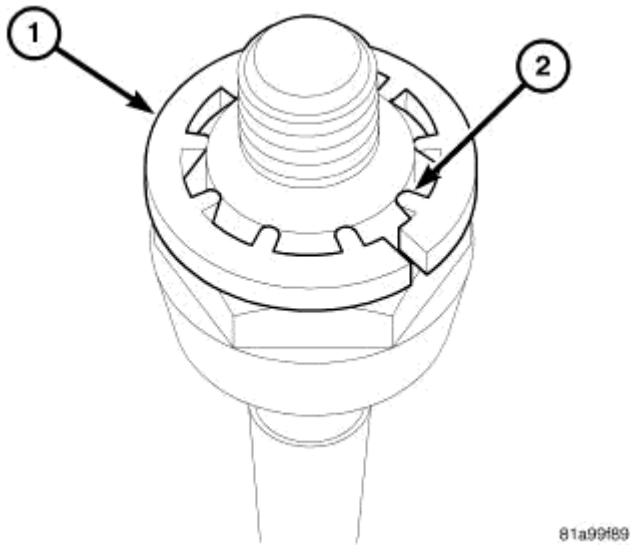


Fig. 148: Travel Restrictor On Inner Tie Rod
Courtesy of CHRYSLER LLC

- | |
|--|
| 1 - RESTRICTOR
2 - FLAT SIDE OF TEETH |
|--|

CAUTION: When installing the travel restrictor, be sure to use the same color and thickness travel restrictor as was removed. This action is necessary to properly set gear travel for the steering gear being serviced. Travel restrictor thickness can vary side-to-side on the steering gear.

1. Install the travel restrictor (1), flat side of teeth (2) facing out, on the inboard end of the inner tie rod ball joint.
2. Apply Mopar® Lock AND Seal Adhesive or equivalent medium thread locker adhesive to the inboard end threads of the inner tie rod.

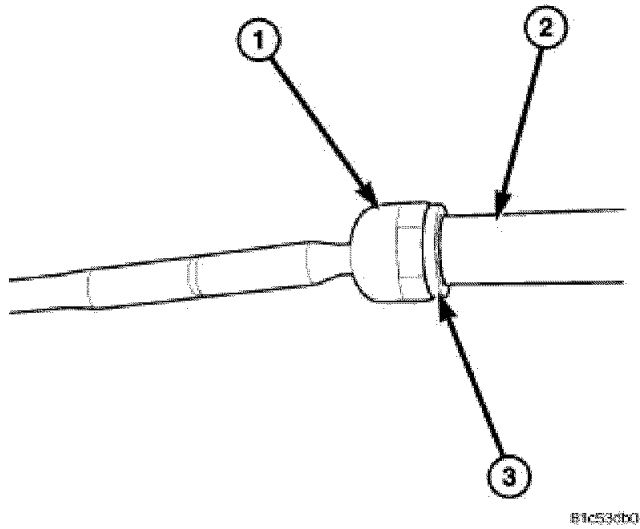


Fig. 149: INNER TIE ROD TO GEAR
Courtesy of CHRYSLER LLC

3. Install the inner tie rod (1) onto the gear (2) using an appropriate inner tie rod installation tool or crow's foot wrench on the hex. Tighten the inner tie rod to 78 N.m, (58 ft. lbs.).
4. Loosely place a NEW clamp over the large end of the NEW bellows.
5. Slide the NEW bellows with clamp over the end of the inner tie rod and onto the gear body.

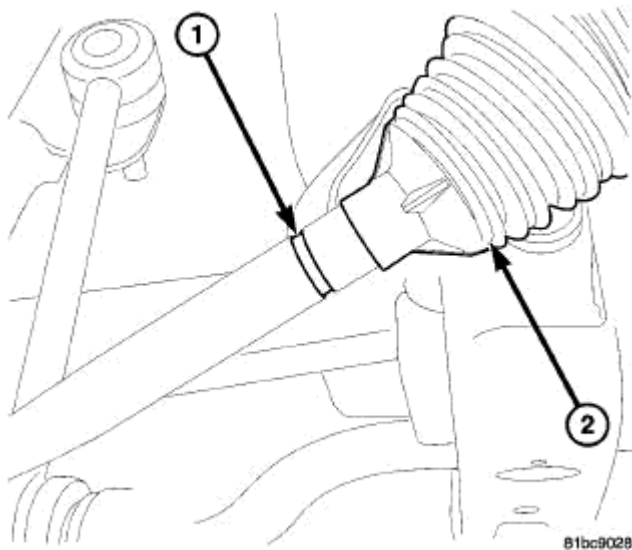


Fig. 150: GROOVE IN INNER TIE ROD
Courtesy of CHRYSLER LLC

6. Push the small end of the bellows (2) past the groove (1) machined into the inner tie rod.
7. Apply a small amount of Monar® Lubriplate or equivalent uniformly to the groove (1) in the inner tie rod.

shaft. This allows for toe adjustment without twisting the bellows.

8. Pull the small end of the bellows outward until the ridge inside the bellows engages the groove.

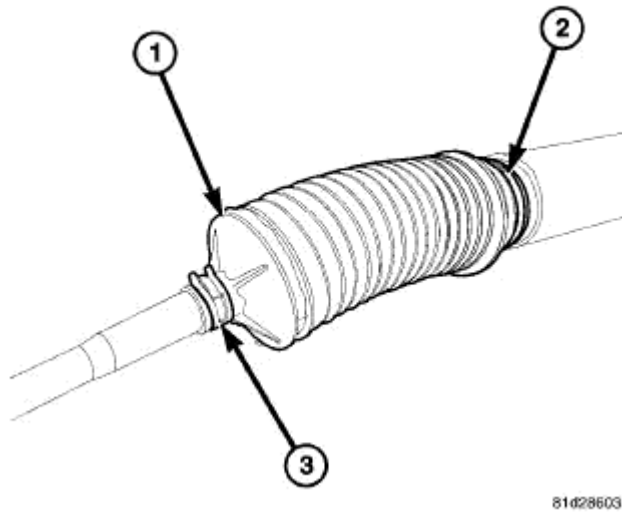


Fig. 151: BELLOWS CLAMPS

Courtesy of CHRYSLER LLC

9. Install a NEW clamp (3) over the small end of the bellows (1).

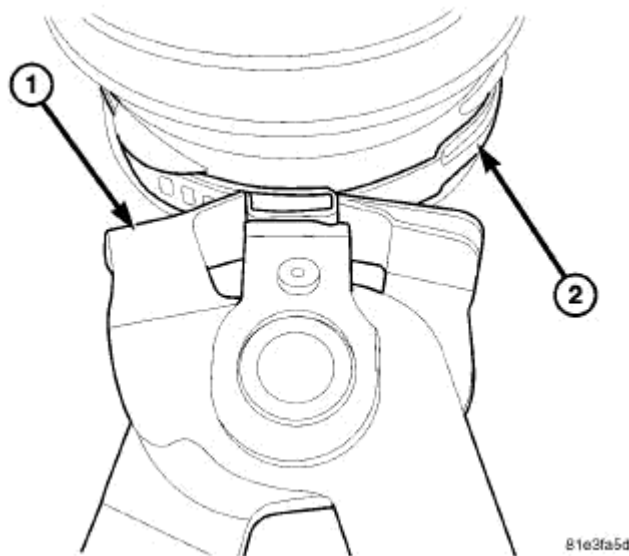


Fig. 152: CRIMPING PLIERS ON BELLOWS CLAMP

Courtesy of CHRYSLER LLC

10. Using crimping pliers (1), crimp the large clamp (2) securing the bellows to the gear body.

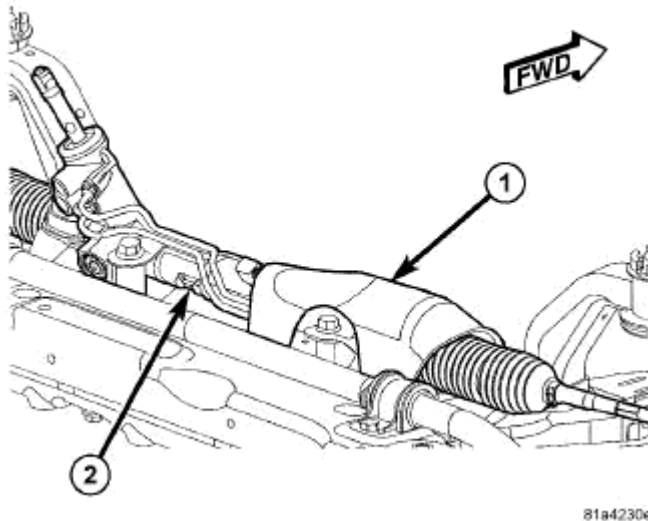


Fig. 153: HEAT SHIELD OVER GEAR
Courtesy of CHRYSLER LLC

11. If servicing the right inner tie rod, position the heat shield (1) over the steering gear (2). Install mounting screws and push-pins. Tighten the screws to 6 N.m (53 in. lbs.).
12. Thread the tie rod jam nut onto the inner tie rod far enough to install the outer tie rod.
13. Install the outer tie rod. See **Steering/Gear/TIE ROD, Steering - Installation**

OUTER TIE ROD END

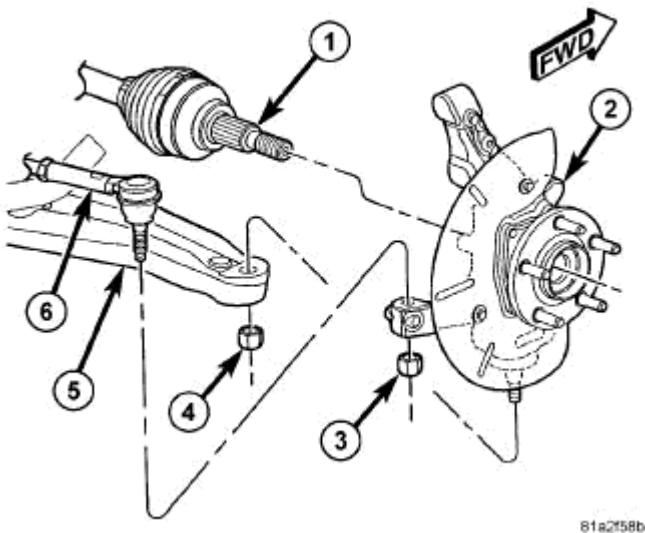


Fig. 154: FRONT KNUCKLE MOUNTING
Courtesy of CHRYSLER LLC

1. If it is not already installed, install the jam nut on the inner tie rod threads. Thread the jam nut down the inner tie rod far enough to allow for outer tie rod installation.
2. Thread the outer tie rod onto the inner tie rod approximately the same amount of revolutions as the original was installed. Do not tighten the jam nut at this time.
3. Install the outer tie rod end (6) into the hole in the knuckle (2) arm. Start a NEW tie rod mounting nut (3) onto the stud. While holding the tie rod end stud with a wrench, tighten the nut with a wrench or crowfoot wrench. Tighten the nut to 85 N.m (63 ft. lbs.).

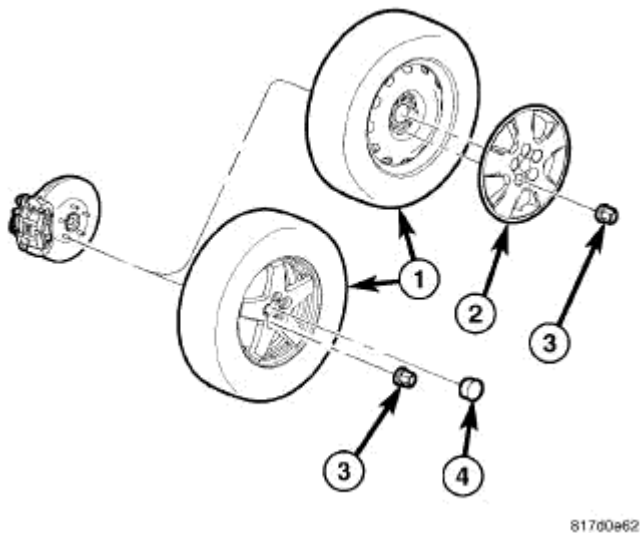


Fig. 155: TIRE AND WHEEL MOUNTING

Courtesy of CHRYSLER LLC

4. Install the 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.).
5. Lower the vehicle.
6. Adjust the front wheel toe setting. Refer to **Front Suspension/Wheel Alignment - Standard Procedure** .
7. Tighten the tie rod jam nut to 75 N.m (55 ft. lbs.) once wheel toe is set.

PUMP

DESCRIPTION

DESCRIPTION

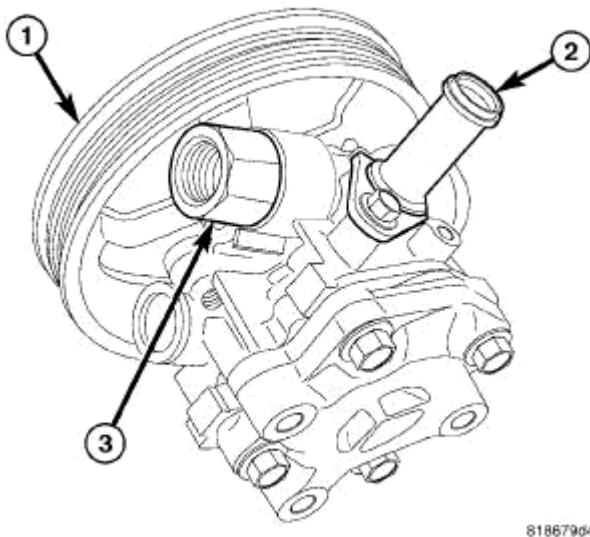


Fig. 156: POWER STEERING PUMP - GAS ENGINE

Courtesy of CHRYSLER LLC

Hydraulic pressure for operation of the power steering gear is provided by a droop-flow type power steering pump.

The power steering pump is belt driven. The pulley (1) cannot be serviced separately on four-cylinder engine mounted pumps.

DIAGNOSIS AND TESTING

POWER STEERING PUMP AND HOSES

NOTE: This information is designed to be used in conjunction with the diagnostic charts at the beginning of Steering - Diagnosis and Testing

CHECKING FOR WEAR OF POWER STEERING PUMP INTERNAL COMPONENTS

1. Place gear selector in PARK (or NEUTRAL) with wheels chalked.
2. With the engine idling, have a helper turn the steering wheel.
3. Using an electronic listening tool, determine if noise is coming from the pump.
4. Increase the engine speed and have a helper turn the steering wheel. Does the noise change with load?
5. Replace the power steering pump if excessive noise is present. See Steering/Pump - Removal

CHECKING FOR POWER STEERING HOSES TOUCHING BODY OR FRAME OF VEHICLE

Check hoses and hose tubes as following:

- Inspect hoses and hose tubes for witness marks. If witness marks are present, adjust hose(s) to the proper

position by loosening, repositioning and tightening attachments to the specified torque. See **Steering - Specifications**. **Do not bend tubing to adjust**. Replace the hose assembly if damaged.

- Check fastener torque of hose mounting brackets and tube nuts. See **Steering - Specifications**
- Have a helper bump the steering gear off of the stops to induce pressure fluctuations which may move the hose. If hose contact is made, adjust hose(s) to the proper position by loosening, repositioning and tightening attachments to the specified torque. See **Steering - Specifications**. **Do not bend tubing to adjust**. Replace the hose assembly if damaged.

REMOVAL

2.0L/2.4L ENGINE

NOTE: Before proceeding. See **Steering - Warning**.

1. Siphon as much fluid as possible from the power steering fluid reservoir.
2. Remove the engine appearance cover.

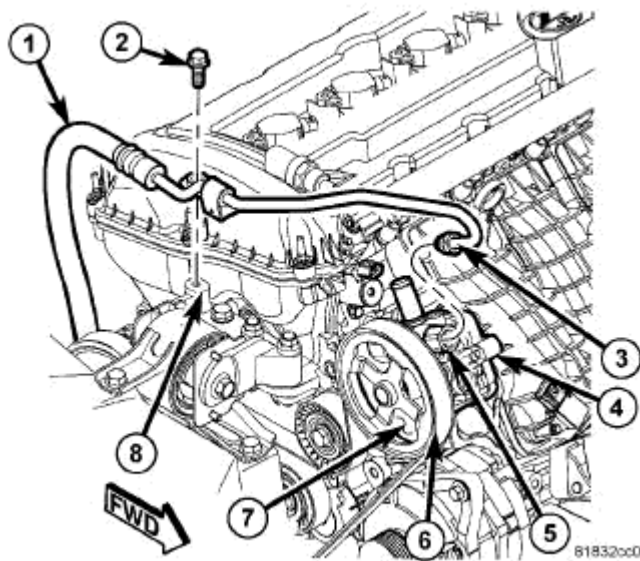


Fig. 157: PRESSURE HOSE
Courtesy of CHRYSLER LLC

3. Remove the pressure hose routing bracket bolt (2) at the upper mount (8).
4. Remove the pressure hose (3) at the pump pressure port (5).

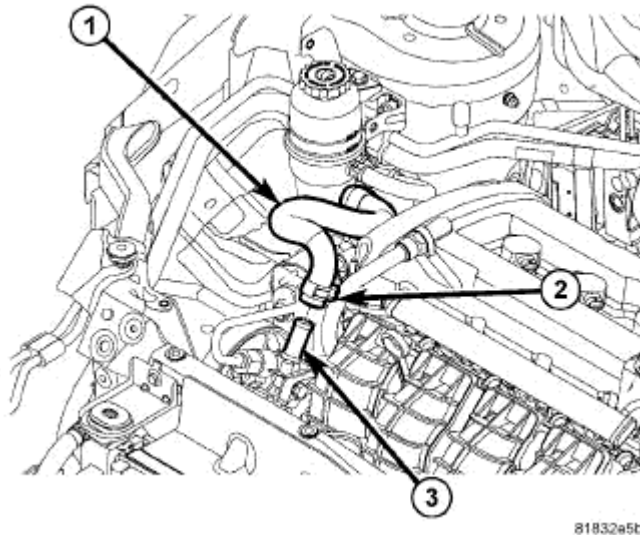


Fig. 158: SUPPLY HOSE

Courtesy of CHRYSLER LLC

5. Remove the hose clamp (2) securing the supply hose (1) at the pump.
6. Remove the supply hose (1) from the pump (3).

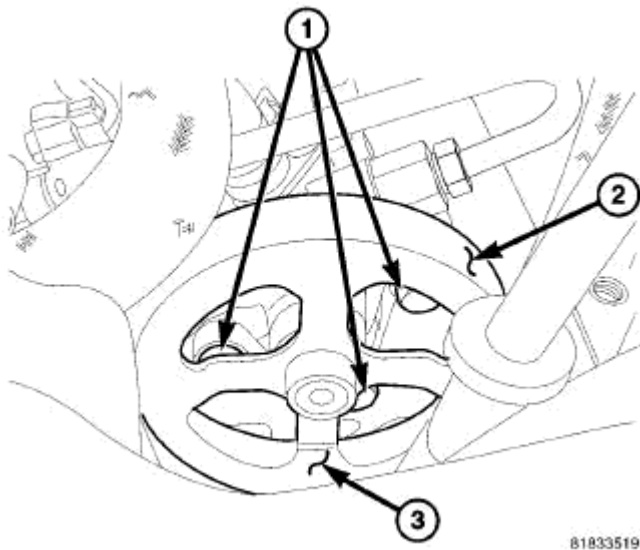


Fig. 159: POWER STEERING PUMP - GAS

Courtesy of CHRYSLER LLC

7. Remove the drive belt (2). Refer to **Cooling/Accessory Drive/BELT, Serpentine - Removal**
8. Remove the three pump mounting bolts (1) through the pulley (3) openings.
9. Remove the power steering pump.

2.7L ENGINE

NOTE: Before proceeding. See Steering - Warning.

1. Siphon as much fluid as possible from the power steering fluid reservoir.

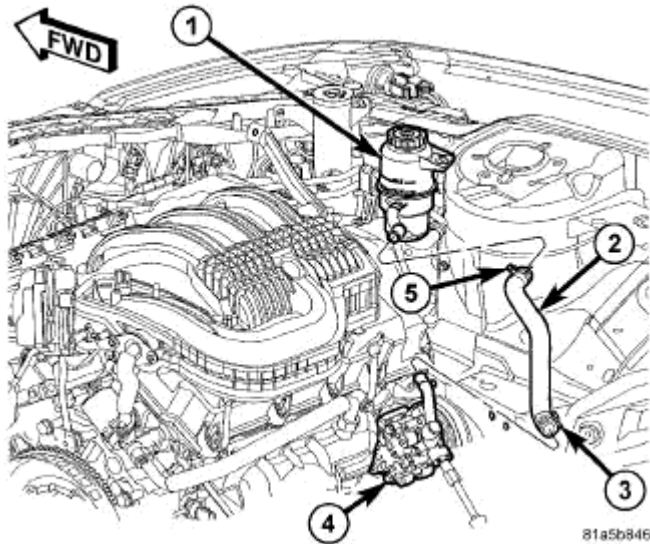


Fig. 160: SUPPLY HOSE - 2.7L
Courtesy of CHRYSLER LLC

2. Remove the hose clamp (3) securing the supply hose (2) at the pump.
3. Remove the supply hose (2) from the pump (4).
4. Raise and support the vehicle. Refer to Vehicle Quick Reference/Hoisting - Standard Procedure

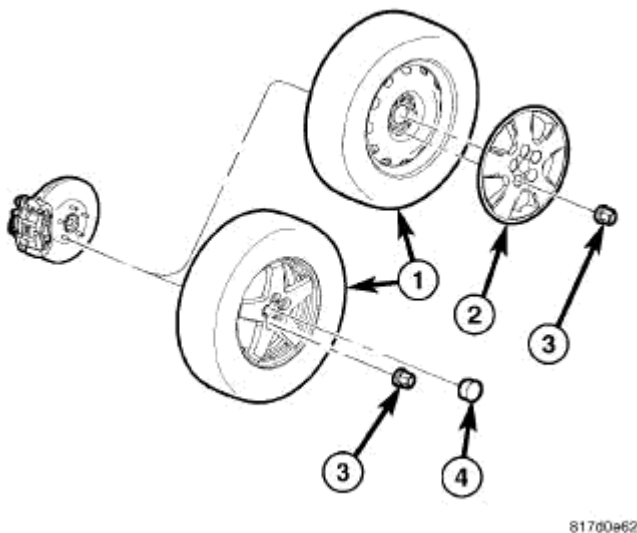
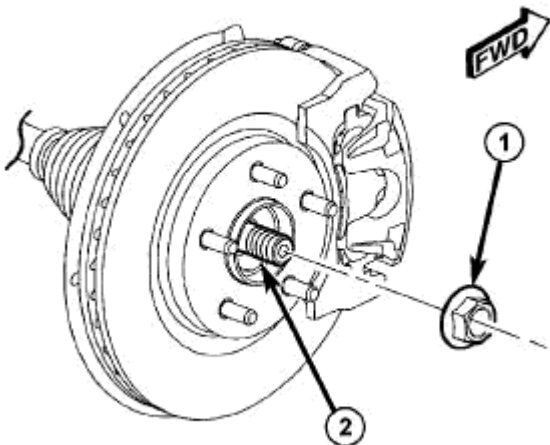


Fig. 161: TIRE AND WHEEL MOUNTING

Courtesy of CHRYSLER LLC

5. Remove the wheel mounting nuts (3), then the right front tire and wheel assembly (1).

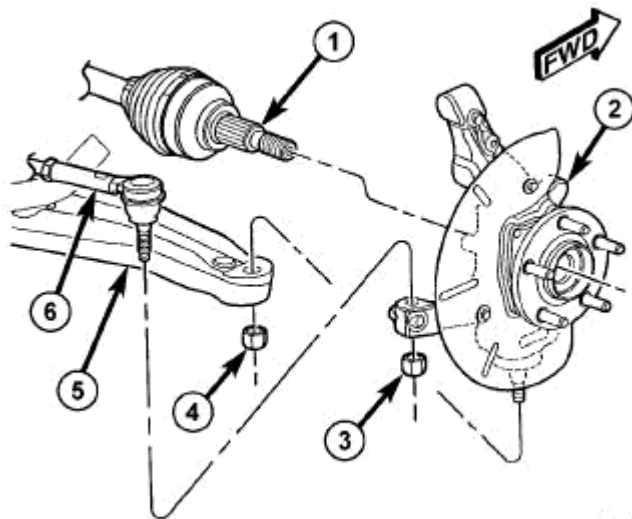


81a21580

Fig. 162: HUB NUT

Courtesy of CHRYSLER LLC

6. While a helper applies the brakes to keep the hub from rotating, remove the hub nut (1) from the right side axle half shaft (2).
7. Remove the drive belt splash shield.
8. Remove the drive belt. Refer to **Cooling/Accessory Drive/BELT, Serpentine - Removal**

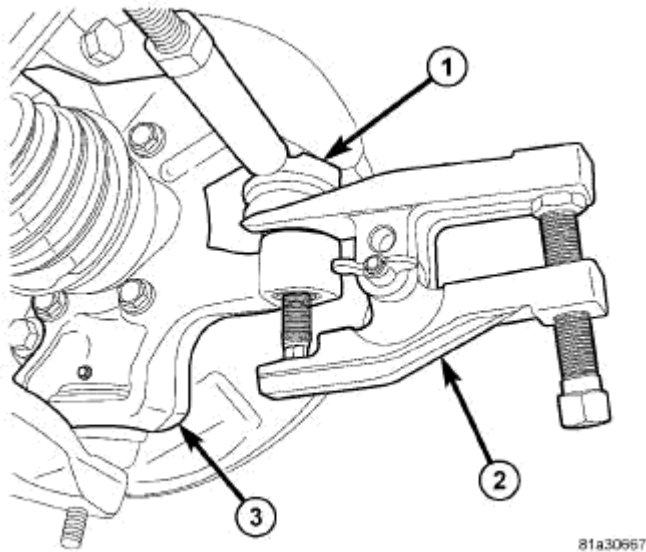


81a2158b

Fig. 163: FRONT KNUCKLE MOUNTING

Courtesy of CHRYSLER LLC

9. Remove the nut (3) attaching the outer tie rod (6) to the right knuckle (2). To do this it might be necessary to hold the tie rod end stud with a wrench while loosening and removing the nut with a standard wrench or crowfoot wrench.

**Fig. 164: USING 9360 ON TIE ROD END**

Courtesy of CHRYSLER LLC

10. Release the outer tie rod end (1) from the knuckle (3) using Remover (2), Special Tool 9360.
11. Remove the outer tie rod from the knuckle.

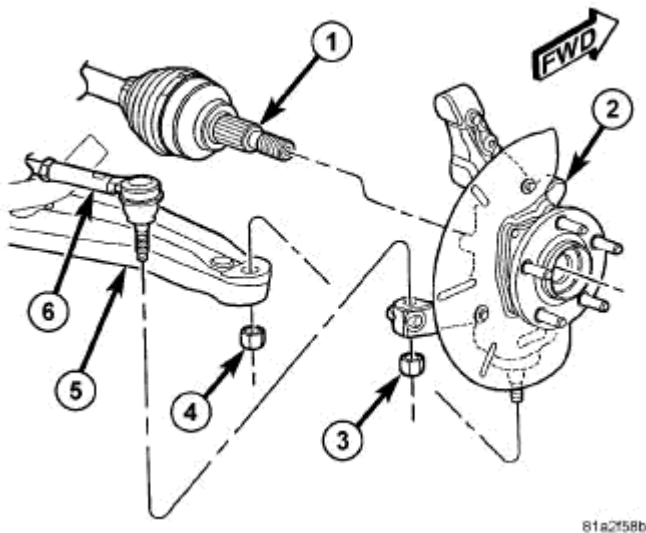
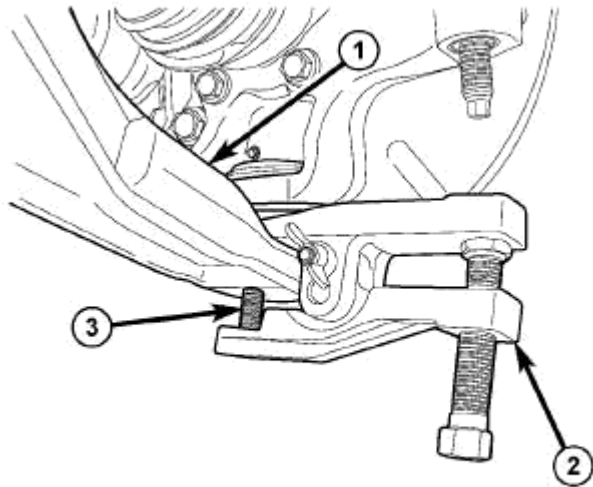


Fig. 165: FRONT KNUCKLE MOUNTING

Courtesy of CHRYSLER LLC

12. Remove the nut (4) attaching the lower ball joint to the right lower control arm (5).

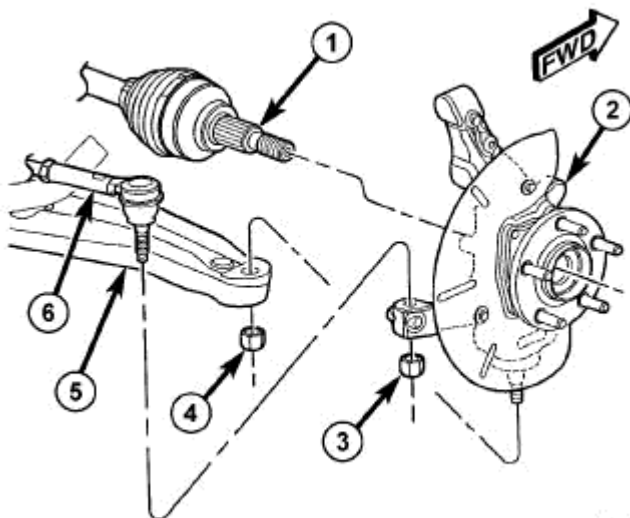


81a30701

Fig. 166: USING 9360 ON LOWER BALL JOINT

Courtesy of CHRYSLER LLC

13. Release the lower ball joint (3) from the lower control arm (1) using Remover (2), Special Tool 9360.



81a2f58b

Fig. 167: FRONT KNUCKLE MOUNTING

Courtesy of CHRYSLER LLC

NOTE: Do not allow the half shaft (1) to hang by the inner C/V joint; it must be supported to keep the joint from separating during this operation.

14. Lift the knuckle out of the lower control arm and pull the knuckle (2) off the half shaft (1) outer C/V joint splines.
15. Remove the right half shaft (1) from the vehicle.

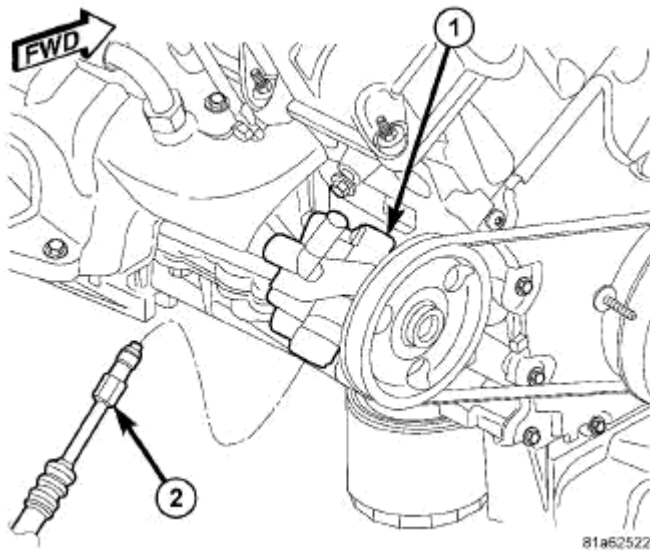


Fig. 168: PRESSURE HOSE AT PUMP - 2.7L
Courtesy of CHRYSLER LLC

16. Remove the pressure hose (2) at the pump (1).

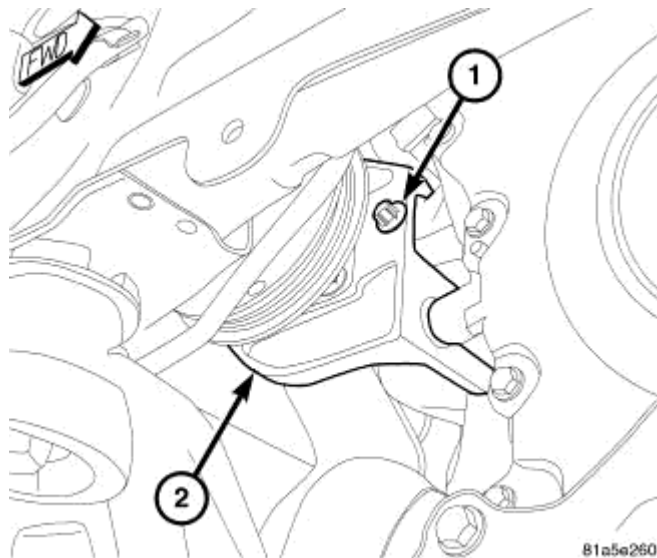


Fig. 169: FRONT PUMP MOUNTING BRACKET BOLTS - 2.7L
Courtesy of CHRYSLER LLC

17. Remove the pump mounting bracket bolt (1) near the pump pulley.

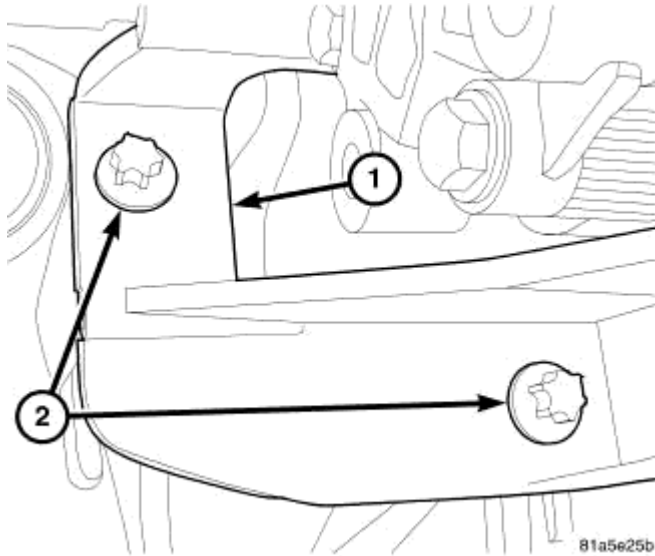


Fig. 170: REAR PUMP MOUNTING BRACKET BOLTS - 2.7L
Courtesy of CHRYSLER LLC

18. Remove the pump mounting bracket bolts (2) behind the pump on the back of the engine.
19. Remove the pump with mounting bracket from the engine. To remove the pump from the engine compartment, rotate the pump so that the pulley is toward the engine, then remove the pump through the opening made by removing the axle half shaft in an earlier step.
20. Remove the three pump mounting bolts through the pulley openings.
21. Remove the power steering pump from the mounting bracket.

3.5L ENGINE

NOTE: Before proceeding. See Steering - Warning.

1. Siphon as much fluid as possible from the power steering fluid reservoir.
2. Remove the engine appearance cover.

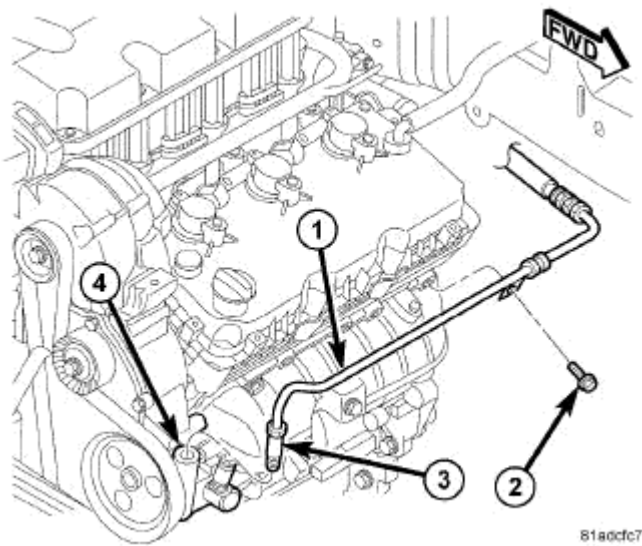


Fig. 171: PRESSURE HOSE AT PUMP - 3.5L
Courtesy of CHRYSLER LLC

3. Unscrew the tube nut (3), then remove the pressure hose (1) at the pump (4).
4. Remove the pressure hose routing clamp bolt (2) at the engine cylinder head.

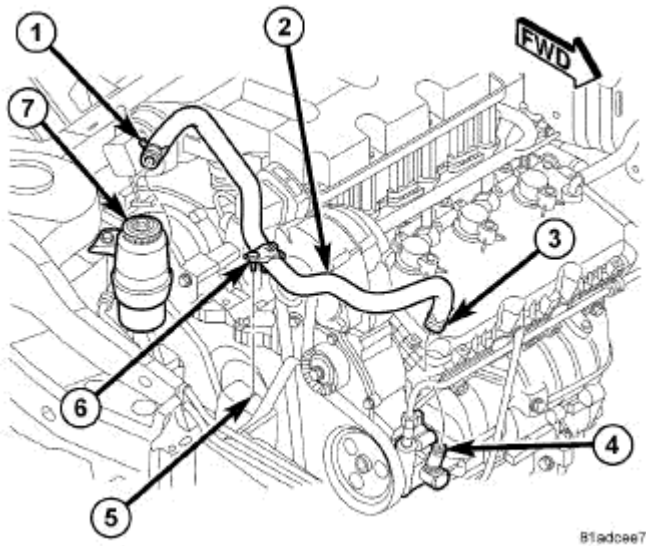


Fig. 172: SUPPLY HOSE - 3.5L
Courtesy of CHRYSLER LLC

5. Remove the clamp (3) securing the supply hose (2) to the power steering pump supply fitting (4), then remove the hose from the supply fitting.
6. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**

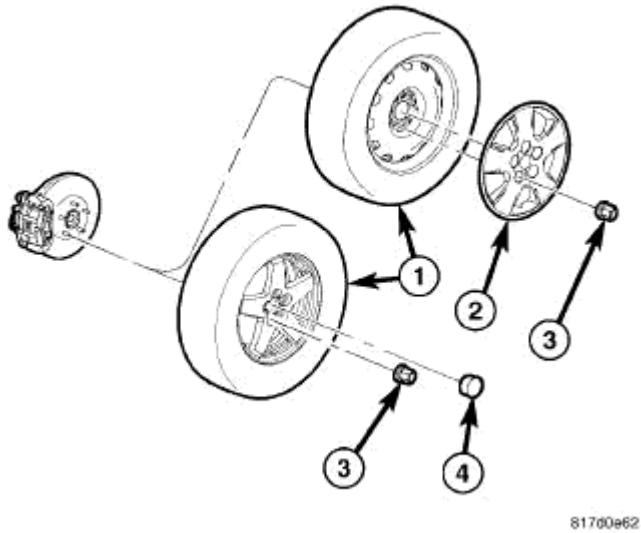


Fig. 173: TIRE AND WHEEL MOUNTING

Courtesy of CHRYSLER LLC

7. Remove the wheel mounting nuts (3), then the right front tire and wheel assembly (1).
8. Remove the drive belt splash shield.
9. Remove the drive belt. Refer to **Cooling/Accessory Drive/BELT, Serpentine - Removal**
10. Lower the vehicle.

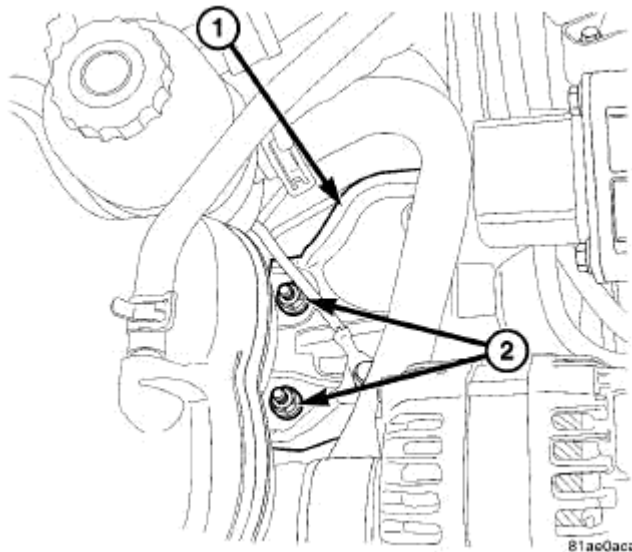


Fig. 174: ENGINE MOUNT NUTS - 3.5L

Courtesy of CHRYSLER LLC

11. Remove the two nuts securing the right engine mount bracket to the mount.

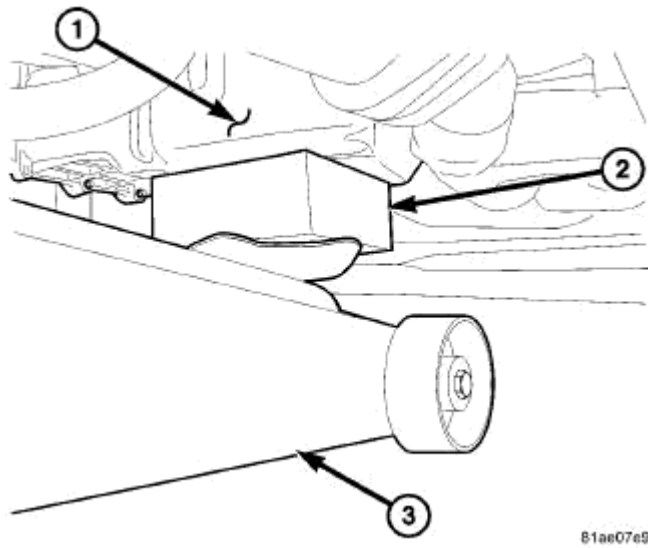


Fig. 175: JACK SUPPORTING OIL PAN
Courtesy of CHRYSLER LLC

12. Position a floor jack (3) with an appropriate size block of wood (2) below the engine oil pan (1). raise the jack until the block of wood just comes into contact with the bottom of the oil pan, but no further.
13. Slowly raise the right side of the engine using the floor jack while viewing the pump drive pulley. Raise the engine until all three power steering pump mounting bolts can be accessed through the openings in the drive pulley.
14. Remove the three pump mounting bolts through the pulley openings.
15. Remove the power steering pump.

DIESEL ENGINE

NOTE: Before proceeding. See Steering - Warning.

1. Siphon as much fluid as possible from the power steering fluid reservoir.
2. Remove the engine appearance cover.

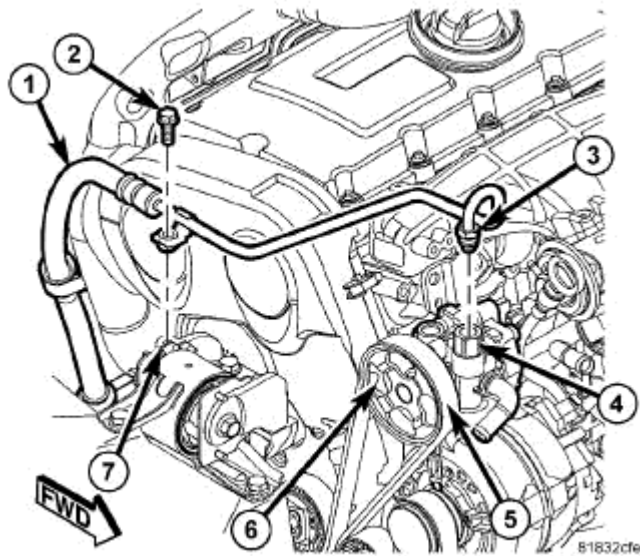


Fig. 176: PRESSURE LINE

Courtesy of CHRYSLER LLC

3. Remove the pressure hose routing bracket bolt (2) to the upper mount (7).
4. Remove the pressure hose (3) at the pump pressure port (4).

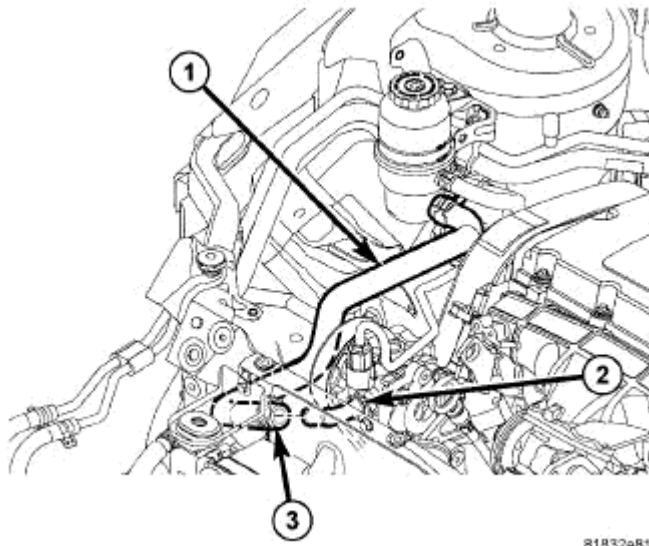


Fig. 177: SUPPLY HOSE

Courtesy of CHRYSLER LLC

5. Remove the hose clamp (3) securing the supply hose (1) at the pump.
6. Remove the supply hose (1) from the pump (2).

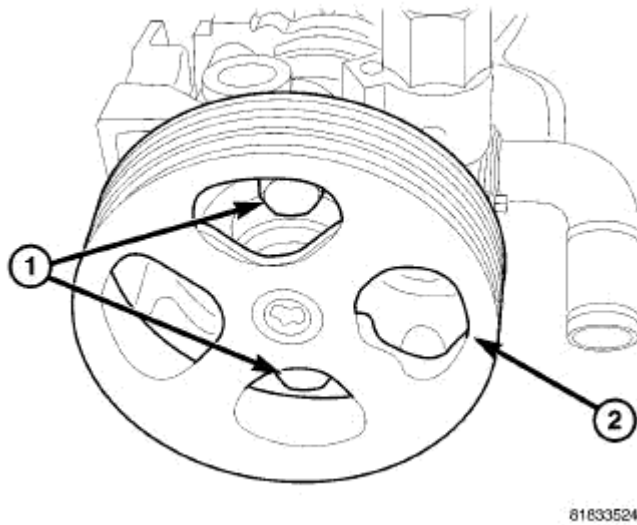


Fig. 178: POWER STEERING PUMP - DIESEL
Courtesy of CHRYSLER LLC

7. Remove the drive belt. Refer to **Cooling/Accessory Drive/BELT, Serpentine - Removal**
8. Remove the two pump mounting bolts (1) through the pulley (2) openings.

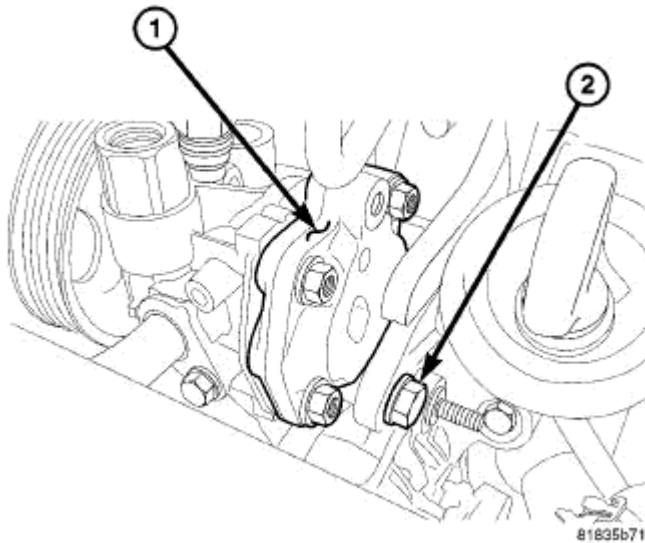
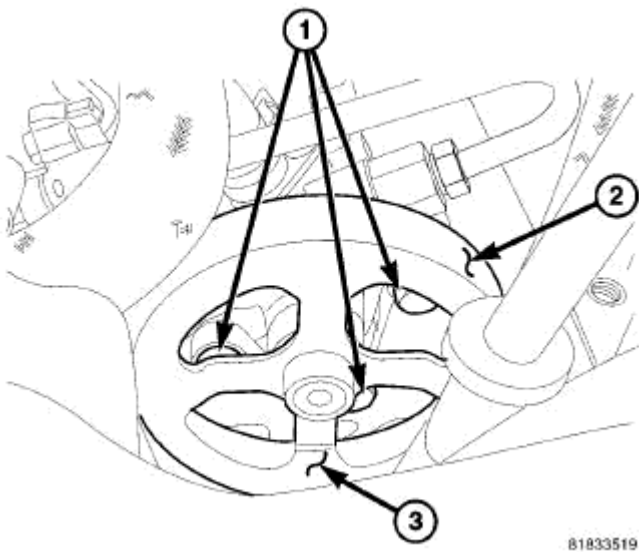


Fig. 179: THIRD MOUNTING BOLT - DIESEL
Courtesy of CHRYSLER LLC

9. Remove the rear pump mounting bolt (2) behind the pump (1).
10. Remove the power steering pump (1).

INSTALLATION

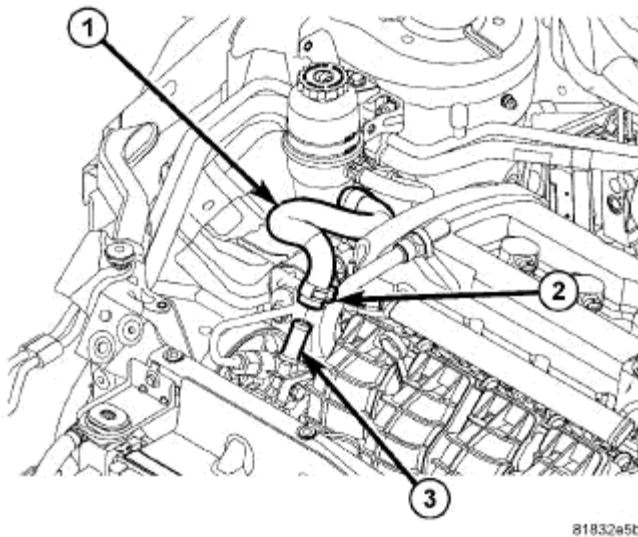
2.0L/2.4L ENGINE



81833519

Fig. 180: POWER STEERING PUMP - GAS
Courtesy of CHRYSLER LLC

1. Using a lint free towel, wipe clean the open power steering pressure hose end and the power steering pump port. Replace any used O-rings with new. Lubricate the O-ring with clean power steering fluid.
2. Place the pump in mounting position. Install the three bolts (1) through the pulley (3) openings. Tighten the mounting bolts (1) to 26 N.m (19 ft. lbs.).
3. Install the drive belt (2). Refer to **Cooling/Accessory Drive/BELT, Serpentine - Installation**



81832e5b

Fig. 181: SUPPLY HOSE
Courtesy of CHRYSLER LLC

4. Install the supply hose (1) at the pump (3).
5. Clamp the hose clamp (2) securing the supply hose (1) to the pump.

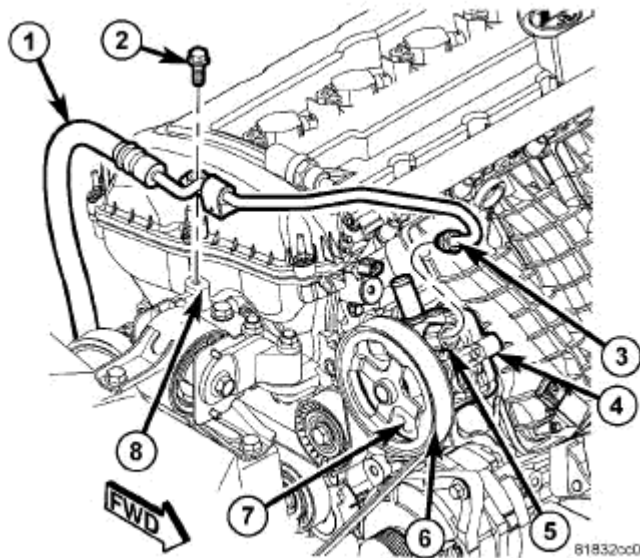


Fig. 182: PRESSURE hose
Courtesy of CHRYSLER LLC

6. Install the pressure hose (3) at the pump pressure port (5). Tighten the tube nut to 32 N.m (24 ft. lbs.).
7. Install the pressure hose routing bracket bolt (2) to the engine mount (8). Tighten the bolt to 24 N.m (18 ft. lbs.).
8. Fill and bleed the power steering system. See **Steering - Standard Procedure**
9. Check for leaks.
10. Install the engine appearance cover.

2.7L ENGINE

1. Place the pump in the mounting bracket. Install the three bolts through the pulley openings. Tighten the mounting bolts to 30 N.m (22 ft. lbs.).
2. Install the pump with mounting bracket on the engine. To install the pump into the engine compartment, rotate the pump so that the pulley is toward the engine, then insert the pump up through the opening where the axle half shaft is usually located. Rotate the pump around and into mounting position.

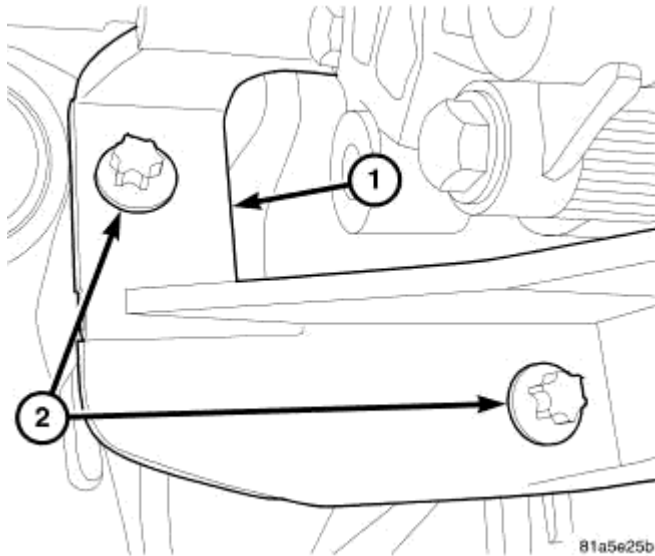


Fig. 183: REAR PUMP MOUNTING BRACKET BOLTS - 2.7L
Courtesy of CHRYSLER LLC

3. Install the pump mounting bracket bolts (2) behind the pump on the back of the engine. Do not tighten the bolts at this time.

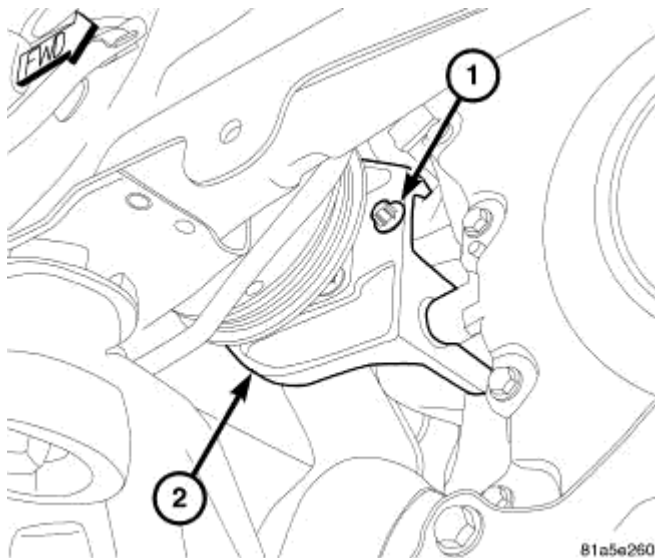


Fig. 184: FRONT PUMP MOUNTING BRACKET BOLTS - 2.7L
Courtesy of CHRYSLER LLC

4. Install the pump mounting bracket bolt (1) near the pump pulley.
5. Tighten all three pump mounting bracket bolts to 30 N.m (22 ft. lbs.).

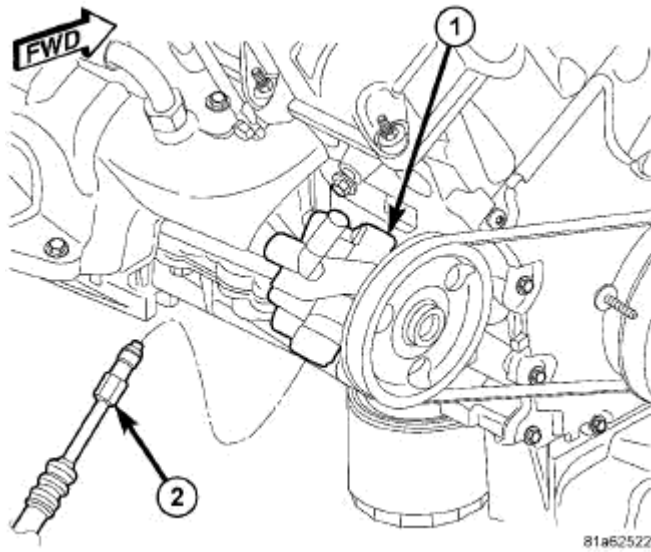


Fig. 185: PRESSURE HOSE AT PUMP - 2.7L
Courtesy of CHRYSLER LLC

6. Using a lint free towel, wipe clean the open power steering pressure hose end and the power steering pump port. Replace any used O-rings with new. Lubricate the O-ring with clean power steering fluid.
7. Install the pressure hose (2) at the pump pressure port. Tighten the tube nut to 32 N.m (24 ft. lbs.).

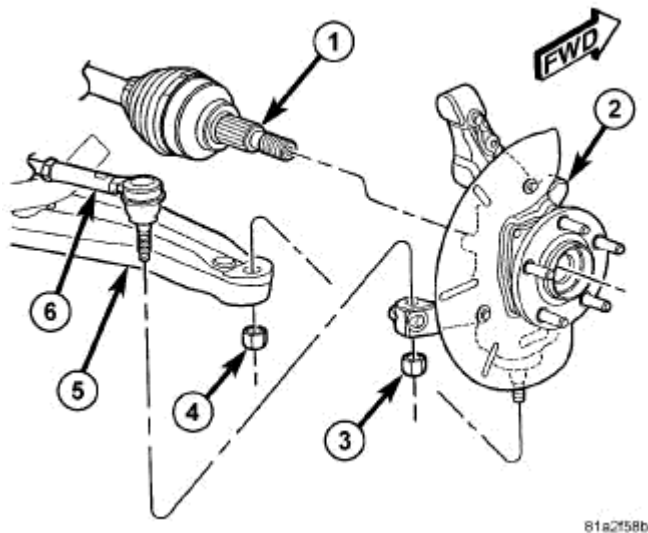


Fig. 186: FRONT KNUCKLE MOUNTING
Courtesy of CHRYSLER LLC

8. Install the right axle half shaft.
9. Insert the axle half shaft into the rear of the hub and bearing hub and bearing, Insert the lower ball joint stud (of knuckle) into the mounting hole in the lower control arm.

10. Install a NEW ball joint stud nut (4). Tighten the nut to 95 N.m (70 ft. lbs.).

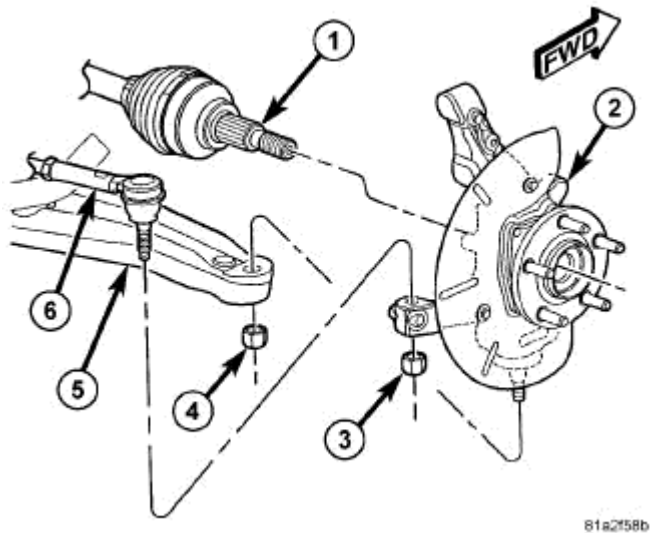


Fig. 187: FRONT KNUCKLE MOUNTING

Courtesy of CHRYSLER LLC

11. Install the outer tie rod (6) ball stud into the hole in the knuckle (2) arm. Start the tie rod end knuckle nut (3) onto the stud. While holding the tie rod end stud with a wrench, tighten the nut with a wrench or crowfoot wrench to 85 N.m (63 ft. lbs.).
12. Install a NEW power steering pump drive belt. Refer to **Cooling/Accessory Drive/BELT, Serpentine - Installation**
13. Install the drive belt splash shield.

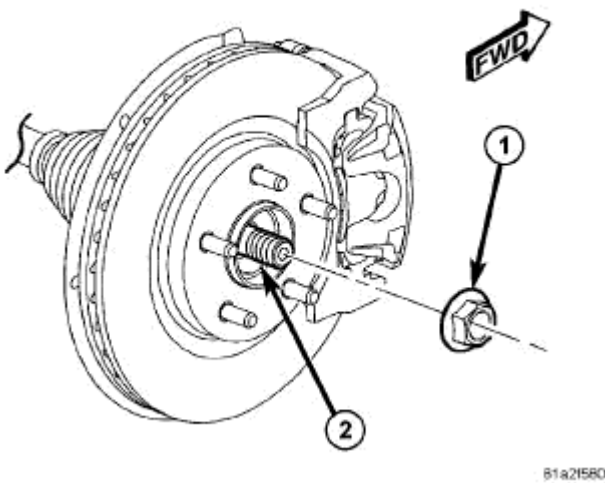
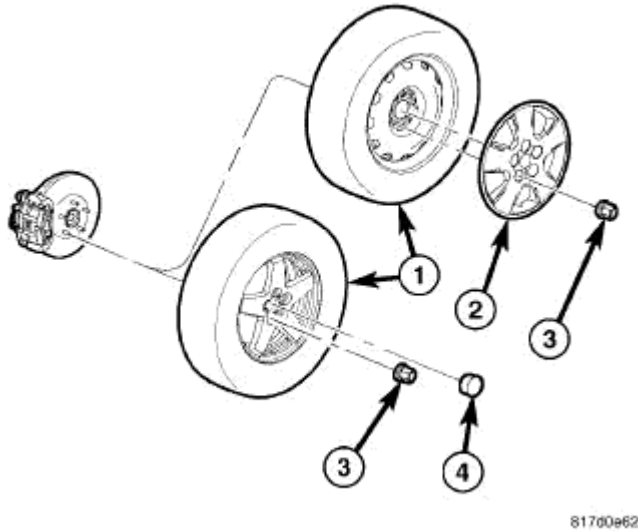


Fig. 188: HUB NUT

Courtesy of CHRYSLER LLC

14. Clean all foreign matter from the threads of the half shaft outer C/V joint.
15. Install the hub nut (1) on the end of the half shaft (2) and snug it.
16. While a helper applies the brakes to keep the hub from rotating, tighten the hub nut (3) to 132 N.m (97 ft. lbs.).

**Fig. 189: TIRE AND WHEEL MOUNTING****Courtesy of CHRYSLER LLC**

17. Install the 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.).
18. Lower the vehicle.

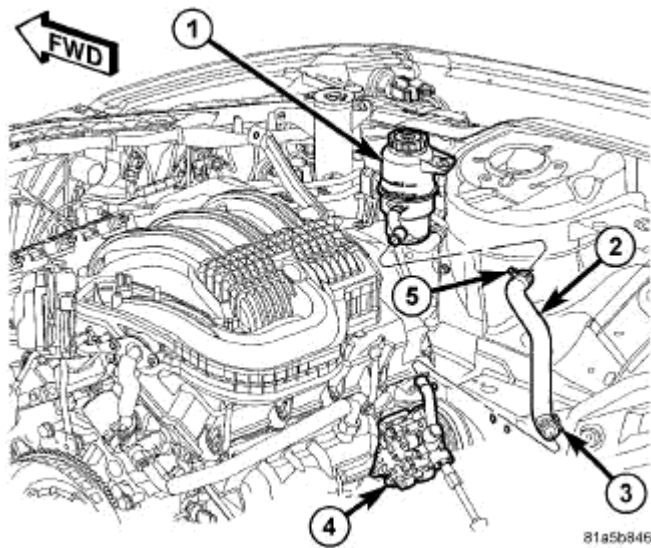


Fig. 190: SUPPLY HOSE - 2.7L
Courtesy of CHRYSLER LLC

19. Install the supply hose (2) at the pump (4).
20. Install the hose clamp (3) securing the supply hose to the pump.
21. Fill and bleed the power steering system. See Steering - Standard Procedure
22. Check for leaks.

3.5L ENGINE

1. Using a lint free towel, wipe clean the open power steering pressure hose end and the power steering pump port. Replace any used O-rings with new. Lubricate the O-ring with clean power steering fluid.
2. Place the pump in mounted position. Install the three bolts through the pulley openings. Tighten the mounting bolts to 30 N.m (22 ft. lbs.).
3. Slowly lower the right side of the engine using the floor jack, guiding the right engine mount bracket mounting holes over the mounting studs of the right engine mount.
4. Remove the floor jack and block of wood from below engine.

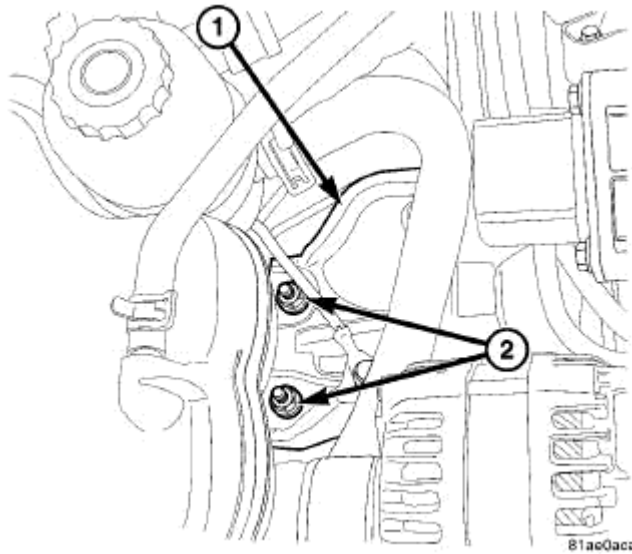


Fig. 191: ENGINE MOUNT NUTS - 3.5L
Courtesy of CHRYSLER LLC

5. Install the two nuts securing the right engine mount bracket to the mount. Refer to **Engine/Engine Mounting/INSULATOR, Engine Mount - Installation**
6. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**
7. Install the drive belt. Refer to **Cooling/Accessory Drive/BELT, Serpentine - Installation**
8. Install the drive belt splash shield.

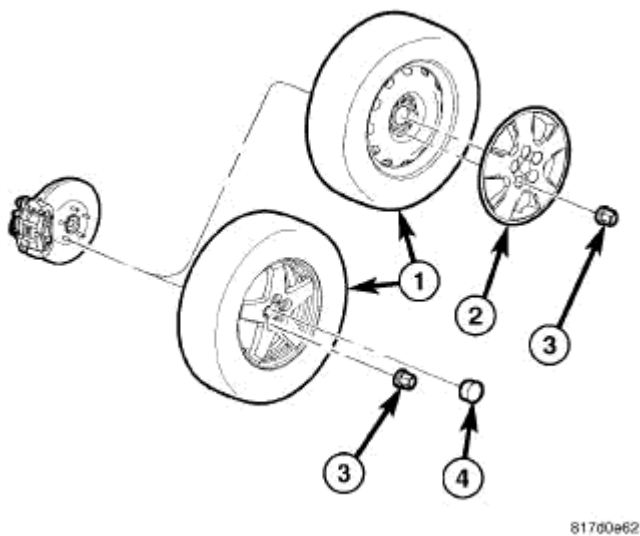


Fig. 192: TIRE AND WHEEL MOUNTING
Courtesy of CHRYSLER LLC

9. Install the 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.).

10. Lower the vehicle.

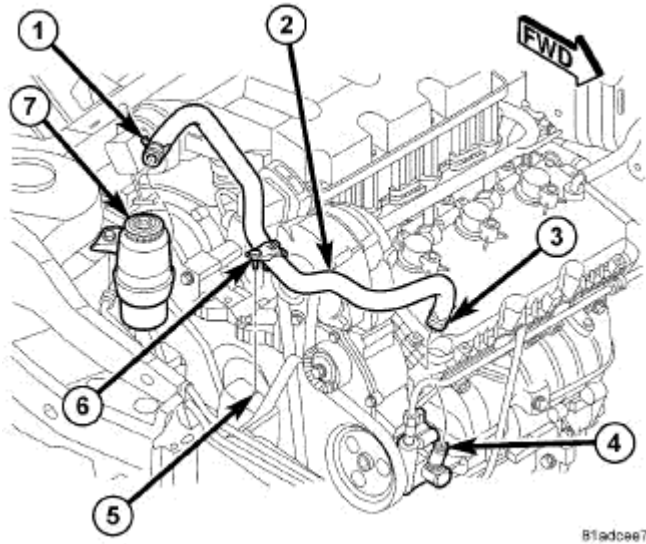


Fig. 193: SUPPLY HOSE - 3.5L
Courtesy of CHRYSLER LLC

11. Place the pump end of the supply hose (2) onto the pump supply fitting (4). Expand the hose clamp (3) and slide it over the hose and pump supply fitting. Secure the clamp once it is past the bead formed into the fluid supply fitting.

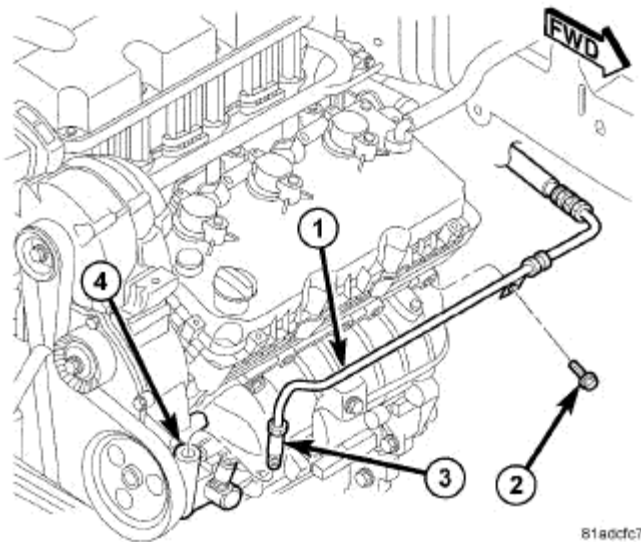


Fig. 194: PRESSURE HOSE AT PUMP - 3.5L
Courtesy of CHRYSLER LLC

12. Install the pressure hose (1) at the power steering pump (4). Tighten the tube nut (3) to 32 N.m (24 ft. lbs.).
13. Position the pressure hose (1) routing clamp at the engine cylinder head. Install and tighten the routing clamp bolt (2) to 22 N.m (16 ft. lbs.).
14. Fill and bleed the power steering system. See **Steering - Standard Procedure**
15. Check for leaks.
16. Install the engine appearance cover.

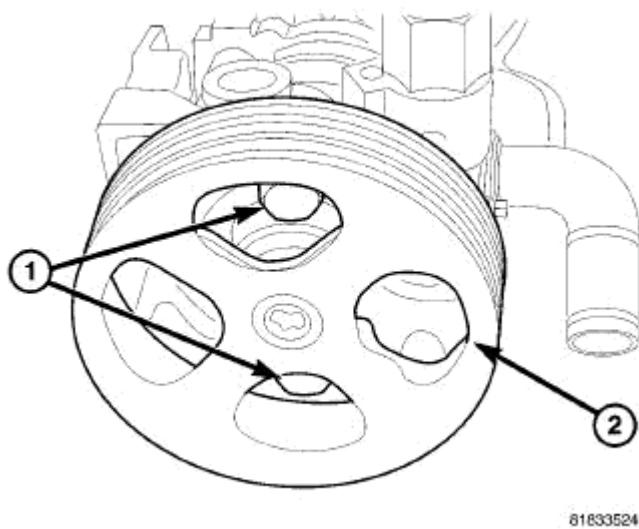
DIESEL ENGINE

Fig. 195: POWER STEERING PUMP - DIESEL
Courtesy of CHRYSLER LLC

1. Using a lint free towel, wipe clean the open power steering pressure hose end and the power steering pump port. Replace any used O-rings with new. Lubricate the O-ring with clean power steering fluid.
2. Place the pump in mounting position. Install the two mounting bolts (1) through the pulley (2) openings. Tighten the mounting bolts to 30 N.m (22 ft. lbs.).

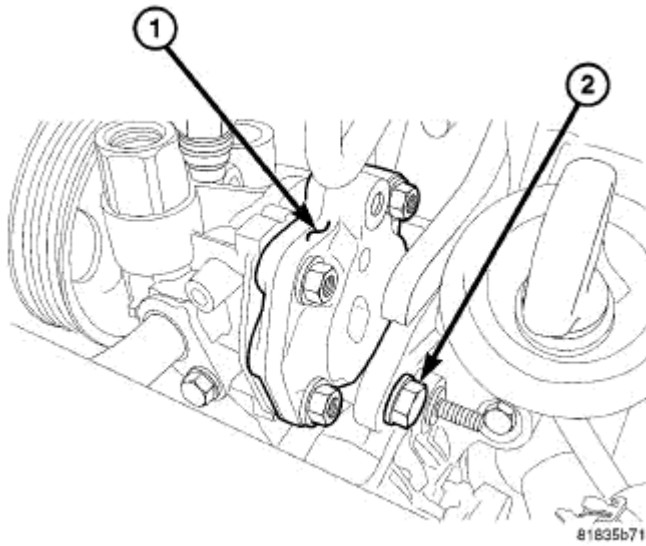


Fig. 196: THIRD MOUNTING BOLT - DIESEL
Courtesy of CHRYSLER LLC

3. Install the rear mounting bolt (2) securing the rear of the pump (1). Tighten the mounting bolt to 30 N.m (22 ft. lbs.).
4. Install the drive belt. Refer to **Cooling/Accessory Drive/BELT, Serpentine - Installation**

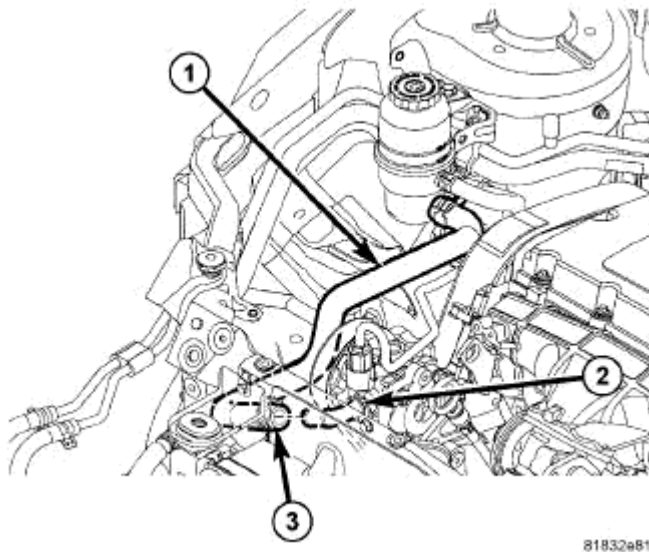


Fig. 197: SUPPLY HOSE
Courtesy of CHRYSLER LLC

5. Install the supply hose (1) at the pump (2).
6. Clamp the hose clamp (3) securing the supply hose (1) to the pump.

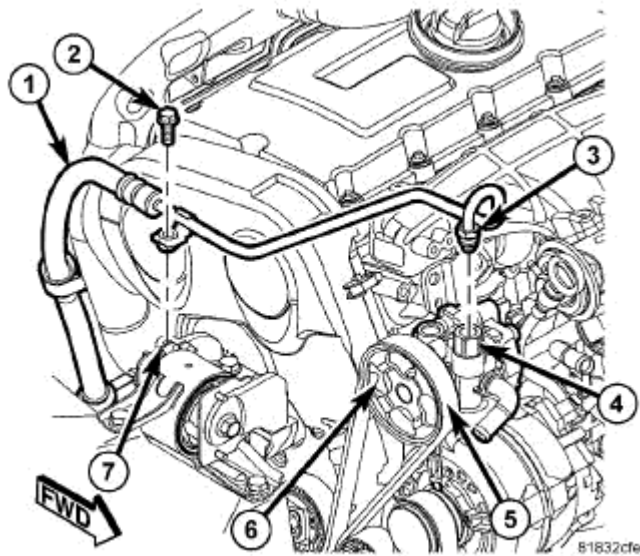


Fig. 198: PRESSURE LINE

Courtesy of CHRYSLER LLC

7. Install the pressure hose (3) at the pump pressure port (4). Tighten the tube nut to 32 N.m (24 ft. lbs.).
8. Install the pressure hose routing bracket bolt (2) to the engine mount (7). Tighten the bolt to 24 N.m (18 ft. lbs.).
9. Fill and bleed the power steering system. See **Steering - Standard Procedure**
10. Check for leaks.
11. Install the engine appearance cover.

COOLER, POWER STEERING

Description

DESCRIPTION

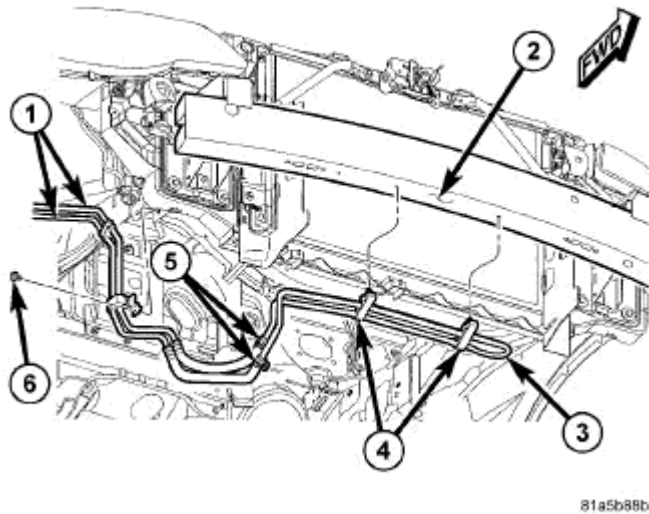


Fig. 199: COOLING TUBE

Courtesy of CHRYSLER LLC

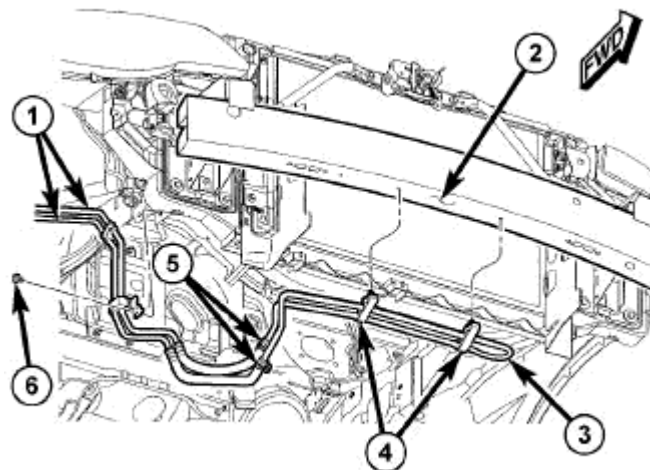
The cooler (3) is placed in series with the power steering fluid return hose, between the steering gear fluid outlet port and the fluid return hose leading to the power steering fluid reservoir. It is attached to the front bumper reinforcement (2).

Removal

REMOVAL

NOTE: Before proceeding. See Steering - Warning.

1. Siphon as much fluid as possible from the power steering fluid reservoir.
2. Raise and support the vehicle. Refer to Vehicle Quick Reference/Hoisting - Standard Procedure.
3. If equipped, remove the belly pan below the engine.
4. Remove the lower fascia valance.

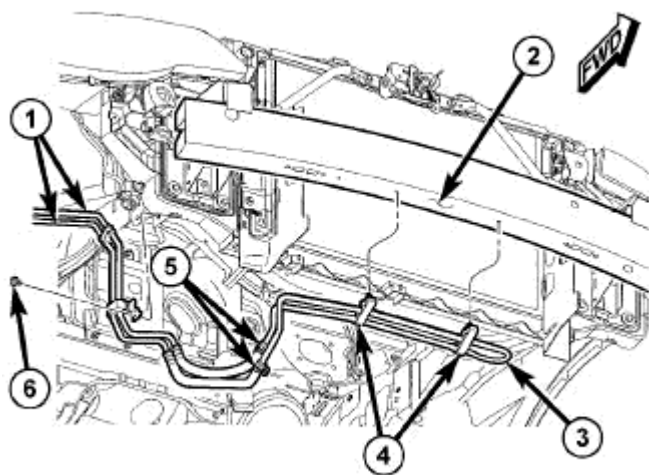


81a5b88b

Fig. 200: COOLING TUBE

Courtesy of CHRYSLER LLC

5. Remove the hose clamps (5) attaching the fluid return hoses (1) to the power steering fluid cooler line (3). Separate the return hoses from the cooler line.
6. Remove the two cooler mounting push pins (4) at the bumper reinforcement (2).
7. Remove the cooler line (3) from the vehicle.

Installation**INSTALLATION**

81a5b88b

Fig. 201: COOLING TUBE

Courtesy of CHRYSLER LLC

1. Install the power steering fluid cooler line (3) to the bumper reinforcement (2) by installing the two cooler mounting push pins (4).
2. Install the fluid return hoses (1) on the cooler line (3). Install the hose clamps (5) on the hoses past the bead formed into the end of the cooler tube and secure in place.
3. Install the lower fascia valance.
4. If equipped, install the belly pan below the engine.
5. Lower the vehicle.
6. Fill and bleed the power steering system. See **Steering - Standard Procedure**
7. Check for leaks.

FLUID**Description****DESCRIPTION**

The recommended fluid for the power steering system is Mopar® Power Steering fluid + 4 or Mopar® ATF+4 Automatic Transmission Fluid. Both fluids have the same material standard specifications (MS-9602).

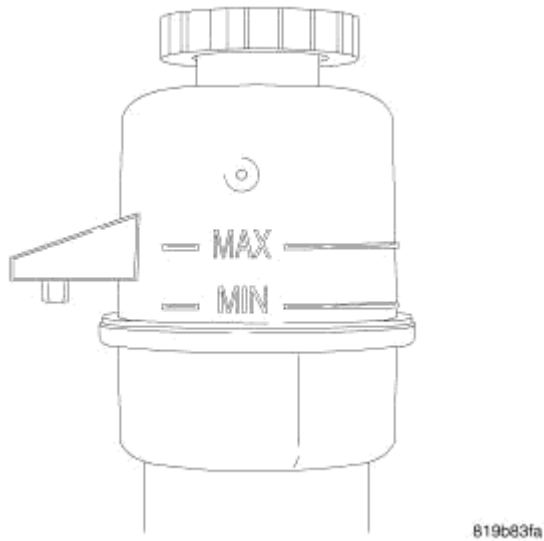
Mopar® ATF+4 (and Mopar® Power Steering fluid + 4), when new, is red in color. ATF+4 is dyed red so it can be identified from other fluids used in the vehicle such as engine oil or antifreeze. The red color is not permanent and is not an indicator of fluid condition. As the vehicle is driven, ATF+4 will begin to look darker in color and may eventually become brown. **THIS IS NORMAL.** ATF+4 also has a unique odor that may change with age. Consequently, odor and color cannot be used to indicate the fluid condition or the need for a fluid change.

Standard Procedure**POWER STEERING FLUID LEVEL CHECKING**

WARNING: Fluid level should be checked with the engine OFF to prevent personal injury from moving parts and to assure an accurate fluid level reading.

CAUTION: Mopar® Power Steering Fluid + 4 or Mopar® ATF+4 Automatic Transmission Fluid is to be used in the power steering system. Both fluids have the same material standard specifications (MS-9602). No other power steering or automatic transmission fluid is to be used in the system. Damage may result to the power steering pump and system if another fluid is used. Do not overfill the system.

NOTE: Although not required at specific intervals, the fluid level may be checked periodically. Check the fluid level anytime there is a system noise or fluid leak suspected.

**Fig. 202: POWER STEERING RESERVOIR****Courtesy of CHRYSLER LLC**

The power steering fluid level can be viewed through the side of the power steering fluid reservoir. Compare the fluid level to the markings on the side of the reservoir. When the fluid is at normal ambient temperature, approximately 21°C to 27°C (70°F to 80°F), the fluid level should read between the MAX. and MIN. markings. When the fluid is hot, fluid level is allowed to read up to the MAX. line.

HOSE, POWER STEERING, PRESSURE**Removal****2.0L/2.4L ENGINE****NOTE: Before proceeding. See Steering - Warning.**

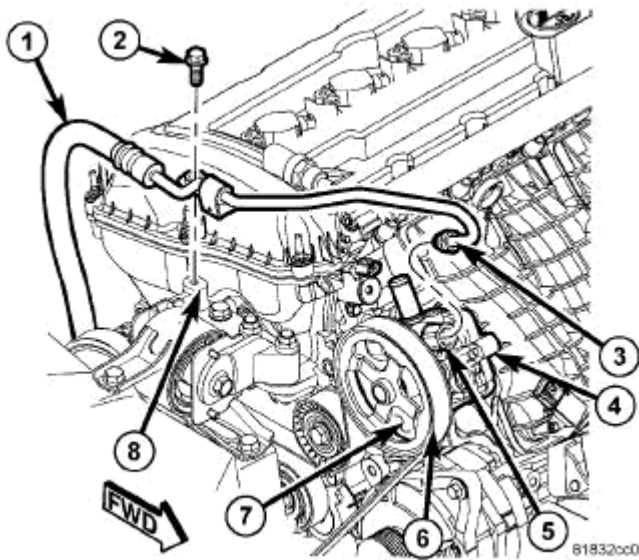


Fig. 203: PRESSURE HOSE

Courtesy of CHRYSLER LLC

1. Siphon as much fluid as possible from the power steering fluid reservoir.
2. Remove the engine appearance cover.
3. Remove the pressure hose (3) at the pump pressure port (5).
4. Remove the pressure hose routing bracket bolt (2) at the upper mount (8).
5. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**.

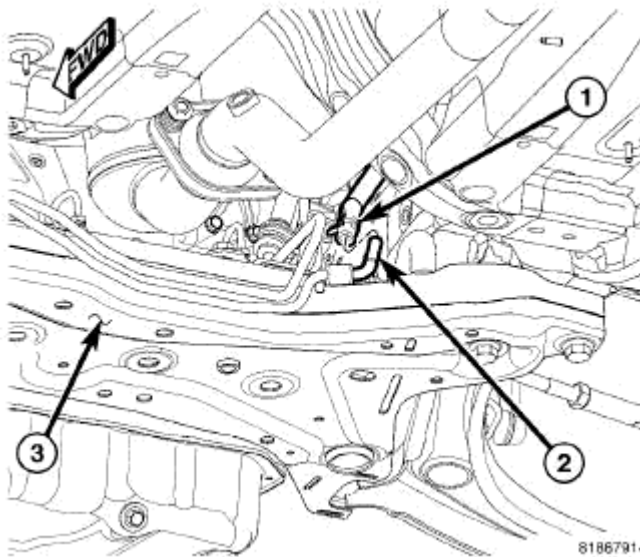


Fig. 204: RETURN HOSE AT TUBE TO GEAR

Courtesy of CHRYSLER LLC

6. Remove the return hose (1) at the return tube (2) and allow any fluid in the hose to drain. If equipped with a screw-clamp, be sure to save the original clamp for reinstallation.

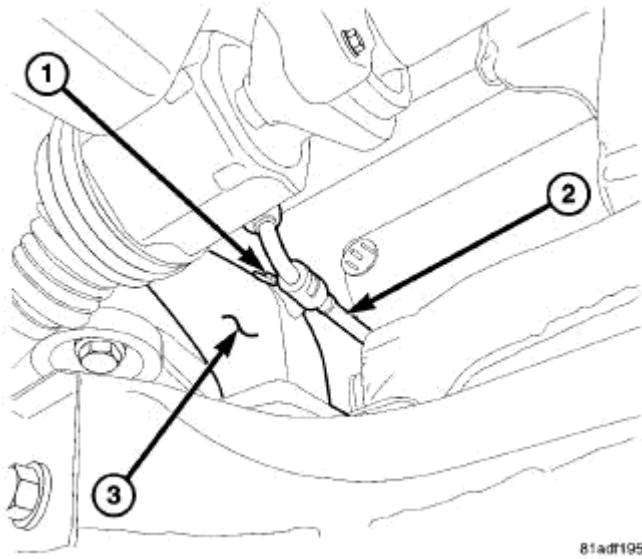


Fig. 205: PRESSURE HOSE ROUTING CLAMP
Courtesy of CHRYSLER LLC

7. Remove the routing clamp screw (1) securing the pressure hose (2) to the right side of the crossmember (3).

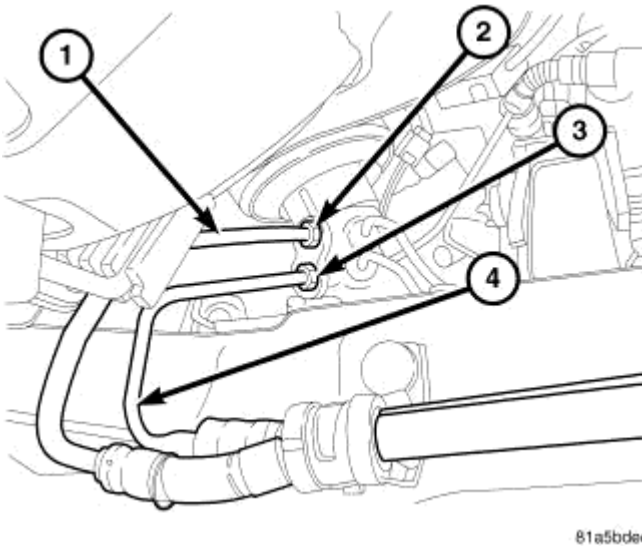
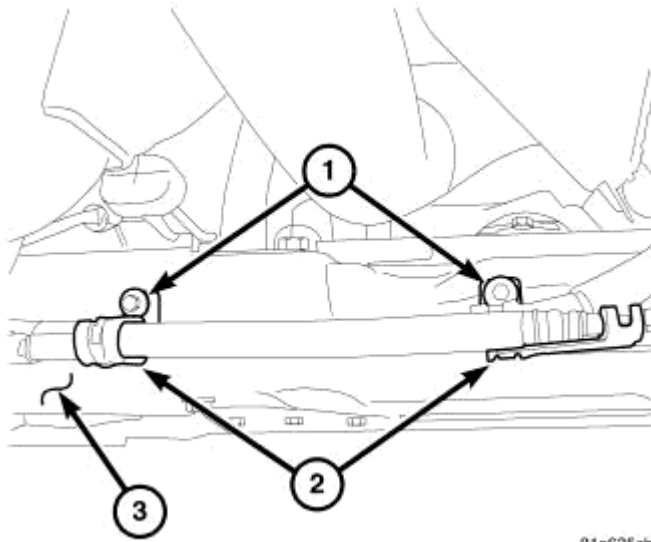


Fig. 206: HOSES AT GEAR
Courtesy of CHRYSLER LLC

8. Unscrew the tube nut (3), then remove the pressure hose (4) at the steering gear.



81a635cb

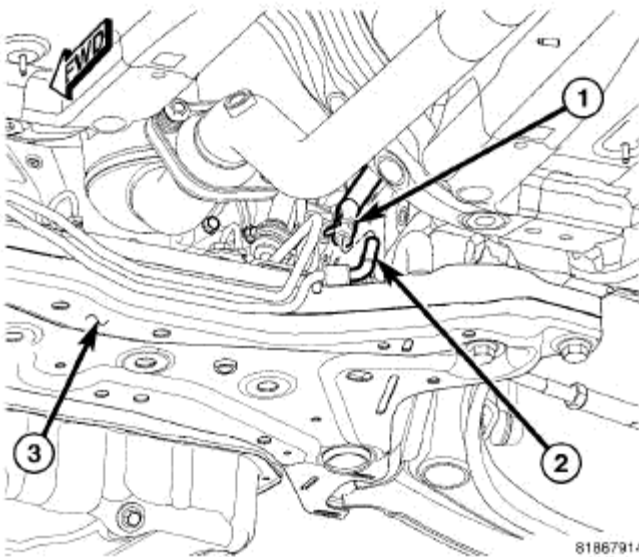
Fig. 207: HOSES AT REAR OF CROSSMEMBER

Courtesy of CHRYSLER LLC

9. Remove the screws (1) securing the power steering hose routing clamps (2) to the rear of the crossmember (3).
10. Remove the power steering pressure hose from the vehicle.

2.7L ENGINE

NOTE: Before proceeding. See Steering - Warning.



81867914

Fig. 208: RETURN HOSE AT TUBE TO GEAR

Courtesy of CHRYSLER LLC

1. Siphon as much fluid as possible from the power steering fluid reservoir.
2. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**.
3. Remove the return hose (1) at the return tube (2) and allow any fluid in the hose to drain. If equipped with a screw-clamp, be sure to save the original clamp for reinstallation.

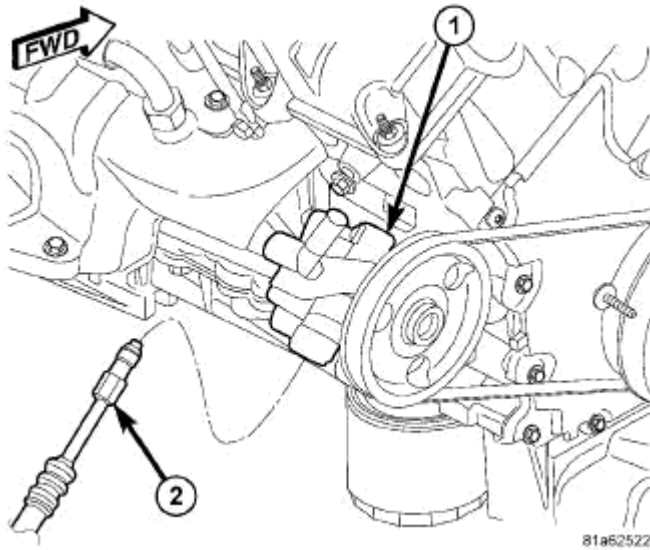


Fig. 209: PRESSURE HOSE AT PUMP - 2.7L
Courtesy of CHRYSLER LLC

4. Remove the pressure hose (2) at the pump (1).

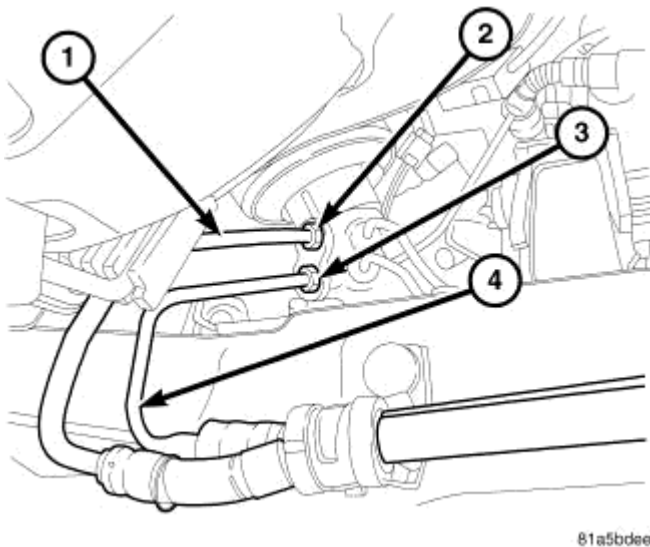


Fig. 210: HOSES AT GEAR
Courtesy of CHRYSLER LLC

5. Unscrew the tube nut (2), then remove the return hose (1) at the steering gear.

6. Unscrew the tube nut (3), then remove the pressure hose (4) at the steering gear.

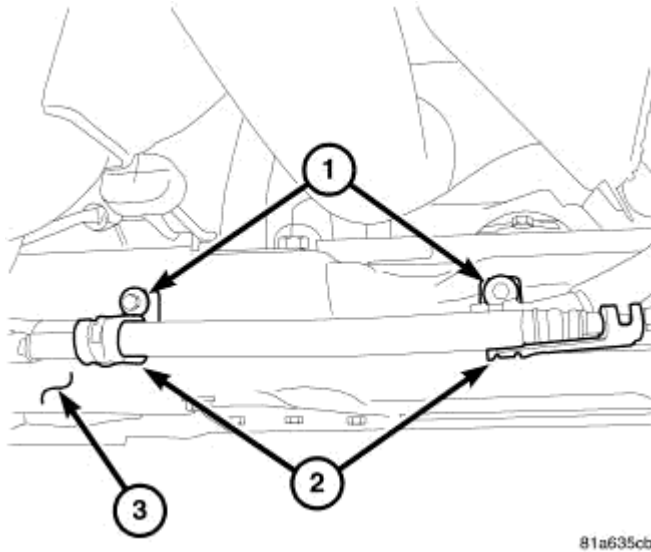


Fig. 211: HOSES AT REAR OF CROSSMEMBER
Courtesy of CHRYSLER LLC

7. Remove the screws (1) securing the power steering hose routing clamps (2) to the rear of the crossmember.
8. Remove the power steering pressure hose from the vehicle.

3.5L ENGINE

NOTE: Before proceeding. See Steering - Warning.

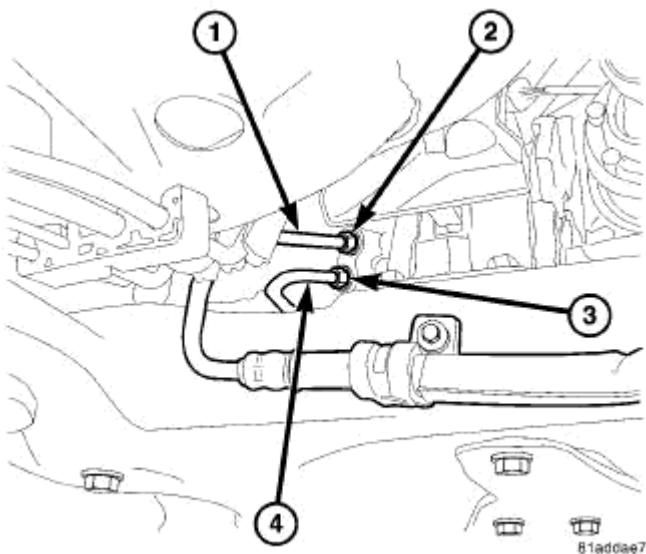


Fig. 212: HOSES AT GEAR - 3.5L

Courtesy of CHRYSLER LLC

1. Siphon as much fluid as possible from the power steering fluid reservoir.
2. Remove the engine appearance cover.
3. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**.
4. Unscrew the tube nut (3), then remove the pressure hose (4) at the steering gear.
5. Lower the vehicle.

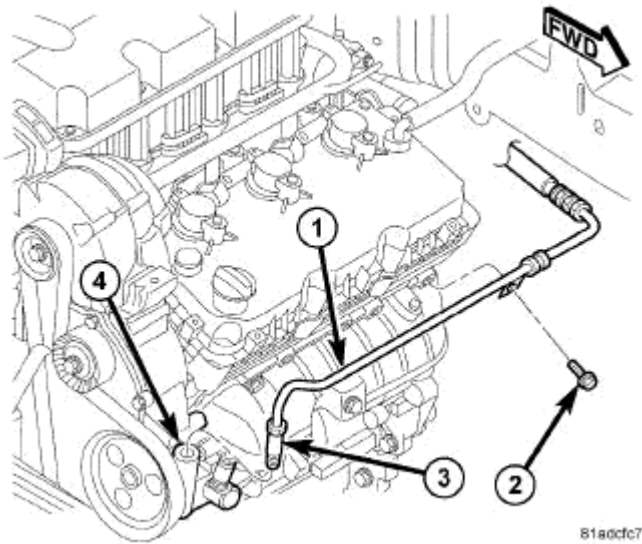


Fig. 213: PRESSURE HOSE AT PUMP - 3.5L
Courtesy of CHRYSLER LLC

6. Unscrew the tube nut (3), then remove the pressure hose (1) at the pump (4).
7. Remove the pressure hose routing clamp bolt (2) at the engine cylinder head.

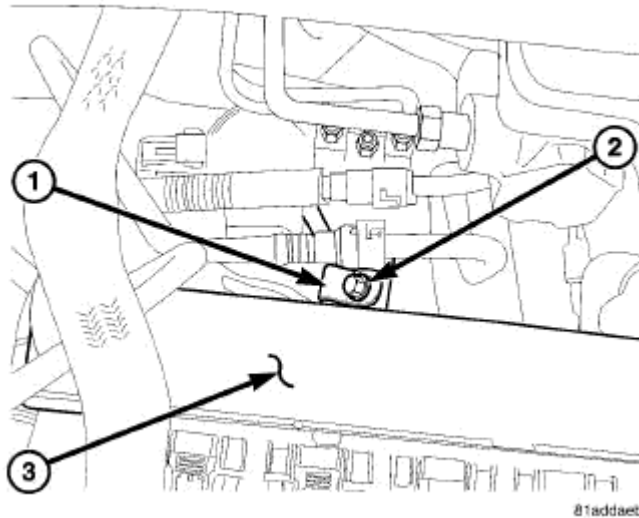


Fig. 214: PRESSURE HOSE ROUTING CLAMP - 3.5L
 Courtesy of CHRYSLER LLC

8. Accessing it through the area behind the powertrain control module (3), remove the routing clamp screw (2) securing the pressure hose (1) to the left side of the front suspension crossmember.
9. Remove the power steering pressure hose from the vehicle.

2.0L DIESEL ENGINE

NOTE: Before proceeding. See Steering - Warning.

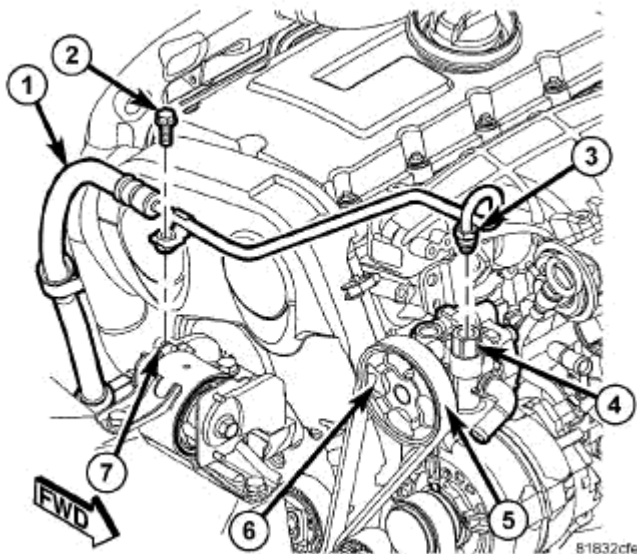


Fig. 215: PRESSURE LINE
 Courtesy of CHRYSLER LLC

1. Siphon as much fluid as possible from power steering fluid reservoir.
2. Remove the engine appearance cover.
3. Remove the pressure line (3) at the pump (4).
4. Remove the pressure line routing bracket bolt (2) at the upper mount (7).
5. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure** .

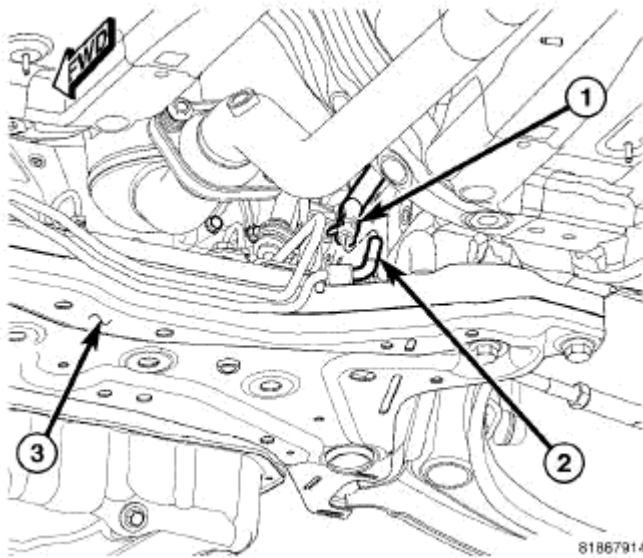


Fig. 216: RETURN HOSE AT TUBE TO GEAR
Courtesy of CHRYSLER LLC

6. Remove the return hose (1) at the return tube (2) and allow any fluid in the hose to drain. If equipped with a screw-clamp, be sure to save the original clamp for reinstallation.
7. Remove belly pan below engine.

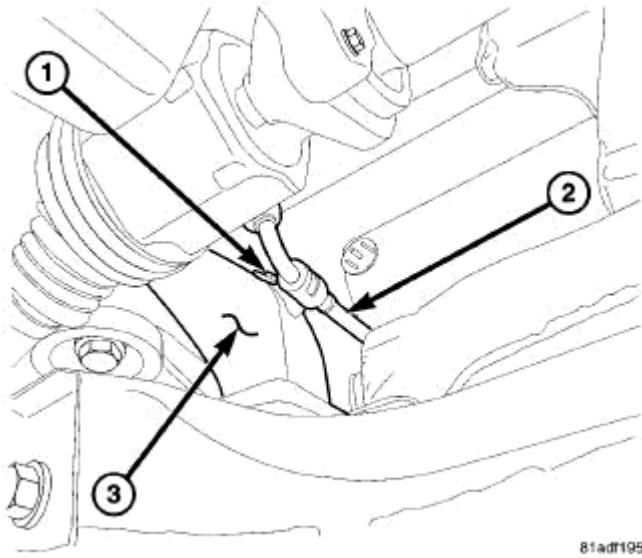


Fig. 217: PRESSURE HOSE ROUTING CLAMP
Courtesy of CHRYSLER LLC

8. Remove the routing clamp screw (1) securing the pressure hose (2) to the right side of the crossmember (3).

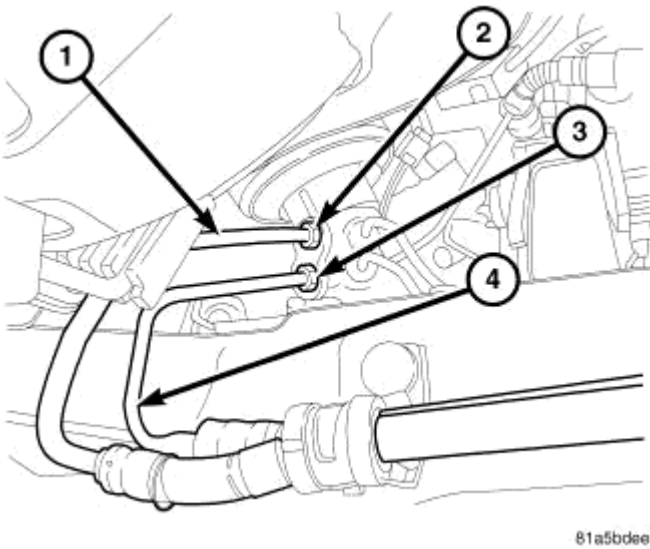


Fig. 218: HOSES AT GEAR
Courtesy of CHRYSLER LLC

9. Unscrew the tube nut (3), then remove the pressure hose (4) at the steering gear.

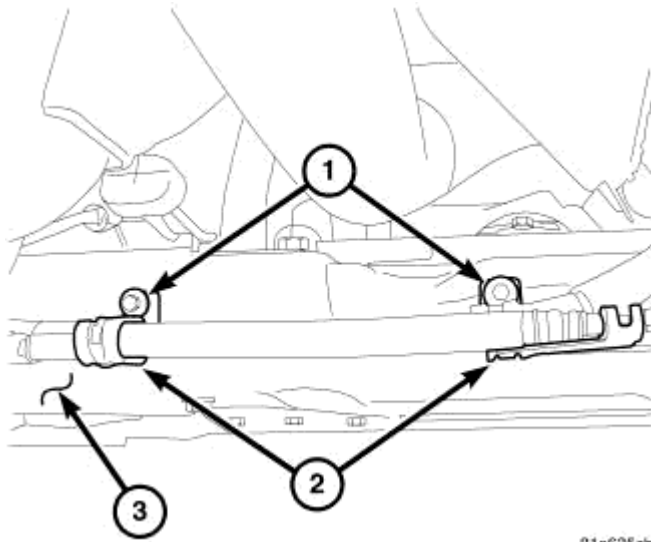


Fig. 219: HOSES AT REAR OF CROSSMEMBER

Courtesy of CHRYSLER LLC

10. Remove the screws (1) securing the power steering hose routing clamps (2) to the rear of the crossmember.
11. Remove the power steering pressure hose from the vehicle.

RIGHT-HAND-DRIVE - 2.0L/2.4L ENGINE

NOTE: Before proceeding. See Steering - Warning.

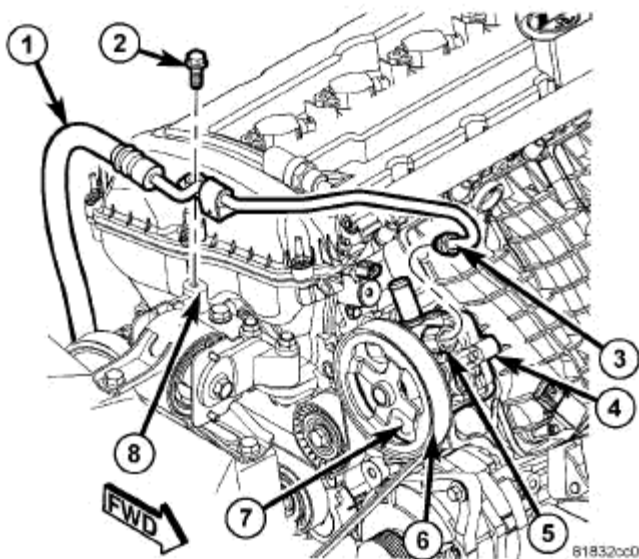


Fig. 220: PRESSURE HOSE

Courtesy of CHRYSLER LLC

1. Siphon as much fluid as possible from the power steering fluid reservoir.
2. Remove the engine appearance cover.
3. Remove the pressure Hose (3) at the pump pressure port (5).
4. Remove the pressure hose routing bracket bolt (2) at the upper mount (8).
5. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure** .

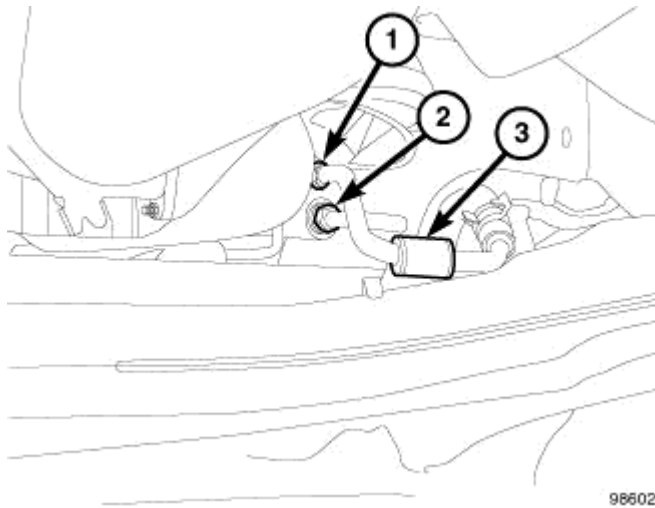


Fig. 221: Hoses At RHD Gear
Courtesy of CHRYSLER LLC

6. Unthread the tube nut (2) and remove the pressure hose at the steering gear.
7. Remove the power steering pressure hose from the vehicle.

RIGHT-HAND-DRIVE - 2.7L ENGINE

NOTE: Before proceeding. See **Steering - Warning**.

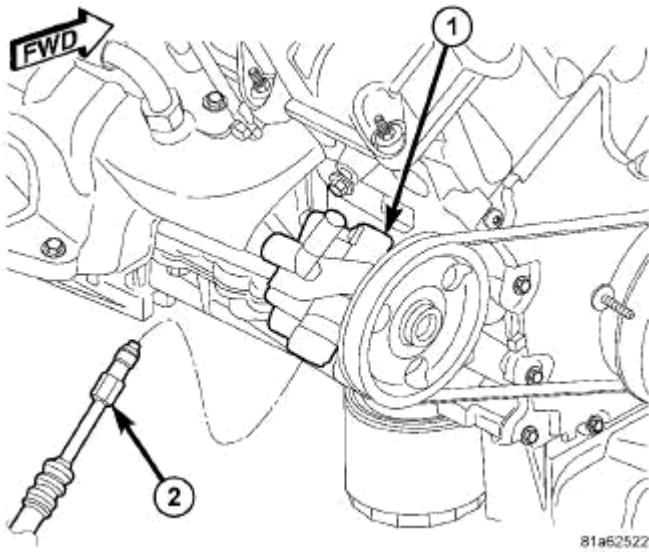


Fig. 222: PRESSURE HOSE AT PUMP - 2.7L
 Courtesy of CHRYSLER LLC

1. Siphon as much fluid as possible from the power steering fluid reservoir.
2. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure** .
3. Remove the pressure hose (2) at the pump (1).

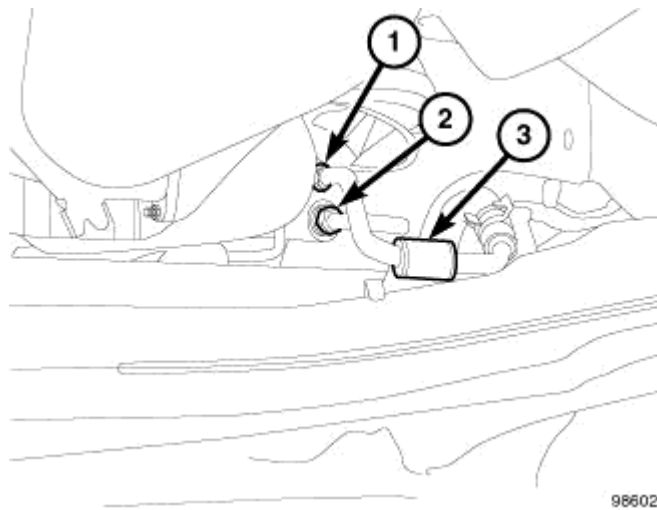


Fig. 223: Hoses At RHD Gear
 Courtesy of CHRYSLER LLC

4. Unthread the tube nut (2) and remove the pressure hose at the steering gear.
5. Remove the power steering pressure hose from the vehicle.

RIGHT-HAND-DRIVE - 2.0L DIESEL ENGINE

NOTE: Before proceeding. See Steering - Warning.

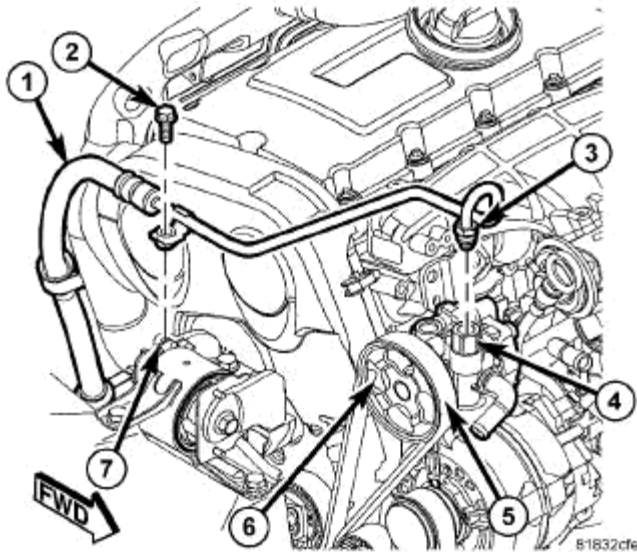


Fig. 224: PRESSURE LINE
Courtesy of CHRYSLER LLC

1. Siphon as much fluid as possible from power steering fluid reservoir.
2. Remove the engine appearance cover.
3. Remove the pressure line (3) at the pump (4).
4. Remove the pressure line routing bracket bolt (2) at the upper mount (7).
5. Raise and support the vehicle. Refer to Vehicle Quick Reference/Hoisting - Standard Procedure .

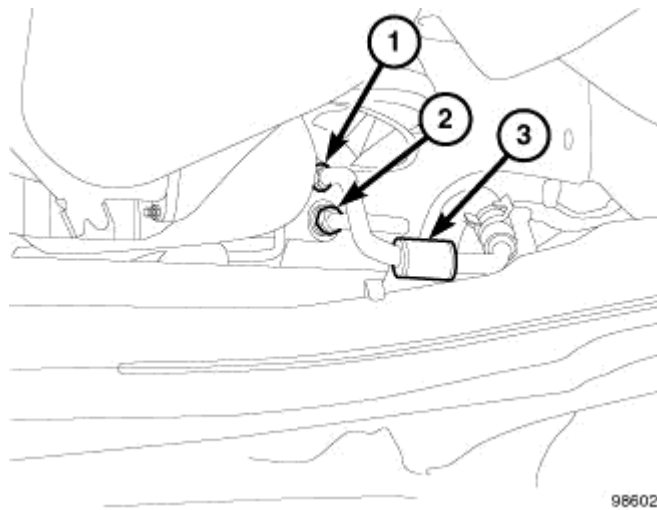


Fig. 225: Hoses At RHD Gear
Courtesy of CHRYSLER LLC

6. Unthread the tube nut (2) and remove the pressure hose (2) at the steering gear.

7. Remove the power steering pressure hose from the vehicle.

Installation

2.0L/2.4L ENGINE

CAUTION: Power steering fluid hoses must remain away from the exhaust system, driveshafts, vehicle components and any unfriendly surface that can possibly damage the hoses.

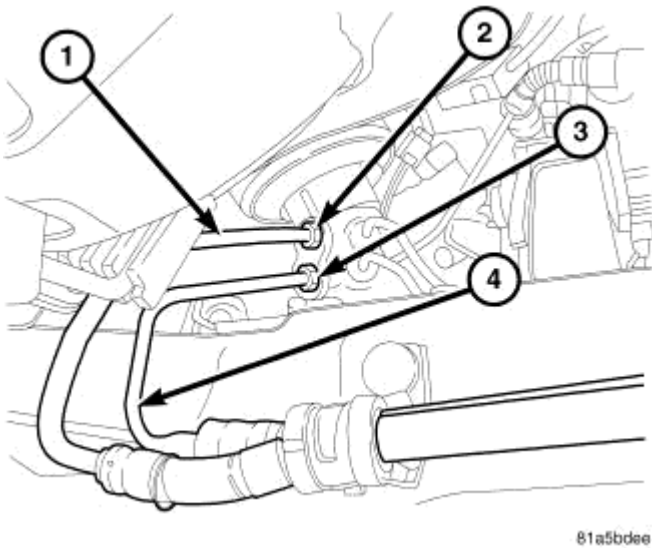


Fig. 226: HOSES AT GEAR
Courtesy of CHRYSLER LLC

1. Install the pressure hose tube (4) at the gear. Tighten the tube nut (3) to 32 N.m (24 ft. lbs.).

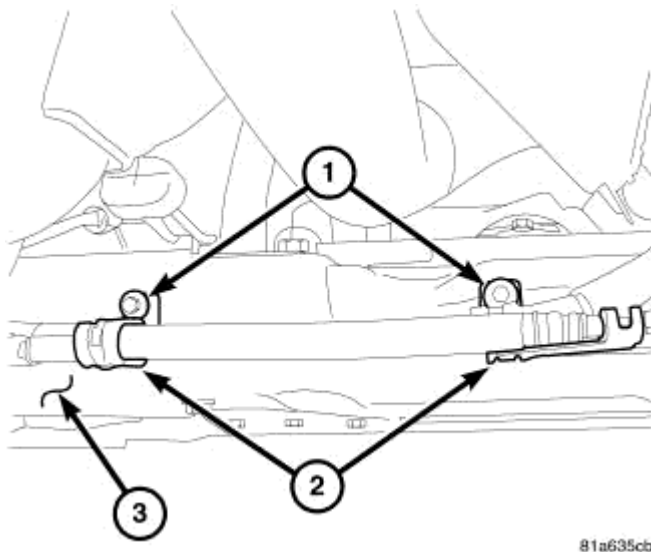
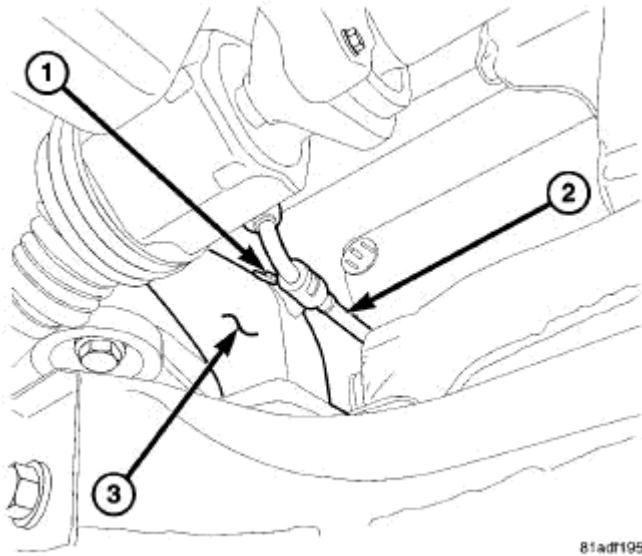


Fig. 227: HOSES AT REAR OF CROSSMEMBER

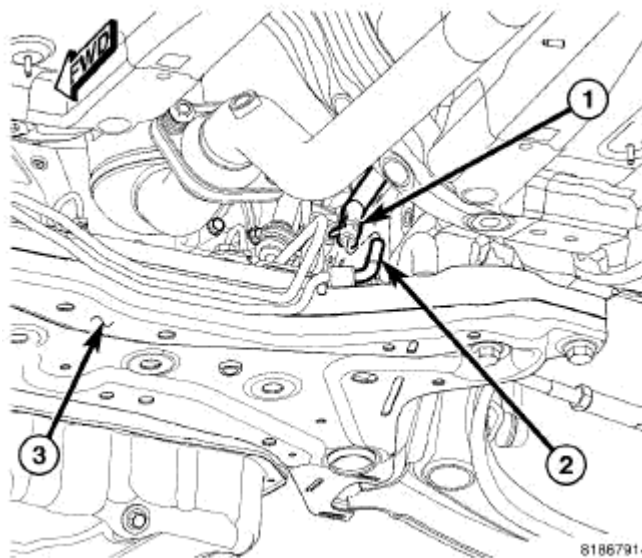
Courtesy of CHRYSLER LLC

2. Position the power steering hose routing clamps (2) on the crossmember. Install and tighten the screws to 8 N.m (71 in. lbs.).

**Fig. 228: PRESSURE HOSE ROUTING CLAMP**

Courtesy of CHRYSLER LLC

3. Position the power steering hose (2) routing clamp at the right side of the crossmember (3). Install and tighten the routing clamp screw to 8 N.m (71 in. lbs.).

**Fig. 229: RETURN HOSE AT TUBE TO GEAR**

Courtesy of CHRYSLER LLC

4. Install the return hose (1) at the return tube (2) and install the clamp. If a screw-clamp is used, tighten it to 2.5 N.m (20 in. lbs.).
5. Lower the vehicle.

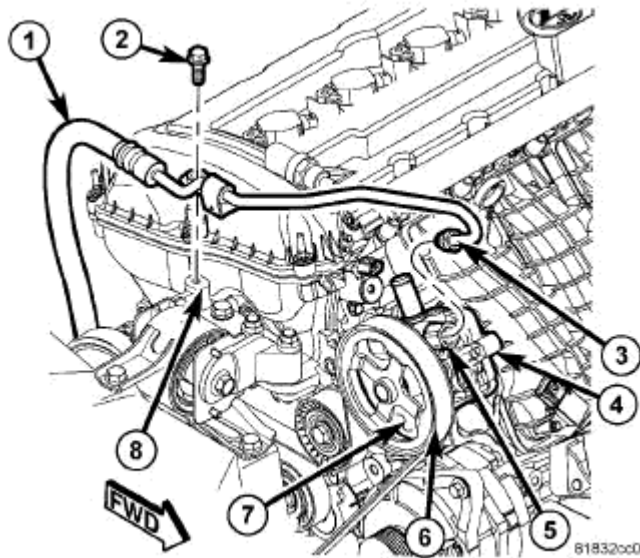


Fig. 230: PRESSURE HOSE

Courtesy of CHRYSLER LLC

6. Install the pressure hose (3) at the pump pressure port (5). Tighten the tube nut to 32 N.m (24 ft. lbs.).
7. Install the pressure hose routing bracket bolt (2) to the engine mount (8). Tighten the bolt to 24 N.m (18 ft. lbs.).
8. Fill and bleed the power steering system. See **Steering - Standard Procedure**.
9. Check for leaks.
10. Install the engine appearance cover.

2.7L ENGINE

CAUTION: Power steering fluid hoses must remain away from the exhaust system, driveshafts, vehicle components and any unfriendly surface that can possibly damage the hoses.

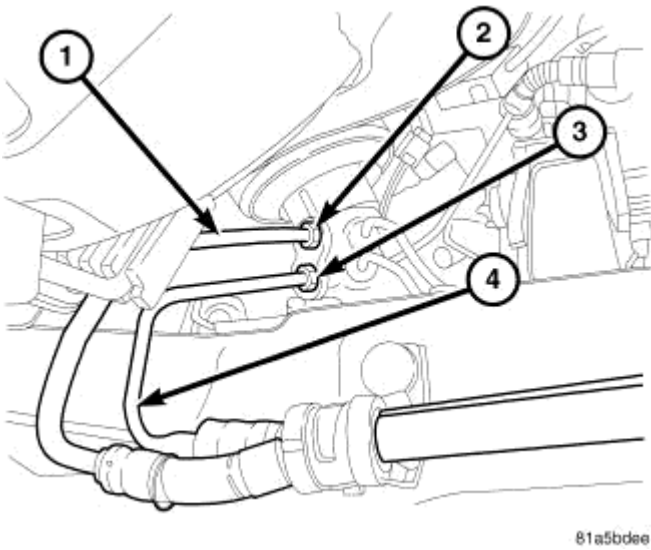


Fig. 231: HOSES AT GEAR
Courtesy of CHRYSLER LLC

1. Install the pressure hose tube (4) at the gear. Tighten the tube nut (3) to 32 N.m (24 ft. lbs.).
2. Install the return hose tube (1) at the gear. Tighten the tube nut (2) to 32 N.m (24 ft. lbs.).

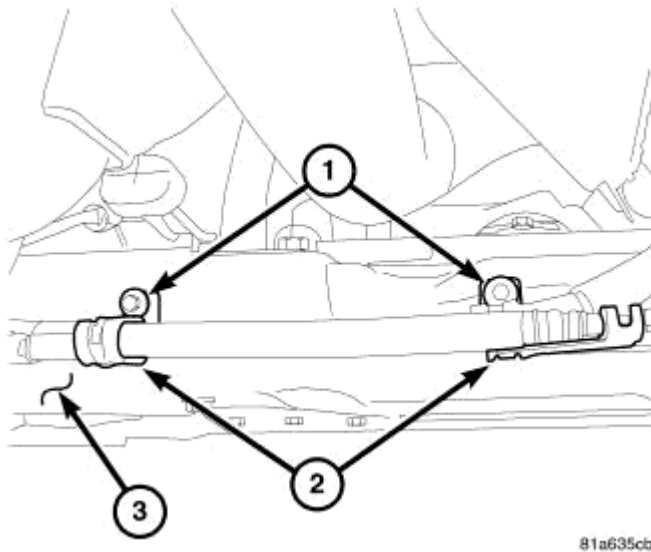


Fig. 232: HOSES AT REAR OF CROSSMEMBER
Courtesy of CHRYSLER LLC

3. Position the power steering hose routing clamps (2) on the crossmember. Install and tighten the screws to 8 N.m (71 in. lbs.).

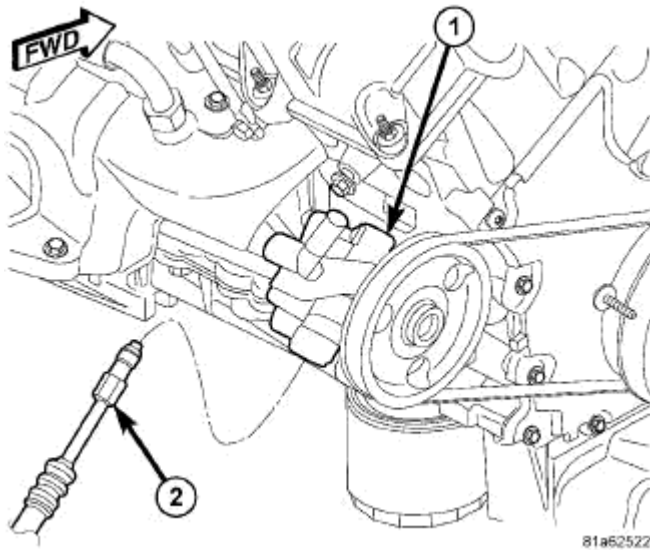


Fig. 233: PRESSURE HOSE AT PUMP - 2.7L
Courtesy of CHRYSLER LLC

4. Using a lint free towel, wipe clean the open power steering pressure hose end and the power steering pump port. Replace any used O-rings with new. Lubricate the O-ring with clean power steering fluid.
5. Install the pressure hose (2) at the pump pressure port. Tighten the tube nut to 32 N.m (24 ft. lbs.).

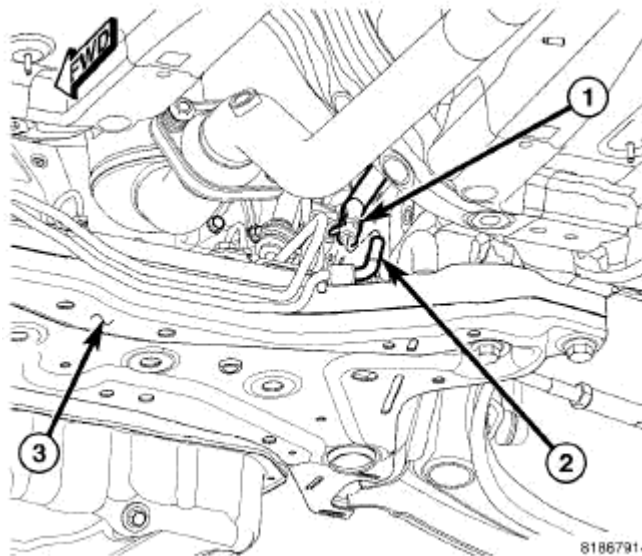


Fig. 234: RETURN HOSE AT TUBE TO GEAR
Courtesy of CHRYSLER LLC

6. Install the return hose (1) at the return tube (2) and install the clamp. If a screw-clamp is used, tighten it to 2.5 N.m (20 in. lbs.).
7. Lower the vehicle.

8. Fill and bleed the power steering system. See **Steering - Standard Procedure**.
9. Check for leaks.

3.5L ENGINE

CAUTION: Power steering fluid hoses must remain away from the exhaust system, driveshafts, vehicle components and any unfriendly surface that can possibly damage the hoses.

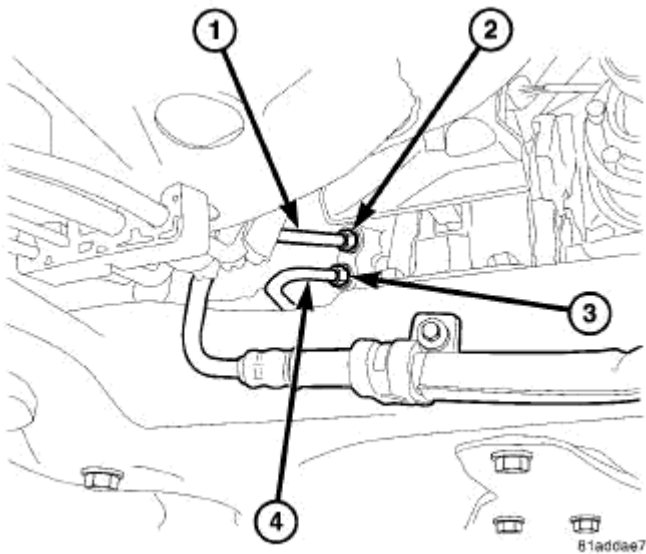


Fig. 235: HOSES AT GEAR - 3.5L
Courtesy of CHRYSLER LLC

1. Install the pressure hose into the engine compartment from above between the engine and the upper radiator hose. Then route the hose down the left side of the engine above the transmission, down to the steering gear.
2. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**.
3. Install the pressure hose tube (4) at the gear. Tighten the tube nut (3) to 32 N.m (24 ft. lbs.).
4. Lower the vehicle.

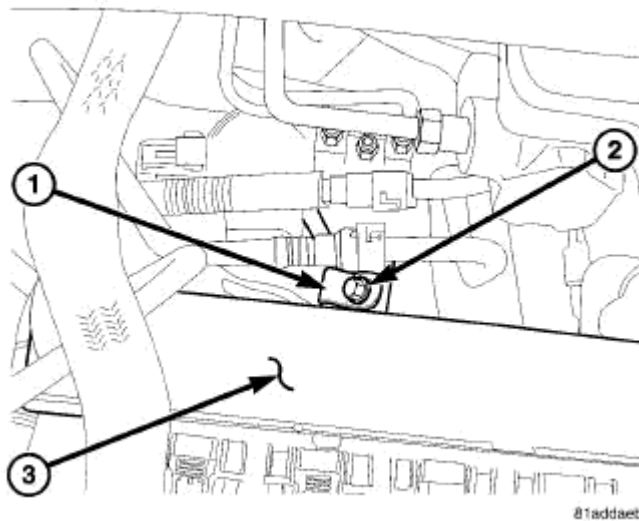


Fig. 236: PRESSURE HOSE ROUTING CLAMP - 3.5L
Courtesy of CHRYSLER LLC

5. Accessing it through the area behind the powertrain control module (3), position the power steering hose (1) routing clamp at the left side of the front suspension crossmember. Install and tighten the routing clamp screw (2) to 14 N.m (10 ft. lbs.).

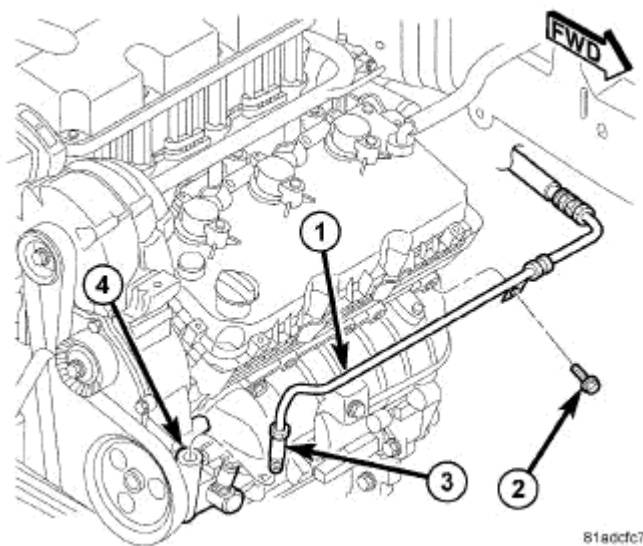


Fig. 237: PRESSURE HOSE AT PUMP - 3.5L
Courtesy of CHRYSLER LLC

6. Using a lint free towel, wipe clean the open power steering pressure hose end and the power steering pump port. Replace any used O-rings with new. Lubricate the O-ring with clean power steering fluid.
7. Install the pressure hose (1) at the power steering pump (4). Tighten the tube nut (3) to 32 N.m (24 ft. lbs.).

lbs.).

8. Position the pressure hose (1) routing clamp at the engine cylinder head. Install and tighten the routing clamp bolt (2) to 22 N.m (16 ft. lbs.).
9. Fill and bleed the power steering system. See **Steering - Standard Procedure**.
10. Check for leaks.

2.0L DIESEL ENGINE

CAUTION: Power steering fluid hoses must remain away from the exhaust system, driveshafts, vehicle components and any unfriendly surface that can possibly damage hoses.

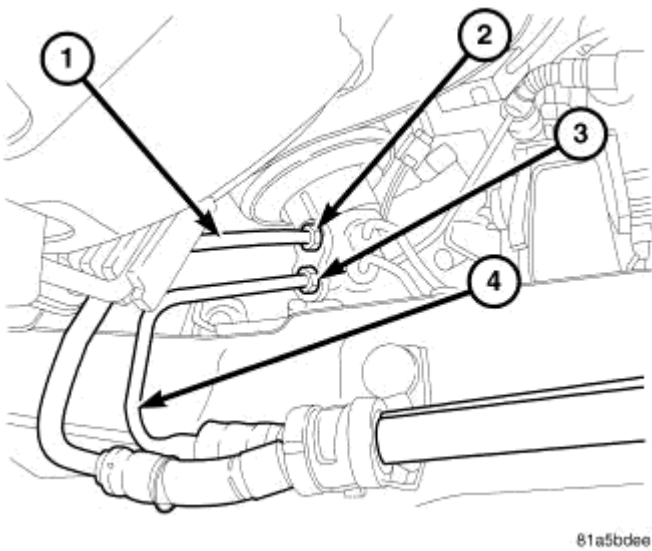


Fig. 238: HOSES AT GEAR
Courtesy of CHRYSLER LLC

1. Install the pressure hose tube (4) at the gear. Tighten the tube nut (3) to 32 N.m (24 ft. lbs.).

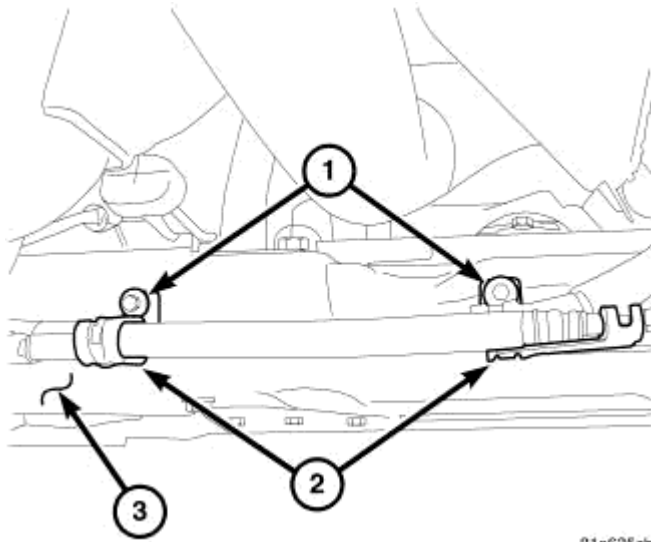


Fig. 239: HOSES AT REAR OF CROSSMEMBER

Courtesy of CHRYSLER LLC

2. Position the power steering hose routing clamps (2) on the crossmember. Install and tighten the screws to 8 N.m (71 in. lbs.).

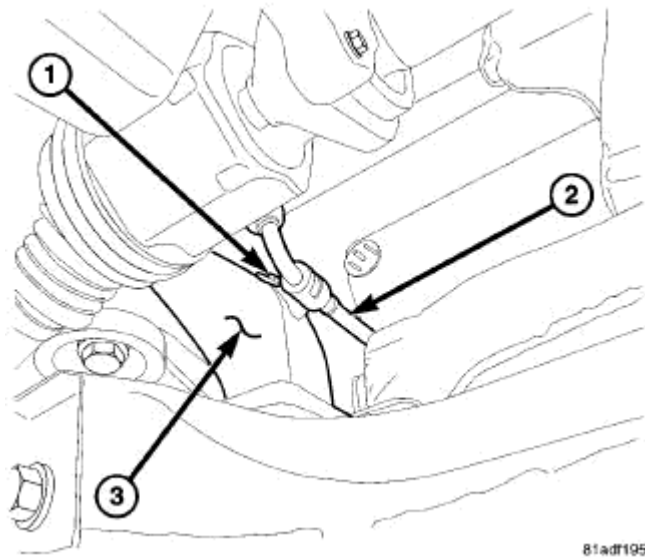


Fig. 240: PRESSURE HOSE ROUTING CLAMP

Courtesy of CHRYSLER LLC

3. Position the power steering hose (2) routing clamp at the right side of the crossmember (3). Install and tighten the routing clamp screw (1) to 8 N.m (71 in. lbs.).
4. Install the belly pan below the engine.

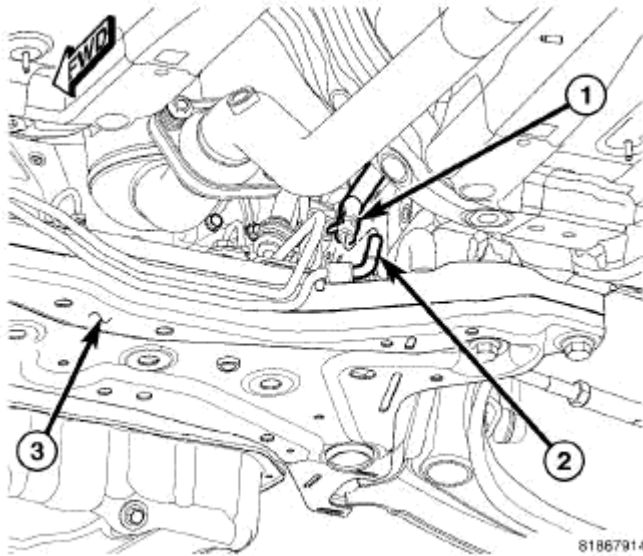


Fig. 241: RETURN HOSE AT TUBE TO GEAR
Courtesy of CHRYSLER LLC

5. Install the return hose (1) at the return tube (2) and install the clamp. If a screw-clamp is used, tighten it to 2.5 N.m (20 in. lbs.).
6. Lower the vehicle.

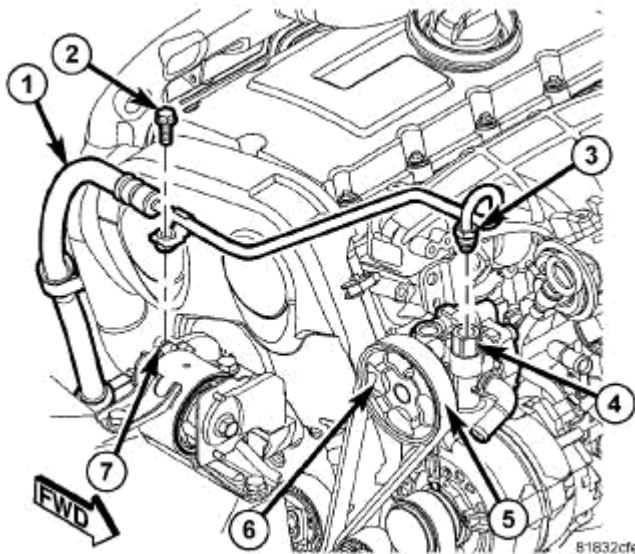


Fig. 242: PRESSURE LINE
Courtesy of CHRYSLER LLC

7. Install the pressure line (3) at the pump pressure port (4). Tighten the tube nut to 32 N.m (24 ft. lbs.).
8. Install the pressure line routing bracket bolt (2) to the engine mount (7). Tighten the bolt to 24 N.m (18 ft. lbs.).

9. Fill and bleed the power steering system. See Steering - Standard Procedure.
10. Check for leaks.
11. Install the engine appearance cover.

RIGHT-HAND-DRIVE - 2.0L/2.4L ENGINE

CAUTION: Power steering fluid hoses must remain away from the exhaust system, driveshafts, vehicle components and any unfriendly surface that can possibly damage the hoses.

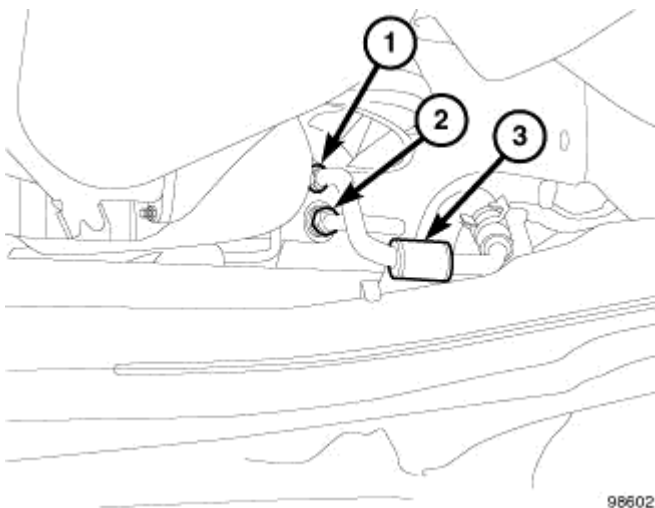


Fig. 243: Hoses At RHD Gear
Courtesy of CHRYSLER LLC

1. Using a lint free towel, wipe clean the open power steering hose end and the power steering gear port. Replace any used O-rings with new. Lubricate the O-ring with power steering fluid.
2. Install the power steering pressure hose into the engine compartment from below.
3. Install the pressure hose at the gear. Tighten the tube nut (2) to 32 N.m (24 ft. lbs.).
4. Lower the vehicle.

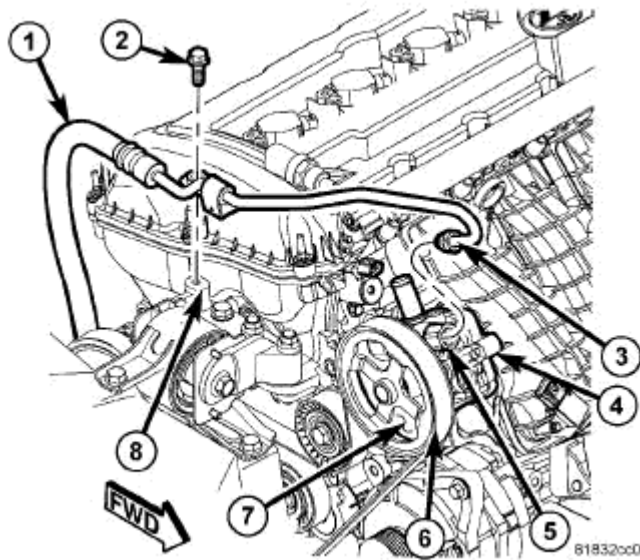


Fig. 244: PRESSURE HOSE
Courtesy of CHRYSLER LLC

5. Install the pressure hose (3) at the pump pressure port (5). Tighten the tube nut to 32 N.m (24 ft. lbs.).
6. Install the pressure hose routing bracket bolt (2) to the upper mount (8). Tighten the bolt to 24 N.m (18 ft. lbs.).
7. Fill and bleed the power steering system. See **Steering - Standard Procedure**.
8. Check for leaks.
9. Install the engine appearance cover.

RIGHT-HAND-DRIVE - 2.7L ENGINE

CAUTION: Power steering fluid hoses must remain away from the exhaust system, driveshafts, vehicle components and any unfriendly surface that can possibly damage the hoses.

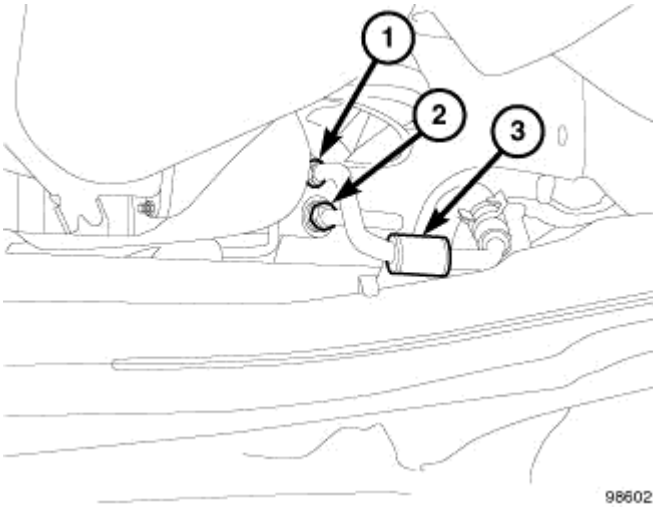


Fig. 245: Hoses At RHD Gear
Courtesy of CHRYSLER LLC

1. Using a lint free towel, wipe clean the open power steering hose end and the power steering gear port. Replace any used O-rings with new. Lubricate the O-ring with power steering fluid.
2. Install the power steering pressure hose into the engine compartment from below.
3. Install the pressure hose at the gear. Tighten the tube nut (2) to 32 N.m (24 ft. lbs.).

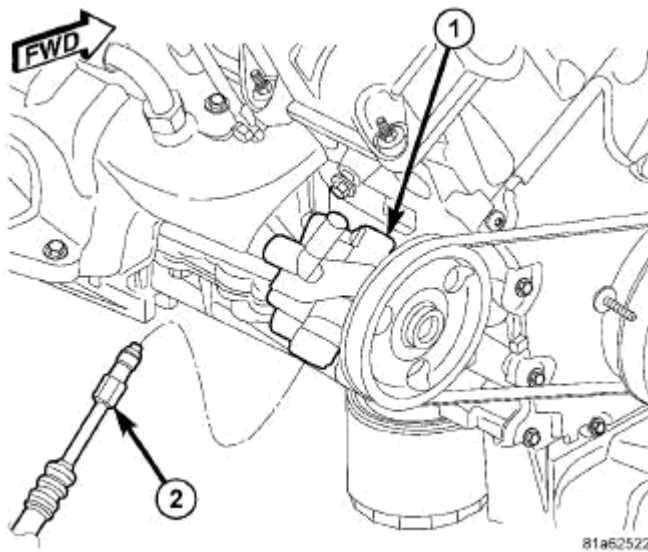


Fig. 246: PRESSURE HOSE AT PUMP - 2.7L
Courtesy of CHRYSLER LLC

4. Using a lint free towel, wipe clean the open power steering pressure hose end and the power steering pump port. Replace any used O-rings with new. Lubricate the O-ring with clean power steering fluid.
5. Install the pressure hose (2) at the pump pressure port. Tighten the tube nut to 32 N.m (24 ft. lbs.).
6. Lower the vehicle.

7. Fill and bleed the power steering system. See **Steering - Standard Procedure**.
8. Check for leaks.

RIGHT-HAND-DRIVE - 2.0L DIESEL ENGINE

CAUTION: Power steering fluid hoses must remain away from the exhaust system, driveshafts, vehicle components and any unfriendly surface that can possibly damage the hoses.

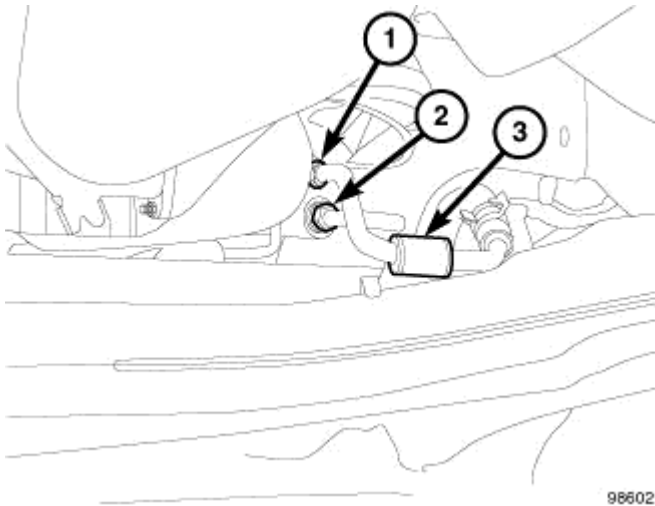


Fig. 247: Hoses At RHD Gear
Courtesy of CHRYSLER LLC

1. Using a lint free towel, wipe clean the open power steering hose end and the power steering gear port. Replace any used O-rings with new. Lubricate the O-ring with power steering fluid.
2. Install the power steering pressure hose into the engine compartment from below.
3. Install the pressure hose at the gear. Tighten the tube nut (2) to 32 N.m (24 ft. lbs.).
4. Lower the vehicle.

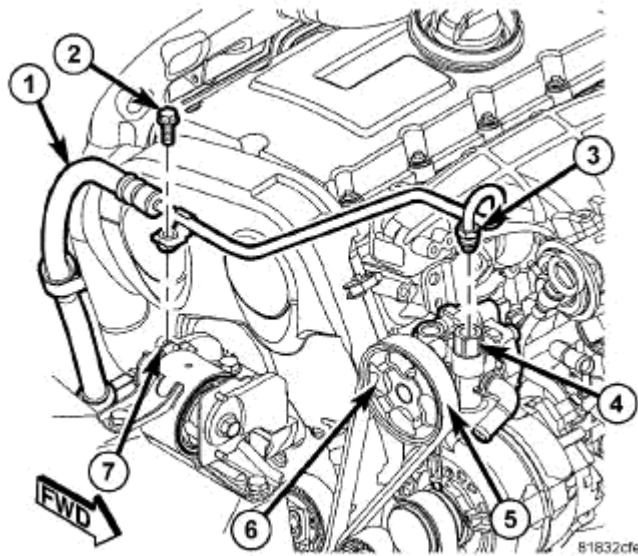


Fig. 248: PRESSURE LINE
 Courtesy of CHRYSLER LLC

5. Install the pressure line (3) at the pump pressure port (4). Tighten the tube nut to 32 N.m (24 ft. lbs.).
6. Install the pressure line routing bracket bolt (2) to the upper mount (7). Tighten the bolt to 24 N.m (18 ft. lbs.).
7. Fill and bleed the power steering system. See **Steering - Standard Procedure**.
8. Check for leaks.
9. Install the engine appearance cover.

HOSE, POWER STEERING, RETURN

Removal

REMOVAL

NOTE: Before proceeding. See **Steering - Warning**.

1. Siphon as much fluid as possible from the power steering fluid reservoir.
2. Remove the power steering fluid reservoir. See **Steering/Pump/RESERVOIR, Power Steering Pump - Removal**
3. Remove the coolant recovery bottle. Refer to **Cooling/Engine/BOTTLE, Coolant Recovery - Removal**
4. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**
5. If equipped, remove the belly pan below the engine.
6. Remove the lower fascia valance.

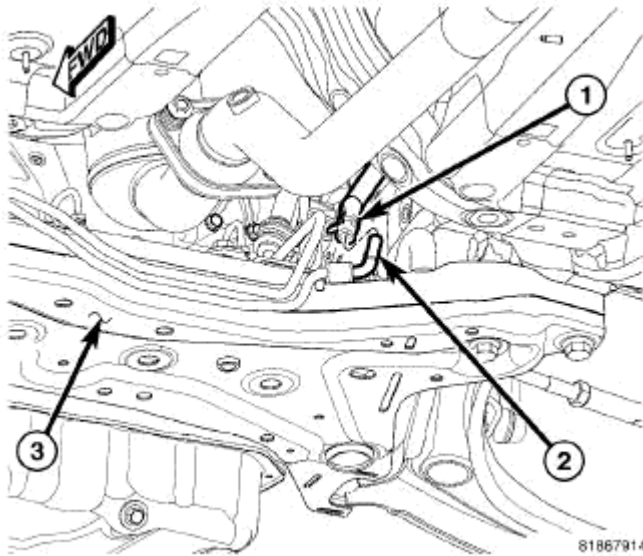


Fig. 249: RETURN HOSE AT TUBE TO GEAR
Courtesy of CHRYSLER LLC

7. Remove the return hose (1) at the return tube (2). If equipped with a screw-clamp, be sure to save the original clamp for reinstallation.

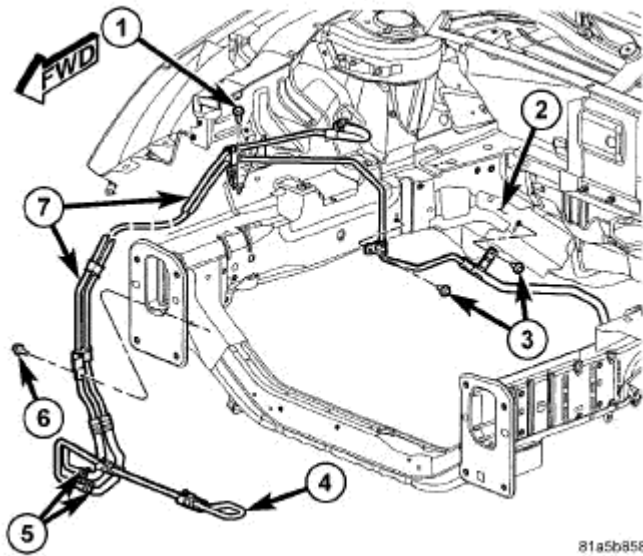


Fig. 250: RETURN HOSE
Courtesy of CHRYSLER LLC

8. Remove the hose clamps (5) attaching the fluid return hoses (7) to the power steering fluid cooler line (4). Separate the return hoses from the cooler line.
9. Remove the return hose routing clamp screws (3) securing the return hose (7) to the frame rail.
10. Remove the return hose routing clamp screw (6) securing the return hose (7) to the frame rail.

11. Lower the vehicle.
12. Remove the return hose routing clamp screw (1) securing the return hose (7) to the body.
13. Remove the return hose from the vehicle.

Installation

INSTALLATION

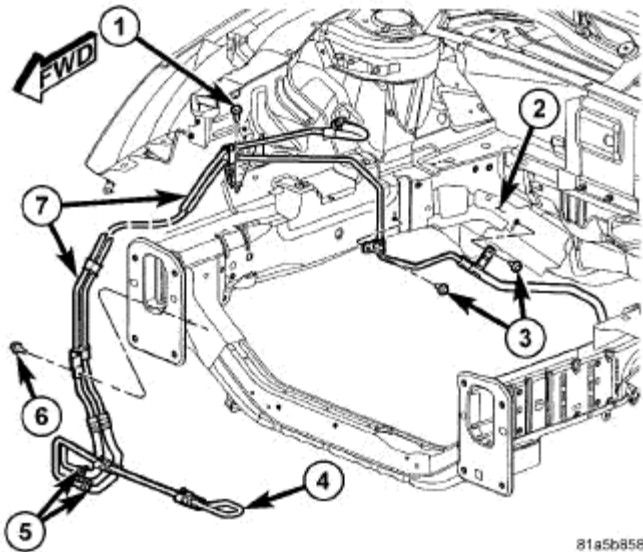


Fig. 251: RETURN HOSE

Courtesy of CHRYSLER LLC

1. Install the power steering return hose (7) into the engine compartment.
2. Install the return hose routing clamp screw (1) securing the return hose (7) to the body.
3. Raise and support the vehicle. Refer to **Vehicle Quick Reference/Hoisting - Standard Procedure**
4. Install the return hose routing clamp screw (6) securing the return hose (7) to the frame rail. Tighten the screw to 8 N.m (71 in. lbs.).
5. Install the screws (3) securing the return hose to the frame rail (2). Tighten the screws to 8 N.m (71 in. lbs.).
6. Install the return hose onto the cooler line (4) and install the hose clamps (5).

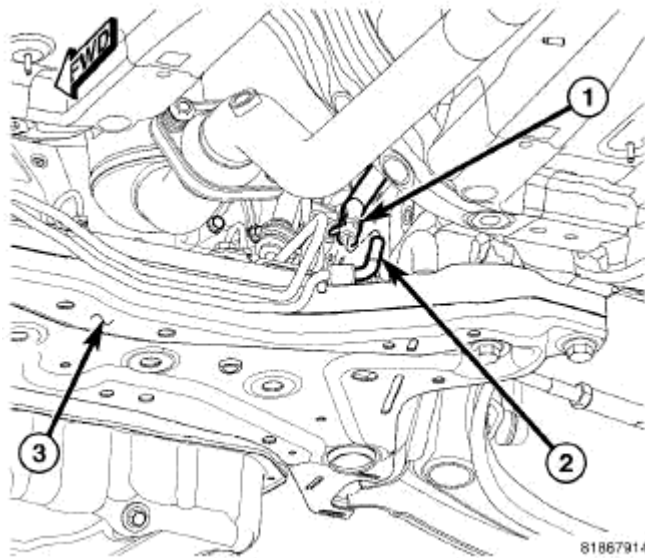


Fig. 252: RETURN HOSE AT TUBE TO GEAR
Courtesy of CHRYSLER LLC

7. Install the return hose (1) at the return tube (2) and install the clamp. If a screw-clamp is used, tighten it to 2.5 N.m (20 in. lbs.).
8. Install the lower fascia valance.
9. If equipped, install the belly pan below the engine.
10. Lower the vehicle.
11. Install the coolant recovery bottle. Refer to **Cooling/Engine/BOTTLE, Coolant Recovery - Installation**
12. Install the power steering fluid reservoir. See **Steering/Pump/RESERVOIR, Power Steering Pump - Installation**
13. Fill and bleed the power steering system. See **Steering - Standard Procedure**
14. Check for leaks.

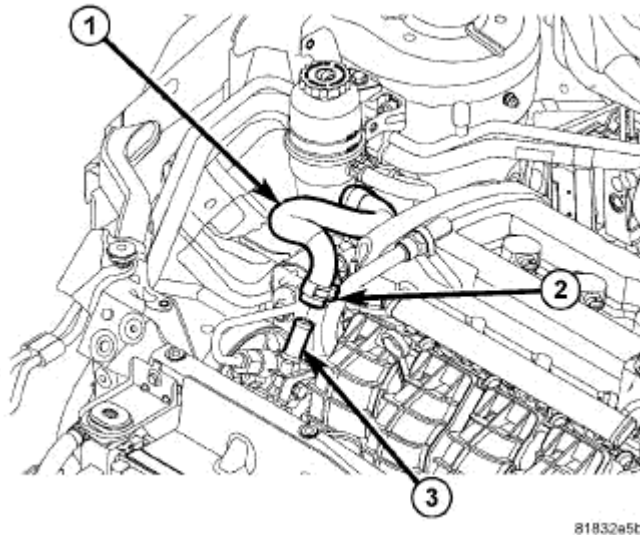
HOSE, POWER STEERING, SUPPLY

Removal

2.0L/2.4L ENGINE

NOTE: Before proceeding. See **Steering - Warning.**

1. Siphon as much fluid as possible from the power steering fluid reservoir.

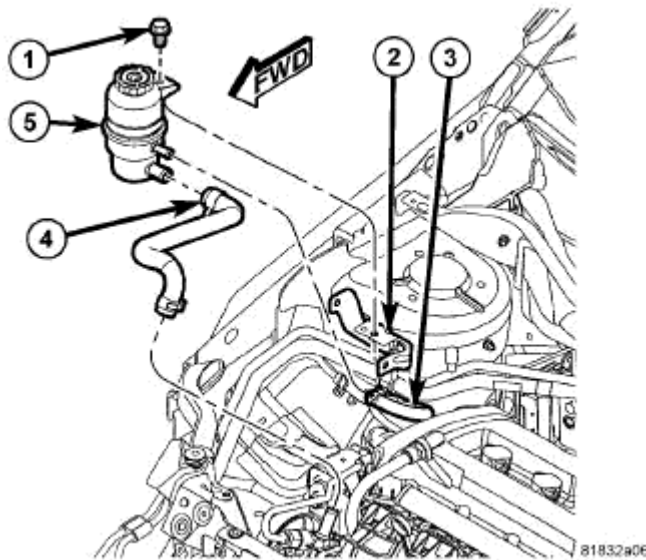


81832a5b

Fig. 253: SUPPLY HOSE

Courtesy of CHRYSLER LLC

2. Remove the clamp (2) securing the supply hose to the power steering pump supply fitting (3), then remove the hose from the supply fitting.



81832a06

Fig. 254: FLUID RESERVOIR

Courtesy of CHRYSLER LLC

3. Remove the hose clamp securing the supply hose (4) to the power steering fluid reservoir (5). Slide the hose off the end of the reservoir fitting and remove from vehicle.

2.7L ENGINE

NOTE: Before proceeding. See Steering - Warning.

1. Siphon as much fluid as possible from the power steering fluid reservoir.

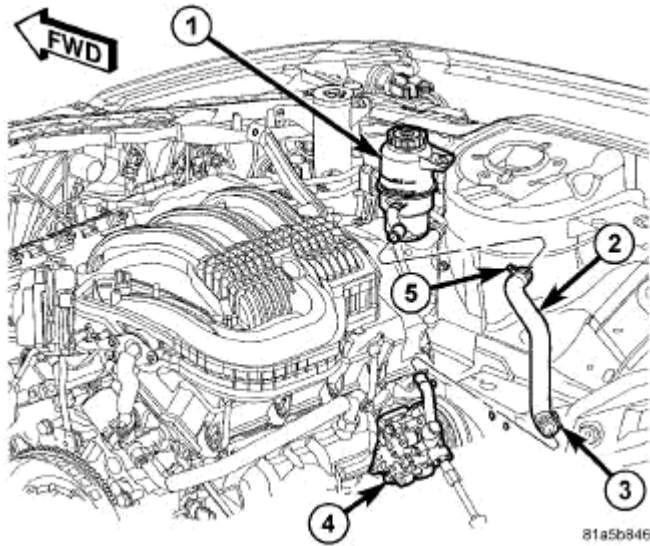


Fig. 255: SUPPLY HOSE - 2.7L

Courtesy of CHRYSLER LLC

2. Remove the hose clamp (5) securing the supply hose (2) to the power steering fluid reservoir (1). Slide the hose off the end of the reservoir fitting

NOTE: The use of cable operated hose clamp pliers works well to remove and install the hose clamp at the pump.

3. Remove the clamp (3) securing the supply hose (2) to the power steering pump (4) supply fitting, then slide the hose off the supply fitting and remove from vehicle.

3.5L ENGINE

NOTE: Before proceeding. See Steering - Warning.

1. Siphon as much fluid as possible from the power steering fluid reservoir.

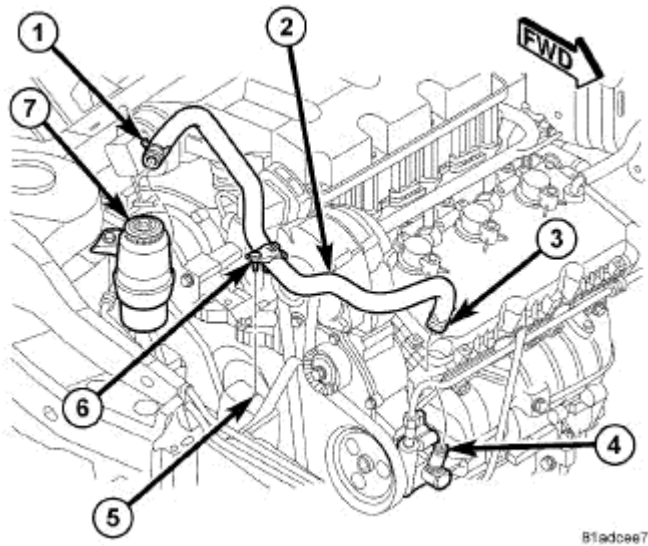


Fig. 256: SUPPLY HOSE - 3.5L
Courtesy of CHRYSLER LLC

2. Remove the clamp (3) securing the supply hose (2) to the power steering pump supply fitting (4), then remove the hose from the supply fitting.

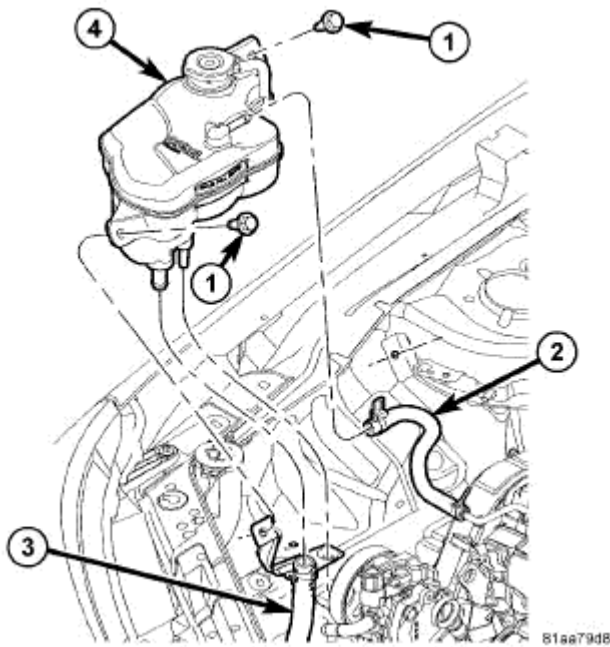


Fig. 257: COOLANT RECOVERY CONTAINER - PRESSURE SYSTEM
Courtesy of CHRYSLER LLC

3. Remove the mounting screws (1) securing the coolant recovery container (4) in place.

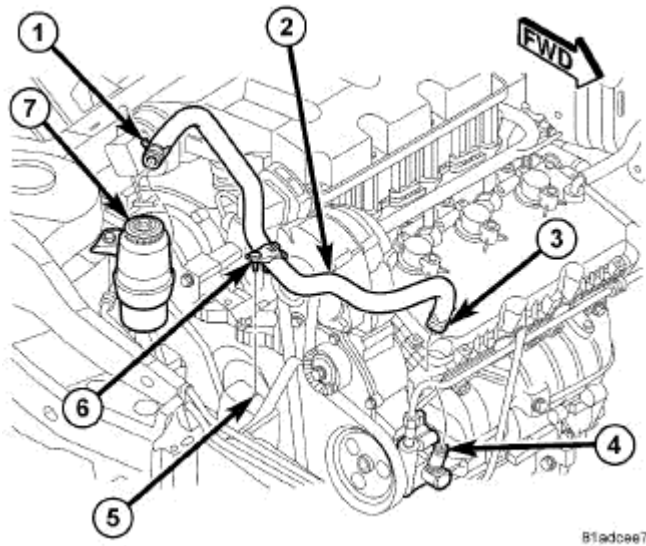


Fig. 258: SUPPLY HOSE - 3.5L
Courtesy of CHRYSLER LLC

4. Lift the coolant recovery container as high as its connected hoses will allow, then remove the clip (6) securing the supply hose to the coolant recovery container's lower mounting point.
5. Remove the hose clamp (1) securing the supply hose (2) to the power steering fluid reservoir (7). Slide the hose off the end of the reservoir fitting and remove from vehicle.

DIESEL ENGINE

NOTE: Before proceeding. See Steering - Warning.

1. Remove the engine top appearance cover.
2. Siphon as much fluid as possible from power steering fluid reservoir.

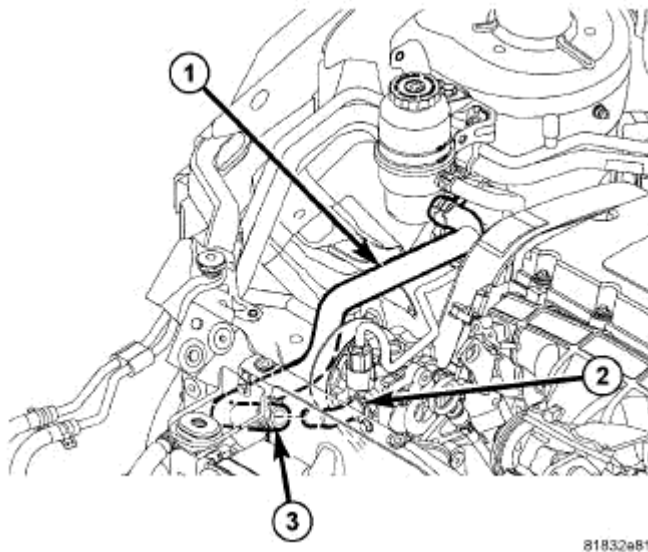


Fig. 259: SUPPLY HOSE

Courtesy of CHRYSLER LLC

3. Remove the clamp (3) securing the supply hose (1) to the power steering pump supply fitting (2), then remove the hose from the fitting.

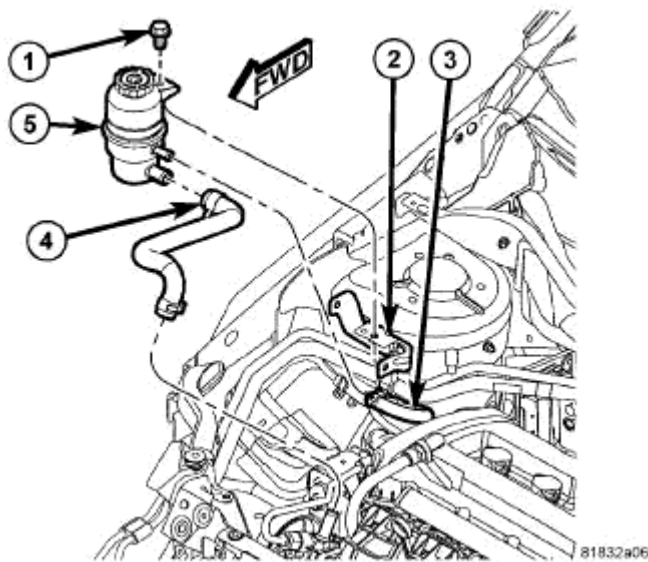


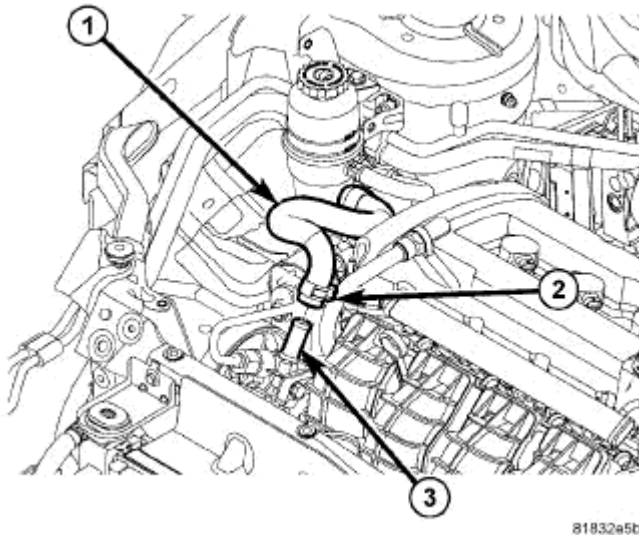
Fig. 260: FLUID RESERVOIR

Courtesy of CHRYSLER LLC

4. Remove the hose clamp (4) securing supply hose to the power steering fluid reservoir (5). Slide the hose off the end of the reservoir fitting and remove from vehicle.

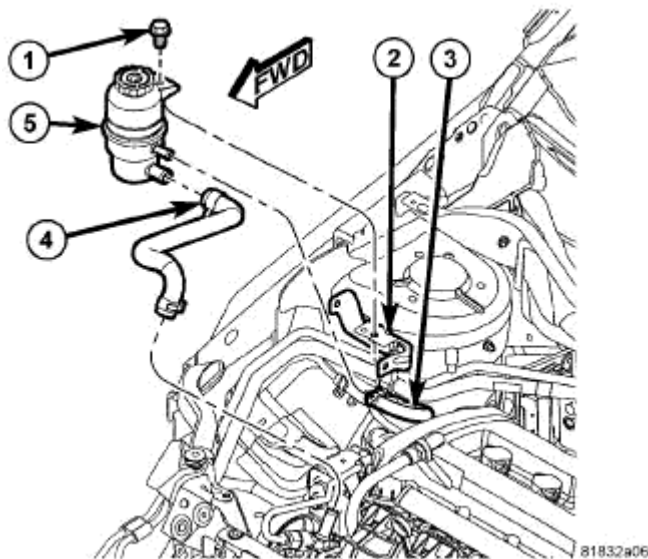
Installation

2.0L/2.4L ENGINE

**Fig. 261: SUPPLY HOSE**

Courtesy of CHRYSLER LLC

1. Slide hose clamps (2) onto both ends of the power steering fluid supply hose (1) far enough to clear the fittings on the reservoir and pump once the hose is installed.
2. Place the pump end of the supply hose (1) onto the pump supply fitting (3). Expand the hose clamp (2) and slide it over the hose and pump supply fitting. Secure the clamp once it is past the bead formed into the fluid supply fitting.

**Fig. 262: FLUID RESERVOIR**

Courtesy of CHRYSLER LLC

3. Place the fluid reservoir end of the supply hose (4) onto the reservoir (5) supply fitting. Expand the hose clamp and slide it over the hose and fitting. Secure the clamp once it is past the bead formed into the fluid reservoir fitting.
4. Fill and bleed the power steering system. See **Steering - Standard Procedure**
5. Check for leaks.

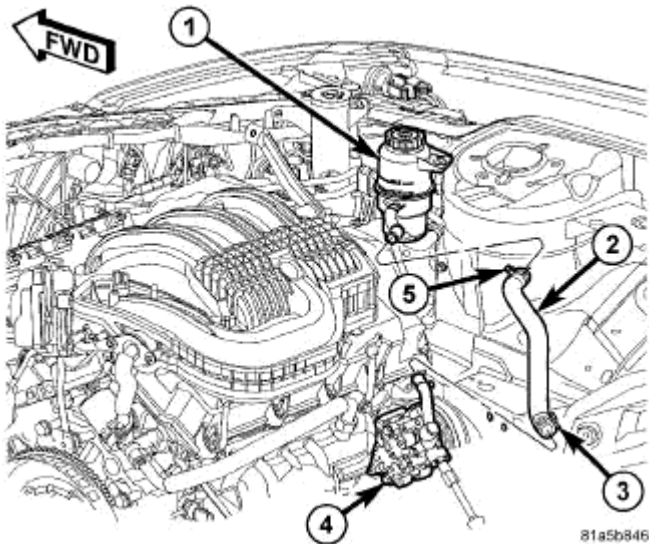
2.7L ENGINE

Fig. 263: SUPPLY HOSE - 2.7L
Courtesy of CHRYSLER LLC

1. Slide hose clamps (3, 5) onto the ends of the power steering fluid supply hose (2) far enough to clear the fittings on the reservoir and pump once the hose is installed.

NOTE: **The use of cable operated hose clamp pliers works well to remove and install the hose clamp at the pump.**

2. Place the pump end of the supply hose onto the pump (4) supply fitting. Expand the hose clamp (3) and slide it over the hose and pump supply fitting. Secure the clamp once it is past the bead formed into the fluid supply fitting.
3. Place the reservoir end of the supply hose onto the reservoir (1) supply fitting. Expand the hose clamp (5) and slide it over the hose and supply fitting. Secure the clamp once it is past the bead formed into the fitting.
4. Fill and bleed the power steering system. See **Steering - Standard Procedure**
5. Check for leaks.

3.5L ENGINE

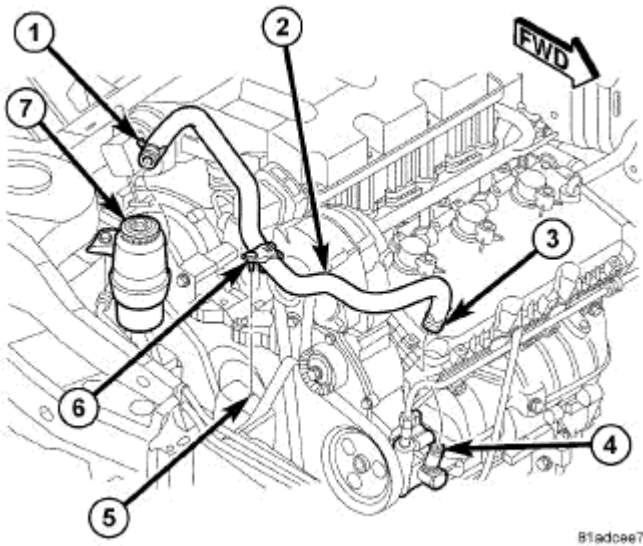


Fig. 264: SUPPLY HOSE - 3.5L
Courtesy of CHRYSLER LLC

1. Slide hose clamps (1, 3) onto the ends of the power steering fluid supply hose (2) far enough to clear the fittings on the reservoir and pump once the hose is installed.
2. Place the pump end of the supply hose onto the pump supply fitting (4). Expand the hose clamp (3) and slide it over the hose and pump supply fitting. Secure the clamp once it is past the bead formed into the fluid supply fitting.
3. Lift the coolant recovery container as high as its connected hoses will allow, then install the clip (6) in the mounting hole (5) securing the supply hose to the coolant recovery container's lower mounting point.

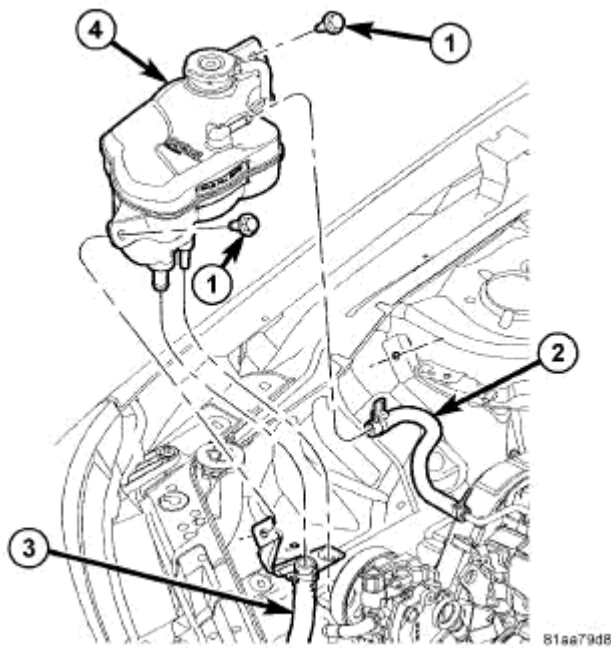


Fig. 265: COOLANT RECOVERY CONTAINER - PRESSURE SYSTEM
Courtesy of CHRYSLER LLC

4. Lower the coolant recovery container (4) to its mounted position and install the mounting screws (1).

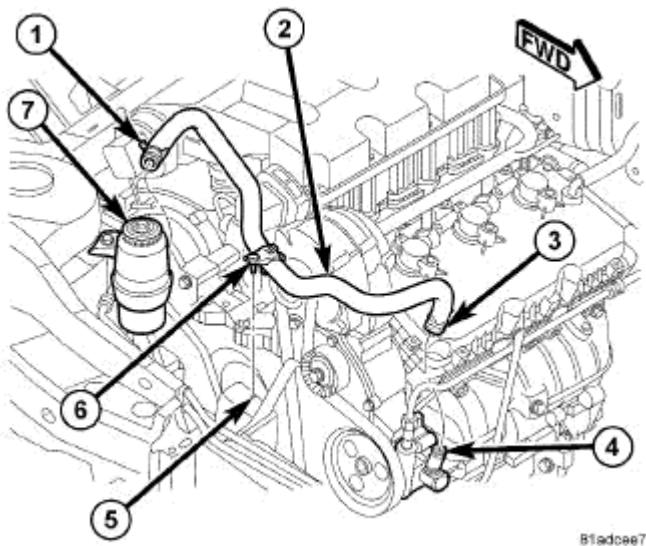


Fig. 266: SUPPLY HOSE - 3.5L
Courtesy of CHRYSLER LLC

5. Place the fluid reservoir end of the supply hose (2) onto the reservoir (7) supply fitting. Expand the hose clamp and slide it over the hose and fitting. Secure the clamp once it is past the bead formed into the fluid reservoir fitting.

6. Fill and bleed the power steering system. See Steering - Standard Procedure
7. Check for leaks.

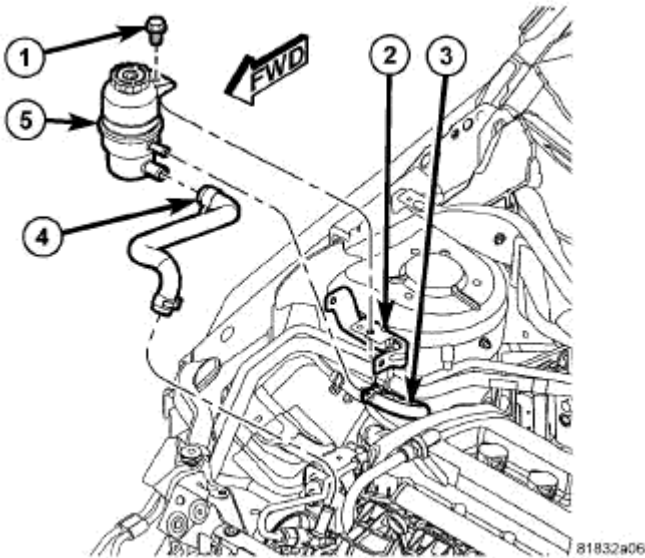
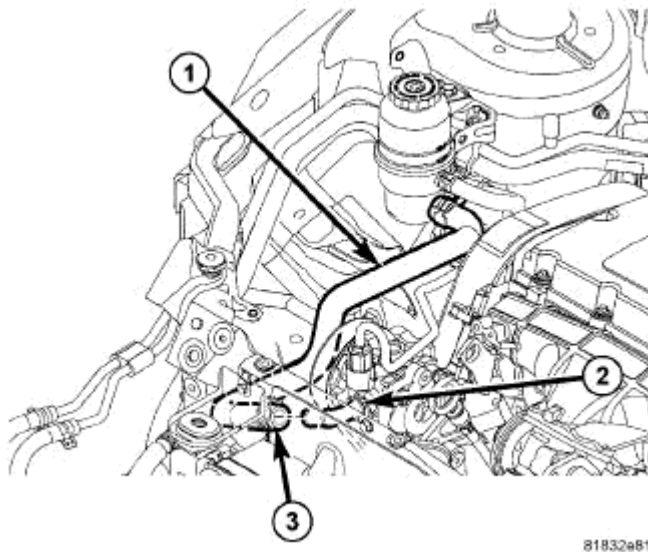
DIESEL ENGINE

Fig. 267: FLUID RESERVOIR
Courtesy of CHRYSLER LLC

1. Slide hose clamps onto both ends of the power steering fluid supply hose far enough to clear the fittings on the reservoir and pump once hose is installed.
2. Place the fluid reservoir end of the supply hose (4) onto the reservoir (5) supply fitting. Expand the hose clamp and slide it over the hose and fitting. Secure the clamp once it is past the bead formed into the fluid reservoir fitting.

**Fig. 268: SUPPLY HOSE**

Courtesy of CHRYSLER LLC

3. Place the pump end of the supply hose (1) onto the pump supply fitting (2). Expand the hose clamp and slide it over the hose and pump supply fitting. Secure the clamp (3) once it is past the bead formed into the fluid supply fitting.
4. Fill and bleed the power steering system. See **Steering - Standard Procedure**
5. Check for leaks.
6. Install the engine appearance cover.

PULLEY, POWER STEERING PUMP

Description

DESCRIPTION

The pulley mounted on power steering pumps used on six cylinder engines can serviced separately from the pump. It has a center hub incorporating a flange used for pump removal. The pulley used on pumps mounted on four cylinder engines is not serviced separately.

Removal

REMOVAL

1. Remove power steering pump from engine. See **Steering/Pump - Removal**

CAUTION: Do not hammer on power steering pump pulley or shaft to remove power steering pump pulley. Damage to pulley and power steering pump will occur.

CAUTION: It is very important to use Puller 9962, to remove pulley from power steering pump shaft. Use of other pullers can damage or break pulley and pump shaft.

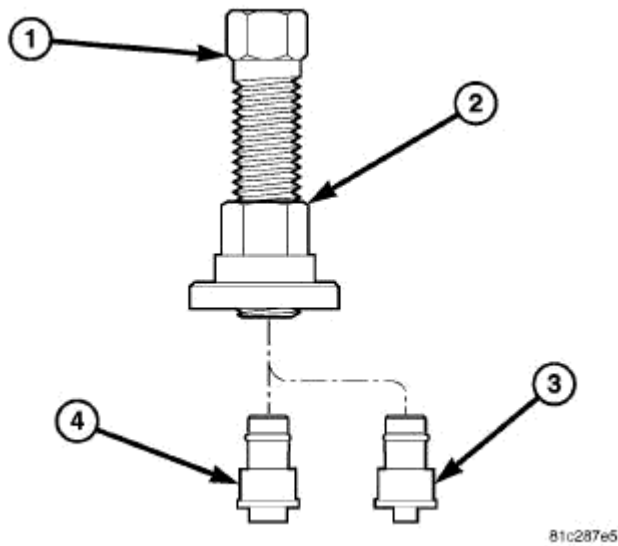


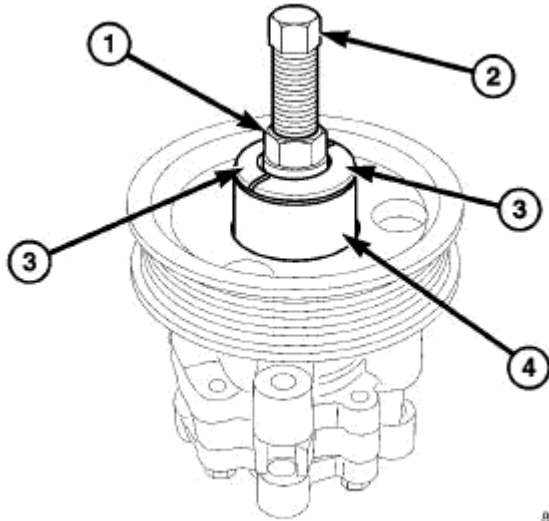
Fig. 269: BUTTON INSTALLATION ON TOOL

Courtesy of CHRYSLER LLC

2. Coat Screw-Drive (1) with lubricant and thread into Puller Body (2).

NOTE: Two Buttons come with Puller kit (9962-3 and 9962-4). Be sure to use Button that best fits end of pump shaft to avoid damage to Button or pump shaft.

3. Insert Button 9962-4 (4), into end of Screw-Drive. Be sure not to misplace ball bearing that resides behind Button.



81c28712

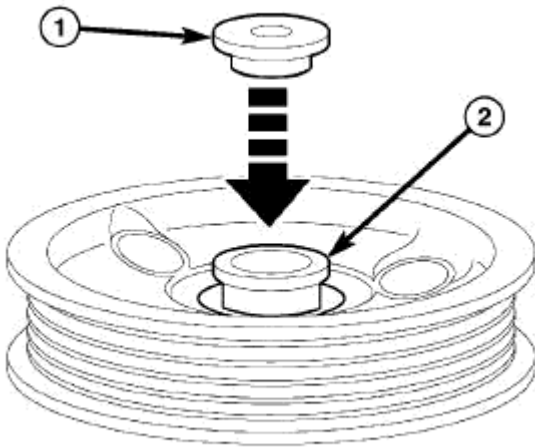
Fig. 270: TOOL 9962 INSTALLED ON PULLEY
Courtesy of CHRYSLER LLC

4. Assemble Puller 9962, over end of pump shaft and pulley hub.
 - a. Place Button on end of Screw-Drive against pump shaft.
 - b. Assemble Collets 9962-2 (3), surrounding Puller Body (1) and pulley hub flange, then slide the Collet Sleeve over the Collets.
 - c. Hand tighten Screw-Drive (2) taking up any slack in Puller.
5. Hold Puller Body stationary while turning Screw-Drive until pulley is removed from power steering pump shaft.

NOTE: **Inspect pulley. Replace if pulley is bent, cracked, or loose.**

Installation

INSTALLATION

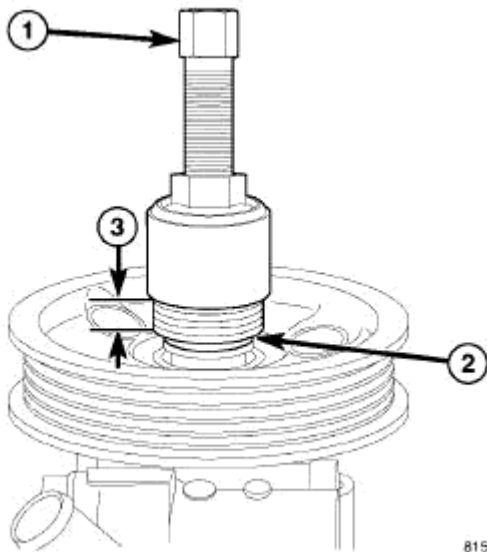


81349327

Fig. 271: INSTALLING SPACER 6936 ON PULLEY
 Courtesy of CHRYSLER LLC

CAUTION: Do not hammer on power steering pump pulley (2) or pump shaft to install pulley. This action will damage pulley and power steering pump.

1. Place power steering pump pulley (2) squarely on end of power steering pump shaft.
2. Place Installation Spacer 6936 (1), on top of pump pulley (2).



815c90ad

Fig. 272: INSTALL PULLEY USING C-4063C, 6936, AND WASHERS
 Courtesy of CHRYSLER LLC

NOTE: Later build pumps feature a shaft with internal threads that are not as deep as earlier production, thus requiring a stack of washers, approximately 13 mm (0.5 in.) thickness (3), placed over Spacer 6936 (2), before mounting Installer C-4063C (1) on the pump. To know if a replacement pump requires the stack of washers, measure the depth of the shaft hole. A later build pump will have a depth of 20 mm (0.78 in.) while an earlier build pump will have a depth of 32 mm (1.25 in.).

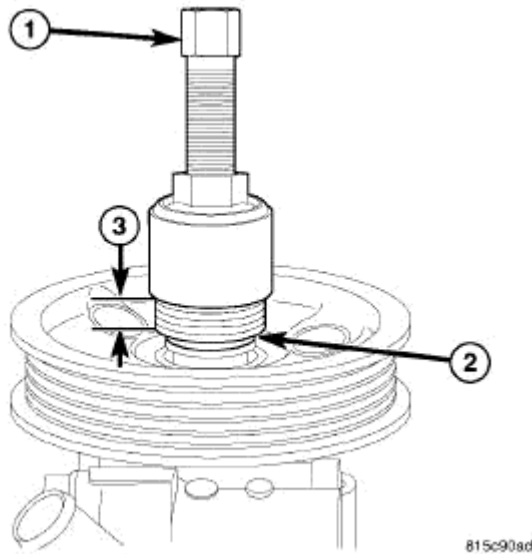


Fig. 273: INSTALL PULLEY USING C-4063C, 6936, AND WASHERS
 Courtesy of CHRYSLER LLC

3. As necessary (see above note), place a stack of washers approximately 13 mm (0.5 in.) thickness (3) over Spacer 6936 (2).

NOTE: It is important to use Forcing Screw C-4063-2 when performing this procedure.

4. Thread Installer C-4063C (1), completely into internal threads of power steering pump shaft, then rotate Installer Nut down against washers (as necessary) and Spacer (2) on pump pulley.
5. Ensuring that the tools and pulley remain aligned with pump shaft, tighten Installer Nut, forcing pulley onto power steering pump shaft until Spacer (2) comes in contact with end of pump shaft. **When Spacer (2) is against shaft of power steering pump, Installer (1) Nut will no longer rotate.**
6. Install power steering pump on engine. See Steering/Pump - Installation.

RESERVOIR, POWER STEERING PUMP

Description

DESCRIPTION

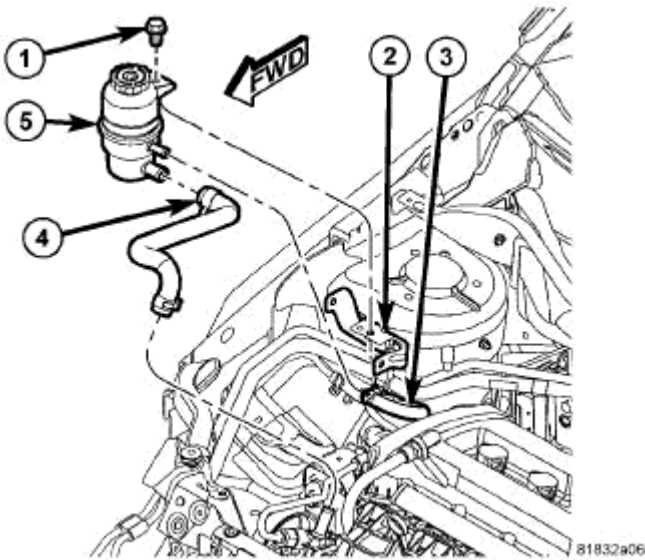


Fig. 274: FLUID RESERVOIR
Courtesy of CHRYSLER LLC

The power steering fluid reservoir (5) is mounted above the right front inner fender well to a bracket (2).

Removal

REMOVAL

NOTE: Before proceeding. See Steering - Warning.

1. Remove engine appearance cover.
2. Remove the fasteners securing the coolant recovery bottle to its mounts and move it away from the power steering fluid reservoir. It is not necessary to disconnect the coolant recovery bottle fluid lines. Refer to **Cooling/Engine/BOTTLE, Coolant Recovery - Removal**

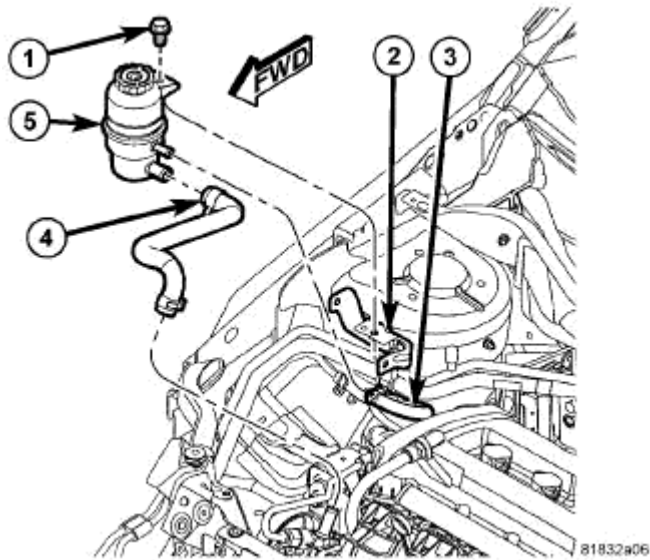


Fig. 275: FLUID RESERVOIR
Courtesy of CHRYSLER LLC

3. Siphon as much fluid as possible from the power steering fluid reservoir (5).
4. Remove hose clamp securing cooler return hose (3) to fluid reservoir fitting. Slide the hose off the end of the reservoir fitting.
5. Remove hose clamp securing pump supply hose (4) to the fluid reservoir fitting. Slide the hose off the end of the reservoir fitting.
6. Remove the reservoir mounting screw (1) used to secure the reservoir in place.
7. Remove the reservoir (5).
8. Remove the plastic shield from the reservoir.

Installation

INSTALLATION

1. Install the plastic shield over the reservoir neck.

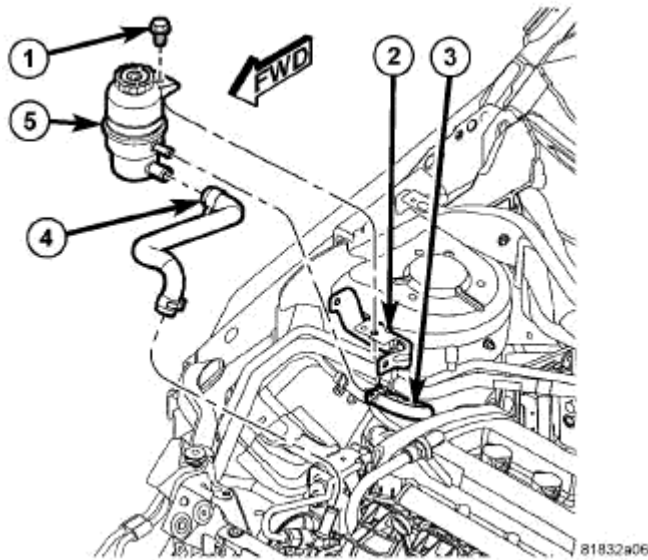


Fig. 276: FLUID RESERVOIR
Courtesy of CHRYSLER LLC

2. Attach the reservoir (5) to the strut tower bracket (2) using the mounting screw (1). Tighten mounting screw (1) to 12 N.m (106 in. lbs.).
3. Slide the pump supply hose (4) onto reservoir fitting. Expand hose clamp and slide it over hose on reservoir fitting. Secure clamp once it is past bead formed into fluid reservoir fitting.
4. Slide cooler return hose (3) onto reservoir fitting. Expand hose clamp and slide it over hose on reservoir fitting. Secure clamp once it is past bead formed into fluid reservoir fitting.
5. Install the coolant recovery bottle. Refer to **Cooling/Engine/BOTTLE, Coolant Recovery - Installation**
6. Fill and bleed the power steering system. See **Steering - Standard Procedure**
7. Check for leaks.
8. Install the engine appearance cover.