

STEERING

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SERVICE PROCEDURES

POWER STEERING PUMP - INITIAL OPERATION

WARNING: THE FLUID LEVEL SHOULD BE CHECKED WITH ENGINE OFF TO PREVENT INJURY FROM MOVING COMPONENTS.

CAUTION: Use MOPAR Power Steering Fluid or equivalent. Do not use automatic transmission fluid and do not overfill.

Wipe filler cap clean, then check the fluid level. The dipstick should indicate **COLD** when the fluid is at normal ambient temperature.

- (1) Fill the pump fluid reservoir to the proper level and let the fluid settle for at least two minutes.
- (2) Start the engine and let run for a few seconds then turn engine off.
- (3) Add fluid if necessary. Repeat the above procedure until the fluid level remains constant after running the engine.
- (4) Raise the front wheels off the ground.
- (5) Slowly turn the steering wheel right and left, lightly contacting the wheel stops at least 20 times.
- (6) Check the fluid level add if necessary.

(7) Lower the vehicle, start the engine and turn the steering wheel slowly from lock to lock.

(8) Stop the engine and check the fluid level and refill as required.

(9) If the fluid is extremely foamy or milky looking, allow the vehicle to stand a few minutes and repeat the procedure.

CAUTION: Do not run a vehicle with foamy fluid for an extended period. This may cause pump damage.

REMOVAL AND INSTALLATION

Power Steering Pump

REMOVAL

- (1) Disconnect the negative battery cable at the remote terminal, located on the left strut tower.
- (2) Remove the power steering fluid reservoir cap and siphon as much fluid as possible.
- (3) Remove the upper power steering pump pivot bolt. Located directly above the pump assembly.
- (4) Raise the vehicle on the hoist.
- (5) Remove the right front wheel and tire assembly
- (6) Remove the right front splash shield.
- (7) Remove the accessory drive belt. Refer to Group 7, Cooling System for the procedure.

REMOVAL AND INSTALLATION (Continued)

(8) Remove the pump fluid pressure line from the pump (Fig. 1).

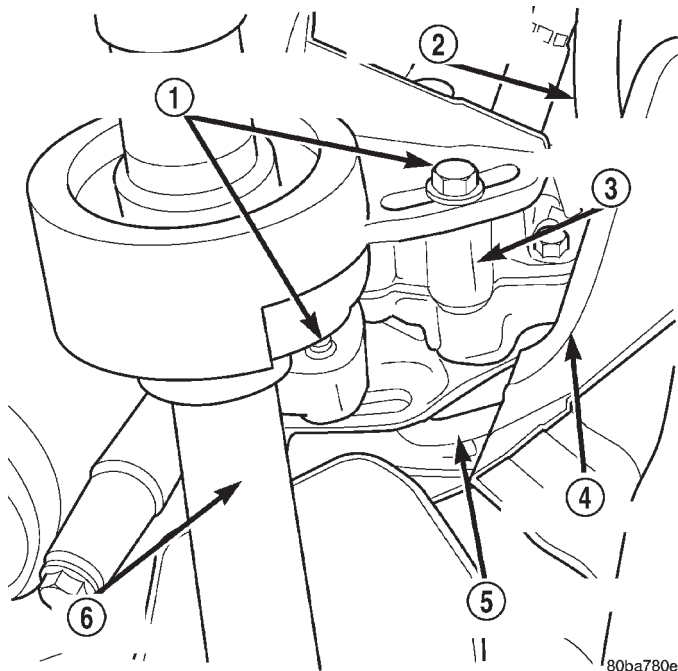


Fig. 1 Power Steering Pump — Position & Orientation

- 1 – PUMP ADJUSTMENT SLOT RETAINING BOLTS
- 2 – PUMP FLUID SUPPLY HOSE
- 3 – POWER STEERING PUMP
- 4 – A. B. S. HEATSHIELD
- 5 – POWER STEERING PUMP PRESSURE LINE
- 6 – RIGHT AXLESHAFT

(9) If equipped, remove the A. B. S. heatshield (Fig. 1).

(10) Remove the pump fluid supply hose from the pump (Fig. 1).

(11) Remove the (2) bolts at the adjustment slots on the pump mounting bracket (Fig. 1). Remove the pump assembly from the vehicle.

(12) Remove the pump pulley so it can be transferred to the new pump.

(13) Remove the pump mounting bracket so it can be transferred to the new pump.

INSTALLATION

CAUTION: Power steering system fluid may be contaminated with metal shavings, overheated or improper fluid. All fluid should be drained from the system. After any component replacement, system should be flushed and filled with Mopar Power Steering fluid, or equivalent.

(1) Transfer the mounting bracket and pulley to the new pump.

(2) Position the pump assembly and install the (2) bolts in the adjustment slots (Fig. 2). Leave them loose at this time.

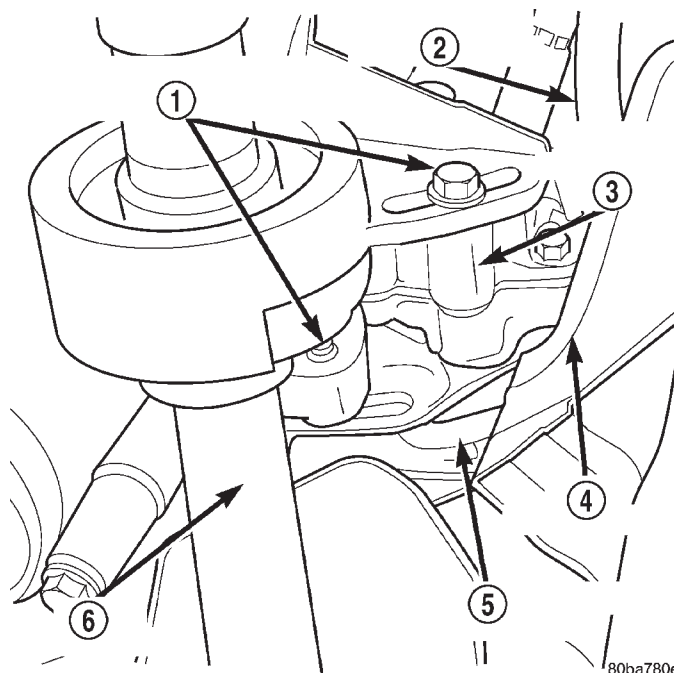


Fig. 2 Power Steering Pump — Position & Orientation

- 1 – PUMP ADJUSTMENT SLOT RETAINING BOLTS
- 2 – PUMP FLUID SUPPLY HOSE
- 3 – POWER STEERING PUMP
- 4 – A. B. S. HEATSHIELD
- 5 – POWER STEERING PUMP PRESSURE LINE
- 6 – RIGHT AXLESHAFT

(3) Lower the vehicle on the hoist.

(4) Install the power steering pump pivot bolt and leave loose at this time.

(5) Raise the vehicle on the hoist.

(6) Install the pump fluid supply hose on the pump.

(7) Install the A. B. S. heatshield.

CAUTION: Be certain pressure and supply hoses are routed in their correct positions. They must not contact the pump pulley or mounting brackets.

(8) Install the pump fluid pressure line and new O-rings. Lubricate O-rings with fresh power steering fluid prior to installation. Using a crowfoot torque the tube nut to 31 N-m (275 in. lbs.).

(9) Install the accessory drive belt. Refer to Group 7, Cooling System for the procedure.

(10) Torque the (2) adjustment slot bolts to 54 N-m (40 ft. lbs.).

(11) Install the right front splash shield.

(12) Install the right front wheel and tire assembly

(13) Lower the vehicle from the hoist.

REMOVAL AND INSTALLATION (Continued)

(14) Torque the pump pivot bolt to 54 N-m (40 ft. lbs.).

(15) Connect the negative battery cable.

(16) Fill the power steering system fluid. Refer to Group 19, Steering — Power Steering Pump Initial Operation for a detailed procedure.

POWER STEERING FLUID PRESSURE HOSE

Service all power steering hoses with the vehicle raised on a hoist. Cap all open ends of hoses, power steering pump fittings and steering gear ports to prevent the entry of foreign material into the components.

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.

REMOVAL

NOTE: To service the power steering pressure hose on this vehicle, the front suspension crossmember and steering gear will need to be lowered away from the body of the vehicle. This is required for access to the power steering hose connections on the side of the steering gear. Refer to the steering gear service procedure in this group of the service manual for the required procedure for removal of the front suspension crossmember.

(1) Raise vehicle on jack stands or centered on a frame contact type hoist. See Hoisting in the Lubrication And Maintenance section in this manual, for the required lifting procedure to be used for this vehicle.

CAUTION: When lowering the front suspension crossmember, its installed position on the vehicle's body must be marked on the crossmember before it is lowered. Use the procedure for the removal and replacement of the steering gear that is in this group of the service manual for the required procedure to locate and lower the crossmember.

(2) Lower the front suspension crossmember far enough to gain access to the high and low pressure ports on the steering gear.

(3) Disconnect the power steering pressure hose (Fig. 3) at the power steering gear. Drain power steering fluid from power steering pump and hose through open end of hose.

(4) Remove the 2 routing brackets (Fig. 4) attaching the power steering return hose to the power

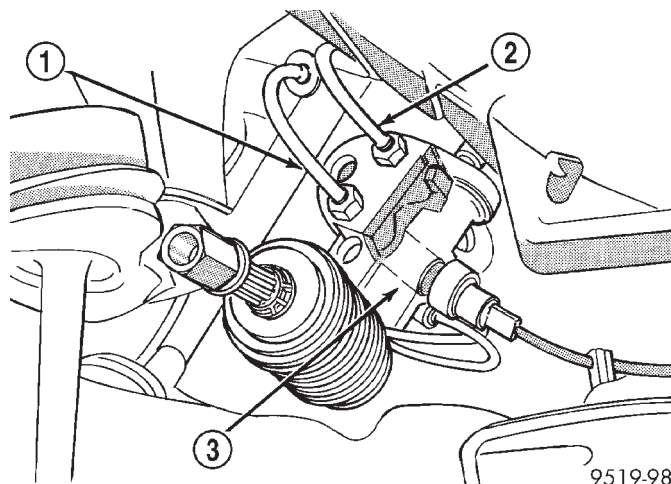


Fig. 3 Power Steering Hose Connections At Steering Gear

- 1 - POWER STEERING PRESSURE HOSE
- 2 - POWER STEERING RETURN HOSE
- 3 - POWER STEERING GEAR

steering pressure hose routing brackets. Then remove the 2 bolts attaching the power steering pressure hose routing brackets to the cylinder head (Fig. 4).

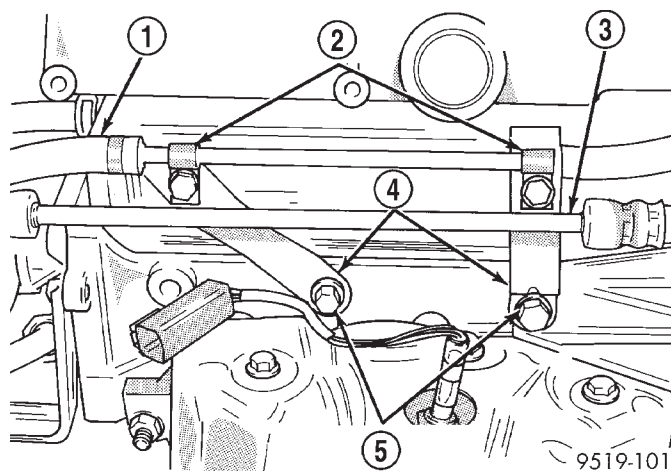


Fig. 4 2.5 Liter Power Steering Hose Routing

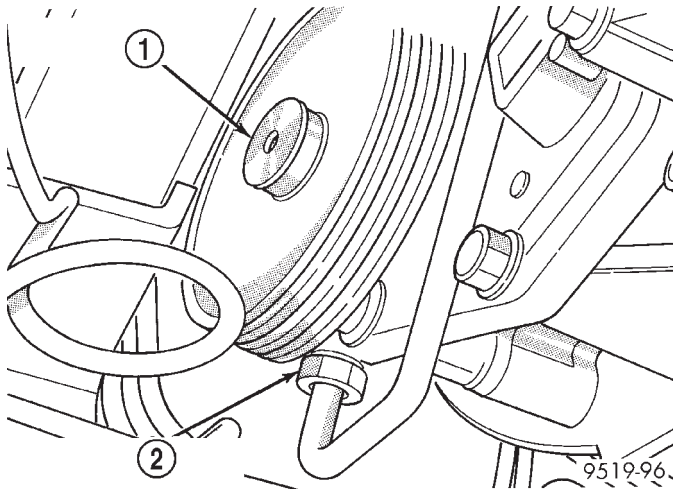
- 1 - POWER STEERING RETURN HOSE
- 2 - ROUTING BRACKETS
- 3 - POWER STEERING PRESSURE HOSE
- 4 - ROUTING BRACKETS
- 5 - ROUTING BRACKET ATTACHING BOLTS

(5) Remove the power steering pressure hose from the pressure fitting on power steering pump (Fig. 5).

(6) Remove the power steering fluid pressure hose from the vehicle through the bottom rear of the engine compartment.

(7) Discard all used O-rings located at ends of power steering pressure hose fittings.

REMOVAL AND INSTALLATION (Continued)

**Fig. 5 Power Steering Pump Pressure Fitting**

- 1 - POWER STEERING PUMP
2 - POWER STEERING PUMP PRESSURE HOSE

INSTALLATION

(1) Install power steering pressure hose in vehicle from bottom of engine compartment using the reverse order of removal.

(2) Using a lint free towel, wipe clean all open power steering hose ends and the power steering pump and steering gear ports.

(3) Install new O-rings on the power steering pressure hose fittings. Lubricate O-rings using fresh clean power steering fluid.

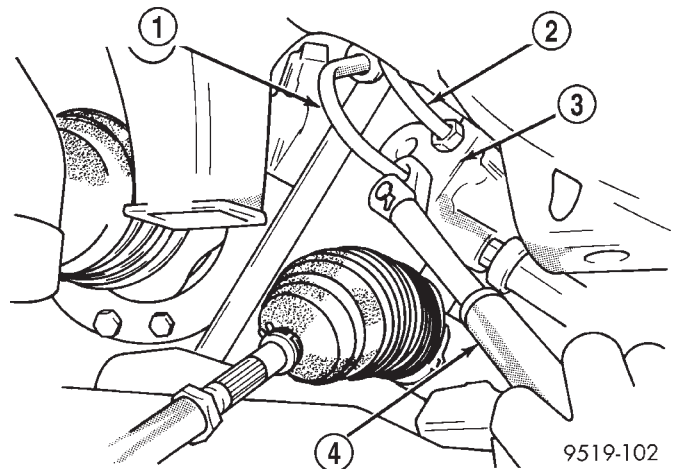
(4) Attach the power steering pressure hose to outlet fitting on the power steering pump. **Do not tighten or torque pressure fitting at this time.**

CAUTION: Hoses must remain away from exhaust system, vehicle components and unfriendly surfaces causing possible damage to power steering hoses.

(5) Correctly route power steering pressure hose avoiding tight bends or kinking of the hose. Install power steering pressure hose routing brackets and attaching bolts on engine (Fig. 4).

(6) Route power steering pressure hose to pressure port on power steering gear. Install power steering pressure hose, on steering gear and loosely install tube nut into steering gear. Then using a crow foot, (Fig. 6) tighten the power steering pressure hose tube nut to a torque of 31 N·m (275 in. lbs.).

CAUTION: When installing the front suspension crossmember, it must be installed back in the same location on the vehicle's body as when it was originally installed when the vehicle was built. Use procedure for installing the steering gear that is in this

**Fig. 6 Power Steering Pressure Hose Tube Nut**

- 1 - POWER STEERING PRESSURE HOSE
2 - POWER STEERING RETURN HOSE
3 - STEERING GEAR
4 - TORQUE WRENCH

group of the service manual for the required procedure to install and locate crossmember.

(7) Raise the front suspension crossmember and steering gear back up into the vehicle. Refer to the steering gear service procedure in this group of the service manual for the required procedure to install the front suspension crossmember.

(8) Lower the vehicle.

(9) Start the engine and let run for a few seconds, then turn the engine off.

(10) Add fluid if necessary. Repeat the above procedure until the fluid level remains constant after running the engine.

(11) Raise front wheels of vehicle off the ground.

(12) Start the engine. Slowly turn the steering wheel right and left, lightly contacting the wheel stops. Then turn the engine off.

(13) Add power steering fluid if necessary.

(14) Lower the vehicle and turn the steering wheel slowly from lock to lock.

(15) Stop the engine. Check the fluid level and refill as required.

(16) If the fluid is extremely foamy, allow the vehicle to stand a few minutes and repeat the above procedure.

(17) After hose is installed, check for leaks at all hose connections.

POWER STEERING FLUID RETURN HOSE

Service all power steering hoses with the vehicle raised on a hoist. Cap all open ends of hoses, power steering pump fittings and steering gear ports to pre-

REMOVAL AND INSTALLATION (Continued)

vent the entry of foreign material into the components.

WARNING: POWER STEERING OIL, 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.

REMOVE

NOTE: To remove the power steering return hose on this vehicle, the front suspension crossmember and steering gear will need to be lowered away from the body of the vehicle. This is required for access to the power steering hose connections on the side of the steering gear. Refer to the steering gear service procedure in this group of the service manual for the required procedure to remove the front suspension crossmember.

(1) Siphon all power steering fluid from the power steering fluid reservoir.

CAUTION: Care must be used when removing power steering fluid return hose from power steering fluid reservoir. If excessive force is used when trying to remove hose from nipple on power steering fluid reservoir, nipple can break off of the reservoir.

(2) Remove power steering fluid return hose from nipple on power steering fluid reservoir (Fig. 7).

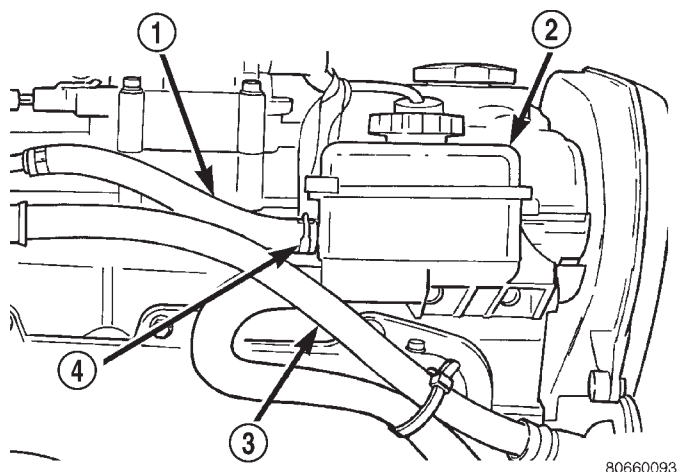


Fig. 7 Power Steering Fluid Return Hose At Reservoir

- 1 - POWER STEERING FLUID RETURN HOSE
- 2 - POWER STEERING FLUID RESERVOIR
- 3 - POWER STEERING PRESSURE HOSE
- 4 - HOSE CLAMP

(3) Raise vehicle on jack stands or centered on a frame contact type hoist. See Hoisting in the Lubrication And Maintenance section in this manual, for the required lifting procedure to be used for this vehicle.

CAUTION: When lowering the front suspension crossmember, its installed position on the vehicle's body must be marked on the crossmember before it is lowered. Use procedure for the removal and replacement of the steering gear that is in this group of the service manual for the required procedure to locate and lower crossmember.

(4) Lower the front suspension crossmember far enough to gain access to the high and low pressure ports on the steering gear.

(5) Disconnect power steering fluid return hose at power steering cooler line (Fig. 8). Drain power steering fluid from hose.

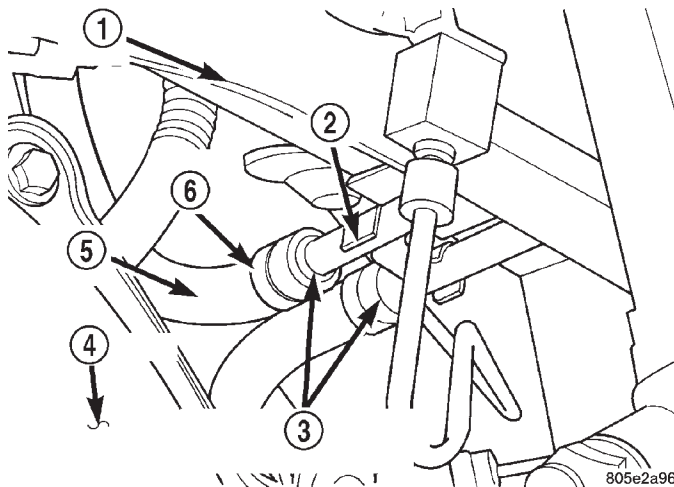


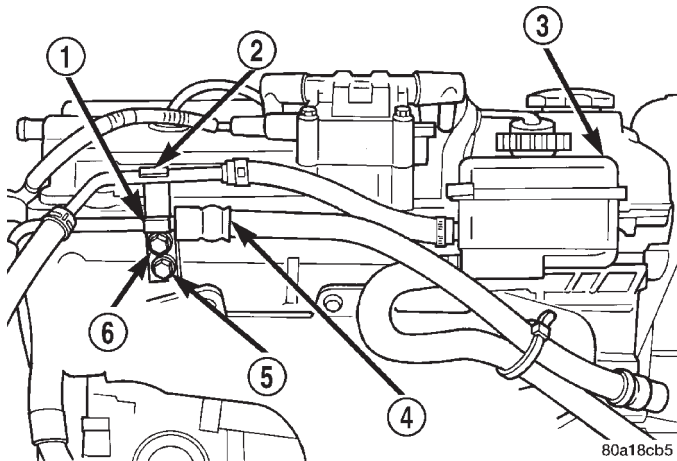
Fig. 8 Power Steering Hose Connections At Cooler Lines

- 1 - LEFT FRAME RAIL
- 2 - CLIP
- 3 - POWER STEERING COOLER LINES
- 4 - TRANSAXLE
- 5 - RETURN HOSE
- 6 - HOSE CLAMP

(6) Remove power steering pressure hose routing bracket from the power steering return hose routing bracket on rear of engine (Fig. 9). Then remove the bolt (Fig. 9) attaching the power steering pressure hose routing bracket to the cylinder head.

(7) Remove the power steering return hose from the vehicle. The power steering return hose is removed from the bottom of the engine compartment.

REMOVAL AND INSTALLATION (Continued)

**Fig. 9 Power Steering Hose Routing**

- 1 – ROUTING BRACKET
- 2 – POWER STEERING RETURN HOSE AND ROUTING BRACKET
- 3 – POWER STEERING FLUID RESERVOIR
- 4 – POWER STEERING PRESSURE HOSE
- 5 – BOLT
- 6 – BOLT TO BE REMOVED

INSTALL

(1) Install power steering return hose on vehicle. Power steering return hose is installed from the bottom of the vehicles engine compartment using the reverse steps of removal..

(2) Using a lint free towel, wipe clean all open power steering hose ends, and the power steering gear port.

(3) Install a new O-ring on the power steering return hose to steering gear fitting.

(4) Lubricate O-ring using fresh clean power steering fluid.

(5) Install the power steering return hose on the cooler lines (Fig. 8).

CAUTION: Hoses must remain away from exhaust system, vehicle components and unfriendly surfaces causing possible damage to power steering hoses.

(6) Correctly route power steering return hose up to the power steering fluid reservoir, avoiding tight bends or kinking of the hose.

(7) Install power steering return hose routing bracket on rear of cylinder head (Fig. 9) and securely tighten bolt. Then install the power steering pressure hose routing bracket on the return hose routing bracket (Fig. 9) and securely tighten attaching bolt.

CAUTION: When installing the front suspension crossmember, it must be installed back in the same location on the vehicle's body as when it was originally installed when the vehicle was built. Use pro-

cedure for installing the steering gear that is in this group of the service manual for the required procedure to install and locate crossmember.

(8) Raise the front suspension crossmember and steering gear back up into the vehicle. Refer to the steering gear service procedure in this group of the service manual for the required procedure to install the front suspension crossmember.

(9) Lower vehicle.

CAUTION: Care must be used when installing power steering fluid return hose on power steering fluid reservoir. If excessive force is used when trying to install hose on nipple of power steering fluid reservoir, nipple can be broken off the reservoir.

(10) Install power steering return hose on power steering fluid reservoir fitting. Install hose clamp on power steering return hose at power steering fluid reservoir. **Be sure hose clamp is installed on return hose past upset bead on power steering fluid reservoir.**

(11) Start the engine and let run for a few seconds. Then turn the engine off.

(12) Add fluid if necessary. Repeat the above procedure until the fluid level remains constant after running the engine.

(13) Raise front wheels of vehicle off the ground.

(14) Start the engine. Slowly turn the steering wheel right and left, lightly contacting the wheel stops. Then turn the engine off.

(15) Add power steering fluid if necessary.

(16) Lower the vehicle and turn the steering wheel slowly from lock to lock.

(17) Stop the engine. Check the fluid level and refill as required.

(18) If the fluid is extremely foamy, allow the vehicle to stand a few minutes and repeat the above procedure.

(19) After hose is installed, check for leaks at all hose connections.

POWER STEERING FLUID SUPPLY HOSE (2.0L ENGINE)**REMOVAL**

(1) Using a siphon pump, remove as much power steering fluid as possible from the remote power steering fluid reservoir.

CAUTION: Care must be used when removing the power steering fluid supply hose from power steering fluid reservoir. If excessive force is used when trying to remove hose from nipple on power steering fluid reservoir, nipple can break off of the reservoir.

REMOVAL AND INSTALLATION (Continued)

(2) Remove the tie-strap (Fig. 10) holding the power steering fluid supply hose to the power steering pressure hose.

(3) Remove hose clamp, attaching power steering fluid supply hose to power steering fluid reservoir (Fig. 10). Then remove power steering fluid supply hose from power steering fluid reservoir.

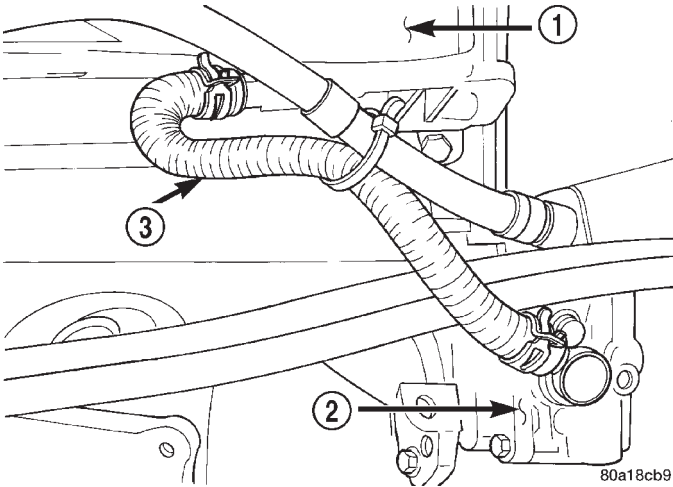


Fig. 10 Power Steering Fluid Supply Hose

- 1 - POWER STEERING FLUID RESERVOIR
- 2 - POWER STEERING PUMP
- 3 - POWER STEERING FLUID SUPPLY HOSE

(4) Remove hose clamp, attaching the power steering fluid supply hose to the power steering pump. Then remove power steering fluid supply hose from power steering pump fitting.

(5) Remove power steering fluid supply hose from engine.

INSTALLATION

(1) Install power steering fluid supply hose back on engine making sure it is correctly routed.

CAUTION: Care must be used when installing power steering fluid supply hose on power steering fluid reservoir. If excessive force is used when trying to install hose on nipple of power steering fluid reservoir, nipple can be broken off the reservoir.

(2) Install power steering fluid supply hose on power steering fluid reservoir fitting. Install hose clamp on power steering fluid supply hose at power steering fluid reservoir (Fig. 10). **Be sure hose clamp is installed on supply hose past upset bead on power steering fluid reservoir.**

(3) Install power steering fluid supply hose on power steering pump fitting. Install hose clamp on power steering fluid supply hose at power steering pump fitting (Fig. 10). **Be sure hose clamp is installed on power steering fluid supply hose**

past upset bead on power steering pump fitting.

CAUTION: The tie strap must be installed on the power steering pressure hose and supply hose to ensure proper routing of the hoses.

(4) Install the tie-strap (Fig. 10) holding the power steering fluid supply hose to the power steering pressure hose.

CAUTION: Do not use automatic transmission fluid in power steering system. Only use Mopar®, Power Steering Fluid, or equivalent.

(5) Fill power steering fluid reservoir.

(6) Start the engine and let run for a few seconds. Then turn the engine off.

(7) Add fluid if necessary. Repeat the above procedure until the fluid level remains constant after running the engine.

(8) Raise front wheels of vehicle off the ground.

(9) Start the engine. Slowly turn the steering wheel right and left, lightly contacting the wheel stops. Then turn the engine off.

(10) Add power steering fluid if necessary.

(11) Lower the vehicle and turn the steering wheel slowly from lock to lock.

(12) Stop the engine. Check the fluid level and refill as required.

(13) If the fluid is extremely foamy, allow the vehicle to stand a few minutes and repeat the above procedure.

(14) After hose is installed, check for leaks at all hose connections.

POWER STEERING FLUID RESERVOIR**REMOVAL**

(1) Using a siphon pump, remove as much power steering fluid as possible from the power steering fluid reservoir.

(2) Raise vehicle.

(3) Remove hose clamp attaching power steering fluid supply hose to fitting on power steering pump. Let power steering fluid drain from supply hose and power steering fluid reservoir, until reservoir is empty.

(4) Lower vehicle.

CAUTION: Care must be used when removing and installing power steering fluid hoses on the power steering fluid reservoir. If excessive force is used when trying to remove or install hoses on nipples of power steering fluid reservoir, nipples can be broken off the reservoir.

REMOVAL AND INSTALLATION (Continued)

- (5) Remove power steering fluid return and supply hose, from power steering fluid reservoir.
- (6) Remove bolts attaching power steering fluid reservoir to engine.
- (7) Remove power steering fluid reservoir from vehicle.

INSTALLATION

- (1) Install power steering fluid reservoir on cylinder head. Install and securely tighten the power steering fluid reservoir attaching bolts.
- (2) Install power steering fluid return and supply hose, on power steering fluid reservoir fittings. **Be sure both hose clamps are installed on hose past upset bead on power steering reservoir fittings.**
- (3) Raise vehicle.
- (4) Install power steering supply hose, on suction fitting of the power steering pump. **Be sure hose clamp is installed on hose past upset bead on power steering gear steel tube.**
- (5) Fill power steering pump fluid reservoir to the proper level.
- (6) Start the engine and let run for a few seconds. Then turn the engine off.
- (7) Add fluid if necessary. Repeat the above procedure until the fluid level remains constant after running the engine.
- (8) Raise front wheels of vehicle off the ground.
- (9) Start the engine. Slowly turn the steering wheel right and left, lightly contacting the wheel stops. Then turn the engine off.
- (10) Add power steering fluid if necessary.
- (11) Lower the vehicle and turn the steering wheel slowly from lock to lock.

- (12) Stop the engine. Check the fluid level and refill as required.
- (13) If the fluid is extremely foamy, allow the vehicle to stand a few minutes and repeat the above procedure.

SPECIFICATIONS

POWER STEERING FASTENER TORQUE SPECIFICATIONS

DESCRIPTION	TORQUE
POWER STEERING PUMP:	
Discharge Fitting	75 N·m (55 ft. lbs.)
Rear Bracket Mounting Bolts	54 N·m (40 ft. lbs.)
Front Bracket Mounting Bolts	54 N·m (40 ft. lbs.)
Bracket To Engine Mounting Bolts	54 N·m (40 ft. lbs.)
POWER STEERING FLUID HOSES:	
Hose Tube Nuts	31 N·m (275 in. lbs.)
Return Hose Bracket To Head	28 N·m (21 ft. lbs.)
Pressure Hose To Return Hose Bracket . . .	9 N·m (75 in. lbs.)
POWER STEERING FLUID RESERVOIR:	
Reservoir To Mounting Bracket Or Engine . . .	28 N·m (21 ft. lbs.)
Reservoir Bracket To Engine .	28 N·m (21 ft. lbs.)