

STEERING

TABLE OF CONTENTS

	page	page
POWER STEERING SYSTEM – 2.5L VM DIESEL	1	POWER STEERING PUMP – 2.5L VM DIESEL ... 2

POWER STEERING SYSTEM – 2.5L VM DIESEL

TABLE OF CONTENTS

page
DESCRIPTION AND OPERATION
POWER STEERING PUMP
1

DESCRIPTION AND OPERATION

POWER STEERING PUMP

The power steering pump used with the 2.5L VM Diesel engine operates the same way as the power

steering pump used with the 2.5/4.0L gasoline engines. Refer to the Description and Operation section for the 2.5/4.0L gasoline engine power steering pump for more information.

POWER STEERING PUMP – 2.5L VM DIESEL

TABLE OF CONTENTS

	page	page
SERVICE PROCEDURES		
POWER STEERING PUMP - INITIAL OPERATION	2	
REMOVAL AND INSTALLATION		
POWER STEERING PUMP — LHD	2	
POWER STEERING PUMP — RHD	5	
STEERING GEAR - RHD	7	

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.

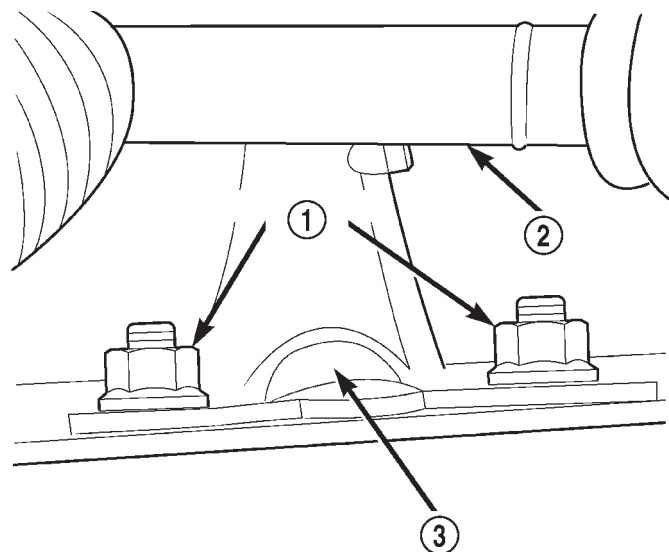
CAUTION: Do not run a vehicle with foamy fluid for an extended period. This may cause pump damage.

REMOVAL AND INSTALLATION

POWER STEERING PUMP — LHD

Removal

- (1) Disconnect the negative battery cable.
- (2) Remove the A/C line support bracket from the rear of the rocker cover.
- (3) Disconnect the A/C compressor electrical connector.
- (4) Remove the (2) engine mount upper sill plate nuts (Fig. 1).



80b9a4c1

Fig. 1 Engine Mount Sill Plate Nuts

- 1 – SILL PLATE NUTS
- 2 – STEERING SHAFT
- 3 – ENGINE MOUNT

- (5) Make sure the steering wheel is in the unlocked position.
- (6) Raise the vehicle on a hoist.
- (7) Remove the steering shaft pinch bolt and slide the steering shaft straight off the gearbox input shaft, position the shaft aside.

REMOVAL AND INSTALLATION (Continued)

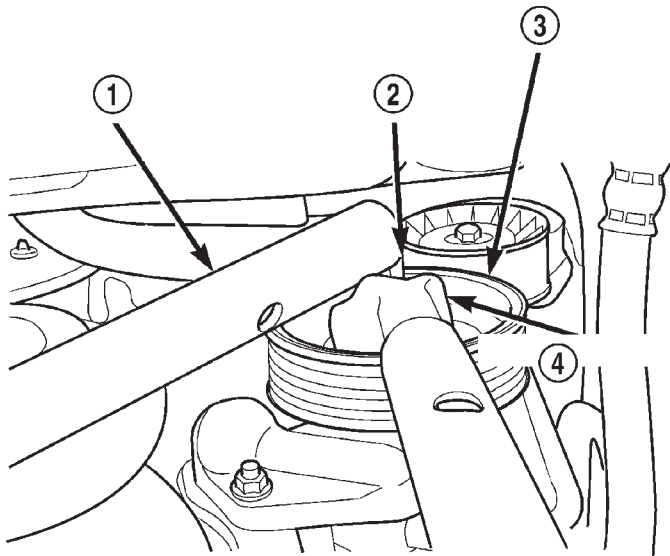
CAUTION: Avoid turning the steering shaft while disconnected from the steering gearbox. Damage to steering column clockspring could occur.

(8) Remove the power steering fluid supply hose from the pump and let the fluid drain.

(9) Loosen the (4) H-Block retaining bolts. Do not remove the bolts at this time.

(10) Remove the accessory drive belt from the power steering pump pulley. Refer to Group 7, Cooling System for procedure.

(11) Remove the power steering pump pulley. Use a hex socket to secure the pump shaft while removing the pulley nut with a box wrench (Fig. 2).



80b9a4c2

Fig. 2 Removing the Power Steering Pump Pulley

- 1 - LEVERAGE PIPE
- 2 - HEX WRENCH
- 3 - POWER STEERING PUMP PULLEY
- 4 - BOX WRENCH

NOTE: Mark the position of the H-Block in relation to the A/C Compressor so it may be reinstalled in the same position.

(12) Remove the (2) bolts retaining the H-Block to the power steering pump shaft coupler.

(13) Loosen the coupler pinch bolt and slide the coupler towards the pump.

(14) Remove the power steering pump pressure line from the steering gear. This is more accessible, but will require you to install the pressure line on the new pump prior to installation.

(15) Remove the remaining 2 bolts from the H-Block and remove the H-Block from the compressor.

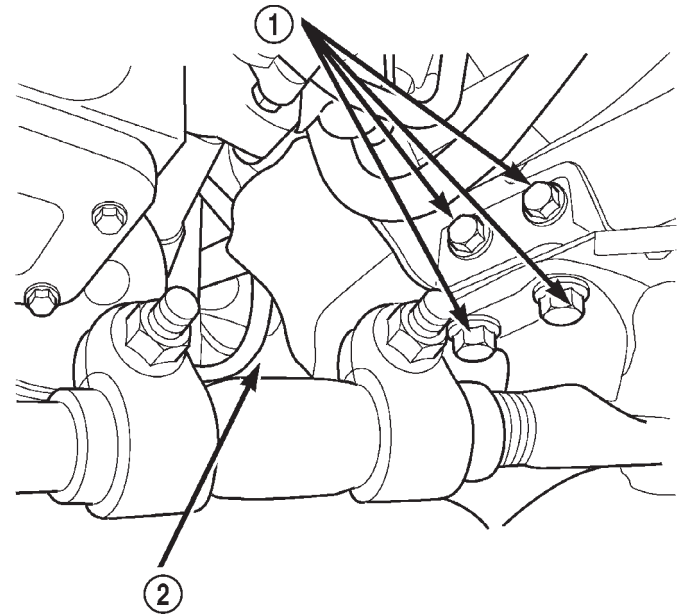
(16) Support the A/C compressor with mechanics wire before proceeding to the next step.

(17) Remove the (4) A/C compressor retaining bolts.

(18) Remove the left engine mount throughbolt nut only. Do not remove the bolt at this time.

(19) Position a jack stand and raise weight off left engine mount.

(20) Remove the track bar support bracket retaining bolts and remove bracket (Fig. 3).



80b9a4be

Fig. 3 Engine Mount Retaining Bolts

- 1 - TRACK BAR SUPPORT BRACKET RETAINING BOLTS
- 2 - ENGINE MOUNT SILL PLATE BOLT

(21) Remove the lower engine mount bolt from the sill plate (Fig. 3).

(22) Remove the (4) engine mount bracket bolts from the engine block.

(23) Remove the engine mount throughbolt.

(24) Remove the engine mount and engine mount bracket from the vehicle.

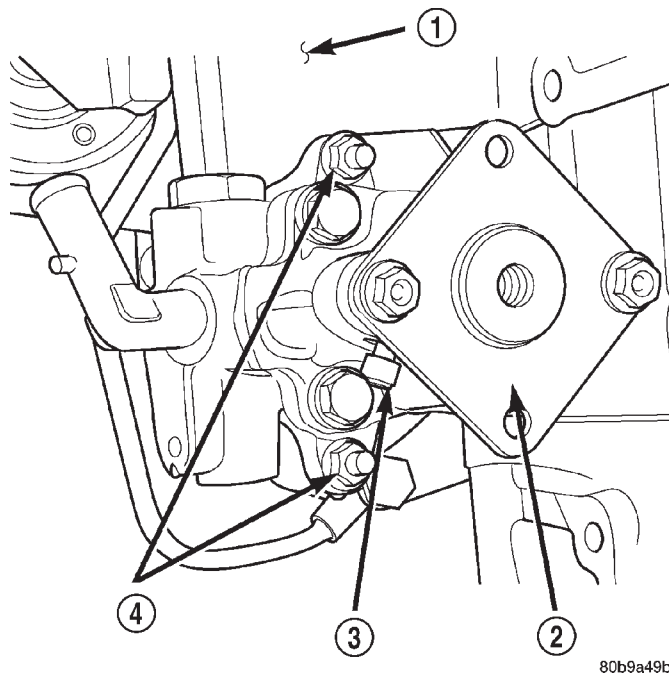
(25) Remove the (2) power steering pump retaining nuts (Fig. 4).

(26) Remove the power steering pump from the vehicle.

Installation

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

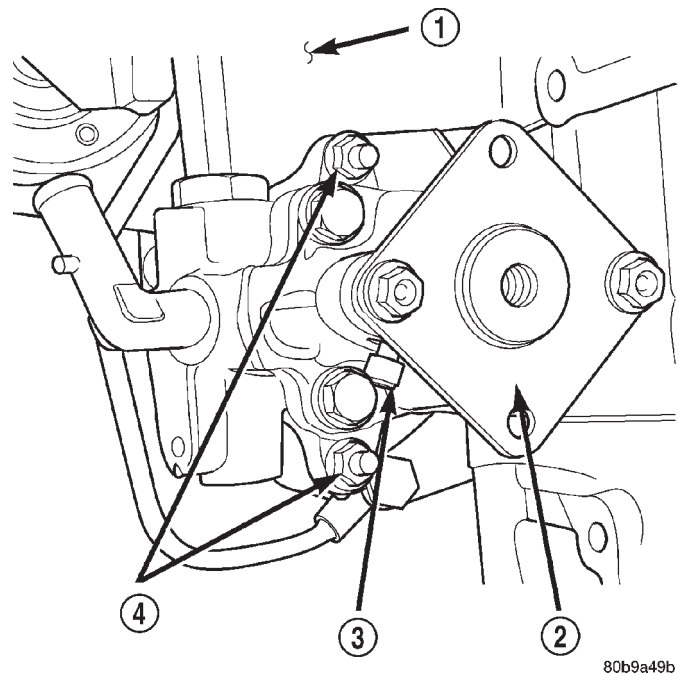
REMOVAL AND INSTALLATION (Continued)



80b9a49b

Fig. 4 Power Steering Pump

- 1 - ENGINE BLOCK
- 2 - COUPLER
- 3 - COUPLER PINCH BOLT
- 4 - POWER STEERING PUMP RETAINING NUTS



80b9a49b

Fig. 5 Power Steering Pump

- 1 - ENGINE BLOCK
- 2 - COUPLER
- 3 - COUPLER PINCH BOLT
- 4 - POWER STEERING PUMP RETAINING NUTS

(1) Transfer the pressure line to the new pump, making sure line is in original position.

(2) Transfer the coupler to the new pump leaving pinch bolt loose at this time (Fig. 5).

(3) Install the power steering pump (Fig. 5).

(4) Install the engine mount and the engine mount bracket in the vehicle.

(5) Install the engine mount throughbolt and leave loose at this time.

(6) Install, but do not torque the engine mount and track bar support bracket bolts (Fig. 6).

(7) Install the (4) engine mount bracket to engine block retaining bolts. Torque bolts to 47 N·m (35 ft. lbs.).

(8) Torque the engine mount sill plate bolts to 41 N·m (30 ft. lbs.).

(9) Torque the larger trackbar support bracket bolts to 125 N·m (92ft. lbs.).

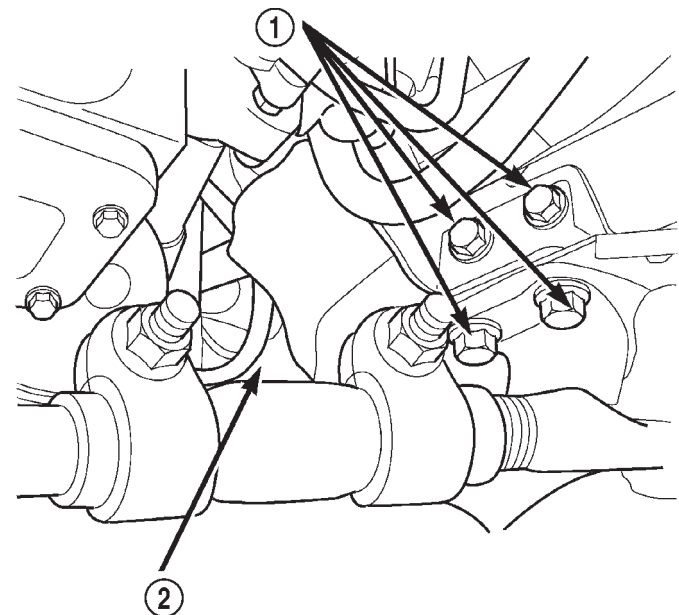
(10) Remove the jack stand.

(11) Install the H-Block on the A/C compressor in its original position and leave the bolts loose at this time.

(12) Position and install the A/C compressor.

(13) Slide the drive coupler in its original position and install the remaining (2) H-Block bolts.

(14) Install the power steering pump pulley (Fig. 7). Torque nut to 166 N·m (120 ft. lbs.).



80b9a4be

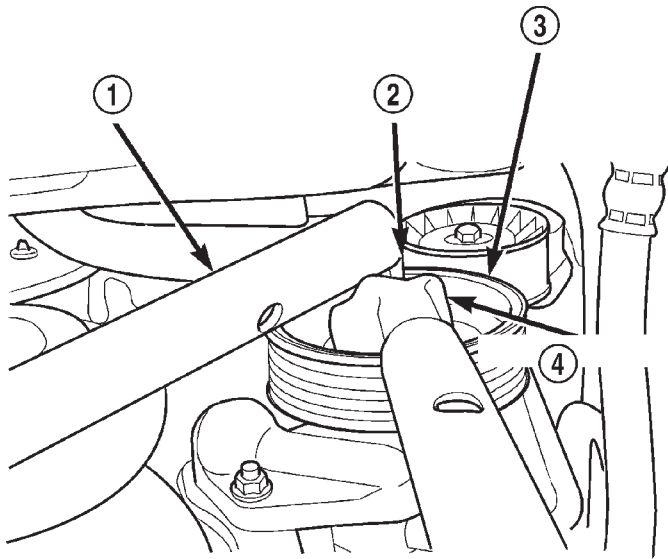
Fig. 6 Engine Mount Retaining Bolts

- 1 - TRACK BAR SUPPORT BRACKET RETAINING BOLTS
- 2 - ENGINE MOUNT SILL PLATE BOLT

(15) Install the accessory drive belt. See Group 7, Cooling System for procedure.

(16) Torque all the H-Block bolts.

REMOVAL AND INSTALLATION (Continued)



80b9a4c2

Fig. 7 Installing Pump Pulley

- 1 – LEVERAGE PIPE
- 2 – HEX WRENCH
- 3 – POWER STEERING PUMP PULLEY
- 4 – BOX WRENCH

(17) Install the steering shaft. Torque the steering shaft pinch bolt to 49 N·m (36 ft. lbs.).

(18) Install the pressure line on steering gear. Torque nut to 28 N·m (21 ft. lbs.).

(19) Install the power steering fluid supply hose on the pump.

(20) Lower the vehicle from the hoist.

(21) Install and torque the engine mount upper sill plate nuts to 41 N·m (30 ft. lbs.) (Fig. 8).

(22) Connect the A/C compressor electrical connector.

(23) Install the A/C line support bracket bolt at the rear of the valve cover.

(24) Fill the power steering fluid. See Group 19, Steering for Power Steering Pump-Initial operation procedure.

(25) Connect the negative battery cable.

POWER STEERING PUMP — RHD**Removal**

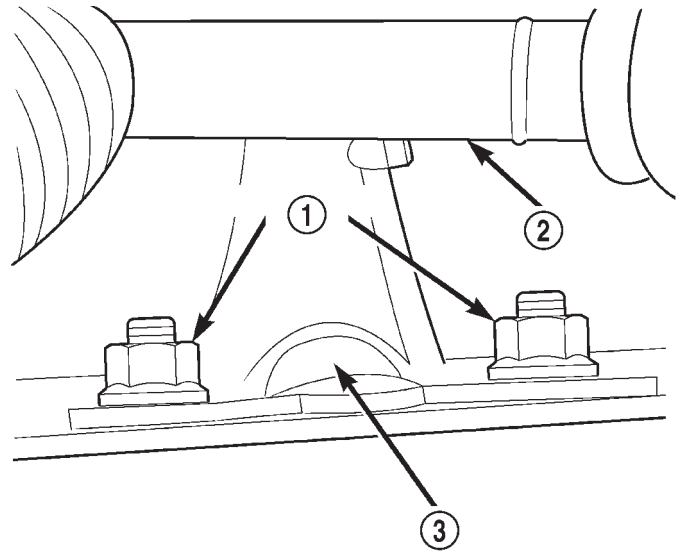
(1) Disconnect the negative battery cable.

(2) Remove the refrigerant line support bracket bolt from the top of the radiator.

(3) Remove the A/C filter-drier assembly support bracket nuts from left fender well.

(4) Disconnect the A/C compressor electrical connector.

(5) Raise the vehicle on a hoist.



80b9a4c1

Fig. 8 Engine Mount Sill Plate Nuts

- 1 – SILL PLATE NUTS
- 2 – STEERING SHAFT
- 3 – ENGINE MOUNT

(6) Remove the power steering fluid supply hose from pump and drain fluid.

(7) Remove power steering line support bracket bolt from below radiator.

(8) Remove the engine mount upper sill plate nuts.

(9) Loosen the (4) H-Block retaining bolts. Do not remove at this time.

(10) Remove the accessory drive belt from the power steering pump pulley. See Group 7, Cooling System for procedure.

(11) Remove the power steering pump pulley. Use a hex socket to secure the pump shaft while removing the pulley nut with a box wrench (Fig. 9).

NOTE: Mark position of the H-Block in relation to the A/C Compressor so it can be installed in the same position.

(12) Remove the (2) bolts retaining the H-Block to the power steering pump shaft coupler.

(13) Loosen the coupler pinch bolt and slide coupler towards pump.

(14) Remove the left engine mount throughbolt nut only. Do not remove the bolt at this time.

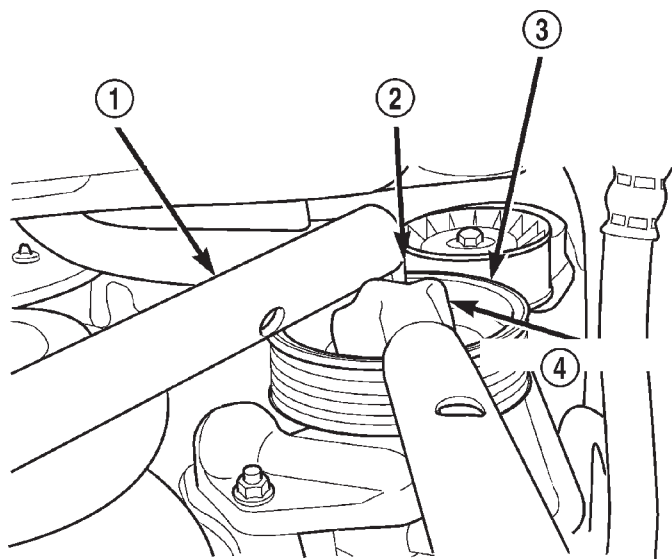
(15) Remove the remaining 2 bolts from the H-Block and remove the H-Block from the compressor.

(16) Position a jack stand and raise weight off left engine mount.

(17) Remove the (2) engine mount sill plate bolts.

(18) Remove the (4) engine mount bracket bolts from the engine block.

REMOVAL AND INSTALLATION (Continued)



80b9a4c2

Fig. 9 Removing Pump Pulley

- 1 - LEVERAGE PIPE
- 2 - HEX WRENCH
- 3 - POWER STEERING PUMP PULLEY
- 4 - BOX WRENCH

(19) Remove the engine mount throughbolt.

(20) Remove the engine mount and engine mount bracket from vehicle.

(21) Remove the (2) power steering pump retaining nuts (Fig. 10).

(22) Slide pump off mounting studs and position so pressure line can be removed. This will require you to install pressure line on the new pump prior to installing it in the engine block.

(23) Remove the power steering pump from the vehicle.

Installation

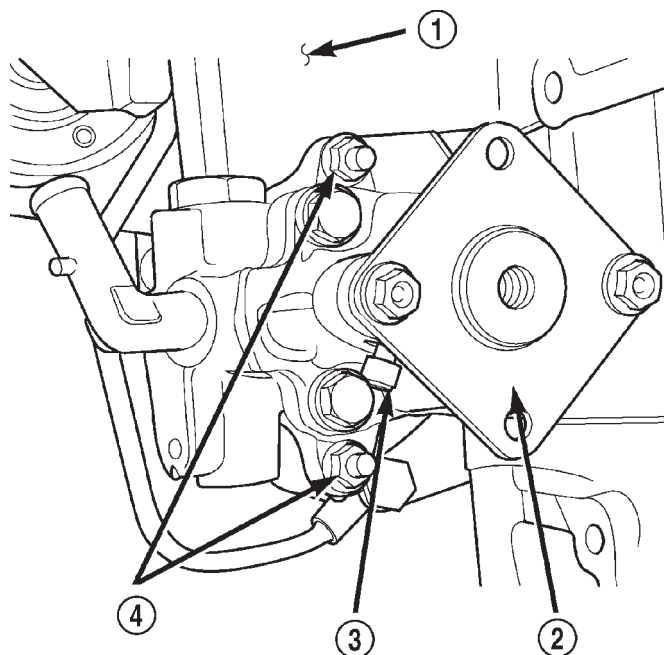
WARNING: Power steering system fluid may be contaminated with metal shavings, overheated or improper fluid. All fluid should be drained from the system. After component replacement, system should be flushed and filled with Mopar Power Steering Fluid, or equivalent.

(1) Install the pressure line on pump in original position.

(2) Transfer the drive coupler to new pump leaving pinch bolt loose at this time (Fig. 11).

(3) Install the power steering pump in the engine block. Torque retaining nuts to 24 N·m (18 ft. lbs.) (Fig. 11).

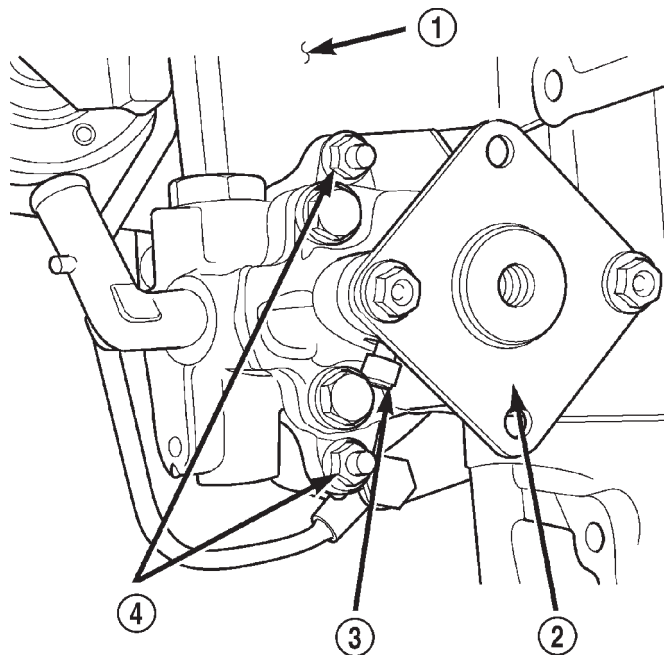
(4) Install the engine mount and engine mount bracket in vehicle.



80b9a49b

Fig. 10 Power Steering Pump

- 1 - ENGINE BLOCK
- 2 - COUPLER
- 3 - COUPLER PINCH BOLT
- 4 - POWER STEERING PUMP RETAINING NUTS



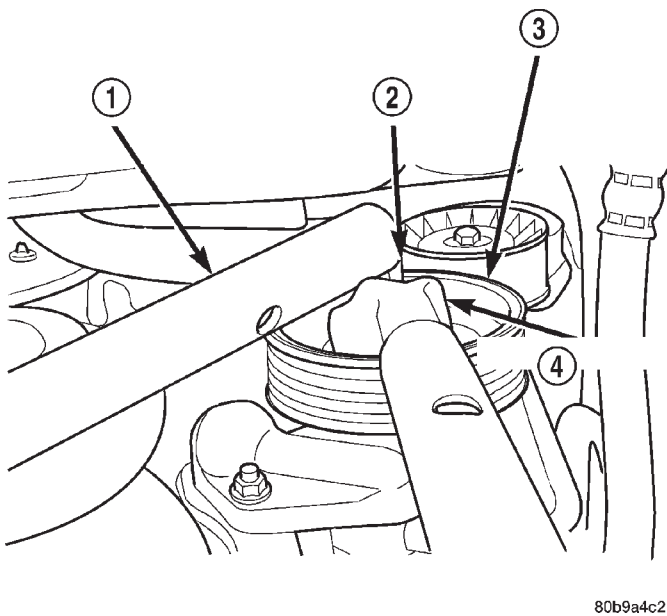
80b9a49b

Fig. 11 Power Steering Pump

- 1 - ENGINE BLOCK
- 2 - COUPLER
- 3 - COUPLER PINCH BOLT
- 4 - POWER STEERING PUMP RETAINING NUTS

REMOVAL AND INSTALLATION (Continued)

- (5) Install the engine mount throughbolt and leave loose at this time.
- (6) Install, do not torque engine mount sill plate nuts and bolts.
- (7) Install (4) engine mount bracket to engine block retaining bolts and Torque to 61 N·m (45 ft. lbs.).
- (8) Torque the engine mount sill plate nuts to 41 N·m (30 ft. lbs.).
- (9) Torque the engine mount sill plate bolts to 41 N·m (30 ft. lbs.).
- (10) Remove jack stand.
- (11) Install the H-Block on the A/C compressor in the original position and leave bolts loose at this time.
- (12) Position and install A/C compressor.
- (13) Slide the drive coupler into its original position and start remaining (2) H-Block bolts.
- (14) Install the power steering pump pulley (Fig. 12). Torque nut to 166 N·m (120 ft. lbs.).

**Fig. 12 Installing Pump Pulley**

- 1 - LEVERAGE PIPE
- 2 - HEX WRENCH
- 3 - POWER STEERING PUMP PULLEY
- 4 - BOX WRENCH

- (15) Install the accessory drive belt. See Group 7, Cooling for procedure.
- (16) Torque all the H-Block bolts.
- (17) Torque the engine mount throughbolt nut to 65 N·m (48 ft. lbs.).
- (18) Install the power steering fluid supply hose on pump.
- (19) Install the power steering line support bracket bolt.
- (20) Lower the vehicle from hoist.

- (21) Install the refrigerent line support bracket and bolt on the top of the radiator.
- (22) Install the A/C filter-drier assembly support bracket nuts on the left fender well.
- (23) Reconnect the A/C compressor electrical connector.
- (24) Re-fill the power steering fluid. Refer to Group 19, Steering for Power Steering Pump-Initial Operation for procedure.
- (25) Connect the negative battery cable.

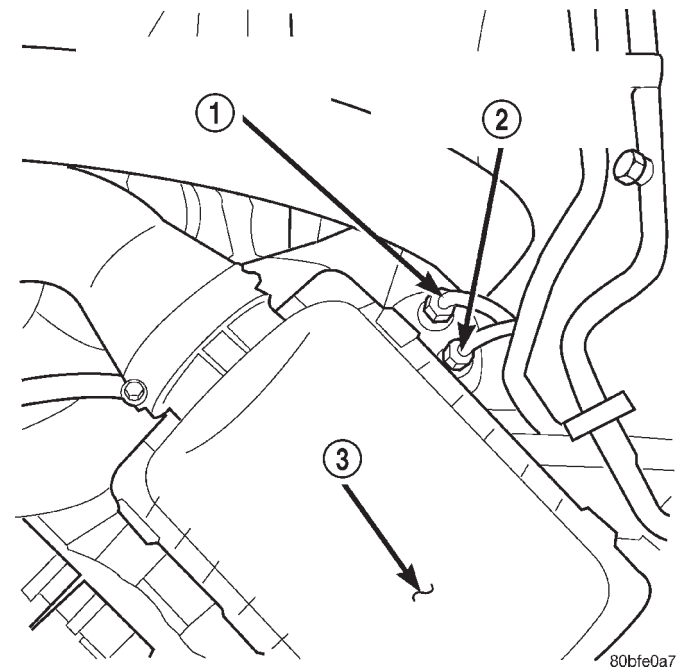
STEERING GEAR - RHD

REMOVAL

- (1) Open the hood and disconnect the negative battery cable.
- (2) Place the front wheels in the straight ahead position and lock the steering wheel.

CAUTION: Be certain to lock the steering wheel in position prior to disconnecting the steering column coupler. This will prevent clockspring damage.

- (3) Disconnect the power steering pressure and return lines from the steering gear (Fig. 13).

**Fig. 13 Power Steering Fluid Pressure and Return Line Location - RHD**

- 1 - POWER STEERING FLUID RETURN LINE
- 2 - POWER STEERING FLUID PRESSURE LINE
- 3 - AIR FILTER COVER

- (4) Remove the steering column coupler pinch bolt. Located just to the rear of the fluid lines (Fig. 13).

REMOVAL AND INSTALLATION (Continued)

(5) Separate steering shaft from gearbox by pulling straight apart.

(6) Raise the vehicle on a hoist.

(7) Remove the stabilizer bar clamp retaining bolts from the frame (Fig. 14). Allow stabilizer bar to hang free.

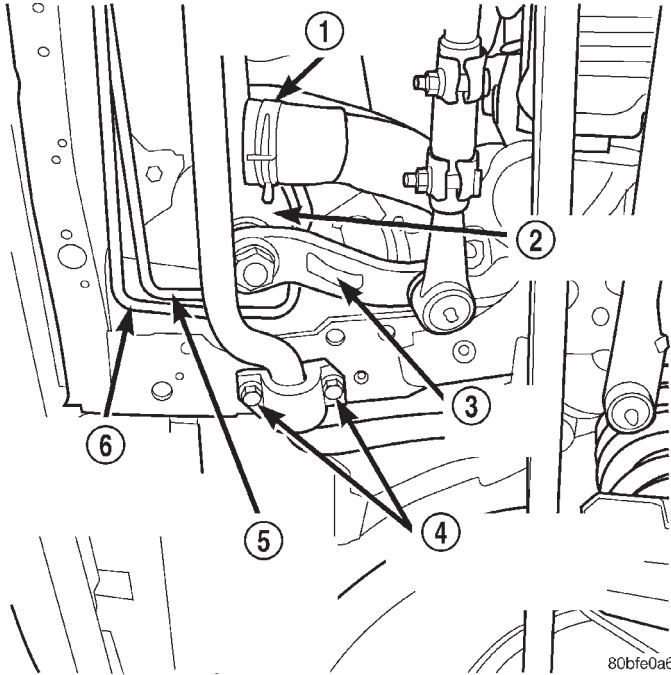


Fig. 14 Steering Gear

- 1 - LOWER RADIATOR HOSE/CLAMP
- 2 - STEERING GEAR
- 3 - PITMAN ARM
- 4 - STABILIZER BAR RETAINING BOLTS
- 5 - POWER STEERING FLUID PRESSURE LINE
- 6 - POWER STEERING FLUID RETURN LINE

(8) Remove the Pittman arm from the steering gear (Fig. 14). Refer to Group 19, Steering for the procedure.

(9) Remove the small right front splash from the vehicle.

(10) Remove the (3) steering gear retaining bolts (Fig. 15).

(11) Rotate the lower radiator hose clamp, so that the tangs are facing straight down. This will aid in gear removal.

(12) Remove the steering gear from the vehicle.

INSTALLATION

(1) Center the steering gear travel. Rotate gear output shaft until stop. Make a reference mark in the same position on the gear shaft and gear housing.

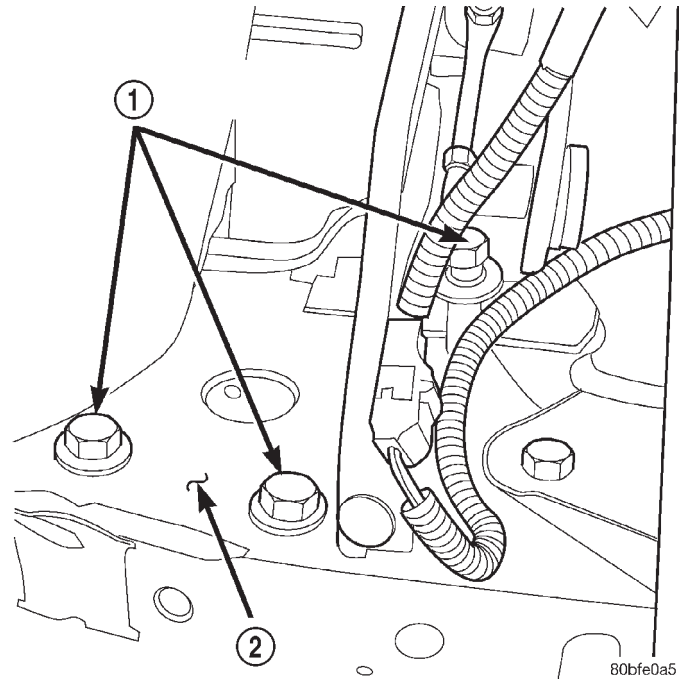


Fig. 15 Steering Gear Retaining Bolts

- 1 - STEERING GEAR RETAINING BOLTS
- 2 - VEHICLE FRAME RAIL

Rotate gear shaft in the opposite direction until stop while noting the number of turns. Divide that number in half and position the reference mark made previously at that position.

(2) Install the steering gear in the vehicle.

(3) Install the (3) steering gear retaining bolts. Torque to 95 N·m (70 ft. lbs.).

(4) Install the small right front splash on the vehicle.

(5) Install the Pittman arm on the steering gear. Refer to Group 19, Steering for the procedure. Torque nut to 251 N·m (185 ft. lbs.).

(6) Position the stabilizer bar and install the clamp retaining bolts. Refer to Group 2, Suspension for a detailed procedure. Torque the bolts to 75 N·m (40 ft. lbs.).

(7) Lower the vehicle on the hoist.

(8) Install the steering column shaft coupler on the steering gear and install pinch bolt. Torque the bolt to 35 N·m (26 ft. lbs.).

(9) Install the power steering pressure and return lines on the steering gear. Torque the lines to 28 N·m (21 ft. lbs.).

(10) Connect the negative battery cable.

(11) Check and correct vehicle front end alignment specifications if necessary. Refer to Group 2, Suspension for the procedure.