

STEERING SYSTEM - POWER RACK & PINION

Article Text

1993 Mazda 929

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ARTICLE BEGINNING

1993 STEERING

Mazda Power Rack & Pinion

929

DESCRIPTION

Steering system is a power-assisted rack and pinion. The system consists of a rack and pinion steering gear and power-assist pump/reservoir. The steering gear and pump/reservoir are connected by flexible lines.

LUBRICATION

CAPACITY

POWER STEERING FLUID CAPACITY TABLE

AA

Application	Qts. (L)
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929	1.80 (1.70)
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AA

FLUID TYPE

Dexron-II or M-III are recommended for all models.

FLUID LEVEL CHECK

Check fluid level on oil pump dipstick (if equipped) or reservoir. Fluid should be between marks on level gauge dipstick (if equipped) or reservoir. If fluid level is low, fill as necessary. Recheck fluid level. DO NOT overfill.

HYDRAULIC SYSTEM BLEEDING

1) Raise and support front of vehicle. With ignition off, turn steering wheel from lock to lock several times. Check fluid level. Add fluid as necessary. Repeat procedure until fluid level no longer decreases.

2) Start engine and operate at idle. Turn steering wheel from lock to lock 5 times. Check fluid level. Add fluid as necessary. Continue procedure until fluid is clear of air bubbles and does not decrease in level.

ADJUSTMENTS

NOTE: On-vehicle adjustment procedures are not available from manufacturer. For belt adjustment specifications, see POWER

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STEERING PUMP BELT.

POWER STEERING PUMP BELT

BELT ADJUSTMENT SPECIFICATIONS TABLE

Application		(1) Deflection In. (mm)
New Belt31-.37 (7.8-9.4)
Used Belt37-.43 (9.4-10.9)

(1) - Belt deflection is measured at midpoint between idler pulley and pump, with 22 lbs. (10 kg.) of pressure applied.

TESTING

HYDRAULIC SYSTEM PRESSURE TEST

Pump Fluid Pressure Test

1) Disconnect pressure line from steering gear and steering pump. Connect pressure gauge/valve between steering pump and steering gear. See Fig. 1. Bleed air from system.

2) Completely open valve. Start engine and operate at idle. Turn steering wheel from lock to lock to increase fluid temperature to 122-140°F (50-60°C). To measure pump fluid pressure, close gauge valve completely.

3) Increase engine speed to 1000-1500 RPM. Measure oil pump fluid pressure. Ensure pump pressure is within specification. See HYDRAULIC SYSTEM FLUID PRESSURE SPECIFICATIONS table. If pressure is not within specification, replace pump.

CAUTION: DO NOT leave gauge valve closed for more than 15 seconds, or pump may be damaged.

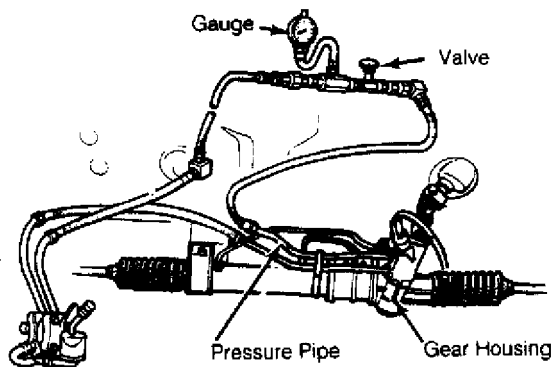


Fig. 1: Connecting Pressure Gauge/Valve
Courtesy of Mazda Motors Corp.

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1) Remove drive belt. Remove idler pulley lock nut and remove idler pulley from pump. Disconnect power steering pressure switch electrical connector (if equipped). Place reference marks on steering

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pump and pressure line fitting for reassembly. Disconnect pressure and return line connections from steering pump. Remove pump-to-bracket bolts and nuts. Remove pump from vehicle.

2) To install, reverse removal procedure. Tighten bolts and nuts to specification. See TORQUE SPECIFICATIONS table at the end of this article. Adjust belt tension. See POWER STEERING PUMP BELT under ADJUSTMENTS. Bleed air from system. Inspect system for leaks.

OVERHAUL

STEERING GEAR

NOTE: See Fig. 2 for exploded views of rack and pinion steering gears.

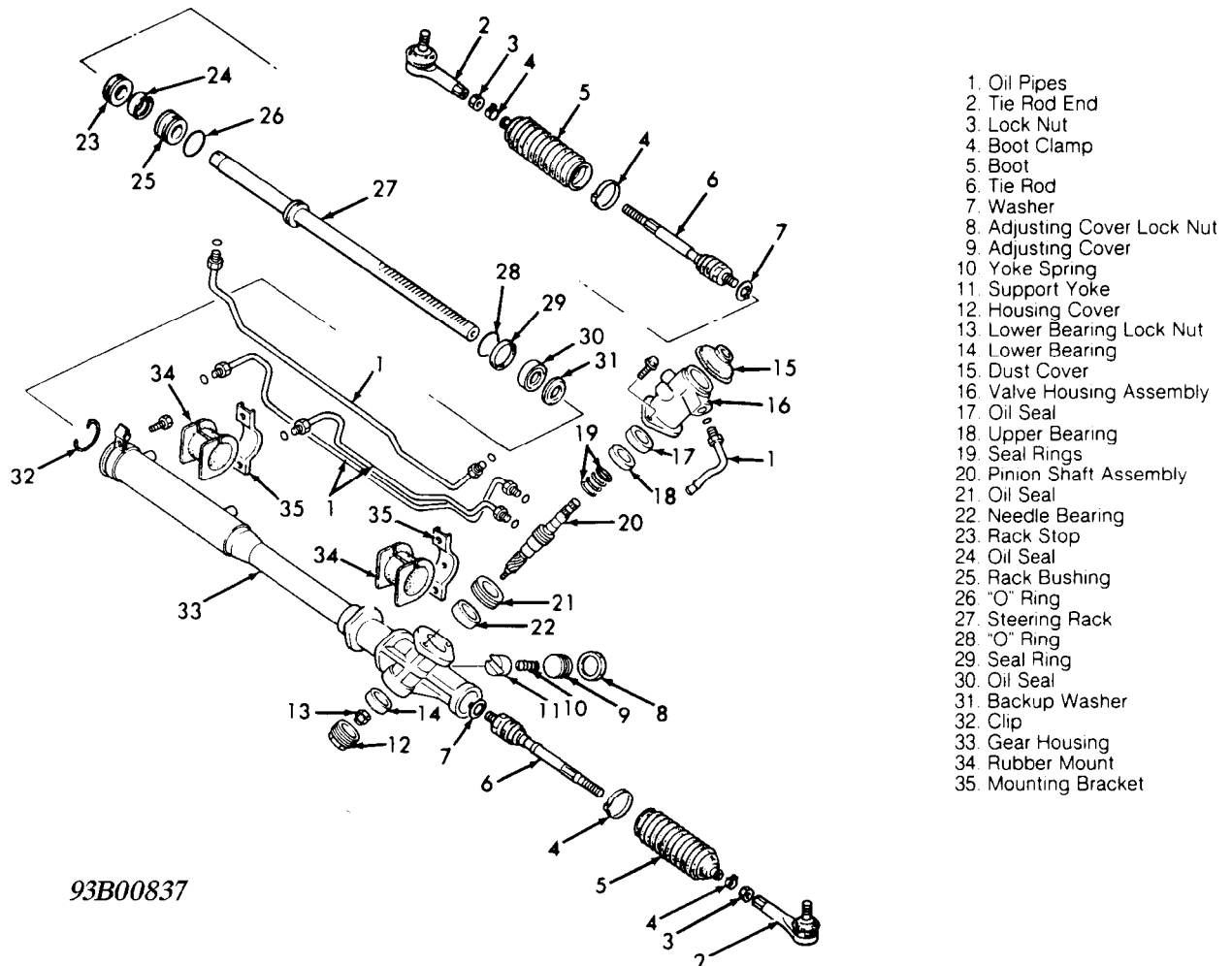
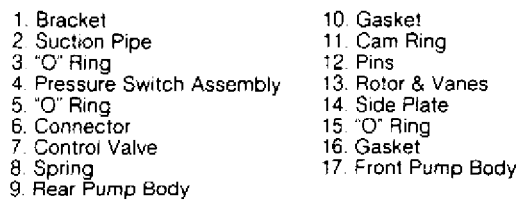


Fig. 2: Exploded View Of Rack & Pinion Steering Gear
Courtesy of Mazda Motors Corp.

POWER STEERING PUMP

NOTE: See Fig. 3 for exploded views of power steering pumps.

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Application			Ft. Lbs. (N.m)
Idler Pulley Lock Nut.....	29-43	(39-58)	
Intermediate Shaft-To-Pinion Shaft Bolt	13-19	(18-26)	
Pinion Housing Lock Nut.....	36-51	(49-69)	
Pinion Shaft Lock Nut.....	14-22	(19-30)	
Power Steering Pump Mounting Bolts/Nuts	12-17	(16-23)	
Pressure Line Fitting-To-Power Steering Pump	33-40	(45-54)	
Pressure Line Fitting-To-Steering Gear	29-43	(39-58)	
Steering Gear Mounting Bolts/Nuts.....	27-38	(37-52)	
Steering Rack-To-Tie Rod.....	58-72	(79-98)	
Tie Rod Castle Nuts.....	36-47	(49-64)	
Tie Rod End-To-Tie Rod Lock Nut.....	51-72	(69-98)	
Valve Housing Bolts	12-19	(16-26)	

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