

PORSCHE POWER-ASSISTED RACK & PINION

928

DESCRIPTION

A power-assisted rack and pinion steering gear is used as standard equipment on Porsche 928 models. The power assistance decreases with engine speed to provide a better road feel at high speeds. The system consists of a belt driven vane pump mounted on the engine, a fluid reservoir located in the left front engine compartment, and a rotary piston pinion steering gear.

GENERAL SERVICE

Lubricant — ATF Dexron Type

Oil Level Check — Remove reservoir cap and start engine. Check that fluid level is up to embossed mark on inside of reservoir.

Hydraulic System Bleeding — Start engine, set to idle. Check fluid level. Turn steering wheel lock to lock several times quickly. Do not turn wheel harder than necessary. Check fluid and add if needed. No air bubbles should rise in reservoir. Shut off engine. Check that fluid level does not rise more than $\frac{3}{8}$ " (10 mm). If level rises, repeat procedure.

ADJUSTMENTS

PUMP BELT

Check belt deflection at center of belt between pump pulley and crankshaft pulley. Correct deflection is $\frac{3}{8}$ " (10 mm). Adjust by loosening pump mounting bolts and moving pump.

SYSTEM LEAKS

With engine running, turn steering to full lock position and hold. This produces maximum pressure in lines. Check all hose connections and tighten if necessary.

REMOVAL & INSTALLATION

STEERING GEAR

Removal — 1) Drain fluid from system. Raise front of vehicle and support on safety stands. Press out tie rods with standard extractor. Remove bolt holding hose strap, and pull back hose and harness.

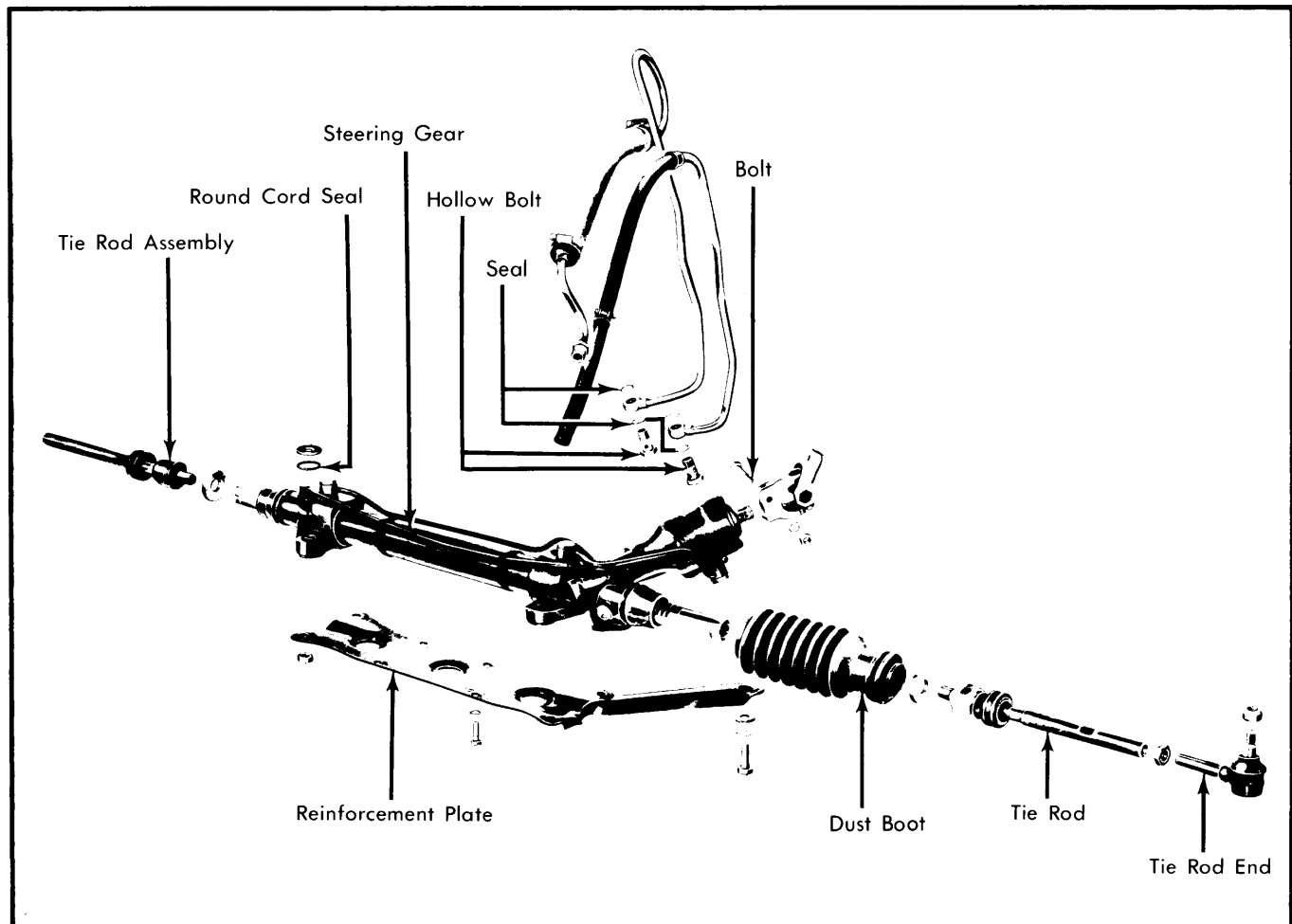


Fig. 1 Power Steering Gear Porsche 928

Power Steering

PORSCHE POWER-ASSISTED RACK & PINION (Cont.)

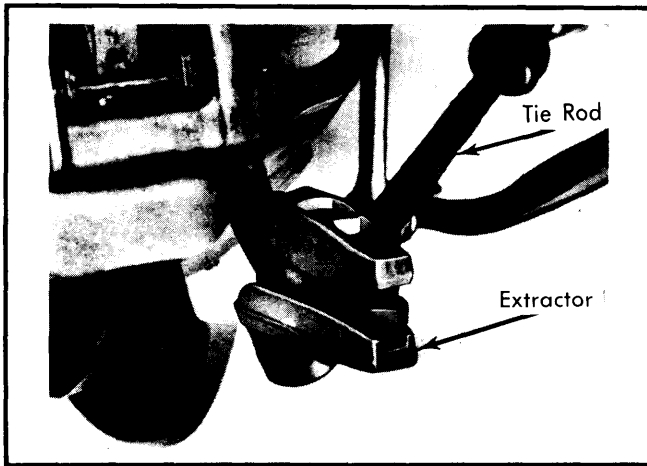


Fig. 2 Tie Rod Removal

2) Remove bolts from stabilizer bar mounts. Allow stabilizer to hang down. Disconnect pressure and return lines from steering gear.

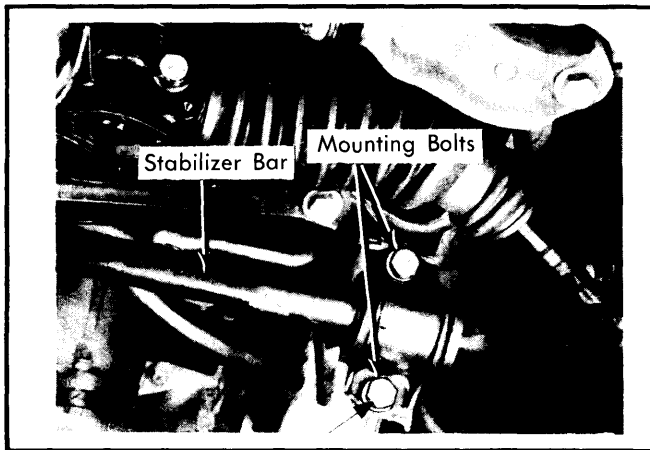


Fig. 3 Stabilizer Bar Mounting

3) Remove 5 bolts holding reinforcement plate on engine crossmember. Loosen 4 self-locking nuts on steering gear, but do not remove.

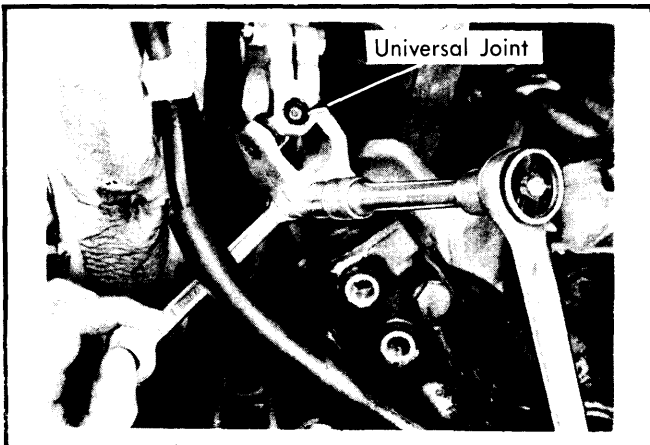


Fig. 4 Steering Intermediate Shaft Removal

4) Remove bolt on universal joint which connects to steering intermediate shaft and pull off shaft. Remove 4 nuts on steering gear and lower steering gear out of studs on engine crossmember.

Installation – 1) Reverse removal procedures, noting the following: Position steering intermediate shaft correctly and install bolt to universal shaft. Add fluid to reservoir. Check for leaks after reinstalling. Adjust toe if necessary.

STEERING PUMP

Removal – 1) Detach intake hose from air cleaner on left side. Drain fluid from reservoir. Remove splash shield. Loosen front bolts on pump, but do not remove.

2) Remove rear bolt from pump. Remove "V" belt. Take off upper left section of drive belt cover. Disconnect pressure hose from pump.

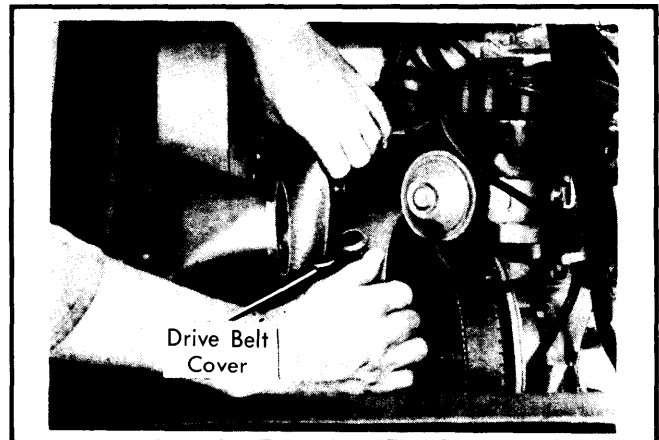


Fig. 5 Drive Belt Cover Removal

3) Loosen clip holding suction hose and remove hose. Remove front bolts holding pump. Remove pump.

Installation – Reverse removal procedures, noting the following: Install pressure hose so that not more than 1" (25 mm) is provided between inner wheel well and hose when pump is installed. If hose is too close to exhaust manifold it could slip from its holder. Adjust belt tension, add fluid and bleed system. Check for leaks.

OVERHAUL

NOTE – Manufacture does not recommend disassembly or overhaul of power steering gears or pumps.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Tie Rod-to-Steering Arm	61 (8.5)
Tie Rod-to-Steering Rack	108 (15.0)
Tie Rod End-to-Tie Rod	33 (4.5)
Universal Joint-to-Steering Column	17 (2.3)
Steering Rack-to-Crossmember	33 (4.6)
Pressure/Return Lines-to-Steering Rack	22 (3.0)