

## RENAULT POWER-ASSISTED RACK & PINION

18i

### DESCRIPTION

Power steering is integrated power cylinder type rack and pinion. Steering box serves as a power cylinder body and rack serves as rod. Power steering consists of a rack and pinion steering gear and a power assist pump connected by flexible lines. Pump has a separate reservoir mounted next to air cleaner.

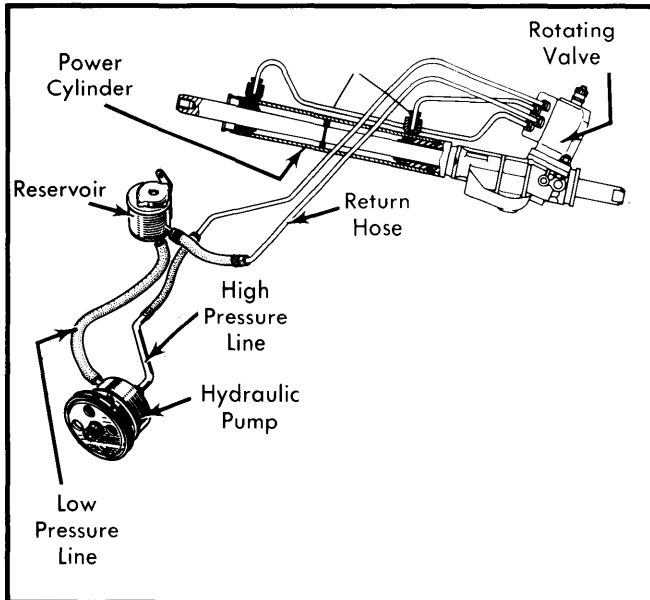


Fig. 1 View of Renault Power Steering Assembly

### GENERAL SERVICE

#### HYDRAULIC SYSTEM LUBRICANT

**Type** — Dexron II.

**Capacity** — 1.2 quarts.

#### BELT TENSION ADJUSTMENT

Run engine for 10 minutes. Measure deflection with gauge (Ele. 346). Deflection should be .21-.25" (5.5-6.6 mm).

#### HYDRAULIC SYSTEM FILLING AND BLEEDING

Fill reservoir completely. Gently turn steering wheel lock-to-lock. Refill reservoir to top. Turn on engine and turn wheel lock-to-lock. Refill reservoir. Oil level should be visible in the bottom of filter in opening.

#### HYDRAULIC SYSTEM PRESSURE TEST

1) Place a clamp on pump lower pressure hose. Disconnect high pressure line. Insert connector (Dir. 803) between high pressure line and pump. Connect pressure gauge (Fre. 214-04). Disconnect clamp from hose. Bring up oil level in reservoir and turn on engine. Pressure should be 72-102 psi (5.1-7.2 kg/cm<sup>2</sup>) when steering wheel is not turned. If at idle pressure is too great, valve is defective.

2) If during acceleration pressure is too low, regulator is defective. With wheel turned to lock position, pressure should be 725-943 psi (51-66 kg/cm<sup>2</sup>). Difference between sides must not exceed 72 psi (5.1 kg/cm<sup>2</sup>). If it does, valve is defective. If pressure is too low but gauge needle does not move, check for loose belt, defective valve or internal leak in power cylinder.

### ADJUSTMENT

#### RACK PLUNGER

Raise and support front of vehicle. Unlock plunger adjusting nut by straightening out nut lock collar. Tighten adjusting nut to 96 INCH lbs. (11 N). Wheel should now be tight when turned. Loosen adjusting nut 1/4 turn. Wheel should now turn without resistance. Relock nut in 2 opposite notches of collar by bending down on nut lock collar.

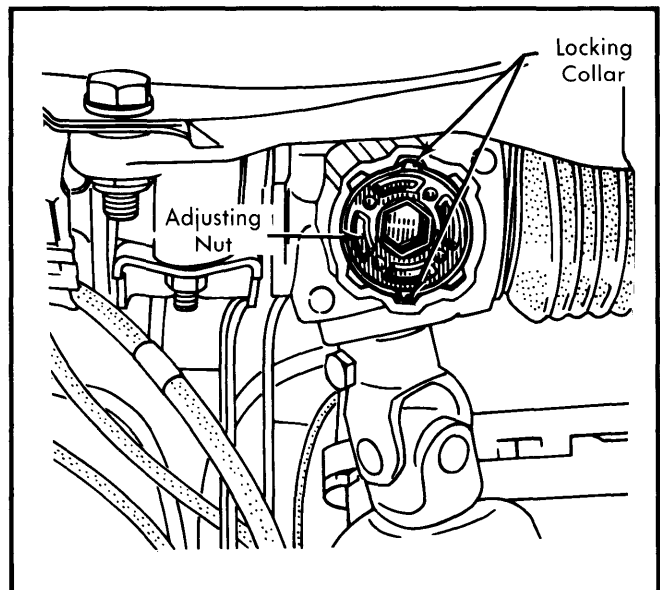


Fig. 2 Adjusting Nut and Locking Collar. Unlock Nut by Straightening Collar.

### REMOVAL & INSTALLATION

#### STEERING GEAR

**Removal** — Clamp hoses on steering reservoir. Disconnect pipes from rotating valve. Raise and support front of vehicle. Remove tie rod end nuts. Remove ball joint cones of stub axle carriers. Disconnect steering universal joint, index marking position to steering pinion splines. Remove rack housing attaching bolts from crossmember. Remove steering rack through hole on cowl side.

**NOTE** — If rack and pinion assembly is to be replaced, ball joints on stub axle carrier side must be saved. Loosen lock nut by holding axial ball joint with a wrench. Unscrew ball joints counting turns for reassembly reference.

**Installation** — Place steering arm ball joints in position noted when removed. Install assembly to vehicle. To complete installation, reverse removal procedure. Bleed hydraulic system. Check and adjust toe-in. See *WHEEL ALIGNMENT Section*.

**RENAULT POWER-ASSISTED RACK & PINION (Cont.)****POWER STEERING PUMP**

**Removal** — Place a clamp on pump input line. Disconnect input line and high pressure line. Loosen idler bolt and pump attaching bolt. Remove pump from vehicle.

**Installation** — To install, reverse removal procedure. Fill and bleed hydraulic system.

**POWER STEERING VALVE**

**Removal** — Remove battery and support. Remove 2 shields attached with plastic clips to firewall. Push boot towards passenger compartment. Remove plastic housing under steering column. Disconnect steering column shaft from steering valve. Remove from firewall. From under vehicle loosen steering plunger adjusting nut. Remove valve attaching bolts and remove valve from housing.

**Installation** — Remove grease from housing. Install new valve after smearing pinion and rack with grease (Molykote BR2 or equivalent). Connect steering shaft to steering valve. Attach rubber boot and metal shields. Install plastic housing under steering column. Adjust plunger clearance. See ADJUSTMENTS in this Article. Install battery and support.

**OVERHAUL****POWER STEERING PUMP**

**Disassembly** — 1) Clamp pump support in a vise. Remove pulley with puller (B. Vi. 28-01 or equivalent). Remove housing fixing bolts and high pressure connector. Remove control valve and spring. Remove housing. Compress the cover plate. Remove circlip from slot.

2) Remove cover plate and rear plate spring. Remove rear plate and stator. Remove positioning pins. Remove shaft and rotor. Save the 10 blades. Separate the rotor from the shaft by removing circlip. Remove shaft seal.

**Reassembly** — Replace all gaskets and seals. Lubricate all parts with automatic transmission fluid. Clean and install the magnet on the body of pump. Be careful of the direction of blades when installing magnet. To complete assembly, reverse disassembly procedure.

**TIGHTENING SPECIFICATIONS**

<b>Application</b>	<b>Ft. Lbs. (N·m)</b>
Ball Joint Nut .....	30 (41)
Tie Rod Lock Nut .....	26 (35)