

## CHRYSLER CORP. IMPORTS RACK & PINION

Champ, Colt

### DESCRIPTION

Rack and pinion type steering is mounted by rubber insulators to crossmember. Adjustment is provided for pinion gear preload.

Pinion shaft is coupled to the steering shaft and tie rods connect end of rack to steering arms of front wheels.

### ADJUSTMENT

**NOTE:** Adjustments of pinion gear preload are performed during overhaul. See Overhaul procedure.

### REMOVAL & INSTALLATION

#### Removal

1) Raise and support front of vehicle. Remove wheels. Remove coupling bolt from pinion shaft joint.

2) Using a puller, disconnect tie rod ends from knuckle arms. Remove mount bolts at crossmember and remove rack and pinion assembly.

#### Installation

Install in reverse order of removal. Check wheel alignment.

### OVERHAUL

#### Disassembly

**NOTE:** Before disassembly, measure the rack starting force and pinion starting torque in the neutral (straight ahead) position for reference at reassembly.

1) With rack and pinion assembly mounted in a soft-jawed vise, remove tie rod staking with a chisel. Then, use a wrench to remove tie rod assemblies.

2) Remove lock nut and using an Allen wrench, remove yoke adjusting screw. Remove yoke spring, rubber cushion and support yoke. Carefully pry out oil seal.

3) Remove snap ring and remove pinion and bearing. Remove snap ring retaining bearing to shaft and press off bearing.

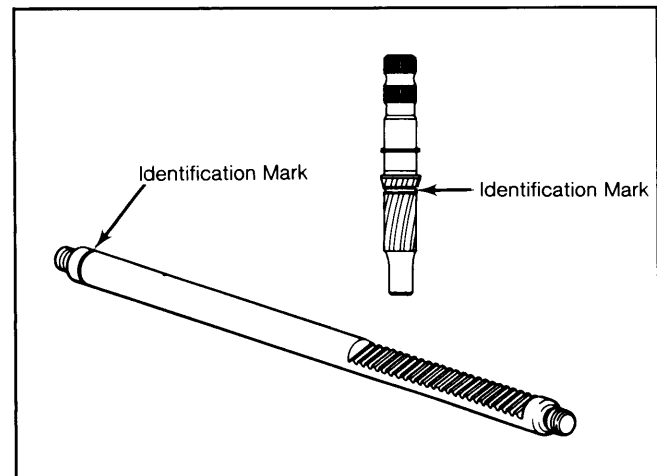
4) Remove rack from left side of housing to avoid damage from rack teeth during removal.

#### Inspection

1) Check tie rod ends and rubber boots (bellows) for wear or damage. Check for loose or damaged ball bearings and pinion needle bearings. Check for loose rack bushing, inadequate contact between rack and rack support. Check for deteriorated yoke spring.

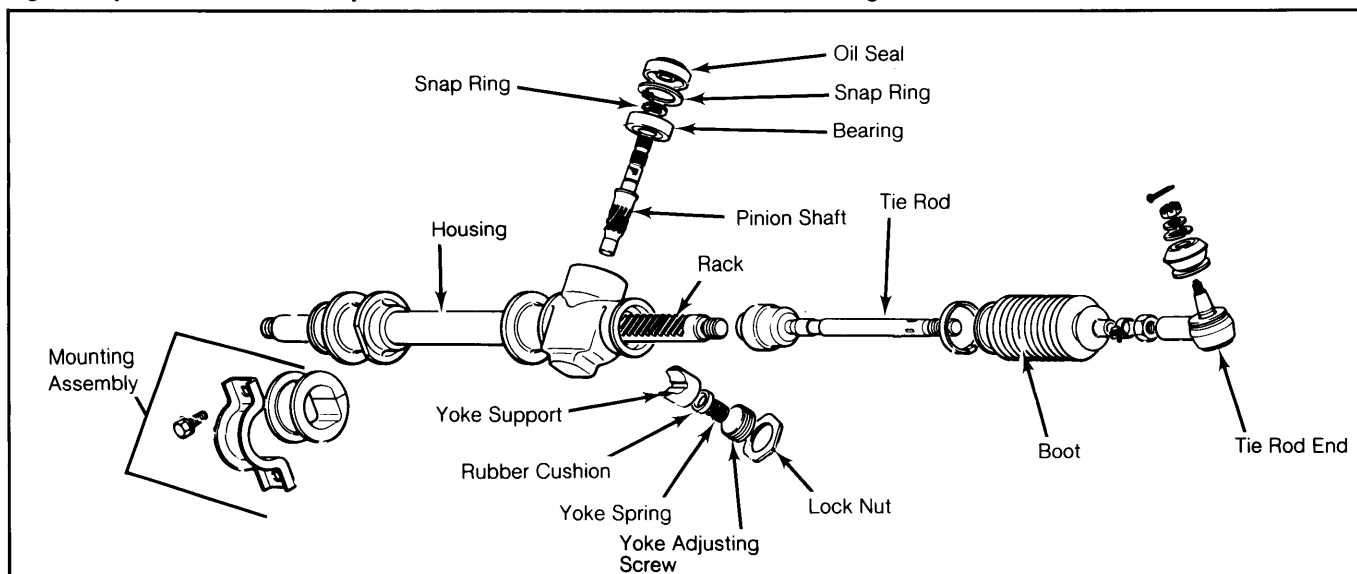
2) Inspect rack and pinion for identification marks. Those rack and pinion sets with an identification mark have a 6 tooth pinion and are for Rally and Luxury Sport models. Those without an identification mark have a 5 tooth pinion and are for the other models.

**Fig. 2: Rack and Pinion Identification Marks**



Pinion with 6 teeth is shown.

**Fig. 1: Exploded View of Champ and Colt Hatchback Rack and Pinion Steering**



# Steering Gears & Linkage

## CHRYSLER CORP. IMPORTS RACK & PINION (Cont.)

### Reassembly & Adjustment

1) Use grease on all friction surfaces during assembly. Press bearing onto pinion. Install snap ring.

2) Insert the rack into the gear housing from the left side. Mesh the pinion gear with the rack. Select and install a snap ring that eliminates axial play. See Pinion Bearing Snap Ring chart. Install new oil seal.

### PINION BEARING SNAP RINGS

Snap Ring Color	In. (mm)
Blue .....	.063 (1.59)
White .....	.066 (1.67)
Yellow .....	.069 (1.74)

3) Install the support yoke, cushion and spring with yoke adjusting screw. Tighten adjusting screw to 5-11 ft. lbs. (7-15 N.m), then back off 30° to 60°. Install lock nut with sealer. Install tie rod assemblies and stake ends to rack keyways.

4) Measure rack starting force and pinion preload with a torque wrench and adaptor at pinion shaft. Pinion preload should be 4-10 INCH Lbs. (.44-1.1 N.m). Starting force should measure 11-66 ft. lbs. (15-90 N.m).

5) If specifications are not obtained, replace yoke spring and rubber cushion and readjust.

6) Install rack and pinion assembly on cross-member. Connect tie rod ends to steering knuckles and pinion shaft to steering shaft coupler. Check wheel alignment.

### TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Ball Joint-to-Knuckle Arm .....	11-25 (15-34)
Housing-to-Crossmember .....	22-29 (30-39)
Pinion Gear-to-Steering Shaft .....	11-14 (15-19)
Tie Rod Lock Nut .....	36-40 (49-54)
Tie Rod-to-Rack .....	58-72 (79-98)
Yoke Screw Lock Nut .....	36-51 (49-69)