

TRIUMPH RACK & PINION

TR7

DESCRIPTION

Steering gear is a rack and pinion type with direct linkage (tie rods) to steering arms. Gear housings are mounted by bolts through frame. A flexible coupling links the steering gears to steering shaft.

ADJUSTMENTS

Rack and pinion free play are adjusted through the use of shims on the rack damper and pinion shaft. These adjustments are performed as part of overhaul procedure. See *Overhaul* below.

REMOVAL & INSTALLATION

RACK AND PINION

Removal – 1) Raise vehicle and place on safety stands. Scribe an index mark on pinion shaft and lower steering coupling for installation purposes. Disconnect tie rod ends from steering knuckle.

2) Remove pinch bolt attaching lower steering coupling to rack pinion. Withdraw bolts mounting pinion end of rack to chassis.

3) Remove remaining rack mounting hardware, disconnect lower pinion shaft coupling and take rack out driver's side.

Installation – 1) If rack has been disassembled, it must be centralized before reinstallation: Remove center plug from thrust pad and, using a piece of welding rod, locate dimple in rack shaft. When dimple in rack shaft is aligned with plug hole rack is centralized.

2) Carefully slide rack assembly into position but DO NOT disturb rack shaft. Secure rack to chassis with mounting hardware, refit tie rod ends and tighten pinion coupling pinch bolt.

3) Make sure all nuts and bolts are tightened and check front wheel alignment. See *Triumph* in WHEEL ALIGNMENT Section.

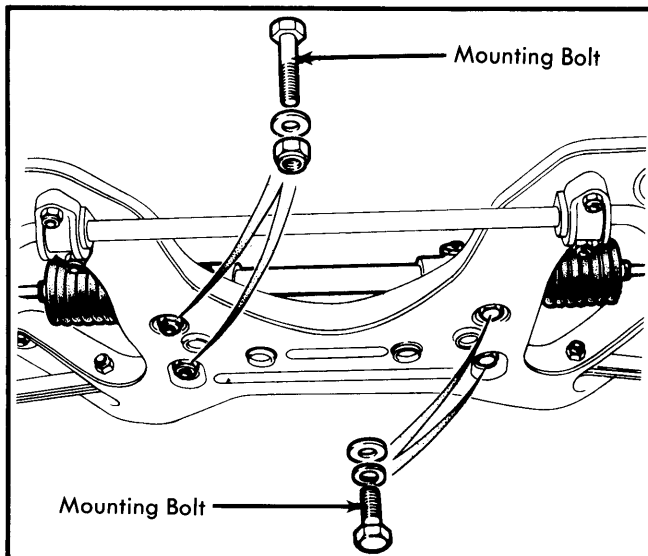


Fig. 1 Installed View of TR7 Rack Assembly

OVERHAUL

RACK AND PINION

Disassembly – 1) Release clip and slide bellows toward outer ball joint. Slacken inner lock nut and unscrew tie rod assembly from rack. Withdraw spring from rack end. Straighten tab washer, unscrew sleeve nut, and remove tab washer, shims, and cup.

2) Slacken outer lock nut and unscrew tie rod end from tie rod. Remove outer lock nut, bellows, and cup nut. Remove inner lock nut from rack. Repeat on other end.

3) Remove damper plug, spring, shims and damper. Remove rubber seal and pinion retaining plug then pull out pinion shaft and bearing. Remove circlip to slide bearing off pinion shaft.

4) Pull out rack and remove bushings from housing if necessary.

Reassembly – 1) Install end cover and lower bushing in rack housing (if removed). Place rack shaft in housing with teeth toward pinion end. Install lock nuts, tie rods, springs and shims, then tighten. Pack inner joints with grease, then install bellows and clips.

2) Rotate rack shaft until teeth mesh with pinion. Slide ball bearing on pinion and secure with circlip. Lubricate pinion shaft and insert into housing. Tighten end plug and replace rubber seal.

3) Install rack damper, shims, spring and cap. Adjust rack side play by adding shims so movement does not exceed .001-.007" (.03-.18 mm). Install rack in vehicle.

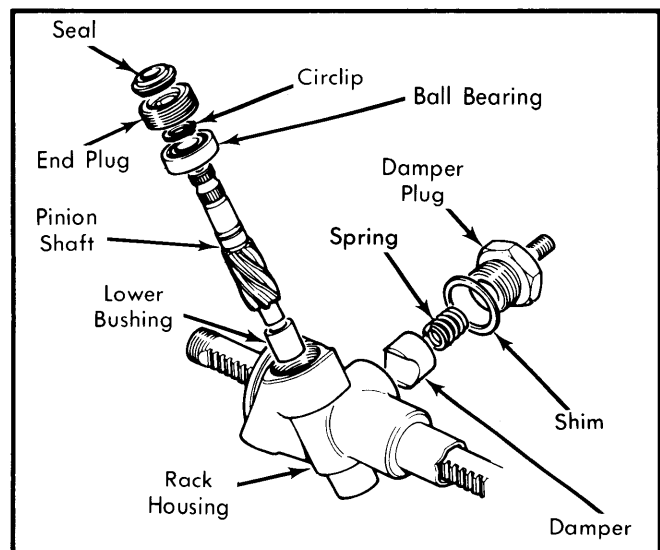


Fig. 4 Exploded View of TR7 Pinion and Damper

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N·m)
Steering Gear-to-Frame	22-29 (30-39)
Tie Rod Lock Nuts	30-37 (41-50)
Universal Joint Pinch Bolts	16-21 (22-29)