

STEERING GEAR - MANUAL

Article Text

1989 Volkswagen Golf
For Volkswagen Technical Site
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Tuesday, August 24, 1999 12:04AM

ARTICLE BEGINNING

1989-90 STEERING

Volkswagen - Manual Rack & Pinion

Cabriolet, Golf, GTI, Jetta, Jetta GLI

DESCRIPTION

Steering gear is a rack and pinion type. Tie rods connect steering knuckles to ends of rack. Racks are mounted with "U" bolts and rubber bushings.

RACK & TIE RODS ADJUSTMENT

1) Center rack in housing so rack protrudes an equal amount from each end of rack housing.

2) If replacing the non-adjustable left tie rod with an adjustable type, adjust tie rod length "D" to 14.92" (379 mm). Screw tie rods onto rack.

3) Adjust to specified dimensions without moving rack from center position. Dimensions "B" and "C" should be 2.77" (70.5 mm) for all models.

4) When measurements are correct, secure tie rods with lock nuts. Install rubber boots. See Fig. 1.

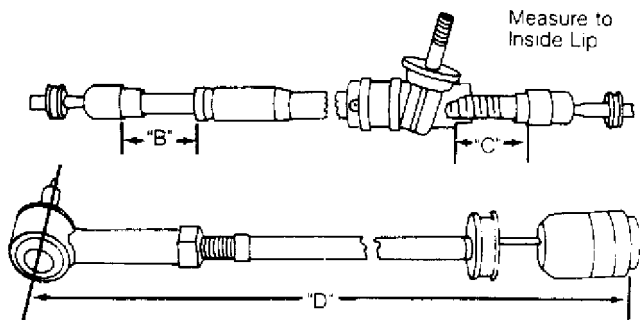


Fig. 1: Installation Adjustment Of Tie Rods On Rack
Courtesy of Volkswagen United States, Inc.

REMOVAL & INSTALLATION

STEERING DRIVE

Loosen pinion shaft adjusting screw lock nut. Turn adjusting bolt until it just contacts thrust washer. Tighten lock nut. Test drive vehicle. Readjust if steering is too heavy or too loose.

STEERING GEAR

Removal

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1) Disconnect shift linkage bearing plate from steering gear housing. Loosen lower "U" joint pinch bolt. Separate steering shaft with lower "U" joint from pinion.

2) Remove tie rod end cotter pins and castle nuts. Using a tie rod end puller, separate tie rod ends from steering knuckles. Remove steering gear clamp bolts. Remove steering gear with tie rods attached.

Installation

1) To install, reverse removal procedure. Correctly align and insert pinion shaft with steering shaft lower "U" joint before tightening steering gear clamp bolts.

2) Connect tie rod outer ends to steering knuckles. Tighten upper and lower universal joint pinch bolts. Connect and adjust shift linkage bearing plate to housing.

STEERING GEAR OVERHAUL

Overhaul procedures for steering gear are not available from manufacturer. Replace as an assembly if damaged or worn.

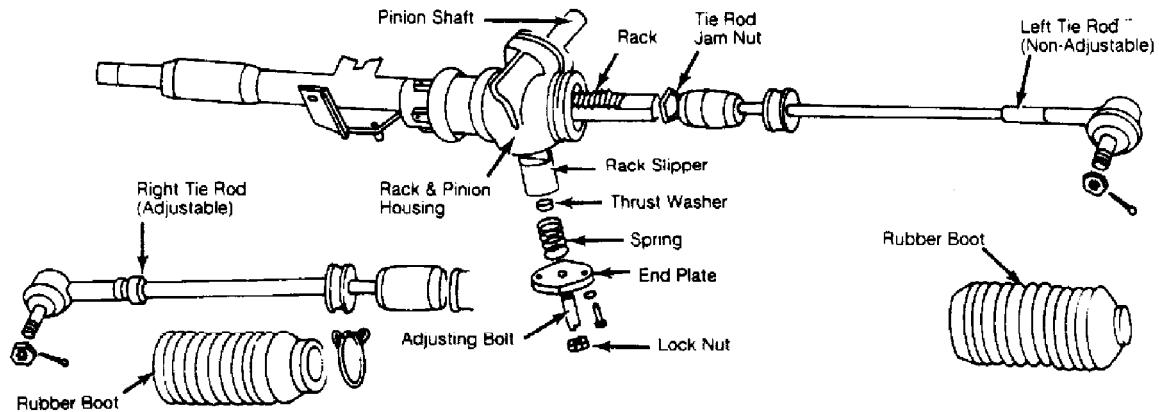


Fig. 2: Exploded View Of Rack & Pinion Steering Gear Assembly
Courtesy of Volkswagen United States, Inc.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE

Application		Ft. Lbs. (N.m)	
Gear Box Housing-to-Frame Nuts	.....	22	(30)
Tie Rod End Lock Nuts	.....	37	(50)
Tie Rod End Castle Nuts	.....	26	(35)
Tie Rod-to-Rack	.....	52	(70)
"U" Joint-to-Pinion Shaft Clamp Bolts	.....	22	(30)

END OF ARTICLE