VOLKSWAGEN TYPE 4 RECIRCULATING BALL

Type 4
412

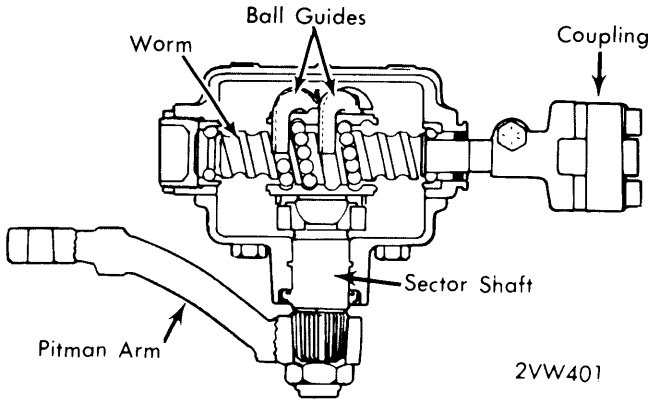
DESCRIPTION

STEERING GEAR

Steering gear is a recirculating ball and nut type. Recirculating balls ride in two circuits in threads of a worm and nut. Each circuit consists of two split tubes forming return guides. Turning of worm pushes nut axially. Nut movement is transmitted to pitman shaft. Axial play of the worm is adjustable.

STEERING LINKAGE

Vehicle has three maintenance-free tie rods. Center tie rod is fixed in length and outer tie rods are adjustable. Movement of pitman arm is transmitted by center tie rod to idler arm. Two adjusting bolts in idler arm bracket limit movement of front wheels. Hydraulic steering damper is attached to front axle carrier and center tie rod.



RECIRCULATING BALL & NUT

LUBRICATION

STEERING GEAR

The recirculating ball steering gear is filled with 9 oz. (250 cc) of transmission grease.

REMOVAL & INSTALLATION

STEERING GEAR

Removal – Remove pitman arm. Detach and pull steering coupling upward. Remove "two arm" flange from coupling (turn worm spindle). Unbolt steering gear from frame and remove from vehicle.

Installation – Place gear and coupling flange in position. Bolt gear to sidemember and tighten coupling-to-column screws. Insert retaining bolt for flange on worm spindle, and torque as required.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Pitman Arm-to-Gear	65-80 (9.0-11.1)
Gear-to-Sidemember	26-29 (3.6-4.0)
Tie-to-Pitman Arm & Idler Arm	22 (3.0)
Steering Damper-to-Tie Rod	29-32 (4.0-4.4)
Coupling Flange-to-Column	14 (1.9)
Flange-to-Disc	14 (1.9)
Gear Housing Cover	14-18 (1.9-2.5)
Worm Spindle Adjusting Screw Lock Nut	36-43 (5.0-6.0)
Pitman Arm Shaft Adj. Screw Lock Nut	14-18 (1.9-2.5)
Ball Guides	4-7 (.6-1.0)