

1963-73 PEUGEOT

403 (1963-67)
404 (1963-70)
504 (1970-73)

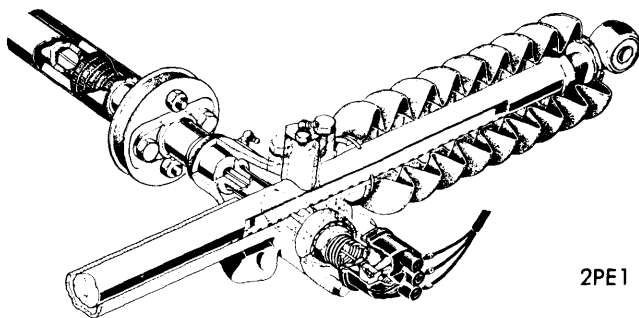
DESCRIPTION

STEERING GEARS

Steering gears are of the rack and pinion type with an automatic play take up device. Rack is protected from dirt by rubber bellows and incorporates anti-noise bushings at end of housing.

STEERING LINKAGE

Steering linkage is composed of tie rods, one which is adjustable, if so equipped, an adjustable drag link on earlier models and ball joints.



STEERING GEARS

ADJUSTMENT

NOTE — See Overhaul procedure in this article.

REMOVAL & INSTALLATION

Model 403

Removal — *NOTE* — Manufacturer gives no special procedure for removal of steering gear.

Installation — Install bearing (6203) in position. Insert rack so that its end protrudes four inches from steering gear housing. Engage pinion and upper rubber seal in position so that axis of holes in yoke are parallel to rack. Install horn control switch support plate and plunger. Torque pinion nut to 9 ft. lbs.

MODEL 404

Removal — Disconnect battery. Lift car on a hoist and position wheels straight ahead. Remove lock bolt from clamp on lower steering column flexible joint. Using a suitable puller remove tie rods from steering arms. Remove the two steering gear housing to crossmember attaching bolts. Remove steering gear assembly.

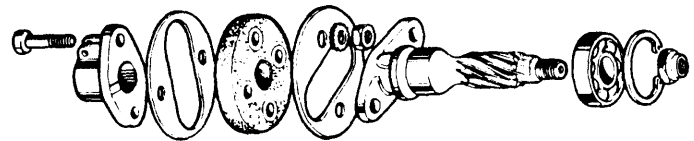
Installation — Install steering gear on crossmember and torque the two bolts to 30 ft. lbs. Connect steering column to flexible joint clamp. Torque bolt to 7 ft. lbs. Stake the bolt on the threads. Connect tie rods to steering arms and torque to 35 ft. lbs. Align yoke to right side tie rod with eye of steering rack and tighten adjusting nut. Tighten yoke pin bolt. Adjust toe-in. Install rubber bellows. *NOTE* — Ensure that wheels do not touch body when fully turned.

MODEL 504

Removal — From under car disconnect right and left tie rod ball joints. Remove the steering column clamping bolt (flexible collar). Remove the two screws attaching the steering gear housing to the crossmember. Using a center punch as a lever, insert punch in bolt hole of clamping collar and disengage steering column by rocking the clamping collar.

Installation — 1) Position steering wheel spokes vertically. Place right front wheel in straight ahead position and left front wheel turned inwards as far as it will go. Center steering gear rack in straight ahead position. Hook up right tie rod, rotate steering clamp 1/4 turn and align clamp with spline of steering column then install clamp on steering column.

2) Install steering gear housing on crossmember and torque screws to 23 ft. lbs. Secure steering column in clamp using a new bolt, nut and lock washer. Torque nut to 7 ft. lbs. Hook up left tie rod. *NOTE* — Check alignment of the two flats on ball joint housing and connecting yoke. Install new lock washers and torque the nuts to 31 ft. lbs. Secure both ball joints. Adjust toe-in.



STEERING PINION

OVERHAUL

MODEL 404

Disassembly — 1) Remove right tie rod at yoke and remove bellows clamps. Loosen lock nut and remove rack eye, remove left tie rod and bellows. Remove pinion cover and pinion nut. Remove both rack plungers noting spacers and adjusting shims. Remove pinion and rack.

2) Clamp rack in padded vice and remove snap ring and bearing from steering housing. Loosen ball joint cover nut and ball joint with adjustment shims, cup washer, and Belleville washers.

Inspection — Install all components for excessive wear or damage. Replace parts as necessary.

Reassembly & Adjustment — 1) Hold rack vertically in padded vice. Install adjusting clamp on rack and new ball joint cover nut and torque to 30 ft. lbs. Seat adjusting clamp against ball joint cover nut and tighten lock nut, then remove ball joint cover nut only.

2) Install cup washer in rack centering the washer and install ball joint and cover nut, then tighten cover nut until ball joint is hard to swing. Using a feeler gauge measure distance between cover nut and adjusting clamp. Add .002 INCH to this measurement to determine the thickness of the shim to be inserted between rack and cover nut. *NOTE* — This will ensure .002 INCH clearance after ball joint is assembled.

Steering Gears & Linkage

1963-73 PEUGEOT (Cont.)

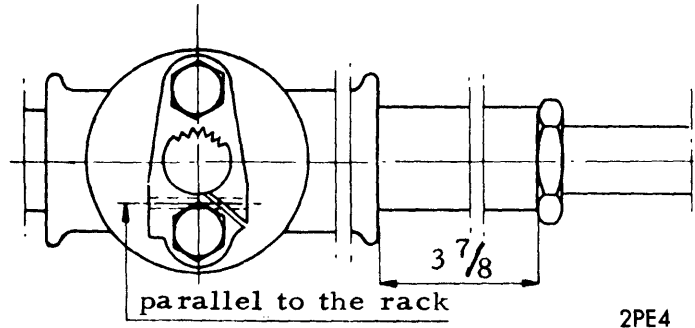
3) Remove cover nut, ball joint, cup washer and adjusting clamp. Install a .020 INCH spacer in bottom of ball joint recess in rack. From a Belleville washer set (3839.02), place shims over the spacer and install 13 Belleville washers. **NOTE** — Part No. 3839.02 is packaged with enough shims, predetermined to exact the proper force. Do not add or subtract shims.

4) Install the adjustment shim determined in paragraph two. Install cup washer and ball joint making sure cup washer is centered. Install new cover nut and torque to 30 ft. lbs. Install bearing and snap ring in housing and flexible rubber joint on pinion using new bolts. Torque bolts to 10 ft. lbs. Stake the threads and install rubber ring.

5) Slide rack into housing letting the right side protrude from housing 3-7/8 INCH. Engage pinion so clamp bolt hole is aligned parallel to rack. Install a new nut on pinion and torque to 30 ft. lbs. Stake in place. Install pinion cover and right side plunger, then torque the flange bolts to 10 ft. lbs. Place spacer of left plunger on a planed surface and then set the plunger over it.

6) Insert shims between spacer and bottom of plunger until a clearance of .080 INCH is obtained between plunger and planed surface. Secure adjustment shims using nylon spacer on threaded portion of grease fitting protruding from flange. Install plunger in housing and torque flange bolts to 10 ft. lbs.

7) Operate the steering gear in both directions to check for stiff points then clamp the bellows in place. Install left tie rod and counter nut on ball joint. Counter and cover nut should be 5/16 INCH apart. **NOTE** — Do not torque counter nut at this time. Install rack eye and its counter nut on rack keeping a distance of 3/8-7/16 INCH between counter nut and shoulder of the eye. Do not tighten counter nut at this time. Install right tie rod with cone of the ball joint facing up. Proceed with the installation of the steering gear.



RACK MEASUREMENT

MODEL 504

Disassembly — 1) Place steering gear in padded vice. Mark position of flector collar with rack in straight ahead position. Remove the four rubber boot clips, pushing the two boots to the right. Remove the two tie rod yoke pivots and the tie rods. Remove the rack eye opposite the pinion, the rack plunger retaining plate, grease fitting and nylon stop.

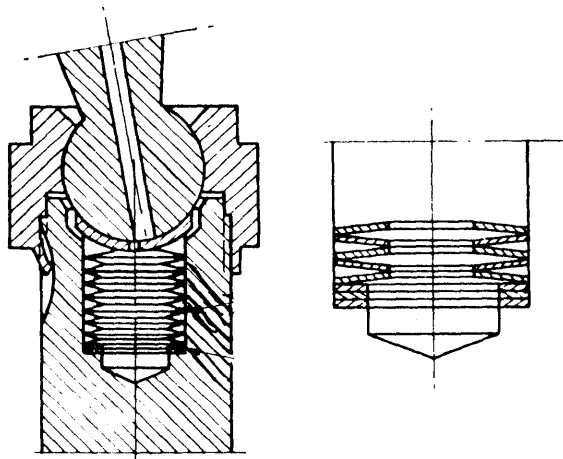
2) Remove the plunger spring, rack plunger, sealing cup, pinion nut and pinion with thrust washer and "O" ring. Withdraw the rack from pinion side. Remove the flexible bushing retaining snap rings, bushing, two steel thrust washers, and the pinion bearing snap rings. Remove bearing.

Inspection — Inspect all component parts for excessive wear or damage. Replace parts as necessary.

Reassembly & Adjustment — 1) Replace steering gear housing bushings. Install outer race and bearing with snap ring. Install in housing from opposite side of pinion, the inner thrust washer, flexible bushing with two rubber rings, outer thrust washer and lock ring. Lubricate with grease the bearing, rack and flexible bushing. Insert rack in housing from pinion side. Thread, temporarily, the second eye on rack with lock nut. Tighten the lock nut only slightly.

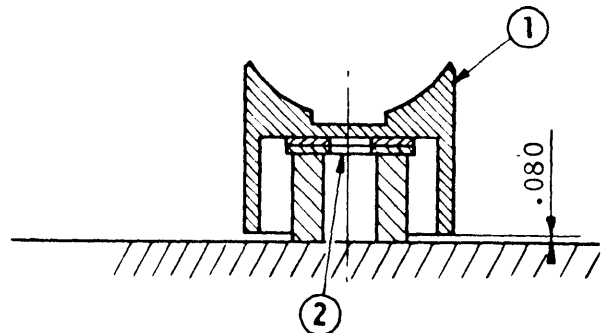
2) Push rack until lock nut touches steering gear housing. Install "O" ring and thrust washer, lubricate the pinion and install with nut locking groove, facing away from plunger housing. Starting from the vertical position of pinion flange, rotate it to the left through approximately 20°, (see illustration).

3) Push in pinion until it touches the bearing. **NOTE** — The pinion flange should be vertical with lock nut touching steering housing. Clamp pinion flange in vice and torque the new nut to 11 ft. lbs. Stake the nut collar. Tap the sealing cup into place.



2PE3

BELLEVILLE SPRINGS

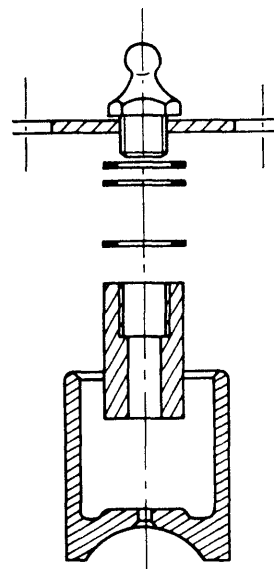


2PE5

PLUNGER MEASUREMENT

1963-73 PEUGEOT (Cont.)

4) To measure the play in rack plunger proceed as follows: Insert plunger in its housing with spring inside plunger. Mount the thrust plate with dial indicator holder on one side. Tighten thrust plate. Install extension rod on dial indicator with extension rod in contact with plunger through the threaded hole in plate. Move the rack from side to side using the pinion. Record the highest point recorded by the dial indicator.



2PE10

PLUNGER ADJUSTMENT

5) Set the dial indicator to zero. Using a lever, raise rack without forcing until play is removed. Note the value for the time being. Remove dial indicator and plunger. Place nylon stop inside plunger and, using a straightedge, note the gap between nylon stop and straightedge. Gap must be eliminated by installing adjustment washers.

6) Final adjustment of the plunger should be a free play of 0.39 ± 0.19 INCH at the highest point of the rack. To obtain this free play, subtract 0.19 INCH from value previously obtained. Add shims as necessary. Install grease fitting on thrust plate, torque to 7 ft. lbs. Install shims as determined, and nylon stop. Place plunger and spring in steering gear housing. Secure thrust plate and torque to 7 ft. lbs. Install rubber boot on rack opposite pinion after removing eye. Install eye and adjust to 0.78 INCH between lock nut and shoulder of the eye.

7) Tighten lock nut to 25 ft. lbs. Position yoke of tie rod on pinion side of rack with head of bolt on same side as pinion flange. Tighten bolt to 33 ft. lbs. Secure with a tap washer. Install rubber boot with prongs of clips facing the lower part of the steering housing. Install flector with reference to marks of disassembly. Tighten the four nuts to 13 ft. lbs. Stake the nuts.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Pinion Nut (403)	9 (1.2)
Steering Gear-to-Crossmember (404)	30 (4.1)
Flexible Joint Clamp Bolt (404 & 504)	7 (1.0)
Tie Rod-to-Steering Arm (404)	35 (4.8)
Steering Gear-to-Crossmember (504)	23 (3.2)
Ball Joint-to-Yoke (504)	31 (4.3)
Ball Joint Cover Nut (404)	30 (4.1)
Pinion Nut (404)	30 (4.1)
Pinion Flange Bolts	10 (1.4)
Thrust Plate & Grease Fitting (504)	7 (1.0)
Tie Rod Lock Nut (504)	25 (3.5)
Tie Rod Yoke Bolt (504)	33 (4.6)
Flexible Coupling Nuts (504)	13 (1.8)