

Front Suspension

PORSCHE 924, 924 TURBO & 944

DESCRIPTION

Independent MacPherson type struts are used. Lower control arms mount with a ball joint to steering knuckle.

Back branch of control arm mounts to frame with "U" clamp around control arm pivot shaft. Front branch attaches to frame with bushings and pivot bolt. Strut assembly mounts at top to body and at bottom to steering knuckle.

The 944 has an alloy crossmember to hold engine, steering, and front control arm mounts. The mounts for the crossmember on the body side members are different than the 924's mounts.

ADJUSTMENTS

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

See *Wheel Alignment Specifications and Procedures* in *WHEEL ALIGNMENT* section.

WHEEL BEARING

1) Tighten hub nut while rotating wheel to seat bearings. Back off nut until thrust washer can be moved sideways with light pressure from a screwdriver.

2) Hub nut should be tight enough to prevent any wheel hub axial play. Tighten pinch bolt, making sure that hub nut does not change position.

BALL JOINT CHECKING

1) Measure distance between upper edge of control arm and lower edge of steering knuckle using a vernier caliper.

2) Place a lever under ball joint and pry upward. Record any movement. New ball joints should have no end play. Wear limit for older ball joints is .1" (2.5 mm).

REMOVAL & INSTALLATION

WHEEL BEARING

Removal

1) Raise vehicle and support with safety stands. Remove wheel assembly. Remove grease cap and loosen pinch bolt. Remove hub nut, washer, and outer wheel bearing.

2) Remove brake caliper and support out of the way. Remove hub and rotor assembly. Pry off inner grease seal and remove inner bearing. Drive out bearing races, (if necessary or if bearings are to be replaced).

Installation

If bearing or race is bad, replace in matched sets. Do not use new bearings with old bearing races. To install, reverse removal procedures. Adjust wheel bearings.

CONTROL ARM & BALL JOINT

Removal

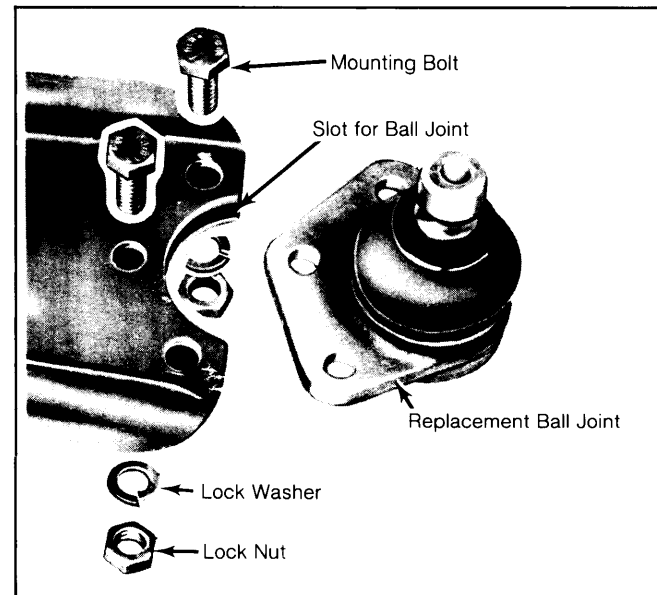
1) Raise vehicle and support with safety stands, so suspension is free. Remove wheel assembly. Remove caliper and support out of the way.

2) Remove bolt retaining ball joint in bottom of steering knuckle. Pull ball joint out of steering knuckle.

3) If control arm is not being removed, drill through ball joint rivets with 15/64" (6 mm) drill bit. Chisel off rivet heads. Fit new ball joint into slot on control arm and install bolts so heads are on top of control arm.

4) If control arm is being removed, take out mounting pivot bolt and "U" clamp housing inner pivot pin. Slide out control arm. For ball joint replacement, refer to step 3).

Fig. 1: Replacing Ball Joint on Lower Control Arm



Lower control arm does not have to be removed to replace ball joint.

Inspection

Check control arm bushings. If bushings are bad, replace by pressing out worn bushings. Select new bushings and press into position. Make sure new bushings do not twist when seating into position.

Installation

To install, reverse removal procedures.

STRUT ASSEMBLY

Removal

1) Raise vehicle and support with safety stands, so suspension hangs free. Remove wheel assembly. Remove caliper and support out of the way.

2) Remove bolts mounting suspension strut to steering knuckle. Note that top bolt is one used to adjust wheel camber.

3) Pry strut off of steering knuckle. Support front suspension. Working inside engine compartment, remove upper strut retaining nuts. Remove assembly from vehicle.

Disassembly

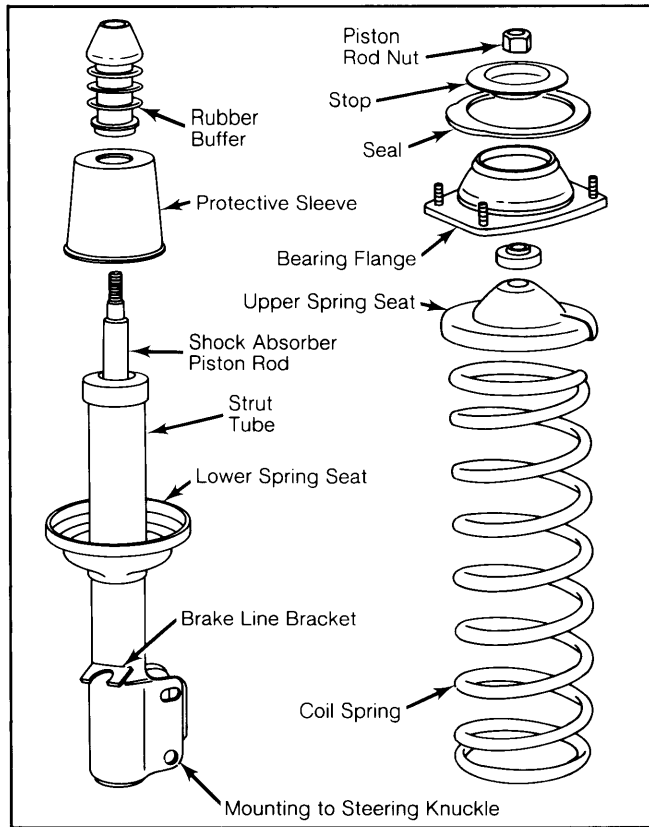
1) Using spring compressor, slightly collapse coil spring on strut. Remove shock absorber piston rod nut. Remove upper components from strut tube. See Fig. 2.

2) Slowly release spring pressure and remove coil spring. Lift off rubber buffer and protective sleeve.

3) Hold shock absorber upright and work piston rod through entire stroke several times. Equal pressure must be felt in both directions. Remove cap nut and take out inner shock absorber.

PORSCHE 924, 924 TURBO & 944 (Cont.)

Fig. 2: Exploded View of Suspension Strut Assembly



Reassembly

1) Place shock absorber in strut tube and install cap nut. Slide on protective sleeve and buffer. Position coil spring into lower seat.

2) If new coil spring is being installed, ensure that paint stripe color code matches that of spring on opposite side.

3) Fit coil spring to compressor and collapse coil enough to allow piston rod threads to be exposed after upper mounting hardware is installed. Tighten piston rod lock nut. Release spring pressure.

Installation

To install, reverse removal procedures. Check wheel alignment.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Control Arm-to-Crossmember	40-54 (54-73)
"U" Clamp Bolts	30 (41)
Tie Rod Castle Nut	22-36 (30-49)
Strut Piston Rod Nut	56-58 (76-79)
Strut-to-Steering Knuckle	51-72 (69-98)
Upper Strut Mount	15-21 (20-29)
Ball Joint-to-Control Arm	
Replacement Bolts	18 (24)
Ball Joint Nut	36-43 (49-58)

Fig. 3: Exploded View of Front Suspension

