

## AUDI

4000  
5000

### DESCRIPTION

Suspension is independent type, having strut assembly, control arm and stabilizer bar. Strut assembly consists of shock absorber surrounded by a coil spring. It is attached to inner fender panel at top and is integral with steering knuckle at bottom. Lower control arm is connected by ball joint to steering knuckle and by bushing connection to frame (note configuration differences in Fig. 1). Stabilizer bar is connected by brackets to subframe and by bracket to control arm on 4000 and by bushing and bolt on 5000.

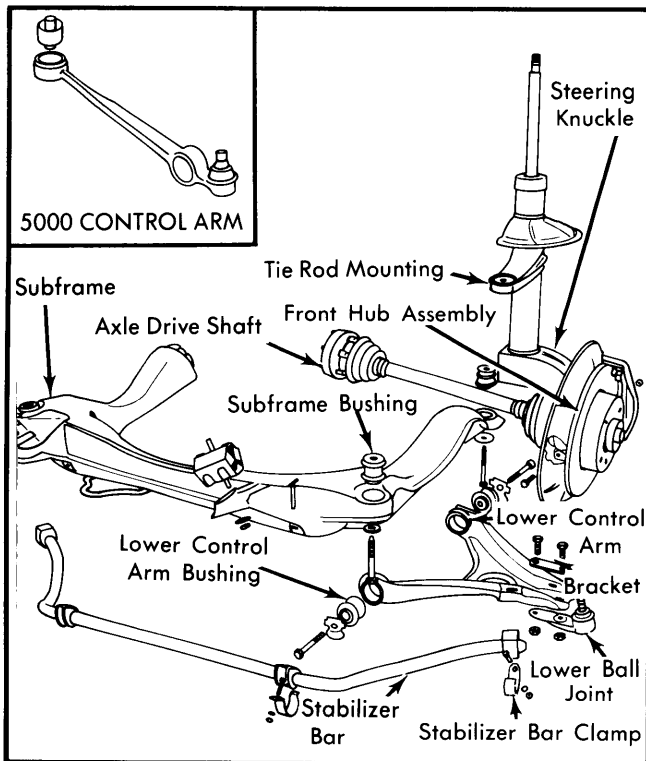


Fig. 1 Exploded View of Audi Front Suspension

### ADJUSTMENTS

#### WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

See Wheel Alignment Specifications and Procedures in WHEEL ALIGNMENT section.

#### WHEEL BEARING ADJUSTMENT

See Wheel Bearing Adjustment in WHEEL ALIGNMENT section.

#### BALL JOINT CHECKING

See Ball Joint Checking in WHEEL ALIGNMENT section.

### REMOVAL & INSTALLATION

**NOTE** — During any removal and installation procedure, if axle nut is removed or installed, do so with vehicle resting on ground at full curb weight.

### STRUT ASSEMBLY

**NOTE** — When removing strut on 5000, install strut tool 2070 before removing. Mount tool retaining plate, tighten spindle and spindle nut until seated.

**Removal** — 1) Loosen axle nut. Raise and support vehicle; remove wheel. Without detaching brake hose or line, unbolt caliper, remove brake hose bracket and suspend caliper out of way.

2) Detach stabilizer bar from sub-frame on 5000 and from lower control arm on 4000. Remove wheel bearing housing/ball joint clamp bolt on 4000.

3) Remove brake rotor and ball joint on 5000. On both models, use suitable tool and press off tie rod end. On 5000, remove ball joint from hub and using suitable puller attached to hub studs, press out drive shaft from hub.

4) On 4000, remove axle nut, push control arm down and pull drive shaft out of wheel bearing housing. On 5000, remove 3 nuts holding strut to body while holding strut from below. On 4000, loosen top nut on shock absorber while holding piston rod with hex wrench.

6) On 5000, pull hub off drive shaft. On both models, remove strut from vehicle.

**Disassembly** — 1) With strut assembly on bench, attach suitable spring compressor to coil spring and compress enough to remove upper piston rod retaining nut. Remove strut top plate.

2) Slowly release tension from coil spring and remove spring.

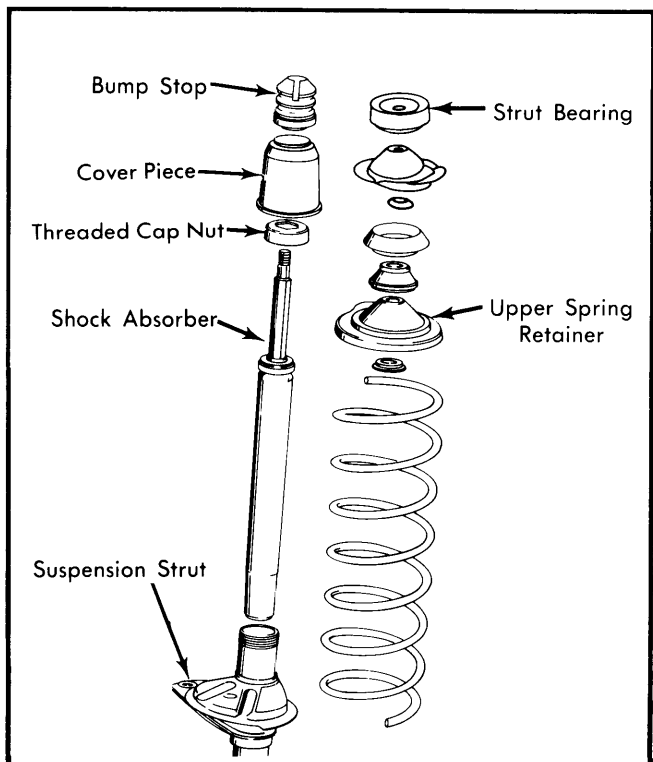


Fig. 2 Disassembled View of Strut Assembly (4000 Shown; 5000 Similar)

## AUDI (Cont.)

**3)** Use suitable tool (40-201A, 4000; 2069, 5000) to remove threaded cap from top of shock absorber. Remove shock absorber.

**Reassembly & Installation** — To reassemble and install, do so in reverse of disassembly and removal procedure, noting the following:

- On 5000 models, be sure damping ring locating tabs are mated with indentations on upper spring retainers.
- If nuts or bolts are covered with undercoat or grease, clean threads thoroughly before installation.
- Drive axle splines must be grease-free. Also, apply a narrow ring of suitable locking compound (D6) around outer end of drive shaft splines and allow 1 minute to dry before installing.
- Tighten drive axle nut with vehicle resting on ground.

### SHOCK ABSORBER (ON-CAR)

**Removal (5000 Only)** — 1) Leave vehicle sitting on ground at full curb weight. Remove top shock absorber nut.

2) Mark position of top retaining plate (camber adjustment) and remove 3 retaining nuts from plate and lift off plate.

3) Turn steering wheel so shock absorber rod can be aligned in center of upper spring retainer (insert piece of wood between spring and wheel housing to hold this position).

4) Remove washer, rubber bump stop, cover and threaded cap from shock absorber. Remove shock absorber.

**NOTE** — Threaded cap removal may require use of special wrench 2069.

**Installation (5000 Only)** — To install, reverse removal procedure, noting the following:

- When installing rubber cover over threaded nut, be sure marking on cover faces outward.
- After installation is complete, check camber and toe settings.

### LOWER CONTROL ARM

**Removal** — 1) Raise and support front of vehicle. Place additional support under strut assembly.

2) Detach stabilizer bar from control arm. It may be necessary to remove stabilizer bar clamp bolts from frame to gain movement.

3) Loosen control arm mounting bolts. Remove axle drive shaft if necessary.

4) On 4000, index mark ball joint nuts and bracket. Remove ball joint mounting nuts, bolts and bracket (4000) and separate ball joint from strut. Remove control arm.

**Bushing Replacement** — Using suitable support (VW 401) and driver (VW 409 for 4000; 2040 for 5000 inner side, VW 408a for 5000 outer side), remove old bushings from control arm. Using same tools, lubricate and replace bushings.

**Installation** — To install lower control arm, reverse removal procedure, noting the following:

- On 4000, if ball joint is not replaced at this time, be sure index marks made during removal are aligned.
- Tighten all nuts and bolts to specifications.
- Check alignment.

### TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Stabilizer Bar Bracket	
4000 .....	18 (2.5)
5000 .....	76 (10.5)
Stabilizer Bar-to-Control Arm (5000) .....	80 (11.0)
Control Arm-to-Subframe	
4000 .....	43 (6.0)
5000 .....	80 (11.0)
Ball Joint-to-Strut Nut	
4000 .....	36 (5.0)
5000 .....	47 (6.5)
Axle Nut <sup>⓪</sup>	
4000 .....	167 (23.1)
5000 .....	203 (28.0)
Ball Joint Bracket Nuts (4000) .....	47 (6.5)
Strut Upper Retaining Nuts (5000) .....	18 (2.5)
Shock Absorber Threaded Cap	
4000 .....	108 (15.0)
5000 .....	130 (18.0)
Shock Piston Rod Nut	
4000 .....	36 (5.0)
5000 .....	43 (6.0)
Strut Upper Plate (5000) .....	18 (2.5)

⓪ — Always replace.