

AUDI 4000, 5000 & QUATTRO

4000, 5000, Quattro

DESCRIPTION

Suspension is independent type, having strut assembly, control arm and stabilizer bar. Strut assembly consists of MacPherson strut surrounded by a coil spring.

It is attached in inner fender panel at top and is integral with steering knuckle at the bottom. Lower control arm is connected by ball joint to steering knuckle and by a bushing connected 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 Quattro, and by bushing and bolt on 5000.

ADJUSTMENTS

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

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

WHEEL BEARING ADJUSTMENT

No adjustment required.

BALL JOINT CHECKING

Inspect ball joints for wear or excessive play. Replace as necessary.

REMOVAL & INSTALLATION

BALL JOINT

Removal & Installation

To remove ball joint, remove wheel bearing housing/ball joint clamp bolt. Remove 2 bolts holding ball joint to lower control arm. To install, reverse removal procedure.

STRUT ASSEMBLY

NOTE: When removing strut from 5000, install strut tool (2070) before removing. Mount tool retaining plate, tighten spindle and spindle nut until seated.

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

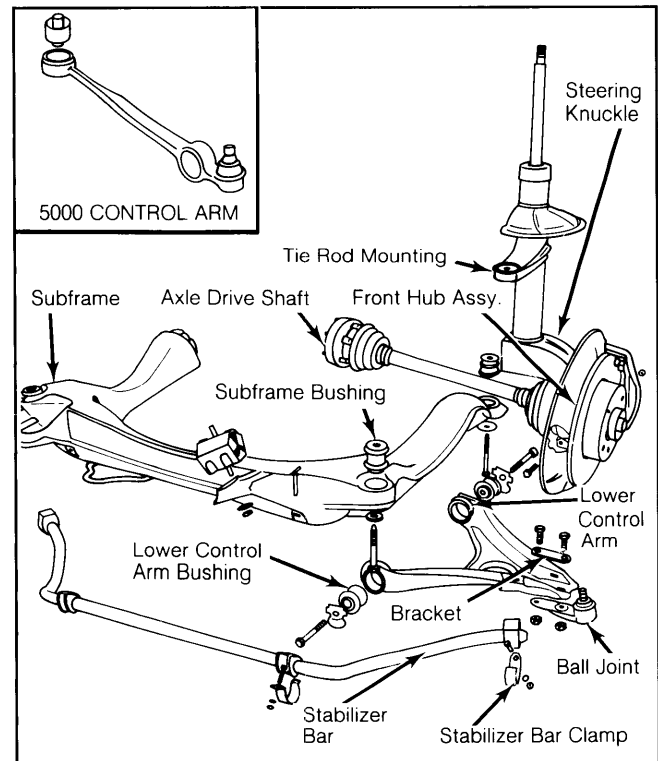
Removal

1) Loosen axle nut. Raise and support vehicle. Remove wheel assembly. Without detaching brake hose or line, unbolt caliper, remove brake hose bracket and suspend caliper out of the way.

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

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

Fig. 1: Exploded View of Audi Front Suspension



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

5) On 5000, pull hub off drive shaft. On all models, remove strut from vehicle.

Disassembly

1) With strut assembly on bench, attach 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.

3) Using disassembly tools, remove threaded cap from top of MacPherson strut. Remove MacPherson strut inner shock absorber.

Reassembly & Installation

To reassemble and install, reverse disassembly and removal procedure, noting the following:

1) 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, replace all coated nuts and bolts.

2) Drive axle splines must be grease-free. Also, apply a narrow ring of locking compound around outer end of drive shaft splines and allow 1 minute to dry before installing. Tighten drive axle nut with vehicle resting on floor.

WHEEL BEARINGS

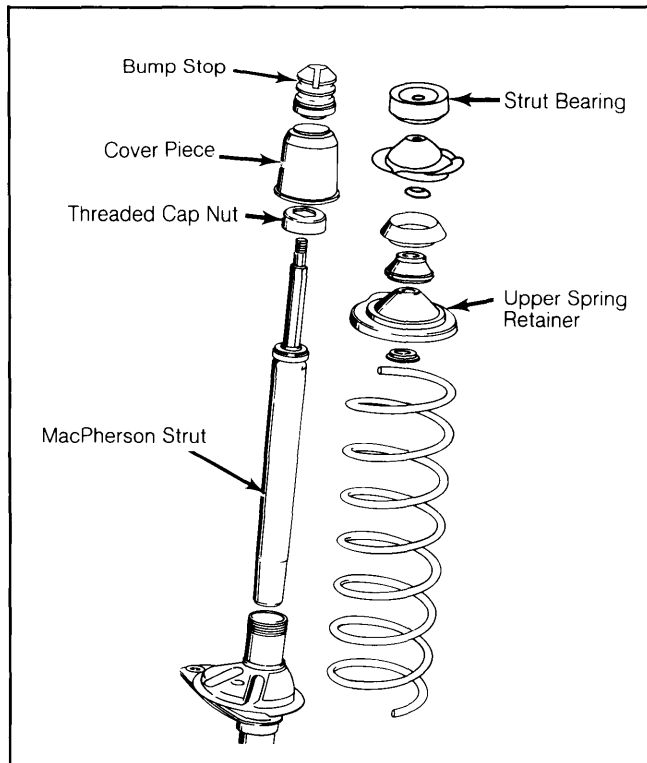
Removal

Remove strut assembly from vehicle. Press wheel hub from steering knuckle. Remove bearing retain-

Front Suspension

AUDI 4000, 5000 & QUATTRO (Cont.)

Fig. 2: Disassembled View of 4000 Strut Assembly



5000 & Quattro are similar.

ing snap rings and press wheel bearing from knuckle. Press inner race from wheel hub.

NOTE: Whenever wheel bearing is replaced, a new race must be used.

Installation

To install, reverse removal procedure.

CAUTION: When installing hub, be sure that tool contacts inner bearing race only.

INNER SHOCK ABSORBER (ON-CAR)

Removal (5000)

1) Leave vehicle sitting on floor at full curb weight. Remove top shock absorber shaft 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 shaft can be aligned in center of upper spring retainer (insert a 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 inner shock absorber.

NOTE: Threaded cap removal may require use of special wrench (2069).

Installation (5000)

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 wheel alignment.

LOWER CONTROL ARM

Removal

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

2) Detach end of stabilizer bar. 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 and Quattro, index mark ball joint nuts and bracket. Remove ball joint mounting nuts, bolts and bracket on 4000 and Quattro and separate ball joint from strut. Remove control arm.

Bushing Replacement

Use support (VW 401) and driver (VW 409 for 4000 and Quattro; 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. On 4000 and Quattro, align index marks if ball joint is not replaced with new joint. Tighten all nuts and bolts to specifications and check wheel alignment.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Axle Nut ¹	
4000	167 (227)
5000 & Quattro	203 (276)
Ball Joint Bracket Nuts	47 (64)
Ball Joint-to-Strut Nut	
4000	36 (49)
5000 & Quattro	47 (64)
Control Arm-to-Subframe	
4000 & Quattro	43 (58)
5000	80 (109)
Suspension Strut Threaded Cap	
4000	108 (147)
5000 & Quattro	130 (177)
Shock Absorber Shaft Nut	
4000	36 (49)
5000 & Quattro	43 (58)
Stabilizer Bar Bracket	
4000 & Quattro	18 (24)
5000	76 (103)
Stabilizer Bar-to-Control Arm (5000)	80 (109)
Strut Upper Plate (5000)	18 (24)
Strut Upper Retaining Nuts (5000)	18 (24)

¹ — Always replace nut when removed.