

AUDI 100LS

TOOLS

DESCRIPTION

Audi is front wheel drive with independent type front suspension utilizing upper and lower control arms and coil spring/shock absorber assemblies. Upper and lower control arms pivot in mounts connected to chassis. Steering knuckles are mounted between upper and lower control arms by means of ball joints. Steering knuckles support drive axle bearing carriers. A stabilizer bar is mounted to chassis and connected at ends to lower control arms.

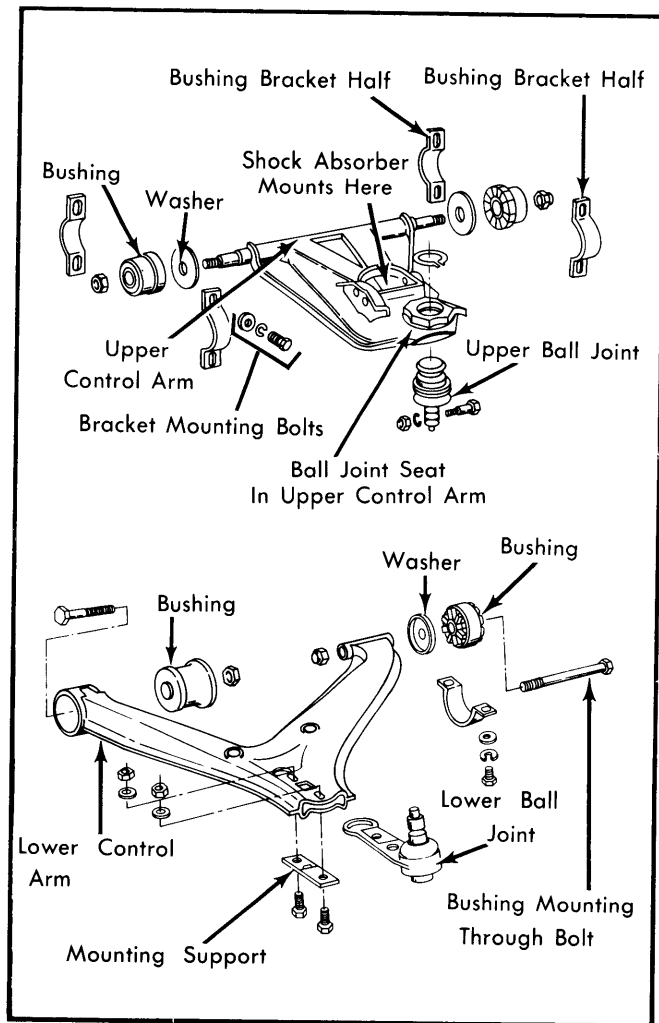


Fig. 1 Exploded View of Audi 100LS Front Suspension Assembly

ADJUSTMENT

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

See *Wheel Alignment Specifications & 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

COIL SPRING/SHOCK ABSORBER ASSEMBLY

Removal — Raise vehicle, position safety stands under chassis and remove wheel and tire. Disconnect shock absorber lower mount from upper control arm. Remove nuts securing shock absorber upper mount from fender well. Pull shock absorber down and pivot to outside. Turn shock absorber and spring assembly 90° and remove from lower control arm.

Disassembly — Mount coil spring/shock absorber assembly in a suitable spring compressor. Compress spring until lock nut and nut can be removed from shock absorber shaft. With nuts removed, withdraw shock absorber from spring compressor. Release spring compressor and remove coil spring and mounting components.

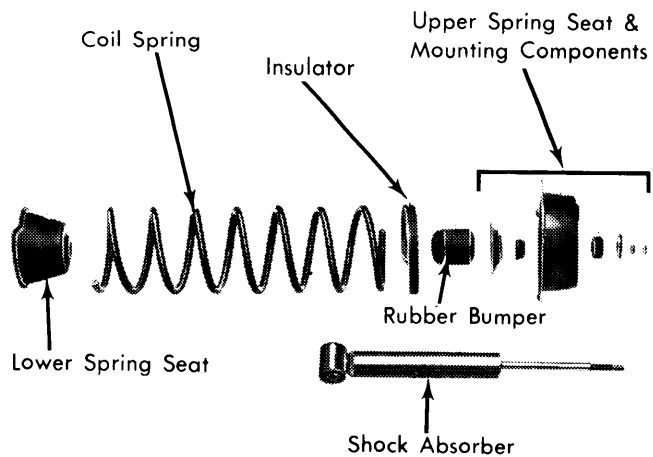


Fig. 2 Exploded View of Coil Spring and Shock Absorber Assembly

Reassembly — 1) Coil springs are identified as to length by colored lines on spring. If spring is marked with one line, a thick insulator ring in upper spring seat must be installed. If spring is marked with two lines, a medium thickness ring must be installed and if coil spring has three colored lines, a thin ring must be installed. When installing ring, make sure lug on ring fits into notch in upper spring retainer.

2) Position spring in upper retainer, making sure that end of spring coil fits into notch in insulator. Install rubber stop on shock absorber shaft. Install coil spring and upper and lower spring seats in a suitable spring compressor. Compress spring, making sure that there is at least .080" of clearance between inside of spring and lower spring seat. A noise will occur if spring touches spring seat on inside. Insert shock absorber and position so that centerline of lower mount eye on shock is parallel with straight edge on upper spring seat. Tighten shock absorber shaft nut and lock nut.

Installation — To install coil spring/shock absorber assembly, reverse removal procedure. Make sure that straight edge of upper spring seat is facing center of vehicle.

Front Suspension

AUDI 100LS (Cont.)

UPPER CONTROL ARM & BALL JOINT

Removal — Raise vehicle, position safety stands under chassis and remove wheel and tire. Separate upper ball joint stud from steering knuckle, as previously outlined. Remove pivot bearing mounts from chassis and remove upper control arm. Remove nuts at outside of pivot bearings and remove bearing. Remove snap ring retaining ball joint in control arm and press ball joint from control arm.

Installation — 1) Lower control arm must be removed to install upper control arm. See *Lower Control Arm, Stabilizer Bar and Ball Joint in this section*. With lower control arm installed, fit tool 3007 (or equivalent). Tool mounts between inside nuts of lower control arm halves with threaded bore facing rearward.

2) Turn arms of tool up and position upper control arm on tool arms (loosen bushing retainers, if necessary) and tighten upper control arm pivot bearing mounts. To install remaining components, reverse removal procedure. Check wheel alignment. See *WHEEL ALIGNMENT Section*.

LOWER CONTROL ARM, STABILIZER BAR & BALL JOINT

Removal — Raise vehicle and position on safety stands. Remove both front wheels. Disconnect stabilizer from both lower control arms and pull stabilizer out, disconnect exhaust pipe from manifold if necessary. Remove bolts securing lower control arm pivot bearing mounts to chassis and remove lower control arm. Remove nuts from outside of pivot bearings and remove both bearings. Remove snap ring and nut from ball joint and remove ball joint from plate. Remove bolts and withdraw plate from control arm.

Installation — To assemble and install lower control arm, reverse removal procedure. When installing stabilizer bar, position rubber bushings at correct distances on stabilizer bar (see illustration). Check front wheel alignment. See *WHEEL ALIGNMENT Section*.

TIGHTENING SPECIFICATIONS

| Application | Fr. Lbs. (mkg) |
|-------------------------------------|-----------------|
| Upper Control Arm-to-Body | 16 (2.2) |
| Pivot Bearing End Nuts | 36 (5.0) |
| Front Lower Control Arm | |
| Mount-to-Body | 30 (4.2) |
| Rear Lower Control Arm | |
| Mount-to-Body | 16 (2.2) |
| Lower Control-to-Ball | |
| Joint Plate | 30 (4.2) |
| Ball Joint-to-Lower Control | |
| Arm Plate | 87 (12.0) |
| Steering Knuckle Pinch Bolts-to- | |
| Ball Joints | 30 (4.2) |
| Drive Axle-to-Disc Brake Hub | 74 (10.2) |
| Coil Spring/Shock Absorber-to- | |
| Upper Control Arm | 65 (7.0) |
| Coil Spring/Shock Absorber-to-Inner | |
| Fender Panel | 13 (1.9) |
| Shock Absorber Shaft | |
| Nut-to-Lock Nut | 22 (3.0) |
| Stabilizer Bar-to-Lower | |
| Control Arm | 16 (2.2) |