

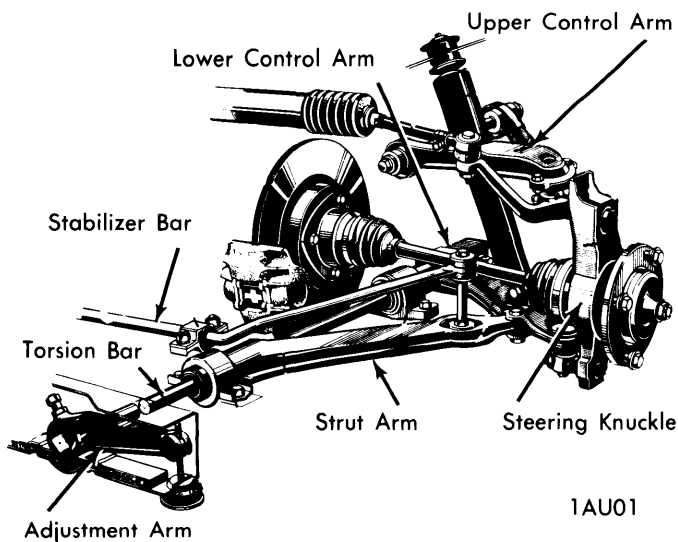
Front Suspension

1970-72 AUDI S90

S90 (1970-72)

DESCRIPTION

Audi Super 90 is front wheel drive using independent type suspension with torsion bars. Steering knuckle is mounted between upper and lower control arm and supports drive axle bearing carrier. Steering knuckle is connected to upper and lower control arms by means of ball joints. Strut arms are connected at front to lower control arms and at rear to chassis. Torsion bars are connected at front to lower control arms and at rear to adjustment levers. Shock absorbers are connected at bottom to lower control arms and at top to inner fender panel. A stabilizer bar is mounted to chassis and connected at ends to strut arms.



FRONT SUSPENSION COMPONENTS

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

STEERING KNUCKLE & DRIVE AXLE

Removal — Raise vehicle, position safety stands under chassis and remove tire and wheel. Separate drive axle from flange at differential. Remove steering tie rod end nut and separate tie rod from steering arm. Remove upper and lower ball joint lock bolts from steering knuckle, pull up on upper control arm and separate from steering knuckle. Pull out on steering knuckle

and separate from lower control arm. Remove steering knuckle complete with drive axle.

Installation — To install steering knuckle and drive axle, reverse removal procedure.

STABILIZER BAR

Removal — Raise vehicle, position safety stands under chassis and remove wheels. *NOTE* — *It is not necessary to raise vehicle to remove stabilizer bar except for ease of working.* Remove nut from stabilizer link assembly at strut arm. Unscrew link assembly bolt at top of stabilizer while holding nut in link assembly between stabilizer bar and strut arm. Pry engine/transmission assembly up slightly by inserting a pry bar between crossmember and transmission. Remove transmission crossmember and lower pry bar until engine is resting on front crossmember. Remove stabilizer bar and remove rubber bushings if necessary.

Installation — To install stabilizer bar, reverse removal procedure. Make sure stabilizer is installed with angled portion of eyelet at end facing down. Install rubber bushings with flat side against mount.

UPPER CONTROL ARM & BALL JOINT

Removal — Raise vehicle, position safety stands under chassis and remove wheel and tire. Remove nut and lock bolt securing ball joint to steering knuckle. Separate upper control arm from steering knuckle and remove ball joint from control arm. From inside engine compartment, remove nuts securing control arm pivot mount to chassis. Pull control arm out and turn toward front of vehicle as far as possible and pull mount retaining bolts out of chassis. Turn arm up against fender well holding other arm down and slide out around from behind shock absorber. Drive alignment dowels out of control arm mount. These dowels must be removed and replaced whenever control arm is removed.

Disassembly — Hold pivot bolt at end of mount and remove nut from other end. Remove pivot bolt and separate both arms of control arm from mount. If bushings are defective in control arms, pry out with a screwdriver. Inspect all components for wear or damage.

Reassembly — Carefully press new bushings into control arms with a vise. Install control arm mount bolts in mount, with longer bolt installed in side with longer slot. Place longer control arm on same end as long bolt. Install pivot bolt and remaining components and slightly tighten pivot bolt nut.

Installation — To install control arm, reverse removal procedure. Drive in alignment dowels until they are flush with mount. Tighten all bolts and nuts to specifications. Check front wheel alignment. See *Wheel Alignment* Section.

LOWER CONTROL ARM, STRUT ROD & BALL JOINT

Removal — Raise vehicle, position safety stands under chassis and remove wheel. Disconnect stabilizer from strut rod and remove steering knuckle as previously outlined. At crossmember that rear of torsion bar is inserted into, loosen bolt until approximately 4 or 5 threads are left. Amount of threads left can be determined by lifting floor cover over crossmember inside drivers compartment. Using a pry bar approximately one yard long, pry lower control arm up until

Front Suspension

1970-72 AUDI S90 (Cont.)

shock absorber mount at control arm can be disconnected. With control arm still pryed upward, remove bolt from torsion bar adjustment lever so that all spring pressure is released from lower control arm. Disconnect strut arm from lower control arm and loosen torsion bar from connection at front of control arm. Remove bolts securing control arm bearing mount to chassis and slide control arm forward over torsion bar to remove. Remove strut arm bearing mount bolts and slide strut arm forward over torsion bar to remove. Remove torsion bar. To remove ball joint, remove snap ring and press ball joint from control arm with a suitable mandrel.

Installation – To install ball joint, torsion bar, control arm and strut rod, reverse removal procedure. Check riding height.

TIGHTENING SPECIFICATIONS	
Application	Ft. Lbs.
Upper Ball Joint-to-Steering Knuckle	34
Lower Ball Joint-to-Steering Knuckle	34
Lower Shock Absorber Mount	34
Upper Shock Absorber Mount	30
Upper Control Arm-to-Chassis	34
Strut Arm-to-Lower Control Arm	26
Lower Control Arm-to-Chassis	18