# Front Suspension

## SAAB 900 & 900 TURBO

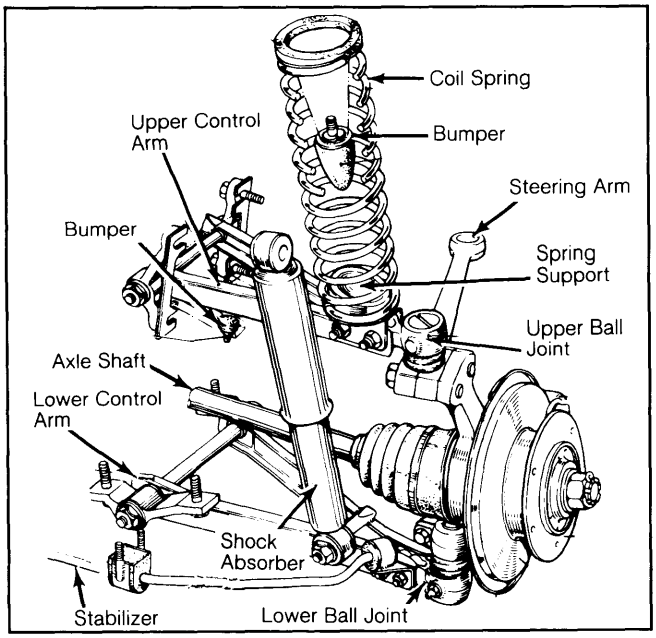
## DESCRIPTION

An independent type front suspension with coil springs is used. Wheel is supported by steering knuckle mounted between upper and lower control arms by means of ball joints.

Both upper and lower control arms pivot on shafts connected to body. Coil springs fit in pockets built into body at top and in supports attached to upper control arms at bottom.

Hydraulic shock absorbers are mounted between lower control arm and body. If stabilizer bar is used, it is attached to frame and connected at ends to lower control arm.

***Fig. 1: Assembled Suspension Assembly & Components***




## ADJUSTMENT

### WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

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

### WHEEL BEARING

Wheel bearings are not adjustable. Tighten hub nut to specifications.

### BALL JOINT CHECKING

**1)** Check ball joint wear with ball joints in unloaded, normal working position. Insert spacer tool (83 93 209) between upper control arm and chassis member before raising vehicle.

**2)** Raise vehicle off floor and check ball joints for excessive play or looseness. Using a pair of channel locks, compress ball joint. Maximum end float is .08" (2.0 mm).

**3)** Apply pressure between control arm and vetical link, to check radial play. Maximum radial play is .04 (1.0 mm). Check ball joint seals for wear or damage, (replace if necessary).

## REMOVAL & INSTALLATION

### WHEEL BEARING

**Removal**

**1)** Position spacer tool (83 93 209), under control arm. Loosen hub nut. Raise vehicle and support with safety stands. Remove wheel assembly. Remove brake pads, using the recesses in the edge of the disc.

**2)** Remove caliper and support out of the way. Disconnect hand brake cable and remove brake housing. Remove rotor from hub. Using separator tool (89 95 409) remove tie rod from control arm.

**3)** Remove bolts retaining upper and lower ball joints in control arms. Pull the vertical link and hub off drive shaft and control arms.

**Disassembly**

Separate hub from steering knuckle using press. Use a puller to pull inner bearing race off hub. If there is no recesses for puller, chisel off race. Remove circlips from vertical link and press out bearing.

**Reassembly**

Lubricate bearing recess in steering kunckle housing. Install circlip in inner groove in steering knuckle housing. Press in new bearing up to circlip. Install outer circlip. Press hub into bearing.

**Installation**

To install, reverse removal procedures.

### BALL JOINT

**Removal**

**1)** Raise vehicle and support with safety stands, under vehicle body. Remove wheel assembly. Take weight off control arm travel stop (if equipped) and raise outer portion of lower control arm with a floor jack.

**2)** Remove lower shock absorber mounting. Lower floor jack until drive shaft is aligned with body grommet. With floor jack under arm for support, remove caliper and hang out of the way.

**3)** Remove ball joint nut. Using separator tool (89 95 409) separate ball joint from steering knuckle. Separate ball joint from control arm. Support steering knuckle.

**Installation**

Install new ball joint to steering knuckle. Insert ball joint mounting into control arm and tighten using new lock nuts. To complete installation, reverse removal procedures.

### CONTROL ARM

**Removal**

**1)** Remove upper shock absorber retaining nut. Raise vehicle and support with safety stands. Remove wheel assembly. If removing upper control arm, use a spring compressor (89 95 839) to remove coil spring.

**NOTE: Engine must be removed prior to removing upper left control arm.**

**2)** Remove ball joint-to-control arm retaining bolts, support steering knuckle housing to prevent brake line damage. Remove shock absorber prior to jacking up or by supporting shock in position with a floor jack placed under outer end of lower control arm.

**3)** Remove control arm retaining bolts and control arm. If control arm bushings are being replaced.

## SAAB 900 & 900 TURBO (Cont.)

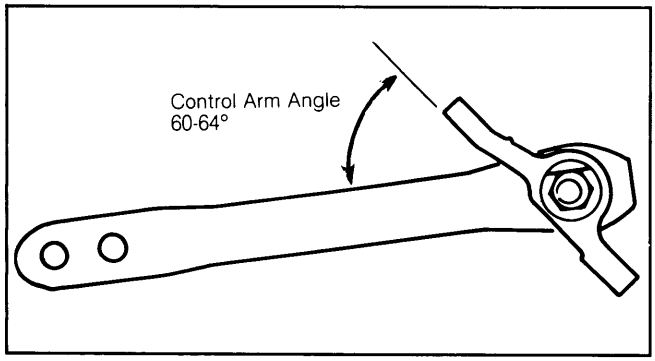
Press bushings out using proper adapter and driver. Note amount and location of upper control arm spacers for reassembly reference.

**Installation**

**1)** Replace worn or damaged components. If bearings have been removed from control arm, position onto control arm so when both nuts are tightened and locked, angle between arm and bearing will be as specified. *See Fig. 2.*

**2)** Install control arm brackets. Install bearing locating bolts and spacers in upper arm. Tighten control arm bearings. Install ball joint-to-control arm bolts.

***Fig. 2: Upper Control Arm-to-Bearing Angle***



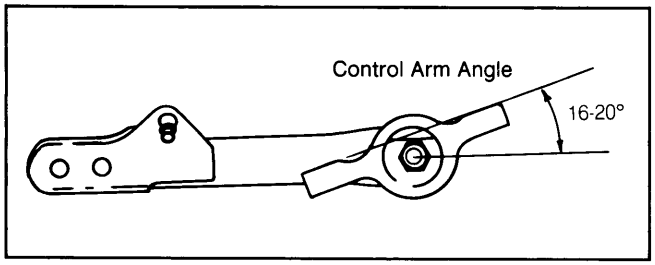

**3)** Correctly position upper spring spacer and support ring on upper control arm. Install compressed coil spring onto upper control arm with rubber buffer.

**4)** Raise outer end of lower control arm slightly with floor jack and install shock absorber. Tighten all mounting bolts. Install wheel assembly. Check wheel alignment.

***CONTROL ARM SPECIFICATIONS***

| Application | Upper Control Arm | Lower Control Arm |
|---|---|---|
| 900 and 900 Turbo | 60°-64° | 16°-20° |

***Fig. 3: Lower Control Arm-to-Bearing Angle***




### SHOCK ABSORBER

**Removal**

**1)** Remove upper shock absorber retaining nut before raising vehicle. Raise vehicle and support with safety stands.

**2)** Remove wheel assembly. Remove nuts retaining shock absorber and remove shock. Save the washers and rubber parts for use in installation.

**NOTE: Used pneumatic shock absorbers require special handling to prevent personal injury. Drill a hole 3/8-5/8" (10-15 mm) from pressure chamber edge before discarding.**

**Installation**

To install, reverse removal procedures. Tighten top retaining nut only enough to properly compress rubber bushings and install lock nut.

***TIGHTENING SPECIFICATIONS***

| Application | Ft. Lbs. (N.m) |
|---|---|
| Hub Nut | 251-265 (341-360) |
| Lower Control Arm Nuts | 70-77 (95-105) |
| Upper Control Arm Nuts | 54-66 (73-90) |
| Lower Shock Absorber Mount | 70 (95) |