SAAB

900

DESCRIPTION

Independent front suspension with coil springs. 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 mount between lower control arm and body. If stabilizer bar is used, it is attached to frame and connected at ends to lower control arms.

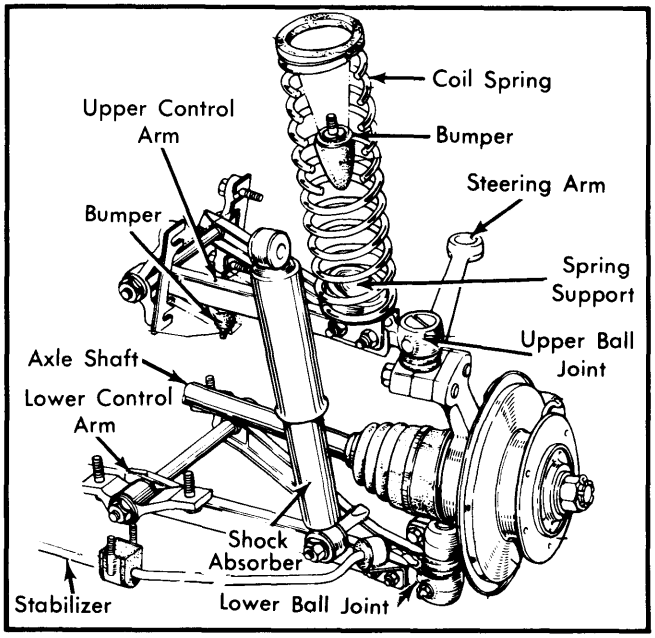

Fig. 1 Saab Front Suspension Assembly with Relationship of Components

ADJUSTMENT

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

See Wheel Alignment Specifications and Procedures in WHEEL ALIGNMENT Section.

WHEEL BEARING ADJUSTMENT

Front wheel bearings are not adjustable. Tighten front spindle nut to 246-261 ft. lbs. (335-355 N·m).

BALL JOINT CHECKING

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

2) Raise vehicle off the ground and check ball joints for excessive play or looseness. DO NOT place jack under lower control arm when making this check.

REMOVAL & INSTALLATION

CONTROL ARMS

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

Removal – 1) Remove upper shock absorber nut. Raise and support vehicle. Remove tire and wheel. If removing upper control arm, use a spring compressor (8995839) to remove coil spring. Remove ball joint-to-control arm retaining bolts, providing support under steering knuckle housing to prevent brake line damage.

NOTE – *Remove shock absorber prior to jacking up 900 series vehicles; or by supporting shock in position with a jack placed under outer end of lower control arm.*

2) Remove control arm attaching bolts and control arm. If control arm bushings are being replaced, press them 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. Install control arm brackets. Install bearing locating bolts and spacers in upper arm. Tighten control arm bearings.

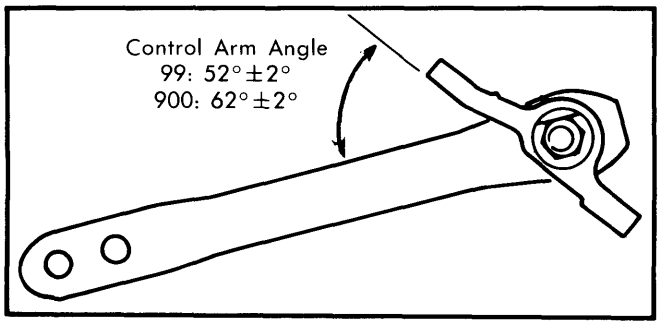

Fig. 2 Upper Control Arm-to-Bearing Angle

2) Install ball joint-to-control arm bolts. Correctly position upper spring spacer and support ring on upper control arm. Install compressed coil spring onto upper control arm with rubber buffer. Raise outer end of lower control arm slightly with a jack and install shock absorber. Tighten all mounting bolts. Install wheel and tire. Recheck wheel alignment.

Control Arm Specifications

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

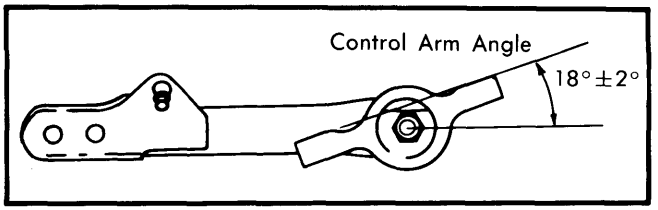

Fig. 3 Lower Control Arm-to-Bearing Angle

SHOCK ABSORBERS

NOTE – *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.*

Removal & Installation – Remove upper shock absorber nut before raising vehicle. Raise and support vehicle on safety stands; remove tire and wheel. Remove nuts securing shock absorber and remove shock. Save the washers and rubber parts for use in installation. To install, reverse removal procedure.

SAAB (Cont.)

WHEEL BEARING

Removal – **1)** Remove upper shock absorber nuts. Remove wheel and hub nut. Place a jack under end of lower control arm, raise car and secure with safety stands.

2) Rotate disc until recess in disc lines up with brake pads. Disconnect hand brake cable and remove brake housing. Using puller tool (89 96 084) remove hub and brake disc.

3) Remove large clamp around bellows of inner universal joint. Remove steering arm and upper ball joint using separator tool (8995409). Remove screws on lower control arm bracket.

4) Separate inner universal joint, fitting a cover in bellows to stop needle bearings from falling out and to keep dirt out of joint.

5) Pull out drive shaft through wheel housing. Place steering knuckle in a press and press out drive shaft. Remove lock ring and press out bearing.

6) Remove the intermediate drive shaft from outer universal joint hub as follows: Loosen outer joint bellows and move bellows up shaft and out of the way.

7) Place the shaft in a press and press the 2 conical spring washers together so that circlip inside hub can rotate in groove. Open circlip using pliers and release pressure.

8) Pull intermediate shaft out of hub together with spherical shaped washer, 2 cone shaped spring washers and shaft locking ring.

Installation – To install, reverse removal procedure.

BALL JOINTS

Removal – Raise and support vehicle; remove tire and wheel. Take weight off control arm travel stop (if equipped) and raise outer portion of lower control arm with a jack. Remove lower shock absorber mounting. Lower jack until drive shaft is aligned with body grommet. With jack under arm for support, remove caliper and hang out of way. Remove ball joint nut. Using suitable tool (8995409) separate ball joint from steering knuckle.

NOTE – *Maximum stroke of control arm is limited by shock absorber. Therefore, upper shock absorber nut must be removed before raising vehicle or support shock absorber with a jack under outer edge of lower control arm.*

Installation – Fit new ball joint to steering knuckle. Tighten nut. Insert ball joint mounting into control arm and tighten using new lock nuts. Reinstall brake caliper. Raise control arm and reinstall shock absorber.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N·m)
Hub Locking Nut	251-265 (340-360)
Lower Control Arm Nuts	70-77 (95-105)
Upper Control Arm Nuts	54-66 (73-90)