

SUSPENSION - FRONT

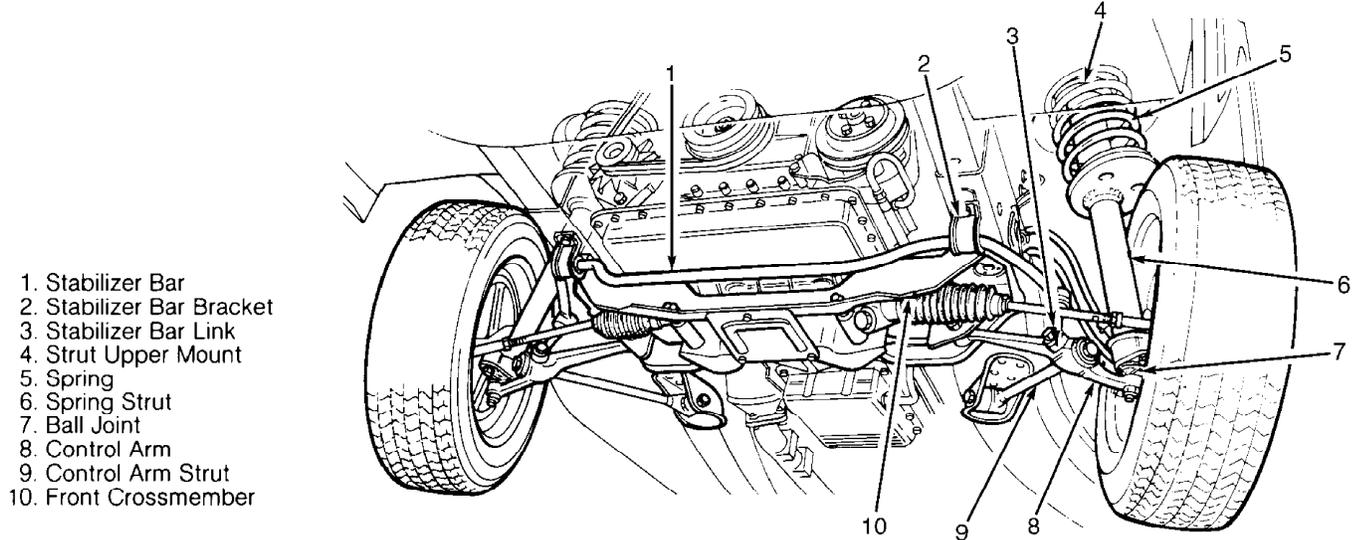
1994 Volvo 960

1994 SUSPENSION
Volvo Suspension - Front - RWD

960

DESCRIPTION & OPERATION

A MacPherson strut-type suspension is used. Suspension consists of a vertically mounted strut and coil spring assembly. Top of strut assembly is mounted to chassis frame; bottom is mounted to a ball joint, bolted to lower control arm. The steering knuckle/spindle assembly is an integral part of strut. A stabilizer bar connects to control arms through rubber-mounted links. See Fig. 1.



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Fig. 1: View Of Front Suspension
Courtesy of Volvo Cars of North America

ADJUSTMENTS & INSPECTION

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

NOTE: See WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES article in the WHEEL ALIGNMENT section.

WHEEL BEARING

While rotating hub, tighten hub nut to 42 ft. lbs. (57 N.m). Loosen nut 1/2 turn, and then tighten by hand. Ensure hub rotates freely without end play. If necessary, loosen nut to align cotter pin hole. Install NEW cotter pin. Ensure there is still no end play.

BALL JOINT CHECKING

With vehicle resting on wheels, check ball joint axial play with large pair of pliers. Maximum axial play is .12" (3 mm). Maximum radial play is .02" (.5 mm). Check rubber bellows and replace as necessary.

REMOVAL & INSTALLATION

STABILIZER BAR

Removal

Raise and support vehicle. Disconnect stabilizer bar from stabilizer bar links. See Fig. 1. Remove stabilizer bar-to-frame brackets. Remove brackets, bushings and stabilizer bar from vehicle.

Installation

Reverse removal procedure. Ensure bushing joint faces forward. Tighten nuts and bolts to specification. See TORQUE SPECIFICATIONS.

WHEEL BEARING

Removal

1) Raise and support vehicle. Mark front wheels to avoid rebalancing. Remove front wheels. Remove Allen head caliper bolts. Remove and support caliper.

2) Remove grease cap, cotter pin, hub nut, outer bearing and brake disc. Remove inner seal, bearing, and inner and outer races.

Installation

To install, reverse removal procedure. Tighten nuts and bolts to specification. See TORQUE SPECIFICATIONS.

NOTE: Use Puller (2722) if inner bearing is difficult to remove.

BALL JOINT

Removal

1) Raise and support vehicle. Mark front wheels to avoid rebalancing. Remove front wheels. Remove anti-roll link-to-control arm bolt and control arm-to-ball joint nut.

2) Using Puller (5259) separate control arm from ball joint stud. Remove ball joint mount bolts and ball joint.

Installation

To install, reverse removal procedure. See TORQUE SPECIFICATIONS.

NOTE: Use NEW bolts and apply Loctite to threads.

CONTROL ARM

Removal

1) Raise and support vehicle. Mark front wheels to avoid rebalancing. Remove front wheels. Remove ball stud nut, anti-roll link and control arm-to-strut bolt.

2) Separate control arm from ball joint using Puller (5259). Remove control arm from crossmember. If bushing needs replacing use Drift (5091) and Support (5240) to remove.

Installation

To install control arm, reverse removal procedure. Use Drift (2904) and Support (5240) to install control arm bushing. See TORQUE SPECIFICATIONS.

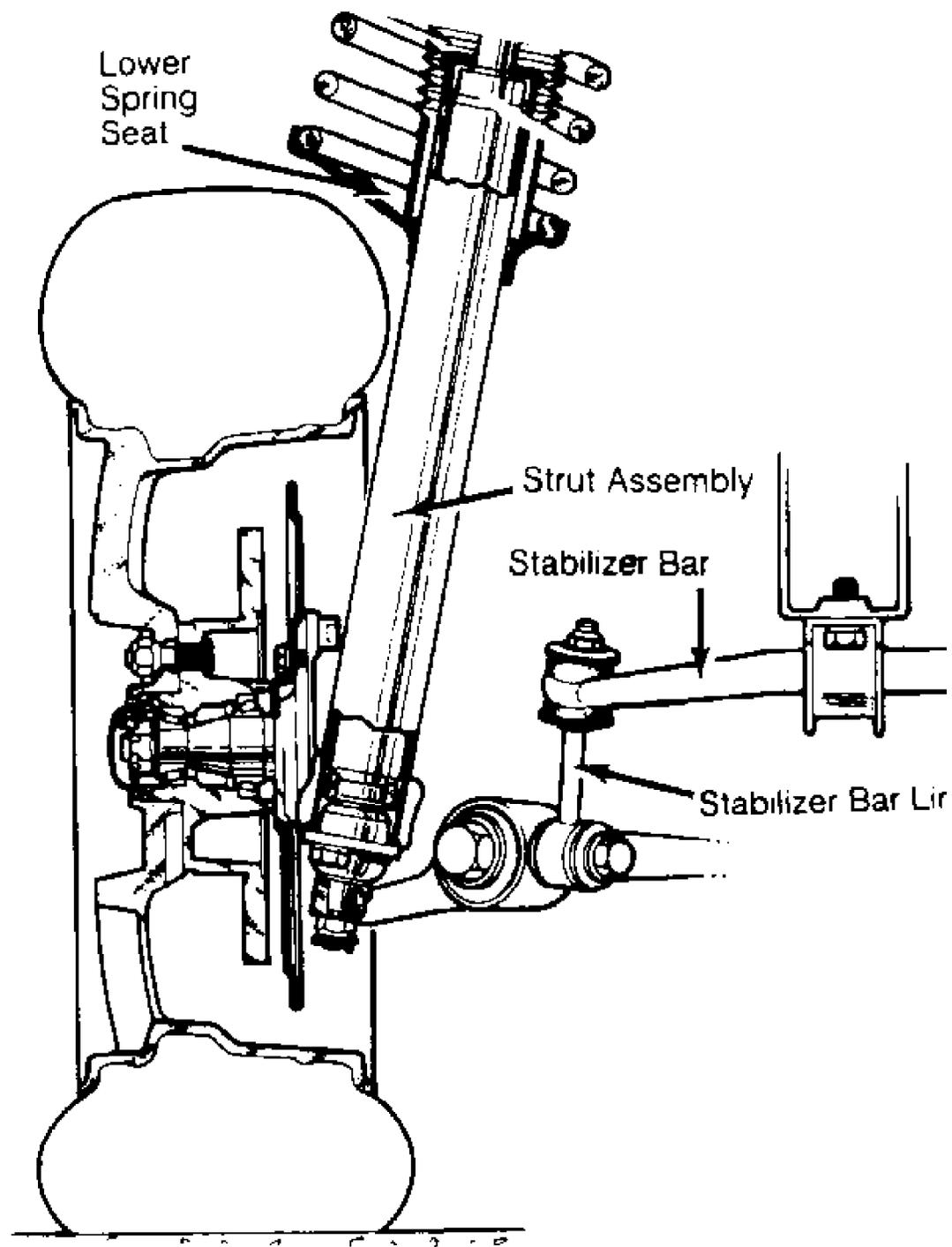


Fig. 2: Identifying Front Suspension
Courtesy of Volvo Cars of North America

STRUT ASSEMBLY

Removal

1) Raise and support vehicle. Mark wheel-to-hub relation to avoid rebalancing wheels. Remove front wheels. Mark nut plate at top of wheel housing and remove upper strut mounting nuts.

2) Compress spring and remove center nut, upper spring seat and spring. Using Wrench (5039 for standard strut or 5173 for gas strut), remove strut retaining nut and strut. See Fig. 2.

Installation

To install, reverse removal procedure. See TORQUE SPECIFICATIONS.

TORQUE SPECIFICATIONS

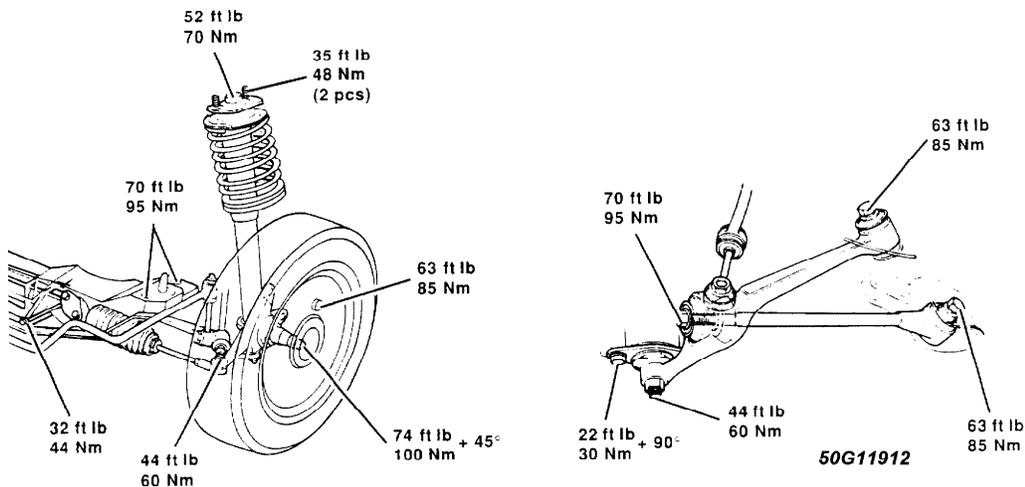


Fig. 3: Front Suspension Torque Specifications
 Courtesy of Volvo Cars of North America.

TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)
Ball Joint Stud Nut	44 (60)
Ball Joint-To-Strut Assembly	22 (30)
Control Arm-To-Control Arm Strut	70 (95)
Stabilizer Bar Link Bushing Nut	(1)
Strut Nut (Center)	111 (150)
Wheel Lug Nuts	63 (85)

(1) - Tighten until distance between washers is 1.7" (42 mm).