

SUSPENSION - FRONT**1993 SUSPENSION Volvo Front - RWD****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**.

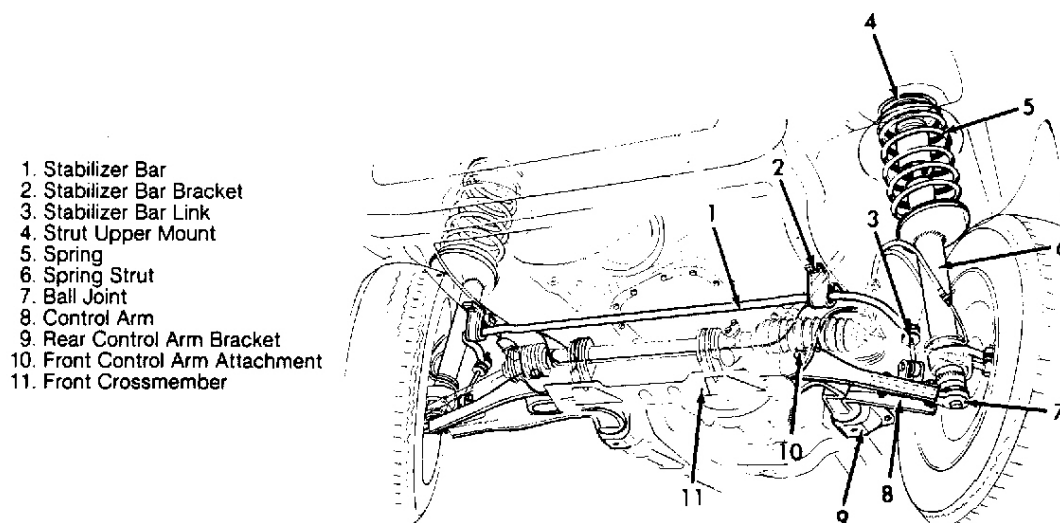


Fig. 1: View Of Front Suspension (240)

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.

None	

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 table at end of article.

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 table at end of article.

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

BALL JOINT

Removal

1. Raise and support vehicle. Mark wheel-to-hub reference to avoid rebalancing front wheels. Remove front wheels. Mark nut plate at top of wheel housing and remove upper strut mount nuts.
2. Compress spring and remove center nut, upper spring seat and spring. Using Wrench (5173 for gas strut or 5039 for standard strut), remove strut retaining nut and strut.
3. Remove ball joint retaining nut, located inside strut housing. See **Fig. 2** . If necessary, use long brass drift to tap ball joint from strut housing. Remove ball joint-to-strut nuts on control arm.

Installation

To install, reverse removal procedure. See TORQUE SPECIFICATIONS table at end of article.

NOTE: **Left and right ball joints are different.**

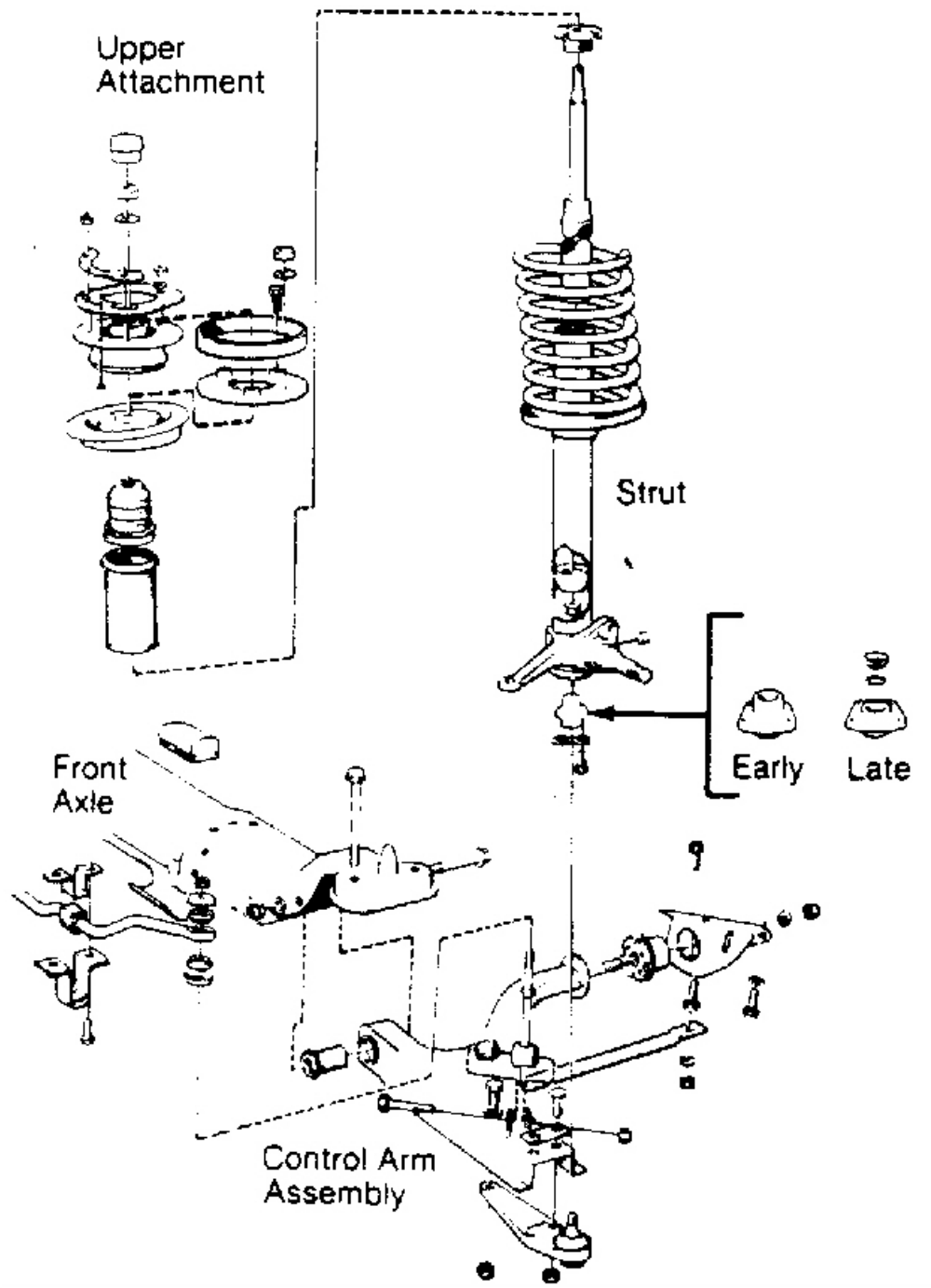


Fig. 2: Exploded View Of Front Suspension (240)
Courtesy of VOLVO CARS OF NORTH AMERICA.

CONTROL ARM

Removal

1. Raise and support vehicle. Mark front wheels to avoid rebalancing. Disconnect stabilizer link and ball joint from control arm. See **Fig. 2** . Disconnect rear bushing bracket from chassis.
2. Disconnect control arm-to-crossmember bolt and remove control arm. Separate rear bushing bracket from control arm. If control arm bushings are to be replaced, press out using Adapter Sleeve (5085) and Driver (5091).

Installation

To install control arm, reverse removal procedure. To install control arm bushing use adapter sleeve and driver. See TORQUE SPECIFICATIONS table at end of article.

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 table.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Ball Joint Bracket-To-Control Arm	85 (115)
Ball Joint Stud Nut	43 (58)
Ball Joint-To-Strut Assembly	17 (23)
Control Arm Retaining Bolts	
Front	40-70 (55-95)
Rear	37-44 (50-60)
Rear Control Arm Bracket-To-Frame	22-37 (30-50)
Stabilizer Bar Link Bushing Nut	
Strut Nut (Center)	111 (150)
Strut Assembly Nuts-To-Body	15 (20)
Wheel Lug Nuts	85 (115)
- Tighten until distance between washers is 1.7" (42 mm).	