

SUSPENSION - REAR

1995 Volvo 850

1995-96 SUSPENSION
Rear - FWD

850

DESCRIPTION

Vehicle is equipped with semi-independent rear suspension. Unit combines advantages of independent semi-trailing suspension and a beam axle. Rear suspension is also designed to provide passive rear steering due to deformable rubber bushings which allow the rear axle to shift slightly as cornering loads increase. See Fig. 1.

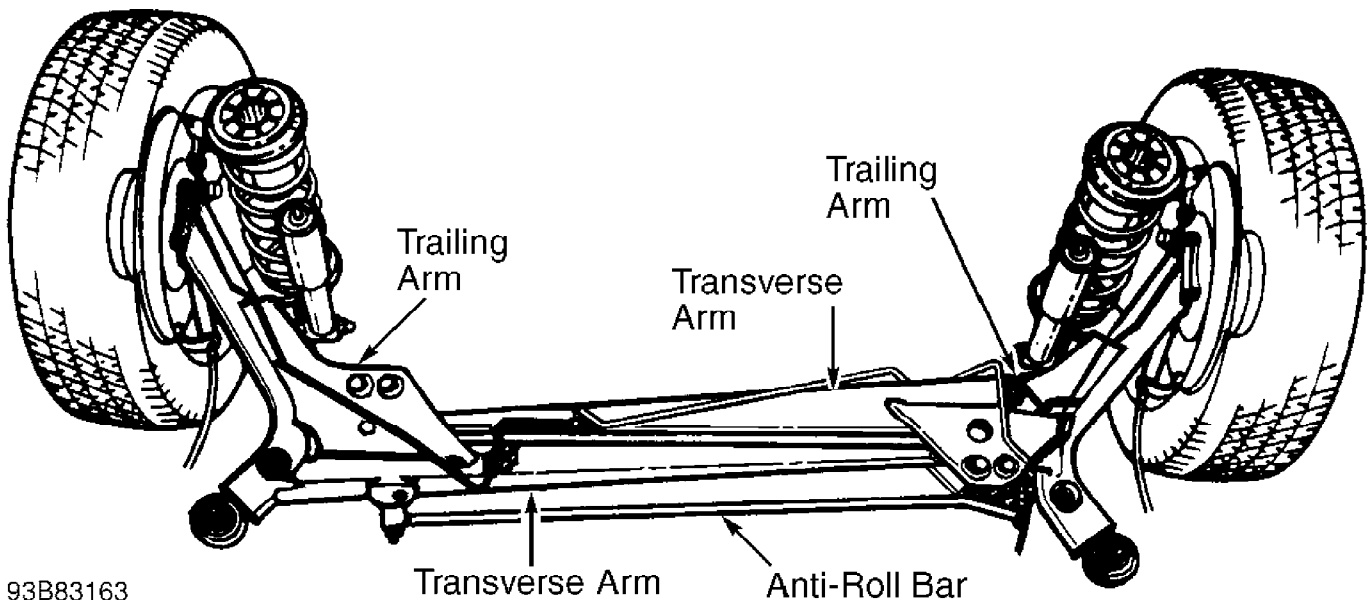


Fig. 1: Identifying Rear Suspension Components
Courtesy of Volvo Cars of North America.

ADJUSTMENTS & INSPECTION

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

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

WHEEL BEARING

NOTE: Rear wheel bearing is integral with hub.

REMOVAL & INSTALLATION

TRANSVERSE ARM MOUNT

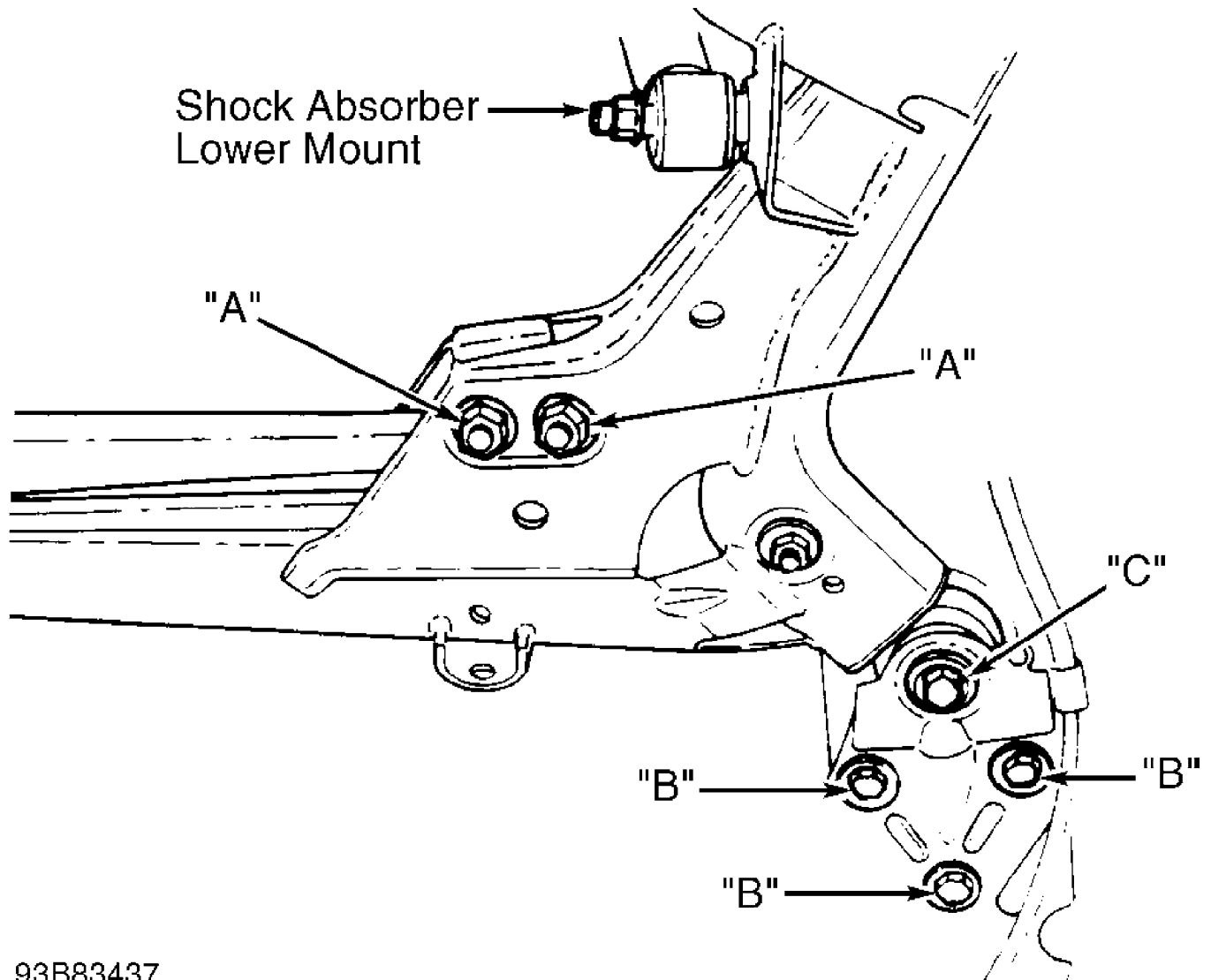
Removal

1) To expose right shock absorber mount location, fold rear seats forward. Release luggage area carpet at front edge. Remove cover plate under front edge of carpet. Remove right rear seat back rest

catch and panel attaching clip. Release right side panel at front edge and fold to one side. Remove 2 right shock absorber bolts. Release electrical connector retainer next to shock mount location. Move wiring and connector away from shock absorber mount area.

2) Remove right wheel, protecting plate at bracket for rear axle link, and right anti-roll bar mount. Remove brake pipe bracket on right trailing arm. Remove ABS pipe and brake pipe from clip on right trailing arm. Using a jack placed in recess for spring attachment bolt, press trailing arm upward to unload shock absorber.

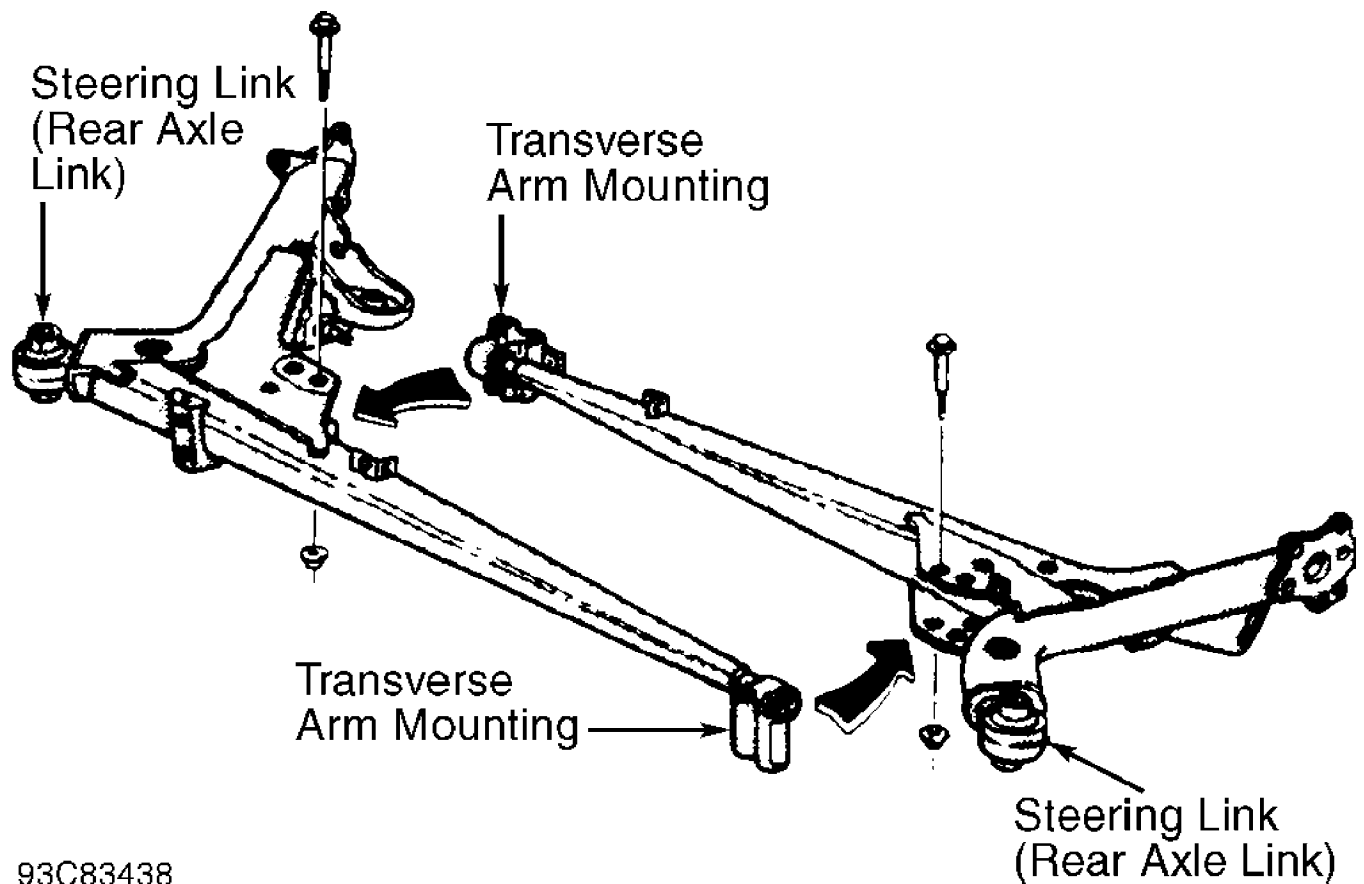
3) Disconnect shock absorber from lower mount. Remove shock absorber from lower axle stub and lower trailing arm. Remove spring mounting nut. Remove spring. Reconnect shock absorber. Tighten nut a few turns. Working from both sides, remove bolts "A" for transverse arm mountings. Remove bolts "B" and "C" on right side. See Fig. 2.



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Fig. 2: Removing Transverse Arm Mounting Bolts
Courtesy of Volvo Cars of North America.

4) Place a jack under left spring seat and raise 1-2". Disconnect transverse arm mount from body guide pin on right side. Press out right transverse arm, leaving left transverse arm in position. See Fig. 3.



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Fig. 3: Removing Transverse Arm
 Courtesy of Volvo Cars of North America.

Installation

1) Install NEW transverse arm for right trailing arm and tighten to 59 ft. lbs. (80 N.m). Ensure trailing arm maintains same position relative to body and align attachment with mount in left trailing arm. Tighten to 59 ft. lbs. (80 N.m).

2) Using a jack, adjust left trailing arm position. Reinstall right transverse arm with attachment in its mounting. Do not install bolts at this time. Install and align attachment for left transverse arm. Tighten bolt to 59 ft. lbs. (80 N.m). Reinstall transverse arm, with attachment in its mounting. Do not install bolts at this time.

3) Install right trailing arm on guide pins. Using NEW bolts, first install and tighten bolt "C" which goes through rear axle link and bracket. Tighten bolt to 77 ft. lbs. (105 N.m), plus an additional 90 degrees. See Fig. 2. Install and tighten 3 bracket bolts "B" to 48 ft. lbs. (65 N.m), plus an additional 60 degrees. Insert and hand-tighten transverse arm bolts "A". See Fig. 2. Final tighten bolts "A" to 37 ft. lbs. (50 N.m), plus an additional 150 degrees after wheel alignment.

4) Disconnect right shock absorber from its lower mount. Tighten right spring lower nut to 37 ft. lbs. (50 N.m). Reinstall right shock absorber to its lower mount and tighten to 59 ft. lbs. (80 N.m). Install brake line and ABS cable to trailing arm attachment clip. Install brake line bracket to trailing arm attachment lug.

5) Using NEW nuts, install anti-roll bar to trailing arm. Tighten nuts to 37 ft. lbs. (50 N.m). Install protecting plate. Install wheel, ensuring contact surface of rim is clean. Loosely

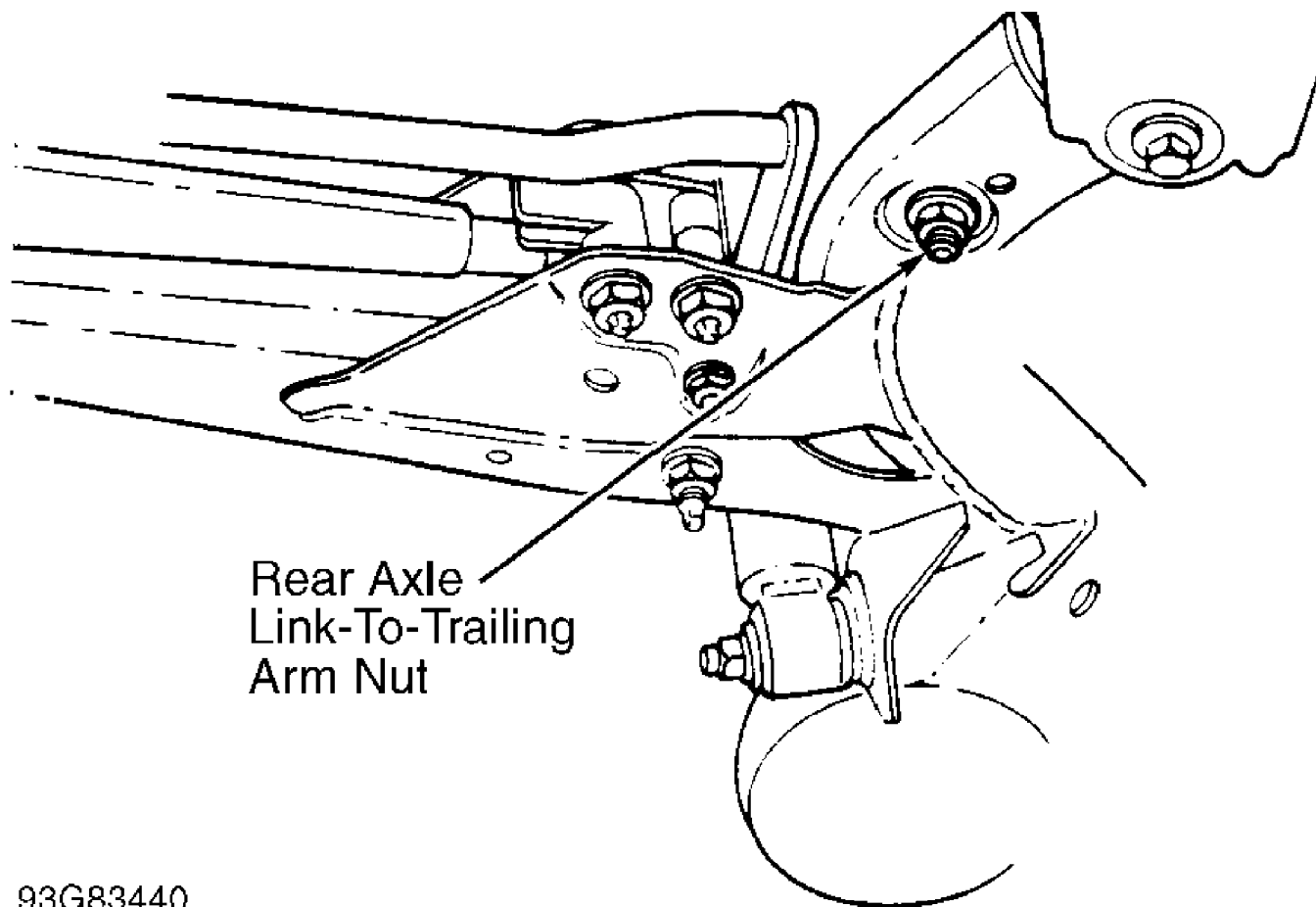
install wheel bolts, then tighten in crossing pattern to 81 ft. lbs. (110 N.m). Tighten shock absorber-to-body bolts to 18 ft. lbs. (25 N.m). Reinstall carpet and panels.

REAR AXLE LINK

NOTE: Rear axle links should be replaced, one at a time, on both sides. Following procedure describes replacement of left side.

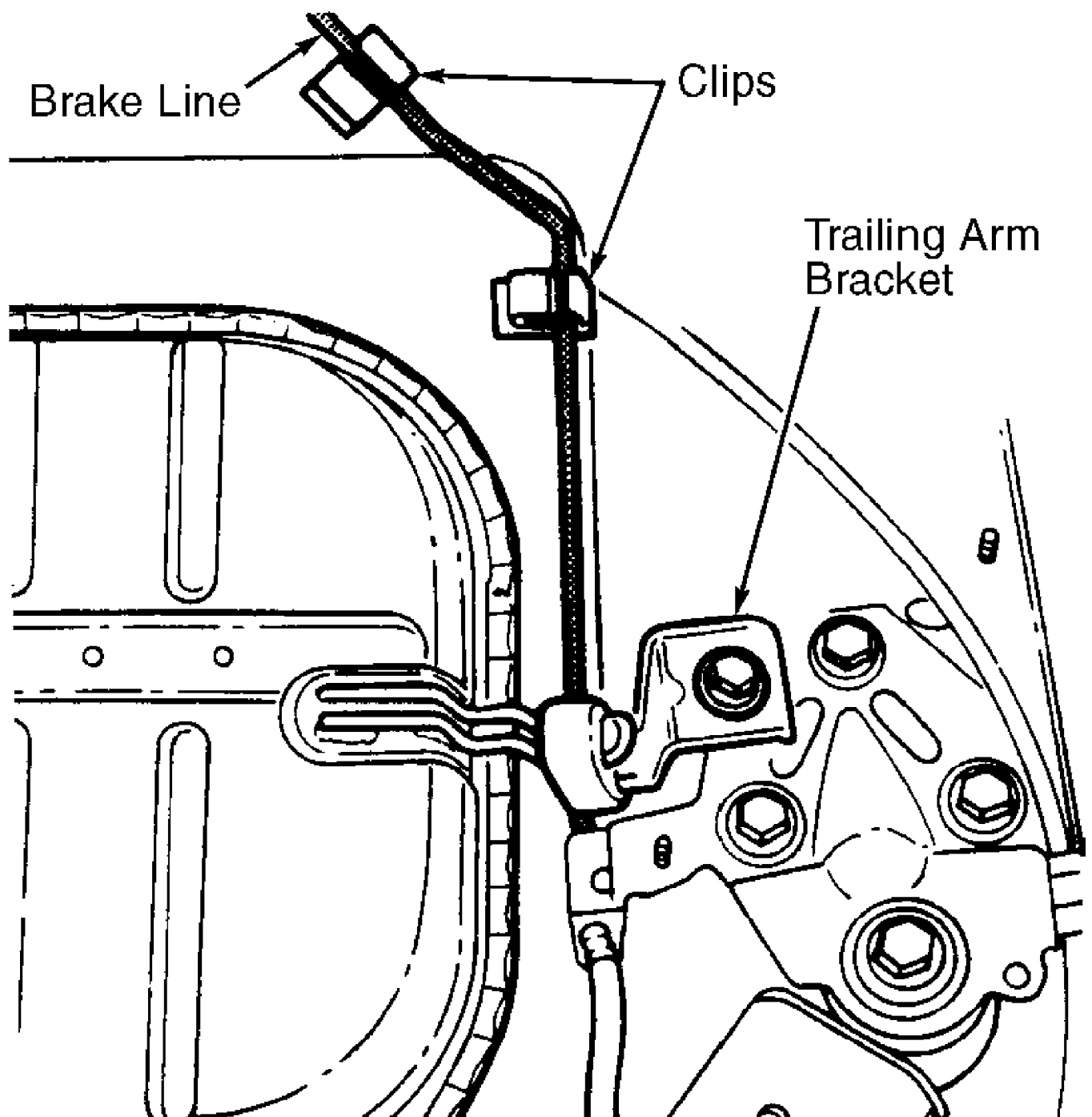
Removal

1) Remove nut from bolt attaching rear axle link to trailing arm. See Fig. 4. Use a soft-faced hammer and remove bolt. Remove silencer bracket bolt and remove brake line from 2 clips. See Fig. 5. Remove bolts retaining trailing arm bracket, allowing bracket to remain in brake cable attachment lug.



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Fig. 4: Removing Rear Axle Link Nut
Courtesy of Volvo Cars of North America.



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Fig. 5: Removing Trailing Arm Bracket Bolts
Courtesy of Volvo Cars of North America.

2) Using a jack, slightly raise right trailing arm. Use a lever and force apart link on left side from body guide pin. Ensure trailing arm link is free from guide pin in body. Install Press (5497) to trailing arm and press out bushing.

Installation

1) Press NEW rear axle link into place. Remove press and install a NEW bolt and nut for rear axle link in trailing arm. Do not tighten nut. Install trailing arm on body guide pin.

2) Loosely install NEW trailing arm bracket bolts. First tighten bolt through rear axle link bracket to 77 ft. lbs. (105 N.m), then tighten an additional 90 degrees. Next, tighten 3 bracket bolts to 48 ft. lbs. (65 N.m), then tighten an additional 60 degrees. Finally, tighten bolt which passes through trailing arm rear axle link to 48 ft. lbs. (65 N.m), then tighten an additional 120 degrees. Reinstall brake line to clip. Install silencer bracket bolt.

SPRINGS & SHOCK ABSORBERS

Removal

1) Fold seat back rest forward. Release luggage area carpet at front edge. Remove cover plate under front edge of carpet. Remove back rest catch pin and panel attaching clips. Loosen side panels at front edge and fold to one side. Raise and support rear of vehicle so wheels hang free. Working from inside vehicle, remove 2 retaining bolts from upper shock absorber.

2) Place another jack in recess for spring in trailing arm and raise trailing arm. Remove shock absorber lower nut. Remove shock absorber from trailing arm. Lower trailing arm. Lower vehicle and, working from inside vehicle, lift out shock absorber with upper mount attached. Remove upper mount from shock absorber. Check mount bushing and replace as necessary.

3) If springs are to be replaced, remove spring seat nut. Remove spring from vehicle. Transfer rubber spacer, auxiliary spring, and lower mount from old spring to new spring.

Installation

1) Using a NEW nut, install mount on shock absorber. Tighten nut to 30 ft. lbs. (40 N.m) for standard shock absorbers, or 59 ft. lbs. (80 N.m) for Nivomat shock absorbers. Position a jack under trailing arm and raise trailing arm. Ensure spring is installed correctly in upper spring seat. Install shock absorber on lower mount. Tighten shock absorber nut to 59 ft. lbs. (80 N.m). Tighten upper shock absorber bolts to 18 ft. lbs. (25 N.m).

2) Reinstall trunk panels at front edge with clips. Using Loctite, install back rest catch pins. Tighten catch pin bolts to 14 ft. lbs. (20 N.m). Reinstall cover plate and luggage area carpet.

ANTI-ROLL BAR

Removal

Raise and support vehicle. Remove muffler left rubber support. Support muffler with a plastic tie so it is as high as possible. Loosen transverse arm outer attaching nut and remove bolt. For reassembly reference, use a center punch and mark position on edge of right transverse arm mounting hole in relation to left trailing arm hole. Remove second bolt from mount. Remove anti-roll bar attaching bolts and anti-roll bar.

NOTE: Reference mark on edge of right transverse arm mounting hole is important so rear wheel toe-in will be correct.

Installation

1) Install anti-roll bar with NEW nuts and bolts. Do not tighten nuts and bolts at this time. Using NEW bolts and nuts, install transverse arm mounting to trailing arm, installing NEW inner bolt and nut first. Adjust mounting in relation to previous reference mark and install second bolt and nut. Tighten nuts to 37 ft. lbs. (50 N.m), then tighten an additional 150 degrees.

2) Tighten anti-roll bar right side bolts to 37 ft. lbs. (50 N.m). Tighten left side forward bolt to 37 ft. lbs. (50 N.m), plus an additional 120 degrees. Tighten left side rear bolt to 66 ft. lbs. (90 N.m). Cut plastic tie used to suspend muffler and reinstall muffler rubber support.

HUB

Removal

1) Remove wheel. Release brake lines from clip on rear axle. On left side, remove brake line 3-way connector from trailing arm. On both sides, remove brake caliper bolts and suspend caliper with wire.

2) Release parking brake shoe adjuster. Remove guide pin, brake disc, protecting cover, hub nut and hub.

Installation

1) Ensure axle shaft is clean. Install hub. Install NEW nut on axle and tighten to 88 ft. lbs. (120 N.m), then tighten an additional 120 degrees. Ensure no play is present in bearing. Using Mandrel (5225), install protective cover.

2) Ensuring contact surfaces on disc and hub flange are clean, install disc and guide pin. Tighten guide pin to 84 INCH lbs. (10 N.m). Adjust parking brake shoes until brake disc cannot be rotated, then loosen 4-6 notches. Using NEW bolts, install brake caliper. Tighten caliper bolts to 44 ft. lbs. (60 N.m). To install remaining components, reverse removal procedure.

TORQUE SPECIFICATIONS

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Application	Ft. Lbs. (N.m)
Anti-Roll Bar Left Side Forward Bolt	(1) 37 (50)
Anti-Roll Bar Left Side Rear Bolt	66 (90)
Anti-Roll Bar Right Bolt	37 (50)
Anti-Roll Bar-To-Trailing Arm Nut	37 (50)
Caliper Bolt	44 (60)
Hub Axle Nut	(1) 88 (120)
Rear Axle Link	
Bolt "C"	(2) 77 (105)
Bolt "B"	(3) 48 (65)
Bolt "A"	(4) 48 (65)
Seat Catch Pin Bolt	14 (20)
Shock Absorber Lower Mount Nut	59 (80)
Shock Absorber-To-Body Bolt	18 (25)
Shock Absorber-To-Upper Mount Nut	
Standard Shock	30 (40)
Nivomat Shock	59 (80)
Spring Lower Nut	37 (50)
Trailing Arm Bolt	59 (80)
Transverse Arm Mount-To-Trailing Arm Nut	(5) 37 (50)
Wheel Bolt	81 (110)
	INCH Lbs. (N.m)
Disc Rotor Guide Pin	84 (10)

- (1) - Tighten an additional 120 degrees. See Fig. 2.
- (2) - Tighten an additional 90 degrees. See Fig. 2.
- (3) - Tighten an additional 60 degrees. See Fig. 2.
- (4) - Tighten an additional 120 degrees after wheel alignment.

(5) - Tighten an additional 150 degrees.
