WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

1995 Volvo 850

1995-96 WHEEL ALIGNMENT
Volvo - Specifications & Procedures

850

* PLEASE READ FIRST *

NOTE: Prior to performing wheel alignment, perform preliminary visual and mechanical inspection of wheels, tires and suspension components. See PRE-ALIGNMENT INSTRUCTIONS in WHEEL ALIGNMENT THEORY/OPERATION article.

RIDING HEIGHT ADJUSTMENT

Before adjusting alignment, check riding height. Riding height must be checked with vehicle on level floor and tires properly inflated. Bounce vehicle several times and allow suspension to settle.

Visually inspect vehicle for signs of abnormal height from front to rear or side to side. Check passenger and luggage compartments for extra heavy items and remove if present. Riding height between left and right side of vehicle should vary less than 1" (25.4 mm).

JACKING & HOISTING

FLOOR JACK OR HOIST

The following illustration indicates areas (parts) of underbody and frame used to raise and support vehicle with either floor jack or hoist. These points are indicated by shaded areas on frame. See Fig. 1.

EMERGENCY JACKING

Those points designated on body outline are designed for use with vehicle's jack and are indicated by circular dots. See Fig. 1. If floor jack or hoist is employed, extreme care should be exercised to avoid damaging outer body shell.

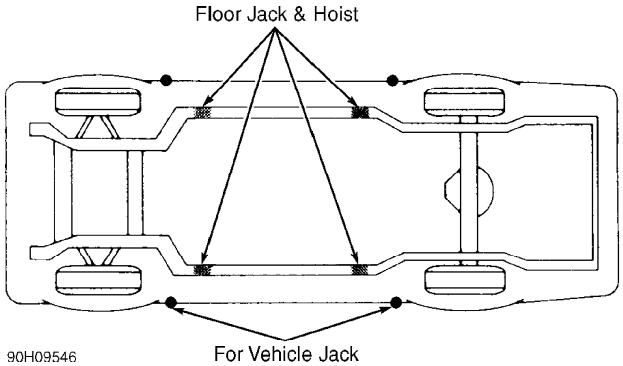

Fig. 1: Jacking & Hoisting Points (Typical)

WHEEL ALIGNMENT PROCEDURES

CAMBER ADJUSTMENT

Front

1) Raise and support front of vehicle. Camber angle can only be adjusted by altering the spring struts. Disconnect spring strut. Drill out upper holes in shock absorber attachment to 14 mm. Ensure holes are cleaned of burrs after drilling.

2) Install Washer (3 546 451-0) using one old bolt and nut in lower hole. Do not tighten nut. Install Fixing Plug (3 546 450-2) in upper hole. Drill a 4 mm hole through center of washer and shock absorber attachment. Pound Clamping Pin (951 950-5) into 4 mm hole. Remove centering plug and bolt.

3) Install Eccentric Bolt (3 546449-4) in upper shock absorber hole and new Bolt (977 267-4) in lower hole. Slightly tighten new nuts. Adjust camber angle, as necessary, by turning upper bolt. After adjusting, tighten both nuts to 48 ft. lbs. (65 N.m), then tighten an additional 90 degrees.

NOTE: Camber angle cannot be adjusted unless car is raised.

Rear

If camber angle is not to specification, check for trailing arm damage.

CASTER ADJUSTMENT

Check caster angle on both sides of vehicle. Caster angle can vary by one degree maximum between right and left sides.

TOE-IN ADJUSTMENT

Front

To adjust toe-in, lengthen or shorten tie-rod ends as necessary. Loosen lock nuts and adjust tie rods. Longer rods will result in a larger angle and shorter rods will result in a smaller angle. Maximum possible variation in length between tie rods is 2 mm. Take measurement between edge of thread and lock nut. After tightening, apply rust proofing to tie rod threads.

Rear

1) To adjust toe-in, loosen nuts connecting transverse arms to trailing arms. See Fig. 2. Move transverse arms forward or rearward until correct value is obtained. Tighten one nut on each transverse arm anchor to lock it in relation to other trailing arm.

2) Replace other bolts and nuts that are not tightened with new bolts or nuts. Tighten nuts to 37 ft. lbs. (50 N.m), then tighten an additional 150 degrees. Replace 2 previously tightened bolts and nuts. Tighten to specification.

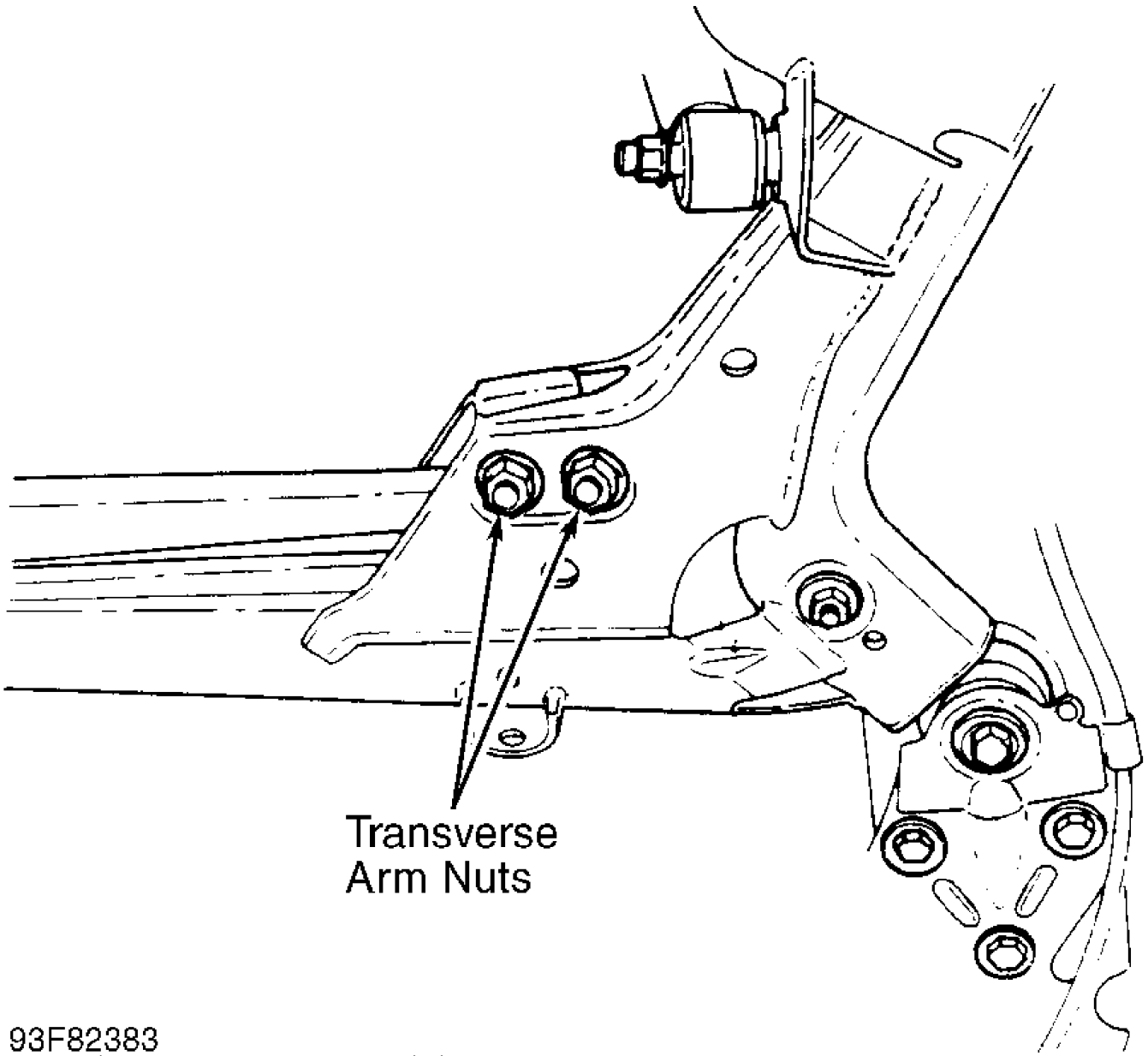

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Fig. 2: Locating Transverse Arm Retaining Nuts
Courtesy of Volvo Cars of North America.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)
Strut Nuts	(1) 48 (65)
Transverse Arm-To-Trailing Arm Nuts	(2) 37 (50)
Wheel Lug Nuts	81 (110)

(1) - Tighten nuts an additional 90 degrees.
(2) - Tighten nuts an additional 150 degrees.

WHEEL ALIGNMENT SPECIFICATIONS

WHEEL ALIGNMENT SPECIFICATIONS TABLE

Application	Preferred	Range
Camber (1)		
Front	0	−1 To 1
Rear	−1.0	−1.5 To −.5
Caster (1)	3.33	2.33 To 4.33
Toe-In (2)		
Front	.16	.11 To .21
Rear	.03	−.05 To .12
Toe-In (1)		
Front	.33	.23 To .43
Rear	.07	−.10 To .23

(1) - Measurement in degrees.
(2) - Measurement in inches.