

## SUSPENSION - REAR

### Article Text

1993 Volkswagen Passat

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Wednesday, March 22, 2000 10:23PM

### ARTICLE BEGINNING

1993 SUSPENSION  
Volkswagen Rear

Passat

### DESCRIPTION

Suspension uses control arms and axle beam for stabilization. Control arms and axle beam are combined as one unit. Brake drums or discs rotate on stub axles bolted to control arms. See Fig. 1.

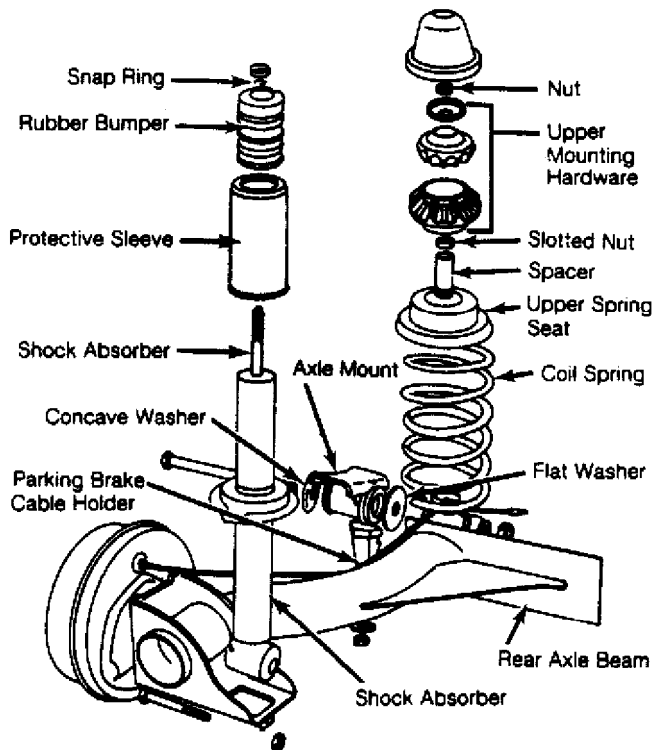


Fig. 1: Identifying Rear Suspension Components (Typical)  
Courtesy of Volkswagen United States, Inc.

### ADJUSTMENTS & INSPECTION

#### WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

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

#### WHEEL BEARING

Tighten hub nut to 90 INCH lbs. (10 N.m) while rotating brake disc or drum by hand. Insert tip of screwdriver between thrust washer and hub. Adjustment is correct when light finger pressure against

## SUSPENSION - REAR

### Article Text (p. 2)

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screwdriver moves thrust washer. Turn hub nut to adjust. Install NEW cotter pin.

## REMOVAL & INSTALLATION

### AXLE BEAM PIVOT BUSHING

**NOTE:** The following procedure is for replacing bushing with axle beam installed in vehicle.

#### Removal

Raise and support vehicle. With no pressure on beam, remove nuts which retain axle beam to body. Tap out pivot bolt. Using Bushing Remover (VW 3111), press out bushing. Press new bushing into place.

#### Installation

1) Loosely install mounting pad onto axle beam. Install bushing to a depth of 2.42-2.44" (61.5-62.0 mm). Concave washer and bolt head must face toward outside of vehicle. Bolt head must recess into washer.

2) Using Mounting Bracket Aligner (VW 261 or 3021), align mount. See Fig. 2. With vehicle on ground, tighten pivot bolt nut to specification.

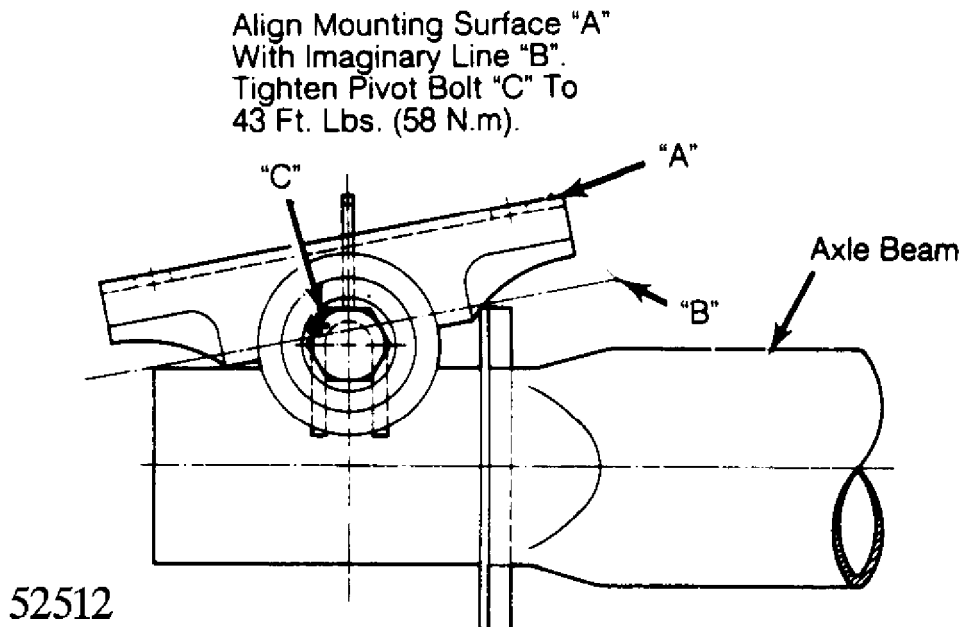


Fig. 2: Aligning Axle Beam Mounting Pad  
Courtesy of Volkswagen United States, Inc.

## STRUT/SHOCK ABSORBER

**CAUTION:** DO NOT remove both suspension strut/shock absorbers at same time.

## SUSPENSION - REAR

### Article Text (p. 3)

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#### Removal

1) With vehicle on floor, remove plastic cap which covers upper strut/shock retaining nuts. Remove strut/shock retaining nuts. Slowly raise vehicle until weight is off spring. Remove bolt which retains lower end of strut/shock absorber to axle beam mount. Raise vehicle until strut/shock can be removed. Place strut/shock assembly in vise.

2) Hold piston rod. Remove strut/shock retaining nut and related components. See Fig. 1. Remove slotted nut (some models). Remove spacer and coil spring. If coil spring is to be replaced, ensure paint stripe color on replacement spring matches original spring color stripe.

#### Installation

1) Install protective cap and tube onto shock absorber. Install rubber buffer with small end downward. Install snap ring and washer. Place spring into lower seat. Install upper retainer with spacer sleeve.

2) Tighten slotted nut (some models) which retains piston rod. Install upper mounting hardware. Tighten piston rod. To complete installation, reverse removal procedure. Tighten bolts and nuts to specification. See TORQUE SPECIFICATIONS table at end of article.

## SUSPENSION ASSEMBLY

CAUTION: When removing suspension assembly, add weight to rear of vehicle to prevent tipping due to change in center of gravity.

#### Removal

1) With vehicle on floor, disconnect upper strut/shock mount. Raise and support vehicle. Disconnect parking brake at bracket near axle mount.

2) Disconnect and plug brakelines. Leave flex hose attached to suspension. Separate brake pressure regulator spring from axle beam (if equipped). Remove nuts which retain axle beam to body.

NOTE: DO NOT install bolts and nuts fouled with undercoating. With waxy coating on threads, true tightening torque cannot be measured. Clean or replace bolts and nuts.

#### Installation

1) If axle beam mounting has been removed, adjust mounting pad. See Fig. 2. If pad is not correctly aligned, torsional preload of mounting bushings will be incorrect.

2) Position rear suspension on body. Install nuts retaining axle beam to body. Raise wheel. Guide upper end of strut/shock into body mount.

3) Connect parking brake cables. Connect brakelines. Lower vehicle. Tighten upper strut/shock retaining nuts. Tighten all bolts and nuts to specification. Bleed brake system.

## SUSPENSION - REAR

### Article Text (p. 4)

1993 Volkswagen Passat

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## WHEEL BEARING

### Removal (Disc Brakes)

Raise and support vehicle. Remove wheel assembly. Remove caliper assembly and support it out of work area. Remove dust cap, cotter pin, hub nut, and thrust washer. Remove brake disc. Using a long drift, tap bearings, races, and grease seal from disc hub.

### Installation (Disc Brakes)

1) Clean hub cavity thoroughly. Using Bearing Race Installer (VW 432 and VW 411), press inner and outer bearing races into bore. Lubricate and install inner bearing. Using Seal Installer (VW 295 and 3074), tap grease seal into bore.

2) Install brake disc, outer bearing, thrust washer, and hub nut. Reverse removal procedure to complete installation. Adjust wheel bearing. See WHEEL BEARING under ADJUSTMENTS & INSPECTION. Install NEW cotter pin.

### Removal (Drum Brakes)

Raise and support vehicle. Remove wheel assembly. Remove dust cap, cotter pin, hub nut, and thrust washer. Remove brake drum. Using a long drift, tap bearings, races, and grease seal from hub.

### Installation (Drum Brakes)

1) Clean hub cavity thoroughly. Using Outer Bearing Race Installer (VW 431 and VW 411), press outer bearing race into bore. Using Inner Bearing Race Installer (VW 432 and VW 411), press inner bearing race into bore. Lubricate and install inner bearing. Using Seal Installer (VW 295 and 3074), tap grease seal into bore.

2) Install brake drum, outer bearing, thrust washer, and hub nut. Reverse removal procedure to complete installation. Adjust wheel bearing. See WHEEL BEARING under ADJUSTMENTS & INSPECTION. Install NEW cotter pin.

## TORQUE SPECIFICATIONS

### TORQUE SPECIFICATIONS TABLE

Application		Ft. Lbs. (N.m)	
Brake Caliper Bolt	.....	48	(65)
Coil Spring Retainer-To-Piston Rod Nut	.....	11	(15)
Rear Axle Beam Pivot Bushing Bolt	.....	43	(58)
Rear Axle Mounting Pad-To-Body Bolt	.....	63	(85)
Shock Absorber Slot Nut	.....	15	(20)
Shock Absorber-To-Axle Beam Nut	.....	52	(70)
Shock Absorber-To-Body Bolt	.....	26	(35)
Stub Axle-To-Control Arm Bolt	.....	44	(60)
Wheel Lug Bolt	.....	81	(110)

END OF ARTICLE