

# STEERING COLUMN

## Article Text

1993 Volkswagen Passat

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Wednesday, March 22, 2000 10:22PM

### ARTICLE BEGINNING

1993 STEERING

Volkswagen - Steering Columns

Passat

### DESCRIPTION

Swing-away steering column is held by a clamp and leaf spring. On impact, the "U" joint shaft pushes steering column against the leaf spring. The spring allows the column to disengage and swing away.

### REMOVAL & INSTALLATION

#### STEERING WHEEL & HORN PAD

Removal & Installation

1) Disconnect negative battery cable. On Passat, lift cover from bottom, then pull cover away from steering wheel. Spread horn button locating lugs, then separate contact plates.

2) Disconnect horn wiring. Ensure steering wheel is in straight-ahead position. Mark shaft and wheel for reassembly reference. Remove retaining nut and washer. Pull steering wheel from shaft. To install, reverse removal procedure.

#### TURN SIGNAL SWITCH

Removal & Installation

Remove steering wheel. See STEERING WHEEL & HORN PAD. Unplug harness connector. Remove turn signal switch. To install, reverse removal procedure.

#### WINDSHIELD WIPER SWITCH

Removal & Installation

Remove steering wheel. See STEERING WHEEL & HORN PAD. Remove turn signal switch. See TURN SIGNAL SWITCH. Unplug harness connector. Remove windshield wiper switch. To install, reverse removal procedure.

#### IGNITION SWITCH

Removal

1) Remove steering wheel. See STEERING WHEEL & HORN PAD. Remove lower cover from steering column.

2) Remove turn signal and windshield wiper switches. See TURN SIGNAL SWITCH and WINDSHIELD WIPER SWITCH. Remove lock washer, spring and horn contact ring. Remove bolt retaining steering column tube to steering column housing.

3) Disconnect wiring from ignition switch. Unlock steering

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with ignition key. Remove steering column housing, ignition lock and upper half of steering column switch cover. Remove retaining screw and ignition switch.

#### Installation

To install ignition switch, reverse removal procedure.

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NOTE: Refer to illustration for exploded view of steering column. See Fig. 1.

#### Removal

1) Disconnect negative battery cable. Remove steering wheel. Remove bolt and screw from switch housing recess. Tilt switch unit toward instrument panel. Pry spacer sleeve from column.

2) Pull up combination switch to disconnect wires. Remove combination switch. Disconnect steering shaft from "U" joint shaft. Disconnect brake pedal push rod.

3) Disconnect clutch cable from clutch pedal. Using a screwdriver, push down leaf spring retainer clip to disengage it from mounting slot.

4) Remove bolts that retain steering column under instrument panel. Drill out shear bolts. Remove column assembly from vehicle.

#### Installation

To install, reverse removal procedure. Place wheels in straight-ahead position. Tighten pinch bolt. Install spacer. See Fig. 1. Install combination switch and steering wheel. Adjust brake pedal and clutch pedal height.

## OVERHAUL

## STEERING COLUMN

NOTE: Refer to illustration for exploded view of steering column. See Fig. 1.

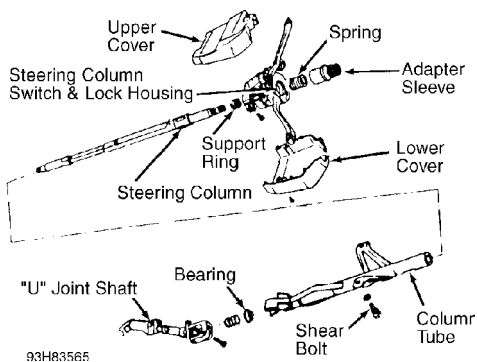


Fig. 1: Exploded View Of Steering Column  
Courtesy of Volkswagen United States, Inc.

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#### Disassembly

Press steering shaft from column. Remove bearings from steering column.

#### Inspection

Check upper bracket for damage and upper bearing for smooth rotation. Check shafts for signs of bending, damaged splines, or damaged "U" joints. Check column tube for bending or other damage. Repair or replace components as necessary.

#### Reassembly

Press in steering shaft and new bearings. DO NOT use more than 200 lbs. (90 kg) force to press shaft and bearings into column tube.

### "U" JOINT SHAFT

#### Disassembly

1) Remove pinch bolt that connects lower end of "U" joint shaft to steering gear pinion shaft. Separate manual gearshift linkage from steering box. Remove steering gear retaining nuts.

2) Pull box down to separate from lower "U" joint. Remove rubber boot from lower "U" joint. Remove upper "U" joint pinch bolt. Pull down joint and remove shaft with "U" joints.

#### Inspection

Inspect "U" joints for wear or excessive play. If abnormal wear or play exists, replace as necessary.

#### Reassembly

1) Fit "U" joint to steering shaft. Align steering shaft notch with lower "U" joint slot. Install boot and damping grommet. Fit steering box to frame while guiding pinion shaft into lower "U" joint.

2) Hand-tighten steering gear retaining nuts. Place wheels in straight-ahead position. Align pinion shaft and "U" joint. Tighten pinch bolt. Tighten steering gear retaining nuts. Connect gearshift linkage. Check linkage for smooth operation.

### TORQUE SPECIFICATIONS

#### TORQUE SPECIFICATIONS TABLE

AA

Application	Ft. Lbs. (N.m)
Pinch Bolt .....	22 (30)
Steering Column-To-Instrument Panel	
Retaining Bolt .....	15 (20)
Shear Bolt .....	(1)
Steering Gear Retaining Nut .....	22 (30)
Steering Wheel Nut .....	30 (40)

INCH Lbs. (N.m)

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Air Bag Unit-To-Steering Wheel Screws ..... 89 (10)

(1) - Tighten until bolt head snaps off.

AA

**END OF ARTICLE**