

## BMW 320i, 528e, 633CSi & 733i

### DESCRIPTION

Steering column consists of a padded steering wheel with horn contact, turn signal/dimmer switch, windshield wiper/washer switch and an anti-theft steering column lock/ignition switch.

Columns on 528e, 633CSi and 733i are telescoping, while the 320i column is fixed in position. Column is connected to steering gear by universal joints and flexible coupling.

### REMOVAL & INSTALLATION

#### STEERING COLUMN

##### Removal (320i)

1) Disconnect battery ground cable. Remove lower half of steering column casing. Lift off pad from center of steering wheel and remove steering wheel.

2) Remove windshield wiper/washer and turn signal/dimmer switches at switch plate. Remove flasher relay. Loosen set screw and pull out ignition switch.

3) Detach steering shaft at universal joint next to firewall in engine compartment. Loosen casing tube clamp at base of tube in driver's compartment. Drill or chisel off shear head bolts holding steering column to instrument panel. Remove steering column.

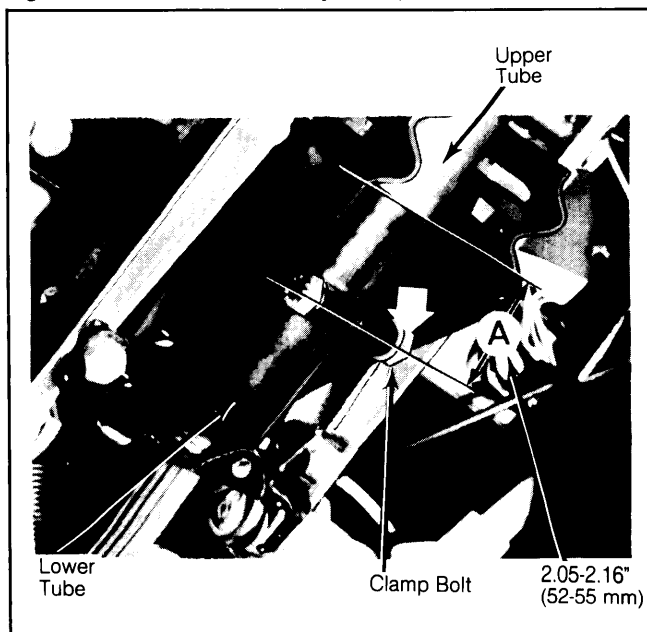
4) Lower bearing may be replaced by driving shaft and bearing out from top. Remove snap ring, split ring and bearing.

##### Installation

1) To install, reverse removal procedure and note the following: Upper column casing and tube must be aligned prior to tightening. When installing turn signal switch, wheels must point straight-ahead.

2) Turn signal switch must be in center position. Finger on canceling cam must point to center. Adjust switch so finger is about .12" (3 mm) from canceling cam.

**Fig. 1: Outer Tube and Clamp Bolt (528e & 633CSi)**



Ensure distance is correct before tightening bolt.

3) When reinstalling lower bearing, stem of split ring must face bearing and snap ring must fit in locking groove.

##### Removal (528e & 633CSi)

1) Disconnect battery ground cable. Remove steering wheel. Detach lower half of housing below column. Remove turn signal/dimmer and wiper/washer switches.

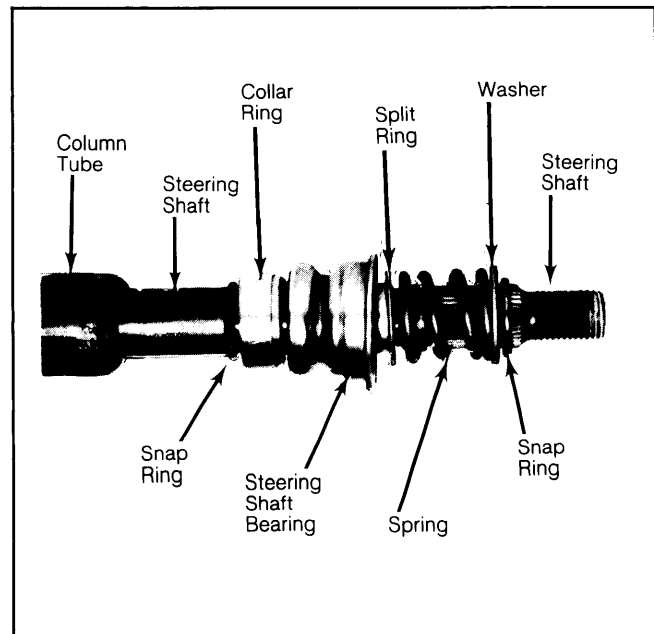
2) Remove steering shaft bearing holder at top of column. Loosen adjusting nut and mark position of upper and lower shafts. Carefully pry steering shaft bearing from top of column and pull shaft out from above.

3) To remove upper outer tube, disconnect horn. Drill or chisel off switch plate shear screws and disconnect wiring harnesses. Loosen clamp bolt and support screws, then slide down lower outer tube. Lift up outer casing and pull out outer tube.

##### Installation

To install, reverse removal procedure noting the following: Prior to tightening clamp bolt, ensure that distance from centerline of clamp bolt to end of upper outer tube is 2.05-2.16" (52-55 mm). Align upper and lower steering shaft marks and tighten adjusting nut.

**Fig. 2: Upper Steering Shaft and Bearing (All Models Except 733i)**



##### Removal (733i)

1) Disconnect battery ground cable. Remove steering wheel. Remove lower instrument panel cover and steering column housing. Disconnect switches and remove all wiring and ignition switch.

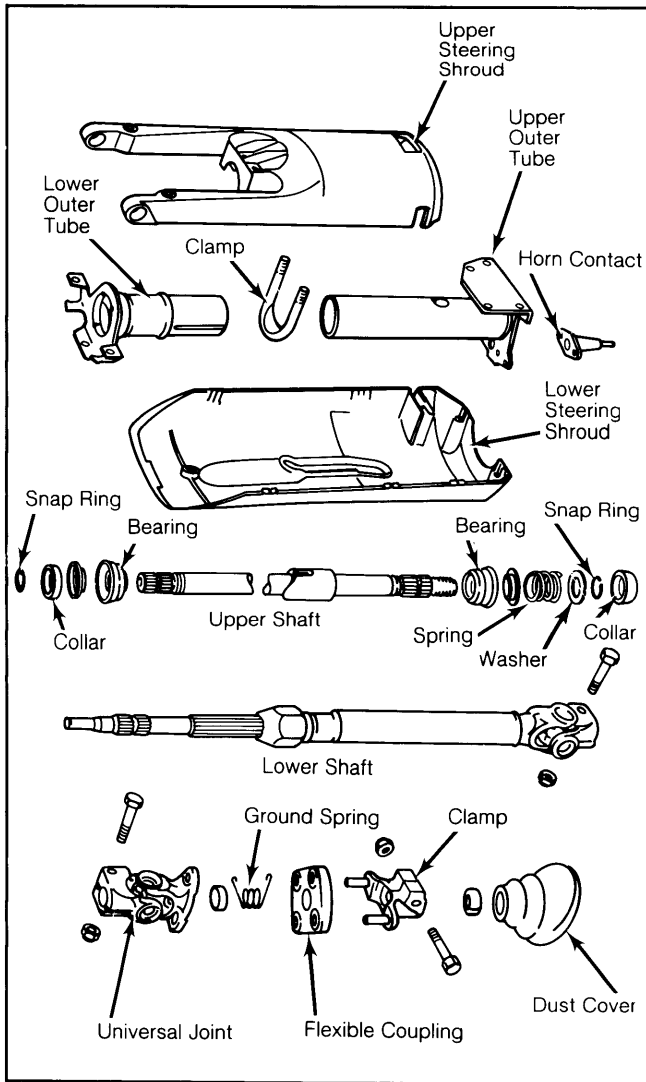
2) Remove clamp bolt and detach lower shaft. Remove 5 bolts holding column assembly to dash and pedal bracket. Remove upper shroud and shaft. Disconnect lower shaft from clamp in engine compartment and pull into passenger compartment.

3) Remove inner steering shaft by taking off collar, snap ring, washer, spring, and lock ring. Pry out upper bearing with screwdrivers. Pry out lower bearing and remove shaft. Remove snap ring, collar, ring and bearing.

# Steering Columns

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Fig. 3: Exploded View of Steering Column (733i)



### Installation

To install, reverse removal procedure. Wheels must be in straight-ahead position when shafts are connected. Ensure all washers and spacers are replaced. Ignition switch must be in "O" position when installed.

### TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Casing Tube Clamp Bolt	
320i .....	12-14 (16-19)
528e & 633CSi .....	16-17 (22-23)
Column Bracket-to-Dashboard .....	16 (22)
Column-to-Housing .....	10 (14)
Lower-to-Upper Shaft Bolt (733i only) .....	18 (24)
Steering Wheel Nut .....	62-69 (84-94)
Universal Joint-to-Steering Shaft .....	18-20 (24-27)