

## **STEERING COLUMN**

### **Article Text**

1993 Mazda 929

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Thursday, March 25, 1999 12:10AM

## **ARTICLE BEGINNING**

1993 STEERING

Mazda Steering Columns

929

## **DESCRIPTION & OPERATION**

Steering columns are designed to be collapsible upon impact. The steering column consists of solid steering shaft with a lower joint assembly. Some models are equipped with tilt steering. Turn signal, headlight, ignition and windshield washer/wiper switches are mounted on column. Switches can be serviced by removing steering wheel and column covers. 929 is equipped with air bag restraint system consisting of an air bag module and clockspring connector assembly located in the steering column.

## **AIR BAG DISABLING & ACTIVATING**

**WARNING:** Wait about 10 minutes after disabling air bag system before servicing. Air bag system voltage is maintained for about 10 minutes after system is disabled. Failure to wait 10 minutes before servicing system may cause accidental air bag deployment and possible personal injury.

**CAUTION:** When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer systems have completed a relearn cycle.

### **Disabling System**

1) Obtain radio code from customer and deactivate audio anti-theft function. Turn ignition off. Disconnect and shield negative battery cable. Wait at least 10 minutes for back-up power supply to be depleted.

2) Disconnect diagnostic module connector located at base of steering column and connect Short Circuit Connector (49-H066-004) to diagnostic module harness connectors.

### **Activating System**

Remove short circuit connector from diagnostic module harness connectors and reconnect diagnostic module harness connector to diagnostic module. On all models, reconnect negative battery cable. Turn ignition on. Check AIR BAG warning indicator light to ensure system is operating properly.

## **REMOVAL & INSTALLATION**

### **STEERING WHEEL & HORN PAD**

**CAUTION:** DO NOT strike steering shaft with a hammer as it may

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collapse.

**WARNING:** Before servicing 929, disconnect and shield negative battery cable. Use caution when working around steering column as air bag could deploy.

**WARNING:** Wait about 10 minutes after disabling air bag system before servicing. Air bag system voltage is maintained for about 10 minutes after system is disabled. Failure to wait 10 minutes before servicing system may cause accidental air bag deployment and possible personal injury.

#### Removal & Installation

1) Disconnect negative battery cable. Remove 4 air bag module nuts from underside of steering wheel. Disconnect electrical connector and remove air bag module. See AIR BAG RESTRAINT SYSTEM article in the ACCESSORIES/SAFETY EQUIPMENT section.

2) Remove steering wheel lock nut. Using a puller, remove steering wheel. To install, reverse removal procedure. Tighten steering wheel lock nut and air bag module nuts.

## COMBINATION SWITCH

#### Removal

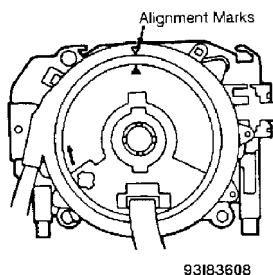
Remove steering wheel. See STEERING WHEEL & HORN PAD under REMOVAL & INSTALLATION. Remove upper and lower column covers. Disconnect combination switch connectors. Remove screws, and remove combination switch with clockspring assembly.

#### Installation

1) Install combination switch and clockspring assembly. Before installing steering wheel, center clockspring. To center clockspring, set front wheels straight ahead. Turn clockspring connector clockwise until it stops. DO NOT force clockspring.

2) Rotate connector 2 3/4 turns (counterclockwise). Rotate clockspring connector further (as necessary) to align marks on connector and outer housing. See Fig. 1.

3) Install steering wheel. Tighten steering wheel lock nut to specification. See TORQUE SPECIFICATIONS table at the end of this article. Install air bag module. See AIR BAG RESTRAINT SYSTEM article in the ACCESSORIES/SAFETY EQUIPMENT section.



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Fig. 1: Aligning Clockspring Connector Alignment Marks  
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## IGNITION SWITCH/STEERING LOCK ASSEMBLY

### Removal & Installation

1) Remove steering wheel and combination switch. See STEERING WHEEL & HORN PAD and COMBINATION SWITCH. Disconnect ignition switch connectors. Remove key interlock cable from ignition switch/steering lock assembly (if equipped).

2) Using a hammer and chisel, make a groove in ignition switch/steering lock assembly shear screws. Remove 2 shear screws with screwdriver. Remove ignition switch/steering lock assembly. To install, reverse removal procedure. Tighten NEW shear screws until heads break off.

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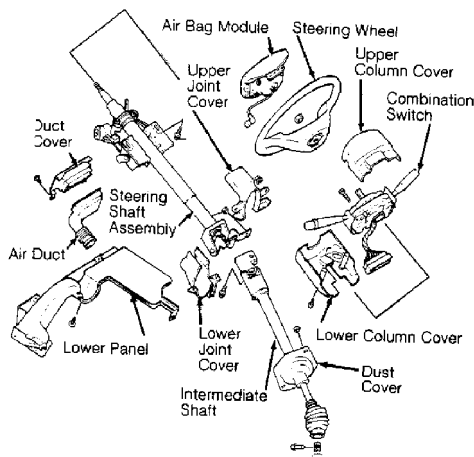
**CAUTION:** Excessive pressure or impact to steering shaft assembly during service may cause column to collapse.

### Removal & Installation

1) Remove steering wheel and combination switch. See STEERING WHEEL & HORN PAD and COMBINATION SWITCH under REMOVAL & INSTALLATION. See Fig. 2. Remove ignition switch/steering lock assembly. See IGNITION SWITCH/STEERING LOCK ASSEMBLY under REMOVAL & INSTALLATION.

2) Remove lower panel. Remove air duct (if equipped). Remove "U" joint dust boot (if equipped). Remove steering shaft assembly-to-intermediate shaft "U" joint bolt. Remove lower steering shaft assembly-to-firewall nuts. Separate steering shaft from intermediate shaft. Remove steering column upper bracket bolts. Remove steering column.

3) To install, reverse removal procedure. Tighten bolts and nuts to specification. See TORQUE SPECIFICATIONS table at the end of this article.



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Fig. 2: Exploded View Of Steering Column  
Courtesy of Mazda Motors Corp.

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## OVERHAUL

### STEERING COLUMN

#### Disassembly

Remove steering wheel and combination switch. See STEERING WHEEL & HORN PAD and COMBINATION SWITCH under REMOVAL & INSTALLATION. See Fig. 2. Remove ignition switch/steering lock assembly. See IGNITION SWITCH/STEERING LOCK ASSEMBLY under REMOVAL & INSTALLATION. Remove steering column. See STEERING COLUMN under REMOVAL & INSTALLATION. Turn steering shaft to remove.

#### Inspection

Inspect all components for damage and wear. Check steering shaft for bends, damage or sheared plastic pins. Check bearings for excessive play. Replace components as necessary. Measure length of steering shaft. See Fig. 3.

#### Reassembly

To reassemble, reverse disassembly procedure. Grease steering shaft, bushings and bearings. Use NEW shear screws.

#### STEERING SHAFT DIMENSIONS TABLE (1)

Application		Length - In. (mm)
929	.....	24.49-24.57 (622.0-624.0)

(1) - For measuring points, see illustration. See Fig. 3.

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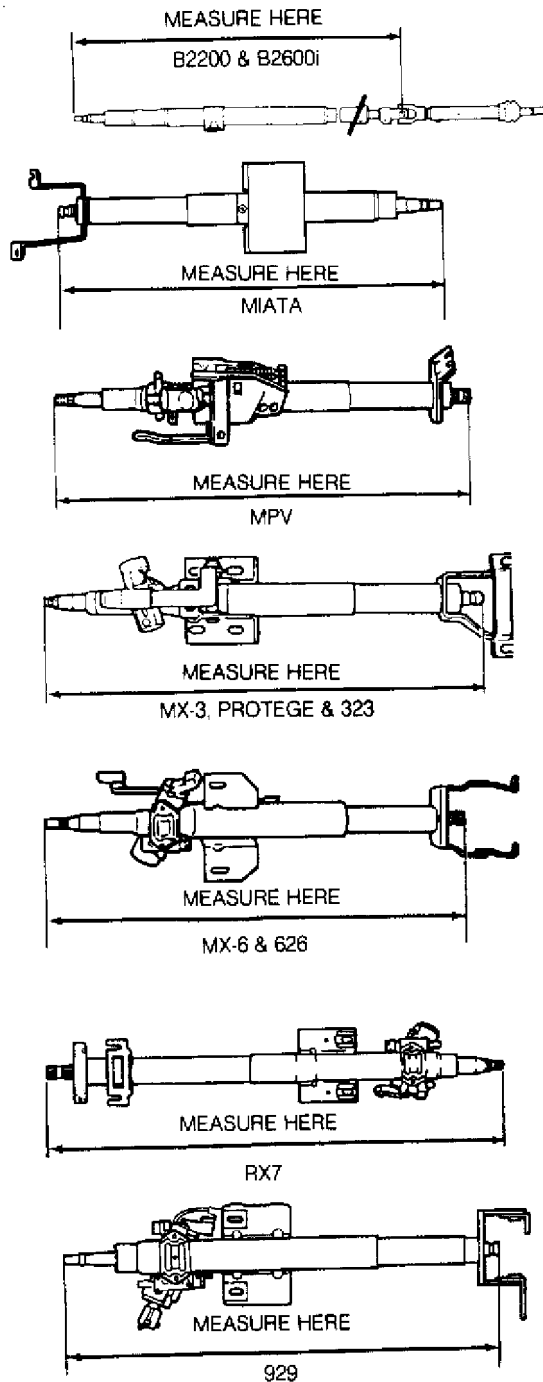
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Fig. 3: Measuring Steering Shaft Dimensions  
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## TORQUE SPECIFICATIONS

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### TORQUE SPECIFICATIONS TABLE

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Application	Ft. Lbs. (N.m)
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Column Upper Bracket Mounting Bolts .....	12-17 (16-23)
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Steering Shaft Assembly-To-Firewall Nuts .....	13-20 (18-27)
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Steering Shaft "U" Joint Bolts .....	13-20 (18-27)
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Steering Wheel Lock Nut .....	29-36 (39-49)
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INCH Lbs. (N.m)

Key Interlock Cable Bolt .....	35-53 (4-6)
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AA

END OF ARTICLE