

## SUSPENSION - REAR

### Article Text

1993 Mazda 929

For Techdoc Ltd.

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Thursday, March 25, 1999 12:13AM

## ARTICLE BEGINNING

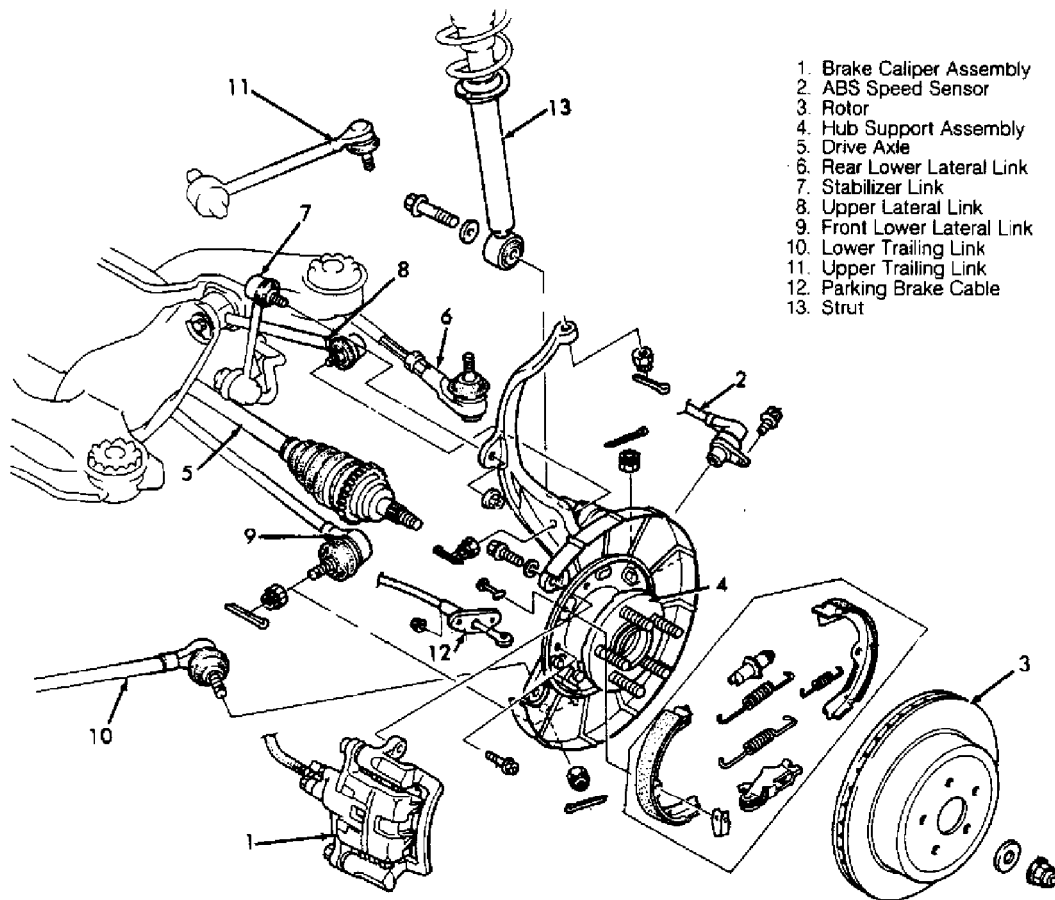
1993 SUSPENSION

Mazda Rear

929

## DESCRIPTION & OPERATION

Rear suspension consists of MacPherson-type struts, upper and lower trailing links and upper and lower lateral links (1 upper and 2 lower on each side). Trailing links attach to hub support assembly. Control links attach to crossmember and hub support assembly. A stabilizer bar with stabilizer link is mounted to hub support assembly and crossmember. See Fig. 1.



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Fig. 1: Exploded View Of Rear Suspension  
Courtesy of Mazda Motors Corp.

## ADJUSTMENTS & INSPECTION

## WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

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

### WHEEL BEARING

Raise vehicle and support with safety stands. Remove wheel assembly. Remove brake caliper and wire aside. Remove brake rotor. Attach dial indicator to axle hub and measure bearing play. Check bearing axial play by rocking hub assembly by hand. Maximum axial play should be .004" (.10 mm). If axial play exceeds specification, check drive axle lock nut torque or replace wheel bearing.

### BALL JOINT CHECKING

Rotate ball joint in socket 5 times before measuring preload. Install Preload Attachment (49-0180-510B) to ball joint and measure preload of ball joint using spring scale. See BALL JOINT PRELOAD SPECIFICATIONS table. See Fig. 2.

#### BALL JOINT PRELOAD SPECIFICATIONS TABLE

Application			Lbs. (kg)
Front Lower Lateral Link	.....	1.1-5.5	(.5-2.5)
Rear Lower Lateral Link	.....	1.1-2.6	(.5-1.2)
Stabilizer Link	.....	0.5-3.3	(.2-1.5)
Trailing Links	.....	1.1-3.3	(.5-1.5)
Upper Lateral Link	.....	1.1-3.7	(.5-1.7)

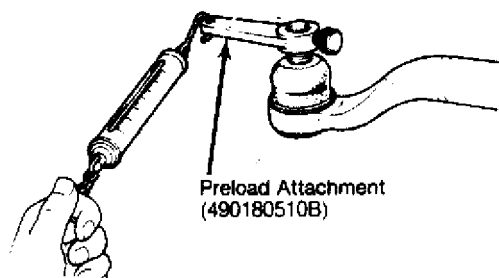


Fig. 2: Checking Ball Joints  
Courtesy Mazda Motors Corp.

### REMOVAL & INSTALLATION

#### WHEEL BEARING

## SUSPENSION - REAR

### Article Text (p. 3)

1993 Mazda 929

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NOTE: For drive axle removal and installation, see RWD AXLE SHAFTS article in DRIVE AXLES.

#### Removal

1) Raise vehicle and support using safety stands. Remove wheel assembly. Remove drive axle lock nut. Mark drive axle flange for installation reference. Remove drive axle. Remove brake caliper and wire aside.

2) Remove brake rotor retaining screws. Remove brake rotor. Remove parking brake cable, shoes and mechanism. Disconnect ABS speed sensor. Remove upper lateral link and lower lateral links at hub support using Ball Joint Puller (49-S231-575).

3) Remove strut assembly lower mount bolt. Remove stabilizer link. Remove upper and lower trailing links at hub support. Remove hub support assembly from vehicle.

4) Using Installer (49-V001-795) and Plate (49-H026-108), remove axle hub from hub support assembly. If inner bearing race remains on hub, grind inner race until approximately .02" (.50 mm) thick and remove using chisel.

5) Remove backing plate. Remove bearing seal and snap ring from hub support assembly. Using Handle (49-B001-797), Replacer (49-G026-102) and Plate (49-H026-108), remove bearing from hub support assembly.

#### Inspection

Check wheel hub and hub support for cracks and damage. Check backing plate for deformation. Check bearing for excessive wear and seizure.

#### Installation

To install, reverse removal procedure. Perform final tightening of lower links, upper links, stabilizer link and strut assembly lower mount bolt with vehicle resting on ground. Tighten drive axle lock nut to specification. See TORQUE SPECIFICATIONS table at the end of this article. Stake drive axle lock nut. Check axial play. See WHEEL BEARING under ADJUSTMENTS & INSPECTION.

## STRUT ASSEMBLY

#### Removal & Disassembly

1) Raise and support vehicle. Remove wheel assembly. Remove upper strut cover. Remove 3 strut upper mounting nuts. Remove strut assembly lower mount bolt. Remove strut assembly.

2) Clamp strut assembly securely in soft-jawed vise. Loosen upper strut assembly shaft nut several turns, but DO NOT remove nut. Compress coil spring, then remove nut. Remove remaining components, noting order for reassembly reference.

#### Inspection

Check strut tube for damage, oil leakage and abnormal noise. Check rubber components for deterioration or damage. Inspect coil spring for signs of fatigue or damage. Replace components as

## SUSPENSION - REAR

### Article Text (p. 4)

1993 Mazda 929

For Techdoc Ltd.

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Thursday, March 25, 1999 12:13AM

necessary.

#### Reassembly & Installation

To reassemble, reverse disassembly procedure. Ensure ABS speed sensor bracket faces to the rear of vehicle, and projections on strut and mounting block are aligned. See Fig. 3. To install, reverse removal procedure. Fully tighten strut assembly upper mounting nuts and lower mount bolt with vehicle resting on ground. See TORQUE SPECIFICATIONS table at the end of this article. Check rear wheel adjustment. See WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES article in the WHEEL ALIGNMENT section.

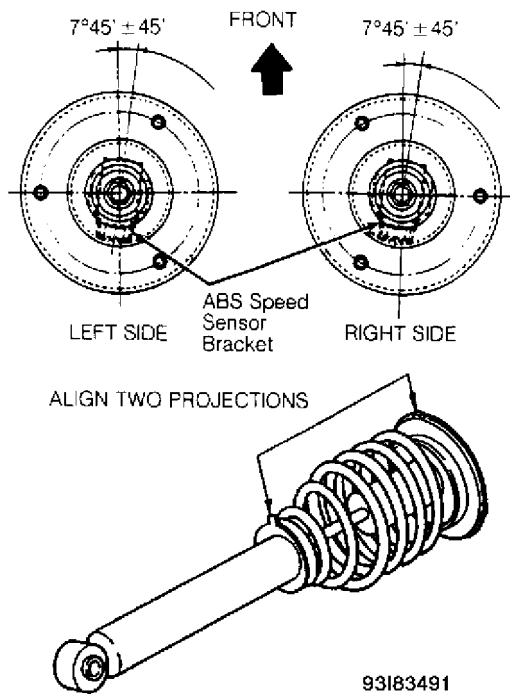


Fig. 3: Positioning Strut For Installation  
Courtesy of Mazda Motors Corp.

#### UPPER & LOWER TRAILING LINKS

##### Removal & Installation

1) Raise and support vehicle. Remove wheel assembly. Remove lower trailing link at hub support assembly using Ball Joint Puller (49-S231-575). Remove upper trailing link at hub support assembly using Ball Joint Puller (49-0118-850C). Remove upper and lower trailing link at crossmember.

2) Check upper and lower links for bend and other damage. Inspect dust boot for tears and damage. Replace as necessary. Remove dust boot using a chisel. Install dust boot using a press and Installer (49-D034-201) on upper trailing link and Installer (49-H028-301) on lower trailing link.

3) Inspect ball joints. See BALL JOINT CHECKING under

## SUSPENSION - REAR

### Article Text (p. 5)

1993 Mazda 929

For Techdoc Ltd.

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Thursday, March 25, 1999 12:13AM

ADJUSTMENTS & INSPECTION. To install, reverse removal procedure. Tighten all bolts with vehicle resting on ground. See TORQUE SPECIFICATIONS table at the end of this article.

### UPPER & LOWER LATERAL LINKS

#### Removal & Installation

1) Raise and support vehicle. Remove wheel assembly. Remove front lower lateral link and upper lateral link at hub support assembly using Ball Joint Puller (49-S231-575). Remove front lower lateral link at crossmember. Mark upper lateral link cam bolt-to-crossmember position for reassembly reference. Remove upper lateral link at crossmember.

2) Remove rear lower lateral link outer ball joint at hub support assembly using Ball Joint Puller (49-0118-850C). Remove lock nut from rear lower lateral link inner ball joint. See Fig. 4. Remove rear lower lateral link inner ball joint from rear lower lateral link. Remove 4 rear lower lateral link-to-crossmember bolts and remove rear lower lateral link.

3) Check upper and lower links for bend and other damage. Inspect dust boot for tears and damage. Replace as necessary. Remove dust boot using a chisel. Install dust boot using a press and Installer (49-H028-301) on front lower lateral link, Installer (49-UA01-785) on upper lateral link and Installer (49-F034-201) on rear lower lateral link.

4) Inspect ball joints. See BALL JOINT CHECKING under ADJUSTMENTS & INSPECTION. To install, reverse removal procedure. Tighten nuts and bolts to specification with vehicle resting on ground. Tighten 4 rear lower lateral link-to-crossmember bolts in sequence. See Fig. 5. See TORQUE SPECIFICATIONS table at the end of this article. Adjust rear wheel alignment. See appropriate WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES article in the WHEEL ALIGNMENT section.

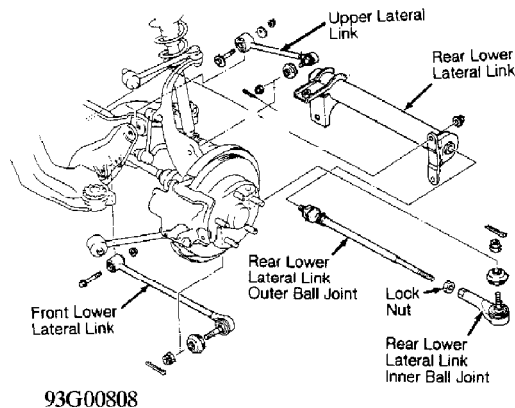
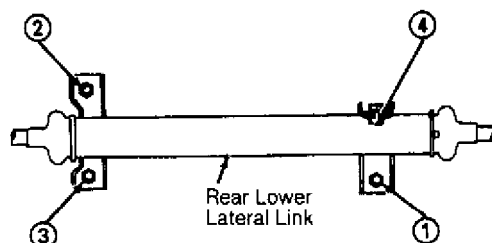


Fig. 4: Exploded View Of Lateral Links  
Courtesy of Mazda Motors Corp.



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Fig. 5: Tightening Sequence Of Rear Lower Lateral Link  
Courtesy of Mazda Motors Corp.

## STABILIZER BAR & LINK

### Removal & Installation

1) Raise and support vehicle. Remove wheel assembly. Remove stabilizer bar-to-stabilizer link nut. Remove stabilizer bar mounting bracket. Remove stabilizer bar from vehicle. Remove stabilizer link-to-hub support assembly nut and remove link from vehicle.

2) To install, reverse removal procedure. Ensure bushing is aligned with stopper on stabilizer bar. Tighten nuts and bolts to specification with vehicle resting on ground. See TORQUE SPECIFICATIONS table at the end of this article.

## TORQUE SPECIFICATIONS

### TORQUE SPECIFICATIONS TABLE

AA

Application	Ft. Lbs. (N.m)
ABS Sensor-To-Hub Support Bolt .....	12-17 (16-23)
Brake Caliper Assembly-To-Hub Support Bolt .....	33-50 (45-68)
Drive Axle Flange Nuts .....	40-47 (54-64)
Drive Axle Lock Nut .....	173-232 (235-314)
Front Lower Lateral Link-To-Crossmember Nut .....	69-86 (93-117)
Front Lower Lateral Link-To-Hub Support Nut .....	58-80 (78-108)
Lower Trailing Link-To-Crossmember Bolt .....	69-86 (93-117)
Lower Trailing Link-To-Hub Support Nut .....	87-116 (118-157)
Parking Brake Cable Nuts .....	34-39 (46-53)
Parking Brake Cable Cover Bolts .....	40-50 (54-68)
Rear Lower Lateral Link-To-Crossmember Nuts .....	27-38 (37-52)
Rear Lower Lateral Link Inner Ball Joint-To-Rear Lower Lateral Link .....	80-87 (108-118)
Rear Lower Lateral Link Lock Nut .....	51-72 (69-98)
Rear Lower Lateral Link Outer Ball Joint-To-Hub Support Nut .....	36-47 (49-64)
Stabilizer Bar Bracket Bolts .....	23-34 (31-46)

## SUSPENSION - REAR

### Article Text (p. 7)

1993 Mazda 929

For Techdoc Ltd.

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Thursday, March 25, 1999 12:13AM

Stabilizer Bar-To-Stabilizer Link Nut .....	32-40 (43-54)
Stabilizer Link-To-Hub Support Assembly Nut .....	32-40 (43-54)
Strut Assembly Lower Mount Bolt .....	54-69 (73-93)
Strut Assembly Shaft Nut .....	25-36 (34-49)
Strut Assembly Upper Mounting Nuts .....	22-27 (30-36)
Upper Lateral Link-To-Crossmember Nut .....	69-86 (93-117)
Upper Lateral Link-To-Hub Support Nut .....	58-72 (78-98)
Upper Trailing Link-To-Crossmember Nut .....	32-45 (43-61)
Upper Trailing Link-To-Hub Support Nut .....	31-42 (42-57)
Wheel Lug Nuts .....	65-87 (88-118)

AA

END OF ARTICLE