

**DRIVE AXLES**  
**Article Text**  
1993 Mazda 929  
For Techdoc Ltd.  
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Wednesday, March 24, 1999 11:51PM

**ARTICLE BEGINNING**

1993 DRIVE AXLES  
Mazda RWD Axle Shafts

Mazda; 929

**\* PLEASE READ THIS FIRST \***

NOTE: For information on differential, see DIFFERENTIAL article  
in this section.

**DESCRIPTION**

CV JOINT IDENTIFICATION TABLE

Application		Joint Type
929	.....	DOJ

**TROUBLE SHOOTING**

NOTE: See TROUBLE SHOOTING - BASIC PROCEDURES article in  
GENERAL INFORMATION.

**REMOVAL, DISASSEMBLY, REASSEMBLY & INSTALLATION**

**RWD AXLE SHAFT**

Removal

1) Raise vehicle and support with safety stands. Remove wheel  
and tire assembly. Loosen drive axle lock nut until flush with end of  
drive axle shaft.

2) Remove exhaust pipe. See Fig. 1. Using Ball Joint Puller  
(49-0118-850C), separate rear lower lateral link from hub support  
assembly. Remove drive shaft from differential. Remove upper and lower  
lateral links from subframe. Remove stabilizer bar from stabilizer  
link.

3) Mark differential and drive axle flanges for installation  
reference. Support differential and subframe using jack. Remove drive  
axle flange nuts. Remove subframe mounting nuts and washers. Lower  
subframe and differential approximately 4" (102 mm).

4) Remove inner CV joint from differential flange. Remove  
drive axle shaft from hub assembly. If drive axle shaft is stuck in  
hub assembly, use plastic or soft-faced hammer to tap drive axle shaft  
from hub assembly. Remove drive axle lock nut and washer.

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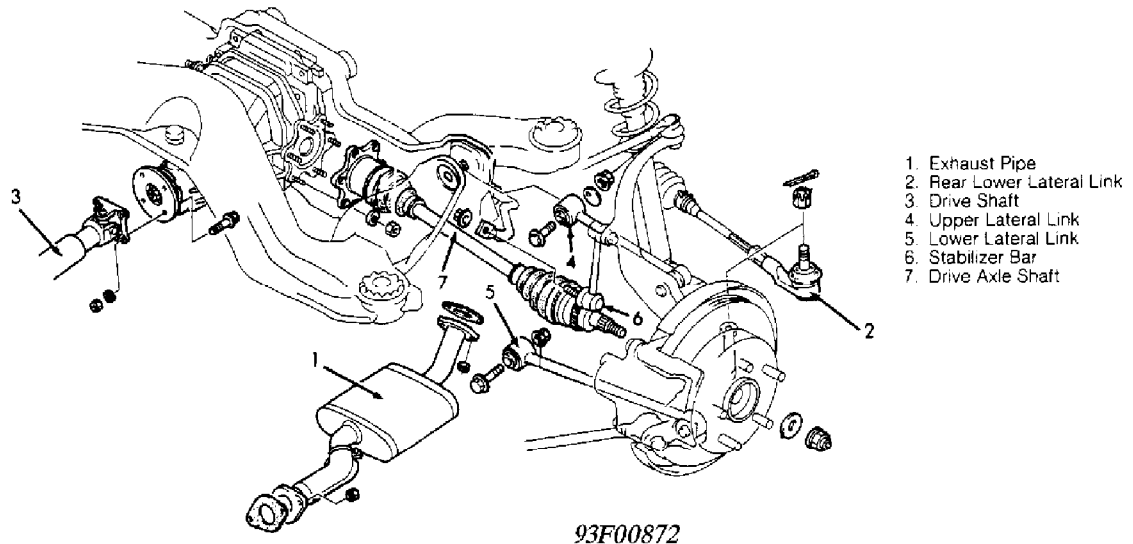


Fig. 1: Removing Rear Drive Axle

Courtesy of Mazda Motors Corp.

**NOTE:** DO NOT disassemble outer CV joint. Replace outer drive axle shaft and CV joint as an assembly. Service outer boot only after inner CV joint has been removed.

#### Disassembly (DOJ Type)

1) Place drive axle assembly in soft-jawed vise. Keep drive axle assembly clean during disassembly and reassembly. Remove CV joint boot bands, and slide boot away from CV joint housing. Index mark CV joint housing, inner race and drive axle shaft for reassembly reference. Using screwdriver, remove circlip ring from inner race groove in CV joint housing. See Fig. 2.

2) Remove CV joint housing from ball, inner race and cage assembly. Remove snap ring retaining ball, inner race and cage assembly to drive axle shaft. Remove ball, inner race and cage assembly from drive axle shaft. Insert screwdriver between inner race and cage, and remove balls. Index mark inner race and cage for reassembly reference. Turn cage approximately 30 degrees to inner race, and separate cage from inner race.

3) Wrap drive axle shaft end with tape. Remove inner CV joint boot. Remove outer CV joint boot bands, and remove boot by sliding it off inner CV joint end. Clean and inspect all parts. Ensure drive axle shaft is not bent, twisted or damaged. Check splines for wear. Inspect bearing inner race, cage and balls for abnormal wear and replace as an assembly if necessary.

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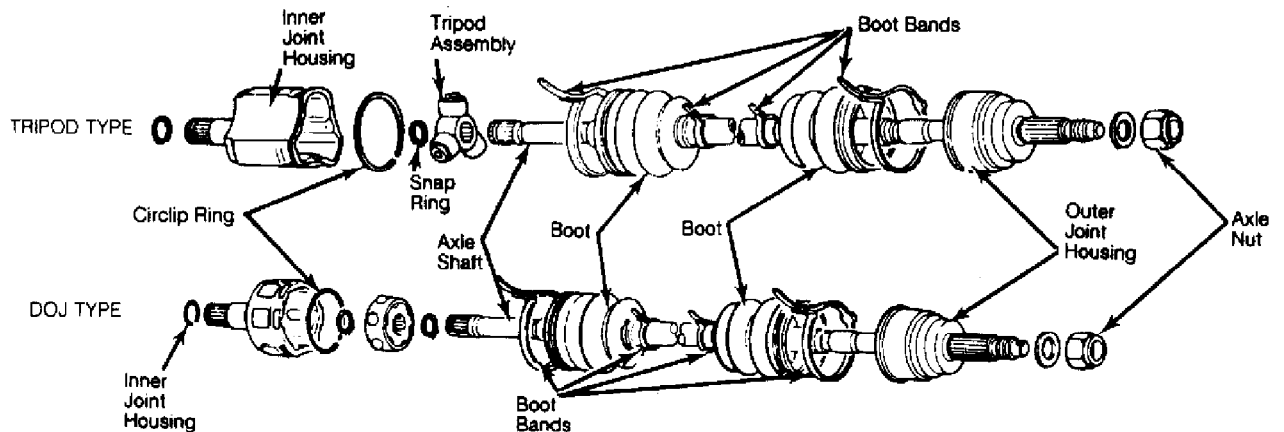


Fig. 2: Exploded View Of Axle Assemblies (DOJ & Tripod)  
Courtesy of Mazda Motors Corp.

NOTE: Inner and outer CV joint boots differ in design and/or diameter. Ensure correct boot is installed at proper end when reassembling drive axle shaft. See Fig. 3. See REAR AXLE BOOT IDENTIFICATION table.

#### Reassembly (DOJ Type)

1) Pack outer CV joint assembly with grease. Wrap tape around drive axle shaft end and slide outer boot onto drive axle shaft (if removed). Slide inner CV joint boot onto drive axle shaft.

2) Install inner race into cage and turn cage approximately 30 degrees to inner race aligning marks made during disassembly. Insert balls through cage and seat them in grooves of inner race. Pack ball, inner race and cage assembly with grease. Align marks on inner race and drive axle shaft. Install ball, inner race and cage assembly on drive axle shaft with large side of cage facing drive axle shaft end. Install snap ring.

3) Align marks on inner race, drive axle shaft and CV joint housing. Position housing onto ball, inner race and cage assembly and install circlip ring. Using NEW boot bands, position bands so when folded down, the direction is opposite drive axle shaft direction of rotation. Fold boot band back by pulling on end of band with pliers. Lock end of band by bending locking clip.

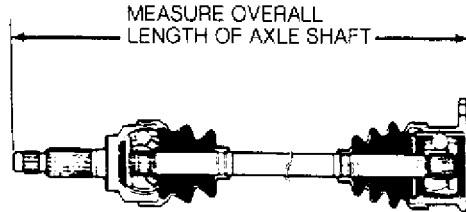
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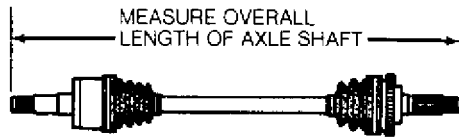
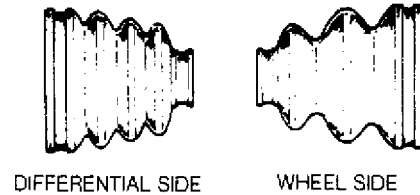
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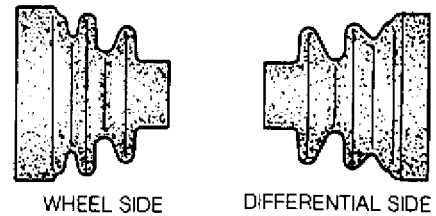
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### BOOT IDENTIFICATION



RX7

### BOOT IDENTIFICATION



93I83020

Fig. 3: Measuring Axle & Identifying Boots  
Courtesy of Mazda Motors Corp.

NOTE: For rear axle shaft lengths, see REAR AXLE SHAFT LENGTHS table.

### Installation

To install, reverse removal procedure. Align marks on differential and drive axle flanges. With vehicle weight on wheels, perform final tightening of suspension lateral links and stabilizer bar. Check rear wheel alignment. See SPECIFICATIONS & PROCEDURES article in WHEEL ALIGNMENT. Tighten all bolts and nuts to specification. See TORQUE SPECIFICATIONS TABLE at the end of this article. Stake drive axle lock nut.

### REAR AXLE BOOT IDENTIFICATION TABLE

Wheel Side		Differential Side	
Application	Diameter - In. (mm)	Application	Diameter - In. (mm)
929	4.16 (105.7)	929	3.96 (100.7)

### REAR AXLE SHAFT LENGTHS TABLE

Right		Left	
Application	In. (mm)	Application	In. (mm)
929	22.56 (573.0)	929	22.56 (573.0)

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## REAR HUB ASSEMBLY

### Removal & Disassembly

1) Raise vehicle and support with safety stands. Remove wheel and tire assembly. Remove brake caliper and support aside. See Fig. 4. Remove rotor from hub.

2) Mount dial indicator on hub and measure wheel bearing play by pulling and pushing on hub. Wheel bearing play should be a maximum of .004" (0.1 mm). Check and adjust drive axle lock nut torque or replace wheel bearing if measurement exceeds specification.

3) Remove drive axle lock nut and washer. Remove ABS speed sensor from hub support assembly. Remove parking brake shoes and mechanism. Remove parking brake cable. Remove upper and lower trailing links from hub support assembly. Remove shock absorber lower mounting bolt. Remove stabilizer bar link-to-hub support assembly mounting nuts.

4) Remove upper, lower and rear lower lateral links from hub support assembly. Remove drive axle shaft from hub support assembly. If drive axle shaft is stuck in hub assembly, use plastic or soft-faced hammer to tap drive axle shaft from hub assembly. Remove hub support assembly from vehicle.

5) Loosen brake backing plate. Using Puller (49-H026-108) and Installer (49-V001-795), remove hub from hub support. See Fig. 4. Remove brake backing plate from hub support. Remove snap ring retaining bearing. Press bearing from hub support using Puller (49-H026-108), Handle (49-B001-797) and Attachment (49-G026-102).

6) Grind inner bearing race to a thickness of .02" (0.5 mm). Using chisel, cut remaining inner bearing race from hub. DO NOT reuse wheel bearing. Inspect all components for cracks, wear and damage. Replace components as necessary.

### Reassembly & Installation

1) Press NEW wheel bearing into hub support using Installer (49-V001-795) and Guide Block (49-H026-104). Install snap ring. Install brake backing plate onto hub support. Apply grease to inner bearing race. Press hub onto hub support. Reverse removal procedure to install hub support assembly.

2) With vehicle weight on wheels, perform final tightening of suspension lateral and trailing links, stabilizer bar link and lower shock absorber bolt. Check rear wheel alignment. See SPECIFICATIONS & PROCEDURES article in WHEEL ALIGNMENT. Tighten all bolts and nuts to specification. See TORQUE SPECIFICATIONS TABLE at the end of this article. Stake drive axle lock nut.

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**1992 DRIVE AXLES**  
**RWD Axle Shafts (Cont.)**

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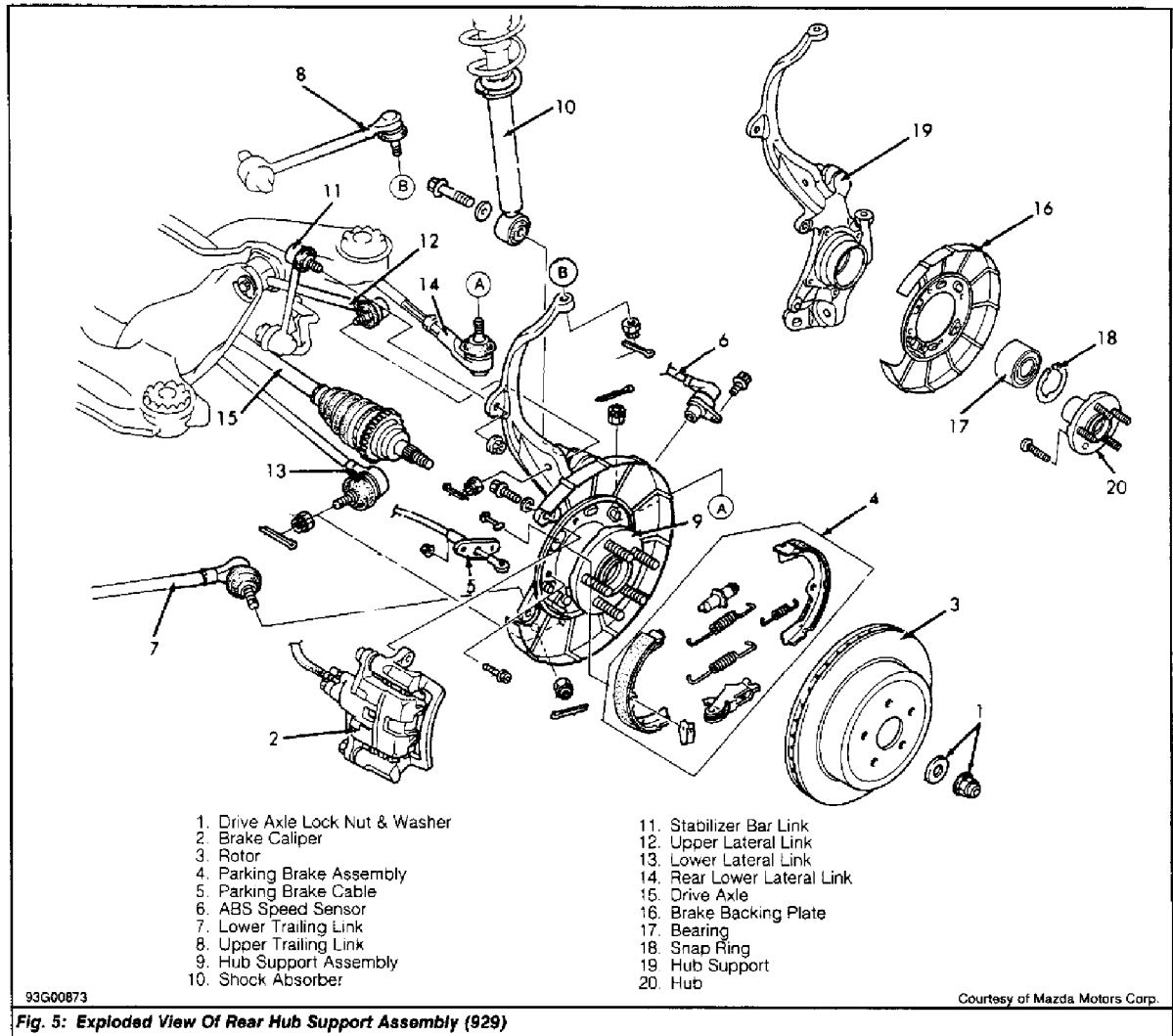


Fig. 4: Exploded View Of Rear Hub Support Assembly  
Courtesy of Mazda Motors Corp.

**TORQUE SPECIFICATIONS**

**TORQUE SPECIFICATIONS TABLE**

AA

Application	Ft. Lbs. (N.m)
ABS Speed Sensor Bolt .....	12-17 (16-23)
Brake Caliper Mounting Bolt .....	33-50 (45-68)
Differential-To-Drive Axle Flange Nuts (6) .....	40-47 (54-64)
Differential-To-Drive Shaft	

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Flange Nuts (4) .....	36-44 (49-59)
Drive Axle Lock Nut .....	174-231 (236-313)
Hub Support Assembly-To-	
Lower Lateral Link Nut .....	87-116 (118-157)
Lower Trailing Link Nut .....	87-116 (118-157)
Rear Lower Lateral Link Nut .....	36-47 (49-64)
Stabilizer Bar Link Nut .....	32-40 (43-54)
Upper Lateral Link Nut .....	58-80 (78-108)
Upper Trailing Link Nut .....	31-42 (42-57)
Parking Brake Cable	
Nut .....	34-39 (46-53)
Bolt .....	40-50 (54-68)
Shock Absorber Lower Mounting Bolt .....	55-69 (74-94)
Upper & Lower Lateral Link-To-	
Subframe Nuts .....	69-86 (94-117)
Wheel Lug Nuts .....	65-87 (88-118)
AA	

**END OF ARTICLE**