

SUSPENSION - FRONT

Article Text

1993 Mazda 929

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Thursday, March 25, 1999 12:12AM

ARTICLE BEGINNING

1993 SUSPENSION

Mazda Front

929

DESCRIPTION

An independent front suspension with MacPherson-type struts is used on all models. Strut assembly mounts between lower control arm and upper fender panel. On all other models, strut assembly mounts between steering knuckle and upper fender panel.

Lower control arm pivots at crossmember and is connected by ball joint to steering knuckle. All models are equipped with a stabilizer bar which attaches to each lower control arm and frame. See Fig. 1.

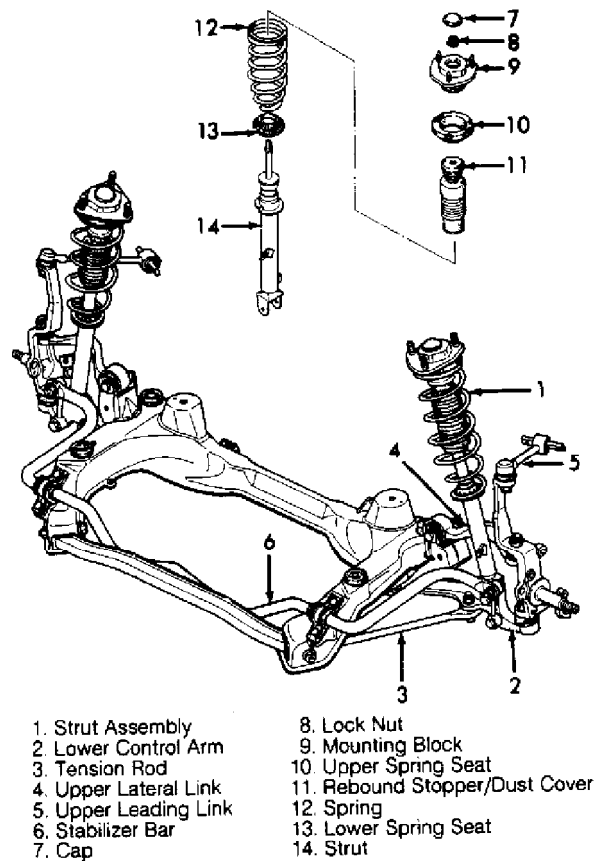


Fig. 1: Identifying Front Suspension Components (929)
Courtesy of Mazda Motors Corp.

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ADJUSTMENTS & INSPECTION

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

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

WHEEL BEARING

Raise and support vehicle. Remove wheel assembly. Remove brake caliper and wire aside. Remove 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 play exceeds specification, check and adjust lock nut torque, or replace hub and bearing assembly.

BALL JOINT CHECKING

Lower Ball Joint

Remove lower control arm. Rotate ball joint stud 3-4 times. Install Preload Attachment (49-0180-510B) to ball joint stud. Measure ball joint preload using spring scale. Preload should be 1.1-3.3 lbs. (0.5-1.5 kg).

REMOVAL & INSTALLATION

NOTE: Refer to Fig. 1 during removal and installation.

WHEEL BEARING

NOTE: Replace hub and bearing assembly as a unit.

Removal

Raise and support vehicle. Remove wheel assembly. Remove brake caliper and wire aside. Remove grease cap and axle lock nut. Remove brake rotor. Remove hub and bearing assembly. Remove wheel speed sensor rotor from hub.

Inspection

Wash all disassembled components before inspection. Check for damage, excessive wear and signs of bearing seizure. Inspect steering knuckle and hub for cracks, scoring and rust. Check for damaged dust cover and poor fit with steering knuckle. Replace components as necessary.

Installation

To install, reverse removal procedure. Adjust wheel bearing preload. See WHEEL BEARING under ADJUSTMENTS & INSPECTION.

LOWER CONTROL ARM & BALL JOINT

Removal

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1) Raise and support vehicle. Remove wheel assembly. Remove engine splash shield (if equipped). Remove brake caliper and wire aside (as necessary). Remove compression rod or tension rod (if equipped). Separate tie rod end from knuckle (as necessary). Remove stabilizer bar from lower control arm.

2) Remove strut lower mounting bolt and separate lower strut from lower control arm or knuckle. Remove lower control arm ball joint cotter pin and nut. Separate lower control arm ball joint stud from knuckle. Remove lower control arm pivot bolts and remove lower control arm.

Inspection

Check lower control arm for damage or cracks. Check bushings for deterioration and excessive wear. Check ball joint for excessive wear. Examine dust boot for damage. Replace components as necessary.

NOTE: Lower control arm bushings are not replaceable on 929.
Replace control arm assembly if bushings are worn or damaged.

STRUT ASSEMBLY

Removal

Raise and support vehicle. Remove wheel assembly. Disconnect brake line from strut assembly. Remove wheel speed sensor harness band and sensor. Remove lateral link ball joint cotter pin and nut. Separate lateral link ball joint stud from knuckle using Puller (49-S231-575). Place alignment mark on lateral link cam bolt and crossmember for reassembly reference. Remove lateral link cam bolt. Remove lower strut-to-lower control arm bolt. Remove strut upper mount nuts. Remove strut assembly.

NOTE: Prior to removing strut-to-steering knuckle bolts, make an alignment mark for reassembly reference. Note position of mounting mark on top of strut assembly before removing strut.

Disassembly

Clamp upper strut mount in vise. Loosen piston lock nut 2 turns only. Compress coil spring using coil spring compressor. Remove piston lock nut. Slowly release compressor tension. Remove components. Remove coil spring. Remove strut from vise.

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 necessary.

Reassembly

Clamp strut in vise. Install coil spring and components in reverse order of disassembly. Ensure coil spring is well seated in upper and lower spring seats.

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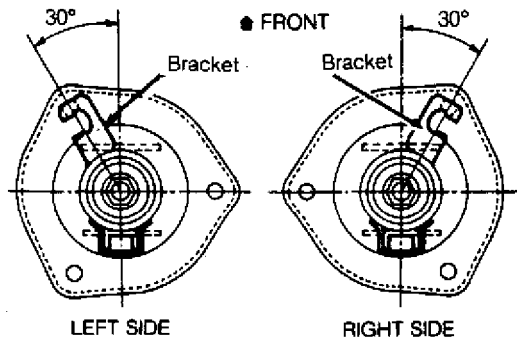
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Installation

To install, reverse removal procedure. Place identification mark of mounting block in original position. See Fig. 2. Fully tighten all bolts with vehicle resting on ground and suspension unloaded. See TORQUE SPECIFICATIONS table at the end of this article. For checks and adjustments, see WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES article in the WHEEL ALIGNMENT section.



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Fig. 2: Positioning Strut For Installation (929)
Courtesy of Mazda Motors Corp.

STABILIZER BAR

Removal & Installation

1) Raise and support vehicle. Remove engine splash shield (if equipped). Remove mounting hardware and stabilizer bar. Note position of frame bushing seam.

2) Remove steering gear mounting bracket nuts and remove steering gear. Support crossmember with jack and remove bolts and nuts. Slowly lower crossmember and remove stabilizer bar. On all models, inspect all components for wear, bends or damage. Replace components as necessary.

3) To install, reverse removal procedure. Ensure frame bushing is aligned with White line on stabilizer bar. Ensure seam faces front of vehicle. Fully tighten all bolts with vehicle resting on ground and suspension unloaded. See TORQUE SPECIFICATIONS table at the end of this article.

LATERAL & LEADING LINKS

Removal

1) Raise and support vehicle. Remove wheel assembly. Remove lateral link ball joint cotter pin and nut. Separate lateral link ball joint stud from knuckle using Puller (49-S231-575). Place alignment mark on lateral link cam bolt and crossmember for reassembly reference. Remove lateral link cam bolt. Remove lateral link.

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2) Remove leading link ball joint cotter pin and nut.
Separate leading link ball joint stud from knuckle using Puller (49-0118-850C). Remove leading link-to-frame nuts. Remove leading link.

Inspection

Check lateral and leading links for damage or cracks. Check ball joint for excessive wear. Rotate ball joint stud 3-4 times. Install Preload Attachment (49-0180-510B) to ball joint stud. Measure ball joint preload using spring scale. Preload should be 1.1-3.3 lbs. (.5-1.5 kg). Examine dust boot for damage. Replace components as necessary.

Installation

To install, reverse removal procedure. Fully tighten bolts to specification with vehicle resting on ground and suspension unloaded. See TORQUE SPECIFICATIONS table at the end of this article.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE

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Application	Ft. Lbs. (N.m)
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929	
Brake Caliper Bracket Bolts	75-87 (102-118)
Drive Axle Lock Nut	130-175 (177-235)
Lateral Link Ball Joint Nut	58-80 (78-108)
Lateral Link Cam Bolt/Nut	69-86 (93-117)
Leading Link-To-Frame Nut	32-40 (43-54)
Leading Link-To-Knuckle Nut	31-42 (42-57)
Lower Ball Joint-To-Knuckle Nut	58-80 (78-108)
Lower Control Arm-To-Frame Bolt/Nut	69-86 (93-117)
Stabilizer Bar Bracket-To-Frame Bolts	32-40 (43-54)
Stabilizer Bar Bracket-To-Stabilizer Link Nut	32-40 (43-54)
Stabilizer Link-To-Lower Control Arm Bolt	32-40 (43-54)
Strut Assembly Lock Nut	32-45 (43-61)
Strut Assembly-To-Body Nuts	34-46 (46-63)
Strut Assembly-To-Knuckle Bolt	72-87 (98-118)
Tension Rod-To-Frame Bolt	87-108 (118-147)
Tension Rod-To-Lower Control Arm Bolt	69-86 (93-117)
Tie Rod-To-Knuckle Nut	36-47 (49-64)
Wheel Lug Nuts	65-87 (88-118)
Wheel Speed Sensor Bolt	12-17 (16-23)

AA

END OF ARTICLE