

MAZDA RX-3SP, RX-4, 808, COSMO & GLC

RX-3SP
RX-4
808
Cosmo
GLC

DESCRIPTION

Independent hydraulic strut type suspension with coil springs. Strut assemblies mount between lower control arms and upper fender panels. Strut assemblies consist of: hydraulic shock absorbers (built into strut tube), coil springs around outside of strut tube housing, and a steering knuckle that is connected to both lower control arm and strut. Lower control arms pivot at crossmember and are connected by ball joints to steering knuckle. A stabilizer bar is attached to chassis and at each end to lower control arm.

ADJUSTMENT

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

See *Wheel Alignment Specifications & Procedures* in *WHEEL ALIGNMENT* Section.

WHEEL BEARING ADJUSTMENT

See *Wheel Bearing Adjustment* in *WHEEL ALIGNMENT* Section.

BALL JOINT CHECKING

See *Ball Joint Checking* in *WHEEL ALIGNMENT* Section.

REMOVAL & INSTALLATION

LOWER CONTROL ARM

NOTE — Check visual differences between models by comparing Figures 1, 2, and 3.

Removal — 1) Raise vehicle. Support weight with safety stands. Remove tire and wheel.

2) Remove cotter pin from tie rod nut. Remove nut. Separate tie rod ball joint using a puller.

3) Remove bolts mounting steering knuckle to strut tube. Remove nut from front of stabilizer bar. Begin to separate stabilizer bar from control arm.

4) Remove lower control arm pivot bolt mounting arm to crossmember. Pull strut outward and force control arm out of vehicle.

Ball Joint Replacement — 1) Remove cotter pin and nut from ball joint stud. Separate ball joint from steering arm using a puller.

2) Remove retainer ring and dust seal from ball joint. Press joint from control arm.

3) Select new ball joint. Clean mounting bore in control arm. Press new ball joint into control arm. Position steering knuckle on ball joint and tighten nut.

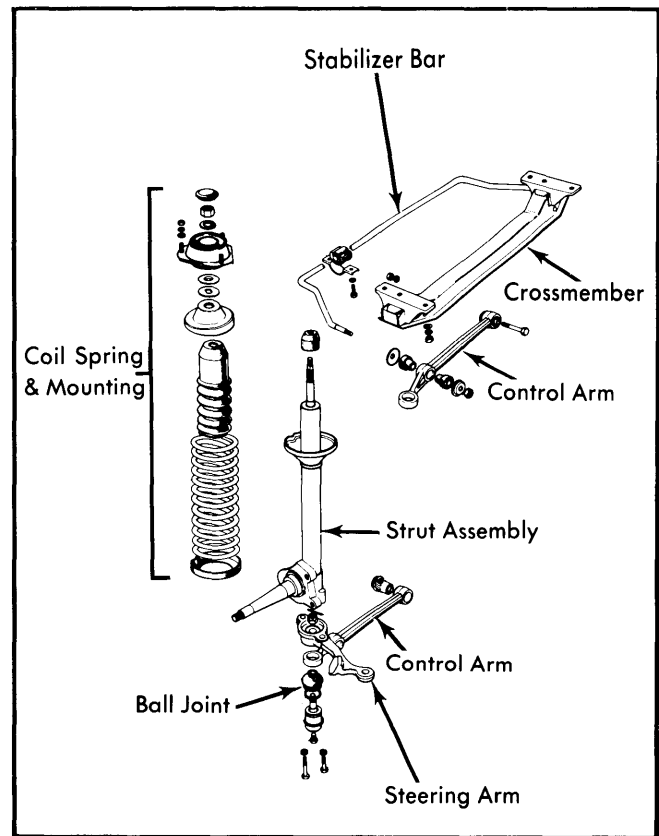


Fig. 1 Exploded View of 808 and RX-3SP Front Suspension

Installation — To install, reverse removal procedure and tighten all nuts and bolts. Do not use more than two adjusting plates at one side when installing coil spring.

STRUT ASSEMBLY

NOTE — Check visual differences between models. See Figures 1, 2, and 3.

Removal — 1) Raise and suitably support vehicle. Remove tire and wheel.

2) Remove nuts (3 or 4) retaining strut to upper fender panel. Nuts are accessible from inside engine compartment.

3) Remove clip mounting brake hydraulic line to strut housing (if equipped). Remove bolts attaching caliper (bracket) and pull caliper assembly off disc. Hang caliper out of way using a short wire.

4) Remove hub grease cap, cotter pin, nut lock and bearing adjustment nut from spindle. Remove thrust washer and outer bearing. Pull off hub and brake assembly. Remove any remaining brake system components from steering knuckle.

5) Remove bolts mounting strut to steering knuckle. Drop lower control arm down. Slide strut assembly with coil spring out of vehicle.

Front Suspension

MAZDA RX-3SP, RX-4, 808, COSMO & GLC (Cont.)

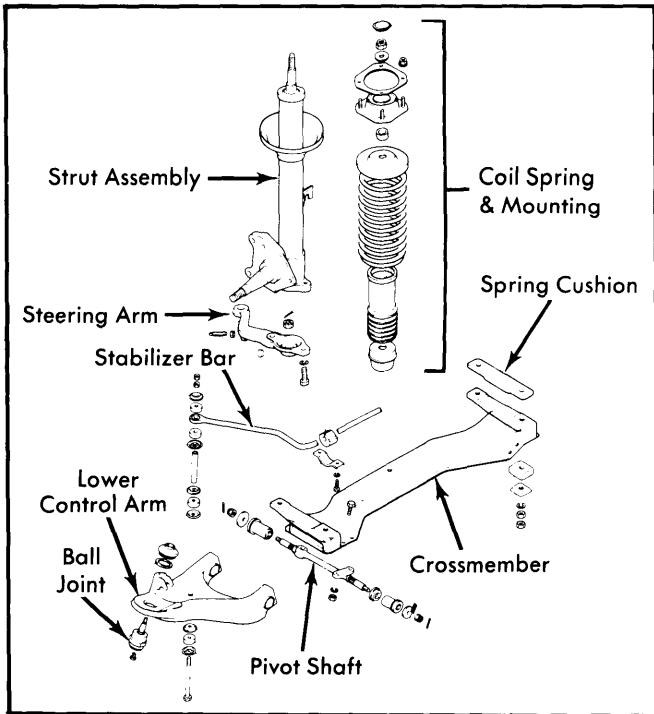


Fig. 2 Exploded View of RX-4 and Cosmo Front Suspension

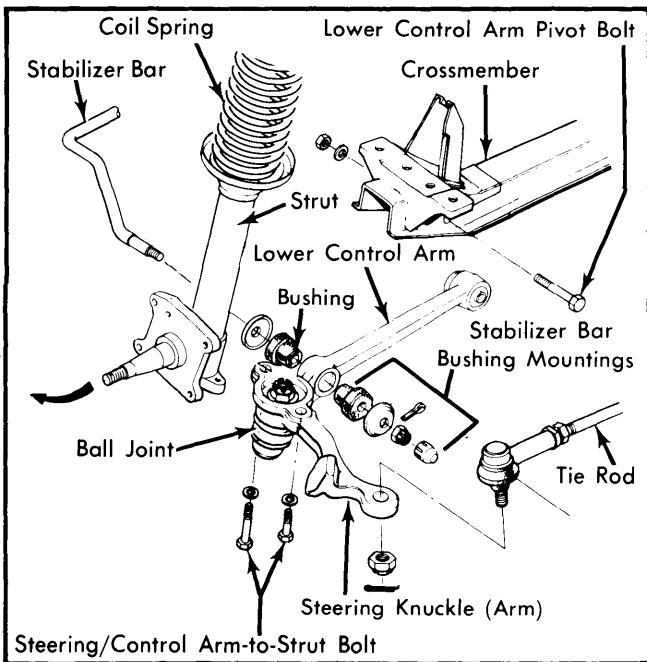


Fig. 3 Partial Exploded View of GLC Front Suspension

OVERHAUL

STRUT ASSEMBLY

NOTE — All struts are not exactly the same. Check Figures 1, 2, and 3.

Disassembly — 1) Clamp strut in vise. Use spring compressor and collapse coil. Remove lock nut and washer from top of piston rod.

2) Remove shock absorber support, spring seat, coil spring, dust boot and damper stopper.

NOTE — Check hydraulic strut (shock absorber) by forcing piston rod in and out several times. If resistance is weak or there is a free travel spot somewhere in the stroke, strut must be replaced or repaired.

3) Place strut in a soft jawed vise. Remove cap nut and seal. Pry "O" ring from guide rod. Pull piston rod and pressure tube assembly out of strut (reservoir tube).

4) Remove piston rod, guide, base valve and pressure tube assembly from reservoir tube. Take strut from vise and drain hydraulic fluid.

NOTE — Piston rod, guide, and base valve are serviced **ONLY** as an assembly. **DO NOT** remove items listed in step four from pressure tube. See Fig. 4.

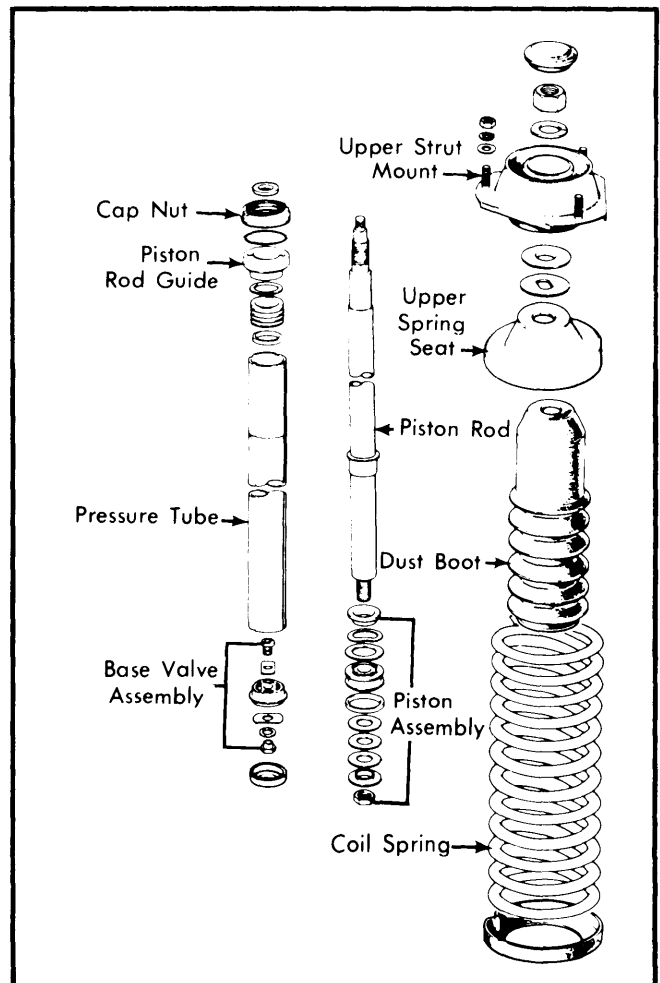


Fig. 4 Exploded View of Strut Assembly 808 Models Shown, Others Similar

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Inspection – 1) Check reservoir tube for cracks or damage. Replace tube if necessary.

2) Check mounting rubbers, replace if deteriorated.

3) Inspect coil spring for signs of fatigue, cracks or damage.

Reassembly – 1) Hold reservoir tube (strut) in a vise. Insert pressure tube, piston rod, and base valve assembly into tube as a set. Pour hydraulic fluid into reservoir.

Hydraulic Fluid Specifications

Application	Amount of Fluid In Ounces
Cosmo	11
All Others	9

2) Install piston rod guide into pressure tube. Fit new "O" ring between rod guide and reservoir tube.

3) Fit a pilot (49 0370 590) over threads of piston rod. Apply grease to lip of oil seal, insert cap nut through pilot onto piston rod.

4) Tighten cap nut and pull out piston rod. Seat piston and torque cap nut. Install coil spring and remaining components in reverse of removal procedure.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Control Arm Pivot Bolt	
Cosmo, RX-4	54-69 (7.5-9.5)
All Others	29-40 (4.0-5.5)
Steering Knuckle-to-Strut	
Cosmo, RX-4	75-101 (10.4-14.0)
All Others	46-69 (6.4-9.5)
Ball Joint-to-Steering Knuckle	
RX-4	25-36 (3.5-5.0)
RX-3SP, GLC, Cosmo	43-58 (6.0-9.0)
808 Models.....	43-51 (6.0-7.0)
Strut Cap Nut	
Cosmo	72-94 (10.0-13.0)
All Others	36-43 (5.0-6.9)
Piston Rod Nut.....	10-12 (1.35-1.65)