

GENERAL MOTORS "A", "J" & "X" BODIES

"A" Body

Buick Century
Chevrolet Celebrity
Oldsmobile Ciera
Pontiac 6000

"X" Body

Buick Skylark
Chevrolet Citation
Oldsmobile Omega
Pontiac Phoenix

"J" Body

Buick Skyhawk
Cadillac Cimarron
Chevrolet Cavalier
Oldsmobile Firenza
Pontiac J2000

DESCRIPTION

The front suspension is a MacPherson strut design. This combination strut and shock adapts to the front wheel drive. The lower control arms pivot from the engine cradle. The cradle has isolated mounts to the body and conventional rubber bushings are used for the lower control arm pivots. The upper end of the strut is isolated by a rubber mount which contains the bearing for wheel turning. The lower end of the wheel steering knuckle pivots on a ball stud for wheel turning. The ball stud is retained in the lower control arm and the steering knuckle clamps to the stud portion.

ADJUSTMENT

WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

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

WHEEL BEARING ADJUSTMENT

Both front and rear bearings are pre-adjusted and lubricated. No routine maintenance or adjustment is required.

BALL JOINT CHECKING

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

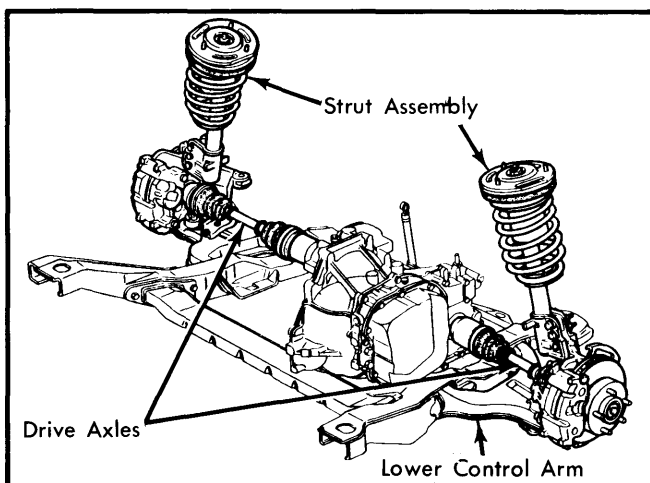


Fig. 1 Assembled View of Typical Front Suspension Assembly

REMOVAL & INSTALLATION

STEERING KNUCKLE

Removal — Raise and support vehicle. Remove wheel, brake caliper and rotor. See Fig. 2. Mark cam bolt for installation

reference and remove. Remove tie rod end using puller (J-6627 or J-24319). Remove lower ball joint bolt and upper steering knuckle bolts. Remove steering knuckle.

Installation — Install steering knuckle to ball joint, place hydraulic jack under lower control arm, raise jack to position steering knuckle holes in alignment with strut holes and install cam bolt and retaining bolts. Torque cam bolts and lower ball joint bolt to specifications. Install tie rod end and tighten to specifications. To complete installation, install rotor, brake caliper and wheel.

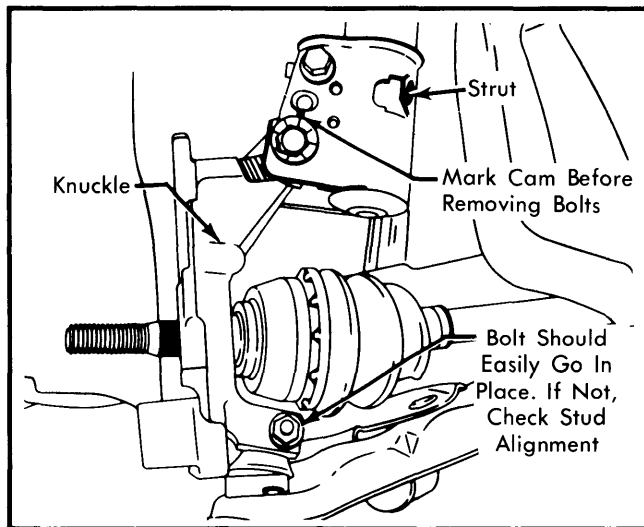


Fig. 2 Steering Knuckle Removal and Installation

HUB & BEARING

Removal — Break hub nut loose. Raise vehicle on hoist and remove wheel and tire. Install drive axle boot cover (J-28712). Remove hub nut and discard. Remove brake caliper and rotor. Remove hub and bearing attaching bolts. Using remover tool (J-28733), remove hub and bearing assembly.

NOTE — If excessive corrosion is present make sure hub and bearing is loose in knuckle before using remover tool. If bearing is to be replaced, steering knuckle seal must also be replaced.

Installation — To install, reverse removal procedure, tightening hub nut to final torque with vehicle on ground.

STRUT ASSEMBLY

Removal — Raise vehicle and remove wheel. Remove brake line clip bolt, 3 upper strut mounting bolts and lower strut-to-knuckle bolts. Remove strut assembly from vehicle.

Disassembly — Install compressor tool and compress strut spring $\frac{1}{2}$ ". Remove top nut from strut damper shaft. Relieve spring tension and remove strut assembly from compressor tool. Remove strut mounting assembly, spring shield, strut bumper and spring. See Fig. 3.

Reassembly — Inspect all parts for wear and replace as necessary. Reverse disassembly procedure using Fig. 3 as a guide.

Front Suspension

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Installation — Reverse removal procedure making sure to align marks on cam bolt. See Fig. 2.

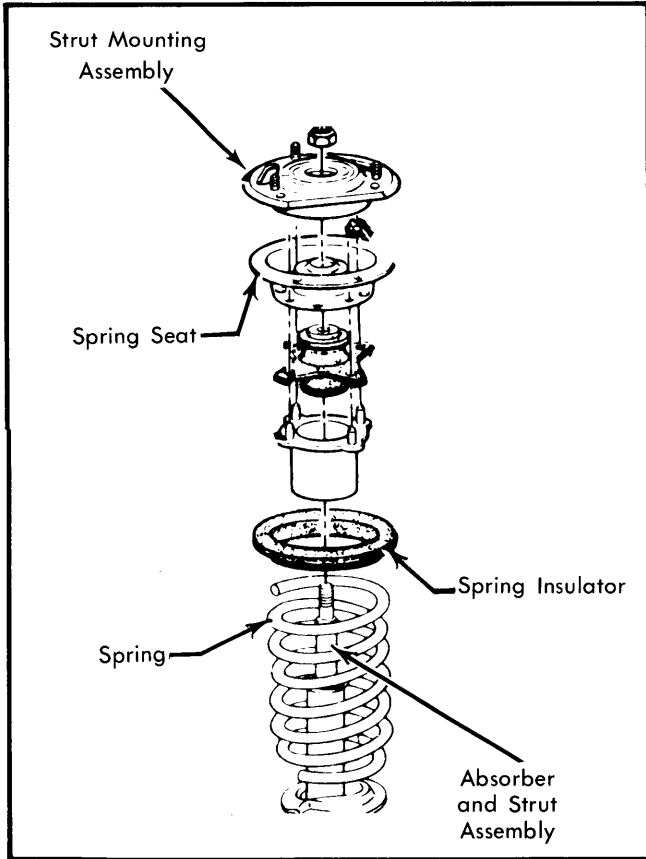


Fig. 3 Exploded View of Typical Strut Assembly

LOWER CONTROL ARM

Removal — Raise and support vehicle. Remove wheel. Disconnect lower ball joint from steering knuckle. Disconnect stabilizer retaining brackets and remove stabilizer bar. Remove control arm pivot bolts and remove control arm.

Installation — Position control arm in crossmember and install pivot bolts. Connect control arm to steering knuckle. Install stabilizer bar and tighten all bolts to specifications.

STABILIZER BAR

Removal — Raise vehicle. Disconnect exhaust pipe (if necessary) at engine. Disconnect stabilizer bar attaching bolts and remove stabilizer bar. See Fig. 4.

Installation — To install, reverse removal procedure.

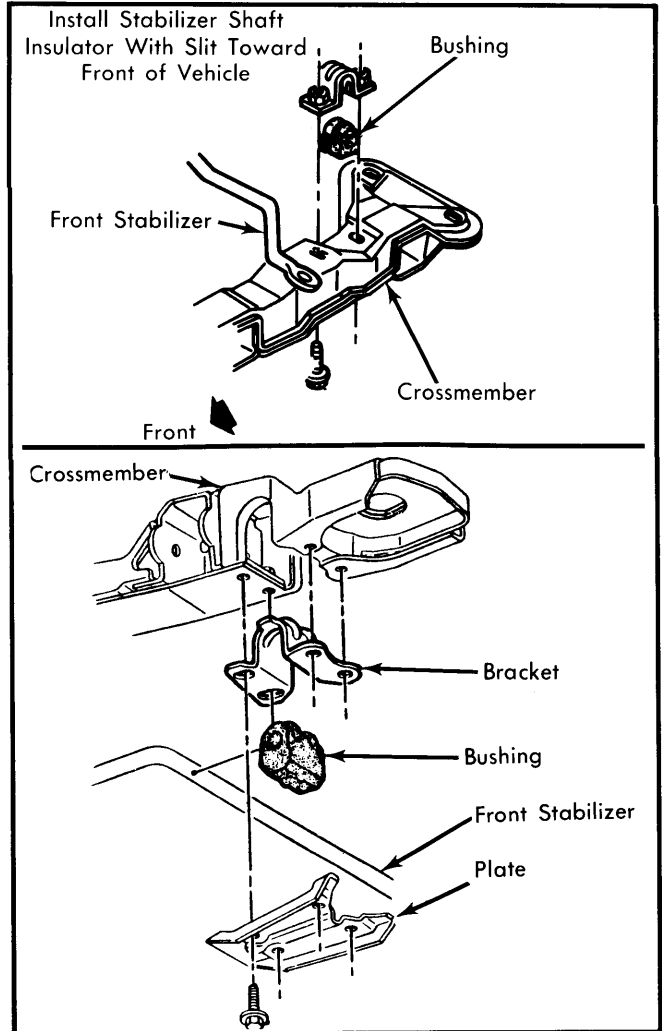


Fig. 4 Exploded View of Stabilizer Bar. Two Different Types Used

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N·m)	Application	Ft. Lbs. (N·m)
"J" Bodies		"A" & "X" Bodies	
Cam Bolt	140 (190)	Cam Bolt	140 (190)
Control Arm-to-Crossmember	67 (90)	Control Arm-to-Crossmember	66 (90)
Ball Joint-to-Steering Knuckle	55 (75)	Ball Joint-to-Steering Knuckle	45 (66)
Ball Joint-to-Control Arm	50 (68)	Ball Joint-to-Control Arm	13 (18)
Tie Rod End	40 (54)	Tie Rod End	40 (54)
Stabilizer Bar-to-Control Arm	15 (20)	Stabilizer Bar-to-Crossmember	40 (54)
Stabilizer Bar-to-Crossmember	20 (28)	Stabilizer Bar-to-Control Arm	35 (45)
Strut Assembly-to-Upper Mount	20 (28)	Strut Assembly-to-Upper Mount	18 (24)
Strut Assembly-to-Knuckle	140 (190)	Strut Assembly-to-Knuckle	140 (190)
Hub Nut	185 (251)	Hub Nut	225 (290)