

Front Suspension

GENERAL MOTORS COIL SPRING TYPE

Chevrolet
GMC

BALL JOINT CHECKING

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

DESCRIPTION

Independent type front suspension consisting of upper and lower control arms with steering knuckle mounted between by means of ball joints. Upper and lower control arms are mounted to crossmember by means of pivot shafts, through either rubber or threaded steel bushings. Coil springs are mounted between lower control arm and a formed seat in suspension crossmember. Hydraulic shock absorbers are mounted between lower control arm and frame at rear of suspension. A stabilizer bar is transversely mounted to frame side rails and is connected at ends to lower control arms by link units.

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.

REMOVAL & INSTALLATION

SHOCK ABSORBERS

Removal — Remove nuts and eye bolts securing upper and lower ends of shock absorber, and remove shock absorber from vehicle.

Installation — Position shock absorber over mounting bolts or into mounting brackets and install eye bolts. Tighten all bolts and nuts.

STABILIZER BAR

Removal — Raise vehicle, and remove nuts and bolts attaching stabilizer bar brackets to frame. Remove link bolts and bushings at lower control arm and remove stabilizer bar from vehicle.

Installation — Position stabilizer bar on frame and loosely install frame bushings and brackets. Install link units at lower control arms, and tighten all nuts and bolts. Lower vehicle.

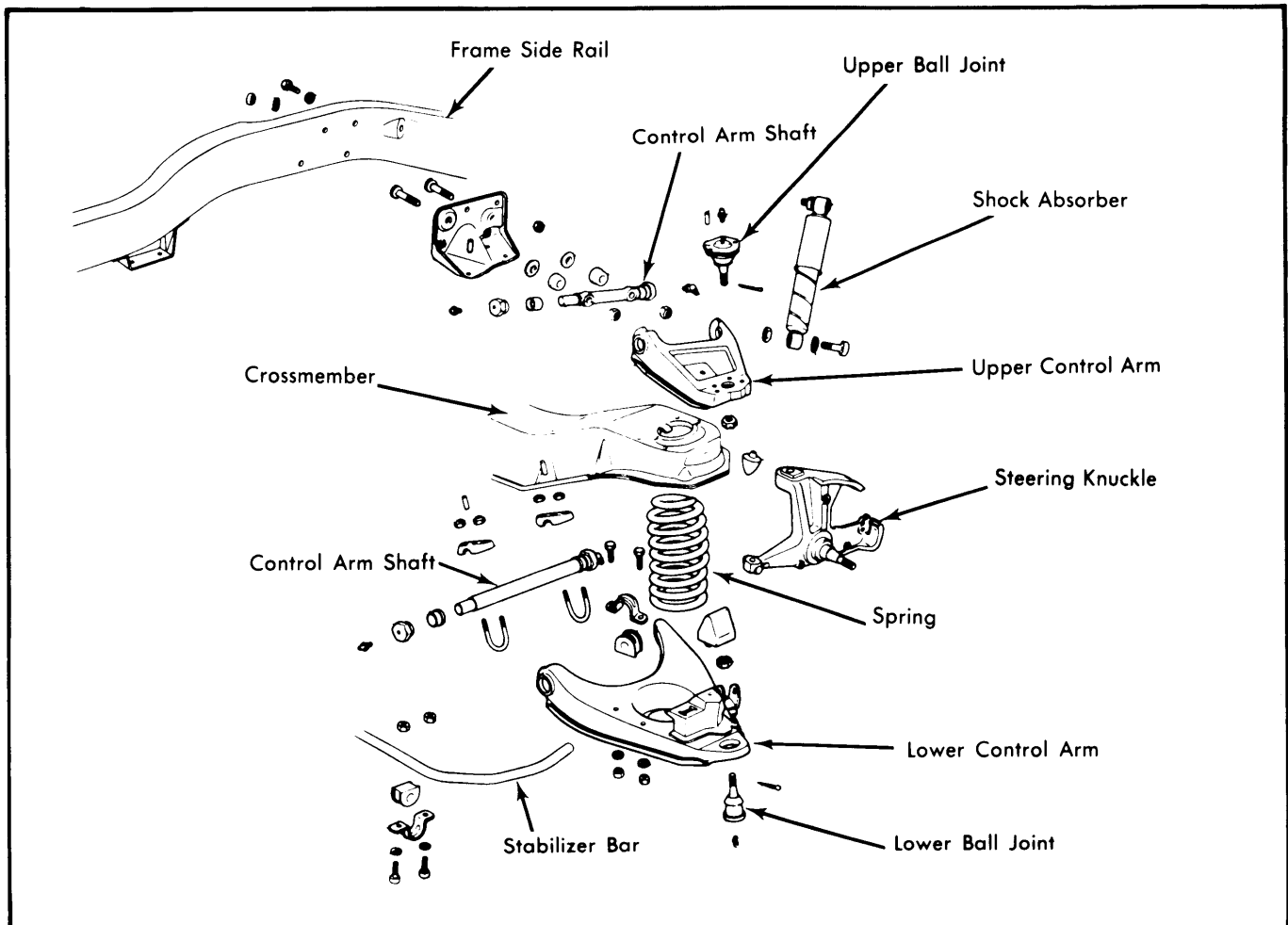


Fig. 1 Exploded View of Front Suspension Assembly

GENERAL MOTORS COIL SPRING TYPE (Cont.)

COIL SPRINGS

Removal – Raise vehicle and support under frame so that control arms hang free. Disconnect shock absorber and stabilizer bar at lower control arm. Install a suitable support tool (J-23038) onto jack and position tool under lower control arm shaft so that shaft seats in grooves of tool. Install a safety chain through lower control arm and spring. Raise jack to relieve tension on lower control arm shaft and remove control arm shaft mounting bolts. Carefully lower jack until all tension is released from spring, and remove spring from vehicle.



Fig. 2 Coil Spring Removal Using a Jack & Special Tool

Installation – To install coil spring, reverse removal procedure.

STEERING KNUCKLE

Removal – Raise vehicle and support front of vehicle on safety stands positioned under lower control arms. Remove wheel, then remove hub and drum (hub, disc rotor, and caliper on vehicle equipped with disc brakes). Remove tie rod from steering knuckle. See *Steering Linkage* in **STEERING** Section. Remove upper and lower ball joint cotter pins and LOOSEN nuts. Using suitable tool (J-23742), free steering knuckle from ball joints. Remove ball joint nuts and remove steering knuckle from vehicle.

Installation – Clean all parts thoroughly, and inspect for damage. To install, reverse removal procedure and tighten all nuts and bolts. **CAUTION** – When installing ball joint nuts, do not loosen nut to install cotter pin. If necessary, tighten one extra notch.

UPPER BALL JOINT

Removal – Raise vehicle and support front of vehicle on safety stands positioned under lower control arms. Remove cotter pin from upper ball joint and LOOSEN nut. Using suitable tool (J-23742), loosen ball joint in steering knuckle. Remove tool, and ball joint nut. Remove rivets attaching ball joint to control arm, and remove ball joint assembly.

Installation – To install, reverse removal procedure. Use nuts and bolts in place of rivets to attach ball joint to control arm.

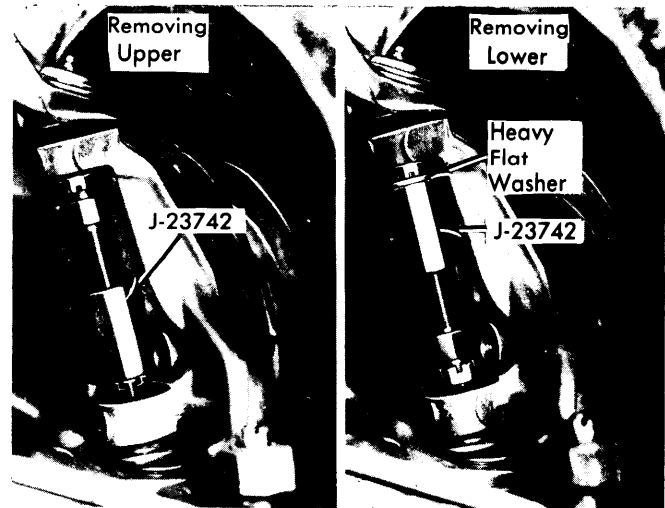


Fig. 3 Removing Upper & Lower Ball Joints

LOWER BALL JOINT

Removal – Raise vehicle and support front of vehicle on safety stands positioned under lower control arms. Remove cotter pin from lower ball joint and LOOSEN nut. Using suitable tool (J-23742), loosen ball joint in steering knuckle. Remove tool and ball joint nut, then swing knuckle assembly up off ball joint and support upper control arm out of the way. Press lower ball joint out of seat in lower control arm and remove from vehicle.

Installation – To install lower ball joint, reverse removal procedure.

UPPER CONTROL ARM

Removal – Raise vehicle and support front of vehicle on safety stands positioned under lower control arm. Remove cotter pin from upper ball joint and LOOSEN nut. Using suitable tool (J-23742), loosen ball joint in steering knuckle. Remove tool and ball joint nut, then raise control arm to clear steering knuckle. Remove nuts and bolts attaching control arm shaft to frame member, and remove control arm from vehicle.

Installation – To install, reverse removal procedure and check wheel alignment. See **WHEEL ALIGNMENT** Section

LOWER CONTROL ARM

Removal – Raise vehicle and place safety stands under frame side rails. Remove coil spring as previously outlined. Remove cotter pin from lower ball joint and loosen nut. Using a suitable tool (J-23742), separate ball joint from steering knuckle. Remove tool and nut from lower ball joint, and carefully remove lower control arm from vehicle.

Installation – To install, reverse removal procedure, tighten all nuts and bolts, and check wheel alignment. See **WHEEL ALIGNMENT** Section.

Front Suspension

GENERAL MOTORS COIL SPRING TYPE (Cont.)

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
Lower Control Arm-to-Frame	
G10, 1500, 20, 2500	45
All Others	85
Upper Control Arm-to-Frame	
C & P10, 1500, G10, 1500, 20, 2500	70
All Others	105
Control Arm Rubber Bushings	
C & P10, 1500, G10, 1500, 20, 2500 Only	140
Upper Control Arm Steel Bushings	
C & P20, 2500, 30, 3500	
New	190
Used	115
G10, 1500, 20, 2500	
W/Spacer	160
W/O Spacer	115
G30,3500	
W/Spacer	190
W/O Spacer	115
Lower Control Arm Steel Bushing	
C & P20, 2500, 30, 3500	
New	280
Used	130
G10, 1500, 20, 2500, 30, 3500	
W/Spacer	280
W/O Spacer	130