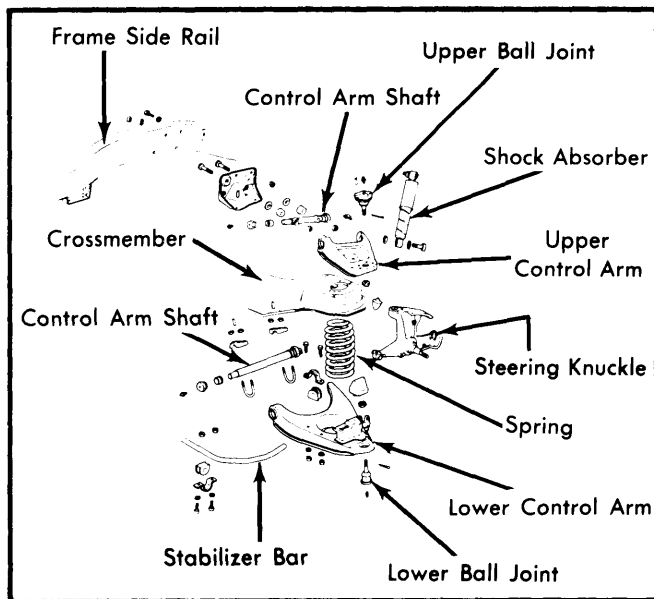


## GENERAL MOTORS COIL SPRING TYPE

**Chevrolet (2-WD Models)**  
**GMC (2-WD Models)**

### DESCRIPTION

Independent front suspension consists 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.



**Fig. 1 Exploded View of Front Suspension Assembly**

### 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

#### 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.

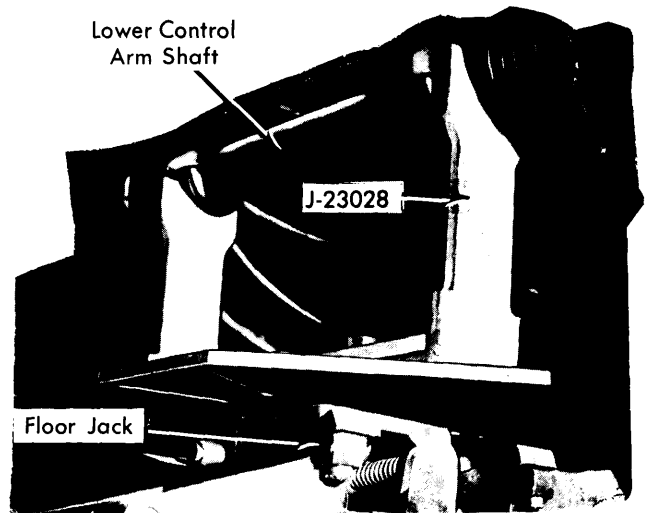
#### STABILIZER BAR

**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.

#### 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 Floor Jack and Special Tool**

**Installation** — To install coil spring, reverse removal procedure, noting the following; On models with air cylinders in coil springs, check for leaks and damage before installation.

#### STEERING KNUCKLE

**NOTE** — It is recommended that front of vehicle be supported with a twin-post hoist so the front coil spring remains compressed, yet the steering knuckle is accessible. If a frame hoist is used, support lower control arm with a jackstand to safely retain spring in its curb height position.

**Removal** — Raise and support vehicle as described above. Remove wheel, hub, disc rotor and caliper. Remove disc splash shield. Remove upper and lower ball joint cotter pins and LOOSEN nuts. Using suitable tool (J-23742), free steering knuckle from ball studs. Remove ball stud nuts and withdraw steering knuckle.

# Front Suspension

## GENERAL MOTORS COIL SPRING TYPE (Cont.)

**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 stud and LOOSEN nut 2 turns. Remove brake caliper and suspend it from frame. Do not hang caliper by brake line. Install tool J-23742 between the ball studs. Loosen ball stud and remove tool and stud nut. Drill out rivets 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.

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 springs as previously outlined. Support inboard end of control arm after springs are removed. Remove cotter pin from lower stud and LOOSEN stud nut 1 turn. Remove brake caliper and suspend out of way. Do not suspend from brake line. Using suitable tool (J-23742), position large cupped end of tool over upper ball stud nut and pilot threaded end of tool on the lower ball stud. Loosen ball stud, then remove tool and stud nut. Remove nuts attaching control arm to vehicle and remove control arm.

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

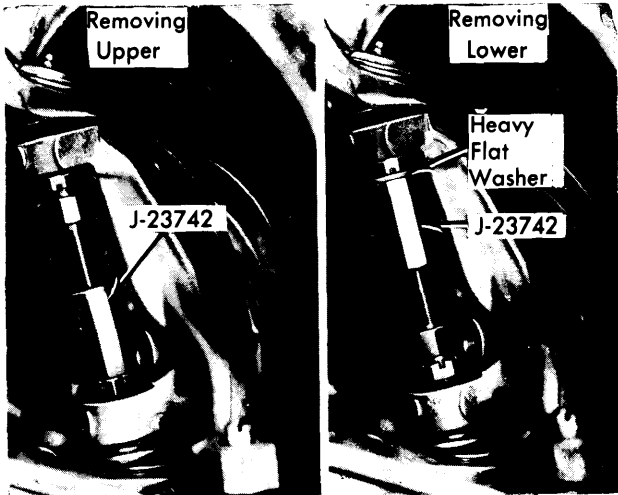


Fig. 3 Removing Upper and Lower Ball Joints

### LOWER BALL JOINT

**Removal** — Raise vehicle and support front of vehicle with safety stands positioned under lower control arms. Remove wheel and tire. Remove lower stud cotter pin and LOOSEN stud nut 2 turns. Remove brake caliper and suspend out of way. Do not suspend by brake line. Install tool J-23742 between the ball studs, and loosen ball stud. Remove tool and ball stud nut. Pull the brake disc and steering knuckle assembly up off the ball stud and support upper control arm with a block of wood. Press lower ball joint out of its seat and remove from vehicle.

**Installation** — To install lower ball joint, reverse removal procedure.

### UPPER CONTROL ARM

**Removal** — Raise vehicle and support front of vehicle with safety stands positioned under lower control arm. Remove cotter pin from upper ball joint and LOOSEN nut. Remove brake caliper and suspend out of way. Do not suspend by brake line.

## TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
Lower Control Arm-to-Frame	
G10, 1500, 20, 2500 .....	65
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 .....	115
Upper Control Arm Steel Bushings	
C & P20, 2500, 30, 3500, G30, 3500	
New .....	190
Used .....	115
Lower Control Arm Steel Bushing	
C & P20, 2500, 30, 3500, G30, 3500	
New .....	280
Used .....	130
G10, 1500, 20, 2500, 30, 3500	
W/Spacer .....	280
W/O Spacer .....	130
Upper Ball Joint Nut	
C & P10, 1500, G10, 1500, 20, 2500 .....	50
C & P20, 2500, 30, 3500, G30, 3500 .....	90
Lower Ball Joint Nut .....	90
Stabilizer Bar .....	25
Shock Absorber Upper Nut	
C & P Models .....	140
G Models .....	75
Shock Absorber Lower Nut	
C & P Models .....	60
G Models .....	75