

Front & Rear Suspension

1971-72 BUICK (EXCEPT SKYLARK) FRONT

Buick LeSabre (1971-72)
 Buick Estate Wagon (1971-72)
 Buick Centurion (1971-72)
 Buick Electra (1971-72)
 Buick Riviera (1971-72)

Front Wheel Bearings – See “Wheel Bearing Adjustment” in Section 9.

DESCRIPTION

Ball joint front suspension. Each wheel connected to frame by steering knuckle, ball joint assembly, and upper and lower control arms. Tie rods connect steering arms on knuckles to an intermediate rod. Coil springs are mounted between spring housings on frame and lower control arms. A stabilizer bar is mounted in rubber bushings which are held to frame side rails by brackets. Links, isolated by rubber grommets, connect ends of stabilizer to lower control arms. A ball joint is riveted to the outer end of upper arm. Upper control arm is attached to a cross shaft through rubber bushings. Cross shaft is spring loaded to insure proper seating of ball in socket, and is bolted to frame brackets. Lower control arm is bolted to frame front crossmember through rubber bushings. Each arm is connected to steering knuckle with a ball joint assembly pressed in lower control arm. Fore-aft alignment is maintained by wide span lower control arms.

ADJUSTMENT

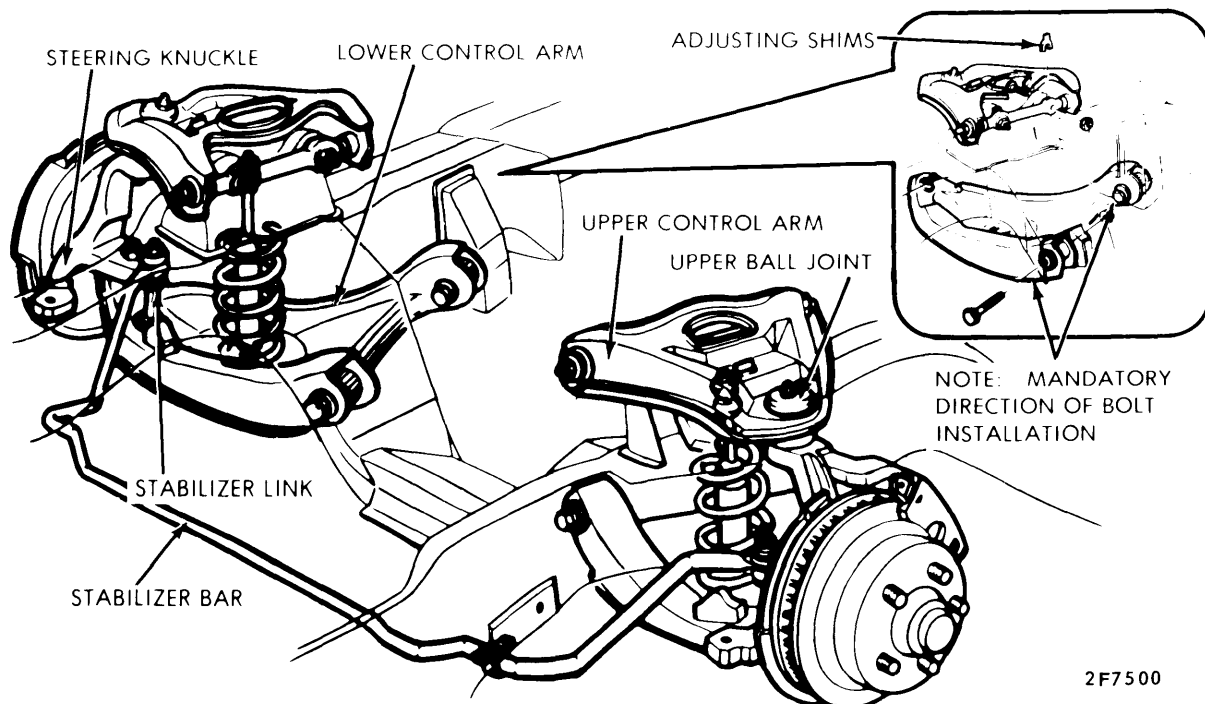
Caster & Camber – See “Wheel Alignment Specifications & Adjustment” in Section 9.

REMOVAL & INSTALLATION

BALL JOINT CHECKING – See “Front Suspension Ball Joint Checking” in Section 9.

Upper Control Arm

Removal – Raise car and support. Remove wheel. Remove cotter pin from castellated nut on upper ball joint tapered stud. Loosen, but do not remove nut. Force of chassis spring will tend to disengage ball joint tapered stud from steering knuckle. Rap knuckle sharply in area of tapered stud to disengage stud from knuckle. **WARNING** – If ball stud nut is removed, injury could result since heavily compressed chassis spring will be completely released. With another jack, support car weight under outer edge of lower control arm. Raise jack until compression is relieved on upper control arm bumper and remove castellated nut from ball joint tapered stud. Wire brake and knuckle assembly in place to prevent damage to the brake hose. Rotate upper control arm upward and away from knuckle.



FRONT SUSPENSION (EXC. SKYLARK) TYPICAL

1971-72 BUICK (EXCEPT SKYLARK) FRONT (Cont.)

Remove upper control arm shaft to frame bracket nuts, note number, location, and thickness of shims between shaft and frame bracket. Remove control arm assembly, remove bumper from arm. **NOTE:** Use Tool J-22618 to remove right side upper control arm nuts on vehicles equipped with air conditioning.

Installation – Reverse removal procedure and tighten control arm shaft-to-bracket nuts to 75 ft. lbs., and ball joint stud nut to 35 ft. lbs.

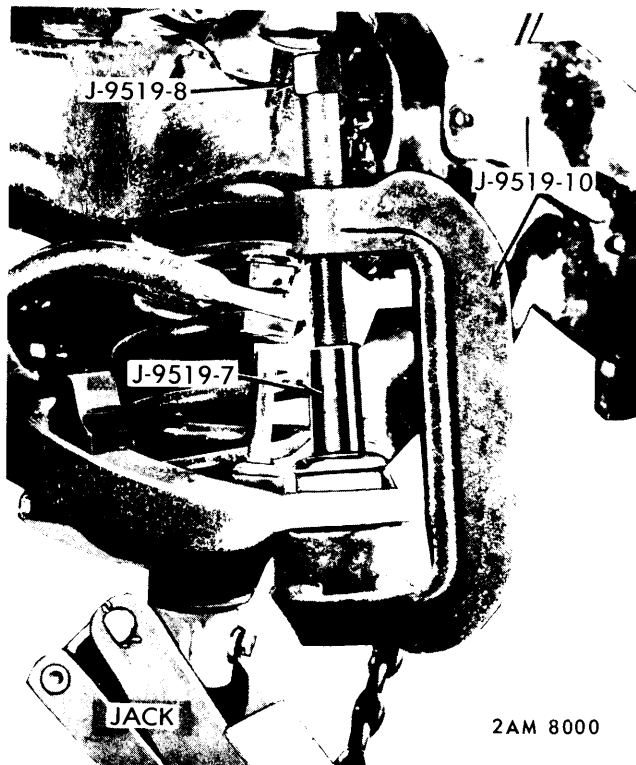
Lower Control Arm

Removal – Remove coil spring and stabilizer link (see below). Remove ball stud from steering knuckle, two nuts and bolts securing control arm to frame and remove control arm from vehicle.

Installation – Reverse removal procedure and note the following. It is mandatory that the control arm bolt heads be toward front of vehicle and torqued to 100 Ft. Lbs. with car at curb load.

Ball Joints Upper

Removal – Raise car and support. Remove wheel. Remove cotter pin from castelated nut on upper ball joint tapered stud. Loosen, but do not remove nut. Force of chassis spring will tend to disengage ball joint tapered stud from steering knuckle. Rap knuckle sharply in area of tapered stud to disengage stud from knuckle. **WARNING** – If ball stud nut is removed, injury could result since heavily compressed chassis spring will be completely released. Relieve compression on upper control arm rubber rebound bumper, by jacking up lower control arm at spring seat. Remove stud nut and lift upper control arm from knuckle. Place a wood block between upper control arm and frame



REMOVING LOWER BALL JOINT

to act as a support. Center punch and drill out ball joint rivets (1/8" pilot drill, 7/32" final drill). Remove rivets and ball joint. **CAUTION** – Do not damage ball joint seat or rivet holes in control arm.

Installation – Reverse removal procedure and note the following. Torque new ball joint bolts (nuts on top) to 8 Ft. Lbs. Tapered stud to knuckle assembly torque is 50 Ft. Lbs. **NOTE** – Always tighten nuts, never loosen, to align cotter pins.

Lower

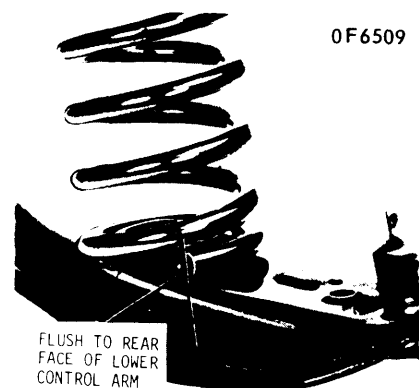
Removal – Raise front of vehicle, support at frame and remove wheel. Place jack about 2" below lower control arm as far outboard as possible. Remove cotter pin and loosen, but do not remove, lower ball joint tapered stud nut. **CAUTION** – Do not remove nut as this will release heavily compressed chassis spring. Install Tool J-23742-1 between ball studs and free ball stud from steering knuckle. Remove tool and place jack under lower control arm at spring seat. Raise jack to relieve compression on upper control arm rubber rebound bumper. Remove stud nut and move steering knuckle out of way. Remove ball joint from lower control arm using Tools J-9519-7, J-9519-8 and J-9519-10.

Installation – Reverse removal procedure using Tools J-9519-4, J-9519-8, J-9519-10 and J-9519-17 to install the ball joint. Be sure bleed vent in rubber boot faces inward. Turn stud so cotter pin hole is fore and aft and tighten castelated nut to 85 Ft. Lbs.

Coil Spring

Removal – Raise front of car and support with car stand under frame side rail. Remove wheel, hub assembly, shock absorber, front stabilizer rod link, and tie rod. Remove control arm bumper and as precaution, place additional jack under lower control arm. (Place as far outboard as possible). Remove cotter pin and LOOSEN, DO NOT REMOVE the nut on lower ball joint tapered stud. Nut should not be loosened more than 1/8". Install Tool J-23742-1 between ball studs and turn threaded end of Tool until ball stud is free of steering knuckle. Raise jack against the control arm to relieve pressure on nut, remove nut, separate steering knuckle from tapered stud and carefully lower jack which is supporting lower control arm. With jack all the way down it still may be necessary to pry spring off its seat.

CAUTION – Extreme care must be used when handling the preloaded spring.



FRONT COIL SPRING POSITION

Front & Rear Suspension

1971-72 BUICK (EXCEPT SKYLARK) FRONT (Cont.)

Installation – Reverse removal procedure and torque lower ball joint nut to 95 ft. lbs., stabilizer link to control arm nut to 12 ft. lbs., tie rod end to knuckle to 35 ft. lbs. Torque lower control arm rubber bumper to 17 ft. lbs.

Steering Knuckle

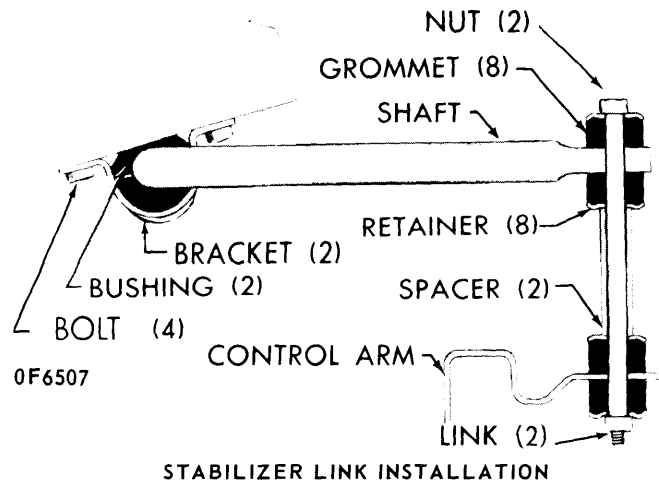
Steering knuckle can be replaced after upper and lower ball joints are disconnected from knuckle (see above), and making sure lower control arm is properly supported to prevent downward movement.



SEPARATING STEERING KNUCKLE FROM BALL

Shock Absorbers

When installing the shock absorbers, torque lower bolts to 20 Ft. Lbs. and upper nut to 8 Ft. Lbs.



Stabilizer Link

Removal – Remove nut from lower end of link. Remove link, spacer, retainers and grommets. Inspect link and grommets.

Installation – When replacing stabilizer Link, make sure grommets are installed dry and that they are centered before tightening rod nut. Tighten nut to 12 ft. lbs.

Stabilizer Bar

Removal – Disconnect stabilizer link and 2 frame-to-shaft mounts and brackets.

Installation – Position insulator mounts and brackets over shaft and attach them to the frame. Torque bracket bolts to 24 Ft. Lbs. Do Not Lubricate insulator mounts.