

Front & Rear Suspension

1965-73 CADILLAC FRONT

Cadillac, Exc. Eldorado (1965-73)

Wheel Bearings — See Wheel Bearing Adjustment in WHEEL ALIGNMENT Section.

DESCRIPTION

System is an independent spring type suspension, consisting of two upper and two lower control arm assemblies, coil springs, shock absorbers, front diagonal tie struts, a stabilizer bar, and two integral steering knuckles. Suspension is designed to produce an anti-dive reaction during braking.

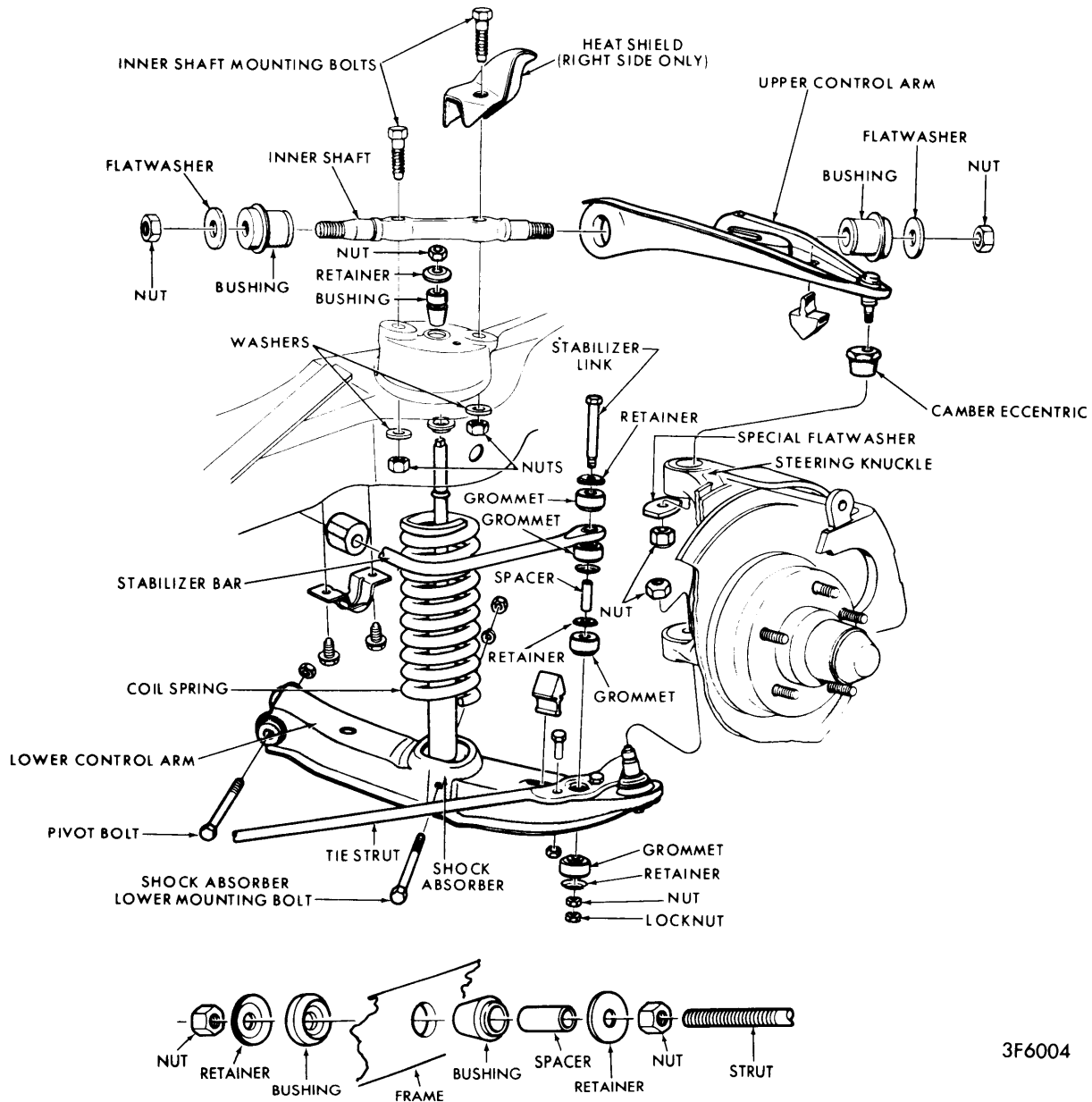
ADJUSTMENT

Caster & Camber — See Wheel Alignment Specifications & Adjustment in WHEEL ALIGNMENT Section.

REMOVAL & INSTALLATION

STABILIZER BAR

Removal — Remove nuts, retainer, and grommet from bottom of each stabilizer link. Unbolt stabilizer mounting brackets from frame. Remove rubber bushings from bar, then remove retainers, spacers, and links from ends of stabilizer bar. Turn wheels to full stop and work stabilizer from vehicle.



3F6004

FRONT SUSPENSION — CADILLAC (EXC. ELDORADO)

1965-73 CADILLAC FRONT (Cont.)

Installation — Position stabilizer and install rubber bushings and mounting brackets. Install grommets, retainers, and nuts exactly as shown in illustration. **NOTE** — On 1973 models, grommets and retainers are larger than those used on previous models, or on present shock absorbers. Ensure replacement parts are of correct size.

TIE STRUT & BUSHINGS

Removal — **NOTE** — If only bushings are being replaced, do not disturb strut rear lock nut in order to avoid readjusting caster and camber. Raise and support car under frame and disconnect stabilizer link from lower control arm on side from which strut is being removed. Remove tie strut and bushings.

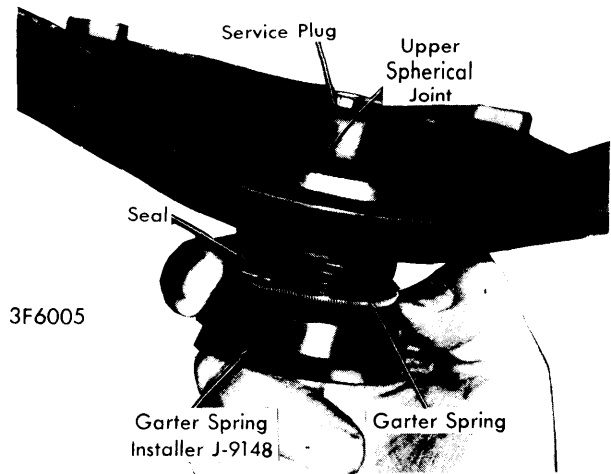
Installation — If rear locknut was removed, install a new 3/4" thick locknut (screw nut on approximately 3/4" from end of thread). Position rear bushing retainer on tie strut with concave side against nut. Insert metal spacer into conical-shaped bushing from small end; place this assembly on strut (small end toward front of vehicle). Hold tie strut in horizontal position and insert threaded end through frame strut rod support member. Position opposite end on lower suspension arm, with pointed end inward (attach bolts loosely). Slide front bushing onto end of strut and against support member, with concave side toward frame. Install front bushing retainer in similar manner. Start new 5/8" thick locknut on threaded end of strut. Connect stabilizer link to lower control arm (ensure attaching parts are correctly positioned). Lower vehicle, position front bushing on metal spacer, and torque locknuts to specifications. Readjust caster and camber, if necessary.

UPPER BALL JOINT SEAL REPLACEMENT (ON CAR)

Removal — Raise and support vehicle under shock absorber mounts, then remove wheel. Remove ball joint stud lock nut. Scribe mark camber eccentric and steering knuckle. Break ball joint loose from steering knuckle. Remove ball joint from steering knuckle, then remove camber eccentric from joint stud. **NOTE** — If camber eccentric is seized or frozen to joint stud, remove upper control arm assembly and remove camber eccentric as bench operation. Clean outer seal surface and pry garter spring from seal. Remove and discard seal and spring.

Inspection — Check ball for looseness or binding. Ball joint should turn in its socket at 24-48 INCH lbs. If ball joint is damaged or worn, replace joint and arm as assembly.

Installation & Lubrication — Remove service plug and install new seal as follows: Apply a small amount of suitable lubricant (1050411) around hole in seal. Wipe groove in joint housing clean and install seal on joint stud. Ensure large groove diameter of seal engages recess around joint housing. Momentarily pry large lip of seal away from housing and allow air to enter. Grasp small end of seal and extend toward threaded end of stud. Install new garter spring on small end of suitable installer tool (J-9148), lubricate inside diameter of installer, and install spring on seal (see illustration). **NOTE** — If spring should separate during installation, it is not necessarily broken. Join spring ends together and lock by twisting male end counterclockwise two to three turns. Lubricate joint until approximately two teaspoons of lubricant escapes under seal at screwdriver (used to allow air entry). Install service plug. Apply light grease coating to outside taper of camber eccentric. Install eccentric. Install joint stud and eccentric into steering knuckle, aligning scribe marks. Install attaching nuts, torquing to specifications. Check and adjust camber.



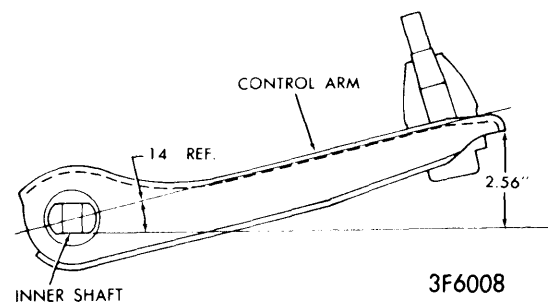
INSTALLING GARTER SPRING

LOWER BALL JOINT SEAL REPLACEMENT (ON CAR)

Removal — Raise and support vehicle under lower control arms, approximately two inches inboard of ball joints. Remove wheel and tire and brake drum, or caliper. Remove ball joint lock nut and install a standard nut to within two threads of steering knuckle support. Raise vehicle slightly off jack stands. Strike steering knuckle, with hammer, to break stud loose, then lower vehicle back onto stands. Lift hub and backing plate and remove steering knuckle from lower joint stud. Clean outer surface of seal and pry off copper band. Remove seal and discard seal and band. Remove service plug.

Inspection & Lubrication — See *Upper Ball Joint Seal Replacement*.

Installation — Install service plug. Guide ball joint into steering knuckle support, install standard nut and flat washer, and tighten until joint stud seats in support. Remove standard nut and washer and install locknut. **NOTE** — A large quantity of grease will purge from seal when it is seated in knuckle. Replace brake drum or caliper. Install wheel and tire.



UPPER CONTROL ARM-TO-SHAFT ALIGNMENT

UPPER CONTROL ARM

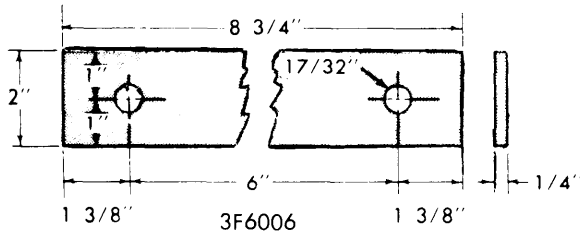
NOTE — Upper ball joint is welded to control arm. Ball joint and control arm are serviced as a complete assembly only. DO NOT try to reweld ball joint to control arm.

Front & Rear Suspension

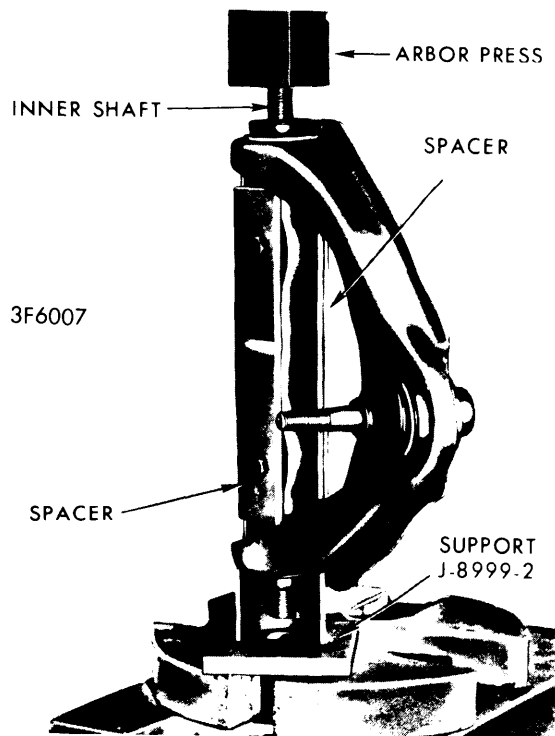
1965-73 CADILLAC FRONT (Cont.)

Removal — Raise and support front of vehicle at control arms. Remove wheel and tire assembly. Break loose upper ball joint, as previously described. Remove nuts, washers, and shaft mounting bolts at frame tower. Remove control arm and shaft assembly from vehicle. If right upper control arm is being removed, detach rear bushing heat shield. Remove nut and washer from each end of shaft. Camber eccentric may be removed, if necessary, by using a suitable puller (J-24319).

Installation — Position control arm on frame tower (if right arm is being installed, position heat shield). Install and tighten mounting bolts. Install eccentric, if previously removed. Guide eccentric and ball joint stud into steering knuckle, install standard nut and tighten until eccentric seats. Remove standard nut and install locknut, torquing to specification. Install wheel and tire assembly and lower vehicle. Install flat washer and shaft attaching nut to end of control arm shaft. Check wheel alignment and adjust, if necessary.



BUSHING REMOVAL SPACER TOOL



REMOVING UPPER ARM BUSHINGS

Bushing Service — Make two spacers from cold, rolled steel, as illustrated. Remove control arm and install spacers on shaft between arm ends; secure with bolts and nuts. Apply liberal amount of penetrating oil between bushing sleeve and arm. Position suitable support (J-8999-2) on anvil of arbor press and place one end of arm on support, with outer end of bushing resting in the tool. *NOTE* — It will be necessary to drill 1/4" hole in center of support base, to prevent bushing from bottoming before it is removed. Insert spacers, as shown, drive shaft downward until spacer plates touch extruded flanges of control arm, remove arm from arbor, and repeat procedure from opposite side. To install, position suitable bushing installers (J-8999-25) on arbor press anvil and install new bushings in reverse of removal procedures. *NOTE* — Rotate inner shaft until a 14° angle is achieved between shaft and control arm (see illustration). Reinstall control arm in vehicle.

COIL SPRING

Removal — Raise and support vehicle under frame, remove shock absorber, and disconnect stabilizer bar and tie strut from lower control arm. Remove wheel, tire and brake drum, or rotor and caliper. On drum brake models, straighten locking tang on anchor bolt, then loosen anchor bolt and two other bolts securing backing plate to steering knuckle. On all models, position jack under outboard end of control arm, such that jack is supporting arm. Remove control arm-to-frame pivot nuts. Break loose lower ball joint, as previously described. *NOTE* — Raising opposite rear corner of vehicle will compress spring and facilitate ball joint removal. Slowly lower jack and remove coil spring.

Installation — Reverse removal procedure, noting the following: When replacing spring, position top of spring within the five depressions of frame tower. Bottom end, on left side, must be 1/2-1" in back of the front of lower control arm. On right side, spring must be 1/2-1" forward of the back of lower control arm.

LOWER CONTROL ARM

After coil spring is removed, as previously described, remove pivot bolts and withdraw control arm from vehicle. Replace bushings in similar manner as described for upper control arm, using suitable tools (J-8999 for removal; J-22222-2 for installation).

STEERING KNUCKLE

Removal — Raise and support vehicle at side rails. Remove wheel and tire. On drum brake models, remove brake drum and unbolt backing plate from steering knuckle. Pull backing plate from spindle and suspend out of way (do not disconnect brake hose). On disc brake models, detach and suspend brake caliper out of way (do not disconnect brake hose). Pull hub and rotor assembly from spindle. Unbolt and remove splash shield and seal. On all models, place jack under lower control arm. Remove tie rod end from steering knuckle. Break upper and lower ball joints loose from knuckle. Lift knuckle from vehicle.

1965-73 CADILLAC FRONT (Cont.)

Installation — Reverse removal procedures, tightening nuts and bolts to specifications. Adjust wheel bearings. See *WHEEL BEARING ADJUSTMENT* Section. Check alignment.

1965-69 TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
Stabilizer Bracket-to-Frame	20
Tie Strut-to-Lower Arm	35
Upper Ball Joint-to-Knuckle	60
Lower Ball Joint-to-Knuckle	65
Backing Plate-to-Knuckle	60
Upper Control Arm-to-Frame	60
Lower Control Arm-to-Frame	60
Backing Plate Anchor Bolt	100
Tie Rod End-to-Steering Arm	40
Control Arm Pivot Shaft Nuts (Upper & Lower)	60

1970-73 TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
Splash Shield-to-Knuckle	10
Lower Ball Joint-to-Knuckle	85
Upper Ball Joint-to-Knuckle	
1970-71	85
1972-73	60
Stabilizer Bracket-to-Frame	
1970-71	50
1972-73	35
Upper Control Arm-to-Frame Nuts	
1970-71	60
1972-73	85
Control Arm Shaft Attaching Nuts	75
Lower Control Arm-to-Frame	95
Tie Rod Pivots-to-Knuckle	35
Tie Strut-to-Lower Arm	55