

## ELDORADO, RIVIERA, SEVILLE & TORONADO

Buick Riviera  
Cadillac Eldorado  
Cadillac Seville  
Oldsmobile Toronado

### DESCRIPTION

Front suspension is torsion bar with control arms, stabilizer bar and shock absorbers. Front end of each torsion bar is attached to lower control arm. Rear of each torsion bar is mounted at torsion bar crossmember with an adjustable arm for car height adjustment. Steering knuckle is suspended by conventional ball joints. Front wheel bearings do not require adjustment.

### ADJUSTMENT

#### CASTER & CAMBER

See *Caster and Camber Adjustments and Specifications in WHEEL ALIGNMENT Section.*

#### RIDING HEIGHT

See *Riding Height Adjustments and Specifications in WHEEL ALIGNMENT Section.*

#### BALL JOINT CHECKING

See *Ball Joint Checking in WHEEL ALIGNMENT Section.*

### REMOVAL & INSTALLATION

#### FRONT HUB & BEARING ASSEMBLY

**Removal** — Remove wheel cover, cotter pin and retainer, then loosen axle nut. Siphon  $\frac{2}{3}$  of fluid from master cylinder reservoir then lift car and support with safety stands. Remove tire and wheel assembly, then compress caliper piston by prying between ball joint stud and caliper. Remove locating bolts and wire caliper out of way. Remove disc, axle nut and washer. Remove 3 hub retaining bolts on inside of steering knuckle and remove hub assembly carefully. Support drive axle to avoid damage to joints and seals.

**Installation** — Reverse removal procedure to complete assembly. Refill master cylinder and bleed system if necessary.

#### STABILIZER BAR

**Removal** — Raise car and support with safety stands. Remove bolts from bottom of both links, then grommets and retainers. Unbolt stabilizer bushing brackets from frame and remove bar.

**Installation** — Reverse removal procedure and note the following: Torque bolts to specifications. After tightening, link bolt must be cut off  $\frac{1}{4}$ " below nut.

#### STEERING KNUCKLE & SEAL

**Removal** — 1) Loosen axle nut, drain  $\frac{2}{3}$  of master cylinder fluid, then raise and support vehicle. Remove wheel and tire assembly, disc brake caliper, and drive axle nut. Using suitable puller, remove tie rod end from steering knuckle.

2) Disconnect lower ball joint using suitable tool. Remove upper ball joint by prying between knuckle and control arm while striking knuckle sharply with brass drift and hammer. Support drive axle to prevent damage to joints and seals and remove knuckle. Pry seal out of groove in knuckle.

**Installation** — To install, reverse removal procedures while noting following: Lubricate seal and install in knuckle using suitable tool (J-28574). Cotter pin on upper ball joint must be bent up and flat, to prevent interference with or damage to constant velocity joint seal.

#### UPPER BALL JOINT

**Removal** — Raise and support vehicle. Remove wheel and tire assembly. Disconnect upper ball joint by prying between upper control arm and steering knuckle. Using hammer and brass drift, strike knuckle sharply to help loosen ball joint stud. Drill out rivets and remove ball joint.

**Installation** — Install ball joint with bolts inserted from under side of control arm. Reverse removal procedure and tighten all bolts to specifications.

#### LOWER BALL JOINT

**Removal** — Raise and support vehicle. Remove steering knuckle as previously described. Drill out rivets and remove ball joint.

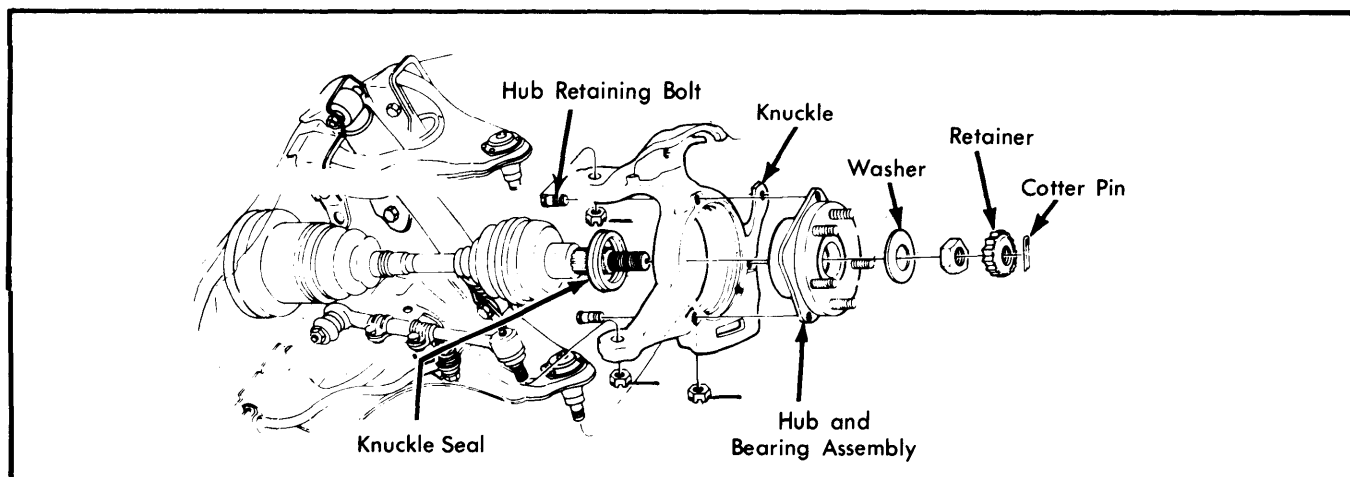


Fig. 1 Steering Knuckle Removal

# Front Suspension

## ELDORADO, RIVIERA, SEVILLE & TORONADO (Cont.)

**Installation** — Install ball joint with bolts inserted from under side of control arm. Reverse removal procedure and tighten all bolts to specifications. Check alignment and riding height.

### TORSION BAR

**Removal** — Raise and support vehicle. Position suitable tool (J-22517-02 or BT-6601) as shown in illustration. Tighten center bolt until adjusting bolt and nut can be removed from crossmember. Release tension on torsion bar, slide forward in lower control arm until rear end of torsion bar clears crossmember. Pull end of bar down and back to remove from control arm.

**Installation** — Lubricate 3" of each end of torsion bar with extreme pressure chassis lubricant, then install torsion bar by reversing removal procedures and tighten nuts and bolts. Check riding height and wheel alignment.

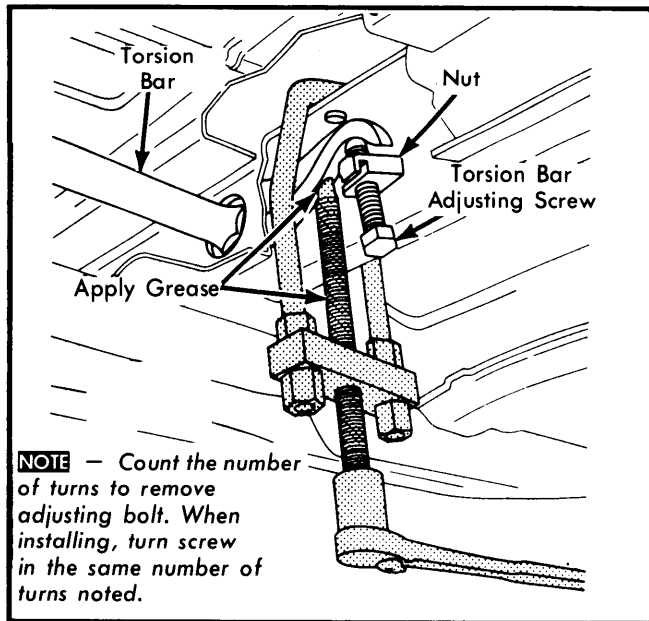


Fig. 2 Torsion Bar Removal

### UPPER CONTROL ARM

**Removal** — Raise vehicle and support under lower control arm. Remove wheel and tire assembly and upper shock attaching bolt. Remove cotter pin and nut on upper ball joint. Disconnect brake hose clip. Unbolt and remove caliper assembly from disc, wire out of way and remove disc. Disengage upper ball joint from steering knuckle. Remove 2 control arm bolts and remove control arm by guiding shock absorber through access hole in arm.

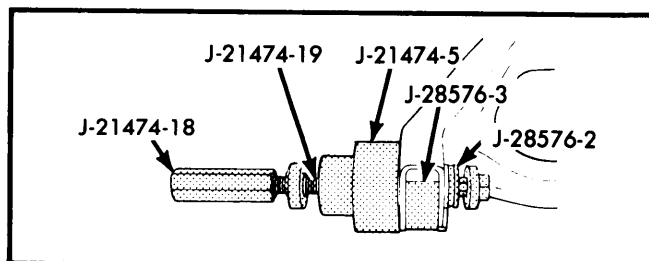


Fig. 3 Upper Control Arm Bushing Removal

**Bushing Service** — Remove upper control arm as previously described. Spray bushings with silicone lubricant to ease removal. Press out bushings, install new bushings and reverse removal procedures to complete assembly.

**Installation** — Reverse removal procedures, noting following: When installing bolts into cam assemblies, both bolt holes should be mounted downward. Cotter pin on upper ball joint must be bent upward to prevent damage to constant velocity joint seal. Check riding height and wheel alignment.

### LOWER CONTROL ARM

**Removal** — Raise and support vehicle. Remove torsion bar and steering knuckle as previously described. Disconnect stabilizer link and lower mount of shock absorber. Ensure that drive axle is supported, then remove lower control arm pivot bolts and remove arm.

**Installation** — Reverse removal procedures to complete installation. Check riding height and wheel alignment.

**Bushing Service** — With lower control arm removed from vehicle, spray bushings with silicone lubricant and install suitable tools as shown in Fig. 4. Press bushings out of lower control arm. Install new bushings and reverse removal procedure to complete assembly. Check riding height and wheel alignment.

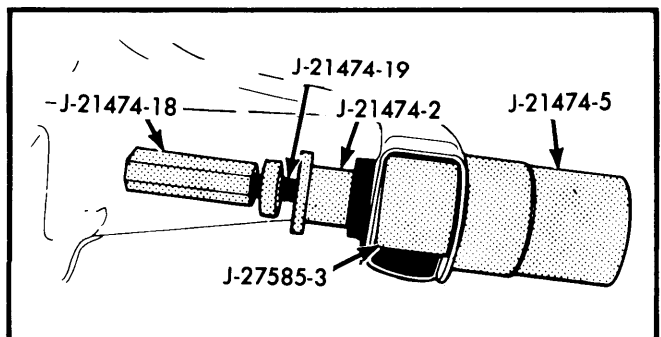


Fig. 4 Lower Control Arm Bushing Removal

### TIGHTENING SPECIFICATIONS

Application	⓪ Ft. Lbs.
Stabilizer Link Bolt .....	13
Stabilizer Bar Bracket-to-Frame .....	24
Upper Shock Absorber Mount .....	95
Lower Shock Absorber Mount .....	75
Upper Control Arm Pivot Bolt .....	70
Lower Control Pivot Bolt .....	90
Upper Ball Joint Stud Nut .....	90
Lower Ball Joint Stud Nut .....	65
Replacement Ball Joint Mount Bolts .....	8
Tie Rod End-to-Steering Knuckle .....	40
Wheel Bearing Assembly-to-Knuckle .....	75
Drive Axle Nut-to-Hub and Bearing .....	175

⓪ — When installing nut which requires cotter pin, turn nut in direction of tightening to align pin hole. DO NOT back off nut to align.