

CHRYSLER CORP. – EXC. OMNI & HORIZON

Chrysler, All Models
Dodge, All Exc. Omni
Plymouth, All Exc. Horizon

DESCRIPTION

All models use ball joint independent type suspension with torsion bar front suspension. On all models except Aspen, Volare, LeBaron and Diplomat, a longitudinal torsion bar is mounted between inboard end of lower control arm and frame rear crossmember. On Aspen, Volare, LeBaron and Diplomat models, a transverse torsion bar is mounted between outboard ends of lower control arms and the forward portion of the suspension crossmember.

On all models upper and lower control arms are attached to crossmember with steering knuckle connected between control arms. Shock absorber is mounted on lower control arm. On all models except Aspen, Volare, LeBaron and Diplomat, a strut rod is connected to lower control arm. A sway bar is used on all models and on Aspen, Volare, LeBaron and Diplomat, bar also functions as the strut rod.

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.*

FRONT WHEEL BEARINGS

See *Wheel Bearing Adjustment in WHEEL ALIGNMENT Section.*

BALL JOINT CHECKING

See *Ball Joint Checking in WHEEL ALIGNMENT Section.*

REMOVAL & INSTALLATION

TORSION BAR

Removal (Exc. Aspen, Volare, LeBaron and Diplomat) –
 1) Remove upper control arm rebound bumper and raise vehicle on hoist placing front suspension in rebound. Release load from torsion bar by turning anchor adjust bolt, in lower control arm, counterclockwise. Remove lock ring from anchor at rear of bar.

NOTE – *If necessary, remove transmission torque shaft to provide tool clearance.*

2) Place torsion bar removal tool C-3728 (or equivalent) toward rear of bar to allow sufficient room to strike with hammer. Remove bar through rear anchor, using care not to damage balloon seal.

NOTE – *Torsion bars are not interchangeable side for side. Bars are marked either "L" or "R".*

Installation (Exc. Aspen, Volare, LeBaron and Diplomat) –
 Reverse removal procedure to install torsion bar. Be sure cupped end of balloon seal faces toward rear of torsion bar.

Coat both ends of bar and hex opening in anchor with high mileage lubricant. Turn adjusting bolt clockwise to place load on torsion bar, then lower vehicle and adjust front suspension height.

Removal (Aspen, Volare, LeBaron and Diplomat) – 1)
 Raise vehicle on hoist so that suspension is in full rebound. Release load on both torsion bars by turning anchor adjusting bolt in crossmember counterclockwise. Remove adjusting bolt and raise lower control arms until clearance between frame member (at jounce bumper) and torsion bar bushing is $2\frac{7}{8}$ " and support in this position.

2) Disconnect sway bar from control arm. Remove two bolts attaching torsion bar end bushing to control arm. Remove two bolts attaching torsion bar pivot cushion bushing to crossmember and remove torsion bar with anchor assembly. Carefully separate anchor from torsion bar.

Installation (Aspen, Volare, LeBaron and Diplomat) – 1)
 Carefully slide balloon seal over end of torsion bar, cupped end toward hex. Coat hex end of bar with suitable high mileage lubricant and install bar hex into anchor bracket. With bar in horizontal position, ears of bracket should be nearly straight up. Position swivel into anchor bracket ears. Install anchor bracket assembly into crossmember anchor retainer and install adjusting bolt and bearing.

2) Install bolts attaching pivot cushion bushing to crossmember and tighten bolts finger tight. With lower control arms at same height as during removal, install bolts attaching torsion bar bushing to lower control arm. Be sure that anchor bracket is fully seated in crossmember, then tighten retainer bolts. Position balloon seal over anchor and connect sway bar to control arm using new bolt. Load torsion bar by turning adjusting bolt clockwise. Lower vehicle and adjust front suspension height.

TORSION BAR ISOLATOR

Removal (St. Regis, Cordoba, Magnum, Newport, New Yorker) – Raise and support front of vehicle so that suspension is in full rebound. Turn adjusting bolts counterclockwise until all load is removed from torsion bars. Remove one bolt from each side attaching isolated torsion bar crossmember assembly to crossmember brackets, then remove isolators.

Installation (St. Regis, Cordoba, Magnum, Newport, New Yorker) – To install, reverse removal procedure, taking care not to damage or displace balloon seals.

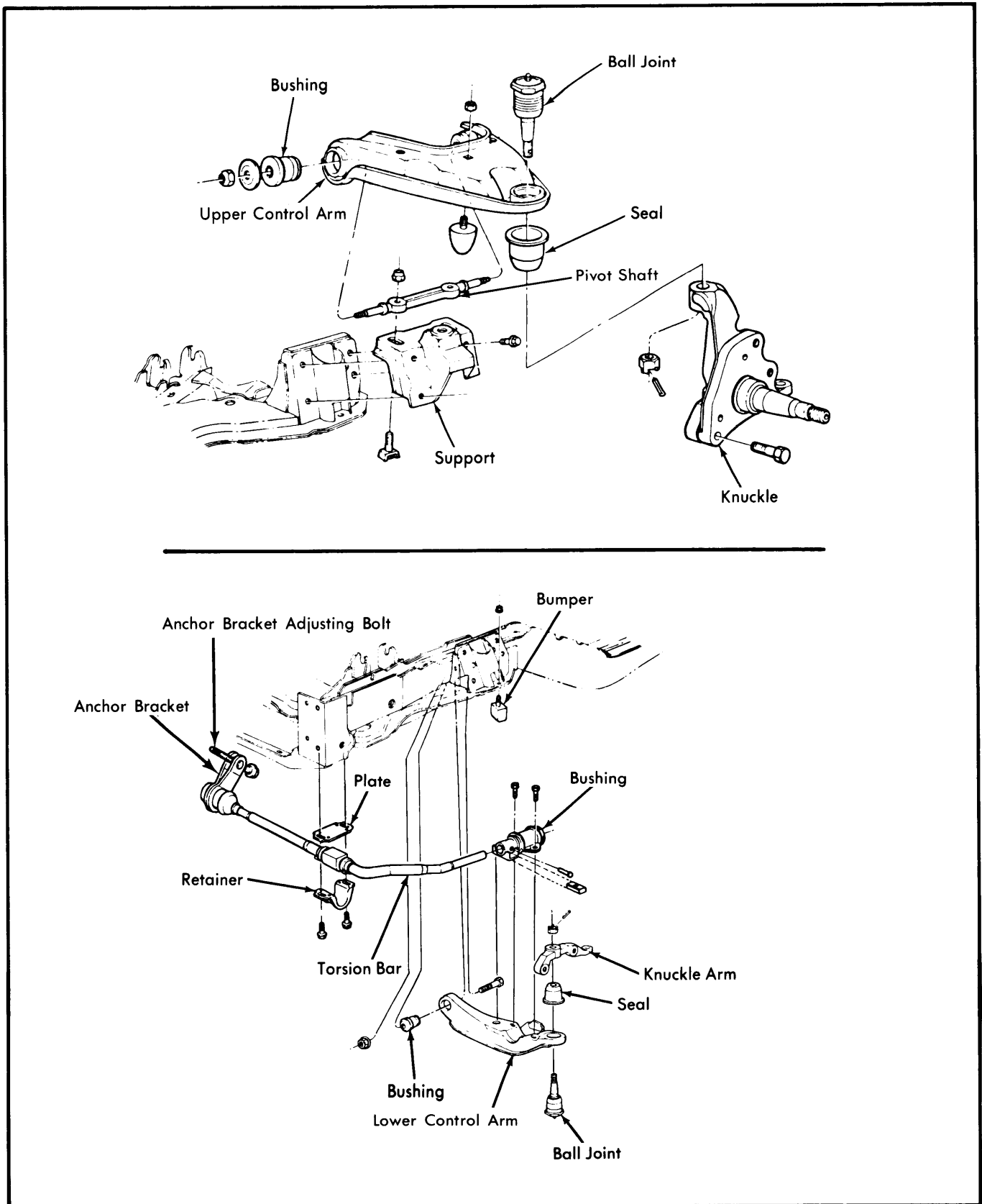
STEERING KNUCKLE

Removal – Raise and support front of vehicle with safety stands placed under lower control arms, then remove wheel. Remove disc brake adaptor mounting bolts and support adaptor and caliper out of way with wire. Remove hub and disc assembly, then remove brake splash shield. Loosen bolts attaching steering arm to knuckle. Separate upper ball joint from steering knuckle. Remove steering arm-to-knuckle attaching bolts and separate upper control arm from knuckle, then lift knuckle from vehicle.

Installation – To install steering knuckle, reverse removal procedure and note the following: Tighten all nuts and bolts to specified torque value. After installation of hub and disc assembly, adjust front wheel bearings.

Front Suspension

CHRYSLER CORP. – EXC. OMNI & HORIZON (Cont.)



**Fig. 1 Exploded View of Front Suspension
(Aspen, Volare, LeBaron and Diplomat)**

Front Suspension

CHRYSLER CORP. - EXC. OMNI & HORIZON (Cont.)

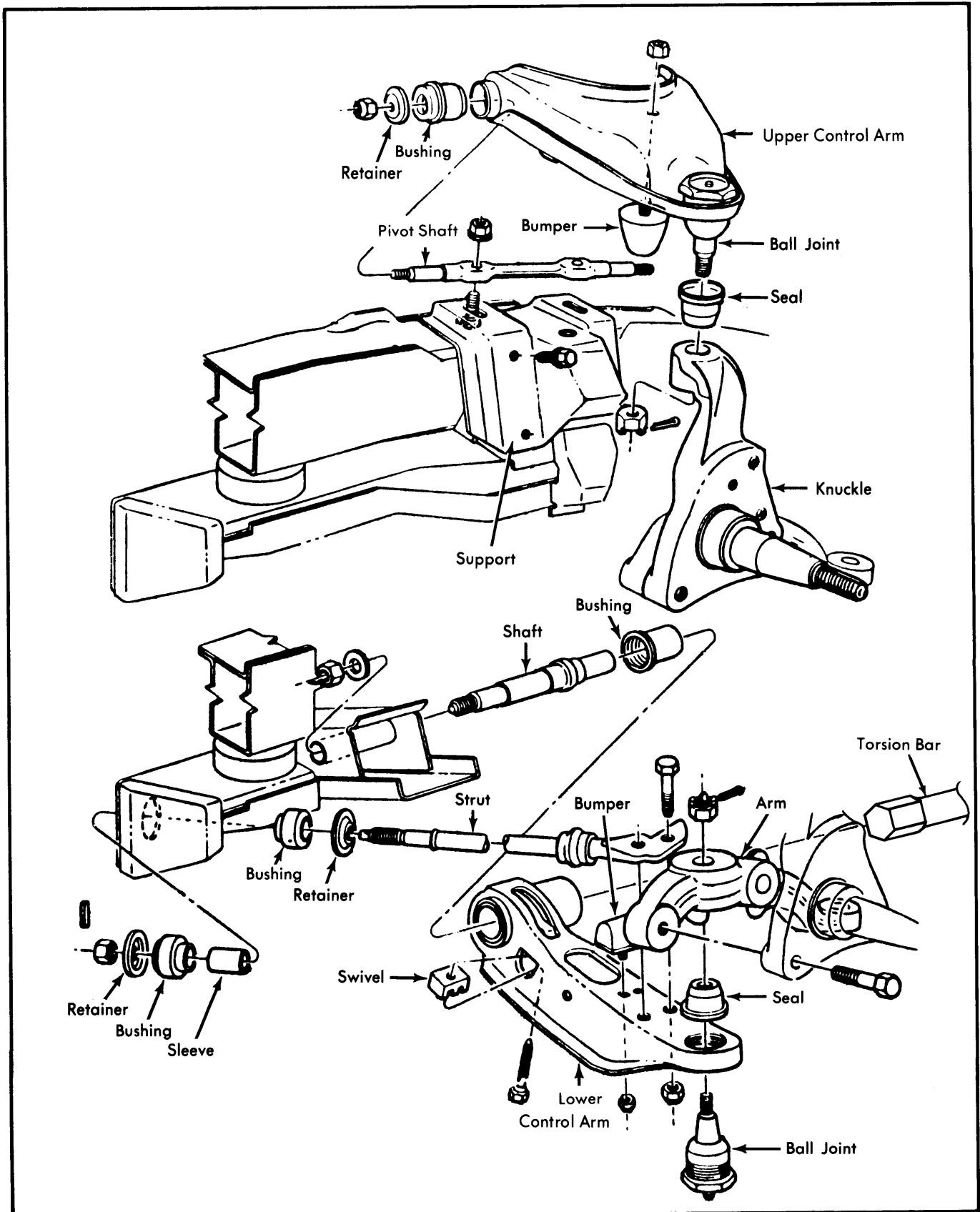


Fig. 2 Exploded View of Front Suspension
 (St. Regis, Cordoba, Magnum, Newport, New Yorker)

CHRYSLER CORP. – EXC. OMNI & HORIZON (Cont.)

SWAY BAR

Removal (St. Regis, Cordoba, Magnum, Newport, New Yorker) – Raise and support vehicle so that suspension is in full rebound. Remove one wheel and remove bolts on each end of sway bar strut clamp. Remove bolts securing frame link strap to retainer link on each side of sway bar and remove bar by pulling through crossmember.

Installation (St. Regis, Cordoba, Magnum, Newport, New Yorker) – To install sway bar, reverse removal procedure.

Removal (Aspen, Volare, LeBaron and Diplomat) – Raise vehicle and release load on torsion bars by turning adjusting bolts counterclockwise. Raise lower control arm until clearance between frame member (at jounce bumper) and torsion bar bushing is $2\frac{7}{8}$ ". Support control arm in this position during entire removal and installation process. Remove sway bar to torsion bar bushing attaching bolts, retainer, cushions and sleeve. Remove retainer assembly strap bolts and retainer straps, remove sway bar.

Installation (Aspen, Volare, LeBaron and Diplomat) – To install, reverse removal procedure. Install new bolts through sway bar retainer, cushions and sleeve. Load torsion bar before lowering vehicle and adjust suspension height.

UPPER CONTROL ARM

Removal – Raise front of vehicle with hand jack and place jack stand under lower control arm, then remove wheel and tire assembly. Remove brake caliper if necessary for clearance. Remove stud nuts from upper and lower ball joints. Using suitable tool (C-3564A), pull ball joint stud from control arm using sharp hammer blows on steering knuckle boss to help remove stud. Scribe a line on support bracket along pivot shaft to assist in installation. Remove tool and upper ball joint from steering knuckle. Remove pivot shaft nut and bolts from upper control arm. Lift control arm away from support bracket and remove from vehicle.

Installation – To install, reverse removal procedure and tighten all nuts and bolts to specification.

LOWER CONTROL ARM & SHAFT

Removal (St. Regis, Cordoba, Magnum, Newport, New Yorker) – 1) Remove rebound bumper and raise vehicle to place front suspension in full rebound. Place safety stands under front frame for additional support. Remove wheel and tire assembly, brake caliper (wire up out of way), and remove shock absorber lower mounting bolt.

2) Remove hub and rotor assembly, splash shield, bolt and nut. Remove strut bar attaching bolts from lower control arm. If clearance is needed, remove automatic transmission gear shift torque shaft assembly.

3) Measure torsion bar anchor bolt depth into lower control arm and remove torsion bar, lower ball joint from knuckle arm and lower control arm shaft nut from control arm shaft. Push out shaft from crossmember and remove lower control arm and shaft as assembly.

Bushing Service – 1) Place control arm in a vise and remove torsion bar adjusting bolt and swivel. Place control arm assembly in an arbor press with torsion bar hex opening up and with support around anchor on bottom end. Place a brass drift into hex opening and press shaft out of control arm. Bushing inner shell will remain on shaft. Cut and remove rubber part of bushing from control arm or shaft.

2) Remove bushing outer shell by cutting with a chisel, using care not to cut into control arm. Remove bushing inner shell from shaft. To install new bushing, place bushing on shaft, flange end of bushing first. Press shaft in to inner sleeve until bushing seats on shaft shoulder. Press shaft and bushing assembly into lower control arm using tool C-3556 (or equivalent) and an arbor press. Install torsion bar adjusting bolt and swivel.

Installation – To install, reverse removal procedure.
NOTE – Do not tighten lower control arm nut until full weight of vehicle is on wheels.

Removal (Aspen, Volare, LeBaron and Diplomat) – 1) Raise vehicle and remove wheel and tire. Remove brake caliper retaining screws, clips and anti-rattle springs, remove caliper and suspend out of the way. Remove shock absorber lower nut, retainer and insulator. Remove hub and rotor assembly along with splash shield. Release load on both torsion bars by turning anchor adjusting bolts counterclockwise.

NOTE – Release tension on both torsion bars even if only one control arm is being removed because of sway bar reaction from opposite torsion bar.

2) Raise lower control arm until clearance between frame member (at jounce bumper) and torsion bar bushing is $2\frac{7}{8}$ ". Support control arm at this "design height" and remove two bolts attaching torsion bar end bushing to lower control arm. Separate lower ball joint from knuckle using suitable tool (C-3564-A). Remove lower control arm pivot bolt and lower control arm.

Bushing Service – Remove and install pivot bushing and new bushing using tool C-4383 (or equivalent).

Installation – To install, reverse removal procedure.
NOTE – Do not tighten lower control arm nut until full weight of vehicle is on wheels.

Front Suspension

CHRYSLER CORP. – EXC. OMNI & HORIZON (Cont.)

UPPER BALL JOINT

All Models – Ball joint can be removed from upper control arm after lower control arm is supported as close to wheel as possible. Remove upper ball joint using removal tools C-3561 or C-3560. Always replace balloon seals after they have been removed. When installing ball joint, be sure ball joint threads squarely engage threads of upper control arm. Position new seal over ball joint stud and install using suitable adaptor (C-4039 or C-4034).

LOWER BALL JOINT

All Models – Remove rebound bumper and raise vehicle on hoist to place suspension in rebound. Place safety stands under front frame for additional support. Remove wheel, tire and caliper assembly. Remove hub and rotor, splash shield, lower shock mounting nut, retainer and insulator or bolt and nuts. Unload torsion bar. Remove upper and lower ball joint stud nuts and use suitable tool (C-3564A) to break lower ball joint loose. Use suitable tool (C-4212) to press ball joint from lower control arm. To install, reverse removal procedure and replace seal if necessary. When installing ball joint, use suitable ball joint installing tools (C-4039 and C-4034).

Bushing Service – Place control arm in a vise and remove pivot bar nuts and bushing retainers. Bolt suitable support tool (C-4258-1) to pivot bar, then place suitable puller tool (C-4253-2) over end of pivot bar and reinstall pivot bar nuts.

Snug bolts against arm, then screw bolts equally until bushing is free in arm. Remove tools and bushing. To install new bushing, press in using suitable tool (C-4253-8 or 4253-7).

Installation – Reverse removal procedure and tighten all nuts and bolts.

TIGHTENING SPECIFICATIONS	
Application	Ft. Lbs.
Ball Joint-to-Upper Control Arm	125
Ball Joint-to-Stud Nut	100
Upper Control Arm Adjusting Bolt	150
Lower Arm Pivot Shaft	
Aspen, Volare, LeBaron & Diplomat	75
All Others	145
Steering Knuckle Bolts	160
Strut-to-Lower Control Arm	100
Strut-to-Frame	70
Rebound Bumper	17
Idler Arm	70
Tie Rod End	40
Tie Rod Sleeve Clamp	12
Upper Shock Mount	25
Lower Shock Mount	
Aspen, Volare, LeBaron & Diplomat	35
All Others	50