

# SUSPENSION - FRONT

1993 Jeep Cherokee

1993 SUSPENSION  
Chrysler Corp. Front

Jeep; Cherokee, Grand Cherokee, Grand Wagoneer, Wrangler

## DESCRIPTION

On all models except Wrangler, front suspensions consist of axle, 2 coil springs, track bar, stabilizer bar and upper and lower control arms. Track bar is used to minimize front axle side-to-side movement. Stabilizer bar and shock absorbers control suspension spring movement.

Wrangler models use leaf spring front suspension with shock absorbers, stabilizer bar and a track bar.

## ADJUSTMENTS & INSPECTION

### WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES

NOTE: See SPECIFICATIONS & PROCEDURES article in WHEEL ALIGNMENT.

### WHEEL BEARING

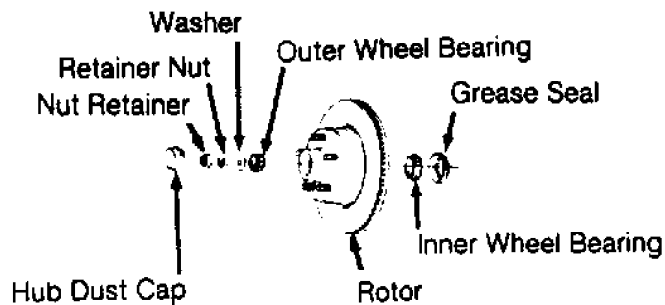
NOTE: Wheel bearings on all 4WD models are nonadjustable. If wheel bearings require service, see WHEEL BEARINGS under REMOVAL & INSTALLATION.

2WD

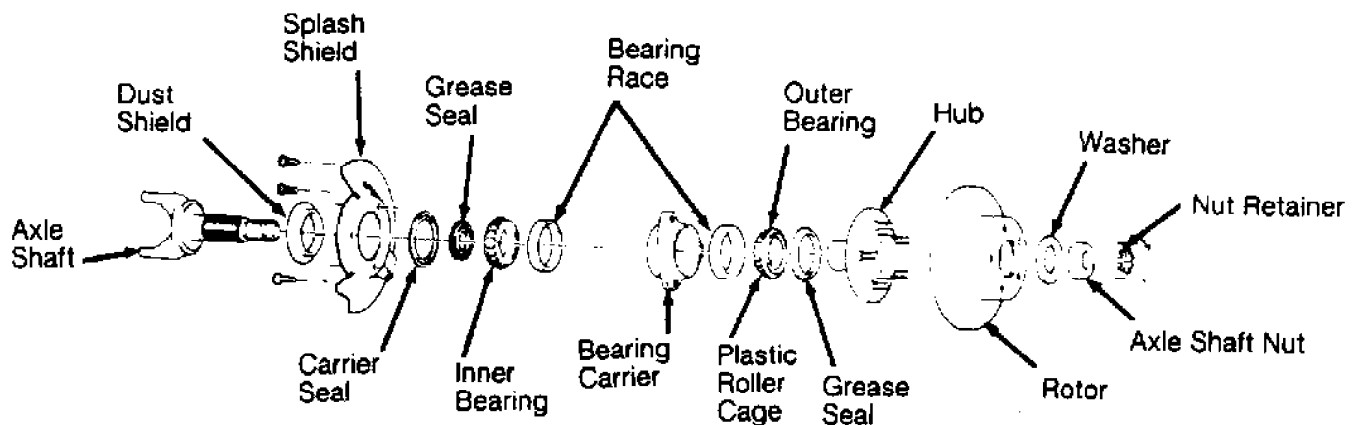
1) Raise and support vehicle. Turn wheel by hand while placing fingers of free hand on rotor shield. If any roughness is detected proceed to WHEEL BEARINGS under REMOVAL & INSTALLATION. Remove wheel and tire assembly. See Fig. 1.

2) Remove hub dust cap, cotter pin and nut retainer. Ensure bearings are thoroughly packed with lithium grease. Rotate hub and rotor assembly by hand, tighten retainer nut to 21 ft. lbs. (29 N.m) to seat bearings.

3) Loosen retainer nut 1/2 turn while rotating hub. Then retighten nut to 19 INCH lbs. (2 N.m). Install nut retainer and new cotter pin. Clean hub dust cap and coat inside with clean grease. Reverse removal procedure for remaining components.



2WD MODELS



4WD MODELS

Fig. 1: 2WD Hub/Rotor Assy. & 4WD Hub/Bearing Carrier Assy.  
Courtesy of Chrysler Corp.

## REMOVAL & INSTALLATION

### WHEEL BEARINGS

#### Removal (2WD)

1) Raise and support vehicle. Remove wheel assembly. Remove brake caliper and suspend caliper with wire. DO NOT allow caliper to hang on brake hose.

2) Remove hub dust cap, cotter pin, nut retainer, nut, washer and outer wheel bearing. Remove rotor and hub assembly. Pry grease seal from hub. Remove inner wheel bearing.

**WARNING:** DO NOT allow bearings to spin freely when drying with compressed air. Damage to bearings or serious injury could occur.

#### Inspection

Clean bearings and hub in solvent and dry with compressed air. Inspect bearings and races for damage or excessive wear.

#### Installation (2WD)

To install, reverse removal procedure. Pack bearings with wheel bearing grease. Adjust wheel bearings. See WHEEL BEARING under

## ADJUSTMENTS & INSPECTION.

NOTE: On 4WD models, front wheel bearings cannot be serviced separately. If defective, hub and bearing must be replaced as an assembly. See HUB & BEARING under REMOVAL & INSTALLATION in FRONT AXLES article in DRIVE AXLES.

## SHOCK ABSORBER

### Removal & Installation

With vehicle at normal ride height, remove nut, washer and rubber grommet from top of shock absorber. Raise and support vehicle. Remove lower shock mounting bolts from axle housing bracket. Remove shock absorber. Inspect units for damage or leakage. To install, reverse removal procedure.

## STEERING KNUCKLE

### Removal

1) Raise and support vehicle. Remove wheel, disc brake caliper, rotor, cotter pin, nut retainer, and axle hub nut. Remove hub-to-steering knuckle attaching bolts. Remove hub and rotor shield from steering knuckle. Remove axle shaft from axle tube. See FRONT AXLES article in DRIVE AXLES.

NOTE: DO NOT disconnect caliper unless service is needed. Support caliper with wire to prevent hose damage.

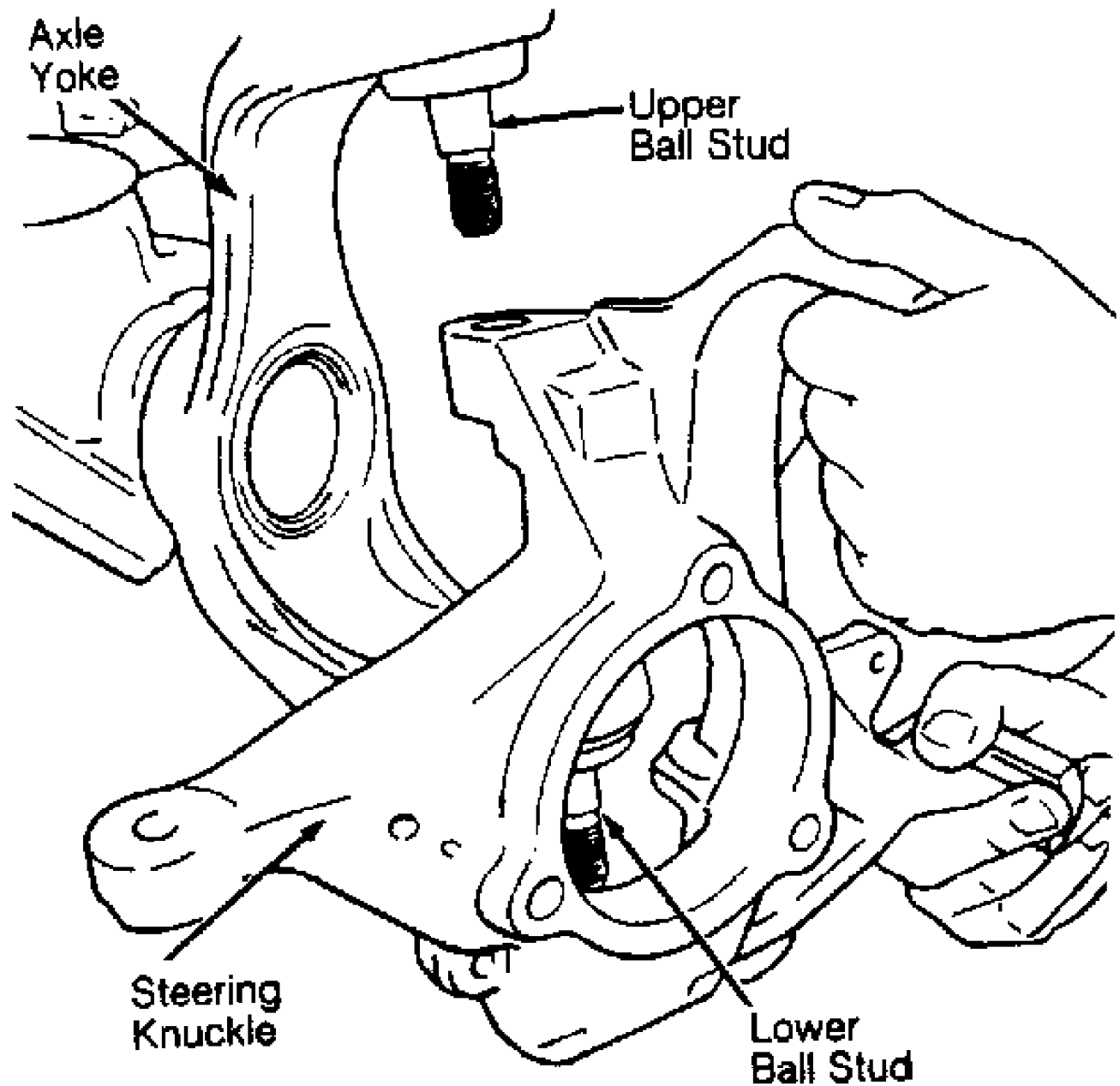
2) On models with front axle shift motor, remove outer axle shaft from right axle tube. Leave shift collar on intermediate shaft. On all models, remove caliper anchor plate from steering knuckle. Remove steering knuckle and ball joint cotter pins. Remove ball joint nuts. Strike steering knuckle at ball joint stud boss with a brass hammer to loosen knuckle from ball joint studs. Remove steering knuckle. See Fig. 2.

### Installation

1) Position steering knuckle over ball joint studs and install nuts. Tighten nuts to specification. Install NEW cotter pins. Install caliper anchor plate and tighten bolts to specification. See TORQUE SPECIFICATIONS TABLE at the end of this article. Install axle shafts into axle tubes.

2) On vehicles with front axle shift motor, ensure shift collar is correctly positioned on intermediate axle shaft, install axle into shift collar inside axle tube. Ensure axle shaft is completely engaged with shift collar.

3) On all models, apply bearing grease to spindle hub bore in steering knuckle and install rotor shield and hub. Tighten spindle hub bolts. Install hub washer and nut. Tighten hub nut to specification. Install hub nut retainer and install NEW cotter pin. Install rotor, caliper and wheel. Lower vehicle.



## 92G21838

Fig. 2: Removing & Installing Steering Knuckle Assembly  
Courtesy of Chrysler Corp.

### ANTI-LOCK BRAKE WHEEL SPEED SENSOR

Removal & Installation (Cherokee 4WD, Grand Cherokee & Grand Wagoneer)

1) Raise and support front of vehicle. Note sensor wire routing for installation reference. Clean area around sensor to prevent damage during removal. Remove wheel speed sensor from steering knuckle. Unseat sensor wire retaining grommet.

2) Inside engine compartment, unplug sensor connector from anti-lock harness connector. Remove sensor. To install, reverse removal procedure. See Fig. 3.

NOTE: Air gap between ABS wheel speed sensor and tone wheel is not adjustable.

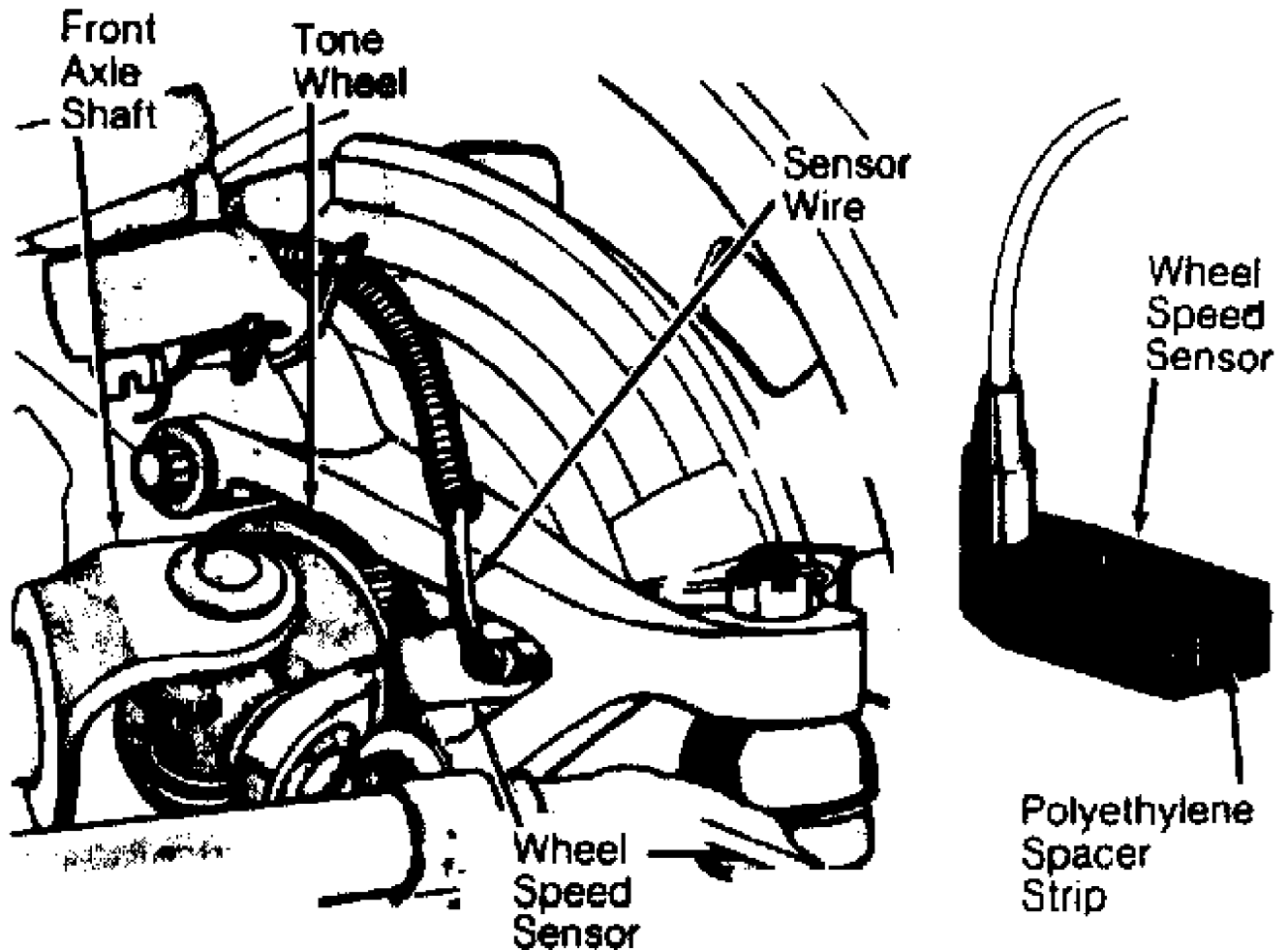


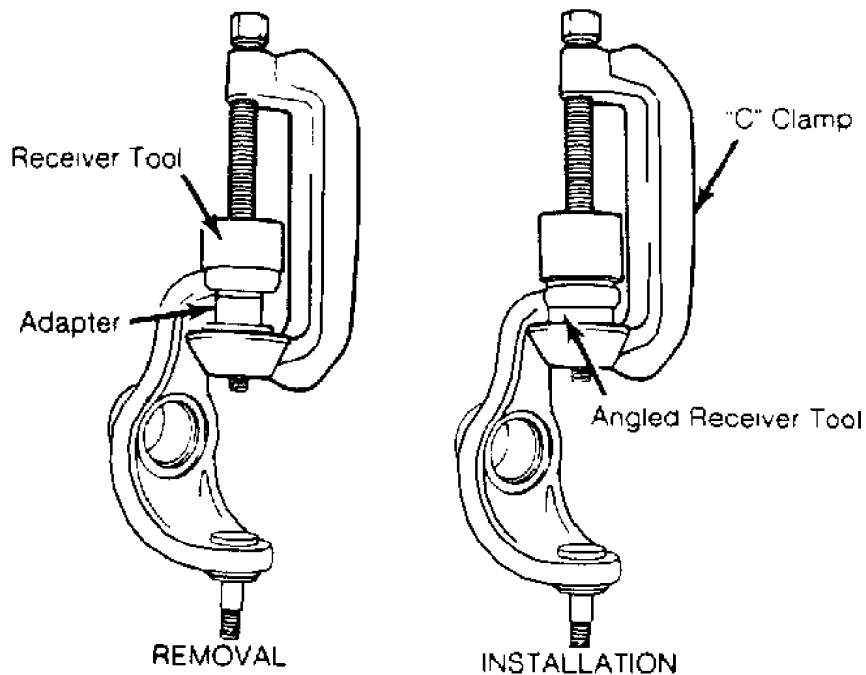
Fig. 3: Locating Anti-Lock Brake Wheel Speed Sensor  
Courtesy of Chrysler Corp.

### UPPER & LOWER BALL JOINTS

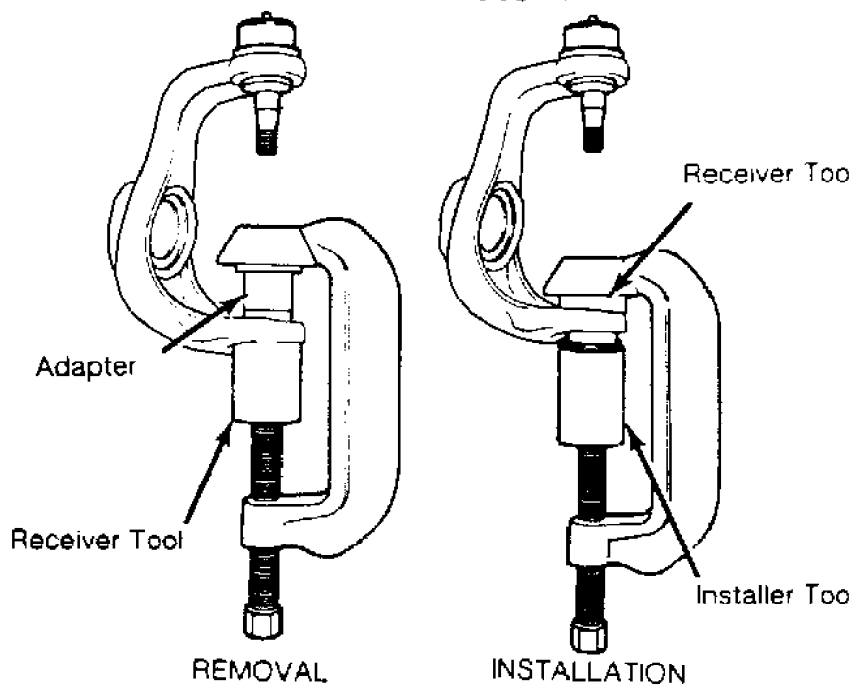
#### Removal

1) Remove steering knuckle assembly. See STEERING KNUCKLE. To remove upper ball joint, install Receiver (J-34503-1) over top of upper ball joint. Place Adapter (J-34503-3) in "C" clamp. Install "C" clamp, adapter and receiver. Tighten "C" clamp screw to remove ball joint. See Fig. 4.

UPPER BALL JOINT



LOWER BALL JOINT



30213

Fig. 4: Removing & Installing Ball Joint  
Courtesy of Chrysler Corp.

2) To remove lower ball joint, position Receiver (J-34503-1) onto "C" clamp and Adapter (J-34503-3) at base of clamp. See Fig. 4.

Install "C" clamp, adapter and receiver. Tighten "C" clamp to remove ball joint. See Fig. 4.

#### Installation

1) Place upper ball joint in position. Position Ball Joint Installer (J-34503-5) over new upper ball joint. Install Receiver (J-34503-12) and "C" clamp. Tighten "C" clamp and fully seat ball joint. See Fig. 4.

2) To install lower ball joint, position Ball Joint Installer (J-34503-4), "C" clamp and Receiver (J-34503-12). See Fig. 4. Tighten "C" clamp to install ball joint. Ensure ball joint is fully seated. Install steering knuckle. See TORQUE SPECIFICATIONS TABLE at the end of this article.

## COIL SPRING

#### Removal & Installation

1) Raise and support vehicle on frame rails. Remove wheel assembly. On 4WD models, Place reference mark on drive shaft and front axle flanges. Disconnect drive shaft at front axle.

2) Place jack stand under axle housing. Disconnect lower control arms at axle housing. Disconnect stabilizer bar links and lower shock absorber mounting bolts at axle housing. Disconnect track bar at frame rail bracket. Disconnect tie rod from pitman arm.

3) Lower axle housing to relieve spring pressure. Remove spring retainer mounting bolt. Remove spring retainer and coil spring. Note component location for reassembly reference. To install, reverse removal procedure.

## LEAF SPRING

#### Removal & Installation

1) Raise and support vehicle. Raise axle assembly with jack to relieve spring tension. Remove wheels and loosen stabilizer bar link nut.

2) Remove spring "U" bolts and plate. Remove spring-to-front shackle bolt and spring-to-rear frame hanger bolt. Remove spring. To install, reverse removal procedure. Ensure spring center bolt is seated in axle housing. Tighten spring-to-front shackle bolt and spring-to-rear frame hanger bolt with vehicle at normal operating height. See TORQUE SPECIFICATIONS TABLE at the end of this article.

## UPPER CONTROL ARM & AXLE HOUSING PIVOT BUSHING

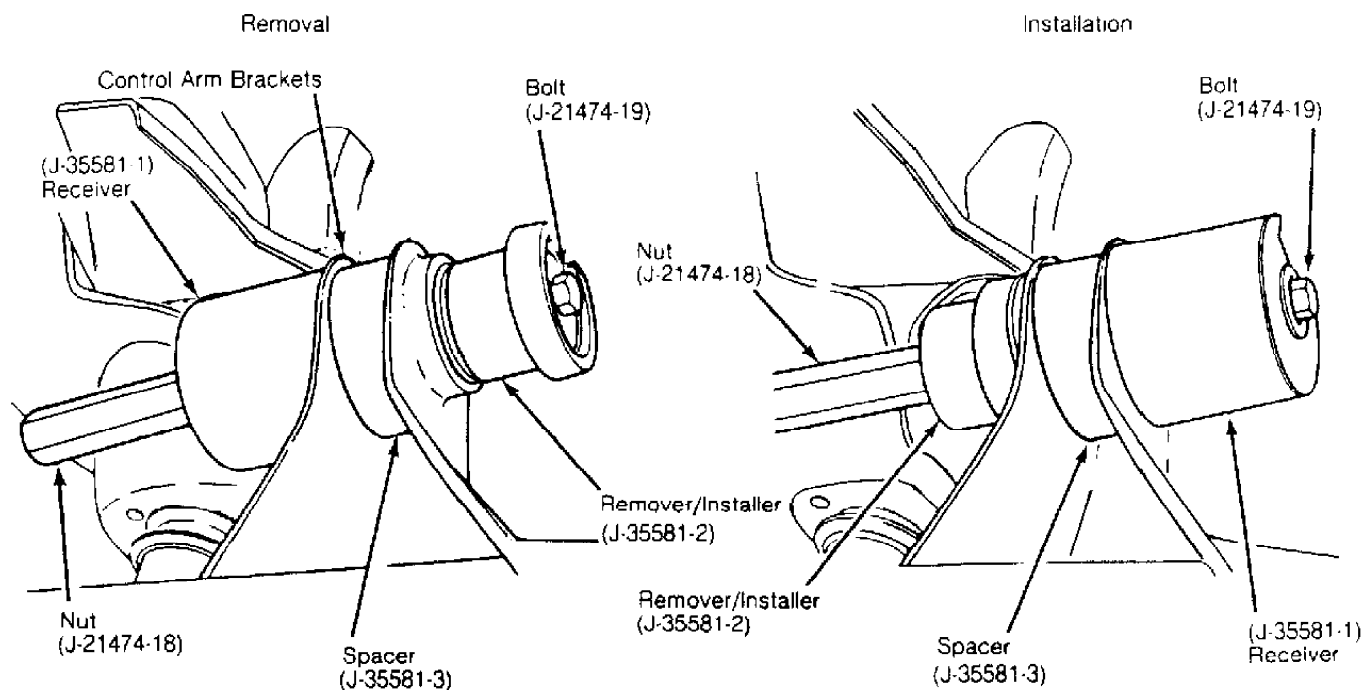
#### Removal & Installation

1) Raise vehicle and remove upper control arm mounting bolt from axle housing. Disconnect control arm mounting bolt at frame rail. Remove upper control arm.

2) Inspect control arm for damage or distortion and replace as needed. Check pivot bushings for excessive distortion, deterioration or wear.

3) If pivot bushing requires replacement, on 2WD models, install Spacer (J-33581-3) between ears of control arm bracket on axle housing. See Fig. 5.

**NOTE:** Spacer (J-33581-3) is not used on 4WD models, as solid control arm brackets are used. DO NOT attempt to remove upper control arm pivot bushing on 2WD models without spacer. Axle bracket will be distorted if spacer is not used.



30214

Fig. 5: Removing & Installing Upper Control Arm Bushing  
 Courtesy of Chrysler Corp.

4) Install Bushing Remover/Installer Set (J-35581, which includes Spacer J-35581-3, Remover/Installer J-35581-2, Receiver J-35581-1, Bolt J-21474-19 and Nut J-21474-18) onto pivot bushing. See Fig. 5.

5) Rotate nut to press bushing from axle housing and into receiver. See Fig. 5. Once bushing is removed, remove bushing remover/installer components.

CAUTION: On 2WD models, spacer must remain installed for bushing installation.

6) Position bushing on Remover/Installer (J-35581-2) and Nut (J-21474-18). Position bushing and installer components in control arm bracket. Assemble remaining installer components. See Fig. 5.

7) Rotate nut to press bushing into housing until fully seated in bore. See Fig. 5. Remove bushing installer components. To install upper control arm, reverse removal procedure.

## LOWER CONTROL ARM

### Removal & Installation

Raise and support vehicle. Support axle. Disconnect lower control arm mounting bolts at axle housing and frame brackets. Remove lower control arm. To install, reverse removal procedure.

## TRACK BAR

### Removal & Installation

1) Raise and support vehicle. Remove cotter pin (if used) and nut at frame rail bracket. Remove track bar-to-axle housing bracket.

2) On all models except Wrangler, track bar is fastened to frame bracket with a tapered rod end, similar to a tie rod. Use of a puller may be necessary to free track bar from bracket. Remove track



bar. To install, reverse removal procedure.

## FRONT STABILIZER BAR

### Removal & Installation

1) Raise and support vehicle. Disconnect stabilizer bar from stabilizer bar links. Remove stabilizer bar bracket-to-frame bolts. Remove brackets. Remove stabilizer bar and bushings.

2) To install, lubricate stabilizer bar bushings and grommets with rubber lubricant. Install stabilizer bar link brackets on axle (if removed). Tighten to specification. Install stabilizer bar and brackets on the frame. DO NOT tighten bolts at this time.

3) Install stabilizer bar-to-link bolts. Tighten stabilizer bracket-to-frame bolts to specification and then tighten stabilizer bar link bolts. See TORQUE SPECIFICATIONS TABLE at the end of this article.

## TORQUE SPECIFICATIONS

### TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)
Except Wrangler	
Axle Shaft Nut	175 (237)
Ball Joint Nut	75 (102)
Bearing Assembly-To-Steering Knuckle Bolt	75 (102)
Brake Caliper	
Anchor Bolt	77 (104)
Mounting Pin	30 (41)
Control Arm Bolt	
Upper	
At Axle	55 (75)
At Frame	66 (89)
Lower	133 (180)
Shock Absorber Nut (Lower)	14 (19)
Stabilizer Bar	
Frame Bolt	55 (75)
Link Bolt	27 (37)
Stabilizer Bar Link-To-Bracket Bolt	70 (95)
Tie Rod-To-Steering Knuckle Nut	35 (47)
Track Bar	
Frame Rail Bracket Nut	63 (85)
Axle Mount Bolt	74 (100)
Wheel Bearing Outer Lock Nut	50 (68)
Wheel Lug Nut	88-110 (119-149)
Wheel Speed Sensor Bolt	11 (15)
Wrangler	
Axle Shaft Nut	175 (237)
Ball Joint Nut	75 (102)
Bearing Assembly-To-Steering Knuckle Bolt	75 (102)
Brake Caliper	
Anchor Bolt	77 (104)
Mounting Pin	30 (41)
Shock Absorber	
Lower Bolt	45 (61)
Upper Stud Nut	10 (14)
Spring-To-Frame Bracket Bolt	105 (142)
Spring-To-Front Shackle Bolt	95 (129)
Spring "U" Bolt Nut	90 (122)
Stabilizer Bar	
Link Bolt	45 (61)

Mounting Bracket Bolt .....	55 (75)
Stabilizer Bar Link-To-Spring Bracket Nut .....	45 (61)
Tie Rod-To-Steering Knuckle Nut .....	35 (47)
Track Bar Bolt .....	74 (100)
Wheel Bearing Outer Lock Nut .....	50 (68)
Wheel Lug Nut .....	88-110 (119-149)

INCH Lbs. (N.m)

Axle Shift Motor Bolt .....	101 (11)
Shock Absorber Nut (Upper) .....	96 (10)

---