

SUSPENSION - FRONT

1988 Jeep Cherokee

1988 FRONT SUSPENSION
Jeep Coil & Leaf Spring

Cherokee, Comanche, Grand Wagoneer, Wagoneer, Wrangler

DESCRIPTION

Cherokee, Comanche and Wagoneer 2WD and 4WD front suspensions consist of solid axle (tubular axle on 2WD), 4 control arms, 2 coil springs and track bar. Track bar is used to minimize front axle side-to-side movement. Stabilizer bar and shock absorbers control suspension spring movement.

Grand Wagoneer and Wrangler models use leaf spring front suspension with shock absorbers and stabilizer bar. Wrangler also uses a track bar to maintain lateral position of front and rear axles.

ADJUSTMENTS

WHEEL ALIGNMENT

See WHEEL ALIGNMENT SPECIFICATIONS & PROCEDURES in WHEEL ALIGNMENT section.

WHEEL BEARING

NOTE: Bearings should be cleaned, inspected, replaced (if necessary) and lubricated before adjustment.

CAUTION: Never preload tapered roller bearings or damage to roller ends will result. Bearings are designed to have a slightly loose feel when properly adjusted.

2WD Models

1) Raise and support vehicle. Remove wheel and tire assembly. Remove hub dust cap, cotter pin and nut retainer. Ensure bearings are thoroughly packed with lithium grease.

2) Rotate hub and rotor assembly by hand, and tighten retainer nut to 17-25 ft. lbs. (23-34 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.

4WD Models (Grand Wagoneer)

1) On models equipped with locking hubs, remove locking hubs. See appropriate LOCKING HUBS article. On models without locking hubs, remove hub dust cap and drive gear snap ring. See Fig. 1.

2) Remove drive gear, pressure spring and spring cup. On all models, remove outer lock nut and lock washer. Tighten inner lock nut to 50 ft. lbs. (68 N.m) while rotating wheel.

3) Back off inner lock nut 45-65 degrees while rotating wheel. Install washer and outer lock nut. Tighten outer lock nut to 50 ft. lbs. (68 N.m). Reverse removal procedure to complete installation.

REMOVAL & INSTALLATION

WHEEL BEARINGS

Removal (2WD Models)

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

2) Remove hub dust cap, cotter pin, nut retainer, retainer nut, washer and outer wheel bearing. See Fig. 1. Remove hub and rotor assembly. Pry grease seal from hub. Remove inner wheel bearing.

Inspection

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

Installation

To install, reverse removal procedure. Adjust wheel bearing. See WHEEL BEARING under ADJUSTMENTS in this article.

Removal

(4WD Grand Wagoneer)

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

2) On models equipped with locking hubs, remove locking hubs. See appropriate LOCKING HUBS article. On all other models, remove hub dust cover and drive gear snap ring. See Fig. 1.

3) Remove drive gear, pressure spring and spring cup. On all models, remove outer lock nut, lock washer, inner lock nut and outer wheel bearing. Remove hub. Pry grease seal from hub. Remove inner wheel bearing.

Inspection

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

Installation

To install, reverse removal procedure. Adjust wheel bearings. See WHEEL BEARINGS under ADJUSTMENTS in this article.

Removal

(4WD Models Except Grand Wagoneer)

1) Raise and support vehicle. Remove wheel assembly. Remove brake caliper. Suspend caliper with wire. Remove cotter pin, nut retainer and axle shaft nut. Remove hub/carrier assembly from steering knuckle. See Fig. 1.

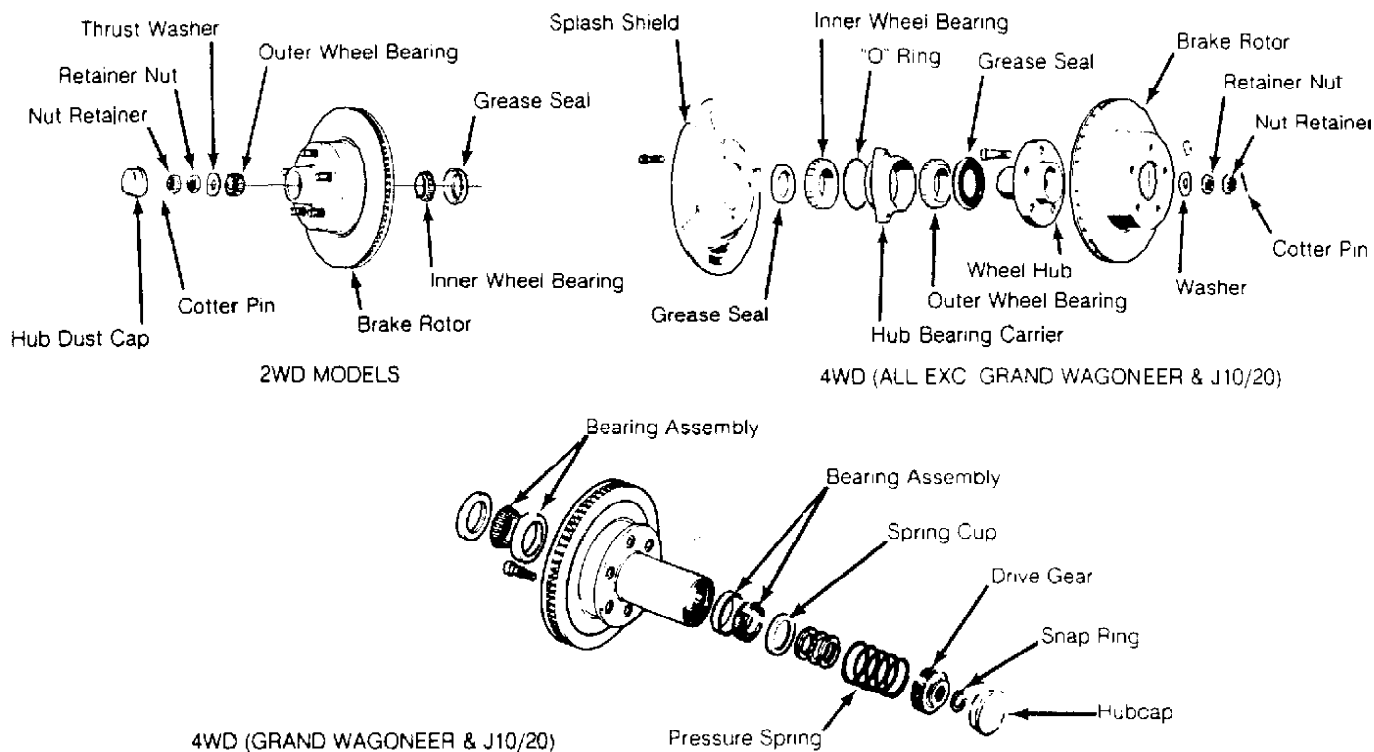
2) Inspect bearings for roughness. If bearing roughness exists, disassemble hub assembly.

Inspection

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

Installation

Ensure hub, bearing carrier and wheel bearings are packed with clean lithium grease. Reassemble hub assembly using new grease seal. Reverse removal procedure. Tighten bolts to specification. Install new cotter pin.



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Fig. 1: Exploded View Of 2WD Hub/Rotor Assembly & 4WD Hub/Bearing Carrier Assembly
 Courtesy of Chrysler Motors.

SHOCK ABSORBER

Removal & Installation

1) With vehicle at normal riding height, remove nut, washer, and rubber grommet from top of shock absorber. Note component locations for reassembly reference.

2) Raise and support vehicle. Remove lower shock mounting bolts from axle housing bracket. Remove shock absorber. Inspect units for damage or leakage. Replace shock absorbers in pairs only. To install, reverse removal procedure.

STEERING KNUCKLE

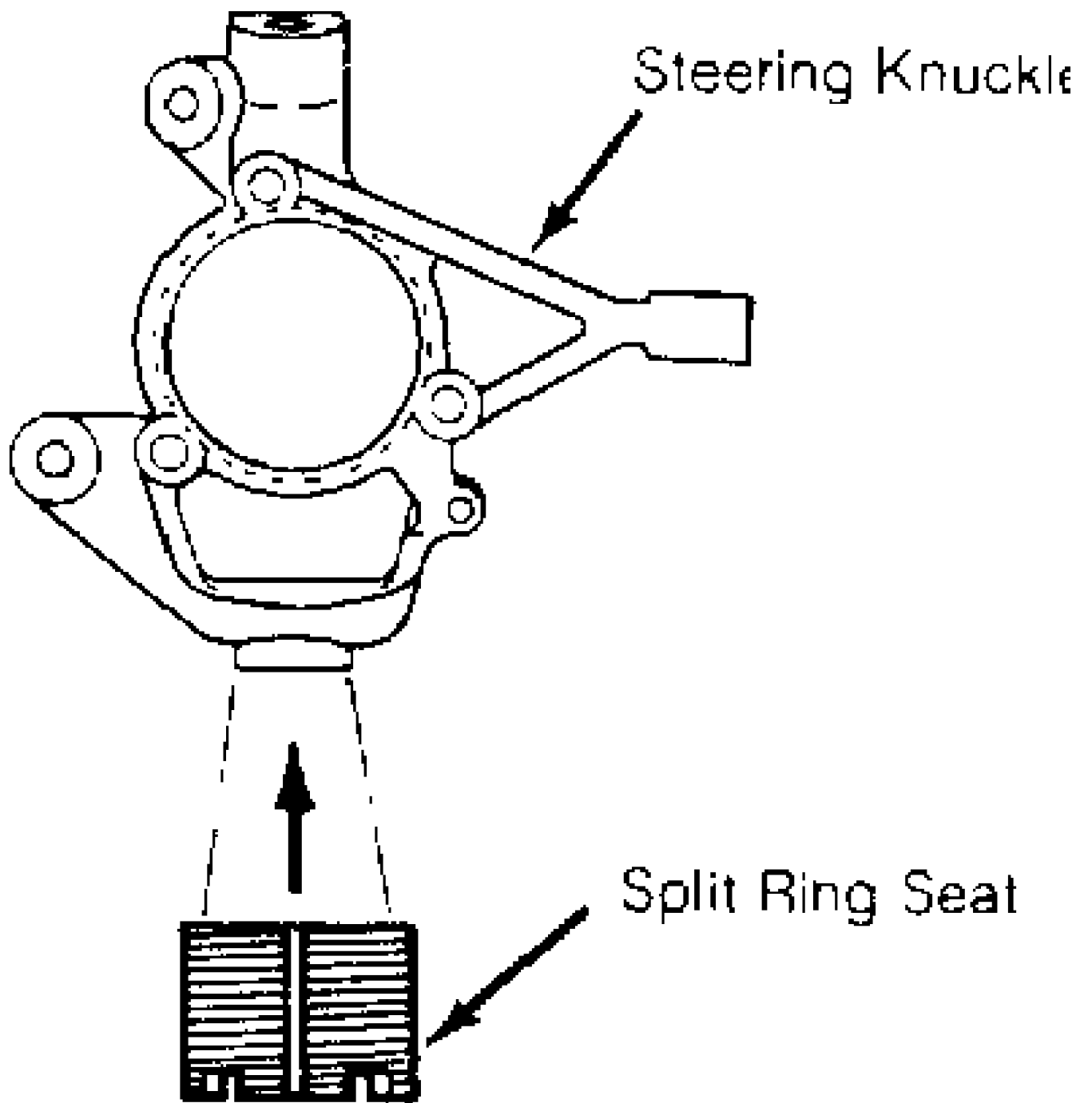
Removal

1) Raise and support vehicle. Remove wheel assembly. Remove brake caliper. Suspend caliper with wire. Remove brake rotor or hub/bearing carrier assembly. See WHEEL BEARINGS in this article.

2) Remove axle shaft from left side of axle housing. To remove right axle shaft, disconnect vacuum harness from shift motor. Remove shift motor and axle shaft from housing. Remove caliper anchor plate from steering knuckle.

3) On each steering knuckle, remove ball joint stud cotter pin and retaining nuts. Using brass hammer, strike steering knuckle at ball joint stud bore area to loosen ball joint from steering knuckle.

4) Inspect split ring seat in steering knuckle ball joint stud bore for damage. If damaged, use Split Ring Seat Remover/Installer to remove split ring seat.



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Fig. 2: Determining Steering Knuckle
Split Ring Seat Position
Courtesy of Chrysler Motors.

Installation

1) If split ring seat is replaced, ensure seat is adjusted to proper depth into steering knuckle ball joint stud bore. Using split ring seat remover /installer, install split ring seat to a depth of .206" (5.23 mm).

2) This depth is measured from steering knuckle surface to top (notched edge) of split ring seat. See Fig. 2. To install, reverse removal procedures.

3) When installing right axle shaft, ensure shift collar is positioned on intermediate shaft and axle shaft is fully engaged over intermediate shaft. Install shift motor. Ensure shift fork engages with collar. Tighten all bolts to specification.

UPPER & LOWER BALL JOINTS

Removal

1) Raise and support vehicle. Remove wheel assembly. Inspect upper and lower ball joints for damage, torn grease seals or excessive wear. Replace as necessary.

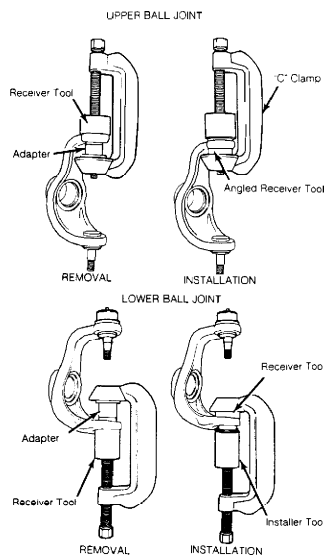
2) Remove steering knuckle assembly. See STEERING KNUCKLE in this article. Position Ball Joint Receiver (J-34503-1) over top of upper ball joint. Place Adapter (J-34503-3) in "C" Clamp (J-34503). Install "C" clamp, adapter and receiver. Tighten "C" clamp screw to remove ball joint. See Fig. 3.

3) To remove lower ball joint, position Ball Joint Receiver (J-34503-1) onto "C" Clamp (J-34503) and Adapter (J-34503-3) at base of clamp. See Fig. 3. Install "C" clamp, adapter and receiver. Tighten "C" clamp to remove ball joint. See Fig. 3.

Installation

1) Place upper ball joint in position. Position Ball Joint Installer (J-34503-3) over new upper ball joint. Install Receiver (J-34503-2) and "C" clamp. Position clamp, and receiver against axle housing bracket, over installer and ball joint. Tighten "C" clamp and fully seat ball joint. See Fig. 3.

2) To install lower ball joint, position Ball Joint Installer (J-34503-12), "C" clamp and Receiver (J-34503-4) See Fig. 3. Tighten "C" clamp to install ball joint. Ensure ball joint is fully seated. Reverse removal procedures for remaining components. Tighten bolts to specification.



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Fig. 3: Removing & Installing Upper & Lower Ball Joints
Courtesy of Chrysler Motors.

COIL SPRING

Removal

1) Raise and support vehicle. Remove wheel assembly. Place reference mark on drive shaft and front axle flange. Disconnect drive shaft at front axle. Place jack stand under axle housing. Disconnect lower control arms at axle housing.

2) Disconnect stabilizer bar links and lower shock absorber mounting bolts at axle housing. Disconnect track bar at the sill bracket (if equipped). Disconnect center link at pitman arm.

3) Lower axle housing to relieve spring pressure. Remove spring retainer mounting bolt, then remove retainer and coil spring. Note component locations for reassembly reference.

NOTE: Coil springs are rated separately for each side of vehicle depending on optional equipment and type of service. Ensure springs are marked for installation in original positions.

Installation

1) Install coil spring and spring retainer. Tighten retainer mounting bolt. Raise axle housing into position. Connect lower control arms to axle housing.

2) Install lower shock absorber mounting bolts, center link-to-pitman arm, track bar-to-frame bracket and stabilizer bar links-to-axle housing. To complete installation, reverse removal procedure.

LEAF SPRING

Removal & Installation

Raise and support vehicle. Raise axle assembly with jack to relieve spring tension. On Wrangler models, loosen stabilizer bar link nut. On all other models, remove stabilizer bar. Remove spring "U" bolts and plate. Disconnect front and rear shackles from frame. Lower spring assembly. To install, reverse removal procedure.

UPPER CONTROL ARM &

AXLE HOUSING PIVOT BUSHING

Removal

1) To remove right side upper control arm for 6-cylinder models, disconnect right side engine mount. Raise and support engine so rear control arm mounting bolt clears exhaust pipe. On all models, raise and support vehicle.

2) Remove upper control arm mounting bolt from axle housing. Disconnect control arm mounting bolt at frame rail. Remove upper control arm. Repeat procedure for opposite control arm. Inspect control arm for damage or distortion and replace as needed.

3) Check pivot bushings for excessive distortion, deterioration or wear. If bushing replacement is necessary, install Spacer (J-33581-3) between ears of control arm bracket on axle housing. See Fig. 4.

NOTE: Spacer is not used on axle housings with solid control arm brackets.

CAUTION: Do not attempt to remove upper control arm pivot bushing without spacer. Tool is designed to support bracket and prevent distortion during bushing removal.

4) Install Upper Control Arm Pivot Bushing Remover/Installer Set (J-35581, which must include Spacer J-35581-3, Remover/Installer

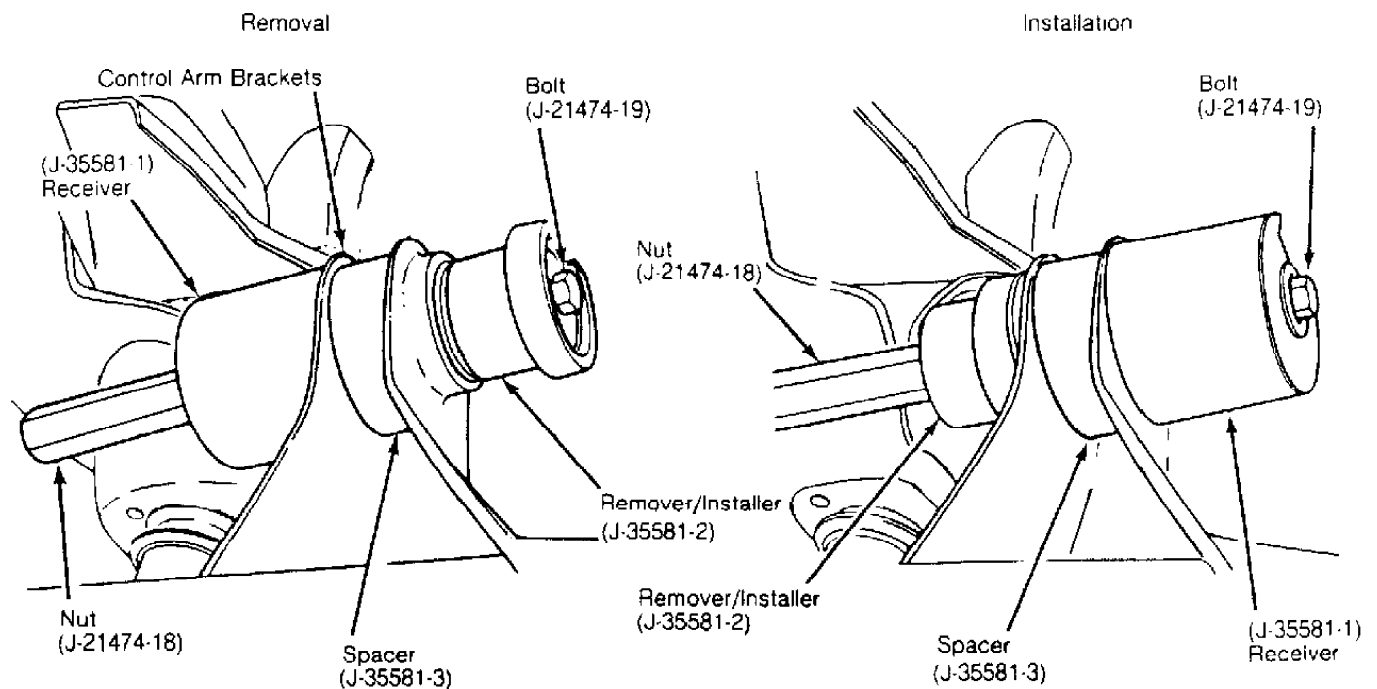
J-35581-2, Receiver J-35581-1, Bolt J-21474-19 and Nut J-21474-18) onto pivot bushing. See Fig. 4.

5) Rotate nut to press bushing from axle housing and into receiver. See Fig. 4. Once bushing is removed, remove bushing remover/installer set but leave spacer in position for new bushing installation.

Installation

1) 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. 4.

2) Rotate nut to press bushing into housing until fully seated in bore. See Fig. 4. Remove bushing installer components. Reverse removal procedure for remaining components.



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Fig. 4: Removing & Installing Upper Control Arm Bushing
Courtesy of Chrysler Motors.

LOWER CONTROL ARM & BUSHING

Removal

1) Raise and support vehicle. Disconnect lower control arm mounting bolts at axle housing and frame brackets. Remove lower control arm.

2) Inspect control arm for damage and bushings for excessive distortion or wear. Replace control arm and/or bushings as necessary.

Installation

Position lower control arm in front and rear brackets. Install mounting bolts and nuts. Tighten mounting bolts to specification.

TRACK BAR

Removal

1) Raise and support vehicle. Remove cotter pin and mounting

nut at frame rail bracket. Remove retaining bolt at axle housing bracket. Remove track bar. Inspect track bar and bushing for damage or wear. Replace as needed.

2) If a snapping noise was noted at the front of vehicle, inspect track bar bushing inner sleeve for signs of wear. If sleeve has been contacting axle bracket, spread bracket flanges approximately 1/8" to provide space for a Hardened Washer Part No. (G2436163).

Installation

1) Position track bar in axle housing bracket. Install spacer/washer between rear flange of bracket and track bar bushing. DO NOT install spacer/washer at the front of bracket.

2) Loosely install mounting bolt. Ensure mounting bolt passes through spacer/washer. Connect track bar at frame rail bracket. Tighten ball stud mounting nut-to-frame rail bracket. Tighten all bolts to specification. Install new cotter pin.

FRONT STABILIZER BAR & LINKS

Removal

1) Raise and support vehicle. Disconnect stabilizer bar from upper portion of stabilizer bar links. Note location of grommets and washers for reassembly reference.

2) Disconnect stabilizer bar from frame rail brackets. Remove stabilizer bar. Inspect bar for damage. Check rubber grommets, bushings and bracket supports for distortion and/or deterioration. Replace worn components as necessary.

3) If necessary, disconnect lower links at axle housing brackets and remove. Inspect links for damage and rubber grommets for excessive wear, distortion and/or deterioration. Replace components as necessary.

Installation

1) Lubricate stabilizer bar bushings and grommets with rubber grease. Connect links to axle housing brackets. Install washers and rubber grommets on links.

2) Install rubber bushings and brackets onto stabilizer bar and connect components to frame rails. Connect stabilizer bar to stabilizer links. Tighten mounting bolts to specification.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)
Axle Shaft Nut	175 (237)
Brake Caliper Anchor Plate Bolt	70-85 (95-115)
Brake Caliper-to-Anchor Plate Pin	25-35 (34-48)
Center Link-To-Pitman Arm Nut	25-45 (34-61)
Control Arm To-Axle Housing Bracket Bolt	
Lower	118-148 (160-200)
Upper	48-63 (65-85)
Upper Frame Bolt	59-74 (80-100)
Drive Shaft "U" Joint Strap Bolt	12-17 (16-23)
Lug Nuts	75 (102)
Shock Absorber Lower Mounting Bolt	
W/Coil Springs	12-16 (16-22)

W/Leaf Springs	35-55	(48-75)
Upper Nut		
Grand Wagoneer	25-40	(34-54)
All Others	14	(19)
Spring-to-Frame Bracket Bolt	95-115	(129-156)
Spring-to-Shackle Bolt	85-105	(115-142)
Spring "U" Bolt		
9/16" x 18	85-105	(115-142)
1/2" x 20	45-65	(61-88)
Stabilizer Bar Mounting Bolt		
Grand Wagoneer	27-45	(37-61)
All Others		
Stabilizer Bar Bracket-to-Frame Rail		
W/Coil Springs	48-63	(65-85)
W/Leaf Springs	25-35	(34-48)
Stabilizer Bar Link-to-Axle		
Bracket Bolt	59-81	(80-110)
Stabilizer Bar Link-to-Axle		
Plate Nut	35-55	(48-75)
Stabilizer Bar-to-Link Bolt	35-55	(48-75)
Stabilizer Bar-to-Link Nut		
Grand Wagoneer	48-62	(65-84)
All Others	23-31	(31-42)
Steering Knuckle-to-Hub Bolt	75	(101)
Steering Knuckle-to-Ball		
Joint Mounting Nut		
W/Coil Springs	65-85	(88-115)
W/Leaf Springs	87-113	(118-153)
Steering Knuckle-to-		
Tie Rod Nut	25-45	(34-61)
Track Bar Bracket-to-Frame		
Rail Bolt	66-81	(90-110)
Track Bar Bracket-to-Axle Nut	66-81	(90-110)
Track Bar-to-Frame Bracket Nut	30-40	(41-54)
