

STABILIZER BAR

REMOVAL

- (1) Raise and support the vehicle.
- (2) Remove the tire and wheel assembly.
- (3) Remove the upper stabilizer link bolts at the stabilizer bar.
- (4) Remove the stabilizer bar bushing clamps from the frame (Fig. 8).
- (5) Remove the stabilizer bar from the vehicle.

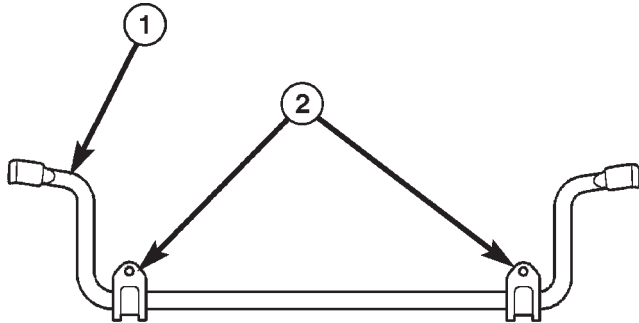


Fig. 8 SWAY BAR

- 1 - SWAY BAR
- 2 - SWAY BAR BUSHINGS

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INSTALLATION

- (1) Install the stabilizer bar to the vehicle.
- (2) Install the stabilizer bar bushing clamps (Fig. 8). Tighten the nuts to 149 N·m (110 ft.lbs.).
- (3) Install the upper stabilizer link bolts and washer at the stabilizer bar. Tighten the bolt to 136 N·m (100 ft.lbs.).
- (4) Install the tire and wheel assembly. (Refer to 22 - TIRES/WHEELS/WHEELS - STANDARD PROCEDURE).
- (5) Lower the vehicle.

STABILIZER LINK

REMOVAL

- (1) Raise and support the vehicle.
- (2) Remove the tire and wheel assembly.
- (3) Remove the lower stabilizer link bolt at the lower control arm.
- (4) Remove the upper stabilizer link bolt at the stabilizer bar.
- (5) Remove the stabilizer link. (Fig. 9)

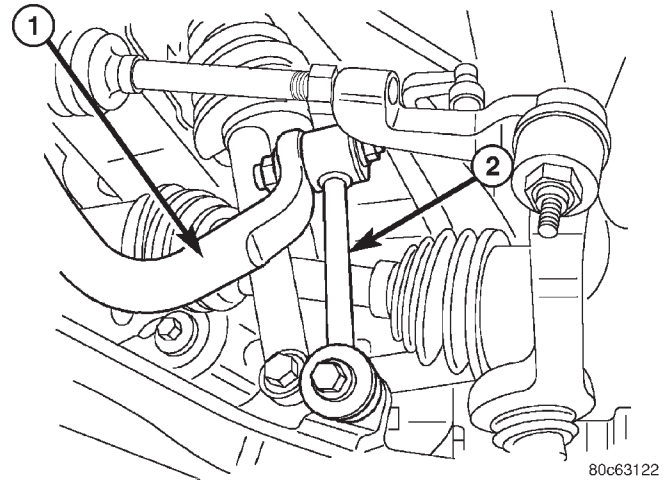


Fig. 9 STABILIZER BAR LINK

- 1 - STABILIZER BAR
- 2 - STABILIZER BAR LINK

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INSTALLATION

- (1) Install the stabilizer link (Fig. 9).
- (2) Install the upper stabilizer link bolt and washer at the stabilizer bar. Tighten the bolt to 136 N·m (100 ft.lbs.).
- (3) Install the lower stabilizer link bolt and washer at the lower control arm. Tighten the nut to 115 N·m (85 ft.lbs.).
- (4) Install the tire and wheel assembly. (Refer to 22 - TIRES/WHEELS/WHEELS - STANDARD PROCEDURE).

UPPER CONTROL ARM

REMOVAL

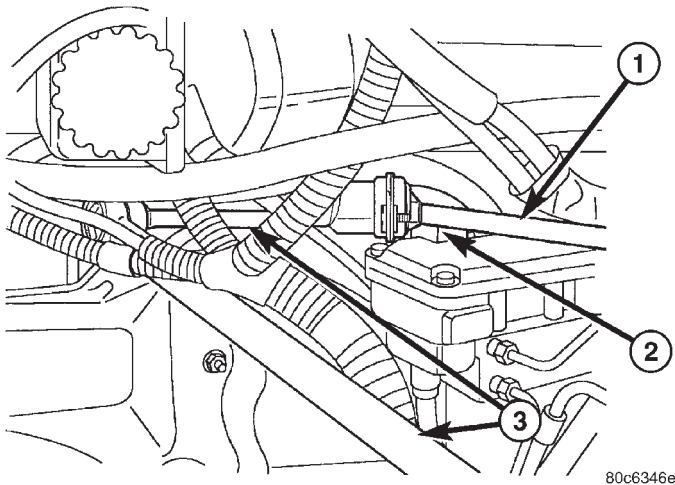
REMOVAL - RIGHT SIDE

- (1) Raise and support the vehicle.
- (2) Remove the right side tire and wheel assembly.
- (3) Remove the upper ball joint nut.
- (4) Separate the upper ball joint from the steering knuckle using tool C-4150A.
- (5) Lower the vehicle.
- (6) Remove the air box (Refer to 9 - ENGINE/AIR INTAKE SYSTEM/AIR CLEANER ELEMENT - REMOVAL).
- (7) Remove the cruise control servo mounting nuts.
- (8) Remove the upper control arm rear bolt.
- (9) Remove the upper control arm front bolt.
- (10) Remove the upper control arm from the vehicle.

UPPER CONTROL ARM (Continued)

REMOVAL - LEFT SIDE

- (1) Raise and support the vehicle.
- (2) Remove the left side tire and wheel assembly.
- (3) Remove the upper ball joint nut.
- (4) Separate the upper ball joint from the steering knuckle using tool C-4150A.
- (5) Lower the vehicle.
- (6) Remove the battery (Refer to 8 - ELECTRICAL/BATTERY SYSTEM/BATTERY - REMOVAL).
- (7) Unclip the power center and move it to the side out of the way.
- (8) Remove the battery tray (Refer to 8 - ELECTRICAL/BATTERY SYSTEM/TRAY - REMOVAL).
- (9) Disconnect the battery temperature sensor from the battery tray.
- (10) Remove the upper control arm rear bolt by using a ratchet and extension under the steering shaft and positioned by the power steering reservoir. (Fig. 10)



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Fig. 10 REAR BOLT

- 1 - STEERING SHAFT
- 2 - REAR BOLT
- 3 - RATCHET WITH AN EXTENSION

- (11) Remove the upper control arm front bolt.
- (12) Remove the upper control arm from the vehicle.

INSTALLATION

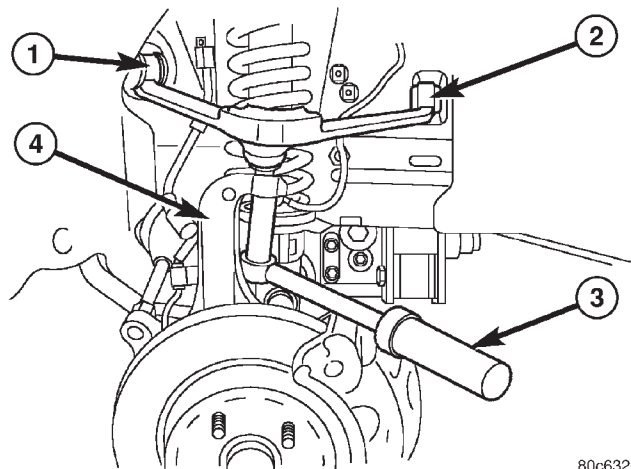
INSTALLATION - RIGHT SIDE

- (1) Install the upper control arm to the vehicle.
- (2) Install the upper control arm front bolt. Tighten the bolt to 122 N·m (90 ft.lbs.).
- (3) Install the upper control arm rear bolt. Tighten the bolt to 122 N·m (90 ft.lbs.).
- (4) Install the cruise control servo mounting nuts.

- (5) Install the air box (Refer to 9 - ENGINE/AIR INTAKE SYSTEM/AIR CLEANER ELEMENT - INSTALLATION).
- (6) Install the upper ball joint nut. Tighten the nut to 81 N·m (60 ft.lbs.).
- (7) Install the right side tire and wheel assembly. (Refer to 22 - TIRES/WHEELS/WHEELS - STANDARD PROCEDURE).
- (8) Lower the vehicle.
- (9) Set the toe and center the steering wheel (Refer to 2 - SUSPENSION/WHEEL ALIGNMENT - STANDARD PROCEDURE).

INSTALLATION - LEFT SIDE

- (1) Install the upper control arm to the vehicle.
- (2) Install the upper control arm front bolt (Fig. 11). Tighten the bolt to 122 N·m (90 ft.lbs.).
- (3) Install the upper control arm rear bolt (Fig. 11). Tighten the bolt to 122 N·m (90 ft.lbs.).
- (4) Reconnect the battery temperature sensor to the battery tray.
- (5) Install the battery tray (Refer to 8 - ELECTRICAL/BATTERY SYSTEM/TRAY - INSTALLATION).
- (6) Install the battery (Refer to 8 - ELECTRICAL/BATTERY SYSTEM/BATTERY - INSTALLATION).
- (7) Reclip and mount the power center.
- (8) Install the upper ball joint nut (Fig. 11). Tighten the nut to 81 N·m (60 ft.lbs.).



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Fig. 11 UPPER CONTROL ARM

- (9) Install the left side tire and wheel assembly. (Refer to 22 - TIRES/WHEELS/WHEELS - STANDARD PROCEDURE).
- (10) Lower the vehicle.
- (11) Set the toe and center the steering wheel (Refer to 2 - SUSPENSION/WHEEL ALIGNMENT - STANDARD PROCEDURE).

INSTALLATION INSTRUCTIONS

The steering knuckle must be replaced in any and all cases of broken, bent, or loose ball joint studs in knuckle.

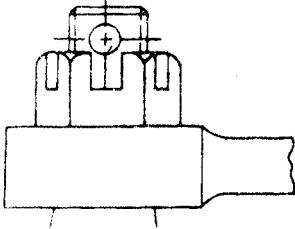
THESE INSTRUCTIONS MAY BE USED IN MORE THAN ONE KIT - PLEASE READ CAREFULLY BEFORE INSTALLING BALL JOINT

WARNING: Before attempting to remove stud from steering knuckle, make sure the stud of the old ball joint was firmly seated in the tapered hole of the steering knuckle. If the ball joint stud was loose in the steering knuckle, or if any out-of-roundness, deformation or damage is observed, the **STEERING KNUCKLE MUST BE REPLACED**. Failure to replace a damaged or worn steering knuckle may cause loss of steering ability because the ball joint **STUD MAY BREAK** and cause the wheel to separate from the vehicle.

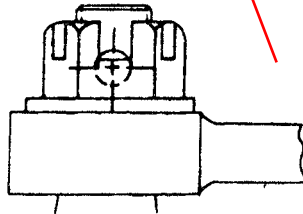
NOTE: The parts in this kit are designed to replace the worn or non-functioning original equipment parts in the vehicle as produced by the car factory. These parts are not designed for installation on vehicles where the suspension and/or steering systems have been modified for racing, competition, or any other purpose.

1. With vehicle firmly supported under lower control arm, remove tapered stud from steering knuckle with suitable taper breaker tool (never strike knuckle with hammer) and remove ball joint from control arm with suitable tool. Examine ball joint contact area of arm and make sure it is clean and free of cracks. **WARNING:** If any cracks or damage is found, the **CONTROL ARM MUST BE REPLACED**. Failure to replace a cracked or damaged control arm may cause loss of steering ability because the **CONTROL ARM MAY BREAK** and cause the wheel to separate from the vehicle.
2. Clean steering knuckle taper. Insert the new ball joint stud into the steering knuckle by hand and check the fit of the stud taper to the knuckle. Stud should seat firmly without rocking. Only threads should extend through the steering knuckle. If the parts do not meet these requirements, either the steering knuckle is worn and needs replacement, or incorrect parts are being used.
3. After examining control arm and steering knuckle and verifying these parts are reusable, proceed with installation by threading ball joint squarely into control arm until shoulder of ball joint is firmly seated against arm. **DO NOT** cross thread ball joint into control arm.
4. If torque required to seat the housing is less than 125 ft.-lbs., the control arm must be replaced. Slide dust boot supplied over stud and onto housing, then insert stud into steering knuckle, install washer if supplied only if a washer is on the car as original equipment (see illustration below). Improper use of washer will cause misalignment of nut slots and cotter pin hole.
5. Install slotted nut supplied and torque to the vehicle manufacturer's recommended specifications as shown in the original equipment service manual. When the torque specification has been reached for the particular size thread being tightened, locate cotter pin hole in stud and then continue to tighten until first available slot in nut lines up with hole in stud. **NEVER BACK OFF NUT TO ALIGN COTTER PIN HOLE**; always continue tightening to next available slot. Install and spread cotter pin.
6. Install grease fitting supplied into ball joint and grease unit with a good grade of chassis lubricant. Install wheel and tire, remove support from underneath lower control arm, and lower vehicle to floor.
7. Align front-end to specifications. Wheel balancing is recommended. Check front wheel bearings for proper adjustment.

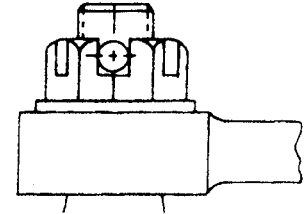
IMPROPER INSTALLATION
WITHOUT WASHER
(NOTE COTTER PIN HOLE)



IMPROPER INSTALLATION
WITH WASHER
(NOTE COTTER PIN HOLE)



PROPER INSTALLATION
WITH OR WITHOUT WASHER
(NOTE COTTER PIN HOLE)

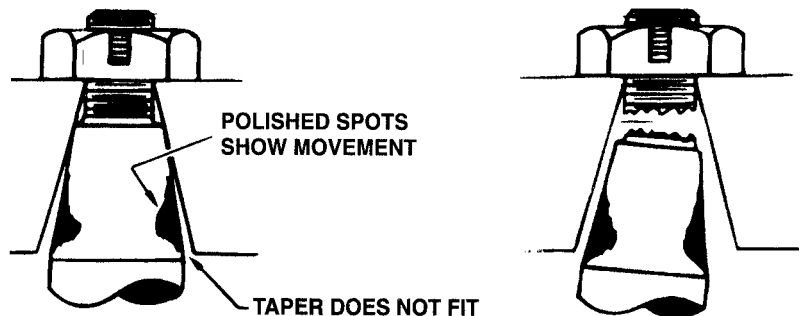


SPECIAL NOTICE

STEERING KNUCKLE WEAR CAN CAUSE BALL JOINT STUD BREAKAGE

THE STEERING KNUCKLE MUST BE REPLACED IN ANY AN ALL CASES OF BALL JOINT STUD BREAKAGE.

THE STEERING KNUCKLE MUST BE REPLACED IF ANY TEST INDICATES AN "OUT-OF-ROUND" OR "FRETTED" TAPER



NOTE: THIS KIT MAY CONTAIN SELF-TAPPING GREASE FITTING(S) FOR THREADED OR NON-THREADED HOLES.

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Jeepin by AL LLC.

Phone: 1-888-792-9343

Fax: 215-253-3966

E-mail: sales@jeepinbyal.com



Taking the Jeep Liberty to New Heights!

A-arm Installation



**Warning: Tighten
Nuts and Bolts @
20ft lbs recheck
every 3000 miles**

Warning: Tighten 4 nuts and bolts to 20ft lbs. recheck after 3000 miles.

3430 Unionville Pike Hatfield Pa 19440



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Taking the Jeep Liberty to New Heights!

Al's tips to get more out of your front suspension!

Thank you for purchasing our A-arms, I included some tips to get more out of your KJ front suspension

1. Open up the upper a-arm pockets
 - a. this will allow you're upper a-arms to raise higher & drop lower gaining more travel
 - b. See details http://jeepinbyal.com/A-arm_mounting_pockets.aspx

2. Install Al's quick disconnects
 - a. Disconnects will allow up to 30% more articulation in the front suspension. This will keep the front tires in contact with the trail surface allowing you to go where you could not go before.
<http://jeepinbyal.com/detail.aspx?ID=458>

3. replace your factory lower ball joints with MOOG joints
 - a. This is just for peace of mind, you will not lose your front wheel.
 - b. This is a factory recall with some models
<http://jeepinbyal.com/detail.aspx?ID=323>

Keep on Jeepin

Marlin Gehman

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Jeepin by Al LLC
3430 Unionville Pike
Hatfield Pa. 19440

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Phone: 1-888-792-9343

Fax: 215-253-3966

sales@jeepinbyal.com

3430 Unionville Pike Hatfield Pa 19440