

INSTALLATION INSTRUCTIONS



BDS PART #014460 Ultimate; #014440 Standard

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HARDCORE LIMITED LIFETIME WARRANTY

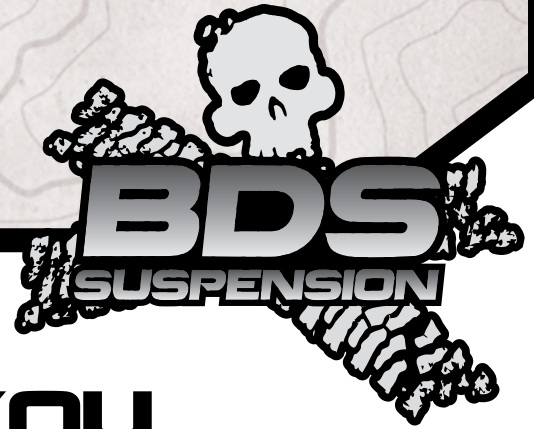
4.5" Suspension System

Jeep TJ | 1997-2006

Rev. 081414



Read And Understand All Instructions And Warnings Prior To Installation Of System And Operation Of Vehicle.



THANK YOU

Your truck is about to be fitted with the best suspension system on the market today. That means you will be driving the baddest looking truck in the neighborhood, and you'll have the warranty to ensure that it stays that way for years to come. Thank you for choosing BDS Suspension!



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TRACTION CONTROL



In an effort to reduce the risk of rollover crashes the National Highway Traffic Safety Administration (NHTSA) established the Federal Motor Vehicle Safety Standard (FMVSS)

No. 126 requiring all new passenger vehicles under 10,000 lbs GVWR include an electronic stability control (ESC) system as standard equipment. Effective August 2012 this law requires aftermarket products to be compliant with these same standards.

NOT APPLICABLE TO ALL BDS SUSPENSION SYSTEMS

FOR YOUR SAFETY

Certain BDS Suspension products are intended to improve off-road performance. For your safety and the safety of your passengers, take the following precautions.

- **HANDLING** - Modified vehicles will likely handle differently than a factory equipped vehicle.
- **ROLLOVERS** - Extreme care must be used to prevent loss of control or vehicle rollover.
- **DRIVE SAFELY** - If you do fail to drive your modified vehicle safely, it may result in serious injury or death.
- **DON'T MIX SYSTEMS** - We do not recommend the combined use of suspension lifts, body lifts, or other lifting devices.
- **STAY SOBER** - You should never operate your modified vehicle under the influence of alcohol or drugs.
- **OBEY THE LAW** - Always drive your modified vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Always wear your seat belt.

RECOMMENDATIONS

- **PROFESSIONAL INSTALLATION** - BDS Suspension recommends that this system be installed by a professional technician.
- **PROFESSIONAL KNOWLEDGE** - Disassembly/reassembly procedures and post installation checks must be known to install this system.
- **SPECIAL LITERATURE REQUIRED** - OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.
- **OE RECOMMENDATIONS** - Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.
- **LARGER RIM AND TIRE COMBINATIONS** - These may increase leverage on suspension, steering, and related components. When selecting combinations larger than OE, consider the additional stress you could be inducing on the OE and related components.
- **DRIVE LINE VIBRATION** - After installation vehicles may experience drive line vibrations. Angles may require tuning, slider on shaft may require replacement, shafts may need to be lengthened or trued, and U-joints may need to be replaced.
- **SHOP SAFETY** - Secure and properly block vehicle prior to installation of components. Always wear safety glasses when using power tools.
- **WITH A HOIST** - If installation is to be performed without a hoist, we recommend rear alterations first.
- **AMOUNT OF LIFT** - Due to payload options and initial ride height variances, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle attitude. Always measure the attitude prior to beginning installation.

AFTER THE INSTALLATION, BEFORE YOU DRIVE

- Check all fasteners for proper torque.
- Check to ensure for adequate clearance between all rotating, mobile, fixed, and heated members.
- Verify clearance between exhaust and brake lines, fuel lines, fuel tank, floor boards and wiring harness.
- Check steering gear for clearance. Test and inspect brake system.
- Perform steering sweep to ensure front brake hoses have adequate slack and do not contact any rotating, mobile or heated members.
- Inspect rear brake hoses at full extension for adequate slack.
- Failure to perform hose check/ replacement may result in component failure.
- Longer replacement hoses, if needed can be purchased from a local parts supplier.
- Perform head light check and adjustment.
- Re-torque all fasteners after 500 miles. Always inspect fasteners and components during routine servicing.

CONTENTS OF YOUR KIT



STANDARD KIT



ULTIMATE KIT

Coil Spring Box Kit

Part #	Qty	Description
034451	2	Front Coil Spring
034459	2	Rear Coil Spring

014440/014460 Box Kit

Part #	Qty	Description
084404R	1	Dropped Pitman Arm
65077	1	1/8 x 1-1/4 Cotter Pin

BRAKE LINE PARTS

22510	2	Front Brake Line
22511	1	Rear Brake Line
5188	3	Snap In Brake Line Clip
B06103C	3	L-Bracket
CCW-03-050	4	3/8 Crush Washer
099000	3	11.5in Nylon Cable Tie

BUMP STOP EXTENSIONS

3396	2	Front 3" Bump Stop Extension
2296	2	Rear 2" Bump Stop Extension
B1080G5	2	10mm x 80mm Grade 5 Bolt
438	1	Bolt Pack
	2	3/8"-16 x 3-1/2" bolt
	2	3/8" USS flat washer
	1	3/8"-16 x 1" self-tapping bolt

014440/014460 Box Kit

CONTROL ARM COMPONENTS

A174	4	Fixed LCA (014440 only)
A176	4	Adjustable Flex LCA (014460 only)
A177	2	Adjustable Flex Front UCA
A178	1	Adjustable Flex Rear UCA - DRV
A179	1	Adjustable Flex Rear UCA - PASS
738	1	Bolt Pack
	2	10mm-1.50 x 80mm bolt
	2	10mm-1.50 prevailing torque nut
	4	3/8" USS flat washer
941	1	Bolt Pack
	2	12mm-1.75 x 80mm bolt
	2	12mm-1.75 prevailing torque nut
	4	12mm flat washer

SWAY BAR & STABILIZER RELOCATION

01565	1	Weld On Stabilizer Mount
01360	2	Weld On Sway Bar Link Mount
01361	2	Weld On Sway Bar Link Gusset

FRONT TRACK BAR PARTS

A116B	1	Front Adjustable Track Bar
M02888BK	2	Track Bar Bushing
133	1	0.625 x 0.058 x 1.375 Sleeve
917	1	Bolt Pack - Track Bar/Stabilizer
	2	1/2"-13 x 2-1/2" bolt
	2	1/2"-13 prevailing torque nut
	4	1/2" SAE washer
	1	1/2"-20 nylock nut
	1	12mm washer

014440/014460 Box Kit		
REAR SHOCK RELOCATION		
01461	2	Rear Shock Bracket
125	2	.625 x .065 x 1.22 Sleeve
712	1	Bolt Pack
	2	12mm-1.75 x 65mm bolt
	2	12mm-1.75 prevailing torque nut
	4	1/2" SAE flat washer
	2	3/8"-16 x 1" bolt
	2	3/8"-16 prevailing torque nut
	4	3/8" SAE flat washer
REAR SWAY BAR LINKS		
92025	2	Sway Bar Links
SB58BK	4	5/8 ID Hourglass Bushing - black
45313	4	.625 x .109 x 1.375 Sleeve
709	1	Bolt Pack
	4	10mm-1.50 x 60mm bolt
	4	10mm-1.50 prevailing torque nut
	8	3/8" USS flat washer
REAR TRACK BAR BRACKET		
01327	1	Rear Track Bar Bracket
54587	1	.750 x .090 x 1.575 Sleeve
711	1	Bolt Pack
	2	5/16"-18 x 1" bolt grade
	2	5/16-18 prevailing torque nut
	6	5/16" USS washer
	1	3/8"-16 x 1" bolt
	1	3/8"-16 prevailing torque nut
	2	12mm-1.75 x 80mm bolt
	3	12mm-1.75 prevailing torque nut
	3	7/16" USS washer
REAR TRACK BAR (014460 ONLY)		
A117B	1	Rear Adjustable Track Bar
65	1	.750 x .134 x 1.65 Sleeve
66	1	.750 x .120 x 1.65 Sleeve

124451		
Part #	Qty	Description
A110	2	Sway bar disconnect assembly
01325	2	U-bracket
01302	2	Disconnect stud
45313	2	.625 x .109 x 1.375 sleeve
01316	2	13.5" Lanyard
718	1	Bolt Pack
	2	1/2-20 prevailing torque nut
	4	1/2" SAE flat washer
	2	3/8"-16 x 2-1/2" bolt
	2	3/8"-16 prevailing torque nut
	4	3/8" SAE flat washer
	2	7/16"-14 x 1-1/2" bolt
	2	7/16"-14 prevailing torque nut
	2	7/16" SAE flat washer
	2	7/16" USS flat washer
	2	#10-16 x 5/8" self-drilling screw

124315		
Part #	Qty	Description
YJTC4	8	T-Case Spacer
342701	1	Loctite - 1ml
734	1	Bolt Pack
	8	12mm-1.75 x 50mm
	8	7/16" USS flat washer

TIRES AND WHEELS

33"x 12.50" on 15-16x8 with 3.5" backspacing

SPECIAL TOOLS

Cut off wheel and grinding disc

Welder

Pitman arm puller

TECH TIPS

TROUBLESHOOTING INFORMATION FOR YOUR VEHICLE

1. A slip yoke eliminator and dual cardan driveshaft is required for non-rubicon models.
2. Exhaust modification may be required.

INSTALLATION INSTRUCTIONS

PRE-INSTALLATION NOTES

1. This system includes new braided stainless steel brake lines. Installation of these lines requires the entire brake system to be bled following the completed installation and prior to operating the vehicle. Consult your owner's manual for the proper brake fluid to use for your vehicle. Fluid is not included in this kit.
2. This system requires the installation of a slip-yoke eliminator kit and CV style rear drive shaft. Contact your local BDS dealer for these items.

INSTALLATION INSTRUCTIONS

CONTROL ARM ASSEMBLY

1. Locate all of the provided upper and lower control arm assemblies. These will need to be adjusted to the correct length for prior to installation. Follow the assembly instructions below for each control arm set.

ADJUSTABLE LOWER CONTROL ARMS (014460 ONLY)

2. Adjust the arms so that the center to center distance between the ends is 16-3/4". Leave the jam nuts loose. The arms are the same front and rear. (Fig 1)



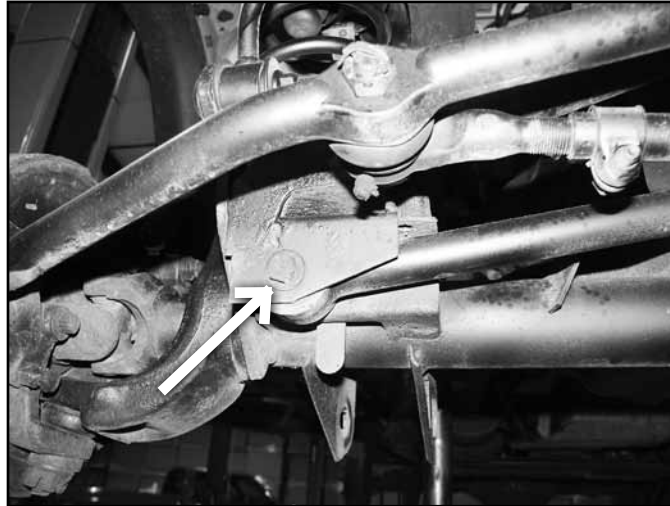
UPPER CONTROL ARMS (2 FRONT, 2 REAR)

3. Front Arms Only (w/Clevis End): Adjust the arms so that the center to center distance between the ends is 15-5/8". Leave the jam nut loose.
4. Rear Arms Only: Adjust the arms so that the center to center distance between the ends is 14-1/4" for standard models and 13-1/4" on Unlimited models. Leave the jam nut loose.

FRONT INSTALLATION

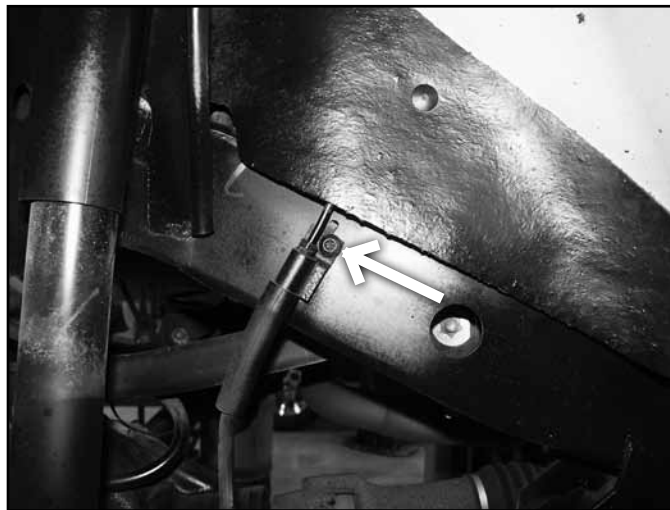
5. Park the vehicle on a clean, flat surface and block the rear wheels for safety.
6. Disconnect the positive and negative battery cables from the battery.
7. Disconnect the front track bar from the passenger's side axle mount (Fig 2). Discard hardware.

FIGURE 2



8. Raise the front of the vehicle and support the frame rails with jack stands just behind the front bumper.
9. Support the front axle with a hydraulic jack.
10. Remove the wheels.
11. Remove fasteners holding brake line anchors to frame on driver's and passenger's side (Fig 3). Retain bolts.

FIGURE 3



12. Disconnect the rubber brake lines from metal hard line. Have a container ready to catch the brake fluid.
13. Disconnect brake line from caliper and discard hardware. Ensure old washer is removed from caliper and brake line mounting area.
14. Install new upper brakeline brackets (B06103C) with OE bolts. Leave loose.
15. Mount the hard line into the new bracket before installing the new stainless steel lines.
16. Install BDS front brake lines (22510) by attaching upper portion first. Tighten fitting securely. Fasten the brake line to the bracket with a new clip (5188). Torque bracket mounting bolt to 20 ft-lbs.
17. Install the caliper side with the new crush washers.

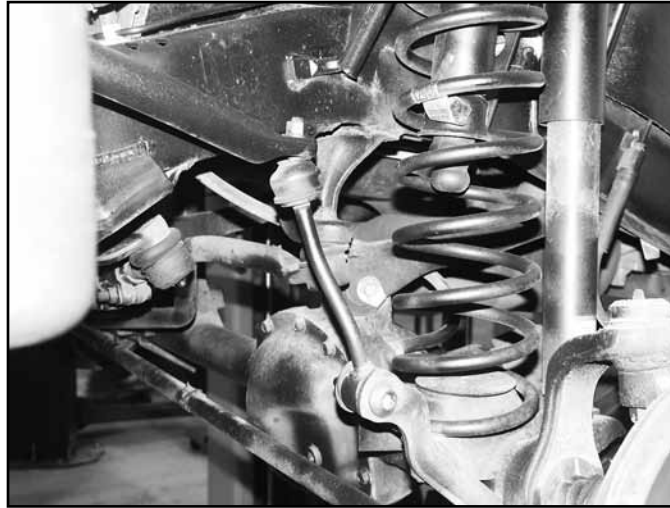


Tip

One washer is required on EACH side of the fitting. Brake line must face up after installation. Torque OE banjo bolts to 25 ft-lbs.

18. Disconnect the sway bar end links from the axle and sway bar (Fig 4). The link is fit into the sway bar with a taper that must be released. Use a pickle fork to remove the link from the sway bar. On some models the end link bolt has a serrated shank that is pressed into the mount. The bolt will need to be pressed out.

FIGURE 4

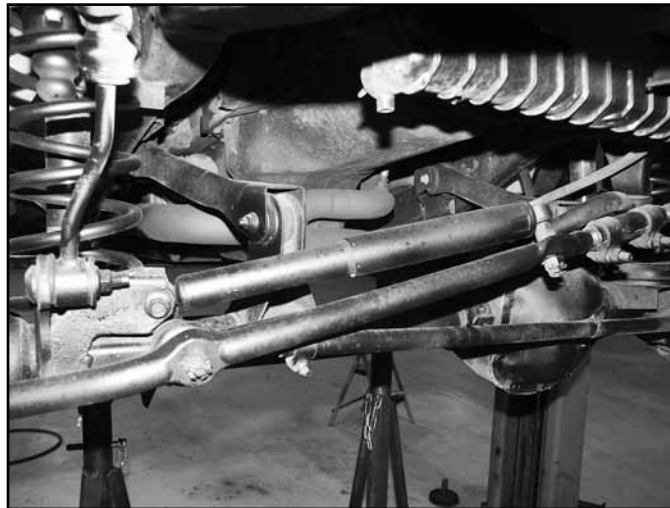


19. Disconnect the OE steering stabilizer from the axle (Fig 5). Retain hardware.



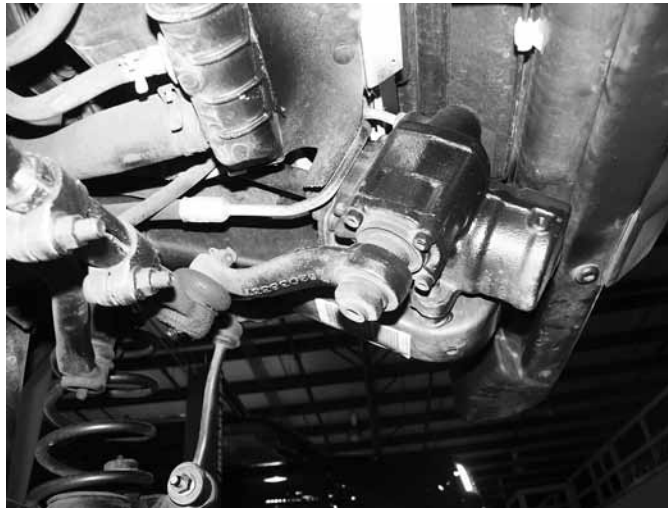
Tip *If replacing the stabilizer (recommended), remove the tapered stud from the drag link with a pickle fork or by striking the drag link near the stud with a hammer to free the taper. Remove and discard the stabilizer.*

FIGURE 5



20. Disconnect the steering drag link from the pitman arm (Fig 6). Remove the cotter pin and nut. Use a pickle fork to dislodge the drag link from the pitman arm. Retain castellated mounting nut.
21. Remove the nut and washer mounting the pitman arm to the steering box (Fig 6). Remove the pitman arm from the steering box using an appropriate pitman arm puller. Note the indexing of the pitman arm before removal. Retain mounting nut and washer.

FIGURE 6



22. Install the new provided pitman arm (084404R) on the steering box in the same orientation as the OE was taken off. Fasten with the OE nut and washer. Torque nut to 185 ft-lbs.
23. With the axle well supported, disconnect the front shocks from the axle. Retain the lower shock mounting hardware. Leave the shocks attached to the frame at this time as they will be used to help support the axle while installing the new control arms.
24. If equipped, remove the coil spring retaining clips at the axle.
25. Lower the axle and remove the coil springs from the vehicle.
26. Reattach the shocks to the axle with the OE hardware. These will aid in supporting the axle while the new control arms are installed.
27. With the axle still supported with a jack, remove the OE lower control arms from the axle and the frame. Save the hardware.
28. Install the long end (adjustable end for kit 014460) of the new lower control arms in the frame mount so that the bend in the arm is down and the zerk fitting (adjustable only) is on top (Fig 1). Attach the arms to the axle with factory hardware. Leave all hardware loose.
29. Remove the upper control arms from the front axle and frame. Retain hardware.



Tip *Be sure that the axle is well supported.*

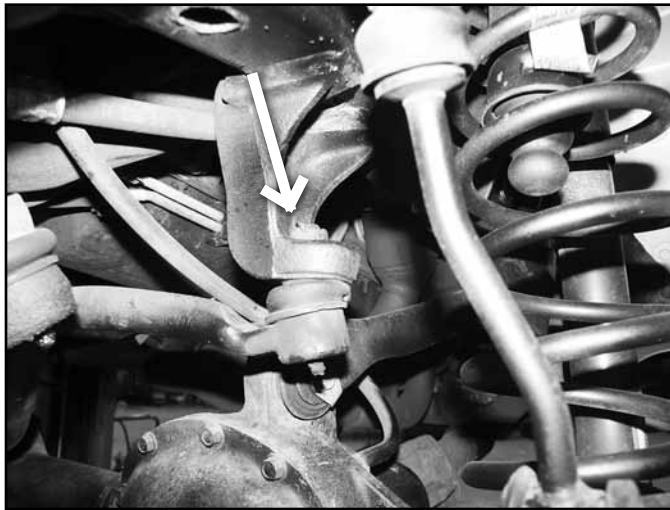
30. Install the new upper control arms to the axle with the provided 10mm hardware (BP738). Use the factory hardware at the frame and the grease fitting should be on the bottom. (Fig 7). Leave hardware loose.

FIGURE 7



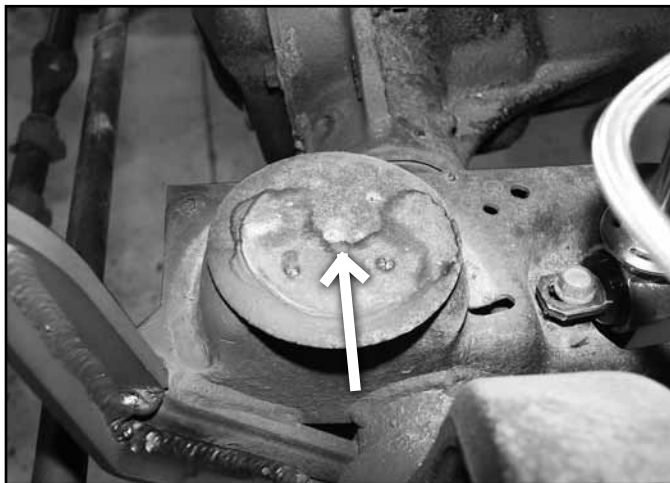
31. Disconnect the front track bar from the frame by remove the cotter pin and nut (Fig 8). Strike the track bar mount near the track bar end with a hammer to release the tapered end from the frame mount. Remove and discard the track bar and hardware.

FIGURE 8



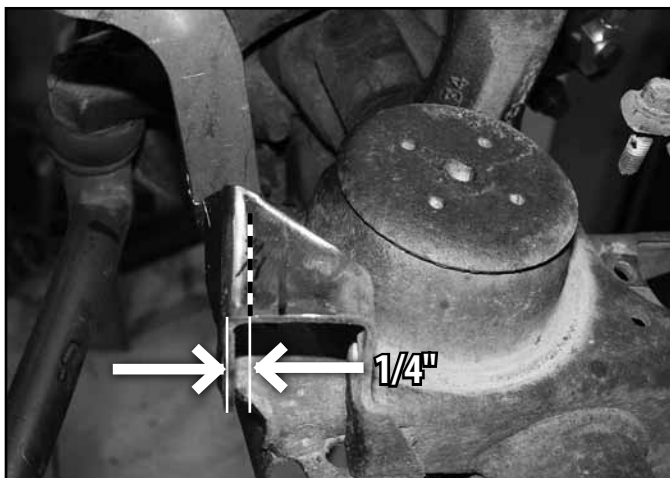
32. Disconnect the shocks from the axle and the frame. Retain the lower hardware and discard the upper hardware and shock.
33. Locate the center of the coil mount on the axle and drill a 11/32 or T size drill (Fig. 9). Using one of the provided 3/8" self-tapping bolts (BP #438), tap the hole and remove the bolt. A lower bump stop extension will be installed here when the coil spring is installed.

FIGURE 9



34. Locate the top of the original stabilizer mount on the passenger's side of the axle. Remove any rust, oil, etc. from the top of the stabilizer mount to promote good welds. Make a mark a 1/4" from the front edge on the top of the bracket (Fig 10). Make a line along the top of the bracket, parallel to the front face at the 1/4" marked distance. This will be a reference line for installing the new stabilizer mount/support gusset.

FIGURE 10



35. Position the new provided stabilizer mount (01565) on the top of the original mount so that the hole is to the driver's side and the front surface is aligned to the line marked on the top of the OE bracket (Fig 11). The stabilizer will butt up to the passenger's side sway bar link mount.

FIGURE 11



36. Check that the stabilizer mount is perpendicular to the top of the OE mount and position against the link mount and tack weld in place to the stab mount only. This will help align the new sway bar mount next. Do not finish weld, this will be done once the sway bar relocation brackets are installed.



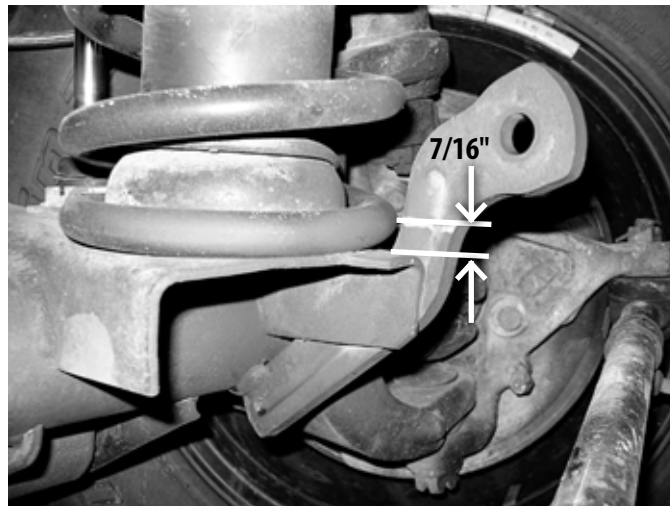
Tip Be sure to disconnect the battery before welding.



Tip A certified welder should perform all welding operations. This step can be skipped until the vehicle is complete and can be driven to a local welding shop if need be. Always keep a fire extinguisher near by when welding. Disconnect both the positive and negative battery cables before welding. With all welding complete allow the brackets to cool and then paint any raw metal to prevent corrosion.

37. The front sway bar link axle mounts must be cut off to provide proper steering linkage clearance through full suspension travel. Starting on the driver's side, make a cut mark on the axle link mount that is $7/16$ " above the top surface of the axle coil mount. This mark will be approximately $2-3/16$ " from the top point of the OE link mount (Fig 12).

FIGURE 12



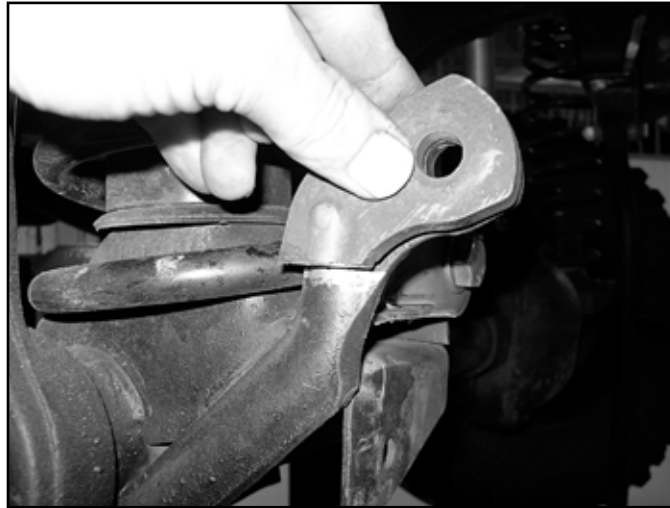
38. Cut the link mount along the cut line with a reciprocating saw or cut off wheel. Take care to make the cut as straight and square as possible. The top portion that is cut from the driver's side mount will be used as a template for the passenger's side. Also, making a square cut here will help with setting up the welding process.

39. With the driver's side link mount removed, use the cut portion as a template by aligning the hole and the profile of the cut piece with the passenger's side mount. Mark the cut line on the passenger's mount (Fig 13).



Tip A ½" bolt can be inserted in the mounting holes of the ends to aid in alignment.

FIGURE 13



40. Cut the passenger side link based on the cut line in the same fashion as the drivers side.
41. With the link mounts cut, remove any rust, oil, etc. from the remaining portion of the OE link mounts to promote quality welds.
42. Position a new link mount (01360) on the cut surface of the original driver's side mount. The front edge and inside surface of the new mount should be flush with the front cut edge of the old mount. Tack weld the new link mount in place. Double check to see that the new mount is square with the original.



Tip It is recommended to grind a bevel in the edge of the new link mount (outside where it meets the original mount) to promote good weld penetration of both pieces of material.

43. Repeat the link setup procedure on the passenger's side of the vehicle . With both pieces tacked in place check the relationship between the two mounts to see that they are the same. Measure the inside distance between the tops of the links and the bottoms of the links to see that they are the same (approximately 38-5/8").
44. With the links positioned correctly, locate the provided formed side gussets (01361). Position the gussets so that they are parallel to the front surface of the original link mount and flush to the outside surface of the new link mount. Once they are in the desired position, tack weld the gussets in place. (Fig 14)

FIGURE 14



45. With the link mount parts correctly in place finish weld the both the sway bar mounts and stabilizer mount to the axle. Weld all around the point where the original sway bar mount meets the new mounts as well as the full length of the gusset where it meets the new and original link mounts (Fig 15).



Tip

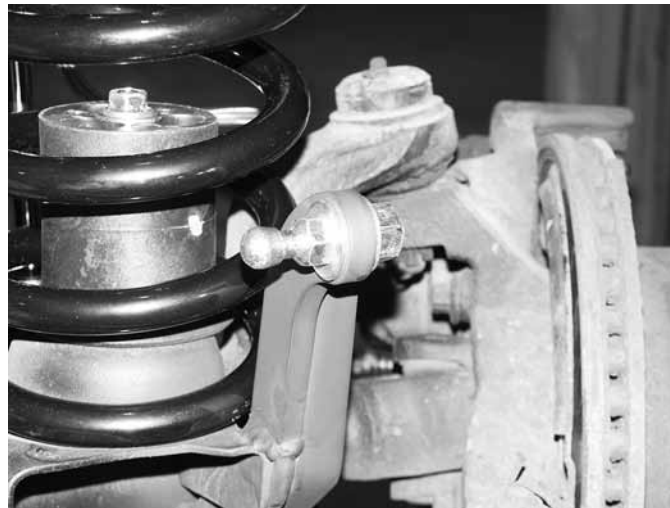
Weld the back side of the gusset for best weld penetration and aesthetics.

FIGURE 15



46. With all welding complete allow the brackets to cool and then paint any raw metal to prevent corrosion.
47. Once the paint is dry, install the provided disconnect ball studs (01302) in the mounts so that the ball portion points toward the center of the vehicle (Fig 16). Install the stud with a $\frac{1}{2}$ " lock nut and two $\frac{1}{2}$ " SAE washers (BP 718), one on each side of the mount. Torque stud to 60 ft-lbs.

FIGURE 16



48. The original tapered sway bar link mounting holes in the sway bar may need to be enlarged slightly to clear a $\frac{7}{16}$ " bolt. Enlarge the narrow end of the tapered hole to $\frac{7}{16}$ " with a $\frac{7}{16}$ " drill or rotary grinding tool.
49. Install the provided upper u-bracket (01325) to the sway bar using the original link mounting hole with a $\frac{7}{16}$ " x 1-1/2" bolt, nut, $\frac{7}{16}$ " SAE and $\frac{7}{16}$ " USS washers (BP 718). Install the bolt up through the u-bracket with an SAE washer into the sway bar. Fasten with the nut and USS washer. Position the bracket so that the thru-holes are parallel with the stud on the axle (Fig 17). Torque to 50 ft-lbs.

FIGURE 17



50. Locate the new provided sway bar disconnect assemblies (A110). Lightly grease and install the provided sleeves (45313) in the bushings.
51. Attach the sway bar link assembly to the upper u-bracket with the provided 3/8" x 2-1/2" bolt, nut and 3/8" SAE washers (BP 718), running from the inside out. Torque bolt to 30 ft-lbs. Leave the sway bar links disconnected at this time.
52. Lower the axle and install the provided new front coil springs in the vehicle. When installing the coils, insert a 3" bump stop spacer (3396) in the coil before placing it on the axle mount (Fig 18). Fasten the bump stop spacer with a provided 3/8" x 3-1/2" bolt and 3/8" USS washer (BP #438). Use Loctite on the bolt threads and torque to 25 ft-lbs. Rotate the coil until it is seated correctly and reinstall the OE spring retainer(s).

FIGURE 18



53. Install the new front shocks with the provided upper hardware and OE lower mounting bolts. Torque lower bolts to 20 ft-lbs and upper hardware until the bushings begin to swell.
54. Attach the steering drag link to the pitman arm with the OE nut. Torque nut to 60 ft-lbs and install the new provided cotter pin. Do not loosen the nut to install the cotter pin, only tighten.
55. **Installing a new steering stabilizer:** Install the provided new stabilizer stud to the drag link in the existing tapered hole. Tighten the stud hardware securely and secure with the provided cotter pin. Lightly grease and install the provided bushings (SB58BK) and sleeve (51792) into the steering stabilizer eyes. Attach the stabilizer to the stud and torque to 35 ft-lbs. Install the sleeve in the body end of the cylinder that mounts to the axle.
56. **Using new or original stabilizer:** Install the body end of the stabilizer to the new stabilizer mount on the axle. Fasten the stabilizer with a 1/2" x 2-1/2" bolt, nut and 1/2" SAE washer (BP 917). Run the bolt from the front to back with no washer on the bolt head Torque bolt to 60 ft-lbs.
57. Lightly grease and install the provide track bar bushings (M02888BK) and sleeve (133) in the end of the new front track bar assembly (A116B).
58. Attach the new track bar assembly to the original steering stabilizer mount so that the track bar runs parallel to the axle. Fasten the bar to the mount with a 1/2" x 2-1/2" bolt, nut and 1/2" SAE washers (BP 917). Leave hardware loose. The frame end will be attached with the vehicle on the ground.

59. 97-02 model years: Check the clearance from the front driveshaft to the belly pan at full droop. A minor amount of trimming may be required to eliminate any interference.
60. Install the wheels and lower the vehicle to the ground.
61. Bounce the front of the vehicle to settle the suspension. Ensure that the axle is centered under the vehicle.
62. Adjust the track bar end to the appropriate length and attach the end to the OE track bar frame mount with the provided new 1/2" nylock nut and 12mm washer. Torque nut to 55 ft-lbs.



Tip A 18mm wrench can be used to hold the end from spinning while the nut is tightened). Be sure the end is square with the frame mount and lock off the jam nut securely (Fig 19).

FIGURE 19



63. Torque the track bar bolt at the axle to 60 ft-lbs.
64. Ensure that the vehicle is setting level. Pull the spring collar up on the sway bar disconnect end and attach it to the ball stud (Fig 20). Make sure that the disconnect end stud hole is square with the ball stud and tighten the jam nut against the disconnect end. The disconnects allow for 1/2" of adjustment (1/2" longer from full-bottomed out). If necessary, adjust the links side-to-side to compensate for any unevenness in the vehicle, allowing for the easiest possible disconnecting of the ends.

FIGURE 20



65. Check the jam nuts to be sure they are securely locked off. Disconnect both end links and fold them up against the sway bar. Clip the provided lanyard/clip assembly around the sway bar/end link and find the best position for mounting the lanyard. This position will vary from vehicle to vehicle and with different suspension setups. Use your best judgment. Use the provided self-drilling screws to mount the lanyard to the body/frame.
66. With the lanyards installed reconnect the sway bar links to the axle. The lanyards can be reattached to themselves so that they remain out of the way of moving parts when not in use.

67. Use provided zip ties to secure the new brake lines away from rotating objects where necessary.
68. Tighten all control arm hardware. Center the lower control arm cam bolts if equipped and torque to 90 ft-lbs. Torque the lower control arm bolts at the frame to 105 ft-lbs. If using adjustable lower arms, ensure the flex end is square in the bracket and lock off the jam nut securely.
69. Torque the front upper control arm bolts at the axle and frame to 45 ft-lbs. Ensure the upper control arm flex end is positioned square in the new bracket and lock off the jam nut securely.

REAR INSTALLATION

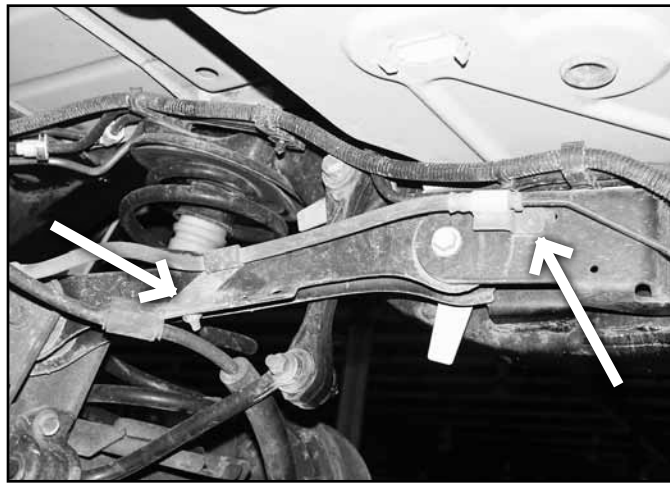
1. Block the front wheels.
2. Raise the rear of the vehicle and support the frame rails with jack stands just ahead of the rear bumper.
3. Remove the wheels.
4. Disconnect the sway bar links from the sway bar and the frame. Discard the links and hardware.



Tip *If the upper nuts tabs are in good condition they can be reused to install the new sway bar links later.*

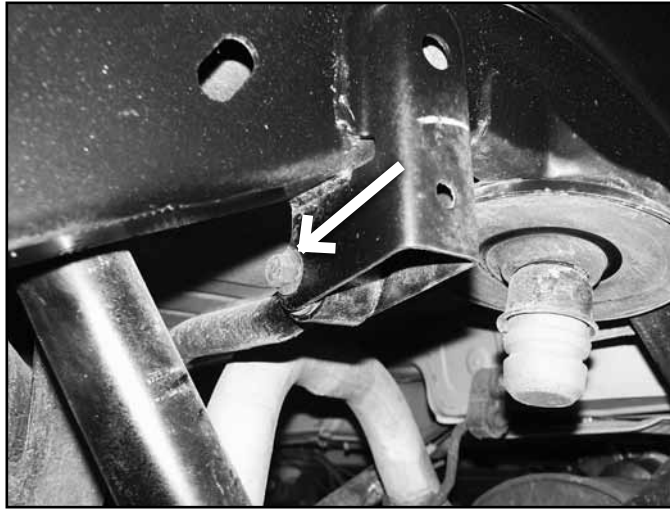
5. Disconnect the clips retaining the emergency brake cable and rear brake hose to the rear upper control arms (Fig 20).
6. Remove bolt holding the rear brake line to driver's side frame (Fig 21). Retain bolt.

FIGURE 21



7. Disconnect rubber brake line from hard line at retaining clip location.
8. Disconnect the hard lines from brake line junction block on axle.
9. Unbolt the brake line junction block from axle. Retain bolt.
10. Install new BDS rear brake line (22511) in place of the OE. Attach the two hard lines to the junction block and tighten securely. Attach the junction block to the axle with the original bolt. Torque to 20 ft-lbs.
11. Reattach axle breather hose.
12. Attach the new brake line bracket (B06103C) to the driver's side frame with the OE bolt. Torque to 20 ft-lbs. Connect the new brake line to the hard line at the frame through the new bracket. Tighten the fitting securely.
13. Install the new brake line retaining clip (5188).
14. Support the axle with a jack and disconnect track bar from the passenger's side frame mount (Fig 22). Retain hardware.

FIGURE 22



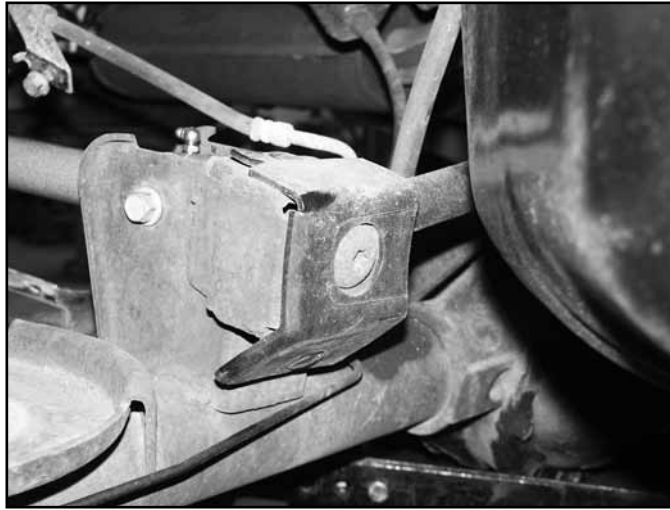
15. With the axle well supported, remove the rear shocks. Discard shocks and retain hardware.
16. Carefully lower the axle and remove the coil springs.
17. Remove the driver's and passenger's upper control arms from the axle and frame mounts. Retain all hardware.
18. The holes at the axle mounts will need to be enlarged to accept the new 12mm hardware (BP 941). Using a 31/64" drill or grinding tool open up the holes to accept the new hardware
19. Install the new upper control arms. The arms are driver and passenger side specific. When installed correctly, the adjustable end is at the frame with the zerk fitting down and the brake line tab is facing inward and down (Fig 23). Fasten to the frame with the OE hardware. At the axle use the provided 12mm x 80mm bolts, nuts, and washers (BP941) Leave hardware loose.

FIGURE 23



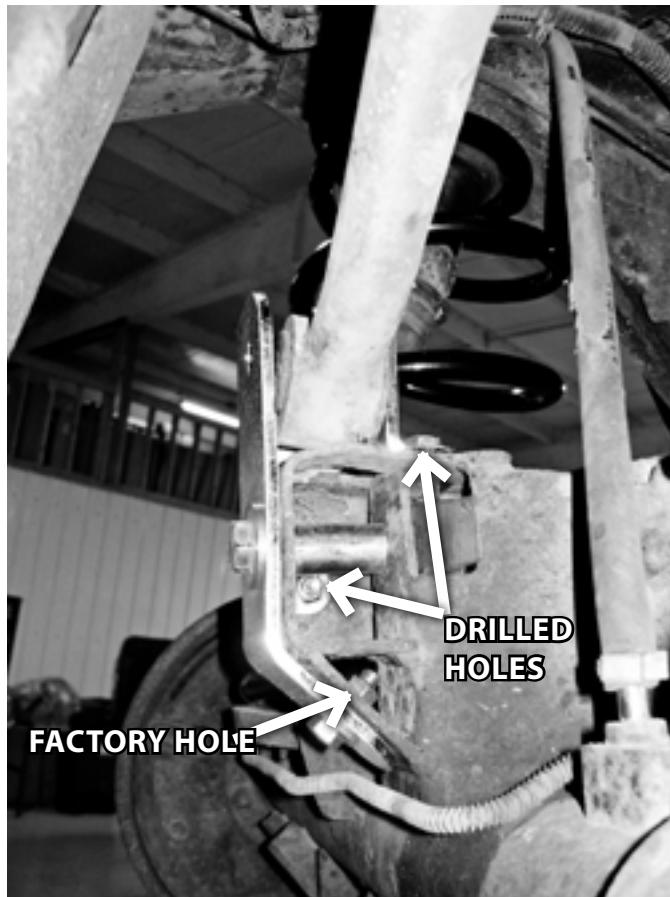
20. Remove the OE lower control arms from the axle and frame. Retain all hardware.
21. Install the new lower control arms in the axle and frame mounts. The longer end (adjustable end for 014460) goes in the frame with the zerk fitting up (Fig 24). Fasten the arms with the OE hardware. Leave hardware loose.
22. Remove the plastic cover from the track bar mount on the axle (Fig. 24). Discard cover.

FIGURE 24



23. Mark the track bar to indicate which end mounts to the axle and the side that faces rearward to aid installation. Disconnect the track bar from the axle mount (a T-55 Torx socket is required). Remove the track bar from the vehicle. Retain the OE nut tab and discard the bolt.
24. Position the provided track bar relocation bracket up to the OE axle mount. Insert the supplied 1.57" long sleeve in the OE axle mount. Attach the bracket to the axle through the original track bar mounting hole and new sleeve with a 12mm x 80mm bolt, 7/16" USS washer (BP 711) and OE nut tab (if the OE nut tab is damaged use a provided 12mm nut). Snug hardware to hold the bracket in place. (Fig 25)

FIGURE 25



25. Using the new bracket as a template, mark the two additional mounting holes to be drilled.



Tip *The lowest hole in the bracket will line up with an existing hole that may need to be widened slightly.*

26. Remove the bracket and drill 5/16" holes at the top two marks and widen the lower hole, if necessary, to accept the 3/8" bolt.

27. Reinstall the bracket and install the provided 5/16" x 1" bolts, nuts and washers (BP 711) in the upper two drilled mounting holes and the 3/8" x 1" bolt, nut and washers (BP 711) in the lower hole. Leave hardware loose until all bolts are installed.
28. Torque all mounting bolts: 12mm hardware- 60 ft-lbs, 3/8" hardware- 30 ft-lbs, 5/16" hardware- 15 ft-lbs.
29. 014460 only: Locate the new rear adjustable track bar. Grease and install the provided sleeves (65, 66) into the pre installed bushings. The sleeve with the larger ID goes in the adjustable (axle) end of the track bar.
30. Install the rear track bar (OE for 014440, BDS for 014460) in the new bracket with a 12mm x 80mm bolt, nut and 7/16" USS washers (BP 711) installed from the rear to the front. Leave hardware loose. Be sure that the passenger's side of the track bar runs above the exhaust. It will be attached the frame with the vehicle on the ground.

31.  **Tip** The adjustable end of the new track bar (kit 014460 only) goes in the axle mount.
32. Remove the OE rubber bump stop from the frame. Remove the bump stop cup by removing the bolt in the center.
33. Install the provided 2" bump stop spacer (2296) between the bump stop cup and the frame. Attach the cup and spacer to the original mount position with a 10mm x 80mm bolt. Torque bolt to 30 ft-lbs (Fig 26). Reinstall the rubber bump stop into the cup.

 **Tip** Grease will make installing the bump stop easier.

FIGURE 26



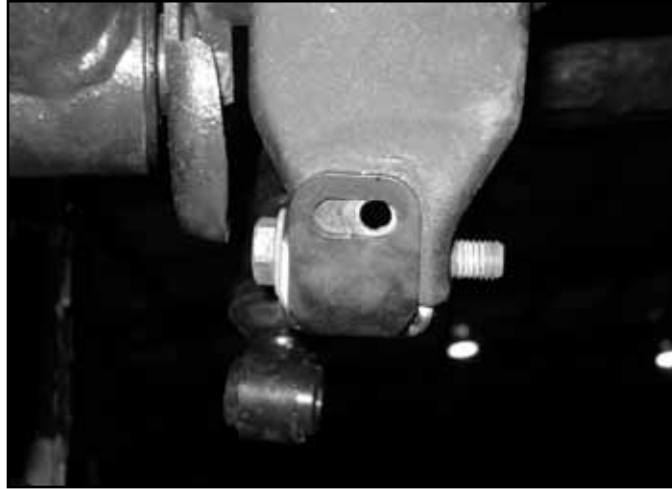
34. Install the provided new rear coil springs.
35. Locate the lower shock brackets (01461). These brackets are designed to offset to the outside of the vehicle on both sides for best gas tank and exhaust clearance. Starting with the passengers side, install the bracket so it offsets to the outside of the factory mount (Fig 27A).

FIGURE 27A - PASSENGER SIDE



36. Loosely install the shock relocation bracket in the OE mount to locate the existing hole that lines up with the slot in the new bracket (Fig 27b). Verify the provided 3/8 hardware will fit through the bracket and hole in the axle. If necessary, remove the bracket and drill the factory hole to 7/16".

FIGURE 27B- PASSENGER SIDE



37. Loosely install the relocation bracket to the factory mount with OE shock hardware and provided sleeve (125) through the original shock mounting hole.
38. Attach the bracket with the provided 3/8" hardware (BP712) through the hole in the OE mount and slot in the bracket. Torque to 30 ft-lbs. (Fig. 28)

FIGURE 28- PASSENGER SIDE



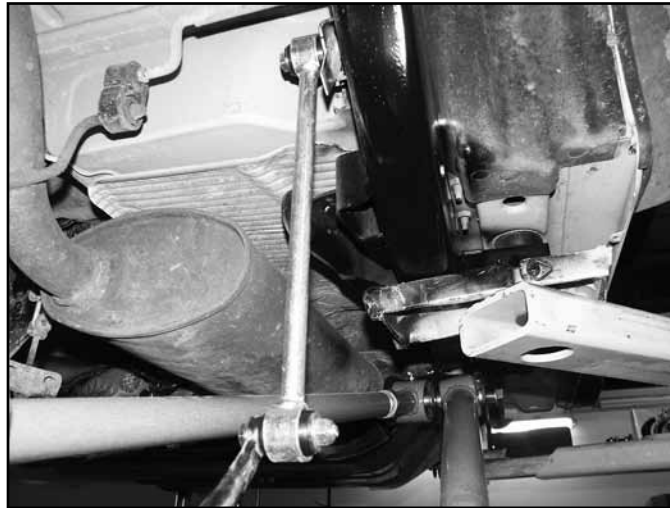
39. Repeat installation on the driver's side, again with the relocation bracket offset to the outside.
40. Install the shocks in the relocation brackets with the provided 12mm bolts, washers, and nuts. (BP712). Torque the factory bolts and new 12mm bolts to 50 ft-lbs.

FIGURE 29 - DRIVER SIDE



41. Locate the OE mounting tabs on the two emergency cables. Attach the cables to the tabs on the new arms with the original nuts. Torque nuts to 15 ft-lbs.
42. Install the provided steel sleeves (45313) in the ends of the sway bar links (92025). Attach the links to the OE frame mount and sway bar using the hardware from bolt pack 709. The OE nut tab for the frame mount can be reused to ease installation (Fig 30). Torque hardware to 30 ft-lbs.

FIGURE 30



43. Install wheels and lower the vehicle to the ground.
44. Bounce the rear of the vehicle to settle the suspension.
45. Torque the rear lower control arm bolts at the axle and frame to 105 ft-lbs. Torque the upper control arm bolts to 45 ft-lbs.
46. Lock off all adjustable control arm jam nuts securely ensuring the flex ends are square to the mounts..
47. Connect the track bar to the passenger's side frame bracket with the OE hardware. Torque bolt to 60 ft-lbs.

TRANSFER CASE DROP INSTALLATION (RUBICON AND UNLIMITED MODELS ONLY)



Tip

Transfer case drop kit is only included in rubicon and unlimited kits due to fixed yoke transfer case on the rubicon and the longer wheelbase of the LJ. Standard models will require the installation of a slip yoke eliminator and a dual cardan rear driveshaft.

48. Support the transmission/transfer case with an appropriate hydraulic jack.
49. Loosen but do not remove the four transmission mount nuts near the middle of the main crossmember/skid plate.
50. Loosen but do not remove the six main crossmember bolts (three per side).

**Tip**

Some models may be equipped with an additional transmission skid plate mounted ahead of the main crossmember. If this is the case, loosen the two (one per side) transmission skid plate crossmember bolts as well.

51. Remove the passenger's side mounting bolts only. Slowly lower the crossmember until there is just enough room to install the provided spacers (YJTC4). The hollow side of the spacer should face up and fit over the raised area in the frame. Apply Loctite to the threads and loosely install a provided 12mm x 50mm bolt and 7/16" USS washer at each spacer location.
52. Repeat the spacer installation on the driver's side.
53. With all the spacers installed, torque all of the 12mm bolts to 65 ft-lbs.
54. Remove the jack and torque the four transmission mount nuts to 25 ft-lbs.

POST INSTALLATION

1. Completely bleed brake system before driving.
2. Check all hardware for proper torque.
3. Check hardware after 500 miles and any offroad use.
4. Adjust headlights.
5. Lubricate all greaseable joints - Upper and lower control arm ends and front track bar. Grease arms and track bar after any offroad use and at regular services. Check all control arm/front track bar jam nuts periodically for tightness.
6. A professional front end alignment is recommended to achieve proper steering toe-in and steering wheel alignment.
7. Complete a full steering sweep to check tire clearance with the body, frame and suspension components. Depending on the alignment and tire/wheel combo used, the factory steering stops on each steering knuckle may need to be adjusted.
8. Reconnect the positive and negative battery cables.

TIME TO HAVE SOME FUN

Thank you for choosing BDS Suspension.

For questions, technical support and warranty issues relating to this BDS Suspension product, please contact your distributor/installer before contacting BDS Suspension directly.



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