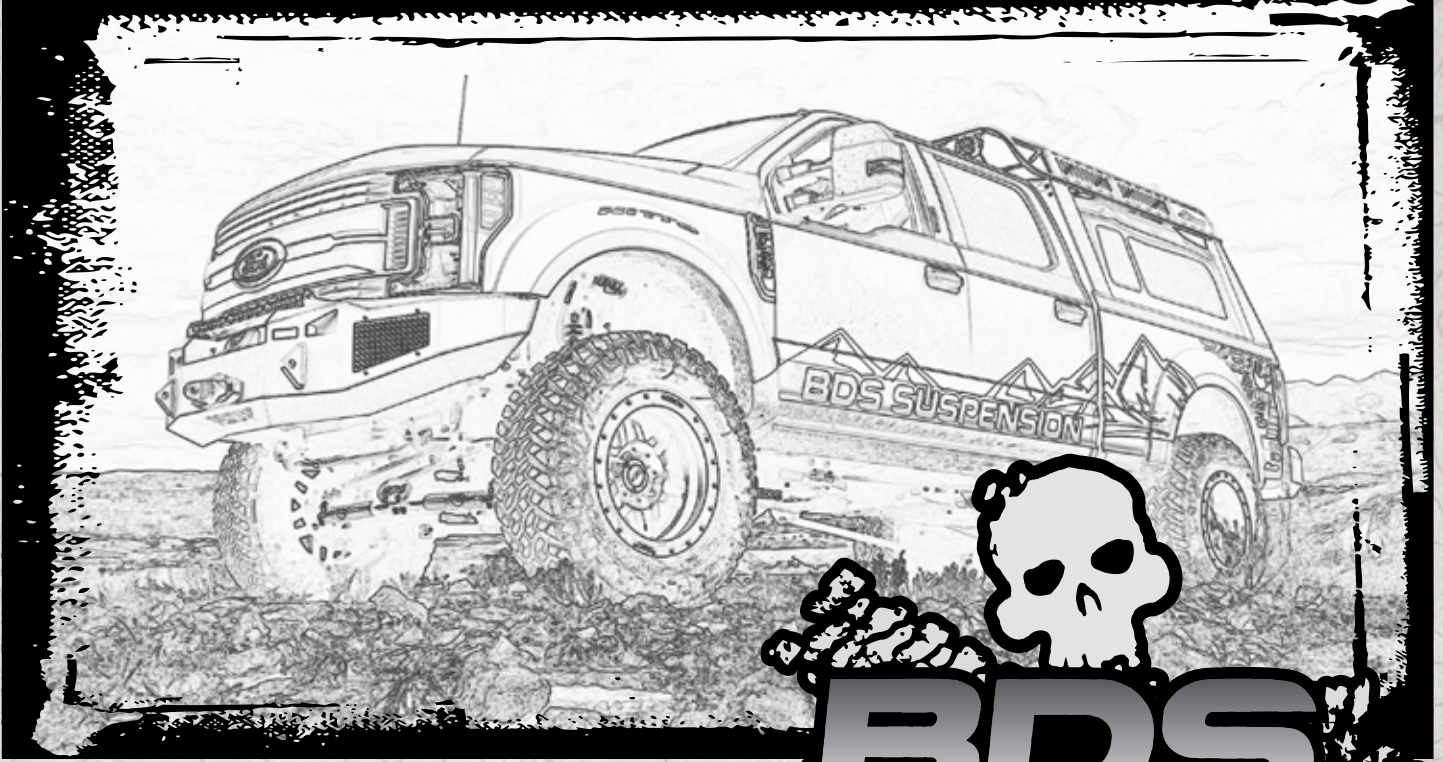


INSTALLATION GUIDE



Part#: 013801

HARDCORE LIMITED LIFETIME WARRANTY

8" Four Link Suspension System

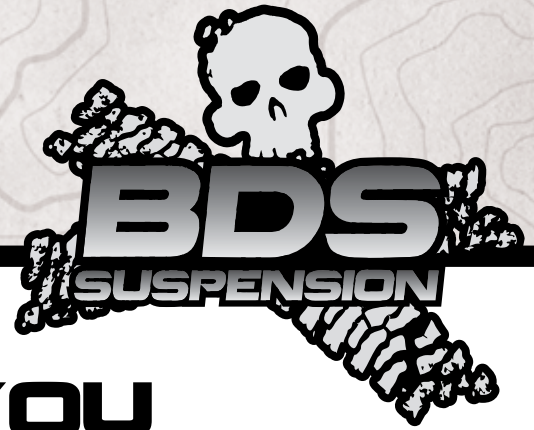
Ford Super Duty 4WD | 2017-2018

Rev. 020718

491 W. Garfield Ave., Coldwater, MI 49036 • Phone: 517-279-2135

E-mail: tech-bds@sporttruckusainc.com

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!

BEFORE YOU START

BDS Suspension Co. recommends this system be installed by a professional technician. In addition to these instructions, professional knowledge of disassembly/ reassembly procedures and post installation checks must be known.

FOR YOUR SAFETY

Certain BDS Suspension products are intended to improve off-road performance. Modifying your vehicle for off-road use may result in the vehicle handling differently than a factory equipped vehicle. Extreme care must be used to prevent loss of control or vehicle rollover. Failure to drive your modified vehicle safely may result in serious injury or death. BDS Suspension Co. does not recommend the combined use of suspension lifts, body lifts, or other lifting devices. You should never operate your modified vehicle under the influence of alcohol or drugs. 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.

BEFORE INSTALLATION

- Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.
- Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.
- Larger rim and tire combinations 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.
- Post suspension system 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.
- Secure and properly block vehicle prior to installation of BDS Suspension components. Always wear safety glasses when using power tools.
- If installation is to be performed without a hoist, BDS Suspension Co. recommends rear alterations first.
- 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.



Visit 560plus.com for more information.

TIRES AND WHEELS

Tire: 38 x 13.50
40 x 13.50 (Minor Trimming Required)
Wheel: 9" wide wheel with 4-1/2" Backspacing



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

BDS013601 4 Link Box Kit

Part #	Qty	Description
03420	2	Upper 4-Link Arm
03421	2	Lower 4-Link Arm
985	1	Bolt Pack - 4-link Arm Hardware
	2	M18-2.5 Prevailing Torque Nut - Clear Zinc
	16	3/4 SAE Thru Hard Flat Washer - Clear Zinc
	2	M18-2.5 x 150 Bolt - Class 10.9 - Clear Zinc
	6	3/4"-10 x 5" Bolt - Grade 8 - Clear Zinc
	6	3/4"-10 Prevailing Torque Nut - Clear Zinc
B1198	1	Bag Kit - Upper Arm
60107	2	90 degree grease fitting
7	2	1.0 x 0.120 x 3.25 DOM Sleeve
3527BK	4	Bushing
B1199	1	Bag Kit - Lower Arm
60107	2	90 degree grease fitting
7	2	1.0 x 0.120 x 3.25 DOM Sleeve
3527BK	4	Bushing
03422	4	Cam Lock Plate

BDS85431 Stabilizer Box Kit

Part #	Qty	Description
15621	1	Stabilizer
SB58BK	2	Bushing - EB1
45313	1	Narrow Sleeve
P00932	1	P Pack - Stabilizer
01504	1	Stabilizer Bracket
561140200RB	2	5/16" x 1-1/4" x 2" Round U-bolt
308	1	Bolt Pack - U-bolts
	4	1/4" USS Washer
	4	5/16"-18 Prevailing Torque Nut
312	1	Bolt Pack Stabilizer Mounting
	1	3/8"-16 x 2-1/2" Bolt - Grade 5
	1	3/8"-16 Prevailing Torque Nut
	2	3/8" SAE Washer

BDS013801 8" Box Kit

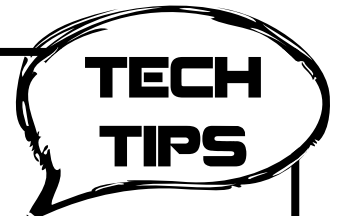
Part #	Qty	Description
083404R	1	Pitman Arm
03469	2	Front Bump Stop Extension
03491	1	Track Bar Bracket
01044B	1	Sway Bar Drop - Drv.
01045B	1	Sway Bar Drop - Pass.
986	1	Bolt Pack - 4-Link Bracket
	2	9/16"-12 x 1-1/2" Bolt
	2	9/16" SAE Washer
	4	M12-1.75 x 150mm Bolt
	4	M12-1.75 Prevailing Torque Nut
	8	M12 Flat Washer
A239	2	Sway Bar Link Assembly
A282	1	4-Link Bracket Assembly - Drv.
A283	1	4-Link Bracket Assembly - Pass.
B1221	1	Bag Kit
02019	2	Track Bar Cam Washer
0342701	1	Loctite
099000	4	Zip Tie
65077	1	1/8" x 1-1/4" Cotter Pin
6865833	1	CV Joint Boot Clamp
422	1	Bolt Pack - Sway Bar Drop Bracket
	4	3/8"-16 x 1-1/4" Bolt - Grade 8
	4	3/8"-16 Prevailing Torque Nut
	8	3/8" USS Washer
B1222	1	Bag Kit
03472	4	Sway Bar Link Clevis
03029	4	Sway Bar Link Sleeve
03419	2	4-Link Bracket Nut Tab
996	1	Bolt Pack - Bump Stop/ Sway Bar
	2	5/16"-18 x 1-1/4" Bolt
	2	5/16"-18 Prevailing Torque Nut
	4	5/16" SAE Washers
	2	3/8"-16 x 1-1/4" Self-Tapping Bolt Hex Head
	4	10mm-1.50 x 60mm Bolt
	8	10mm Flat Washer
	4	10mm-1.50 Prevailing Torque Nut
	4	12MM-1.75 X 40 mm Bolt
	4	12mm-1.75 Prevailing Torque Nut
	8	12mm Flat Washer
B1223	1	Bag Kit
22534D	1	Front Brake Line - Drv
22534P	1	Front Brake Line - Pass
5188	2	Brake Clips
CCW-03-050	4	3/8" Crush Washer
967	1	Brake Line

BDS013809 Rear Box Kit

Part #	Qty	Description
583181400SB	4	5/8" x 3-1/8" x 14" Semi-Round U-Bolt
03480	1	Rear Brake Line Bracket
03471	1	Exhaust Drop Bracket
03470	1	Exhaust Hanger
03428	1	E-Brake Relocation Bracket
B1224	1	Bag Kit - Rear Hardware
W58SB	8	5/8" Washer
N58FHB	8	5/8" High Nut
760400FCP	2	7/16" x 4" Center Pin w/Nut
03429	1	E-Brake Clamp Bracket
W78S	4	7/8" SAE Washer

BDS013809 Rear Bolt Packs

Part #	Qty	Description
998	1	Bolt Pack - Exhaust Relocation HDWR
	5	5/16"-18 x 1-1/4" Bolt
	10	5/16" SAE Washers
	5	5/16"-18 Prevailing Torque Nut
	1	3/8"-16 x 4-1/2" Bolt
989	1	3/8"-16 Prevailing Torque Nut
	1	Bolt Pack - E-Brake Relocation
	2	Wire Clip 3/4" ID- Fastenal #0708779
	1	1/2"-13 x 1-1/4" Bolt
	1	1/2"-13 Prevailing Torque Nut
	2	1/2" SAE Washer
	2	5/16"-18 x 1-1/4" Bolt
	2	5/16"-18 Prevailing Torque Nut
4	1/4" USS Washer	

**TROUBLESHOOTING INFORMATION FOR YOUR VEHICLE**

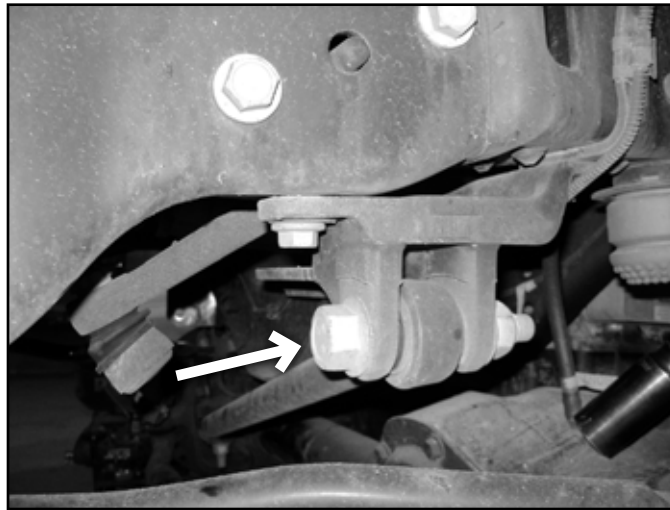
1. Ford recommends replacement of the pitman arm nut after each time it has been removed.
2. Use a small pitman arm puller to remove the drag link joint and steering stabilizer taper.
3. Larger tires on stock wheels are not recommended due to brakeline clearance required. Use recommended specifications listed in tire and wheel fitment section.
4. Exhaust modification required for clearance to the rear leaf springs. If aftermarket exhaust systems are installed, they may need to be modified for clearance.
5. The factory front track bar bolt requires 405 ft-lbs of torque to be installed properly. Be sure you have the means of removing and installing this hardware properly. It is possible to install the hardware and torque to a more modest range (200 ft-lbs or so) and take the vehicle to a shop with the means to torque the hardware properly immediately after the installation is complete.
6. As a result of the location of the long radius arm suspension, support locations are limited. Use your best judgment while supporting the vehicle with sufficient strength stands at appropriate locations. The radius arms will need to move freely during this installation. Recommended to lift the front of the vehicle from the front body mount (An extension may be needed).
7. Replacement leaf springs will require the fuel tank to be dropped/ shifted towards the passenger's side of the vehicle. For ease of movement it is recommended to have the fuel tank low on fuel to reduce the weight when moving it.
8. BDS leaf springs are not intended for use beyond the truck's maximum payload capacity. Trucks equipped with overload springs will only have the capacity of a non-overload equipped truck. If heavy payload use is desired, supplemental rear air bags are recommended

INSTALLATION INSTRUCTIONS**SPECIAL TOOLS****FRONT INSTALLATION**

1. Park the vehicle on a clean, flat surface and block the rear wheels for safety.
2. Disconnect the front track bar from the frame mount. Retain hardware.

Large Pitman Arm Puller
 Small Pitman Arm Puller
 30mm (1-3/16") Socket
 46mm (1-13/16") Socket
 Large Torque Wrench, ability to torque to 405 ft-lbs.
 CV Boot Clamp Pliers

FIGURE 1



3. Raise the front of the vehicle and support under the frame rails with jack stands.



Tip As a result of the location of the long radius arm suspension, support locations are limited. Use your best judgment while supporting the vehicle with sufficient strength stands at appropriate locations. The radius arms will need to move freely during this installation.

4. Remove the front wheels.
5. Support the front axle with a hydraulic jack.

BRAKE LINE / ABS / VACUUM

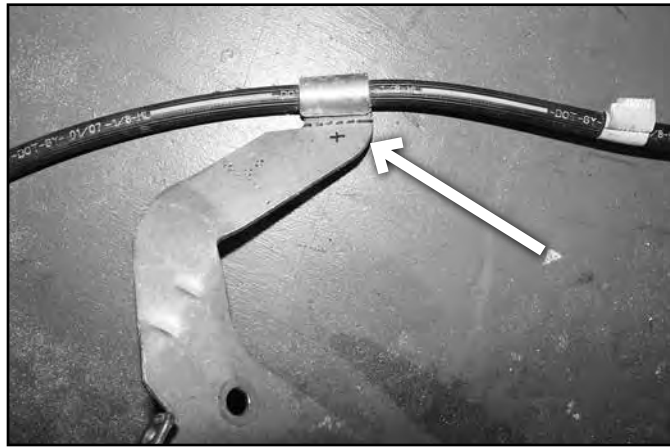
6. Disconnect the front brake line brackets from the axle (Figure 2). Retain hardware.

FIGURE 2



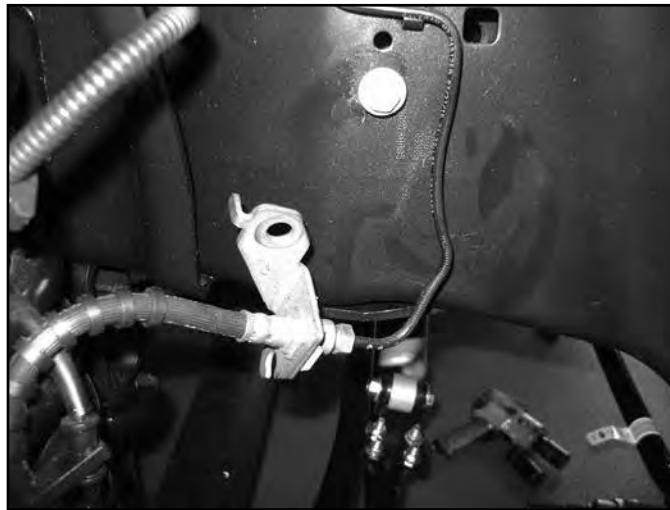
7. The brake line axle bracket will need to be trimmed. Cut the brake near the rolled end holding the OE brake line (Fig 3). Drill a 1/4" mounting hole about 3/8" in from the cut edge and centered along the edge. Set the brackets aside to be reinstalled later.

FIGURE 3



8. Remove the bolts attaching the front brake lines brackets to the frame and save the hardware (Figure 4). Attempt to not bend the brake lines as much as possible. Remove the ABS line from the brake line bracket.

FIGURE 4



9. Remove the clip holding the brake line to the factory bracket.
10. **Warning:** The next steps (10-12) must be performed quickly to ensure minimal brake fluid loss. Disconnect the brake line from the caliper. Retain the OE banjo bolt and discard the original crush washers.
11. Attach the new driver's or passenger's brake lines to the calipers using the provided new crush washers and OE banjo bolt. The brake lines are side specific. Place a crush washer on each side of the brake line fitting. Torque bolt to 25 ft-lbs.

! Caution *It is recommended to perform this on one side of the vehicle at a time. Note tube bending design at the caliper for which brake line is used on which side.*

FIGURE 5



12. Remove the factory soft brake line from the hard brake line at the frame. Remove the factory brake line bracket at this time. Slide the factory brake line bracket on to the new soft brake line by the U shaped end. Attach the new soft brake line to the factory hard line. Tighten fitting securely. The U-shape will go towards the front of the vehicle.

Note: The hex shape in the new soft brake line only lines up one way with the factory brake line bracket.

13. Attach the factory brake line bracket to the frame using the factory hardware and Loctite. Attach the lines to the new brackets with the provided clips (5188). Leave the brake line free from the attaching to the axle bracket at this time.

FIGURE 6



14. Free the hub vacuum lines from the axle/ radius arm to allow for adequate droop (Fig. 5A & B).

FIGURE 7A



FIGURE 7B



15. Disconnect the upper sway bar end links from the sway bar. Push the sway bar up out of the way. Remove the sway bar end links from the axle and discard the sway bar links and hardware.
16. Remove the lower OE shock hardware at this time (leave upper attached). Retain lower mounting hardware.

17. Lower the axle until the OE coil springs are free and remove the springs from the vehicle. Retain the upper spring isolator for use with the new springs. Once coils are removed, reattach the axle to the shocks.

! Caution *Do not over extend the brake lines. Once the coil springs are removed, hook the front shocks back up by reinstalling the bolt, do not install the nut. This is a safety measure to hold the axle in place while the replacement radius arms are installed.*

STEERING

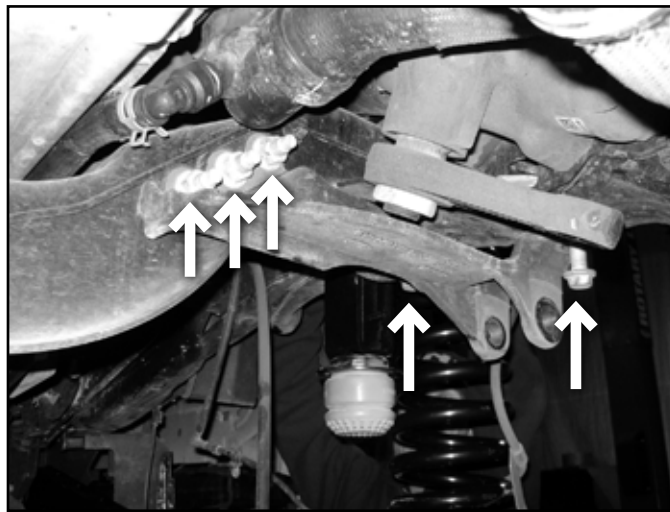
18. Disconnect the OE steering stabilizer from the frame mount. The factory frame mount can be removed or remain on the frame. Disconnect the stabilizer from the factory drag link.



Tip *It is easiest to get the taper to break free from the drag link by using a small pitman arm puller. Stock stabilizer will not be reused.*

19. Disconnect the (5) bolts mounting the OE track bar bracket to the frame (Figure 6). Remove bracket and retain hardware.

FIGURE 8



20. Disconnect the steering drag link from the pitman arm. Remove the cotter pin and castellated nut cap. Remove the nut and thread back on by hand a couple turns. Strike the end of the pitman arm near the drag link end to dislodge the taper from the pitman arm (Figure 7). Remove the nut and the drag link from the pitman arm. Retain hardware.



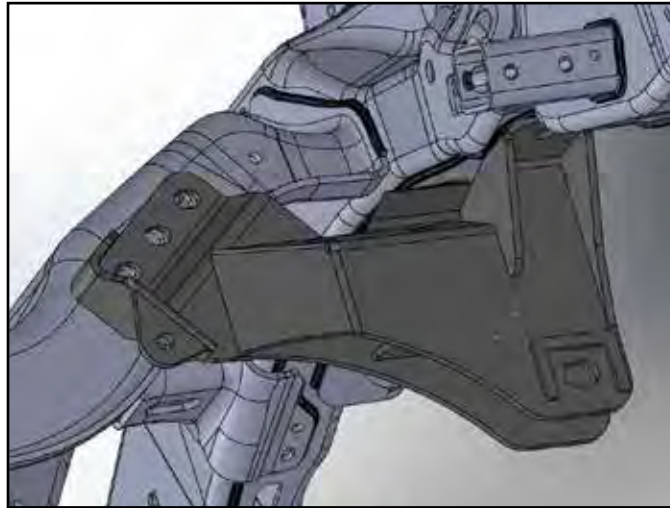
Tip *The same small pitman arm puller works well.*

FIGURE 9



21. Remove the pitman arm nut. Note the indexing of the pitman arm in relation to the steering sector shaft and remove the pitman arm from the steering box using the appropriate puller.
22. Remove all of the dri-lock compound on the threads of the pitman arm nut and steering sector shafts. This is important to ensure that the new thread lock compound will adhere properly.
23. Apply a bead of the supplied thread lock all the way around the threads of the pitman arm nut.
24. Install the new pitman arm (indexed the same as the OE) and fasten with the pitman arm nut. Torque the nut to 350 ft-lbs.
25. Install the new track bar bracket (03491) using the stock mounting hardware as it was removed. Torque all (5) mounting bolts to 129 ft-lbs. It may be necessary to form the stock hard brake line slightly to clear the new track bar bracket. Do not install track bar at this time, it will be installed once the vehicle is on the ground.

FIGURE 10



BUMP STOP MODIFICATION

26. Pull the OE front bump stops free from the bump stop cups and remove the bolt mounting the cup to the frame.

FIGURE 11



27. Install the cup on the provided bump stop extension (03469) with a 5/16" x 1-1/4" bolt, nut, and 5/16" SAE washers from bolt pack 996. The alignment tab on the bump stop cup will fit in the second hole on the extension. Torque hardware to 20ft-lbs.
28. Install the bump stop into the cup on the bump stop extension
29. Drill out the alignment tab hole on the frame to 5/16". DO NOT drill the factory tapped hole for the bump stop cup.

30. Install the extended bump stop to the frame with the original hardware and a 3/8" self-tapping bolt. The 3/8" self tapping bolt will go in the hole that was drilled out for the alignment tab in the previous step. Torque hardware to 30 ft-lbs. The closed face of the extension should face the outside of the vehicle.



Tip It is easiest to tap the hole drilled in the previous step first with the 3/8" self tapping bolt before installing the bump stop bracket.

FIGURE 12A



FIGURE 12B (VIEWED FROM INSIDE)



INDEXING RING INSTALLATION (REQUIRED ON 8" LIFT)

31. Refer to the provided instructions in the Indexing Ring Box Kit at this time.

FOUR LINK INSTALLATION:

32. Working on one side of the vehicle at a time, loosen the four radius arm-to-axle mounting bolts but do not remove. Once again, ensure that the front axle is well supported and the front drive shaft is disconnected. Failure to disconnect the front drivershaft will damage the front driveshaft CV joint at the transfer case output.
33. Starting with the driver's side, remove the radius arm hardware and save hardware. Remove the radius arm from the vehicle. It may be necessary to remove one of the passenger's side axle bolts to allow the axle to rotate to hook up the four link arm completely.
34. Support the new transfer case crossmember and remove the factory 12mm bolts on the driver's side used to support it.
35. Install the four link bracket to the factory radius arm bracket on the frame and around the transfer case crossmember mounts on the frame. The bracket will mount into the same hole as the factory radius arm. Insert a 3/4" bolt and washer from Bolt Pack 985 through the same hole in the radius arm bracket on the frame and through the four link bracket. Attach using the 3/4" nut and washer, leave hardware loose.

Note: The factory hole for the radius arm on the frame may need to be clearanced to fit the 3/4" hardware.

FIGURE 13



36. Install the provided 12mm x 150mm bolts and washer from Bolt Pack 986 through the four link bracket, frame mounts, and the new crossmember running the bolts back to front. Attach using the provided 12mm prevailing torque nut and washer to the 12mm bolt. Leave all hardware loose (Fig. 12 A & B).

FIGURE 14A



FIGURE 14B



37. Drill a 9/16" hole in the frame through the hole in the side of the four link bracket. Insert the 9/16" x 1-1/2" bolt and washer from Bolt Pack 986 through the hole and attach using the provided 9/16" nut tab. Leave hardware loose.

FIGURE 15A



FIGURE 15B



38. Lightly grease and install the provided bushings (3527) and sleeves (7) in the four new control arms.
39. Install the provided 90° grease fittings in the threaded holes at the bushing end of the control arms. When installed the fittings should point toward the body of the control arm.
40. Using a 3/4" x 5" bolt and hardware from Bolt Pack 985, install the assembled upper control arm (shorter of the two arms) into the front hole on the factory radius arm bracket (Figure 14). Install the arm so that the grease fitting is down. Attach the upper control arm to the axle using a factory 18mm bolt along with a factory 18mm nut. Leave hardware loose.

Note: The factory hole for the radius arm on the frame may need to be clearanced to fit the 3/4" hardware.

Note: The upper mount on the driver's side factory radius arm will have a captive nut. Use one of the left-over 18mm lower factory nuts for the upper bolt.

FIGURE 16



- Using a 3/4" x 5" bolt and hardware from Bolt Pack 985, install the lower control arm into the lower hole on the four link bracket. Install the arm so that the grease fitting is up (Figure 15A). Attach the lower control arm to the axle using the provided 18mm x 150mm bolt, 3/4" SAE washer, 18mm prevailing torque nut and cam plates. Index the cam plates so they are centered on the cam slot (Figure 15B).

FIGURE 17A



FIGURE 17B



- Tighten the hardware for **only** the four link bracket (do not tighten the control arms at this time) in the following order: 12mm hardware to 50 ft-lbs, 9/16" hardware to 90 ft-lbs, 3/4" hardware to 200 ft-lbs. The control arm bolts at the frame and axle will be tightened when the vehicle is on the ground.
- Repeat the frame bracket and control arm installation procedure on the passenger's side of the vehicle.

COIL SPRING INSTALLATION (COILOVER INSTALLATION SEE SEPARATE INSTRUCTION SHEET)

- Remove the front shocks from the vehicle completely at this time.
- Lower the axle enough to allow the coils to be installed. Do not over extend the brake lines. Check ABS, brake, and vacuum lines to ensure they are not overstretched.
- Install new coils with factory isolators. Rotate the springs so that they seat in the bottom coil perch properly. Raise the axle to seat the coil springs into the correct mounts.
- Grease and install sleeves and bushings into the shocks. Wide bushings and sleeves go into the lower eyelet.
- Compress the coils slightly by using a hydraulic jack on the axle.
- Install the new shocks using provided upper mounting hardware. The upper mounting hardware will require a stem eliminator bracket to be installed and tightened on the shock before installation (Figure 18A). The hardware is in bolt pack 946 included in the shock box. Torque the upper stem eliminator to 100 ft-lbs when installed on the vehicle (Figure 18B).

FIGURE 18A



FIGURE 18B



- BDS (Silver / non-Fox) shocks will require the lower mount to be modified. The sharp, non-formed edge will need to be ground to match the formed profile. Grind this and coat with paint. (Fig 18C, 18D) Install with OE hardware, tighten lower mount to 50 ft-lbs.

FIGURE 18C

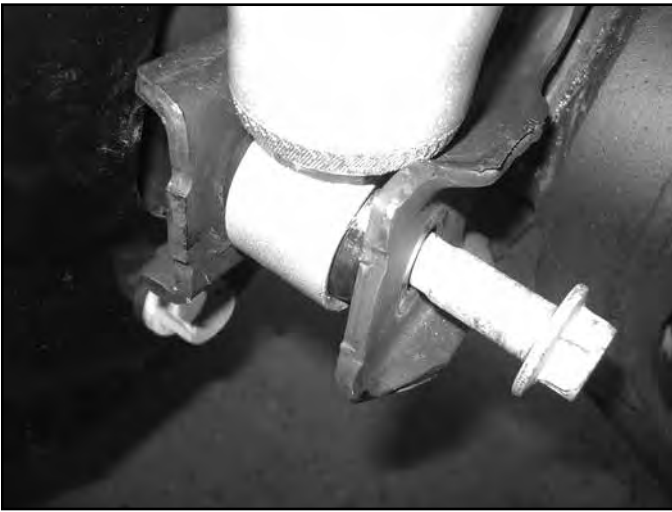
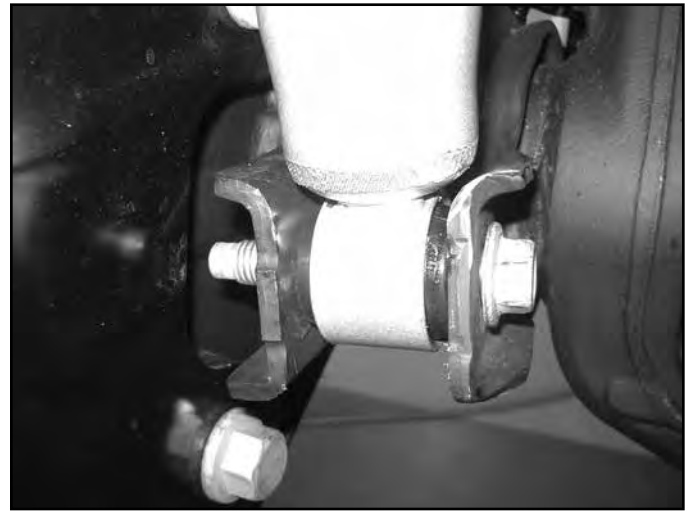


FIGURE 18D



SWAY BAR

51. Note the orientation of the front sway bar (top versus bottom). Disconnect the sway bar from the frame and remove from the vehicle. Retain hardware.
52. Install the provided sway bar drop bracket to the original sway bar frame mounting locations with the original hardware. Mount the drop bracket with the open face toward the inside of the vehicle and the bracket offset toward the front. Leave hardware loose.
53. Attach the sway bar to the new drop brackets in the correct orientation with the 3/8" hardware from Bolt Pack #422. Torque the 3/8" and factory hardware to 30 ft-lbs (Figure 17). Center the bolts in the slots in the sway bar drop bracket. The position of the bracket may need to be adjusted for sway bar link to drag link clearance.

FIGURE 19



54. Install the sway bar link clevis brackets on the axle and the sway bar with the provided 12mm bolts, washers, and nuts from bolt pack 996. On the sway bar the clevis bracket should have the tab point towards the front of the truck (Figure 18A). On the axle the clevis bracket should have the tab point towards the center of the axle (Figure 18B). Tighten the 12mm hardware to 55 ft-lbs.

FIGURE 20A



FIGURE 20B



55. Install the provided 1.255" x 0.750" sleeve (03029) into the sway bar links (A239). Install the sway bar links onto the vehicle using the provided 10mm bolts, washers, and nuts from bolt pack 996 through the sway bar link clevis. Tighten the 10mm hardware to 30 ft-lbs.

FIGURE 21



BRAKE LINES

56. Fasten the factory brake line axle brackets to the axle in their original location with the factory hardware. Torque hardware to 10 ft-lbs.
57. Attach the new soft brake line to the axle bracket with a provided clamp, 1/4" bolt, nut and washers from bolt pack 967 (Figure 22). Torque bolt to 10 ft-lbs. Adjust the angle of the clamp or bend the bracket so that the brake line has clearance to the sway bar.

FIGURE 22



58. Properly bleed the brake system of air and top off the brake fluid reservoir with the proper type of fluid (see owners manual).
59. Check the hub vacuum lines onto the axle brake line bracket to make sure they did not come disconnected.

STEERING STABILIZER

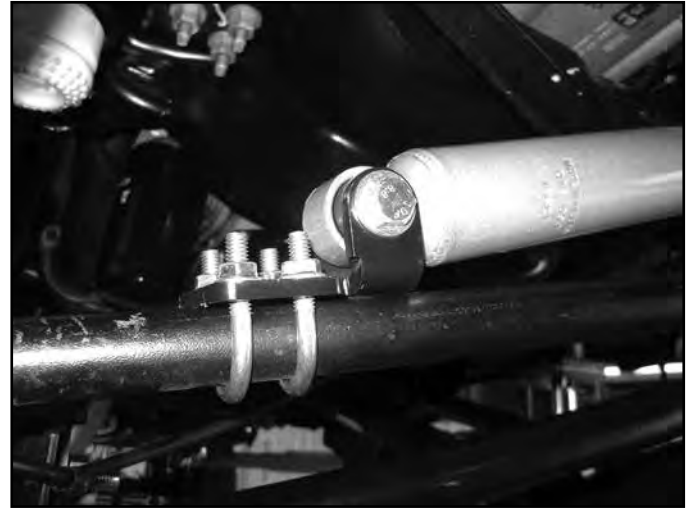
60. Reattach the steering drag link to the pitman arm. Torque nut to 148 ft-lbs. Install the original castellated nut cap and new 1/8" cotter pin.
61. Skip this step if a dual steering stabilizer will be used. Center the steering wheel. Extend the steering stabilizer 4-1/2" to 4-3/4" and attach to the frame end with stud pack in the stabilizer box kit. Attach stabilizer bracket to the drag link with the included u-bolts, washers, and

nuts. Attach stabilizer to bracket with 3/8" hardware. Tighten 5/16" hardware to 30 ft-lbs, 3/8" to 35 ft-lbs, 7/16" Stud nut to 45 ft-lbs, and 1/2" stud nut to 65ft-lbs. (Fig 23 A & B)

FIGURE 23A

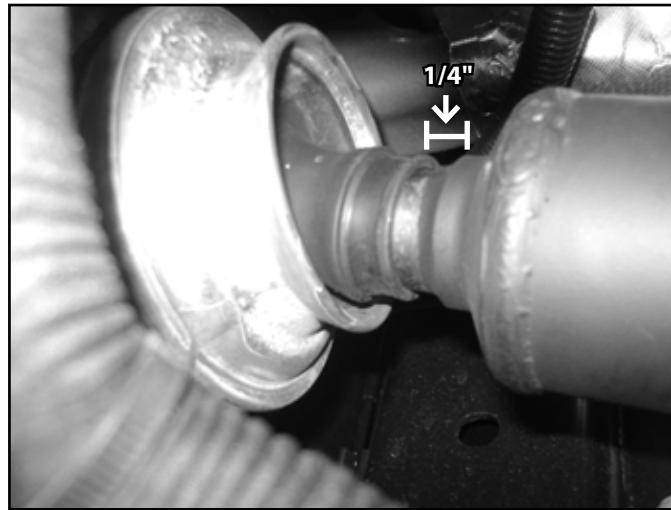


FIGURE 23B



62. Remove the factory CV joint clamp at the front transfer case output on the drive shaft. Slide the end of the boot up approximately 1/4" and reclamp with new CV joint boot clamp. Use the CV Boot Clamp Pliers to compress the CV joint boot clamp to the front drive shaft (Fig 24).

FIGURE 24



63. Reattach the front driveshaft to the front differential with factory hardware and Loctite. Tighten to 55 ft-lbs.
64. Install the front wheels and lower the vehicle to the ground. Torque lug nuts to 165 ft-lbs.
65. Attach the track bar to the new bracket with the OE hardware. Turn the steering wheels to aid in aligning the track bar in the bracket. Install the provided cam washers between the alignment tabs on the bracket. Position the cam washer in the position that best centers the axle under the vehicle. . (Figure 25). Torque hardware to 406 ft-lbs.


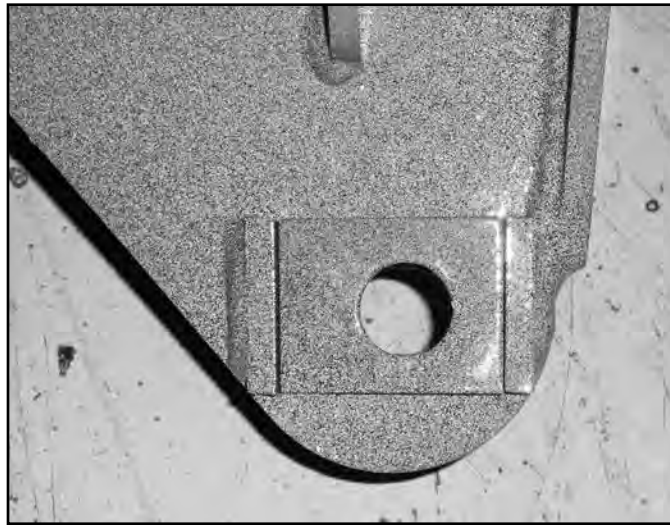
 **Tip** Due to variations in trucks, it may be necessary to rotate the cams 180 degrees to have the axle more centered.

FIGURE 25 - 8" OFFSET TOWARDS DRIVER'S SIDE



66. Install the transfer case skid plate drop bracket on the driver and passenger's sides using the factory hardware into the J-nut in the frame. The bracket should be slanted towards the rear of the vehicle.
67. Attach the transfer case skid plate to the drop brackets using the 3/8" hardware from Bolt Pack 987 and in Bolt Pack 997 in the Indexing Ring kit. Torque to 20 ft-lbs (Figure 26).

FIGURE 26



68. Bounce the front of the vehicle to settle the suspension. Torque all four link hardware to 220 ft-lbs.
69. Check all hardware for proper torque.

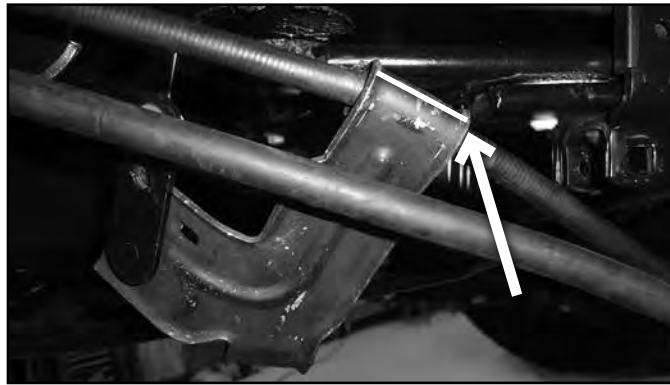
REAR INSTALLATION

70. Block the front wheels for safety.
71. Raise the rear of the vehicle and support with jack stands under the frame rails just ahead of the spring hangers.
72. Remove the wheels.
73. Support the axle with a hydraulic jack.
74. Remove the OE shocks. Retain all mounting hardware.

E-BRAKE CABLE RELOCATION STEP 1

75. Gain slack from the E-Brake cable on the driver's side. It is easiest to pull on the cable and use a pair of vise grips to hold the cable, be careful not to damage the cable.
76. Cut the bracket for the E-brake cable that is going to the passenger side of the vehicle in order to release the cable from the bracket. See Figure 27 for which bracket and where to cut. It is easiest to cut most of the way through the steel and then bend the flange up to release the cable from the bracket. Be careful not to cut the E-brake cable!

FIGURE 27



77. Depress the tabs and remove the passenger side E-brake cable from the mount on the frame.
78. Once the passenger side E-brake cable is free, remove the bolt and J-nut attaching the bracket to the frame.
79. Remove the driver side E-brake cable from the bracket and discard the bracket and hardware.
80. Remove the bolt and J-nut for smaller E-brake cable bracket. The E-brake cable relocation bracket will be reinstalled after the new leaf springs are installed.

REAR BRAKE / ABS LINES

81. Remove the ABS wires from the axle bracket. Remove brakeline retaining clips holding brakeline hardlines in place, save the retaining clips for later installation. Pull the brakelines through the mounting bracket and remove them from the bracket. Use extra caution to not damage the brakelines.
82. Disconnect the factory brakeline bracket from the rear axle by removing the breather tube stud (Figure 28A). Discard the bracket, retain the breather tube stud.
83. Install the provided rear brake line bracket by installing the bracket to the axle tube with the breather tube stud removed in the previous step and Loctite. Reattach all the ABS wires, brake lines, and breather tube to the bracket with the factory retaining clips. (Figure 28B)

FIGURE 28A



FIGURE 28B



EXHAUST RELOCATION

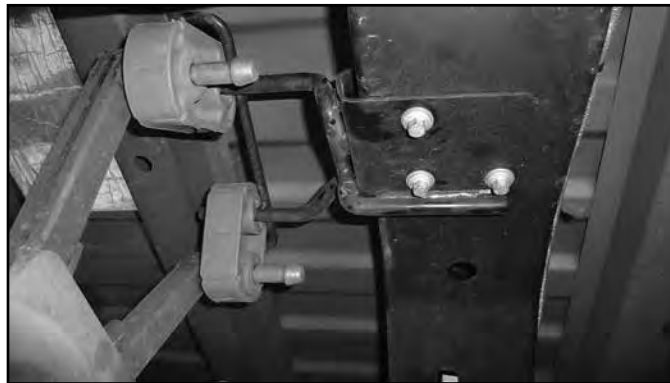
84. In order for the leaf springs to clear the exhaust, the rear of the exhaust must be spaced down to provide clearance.
Note: Regular cab long box models will not use the provided exhaust spacer (03471) and only use the exhaust drop hanger (03470).
85. Remove the 4 factory bolts from the rear exhaust hanger (Figure 29). Remove the exhaust hanger from the exhaust. Set aside for modification.
Hint: A silicon lubricant helps to remove the exhaust hanger from the exhaust system.

FIGURE 29



86. Remove the 5 bolts from the exhaust hanger in front of the rear axle (Figure 30).

FIGURE 30



87. Place the provided exhaust spacer between the exhaust hanger and frame. The exhaust spacer can only install one way. Use the factory hardware to attach the exhaust spacer to the crossmember on the frame. See Figure 31A



Tip A ratcheting wrench helps to install the factory hardware to the crossmember.

88. Reattach the exhaust hanger to the installed exhaust spacer with the provided 5/16" hardware in Bolt Pack 998. The two bolts holes on the side of the factory exhaust hanger will not be reused. See Figure 31B

FIGURE 31A



FIGURE 31B



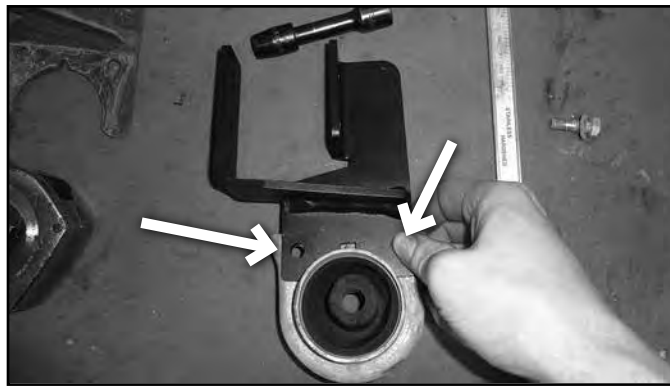
89. Retrieve the exhaust hanger removed in the previous step. From the center of the rubber hanger measure up 1-3/4" and cut a straight line across the factory hanger.

FIGURE 32



90. Place the factory hanger on the provided exhaust drop hanger (03470). The tab on the factory hanger will align with the notch on the exhaust drop hanger. Mark and drill the two holes on the factory hanger out to 5/16".

FIGURE 33



91. Attach the exhaust drop hanger to the factory hanger with the provided 5/16" hardware from Bolt Pack 998.

FIGURE 34



92. Reinstall the exhaust hanger to the factory location on the frame with the factory hardware. Install the rubber hanger onto the stud of the exhaust.

Note: The exhaust may need to be pulled down to install the stud on the exhaust into the rubber hanger.

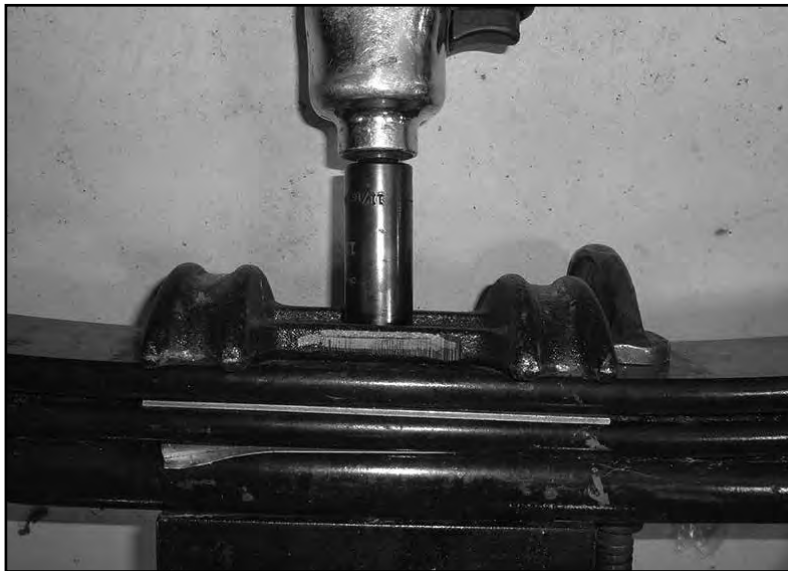
FIGURE 35



REPLACEMENT REAR LEAF SPRING KIT

93. Disconnect the passenger's side u-bolts and lower the axle from the spring.
94. Retain OE block to be installed with new spring.
95. Loosen and remove the front spring-to-frame and rear shackle-to-frame bolts and remove the spring from the vehicle. *Note: When installing the driver's side leaf spring the fuel tank may have to be shifted towards the passenger's side of the vehicle to remove the front spring-to-frame bolt. Support the fuel tank and loosen the bolts for the fuel tank hanger. Shift the fuel tank towards the passenger's side of the vehicle to remove the leaf spring bolt.*
96. Remove the shackle from the OE spring and loosely install it on the new rear spring. Be sure that the shackle is oriented on the new spring identical to the old. The shackles mount of the longer end of the spring (opposite of the end marked with "FRT").
97. Using a pair of clamps, clamp the top and bottom of the factory leaf next to the OE upper U-bolt mount. Remove the OE upper U-bolt mount from the center pin on the top of the OE leaf spring in order to be installed on the new spring (Figure 36). Reassemble the OE leaf spring with the OE center pin and remove the clamps.

FIGURE 36



98. The OE upper U-bolt mount will be installed on the new leaf springs. Clamp the top and bottom of the new leaf springs near the center pin, but still allowing enough room to install the OE upper U-bolt mount. Remove the center pin from the new leaf springs and attach the OE upper U-bolt mount to the new leaf springs with the center pin.

Note: A pair of new center pins are provided incase the center pins in the new leaf springs strip out.

FIGURE 37



99. Install the new spring in the vehicle with the OE bolts. Use the provided 7/8" SAE Washers as spacers for the front leaf spring bushing (use one on each side of the leaf spring bushing). Leave hardware loose. All of the spring pivot bolts will be torqued with the weight of the vehicle on the springs.
100. Remove all dirt and corrosion from the axle spring pad and raise the axle to the spring with the OE block while aligning the center pins with the center pin holes. The wing on the OE block will point in towards the center of the vehicle. Fasten the spring with the provided u-bolts, 5/8" washers, 5/8" high nut, and OE lower u-bolt plate. Snug but do not torque u-bolts at this time.

Note: The U-bolts may need to be cut shorter for the socket to tighten the nuts

FIGURE 38



101. Repeat the procedure on the driver's side. Take care not to over extend the brake lines.

E-BRAKE CABLE RELOCATION

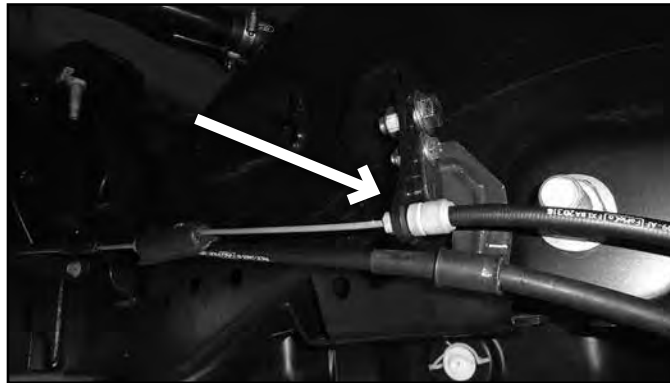
102. Install the new E-brake cable bracket with the provided 1/2" hardware and 5/16" hardware from bolt pack 989 as shown in Figure 39. The smaller driver side E-brake cable bracket will be installed in the same position as it was from the factory, but attached with the 5/16" hardware (Figure 40).

FIGURE 39



103. Install the passenger side E-brake cable into the bracket, make sure the tabs on the cable lock the cable into place.

FIGURE 40



104. Remove the 3/8" bolt on the front leaf springs clamp. Install the E-brake clamp bracket with the new provided 3/8" bolt and nut from bolt pack 998 through the leaf spring clamp. Make sure the E-brake clamp bracket is towards the outside of the leaf spring. Tighten the 3/8" hardware with the spacer tube in between to 25 ft-lbs.

FIGURE 41



- 105. Use the two provided wire clips from bolt pack 989 to secure both E-brake cables to the E-brake clamp bracket with the provided 5/16" hardware from bolt pack 989 (Figure 41).
- 106. Install the new shocks with the original mounting hardware.
- 107. Install wheels and lower the vehicle to the ground.
- 108. With the weight of the vehicle on the axle, torque the u-bolts to 130-150 ft-lbs.
- 109. Torque all of the leaf spring hardware to factory specifications.
- 110. Check all hardware for proper torque.

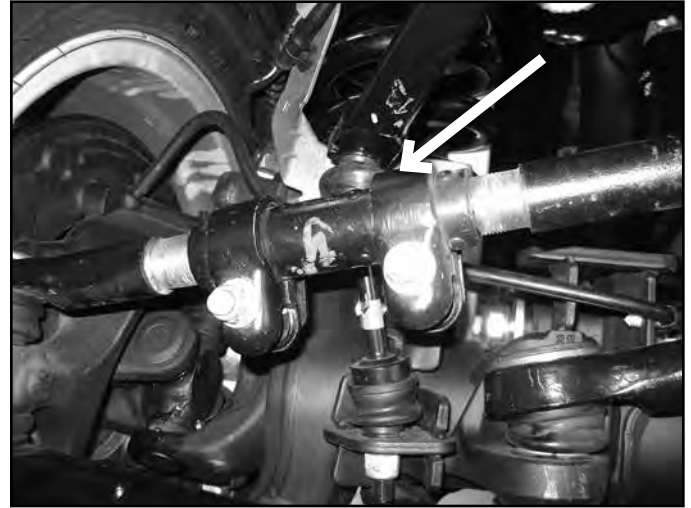
POST INSTALLATION

111. Cycle steering to check for brakeline, ABS wire, ETC to tire clearance, rotate the driver's side brakeline on the hardline if necessary.
112. Adjust steering wheel with adjustment on the draglink, do NOT drive the vehicle with the steering wheel off-center or adverse traction control affects may arise. Rotate the clamps once the steering wheel is straight as shown. (Fig 42A - incorrect, clamps will interfere with sway bar, Fig 42B - correct clearance)
113. An alignment is recommended, but not necessary. BDS recommends running caster at or above the maximum specification for improved handling / driving purposes.
114. Adjust headlights
115. Be sure the brake system has been properly bled and the brake fluid is topped off.
116. Check all hardware for proper torque. Check hardware after 500 miles.

FIGURE 42A *INCORRECT*



FIGURE 42B *CORRECT*



WE WANT TO SEE YOUR RIDE!

Grab photos of your BDS-equipped truck in action and send them in for a chance to be featured. Send it in to our Bad Ass Rides customer gallery at bds-suspension.com/bar and post them on the BDS Fan Page on Facebook at facebook.com/BDSSuspensions. Don't forget about your BDS swag! BDS offers t-shirts, hoodies, decals and more available on the BDS website or through your local BDS distributor.

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