

INSTALLATION GUIDE



Part#: 011350



HARDCORE LIMITED LIFETIME WARRANTY

3.5" BDS Performance Suspension System

Chevy 1500 4WD / 2WD | 2019-2021
GMC 1500 4WD / 2WD | 2019-2021

Rev. 012821

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

Web: www.bds-suspension.com • E-mail: tech-bds@ridefox.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

5-1/2" MAX Backspace Wheel

35x12.50 20x9 or 18x9; 5-1/2" BS (Chevy)

33x12.50 20x9 or 18x9; 5-1/2" BS (GMC)

295/60 20x9; 5-1/2" BS (GMC)

295/60 20x9; 5-1/2" to 4-1/2" BS (Chevy)

305/55 20x9; 5-1/2" to 4-1/2" BS (Chevy & GMC)

295/65 18x9; 5-1/2" to 4-1/2" BS (Chevy & GMC)

295/70 17x9; 5-1/2" to 4-1/2" BS (Chevy & GMC)



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.

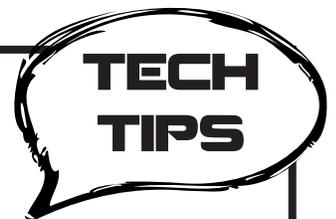
CONTENTS OF YOUR KIT

FOX Shock Parts		
Part #	Qty	Description
FOX88302162	1	2.5 FOX Factory Series Front Coilover
FOX88306162	1	2.5 FOX Factory Series Front Coilover - DSC
FOX88324060	1	2.5 FOX Factory Series Rear Reservoir Shock
FOX88326060	1	2.5 FOX Factory Series Rear Reservoir Shock - DSC

011350 Box Kit		
Part #	Qty	Description
A347	1	UCA Assembly - DRV
03806	1	GM 1500 UCA - Tubular - DRV
500-1104	1	Ball Joint
BDS222760	1	BDS UCA Sticker
SB02A241190	2	UCA Bushings
A348	1	UCA Assembly - PASS
03807	1	GM 1500 UCA - Tubular - PASS
500-1104	1	Ball Joint
BDS222760	1	BDS UCA Sticker
SB02A241190	2	UCA Bushings
02911	2	Ball Joint Cap
9452K145	2	O-Ring
02826	2	Steering Stops
02895	1	Wheel Spacer
874	1	Bolt Pack - Cable Clamp
	3	Wire Clamp
	2	1/4"-20 x 3/4" Bolt, Grade 5, Clear Zinc
	2	1/4"-20 Prevailing Torque Nut, Clear Zinc
	4	1/4" SAE Washer, Clear Zinc
	2	12mm Nylock Nuts
03950	2	2.5" Rear Lift Block
962121000QB	4	9/16"-2-1/2"-10" Square U-Bolt
W96S-B	8	9/16" SAE Flat Washer
N96FH-B	8	9/16 Fine High Nut- Black

TROUBLESHOOTING INFORMATION FOR YOUR VEHICLE

1. Ball joint used is 500-1104, use this for replacement purposes if a new ball joint is ever needed. Ball joint is directional and must be installed with the 'dot' facing either inward or outward on the vehicle, otherwise damage may occur.
2. The BDS Performance Coilover Suspension System can be used on Trail Boss/ AT4 models, but will result in 1.5" of front lift compared to the stock configuration.
3. Requires a maximum of 5.5" BS Wheel for tire clearance to the upper ball joint when used on 2-3.5" coilover kits.
4. Do NOT hit the aluminum knuckle with a hammer to separate the ball joint or tie rod end. Use appropriate ball joint / tie rod end separation tool.



INSTALLATION INSTRUCTIONS

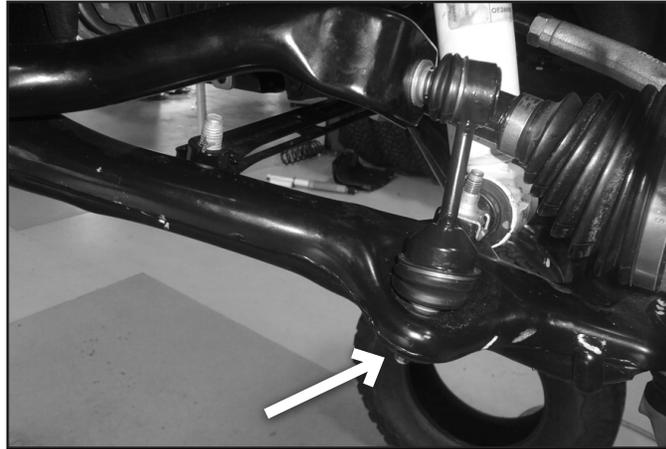
SPECIAL TOOLS

INSTALLATION INSTRUCTIONS

1. Park the vehicle on a clean, flat surface and block the rear wheels for safety.
2. Raise the front of the vehicle and support the frame rails with jack stands.
3. Remove the front wheels.
4. Disconnect the front driver's and passenger's side sway bar links from the lower control arm (Fig. 1). Save hardware.

Basic Hand Tools / Socket and Wrench Set up to 21mm
Jack Stands
Tape Measure
Cut Off Wheel / Reciprocating Saw
Welder (Optional)
Ball Joint Separation Tool (Recommended)

FIGURE 1



PERFORM THE FOLLOWING INSTALLATION STEPS ON ONE SIDE AT A TIME.

5. Remove the wire retaining clips from the strut studs and loosen but do not remove the three upper strut mount nuts at the frame (Fig. 2). Do not loosen- the center strut rod nut.



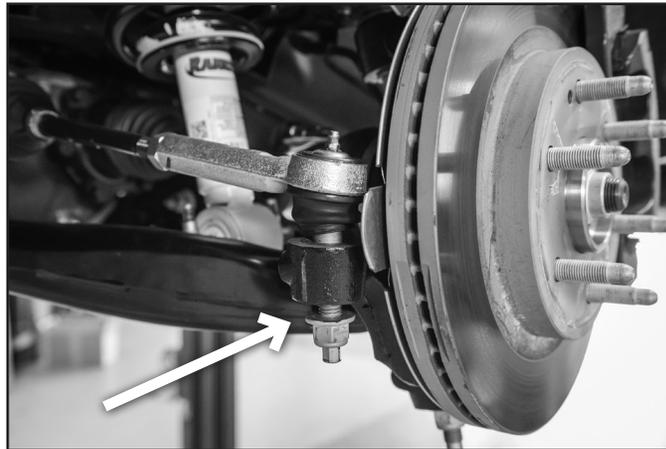
Tip For the passenger side inner nut it may be easier to access the nut through the engine bay.

FIGURE 2



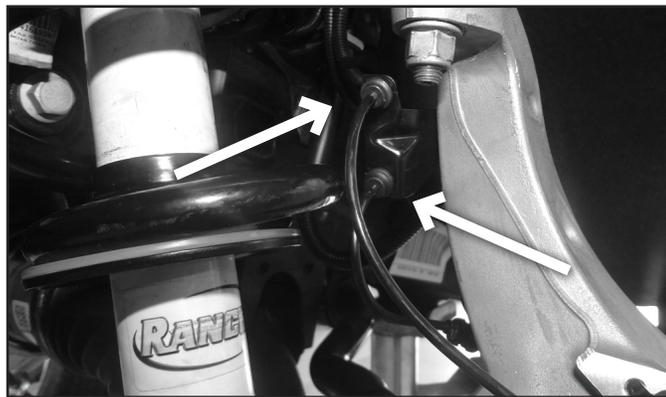
6. Remove the nut from the steering tie rod end (Fig. 3). Thread the nut back on a couple of turns by hand. Strike the knuckle near the tie rod end to dislodge the rod end taper from the knuckle. Remove the nut and the tie rod end from the knuckle. Save nut.

FIGURE 3



7. Unclip the ABS wire from the knuckle for additional slack (Fig. 4). Unclip the brake pad sensor on the driver side of the vehicle for additional slack.

FIGURE 4



8. Support the lower control arm with a hydraulic jack. Remove the upper ball joint nut and thread back on a couple of turns by hand. Separate the upper ball joint from the steering knuckle, use of a ball joint separation tool to dislodge it from the knuckle is recommended. (Fig. 5A) Remove the nut and remove the ball joint from the knuckle. Allow the knuckle to rest back away from the front strut.

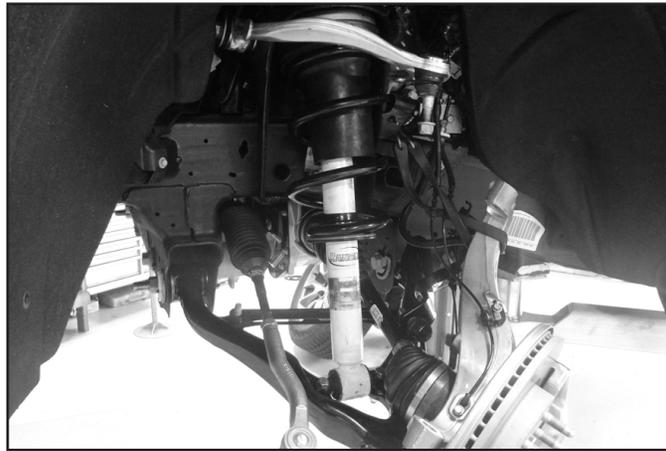


Tip A strap can be used to hold the knuckle back in order to prevent the CV axle from pulling out of the inner joint.

FIGURE 5A



FIGURE 5B



9. Remove the two lower strut bar pin bolts (Fig. 6). The bolts will not be reused. Lower the control arm with the jack so there is enough room to remove the factory strut.

FIGURE 6



10. Remove the three nuts attaching the strut to the frame (Fig. 7). Remove the strut from the vehicle. DO NOT remove the center strut rod nut. Discard the nuts, they will not be reused.

FIGURE 7



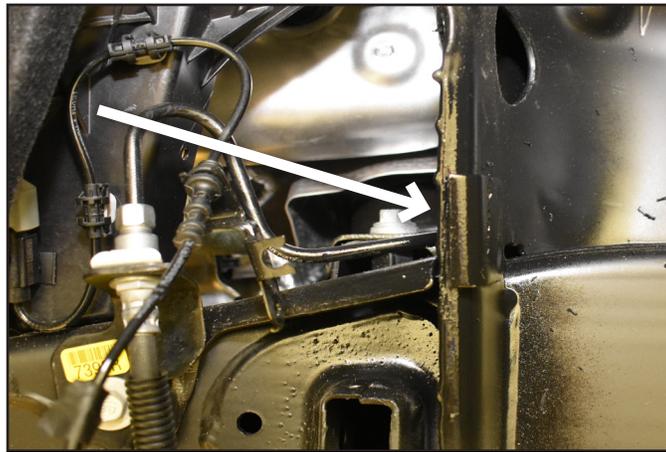
11. Remove the ABS wire / brake sensor wire from the upper control arm. Remove the upper control arm from the vehicle by removing the two bolts attaching the upper control arm to the strut bucket / frame (Fig. 8). Save hardware. If replacing the upper arm on a Denali truck, remove the sensor arm from the ball stud on the upper control arm.

FIGURE 8



12. Cut the factory droop limiter from the side of the strut bucket as shown in Figure 9.

FIGURE 9



13. Install the new upper control arm to the vehicle using the factory hardware with the bolts running from the inside out and using thread locker (Fig. 10) Snug up hardware.

FIGURE 10



14. Attach the ball joint on the new upper control arm to the knuckle. Snug up ball joint using the OE Nylock Nut, but do not torque down. The upper ball joint will be removed from the knuckle later so that the strut can be installed.

Note: The OE nylock nut will only be temporarily used to set the control arm at the correct ride height so that the rubber bushing preload is correct. DO NOT USE THE OE NYLOCK NUT FOR THE FINAL INSTALL.

15. Set the ride height from the fender lip to the center of the hub at 24-1/2" (2" Kits) or 25-3/4" (3.5" Kits). Using a torque wrench on the inside of the strut bucket and a wrench on the out side bushing to prevent the nut / bushing from moving, tighten the control arm hardware to 89 ft-lbs with the first pass and a final pass of 45-60 degrees (Fig. 11). This will ensure the rubber bushings are tightened to the right position and not put preload in the rubber bushings.

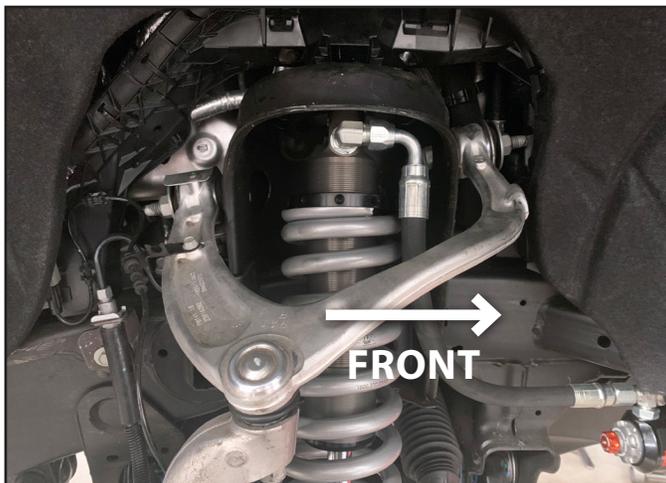
FIGURE 11



FRONT ASSEMBLY

16. Remove the upper ball joint from the knuckle. Discard OE nylock nut. Make sure the knuckle is supported so it does not pull out the CV.
17. Install the new FOX coil-over assembly. With remote reservoir models make sure that the hoses are facing outward and towards the front of the vehicle. (Fig. 12) Connect the top shock hat to the vehicle using the bolts and washers provided or with Performance Series models connect the top shock hat to the vehicle using the nuts provided. Tighten all three bolts or nuts to 24 ft-lbs.

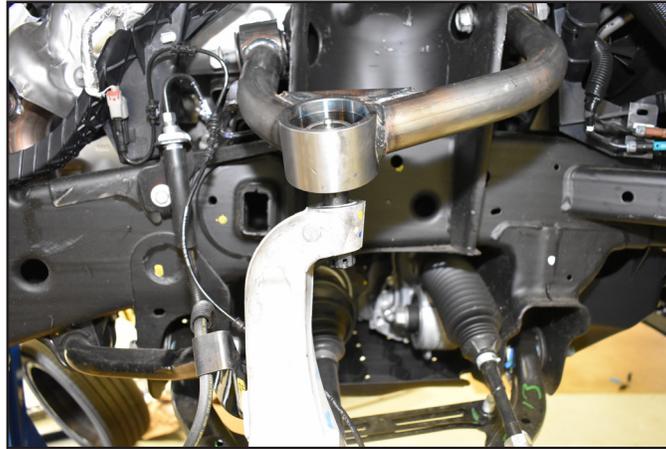
FIGURE 12



18. Connect the coil-over to the lower control arm using the supplied 10mm bolts and washers. Torque to 50 ft-lbs.
19. Reattach the upper ball joint to the knuckle (Fig. 13). **Use the provided 10mm nylock nuts in Bolt Pack 874.** Use the jack to support the lower control arm and torque the upper ball joint nut to 26 ft-lbs with the first pass and 60-75 degrees on the final pass.

Note: DO NOT use the OE Nylock Nut.

FIGURE 13



20. Reattach the tie rod to the knuckle and torque the factory nut to 44 ft-lbs.
21. Repeat installation on the opposite side of the vehicle. When both sides are complete, reattach the sway bar links and tighten hardware to 74 ft-lbs.
22. On external reservoir models, mount the reservoir onto the reservoir bracket on the bottom of the frame rail, forward the front cross member (Figure 14).

FIGURE 14



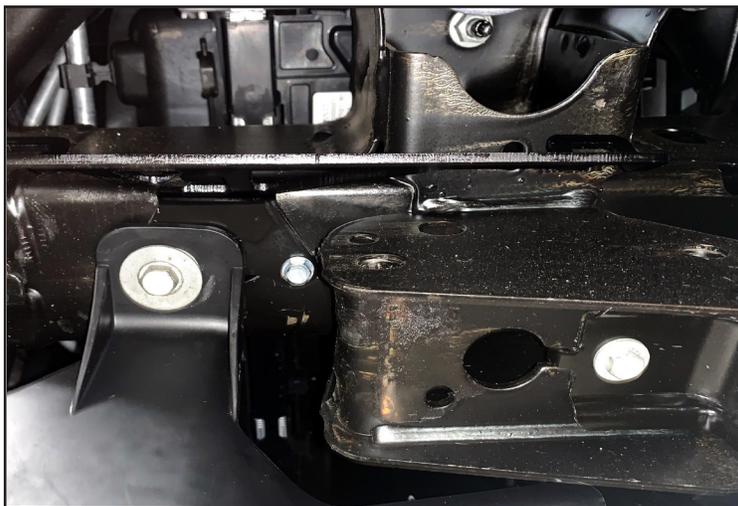
23. Install the remote reservoir bracket using the factory skid plate bolt. Ensure that the remote reservoir bracket is installed under the skid plate. The larger hole on the bracket goes toward the rear of the vehicle. Torque the splash shield bolt to 16 ft-lbs. (Fig. 15).

FIGURE 15



24. Using a 7/32" bit, drill a pilot hole for the provided self-tapping screw. This screw goes through the smaller hole on the reservoir bracket. This screw prevents rotation of the reservoir bracket (Fig. 16).

FIGURE 16



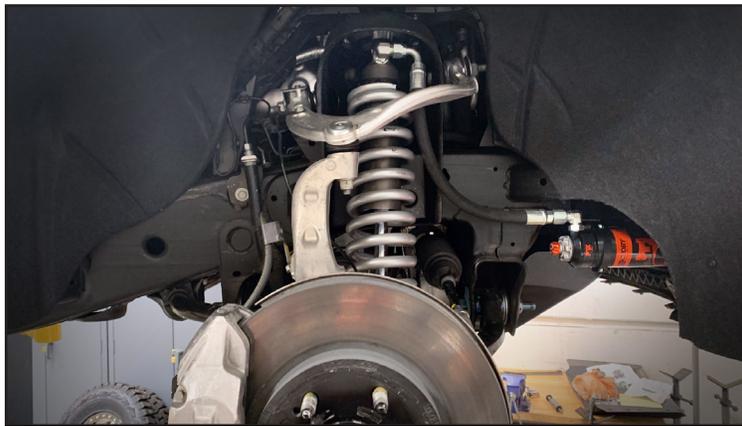
25. Now fully install the reservoir bracket onto the vehicle using the supplied 3/4" self-tapping screws.
26. Repeat the reservoir bracket installation steps on both sides of the vehicle.
27. Using two supplied billet clamps and screws, mount the reservoir to the brackets. Utilize the slots in the bracket to locate clamps. Do not feed the clamps through the slots in the brackets. Torque the (4) four socket head cap screws to 19 in-lbs. Repeat on both sides of the vehicle. (Fig. 17)

FIGURE 17



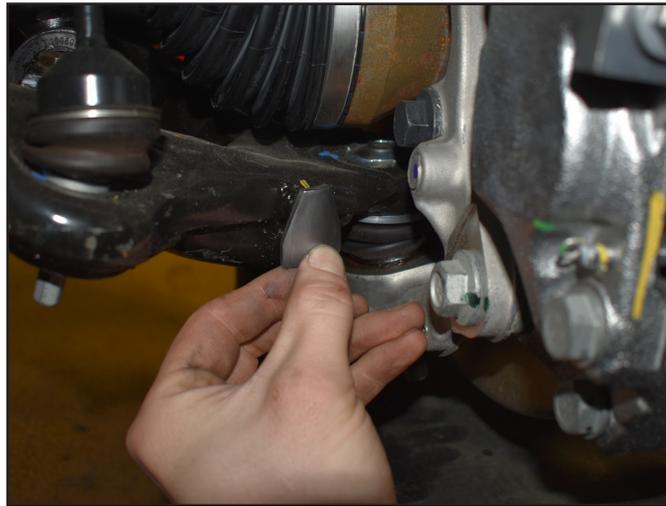
28. Installed coil-over will resemble Figure 18. (BDS UCA not shown)

FIGURE 18



29. Reattach the brake wire / ABS wires to the factory position on the knuckle. Use the provided wire clamps and 1/4" bolt to attach the brake wire / ABS wire to the upper control arm. Check for enough slack in the wires and adjust as necessary.
30. Reinstall the front wheels and lower the vehicle to the ground. Torque lug nuts to 140 ft-lbs in a crossing pattern.
31. Make sure the upper ball joint is greased at regular maintenance intervals (3-5,000 miles). The grease fitting can be accessed using a flathead screwdriver and removing the cap from the ball joint cup.
32. The provided wheel spacer can be used if the stock spare tire needs to be installed.
33. Due to control arm clearance and certain size wheel and tire combinations, a steering stop may be required. These are only needed when the tire hits the upper control arm at full lock. Prep the lower control arm for welding, remove paint. Disconnect the battery in the truck to protect electronics.
34. Optional: Weld steering stop on to lower control arm as shown (Fig. 19).

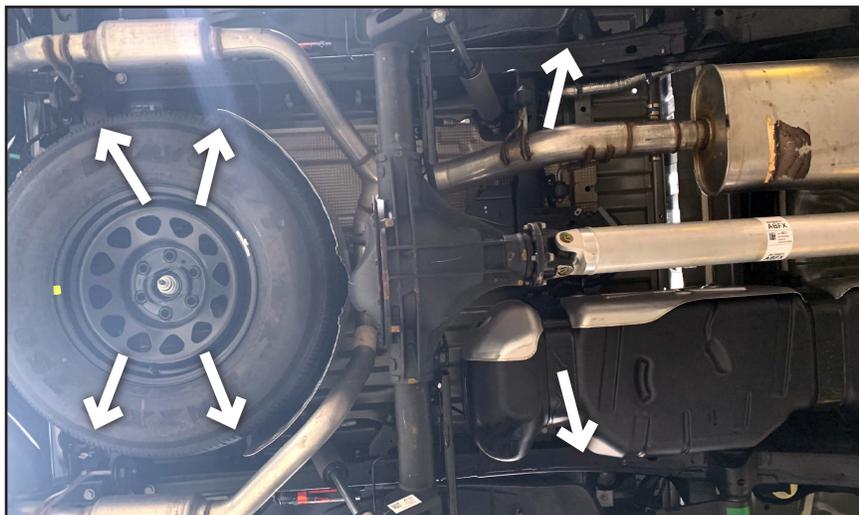
FIGURE 19



REAR INSTALLATION

1. Block the front wheels for safety.
2. Raise the rear of the vehicle and support with jack stands under the frame rails.
3. Remove the rear wheels.
4. Support the rear axle under the differential with a floor jack.
5. Disconnect the rear shocks from the axle mounts. Save hardware.
6. Remove the passenger's side U-bolts and lower the axle away from the leaf spring. Remove the factory block from the axle and discard.
7. Place the new block between the axle and the leaf pack.
8. Slowly raise the axle with the hydraulic jack in order to assemble the blocks and leaf springs. Make sure that all of the locating pins are inside their female counterparts.
9. Install U-bolts with the supplied fasteners. Be sure the U-bolts are perpendicular to the axle before tightening. Snug up U-bolt hardware, the U-bolts will be torque with the weight of the vehicle on the rear suspension.
10. Repeat the block installation on the driver's side.
11. For non-remote reservoir applications, install new Fox shocks reusing factory bolts and nuts. Torque to OEM specifications
12. For remote reservoir applications, FOX highly recommends raising the rear of the bed of the vehicle $\frac{3}{4}$ " to prevent damage to the reservoir during the installation of the rear shocks. The reservoirs can be installed without raising the bed, however it is difficult and can cause cosmetic damage to the remote reservoirs on the shocks.
13. On 70-inch, short bed models, the bed is attached to the frame of the vehicle using (6) six bolts, (4) four rear bolts and (2) two front bolts (Fig. 20). Longer beds may have more bolts attaching the bed to the frame

FIGURE 20



14. Remove the rear bolts attaching the bed of the truck to the frame. DO NOT discard bolt bolts, as they will be used to reinstall the bed (Fig. 21).

FIGURE 21



15. Loosen the (2) most forward bolts of the bed. DO NOT remove. These bolts keep the bed aligned while you lift the rear of the bed to slide the reservoirs between the bed and the frame rail (Fig. 22).

FIGURE 22



16. Once bed bolt removal is complete, slowly lift the rear of the bed from underneath the bed plate (Fig. 23). Lift the bed $\frac{3}{4}$ " from the frame rail (Fig. 24). DO NOT lift the bed from underneath the bedside as this may cause damage to the bedside. Be sure to check that the bed does not contact the cab of the truck as this could cause damage to the bed and the cab of the vehicle (Fig. 25).

FIGURE 23



FIGURE 24



FIGURE 25



17. Make sure to identify which shock goes on the correct side (Fig. 26). The driver side is shown on the left and the passenger side is shown on the right.

FIGURE 26



18. Once the rear of the bed has been lifted off the frame, you can now slide the remote reservoirs between the bed (Fig. 27).

FIGURE 27



19. Once the reservoirs have been slid between the frame and the bed of the vehicle, slowly lower and reattach the bed to the vehicle using the OEM hardware. Torque the box hardware to 63 ft-lbs.
20. Using the OEM hardware install the upper and lower portions of the shocks on both sides of the vehicle. Tighten the upper and lower shock hardware to 70 ft-lbs.
21. You must trim the fender liners on both sides of the vehicle as shown in Figure 28 for the reservoirs to fit correctly. The suggested shape of the trimming follows the curvature of the forward most fender liner, continues just below the 2 screws and then back to the rear of the fender liner.

FIGURE 28



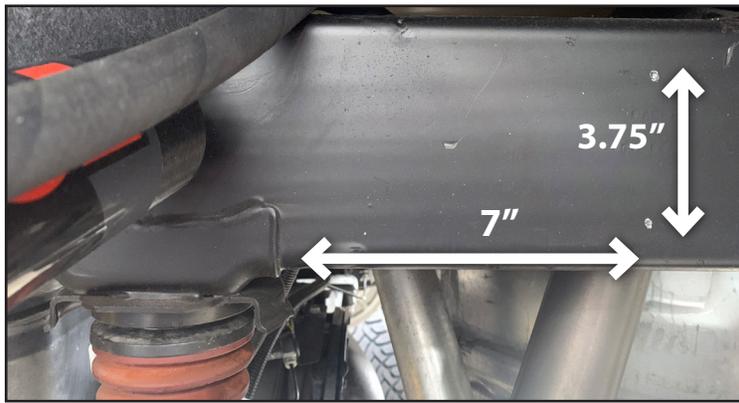
22. The remote reservoirs mount to the vehicle using supplied mounting brackets toward the back of the vehicle in the wheel arch (Fig. 29). The left image in Figure 29 is the driver side and right image is the passenger side.

FIGURE 29



23. To install the rear reservoir brackets, you must drill a 7/32" hole that is 7" away from the edge of the OEM bump stop mount toward the rear of the vehicle and 3-3/4" above the bottom of the frame rail (Fig. 30).

FIGURE 30



24. Install the bracket using one of the ¼" self-tapping screws to partially install the reservoir bracket. Ensure that you mount the bracket so that the forward most hole is the side that has the screw installed (Fig. 31).

FIGURE 31



25. Using the bracket as a guide, drill a 7/32" hole through the rear most hole of the reservoir bracket. Install the remaining ¼" self-tapping screw to fully install the reservoir bracket. There should be (2) two self-tapping screws in each bracket (Fig. 32).

FIGURE 32



26. Repeat reservoir installation steps on both sides of the vehicle.
27. Using two supplied billet clamps and screws, mount the reservoir to the brackets. Utilize the slots in the bracket to locate clamps. Do not feed the clamps through the slots in the brackets. Torque the (4) four socket head cap screws to 19 in-lbs. (Fig. 33). Repeat on both sides of the vehicle.

FIGURE 33



28. With both sides complete, install wheels and lower the vehicle to the ground. Torque lug nuts to 140 ft-lbs in a crossing pattern.
29. Bounce the rear of the vehicle to settle the suspension.
30. Tighten the U-bolt nuts in a cross pattern to 100-120 ft-lbs.

POST INSTALLATION INSTRUCTIONS

31. Check all hardware for proper torque.
32. Check hardware again after 500 miles and at regularly scheduled maintenance intervals.
33. The vehicle will need a complete front end alignment.
34. Adjust headlights.



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.

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.