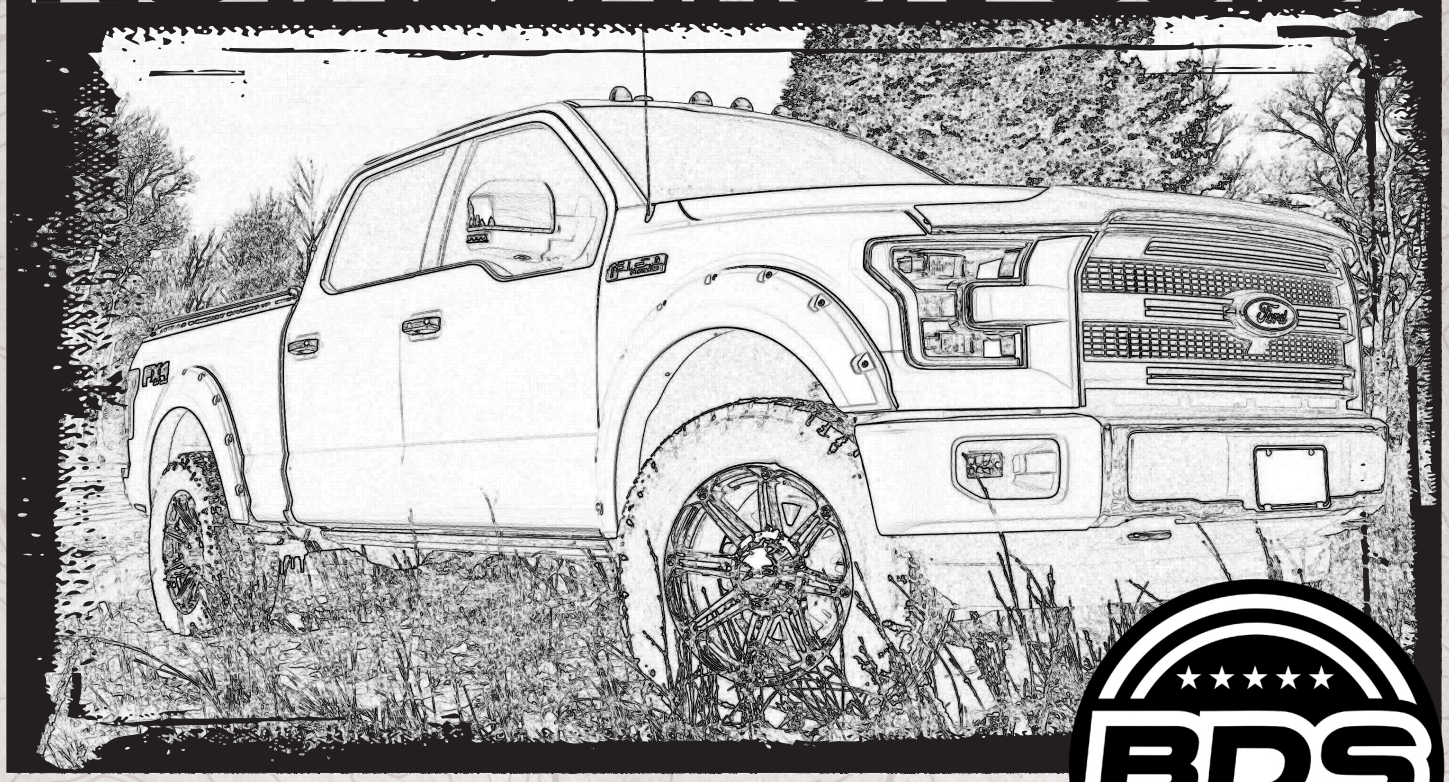
INSTALLATION GUIDE



Part#: 013204

HARDCORE LIMITED LIFETIME WARRANTY

3" BDS Performance Suspension System

Ford F150 4WD / 2WD | 2014-2020

Rev. 012725

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.

FACTORY PROTECTION PLUS

Visit 560plus.com for more information.

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.

FMVSS No.126 COMPLIANT

TIRES AND WHEELS

3"Lift:
35x12.50x17 with 5.5" of backspacing and trimming of bumper valance
33x12.50x17 with 5.5" of 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

FOX Shock Parts		
Part #	*Qty*	*Description*
FOX88302132	1	2.5 FOX Factory Series Front Coilover Reservoir
FOX88306132	1	2.5 FOX Factory Series Front Coilover Reservoir - DSC
FOX88324002	1	2.5 FOX Factory Series Shock Piggyback Reservoir
FOX88326002	1	2.5 FOX Factory Series Shock Piggyback Reservoir - DSC

BDS013204		
Part #	*Qty*	*Description*
A297	1	F150 UCA Assembly - Drv
02746	*1*	*UCA - DRV*
MB05B714620	*2*	*UCA Bushing (F-150)*
500-1105	*1*	*Ball Joint*
BDS222760	*1*	*BDS Decal*
A298	1	F150 UCA Assembly - Pass
02747	*1*	*UCA - PASS*
MB05B714620	*2*	*UCA Bushing (F-150)*
500-1105	*1*	*Ball Joint*
BDS222760	*1*	*BDS Decal*
02911	2	Ball Joint Cap
9452K145	2	O-ring (#139)
45NA53	1	Grease Packet
2FB-D	2	2in Rear Dual Pin Block
963180900QB	4	9/16" x 3-1/8" x 9" Square U-bolt
W96S-B	8	9/16" SAE Flat Washer
N96FH-B	8	9/16" Fine High Nut
WS12	2	Washers
01499	2	1/4" Spacer

TROUBLESHOOTING INFORMATION FOR YOUR VEHICLE

TECH TIPS

1. 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.
2. For replacement ball joints use service kit BDS081203. Ball joint is directional and must be installed with the 'dot' facing either inward or outward on the vehicle, otherwise damage may occur.

INSTALLATION INSTRUCTIONS

PRE-INSTALLATION

1. Park the vehicle on a flat, clean surface and block the rear wheels for safety.

! Caution *2011 and newer models equipped with EPAS (Electronic Power Assist Steering), disconnect the power steering control module connector to avoid arching of the contacts in the internal power relay from a hammer blow or impact wrench.*

SPECIAL TOOLS

Basic Hand Tools / Socket and Wrench Set

Jack Stands

Ball Joint Separation Tool Ford (Recommended: 204-592 Separator)

IMPORTANT

It is required that ride height measurements be taken before and after installation. Measure from the **WHEEL AXLE CENTER** up to the **FENDER LIP** of the wheel opening. Do this for all 4 wheels. Record measurements below.**

BEFORE

*Left Front*_____ *Right Front*_____

*Left Rear*_____ *Right Rear*_____

AFTER

*Left Front*_____ *Right Front*_____

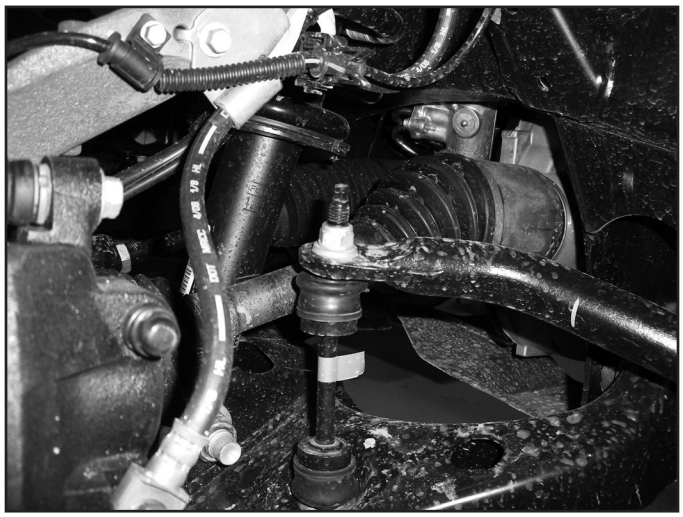
*Left Rear*_____ *Right Rear*_____

***These ride heights will be required if you have any ride height concerns after installation. Please be prepared to provide these to Technical Support.*

FRONT INSTALLATION

2. Raise the front of the vehicle and support with jack stands under the frame rails.
3. Remove the wheels.
4. Disconnect the driver's and passenger's side front sway bar links from the sway bar. Save sway bar link nuts. (Fig. 1)

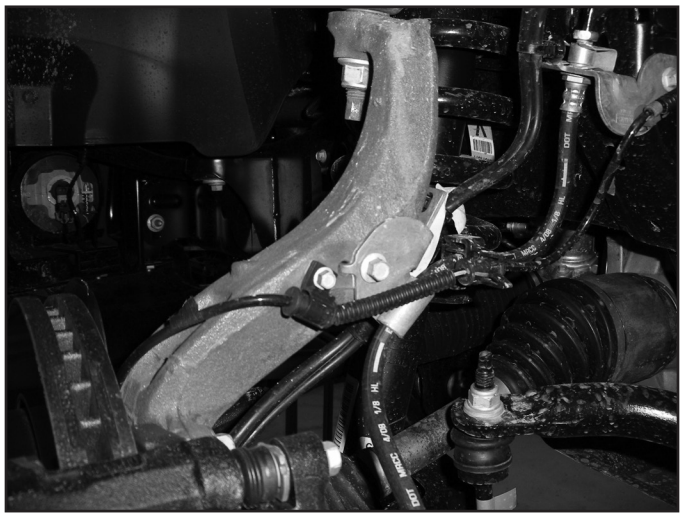
FIGURE 1



COMPLETE THIS PORTION OF THE INSTALLATION ON ONE SIDE AT A TIME

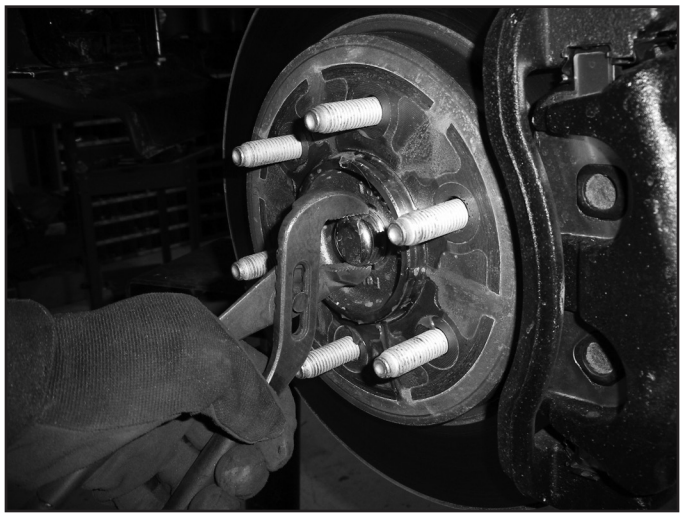
5. Disconnect the front brake line and ABS line from the steering knuckle. Save bolts. (Fig. 2)

FIGURE 2



6. Locate the small dust cap on the hub. (Fig. 3) Carefully remove the cap using a pair of channel lock (or any wide jaw style) pliers. Save dust cap.

FIGURE 3

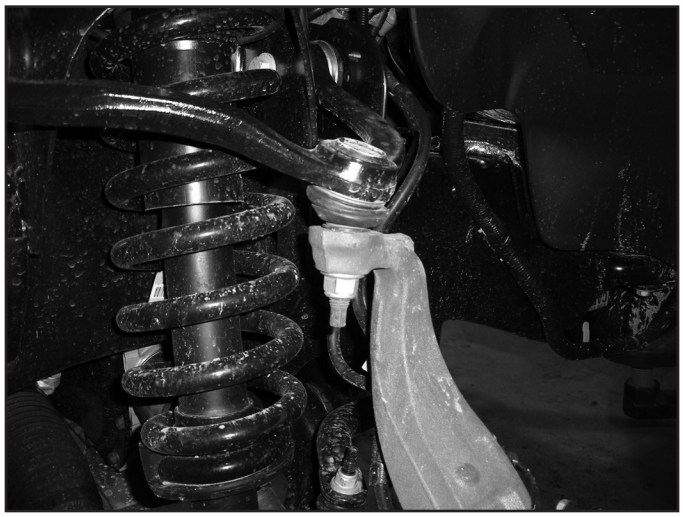


7. Remove the CV retaining nut (which was covered by the dust cap). Save nut.
8. Remove the steering tie rod end nut from the tie rod end at the steering knuckle. Thread the nut back on a couple of turns by hand. Separate the tie rod end from the knuckle, use of a tie rod end remover is recommended (Fig. 4) Remove the nut and remove the tie rod end from the knuckle. Save nut.

FIGURE 4

9. 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. 5) Remove the nut and remove the ball joint from the knuckle. Allow the knuckle to rest back away from the front strut.

FIGURE 5

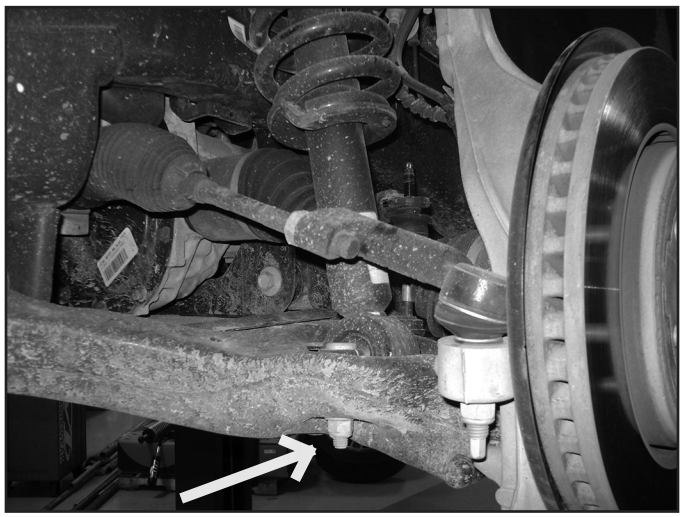


10. Support the lower control arm with an appropriate jack. Remove the three upper strut mounting nuts at the frame. (Fig. 6) DO NOT remove the center strut rod nut. Save nuts.

FIGURE 6

11. Remove the lower strut mount bolt/nut at the lower control arm. (Fig. 7) Lower the control arm and remove the strut from the vehicle. Discard the lower strut hardware.

FIGURE 7



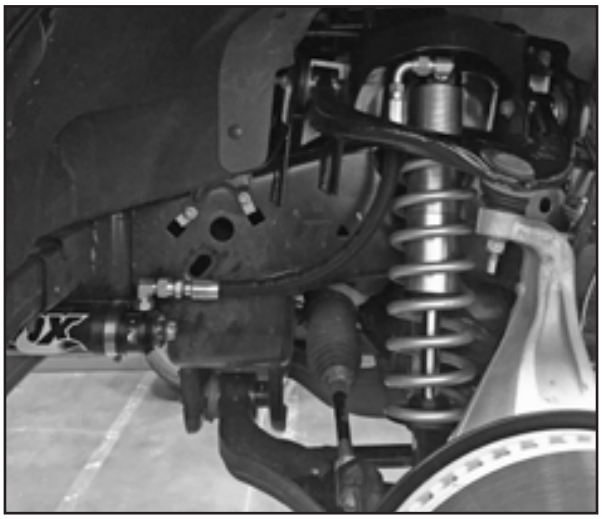
12. Remove the upper control arm from the vehicle and retain the upper control arm hardware.
13. Install new upper control arm with factory hardware. Snug up, but do not tighten the bushing hardware at this time.

COILOVER INSTALLATION

14. 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. 8) 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.

Tip *If installing this coilover with additional weight from a bumper, winch, etc, an additional 1/8" of preload can be added to the coilover.*

FIGURE 8



15. Connect the shock to the lower control arm using the (2) bar-pin bolts supplied. Torque the bar-pin bolts to 50 ft-lbs.
16. On external reservoir models, install the reservoir bracket onto the frame as shown. (Fig. 9) Utilize the factory mounting hole and bolt to locate the front mounting hole on the reservoir bracket. Mark and drill a 7/32" pilot hole into rear bracket mounting hole. Secure the reservoir bracket to frame using one of the supplied 1/4" self tapping screws. Torque front bolt to factory specifications

FIGURE 9

17. On external reservoir models, mount the reservoir onto the reservoir bracket with the supplied hose clamps. Utilize the slots in the bracket to locate the clamps. Do not feed the clamps through the slots in the brackets. (Fig. 8)

18. Attach upper control arm to the steering knuckle with included nut and washer. Tighten to 50 ft-lbs. (Fig. 10) . BDS ball joints do not require the factory torque specification. While connecting the upper ball joint, be sure that the CV shaft properly aligns into the hub. (Fig. 11)

FIGURE 10

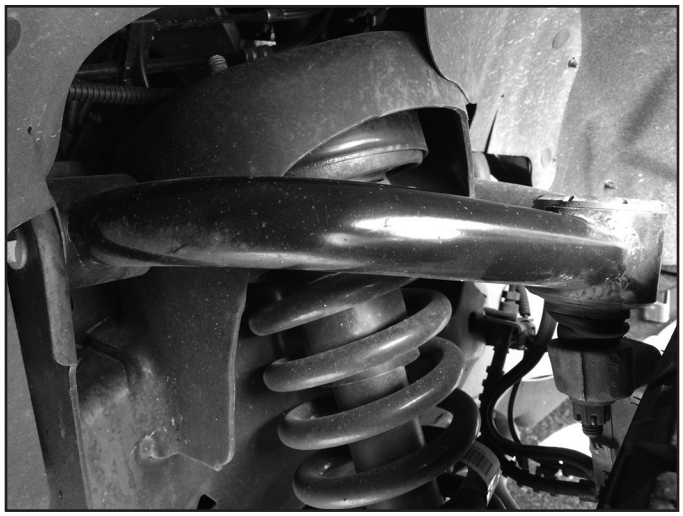


FIGURE 11

19. Be sure the CV is properly seated in the hub and reinstall the original retaining nut. Torque nut to 30 ft-lbs. Reinstall the hub dust cap by tapping in place with a small hammer.
20. Reconnect the brake line and ABS line to the steering knuckle with the original bolt. Torque bolt to 106 in-lbs.
21. Attach the steering tie rod end to the steering knuckle with the original nut. Torque to 76 ft-lbs.
22. With both sides complete, reconnect the sway bar links to the sway bar with the original hardware. Torque to 59 ft-lbs.
23. Install the wheels and lower the vehicle to the ground. Torque lug nuts to 150 ft-lbs in a crossing pattern.
24. Grease the ball joint at this time.
25. Use the included grease packet to lube the O-ring. Install O-ring onto the cap and install cap into the arm.

    Note: The cap must be removed to grease the ball joint.
26. Bounce the front of the vehicle to settle the suspension.
27. Torque upper control arm bushing hardware to 122 ft-lbs.
28. Check all hardware for proper torque.
29. The vehicle will need a complete front end alignment.

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. Install new Fox shock reusing factory bolts and nuts. For piggy back reservoir models, make sure reservoir is pointing toward the **rear** of the vehicle on both driver and passenger sides (Fig. 12). Torque to shock hardware to 66 ft-lbs.

FIGURE 12

12. With both sides complete, install wheels and lower the vehicle to the ground. Torque lug nuts to 150 ft-lbs in a crossing pattern.
13. Bounce the rear of the vehicle to settle the suspension.
14. Tighten the U-bolt nuts in a cross pattern to 100-120 ft-lbs.

POST INSTALLATION INSTRUCTIONS

15. Check all hardware for proper torque.
16. Check hardware again after 500 miles and at regularly scheduled maintenance intervals.
17. The vehicle will need a complete front end alignment.
18. 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.