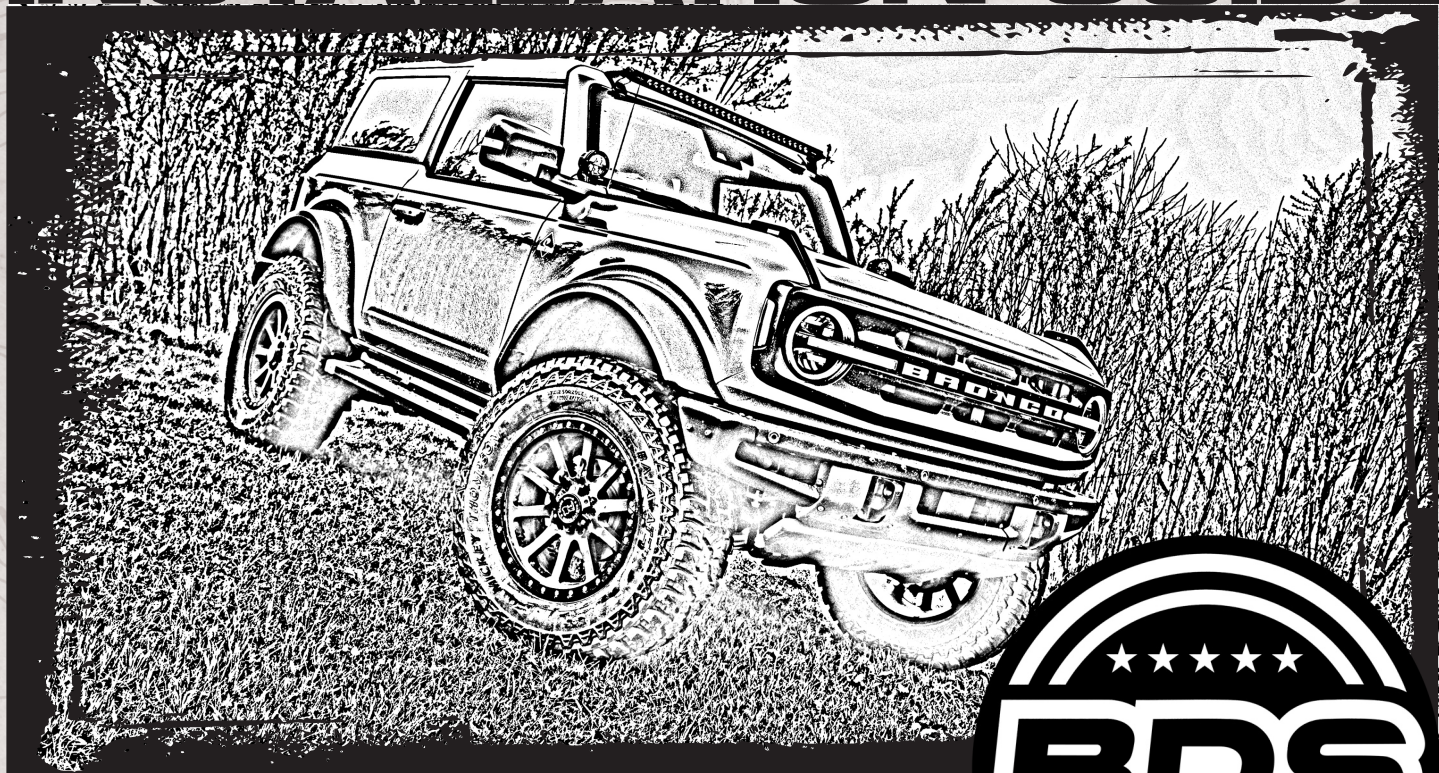


INSTALLATION GUIDE



Part#: 123254

HARDCORE LIMITED LIFETIME WARRANTY

Uniball Upper Control Arm Kit

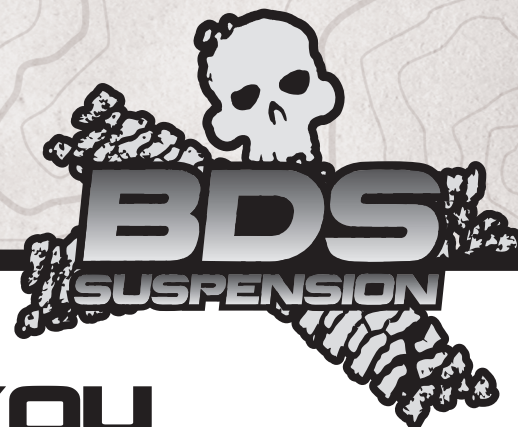
Ford Bronco | 2021-2025

Rev. 060425

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

Works with stock rims with stock tires. Wider tires on stock rims with 6" to 6-3/4" will get close to the ball joint housing. Recommended 5-1/2" to 5" back spacing with a 12.50 wide tire. 4-1/2" backspacing can cause more tire interference with the body.



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

123254 Upper Control Arm Box Kit

Part #	Qty	Description
A380	1	Ford Bronco UCA Assembly - Driver
05043	1	Ford Bronco UCA - Driver
COMH20T	1	1.25" Spherical Bearing
99142A610	1	2-3/8" Internal Retaining Ring
AM000000040	2	Rubber Bushing
BDS222760	1	BDS UCA Decal
A381	1	Ford Bronco UCA Assembly - Passenger
05044	1	Ford Bronco UCA - Passenger
COMH20T	1	1.25" Spherical Bearing
99142A610	1	2-3/8" Internal Retaining Ring
AM000000040	2	Rubber Bushing
BDS222760	1	BDS UCA Decal
05045	2	Spherical Bearing Misalignment Spacer - Lower
05046	2	Spherical Bearing Misalignment Spacer - Upper
05155	2	Ball Joint Cap - Large

123254 Upper Control Arm Box Kit

365	1	Bolt Pack
	2	12mm-1.75 x 90mm Socket Head Cap Screw
	2	12mm-1.75 Nut
	2	12mm Flat Washer
9452K145	2	O-Ring (#139)
45NA53	1	Grease Packet
BP1044	1	Bolt Pack
	2	14mm-2.00 Nylock Nut
	2	9/16" SAE Washer

TROUBLESHOOTING INFORMATION FOR YOUR VEHICLE

- BDS Suspension recommends to lubricate the COM joints every oil change / 3,000 miles using either Tri-Flow Superior Dry Lubricant (No. TF21013) or CRC Dry PTFE Lube (No. 03044). The COM joints are held in using a large snap ring. Be sure to clear the COMs using a damp cloth to remove any dirt and debris in the cup and on the bottom surface in order to extend the life of the COM joint. When used in salty / a more corrosive environment, more frequent maintenance may be required. When the vehicle is on the ground, turn the steering wheel from steering wheel lock in one direction to steering wheel lock in the other direction to make sure lubricant can cycle into the bearing.
- Replacement COM joints service kits are available:
 - BDS083204 service kit includes (1) COM joint and (1) snap ring.
 - BDS083203 service kit includes (1) COM joint, (1) snap ring, (1) upper misalignment, (1) lower misalignment, and (1) cap.
 - BDS073201 service kit includes (2) rubber bushings.
- Do NOT hit the aluminum knuckle with a hammer to separate the ball joint. Use appropriate ball joint separation tool (OTC 204-592).
- Will not work with models with a height sensor attached to the UCA.
- Does not fit Bronco Sport models.
- BDS UCA are designed to work with a strut / coilover collapsed length of 17-3/4" to an extended length of 24-5/8". If using these control arms with strut or coilover lengths outside of this range, damage may result.
- Fox 2.5 or 3.0 Coilovers will work with these UCAs
- Stock height Bilstein Sasquatch or Badlands struts without a spacer will work with these BDS UCAs.
- BDS UCAs will NOT work with OE Black Body struts, unless they are combined with a strut spacer with a minimum height of 5/8".
- BDS UCAs will work with certain spacer leveling kits, such as ZONF1102, ZONF1220, ZONF1301, ZONF1302, ZONF1430, and ZONF1431.

**TECH
TIPS**

INSTALLATION INSTRUCTIONS

INSTALLATION INSTRUCTIONS

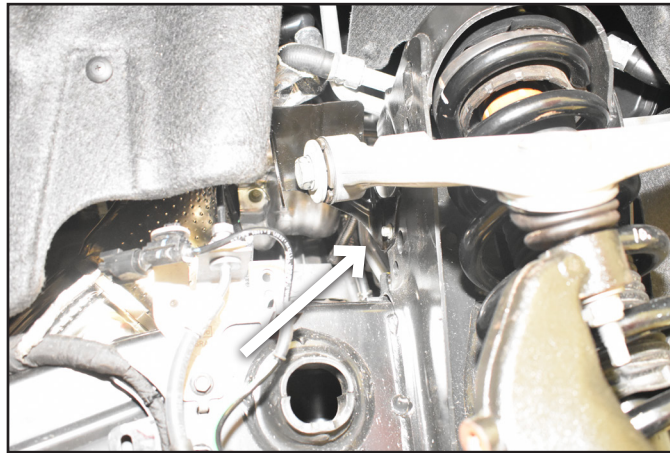
1. Park the vehicle on a clean, flat surface and block the rear wheels for safety.
2. Raise the front of the vehicle and support with jack stands at the frame rails.
3. Remove the front wheels.
4. Complete this portion of the installation on one side at a time
5. Starting on the passenger side, remove the upper arm shield bolt. Remove the shield from vehicle and save for later installation **Figure 1**.

SPECIAL TOOLS

Torque Wrench

OTC 204-592 Ball Joint Separator

FIGURE 1

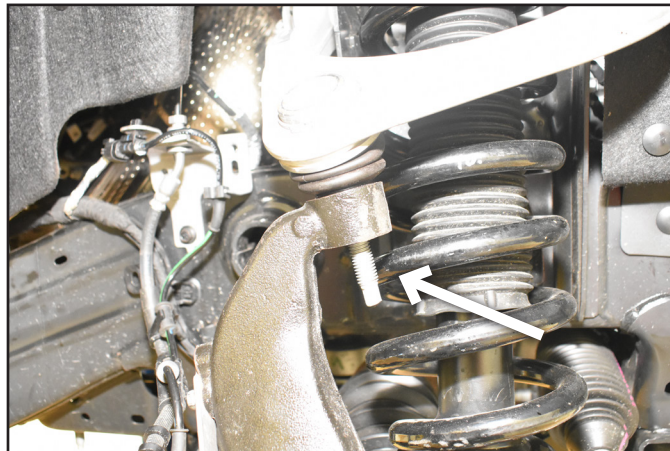


6. Support the knuckle assembly so that the CV shaft and ABS / brake lines are not overextended when removing the UCA.
7. Remove the upper ball joint nut. **Figure 2**



Tip Use the hex holding feature to prevent the stud from turning while removing the nut.

FIGURE 2



8. Using an appropriate separator, dislodge the upper ball joint from the steering knuckle **Figure 3**.



Tip Special service tool OTC 204-592 is recommended to dislodge the ball joint taper.

FIGURE 3



9. Remove the long upper control arm bolt attaching the upper control arm to the vehicle **Figure 4A&B**.



Tip When removing the upper control arm bolt on the driver side the steering linkage most likely will need to be disconnected. Make sure when removing the bolt the steering wheel does not rotate and the joint is connected together at the same position. Damage to the clock spring may result.

FIGURE 4A

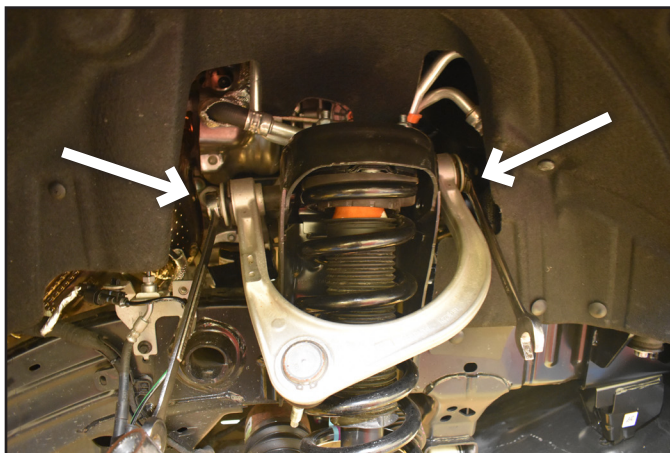
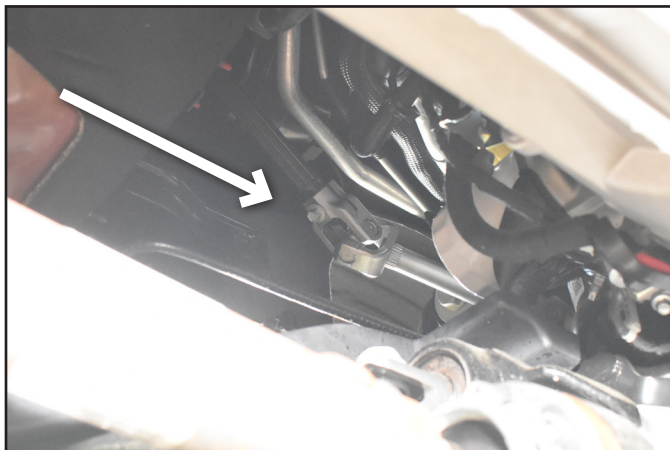


FIGURE 4B



COILOVER INSTALLATION

10. If installing these BDS UCA with a new coil-over assembly, follow the instructions for coilover assembly at this time.

UPPER CONTROL ARM INSTALLATION CONTINUED

11. Install the misalignment spacers into the BDS upper control arms. The misalignments will be a tight fit to the COM joint and may need to be tapped into the COM joint. The bottom misalignment spacer (shown in Figure 5A&B) will be longer and have a taper to go into the steering knuckle.

FIGURE 5A



FIGURE 5B



12. Angle the COM joint / misalignments as shown in Figure 6 in order to help attach the BDS upper control arm to the steering knuckle. Initial movement of the COM joint will be stiff until the joint is installed on the vehicle. Inserting the bolt into the misalignment and moving it may help to break free the COM joint from its installed position.
13. BDS recommends to use either a Tri-Flow Super Dry Lubricant (No. TF21013) or CRC Dry PTFE Lube (No. 03044) for lubricating the COM end. Lubricate the COM end at this time using either of these lubricants. When the vehicle is on the ground, cycle the steering wheel from steering wheel lock in one direction to steering wheel lock in the other direction to make sure lubricant can cycle into the bearing. Reminder that BDS Suspension recommends to lubricate the upper control arm COM joints every oil change or 3,000 miles.

FIGURE 6



14. Install the new BDS upper control arm. Reinstall the factory long bolt through the frame, the provided 9/16" washer and the 14mm nylock nut from BP1044. Do not tighten the bushing hardware at this time. Figure 7

FIGURE 7



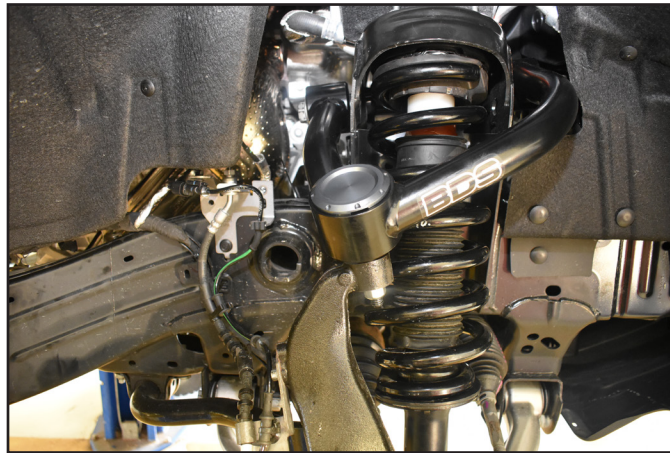
15. Insert the tapered misalignment spacer into the steering knuckle noting that the misalignment / COM bearing may need to be moved to line up the joint. Using the provided 12mm socket head cap screw, 12mm nut, and washer, torque the joint to 46 ft-lbs. Figure 8

FIGURE 8



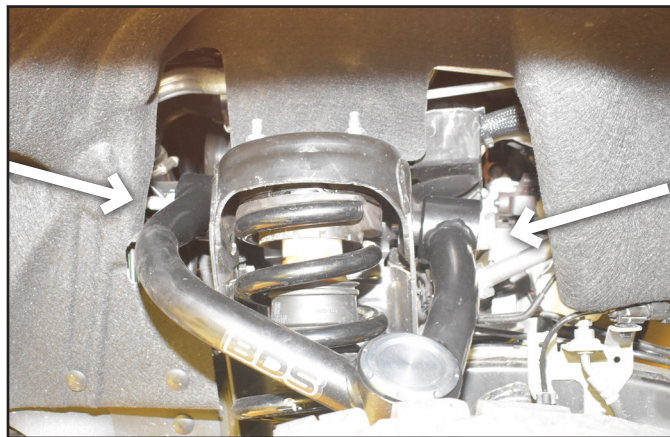
16. Use the included grease packet to lube the o-ring. Install o-ring onto the cap and install cap onto the arm. Figure 9

FIGURE 9



17. Reinstall the upper arm shield on the passenger side. Replace with a factory bolt and tighten to 80 in-lbs.
18. Install the wheels and lower the vehicle to the ground. Torque lug nuts to 100 ft-lbs in a crossing pattern.
19. Bounce the front of the vehicle to settle the suspension.
20. Torque upper control arm bushing hardware to 122 ft-lbs. Figure 10

FIGURE 10



21. Check all hardware for proper torque.
22. Recheck hardware after 500 miles.
23. The vehicle will need a complete front end alignment.
24. When the vehicle is on the ground, cycle the steering wheel from steering wheel lock in one direction to steering wheel lock in the other direction to make sure lubricant can cycle into the bearing.

POST-INSTALLATION

25. Check all hardware for proper torque.
26. Reconnect the positive and negative battery cables if removed.
27. The vehicle will need a complete front end alignment.
28. Check all hardware after 500 miles.
29. Adjust headlights as necessary.

SERVICE STEPS

Service of COM joints is recommended every 3,000 miles or more frequent when used in salty / a more corrosive environment. Tri-Flow Superior Dry Lubricant (No. TF21013) or CRC Dry PTFE Lube (No. 03044) is recommended. It is easiest to remove a wheel for maintenance of COM joints. Along with removing the wheel and raising the suspension, this will help to allow the lubricant to work into the COM joint when the vehicle is put back on the ground after the service. Raising the vehicle and removing a tire is

NOT a requirement. Illustration is shown outside of the vehicle for clarity.

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 with jack stands at the frame rails.
3. Remove the front wheels.
4. Remove the anodized cap from the upper control arm using a flat head screw driver finding the recess in the cap. Figure 1&2

FIGURE 1 - SERVICE



FIGURE 2 - SERVICE

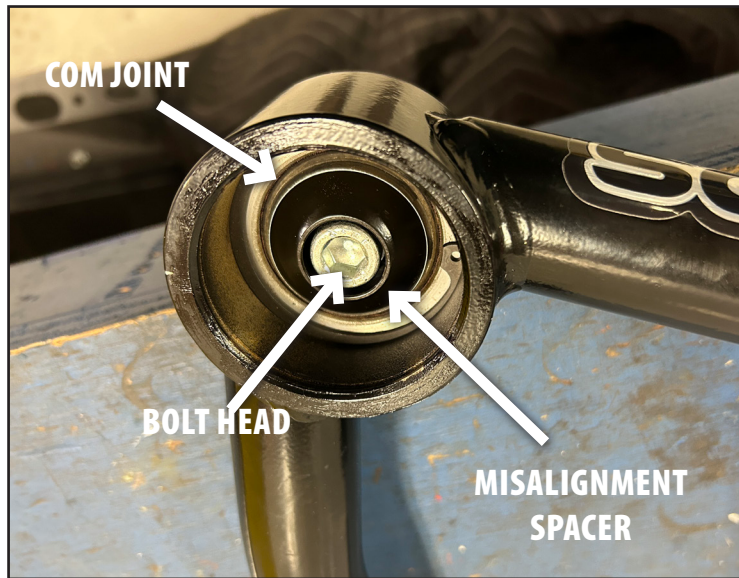


5. Underneath the cap is the COM end with misalignments and the bolt head to attach the upper control arm to the vehicle. Around the diameter edge of the COM joint is where the lubricant should be sprayed all around the joint to make sure it is worked into the joint when driving the vehicle. Figure 3



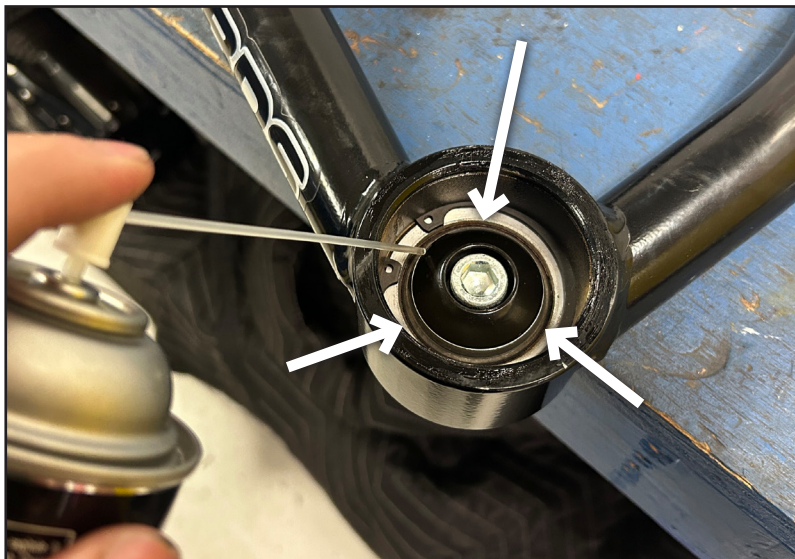
Tip *The COM joint should have a shiny / chrome surface to it, while the misalignment will be a black part.*

FIGURE 3 - SERVICE



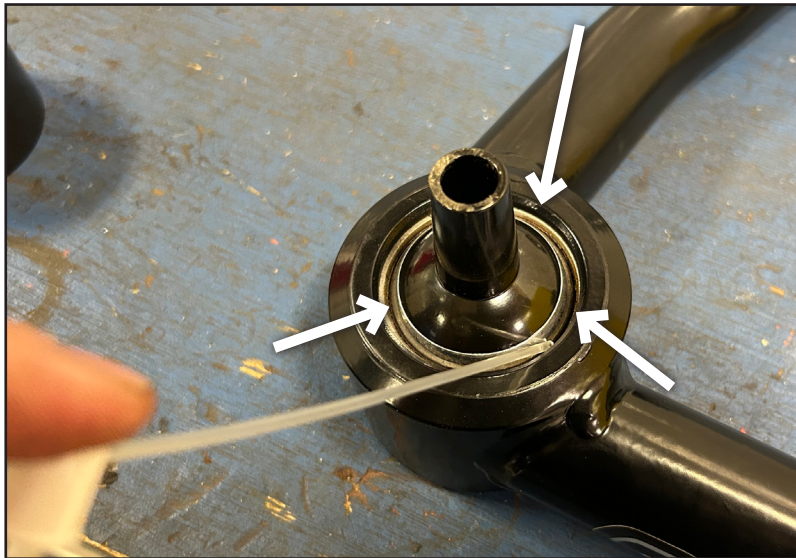
6. Spray lubricant around the whole joint diameter as shown in the Figure 4 below.

FIGURE 4 - SERVICE



7. Spray lubricant around the while joint diameter on the bottom side of the COM joint as well. Figure 5

FIGURE 5 - SERVICE



8. Cycle the steering from left to right by turning the steering wheel at this time. This will allow the lubricant to get into COM joint and allow proper lubrication.
9. Wipe any excess lubricant from the joint at this time.
10. Grease the O-ring on the cap and reinstall the cap to the upper control arm at this time. Figure 6

FIGURE 6 - SERVICE



11. If wheels removed, reinstall the wheels, snug up lug nuts, and lower the vehicle to the ground. Torque lug nuts to 100 ft-lbs in a crossing pattern.
12. Bounce the front of the vehicle to settle the suspension.

1"-4" LIFT HEIGHT WHEEL / TIRE FITMENT INFORMATION

All Wheel / Tire fitment information is with the front and rear intrusion beams removed same as how a Sasquatch model has them removed. Tire diameter and width will vary based around tire brands and wheels used. Tire side profile will also affect clearance to the stock UCA and sway bar.

1. Although 37" x 12.50" will work at ride height, the tires will still contact the front body mount (Figure A & B) and possibly rear inner fender (Figure C) through wheel travel and steering lock to lock. If running this size tire and using the full suspension travel, these areas must be addressed.

FIGURE A



FIGURE B



FIGURE C



2. A maximum of 35" x 12.50" tire on a 17x8.5, 17x9, 18x8, 18x9, or 20x9 on 5.5" to 5" back spacing will clear through wheel travel and is recommended for best performance and minimal rubbing Figure D.

FIGURE D



3. A 275/70R18 is recommended on 18" Outer Banks wheels or other wheels with similar back spacing (6.375" BS). Wider tires may rub the sway bar.
4. A 275/80R17 is recommended on 17" Black Diamond wheels or other wheels with similar back spacing (6.5" BS). Wider tires may rub the sway bar.
5. A 285/70R17 is recommended on 17" Badlands wheels or other wheels with similar back spacing (6.75" BS). Wider tires may rub the sway bar.
6. A 315/70R17 is recommended on 17" Sasquatch wheels or other wheels with similar back spacing (6" BS).
7. A maximum of 35" x 11.20" (285mm width tire) tire on a 17x8.5, 17x9, 18x8, 18x9, or 20x9 on 6" back spacing will clear through wheel travel and is recommended for best performance and minimal rubbing. Wider tires / more aggressive sidewall tires than 285mm width (295-315mm widths) will rub the sway bar and / or UCA on a 6" back space wheel.
20": 285/65R20, 285/60R20
18": 285/75R18, 285/70R18
17": 285/75R17, 285/70R17
8. 35" x 12.50" tire on a stock 17" Black Diamond or 18" Outer Banks wheel will clear through wheel travel when combined with the BDS UCA, but will rub on the sway bar. Any other stock wheel or aftermarket wheel with 6.75" to 6" back spacing will have similar rub issues on a 35" x 12.50" tire.

FIGURE E





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.