

INSTALLATION GUIDE



Part#:743001

HARDCORE LIMITED LIFETIME WARRANTY

Front Suspension Components Kit

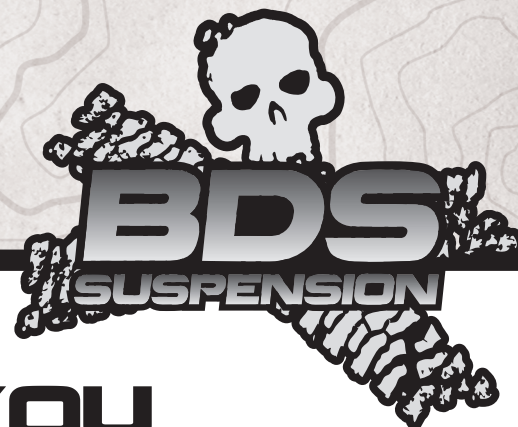
Ford Bronco | 2021-2025

Rev. 060325

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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

Recommended 5-1/2" to 4-1/2" back spacing
with 37x12.50 R17, 18, or 20 tires.



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

743001 Front Suspension Box Kit		
Part #	Qty	Description
A380	1	Ford Bronco UCA Assembly - Driver
05043	1	<i>Ford Bronco UCA - Driver</i>
COMH20T	1	<i>1.25" Spherical Bearing</i>
99142A610	1	<i>2-3/8" Internal Retaining Ring</i>
AM000000040	2	<i>Rubber Bushing</i>
BDS222760	1	<i>BDS UCA Decal</i>
A381	1	Ford Bronco UCA Assembly - Passenger
05044	1	<i>Ford Bronco UCA - Passenger</i>
COMH20T	1	<i>1.25" Spherical Bearing</i>
99142A610	1	<i>2-3/8" Internal Retaining Ring</i>
AM000000040	2	<i>Rubber Bushing</i>
BDS222760	1	<i>BDS UCA Decal</i>
05045	2	Spherical Bearing Misalignment Spacer - Lower
05046	2	Spherical Bearing Misalignment Spacer - Upper
05155	2	Ball Joint Cap - Large
365	1	Bolt Pack
	2	12mm-1.75 x 90mm Socket Head Cap Screw
	2	12mm-1.75 Nut
	2	12mm Flat Washer
	2	O-Ring (#139)
	1	Grease Packet
BP1044	1	Bolt Pack
	2	14mm-2.00 Nylock Nut
	2	9/16" SAE Flat Washer
BP1030	1	Bolt Pack
	2	Black Nylon Push-Type Retainer
05165	1	High Clearance Body Mount - Driver
05166	1	High Clearance Body Mount - Passenger
05191	2	Lower Intercooler Spacer
05193	1	Honeycomb Delete - Driver
05194	1	Honeycomb Delete - Passenger
05195	1	Fender Liner Clip Tab - Driver
05196	1	Fender Liner Clip Tab - Passenger
05197	2	Tie Rod End Sleeve

TROUBLESHOOTING INFORMATION FOR YOUR VEHICLE

1. 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.
2. 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.
3. Do NOT hit the aluminum knuckle with a hammer to separate the ball joint. Use appropriate ball joint separation tool (OTC 204-592).

**TECH
TIPS**

INSTALLATION INSTRUCTIONS

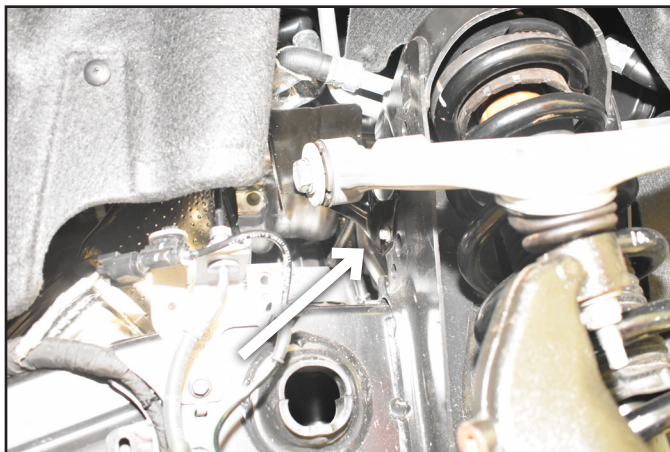
INSTALLATION INSTRUCTIONS

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

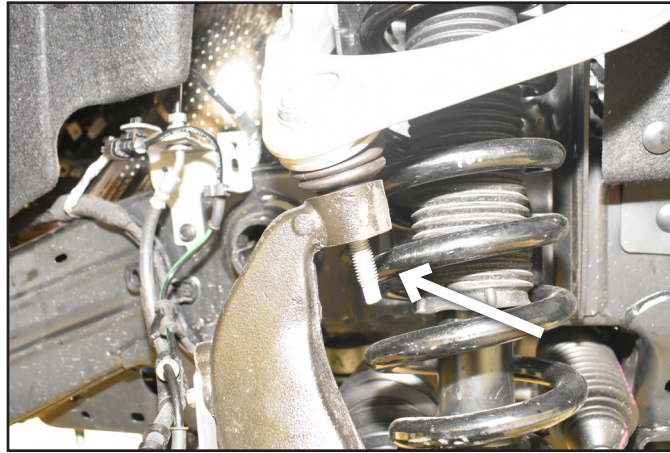


6. Support the knuckle assembly so that the CV shaft and ABS / brake lines are not overextended when removing the UCA.
7. Remove the upper ball joint nut. **Figure 2**



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

FIGURE 2

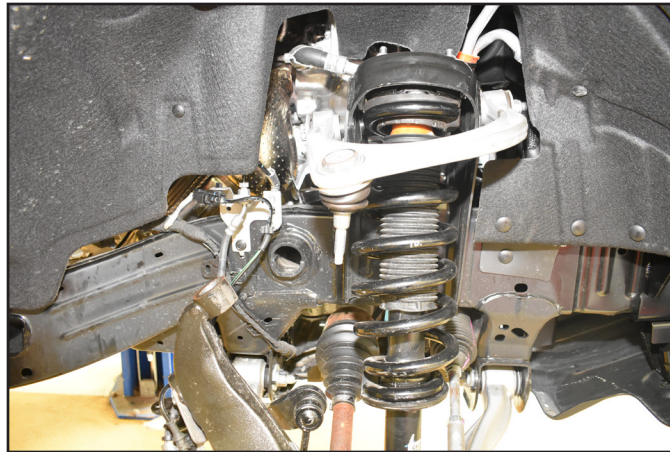


8. Using an appropriate separator, dislodge the upper ball joint from the steering knuckle **Figure 3**.



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**.



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 4B***

FIGURE 4A

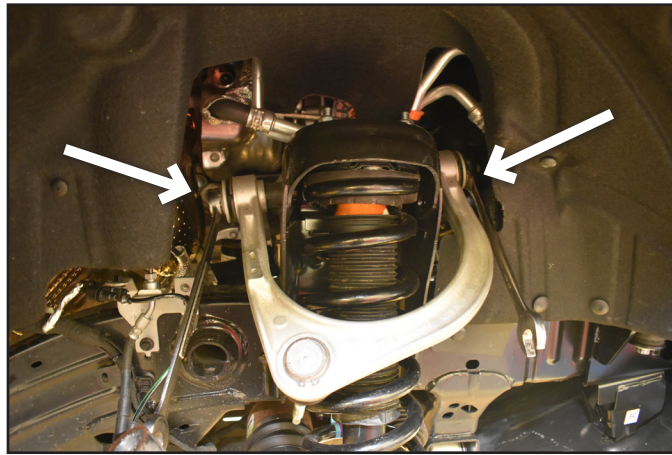
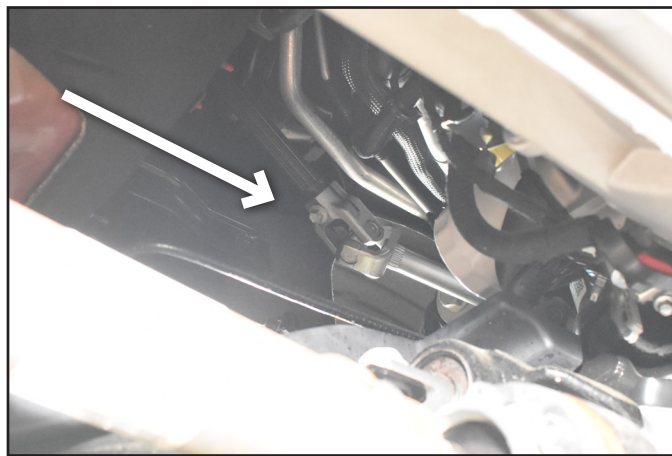


FIGURE 4B



COILOVER INSTALLATION

10. If installing these BDS UCA with a new coil-over assembly, follow the instructions for coilover assembly at this time. Install the lower control arm skids along with the coilovers at this time as well. Instructions for lower control arm skids are in the 743000 box kit.

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**) will be longer and have a taper to go into the steering knuckle. **Figure 5B**

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 cyle 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



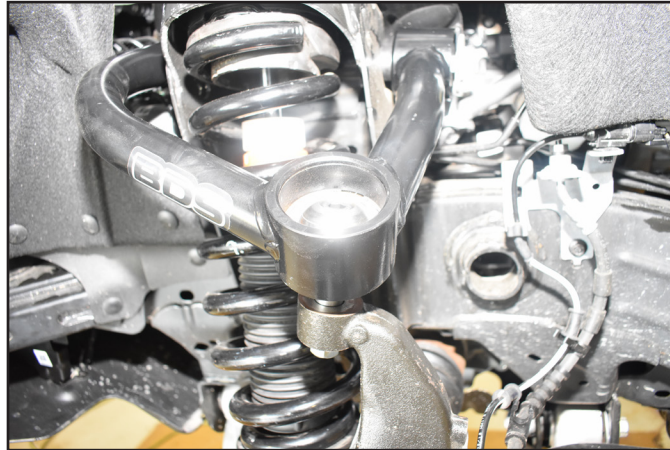
14. Install the new BDS upper control arm. Reinstall the factory long bolt through the frame and the provided 9/16" washer and 14mm nylock nut from BP1044. Do not tighten the bushing hardware at this time. **Figure 7**

FIGURE 7



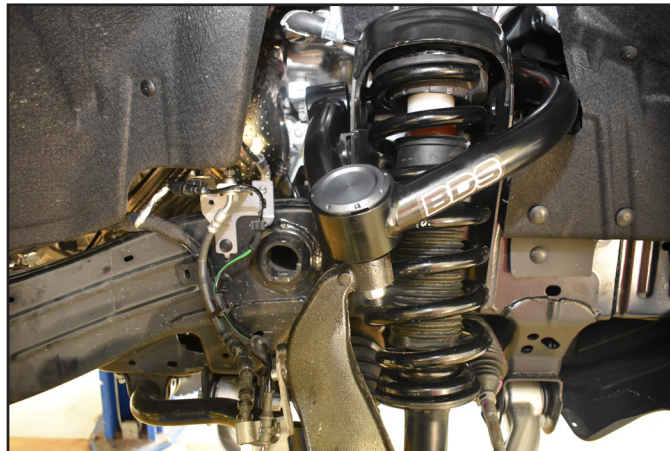
15. Insert the tapered misalignment spacer into the steering knuckle noting that the misalignment / COM bearing may need to be moved to line up the joint. Using the provided 12mm socket head cap screw, 12mm nut, and washer, torque the joint to 46 ft-lbs. **Figure 8**

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.

TIE ROD SLEEVE

DISASSEMBLY

18. Using a 21mm wrench, break loose the tie rod jam nut, do not unthread it very far from the outer tie rod. **Figure 10**

FIGURE 10



19. Remove the outer tie rod from the steering knuckle by removing the nut using a 21mm socket. Using a tie rod end separator, dislodge the outer tie rod end from the steering knuckle. Figure 11

FIGURE 11



20. Unthread the outer tie rod from the inner tie rod. Figure 12

FIGURE 12



21. Measure the distance from the end of the inner tie rod to the jam nut. Figure 13 Record the measurement of the inner tie rod length here:

DRV: _____

PASS: _____

FIGURE 13



22. Unthread the OE jam nut from the inner tie rod.

INSTALLATION

23. Thread on the tie rod sleeve to the inner tie rod. Using the reference dimension recorded previously, thread the tie rod sleeve on to the same dimension. **Figure 14**

FIGURE 14



24. Thread on the outer tie rod up to the tie rod sleeve.
25. Reinstall the outer tie rod into the steering knuckle, using an OE nut to attach it to the steering knuckle. **Figure 15**

FIGURE 15



26. Torque the outer tie rod nut to 46 ft-lbs.
27. Using a 7/8" wrench, tighten the tie rod sleeve to the outer tie rod.

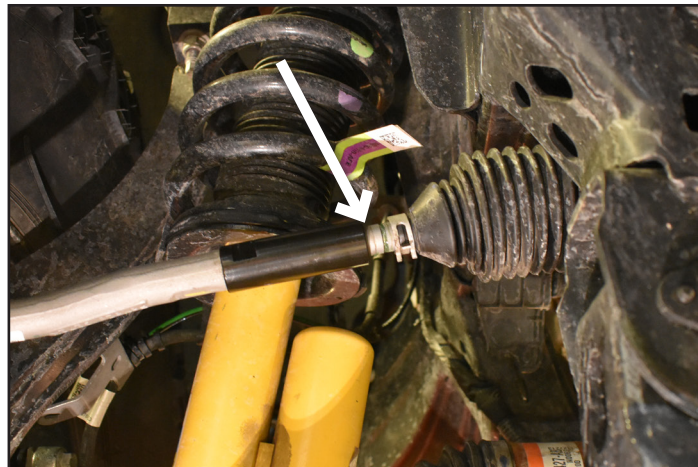
TIE ROD SLEEVE - ALIGNMENT PROCEDURE

28. Although the alignment should be very close, it is still recommended to have an alignment performed after installation of the tie rod end sleeve.
29. The tie rod end sleeve will cover the threads / adjuster section of the inner tie rod to strength a potential weak point of the tie rod. With this the adjustment of the inner tie rod becomes abnormal for a standard alignment shop. To adjust the inner tie rod, depending upon how much of the inner tie rod is showing, remove the clamp on the inner boot and push the boot up towards the steering rack. **Figure 16, 17** Depending upon where the jam nut was positioned originally the boot may not be needed to be pushed up.

FIGURE 16



FIGURE 17



30. Using pliers, the inner tie rod can now spin to adjust the toe for the front suspension during the alignment. Lock off the tie rod sleeve to the outer tie rod end using a 7/8" wrench. **Figure 18**

FIGURE 18



31. If the boot needed to be pushed up, it can now be moved back down into the groove on the inner tie rod end.

MAX TIRE CLEARANCE INSTALLATION

32. Using a 7mm socket remove the 4 bolts that mount the fender liner to the fender. **Figure 19**

FIGURE 19



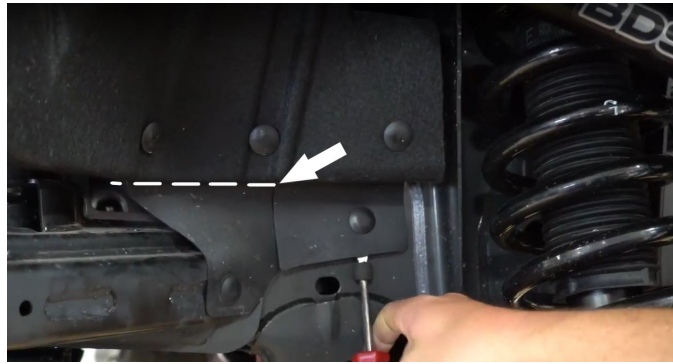
33. Using a #2 Phillips screwdriver and the trim tool, carefully remove all the trim clips that hold the inner fender liner in place. **Figure 20**

FIGURE 20



34. The rubber flap on the front bottom of the fender liner can be trimmed along the dashed line as shown below. **Figure 21**

FIGURE 21



35. Once all bolts and clips are removed, carefully remove the inner fender liner from the vehicle, save all hardware and liners as these will be reinstalled later.

FRONT BUMPER AND SKID PLATE REMOVAL

MODELS WITH THE MODULAR STEEL BUMPER

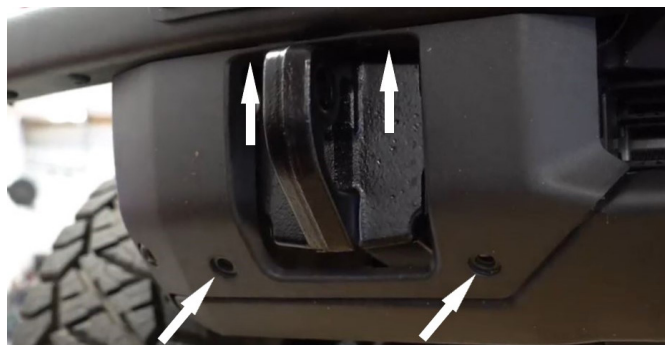
36. If your bumper has parking sensors you will need to unplug the bumper harness from the vehicle. This plug is located at the driver side front corner as shown below. Figure 22

FIGURE 22



37. Using a trim removal tool, remove all 8 of the retainer clips from the plastic trim surrounding the recovery hooks. Figure 23

FIGURE 23



38. Once all clips have been removed, carefully remove the trim piece on both sides to reveal the bumper mounting bolts.
39. With the help of an assistant, support the bumper while removing bumper mount bolts from each side as shown below, retain all hardware and bumper assembly. Figure 24

FIGURE 24



40. Once the bumper is removed, using a 15mm socket remove the 4 bolts mounting the steel skid plate as shown below. Retain factory hardware and skid plate. **Figure 25**

FIGURE 25



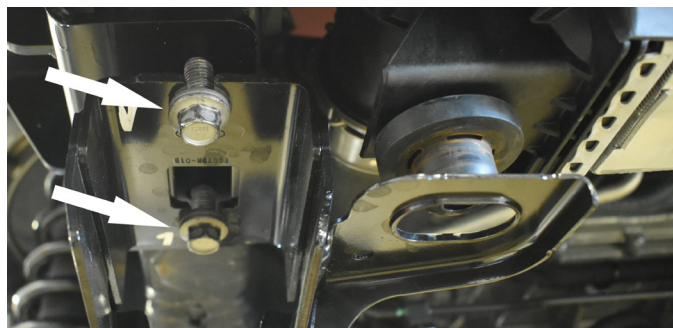
MODELS WITH THE PLASTIC BUMPER

41. IF your bumper has parking sensors you will need to unplug the bumper harness from the vehicle. This plug is located at the driver side front corner.
42. Using a trim tool, release and remove the 12 trim clips from the trim panels.
43. Once all clips have been removed, carefully remove the trim piece on both sides, models with parking sensors will require the sensors in the trim piece to be disconnected to completely remove the trim panel from the vehicle to reveal the bumper mounting bolts.
44. With the help of an assistant, support the bumper while removing bumper mount bolts from each side, retain all hardware and bumper assembly.
45. Once the bumper is removed, using a 15mm socket remove the 6 bolts mounting the plastic under shield on. Retain factory hardware and plastic under shield.

HIGH CLEARANCE BODY MOUNT INSTALLATION

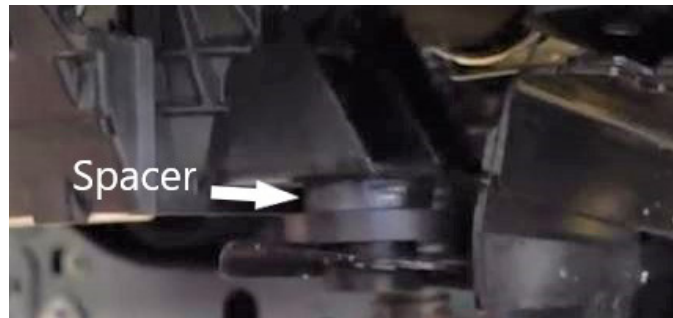
46. Working on one side at a time, using a 15mm socket, remove the intercooler bracket to the frame as shown below. Retain factory hardware and bracket. **Figure 26**

FIGURE 26



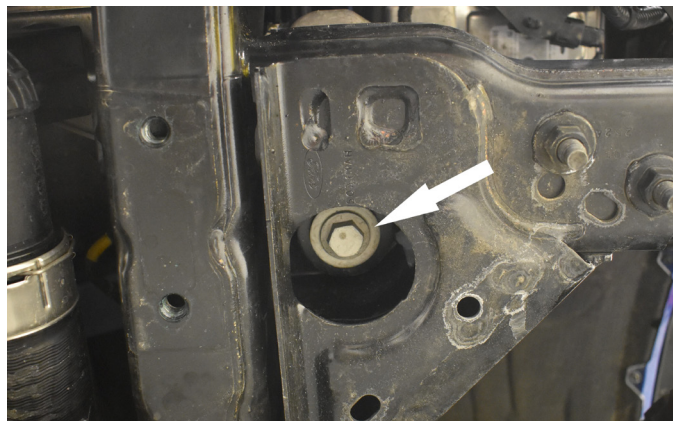
47. Carefully remove the bracket from the intercooler.
48. Once the metal bracket is off, carefully remove the bushing from the mounting post on the intercooler.
49. Install the intercooler spacer ring (05191) on top of the bushing, then re-install the bushing onto the intercooler as shown below. **Figure 27**

FIGURE 27



50. Locate the front most body mount bolt as shown below, and use an 18mm socket to remove it and the lower body mount bushing. Retain hardware and bushing to be re-installed later. **Figure 28**

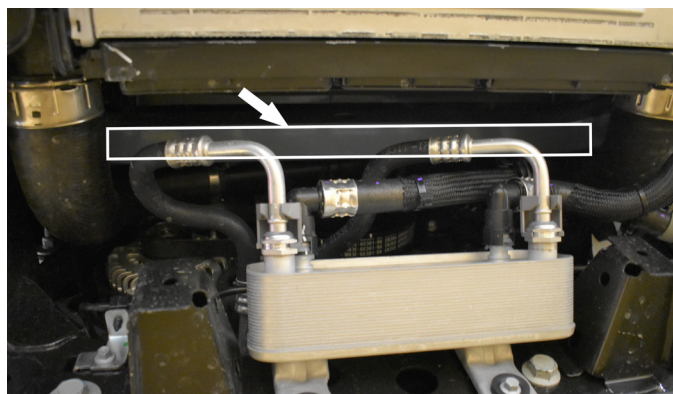
FIGURE 28



51. After the body mount bolt has been removed, use a jack to support the body by lifting on the lower radiator support between the frame rails as shown below. Place the jack closer to the side you are working on and not in the center of the support. Lift until the weight of the body is completely off of the body mount.

NOTE: The radiator support will be the same color as the exterior of your Bronco. Be extremely careful when lifting the front of the body to not lift more than necessary and ensure that your lifting apparatus is not contacting any other components like the radiator, intercooler or auxiliary transmission cooler. **Figure 29**

FIGURE 29



52. Locate where the body mount bracket is connected to the frame at the front of the bracket as shown with the dashed line below. **Figure 30**

FIGURE 30



53. Using your reciprocating saw or other cutting tool of choice, carefully cut through the square tube parallel to the frame rail and as close to the frame/weld as possible as shown below. Retain the upper body mount bushing and sleeve, discard body mount bracket. **Figure 31**

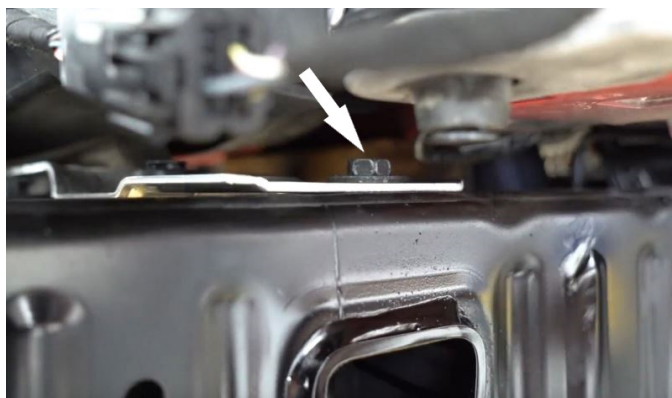
NOTE: When cutting the body mount bracket off be careful not to cut into the frame rail.

FIGURE 31



54. Once the body mount is removed, additional grinding may be required to ensure the remaining tube sticking out of the frame does not protrude more than 1/4" from the frame.
55. Paint exposed metal to prevent corrosion
56. Locate the bolt holding the upper intercooler mount on top of the frame as shown, using a 15mm wrench, remove this bolt and leave the aluminum intercooler mount in place. **Figure 32**

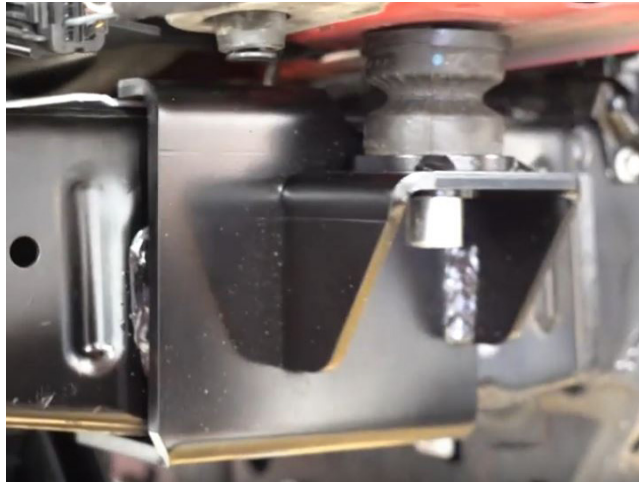
FIGURE 32



57. Install the upper body mount bushing into the new body mount (DRV-05165, Pass-05166).

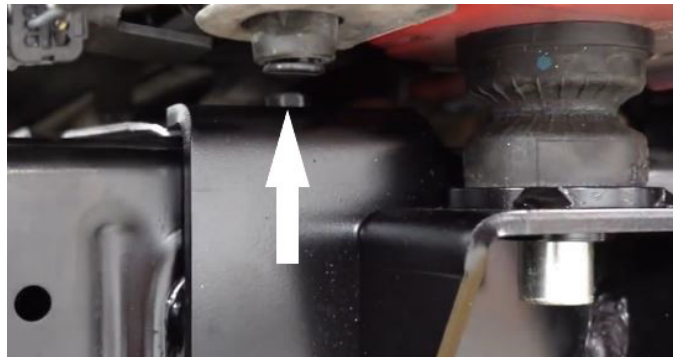
58. Install the new body mount assembly over the frame with the top tab on top of the aluminum intercooler support and the lower tab aligned with the bolt holes for the lower intercooler mount as shown. **Figure 33**

FIGURE 33



59. Install the upper intercooler mount bolt through the new body mount bracket and intercooler support as shown below, hand tighten all the way until the bolt makes contact with the bracket. Do not tighten at this time. **Figure 34**

FIGURE 34

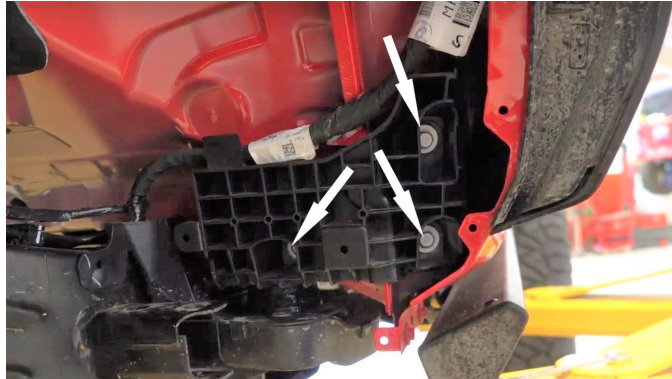


60. Locate the lower intercooler bracket and factory bolts, carefully push bracket onto intercooler isolator until fully seated, then install the 2 factory bolts, torque to 59ft-lbs.
61. Once lower bolts are tight, torque upper bolt to 35ft-lbs.
62. Once the body mount assembly is tightened onto the frame, the body can now be lowered onto the body mount bushing.
63. After the weight of the body is back on the bushing the lower bushing, sleeve and body mount bolt can be reinstalled and torqued to 59ft-lbs.
64. Repeat process on other side of vehicle.

HIGH CLEARANCE FENDER LINER BRACKET INSTALLATION

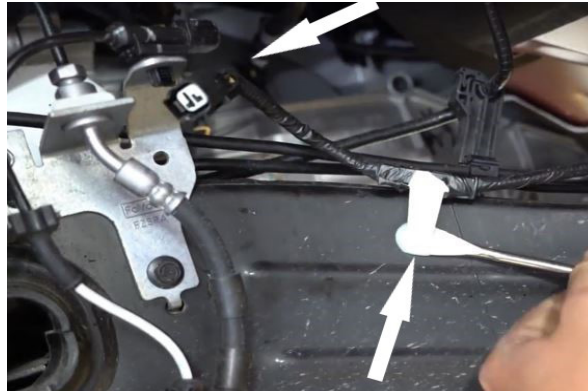
65. Locate the plastic structure on the rear of the fender well. Remove the 3 bolts shown below carefully remove the plastic structure by lifting up and pulling simultaneously. Retain factory hardware and discard plastic structure. **Figure 35**

FIGURE 35



66. Once the plastic structure is removed the passenger side is ready for cutting of the frame bracket. On the driver's side, disconnect the ABS sensor from the plug on top of the frame rail.
67. Using a trim tool un-clip the trim clips from the frame rail as shown below to release the ABS wire and harness from the frame and around the body mount to clear space around the frame bracket. **Figure 36**

FIGURE 36



68. Using a 15mm wrench or socket remove the 2 bolts holding in the frame bracket extender as shown below. Discard the tube and hardware. **Figure 37**

FIGURE 37



69. Carefully cut the frame bracket off as close to the frame rail as possible as shown below Figure 38, 39

FIGURE 38



FIGURE 39



70. Clean up burs on the cut portion and paint to prevent corrosion.
71. Once cutting and painting is completed, reinstall the electrical harness to its original location with all the clips and reconnect the ABS sensor.
72. Using the factory bolts, mount the new high clearance fender liner brackets (Driver: 05193 & 05195, Pass: 05194 & 05196) as shown below. Torque bolts to 15ft-lbs. Figure 40

FIGURE 40



73. Once the fender liner brackets are installed, carefully put the inner fender liner back in place. Begin fastening it with the 4 factory top screws on the fender, leave screws loose.
74. Install all of the plastic trim clip starting at the front and work towards the back installing the clips into the high clearance bracket last through the factory holes in the liner.
75. Once all the OE clips are in carefully punch another 1/4" hole through the fender liner using a sharp hole punch or a hot bolt to line up with the outer liner clip bracket as shown below. Use provided trim clip to fasten fender liner to new bracket. **Figure 41**

FIGURE 41



76. Once all plastic clips are installed, tighten the 4 screws that connect the liner to the fender. Torque to 15in-lbs.

BUMPER AND SKID PLATE INSTALLATION

MODELS WITH MODULAR BUMPER AND STEEL SKID PLATE:

77. With the help of an assistant, hold the bumper in place and install the factory mounting hardware Torque bolts to 81ft-lbs.
78. Models with parking sensors will need to reconnect the bumper harness at the front left corner of the vehicle.
79. Locate the 2 trim panels and snap them into place
80. Once snapped into place push all 8 trim clips back into place.
81. Locate the front skid plate, install using factory hardware. Torque hardware to 22ft-lbs.
82. **NOTE:** *With the rear bolts partially installed the skid plate can be slid over them to support it while installing the front two bolts.*

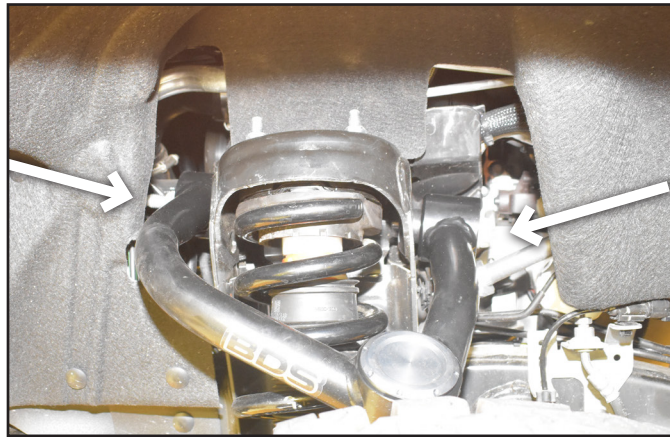
MODELS WITH PLASTIC BUMPER AND PLASTIC UNDER SHIELD

83. With the help of an assistant, hold the bumper in place and install the factory mounting hardware Torque bolts to 81ft-lbs.
84. Models with parking sensors will need to reconnect the bumper harness at the front left corner of the vehicle.
85. Locate the 2 trim panels, models with parking sensor will need to reconnect the sensors at this time, carefully snap the trim panels into place
86. Once snapped into place, push all 12 trim clips back into place.
87. Locate the plastic under shield, install using the 6 factory bolts, torque hardware to 124in-lbs (10 ft-lbs)

FINAL FRONT INSTALLATION

88. Install the wheels and lower the vehicle to the ground. Torque lug nuts to 100 ft-lbs in a crossing pattern.
89. Bounce the front of the vehicle to settle the suspension.
90. Torque upper control arm bushing hardware to 122 ft-lbs. **Figure 42**

FIGURE 42



91. Check all hardware for proper torque.
92. Recheck hardware after 500 miles.
93. The vehicle will need a complete front end alignment.
94. 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

95. Reconnect the positive and negative battery cables if removed.
96. Check all hardware after 500 miles.
97. 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 - SERVICE



FIGURE 2 - SERVICE

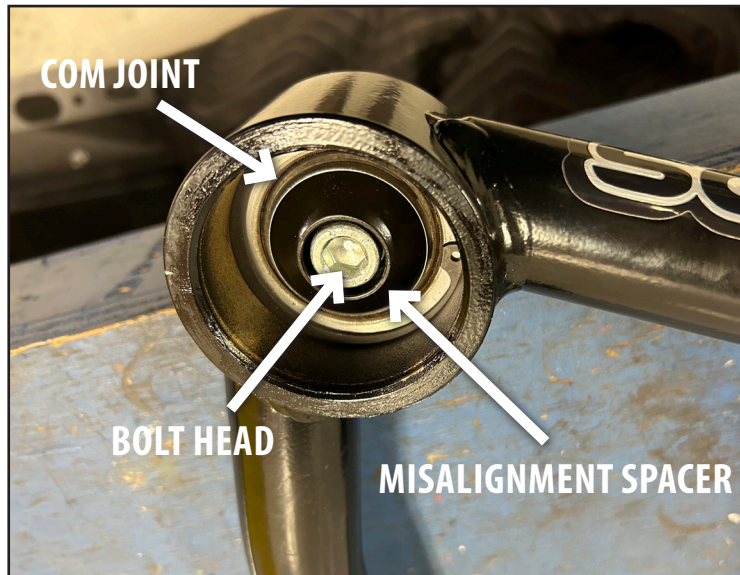


5. Underneath the cap is the COM end with misalignments and the bolt head to attach the upper control arm to the vehicle. Around the diameter edge of the COM joint is where the lubricant should be sprayed all around the joint to make sure it is worked into the joint when driving the vehicle.



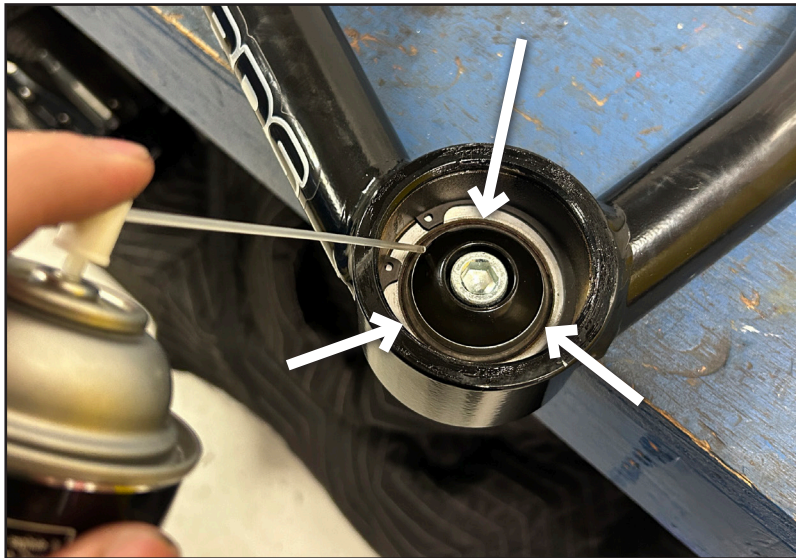
Tip *The COM joint should have a shiny / chrome surface to it, while the misalignment will be a black part.*

FIGURE 3 - SERVICE



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

FIGURE 4 - SERVICE



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

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 - 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.



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