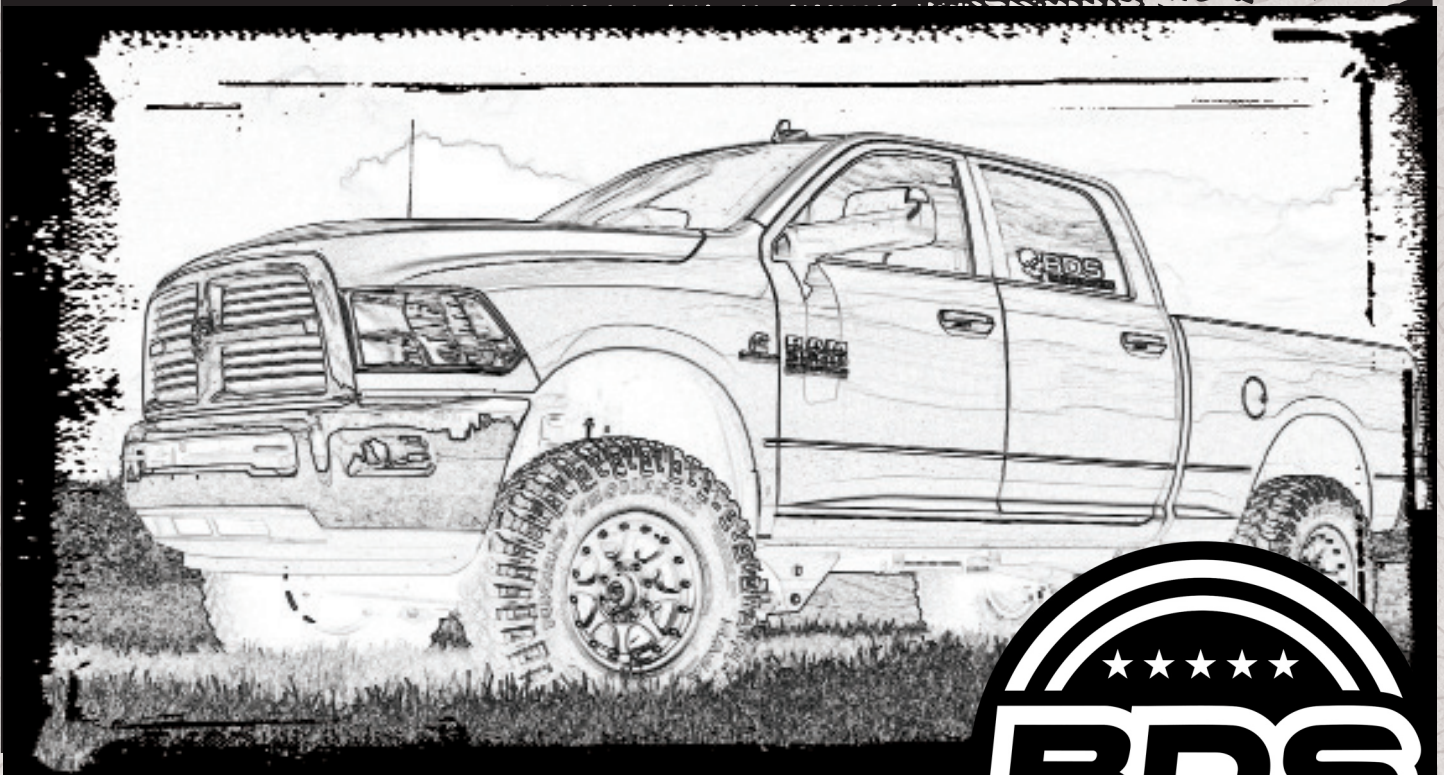


# INSTALLATION GUIDE



Part#: 122404



**HARDCORE LIMITED LIFETIME WARRANTY**

## **4" & 6" 4-Link Upgrade Kit**

**Dodge Ram 3500 Pickup 4WD | 2013-2018**

**Dodge Ram 2500 Pickup 4WD | 2014-2018**

Rev. 122220

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

E-mail: [tech-bds@ridefox.com](mailto: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](http://560plus.com) for more information.

### TIRES AND WHEELS

#### 4" Lift:

37x12.50 on 9" wide wheel & 5-5/8" Backspace

35x12.50 on 9" wide wheel & 4-1/2" Backspace

#### 6" Lift:

37x13.50 on 9" wide wheel & 5-5/8" Backspace

37x12.50 on 9" wide wheel & 4-1/2" Backspace

#### 8" Lift:

40x13.50 on 9" wide wheel & 4-1/2"-5-1/2" Backspace

Minor modification to the inner plastic fender may be required. Certain running boards may require modification. This is the largest tire that fits, wider and taller tires will increase the amount of trimming required.



### 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

## 012403 - 4 Link Arms

Part #	Qty	Description
02472	2	Lower Control Arm
516	2	Straight Grease Zerk
7	2	Sleeve - Lower Control Arm
3527BK	4	Bushing - Lower Control Arm)
02472	2	Upper Control Arm
3527BK	4	Bushing - Upper Control Arm)
61	2	Sleeve - Upper Control Arm
60107	2	90 Degree Grease Zerk

## 122404 - 4 Link Brackets

Part #	Qty	Description
02594	1	4-Link Bracket - Drv
02595	1	4-Link Bracket - Pass
02449	2	BDS Badge
360	2	Rivet Bolt Packs
02470	2	Weld in bung
02471	2	long machined spacer sleeve
799	1	Rivet nut installation bolt pack
95105A169	2	1/2" Rivet nuts
7	2	Spacer Sleeve
73-1	2	1.250 x 0.312 x 0.875
B1069	1	4-Link bracket shim plates - bag kit
788	1	Bolt Pack - 4 Link Brackets
	2	5/8"-11 x 6" bolt - grade 8 - yellow zinc
	4	5/8" USS Washer - yellow zinc
	2	5/8"-11 Prevailing torque nut - yellow zinc
	2	9/16"-12 x 4" bolt - grade 8 - yellow zinc
	4	9/16" SAE Washer - yellow zinc
	2	9/16"-12 Prevailing torque nut - yellow zinc
	2	3/4"-10 x 5-1/2" bolt - grade 8 - yellow zinc
	2	3/4"-10 x 5" bolt - grade 8 - yellow zinc
	8	3/4" SAE Thru hardened washer - yellow zinc
	4	3/4"-10 Prevailing torque nut - yellow zinc
	4	1/2"-13 x 1-1/4" bolt - grade 8 - yellow zinc
	4	1/2" USS Washer - yellow zinc

## TECH TIPS

### TROUBLESHOOTING INFORMATION FOR YOUR VEHICLE

1. 6.4L Gas models will require exhaust modification to clear the front driveshaft and passenger side 4-link bracket. 5.7L gas models may require modification - but not in all cases. The vehicle can be driven without the front driveshaft to an exhaust shop for modification and reinstalled
2. This kit does not include a front driveshaft spacer, which will be required due to the axle being pushed further forward for improved tire clearance. This driveshaft spacer is included in all BDS indexing rings, which is included with all kits 6" and larger. If upgrading from a 4" radius arm drop kit this spacer must be purchased separately. It is acceptable to drive the vehicle without a front driveshaft in place if one needs to be ordered.
3. The trackbar bracket included in BDS radius arm drop brackets is not the same as 4-link kits. This bracket is offset further forward for increased clearance to the differential under full compression, since the axle is moved further forward with this kit. The 4-link specific trackbar bracket is highly recommended.

## INSTALLATION INSTRUCTIONS

### SPECIAL TOOLS

11/16" drill (step drill highly recommended)

Cutoff wheel

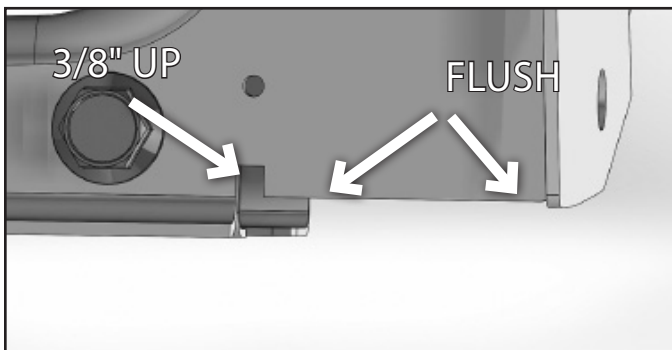
Welder

Rivet Gun

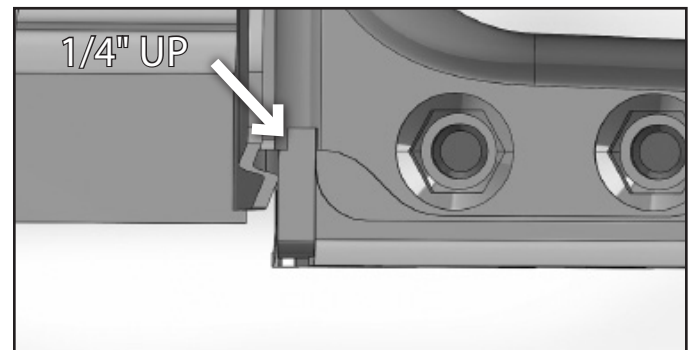
### INSTALLATION INSTRUCTIONS

1. Park vehicle on clean flat and level surface. Block the rear wheels for safety.
2. Remove front driveshaft if driveshaft spacer is not present. Otherwise, disconnect the driveshaft from the axle, retain factory hardware.
3. Disconnect the battery / batteries, welding will be required. Do not weld on the vehicle with the batteries connected.
4. Raise the front of the vehicle and support frame rails with jackstands. Do not support the vehicle on the radius arms, they will be removed during the installation. Support the front axle with a hydraulic jack.
5. Remove the front wheels.
6. Mark the cam at the axle. Remove the passenger's side radius arm. Retain all hardware. It will be necessary to remove the shock bolt and move the shock out of the way to get the upper hardware out. Reinsert the lower shock bolt when the arm is removed. This is a safety measure to keep the axle from moving an excessive amount.
7. On the passenger's side only. Measure and mark as shown (Fig. 1a,b). This material will need to be removed for clearance to the 4-link drop bracket. On the rear, the inside edge of the cut will be flush with the transmission crossmember and the outside edge will be flush with the radius arm mounting plate. Measure up 3/8" and remove this material for clearance. Similar to the rear, trim up the front side of the crossmember as shown by measuring up a quarter inch.

**FIGURE 7A REAR SIDE**



**FIGURE 7B FRONT SIDE**



- Remove the nuts from the transmission crossmember. Place the 4-link bracket up to the frame rail. Insert  $\frac{3}{4}$ " bolt to locate the bracket. Mark the center of the slot on the bottom of the frame rail, mark the center of the top, rear hole on the side of the frame rail. (Fig. 2)

**FIGURE 2**



- Remove the bracket and drill the 2 centers to  $11/16$ ". Prep the area on the side of the frame rail for welding. Place the weld in bung into the hole and weld the bung into place. (Fig. 3)

**FIGURE 3**



- Insert the rivet nut into the bottom of the frame rail. Use the hardware (#799) to set the rivet nut into place as shown (Fig. 4). See the end of the instruction sheet for detailed rivet nut installation instructions.

**FIGURE 4**

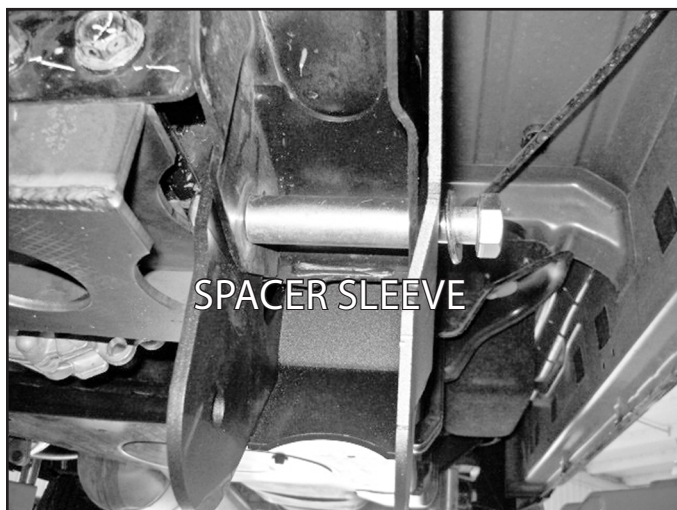


11. Place the machined sleeve into the existing frame rail hole. Reinstall the bracket with hardware (#788) and sleeve as shown. Due to variations in the factory brackets, shims are included to go between the bracket and transmission crossmember to take up the slack. Drop the shims in from the top. There are (2) 1/8" shims and (2) 1/16" shims included. Shims may need to be stacked. (Fig. 5a-g)

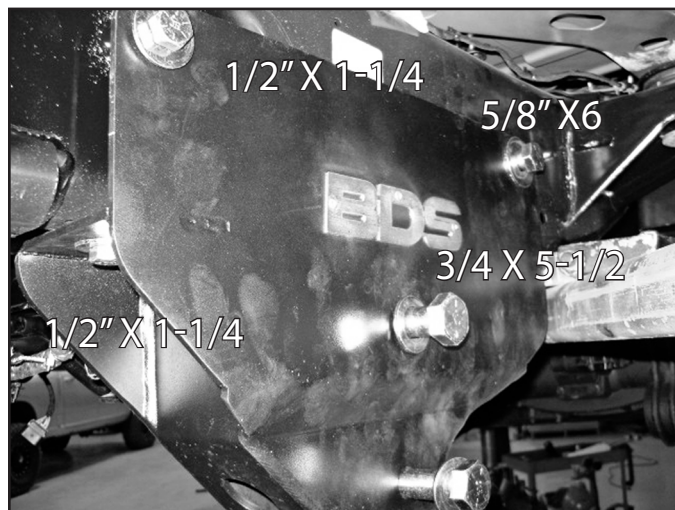
**FIGURE 5A**



**FIGURE 5B**



**FIGURE 5C**

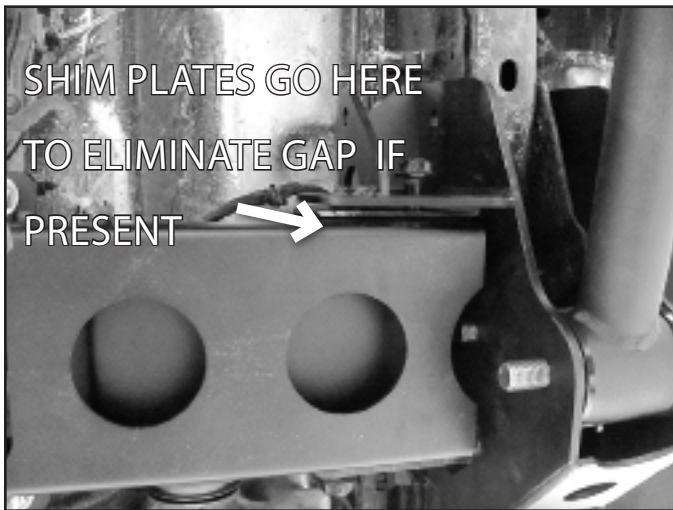


**FIGURE 5D**

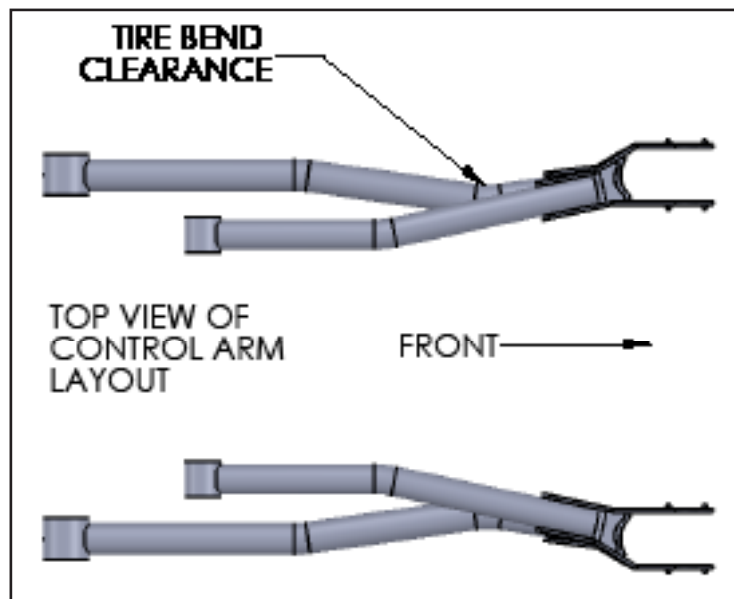


**FIGURE 5E**



**FIGURE 5F****FIGURE 5G**

12. Grease and install bushings and sleeves into the upper and lower control arms. Thread the grease fittings into the arms. The upper control arm fittings should point down when the arm is installed.
13. With a jack still under the axle, disconnect the radius arm from the driver's side frame bracket. The radius arm on the driver's side must be disconnected to allow the axle to move for connecting new 4-link arms. Install the new upper and lower control arm on the passenger's side. The upper arm will get 9/16" x 4" hardware, the lower will get 3/4" x 5" hardware. The factory hardware is used at the axle. It is recommended to knock the nut tabs from the factory nuts to allow for quick torque of the hardware with the shocks in place later in the installation. Place a large socket over the nut and press off the tab in a vice. Note: The lower arm is curved inward for tire clearance. Both the upper and lower arms will have the part #'s stamped on them and the part #'s will face in towards the center of the vehicle.

**FIGURE 6**

14. Tighten hardware as follows: 1/2" 65ft-lbs, 5/8" through the frame bolt 110 ft-lbs, 3/4" through the factory radius arm mount: 180 ft-lbs. Do NOT tighten the control arm hardware at this time, final torque will be done with the weight of the vehicle on the ground.
15. Repeat bracket and arm installation procedure on the driver's side. The driver's side will require the transmission crossmember bolt that is closest to the frame rail to be ran from front to rear for upper arm clearance. Reinsert shock hardware as soon as the radius arm is removed to keep the axle in position.



**Tip** The trimming for clearance on the frame bracket is not required on the driver's side.

16. Reattach shocks with stock lower hardware. Tighten to 65 ft-lbs.
17. Rotate the cam to the position marked at the beginning of the installation. Snug all hardware, do not tighten at this time.
18. Reattach driveshaft to axle with factory hardware, ensure the boot is not overextended. Apply thread locker to threads. Tighten to 75 ft-lbs.

19. Reinstall wheels, tighten to factory specification.
20. Lower the vehicle to the ground and tighten control arm hardware as follows: Upper arms at bracket: 95 ft-lbs. 18mm upper at axle, Lower cam bolts, and Lower 3/4" hardware at 4-link bracket to 175 ft-lbs.
21. The badge can now be riveted on to the 4-link brackets using the provided 1/8" rivets. Any residue on the badge can be cleaned up using alcohol or brake cleaner before install. With the badge not installed it can be painted to what ever color you desire, or left raw as a stainless steel badge.

## POST-INSTALLATION

1. Adjust the steering wheel to center with the collar on the drag link. Securely lock off the jam nuts once the wheel is straight. Do not drive the vehicle with the steering wheel off-center or adverse traction control problems may arise.
2. Recheck all hardware, check again at 500 miles, and again at regularly scheduled maintenance intervals. Check brake lines and ABS wires for proper clearance through steering sweep, use zip ties on the ABS wires if necessary. An alignment must now be performed.
3. These trucks can have a vibration from the factory under load and at extremely low RPM's (less than 1200 RPM's), the vibration can become more apparent after lifting the rear of the truck. There is an optional rear driveshaft spacer kit available (Part# 122007). This will increase rear driveshaft spline engagement and has been found to reduce vibration in rare instances where a vibration is present.

## RIVET NUT INSTALLATION INSTRUCTIONS

### RIVET NUT SIZING

1. Verify the correct size rivet nut for the application based on the thickness of material where the rivet nut is to be installed using the following chart.

Part Number	Thread Size	Body Length (in)	Material Thickness (in)		Drill Size (in)
			Min.	Max.	
95105A159	3/8-16	.690	.027	.150	17/32
95105A168	3/8-16	.805	.150	.312	17/32
95105A169	1/2-13	1.150	.063	.200	11/16
95105A170	1/2-13	1.300	.200	.350	11/16

### HOLE PREPARATION

2. Drill hole to appropriate size for rivet nut installation. 1/2" Rivnuts require an 11/16" hole and 3/8" Rivnuts require a 17/32" drill. It is critical that this hole is drilled to the correct size. Remove any burrs that could keep the rivet nut from seating flat against either side of the hole surface.

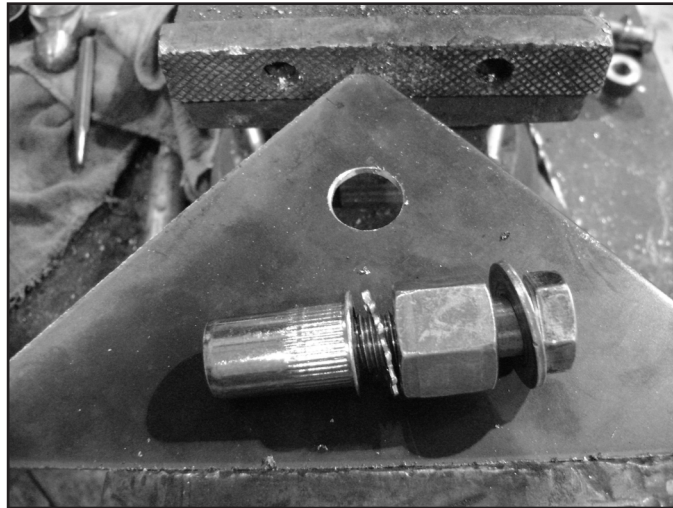


**Tip** If the correct drill size is not available, it is possible to drill the hole to an available smaller size and slowly grind it out to until the rivet nut fits tight.

## RIVET NUT INSTALLATION TOOL ASSEMBLY

3. For a 3/8" rivet nut, place the provided 3/8" SAE flat washer on the 3/8" x 1-1/2" bolt, followed by 7/16" hex nut and then a 3/8" serrated washer. **Figure 1** Thread this tool assembly into the rivet nut.
4. For a 1/2" rivet nut, place the provided 1/2" SAE washer on a 1/2" x 2" bolt followed by a 9/16" high nut and 1/2" serrated edge lock washer. Thread this tool assembly into the rivet nut as shown. (Fig. 1)

**FIGURE 1- 1/2" RIVET NUT SHOWN**



## RIVET NUT INSTALLATION

5. Place the installation tool with the rivet nut threaded on the end into the appropriately sized hole.
6. For a 3/8" rivet nut, hold the nut closest to the rivet nut still with a 5/8" wrench and tighten the 3/8" bolt with a 9/16" wrench to set the rivet nut. Be sure to hold the rivet nut flush to the surface and square to the hole as it is tightened. (Fig. 2)



**Tip** *If available, an impact gun is recommended for tightening the bolt to ensure the rivet nut remains square to the hole and to ease holding the nut from spinning.*

7. For a 1/2" rivet nut, hold the nut closest to the rivet nut still with a 7/8" wrench and tighten the 1/2" bolt with a 3/4" wrench to set the rivet nut. Be sure to hold the rivet nut flush to the surface and square to the hole as it is tightened. (Fig. 2)

**FIGURE 2 - 1/2" RIVET NUT SHOWN**



## TORQUE SPECIFICATIONS

8. 3/8" rivet nuts will approach 40 ft. lbs for maximum grip strength. Do not exceed 45 ft-lbs when setting the rivet nut.

- 1/2" rivet nuts will approach 90 ft lbs for maximum grip strength. Do not exceed 100 ft-lbs when setting the rivet nut.



**Tip** Note: If using the recommended impact gun, use caution to not exceed the recommended torque specifications.

## RIVET NUT TOOL REMOVAL

- Once the center bolt is tightened, remain holding the nut from spinning with the wrench and loosen the center bolt to remove the installation tool.



**Caution** It is very important to hold the nut as the bolt is loosened because the grip of the star washer will try to spin the rivet nut and ruin the installation.

- Verify proper installation by checking for consistent rivet nut deformation to see the threads are square and centered to the rivet nut. (Fig. 3)

**FIGURE 3**



## 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](http://bds-suspension.com/bar) and post them on the BDS Fan Page on Facebook at [facebook.com/BDSSuspensions](https://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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## 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.