

# INSTALLATION GUIDE



Part#: 012811



**HARDCORE LIMITED LIFETIME WARRANTY**

## 8" 4-Link Suspension System

2019-2023 Ram 2500 Diesel 4WD

2019-2022 Ram 3500 Diesel 4WD

Rev. 080624

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

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# 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



Visit [560plus.com](http://560plus.com) for more information.

### TIRES AND WHEELS

#### 8" Lift:

40x13.50 w/ 4.5" to 5.5" Backspacing on 9" wide wheel. Or 38x15.50 w/ 5.5" Backspacing on 12" wide wheel. Minor modification to inner plastic fender well may be required. Certain running boards may require modification to clear this size tire.

This is the largest size that fits, wider & taller tires / rims will increase the amount of trimming required.



accordance to original vehicle attitude. Always measure the attitude prior to beginning installation.

### 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

## 012434 - 4 Link Arms

| Part # | Qty | Description                                 |
|--------|-----|---|
| 02472  | 2   | Dodge 4-Link Conversion - Lower Control Arm |
| 03842  | 2   | Dodge 4-Link Conversion - Upper Control Arm |
| 3527BK | 4   | Bushing (Large - Lower Control Arm)         |
| 7      | 2   | 1.00 x .120 x 3.25 Sleeve                   |
| 516    | 2   | Straight Grease Zerk                        |
| 3537BK | 4   | Bushing (Small - Upper Control Arm)         |
| 61     | 2   | .875 x .156 x 2.62 Sleeve                   |
| 60107  | 2   | 90Deg Grease Zerk                           |

## 012811

| Part #       | Qty | Description  |
|--------------|-----|--|
| 03839        | 1   | 4Link Brkt - Drv                                       |
| 03840        | 1   | 4Link Brkt - Pass                                      |
| 03841        | 1   | Front Track Bar Bracket 8"                             |
| 082405R      | 1   | Pitman Arm   |
| 02255B       | 2   | Bump Stop  |
| 02470        | 2   | Weld in Bung   |
| 02471        | 2   | Front Sleeve   |
| 7            | 2   | 1.00 x .120 x 3.25 DOM Sleeve                          |
| 799          | 1   | Bolt Pack  |
| 95105A169    | 2   | 1/2-13 Rivet Nut                                       |
| 86-6277      | 1   | Constant Velocity (CV) Joint Boot Clamp                |
| 86-6276      | 1   | Constant Velocity (CV) Joint Boot Clamp                |
| 02470        | 2   | Weld in Bung - Dodge 2013                              |
| 05475        | 2   | Front Sleeve Dodge 2013                                |
| 7            | 2   | 1.00 x .120 x 3.25 DOM Sleeve                          |
| 95105A169    | 2   | 1/2-13 Rivet Nut (.063-.200 tnk)                       |
| 86-6277      | 1   | Constant Velocity (CV) Joint Boot Clamp (2.366-2.677") |
| 86-6276      | 1   | Constant Velocity (CV) Joint Boot Clamp (2.130-2.441") |
| M02096-BK    | 2   | Pyramid Bushing - black                                |
| 2449         | 2   | BDS Badge (4.964")                                     |
| 3012         | 2   | Sway Bar Link Clevis Brkt. (2004RB)                    |
| 3029         | 2   | Bushing Sleeve (2005AS)                                |
| 149          | 2   | .750 x 0.095 x 1.680 DOM Sleeve                        |
| M03212-BK-01 | 2   | Offset Polyurethane Spacer                             |
| 708760       | 4   | Wire Clip - 3/8 dia x 0.406 hole                       |
| 99000        | 8   | 11.5in Nylon Cable Tie - Black                         |
| 22517        | 2   | 2013 Dodge F brake line                                |
| 5188         | 2   | Snap In Brake Line Clip                                |
| CCW-03-050   | 4   | 3/8 Brake Line Crush Washer                            |
| 7608         | 2   | Grease Zerk - Press in with detent                     |
| 911120       | 1   | Sway Bar Link - 7in                                    |

## 012811

|              |   |   |
|--------------|---|---|
| M00475-BK-01 | 2 | Spherical Bushing   |
| 785          | 1 | Bolt Pack - Bump Stop Hardware  |
|              | 4 | 3/8"-16 x 1-1/4 type 23 - self tapping screws - hex head - clear zinc |
|              | 4 | 3/8"-16 x 2" bolt - clear zinc  |
|              | 6 | 3/8" SAE Washer - Clear zinc  |
|              | 2 | 3/8" Split lock washer - clear zinc                                   |
|              | 2 | 3/8"-16 nut - clear zinc  |
| 799          | 1 | Bolt Pack - Rivet Nut Set   |
|              | 1 | 1/2"-13 x 2" Bolt - Yellow Zinc                                       |
|              | 1 | 1/2" SAE Washer - Yellow Zinc   |
|              | 1 | 1/2" Star Washer External Tooth - Clear Zinc                          |
|              | 1 | 9/16"-18 Hex High Nut - Yellow Zinc                                   |
| 494          | 1 | Bolt Pack - Track Bar Bracket   |
|              | 2 | 14mm-2.00 x 35mm Bolt - Clear Zinc                                    |
|              | 4 | 14mm Washer - Clear Zinc  |
|              | 2 | 14mm-2.00 Torque Nut - Clear Zinc                                     |
| 352          | 1 | Bolt Pack - 4-Link Bracket  |
|              | 2 | 5/8"-11 x 4-3/4" Bolt - Yellow Zinc                                   |
|              | 4 | 5/8" Washer - Yellow Zinc   |
|              | 2 | 5/8"-11 Torque Nut - Yellow Zinc                                      |
|              | 2 | 3/4"-10 x 5-1/2" Bolt - Yellow Zinc                                   |
|              | 4 | 3/4" Washer - Yellow Zinc   |
|              | 2 | 3/4"-10 Torque Nut - Yellow Zinc                                      |
|              | 4 | 1/2"-13 x 1-1/4" Bolt - Yellow Zinc                                   |
|              | 4 | 1/2" Washer - Yellow Zinc   |
|              | 2 | 14mm-2.00 x 100mm Bolt - Clear Zinc                                   |
|              | 4 | 14mm Washer - Clear Zinc  |
|              | 2 | 14mm-2.00 Torque Nut  |
| 360          | 2 | Bolt Pack - Badge Rivets  |
|              | 3 | 1/8" Stainless Steel rivet  |
| 677          | 1 | Bolt Pack - Front Sway Bar Links                                      |
|              | 2 | 10mm-1.5 x 35mm button head bolt clear zinc                           |
|              | 2 | 10mm-1.5 nylock nut clear zinc  |
|              | 2 | 10mm-1.5 x 50mm button head bolt clear zinc                           |
|              | 2 | 10mm external tooth lock washer clear zinc                            |
|              | 2 | 10mm flat washer clear zinc   |
|              | 2 | 14mm-2.0 x 80mm bolt class clear zinc                                 |
|              | 2 | 14mm-2.0 prevailing torque nut clear zinc                             |
|              | 4 | 9/16" SAE flat washer clear zinc                                      |

## 032802

| Part #  | Qty | Description |
|---------|-----|-------------|
| 032802R | 2   | 8" Coils    |

# PRE INSTALLATION

## 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

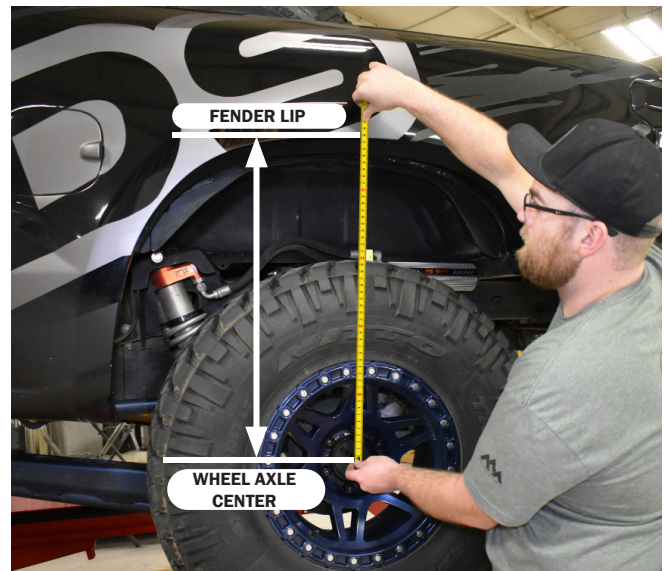
Left Front \_\_\_\_\_ Right Front \_\_\_\_\_

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.**

# INSTALLATION INSTRUCTIONS

## PRE INSTALLATION NOTES:

-This kit is for diesel model trucks only. Gas model trucks will require extensive exhaust modifications and will achieve too much lift.

-This Kit requires an aftermarket high angle front drive shaft. The after market drive shaft and provided indexing ring must both be installed. It's recommended to install the full kit then measure for the aftermarket front driveshaft to ensure you order the right length. The kit was tested with a Drive Line Plus flange and driveshaft.

-Do NOT stack spacers on top of coils to get more lift!

-To maintain max payload capacity supplemental airbags are recommended and are not included.

## SPECIAL TOOLS

- #1: Pitman arm puller
- #2: 11/16" drill (step drill highly recommended)
- #3: Welder

## MEASURE FIRST

Measure from the center of the wheel up to the bottom edge of the wheel opening:

LF \_\_\_\_\_ RF \_\_\_\_\_

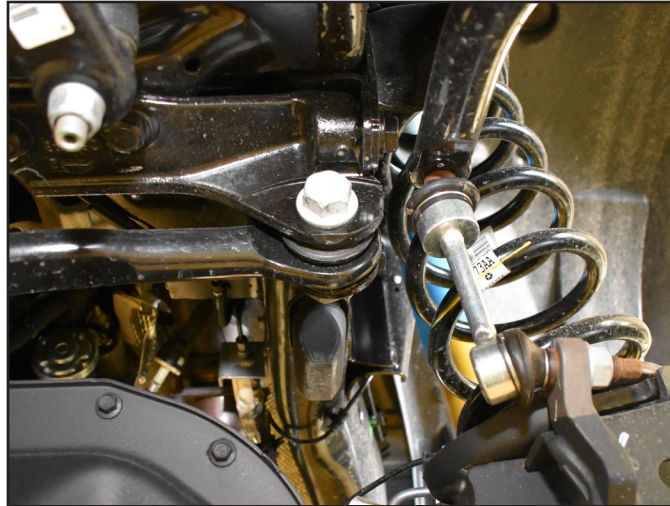
LR \_\_\_\_\_ RR \_\_\_\_\_



## 4-LINK INSTALLATION INSTRUCTIONS

1. Park vehicle on clean flat and level surface. Block the rear wheels for safety.
2. Disconnect the battery / batteries, welding will be required. Do not weld on the vehicle with the batteries connected.
3. Remove the front trackbar bolt from the frame rail. (Fig. 1)

**FIGURE 1**



4. Raise the front of the vehicle and support the frame rails with jackstands. Do not support on the radius arms, they will be removed during the installation.
5. All 8" kits will require the installation of a transmission indexing ring and replacement crossmember along with an aftermarket drive shaft.

## 6. PLEASE SEE INDEX RING KIT INSTRUCTIONS AT THIS TIME (122624, 122625)

### SUSPENSION DISASSEMBLY

7. Support the front axle with a hydraulic jack.
8. Remove the factory wheels, remove the retaining clips that hold the rotor on and may interfere with aftermarket wheels.
9. Remove the transmission skid plate (if equipped).
10. Disconnect the front drive shaft from the front axle. Hang the drive shaft from the frame.
11. Break the nut loose on the adjusting sleeve of the drag link. (Fig. 2)

**FIGURE 2**



12. Disconnect the tie rod from the pitman arm, do not damage the tie rod boot. Mark the orientation of the pitman arm and remove the pitman arm from the sector shaft. (Fig. 3)

**FIGURE 3**



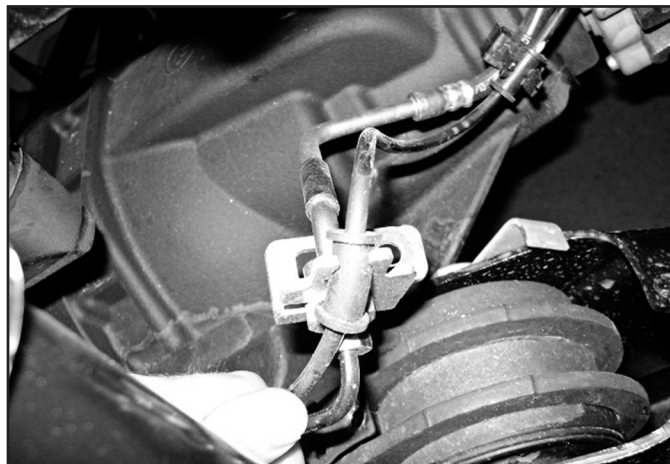
13. Disconnect the sway bar links from the sway bar they will not be reinstalled. (Fig. 4)

**FIGURE 4**



14. Disconnect the brake line bracket from the top of the radius arm mount on the axle, retain bolt, discard bracket. (Fig. 5a)

**FIGURE 5A**





15. Disconnect the brake line from the ABS wires.

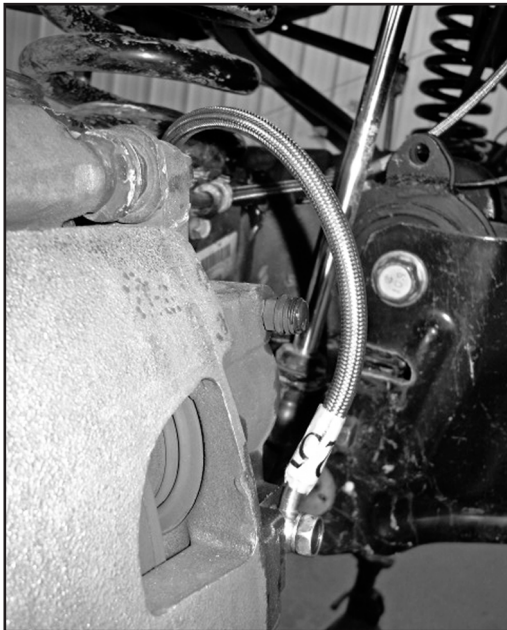
**! Caution** *Do not allow large amounts of fluid to escape during installation, adverse affects to the ABS system may occur that requires a trip to the dealership.*

16. Disconnect the stock brake line and replace with new brake line with NEW crush washers at the caliper with the factory banjo bolt. Torque the caliper banjo bolt to 26 ft-lbs and frame side flare nut to 15 ft-lbs. Attach fitting to the frame with factory bracket. Figure 5b, 5c, 5d

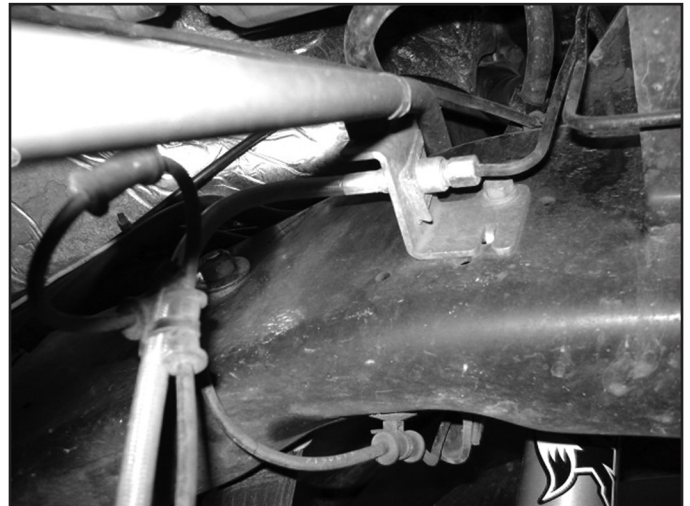
**FIGURE 5B**



**FIGURE 5C**



**FIGURE 5D**



17. Detach the ABS and Central Axle Disconnect wires from retaining clips to allow for extra slack when the new coils will be installed.
18. Disconnect the factory shock from the lower shock mount. (Fig. 6) Lower the front axle and remove the factory coil springs.

**FIGURE 6**



19. Raise the front axle and reattach factory shocks with factory bolt. It is not necessary to put the nut tab back on. The shocks will be there to keep the axle secure. Keep a jack under the axle for extra support.

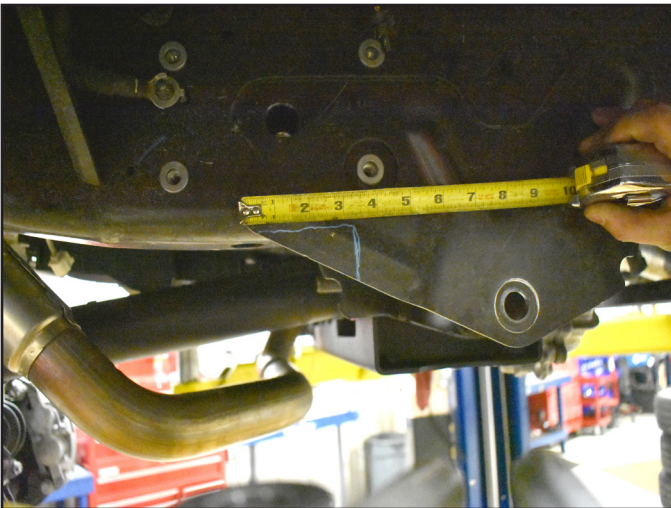
## 4-LINK BRACKET INSTALLATION

20. Rear Air Ride Models Only: When doing the passenger side you will be required to loosen or unbolt the air tank to get the bracket and hardware installed. Do not disconnect or loosen the air line fitting from the tank.

*Note: Disconnecting or loosening the Air Tanks fitting will require the system to be recharged and could require a trip to a dealership for a system reset.*

21. 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.
22. Measure and mark as shown (Fig. 7, 8, 9). This material will need to be removed for clearance for the 4-link drop bracket. Measure back 3-3/8" from the front of radius arm bracket on the frame and make a vertical line. Make a horizontal line about even with the bottom of the frame or 1-1/2" up the vertical line. Use a cut off wheel to remove the material.

**FIGURE 7**

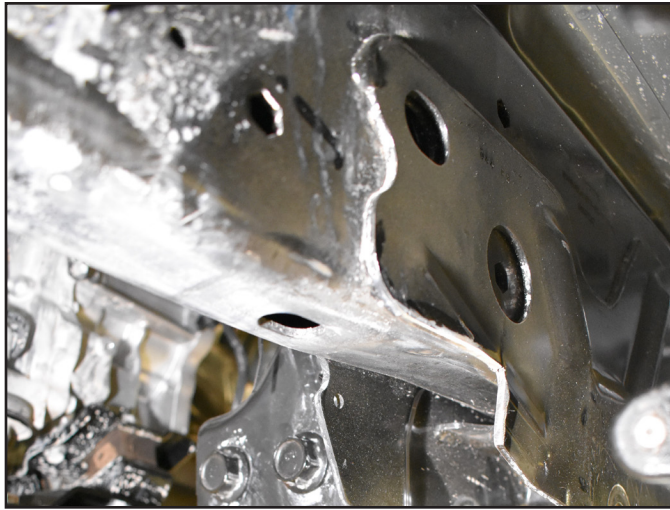


**FIGURE 8**



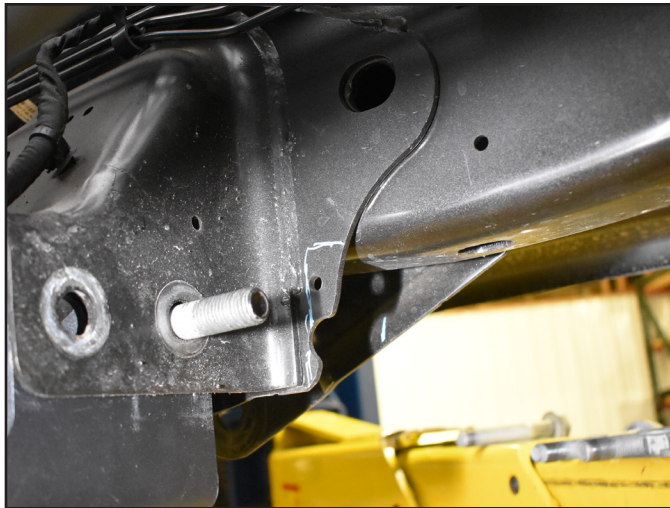
**FIGURE 9**





23. Mark as shown (Fig. 10). mark the front of the transmission crossmember bracket on the inside of the frame. In front of the weld and along the bottom of the frame. Using a cutoff wheel remove the material marked in the previous step and this step. Ensure you don't cut the frame or cut out the weld holding the crossmember mount brackets together. Paint all bare metal.

**FIGURE 10**



24. Place the 4-link bracket up to the frame rail. Insert the factory frame radius arm bolt to locate the bracket . Mark the center of the slot on the bottom of the frame rail towards the rear of the vehicle (Fig. 11), then mark the center of the Rear Upward most slot on the outside of the frame. (Fig. 12)

**FIGURE 11**



**FIGURE 12**



25. Remove the bracket and drill the 2 center marks to 11/16". Prep the area on the side of the frame rail for welding. Place the supplied weld in bung into the hole and weld the bung into place. (Fig. 13)

**FIGURE 13**



26. Insert a rivet nut into the bottom of the frame rail. Use the hardware (Bolt Pack #799) to set the rivet nut into place as shown (Fig. 14). See the end of the instruction sheet for detailed rivet nut installation instructions.

**FIGURE 14**



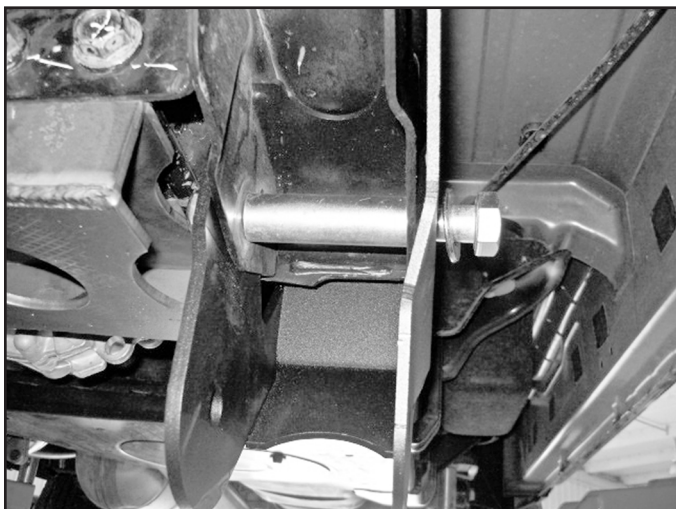


27. Place the machined sleeve into the existing frame rail hole towards the front of the vehicle. Reinstall the bracket with hardware (Bolt Pack #352) and sleeves as shown (Fig. 15). Place the 3-1/4" long spacer in the factory radius arm pocket and mount the 4-link bracket with provided 3/4" hardware (Fig. 16, 17). Using the provided 1/2" hardware, bolt the bracket to the previously installed riv nut and weld in bung. Slide the provided 5/8" bolt through the bracket and machined sleeve. (Fig. 17) Leave all hardware loose.

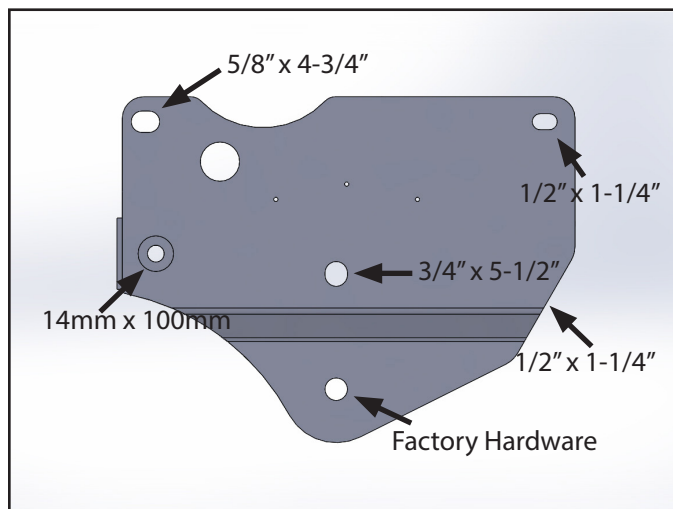
**FIGURE 15**

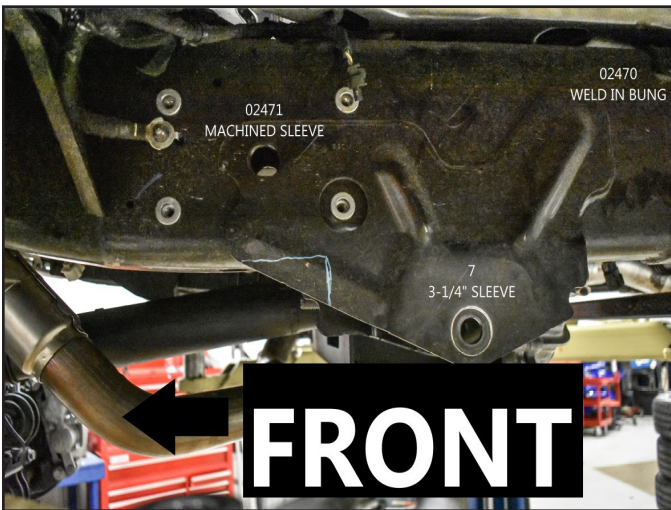
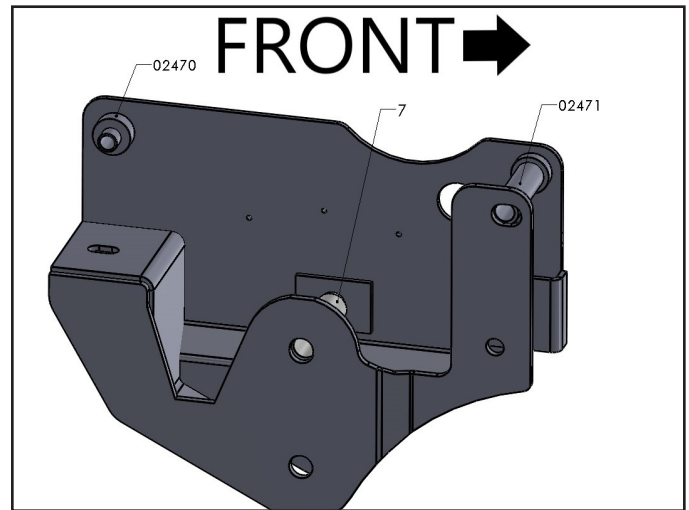


**FIGURE 16**



**FIGURE 17**



**FIGURE 18****FIGURE 19**

28. Grease and install bushing and sleeves into the upper and lower control arms. Thread the grease fitting into the arms. The 90 deg grease fitting is for the UCA.
29. With a jack still under the axle, disconnect the radius arm from the driver's side frame bracket. Install the new upper and lower control arm on the passenger's side. The upper arm will get 14mm" x 100mm hardware (Bolt Pack #352), the lower will get factory hardware at the frame (Fig. 17). Factory hardware is used at the axle for the upper and lower control arm. 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 and upper arms are curved inward towards the center of the vehicle for tire clearance.*

30. Tighten all bracket hardware to the following; Factory radius arm bolt 258 ft-lbs, 5/8" hardware 180 ft-lbs, 1/2" hardware 90 ft-lbs. The arm hardware will be tightened later when the vehicle is on the ground.
31. Repeat bracket and arm installation procedure on the driver's side.

**Tip**

*Air assist only: The air tank could be remounted at this time following that part of the rear instructions. Do not start disassembling the rear. Finish the front first.*

**BUMP STOP INSTALLATION:**

32. Remove the factory bump stops, it is easiest to hit them from side with a hammer to pop them out. (Fig. 20)

**FIGURE 20**

33. Located the 2 existing holes in the frame rail inside the factory bump stop cup. If these holes do not exist, they must be drilled out to 21/64", use the bump stop extension as a guide for drilling the holes. Use the 3/8" self threading bolts to cut new threads into the frame rail, impact gun highly recommended (Fig 21a). Attach bump stop to bracket with washer, lock washer, and regular nut, tighten securely.

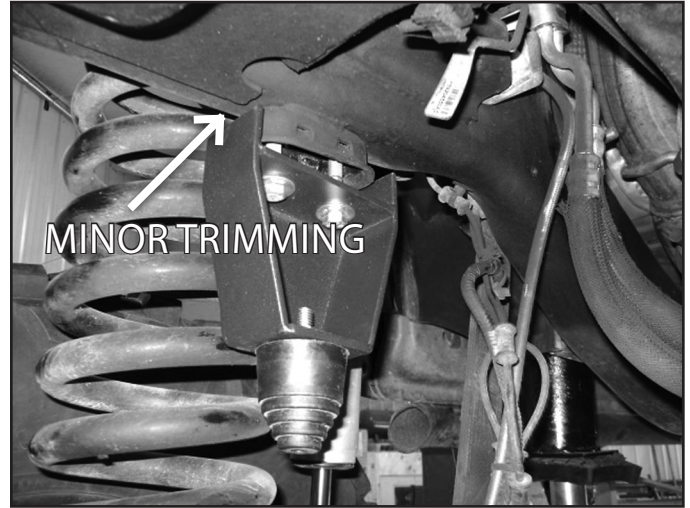


Attach bracket with 3/8" x 2" bolts with washers, tighten to 30 ft-lbs. (Fig 21B) Hardware is in bolt pack # 785. Note: On the passenger's side only, there may be interference with the factory plate, this small amount will need to be trimmed off for clearance to the bump stop bracket if the bracket can not sit flush.

**FIGURE 21A**



**FIGURE 21B**



## TRACK BAR BRACKET INSTALLATION

34. Remove the factory track bar bracket, retain the vertical hardware that goes into the cross member.
35. Install the provided trackbar bracket with factory bolts through the original vertical trackbar bracket holes in the crossmember, do not tighten.
36. Use the provided 14mm hardware in bolt pack 494, Bolt the new trackbar bracket to the Frame tab with the nut on the inside of the frame tab. Use OE hardware in the 3 remaining holes. Torque the OE bolts to 118 ft-lbs and provided 14mm hardware to 148.4 ft-lbs. (Fig 22)

**FIGURE 22**

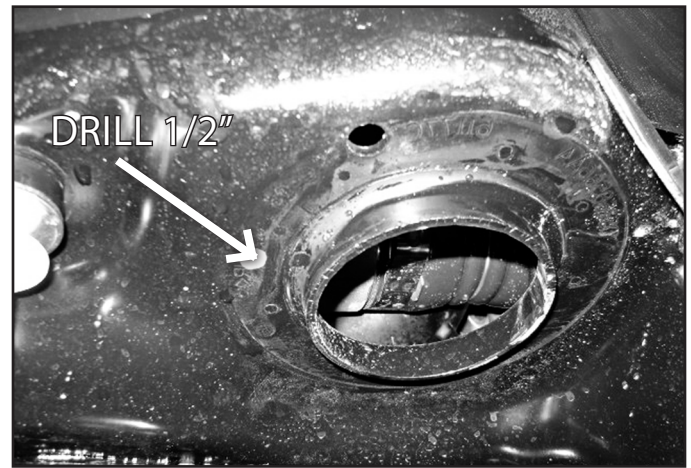


37. Support front axle and remove the factory shocks. Retain the lower hardware, discard shocks and upper hardware.
38. Lower the axle and install the new coils with factory isolator. The end of the spring with the windings closer together will go at the top, do not install upside down. The Driver's side coil will install with the isolator tab in the factory hole. The Passenger's side isolator will need to be rotated just over 45 degrees. Cut and place the template up to the factory mount, mark hole center and drill to 1/2". The upper isolator on the passenger's side is shown in the new hole. (Fig 23a, 23b, 23c) ONLY on the passenger's side.

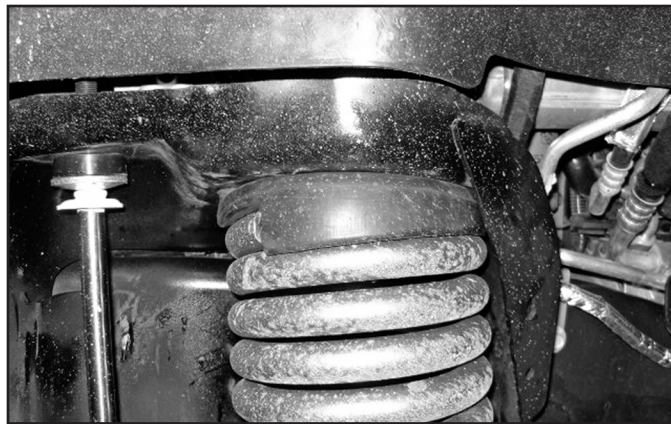
**FIGURE 23A - TEMPLATE**



**FIGURE 23B**



**FIGURE 23C - CORRECT**

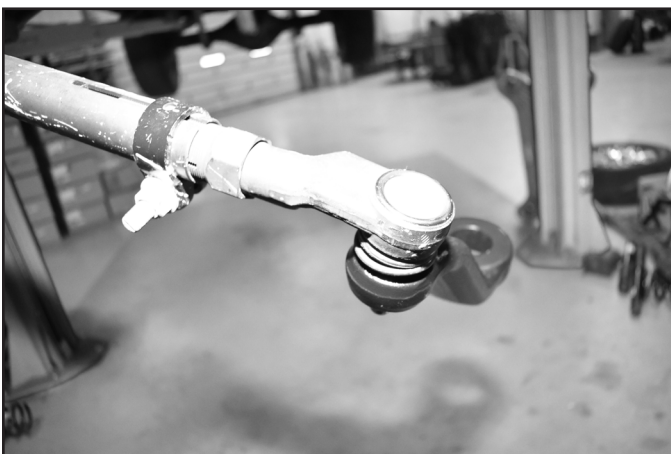


39. Grease and install bushings and sleeves into the shocks. Install new shocks with cup washers, bushings, and  $\frac{1}{2}$ " nut at the top mount. Tighten the nut until the bushings begin to swell.
40. Attach the lower shock with factory hardware. Tighten hardware to 65 ft-lbs.

## STEERING MODIFICATION

41. Mark or measure the amount of exposed threads on the drag link sleeve. Loosen the drag link sleeve until you can rotate the tie rod end 180deg. Re-thread the drag link sleeve to the original location. This is a starting point and will need to be adjusted after the installation is complete. (Fig 24, 25)

**FIGURE 24**



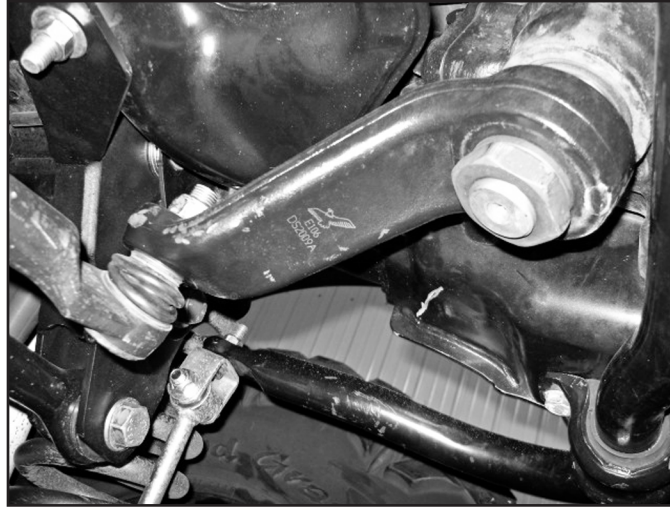
**FIGURE 25**





42. Install the new pitman arm, use the alignment mark made earlier. Thread locker the factory nut and install with lock washer tighten nut to 332ft-lbs. (Fig 25)
43. Attach the drag link to pitman arm with a factory nut. Tighten to 27 ft-lbs Plus 180deg. (Fig 26)

**FIGURE 26**



44. Install the new sway bar links. The clevis bracket will be a tight squeeze to get over the factory sway bar (keeps it from rotating). It may be necessary to slightly clearance the widest part of the sway bar to get the bracket to fit over it. Attach with hardware as shown. (Fig 27a, 27b, 27c, & 27d). Torque upper 10mm button bolts to 30 ft-lbs, lower 14mm bolt to 88 ft-lbs.

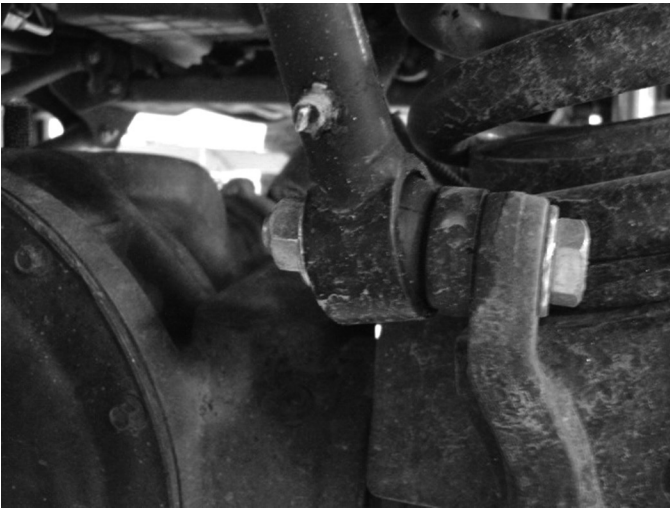
**FIGURE 27A**



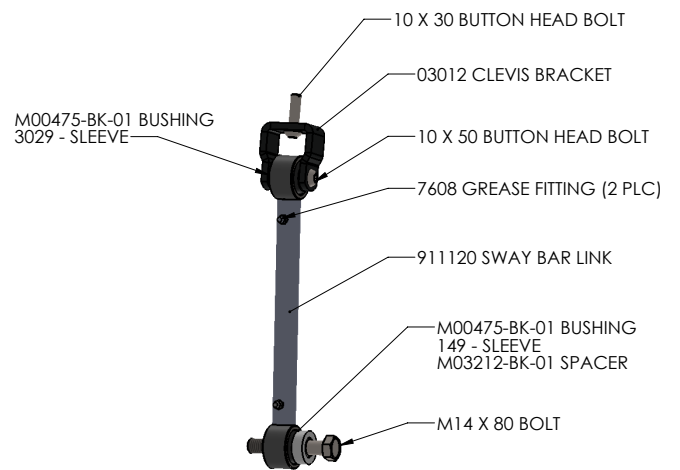
**FIGURE 27B**



**FIGURE 27C**

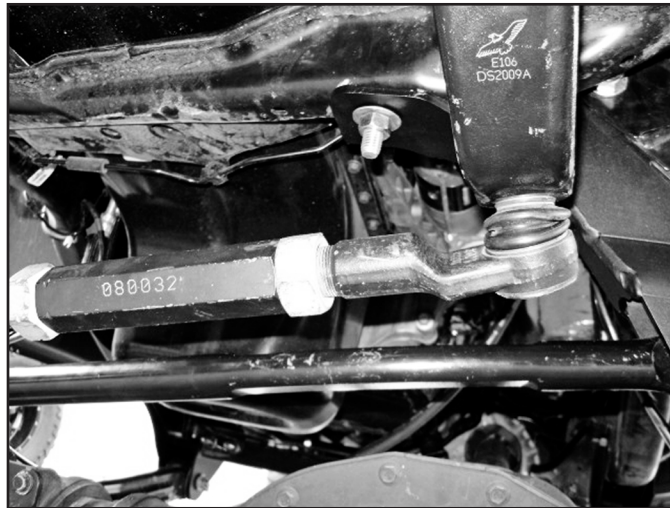


**FIGURE 27D**



45. Attach drag link to pitman arm with factory nut. Tighten to 65 ft-lbs. (Fig. 28)

**FIGURE 28**



46. Route and attach the brake line to the axle with factory hardware and clamps. (Fig 29)

**FIGURE 29**



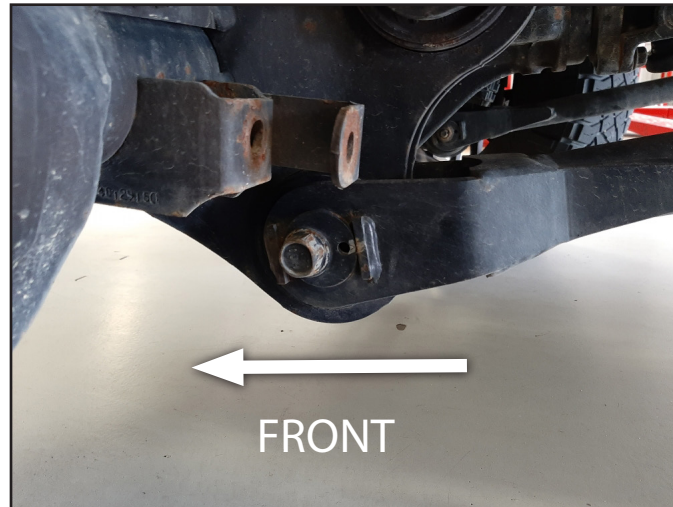
47. Bolt the aftermarket front driveshaft to the front axle with factory hardware and thread locker. Tighten to 75 ft-lbs.



## 48. PLEASE SEE REAR KIT INSTRUCTIONS AT THIS TIME.

49. Install wheels and tighten lug nuts to factory specifications. Lower the vehicle to the ground.
50. Adjust the front LCA cams so the bolts are as far forward as possible (Fig 30). Then tighten 4-link arm hardware to the following: 3/4" lower control arm frame hardware to 320 ft-lbs, 18mm lower control arm axle hardware to 270 ft-lbs. 14mm upper control arm hardware to 126 ft-lbs, factory upper control arm axle hardware to 258 ft-lbs.

**FIGURE 30**



51. If trackbar was disconnected from axle side for any reason, tighten trackbar axle hardware to 285 ft-lbs. Turn the steering wheel to get the trackbar sleeve to align with the hole in the bracket. Tighten to 74 ft-lbs plus 160deg.
52. The front brakes must be bled, do so at this time.
53. 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

54. Straighten the wheels, adjust the steering wheel to center. Torque the drag link clamp bolt to 55 ft-lbs. Do not drive the vehicle with the wheel off center or adverse traction control events may occur.
55. 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.
56. 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 - Non High Output). This will increase rear driveshaft spline engagement and has been found to reduce vibration in rare instances where a vibration is present.
57. Carrier bearing drop is available separately, and is not included in the kit. Order separately if required.

# 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<br>Number | Thread<br>Size | Body<br>Length (in) | Material Thickness<br>(in) |      | Drill<br>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.

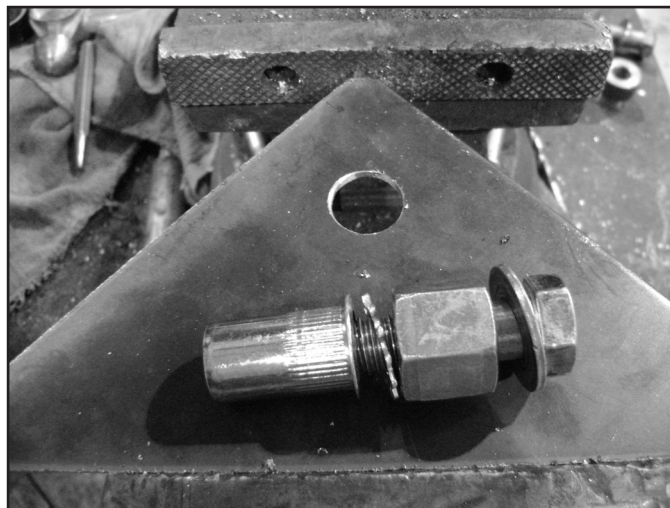


**Tip** If the correct drill size is not available, it is possible to drill the hole to an available smaller size and slowly grind it out to until the rivet nut fits tight.

## 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. (Fig. 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 an 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.
9. 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**

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

### **RIVET NUT TOOL REMOVAL**

10. 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.*

11. 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!**

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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.





