D1601 Installation Instructions
2013 Ram 3500, 2014 Ram 2500
6.5" Radius Arm Suspension Lift

Read and understand all instructions and warnings prior to installation of product and operation of vehicle.

Zone Offroad Products 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. Minimum tool requirements include the following: Assorted metric and standard wrenches, hammer, hydraulic floor jack and a set of jack stands. See the "Special Tools Required" section for additional tools needed to complete this installation properly and safely.

» Product Safety Warning

Certain Zone 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. Zone Offroad Products 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.

» Technical Support

Live Chat provides instant communication with Zone tech support. Anyone can access live chat through a link on www.zoneoffroad.com .

www.zoneoffroad.com may have additional information about this product including the latest instructions, videos, photos, etc.

Send an e-mail to ***tech@zoneoffroad.com*** detailing your issue for a quick response.

888.998.ZONE Call to speak directly with Zone tech support.

» Pre-Installation Notes

1. Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.
2. Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.
3. 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.
4. 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.
5. Secure and properly block vehicle prior to installation of Zone Offroad Products. Always wear safety glasses when using power tools.
6. If installation is to be performed without a hoist, Zone Offroad Products recommends rear alterations first.
7. 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.

Difficulty Level

easy 1 2 3 (4) 5 difficult

Estimated installation: 6 hours

Special Tools Required

Pitman Arm Puller

Tire/Wheel Fitment

37x12.50 w/ 4-1/2"~5-1/2" Backspacing

***Important* Verify you have all of the kit components before beginning installation.**

D1401 Kit Contents

Qty	Part
1	DRV Coil
1	PASS Coil
2	Bump Stop
1	Pitman Arm
1	4/6 Zone Track Bar Bracket
1	Fish Wire
1	1/2" Bolt Tab
1	1/4" Track Bar Spacer
1	Bolt Pack
1	1/2"-13 x 1-3/4" bolt - grade 8 - yellow zinc
1	1/2"-13 Prevailing torque nut - yellow zinc
1	1/2"-13 Nut (non locking) - yellow zinc
3	1/2"-13 USS Washer - yellow zinc
1	18mm-2.50 x 80mm bolt - class 10.9 clear zinc
1	18mm-2.50 Prevailing torque nut - clear zinc
2	3/4" SAE Washers - Clear zinc
2	Brakeline L Bracket
2	5/16"-18 x 1" self threading bolt - clear zinc - hex head
1	Loctite
2	Zip Tie
4	1/2" Bolt Tab
1	Rivet nut installation bolt pack
1	Sway Bar Drop - Drv
1	Sway Bar Drop - Pass
1	Sway Bar Drop Bolt Pack
1	Radius arm drop brkt - ZONE - DRV
1	Radius arm drop brkt - ZONE - PASS
5	1/2" Rivet nuts
2	Radius arm spacer sleeve
1	Bolt Pack - Rad Arm Drop Brackets
2	3/4"-10 x 5-1/2" bolt - grade 8 - yellow zinc
4	3/4" SAE Thru-hardened washer - yellow zinc
2	3/4"-10 Prevailing torque nut - yellow zinc
4	1/2"-13 x 1-3/4" bolt - grade 8 - yellow zinc
4	1/2"-13 Nut - non-locking - yellow zinc
8	1/2" SAE Thru-hardened washer - yellow zinc

Important—measure before starting!

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

LF_____ RF_____

LR_____ RR_____

» *PRE-INSTALL NOTES*

Note: A transfer case indexing ring kit is highly recommended for high speed 4wd driving. This kit is available separately, D5613 for 6 bolt transfer cases and D5813 for 8 bolt (Aisin Transmission).

INSTALLATION INSTRUCTIONS

1. Park vehicle on clean, flat, and level surface. Block the rear wheels for safety.
2. Remove the front trackbar bolt from the frame rail. Retain all hardware. Figure 1

Figure 1

3. 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.
4. Support the front axle with a hydraulic jack.

5. Remove the factory wheels, remove the retaining clips that hold the rotor on and may interfere with aftermarket wheels.

6. Break the jam nuts loose on the adjusting collar of the drag link. Figure 2

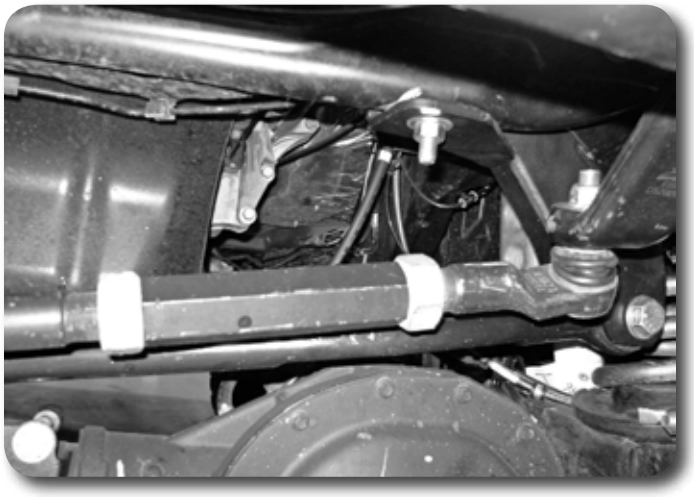

Figure 2

7. 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. Figure 3

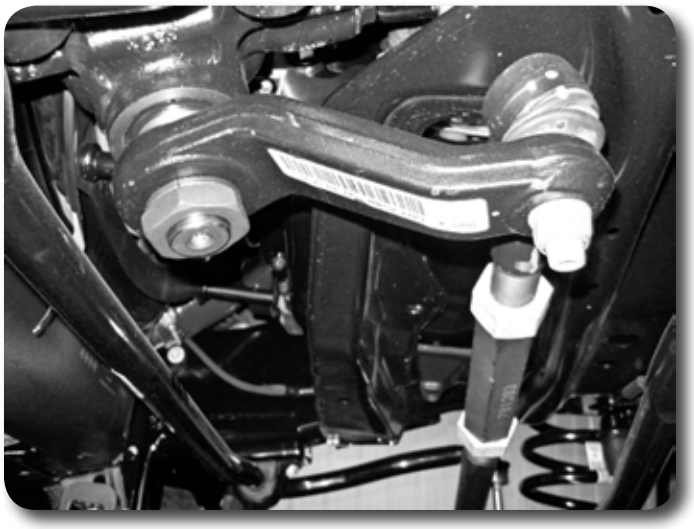

Figure 3

8. Disconnect the sway bar links from the sway bar. Keep the nuts. Figure 4

Figure 4

9. Disconnect the brake line bracket from the top of the radius arm mount on the axle, retain bolt, discard bracket. Figure 5

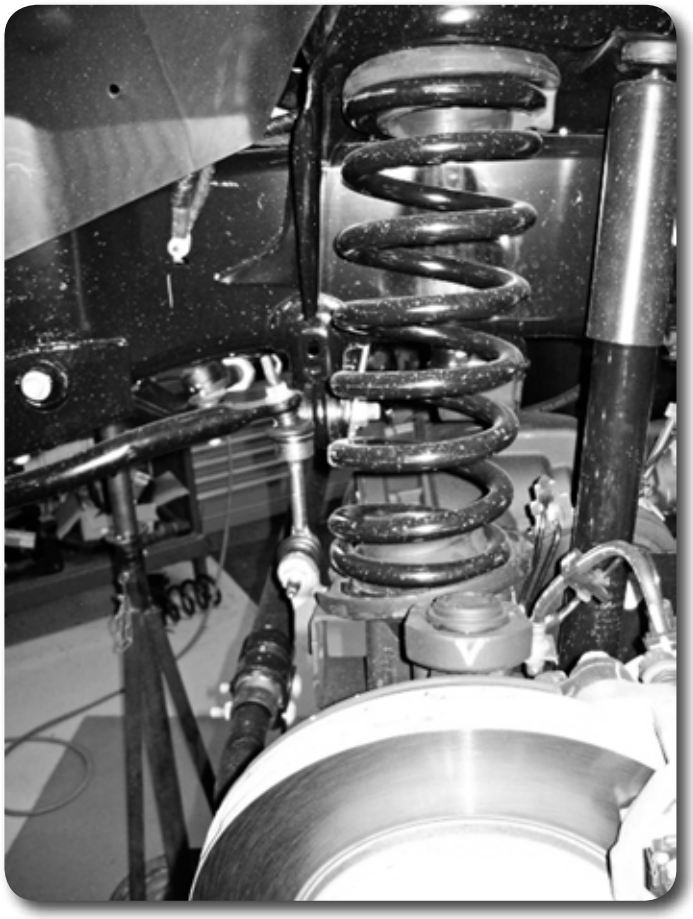

Figure 5

10. Disconnect the factory shock from the lower shock mount. Figure 6 Lower the front axle and remove the coil springs.

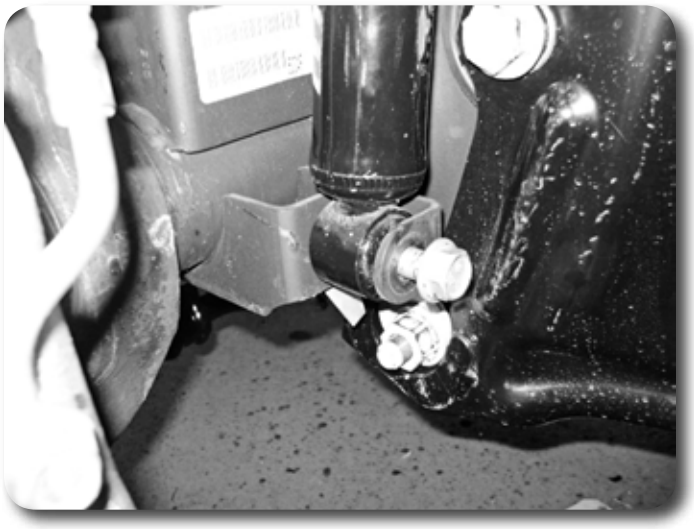

Figure 6

11. Raise the front axle and reattach stock 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.
12. 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.
13. Place the radius arm drop bracket up to the frame rail. Insert ¾" bolt to locate the bracket. Mark the center of the slots on the bottom of the frame rail, mark the center of the holes on the side of the frame rail. Figure 7 & 8

Rivet Nut Installation:

See end of instruction sheet for detailed rivet nut installation. Use bolt pack #799 for installation.

Figure 7

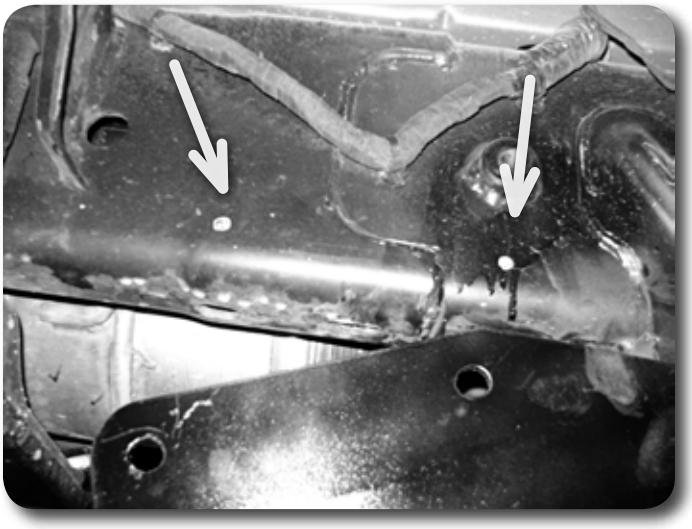

Figure 8

14. Remove the bracket and drill the 2 holes in the SIDE of the frame rail to 11/16". Drill the 2 holes in the bottom of the frame rail to 9/16".

15. Install the rivet nuts into the side of the frame rail. See detailed instructions at the end of the instruction sheet for proper installation.

16. Reinstall bracket with spacer sleeve at the ¾" bolt. Figure 9. ½"x1-3/4" bolts into the side of the frame Figure 10. Bolt tabs from the top down from the inside of the frame rail. Use the fish wire to pull the bolts through the frame rail Figure 11, 12, & 13

Fig 9 Note:

Hardware for the radius arm relocation bracket is in #794

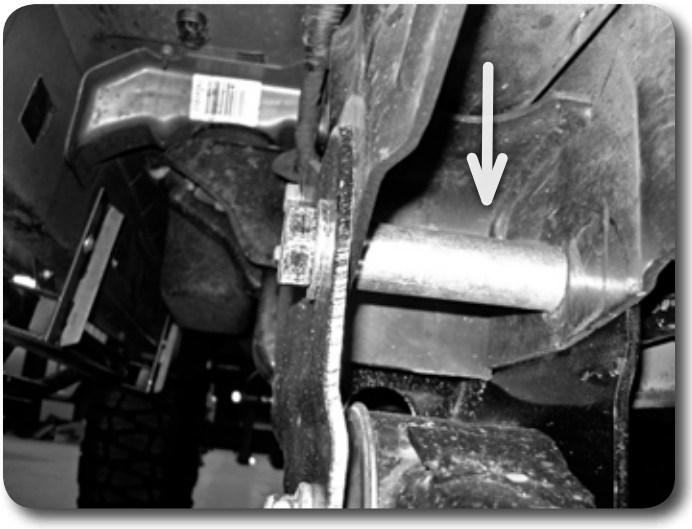

Figure 9

Figure 10

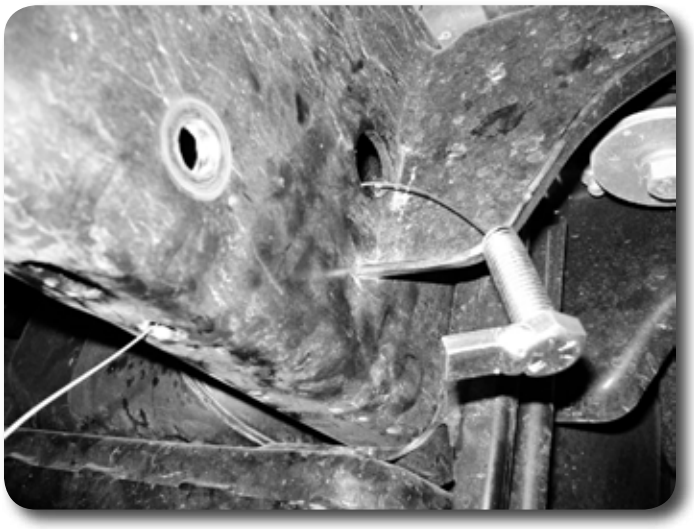

Figure 11

Figure 12

Figure 13

17. With a jack still under the axle, disconnect the radius arm from the driver's side frame bracket. Reinstall the passenger's side radius arm with factory hardware. Adjust the cam so the bolt head is as far forward as possible. Tighten the hardware at the axle to 200 ft-lbs. Figure 14

Figure 14

18. Repeat bracket installation procedure on the driver's side.
19. Reinstall the driver's side radius arm with factory hardware. Adjust the cam so the bolt head is as far forward as possible (same as Pass side). Tighten radius arm hardware at the axle to 200 ft-lbs. Leave radius arm pivot hardware loose at the relocation brackets.
20. Remove the factory bump stops, it is easiest to hit them from side with a hammer to pop them out. Figure 15

Figure 15

21. Grease new replacement bump stops and raise axle with hydraulic jack to press the bump stops into position. These will be a tight fit. Figure 16

Figure 16

22. Install the trackbar bracket with factory bolt through the original trackbar hole, do not tighten.

23. Clearance the factory hole on the frame crossmember where the trackbar bracket meets to 9/16”.

Fig 17 Note:

1/4" thick spacer washer needs to go between the trackbar and the frame bracket.

Hardware for track bar is in #792

24. The upper slot in the trackbar bracket will align with the hole in the factory trackbar bracket. These holes have variations in their position, and minor grinding of the factory hole may be required. Clearance the hole so ½" hardware will fit through it. Figure 17

Figure 17

25. Fish the bolt tab through the frame rail with the included bolt wire and attach to the trackbar bracket with ½" USS washer and regular nut. Attach the upper hole with ½" x 1-1/2" bolt with spacer washer as shown. Figure 18, 19, & 20

Figure 18

Figure 19

Fig 19 Note:

Use fish wire to thread the bolt tab through the frame

Figure 20

26. Tighten ½" trackbar hardware to 65 ft-lbs. Tighten 18mm factory bolt to 250 ft-lbs.

27. Support front axle and remove the stock shocks. Retain the lower hardware, discard shocks and upper hardware.

28. Lower the axle and install the new coils with factory isolator. The coils are side specific to reduce the amount of bow. There may be a slight amount of bow in the coils, this is due to the radius arm design and the caster change through wheel travel along with the offset coil mounts.

29. Grease and install bushings and sleeves into the shocks. Install new shocks with cup washers, bushings, and ½" nut at the top mount. Tighten the nut until the bushings begin to swell.

30. Attach the lower shock with factory hardware. Tighten hardware to 65 ft-lbs.

31. Disassemble the drag link. Trim the tab from the tie rod end flush with the end of the threads Figure 21, 22. Trim the end of the tab on the drag link flush with the threads as well Figure 23.

Fig 21-23 Note:

Cut the tab from the tie rod and drag link

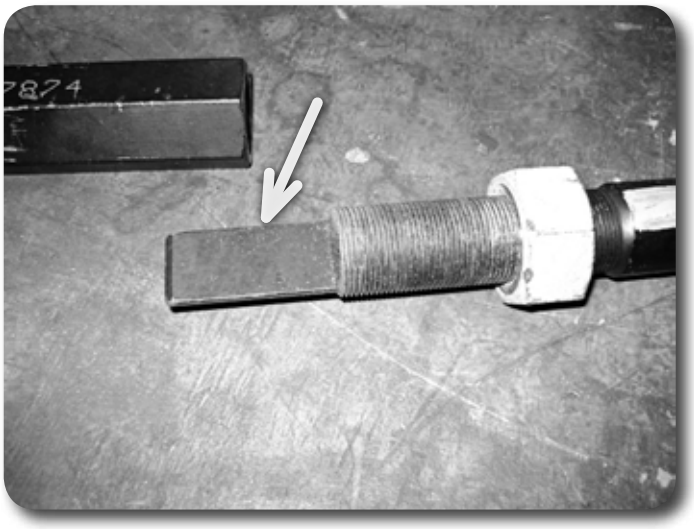

Figure 21

Figure 22

Figure 23

32. Reassemble the drag link, adjust so that there is approximately ¾”~7/8” of thread exposed past the jam nuts and that the tie rod end faces up. This is a starting point and will need to be adjusted after the installation is complete. Figure 24

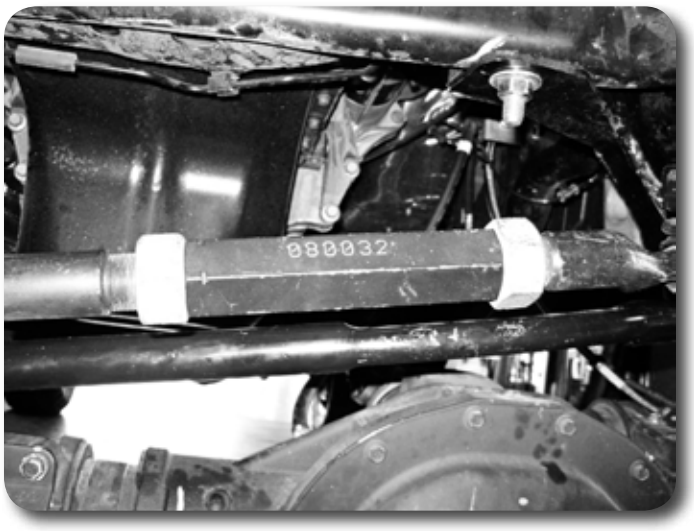

Figure 24

33. Install new pitman arm, use alignment mark made earlier. Loctite factory nut and install with lock washer tighten nut to 225 ft-lbs.

34. Attach drag link to pitman arm with factory nut. Tighten to 65 ft-lbs. Figure 25

Figure 25

35. Attach brake line relocation brackets to the top side of the axle with the factory bolt and 5/16” self threading bolt into the original locating tab hole. The brake lines will need to have the fittings loosened so they can be rotated and pointed up. Attach the brake line to the bracket with retaining clip. Figure 26

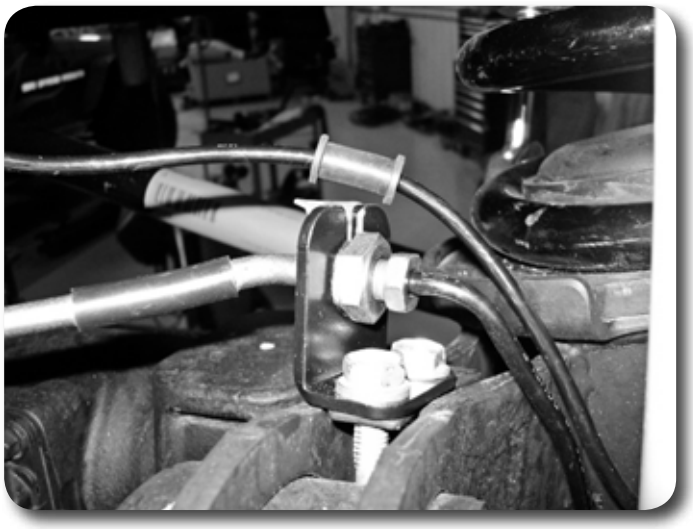

Figure 26

36. Disconnect the sway bar from the frame, install sway bar drops with factory hardware at the frame. Attach sway bar to the drop brackets with 3/8" hardware. Tighten all hardware to 35 ft-lbs.

37. Reattach the sway bar links to the sway bar with factory hardware. Tighten to 65 ft-lbs. Figure 27

Step 36 Note

Sway bar drop hardware is in bolt pack #422

Figure 27

38. Spin the front driveshaft. At full droop if there is interference within the dual cardan it must be clearanced to allow the driveshaft to spin freely. Remove the sharp edge from the driveshaft to allow for clearance. Use a rotary die grinder to remove material, not much material is required to be removed for clearance. Figure 28

Figure 28

39. Install wheels and tighten lug nuts to factory specifications. Lower the vehicle to the ground.
40. Tighten radius arm hardware to 200 ft-lbs.
41. Turn the steering wheel to get the trackbar sleeve to align with the hole in the bracket. Install new 18mm bolt tighten to 250 ft-lbs.

3500 Model Trucks w/ Leaf Springs

Rear Installation (2500 Trucks see separate instruction sheet):

42. Raise the rear of the vehicle, block the front wheels for safety. Support the frame rails with jackstands.
43. Disconnect e-brake cable and reroute the line below the front leaf spring eye mount to give adequate slack in the cable at full droop, reattach once routed for extra slack. Figure 29, 30

Figure 29

Fig 29-30 Note:

Route the e-brake cable below the factory bracket.

Figure 30

44. Remove the factory shocks, retain all mounting hardware.
45. Support the rear axle with a hydraulic jack. Remove the u-bolts and plates from one side of the vehicle only. Loosen the u-bolts, but do not remove the opposite side.
46. Lower the axle and remove the stock plastic center pin. Replace the center pin with new metal pin. It will be a tight fit. It may be necessary to clearnace the hole in the factory leaf pack to get the pin to press in. It must be a tight fit to keep the pin in place. Figure 31

Figure 31

47. Install new 5” lift block, with the bump stop wing facing in towards the center of the vehicle. Install new u-bolts and install the nuts/washers, but do not tighten at this time.
48. Repeat block and u-bolt installation on opposite side of the vehicle.
49. Tighten u-bolts snugly at this time, do not torque until the vehicle is on the ground.
50. Grease bushings and sleeves, install them into both ends of the shocks. Install new shocks with factory hardware. Tighten to 65 ft-lbs.
51. Install optional carrier bearing drop (mega cab / crew cab long bed models only). This part is available separately and is not included with the kit.
52. Reinstall wheels, torque lug nuts to factory specifications.
53. Lower vehicle to the ground. Toque U-bolts to 120 ft-lbs.

54. Recheck all hardware, check again at 500 miles, and again at regularly scheduled maintenance intervals.

55. Straighten the wheels, adjust the steering wheel to center. Do not drive the vehicle with the wheel off center or adverse traction control events may occur. An alignment is recommended at this time.

56. Test drive the vehicle. As noted before the installation, if a 4wd vibration is present an indexing ring kit must be purchased separately.

Rivet Nut Installation Instructions

» Hole Preparation

1. 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. Figure 1A/B.

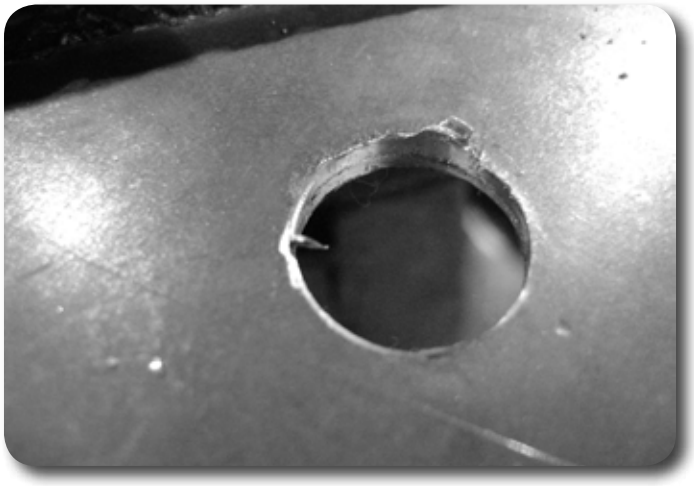

Figure 1A

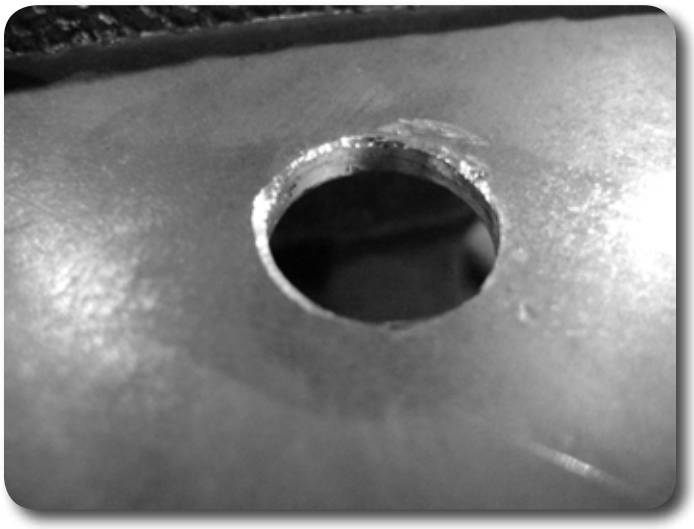

Figure 1B

Step 1 Note

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

2. 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 2 Thread this tool assembly into the rivet nut.

3. 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. Figure 3.

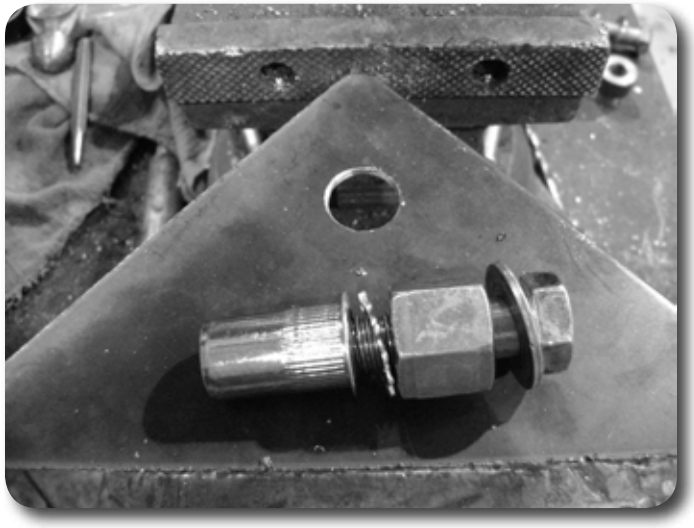

Figure 3 - 1/2" Rivet Nut Shown

Rivet Nut Installation

4. 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*

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. Figure 4

7. For a 1/2" rivet nut, hold the nut closest to the rivet nut still with an 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. Figure 4

Step 6 & 7 Note

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.

Figure 4 - 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.

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.
11. Verify proper installation by checking for consistent rivet nut deformation to see the threads are square and centered to the rivet nut. Figure 5.

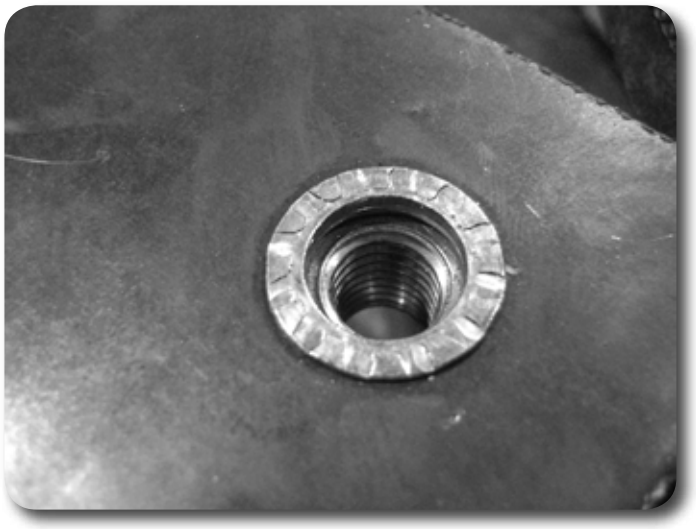

Figure 5

Step 8 & 9 Note

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

Step 10 *IMPORTANT*

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.

Post-Installation Warnings

1. 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.

2. 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.

3. Perform head light check and adjustment.

4. Re-torque all fasteners after 500 miles. Always inspect fasteners and components during routine servicing.