



#C2640 Installation Instructions 1988-1998 Chevy/GM 1500 4wd 6" 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-zone@sporttruckusainc.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: 6-8 hours

Special Tools Required

Torsion Bar Unloading Tool

Tire/Wheel Fitment

Tire:

35x12.50

Wheel:

Factory and Larger Diameter, Factory or Less Backspacing

C2640 Kit Contents

Qty Part

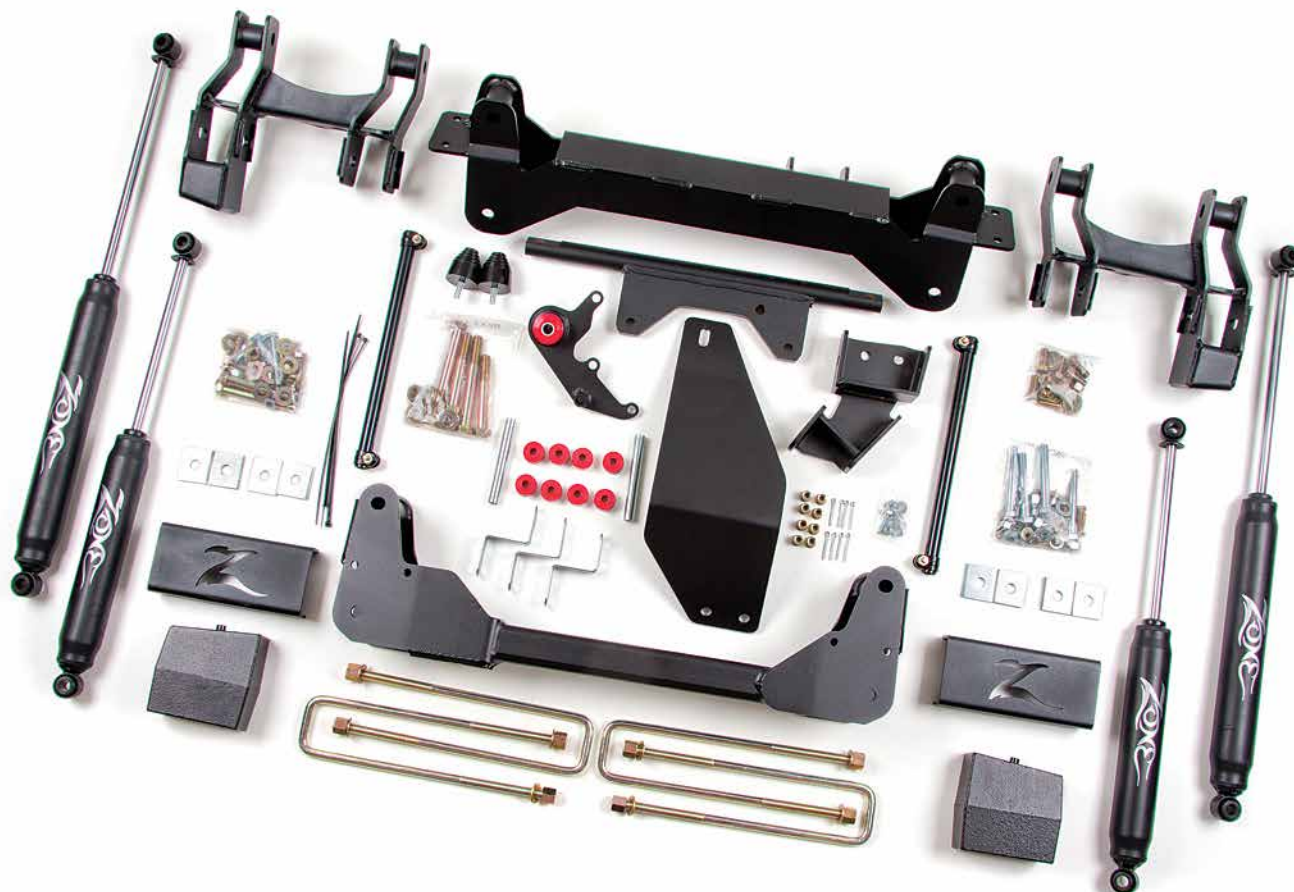
Front

1	Front Crossmember
1	Rear Crossmember
1	Bolt Pack - Crossmembers - #621
1	Differential Bracket - Drv
2	Bushing - Differential Bracket
1	Sleeve - 3/4" OD x 3" Long
1	Differential Bracket - Pass
1	Differential Skid Plate
1	Bolt Pack - Diff Brkts/Skid - #594
1	UCA Drop Bracket - Drv
1	UCA Drop Bracket - Pass
2	Bump Stop
8	3/8" Rivet Nut
1	Bolt Pack - UCA Brkts - #595

2	Front Brake Line Brkt
1	5/8" x 5" Sway Bar Link Sleeve
8	Stem Washer
8	Stem Bushing
1	Bolt Pack - Sway Bar Links - #596
8	Square Cam Washer
1	Steering Center Link
2	Tie Rod End Adjuster
8	Cotter Pin
2	Torsion Bar Drop Bracket
1	Bolt Pack - Torsion Bar Drop - #597
4	Zip Tie

Rear

2	5" Lift Block
4	9/16" x 2-9/16" x 14" U-bolt/nuts/washers
1	Rear Brake Line Bracket
1	Bolt Pack - Brake Line Brkt - #606



Pre-Installation Notes

1. Exhaust modification is necessary. The exhaust is routed directly under front driveshaft and will need to be modified for proper clearance after the lift is installed.

FRONT INSTALLATION

2. Park the vehicle on a clean, level surface and block the rear wheels for safety.
3. Safely raise the front of vehicle and support the frame rails with jack stands for safety.
4. Remove the wheels.
5. Measure and record the length of the exposed thread on the torsion bar adjusting bolts for later reference. **Figure 1**

DRV _____ PASS _____



Figure 1

6. Unload the torsion bars.
7. Mark the unloaded torsion bars to indicate passenger's and driver's side. Mark both of the torsion bars to indicate the front versus the rear for later installation. Also mark the torsion bars relative to the control arms at the front to note indexing. Mark the rear of the bars relative to the adjusting arms to indicate indexing.
8. Drive the torsion bars forward using a maul or an air hammer through the access hole in the back of the torsion bar crossmember. This will allow the adjuster keys to fall free.
9. Remove the bolts mounting the torsion bar crossmember to the frame. **Figure 2** Save these fasteners with the crossmember after removal. Remove the crossmember.



Figure 2

Important—measure before starting!

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

LF _____ RF _____

LR _____ RR _____

Step 6 Caution

The torsion bars are under extreme pressure. Use the correct unloading tool to remove the pressure on the torsion bars before attempting to remove the assembly. A J36202 or equivalent torsion bar unloading tool must be used. Be sure to follow the factory manual and the torsion bar unloading tool literature as to how to unload the torsion bars.

Step 9 Note

It may be necessary to remove a portion of the exhaust system on some vehicles in order to complete this operation.

10. Remove the torsion bars by pulling them toward the rear of the vehicle, out of the lower control arms.
11. If equipped, remove the factory differential skid plate from the vehicle. **Figure 3**
This will not be reused.

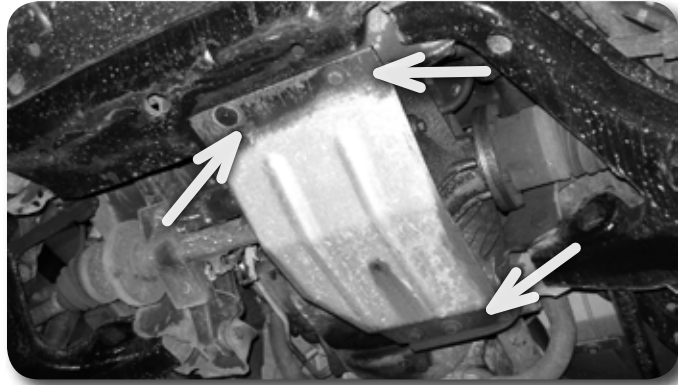


Figure 3

12. Remove the sway bar end links from the sway bar and lower control arms. Discard the end links. The plastic plug will need to be removed from the lower control arm to access the link bolt. **Figure 4**



Figure 4

13. Disconnect the tie rod ends from the steering knuckles. **Figure 5** Remove and save the mounting nuts. Strike the steering knuckle at the tie rod end to dislodge the end . Take care not to damage the tie rod end.

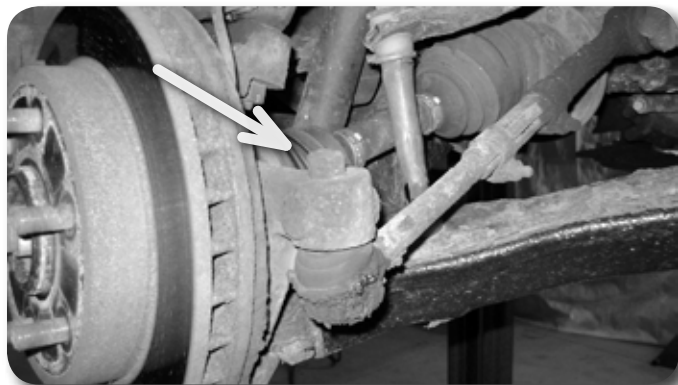


Figure 5

14. If equipped, disconnect the ABS brake wire from the frame and the control arm **Figure 6A/B**.



Figure 6A

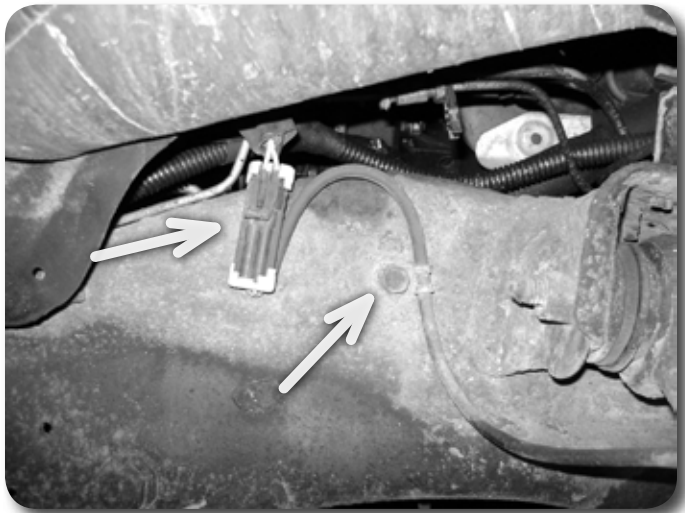


Figure 6B

15. Follow the ABS line up to the frame to find the wire connector. Disconnect the ABS wire and hang it out of the way. **Figure 6B**
16. Remove the brake caliper anchor bracket bolts and pull the caliper free from the steering knuckle and rotor **Figure 7**. Hang the caliper securely out of the way. Save caliper mounting hardware. Remove the brake rotor from the hub.

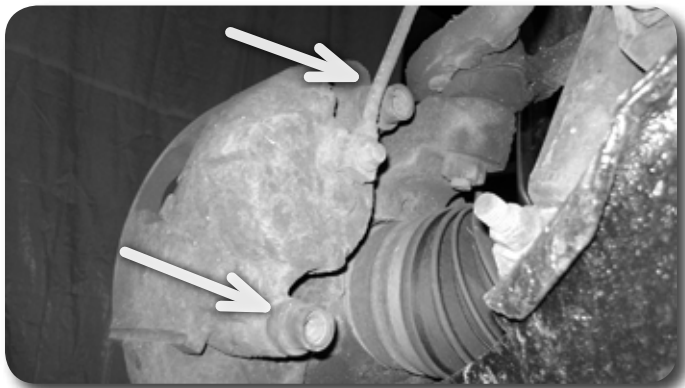


Figure 7

Step 16 Note
Do not allow the brake caliper to hang from the brake hose.

17. Remove the shocks. Discard the shocks and save mounting hardware.
18. Remove the axle shaft hub nut and save. **Figure 8**



Figure 8

19. Disconnect the CV axles from the differential by removing the mounting flange bolts, keep bolts for reinstallation. **Figure 9**

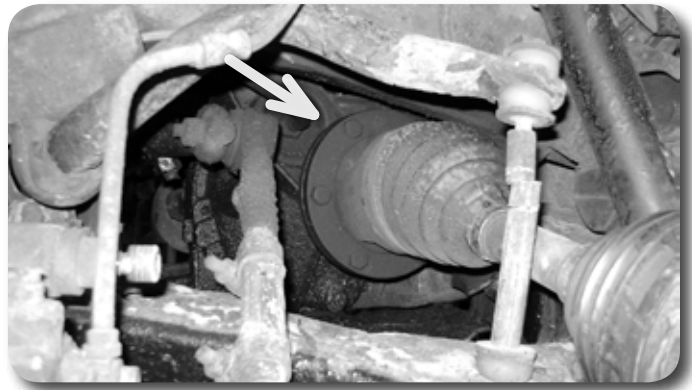


Figure 9

20. Remove the upper and lower ball joint nuts. Reinstall the nuts a few turns by hand. Dislodge the upper and lower ball joints from the steering knuckle by striking the knuckle near each joint with a hammer. Remove the upper ball joint nut and allow the knuckle/CV axle and lower control arm to swing down. Remove the CV axle from hub. **Figure 10**
21. Remove the lower ball joint nut and remove the knuckle from the lower control arm. Save the ball joint nuts.
22. Remove the lower control arm pivot bolts and remove the control arm from the vehicle. Save hardware.
23. Make index marks to relate the front driveshaft to the mating components before removal. Disconnect the front driveshaft from the differential housing and transfer case and remove it from the vehicle, save all mounting hardware. **Figure 11**
Driveshaft notes: Be sure not to allow the two sections of the driveshaft to separate. It may not be necessary to remove the driveshaft completely, if the exhaust modifications are completed prior to driving the vehicle or it is a short distance to the muffler shop, it may be easier to disconnect the driveshaft from the differential. It can be hung up out of the way temporarily. Some newer models may have a light-duty CV style joint at the transfer case and this method of driveshaft removal will be necessary. After exhaust modification shown, must be lowered 2-1/2" below previous height where it crosses the front driveshaft.



Figure 10

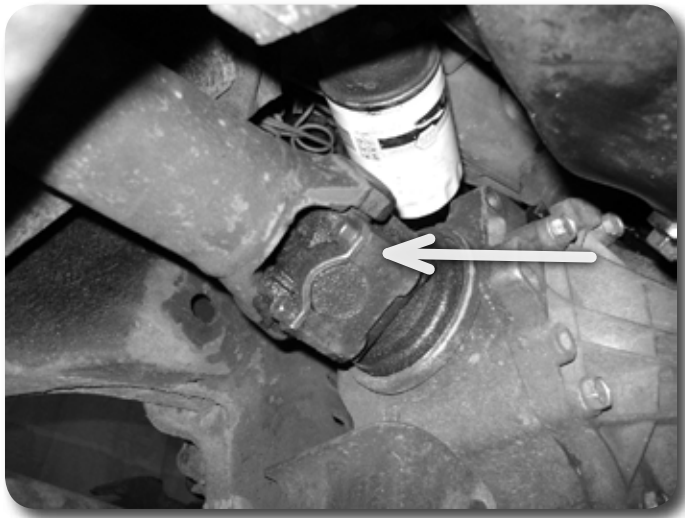


Figure 11

24. Disconnect the breather line from the driver's side of the front differential.
Figure 12A Disconnect the electrical connectors from the differential actuator, remove the wire from retaining clips on the differential and pull the wire out of the way. **Figure 12B**



Figure 12A



Figure 12B

Step 25 Note

Removal of the rear driver's side frame mounting tab can aid in differential removal. The tab will be cut off in the next step.

25. Support the front differential with an appropriate jack and remove the driver's side front Figure 13A and rear mounting bolts Figure 13B as well as the two mounting nuts on the passenger's side Figure 13C. Save all hardware. To gain additional clearance for removal, pull the steering all the way to the left. Remove the differential from the vehicle.

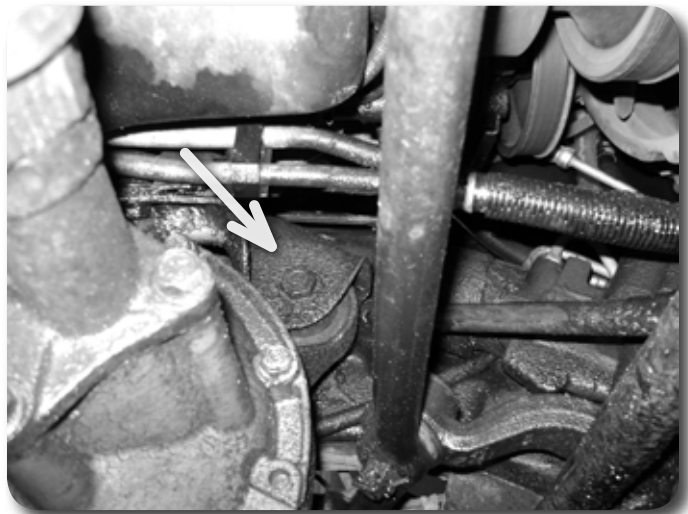


Figure 13A



Figure 13B

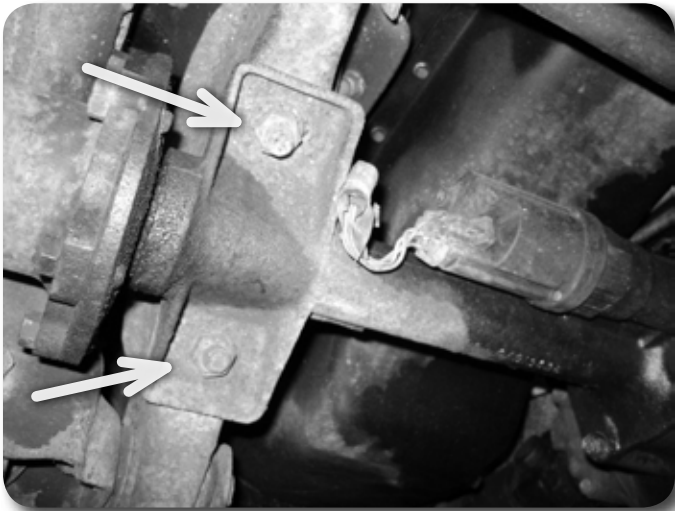


Figure 13C

26. The driver's side rear differential mount must be removed **Figure 14**. Measure 2-1/2" in from the center of the factory lower control arm mounting hole and make a vertical cut line on the front and rear surfaces. Connect the vertical cut lines across the top of the pocket. Using a sawzall or cut-off tool remove the differential mount from the frame. Paint bare metal to prevent corrosion.

Step 26 Note

Always check for fuel lines and/or electrical wires before cutting. Undercoating if flammable.

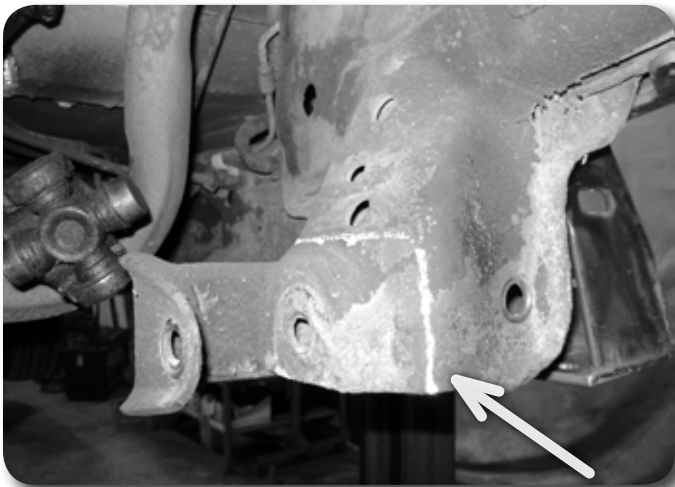


Figure 14

27. The front driver's side differential mounting eye must be removed from the differential **Figure 15A**. Mark the eye with a cut line smooth to the housing. Using a sawzall, cut the mounting eye off of the housing. Do not cut into the main housing body. Once removed, use a grinder/sanding disk to smooth the edges flush with the contour of the housing. **Figure 15B**



Figure 15A

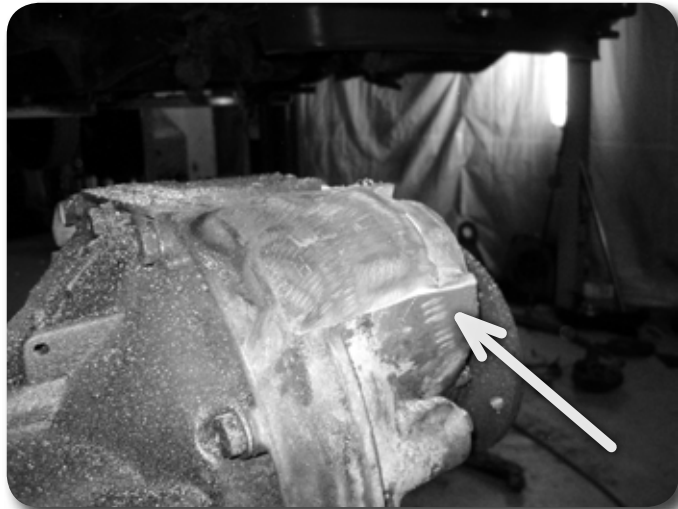


Figure 15B

Step 28 Note

Differential mount hardware is located in hardware pack #594

28. Locate the new driver's side differential mount, 2 bushings and 3/4" x 3" steel sleeve. Install the bushings and sleeves in the new bracket. Align the bracket to identify the 3 differential housing bolts to be removed. Remove the bolts and install the bracket on the housing with the provided 10mm x 60mm bolts and washers. Use Loctite on the bolt threads and torque to 40 ft-lbs. Install a provided 10mm x 75mm bolt, nut and washers through the four mounting hole and torque to 40 ft-lbs. **Figure 16**



Figure 16

29. Remove the driver's and passenger's side tie rod end assemblies from the steering center link. Remove the inner tie rod end nuts and strike the ends of the center link to unseat the tie rod end tapers **Figure 17**. Set the tie rod assemblies aside, they will be modified later.



Figure 17

30. Remove the steering center link from the pitman arm and idler arm assemblies. Remove the pitman/idler arm nuts. Strike the center link at each connection to unseat the taper. **Figure 18** Remove the center link from the vehicle.

Step 30 Note
This is an excellent time to inspect the idler arm and pitman arm assemblies for wear and replace as needed.



Figure 18

31. Remove the sway bar from the front frame crossmember. Note the orientation of the sway bar before removing. Save the mounting bolts (4), bushings and bushing caps. Figure 19



Figure 19

32. Remove the upper control arms from the frame. Figure 20 Make sure to note driver's and passenger's side parts. Save the arms and factory alignment cam bolts.

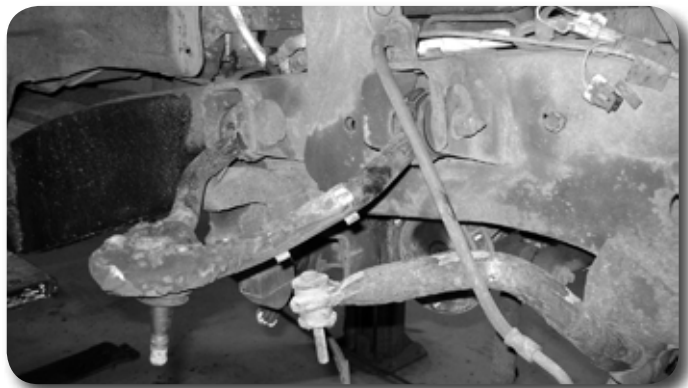


Figure 20

33. The factory bump stop mounts on the frame must be cut off to make clearance for the new upper control arm brackets. Cut the driver's and passenger's side bump stop mounts flush with the bottom edge of the frame rail. Also, remove the small amount of remaining material from inside the lower control arm pocket. Touch up the area with a grinder, ensuring the section directly below the upper control arm pocket is ground flush to the frame. **Figure 21 A/B/C** Paint all bare metal.



Figure 21A



Figure 21B



Figure 21C

Step 34 Note

3/8" bump stop nuts are located in hardware pack #595

34. Locate the new upper control arm drop brackets and new bump stops. Install the bump stops to the hole in the long boxed end of the mounts with a 3/8" flange nut. **Figure 22** Tighten the bump stop securely.



Figure 22

Step 35 Note

Upper control arm bracket hardware is located in hardware pack #595

35. Install the upper control arm brackets into the factory upper control arm mounts. They will fit snug. Fasten the brackets to the factory mounts with the provided 14mm x 100mm bolts, nuts and washers along with the provided large square washers. **Figure 23** Leave hardware loose, making sure the square washers are set inside the cam stops on the upper mounts.



Figure 23

36. With the upper mounting hardware in place, push the control arm brackets up tight to the bottom of the frame. The inside vertical edge of the new bracket should also be tight against the bottom edge of the frame. Figure 24 Mark the position of the three new bottom holes on the frame. Figure 25



Figure 24

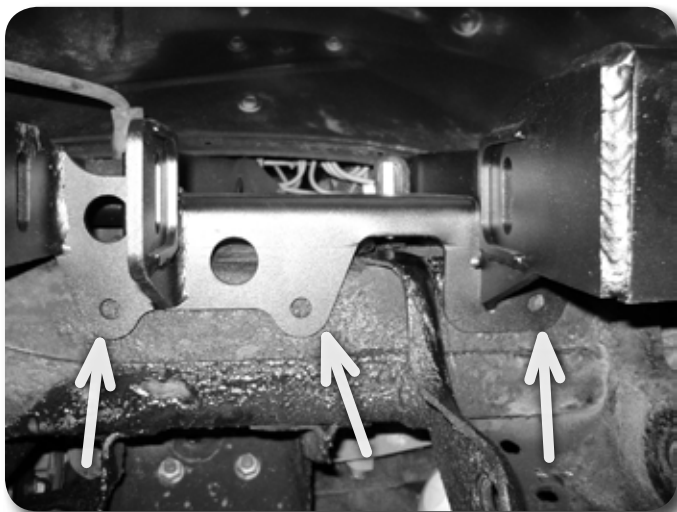


Figure 25

Step 38 Note

Rivet nut installation hardware is located in hardware pack #595

Step 40 Note

Upper control arm bracket hardware is located in hardware pack #595

37. Remove the new upper control arm brackets from the frame. Drill the three new holes to 17/32". Take care to maintain the correct hole center position for best fitment when the bracket is installed.
38. Locate and install the provided 3/8" rivet nuts. See detailed rivet nut installation instructions at the end of this instruction sheet.
39. Install all 6 rivet nuts in the new holes.
40. Reinstall the upper control arm brackets as before with the 14mm hardware and square washers. Leave loose. Attach the bracket to the bottom 3 rivet nuts with 3/8" x 1-1/4" bolts, flat washers and lock washers. **Figure 26** Once all the hardware is installed, torque the 3/8" bolts to 35 ft-lbs first, followed by the 14mm bolts - torqued to 95 ft-lbs.



Figure 26

41. Locate the new extended tie rod end sleeves and the factory tie rod end assemblies. Remove the tie rod ends from each factory tie rod end sleeve **Figure 27** and transfer them to the new sleeves. The tie rod ends are left and right hand thread. Take care to note the properly threaded ends in the new sleeves that match the tie rod end. Each assembly will have one right and one left hand threaded tie rod end. Be sure the sleeve clamps are in place before installing the ends and thread the ends on an equal amount of turns.



Figure 27

42. Locate the new steering center link. Attach the modified tie rod end assemblies to the center link with the original tie rod end nuts. Torque nuts to 40 ft-lbs. If the nuts are castellated and require cotter pins, install the new cotter pins provided. Do not loosen the nuts to align the cotter pins, only tighten. Install the new steering center link assembly. **Figure 28** The center link is offset and angled. The shorter end goes toward the driver's side and the part will point downward when installed. Attach the center link to the idler and pitman arms with the

original nut. Torque the nuts to 40 ft-lbs. If the nuts are castellated and require cotter pins, install the new cotter pins provided. Do not loosen the nuts to align the cotter pins, only tighten.

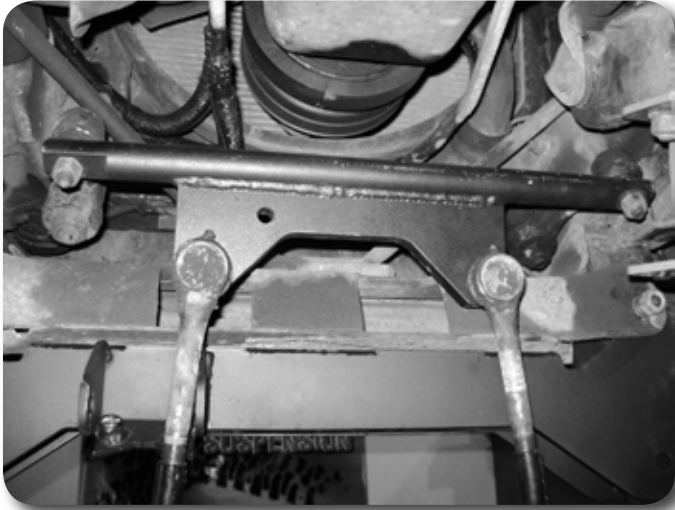


Figure 28

Crossmember Installation Notes: Before installing either crossmember, be sure that the inside surfaces of the factory lower control arm pockets are free of burrs. Commonly, the factory bolts and washers stretch the mounting holes when installed and leave a rolled edge that could hinder the installation of the new crossmembers. These edges can be smoothed with a file or rotary grinding tool.

43. Locate the new front crossmember. Install the crossmember into the factory front lower control arm pockets. Fasten with the original control arm mounting bolts, nuts and washers. Run the bolts from front to rear. **Figure 29** Leave hardware loose.

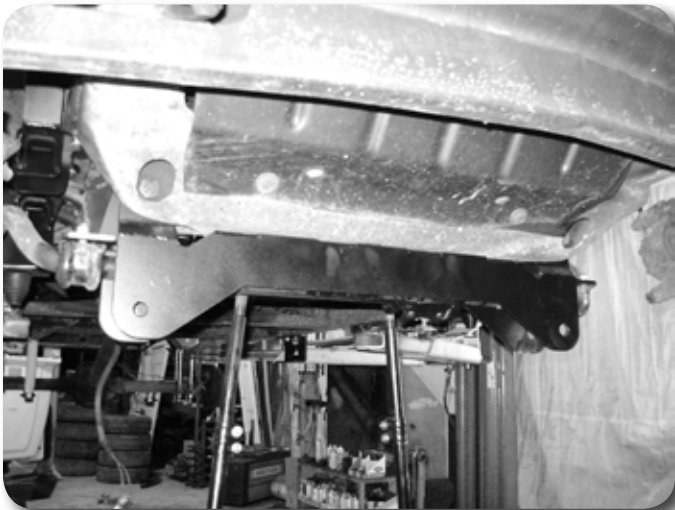


Figure 29

44. Install the factory front sway bar into the front crossmember. Be sure the bar is oriented correctly. Fasten the sway bar to the outer crossmember mounting tabs with the factory bushings/bushing caps and bolts along with the provided 10mm nuts and 10mm washer. **Figure 30** Leave hardware loose so the sway bar can move freely.

Step 44 Note
Sway bar mounting hardware is located in hardware pack #596.



Figure 30

45. Using 2 supplied zip ties, temporarily attach the steering tie rod end assemblies to the front sway bar. Figure 31 This will hold the linkages up and out of the way.



Figure 31

46. Locate the new passenger's side differential drop bracket. Attach the bracket to the factory mount with the original hardware. Figure 32 Torque the bolts to 90 ft-lbs.



Figure 32

If installing the optional Zone Offroad single steering stabilizer kit, do so now following the instructions provided with the stabilizer kit.

47. Raise the front differential into the vehicle and attach the new driver's side bracket to the front crossmember with a 9/16" x 4-1/2" bolt, nut and washers. Attach the passenger's side to the new bracket with 9/16" x 1-1/2" bolts, nuts and washers. **Figure 33** Leave all hardware loose.

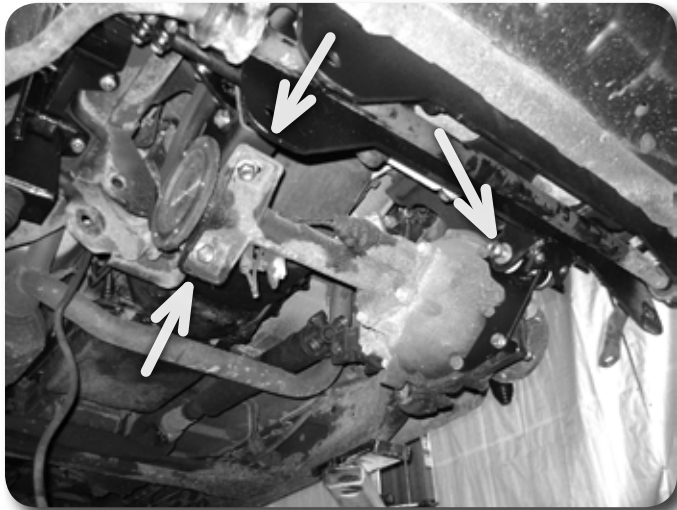


Figure 33

48. Locate the new rear crossmember. Install the crossmember into the rear lower control arm pockets while aligning with the rear differential mount. **Figure 34** Fasten the crossmember with the factory control arm bolts, nut and washers. Run the bolts from rear to front. Leave hardware loose.



Figure 34

49. Fasten the rear differential mount to the rear crossmember with the provided 9/16" x 4" bolt, nut and washers. Torque hardware to 95 ft-lbs.
50. Locate the new differential skid plate. Fasten the skid plate to the front and rear crossmembers with 1/2" x 1-1/4" bolts, nuts and washers. The front two bolts are fine thread while the rear bolt is course thread. **Figure 35** Leave hardware loose.

Step 47 Note

Differential mount hardware is located in hardware pack #594.

Step 49-50 Note

Differential mount and skid plate hardware is located in hardware pack #594. The skid plate uses two fine thread (1/2"-20) and one course thread (1/2"-13) bolt.

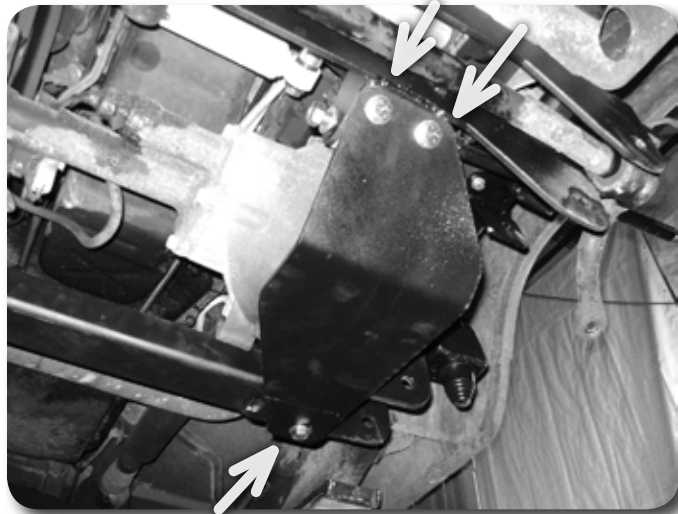


Figure 35

Step 51 Note

Lower control arm hardware is located in hardware pack #621.

Step 53 Note

14mm cam bolt nuts are located in hardware pack #595.

51. Install the factory lower control arms into the front and rear crossmembers. Fasten with 5/8" x 4-1/2" and 5-1/2" bolts, nuts and washers. Leave hardware loose.
52. With the lower control arms installed, torque the remaining 9/16" differential hardware to 95 ft-lbs (3 bolts) and 1/2" skid plate hardware to 60 ft-lbs (3 bolts). Also torque the 4 factory bolts mounting the crossmembers to the frame to 125 ft-lbs.
53. Install the factory upper control arms into the upper control arm brackets. Be sure they are on the correct side. Fasten with the factory cam bolts, washers and new 14mm nuts. Figure 36 Leave hardware loose.



Figure 36

54. Attach the steering knuckle assemblies to the lower control arms with the original ball joint nut. Torque the ball joint nut to 94 ft-lbs. Install a new provided cotter pin. Do not loosen the nuts to align the cotter pins, only tighten.
55. Install the factory CV axle into the front hub. Swing the lower control arm, knuckle and axle assembly up and attach the knuckle to the upper control arm with the factory ball joint nut. Torque the upper ball joint nut to 74 ft-lbs. Install a new provided cotter pin. Do not loosen the nuts to align the cotter pins, only tighten.

56. Attach the CV axle shaft to the differential using the factory flange bolts. Apply Loctite to the bolt threads and torque to 55 ft-lbs.
57. Install the factory hub nut and torque to 175 ft-lbs. If equipped, reinstall hub dust cap.
58. On ABS-equipped vehicles, locate the wire clamp hole on the frame in front of the upper control arm mount. (See Figure 6B) For non-ABS equipped vehicles, mark a hole location inline with the upper control arm bracket bolt approximately 2-3/4" forward of the upper control arm pocket. **Figure 37A** This will be the location for the new brake line relocation bracket. For non-ABS drill a 1/4" hole at the mark. Install the new "Z" bracket the frame at the hole with a 5/16" x 3/4" self-tapping bolt.

Step 58-60 Note

Brake line bracket hardware is located in hardware pack #596.

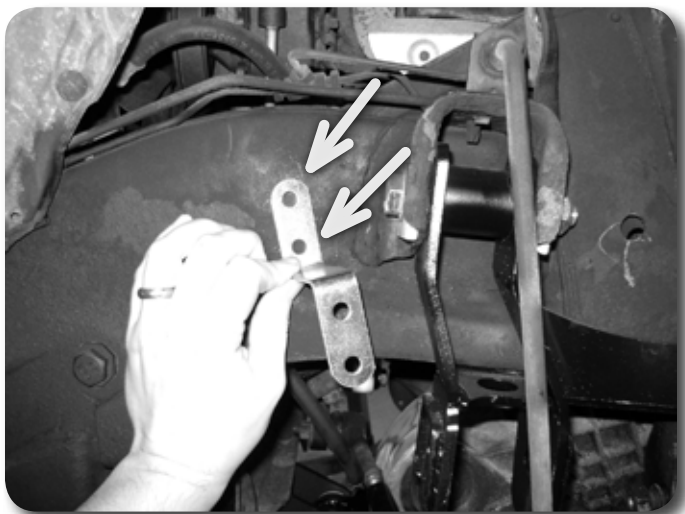


Figure 37A

59. With the brake line bracket locate, position it so it follows the contoured section of the frame and angles toward the steering knuckle. Mark the position of the second bracket hole. Drill a 1/4" hole at the mark and fasten the bracket with a second 5/16" x 3/4" self-tapping bolt. **Figure 37B**



Figure 37B

60. Disconnect the factory brake hardline bracket from the top of the upper control arm mount. Carefully reform the hard line to reroute and mount the factory bracket to the new relocation bracket. Fasten with a 5/16" x 3/4" bolt, nut and washers. **Figure 38** Tighten securely.



Figure 38

61. Reinstall the brake rotors and calipers. Torque the factory caliper bolts to 70 ft-lbs.
62. Locate the new supplied front shocks and included hardware. Lightly grease and install the provided bushings in each end of the shock. Install a 5/8" x 1.650" long sleeve in the body end of the shock. At the rod end of the shock, install a 3/4" x 2.43" long sleeve. The sleeve should only stick past one side of the bushing about 1/8", the remaining with stick out the other side. Place a 3/4" washer on the short end of the sleeve and a 3/4" washer followed by the 1" x 5/8" long sleeve on the other. Mount the rod end into the frame so that the eye is offset closer to the front of the vehicle. **Figure 39** Fasten with the original shock bolt/nut at both ends. Torque shock bolts to 50 ft-lbs.

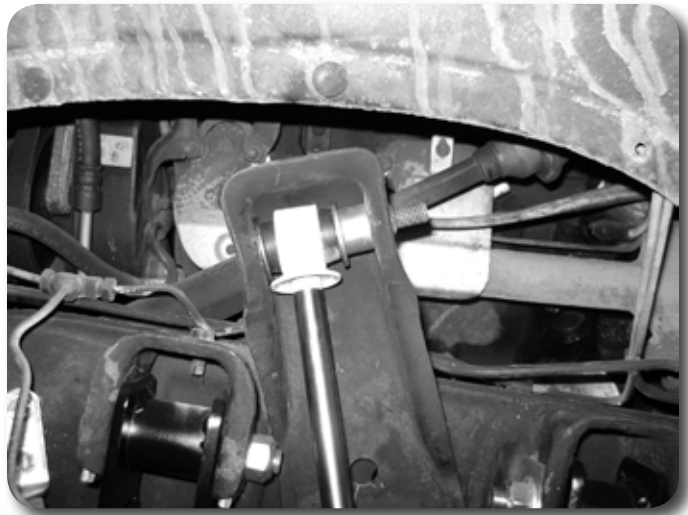


Figure 39

63. Locate the supplied components that make up the front sway bar links. 8 stem bushings and washers, 5/8" x 5" long steel sleeves and 3/8" x 9" bolts and nylock nuts. The links are assembled the same as factory, in the factory location. Run the bolt from the lower control arm up. To make it easier to align everything, raise the lower control arm with a jack so it sets in the horizontal position. With all the components installed, tighten the nut just until the bushings begin to swell. **Figure 40**

Step 63 Note

Sway bar link hardware is located in hardware pack 596.



Figure 40

64. Install the torsion bar into the lower control arms using the alignment marks made earlier. Push them forward about 12".
65. Locate the new torsion bar drop brackets. Attach the brackets to the bottom of the frame rails through the factory torsion bar crossmember mounting holes. Use 1/2" x 1-1/2" bolts, nuts and washer in the outer holes and 7/16" x 1-1/2" in the center hole. Figure 41 Leave hardware loose.

Step 65 Note
Torsion bar bracket hardware is located in hardware pack #597.



Figure 41

66. Install the torsion bar crossmember into the new drop brackets with the original hardware. Torque all factory and new hardware to 50 ft-lbs. Figure 42



Figure 42

67. Slide the torsion bars back into the torsion bar crossmember while replacing the torsion bar adjuster keys using the alignment marks made earlier. Once installed, load the torsion bars and reset the torsion bar adjuster bolts to the measurements taken at the beginning of the disassembly.
68. Install the front wheels and lower the vehicle to the ground. Bounce the front of the vehicle to settle the suspension.
69. Center the upper control arm cam bolts and torque them to 75-90 ft-lbs. Torque the 4 lower control arm bolts to 125 ft-lbs.
70. The exhaust crossover pipe still needs to be modified to reattach the front driveshaft. The driveshaft can be removed or if traveling a short distance to the exhaust shop it can be tied up securely out of the way.
71. Check all hardware for proper torque.
72. A front end alignment must be completed.

Rear Installation

1. Block the front wheels for safety. Raise the rear of the vehicle and support with jack stands under the frame rails.
2. Remove wheels.
3. Support the rear axle with a jack. Remove the factory rear shocks. Save hardware.
4. Disconnect the rear brake line bracket from the inside of the driver's side frame rail. **Figure 43A** The mounting bolts accessed on the outside face of the framerrail. **Figure 43B** Save hardware.



Figure 43A

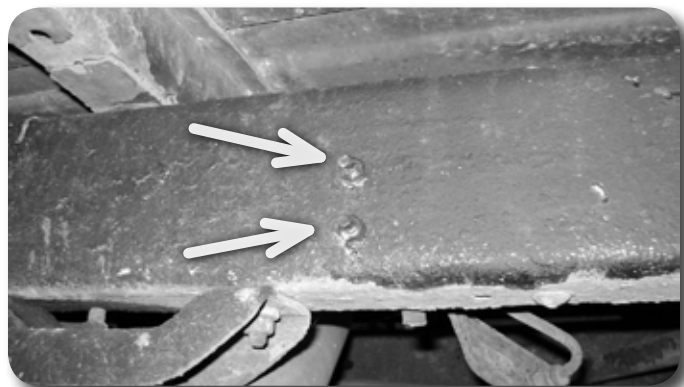


Figure 43B

5. With the axle still support with a jack, remove the passenger's side u-bolts. Lower the axle and place the provided 5" block between the axle and leaf spring. The block is tapered, the short end will go toward the front of the vehicle. Raise the axle while aligning the pin/hole in the block, axle and leaf springs. Fasten with the provided new u-bolts, nuts and washers. Tighen just enough to keep the assembly seated together.
6. Repeat the block installation on the driver's side of the vehicle. Take care not to overextend any hoses/lines.
7. Locate the provided "Z" shaped brake line bracket (same as used for the front brake lines). **Figure 44** Attach one end of the bracket to the original brake line mount holes in the frame with the original hardware. Carefully reform the steel brake line and attach to the new brake line bracket with the provided 5/16" hardware. Torque brake line hardware to 20 ft-lbs.



Figure 44

8. Locate and install the new provided shocks with the original hardware. Torque the upper bolts to 13 ft-lbs and the lower bolts to 75 ft-lbs.
9. Install the wheels and lower the vehicle to the ground. Torque the lug nuts to 125 ft-lbs.
10. Bounce the rear of the vehicle to settle the suspension. Torque the u-bolts to 100-120 ft-lbs.
11. Check all hardware for proper torque.
12. Check hardware after 500 miles.
13. A front end alignment must be performed.

Step 7 Note

Brake line bracket hardware is located in hardware pack #606

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.

Detailed 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.

» 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 1 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 1.

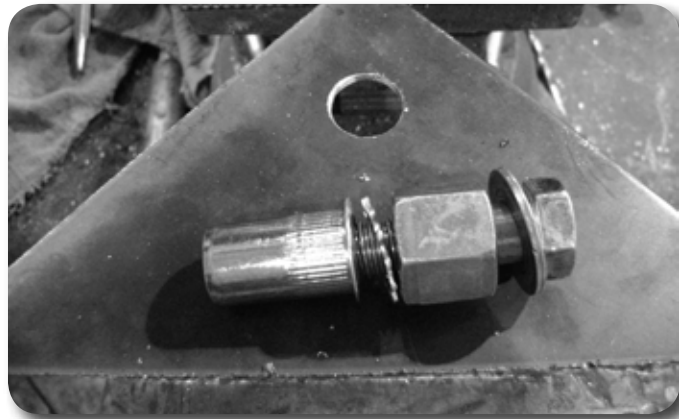


Figure 1 - 1/2" Rivet Nut Shown

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

4. Verify the correct size rivet nut for the application 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

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.

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 or impact gun 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.

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 or impact gun 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.

» 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 2.**

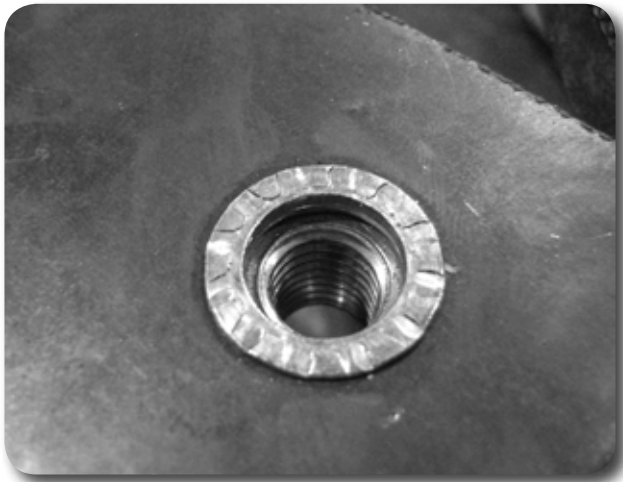


Figure 2

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.