2001-2004 Toyota Tacoma Steering Rack and Pinion Bushing Kit (SKU# TACO-RB0104)

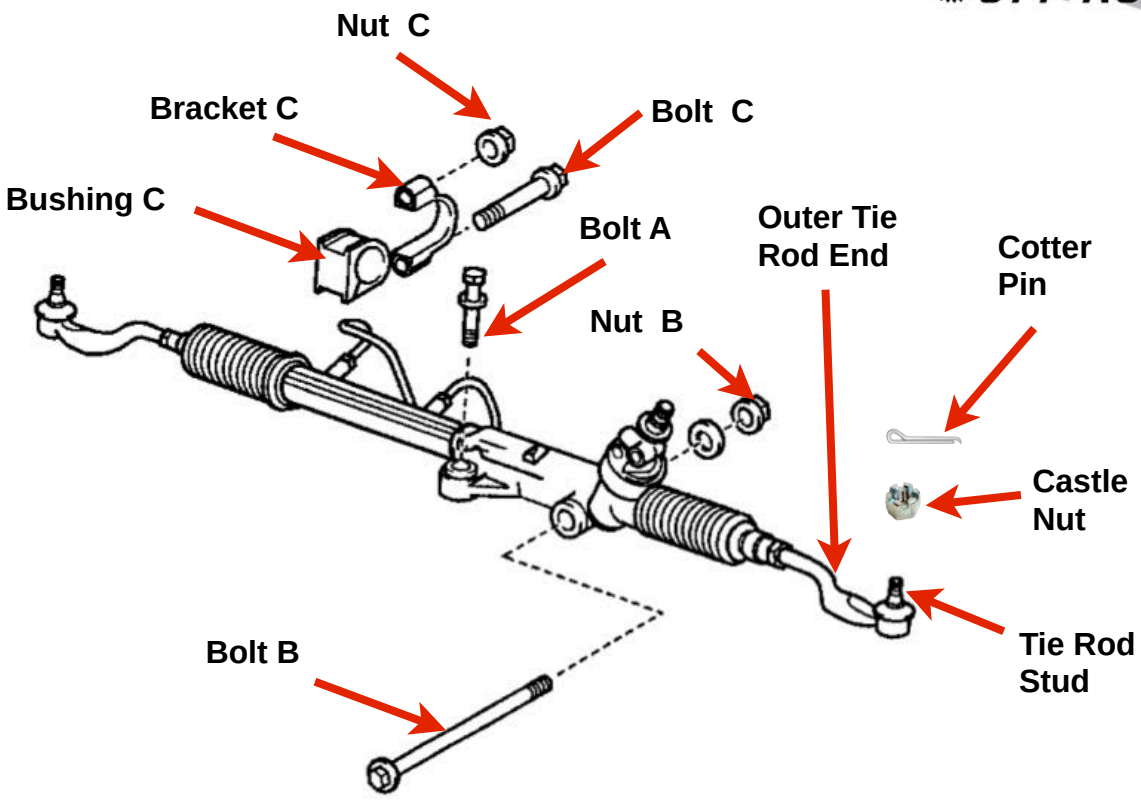
Installation Instructions

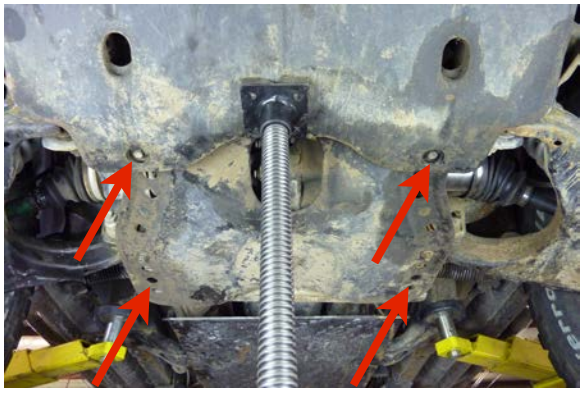
CAUTION: Safety glasses should be worn at all times when working with vehicles and related tools and equipment.

Suggested Tools:

- Twin Post Lift (or floor jack and jack stands)
- Under Hoist Jack Stand (If using a twin post lift)
- Sockets, 12,17 & 19 mm
- Deep Socket 17 mm
- Combination Wrench, 19 & 22 mm
- Ratchet
- Large Standard Screwdriver
- Diagonal Cutting Pliers
- Channel lock Pliers
- Wire Brush
- Ball Peen Hammer
- 1/8” Punch
- Torque Wrench

Rack and Pinon Power Steering Unit



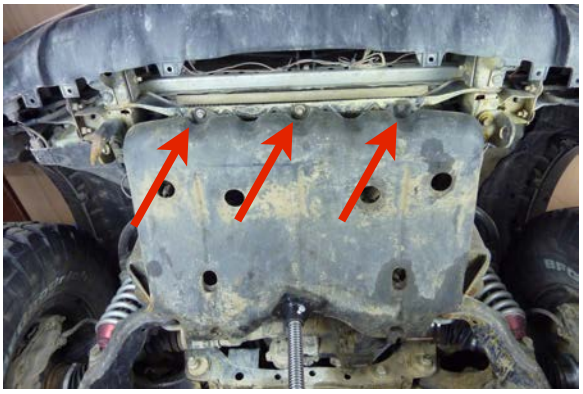


Step 1

Raise and support the vehicle on a twin post lift. The vehicle should be supported by the frame just behind the front wheels and ahead of the rear wheels. If a twin post lift is not available this job could be done with a floor jack and (2) jack stands.

Step 2

Support the skid plate with an under hoist jack stand or floor jack as shown. Remove the rear skid plate by removing the (4) bolts indicated by arrows using a 12 mm socket.

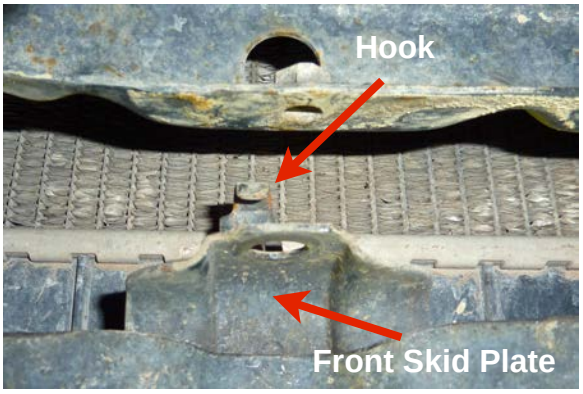


Step 3

Remove the (3) front skid plate bolts using a 12 mm socket.

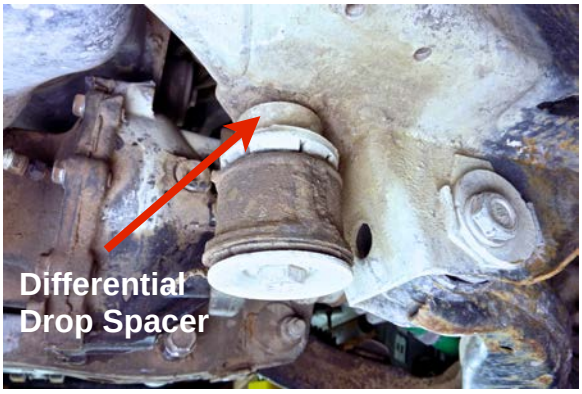
Step 4

Lower the under hoist jack stand (or floor jack) and remove the front skid plate.



Tech Tip

The front skid plate has (3) hooks across the front. After the bolts are removed, the skid plate will be supported by the hooks. Simply lift up on the skid plate, shift it slightly to the rear and then down to remove.

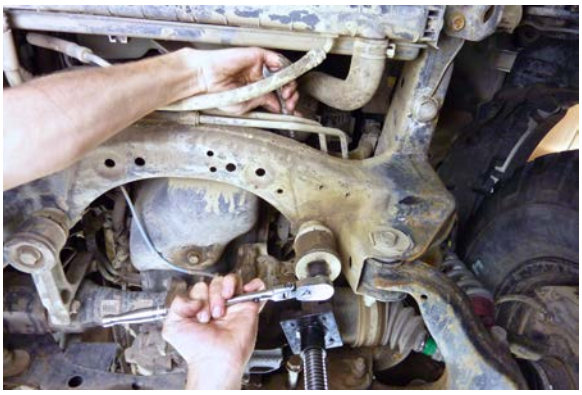


Note:

If the vehicle you are working with has differential drop spacers continue to the next step. These drop spacers are frequently used to lower the front differential when vehicle lift kits are installed. If the vehicle you are working with does **NOT** have differential drop spacers skip to **Step 11**.

Step 5

Place an under hoist jack stand (or floor jack) under the differential support as shown and lift slightly.

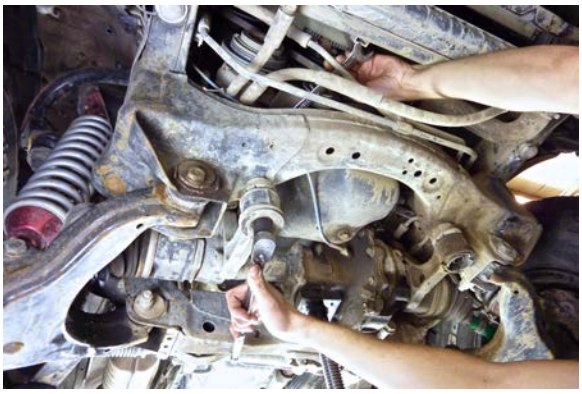


Step 6

Beginning with the driver side differential support, hold the nut on the top with a 19 mm box end wrench and loosen the bolt with a 19 mm socket.

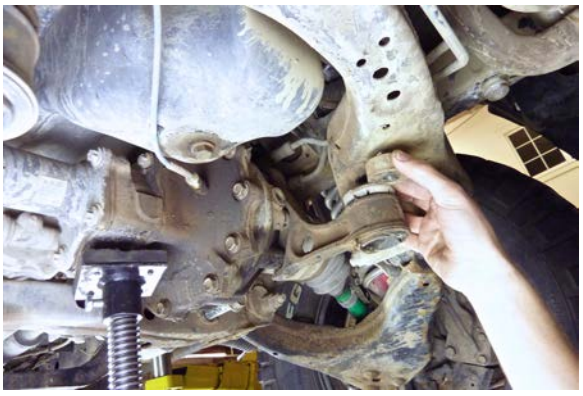
Step 7

Remove the bolt and nut.



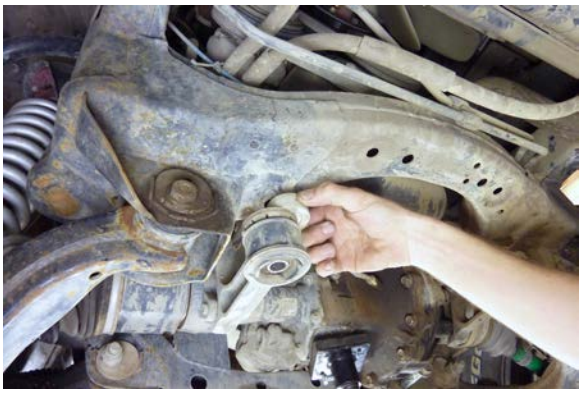
Step 8

Reposition the under hoist jack stand (or floor jack) under the differential and remove the passenger side differential mount bolt. This is done by holding the top nut with a 19 mm box end wrench and removing the bolt with a 19 mm socket.



Step 9

Lower the differential with the under hoist jack stand (or floor jack) and remove the driver side spacer.

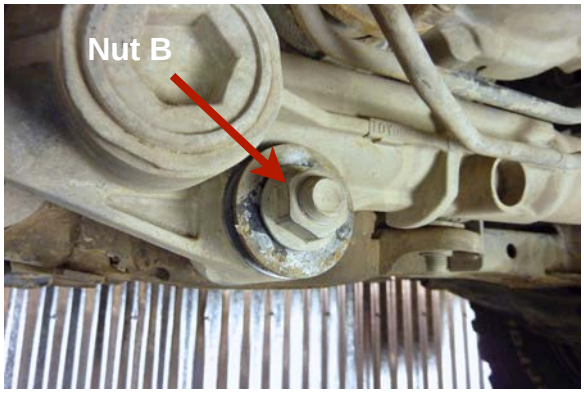


Step 9 Continued

Remove the passenger side spacer.

Step 10

Raise the differential with the under hoist jack stand or floor jack.



Step 11

While holding bolt B with a 22 mm box end wrench, remove nut and washer B with a 22 mm socket.

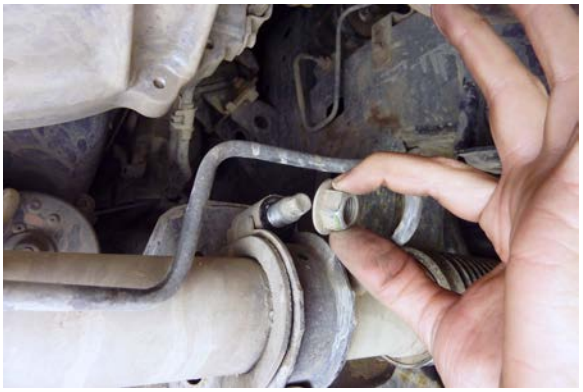
Step 12

Using an 1/8 inch punch, drive bolt B out of the hole and remove the bolt.

Note: The bolt will pass near the differential, but should not hit.

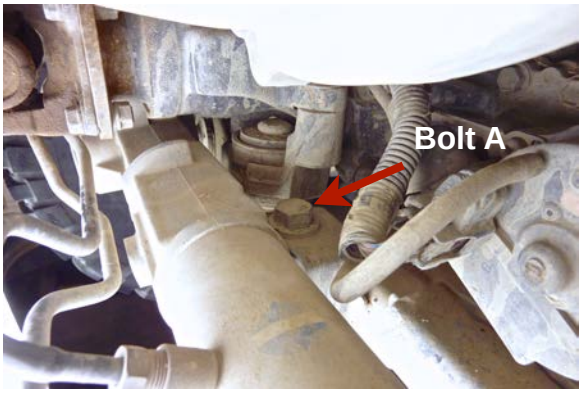
Step 13

Remove Bolt C using a 19 mm socket.



Step 14

Remove nut C using a 19 mm socket.



Step 15

Remove bolt A using a 19 mm socket.

Step 16

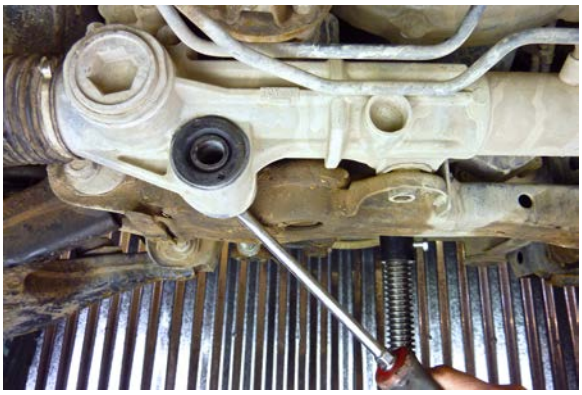
Remove clamp B by prying alternately on the bottom . . . .

Step 16 Continued

. . . .and on the top with a screw driver until it comes off.

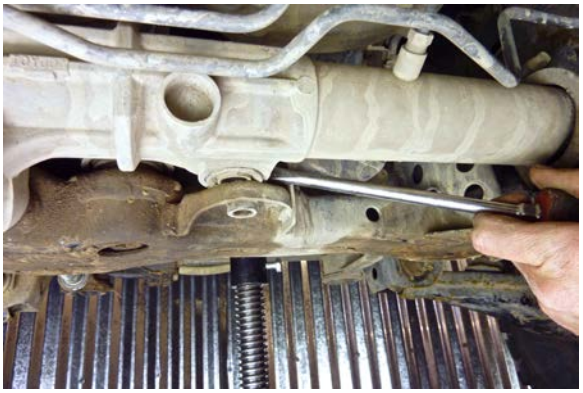
Step 17

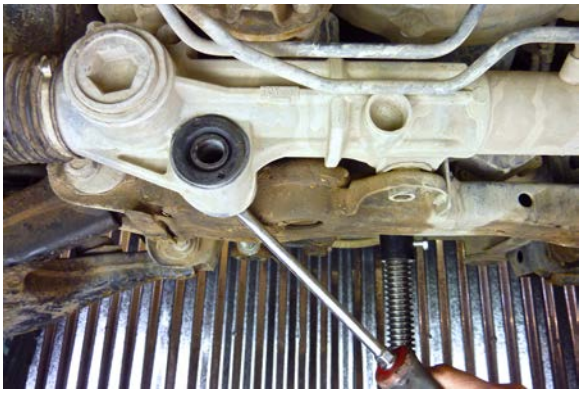
Move the rack and pinion assembly rearward by prying alternately in several different points with a large screwdriver or pry bar. Pry point # 1 is shown here.



Step 17 Continued

Pry point # 2.





Step 17 Continued

Pry point # 3

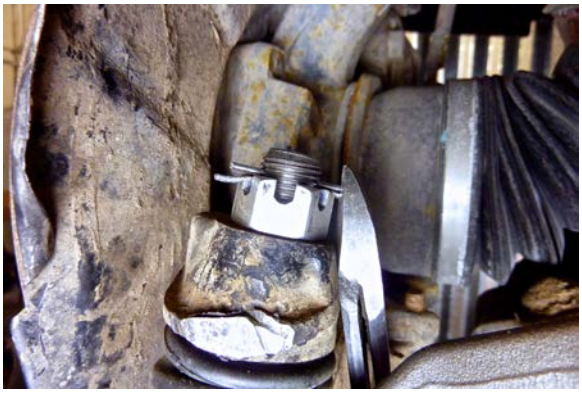
To see a video on how to remove and replace inner and outer tie rod ends on an 01 Tacoma click HERE.

Step 18

Remove the driver side front wheel assembly using a 21 mm socket.

Tech Tip

In some cases, freeing the rack and pinion steering unit from its mounts can be difficult, especially bracket A. Although we did not find it necessary, some have found it helpful to disconnect the driver side outer tie rod from the steering arm, in order to free the rack and pinion unit from the mounts. If you find this necessary, continue to the next step. If not, skip to **Step 23**.



Step 19

Remove the cotter pin by bending the ends together and pulling it out using diagonal cutting pliers.

Note: Be sure to replace this cotter pin with a new one upon reassembly.

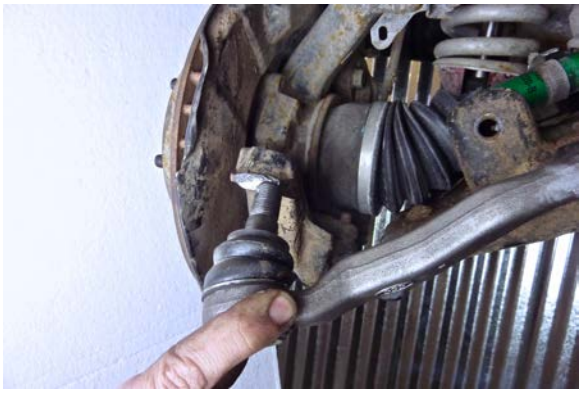
Step 20

Remove the castle nut using a 19 mm socket.

Step 21

Strike the steering arm, as shown, with a ball peen hammer until the tire rod end detaches from the steering arm.

Note: This usually requires several sharp blows. Don't be shy. But, at the same time, be careful not to hit and damage the treads of the stud. It is a good idea to thread the castle nut back on 5 or 6 turns, to protect the threads.



Step 22

Once the tie rod is loose, you should find it a little easier to remove the rack and pinion steering unit from the brackets.

Step 23

Once the rack assembly is clear of the brackets, move to the next step.

Step 24
Remove bushing C.

Step 25
Clean any dirt or rust from the bushing C area of the rack with a wire brush.

Step 26
Install the new bushing C as shown.

Step 27
Begin removing bushing B by tearing the back side of the bushing away with pliers or cutting it away with a knife.

Step 28

Using a 17 mm socket and a hammer, drive the old bushing forward.

Step 29

Complete the removal of the old bushing by using channel lock pliers as shown.

Note: The old bushing is in one piece and the new one is in two pieces.

Step 30

Install the front half of the new bushing C from the front . . .

Step 31

. . . and the other half from the rear.

Step 32

You may need to tap the bushings into place with a hammer.

Step 33

Start the metal sleeve into bushing C and tap it into place with a hammer.

Note: Support the front half to prevent it from being driven out by the sleeve.

Step 33 Continued

Sleeve C properly installed.

Step 34

Remove bolt A bushing by tapping it upward using a 17 mm deep socket and a hammer.

Step 35
Bushing A removed.

Step 36
Install half of bushing A from the top . . .

Step 36 Continued
. . . and the other half of bushing A from the bottom.

Step 37
Insert the the sleeve as shown . . .

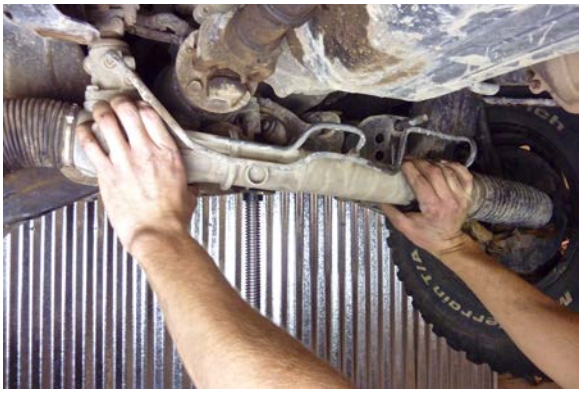
Step 37 Continued

. . . and tap it into place with a hammer.

Note: Support the upper half of the sleeve to insure it is not driven out by the sleeve.

Step 38

Sleeve properly installed.



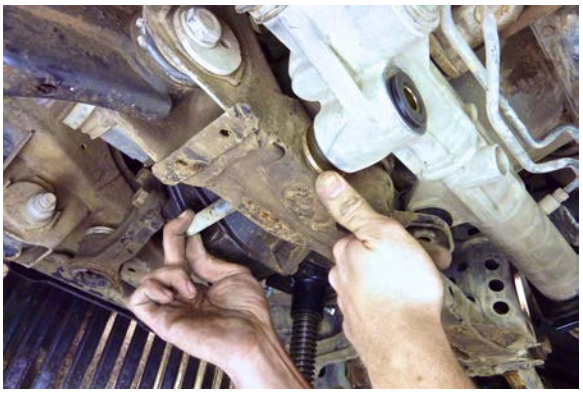
Step 39

Reposition the rack and pinion unit back in its original location.

Step 40

The repositioning of the rack unit can be a bit difficult. It may help to pry as shown with a large pry bar.

Caution: Do not use excessive force. The rack body is made of cast aluminum and can be easily damaged.



Step 41

Position the supplied washer B as shown (between the crossmember and the rack) and install bolt B.

Step 42

It may be necessary to tap bolt B into position with a hammer.

Caution: Be careful that the threads of bolt B are not damaged.

Step 43

Install the original washer and nut B. Leave this nut loose for now.

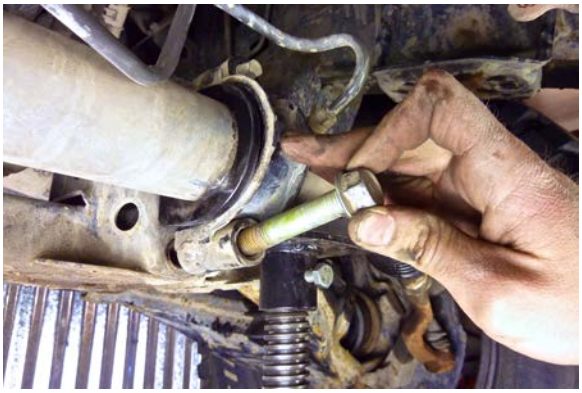
Step 44

Position bracket C as shown.

Step 45

Tap bracket C into position with a hammer.

Caution: Do not use excessive force. The bracket can be distorted if pounded on.



Step 46

Install bolt C but do not tighten yet.

Step 47

Install nut C but do not tighten yet.

Step 48

Install bolt A and torque to 123 ft. lbs.

Step 49

While holding bolt B with a combination wrench, torque nut B to 141 ft. lbs.

Step 50

Alternately tighten bolt C and nut C until 123 ft. lbs. is reached.

Note: Be sure the bushing is positioned correctly as the bracket is tightened.

Step 51

Slowly lower the differential by releasing the under hoist jack stand (or floor jack) until there is enough space for the spacer. Install the driver side spacer as shown.

Step 52

Install the differential support bolt and thread the nut on top, but do not tighten yet.

Step 53

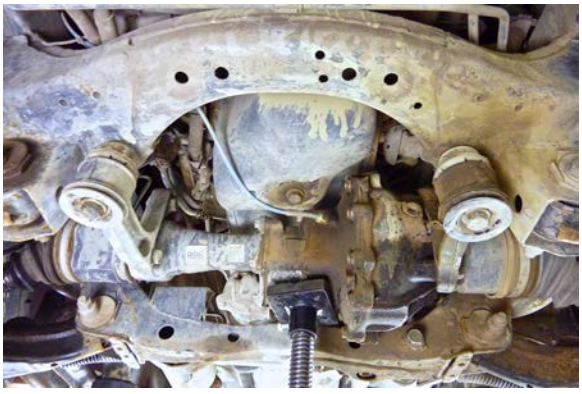
Install the passenger side differential drop spacer.

Step 54

Install the differential support bolt and thread the nut on top. Tighten the nut to 101 ft. lbs.

Step 55

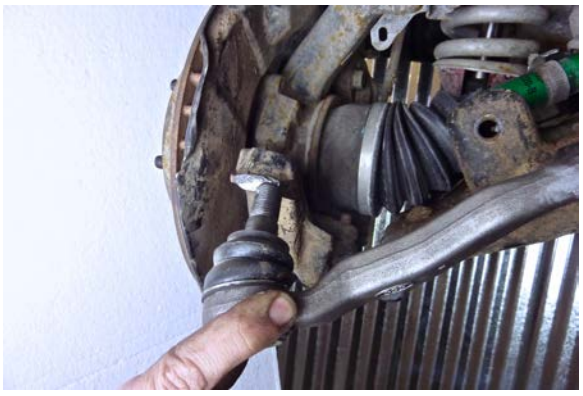
Tighten the driver side differential support bolt to 101 ft. lbs.



Step 56

Remove the under hoist jack stand (or floor jack) from the differential.

If you did not disconnect the driver side outer tie rod, skip to Step 61. If you did disconnected the tie rod, continue to the next step.



Step 57

Replace the tie rod stud into the steering arm.

Note: Be sure the stud, as well as the area where it fits in the steering arm, is clean and grease free.

Step 58

Install the castle nut and torque to 67 ft. lbs. If the notches in the castle nut do not align with the hole in the stud, continue tightening the nut in a clockwise direction until the hole and slot do align. Never loosen this castle nut to align the holes. Always tighten!

Step 59

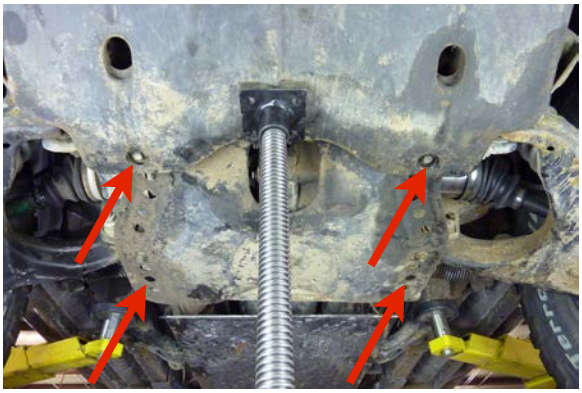
Install a new cotter pin and bend the ends as shown.

Step 60

Install the wheel assembly and tighten the lug nuts. 76 ft. lbs.

Step 61

Position the front skid plate, support it with an under hoist jack stand (or floor jack) and install the (3) front bolts. Do not tighten them yet.



Step 62

Position the rear skid plate and install the (4) bolts. After all the bolts are started, tighten them (7 bolts) to 12 ft. lbs.

Step 63

Raise the vehicle, remove all equipment (jack stands, floor jack, etc) and lower it to the floor.

Congratulations!

All done. We hope these instructions were helpful.

As always, If you experience any difficulty during the installation of this product please contact Low Range Off-Road Technical Support at 801-805-6644 M-F 8am-5pm MST. Thank you for purchasing from Low Range Off-Road.

These instructions are designed as a general installation guide. Installation of many Low Range Off-Road products require specialized skills such as metal fabrication, welding and mechanical trouble shooting. If you have any questions or are unsure about how to proceed, please contact our shop at 801-805-6644 or seek help from a competent fabricator. Using fabrication tools such as welders, torches and grinders can cause serious bodily harm and death. Please operate equipment carefully and observe proper safety procedures.

Rock crawling and off-road driving are inherently dangerous activities. Some modifications will adversely affect the on-road handling characteristics of your vehicle. All products sold by Low Range Off-Road are sold for off road use only. Any other use or application is the responsibility of the purchaser and/or user. Some modifications and installation of certain aftermarket parts may under certain circumstances void your original dealer warranty. Modification of your vehicle may create dangerous conditions, which could cause roll-overs resulting in serious bodily injury or death. Buyers and users of these products hereby expressly assume all risks associated with any such modifications and use.