*Instructions Created by an:*

Automotive Service Excellence
MASTER AUTO TECHNICIAN

# 2007-Present Toyota Tundra LRT Leveling Lift Kit - 4WD by Low Range Off-Road (SKU# LR-LRTundra)

***Revised 7-11-17***

# Installation Instructions

*Instructions also apply to 2WD Kits.*

*2WD Kit*

*4WD Kit*

## Suggested Tools:

- Twin Post Lift (or Floor Jack)
- Under-Hoist Safety Stand (or 2 Jack Stands)
- Impact Sockets, 1/2" Drive: 10,12,14, 17, 19 & 22 mm
- 1/2" Impact Wrench
- Deep Impact Sockets, 3/8" Drive: 10,12,14, 17, 19 & 22 mm
- 3/8" Impact Wrench
- Deep Sockets, 3/8 Drive: 14mm
- 3/8" Ratchet
- Ratcheting Box End Wrench: 14 mm
- Torque Wrench,1/2" Drive, Up to 250 Ft. Lbs.
- Torque Wrench, 3/8" Drive, Up to 150 Ft. Lbs.
- Combination Wrenches: 14,17,19, 22 & 24mm
- Pipe Wrench, 18"
- Brass Hammer
- Large Pin Punch, 1/4"
- Large Lady's Foot Pry Bar
- White Permanent Marker
- Ratcheting (Tie Down) Strap
- Standard Screwdriver, Large
- Pry Bar, 24" or more
- Red Threadlocker

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

**FOR ADDITIONAL COPIES OF THESE AND OTHER INSTRUCTIONS GO TO:**
www.lowrangeoffroad and click on the "INSTRUCTIONS" tab.

**Notice!** This vehicle will require a professional wheel alignment after this lift kit has been installed. Failure to have this vehicle professionally aligned could result in poor handling, and abnormal braking and excessive tire tread wear. Headlight alignment could also be affected. Further, certain aspects of this installation can be dangerous. Therefore, we recommend that a trained professional technician install this kit.

## General Note

The photographs for these instructions were taken with the vehicle placed on a twin post lift. This allowed for clearer pictures and better instructions. However, this job could also be done with a floor jack and two jack stands.

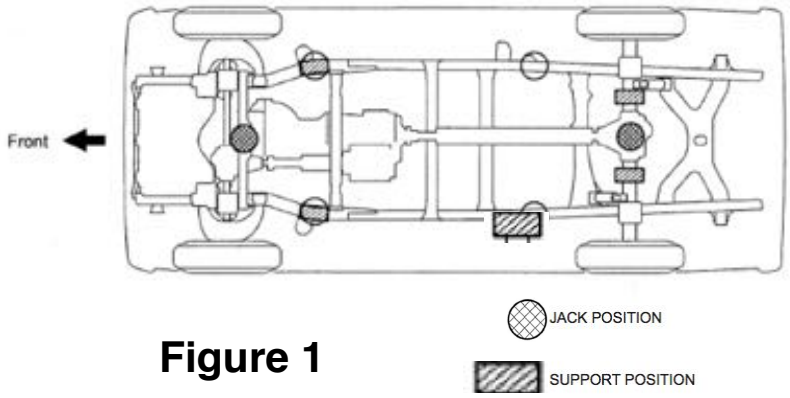
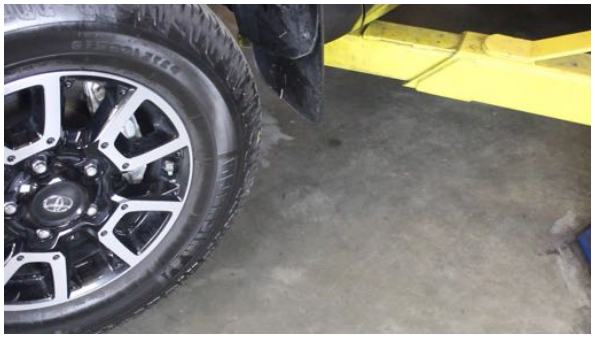
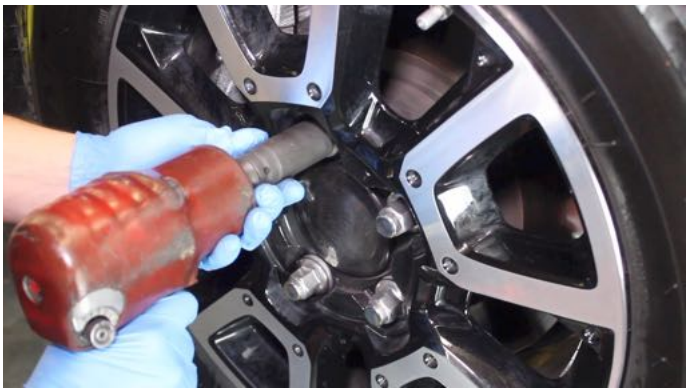



**Figure 1**



## Step 1

Place the vehicle on a twin post lift. Be sure it is positioned according the lift manufacturers operator instructions and the vehicle manufacture specified lift points. (See Figure 1)



## Step 2

Remove both front wheels using a 22mm socket.

# Removing the Belly Pan

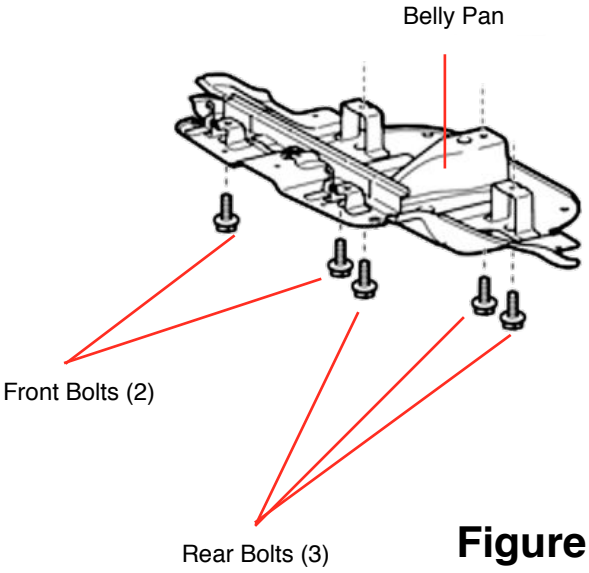



**Figure 2**

## Step 3

Remove the (3) bumper apron screws using a 10 mm socket.

## Step 4

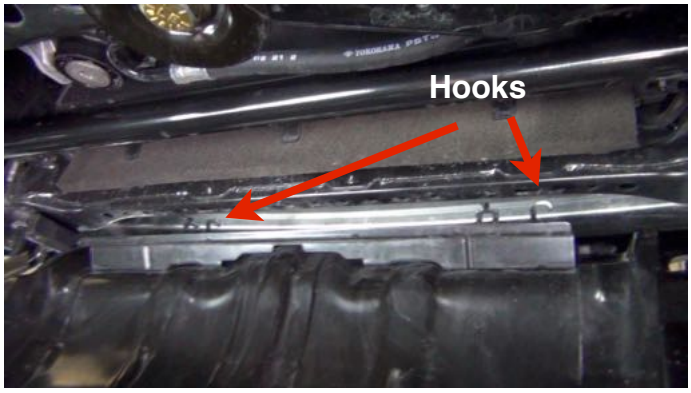
Remove the (2) front belly pan bolts (See Figure 2) using a 12mm socket.

Note: Keep these bolts, they ***WILL*** be reused later.

## Step 5

Remove the (3) rear belly pan bolts using a 12 mm socket.

Note: These bolts will ***NOT*** be reused when installing a 4WD kit. They ***WILL*** be reused when installing the 2WD kit.




## Step 6

Drop the rear of the pan down and unhook it in the front.  Set the belly pan aside.

# Sway Bar Parts Identification

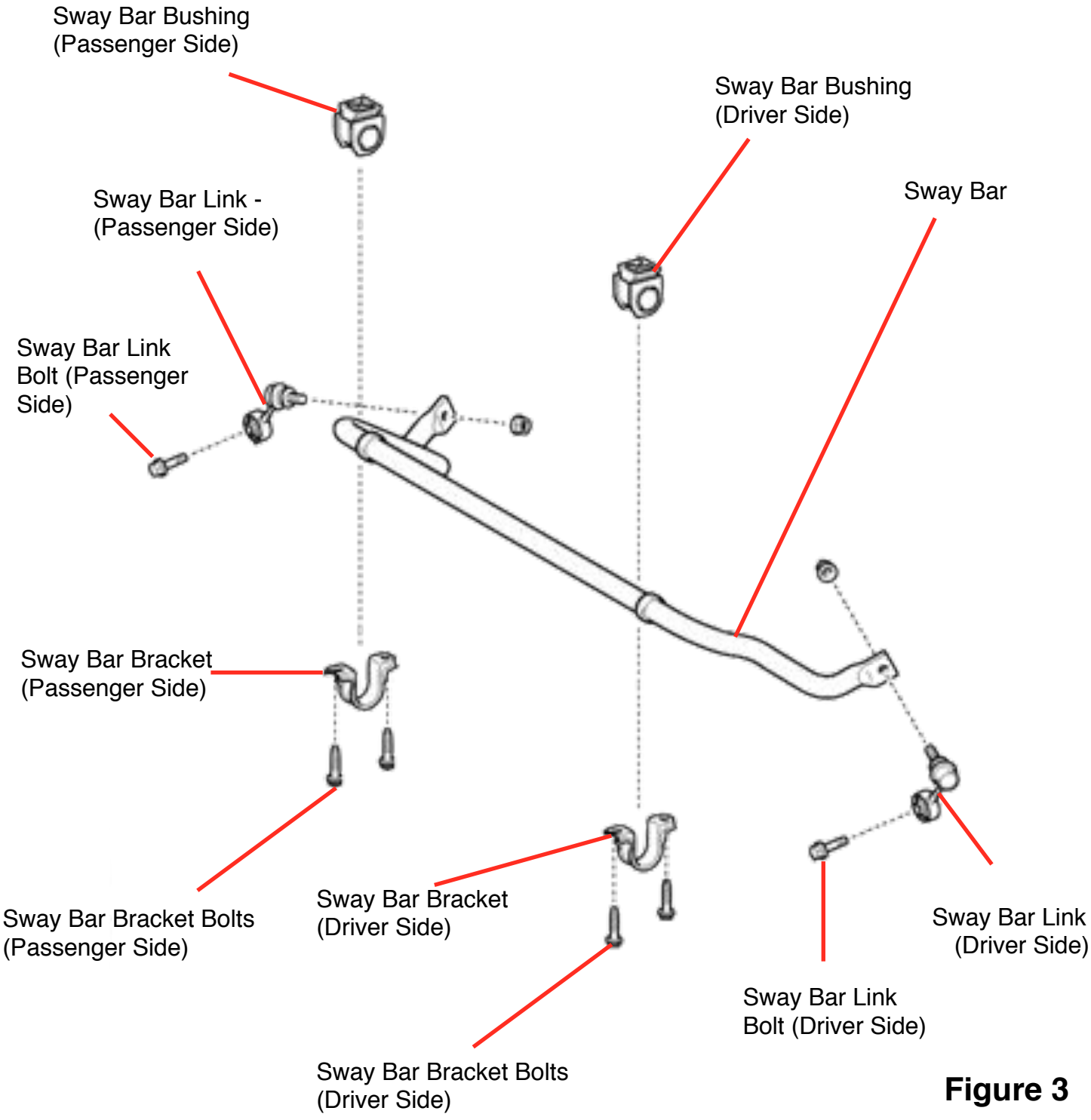



**Figure 3**

# Removing the Sway Bar and Marking the Alignment Cams

## Step 7

Remove the passenger side sway bar link bolt using a 19mm socket. (See Figure 3)

## Step 8

Disconnect the driver side sway bar link using a 19mm socket.

## Step 9

Disconnect the passenger side sway bar bracket by ***LOOSENING*** the front bolt and ***REMOVING*** the rear bolt using a 19mm socket.

Note: Leave the front bolt in place.

## Step 10

Disconnect the driver side sway bar bracket by ***LOOSENING*** the front bolt and ***REMOVING*** the rear bolt using a 19mm socket.

Note: Leave the front bolt in place.

## Step 11

Remove the sway bar and set it aside.

## Step 12

Mark all 4 alignment cams (See Figure 4) so they can be returned to their initial alignment settings. Although these settings will not end up being exactly the same after the alignment, it will help the alignment technician to know where the original settings were.

# Front Suspension Parts Identification

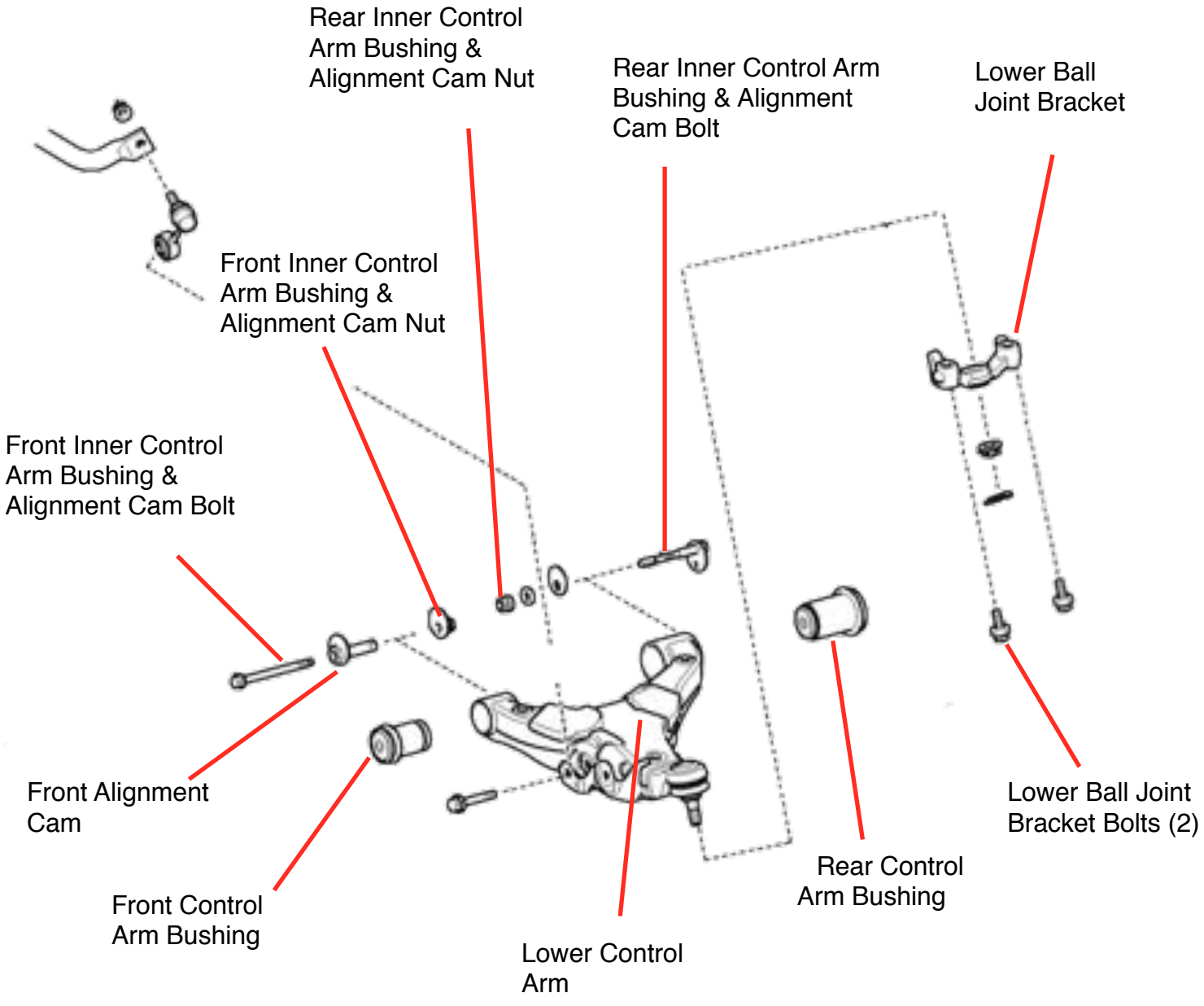



**Figure 4**

# Upper Control Arm and Shock Assembly Parts Identification

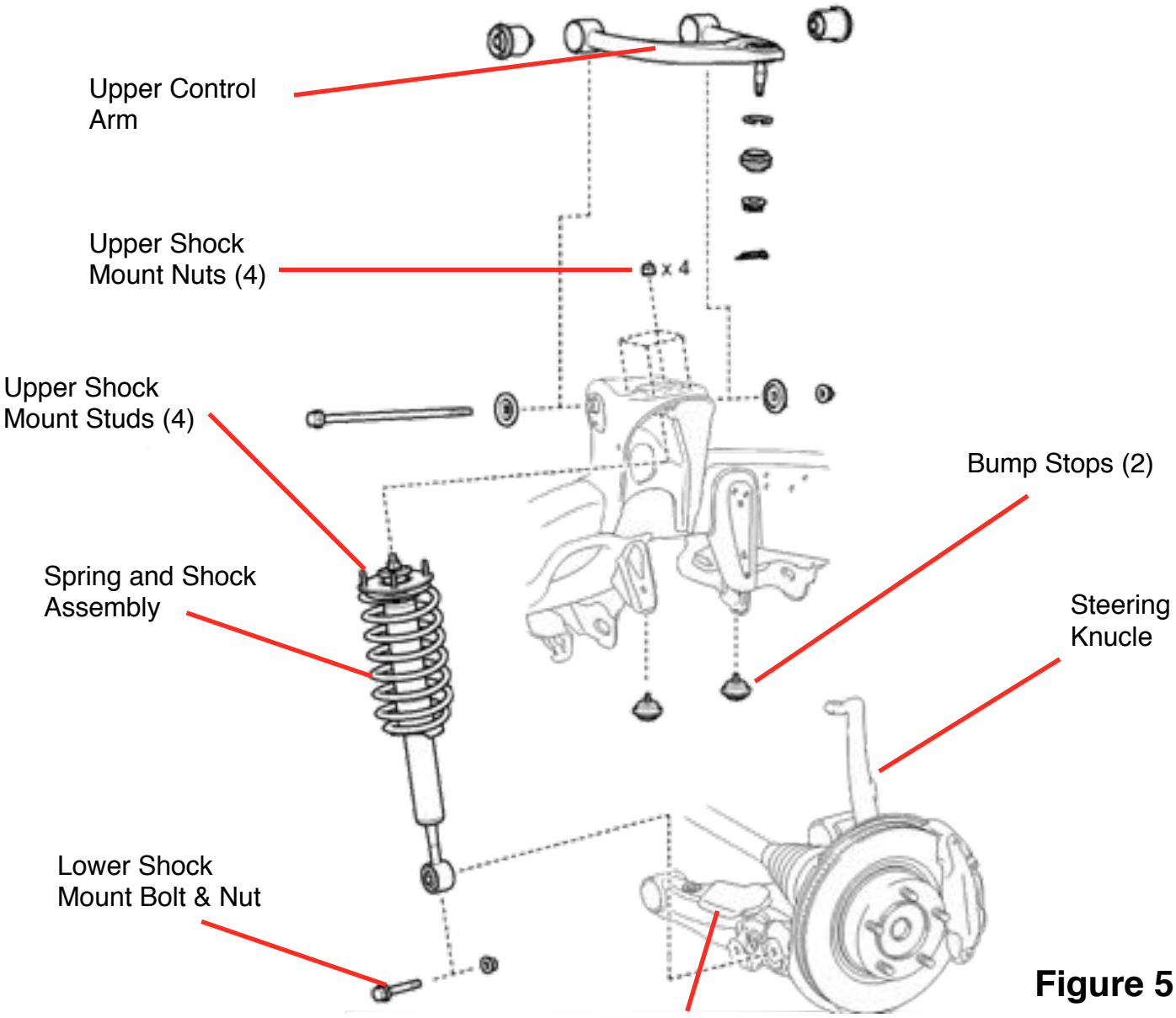



**Figure 5**

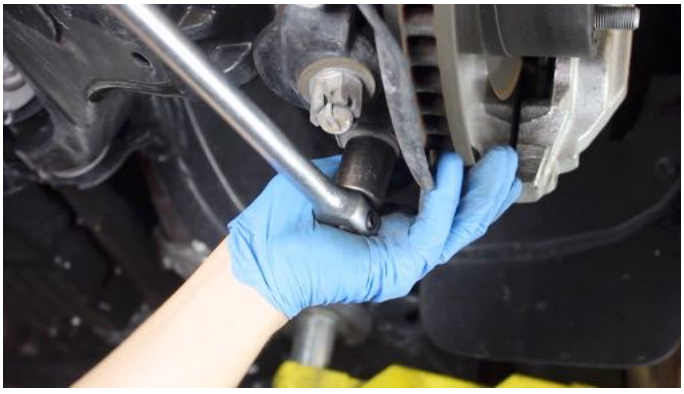
# Removing the Spring and Shock Assembly

## Step 13

Loosen (but do ***NOT*** remove) the driver side front inner control arm bushing bolt (See Figure 4) by holding the nut with a 22mm combination wrench, and loosen the bolt using a 22mm socket.

## Step 14

Loosen (but do ***NOT*** remove) the driver side rear inner control arm bushing bolt, by holding the bolt with a 22mm combination wrench, and loosen the nut using a 22mm socket.



## Step 15

Remove the lower shock mount nut (See Figure 5) by holding the bolt with a 22mm box end wrench and removing the nut using a 22mm socket.

Note: Leave the lower shock mount bolt in place for now.

## Step 16

Remove the rear lower ball joint bracket bolt (See Figure 4) using a 22mm socket.

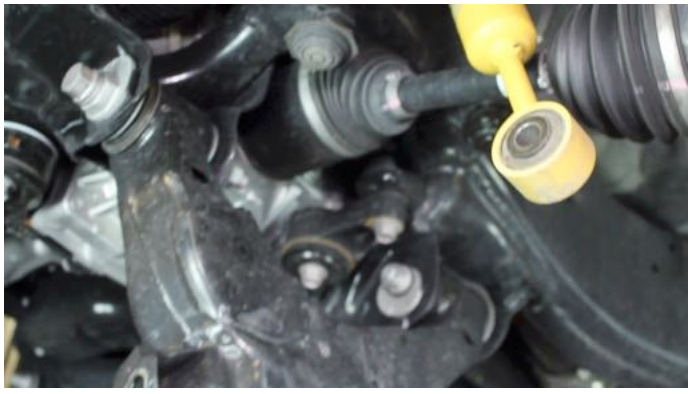
## Step 17

Remove the front lower ball joint bracket bolt using a 22mm socket.

## Step 18

Drive out the lower shock mount bolt using a hammer and punch.

**CAUTION:** The lower control arm may drop sharply when the bolt is removed. If it does not drop on its own, push it down out of the way.



## Tech Tip 18

This shows the lower control arm positioned out of the way properly.

## Step 19

Remove the (2) rear nuts from the upper shock mount and the (1) front driver side nut using a 14mm ratcheting box end wrench. Then ***LOOSEN*** the 4th nut.

**Caution:** Do not remove the 4th nut yet.

## Step 20

While supporting the shock absorber assembly with one hand, remove the 4th nut.

Note:  Be sure to hang on to these nuts.  They will needed later.

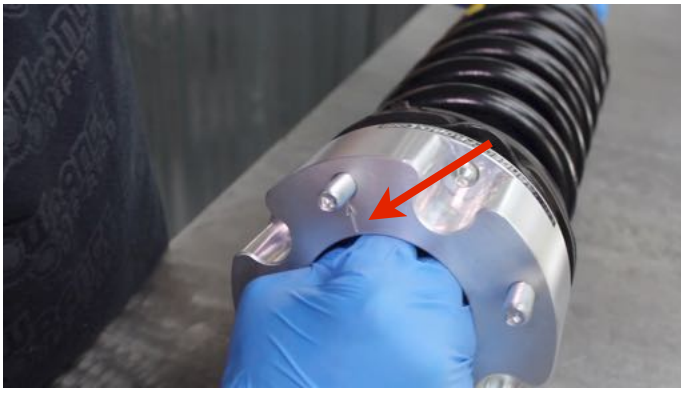
## Step 21

Once the 4th nut is removed, lower the shock and strut assembly out of the bottom of the vehicle.

# Installing the Shock Spacer & Bump Stops


## Step 22

Place the spring and shock assembly on a suitable work bench with the arrow and the word “OUT” oriented upward.



## Step 23

Install the shock mount spacer with the arrow oriented upward as well.

## Step 24

With the two arrows aligned, install the (4) supplied serrated nuts securing the spacer to the upper shock mounts.

## Step 25

Snug all 4 nuts using a 14mm deep socket.

## Step 26

Place a lady's foot pry bar in the shock loop to secure it.

## Step 27

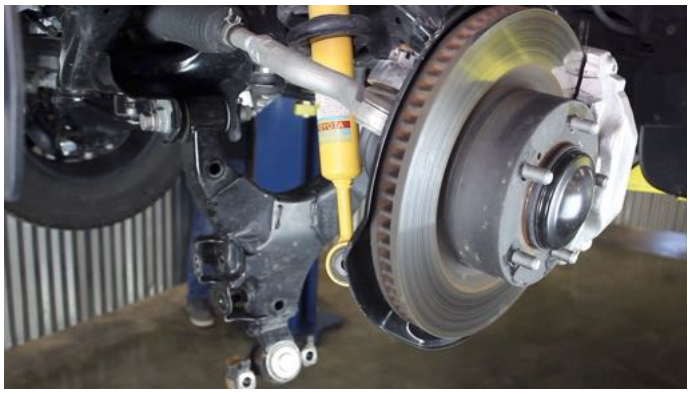
Tighten the nuts in an increasingly tighter criss-cross pattern until 47 ft. lbs. is reached using a torque wrench.

## Step 28

Install the spring and shock assembly back in the vehicle.

## Tech Tip 28A

Be sure the Low Range Off-Road emblem is oriented outward.



## Tech Tip 28B

Do NOT be concerned that the lower shock loop and lower control arm do not line up at this point. We will address that later.

## Step 29

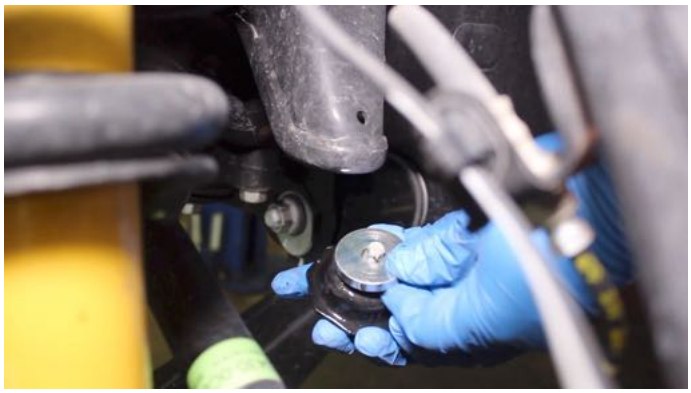
Install one of the 4 original nuts to hold the spring and shock assembly in place. Just leave the nut loose for now.

## Step 30

Install the other 3 original nuts and leave them loose as well.

## Step 31

Remove the rear bump stop using a pipe wrench.



## Step 32

Place a supplied spacer on the bump stop stud.

## Step 33

Reinstall the bump stop.

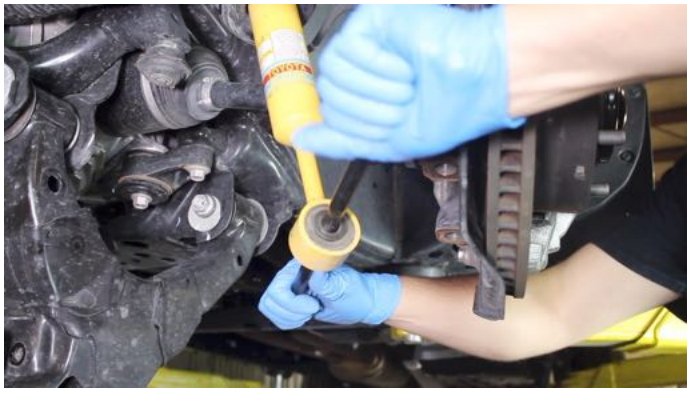
## Step 34

Tighten the bump stop to an estimated 23 ft. lbs.

## Step 35

Install the front bump stop following the same procedure as the rear.

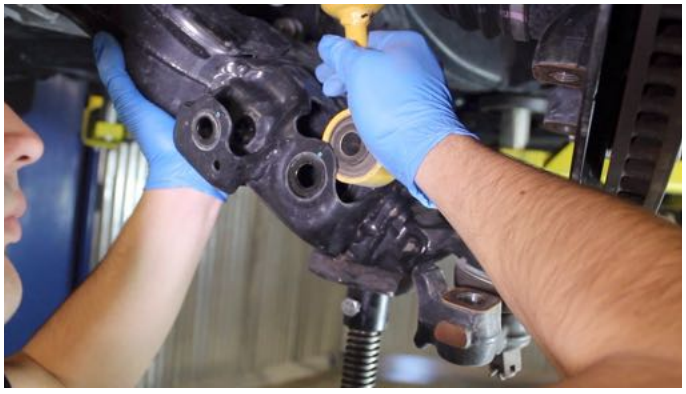
# Installing the Spring & Shock Assembly



## Step 36

Place a bar in the shock loop and twist it until it aligns properly with the lower shock mount in the lower control arm.

Note: This will take quite a bit of force.



## Step 37

Swing the lower control arm back into position and align the holes.

## Step 38

Once the holes are aligned install the lower shock mount bolt.

**Caution:** Be careful not to damage the threads on the bolt.

## Step 39

Apply red threadlocker to the threads of the lower shock mount bolt.

## Step 40

Install the flange nut.

## Step 41

With the lower control arm raised and supported with an under hoist jack stand, torque the nut to 144 ft. lbs.

# Ratchet Strap Routing

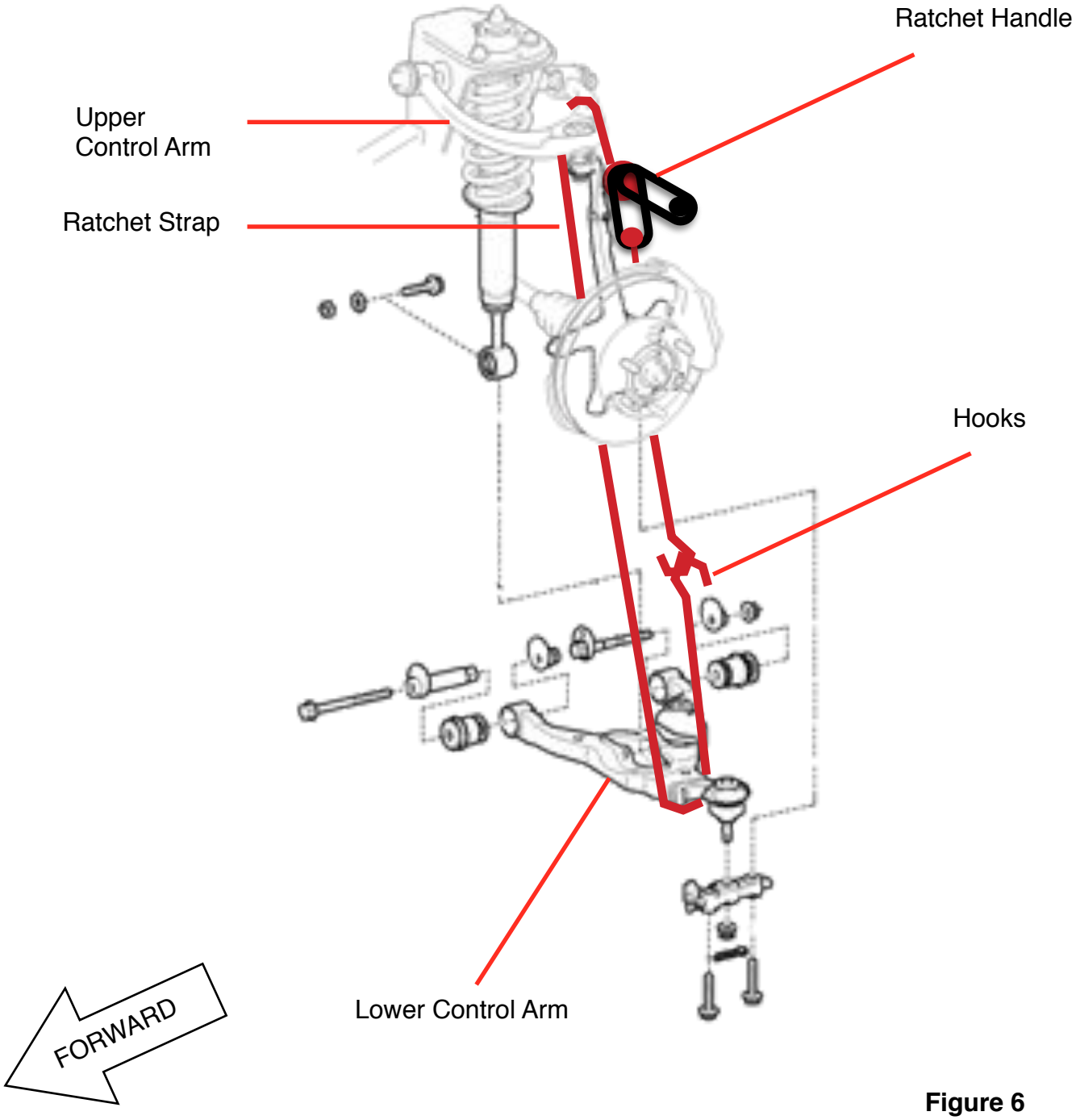



**Figure 6**

## Step 42

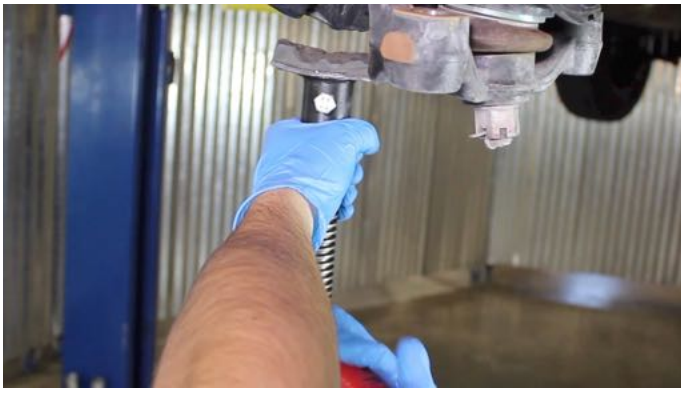
Feed the ratchet strap round the upper control arm and the lower control arm as shown in Figure 6.

## Step 43

Hook the ratchet strap on the back side.

## Step 44

Tighten the ratchet strap.  Just snug enough to keep it in place for now.



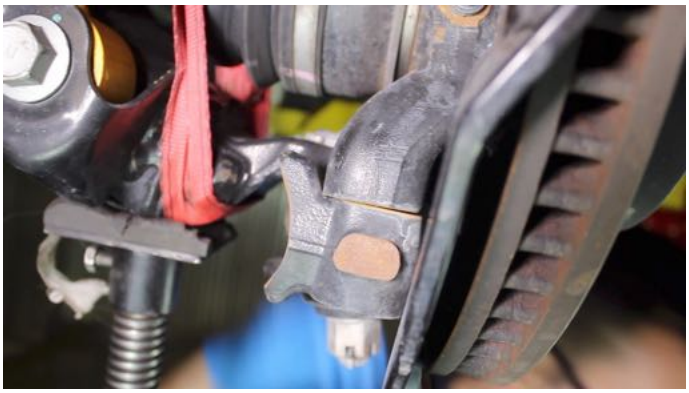
## Step 45

Place an under hoist jack stand under the lower control arm if not done previously.

## Step 46

Continue tightening the ratchet strap and raising the under hoist jack stand simultaneously until the ball joint bracket and the steering knuckle come together.

**Caution:** Be careful not to raise the vehicle off the lift by lifting too much with the jack stand.



## Tech Tip 46

Steering Knuckle and lower ball joint bracket together.

## Step 47

Apply red threadlocker to the threads of one of the lower ball joint bracket bolt.

## Step 48

Install the rear lower ball joint bracket bolt and snug it up, but not to full torque yet.

## Step 49

Apply red thread locker to the front ball joint bracket bolts.

## Step 50

Hold the supplies steering stop in place as shown and install the front ball joint bracket bolt. Just snug for now is good enough.

## Step 51

Remove the ratchet strap.

## Step 52

Remove the under hoist jack stand.

## Step 53

Torque both ball joint bracket bolts to 221 ft. lbs.

## Step 54

Adjust the front alignment cam to align the marks made earlier.

## Step 55

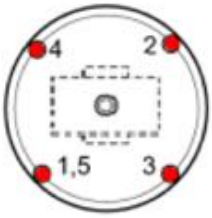
While holding the nut with a box end wrench, torque the bolt to 207 ft. lbs.

## Step 56

Then adjust and tighten the rear alignment cam in the same way as the front. Don't forget to align the marks.

## Step 57

Tighten the upper shock mount nuts using an increasingly tighter criss-cross pattern until 47 ft. lbs. is reached.  Follow the torque pattern shown in the next Tech Tip.




## Tech Tip 57

Torque pattern for the upper shock mount nuts

## Installing the Passenger Side Shock Spacer & Bump Stops

### Step 58

Install the passenger side shock mount spacer following the same steps shown on the driver side.

### Step 59

Install the (2) passenger side bump stop spacers following the same steps shown on the driver side.

## Differential Mount Parts Identification

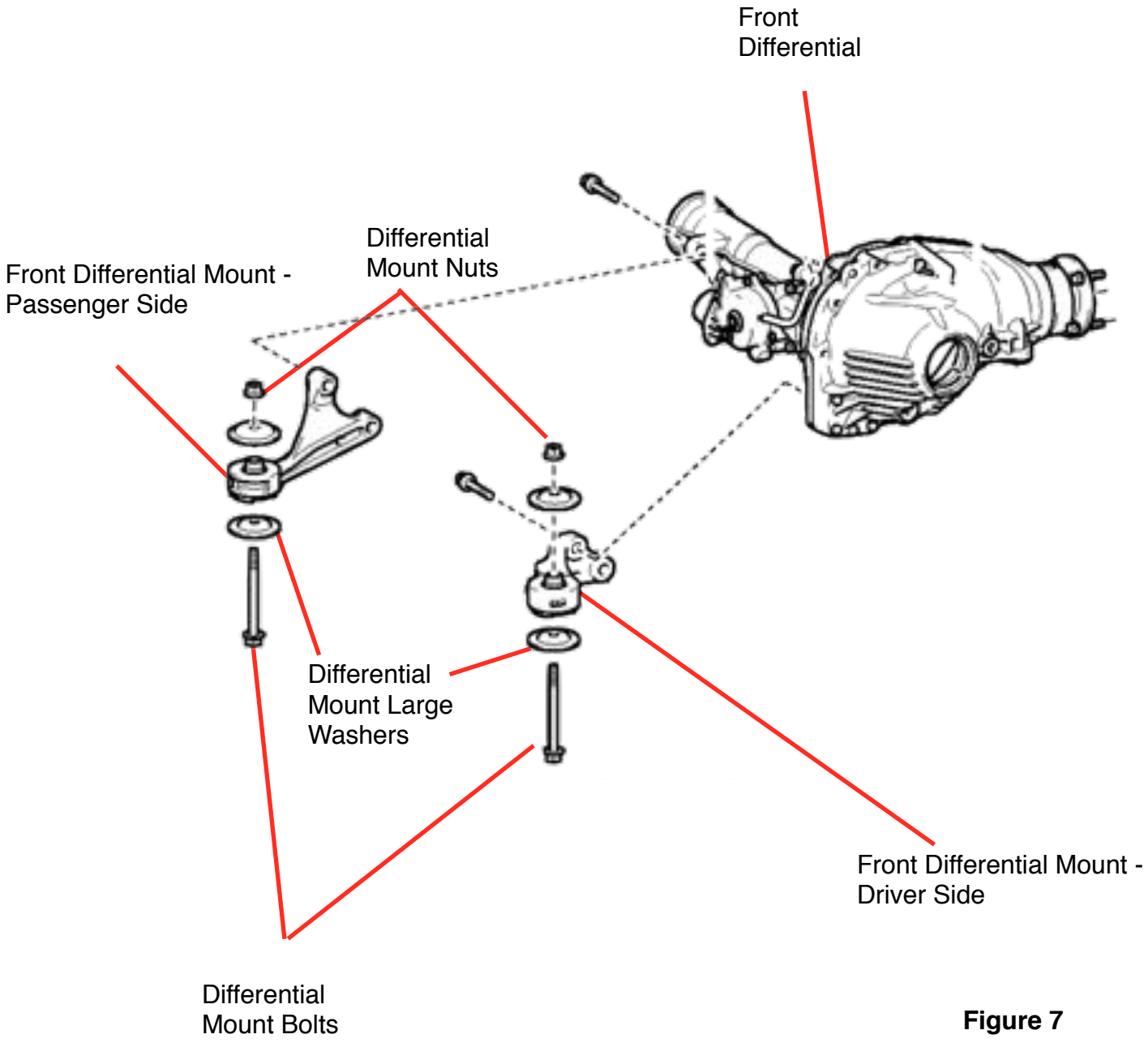



**Figure 7**

# Installing the Differential Drop Spacers

**Important Notice: Skip ahead to Step 73 if installing a 2WD Kit**

## Step 60

Place the under hoist jack stand under the front differential and raise slightly.

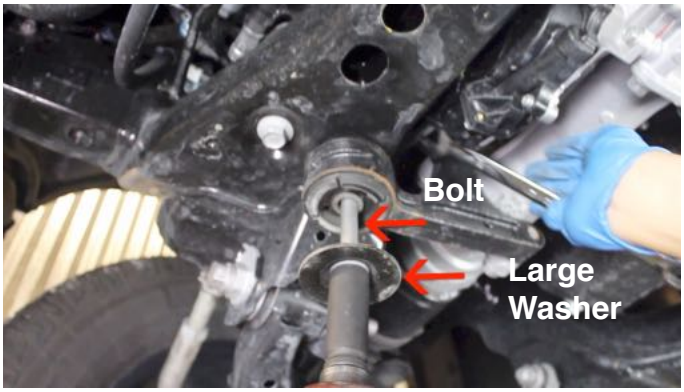
## Step 61

Hold this nut located on top of the crossmember on the passenger side (See Figure 7), using a 19mm box end wrench.

Note: It is located close to the rack and pinion steering unit.

## Step 62

While holding the nut shown in the previous step, loosen the bolt using a 19mm socket.




## Step 63

Remove the bolt and large washer.


## Step 64

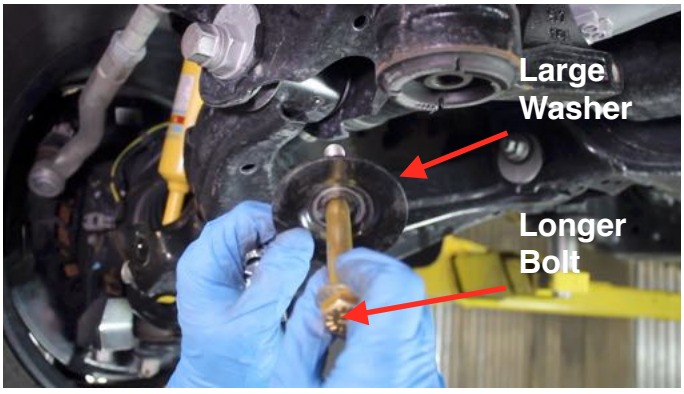
Then remove the nut from above the cross member.

## Step 65

Remove the bolt, larger washer and nut from the driver side differential mount.

## Step 66

Lower the differential about two inches by lowering the under hoist jack stand.

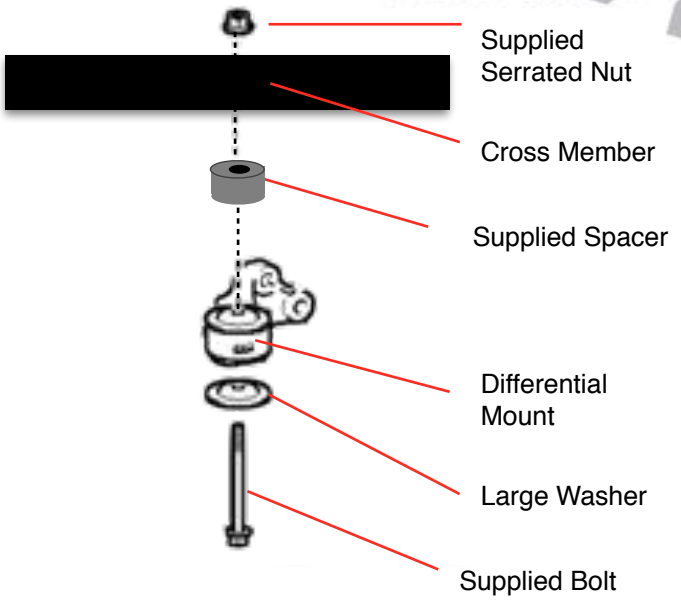



## Step 67

Install the original large washers on one of the supplied (longer) bolts.

## Step 68

Place one of the supplied differential drop spacers between the bracket and the cross member and install the bolt up through the bracket, the spacer and the cross member.




## Tech Tip 68

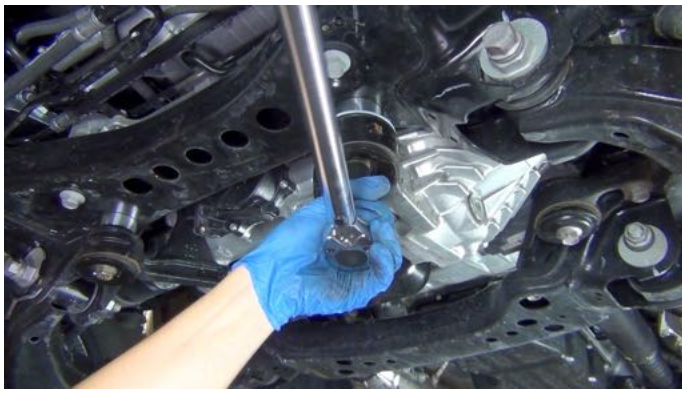
Differential Drop Spacer Assembly Placement

## Step 69

Start a supplied serrated flange nut on the top of the bolt. Leave the nut loose for now.

## Step 70

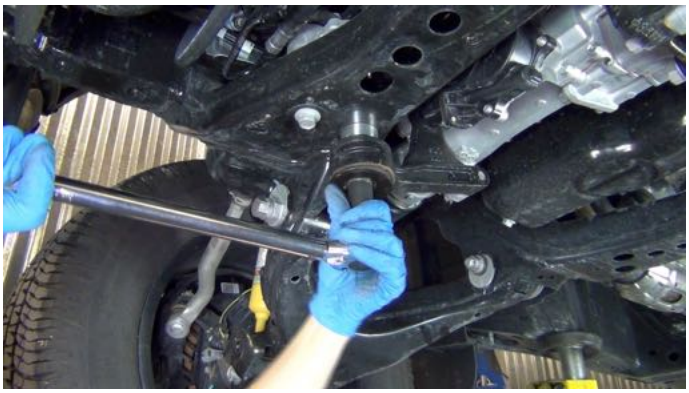
Install the driver side supplied bolt, large washer, spacer and serrated nut by repeating the steps shown on the passenger side



## Step 71

Tighten the driver side differential mount bolt to 89 ft. lbs.

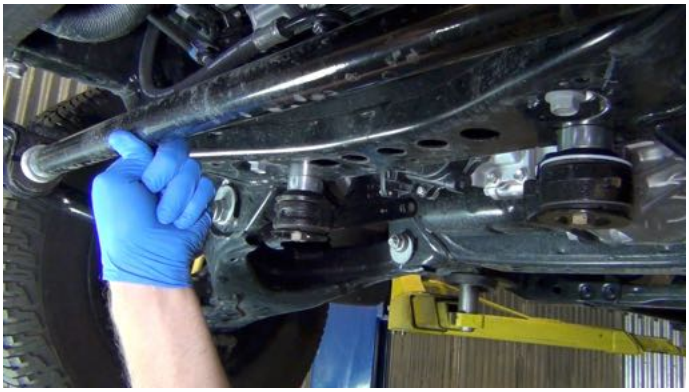
Note:  It is not necessary to hold the nut on top because it is a serrated flange nut.



## Step 72

Tighten the passenger side differential mount bolt to 89 ft. lbs.

# Installing the Sway Bar



## Step 73

Have an assistant hold the sway bar in place.

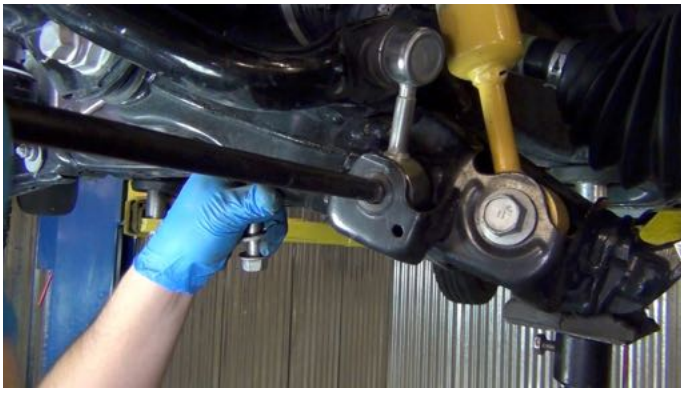
Note: This could also be done with an under hoist jack stand.

## Step 74

Place the passenger side sway bar link in its approximate location.

## Step 75

Place the driver side sway bar link in the bracket on the lower control arm.



## Step 76

Align the holes using the tapered end of a ladys foot pry bar.

## Step 77

Start the bolt.

## Step 78

Tighten the bolt 5 or 6 turns, but leave it loose for now.

## Step 79

Align the holes on the passenger side sway bar link start the bolt and tighten it 5 or 6 turns. Leave it loose as well.

## Step 80

Using a larger pry, bar force the sway bar link forward and . . . .

## Step 81

Start the driver side rear sway bar bracket bolt. Leave it loose for now.

Note: The front bolt had been left in place during disassembly.

## Step 82

Tighten the bolt 5 or 6 turns to insure it is not cross-threaded. But, do not tighten it all the way yet.

## Step 83

Force the passenger side sway bar link forward using a pry bar and . . . .

## Step 84

. . . . install the passenger side rear sway bar bracket bolt and tighten it 5 or 6 turns.

## Step 85

Tighten the (2) passenger side sway bar bracket bolts to 51 ft. lbs.

## Step 86

Tighten the (2) driver side sway bar bracket bolts to 51 ft. lbs.

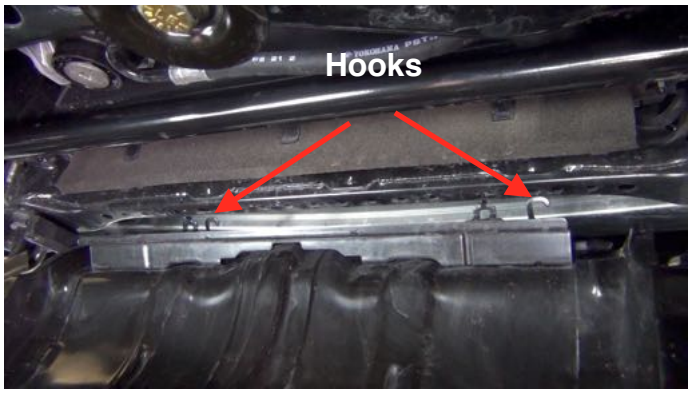
## Step 87

Tighten the passenger side sway bar link bolt to 89 ft. lbs.

## Step 88

Tighten the driver side sway bar link bolt to 89 ft. lbs.

# Installing the Belly Pan



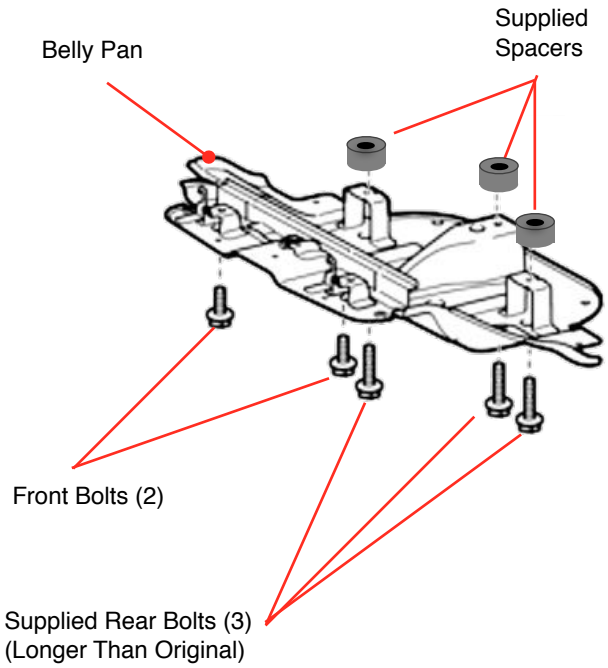

## Step 89

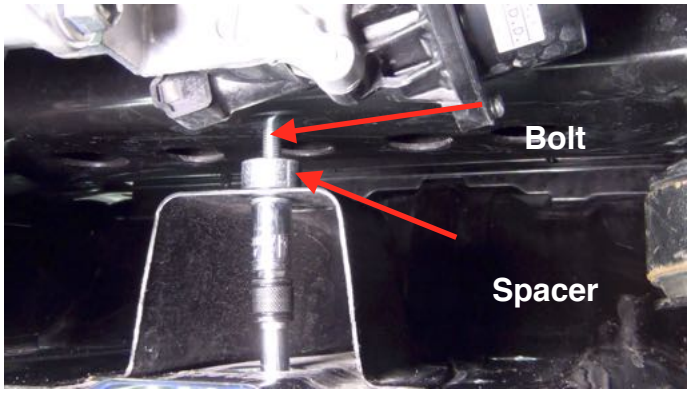
Attach the front of the belly pan by attaching the (2) hooks in the front.

## Step 90

Start the (2) original bolts in the front of the pan but leave them loose for now.

**Important Notice: Belly pan spacers are not required on a 2WD kit installations. Simply install the *ORIGINAL* belly pan bolts without the spacers.**



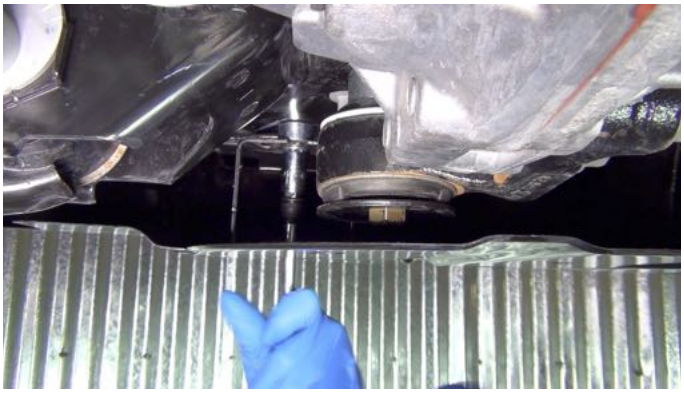

## Step 91

The rear of the belly pan is attached in 3 locations. Starting on the passenger side place a supplied spacer on top of the pan and start one of the supplied (longer) bolts. Leave it loose for now. Then install the other (2) supplied spacers and bolts leaving them loose as well.

Recommendation: You may want to apply some RTV Silicone Gasket Maker to the bottom of the spacers to keep them from getting lost during oil changes.

## Tech Tip 90

Belly pan spacer positioning.



## Step 92

Once all 5 belly pan bolts are in place and started, tighten them to an estimated 4 ft. lbs.

Note: These bolts could be torqued, but most torque wrenches will not go that low. If an inch pound torque wrench is available, these bolts should be torqued to 48 in. lbs.

## Installing the Front Wheels

### Step 93

Position the driver side wheel assembly on the studs.

### Step 94

Install the lug nuts.

### Step 95

Snug the lug nuts in a progressively tighter criss-cross pattern.

### Step 96

Install the passenger side wheel assembly and lug nuts in the same way as shown on the driver side.

## Step 97

Lower the vehicle until the tires press against the floor.

## Step 98

Tighten the lug nuts in a progressively tighter criss-cross pattern until the specified torque is reached.

Note:  97 ft. lbs for aluminum wheels and 154 ft. lbs. for steel wheels.

## Step 99

Install the hub covers on both front wheels.

# Rear Suspension Parts Identification

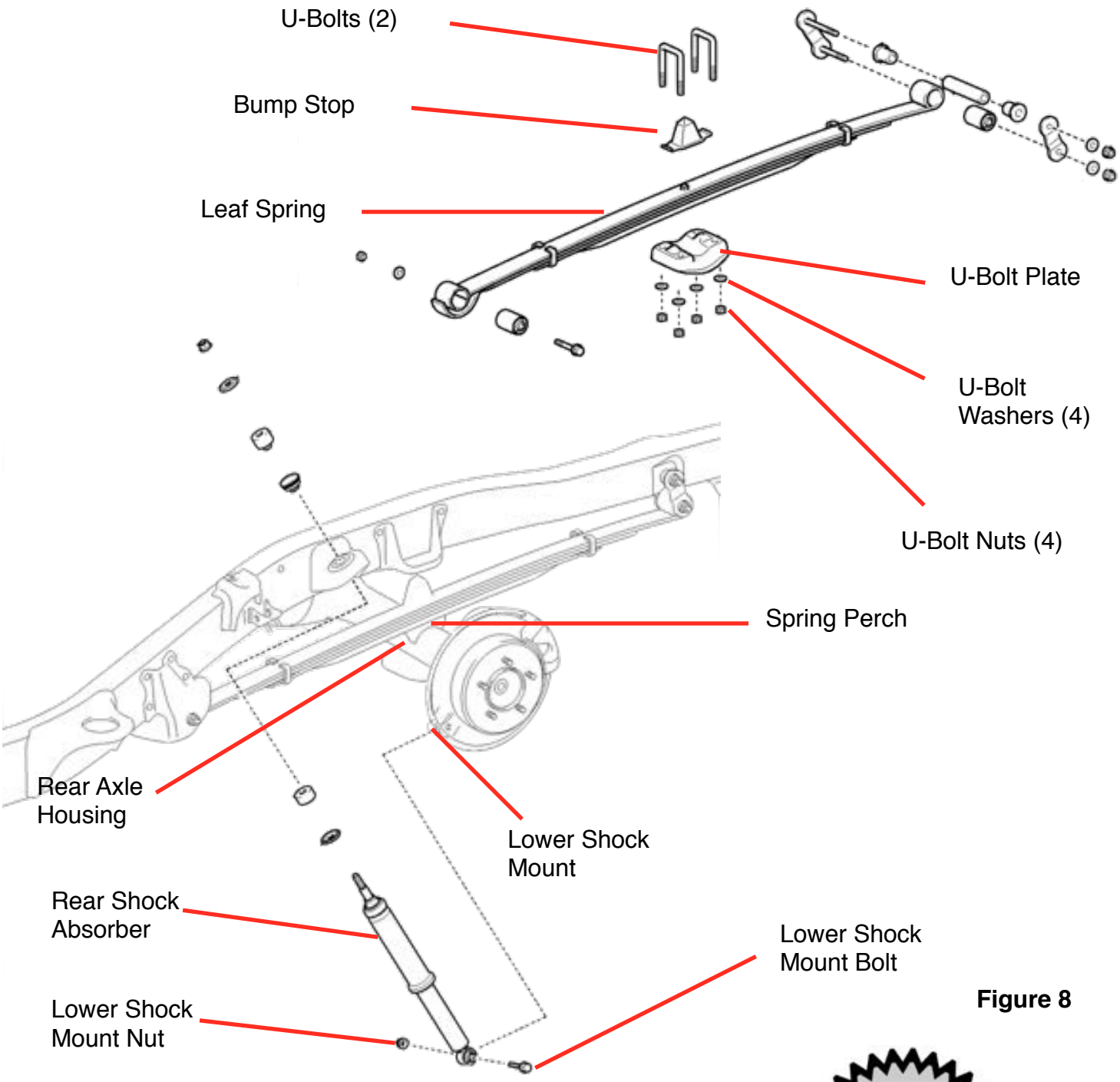
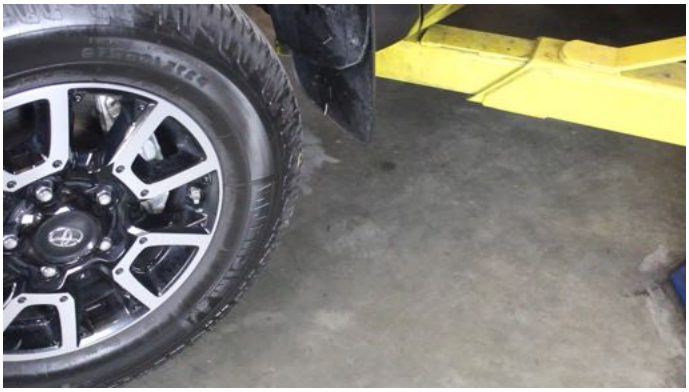



**Figure 8**

# Installing the Rear Spacer Blocks



## Step 100

If not done already, raise the vehicle on a twin post lift.

## Step 101

Place an under hoist jack stand under the driver side rear axle housing (See Figure 8) and raise slightly.

## Step 102

Hold the lower shock mount bolt with a 19mm box end wrench and remove the nut using a 19mm socket.

## Step 103

Remove the bolt using a punch and a hammer and disconnect the lower end of the shock absorber. Be careful not to damage the treads of this bolt. This bolt (and nut) ***WILL*** be reused.

## Step 104

Remove the (4) U-Bolt nuts and washers using a 19mm socket.

Note: Be sure to note the orientation of the U-Bolt plate. It will need to be reinstalled back in its original orientation.

## Step 105

Remove the U-Bolt plate and set it aside.

## Step 106

Remove both U-Bolts. These can be discarded. They will ***NOT*** be reused. New ones are supplied.

## Step 107

Pry open the ABS (Anti-Lock Braking System) wire bracket using a standard screwdriver and remove the wire from the bracket.

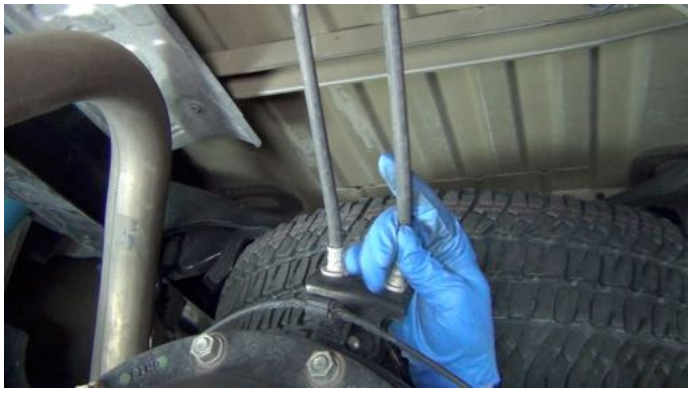
## Step 108

Lower the driver side of the rear axle assembly . . . .

## Step 109

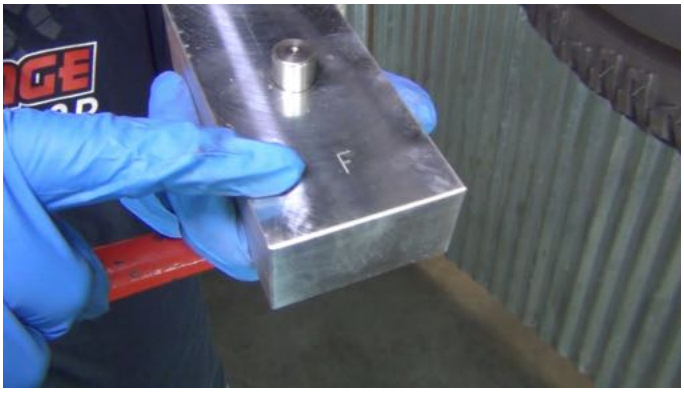
. . . until there is about a 2” gap between the leaf spring and the spring perch.

**Caution:** Do NOT lower the rear axle assembly any more than is absolutely necessary. See next Tech Tip.



## Tech Tip 109

Be sure these flexible brake lines are not over stretched while lowering the rear axle assembly.




## Step 110

Ready the supplied spacer block by orienting this “F” ***FORWARD*** and ***DOWN***.


## Step 111

With the supplied spacer block “F” oriented forward and down, place the block on top the spring perch insuring that the locating dowel fits properly, all the way down in the hole. There should be no gap between the spacer block and the spring perch.

## Step 112

Raise the rear axle assembly back up and . . . .


## Step 113

. . . guide the leaf spring centering pin in the matching hole in the spacer block.

## Tech Tip 113

There should be no gap between the leaf spring and the spacer block.

## Step 114

Be sure the bump stop is positioned properly.

## Step 115

Install the front supplied U-Bolt.

## Step 116

Install the rear supplied U-Bolt.

## Step 117

Install the U-Bolt plate in the same orientation as it was originally.

## Step 118

Install the first supplied washer on one of the U-Bolts.

## Step 119

Install one of the supplied flange nuts.

## Step 120

Now install the other three washers and flange nuts on the remaining U-Bolt ends.

## Step 121

Snug all 4 bolts in an increasingly tighter criss-cross patter. Try to keep the number of threads showing below the nuts as equal as possible. However, do not go to full torque yet. That will be done later.

## Step 122

Raise the rear axle assembly and . . . .

## Step 123

. . . align the shock mount with the shock loop.

## Step 124

Install the original bolt that was removed earlier.


## Step 125

Install the original flange nut.  Leave it loose for now.  It will torqued later.

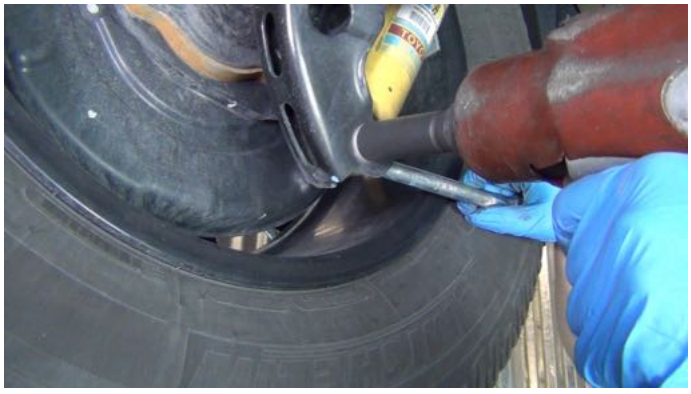
## Step 126

Remove the under hoist jack stand from the driver side and . . . .

## Step 127

. . . . place it under the passenger side.

## Installing the Passenger Side Spacer Block



## Step 128

Install the passenger side spacer block following the same procedures shown on the driver side.

## Tightening Everything Up in the Rear

### Step 129

While holding the lower shock mount bolt, torque the nut to 66 ft. lbs.

### Step 130

Torque the driver side lower shock mount in the same way.

### Step 131

Tighten the driver side U-Bolt nuts in an increasingly tighter criss-cross pattern until 100 ft. lbs are reached.

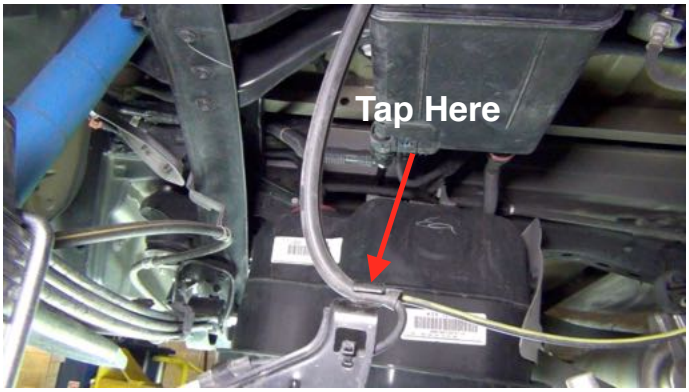
Note: These nuts should be re-torqued after the first 500 miles. They have been know to loosen up with time and use.

### Step 132

Torque the passenger side U-Bolt nuts in the same way as the driver side.

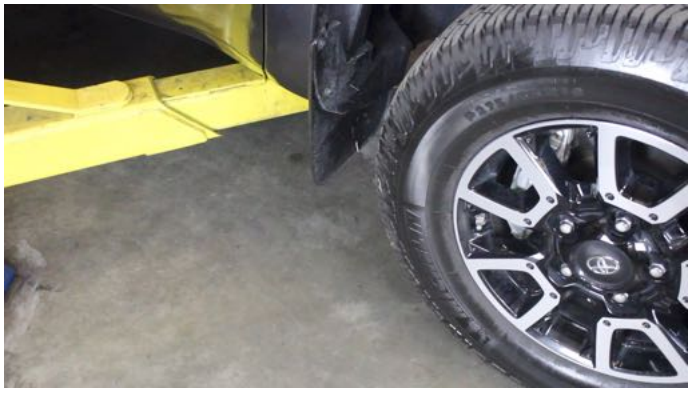
## Step 133

Position the ABS wires back in the bracket and . . . .




## Step 134

. . . . crimp it closed by tapping lightly with a hammer.



## Step 135

Lower the vehicle to the floor and swing the lift arms out of the way.

## Step 136

Be aware that this vehicle will require a professional 4 wheel alignment after installing this lift.


## Caution!

Failure to have this vehicle professionally aligned could result in:

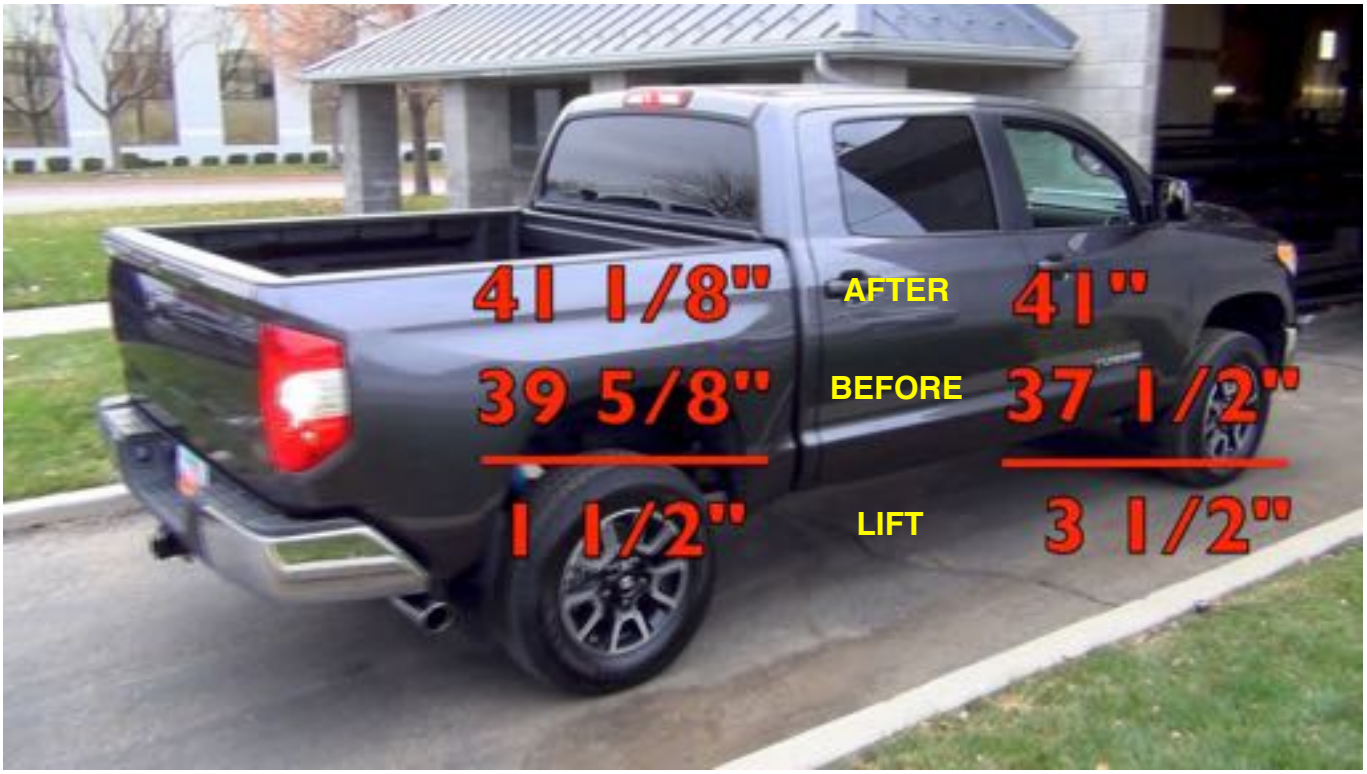
- Poor Handling
- Abnormal Braking
- Excessive Tire Tread Wear

## Congratulations!

You have successfully installed a Tundra LRT 3” to 1” Leveling Lift Kit by Low Range Off-Road. We hope these instructions have been helpful. If you have suggestions on how to make our instructions (or products) better, please email us at: sales@lowrangeoffroad.com

## Before and After Measurements

*All measurements were taken from the wheel well to the ground.*



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 8:00am-5:00pm 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.