

78805

# FULL THROTTLE SUSPENSION

## 6" 2015-2017 FORD F150 4WD ECONOMY KIT

- 100% Bolt On Spindle Kit That Does Not Extend Track Width
- Structural Cross members Constructed Of 1/4" Thick Steel For Superior Strength
- Heavy Duty Semi-Gloss Black Powder For Long Life And Great Looks
- Offset Rear Lift Block Keeps The Rear Axle Centered
- Utilizes Ductile Iron Steering Knuckle For Stock Alignment
- Superior Drivability Both On And Off-road



# 78805

## 6" 2015-2017 FORD F150 4WD ECONOMY KIT

### 78805-4 Component Box 1

- 1) Front Cross Member
- 1) Rear Cross Member
- 1) Right Sway Bar Drop Bracket
- 1) Left Sway Bar Drop Bracket
- 2) Strut Spacers
- 1) Driver Front Upper Diff Drops
- 1) Driver Rear Diff Drops
- 1) Passenger Front Upper Diff Drops
- 1) Passenger Side Differential Support Bracket
- 1) Skid Plate
- 1) E Brake Bracket

### FH788054 Hardware

#### Hardware Bag 1

- 4) 18mm x 150mm Cam Bolts
- 4) 18mm Nylock Nuts
- 4) Cam Washers

#### Hardware Bag 2

- 10) 7/16" x 1 1/4" Bolts
- 10) 7/16" Nylock Nuts
- 6) 10mm x 1.5mm Nylock Nuts
- 26) 7/16" Washers

#### Hardware Bag 3

- 3) 9/16" x 4" Bolts
- 3) 9/16" Nylock Nuts
- 6) 9/16" Washers
- 3) 7/16" x 1 1/4" Bolts
- 3) 7/16" Nylock Nuts
- 6) 7/16" Washers

#### Hardware Bag 4

- 4) 5/16" x 1" Bolts
- 4) 5/16" Nylock
- 8) 5/16" Washers
- 1) BL307 Left Front Brake Line Bracket
- 1) BL308 Right Front Brake Line Bracket
- 1) BL345 Rear Brake Line Bracket

### 78805-2 Left Knuckle/ Right Knuckle

- 1) Left Knuckle
- 1) Right Knuckle

### 78001-3 4.5" Rear Block Kit

- 2) 4.5" Rear Blocks
- 4) 9/16"-18 x 3.25 Sq. x 13" U Bolts
- 8) 9/16"-18 Nylock Nuts
- 8) 9/16" Washers

### 78000-28 Front Drive Shaft Spacer

- 6) 10mm x 90mm Allen Bolt
- 1) 6 Hole Axle Spacer

**WARNING- INSTALLATION OF THIS SYSTEM WILL ALTER THE CENTER OF GRAVITY OF THE VEHICLE AND MAY INCREASE ROLL OVER AS COMPARED TO STOCK.**

**ALTERING THE FINISH OF THESE COMPONENTS FOR EXAMPLE- CHROMING, ZINC PLATING OR PAINTING. CHANGING THE FINISH CAN CAUSE STRUCTURAL FATIGUE OF COMPONENTS AND IS NOT RECOMMENDED.**

**VEHICLES THAT RECEIVE OVERSIZED TIRES SHOULD CHECK BALL JOINTS, TIE RODS ENDS EVERY 2500-5000 MILES FOR WEAR AND REPLACE AS NEEDED.**

**CHECK ALL PARTS INCLUDED IN THIS KIT TO THE PARTS LIST ABOVE BEFORE BEGINNING INSTALLATION OF THE KIT. IF ANY PIECES ARE MISSING, CONTACT YOUR DEALER.**

**READ ALL INSTRUCTIONS THOROUGHLY FROM START TO FINISH BEFORE BEGINNING INSTALLATION! IF THESE INSTRUCTIONS ARE NOT PROPERLY FOLLOWED, SEVERE FRAME, DRIVELINE AND / OR SUSPENSION DAMAGE MAY RESULT.**

**NOTE- PRIOR TO THE INSTALLATION OF THIS SUSPENSION SYSTEM THE FRONT END ALIGNMENT MUST BE WITHIN FACTORY SPECIFICATIONS. CHECK FOR FRAME AND SUSPENSION DAMAGE PRIOR TO INSTALLATION.**

**DO NOT COMBINE THIS SUSPENSION SYSTEM WITH ANY OTHER LIFT OR PARTS.**

**THIS SUSPENSION SYSTEM DOES NOT REQUIRE WELDING FOR INSTALLATION. DO NOT WELD ANY OF THESE COMPONENTS.**

**THE INSTALLATION OF THIS SUSPENSION SYSTEM SHOULD BE PERFORMED BY A PROFESSIONAL MECHANIC.**

**ON ECOBOOST 3.5L MODELS, DISCARD ALL AIR SHIELDS.**

**USE 325/65R18 TIRE W/ 18X9 WHEELS W/ 4 ½" BS W/ MINOR TRIMMING  
USE 35/12.50R18 TIRE W/ 18X9 WHEELS W/ 4 ½" BS W/ MINOR TRIMMING  
USE 35/12.50R20 TIRE W/ 20X9 WHEELS W/ 4 ½" BS W/ MINOR TRIMMING**

**BE SURE TO USE THREAD LOCKING COMPOUND ON ALL HARDWARE.**

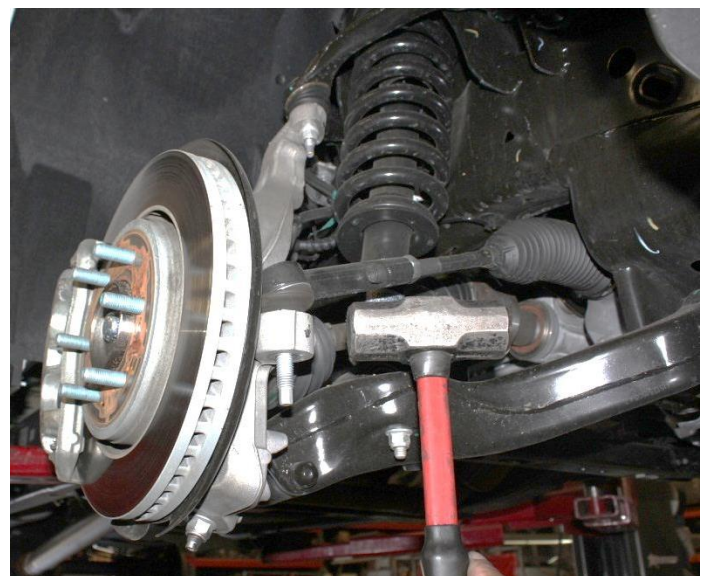
## **FRONT SUSPENSION INSTRUCTIONS**

1) Disconnect the negative terminal on the battery. With the vehicle on level ground, set the emergency brake and block the rear tires. Jack up the front end of the truck and support the frame rails with jack stands Remove the front tires.

3) Remove factory Tie Rod nut, using a hammer strike the steering knuckle to dislodge the tie rod from the knuckle, as shown below.

**NEVER WORK UNDER AN UNSUPPORTED VEHICLE!**

2) Remove the dust cap covering the hub assembly nut.



4) Remove the splash shield and discard.



5) Remove the factory sway bar end links from the factory lower control arms, save the hardware.



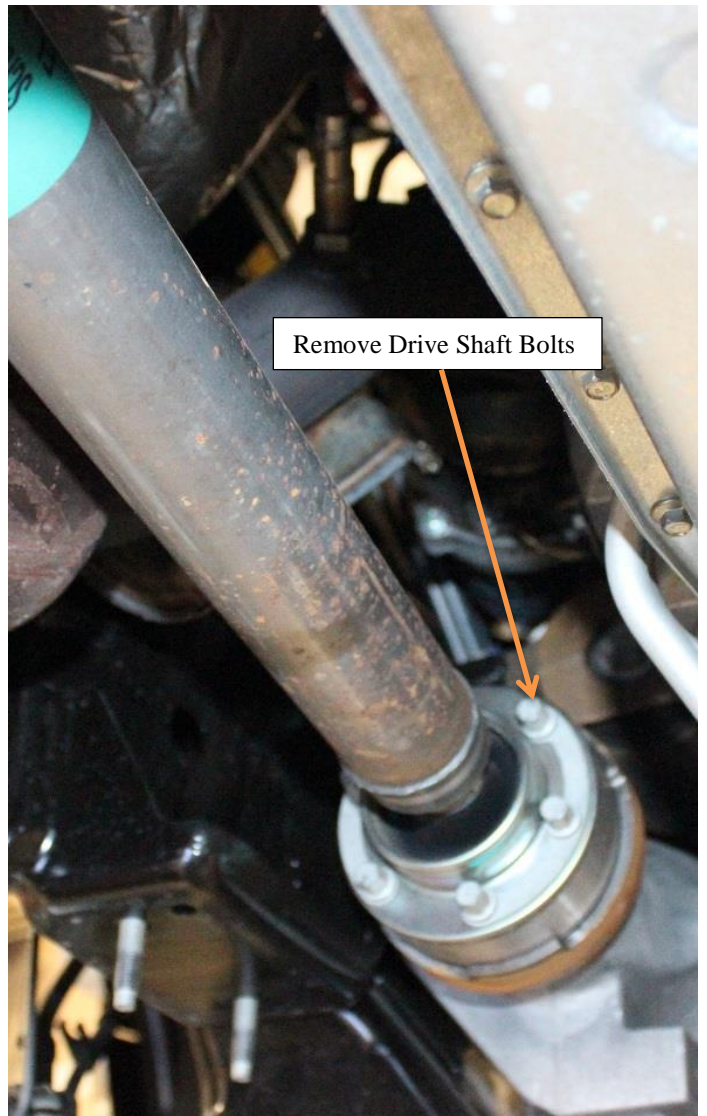
6) Remove the sway bar frame mounts from the frame, Remove the sway bar. Save the hardware and sway bar.



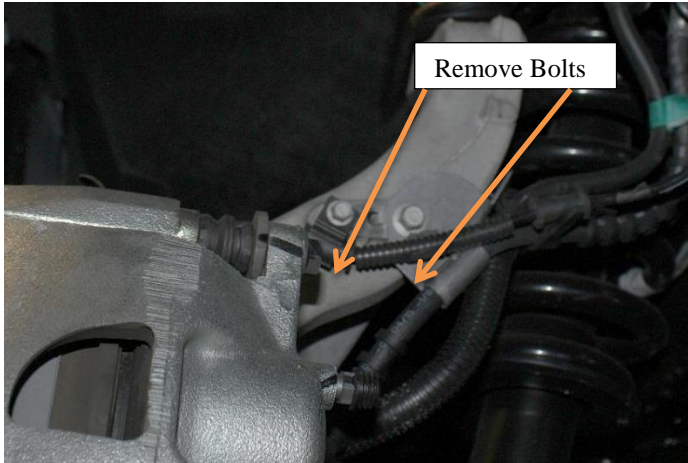
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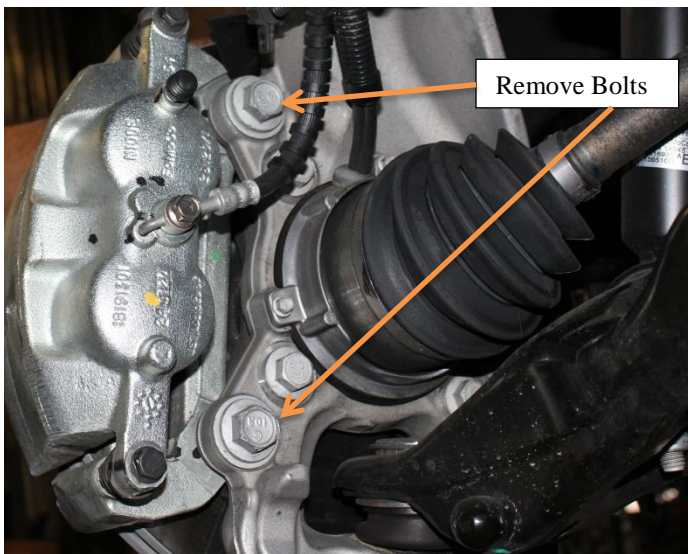
7) Remove the front drive shaft bolts where they attach to the front differential. Discard hardware.



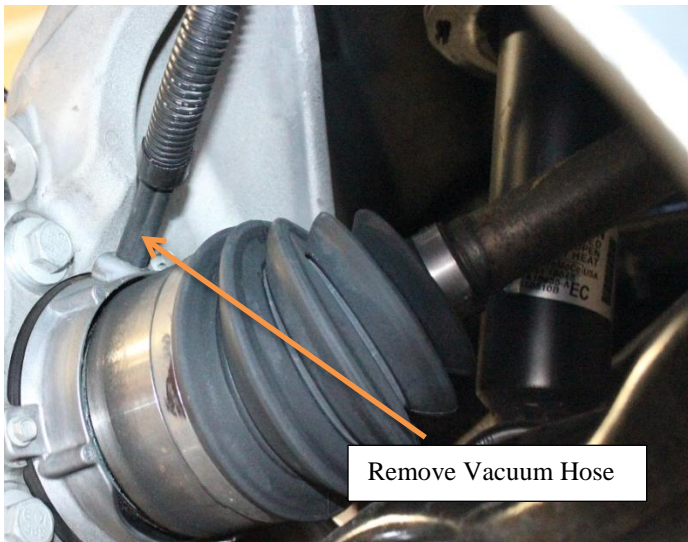
8) Remove the bolts holding the Brake line, ABS and Vacuum line to the steering knuckle.



9) Remove the bolts holding the brake caliper to the steering knuckle.



10) Disconnect the vacuum lines attached to the rear of the hub assembly. Allow the vacuum lines to hang freely.



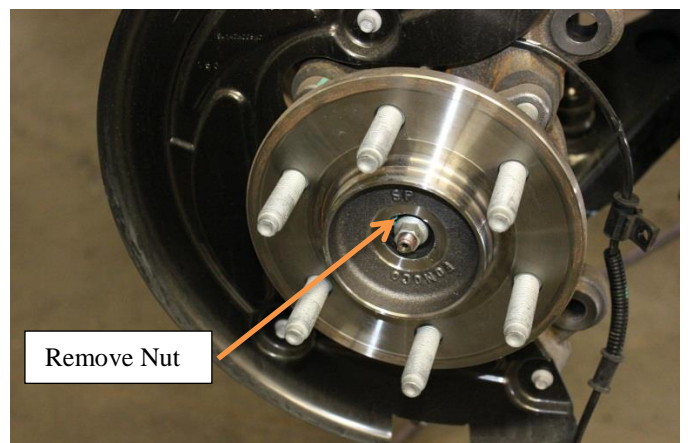
11) Place the brake caliper next to the frame. Do not overstretch the brake hose when doing so. Retain the hardware for reinstallation. Remove the brake rotor and save.



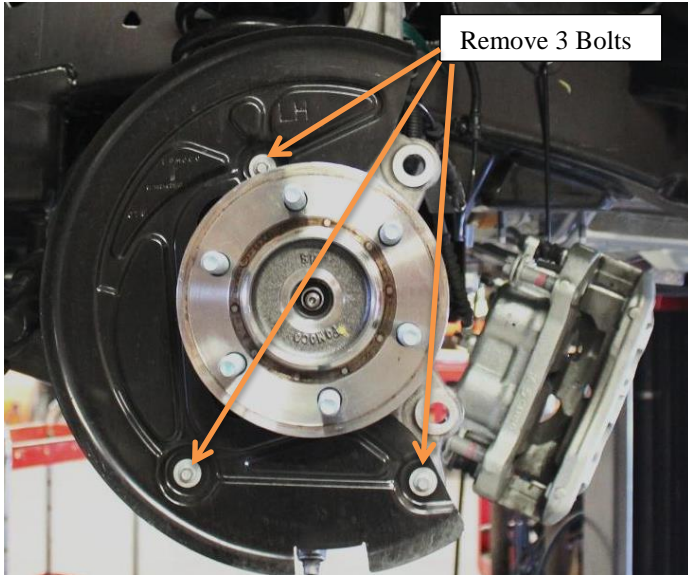
12) Disconnect the ABS wire from under the fender well.



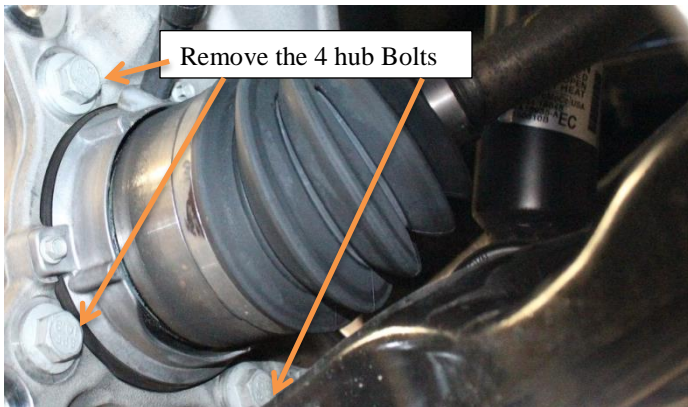
13) Remove the C.V. bearing nut and save the nut. Retain hardware for Installation.



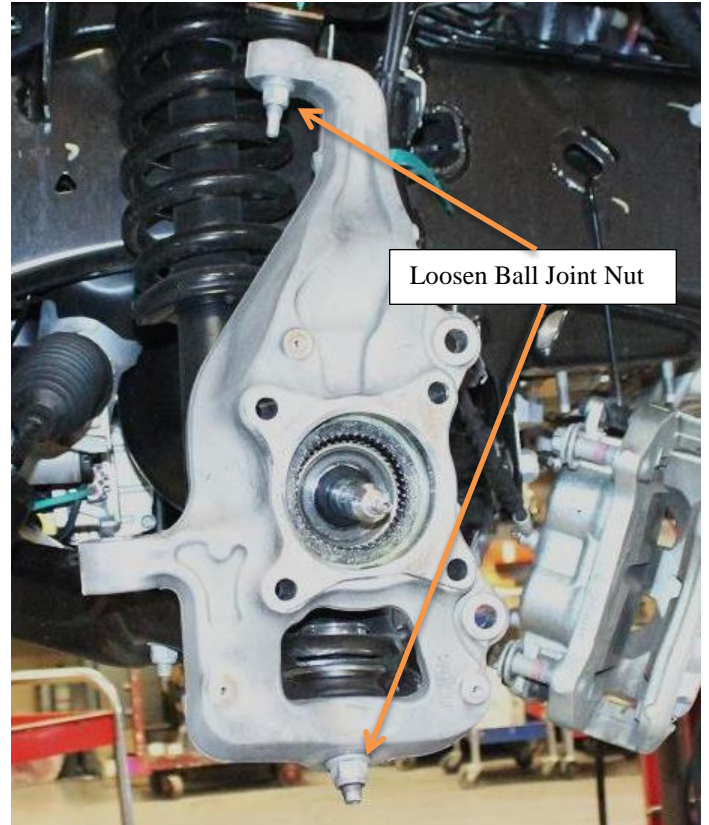
14) Remove the backing plate bolts from the knuckle. Save hardware for install in the FTS knuckle.



15) Remove the four hub bolts on the back side of the knuckle. Remove Hub. Retain hardware for Installation.



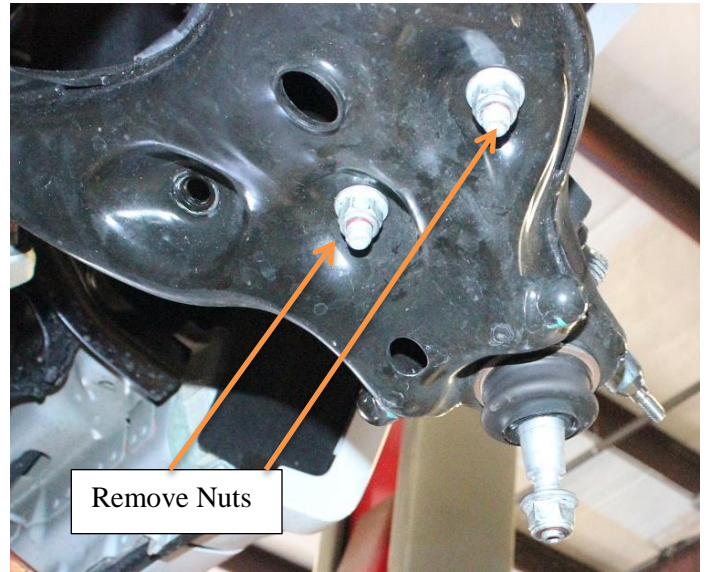
16) Loosen the upper and lower ball joint nuts. Disconnect the upper and lower ball joints from the steering knuckle by striking the knuckle with a large hammer next to each ball joint on the knuckle to dislodge the ball joints. Use care not to hit the ball joints when removing. Retain hardware and remove the knuckle and actuator. Use extra care not to over extend the C.V. axle shaft when removing the knuckle.



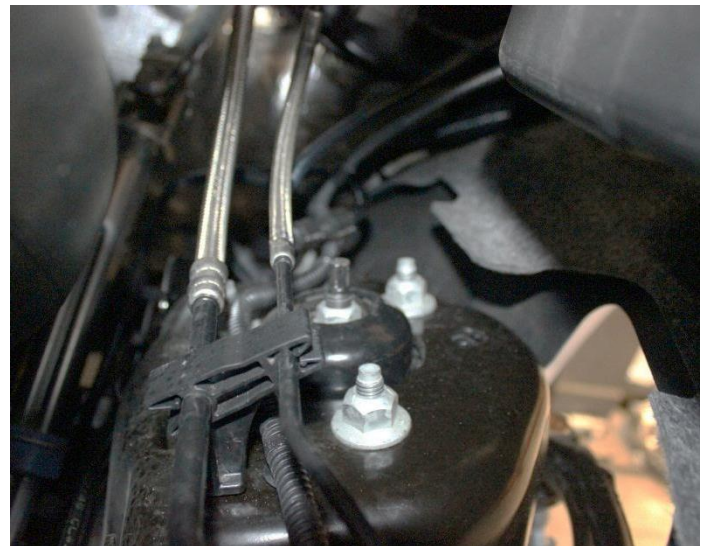
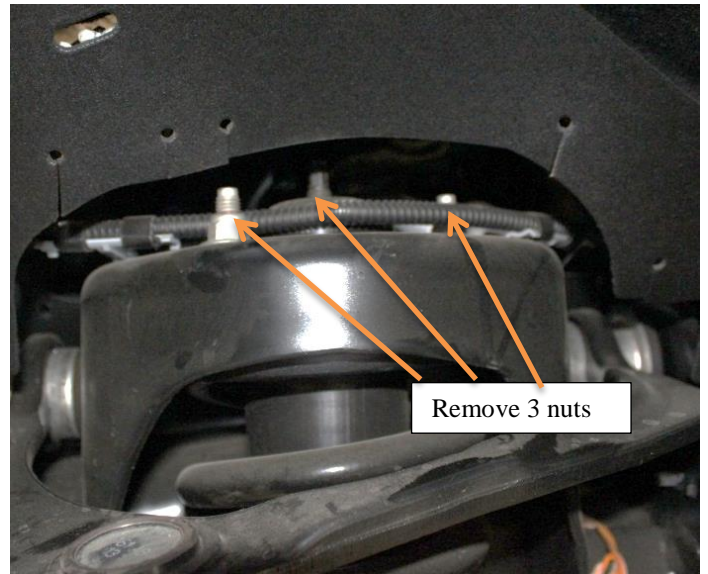
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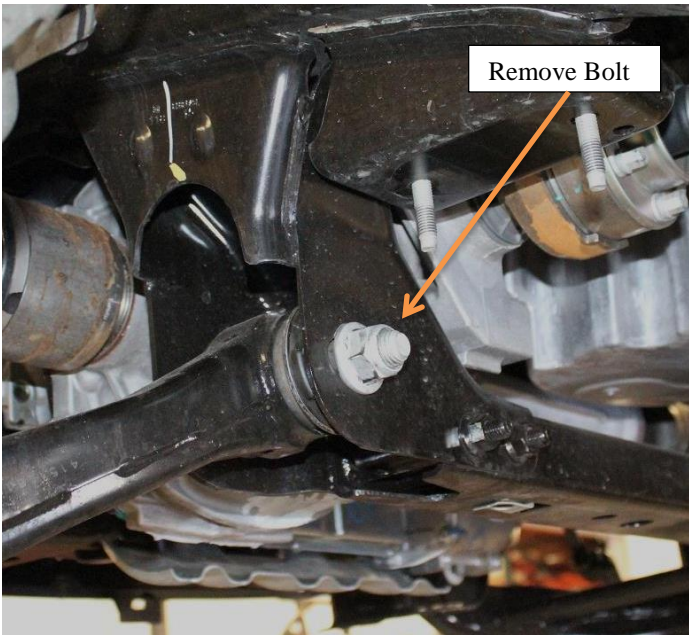
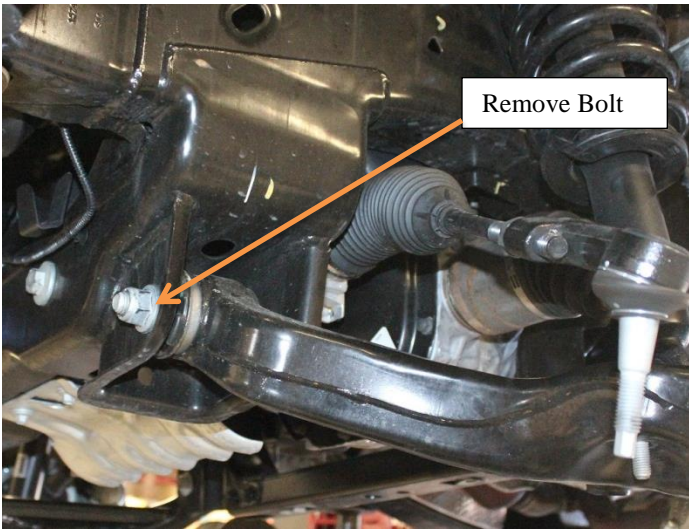
17) Remove the lower strut mount nuts. Save the hardware.



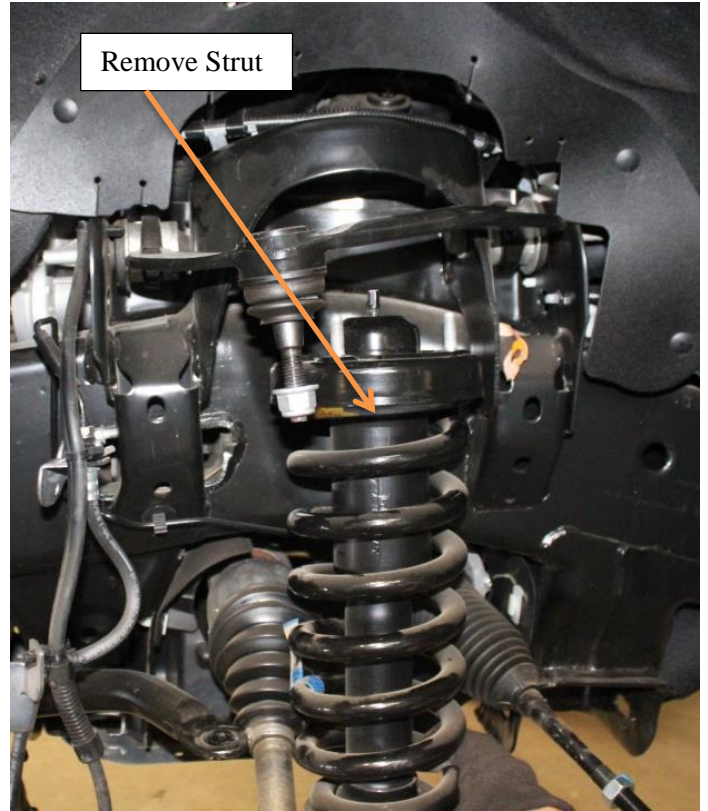
18) Loosen the three upper strut mounting nuts.



19) Remove the front and rear lower control arm bolts from the frame pivots point and remove the lower control arm from the truck. Save hardware and lower control arm.



20) Remove the strut assembly from the vehicle and mark "Driver" for assembly to install later with upper strut spacer.



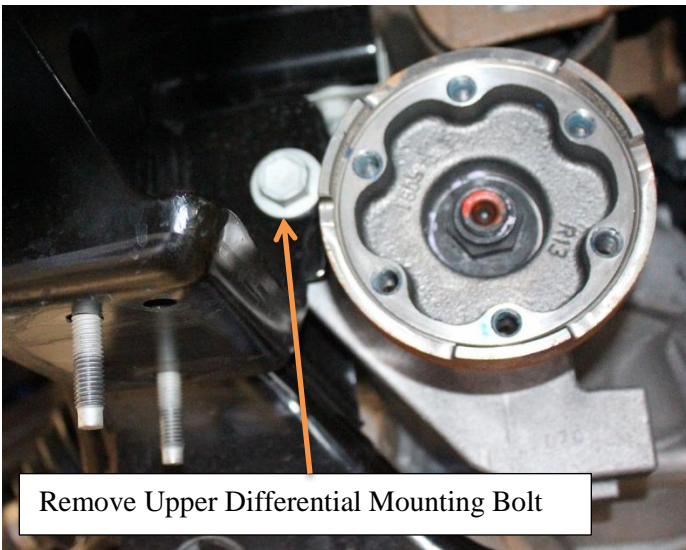


21) Repeat steps 1 through 20 on the passenger side of the truck.

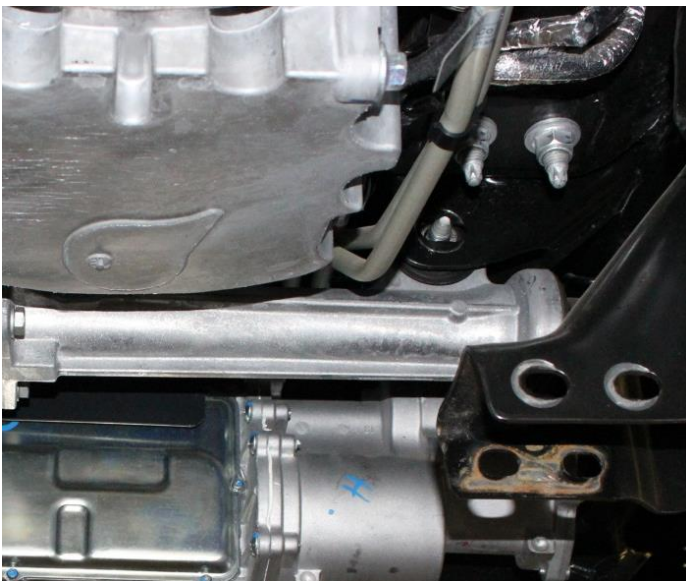
22) Remove the factory rear cross member from the vehicle and discard the cross member.



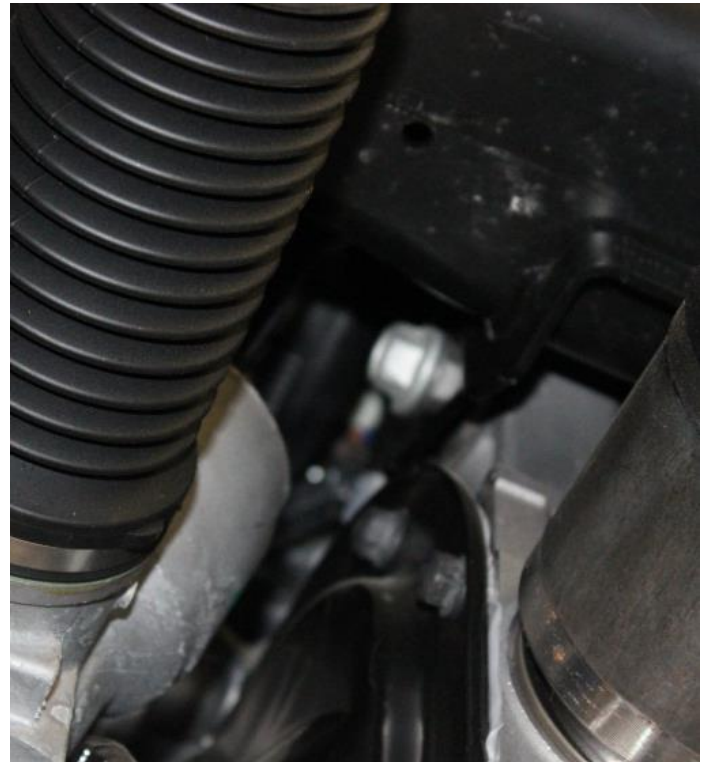
23) Remove the driver side rear differential mount hardware.



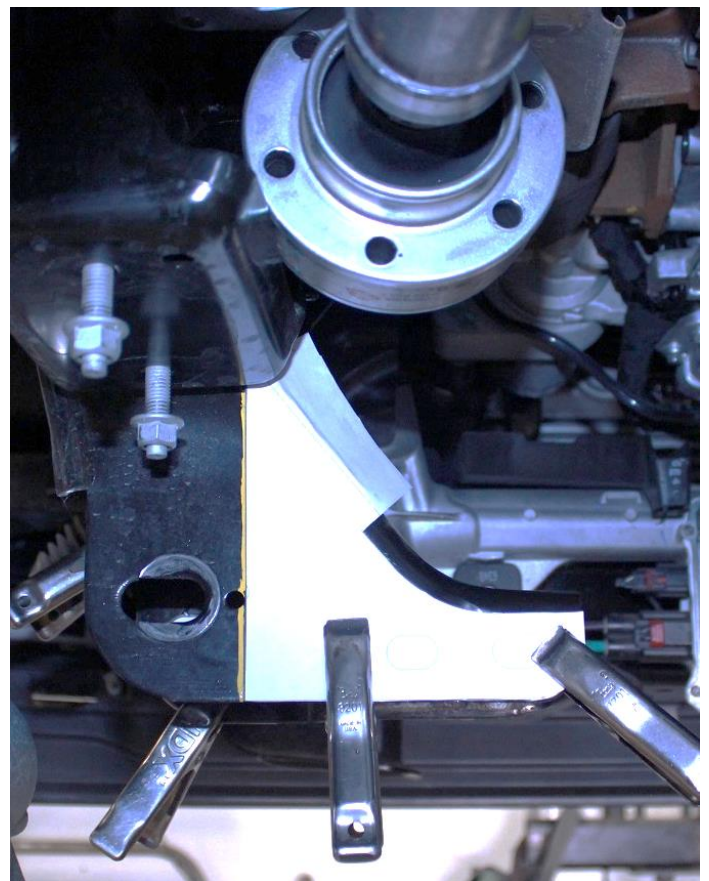
24) While supporting the differential, remove the two upper differential mount bolts and remove the differential and axles from the vehicle. Save the hardware.



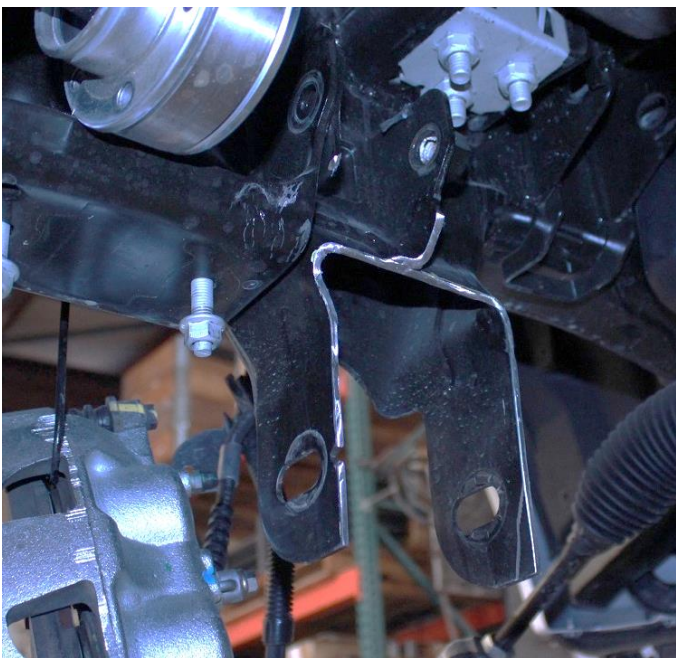
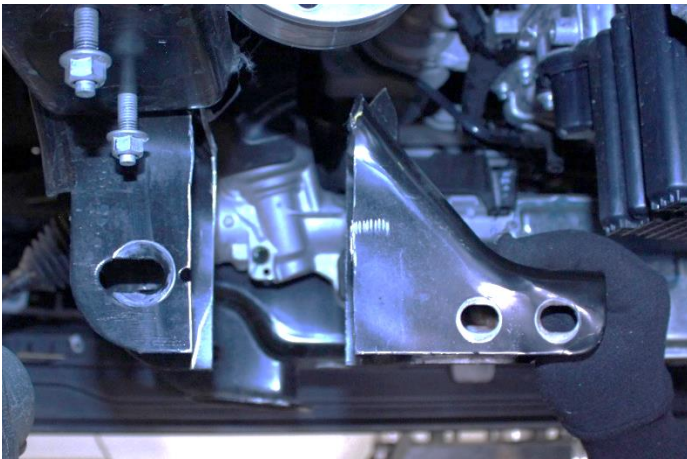
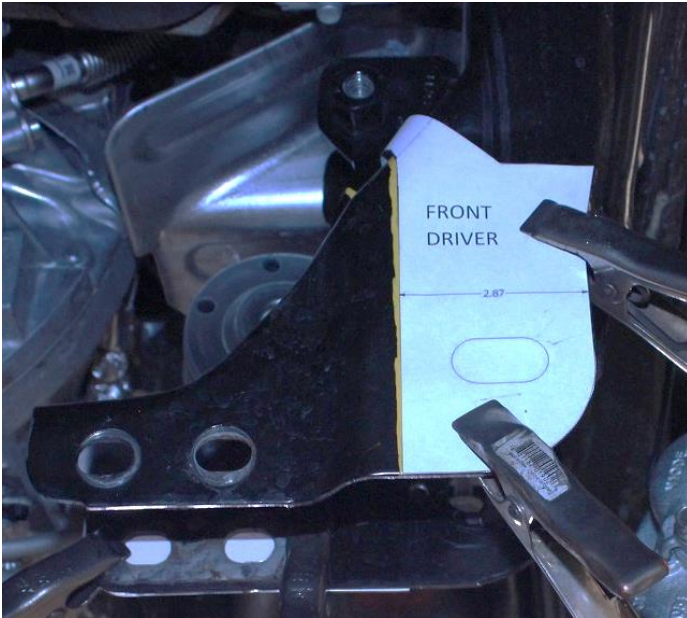
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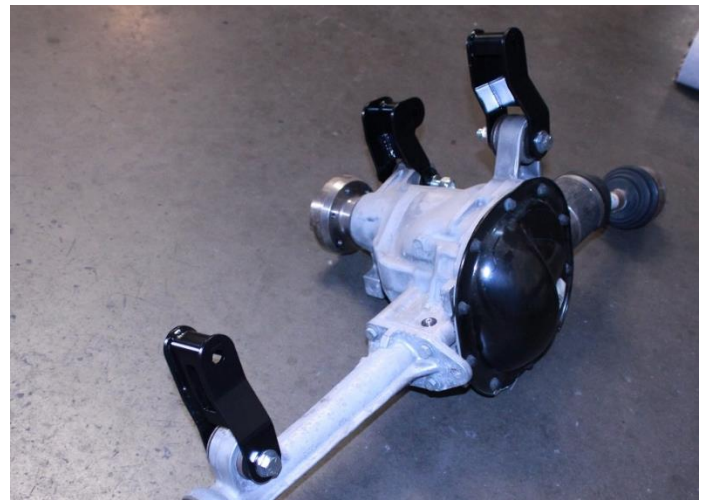
25) Locate the driver side rear lower control arm pocket. Mark the frame as show below using the supplied template. Use a die grinder, cut all the way around the pocket. Discard removed portion of the pocket.



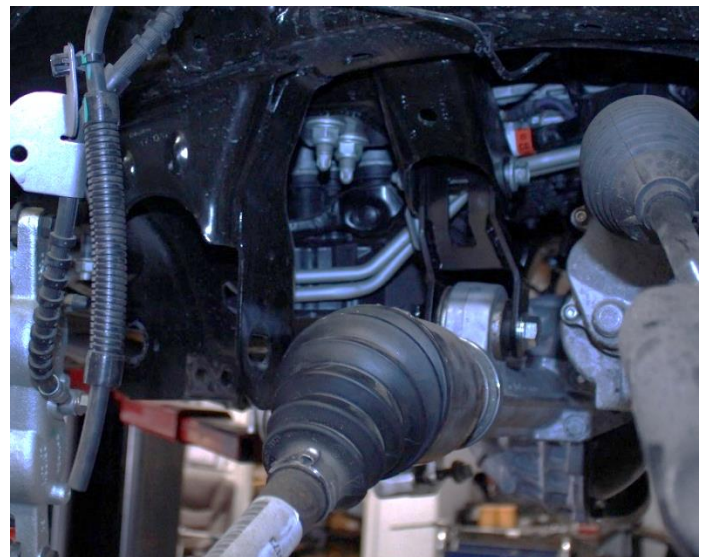
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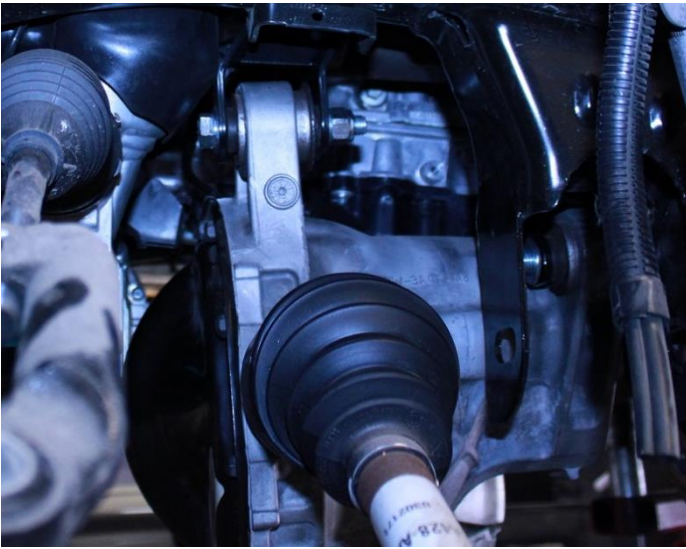
26) Install the Diff drops as shown below using the 9/16 x 4" hardware. Leave loose at this time.



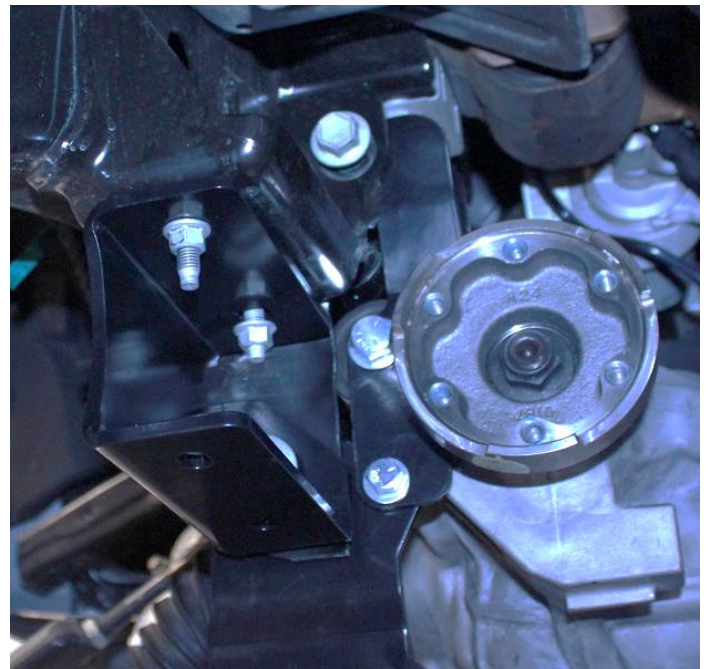
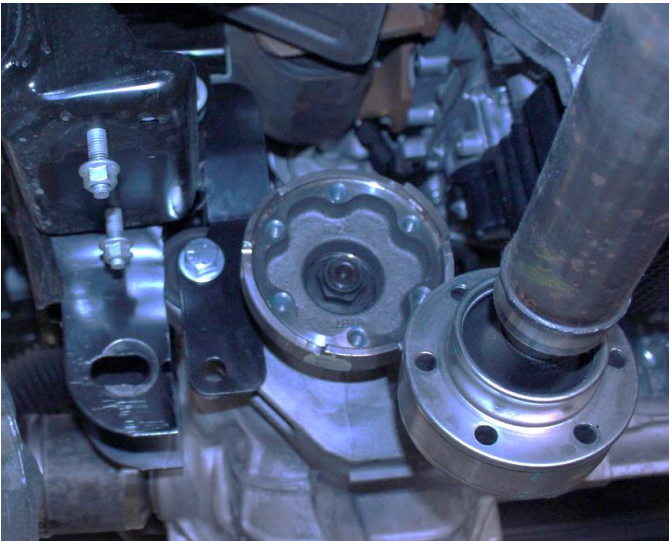
27) With the FTS mount on the differential raise the differential into place as shown below. Reuse the factory hardware



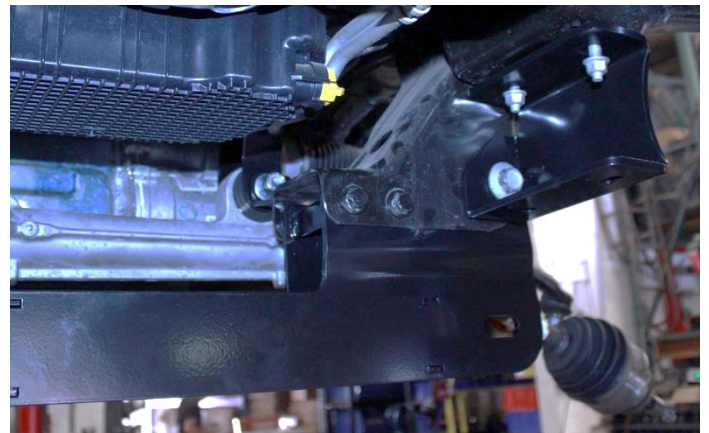
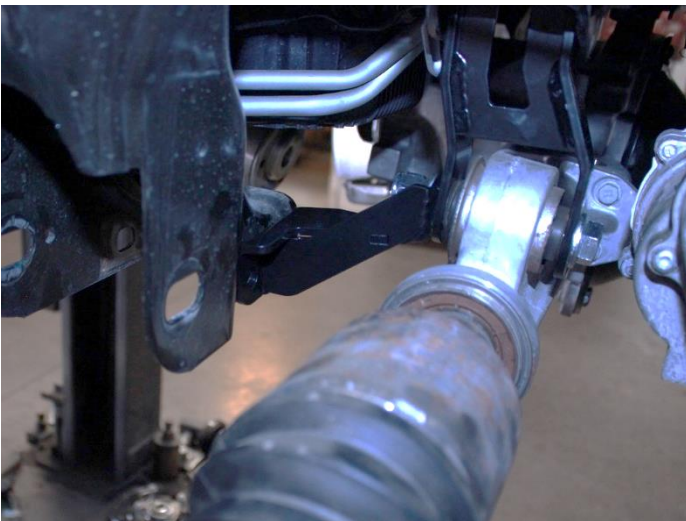
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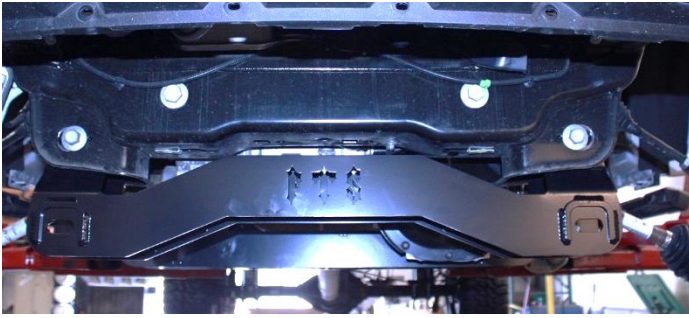
29) Install the FTS rear cross member in the factory rear lower control arm pockets and sway bar drops as shown below. With the open portion to the front of the vehicle. Mount the cross member using the factory control arm pivot hardware. Leave all hardware loose at this time.



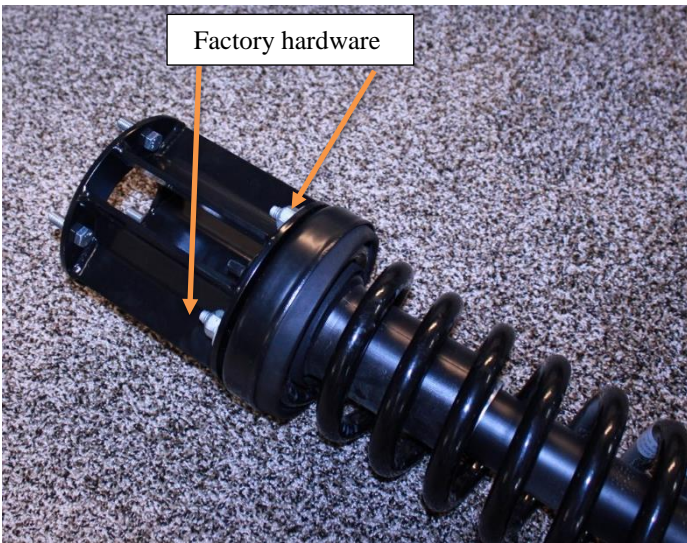
28) Install the passenger side differential support as shown below using the factory hardware.



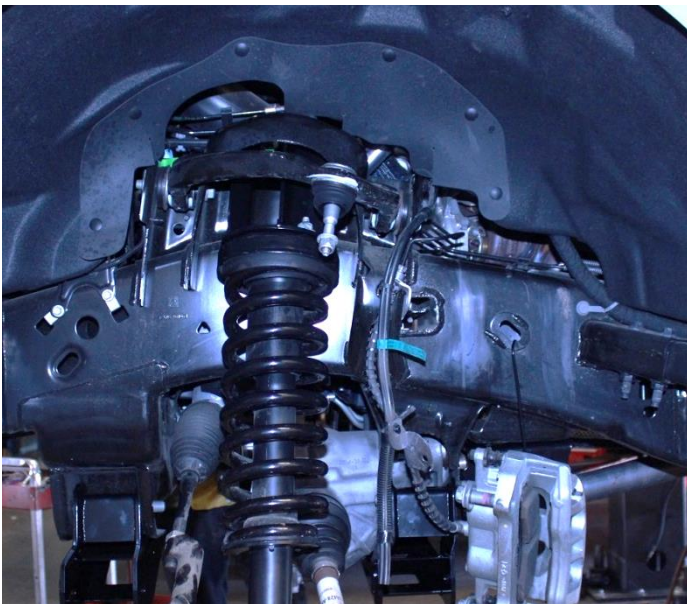
30) Install the FTS front cross member into the factory front control arm pockets using the factory hardware. Leave the hardware loose at this time.



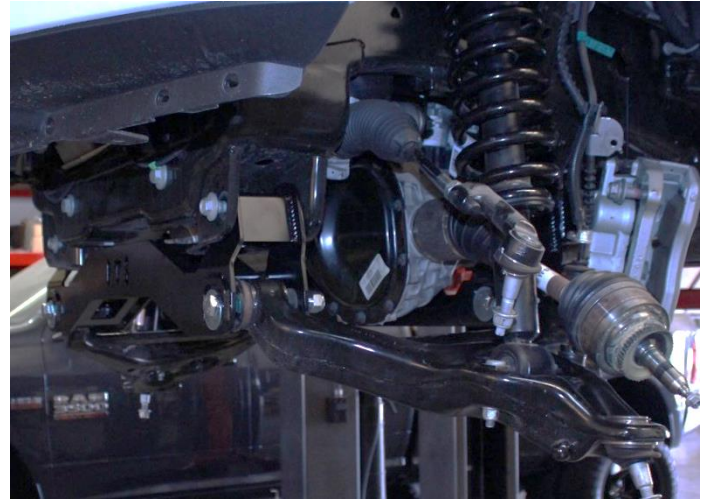
31) Install the FTS upper strut spacer to the factory strut using all factory hardware. Torque 45 ft.-lbs.



32) Using 10mm nylock nuts supplied install the strut assembly back in factory location. Torque bolts to 45 ft.-lbs.



33) Install the factory lower control arm in the lower FTS Cross Members as shown below using the supplied cam bolt kit. Connect the lower strut mount to the factory control arm as shown below using the factory hardware.



34) Reinstall the factory vent hose back on to the differential.

35) Tighten all the hardware for the differential and cross member at this time.

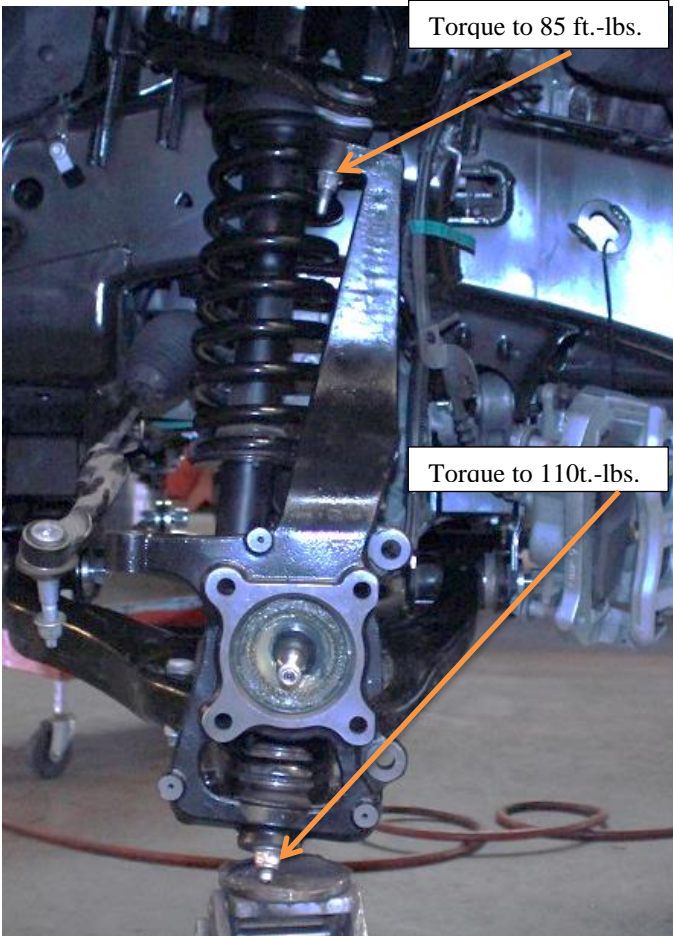
36) Remove the actuator from the knuckle. Save hardware for install in the FTS knuckle. Discard the steering knuckle.



37) Install the factory 4WD actuator into the spindle. Torque the factory 8mm bolts to 17 ft.-lbs.



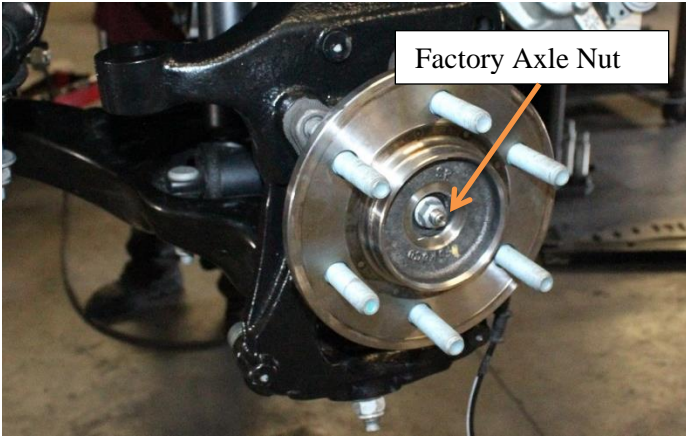
38) Install the spindle onto the upper and lower control arms. Torque the upper ball joint to 85 ft.-lbs. and the lower ball joint to 110 ft.-lbs.



39) Install the factory hub. Torque the four 14mm bolts to 160 ft.- lbs. Install the ABS wheel speed sensor. Make sure the end of the sensor is clean. Apply Loctite to the threads.

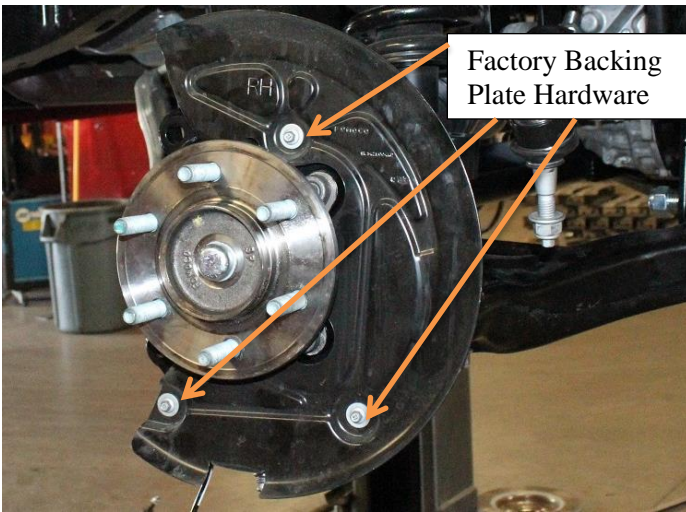


40) Install CV shaft nut removed in step 13 and torque to 35 ft.-lbs. Install the factory dust cover.



Factory Axle Nut

41) Install the dust shield using the factory hardware and torque to 14 ft.-lbs.



Factory Backing Plate Hardware

42) Install front brake rotors.



43) Reinstall the brake caliper. Use a small amount of Loctite to the threads on the caliper bolts and torque to 145 ft.-lbs.

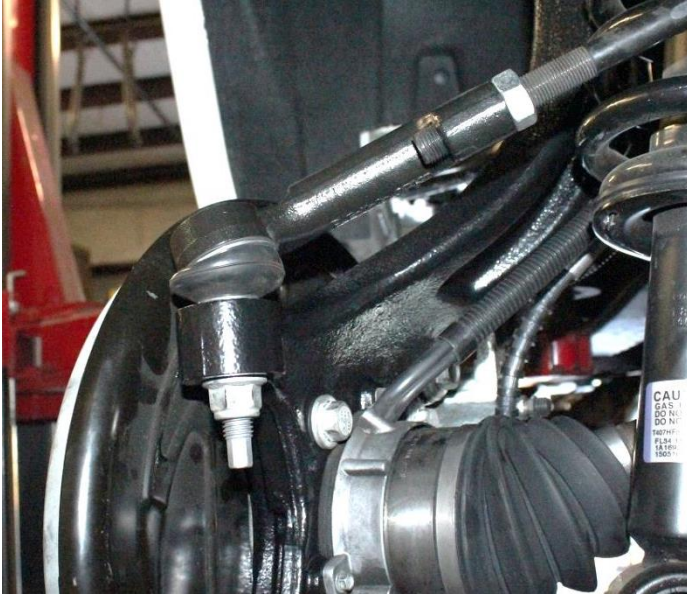


Factory Caliper Bolts

44) Carefully pull some slack from the frame side and reconnect the vacuum line to the hub assembly.



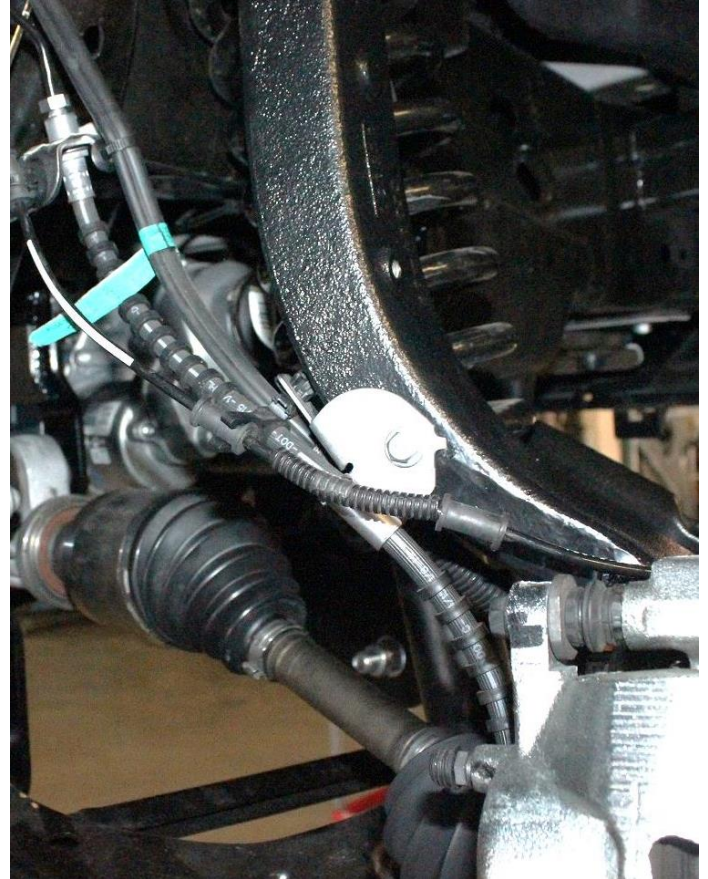
45) Reattach the factory tie rod to the steering knuckle using the factory hardware.



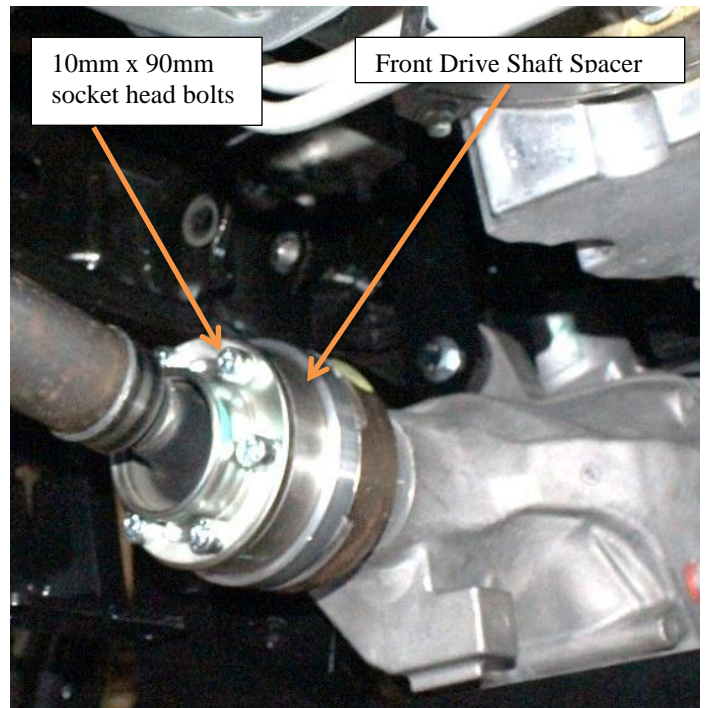
46) Install the front brake line bracket using the factory hardware at the top and the 5/16" x 1" hardware at the bottom. After installing the factory brake line bracket, check to insure full movement by steering the knuckle back and forth, and make sure none of the ABS lines, brake lines, or vacuum lines are interfering during full test Movement of the knuckle.



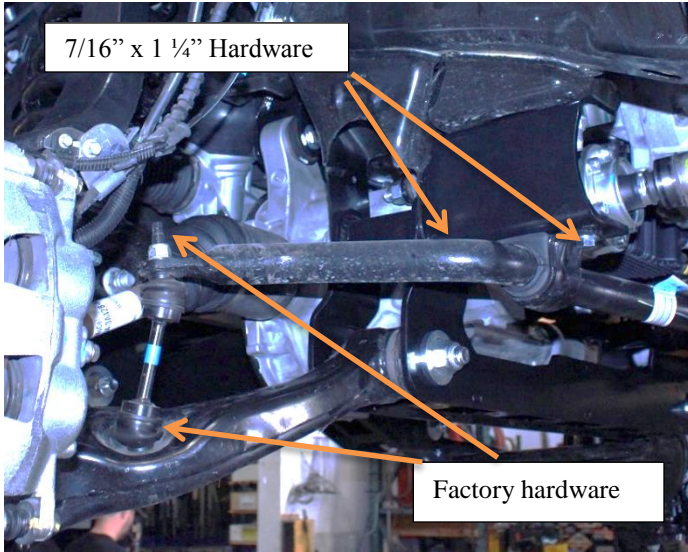
47) Mount factory brake line bracket to the side of the knuckle using the factory hardware.



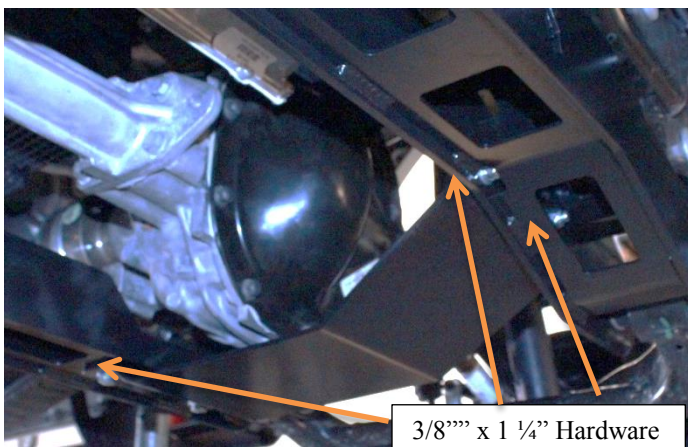
48) Install the front drive shaft spacer between the front differential flange yoke and the drive shaft .Reinstall the front drive shaft with the supplied 10mm x 90mm socket head bolts and torque to 35 ft.-lbs.



49) Install the factory sway bar to the FTS driver and pass brackets using the 7/16" x 1 1/4" supplied hardware.

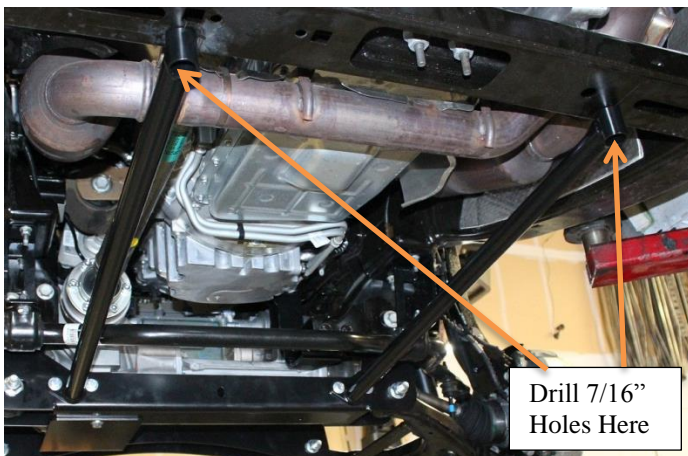


50) Install the front skid plate using the supplied 7/16" x 1 1/4" hardware as shown below.



### Optional Compression Struts

51) Install the compression struts using the supplied 7/16" x 1 1/4" hardware as shown below. Drilling required on transmission cross member.



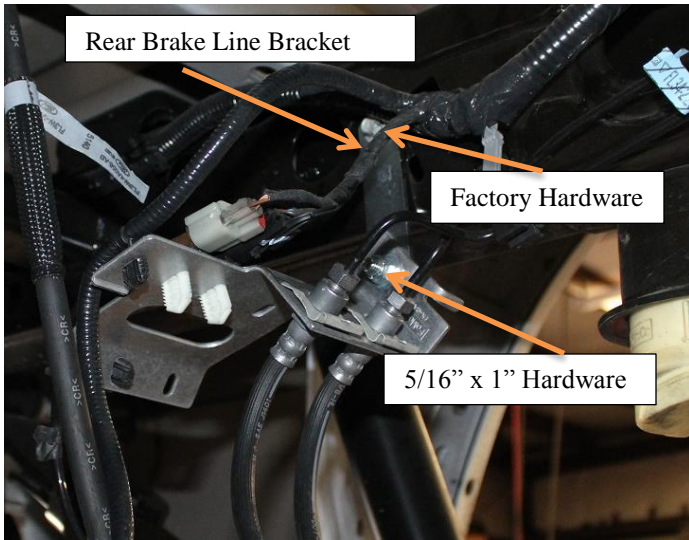
### REAR SUSPENSION INSTRUCTIONS

1. Jack up the rear end of the vehicle and support the frame rails with jack stands, Block the front wheels for safety. Release the parking brake at this time.

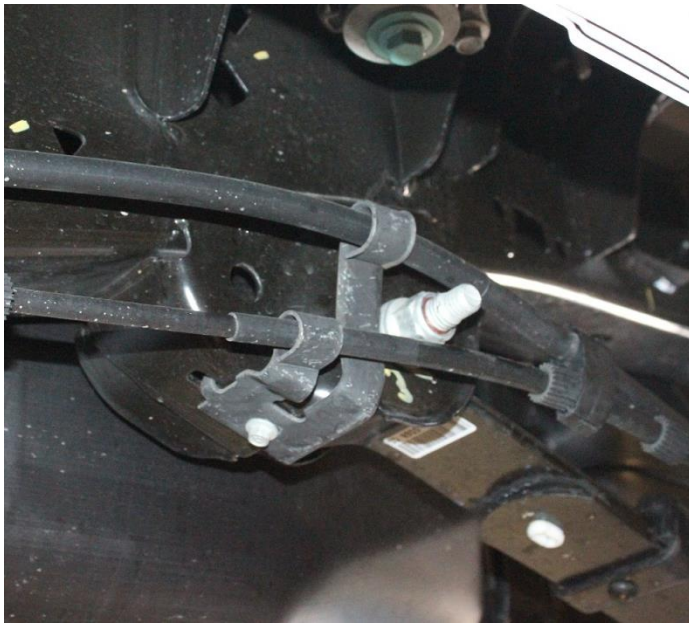
2. Install the factory brake line mount on the driver side of the frame using factory hardware at the top and supplied 5/16" x 1 hardware at the bottom. Using the Supplied brake line bracket and attach the bracket between the factory frame mount and the factory brake line.







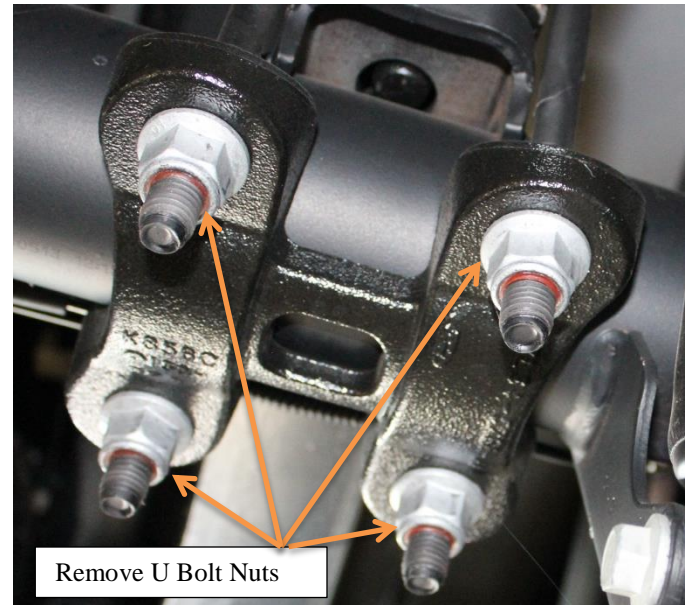
3) Remove the E Brake cables bracket from the frame.



4) Remove lower shock hardware.

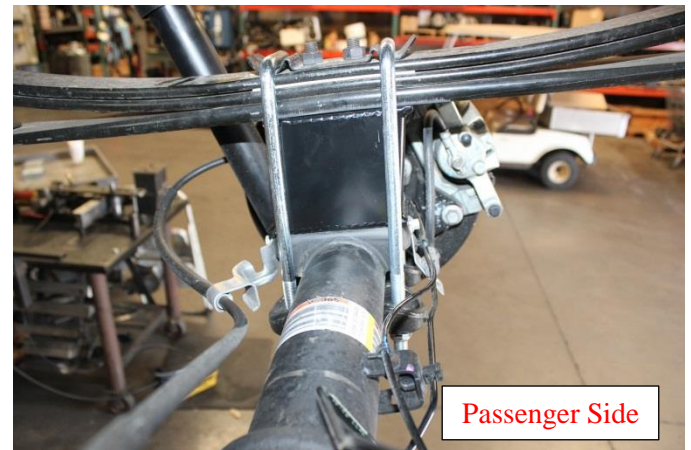


5) Supporting the rear differential, remove the U-bolts, lower axle down, remove factory block. Use care not to over extend the brake hose.



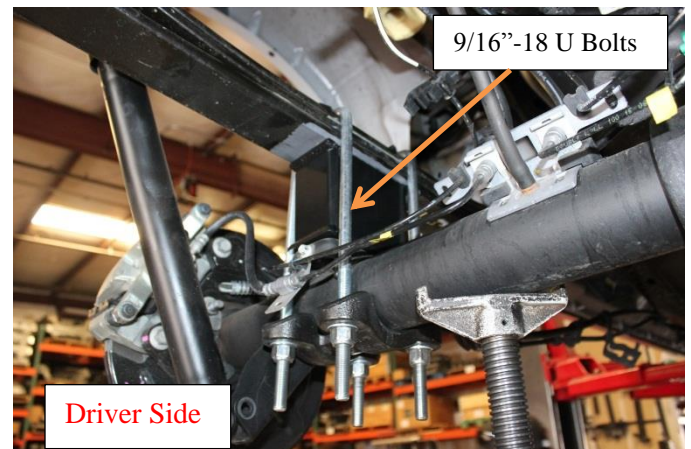
6) Install the rear lift blocks. Using the provided U-bolts, nuts and washers, align the axle, lift blocks, and springs and torque U-bolts to 90 ft.-lbs.

← **Front of truck**



**Passenger Side**

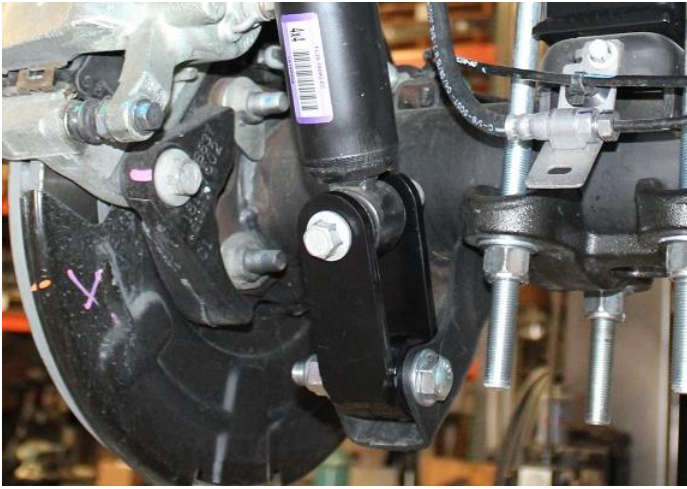
**Install Rear Block So It Pushes the Axle Forward**



9/16"-18 U Bolts

**Driver Side**

7) Install the rear shocks extenders using the 1/2" x 3" hardware thru the axle and shock extender and the factory hardware thru shock extender and shock. Torque upper and lower bolts to 60 ft.-lbs.



8) Recheck all bolts for proper torque. Recheck the front and rear brake hoses and ABS lines for proper clearances.

9) Install tires and wheels and torque lug nuts to wheel manufacturer's specifications. Turn front tires left to right and check for appropriate tire clearance. Note -Some oversized tires may require trimming of the bumper and valance.

10) Check the front-end alignment and set to the factory specifications. Re-adjust vehicles headlights.

8) Install the E Brake bracket using the 5/16" x 1" hardware as shown below.

