

44104

# FULL THROTTLE SUSPENSION

## 2011-2015 CHEVY/GMC 2500HD/3500HD 4" 4WD Kit

- 100% Bolt On - Spindle kit that DOES NOT extend the track width
- Utilizes ductile iron steering knuckle for stock alignment;
- Superior drivability both on and off-road
- Structural cross members constructed of 1/4" thick steel for superior strength
- Option to use your kit with or without torsion bar drops
- All 4 factory bump stops incorporated for durability
- Front differential dropped full 4" for flat C/V angles
- Differential skid plate keeps your diff away from debris
- Heavy duty semi-gloss black powder for long life and great looks
- Impact struts to distribute suspension impact throughout the frame
- Less cutting of factory frame and differential than other kits



# 44104 2011-2015 2500HD /3500HD 4WD 4" TRUCK TORSION BAR DROP KIT

## C4400-4 COMPONENT BOX 1

- 1) Rear X Member
- 1) Front X Member
- 1) Left Compression Struts
- 1) Right compression Struts
- 1) Left Rear Bump Stop
- 1) Right Rear Bump Stop
- 2) Front Bump Stops
- 1) Left Torsion Bar Drop
- 1) Right Torsion Bar Drop

## 1) CH44004 HARDWARE

### BAG 1

- 2) 18mm x 120mm Bolts
- 2) 18mm x 150mm Bolts
- 4) 18mm Nylock Nuts
- 8) 18mm Washers

### BAG 2

- 6) 7/16" x 1 1/4" Bolts
- 6) 7/16" Nylock Nuts
- 12) 7/16" Washers
- 4) 1/2" Nut Sert
- 4) 1/2" x 1 1/2" Bolts
- 2) 9/16" x 4" Bolts
- 2) 9/16" Nylock Nuts
- 4) 9/16" Washers
- 4) 3/8" x 1" Bolts
- 4) 3/8" Nylock Nuts
- 8) 3/8" Washers

## SE450 FRONT SHOCK EXTENDERS

- 2) 9/16" x 3 1/2" Bolts
- 2) 9/16" Nylock Nuts
- 4) 9/16" Washers
- 4) 3/8" x 1" Bolts
- 4) 3/8" Nylock Nuts
- 8) 3/8" Washers

## SE200 REAR SHOCK EXTENDER

- 2) 9/16" x 3 1/2" Bolts
- 2) 9/16" Nylock Nuts
- 4) 9/16" Washers

## C4400-7 COMPONENT BOX 2

- 1) Driver Diff Drop
- 1) Passenger Diff Drop
- 1) Skid Plate
- 2) 2" Rear Lift Block
- 4) 3/4 x 15.5" U Bolts
- 2) 9 1/4" Sway Bar End Links
- 1) Skid Plate

## 1) CH44007 HARDWARE

### BAG 1

- 4) 5/16" x 1" Bolts
- 4) 5/16" Nylock Nuts
- 8) 5/16" Washers
- 2) Front Brake Line Brackets
- 1) Rear Brake Line Bracket
- 4) 7/16" x 2 3/4" Bolts Grade 8
- 8) 7/16" Thick Washers

### BAG 2

- 8) 3/4-16 HIGH NUTS

### BAG 3

- 1) 5/8" x 2" Bolt
- 1) 5/8" Nylock Nuts
- 2) 5/8" Washers
- 1) 1/2" x 2" Bolt
- 3) 1/2" Nylock
- 6) 1/2" Washers
- 2) 1/2" x 3 1/2" Bolt
- 3) 12mm x 25mm Allen Bolts
- 4) 7/16" x 1 1/4" Bolts
- 4) 7/16" Nylock Nuts
- 8) 7/16" Washers

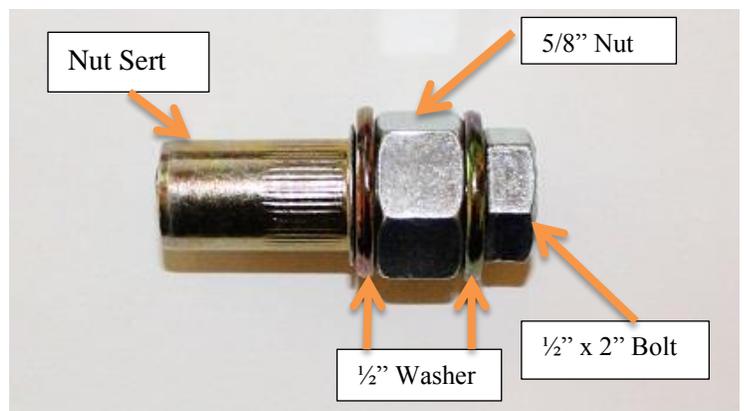
## C4400-10 4" HD STEERING KUNCKLES

- 1) Left Steering Knuckle
- 1) Right Steering Knuckle

Nuts Sert Tool Part# NST5006, Not Required But Is Very Helpful When Installing The Nut Sert Into The Hole. Install nut sert with nut and washer as shown in picture 2. The 1/2" x 2" bolt goes thru the 5/8" nut with a washer on both side of the 5/8" nut then into the nut sert. Tighten until the backside of the rivet nut has been deformed inside the frame rail and is set into place (nut sert will lock itself in place).



Nut Sert Tool Part# NST006



**WE HIGHLY RECOMMEND THIS STEERING UPGRADE**

## **PART# PA676**

**GM 2011-2015 8-Lug Truck Pitman/Idler Arm Support Kit**

**\*\*UTILITY PATENT US 7,475,891 B2\*\***

### **Parts List**

- 1) Pitman arm bracket for traditional GM center link part#3001
- 1) Pitman arm bracket for new GM center link with isolator part#3002
- 1) Idler arm bracket part#3006
- 2) 16mm lock washer
- 2) 7/8"-5/8" rod ends
- 4) 5/8" jam nuts
- 2) Coarse thread shank nuts 16mmX2.0 (normally gold)
- 1) Thread locker



**This Idler/ Pitman Arm Support Kit Has Been Designed To Keep The Idler Arm And Pitman Arm From Wearing Caused By Over Sized Tires , This Kit Will Work On Stock Height FTS 4", 7" And Even 10" Kit. Pitman And Idler Arm Support Kit For 2011-2015 Chevy And GMC 2500HD And 3500HD Trucks. For Use Only On OEM Center link In OEM Position, Or OEM Replacement Center link In OEM Position. Not for Use with Lift Kits That Use a Dropped Center link. For Instructions See Full Throttle Suspension Website, Go To Tech Center And Use Part# PA676.**

### Disassembly

1) With the vehicle on level ground set the emergency brake and blocks the rear tires. Disconnect the negative battery cable from the battery (Note that some vehicles have 2 or more batteries you will need to disconnect the negative cables from all batteries). Jack up the front end of the truck and support the frame rails with jack stands. Remove front wheels and tires.

### NEVER WORK UNDER AN UNSUPPORTED VEHICLE!

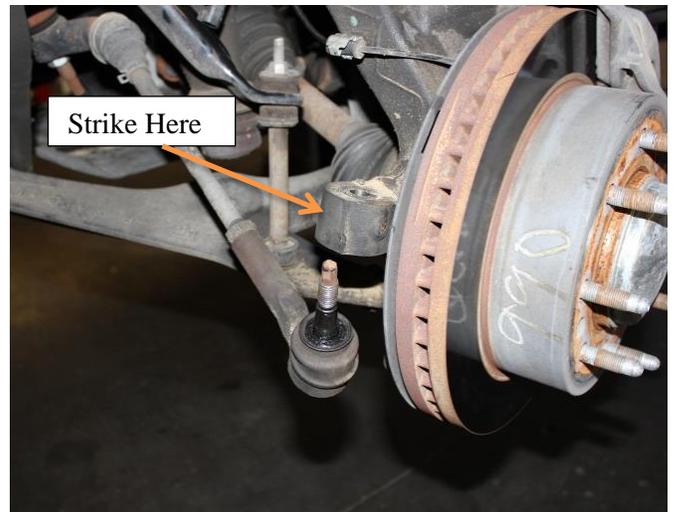
2. Locate the torsion bar adjusting cams and threaded bolts. Measure exposed threads of torsion bar adjusting bolts and record for reinstallation. Mark torsion bars indicating driver and passenger. Using a torsion bar removal tool unload the torsion bars and remove the cross member and bars. Retain the hardware for reinstallation. (NOTE- Do not attempt to unload or remove torsion bars without the proper torsion bar tool. Torsion Bars are under extreme tension)



3. Unplug the ABS brake connection from the frame and control arm. Remove the brake hose bracket from the side of the steering knuckle.



4. Remove the nut retaining the outer tie rod to the steering knuckle then disconnect the tie rod ends from the steering knuckle by striking the knuckle boss with a hammer to dislodge the tie rod end. Use care not to damage the tie rod end when removing.



5) Remove the brake caliper bolts, DO NOT let the caliper hang by the brake line.



6) Remove the torx bolt holding the rotor to the hub. Remove brake rotor from the steering knuckle.



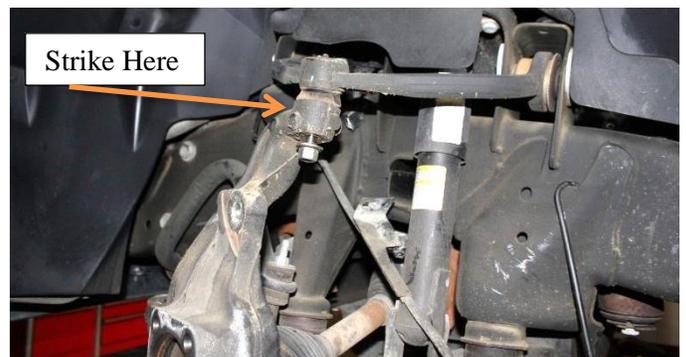
8) Remove O ring from inside the knuckle. Retain all parts and hardware for reinstallation later.



7) Remove the 36mm axle nut, washer as well as the 4 hub bolts on backside of knuckle. Remove hub bearing assembly.



9) Loosen the upper and lower ball joint nuts then 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. Remove both upper and lower ball joint nuts and retain them for reassembly later. Discard the steering knuckles.



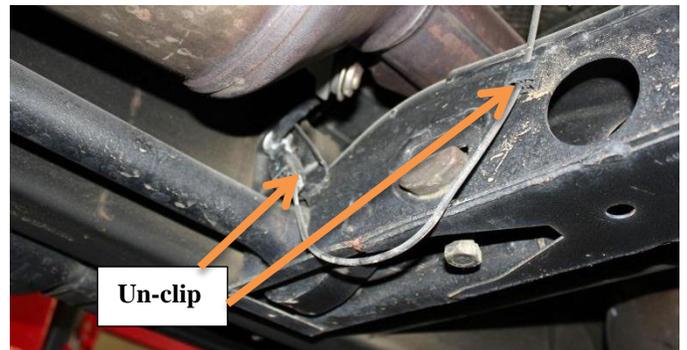
**Strike Knuckle As Shown Below**



11) Remove the stock front lower shocks bolt.



12) Remove the clips attaching wiring harness to torsion bar cross member.



13) Remove torsion bar cross member and torsion bars.



10) Remove the sway bar link ends from the sway bar and lower control arm. Discard links but retain the bushings for reassembly later.



14) Remove the hardware attaching the lower control arms. Retain the arms and all hardware for reassembly.



15) Remove the stock lower rubber bump stops from the frame and retain for reassembly later.



Only Remove Shock If Installing Upgraded Shocks

16) Remove the upper shock nuts, Remove shock. (If installing basic kit with lower shock extension bracket, save shock and hardware for re-installation.)

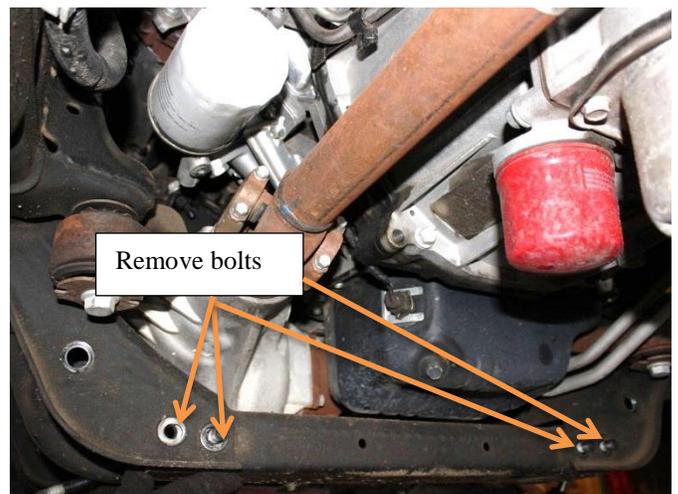


17) Repeat steps 3-16 on opposite side of the vehicle

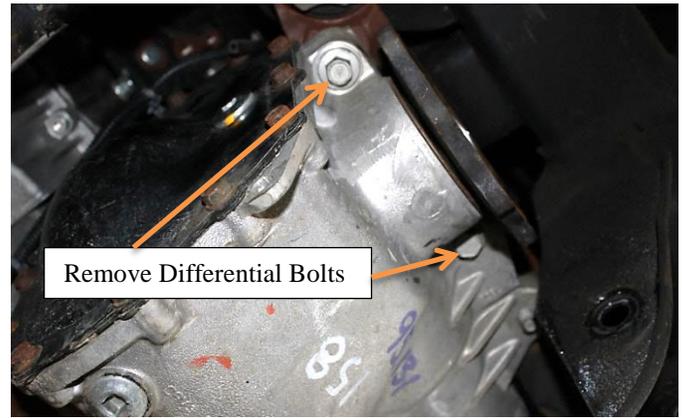
18) Remove all 8 CV axle bolts. Remove CV axle.



19) Remove the 4 bolts holding the cross member between the rear lower control arm drops.

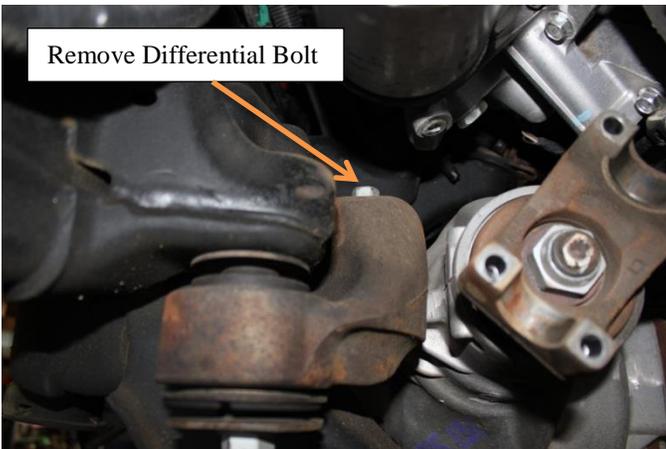


20) Remove the 4 bolts holding the drive shaft to the differential, using a small pry bar, Pop the drive shaft free from the yoke, Careful not to drop the u joint caps.



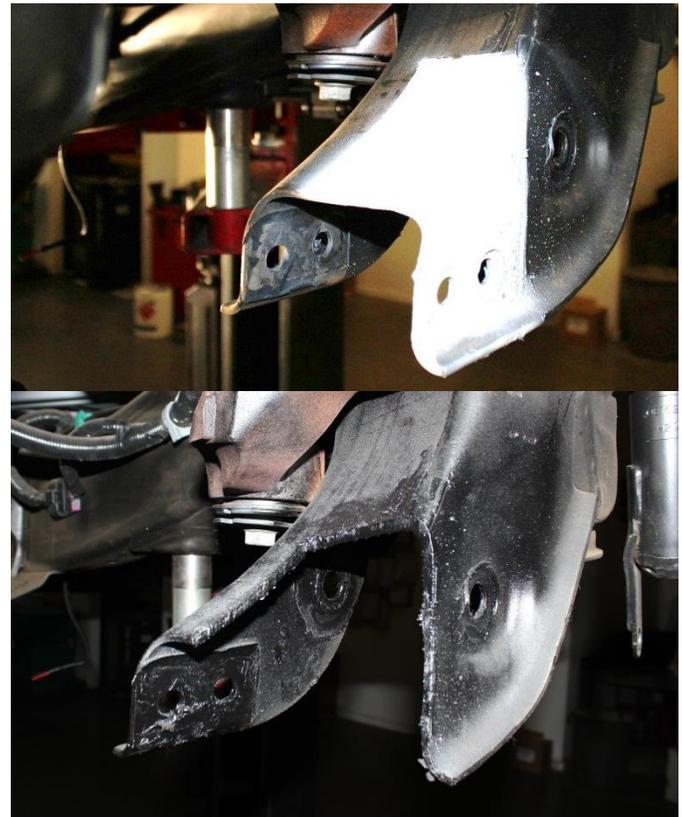
24) Measure over 1 1/2" from the center of the lower control arm hole, scribe a line to be cut. Remove any burrs or rough edges and paint any bare metal to prevent corrosion.

21) Remove the top rear differential bolt as shown.



25) Using a Sawz-All cut the frame as shown in picture below.

22) Disconnect the electrical connector from the front differential actuator. Remove the wire from the three plastic wire retainers along the top of the differential. Disconnect the axle breather tube from the top of the driver's side of the differential.



23) Loosen but do not remove all of the front differential mounting bolts/nuts. There are two nuts on the passenger's side and three bolts on the driver's side two mount from the bottom up.

## Preparation

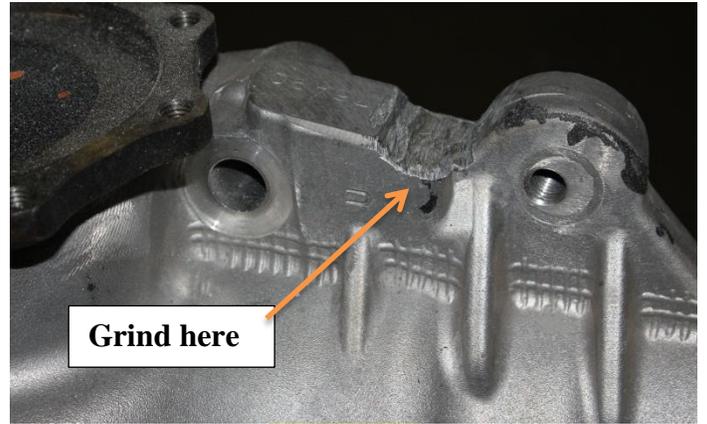
1. Next locate the holes on the underside of the factory bump stop mounts where you removed the bump stops in step 15 of disassembly. Use the holes as a pilot. Drill all 4 of them out using an 11/16 drill bit. Now install the nut inserts provided with the kit as shown in pic below. With the nut insert slid up into the 11/16 hole hold the installation tool from spinning and using an impact gun tighten the installation bolt till the nut has securely clamped itself to the frame, see PIC for an example. This will be done to all 4 of the factory bump stop mounts. Nut sert tool sold separately. Part#NST5006



2) Installed view of the 1/2" Nut Serts.

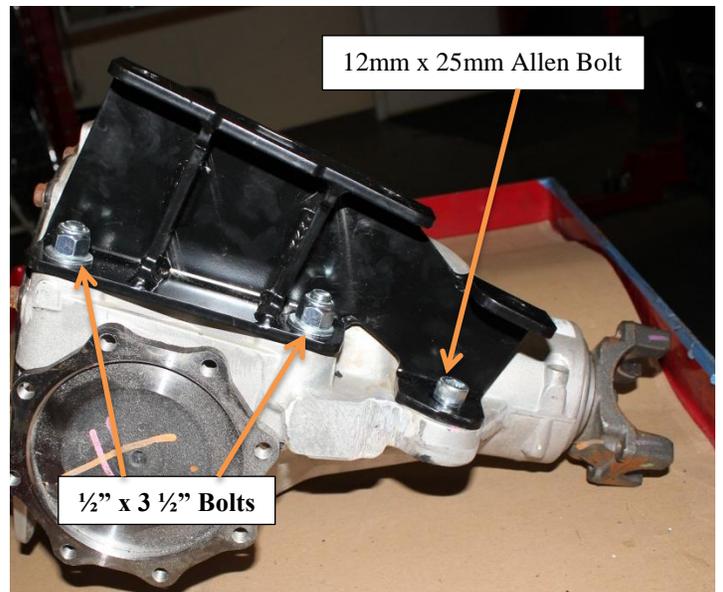


3) Grind differential housing as shown in pic below.

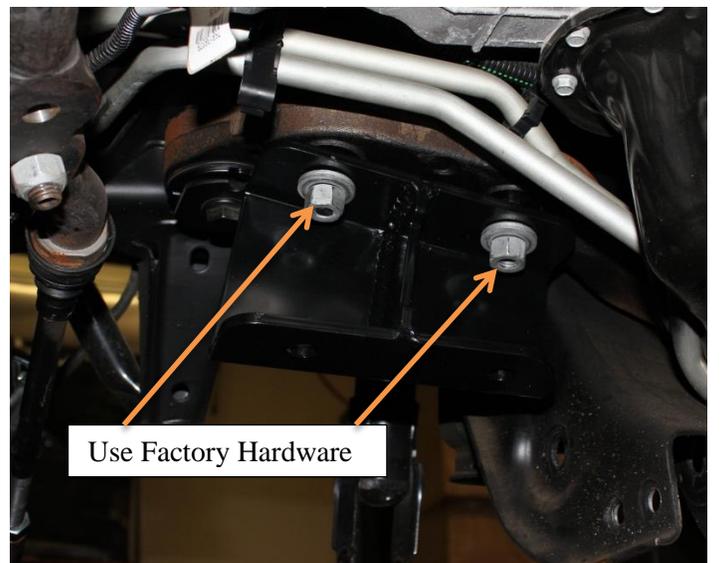


## Assembly

1) Install Driver diff drop to the housing using the 12mm x 25mm bolts and the 1/2" x 3 1/2" hardware as shown.

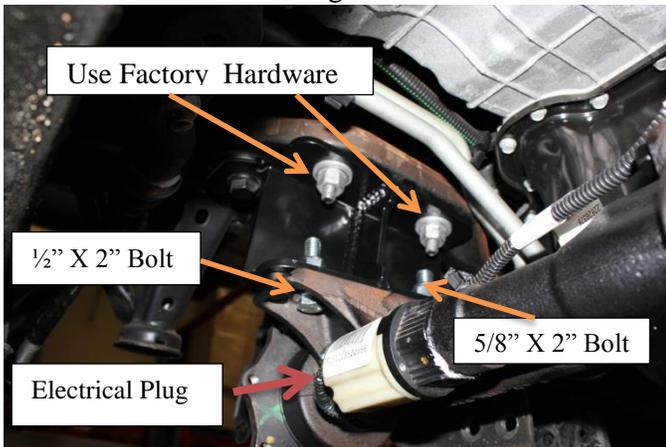


2) Install Passenger side differential drop on to the truck using factory hardware as shown.



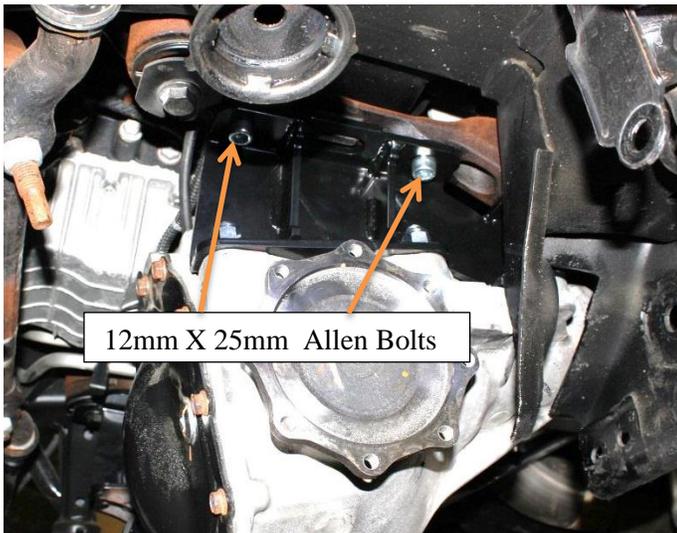
3) Install differential using  $\frac{1}{2}$ " x 2" and  $\frac{5}{8}$ " x 2" bolts as shown. Reconnect electrical plugs and breather tube.

### Passenger Side

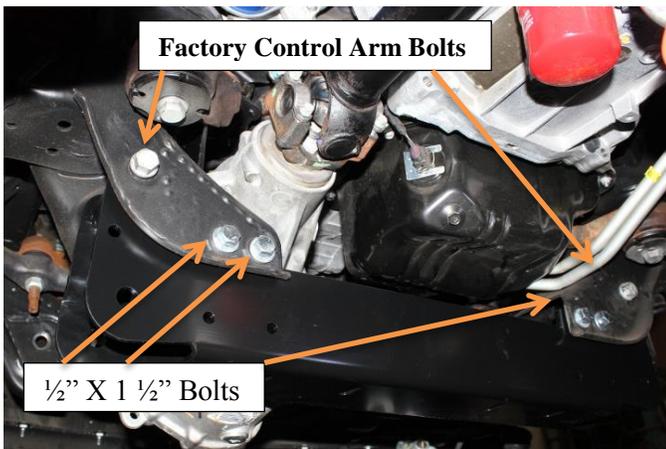


4) Install differential using 12mm Allen bolts as shown.

### Driver Side



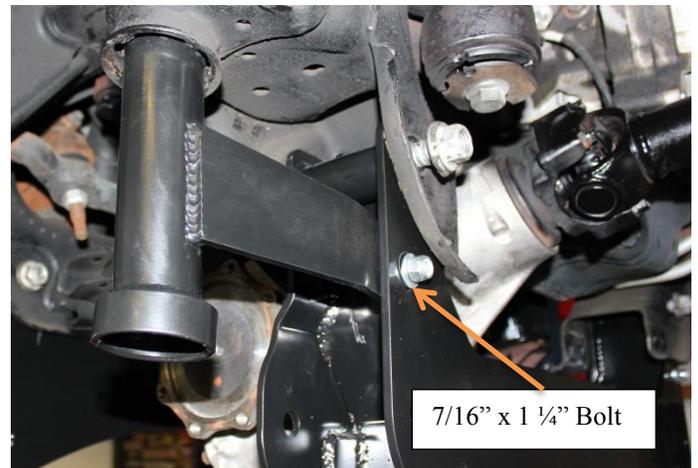
5) Install the FTS Rear cross member into the rear lower control arm pocket with the factory control arm hardware. Run the bolts from Rear to the front. Install four  $\frac{1}{2}$ " x  $1\frac{1}{2}$ " bolts thru the frame into the rear cross member.



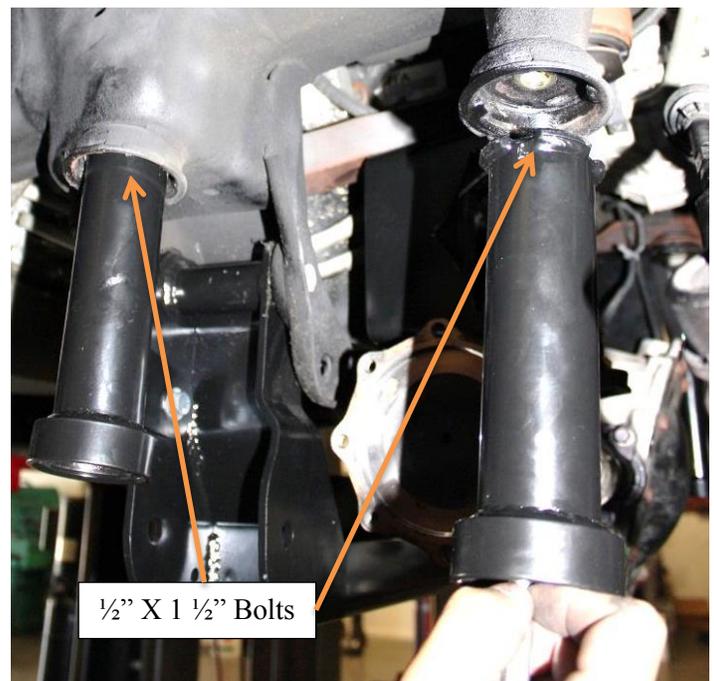
6) Install the FTS Front cross member into the Front lower control arm pocket with the factory control arm hardware.



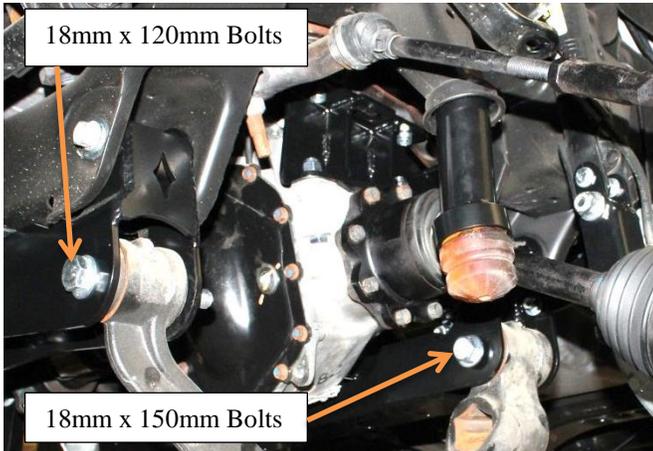
7) Install rear lower bump drop brackets to the factory lower front bump stop brackets using the supplied  $\frac{1}{2}$ " x  $1\frac{1}{2}$ " bolts into the previously installed nut insert. Install  $\frac{7}{16}$ " x  $1\frac{1}{4}$ " bolt to the bump stop support bracket back to rear cross member.



8) Install front lower bump drop brackets to the factory lower front bump stop brackets using the supplied  $\frac{1}{2}$ " x  $1\frac{1}{2}$ " bolts into the previously installed nut insert.

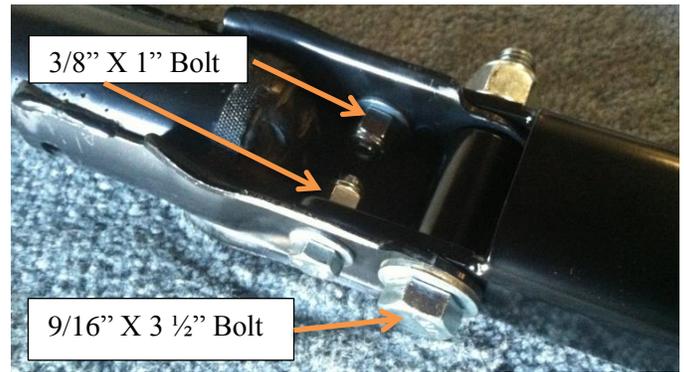
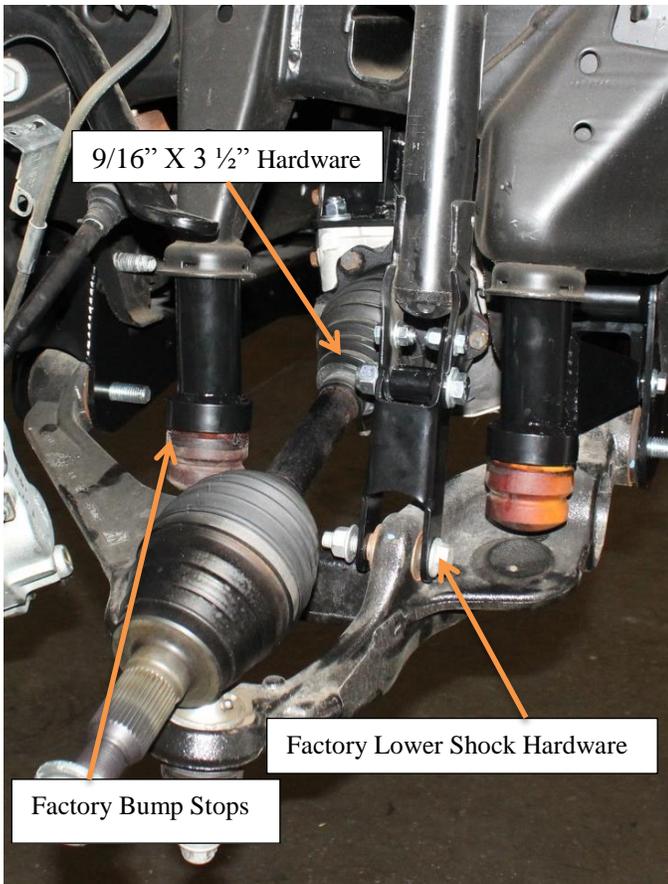


9) Install the lower control arms using the 18mm x 120mm thru the front and the 18mm x 150mm in the rear lower. Do not tighten at this time.

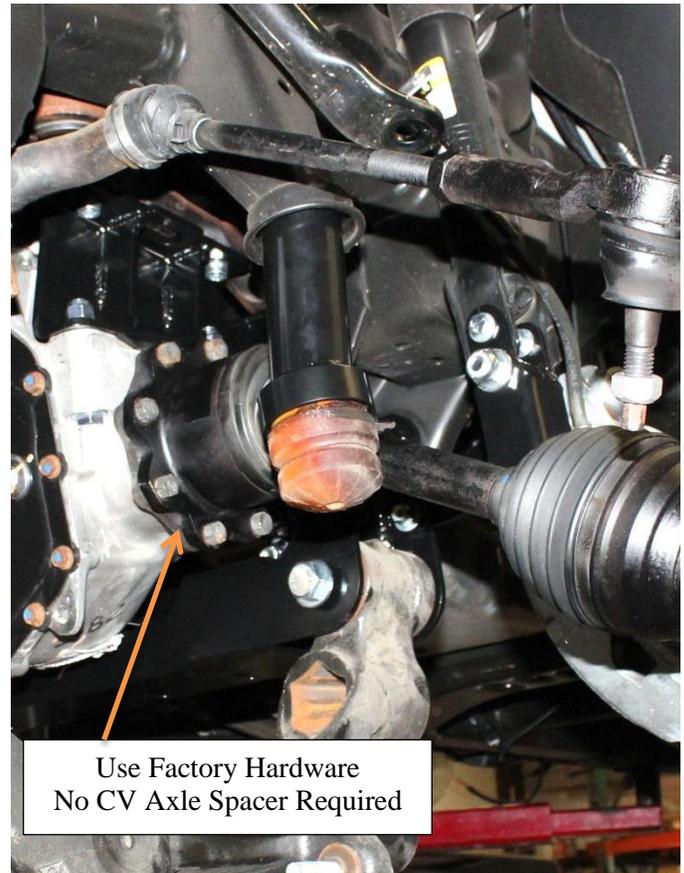


10) Once all four bump stop drop brackets are installed, install the factory bump stop rubbers into them by using light oil or soap as a lubricant and pushing up into the drop brackets till they pop into the retaining lip. As shown above.

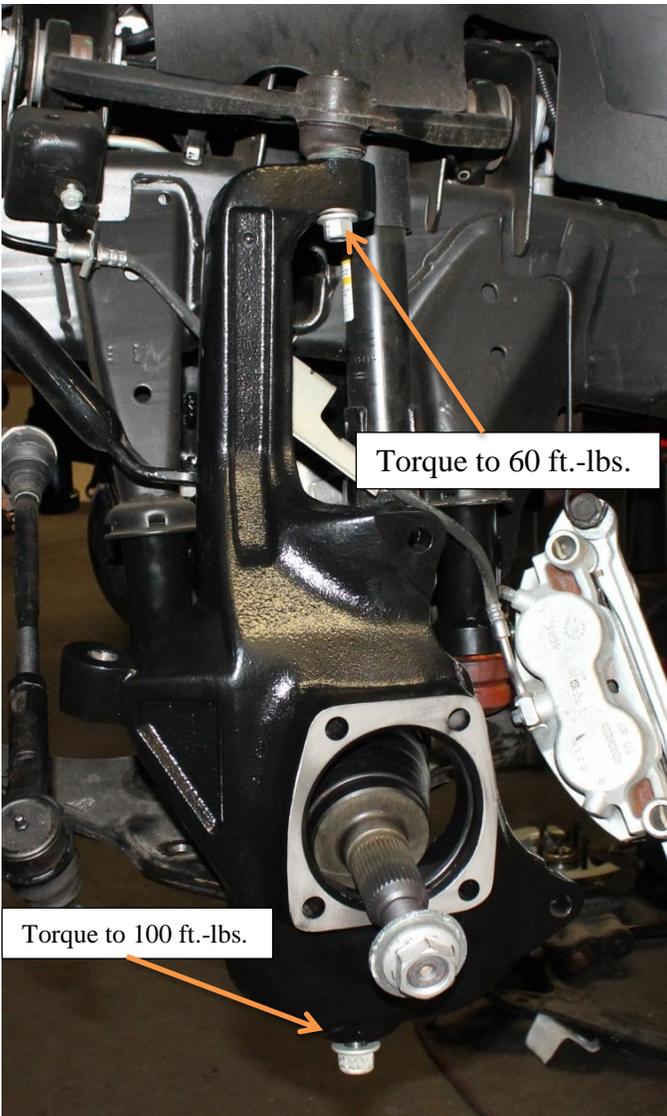
11) Install front shock extension brackets using 9/16" x 3 1/2" bolts and 3/8" x 1" bolts as shown below. First install the supplied 9/16" x 3 1/2" bolt thru the existing hole, align the bracket parallel with the shock, then tighten to 95 ft.-lbs. Using the 3/8" hole as a guide, drill thru both side of the shock, Install 3/8 hardware and tighten to 35 ft.-lbs.



12) Install the CV axle's using factory hardware as show below. **NO** Spacer Required on CV Axle.



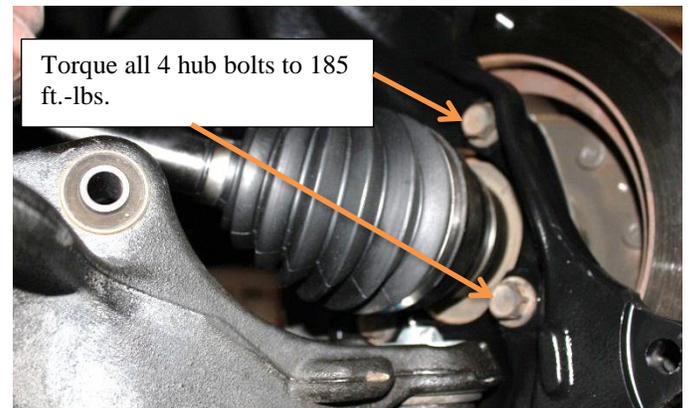
13) Locate the new steering knuckles and identify the driver's and passenger's side. Install the appropriate knuckle on the lower control arm and fasten with the original lower ball joint nut. Swing the knuckle up and attach to the upper ball joint with the original nut. Torque the upper ball joint nut to 60 ft.-lbs. and the lower ball joint nut to 100 ft.-lbs. Use Loctite on threads. Torque lower A arm bushing to 200ft.lbs



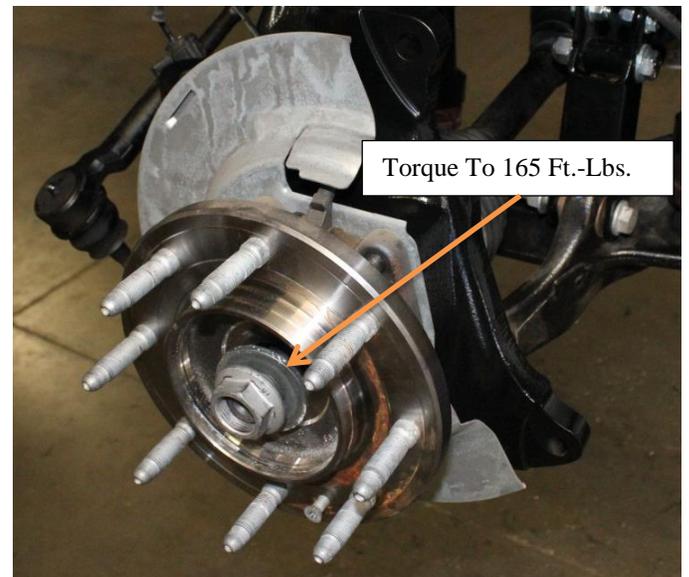
14) Install factory O ring into groove in the steering knuckle.



15) Install the factory hub assembly and dust shield into the appropriate steering knuckle. The ABS line will run out the top of the hub and behind the dust shield. Fasten the hub to the knuckle with the factory bolts. Apply Loctite to the threads. And torque the bolts to 185 ft.-lbs.

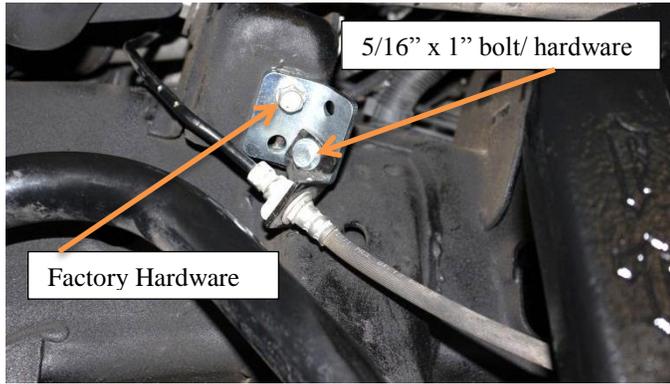


16) Install the 36mm axle nut and to 160 ft.-lbs. Use Loctite.

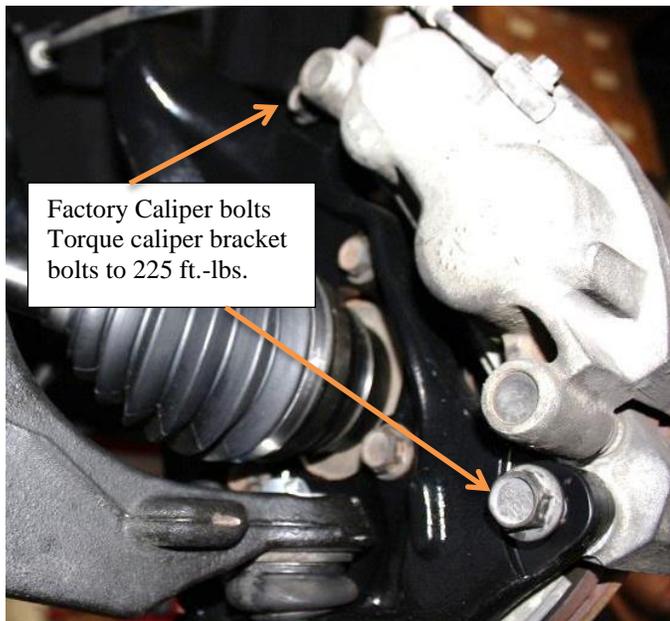


17) Run the ABS line around the front of the steering knuckle and up to the wire connector on the frame. Reconnect the wire and reattach it to the original place on the frame.

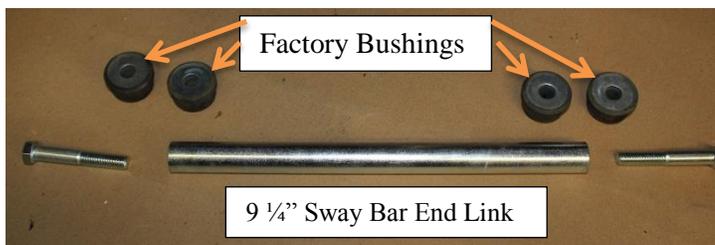
18) Install the front brake line bracket using the factory hardware at the top and the 5/16" x 1" hardware as shown. After installing the factory brake line bracket, check to insure full movement by steering the knuckle back and forth, and make sure none of the ABS lines, brake lines are interfering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



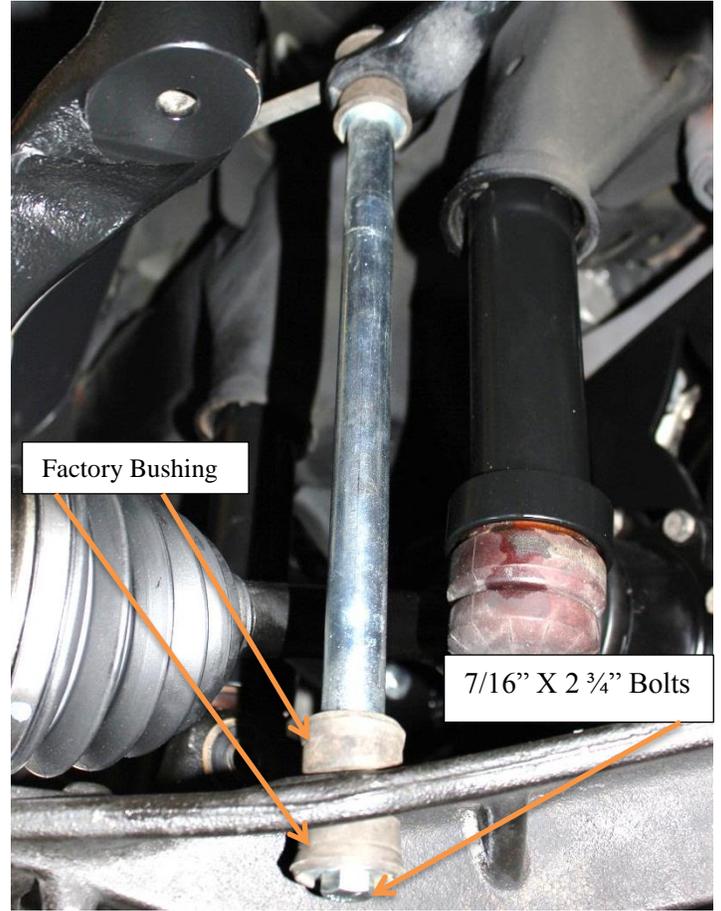
19) Install the factory brake rotor and caliper using the factory hardware and torque to 225 ft.-lbs. Use Loctite on threads



20) Install the new sway bar end links using the factory rubber bushings with the supplied 7/16" large washers installed into them and supplied 7/16"x 2 3/4" bolts to secure them to the vehicle. Apply Loctite to the threads of the bolts.



21) Installed pic of sway bar end links below.

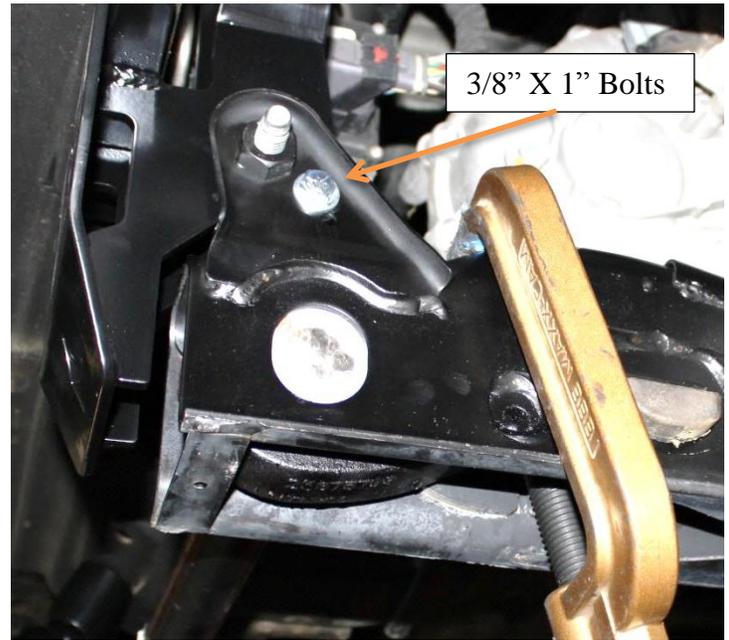
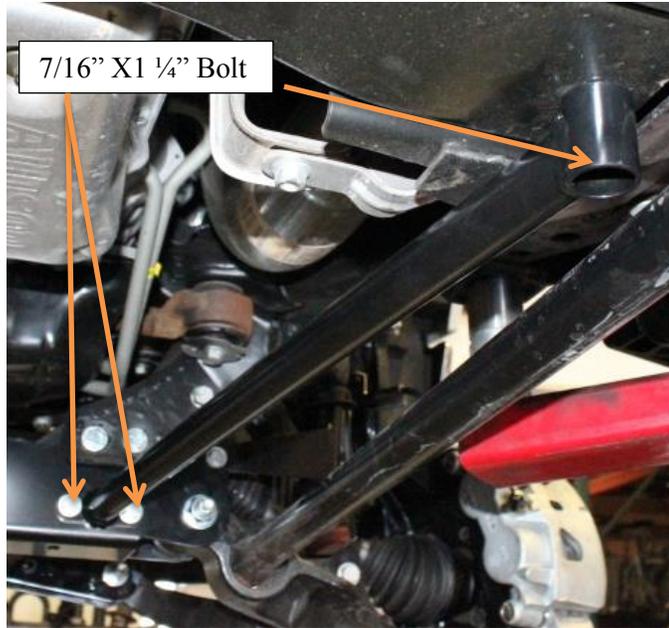


22) Locate the factory inner tie rod. Trim 1/2" off the end.

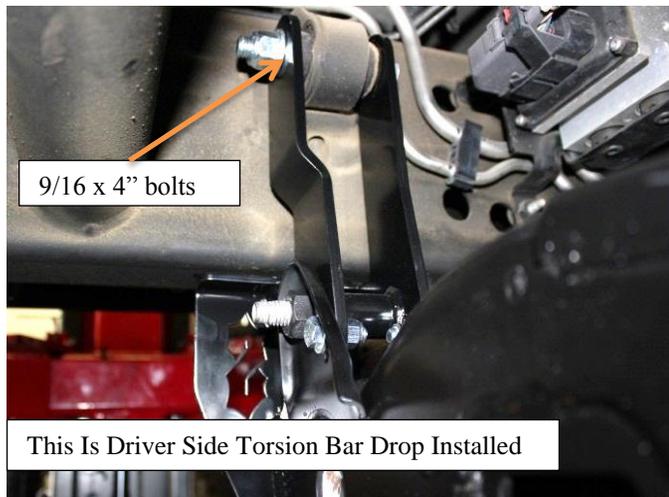


23) Reinstall the factory outer tie rod into the FTS steering knuckle and torque to 60 ft.-lbs.

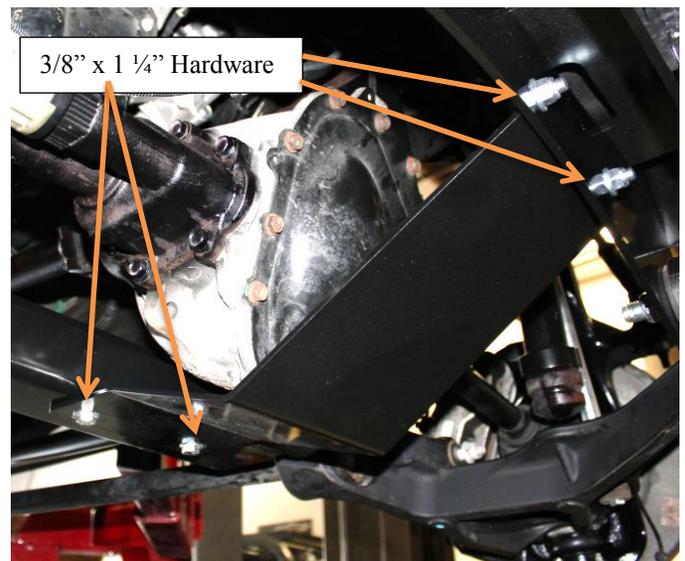
24) Install the compression strut to the rear lower control arm drop using the new lower control arm bolt as well as the supplied 7/16" x 1 1/4" bolts at the front and the 7/16" x 1 1/4" bolts at the rear to connect the strut to the transmission cross member frame mount.



25) Install the torsion bar cross member drop brackets using the supplied 9/16" x 4" bolts to secure them to the factory rubber frame mounts at the top. Note the offset of the brackets so that when installed they will move the torsion bar cross member forward in the vehicle. Install the torsion bar cross member to the drop brackets using the factory hardware as well as the supplied 3/8" bolts.



27) Install skid plate using 3/8" x 1 1/4" hardware as shown.



26) Reinstall the torsion bars as well as the torsion keys being sure that they are orientated just as they were originally removed from the vehicle. Load the torsion bars to the same height as they were set from the factory for a starting point.

## Rear Installation

1) Block the front wheels for safety. Raise the rear of the vehicle and support with jack stands under the frame rails, just ahead of the front leaf spring hangers.

2. Remove the wheels.

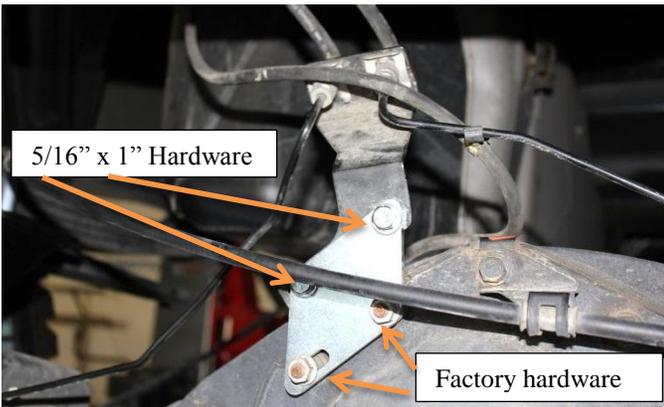
3. Raise rear of vehicle and support frame with jack stands.

4. Support the rear axle with a hydraulic jack.

5. Disconnect brake line from rear end. Save hardware



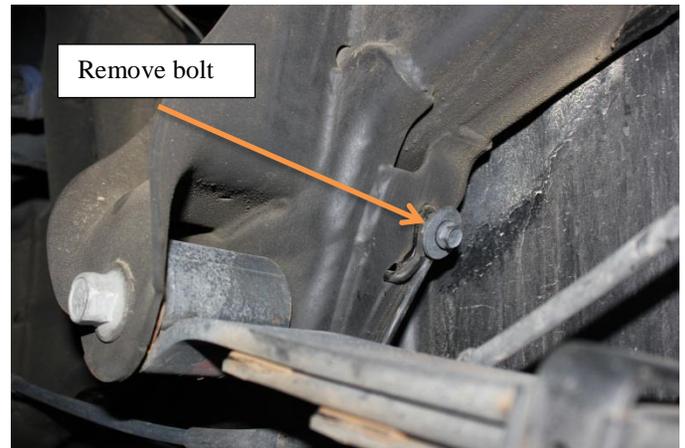
6) Install rear brake line bracket using 5/16" x 1" hardware



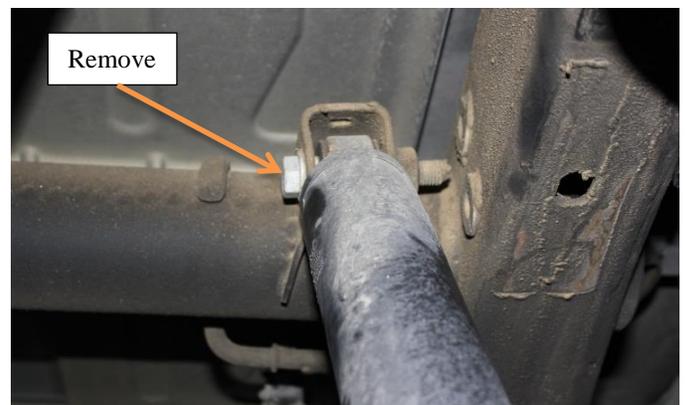
7) Disconnect ABS wire from frame rail.



8) Remove bolts holding E Brake cables.



9) Remove upper and lower shock hardware, Remove and discard shocks. Save hardware for Reinstallation.



10) Remove lower axle saddle. Discard u bolts.

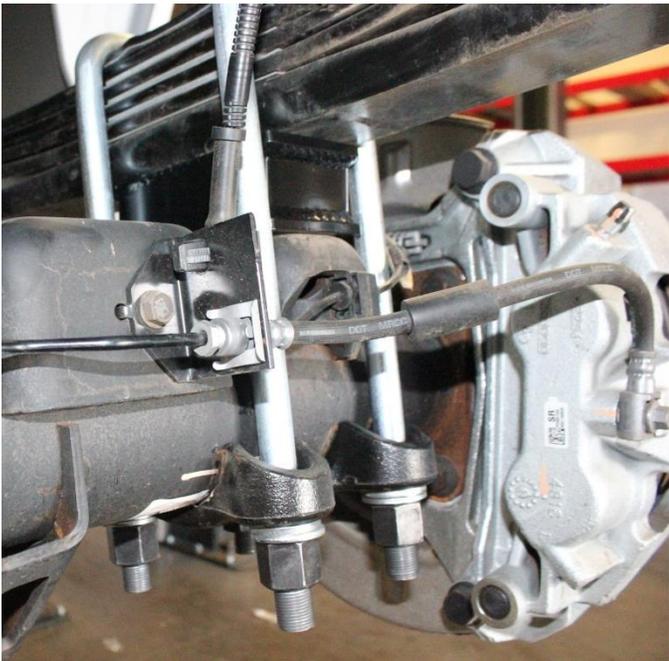


11) Install lift block as shown below.

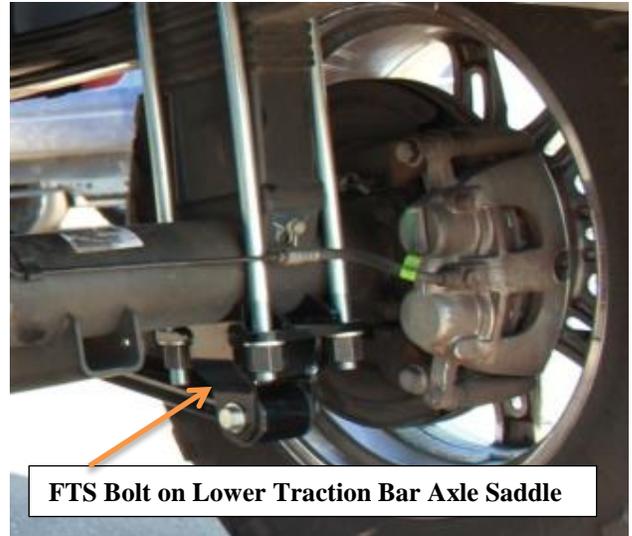


Skip Step 12 If Install FTS Bolt Traction Bars

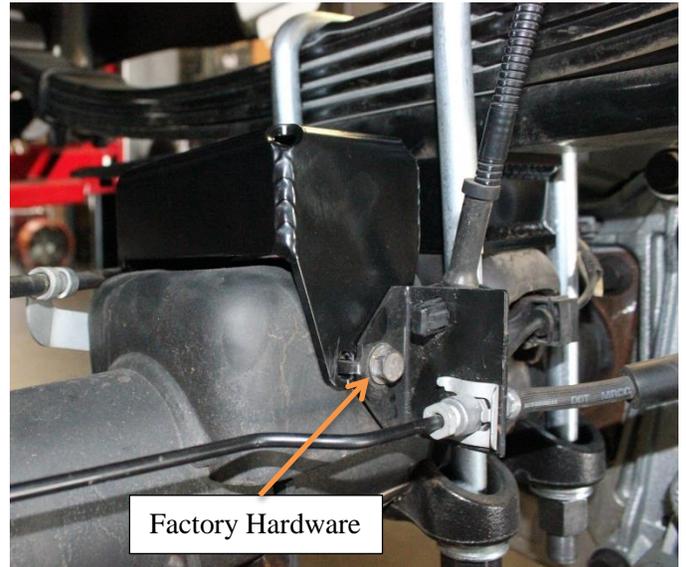
12) Install the FTS supplied  $\frac{3}{4}$  x 3.25" x 13.5" u bolts as shown. Use supplied  $\frac{3}{4}$ " nuts with the FACTORY washers, Torque to 150ft-lbs.



13) If installing traction bar with lift kit, discard lower axle saddle, install the FTS supplied saddle as shown below.

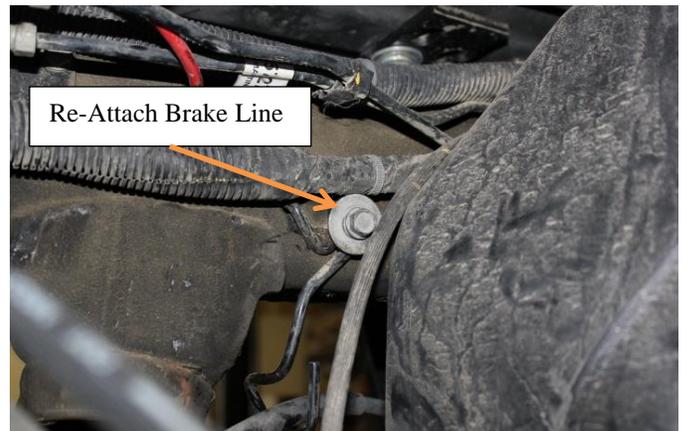


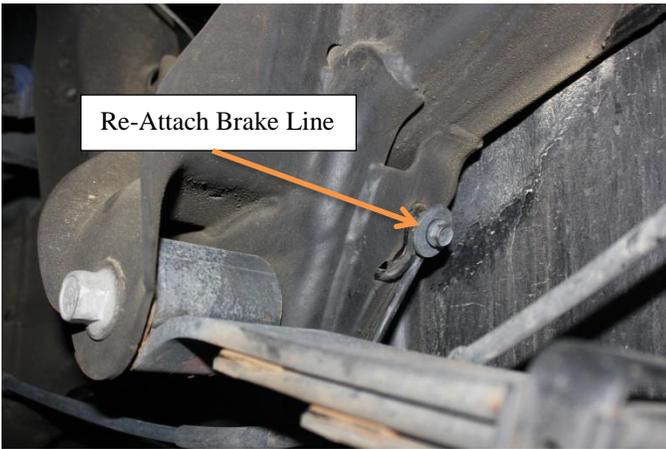
14) Install supplied rear bump stops as show below.



15) Install rear shocks.

16) Re-Attach brake line bracket





17) Rear suspension is all complete

#### Final Check

- 1) The vehicle will need a complete front end alignment.
- 2) Check all hardware after 500 miles.
- 3) Adjust headlights.
- 4) Install the FTS rear cross member into the rear lower control arm pockets with the factory control arm bolts/nuts. Run the bolts from rear to front

### Product Warranty and Warnings-

FTS provides a Limited Lifetime Warranty to the original retail purchaser who owns the vehicle, on which the product was originally installed, for defects in workmanship and materials.

The Limited Lifetime Warranty excludes the following FTS items; bushings, bump stops, ball joints, tie rod ends, limiting straps, cross shafts, heim joints. These parts are subject to wear and are not considered defective when worn. They are warranted for 60 days from the date of purchase for defects in workmanship.

Reservoir shocks are considered a serviceable shock with a one year warranty on leakage only. Service seal kits are available separately for future maintenance. All other shocks are covered under our Limited Warranty. FTS does not warrant any product for finish, alterations, modifications and/or installation contrary to FTS instructions. Alterations to the finish of the parts including but not limited to painting, powder coating, plating and/or welding will void all warranties. Some finish damage may occur to parts during shipping which is considered normal and is not covered under warranty. FTS products are not designed nor intended to be installed on vehicles used in race applications or for racing purposes or for similar activities. (A "RACE" is defined as any contest between two or more vehicles, or any contest of one or more vehicle against the clock, whether or not such contest is for a prize). This warranty does not include coverage for police or taxi vehicles, race vehicles, or vehicles used for government or commercial purposes. Also excluded from this warranty are sales outside of the United States of America.

Installation of most suspension products will raise the center of gravity of the vehicle and will cause the vehicle to handle differently than stock. It may increase the vehicle's susceptibility to a rollover, on road and off road, at all speeds. Extreme care should be taken to operate the vehicle safely at all times to prevent rollover or loss of control resulting in serious injury or death. FTS makes every effort to ensure suspension product compatibility with all vehicles listed in the catalog, but due to unknown auto manufacturer's production changes and/or inconsistencies by the auto manufacturer, FTS cannot be responsible for 100% compatibility, including the fitment of tire and wheel sizes listed. The Tire and Wheel sizes listed in FTS's catalog are only a guideline for street driving with noted fender trimming. FTS is not responsible for damages to the vehicle's body or tires.

FTS's obligation under this warranty is limited to the repair or replacement, at FTS option, of the defective product only. All costs of removal, installation or re-installation, freight charges, incidental or consequential damages are expressly excluded from this warranty. FTS is not responsible for damages and/or warranty of other vehicle parts related or non-related to the installed FTS product. This warranty is expressly in lieu of all other warranties expressed or implied. This warranty shall not apply to any product that has been subject to accident, negligence, alteration, abuse or misuse as determined by FTS.

FTS suspension components must be installed as a complete system including shocks as shown on our current website. All warranties will become void if FTS parts are combined and/or substituted with other aftermarket suspension products. Combination and/or substitution of other aftermarket suspension parts may cause premature wear and/or product failure resulting in an accident causing injury or death. FTS does not warrant products not manufactured by FTS.

Installation of FTS product may void the vehicles factory warranty; it is the consumer's responsibility to check with their local vehicle's dealer for warranty disposition before the installation of the product.

It is the responsibility of the distributor and/or the retailer to review all warranties and warnings of FTS products with the consumer prior to purchase.

FTS reserves the right to supersede, discontinue, change the design, finish, part number and, or application of parts when deemed necessary without written notice. FTS is not responsible for misprints or typographical errors within the catalog or price sheet.

Thank You for choosing Full Throttle Suspension  
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