Installation # 7075

Cognito Motorsports
Stage 1, 4” Lift System for 2011-2016 Ford 4WD F250 and F350 trucks

Requirements
- Maximum wheel backspacing is 5”, recommended 9” wide wheel, max tire diameter 35”
- Trimming of inner fender well and bottom rear of steel fender may be required.
- Follow alignment specs at the end of this instruction set.

Introduction
- Installation requires a qualified mechanic.

- Prior to installation on used vehicles, carefully inspect the vehicle’s steering and drive terrain and suspension systems. Also check steering to frame attaching points for stress cracks. The overall vehicle must be in excellent working condition: repair or replace all worn parts.

- Read instructions carefully and study the pictures (if included) before attempting installation.

- Check the parts and hardware packages against the parts list to assure that your kit is complete.

- Secure and properly rack the vehicle on a hoist prior to beginning installation.

- Always wear safety glasses when using power tools.

- Use extreme caution when cutting is required under the vehicle: the factory undercoating may be flammable. Be careful of all fuel lines, fuel tanks, brake lines, and electrical harnesses.

- Front-end alignment may be necessary after completion.

- Exhaust modification may be necessary.

- Drive line(s) modification may be necessary.

Parts List

- BOX300401
  - (2) 8305, Radius Arm Bracket
  - HP9128, radius arm hardware pack
- BOX300402
  - (2) 8310, Bump stop spacer
  - 8311, Track bar bracket
  - (2) 8313, Sway bar bracket
  - 8314, Steering stabilizer bracket
  - Dropped Pitman Arm
  - 8317, front driver side brake line bracket
  - 8318, front passenger side brake line bracket
  - 8319, rear brake line bracket
  - HP9129 sway bar, steering stabilizer, rear brake line bracket hardware
  - HP9130 front bump stop spacer hardware
- BOX300403
  - (2) 8315, Coil spring spacer
- HP9133 carrier bearing spacer and hardware
- If a package was purchased: Shocks, either Bilstein or Fox
- If a package was purchased: Blocks, u-bolts, instructions

Installation Steps

1) **Always work on a properly supported vehicle.** With the vehicle on a car hoist, lift the vehicle off of the ground and remove the front wheels.

2) **Do not tighten any fasteners until instructed to.** Unless otherwise specified, flat washers will always be used under the heads of bolts and under nuts. Therefore, one bolt with one nut will require 2 flat washers.

3) Remove the bolt holding the track bar to the track bar bracket on the frame, see Figure 1. Leave the track bar connected to the front axle.

4) Unbolt the track bar bracket from the frame and remove. There are 2 bolts underneath, and then 3 nuts on the front of the bracket.

5) Unbolt the passenger end of the steering stabilizer shock from the bracket on the frame, as shown in Figure 2.

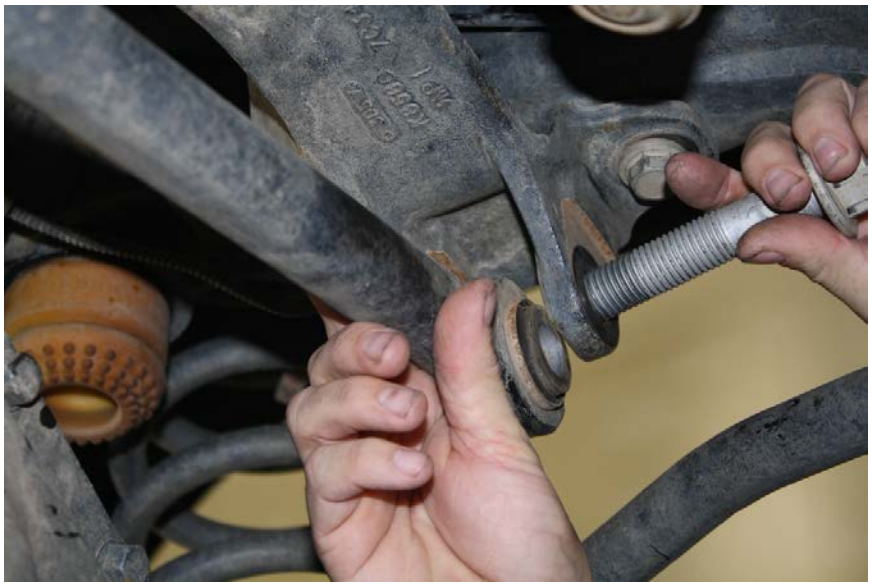


Figure 1: remove torsion bar adjusting bolt

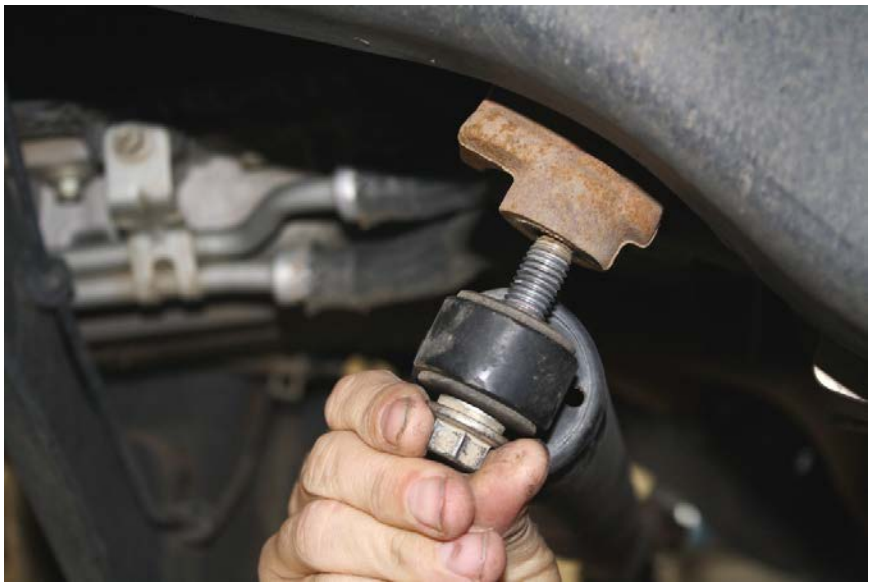


Figure 2: unbolt only passenger side of the steering stabilizer

6) Remove the large nut holding the pitman arm onto the steering box, using a 46mm socket. Then use a 2 jaw or pitman arm puller and remove the pitman arm from the steering box, as shown in Figure 3.

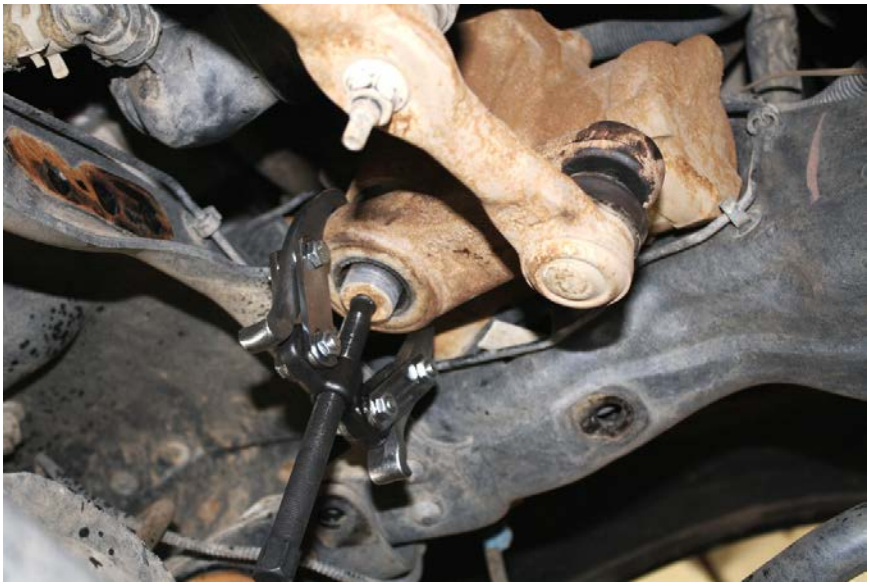


Figure 3: remove pitman arm from steering box

7) Remove the nut holding the pitman arm on the steering drag link, then hit the side of the pitman arm as shown in Figure 4, and the taper seat should break lose.

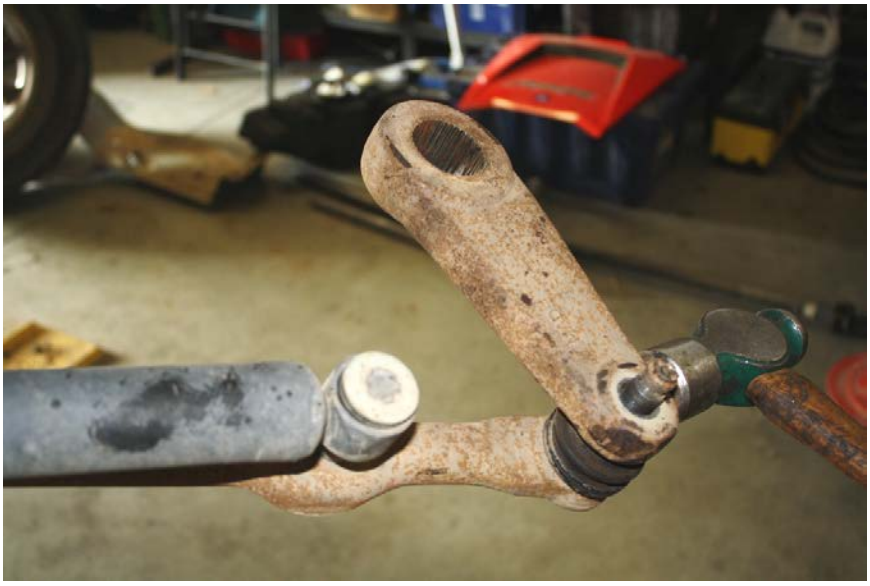


Figure 4: remove pitman arm from drag link

8) Next the front brake line mounting must be modified in order to allow the front axle to be moved away from the truck. Starting on the passenger side of the truck, since those are the pictures shown in the Figures, remove the retaining clip that holds the brake line fitting to the frame bracket. Now the brake line is free from the frame, as shown in Figure 5.

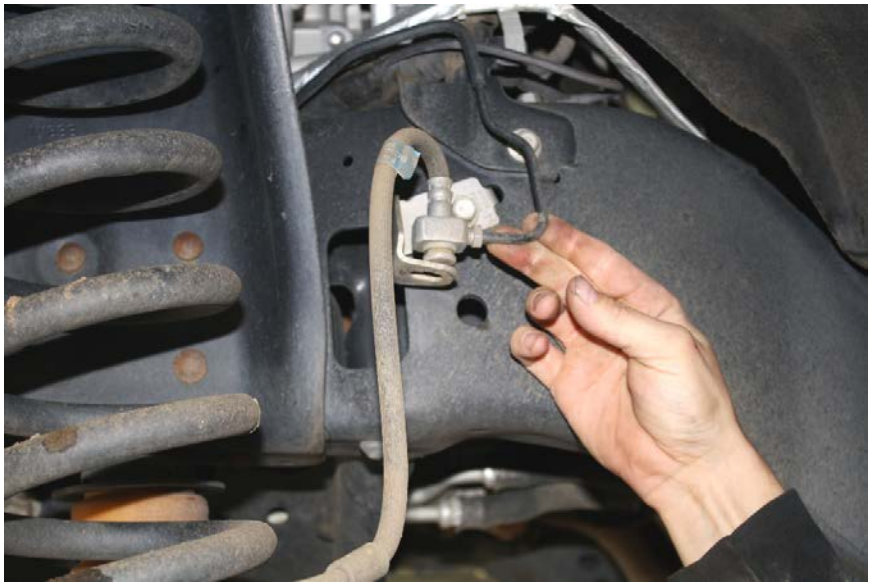


Figure 5: brake line removed from frame bracket

9) Unbolt the brake line bracket from the frame, it will be replaced shortly. Using a line wrench and vise grip pliers, break the brake line fitting lose slightly, shown in Figure 6. Then rotate the rubber line so it is facing down rather than up, and re-tighten the fitting, see Figure 7. The new bracket will be added later on, the line is not fastened to frame yet for extra room in working on the truck.

10) Repeat steps 7 and 8 for the driver side front brake line.

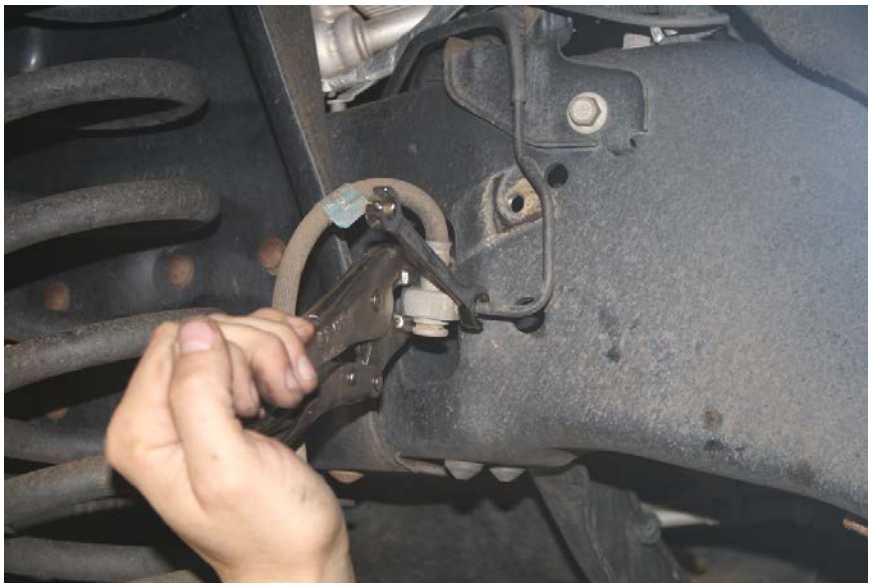


Figure 6 brake line preparing for rotation

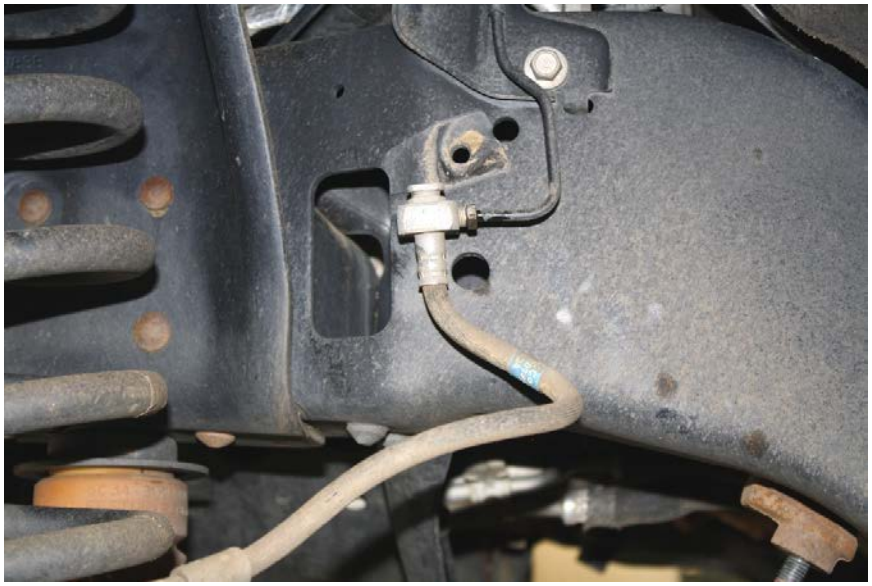


Figure 7: brake line rotated, fitting retightened.

11) Unbolt the sway bar from the frame, there are 2 bolts per frame rail. You can leave the sway bar connected to the end links. Bolt the Cognito sway bar spacer brackets in place with the factory hardware and tighten to 30 ft-lbs of torque. Then fasten the sway bar to the Cognito brackets with the included 7/16" fasteners, torque to 30 ft-lbs.

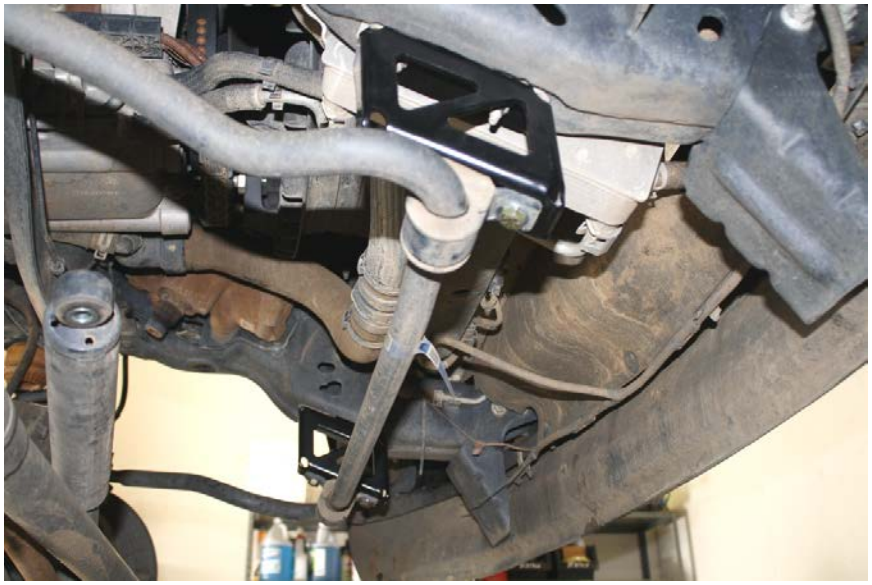


Figure 8: Sway bar re-locating.

12) Your vehicle is equipped with an ABS brake system. The sensor wires are fastened to the radius rods with 2 clips per side. Un-fasten those 2 clips and unplug the sensor now.

13) Support the front axle so that the shocks may be removed which are holding the axle up at this point. Remove the stock front shocks now.

14) Lower the front axle down so that the coil springs may be removed from the vehicle. Remove coil springs now but leave the top rubber isolator on the spring for re-installation a bit later.

15) On the passenger side, unbolt the radius arm from the frame as shown in Figure 9, and the 2 nuts from the cross member shown in Figure 10.

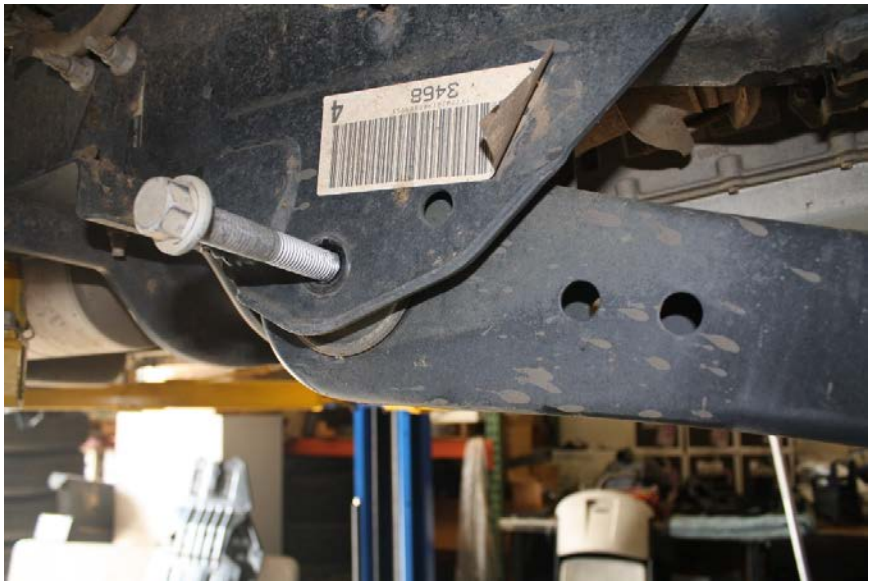


Figure 9: unbolt radius arm from frame

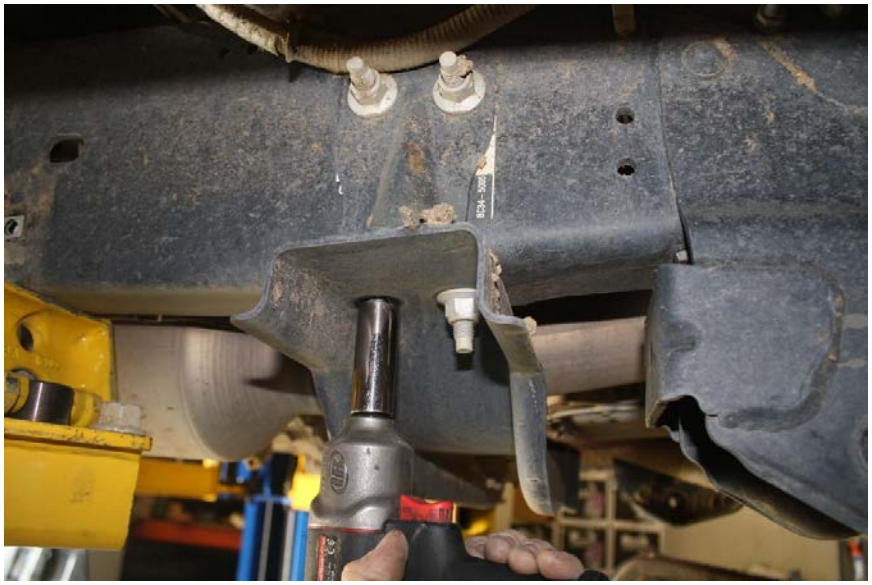


Figure 10: remove these 2 nuts

16) Bolt one of the Cognito radius arm drop bracket in place on the passenger side with the 18mm hardware provided as shown in Figure 11, and then reinstall the 2 nuts as shown in figure 12. Torque 18mm bolts to 80 ft lbs and the stock nuts to 30 ft-lbs.

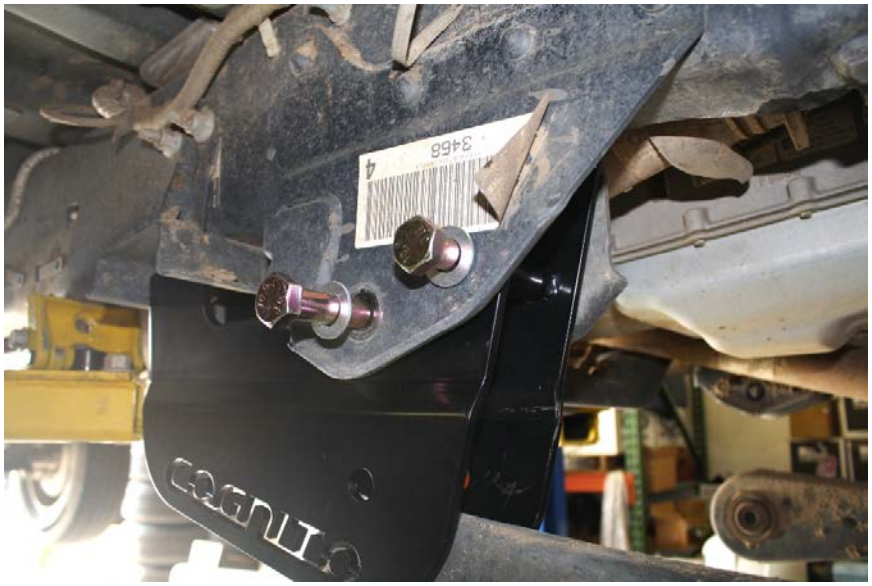


Figure 11: install radius arm bracket, with supplied hardware

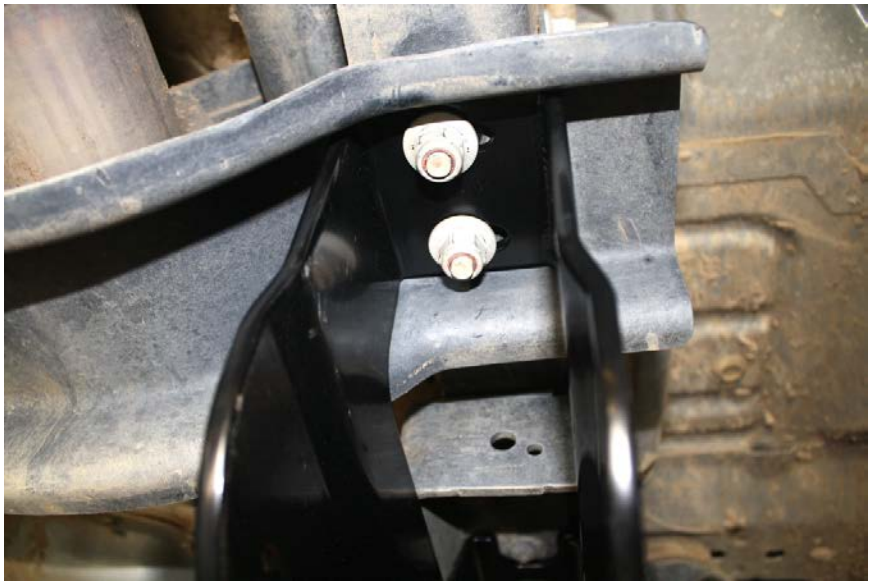


Figure 12: install the factory nuts to hold the rear of the radius arm bracket in place.

17) On the driver side, un-bolt the radius arm from the frame. Then support the cross member as shown in Figure 13 before removing the stock nuts.

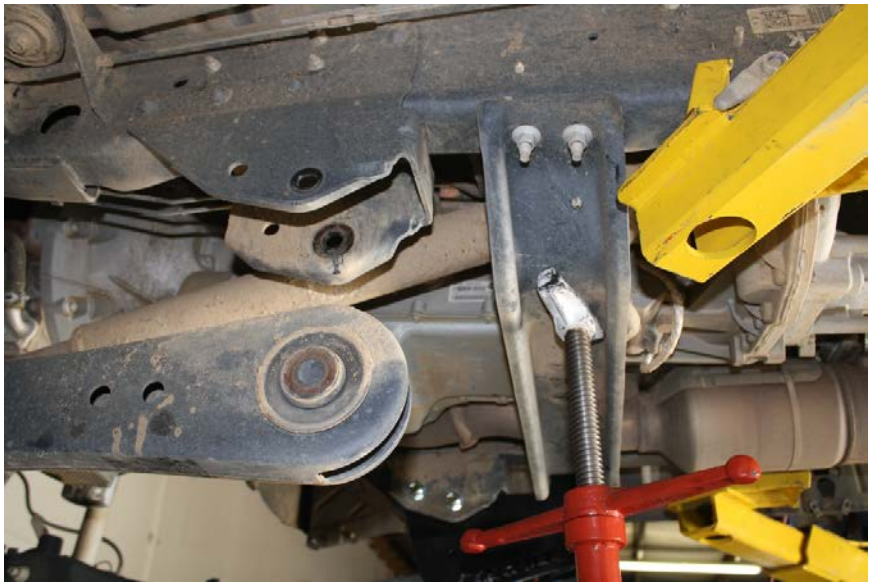


Figure 13: support the cross member, then remove the nuts.

18) There may be a plastic retaining clip protruding into the cavity where the Cognito radius arm drop slides in, remove it now or else the bracket will not slide in to the proper position. Now install the driver radius arm bracket, same as the passenger side. Re-insert the plastic retaining clip. Bolt the radius arms to the Cognito brackets using the stock hardware, torque to 80 ft.-lbs.

19) Now install the coil spring spacer on the coil spring by placing the nose of the spacer thru the spring, and the rubber isolator will be sandwiched in place. Now install the assembly into the vehicle as show in Figure 14.

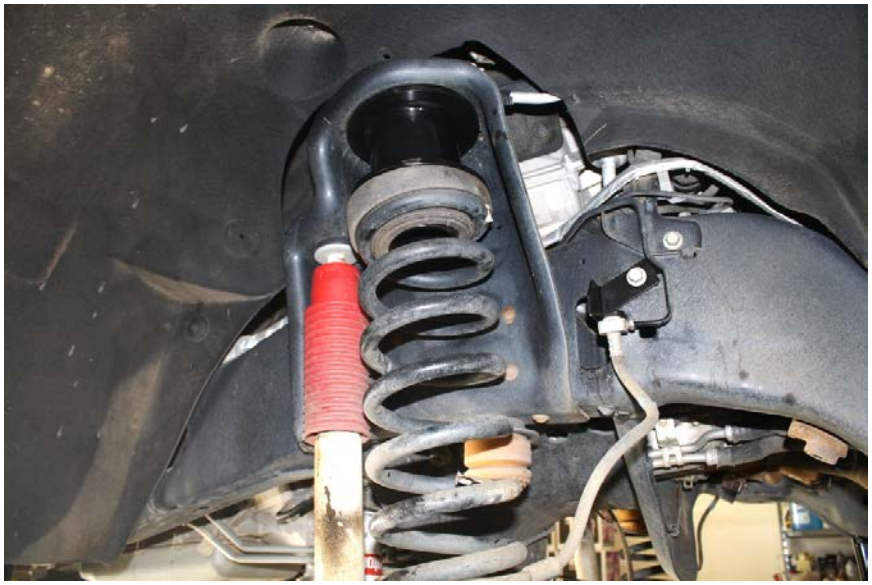


Figure 14: install the coil spacer and coil spring as an assembly, into the stock location.

20) Raise the front axle up and install the new front shock absorbers from Cognito.

21) Now bolt the new Cognito brake line brackets into place, re-fasten the brake line fitting to the bracket with the previously removed clip, see Figure 16.

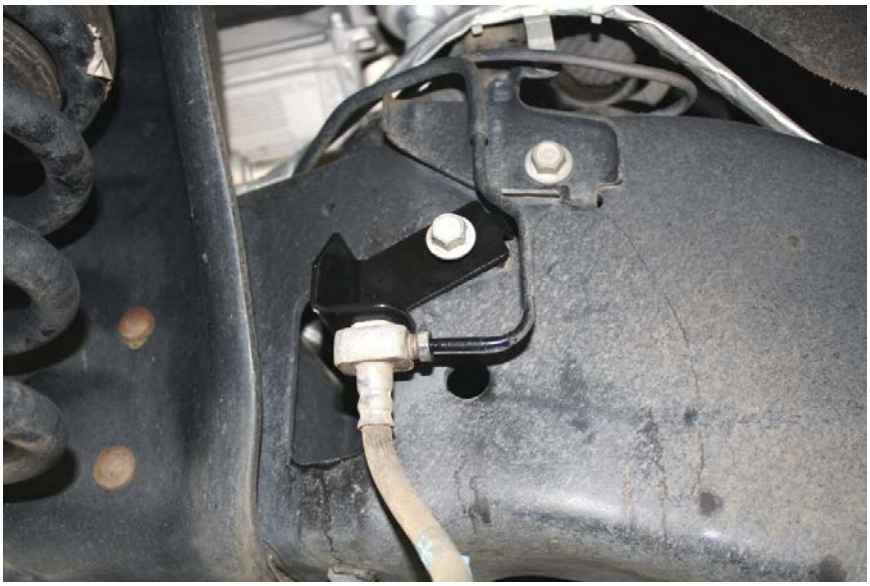


Figure 15: fasten the brake line to the new bracket.

22) Route the ABS sensor line through the frame rail and out thru the hole in the frame as shown in Figure 17. This will give the extra length needed due to the lifted suspension. Then re-attach the sensor cable to the radius arm retaining clips.

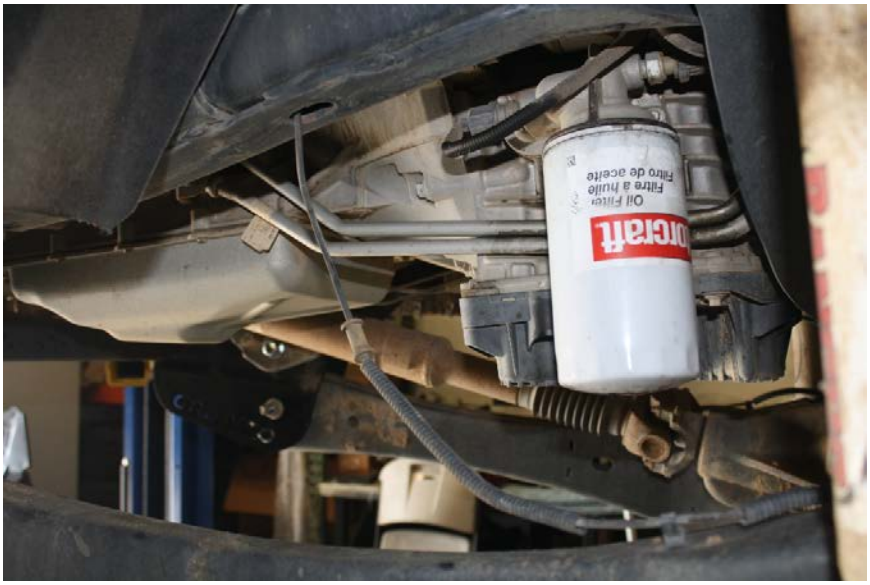
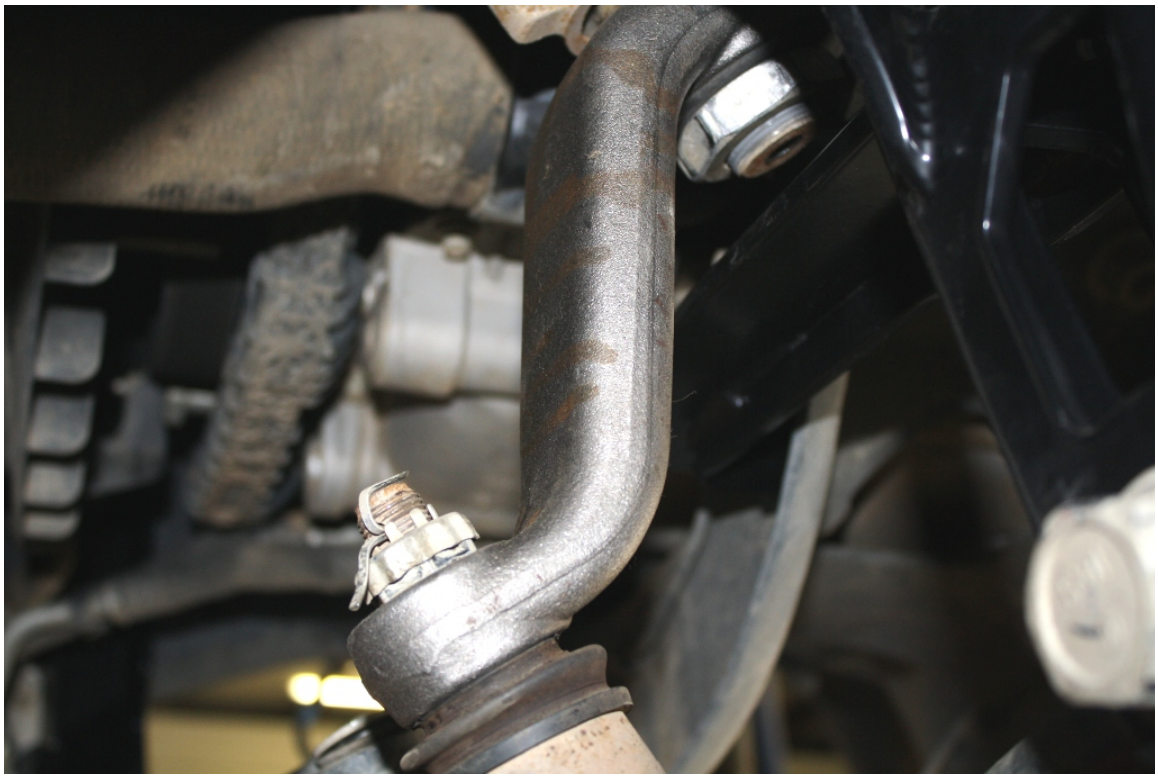


Figure 16: re-route the ABS sensor cables

23) Unbolt the factory steering stabilizer bracket from the frame, replace it with the Cognito steering stabilizer bracket, torque nuts to 30 ft-lbs. Use provided hardware and bolt the stabilizer to the bracket and torque to 30 ft-lbs.

24) Bolt the new pitman arm to the drag link, tighten to minimum 40 ft lbs, then line up the cotter pin hole and re install the cotter pin. Now bolt the pitman arm to the steering box and tighten to 120 ft-lbs. See Figure 18



25) Bolt the Cognito track bar bracket into place using the factory hardware removed earlier consisting of 2 bolts and 3 nuts. Tighten all to 30 ft-lbs. Bolt the track bar to the bracket with the factory hardware, torque this bolt to 120 ft-lbs.

26) Before lifting the rear of the truck, the brake line bracket should be unbolted from the rear axle housing to allow room for the axle to be dropped out of the way of swapping out the rear blocks and u-bolts. The bracket is bolted to the rear axle housing via a bolt that is also the vent fitting. Remove the vent hose from the bolt fitting, and then remove the bolt from the housing to free the bracket.

27) Unbolt the rear shocks and discard.

28) Working on only one side at a time, support the axle housing on the driver side, then remove the driver side u-bolts and block. Lower the axle a few inches and install the new block which will have a D or DR marking for Driver. Install the new longer u-bolts and use anti seize on the threads before tightening them up. The block is tapered and will be slightly shorter in the front than the rear.

29) Now repeat the previous step for the passenger side, this block will have a P designating the passenger side and will be shorter in the front than the rear to tilt the pinion angle up slightly.

30) Torque the u-bolts to 100 ft-lbs.

31) Bolt the brake line extension bracket to the rear axle housing with the stock vent fitting bolt. Then bolt the stock brake line bracket to the extension with the provided 7/16" hardware. Connect the vent to the fitting.

32) Bolt the new rear shocks into place.

33) HP9133 is the carrier bearing spacer and hardware. There may or may not be a carrier bearing spacer needed depending on the rear lift height and the model of the truck. Extended cab trucks and shorter do not have a carrier bearing so no spacer needed. Crew cab short bed models also have 1 piece rear driveline thus no carrier bearing. F350 long bed needs no spacer for the 5" block and a ½" spacer for the 6" block. F250 long bed needs ½" spacer for 5" block and 1" spacer for 6" block. If included, from HP9133 use the ½" spacers provided along with the bolts, then lock washers, then flat washers, to replace the factory bolt used to fasten the carrier bearing to the chassis. If 1" is needed, stack 2 of the ½" spacers.

34) Bolt wheels and tires on, torque to factory or wheel mfg specs. Adjust the headlights per owner's manual.

35) Check brake line and ABS cables in the front to make sure there is no binding and rubbing throughout the suspension and turning cycle.

36) Alignment should not change, but the steering wheel may need to be straightened out. Either have a professional shop do this or adjust the drag link length so that the steering wheel is straight. If truck pulls left or right, then a professional alignment will be required.

Cognito Motorsports

Limited Lifetime Warranty

Cognito Motorsports warrants, to the original retail purchaser, that its suspension products are free from defects in workmanship and material for as long as the purchaser owns the vehicle on which the product was originally installed. Cognito Motorsports does not warrant the product for finish, alterations, modifications, and/or original installation contrary to specifications of Cognito Motorsports. Cognito Motorsports suspension products are not designed nor intended to be installed on vehicles used in race applications or for racing purposes or for similar activities involving abnormal abuse other than the vehicle was originally designed to handle or endure. (A "RACE" is defined as any contest between two or more vehicles, and/or contest of one or more vehicle against the clock, whether or not such contest is for a prize.)

This warranty is for a one-time replacement of each Cognito Motorsports product and does not cover any part that Cognito Motorsports has previously replaced under this warranty. 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 warrant are sales outside of the United States of America. Alterations to the finish of the parts including but not limited to painting, powder coating, plating, and/or welding will void all warranties. Cognito Motorsports obligation under this warranty is limited to the repair or replacement, at Cognito Motorsports option of the defective product. Any and all costs of removal, installation or re-installation, freight charges, incidental or consequential damages are expressly excluded from this warranty.

This warranty excludes the following items: bushings, bumpstops, tie-rod ends, limiting straps, and hiem joints. These parts are subject to wear and are not considered defective when worn. They are warranted for 60 days of purchase for defects in workmanship. Cognito Motorsports suspension components must be installed as a complete system. Any substitutions or exemptions of required components will immediately void the warranty. Some finish damage may happen to parts during shipping and is not covered under warranty. This warranty shall not apply to any product that had been subject to accident, negligence, alteration, abuse, or misuse. Cognito Motorsports does not warrant products not manufactured by Cognito Motorsports. Cognito Motorsports reserves the right to supersede, discontinue, or change the design, finish, part number and/or application of parts when deemed necessary by Cognito Motorsports without written notice, and in the sole and absolute discretion of Cognito Motorsports.

Warranty Claims

All warranty claims must be submitted through the original company of purchase. All claims must be shipped back to the original company of purchase with an approved RMA number listed as a reference on the shipping label and clearly printed on two opposing sides of the package(s); product in question must be inspected by Cognito Motorsports before replacement parts are shipped out.

Return Policy

Cognito Motorsports has a no refund return policy. Under special circumstances, returns might be accepted with prior written approval. All returned product will be shipped freight prepaid. Product returned is subject to a 25% restocking fee. No returns will be accepted after 30 days upon receipt of product.

Product Consumer Safety and Warning

The installation of this kit will modify the suspension of your vehicle and may cause it to handle significantly different than a factory equipped vehicle. Installing larger tires with modified suspension and increased ground clearance will significantly alter the handling characteristics of the vehicle, and may result in increased braking distances as well as changes in vehicle maneuverability and handling compared to the factory equipped vehicle. As with any vehicle, extreme caution and care must be used to prevent loss of control or roll-over during sharp turns or abrupt maneuvers. Always wear seat belts and drive safely, recognizing the reduced speeds and specialized driving techniques is required.

This suspension system will not strengthen nor reinforce the stock frame of the vehicle, nor will it increase rollover protection. It is necessary to periodically inspect all suspension and drive train components for tightness of fit or any damage. Installation of these parts will modify the height of the vehicle and will raise the center of gravity. Altered height modifications and off-road operation may increase your vehicle's susceptibility to roll over conditions and may cause serious injury or death. Many states regulate the height modification to each vehicle. Check the laws in your state for exact specifications. Height modifications may affect the reaction, ride, handling, and wear factor of your vehicle's components.

Failure to drive this vehicle safely may result in injury or death! Do not drive this vehicle unless you are familiar with its unique handling characteristics and are confident of your ability to maintain control under all driving conditions. Some modifications and combinations of modifications are not recommended, unsafe, and may not be permitted in your state. Consult your vehicle owner's manual, the instructions accompanying this product, and your state laws before undertaking these modifications. The owner of the modified vehicle and the qualified mechanic required to install this product are responsible for the legality and safety of the vehicle being modified.