



SYNERGY MFG. 870 INDUSTRIAL WAY, SAN LUIS OBISPO, CA (805) 242-0397

## PPM 8069 JK FRONT TRACKBAR BRACE / SECTOR SHAFT BRACE INSTALLATION INSTRUCTIONS

**\*\*DISCLAIMER\*\*** The Synergy Manufacturing 8069 system is designed around an 8075 Synergy Manufacturing Track Bar and we cannot guarantee compliance with any other manufacturer's track bar. That said, the 8075 Track Bar bends up in a similar fashion as a stock track bar does, so many other manufacturers track bars are compatible.

-No Bump Stop Spacers are required if using a Synergy 8075 Track Bar.

### **PARTS LIST:**

#### **8069-01**

- 1 - PPM-8069-01 Front Track Bar Brace
- 1 - 9/16-12 UNC x 3.25" long track bar bolt
- 1 - 9/16-12 UNC top lock nut
- 2 - 7/16-14 UNC 1" bolts
- 4 - 7/16 flat washers
- 2 - 7/16-14 UNC top lock nuts
- 1 - M14-2.0 x 80mm long track bar bolt
- 1 - M14-2.0 top lock nut

**\*\*Note\*\*** 2012 and up models retaining the stock track bar, must use the metric 14mm hardware provided

#### **8069-02**

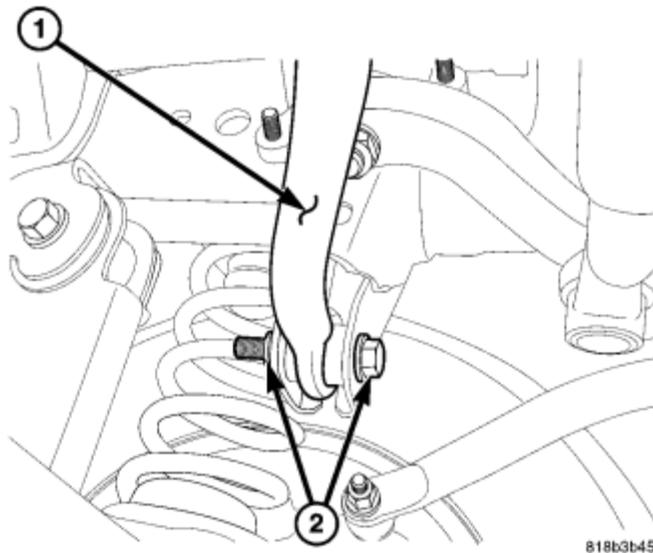
- 1 - PPM-8069-02 Sector Shaft Brace (Needle Bearing and grease zerk installed)
- 1 - Pitman Arm Stud
- 1 - 7/16-14 UNC x 1" long bolts
- 3 - 7/16-14 UNC top lock nuts
- 2 - 7/16-14 UNC x 1" long button head cap screws
- 6 - 7/16" flat washers

### **GENERAL NOTES:**

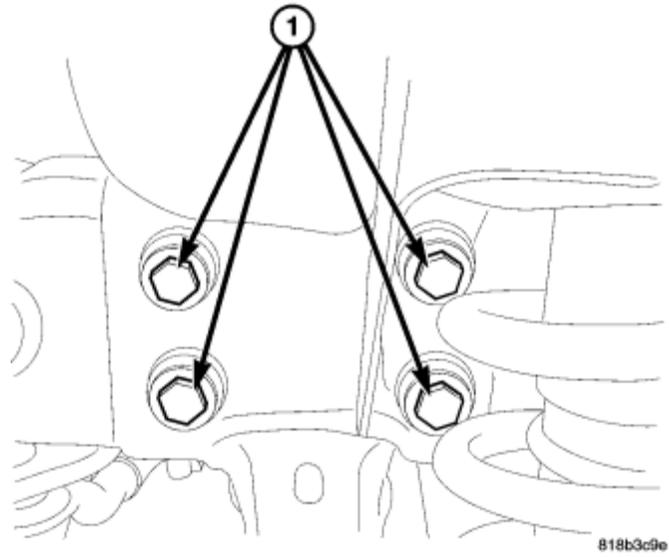
- These instructions are also available on our website at [www.synergymfg.com](http://www.synergymfg.com). Check the website for any updated instructions and additional photos for reference.
- The installation of this kit can be done with simple hand tools with the vehicle sitting on the ground under its own weight.
- Proper bump stop spacers are strongly recommended to prevent damage from possible track bar / steering box contact. (See step 17 for detailed information)
- Steps 1-10 covers the installation of 8069-01 Track Bar Brace. Installation is complete after Step 10 if 8069-02 Sector Shaft Brace is not being installed.
- Steps 11-20 covers the installation of 8069-02 Sector Shaft brace. 8069-02 cannot be installed without a 8069-01 Track Bar brace. It is a modular system which works together to strengthen the drivers side Track Bar / Steering Box mounting locations.

### **INSTRUCTIONS:**

- 1) Begin by raising and supporting the vehicle so the axle can swing freely.
- 2) Remove the nut and bolt (2) from the TB bracket.



- 3) Remove the 4 steering box bolts shown (1)
  - Note – reach under the steering box and support it as the last bolt is removed. Rest the steering box on the top of the frame as shown.



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- 4) Next, install the PPM-8069 Track Bar Brace by fitting it over the factory track bar mount and installing the 9/16-12 UNC bolt provided in the kit. (Note: do not install the nut at this time, the bolt is just to hold the bracket in place for the time being.)

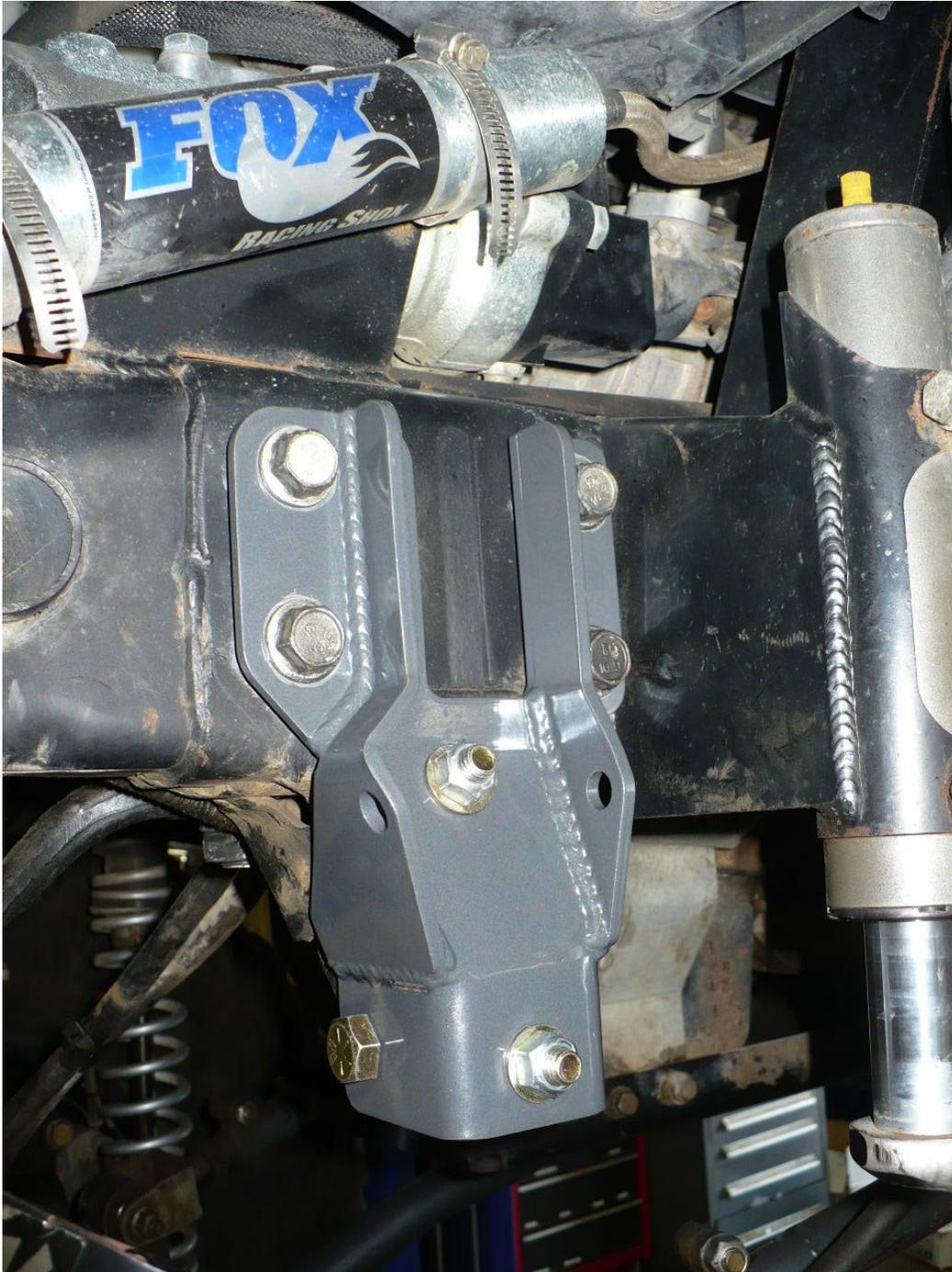


- 5) Install the 2 7/16" bolts with washers under both the bolt and under the top locks. Note, lower bolt must be installed with nut on outside of brkt to clear TB. Upper bolt orientation is up to the installer but advice to install in the same orientation as lower with the nut on outside of bracket.



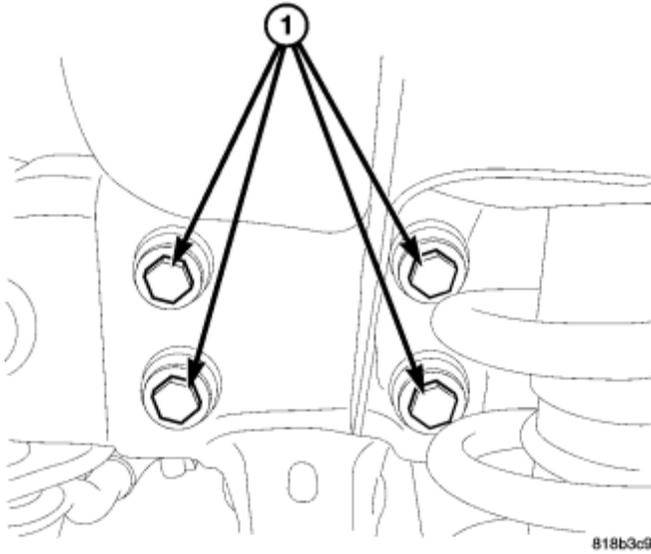
- 6) Next, align the holes in the steering box with the holes on the bracket and the holes on the frame and loosely install all 4 steering box bolts removed in step 3.
  - Note – apply a small amount of blue locktite to the threads of the steering box bolts.





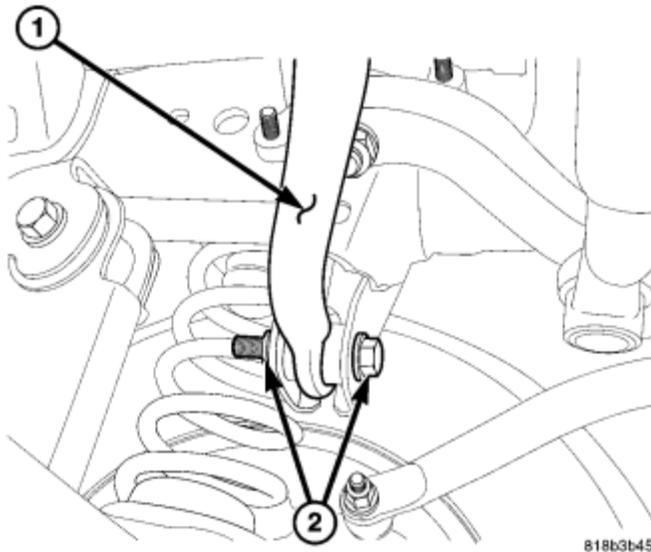
- 7) Lastly, remove the track bar bolt installed in step 4. Install the track-bar and reinstall the track bar bolt provided in the kit. (\*\*NOTE\*\* Wait to install track-bar and bolt if installing 8069-02 Sector Shaft Brace as well)
  - a. \*\*NOTE\*\* On 2012 and up models retaining the stock track bar; The 9/16-12 bolt will not fit through the track bar bearing. Use the M14-2.0 bolt provided in the kit instead.

8) Torque the 4 steering box bolts (1) to 70 ft-lbs

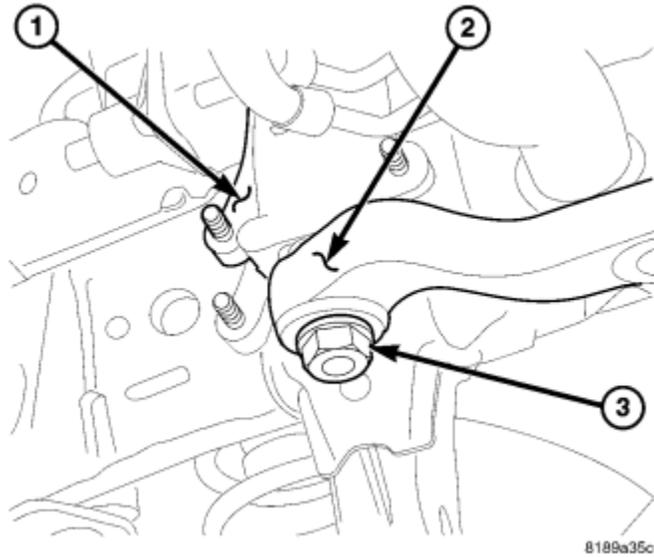


9) Torque the two 7/16" bolts installed in step 6 to 50 ft-lbs

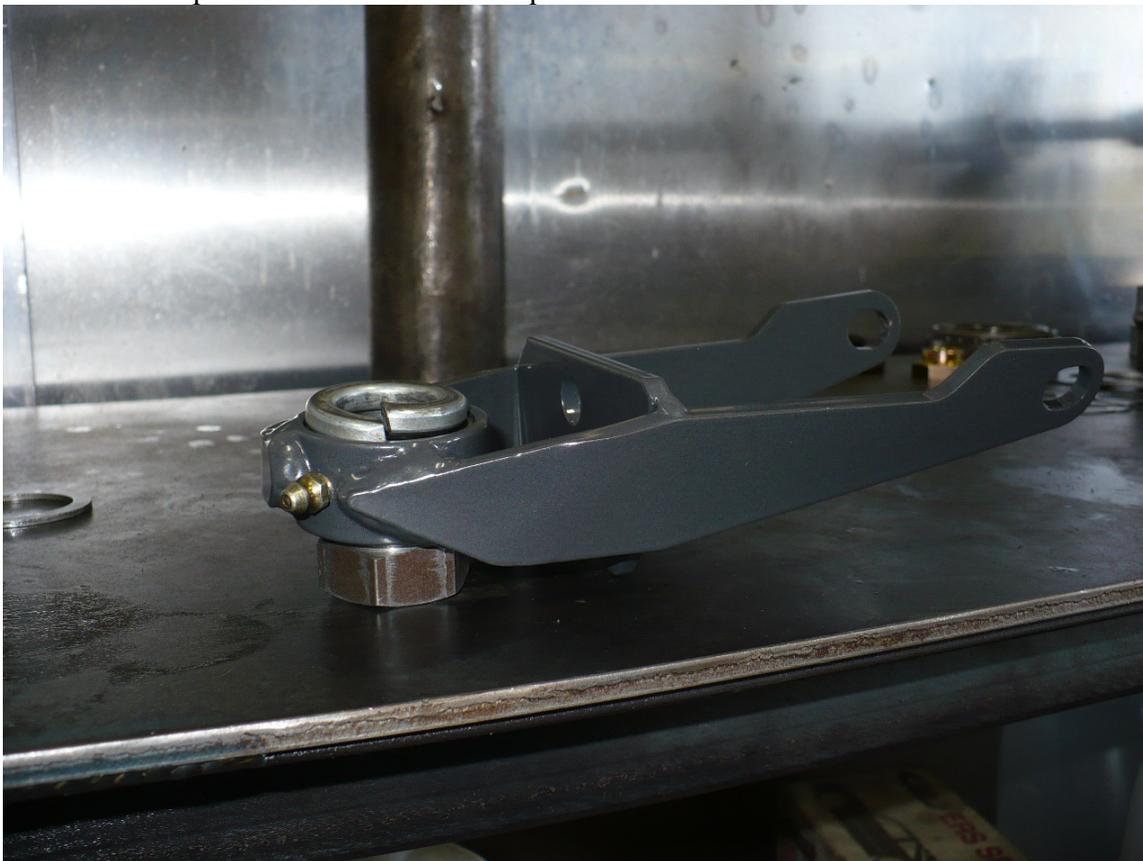
10) Lastly, torque the 9/16-18 UNF track bar bolt (1) to 125 ft-lbs (\*\*NOTE\*\* Skip this step if installing 8069-02 Sector Shaft Brace as well, this will be mentioned again in Step 18)



11) The remainder of the steps in these instructions will cover the installation of 8069-02 JK Sector Shaft Brace.  
a. Begin by removing the pitman arm nut (#3 in image below)



- 12) With pitman arm nut removed, install the sector shaft brace as shown below. Take note, you will be reusing the factory lock washer. Slide the new pitman arm stud into the bearing housing as shown (Hex on bottom)
- a. NOTE - We suggest putting a dab of anti-seize on the threads of the sector shaft to prevent galling / seizing at a later time. This will also help provide more accurate torque measurements.



13) Next, slide the whole assembly into place over the 8069-01 Track Bar Brace and start the pitman arm stud. Tighten finger tight.





- 14) Next, align the outer bolt holes so the 7/16-14 x 1.0" long bolts provided in the kit can be installed. An alignment bar or screw driver will be helpful in pulling the mount into the proper location.
  - a. Also, gentle tapping with a tuber mallet as shown in image 14.3 / 14.4 will help orient the brace properly



Image 14.1

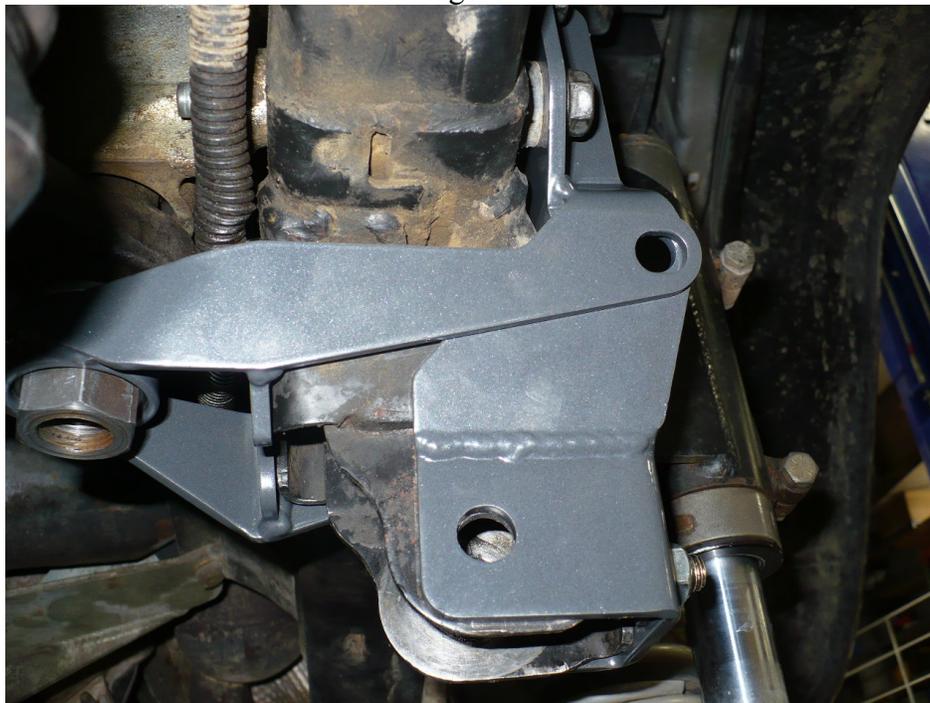


Image 14.2



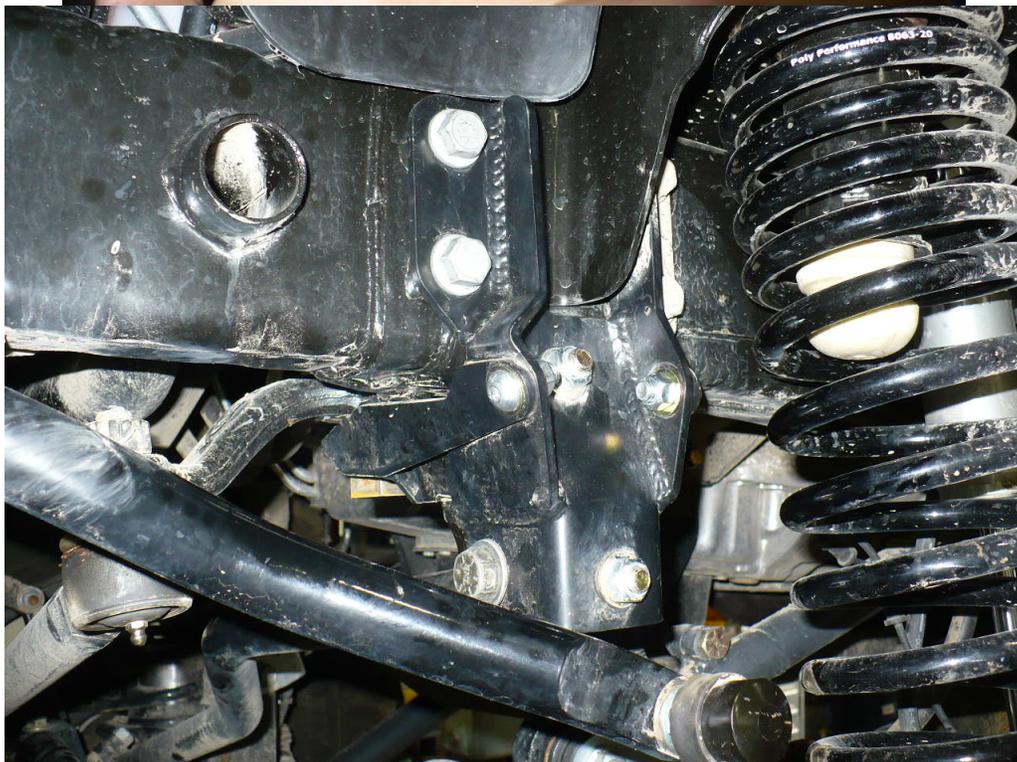
Image 14.3



Image 14.4

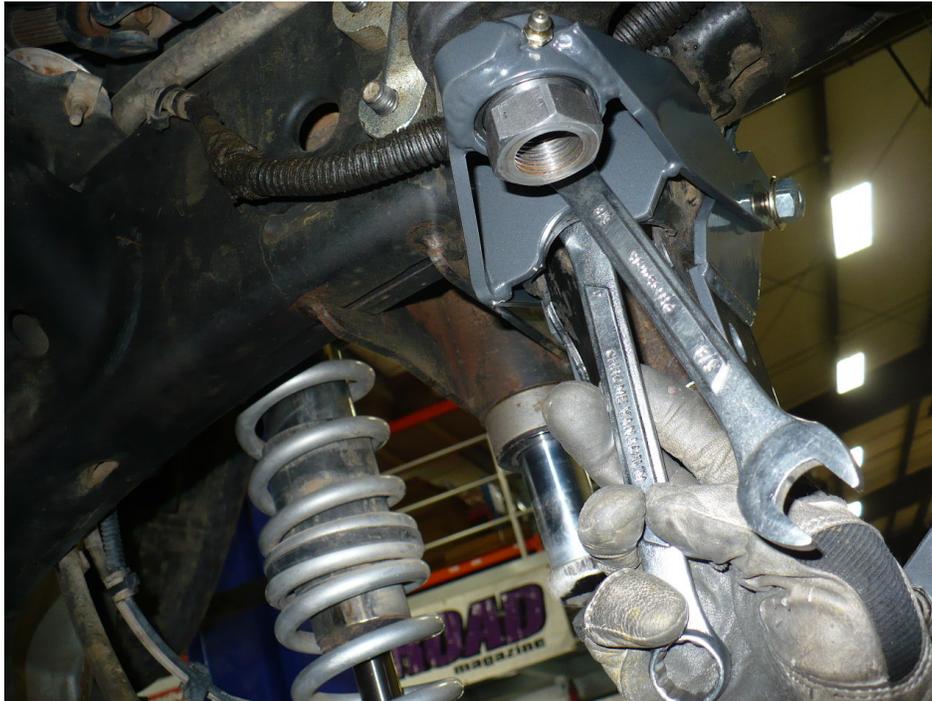
15) With holes aligned, install the 7/16-14 x 1.0" long bolts using a washer under both the bolt head and the nut. Take note, the orientation of the inner bolt is up to the installer, however the outer bolts need to use the button head cap screws provided with the kit to not make contact with the coil spring. Orient hardware as shown with the nuts pointing in towards the bracket.

- a. Do not tighten any bolts at this time; simply start all hardware to finger tight.





- 16) With all hardware started, torque in the following order, to the corresponding specifications:
- a. Pitman Arm Stud – 150 ft-lbs
  - b. 7/16-14 UNC bolts – 50 ft-lbs (NOTE- we are aware it is difficult to get a torque wrench on some of these bolts so simply tighten snug using standard sized combo wrenches.



- 17) With everything torqued and installed, now is the time to check for adequate track bar clearance.
- a. Install the track bar to be used at the frame side and lift the opposing side as high as possible until contact is made with the frame or with the pitman arm stud.
  - b. If contact is made with the pitman arm stud well before contact with the frame, take note of the amount of space between the frame and mounting hole on the axle end of the track bar. This is the minimum bump stop requirement needed for the track bar, if using stock mounting point on the axle.
  - c. We advise to hook up the Track bar at both ends and fully bottom out suspension if there is any doubt.



8075 Synergy Manufacturing front track bar at full bump with no bump stop spacers.



Bump stop measurement shown from bottom of frame to mounting hole with stock Track Bar.

- 18) Once adequate clearance has been determined and proper bump stop spacing has been addressed, fully install the track bar using the 9/16-12 UNC x 3.25" long TB bolt provided in the 8069-01 kit.
  - a. Be sure to use a washer under both the head of the bolt and under the washer. Torque bolt to 125 ft-lbs.
  - b. Reattach track bar at axle side, following the mfg's specifications for torque specs:
    - i. Synergy Manufacturing 8075 track bar and stock track bar retain the OEM bolt and is to be torqued to 125 ft-lbs.
- 19) Lastly, grease the bearing in the sector shaft brace using quality extreme pressure moly grease. 1-2 pumps of grease is adequate. Re-grease at normal chassis lube intervals or after any severe mud or deep water fording.



20) Recheck all hardware after 100mi of driving and during normal post / pre off-road bolt checks.