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Revisions			
Rev.	Description	Date	Approved
-	Initial Release Per ECO 22-067	10/12/2022	KB



## JEEP JK TRACK BAR AND SECTOR SHAFT BRACE

Installation Instructions

Applications:

JEEP WRANGLER 07-17 (JK)



TITLE:

**JEEP JK TRACK BAR AND SECTOR SHAFT BRACE**

SIZE	DWG NO:	REV
<b>A</b>	<b>8069-04-INST</b>	<b>-</b>
SCALE: N/A		PAGE 1 OF 8



## JEEP JK TRACK BAR AND SECTOR SHAFT BRACE INSTALLATION INSTRUCTIONS

Thank you for purchasing the best aftermarket products available for your vehicle. We strongly feel that the parts you are about to install should meet or exceed your expectations for performance. Proper assembly is critical to the performance of these components and the vehicle as a whole. Please take the time to carefully read these instructions and familiarize yourself with the installation procedure before working on your vehicle. If you have any questions PLEASE contact Synergy Manufacturing BEFORE beginning installation. Thanks again for supporting Synergy – enjoy the performance benefits of the best aftermarket products available for your vehicle!

**Synergy Manufacturing**  
**Phone: (805) 242-0397**  
**Email: support@synergymfg.com**

Modifying or otherwise altering vehicle components may cause the vehicle to handle differently than originally designed. It is the driver's responsibility to familiarize themselves with the performance and handling characteristics of the modified vehicle. Vehicles with larger diameter than stock tires must be driven carefully and cannot be expected to perform as stock or meet OEM performance with regard to handling, braking or crash performance. Ensure all replacement components are compatible with vehicle capacities so as not to overload components, especially tires. It is up to the individual to ensure that the vehicle and all components are compatible with the intended vehicle use, including load ratings, road conditions, and driver abilities. Thorough and frequent vehicle inspections are recommended to ensure a safe and reliable state of readiness, especially after off-highway use.

### PARTS LIST

<b>8069-04 JK FRONT TRACK BAR AND SECTOR SHAFT BRACE</b>		
<b>QTY</b>	<b>Part Number</b>	<b>Description</b>
1	806904-PC	FRONT TRACK BAR BRACE
1	8069-0213S	SECTOR SHAFT BRACE, STEEL, SEALED BEARING
1	806903-04-PL	SECTOR SHAFT PITMAN ARM NUT, PLATED
4	N/A	M12 - 1.50 X 120MM LONG BOLT, GR 10.9, CLEAR ZINC
1	N/A	3/8-16UNC x 4.25" HEX HEAD BOLT, GRADE 8
2	N/A	1/2-13UNC x 1.0" HEX HEAD BOLT, GRADE 8
1	N/A	M14-2.00 x 80MM HEX HEAD BOLT, GRADE 10.9
1	N/A	3/8-16UNC, TOP LOCK NUT
2	N/A	1/2-13UNC, TOP LOCK NUT
1	N/A	M14-2.00 TOP LOCK NUT
2	N/A	3/8 FLAT WASHER, GRADE 8, SAE
3	N/A	1/2 FLAT WASHER, GRADE 8 SAE
2	N/A	14MM WASHER, CLASS 10.9
4	N/A	12MM WASHER, CLASS 10.9
1	N/A	.5ML CAPSULE HIGH STRENGTH (LOCTITE 263) THREADLOCKER



## **GENERAL NOTES**

- These instructions are also available on our website; [www.synergymfg.com](http://www.synergymfg.com). Check the website before you begin for any updated instructions and additional photos or videos for reference.
- No bump stop spacing is required if the 8069-04 Synergy Jeep JK Front Track Bar and Sector Shaft Brace is used in conjunction with an 8075-02 Synergy Front Track Bar.
- If using the 8069-04 Synergy Jeep JK Front Track Bar and Sector Shaft Brace with the stock front track bar, a minimum 2" of bump stop spacing is required.
- If using the 8069-04 Synergy Jeep JK Front Track Bar and Sector Shaft Brace with an aftermarket front track bar, the front springs should be removed and the suspension cycled to full bump to determine the bump stop spacing required to prevent the track bar from contacting the sector shaft nut, or any other interference.
- This is a track bar bracket BRACE and requires the stock track bar bracket to function as designed. This is not intended to repair or replace the stock track bar bracket. If the stock track bar bracket is damaged, complete required repairs before installing the Synergy Track Bar Brace.
- When installing the track bar brace bracket, many holes must line up. The key to getting the bracket on is to loosely get all the bolts inserted, then start tightening them up. It is best to start by fitting the track bar brace to the frame and then fitting the track bar bolt through the bracket.
- If you have a PSC Big Bore Steering Box, you must use the Synergy MFG 8869-10 Big Bore Steering Box Nut and the 8069-0214S Sector Shaft Brace Bearing Mount.

## **TOOLS REQUIRED**

- Basic Hand Tools
- Sockets: 9/16", 3/4", 1 5/16", 18mm, 19mm, 21mm, 22mm, 42mm
- Wrenches: 9/16", 3/4", 21mm, 22mm
- Floor Jack and Jack Stands

## **ESTIMATED INSTALLATION TIME**

**1 Hour**

## **PRE-INSTALLATION CHECKLIST**

- Inspect the stock front track bar bracket for damage or faulty welds.
- Inspect the front track bar bushings for wear and replace as necessary.
- Inspect the front sway bar bushings for wear and replace as necessary.

## INSTALLATION

1. Park the vehicle on a flat, level surface, or safely raise the vehicle on a lift. Chock the rear wheels, make sure the vehicle is in park or in gear, and set the parking brake.
2. Unbolt the front track bar from the frame side mount and let it hang down. This is usually easiest with the vehicle on the ground. If the bolt is still under tension, use ratchet straps to pull the axle to one side or the other in order to free up the bolt to get it out, or have someone turn the steering wheel if the vehicle is still on the ground. See **Figure 1**.



**Figure 1. Removing Frame Side Track Bar Bolt**

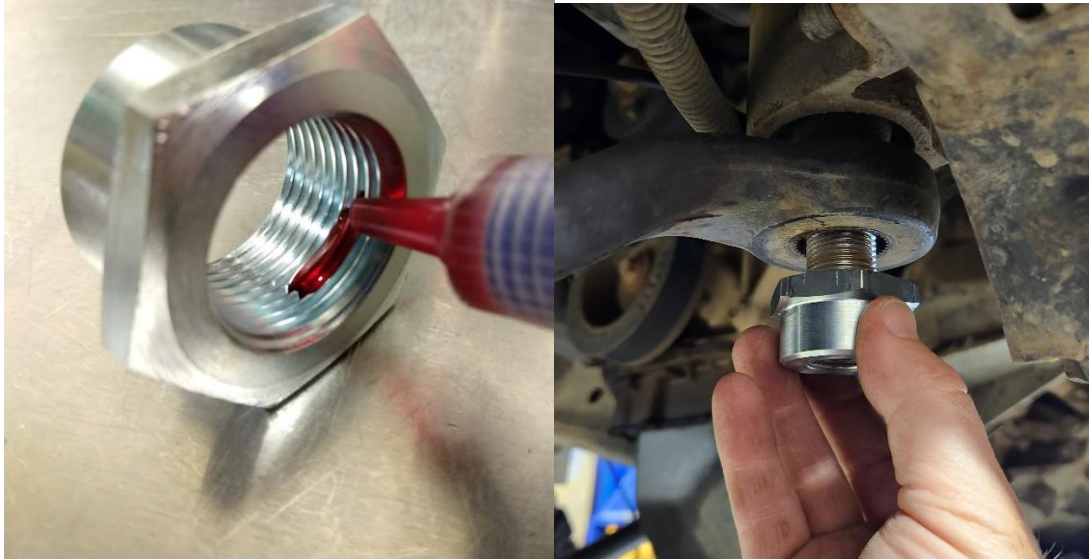
3. Jack the front axle up, support it on jack stands, and remove the front driver side wheel.
4. Unbolt or disconnect the front sway bar links at the axle, then swing the sway bar and sway bar links down and out of the way. See **Figure 2**.



**Figure 2. Sway Bar Disconnected and Can Now Be Rotated Down**

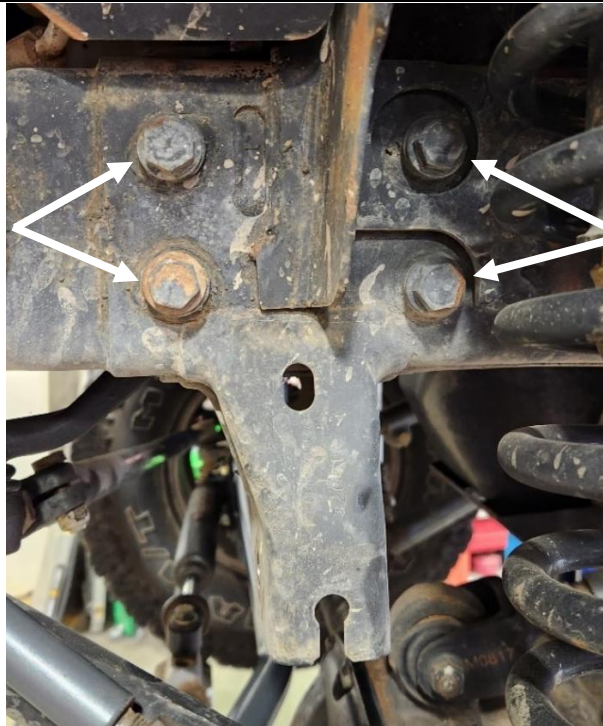


5. Use a 1 5/16" socket to remove the factory pitman arm nut and lockwasher. The pitman arm is a tapered splined fit on the sector shaft and should not come off.
6. Use a 42mm socket and install the new pitman arm nut without the lockwasher. Note the correct orientation of the nut in **Figure 4**. If you have a PSC Big Bore Steering Box, you will need the 8869-10 pitman arm nut. Make sure the sector shaft and sector shaft nut threads are clean, dry, and free of any oil or debris. Apply some of the provided threadlocker to the threads and torque to 185 lb-ft. This torque spec applies to both the stock steering box and the PSC Big Bore box. Let the threadlocker cure for 24 hours before driving the jeep. Continue on with the rest of the 8869-04 assembly. See **Figure 3 and 4**.



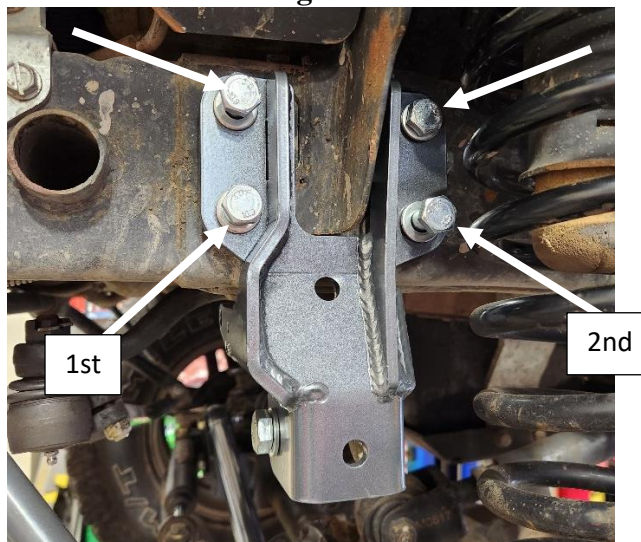
**Figure 3. Adding Thread Locker to Nut**    **Figure 4. Installing Pitman Arm Nut**

7. Use an 18mm socket and unbolt all 4 bolts holding the steering box on. The box will drop slightly and rest against the top of the frame once all the bolts are out. See **Figure 5**.



**Figure 5. Steering Box Bolts to Remove**

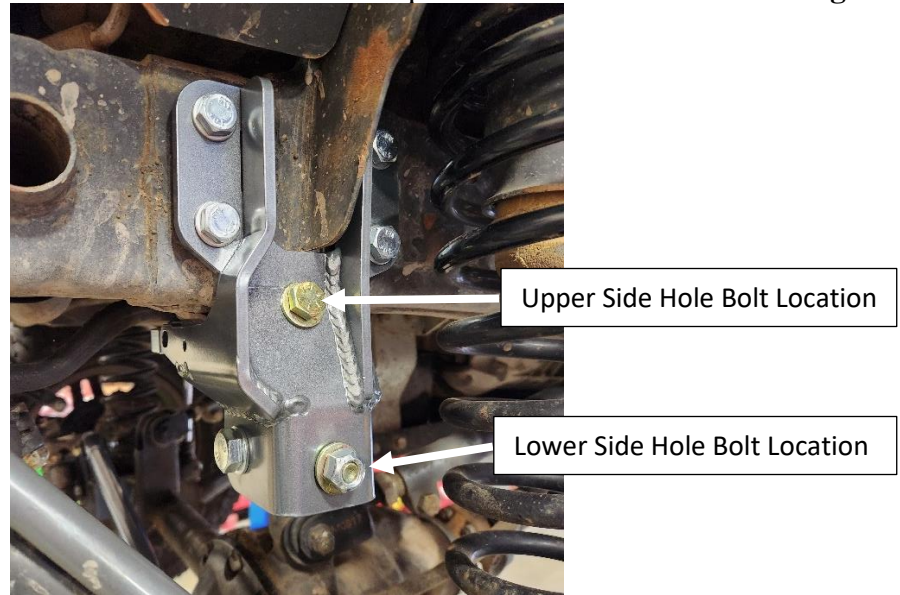
- Slide the Synergy Track Bar Brace up from the bottom, over the factory track bar mount. Use the track bar bolt to hold the brace loosely in place. The key to bolting the track bar brace on is to get all the bolts that hold it in loosely in place **before** you tighten any of them.
- You will have to lift the steering box slightly to get the steering box bolts started. It is easiest to start with the front lower bolt, then the rear lower bolt to get the box and frame holes lined up correctly. Slide in all 4 steering box bolts and get the threads started by hand. Thread the bolts in most of the way, but leave them loose at this time. See **Figure 6**.



**Figure 6. Threading Bolts into Steering Box**

- Install one 1/2" x 1" long bolt and 1/2" washer into the upper side hole on the track bar bracket. Use one 1/2" top lock nut and 1/2" washer on the inside of the mount. Do not tighten yet. See **Figure 7**.

11. Install another 1/2" x 1" long bolt, in the bottom side hole on the track bar bracket. Install the bolt so the head is on the inside of the factory track bar mount and the threads come out the side of the Synergy Track Bar Brace. Put a 1/2" washer and 1/2" top lock nut on the outside. See **Figure 7**.

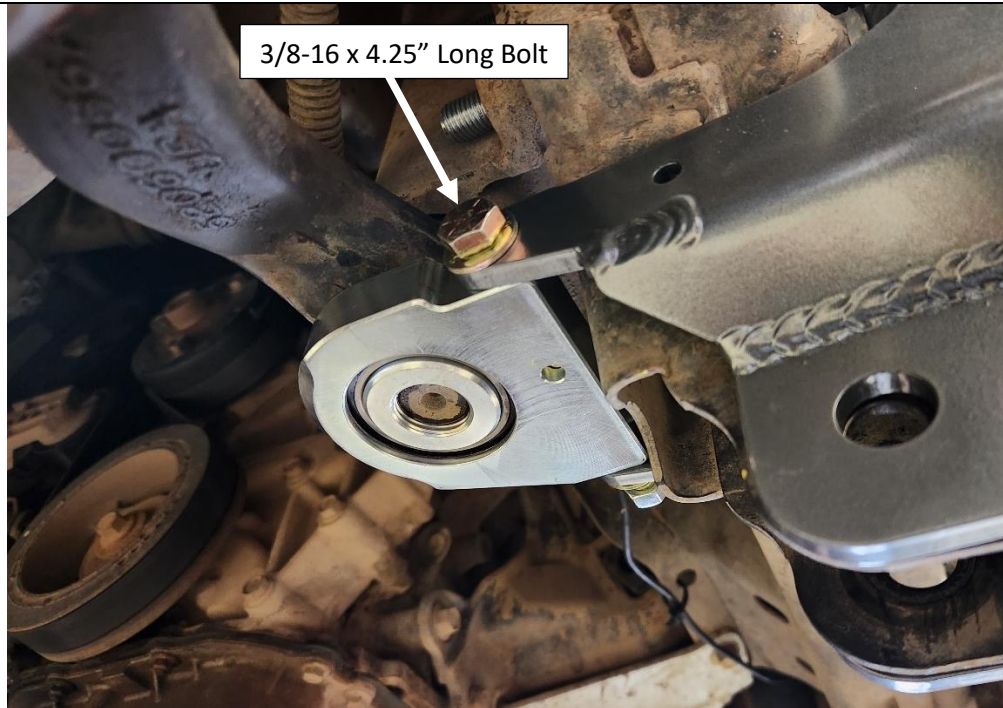


**Figure 7. 1/2" Bolts Installed in Track Bar Brace**

12. Begin tightening hardware, starting with the upper 1/2" side bolt to 60lbs-ft, then the lower 1/2" bolt to 60lbs-ft, and then the 4 steering box bolts to 87lbs-ft.
13. The sector shaft brace now comes assembled with a sealed bearing requiring no other assembly to be done to it. Simply slide the new sealed bearing sector shaft brace up between the ears on the Synergy Track Bar Brace and over the pitman arm nut. Note that there should be a small gap between the ears and the steel block to allow for variances in fitment. These will close when the hardware is tightened. If using a PSC Big Bore Steering Box, you will need to use the 8069-0214S Sector Shaft Brace Bearing Mount instead. Slide the 3/8-16 x 4.25" long bolt with washer through the front of the track bar mount, into the bearing mount block, and through the back ear of the track bar mount. Thread on the 3/8-16 top lock nut and washer and tighten to 44lbs-ft. See **Figure 8**.

Some installs may need to have the steering box bolts loosened and the steering box pushed upward in order to gain enough clearance to install the bearing mount. If needed one can use a floor jack to push up on the sector shaft while retorquing the 4 steering box bolts.

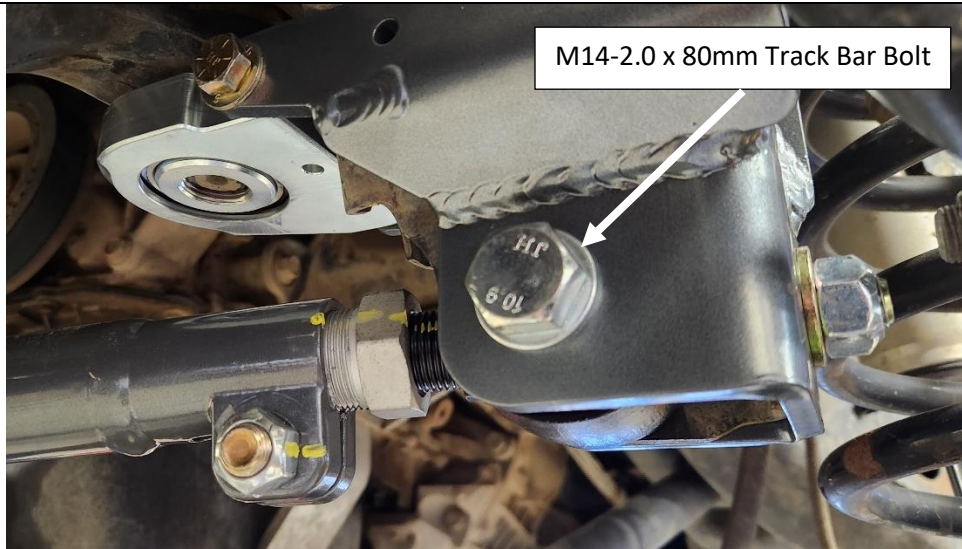




**Figure 8. 4.25" Long Bolt Installed Through the Synergy Sector Shaft Brace**

14. Remove the track bar bolt at this time.
15. Put the front wheels back on and lower the vehicle back on the ground. Torque lug nuts to 120 lb-ft.
16. With the weight of the vehicle back on the ground, re-install the track bar with the included M14x 80mm bolt and 14mm washer through the front of the trackbar brace, and the 14mm washer and M14 top lock nut on the back side. Once again you may have to use a ratchet strap between the axle and frame to get the track bar to line up with the holes in the track bar mount or have someone turn the steering wheel to help align the bolt. Tighten the track bar bolt to 125 lb-ft. See **Figure 9**.





**Figure 9. Frame Side Track Bar Bolt Installed**

17. Swing the sway bar up and reattach the sway bar links to the lower axle mounts. If using the OEM sway bar, tighten the bolts to 75lb-ft. If using the Synergy Quick Disconnect Sway Bar Links, simply slide the sway bar link back on the disconnect pin and reinstall the retaining clip.

**INSTALLATION IS COMPLETE**

**Table 1. Vehicle Bolt Torques**

<b>Bolted Joint Location</b>	<b>Wrench Size</b>	<b>Torque</b>
Steering Box Bolts	19mm	87lbs-ft
Track Bar Bolt	22mm	125lbs-ft
Sway Bar Link Bolts	18mm	75lbs-ft
Pitman Arm Nut	42mm	185lbs-ft
1/2" Grade 8 Bolts and Nuts	3/4"	60lbs-ft
3/8" Grade 8 Bolt and Nut	9/16"	44lbs-ft
Wheel Lug Nuts		85-125lbs-ft