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Revisions			
Rev.	Description	Date	Approved
A	Initial Release Per ECO 17-027	4/25/17	A.S.
B	Revised Per ECO 21-006	1/8/21	KB



Jeep TJ/LJ Steering Box Skid with Sector Shaft Brace

Installation Instructions

Applications:

1997-2006 Jeep Wrangler (TJ and LJ)



TITLE:

JEEP TJ/LJ STEERING BOX SKID WITH SECTOR SHAFT BRACE

SIZE	DWG NO:	REV
A	8174-01-INST	B
	SCALE: N/A	PAGE 1 OF 7



JEEP TJ/LJ STEERING BOX SKID WITH 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

8174-01 JEEP TJ/LJ STEERING BOX SKID/SECTOR SHAFT BRACE		
QTY	Part Number	Description
1	817401-PC	TJ/LJ STEERING BOX SKID, POWDERCOATED
1	817402-COMPLETE	TJ/LJ SECTOR SHAFT BRACE, ASSEMBLED
1	806903-01-COMPLETE	SECTOR SHAFT BRACE PITMAN ARM STUD, ZINC PLATED
2	N/A	HEX HEAD GRADE 8 BOLT, 3/8-16 UNC X 1"
8	N/A	FLAT WASHER, GRADE 8, 3/8" SAE
2	N/A	LOCK NUT, 3/8-16 UNC ZINC PLATE
4	N/A	HEX HEAD GRADE 8 BOLT, 7/16-14 UNC X 1"
8	N/A	FLAT WASHER, GRADE 8, 7/16" SAE
4	N/A	LOCK NUT, 7/16-14 UNC ZINC PLATE
3	N/A	HEX HEAD GRADE 8 BOLT, 7/16-14 UNC X 5"
1	N/A	ZERK FITTING, 11/16" LONG, 1/4-28 THREAD

General Notes

- These instructions are also available on our website; www.synergymfg.com. Check the website before you begin for any updated instructions and additional photos for your reference.
- This product is designed to work with stock steering boxes.
- This product will work with most aftermarket bumpers but not all. Bumper modification may be necessary.
- This product is designed to be compatible with Currie Anti-Rock sway bars, but some slight bolt head clearance may be necessary.

Tools Needed

- Basic hand tools (sockets and wrenches)
- Large socket or wrench for pitman arm nut

Estimated Installation Time

1 Hour

Installation

1. Begin by loosening the pitman arm nut. This may require a large breaker bar, penetrating oil and or heat. DO NOT remove the pitman arm itself, just the nut.
2. Next, break loose the steering box bolts. Do not remove the bolts, just loosen them. Remove the lower bumper bolt(s). The bolts are circled in **Figure 1**.

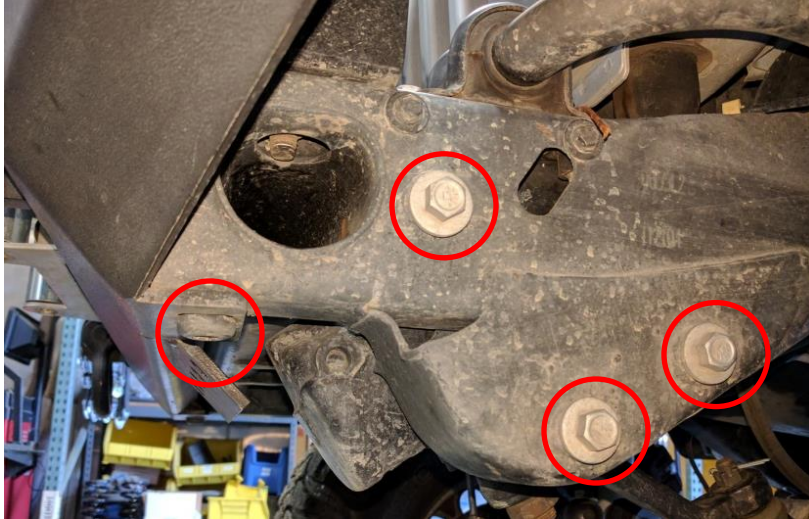


Figure 1. Steering Box and Bumper Bolts

3. Three 5" long 7/16" bolts are included with the kit. These bolts must be used in place of the stock steering box bolts if the Jeep is equipped with a Currie Anti-Rock front sway bar. The stock bolts have a tall head and will rub on the arm of the Anti-Rock sway bar. If you are using the stock or no front sway bar, you may use either the stock bolts or the provided bolts. Carefully remove the lower two steering box bolts, making sure the steering box cannot swing free and move. Align the Synergy Steering Box Skid with the hole closest to the driver (the rearmost hole) and install the bolt through the skid plate and thread it into the steering box. See **Figure 2**.



Figure 2. Installing First Bolt in Steering Box Brace

4. Fully remove the forward/upper steering box bolt (closest to the bumper) and swing the Steering Box Skid up and install the bolt through the appropriate hole in the Skid and thread back into the steering box. If the steering box has moved, it can be moved back into place by holding on to the pitman arm and rotating it around the one installed bolt. 1997-2002 Jeeps will use the lower hole on the Skid, 2003-2006 Jeeps will use the upper hole. **See Figure 3.**



Figure 3. Synergy Steering Box Skid Installed with First Two Bolts (2005 Model Shown)

5. Next, mark the holes between the Steering Box Skid and the bumper. Not all 4 hole locations need to be used, the number of bolts used is up to the installer. At least one hole location should line up with the stock bumper hardware. Drill any holes you would like to use in the bumper and then install provided hardware. **See Figure 4.**

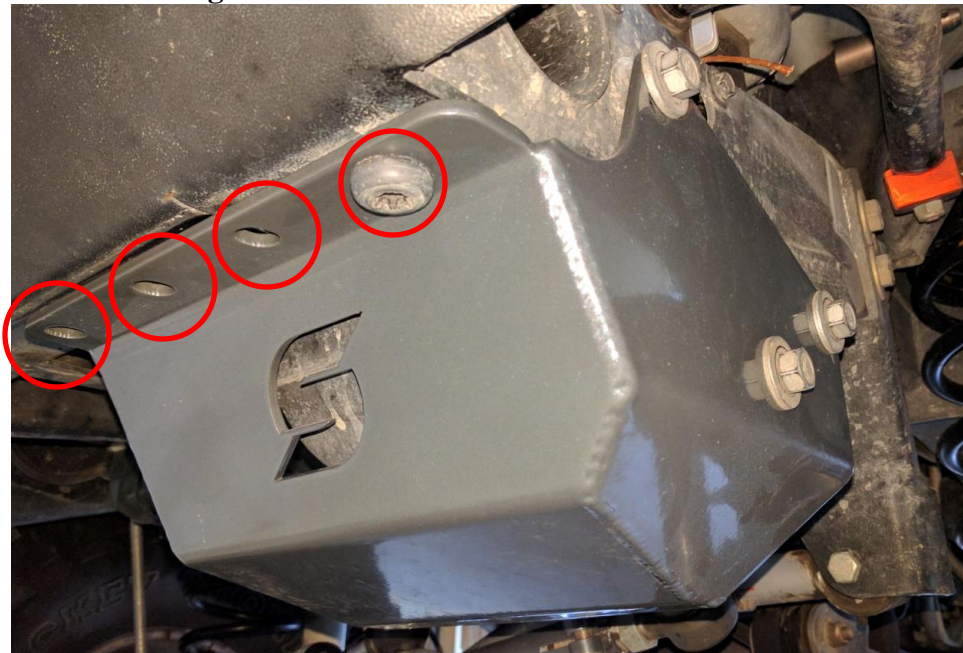


Figure 4. Bumper Bolt Hole Locations

- With all 7/16 bumper to Skid hardware loosely installed, torque the steering box bolts to 70 lb-ft. Torque bumper bolts to 50 lb-ft.
- Remove the pitman arm nut loosened in Step 1. Place the provided extended pitman arm nut through the bearing in the Sector Shaft Brace so that the tabs on the brace point towards the steering box. Loosely install the nut with Brace on the sector shaft. The tabs on the Brace should be offset towards the front of the vehicle. See **Figure 5**.



Figure 5. Sector Shaft Brace Installed

- Due to manufacturing variances from the factory by Jeep, the Sector Shaft Brace is narrower than the Steering Box Skid mounting points. Based on the spacing on your Jeep, use the provided washers to best space the Sector Shaft Brace in the Steering Box Skid. When the correct washer combination is found, loosely install the (3/8") bolts. See **Figure 6**.

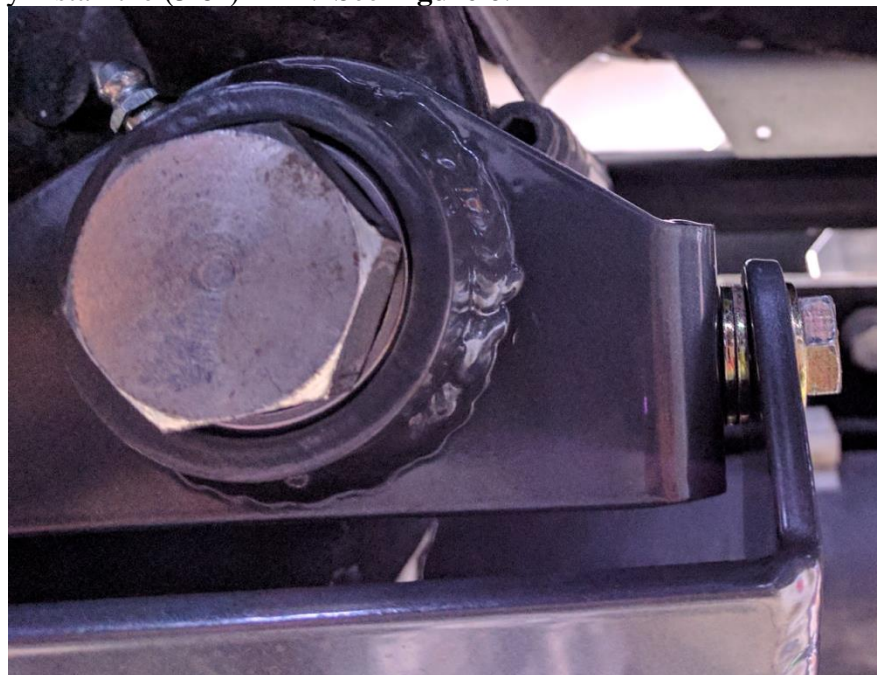


Figure 6. Sector Shaft Brace Spacing Using Two Washers



9. Use a 5/16 or 8mm wrench to install the zerk fitting on the sector shaft brace. We suggest adding a half pump of grease every oil change.
10. Finally, torque the new pitman arm nut to 185 lb-ft and the sector shaft brace hardware to 30lb-ft.

Installation is Complete

Post-Installation Checklist

- Did you remember to torque all the hardware?
- Did you find any worn out parts during the install that should be replaced? Get the new parts on order!
- Check the torque on all hardware after approximately 100 miles of driving.