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## Ram Dual Steering Stabilizer Kit

### Installation Instructions

Applications:

2003-2013 RAM 2500/3500 4x4



TITLE:

**RAM DUAL STEERING STABILIZER KIT,  
03-13 2500/3500 INSTALLATION  
INSTRUCTIONS**

SIZE	DWG NO:	REV
<b>A</b>	<b>8510-01-INST</b>	<b>C</b>
	SCALE: N/A	PAGE 1 OF 7



## RAM DUAL STABILIZER KIT, 03-13 2500/3500 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**

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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>8510-01 Ram Steering Stabilizer Relocation Bracket</b>		
<b>QTY</b>	<b>Part Number</b>	<b>Description</b>
1	851001-PC	Ram Dual Stabilizer Bracket, 03-13 2500, 03-14 3500
1	6910-01	Dual Stabilizer Branding plate
2	4050-50	1 1/2" Tube Clamp
2	UB-8F-3500-4750	3 1/2" ID, 1/2-20 THREAD U-BOLTS, BLACK
2	HF8-8-22	1/2-20 X 2.5" FINE THREAD, HEX HEAD, GRADE 8 BOLT, YELLOW ZINC
2	440001-03-PL	Spacer, 1/2" ID, .375" Thick, Plated
2	HF8-8-21	1/2-20 X 2.25" FINE THREAD, HEX HEAD, GRADE 8 BOLT, YELLOW ZINC
6	NSF-8	1/2-20 TOP LOCK NUT, ZINC PLATE
8	NAS1149-F0863P	FLAT WASHER, 1/2" ID, 7/8" OD, MIL-SPEC

## 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 for your reference.

- The installation of the Synergy 8510-01 Dual Stabilizer Bracket will allow for the use of two steering stabilizers on your Ram 2003-2013 2500/3500 truck equipped with The Synergy 8525-01 steering kit.
- The 8510-01 Dual Stabilizer Bracket was designed around the Fox 985-24-170 stabilizer. If using the dual stabilizer bracket with Fox TS or ATS stabilizers, two 4051-01 Steering Stabilizer Clamp Adapter kits must be purchased to adapt the units to the 1.50" tube clamps.

- Warning: 2013 Dodge Ram 3500's were a split year for production. The early model trucks use the T-style steering (drag link is attached to the Tie Rod), Synergy Part # 8525-01. The late model trucks use cross over steering (Drag link is attached to the knuckle and does not attach to the Tie Rod), Synergy Part # 8725-01. Please check what style you have before ordering.

## TOOLS REQUIRED

- 3/4" Sockets and Wrenches
- 7/32" Allen wrench
- Tape measure
- Torque wrench
- Marking tool (Paint Pen or Sharpie)
- Basic hand tools

## ESTIMATED INSTALLATION TIME

~ 1 Hour

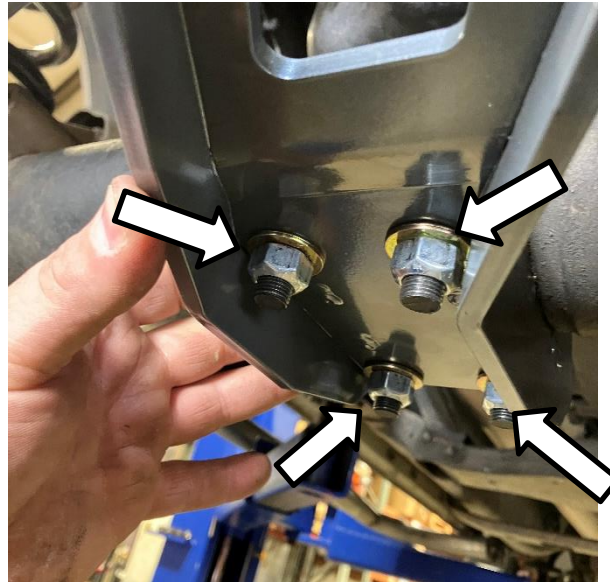
## INSTALLATION

1. Make sure the vehicle is parked on a flat, level surface. Ensure the vehicle is in park or in gear with the parking brake set.
2. Remove the factory stabilizer from the vehicle. **See Figure 1.**



**Figure 1. Steering Assembly with Stabilizer Removed.**

3. Bolt the dual stabilizer bracket to the bottom of the axle housing using the supplied u-bolts. Place 1 thin washer between the bracket and nut on the bottom side of the bracket. Leave the u-bolt loose enough to freely rotate and move the bracket on the axle tube. **See Figure 2.**



**Figure 2. Bolts to Remove Factory Stabilizer Mount**

4. Slide the bracket all the way over to the driver side so that it is pressed up against the differential housing. Evenly tighten the u-bolts until the dual stabilizer bracket has enough pressure on it to stay in place, but can still be rotated on the axle tube. **See Figure 3.**



**Figure 3. Dual Stabilizer Bracket Indexed on the Differential Housing**



5. Bolt the shaft side of the passenger side stabilizer on to the bracket using the supplied 2 1/2" long 1/2" bolts. A thin washer will be used under the head of the bolt followed by the Synergy nameplate. A washer will also be placed between the dual stabilizer bracket and the nut. **See Figure 4.**



**Figure 4. Partially Installed Stabilizers on Synergy MFG Bracket**

6. Have a helper turn the steering all the way to the **passenger** side, it is important that they keep pressure on the wheel to make sure the truck stays at full steering lock. **See Figure 5.**



**Figure 5. Driver Side Knuckle Fully Turned to the Passenger Side, Contacting the Steering Stop**

7. Bolt the passenger side stabilizer to one of the tie rod clamps using the included 2 1/4" long 1/2" bolts. One standard washer will be placed between the head of the bolt and the stabilizer bushing, and the 3/8" tall spacer will be placed between the stabilizer bushing and clamp assembly. **See Figure 6.**



**Figure 6. 4050-50 Clamp Installed on Steering Stabilizer.**

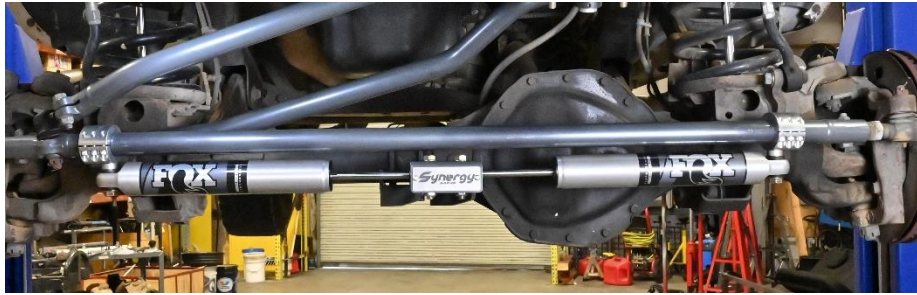
8. Compress the stabilizer about a 1/4" and bolt the 4050-50 clamp to the tie rod. Ensure the vehicle is still turned fully to the passenger side before bolting the clamp on. Torque the Allen head bolts to 15 ft-lb with a 7/32" Allen key. **See Figure 7.**



**Figure 7. Correctly Installed Stabilizer**

9. Repeat steps 6-8 on the driver side of the vehicle with the wheels turned fully to the driver side.

10. Torque the stabilizers to the dual stabilizer bracket and tie rod clamp mounts. Torque all 1/2" bolts to 70 ft-lb. See **Figure 8**.



**Figure 8. Driver Side Steering Stabilizer Installed on Dual Stabilizer Bracket**

11. Adjust the dual stabilizer bracket to ensure the stabilizers are parallel to the tie rod.
12. Evenly tighten and torque the u-bolts that hold the dual stabilizer bracket to the axle. Ensure the same amount of threads are present on each side of the u-bolts. Torque to 70 ft-lb.
13. Have a helper turn the steering from full driver to full passenger to verify that the stabilizers do not fully compress or fully extend through the entire travel of the steering. If the stabilizers do fully compress or extend before the steering hits the axle stops, remove and reinstall the tie rod clamps following steps 6-8 until the correct mounting location has been achieved.
14. Recheck all hardware after approximately 100 miles of use and after each off road trip.

## **Installation is Complete**

**Table 1. Bolt Torques**

<b>Bolted Joint Location</b>	<b>Wrench Size</b>	<b>Torque</b>
Dual Stabilizer Bracket U-Bolts	3/4"	70 ft-lb
Stabilizer Mounting Bolts on Bracket	3/4"	70 ft-lb
Stabilizer Mounting Bolts on Tie Rod	3/4"	70 ft-lb
Stabilizer Clamp Mount Socket Head Bolts	7/32" Allen	15 ft-lb



