

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF SYNERGY MFG. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF SYNERGY MFG IS PROHIBITED.

Revisions			
Rev.	Description	Date	Approved
-	Initial Release Per ECO 24-056	8/15/24	MB



**Ford Super Duty F-250 and F-350 HD  
Drag Link  
Installation Instructions**

Applications:  
1999-2004 F-250 4WD  
1999-2004 F-350 4WD



TITLE:  
**FSD 99-04 F-250 AND F-350 HD DRAG LINK  
INSTALLATION INSTRUCTIONS**

SIZE <b>A</b>	DWG NO: <b>7500-01-INST</b>	REV <b>-</b>
	SCALE: N/A	PAGE 1 OF 6



## FSD 99-04 F-250 AND F-350 HD DRAG LINK 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](mailto: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>7500-01 FSD 99-04 F-250 and F-350 HD DRAG LINK</b>		
<b>QTY</b>	<b>Part Number</b>	<b>Description</b>
1	750001-W01	FSD 99-04 F-250 AND F-350 HD DRAG LINK
1	4152-L	FORD SUPER DUTY PITMAN ARM ROD END
1	4136-L	HD ROD END, DODGE TIE ROD
1	3622-10-14-PL	ROD END ADJUSTER SLEEVE 1 ID X 14 TPI ZINC PLATED
2	N/A	1/2-20X1.75 HEX HEAD BOLT, GR8
4	NAS1149-F0863P	FLAT WASHER, 1/2" ID, 7/8" OD, MIL-SPEC
2	N/A	1/2-20 TOP LOCK NUT
1	WTH8-9	9/16" ASTM F436 HARD WASHER EXTRA THICK

## 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, additional photos for your reference, and installation video.
- When greasing rod ends, typically only one pump of grease is required. DO NOT fill dust boots with grease.
- The Synergy Drag link is compatible with the stock Tie Rod.

## TOOLS REQUIRED

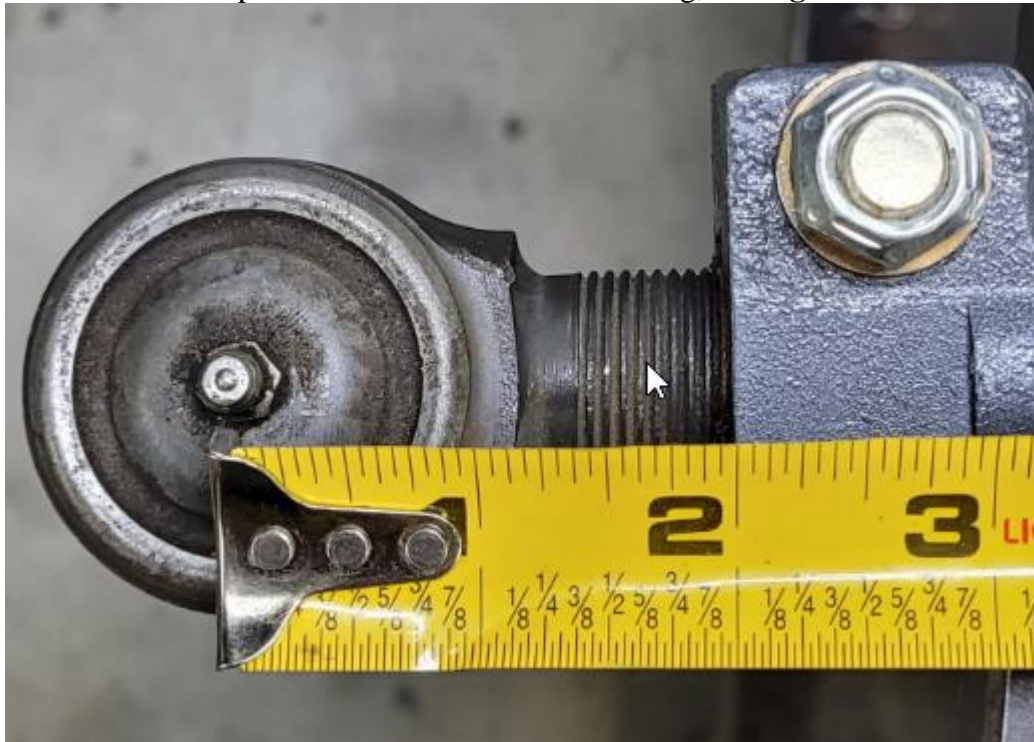
- Basic Hand Tools: Socket set and Wrench Set
- Tape Measure
- Hammer
- Torque Wrench
- Tie Rod Separator tool (optional)

## ESTIMATED INSTALLATION TIME

**1 Hour**

## INSTALLATION

1. Remove factory cotter pins and loosen nuts from the drag link rod ends at the tie rod and the pitman arm with a wrench or socket. Leave the nut threaded on one or two turns so that the bar will not fall when the taper pops free.
2. Separate the rod end from the pitman arm and tie rod by using a tie rod separator tool or by striking the pitman arm or tie rod near the taper with a large hammer.
3. Remove the nuts from the rod ends and completely remove the factory drag link from the vehicle.
4. Install the new Zerk fittings on both rod ends.
5. Measure the factory drag link center to center. Adjust the non-double adjuster side out to about 2" See **Figure 2**. Adjust the double adjuster side of the Synergy drag link so that the Synergy drag link is the same length as the factory drag link. The double adjuster is turned clockwise to make it shorter, counterclockwise to make it longer. When adjusting hold the rod end to keep it from turning, this will allow both the rod end and sleeve to move at the same rate. **The maximum the rod end should be extended is 3-1/8"** from the pinch bolt surface to the zerk fitting, see **Figure 3**.



**Figure 2. Non-Double Adjuster End of Drag Link at Steering Knuckle**



**Figure 4. Double Adjuster Rod End Adjusted to MAX 3-1/8”.**

6. Install the new Synergy drag link in the truck. The bend should be facing down. The double adjuster side of the drag link (the side with the silver threaded nut assembly) attaches to the pitman arm. The non-double adjuster end of the drag link attaches to the tie rod. See **Figure 4**.



**Figure 4. The Synergy Drag Link Installed in the Truck**



7. Install the castle nuts on the drag link, **NOTE: Install the thick WTH8-9 washer on the pitman arm only, no washer is used on the tie rod end side.**
8. Torque rod end castle nuts to 70 lb-ft and then further tighten to align the cotter pin hole. Never loosen castle nuts in order to align cotter pin holes. Install cotter pins.
9. Orient the bar so the bend near the steering knuckle points down or slightly forward if clearance is needed. **Figure 4** show the bar oriented correctly. With the bar correctly oriented, tighten both the pinch bolts to 60 lb-ft. We recommend lining up a slot in the double adjuster sleeve with the slot in the pinch bolt forging if possible.
10. Take the truck on a test drive. If the wheel is not straight, loosen the pinch bolt at the pitman arm and use the double adjuster to correct. If the steering wheel needs to turn to the right, turn the double adjuster to the right, or clockwise. If it needs to go left, then turn the adjuster left, or counter clockwise. Ensure the bar is oriented correctly before re-tightening the pinch bolt.
11. . If the drag link must be adjusted longer, remove the rod end from the tie rod arm and thread out the rod end from the drag link. The maximum the non-double adjuster rod end should be extended is 3-1/8" from the pinch bolt surface to the zerk fitting. If the bar needs to be longer than this for the steering wheel to be straight then the truck should be equipped with a dropped pitman arm.
12. The rod ends come pre-greased. They are a metal on metal design and require a high-pressure lithium grease. When the joints are re-greased they will only require one or two pumps of grease. Over-greasing the joints can cause the boots to balloon and fail.
13. Re-check all hardware after approximately 100 miles of driving. Re-check again after every 10,000 road miles or after each off-road trip.

### Installation is Complete

**Table 1. Ford Super Duty Drag Link Bolt Torques**

<b>Bolted Joint Location</b>	<b>Torque</b>
Passenger Side Rod End	70lb-ft.
Pitman Arm Side Rod End	70lb-ft.
Adjuster Pinch Bolt	60 to 90 lb-ft