



**CS-FTSB-LVL-17  
CS-FTSB-LVL-17 UPGRADE  
Ford Torsion Sway Bar System, 2.5" Lift**

**Carli Suspension, Inc.  
596 Crane St.  
Lake Elsinore, CA 92530  
888-992-2754**

**Fitment: 2017+ F250/350 4x4**

**Note**

Please review the product instructions prior to attempting installation to ensure installer is equipped with all tools and capabilities necessary to complete the product installation. We recommend thoroughly reading the instructions at least twice prior to attempting installation.

Before beginning disassembly of the vehicle, check the "What's Included" section of the instructions to ensure you've received all parts necessary to complete installation. Further, verify that the parts received are PROPER TO YOUR application (year range, motor, etc.) to avoid potential down-time in correcting potential discrepancies. Any discrepancies will be handled by Carli Suspension and the correcting products will be shipped UPS Ground.

**Lifetime Product Warranty**

Carli Suspension provides a limited lifetime product warranty against defects in workmanship and materials from date of purchase to the original purchaser for all products produced by Carli Suspension. Parts not manufactured by, but made to Carli Suspension's specifications by third party manufacturers will carry a warranty through their respective manufacturer. (i.e. King Shocks, Bilstein Shocks, Fox Shocks). Deaver Leaf Spring's warranty will be processed by Carli Suspension.

Proof of purchase (from the original purchaser only) will be required to process any warranty claims. Carli Suspension products must be purchased for the listed Retail Price reflected by the price listed on the Carli Suspension Website at the time of purchase. Carli Suspension reserves the right to refuse warranty claims made by any customer refusing or unable to present proof of purchase, or presenting proof of purchase reflecting a price lower than Carli Suspension's Retail Price at the time the item was purchased.

Carli Suspension's Limited Lifetime Warranty excludes the following parts which are subject to wear: Track Bar Bushings, Track Bar Heim Joints, Limit Straps, Control Arm Bushings, Radius Arm Bushings, Shock Bushings, Sway Bar End Link Heim Joints, Shock Seals, Shock Bearings, and Corrosion on Shock Shafts or Bodies. These items will be warranted for a period of 60 days from the date of purchase only if determined to be installed properly signifying manufacturing defect. Carli Suspension cannot warrant a product's cosmetic finish due to the varying extreme elements that may be encountered.

**Parts Checklist - CS-FTSB-LVL-17**

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> (Qty. 2) - Torsion Sway Bar Arms, Mirrored                             | <input type="checkbox"/> (Qty. 2) - Captured Nut Brackets        | <input type="checkbox"/> (Qty. 2) - 3/8" Split Lock Washers   |
| <input type="checkbox"/> (Qty. 2) - Torsion Sway Bar Billet Bracket with (2) Bushings, Mirrored | <input type="checkbox"/> (Qty. 4) - 3/8"-16 x 2.5" Grade 8 Bolt  | <input type="checkbox"/> (Qty. 2) - 3/8-24 Crimp Lock Nut     |
| <input type="checkbox"/> (Qty. 1) - Torsion Bar   | <input type="checkbox"/> (Qty. 2) - 3/8"-24 x 1.00" Grade 8 Bolt | <input type="checkbox"/> (Qty. 2) - Stainless Preload Washers |
| <input type="checkbox"/> (Qty. 2) - Carli Stainless, Extended End Links                         | <input type="checkbox"/> (Qty. 2) - 3/8"-24 x 3.25" Grade 8 Bolt |   |
|   | <input type="checkbox"/> (Qty. 8) - 3/8" Grade 8 Flat Washer     |   |

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| <input type="checkbox"/> (Qty. 1) - Torsion Bar   | <input type="checkbox"/> (Qty. 2) - 3/8"-24 x 1.00" Grade 8 Bolt | <input type="checkbox"/> (Qty. 2) - 3/8-24 Crimp Lock Nut     |
|   | <input type="checkbox"/> (Qty. 2) - 3/8"-24 x 3.25" Grade 8 Bolt | <input type="checkbox"/> (Qty. 2) - Stainless Preload Washers |

**NOTE for CS-FTSB-LVL-17-UPGRADE:**

These instructions include all steps necessary for entire sway bar, drop brackets and end link kit. If the truck already has the CS-FELKIT-LVL-17 (Carli End Links) installed, disconnect the factory sway bar from the Carli End links (keeping the hardware as it will be reused), then start at Step 5 of these instructions.

**INITIAL SETUP AND MAINTENANCE**

The sway bar end links are built with replaceable bronze wear surfaces. When unboxed, the ball joint ends should be tight and relatively difficult to move but not immobile. Remove the set screws from the end link caps and remove the nuts and dust boots from the end of the end links. Test their mobility. If they're immobile, loosen the cap; If they flop easily, tighten the cap. The goal is to tighten them enough so they're difficult to move BY HAND and reinstall the set screw (with blue loctite).

**DO NOT USE ANY TOOLS TO TIGHTEN THE CAPS**

After the first 500 miles, check the end links for movement. They should be moving around smoothly & freely (should no longer be tight) but have NO plunging (vertical clunking). If there's any plunging present from break in, repeat the above process. Once confirmed or adjusted, grease them and check them every oil change.



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### Disassembly Instructions

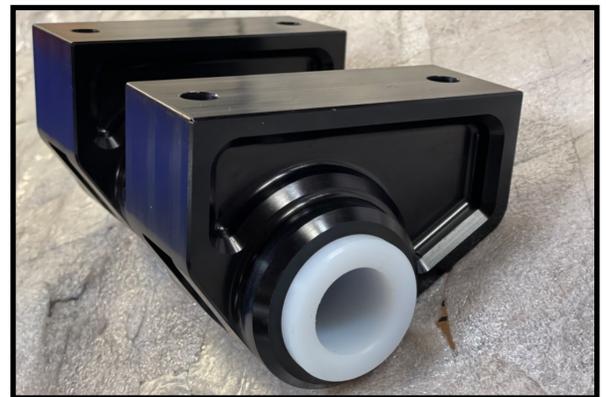
1. If not already disconnected, use a 18mm Socket to remove the nut securing the sway bar to the end link on both sides. Pull the sway bar up and out of the way then remove the nut securing the sway bar to the axle mount and remove the sway bar end links.
2. Using the 15mm socket, remove the 4 nuts holding the sway bar to the frame. We recommend using a hand ratchet for these to avoid breaking the capture-bolts from their bracket.
3. Remove the sway bar from the vehicle.
4. Remove the 4 capture bolts from the frame rail



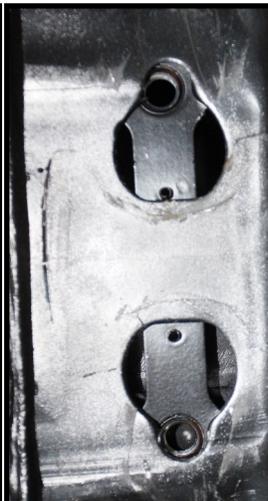
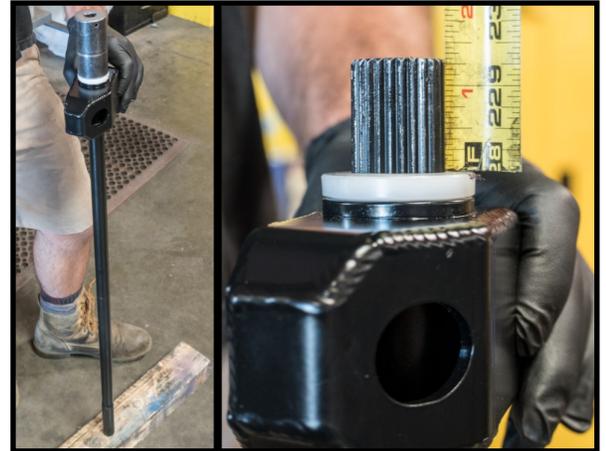
### Installation Instructions

**NOTE:**

Install the Bushings into the billet brackets using a dead-blow hammer. Use an insulated flat surface (cardboard over wood works great to prevent scratches) on the opposite side of bushing. The bushings will go on the OUTSIDE of the brackets as pictured (they'll be mirrored with bushings installed). The flat portion of the bracket faces up (frame), the offset of the sway bar will face forward. The brackets are not side specific until bushings are installed!



5. Install sway bar brackets onto the sway bar.
  - The pre-installed bushings face out. Coat the inside of the bushings and splines of the Torsion Bar with grease or assembly lube.
  - Place a block of wood on the ground and place the opposite side of the torsion bar on it.
  - Set the bracket onto the end of the bar ensuring the bar is lined up with the bushing and use a large dead-blow hammer/mallet to start the bracket onto the bar.
  - Use a piece of tube or a large impact socket (We used 1/2" Drive 1-1/4" Matco Deep Impact Socket) that matches the inner and outer diameter of the bushing - ensure it's deep enough for the bar to slide into while striking. Use the dead-blow mallet to push the bracket down onto the bar until there's 1-1/4" of splines protruding from the outside of the bushing.
5. Do the same on the other side ensuring the brackets are rotated/indexed symmetrically to install to flat to the frame rail.



6. Insert the provided captured-nut bracket into the frame rail. The insert indexes into the opening - it should sit flush against the inside of the frame rail with the threaded inserts facing upward into the frame. The indexes will rest against the center-portion of frame between the openings.

7. Insert one of the 3/8"-16 x 2.5" bolts (with a washer) into the rear hole of the sway bar bracket and thread it a couple turns into bracket that was inserted into the frame. The bar will offset toward the front of the truck.
8. Use a flashlight to ensure the threads are lined up in the front hole and stick a screwdriver or aligning pin in the hole to ensure the bracket doesn't move in the frame. Use a 9/16" shallow socket and extension to tighten the rear bolt to secure the frame insert's position while holding your aligning tool in the front threads.
9. Remove the aligning tool/screwdriver from the front and confirm the threads are still aligned. Adjust if necessary and insert the second 3/8"-16 x 2.5" bolt & washer into the front hole of the drop bracket a few threads.
10. Back off the rear bolt so both bolts are installed hand tight and you're able to manipulate the bar on the other side to align the holes and bracket.
11. Repeat the above on the other side. If the holes are off a bit, you can tighten the installed hardware just passed hand tight and hit the bar with the dead-blow until the second side lines up. We recommend losing the bolts once the holes are aligned on the opposite side to allow for easier installation.



12. With both sides installed hand tight, torque the 3/8-16 x 2.5"bolts to 5lb.ft.
13. Measure to ensure the spine protrusion is exactly the same on both sides - if it's not, use the dead-blow to adjust as necessary watching to ensure the bushings remain seated flush to the brackets.
14. Loosely install the 3/8"-24 x 3-1/4 Pinch Bolts into the arms. There should be a washer on each side of the arm and the Crimp-Lock nut on the bottom. Again, the head of the pinch bolt will need to be on the top, threads down.
15. Slide the arms onto the splines of the sway bar ensuring they're indexed the same on both sides - they should be perfectly parallel (side to side - **if they're off a spline, it will cause a big handling issue!**) The arms should go on relatively easy; if there's a bit of powder coat in the broaching, it may require a mallet to get them on. **MAKE SURE THE SPLINES ARE PERFECTLY LINED UP BEFORE USING A MALLE!**

16. With the arms installed, thread the 3/8"-24 x 1" Bolt, lock washer and Stainless preload washer into the end of the sway bar on both sides, hand tight.
17. Begin torqueing the preload bolts in the end of the arms. Tighten them with a 9/16" ratchet until the assembly begins to firm up while eyeing the slit in the end of the arm. Through this cut-away, you can see the splines of the bar behind the pinch bolt. Ensure the bar isn't being pulled to one side or the other as you torque the assembly. **There should be a 1/16" gap between the end of the bar and the preload washer on both sides.**
18. We step the torque first to 10lb.ft., then in 5lb. Increments until you reach 25lb.ft. Once 25 is reached, double check to ensure the splines are even in the cutaways.
19. Use a 9/16" socket to torque the pinch bolt nuts to 35lb.ft.
20. With the arms and pinch bolts final torqued, torque the bolts securing the torsion bar brackets to the frame drops (previously torqued to 5lb.ft.) to 40lb.ft.



21. The sway bar end links are built with replaceable bronze wear surfaces. When unboxed, the ball joint ends should be tight and relatively difficult to move. If they do not feel this way out of the box, remove the set screws from the end link caps and remove the nuts and dust boots from the end of the end links and double-check their mobility. If they're immobile, SLIGHTLY loosen the cap; If they flop easily, tighten the cap. The goal is to tighten them enough so they're VERY difficult to move BY HAND and reinstall the set screw (with blue loctite). DO NOT USE ANY TOOLS TO TIGHTEN THE CAPS
22. Install the Carli Sway-Bar End Links into the mount on the axle threading the nut on a few threads.
23. Pull Sway Bar down onto the top of the Carli End Link and thread the nut on a few threads.
24. Use a 5/16" to hold the index and 11/16" Box wrench (or ratcheting box wrench to make life easier) to tighten the sway bar end link nuts to the sway bar and axle mount. We like to index the grease fittings forward so they're easy to access.
25. Once wrench-tight, torque to 30 lb./ft.
26. Double check end link/Carli brake line clearance to ensure no contact. The metal bracket on the brake lines can be manipulated to ensure clearance.
27. Grease the sway bar links!



### **NOTE:**

**After the first 500 miles, check the end links for movement. They should be moving around smoothly & freely (should no longer be tight) but have NO plunging (vertical clunking).**

**If there's any plunging present from break in, repeat the above process. Once confirmed or adjusted, grease them and check them every oil change.**