

**CS-F45-COS-05** – 2005-07 Ford Coilover - 4.5" Lift System

**CS-F45-COS-08** – 2008-10 Ford Coilover - 4.5" Lift System

**CS-F45-COS-11** – 2011-16 Ford Coilover - 4.5" Lift System

**CS-F45-COS-BYP-05** – 2005-07 Ford Coilover/Bypass - 4.5" Lift System

**CS-F45-COS-BYP-08** – 2008-10 Ford Coilover/Bypass - 4.5" Lift System

**CS-F45-COS-BYP-11** – 2011-16 Ford Coilover/Bypass - 4.5" Lift System

### **NOTE:**

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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.

Any alterations, modifications, or improper installation, of the product will void this warranty. Products should be inspected for defect upon receipt and approved before installation. Any defect in NEW product will be warranted if returned before installation in its original packaging. Carli Suspension's obligation under this warranty is limited to the repair or replacement of the defective product only. All costs of removal, installation or reinstallation, freight charges, incidental or consequential damage are expressly excluded from this warranty.

Carli Suspension is not responsible for damages and/or warranty of other vehicle parts related or non-related to the installed Carli Suspension product. This warranty shall not apply to any product that has been subjected to accident, negligence, alteration, abuse or misuse as determined by Carli Suspension. Carli Suspension reserves the right to refuse warranty claims if produced parts are combined and/or substituted with other aftermarket suspension products. Combination and/or substitution of other aftermarket suspension components may cause premature wear and/or product failure. Carli Suspension reserves the right to change/alter product without obligation to update any previously purchased products.



## PARTS CHECKLIST:

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| 1. Fabricated Coilover Mounts  | 4. Caster Correction Shims                   |
| 2. Sway Bar Hardware:<br>a. 2005-10: Extended Sway Bar Links<br>b. 2011-16: Sway Bar Drop Brackets | 5. Radius Arm Drop Brackets                  |
| 3. Extended Brake Lines<br>a. 2005-07 also receive Brake Line Tabs                                 | 6. Front Bump Stop Drops                     |
|  | 7. Adjustable Track Bar                      |
|  | 8. KING Coilover (Bypass) 2.5" Shock Package |

## SYSTEM NOTES:

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1. Super Duties equipped with a 2" tall block from the factory will require the factory 3-5/8" tall Block to attain leveled stance with the Add-A-Pack. Factory Part Number: 7C3Z-5598-HB, 7C3Z-5598-JB
2. Rear Driveshaft must be checked for 1 piece or 2 piece units. It is recommended that 2 piece driveshafts order a carrier bearing drop, PN# CS-CARRIERDROP-F
3. Carli Recommends a 17"-18" Wheel, no more than 9" wide with 5" of Backspacing on 4.5" Lift Systems
4. 37", E-Rated Tire Fitment is recommended. Recommended unloaded Tire Pressure 45F/40R

## DISSASSEMBLY

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5. Set emergency brake and block rear wheels, in front and behind tires
6. Break lug nuts loose while the truck is on the ground (do not remove until the truck's weight is off the tires)
7. Jack up the front end and properly support the frame on jack stands.
8. Use a jack under the axle to compress the front suspension.
9. Remove the front wheels and wheel well liners.
10. Disconnect sway bar end links from the axle.
11. Disconnect brake lines and ABS wires from lower factory spring mount (disconnect 4wd vacuum lines if necessary). You are not removing brake lines yet, but simply "unclipping" them from the axle.
12. Remove upper track bar bolt at the frame end.
13. Using a Ball-Joint puller, remove the axle track bar connection from the axle ball joint and remove the track bar.
14. Remove factory shocks.
15. Droop front suspension slowly to unload the spring and remove the factory coil springs. Set aside factory coil spring isolators for re-use with the Carli Springs.

## FRONT INSTALLATION INSTRUCTIONS

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16. Follow directions in the **CS-FRAD-05 – Radius Arm Drop Bracket Box**.
17. Follow Instructions in **CS-FCOMKIT-05(08) – Fabricated Coilover Mounts**
18. Follow directions in **CS-FBDF – Ford Bump Stop Drop, Front Box**.
19. Install provided extended, stainless brake lines in the front.
20. **NOTE:** 2005-07 Trucks also come with brake line drop brackets. Unbolt the factory bolt holding the ABS Hard-to-Flex line bracket to the factory coil bucket and pull it away from the bucket. Use the factory bolt to secure the upper portion of the tab to the bucket. Use the supplied bolt/nut to secure the brake line block to the lower mounting hole of the tab. Hard lines will required minor manipulation; be careful not to kink the hard lines during this process.
21. Follow Instructions in:
  - a. 2005-10: **CS-FEL-05(08) – Ford Extended End Links**
  - b. 2011-16: **CS-SBD – Ford Sway Bar Drop Bracket**
22. If front tires were removed, reinstall and lower the truck prior to setting the torque.
23. Follow instructions in the **CS-FPRB-05 – Adjustable Track Bar Box**
24. Install factory fender liners using factory hardware.  
**NOTE:** The Coilover Brackets require a bit of clearancing the factory fender liners.
25. Reattach vent tubes if they were disconnected.

## REAR INSTALLATION INSTRUCTIONS

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26. Jack up the rear end and support the frame and axle with jack stands.

27. Remove rear wheels and tires.
28. Install provided extended, stainless brake lines in the rear.  
**NOTE:** 2011-16 trucks equipped with dual rear brake lines will require manipulation of the rear ABS lines to achieve the travel of the new brake lines. If they require modification, pull them from the axle bracket and zip-tie them to the new brake lines.
29. Remove rear shocks and discard. Keep the shock fastening hardware as it will be reused with the Carli Shocks.
30. Follow Instructions provided in the U-Bolt box of the **CS-FPAP-05(08)(11) – Progressive Add-a-Pack** or **CS-FFSP-05(08)(11) – Full Progressive Leaf Springs**.

#### COMPLETING INSTALLATION:

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31. Install rear wheels.
32. Lower truck onto the ground.
33. BLEED BRAKES to ensure proper operation.
34. Torque Lug Nuts and double check torque on all suspension components to OEM specs once the truck is on the ground.
35. Mount the REAR Piggyback shocks body up, shaft down with the reservoirs facing away from the axle (driver's resi to the rear, passenger facing front).  
**NOTE:** If system is equipped with Bypass Shocks, it's imperative that the reservoirs/bypass tubes are oriented properly. The reservoirs will face away from the axle as noted above. The Bypass tubes should face inward, NOT toward the frame rail!
36. Torque upper and lower shock mounts to 35 lb/ft.
37. Take truck for an alignment.  
**NOTE:** If desired, a home alignment can be performed as the Toe measurement doesn't change when lifting a straight axle truck. Install the provided caster shims FAT side to the front (slit facing directly REAR).
  - A. Jack up the truck and support the axle with jack stands to take the vehicle weight off the ball joints.
  - B. Remove Wheels and tires from the front.
  - C. Work on one side at a time. Remove the cotter pin from the upper ball joint stud, then, remove the nut that retains the factory alignment shim.
  - D. Using a pry-bar, work around the upper edge of the shim until it pops loose (Southern California version... if corroded, this may require cycling penetrating lubricant and heat).
  - E. Once removed, clean out the knuckle bore as much as possible and install the caster-correcting spacer on the upper ball joint stud. The gap on the thin part of the spacer will face DIRECTLY REAR! This puts the fat part at the front, essentially rolling the axle back to achieve additional caster.
  - F. Once installed, thread the ball joint nut back onto the stud, this step will finish pressing in the shim. While holding the shim's orientation with a wrench, torque the upper ball joint nut to 69ft.lbs.
  - G. Check your work and ensure the shim did not rotate while torquing the ball joint. Once confirmed, install cotter pin and wheel/tire.
  - H. Repeat on other side.
  - I. Set the truck on the ground and ensure the wheels are straight and the truck is at ride height, then adjust the drag link to center the steering wheel.
38. Re-torque after first 500 Miles

#### OPERATIONAL INSPECTION AND SETTINGS

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Please note, the shocks included with this system are nitrogen charged. They require specific nitrogen pressure to operate correctly. Ensure the vehicle is supported properly and that the axle is at full droop when verifying nitrogen pressure. Many gauges will release nitrogen in the process of checking the pressure; ensure your gauge will maintain shock pressure during verification (Lockout Gauge/Charging Manifold) to avoid loss of nitrogen. If you're unsure, many suspension shops, welding supply shops, tire shops, or motorcycle repair shops will be able to check or refill your nitrogen charged shocks.

Without the proper nitrogen pressure, Carli Suspension's shocks will not operate properly and will be more susceptible to damage to the seals and internals of the shock. No shocks will be replaced under warranty if the shocks were not properly charged before installation. Shock should ship charged but should be verified prior to installation. ONLY USE NITROGEN TO CHARGE THE SHOCKS.

Nitrogen Pressures:

King 2.5:	225 psi
King 2.5 Bypass:	200 psi