



**Instructions - CS-DFSP-13-ALAS**  
**2013+ Full Progressive Leaf Spring Auto Leveling**  
**Air Suspension**

**Carli Suspension, Inc.**  
422 Jenks Circle  
Corona, CA 92880  
888-992-2754

**Fitment**  
**2013+ Ram 3500 with Factory Air-Assist, 4x4**

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**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.

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**Lifetime Product Warranty**

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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.

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**Parts Checklist**

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| <input type="checkbox"/> <b>(Qty. 2) - Leaf Spring Packs</b> <ul style="list-style-type: none"><li>◇ Bushings &amp; Crush Sleeves Installed</li></ul>  | <input type="checkbox"/> <b>(Qty. 2) - Air Bag Spacers</b> <ul style="list-style-type: none"><li>◇ (Qty. 4) 12mm-1.5 x 90 Bolts</li><li>◇ (Qty. 4) 12mm Washers</li></ul>   |
| <input type="checkbox"/> <b>(Qty. 1) - Air Tank Relocation Bracket</b> <ul style="list-style-type: none"><li>◇ (Qty. 2) 3/8"-16 x 1.25" Bolts</li><li>◇ (Qty. 3) 3/8"-16 x 1.00" Bolts</li><li>◇ (Qty. 5) 3/8" Washers</li><li>◇ (Qty. 2) Steel, Load Displacement Washers</li></ul> | <input type="checkbox"/> <b>(Qty. 2) - Extended Level Sensor Links</b>  |
| <input type="checkbox"/> <b>(15 Ft.) - 6mm Airline</b>   | <input type="checkbox"/> <b>(Qty. 1) - Zinc Plated U-Bolt Kit</b> <ul style="list-style-type: none"><li>◇ (Qty. 4) - Zinc Plated U-Bolts</li><li>◇ (Qty. 8) - U-Bolt Washers</li><li>◇ (Qty. 8) - U-Bolt Nuts</li></ul> |
| <input type="checkbox"/> <b>(Qty. 15) - Zip Ties</b>   |   |

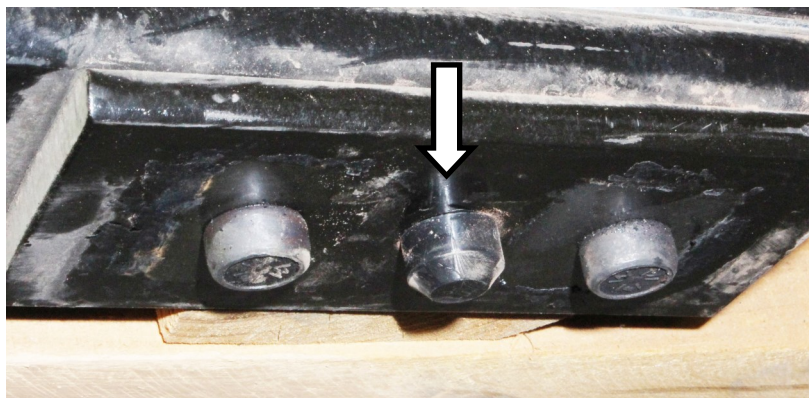


## Instructions - CS-DFSP-13-ALAS 2013+ Full Progressive Leaf Spring Auto Leveling Air Suspension

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### Instructions

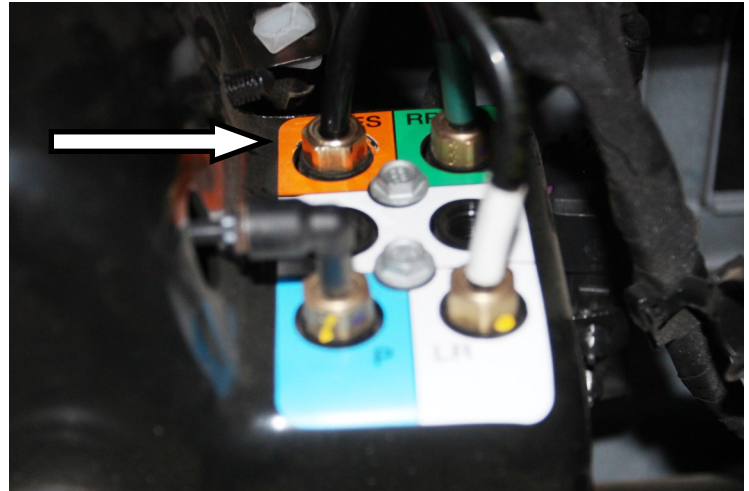
1. Raise the truck. If working without a shop hoist, support truck with suitable safety stands. To do this put the truck in park, block front wheels, both in front and behind tires, then disengage emergency brake. Place floor jack underneath rear axle and raise truck. Place safety jack stands under the frame to support the truck and lower the truck onto jack stands. Remove rear wheels.
2. Disconnect the push-lock fitting connecting the factory leveling/ride height sensor to the rear of the upper u-bolt plate and let it swing up and hang.
3. Use a floor jack to raise the rear axle just enough to take tension from the shocks and using a 21MM socket and 21MM open end wrench, remove the shocks for both sides.
4. Use a 12mm to remove the factory (compression) air fittings/lines from the airbags
5. Using an 18mm, remove the 4 bolts (2 per side) that hold the airbags to the upper, factory frame brackets.
6. Remove rear U-bolts attaching rear axle to driver side leaf spring. If you're doing both sides at the same time, ensure you support the driveshaft/pinion.
7. Carefully lower rear axle (or raise the truck if on a hoist) until the axle is separated from the spring assembly. **DO NOT ALLOW AXLE TO HANG FROM ANY HOSES OR CABLES**
8. Remove the nut from the front leaf spring hanger bolt and rear, lower shackle bolt (where it connects to the frame).
9. Pull the bolts and remove the leaf spring/shackle from the truck.
10. **Coat the Carli/Deaver leaf spring bushing surfaces (front and rear) with synthetic chassis grease; do the same on the inside of the factory frame hangers in which the springs install.**
11. Transfer the factory shackle to the Carli/Deaver Leaf Spring (hand tight for now) paying attention to the factory bolt orientation. If installed in the wrong direction, the bolt threads will contact the frame.
12. Remove the locating button from the bottom of the factory leaf springs (flat-head screwdriver)
13. Install the locating button using a hammer into the center hole on the bottom of the Carli Spring Pack.
14. From the factory, the e-brake cable runs on the inside of the spring; while installing the Carli springs, route the e-brake cable on the outside between the leaf spring and tire. Install new leaf pack with the double/military wrap towards the front of the truck securing with factory hardware, hand tight for now. **NOTE:** You may have to slightly loosen U-bolts on opposite side of the truck to droop axle enough for install of Full Spring Pack if you're installing one side at a time.
15. Carefully raise axle until the spring meets the axle perch. Make sure centering button is aligned in axle perch correctly.
16. Secure the axle to the spring using supplied upper U-Bolt plates (male connector for leveling sensor to the REAR) U-bolts, washers and nuts. Snug U-bolt to ensure the axle and full spring assembly remain assembled and the center pins remain located while you install other side.
17. Repeat steps on passenger side.
18. Once both sides of the leaf springs are installed, torque U-bolt nuts to 110ft.lbs evenly in cross pattern.
19. Attach supplied insulated P-Clamp to the E-Brake cable (routed on the outside of the spring, between spring and tire) and secure it to the spring by removing the retaining hardware from the spring retainer (in front of the axle), sliding the bolt through the p-clamp and reassembling.
20. Install rear wheels, torque to OEM Spec and lower the truck to the ground.
21. Once truck is on ground, at ride height, torque the front and rear hanger nuts and bolts (rear only, upper and lower shackle bolts) to 180ft lbs.
22. Re torque u bolt nuts to 110 lb/ft.



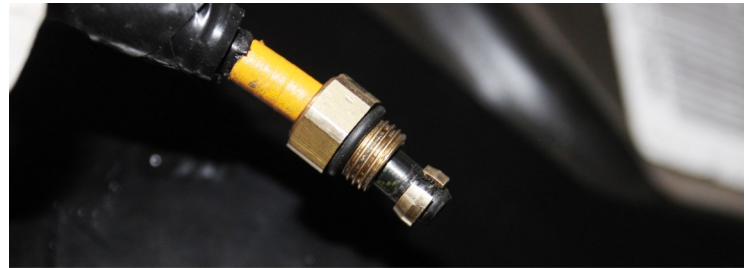
23. With the truck on the ground, place the spacers on top of the air-bags and secure with the provided (4) 12mm-1.5 x 100 Bolts and washers into the factory bracket.
24. Re-install the factory airlines into the bags using the 12mm wrench.



25. Under the passenger door on the frame rail, you'll find the compressor for the factory air system. In the top left, you'll see an ORANGE connection that runs to the air tank on passenger side frame rail under the front door.



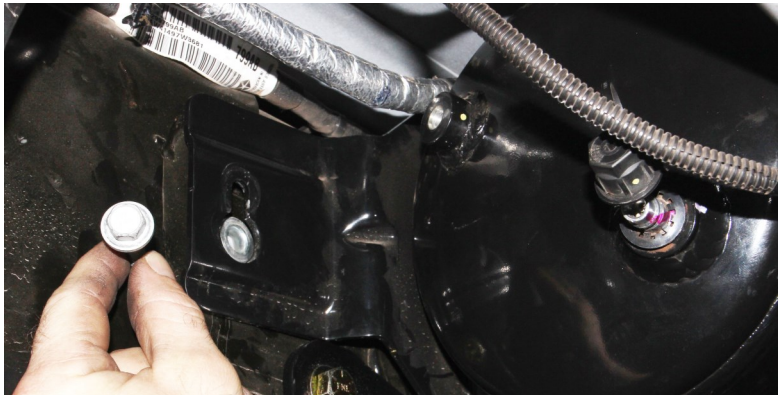
26. Using a 12mm wrench, remove this connection front the compressor and remove the compression fitting from the factory airline. **This fitting will be reused.**
27. Follow this line to the factory air tank and remove the fitting from the tank, again, removing the compression fitting from the airline for reuse on the provided airline.



28. Remove the factory airline that ran from the compressor to the air-tank's factory location. There are several push-lock (Christmas tree) fittings to remove, and discard.



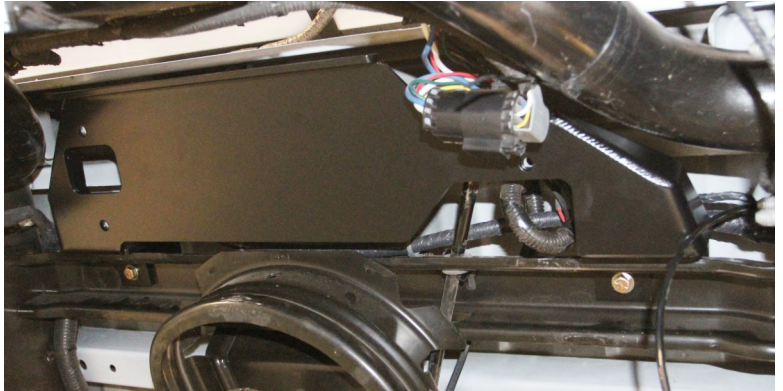
29. With the airline removed, remove the 3 bolts (2 front, 1 rear) securing the air-tank to factory mount and remove the air tank.
30. Remove the factory spare tire. With the lift and allowance for 37" tires, the factory spare becomes useless; thus, we relocate the air-tank to the spare tire area.



31. Place the air-tank relocation bracket over the crossmember facing the rear hitch in the spare tire area aligning the holes with the two in the crossmember.



32. With the provided (2) 3/8"-16 x 1.25" bolts and washers + steel, powder coated load displacement washers, secure the bracket to the crossmember. Torque to 20 lb/ft.



33. Use the provided (3) 3/8"-16 x 1" bolts and washers to secure the air-tank to the Carli relocation bracket. Torque to 20 lb/ft.
34. Route the provided 15ft. length of 6mm airline along the conduit (containing the air-bag airlines) that runs from the factory compressor to the airbags leaving slack on both ends of the line to work.
35. Once length is determined, use a razor blade to cut both ends of the airline to length (DO NOT USE WIRE CUTTERS OR ANYTHING THAT WILL PINCH THE AIRLINE) and slide the factory, 6mm compression fittings over each end of the line.



36. Secure each end of the line into the compressor and air-tank respectively, then use the provided zip ties to secure the airline to the conduit ensuring it's not routed near the exhaust of chafing anything.
37. Remove the factory linkage connecting the ride-height sensor to the upper leaf spring plate. These links are press-fit and require some force to "pop" off.



38. Set the Carli Links to 8-1/4", center of socket to center of socket. The ends should be 90° off from each other as the socket will need to index inward to attach to the sensor and forward to attach to the leaf spring plate. They will be mirrored, not the same (driver's link, the lower will need to be 90° counter-clockwise from the upper - Passenger will need to be 90° clockwise from the upper) We recommend a drop of blue Loctite on the threads.
39. With the length set, tighten the jam nuts against the rod ends to hold their position.



**Driver**



**Passenger**



40. Remove the lock-pins from the rod ends on the link and snap them onto the link and upper spring plate. Given the force required to snap them onto the ball, we recommend applying pressure to the back of the sensor arm while pressing it on to avoid damaging the sensor.
41. Once installed, reinstall the spring-clip locks.
42. Move onto the next step in the Kit Instruction.

