

**Carli Suspension**  
596 Crane St.  
Lake Elsinore, CA 92530



**Tech Support:**  
888-99-CARLI  
(888) 992-2754

## **CS-DRAD-14**

### **NOTE:**

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**We Recommend installation be performed by a trained professional. 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**

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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.

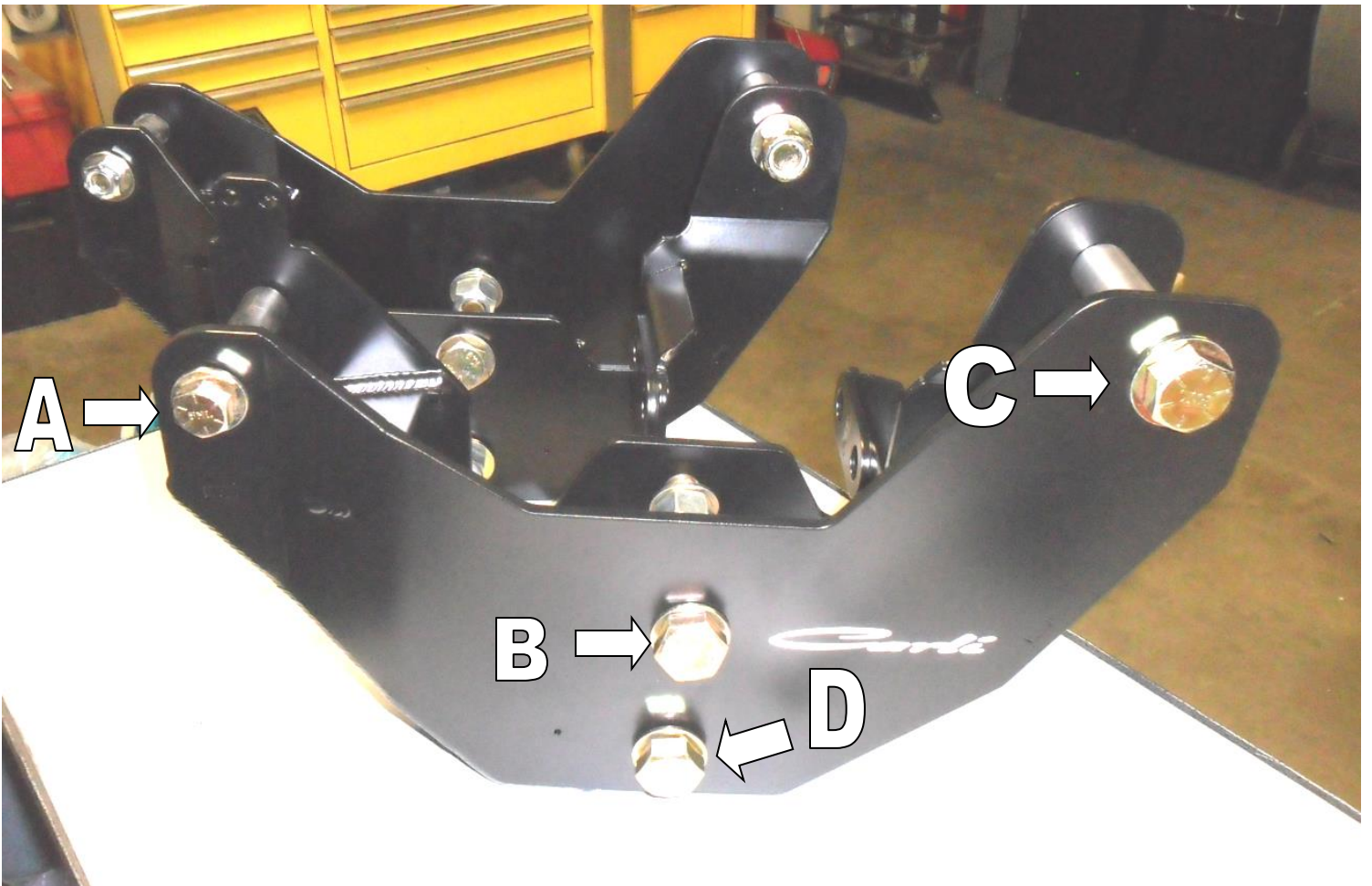
Carli Suspension's Limited Lifetime Warranty excludes the following parts which are subject to wear: Track Bar Bushings, Track Bar Heim Joints, Limit Straps, Control Arm Bushings, Radius Arm Bushings, Shock Bushings, Sway Bar End Link Heim Joints, Shock Seals, Shock Bearings, and Corrosion on Shock Shafts 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.

## What's Included

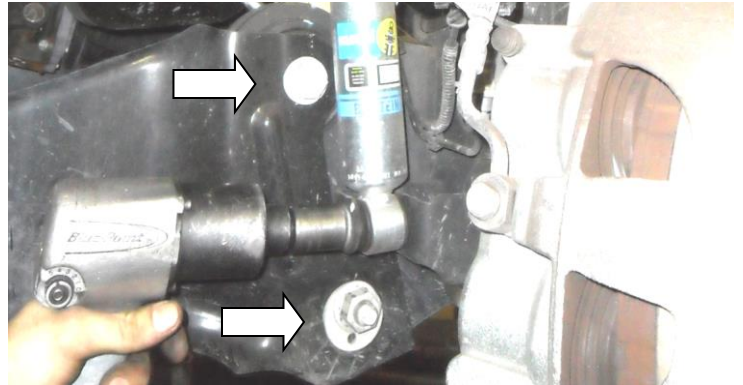
- Driver's and Passenger Radius Arm Drops
- (Qty. 1) Black Zip Tie
- Hardware Kit: Some Parts in the box with Drops, other parts in Plastic Packaging.
  - "A"
    - (Qty. 1)  $\frac{3}{4}$ " Hole Saw
    - L-Bracket (Frame Drilling Tool)
    - (Qty. 2)  $\frac{3}{4}$ " ID Crush Sleeve
    - (Qty. 2)  $\frac{1}{2}$ "-13 x 4" Bolt
    - (Qty. 4)  $\frac{1}{2}$ " Flat Washers
    - (Qty. 2)  $\frac{1}{2}$ " Nyloc Nut
  - "B"
    - (Qty. 4) M18-2.5 x 40mm Bolts
    - (Qty. 8) M18 Flat Washers
    - (Qty. 4) M18 C-Lock Nut
  - "C"
    - (Qty. 2) Radius Arm Drop Bracket Frame Spacer (Q Shaped, laser cut steel pieces)
    - (Qty. 2) 1" OD Crush Sleeve
    - (Qty. 2)  $\frac{3}{4}$ "-10 x 4.5" Bolt
    - (Qty. 4)  $\frac{3}{4}$ " Flat Washer
    - (Qty. 2)  $\frac{3}{4}$ "-10 SHALLOW Nyloc Nut
  - "D"
    - (Qty. 2) M18-2.5 x 140mm Bolts
    - (Qty. 4) M18 Flat Washers
    - (Qty. 2) M18 Nyloc Nut



## Disassembly:

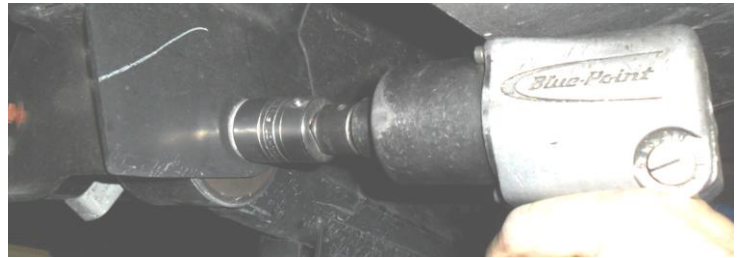
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1. Break the lug-nuts loose while the truck is on the ground, then raise the truck with a lift of floor jack and support the vehicle by the frame. Ensure the axle is at full droop and place jack stands under the axle.
2. Remove the front wheels and tires.
3. Start on the Passenger's side and remove the lower shock bolt (21mm Socket) and remove the shock from the mount to gain access to the axle side radius arm bolts.

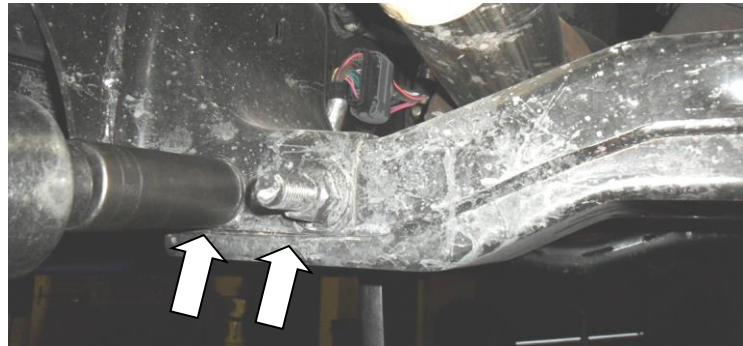


4. Loosen the two bolts securing the radius arm to the axle.
5. Remove the nut from the bolt securing the radius arm to the frame using a 1-1/16" Socket.

**Note:** This bolt will likely be under tension and be difficult to remove. Once the nut is removed from the bolt, use a 15/16" Wrench to manipulate the loosened cam bolt (lower, axle-side connection) to easily pull the radius arm bolt at the frame.



6. Remove the two bolts retaining the radius arm to the axle and set the arm aside to be reused later.
7. Remove the two nuts from the transmission Crossmember on the passenger side using a 15/16" Deep-Socket, then slide the bolts back so they're flush with the crossmember. This will allow the Drop Brackets to slide into place.



8. Using a Plastic Fastener Removal Tool (Christmas Tree), pull the DEF Harness connection out of the Frame and Transmission Crossmember connections to make room for the Radius Arm Drop Brackets.



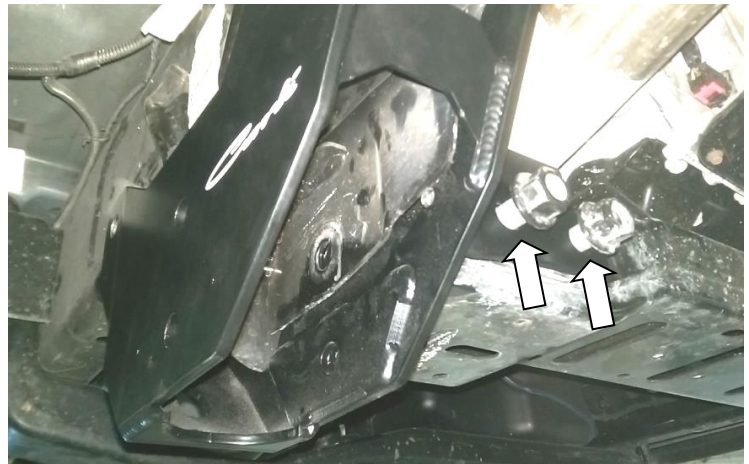


9. Secure the DEF Harness to the wire loom above it using the provided Zip-Tie

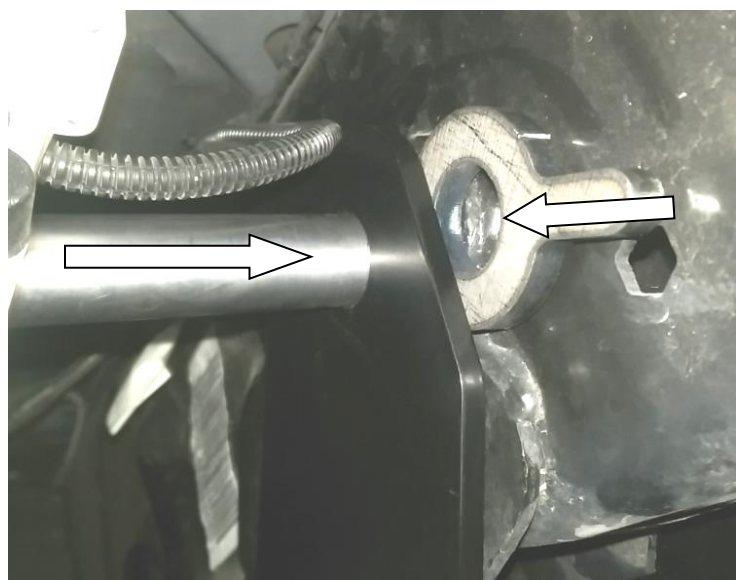


10. Slide the Radius Arm Drop Brackets into place. They're a tight fit so a Rubber Mallet/Dead Blow Hammer will ensure they're seated flush.

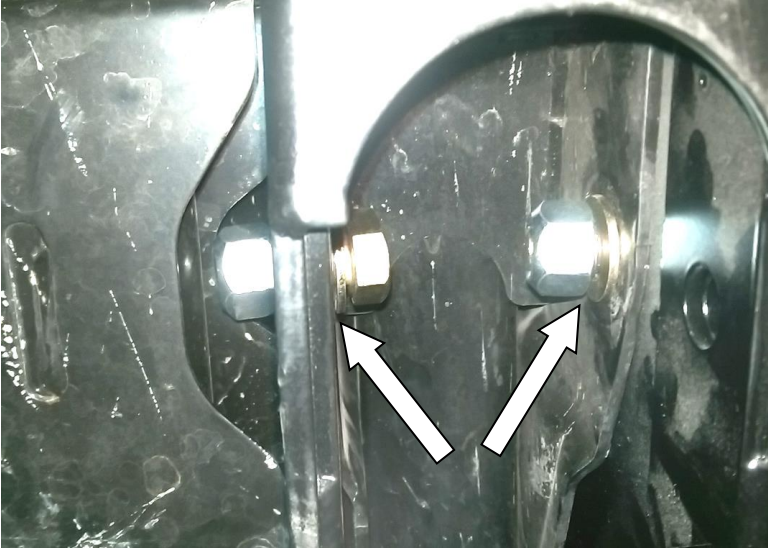
11. Once the passenger drop is in position, push the two transmission crossmember bolts back through to retain the drops and spin the nuts on hand-tight.



12. Position upper, front, 1" OD Crush Sleeve into the front Radius Arm bracket hole (not through the frame yet), slide the "Q-Shaped" frame spacer between the frame and drop bracket, then slide the crush sleeve through the spacer into the factory frame hole.  
**Note:** Sliding the  $\frac{3}{4}$ " bolt/washer into the crush sleeve and hammering it in is the best way to install the sleeve. Once it starts to go in, be sure to watch the inside of the frame rail to ensure the bolt is coming through true as to not damage the threads of the bolt on exit. Once the threads come out the other side, slide the washer over and thread the nut on hand-tight until the M18 bolts are installed in the factory Radius Arm Mount Location.



13. Install the 18MM x 1.5" bolts into the factory location using a washer on each side. The inside bolt should be installed first to ensure sufficient room for the ratchet in the drops. Torque to 280ft.lbs.



14. With the Factory pivot bolts in and torqued, torque the front, upper  $\frac{3}{4}$ " bolts. Standard nut to 280lb/ft., Shallow to 230lb/ft.  
15. Torque the factory trans Crossmember bolts to 120ft.lbs  
16. With the all installed bolts torqued, grab a  $\frac{1}{2}$ " center-punch and slide it into the  $\frac{3}{4}$ " OD crush sleeve. Use the crush sleeve to index the center punch in the rear, upper bracket hole and center punch the frame rail.



17. Remove the sleeve and punch and use a pilot bit to drill the center-punched hole. Then, use the provided  $\frac{3}{4}$ " hole saw to drill the frame to match the rear bracket hole.



18. Slide the  $\frac{3}{4}$ " OD Crush Sleeve into the provided tool (L-Bracket). Once it's pressed in and centered, slide the  $\frac{3}{4}$ " crush sleeve into the upper, rear frame hole that you just drilled. The L-Bracket will index off the drop. With the tool inserted, clamp it in place to ensure it remains flat during drilling.





19. Use a  $\frac{1}{2}$ " Drill bit to slide into the tool/indexed crush sleeve and drill the opposing side of the frame rail.  
**Note:** A right-angle drill will be necessary here.



20. Once drilled, remove the crush sleeve and pull the L-Bracket indexing tool off of the  $\frac{3}{4}$ " OD Crush sleeve.  
21. Reinsert the sleeve into the  $\frac{3}{4}$ " hole and insert the provided  $\frac{1}{2}$ " bolt, washer on each side and nut. Torque to 90ft.lbs.



22. Reinstall the factory radius arms onto the axle leaving the nuts hand tight.  
23. Install the factory radius arm into the new location on the drop bracket with the provided 18mm Bolt, Washers and Lock-Nut. Tighten to engage a few threads of the locknut but do not torque the bolt until the weight of the truck is on the axles. This bushing is vulcanized and should be torqued at ride height. (Once the truck is on the ground, Torque to 280ft.lbs.)

# Addendum

Ram 3500 equipped with the Aisin Transmission should check clearance between the transmission harness and front driveshaft. Once the installation is complete, put the truck to full droop and inspect the clearance between the front driveshaft and the transmission harness that runs along the transmission crossmember.

**IF ANY CONTACT EXISTS**, use a push-fitting removal/panel popping tool to remove the clips securing the harness and allow it to be routed along the front of the crossmember. Use the provided insulated P-Clamp and self-tapping screw to secure the harness to this location and use the provided zip tie to secure the portion of the harness next to the fuel lines as well.

