



CS-DC20-1419-D-AR - Ram Commuter System
CS-DBC-1419-D-AR - Ram Backcountry System
CS-DPT25-1419-D-AR – Ram Pintop 2.5 System

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 “Parts Checklist” 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.

Parts Checklist

- (QTY. 1) CS-DFBD-1: Dodge Front Bump Drop, 1"
- (QTY. 1) CS-DRAD-14: Dodge Radius Arm Drops
- (QTY. 1) CS-PRBDROP-14-R: Dodge Track Bar Drop, 2014, Rear
- (QTY. 1) CS-DATB-1419: Dodge Track Bar, 2014+
- (QTY. 1) CS-DEL-R-14: Dodge End Links, Rear, 2014
- (QTY. 1) CS-DLRC-14-D: Dodge Front Linear Coil, 2014+, Diesel
- (QTY. 1) CS-DCM-20-HK: 2020+ Ram Transmission Crossmember Hardware

AIR RIDE SYSTEM

- (QTY. 2) Air Bag Spacers, 2.5”
 - (QTY. 4) 3/8”-16 x 1.00” Bolts with washers and crimp lock-nuts
- (QTY. 2) Rear Bump Drop Spacers, 2.5”
 - (QTY. 4) M10 x 70mm Bolts
- (QTY. 2) Extended Sensor Links
- (QTY. 1) M8 Nut

Shock Package

COMMUTER

- (QTY. 1) CS-DC20SPKG-1419-D-AR: Commuter Shocks, Air Ride Tune

BACKCOUNTRY:

- (QTY. 1) CS-DBC20SPKG-1419-D-AR: Backcountry Shocks, Air Ride Tune
- (QTY. 1) CS-DRM-2.0: Shock Reservoir Mounts
- (QTY. 1) CS-DBLT-1419-R: E-Brake Routing Tabs

PINTOP:

- (QTY. 1) CS-DPT25SPKG-1419-D-AR: Pintop Shocks, Air Ride Tune
- (QTY. 1) CS-DRM-2.5: Shock Reservoir Mounts
- (QTY. 1) CS-DBLT-1419-R: E-Brake Routing Tabs



Installation Instructions

1. Start installation with the instructions in the “CS-DRAD-14: Dodge Radius Arm Drops” Box. **NOTE:** 2020+ Rams will need to utilize the “CS-DCM-20-HK - Crossmember Bolts” as the factory bolts will be too short to sandwich the front of our Radius Arm Drop Bracket.
2. If you’re installing the Carli Radius Arms, now is the time to install them—follow the instruction provided with the arms.
3. Remove the factory front shocks, disconnect the sway bar end links from the sway bar and swing it up out of the way. If you’re going to run the Torsion Sway Bar, remove the sway bar and the sway bar end links from the truck.
4. Remove the factory front shocks, disconnect the sway bar end links from the sway bar and swing it up out of the way
5. Note: Remove the links from the axle is Torsion sway bar is being installed.
6. Remove OEM Track-Bar and Droop out the front axle to remove the factory coil springs, setting aside the upper isolator for re-installation on the Carli-Coils
7. Remove Factory Bump Stops (Pry them to the side to remove them) and follow instructions in the instructions in the “CS-DFBD-1: Dodge Front Bump Drop” Box.
8. Follow Instructions in the “CS-DLRC-14-D: Dodge Front Linear Coil, 2014+, Diesel” Box. Be sure to install the Reservoir mount on the Coil Spring if you’re installing a Backcountry or Pintop System!
9. Compress the front suspension to load the coils and install the front Shocks.

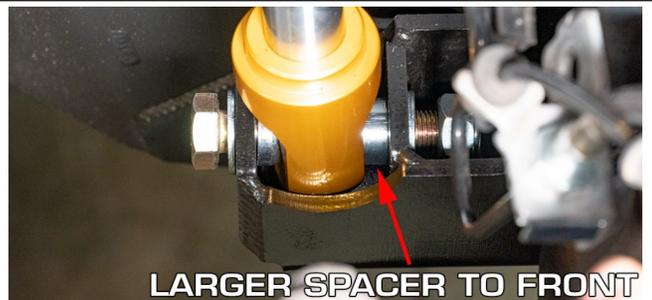
NOTE: The 2014+ Rams have a notoriously weak front, lower shock mount. It’s the reason we sell a weld-on replacement. MOST of the issues we see with the factory shock mount would be avoided by completing the weld on the factory shock mount! Looking at it, you’ll see it’s half-welded from the factory. This led to MANY shock mounts tearing for the axle under even mild use. If you have the ability, Finish weld your mount while your factory shocks are out!

• **Commuter 2.0:** These shocks are bushing equipped, top and bottom. Install the lower bushing into the factory lower shock mount, remove the top half of the bushing, compress shock and guide the stem-top through the factory upper shock mount. Reassemble the upper bushing half on top of the shock mount and tighten the provide nut to preload the bushing.

• **Backcountry 2.0:** Installation is exactly the same as the Commuter shocks above, but the remote reservoir will mount with hose clamps to the installed reservoir mount as the King shock is mounted in the picture below. Rolling the reservoir back in the shock mount will ensure the reservoir hose stays away from the tire. Fox charges these shocks with the correct 225psi from the factory. Access to nitrogen will make the installation MUCH easier. These shocks can be “muscle” into position if you don’t have access to nitrogen but draining them from the Schrader under the cap on the end of the reservoir will make them go in much easier to manipulate into the mounts.

• **Pintop 2.5:** These shocks are Bushing upper, bearing lower. Access to Nitrogen will make the installation MUCH easier. These shocks can be “muscle” into position but the nitrogen pressure will need to be confirmed to ensure proper operation, once installed. **THEY ARE NOT ALWAYS SHIPPED FROM KING WITH THE CORRECT NITROGEN PRESSURES!!**

1. Remove the nut, washer and upper bearing retainer.
2. Remove the upper bushing assembly from the shock. The Bushing assembly consists of an internal metal sleeve with a plastic outer liner - around this is a 2-piece bushing. Separate the bushing so the internal sleeve is connected to the lower half and assemble it to the factory mount securing it by assembling the upper bushing half back to the lower half & crush sleeve sandwiching the factory Shock Mount.
3. Drain the king shocks of their nitrogen pressure by depressing the Schrader valve on the end of the reservoir and compress the shock shaft about half way into the shock body.
4. Install the shaft end into the lower shock mount. **THE LONGER OF THE TWO SPACERS GOES TO THE FRONT** - this offsets the shock position slightly rearward. Secure with the factory shock bolt (or, if installed, with the hardware provided with your Carli Shock Mounts).
5. With the lower rod end installed, Guide the pin of the shock into the assembled bushing in the factory upper shock mount until enough thread is exposed that you can install the bushing cap, washer and nut.
6. Tighten the upper bushing assembly until you feel the crush sleeve engage and there’s slight bushing preload.
7. Mock the reservoir to the mount to see the outward facing portion and install the reservoir stickers.
8. Secure the Reservoir to the mount with the provided hose clamps.
9. Charge the Shocks to 250psi of NITROGEN (NO compressed air) while they’re at full extension.



10. **Torque the lower shock bolt to 100lb.ft. (125lb.ft. if running Carli Lower Shock Mounts)**
11. Install the wheels and tires and set the truck on the ground to load the suspension.
12. Install Carli Track Bar following the instructions provided in the “**CS-DATB-1419: Dodge Track Bar, 2014+**” Box.
13. Install your selected sway bar option (sway bar drop brackets OR Torsion Sway Bar)
14. With everything installed in the front and the weight of the truck on the suspension, center the eccentric bolts (Lower axle to Radius arm hardware used to adjust caster) in their adjustment range and torque Upper and Lower Axle Connections to 220ft.lbs. To set the Vulcanized bushing to the new ride height, torque the Radius Arm Pivot at the drop bracket to 280ft.lbs. **ONLY DO THIS AT RIDE HEIGHT** if you’re installing factory Radius Arms as this will set the center of travel for the vulcanized bushing. Carli Radius Arms with the spherical bearing in the rear can be torqued in the air or on the ground.
15. Block the front wheels on both sides to ensure the truck doesn’t shift while working on the rear. Brake the lug nuts free while the rear is on the ground.
16. Jack the rear end up and support the truck by the frame rails ensuring there’s **NO** tension on any rear brake lines or ABS lines.
17. Support the Axle with jack stands
18. Use a 12mm Line Wrench to loosen the air-fittings from the compressor labeled “LR and RR” under the passenger door next to the frame rail.

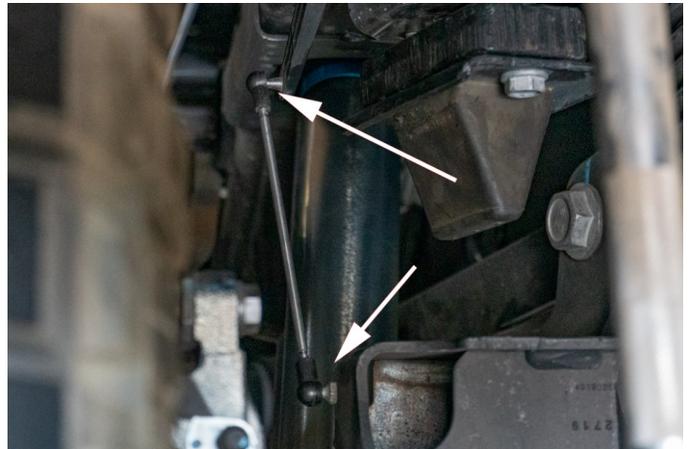


19. Remove the rear shocks
20. Loosen the axle side track bar bolt, remove the frame side and lay the track bar flat to the axle out of the way.
21. Follow the instructions in the “**CS-PRBDROP-14-R: Dodge Track Bar Drop, 2014, Rear**” Box.
22. **PINTOP AND BACKCOUNTRY ONLY** : Follow Instructions in box for the “**CS-DBLT-1419-R: E-Brake Routing Tabs**”

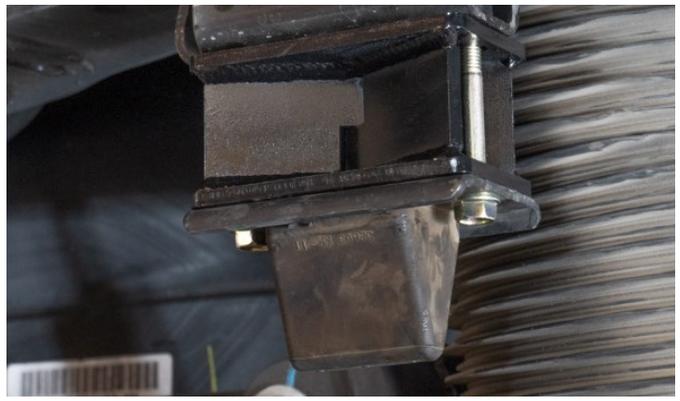
23. Use a 13mm wrench to remove the nuts securing the air bags to the axle mounts. There will likely be 3 total nuts - 2 on the passenger bag, 1 on the Driver’s side bag. For whatever reason, ram leaves the front, lower bag stud in the axle without a nut securing it.



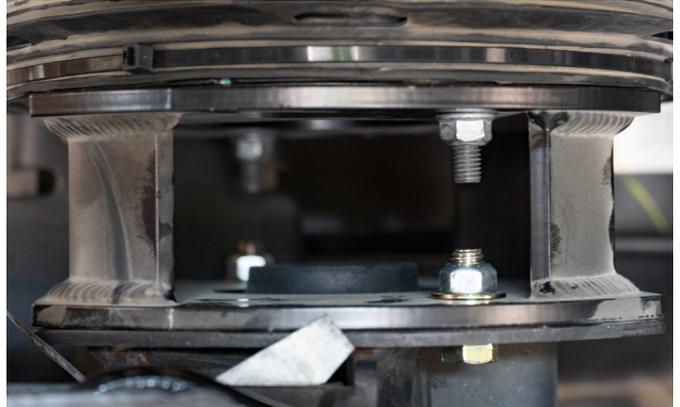
24. Remove the factory position sensor links from the armature and axle mount. These will pop off with force—be careful to not damage the sensor arm.



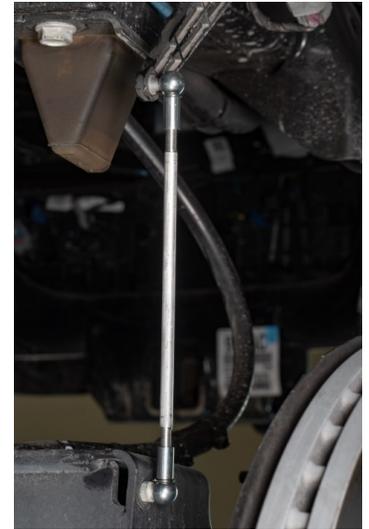
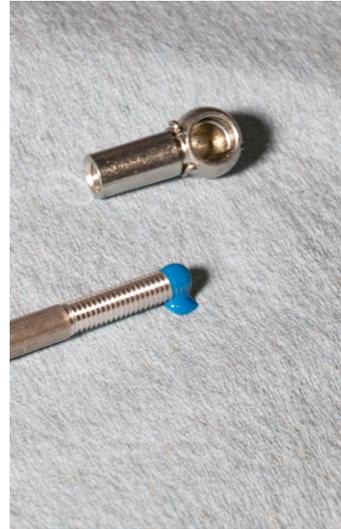
25. Use a 15mm socket to remove the factory bump stops from the frame rail—Install the Carli bump drop with the extended hardware between the frame and factory bump stop.
26. Install the Carli spacers to the axle with the provided M10 hardware. Torque to 25lb/ft.



27. Install the factory airbags to the Carli spacers with the factory nuts AND the provided 4th nut for the Driver's front neglected by Ram. DO NOT OVERTIGHTEN. You cannot fit a torque wrench in the assembly but snug is sufficient for these nuts.
28. Use the provided 3/8-16 x 1.00" bolts, washers and lock-nuts to secure the spacers to the axle brackets as shown. Torque spec on these is 25lb/ft but, again, no torque wrench will fit. Snug them up with a box wrench. There are two pins installed in the Carli spacers; this marks the REAR; these will sit tight to the back of the lower bag piston as a failsafe.



29. Disassemble the Carli extended sensor links and coat the threads in blue Loctite. Thread the ends back on, bottom them out and ensure they're set to 9" Center of socket to Center of socket. Both sockets/ends should be facing the same direction with this measurement set.
30. Remove the spring clip from the sockets. This pops off and slides out vertically.
31. Install the links to the factory sensor arms and axle connection then reinstall spring clips. Popping these on requires some serious force, use caution not to break the sensor arm.
32. Re-install the airlines to the compressor.



33. The upper portion of the airbags isn't secured to the upper crossmember with any hardware; there are 2 indexes in the top of the airbags that will need to be guided into their respective holes to position and seat the airbag. We recommend jacking up the rear axle to align these holes before kicking on the compressor to inflate the rear bags.
34. With the airbags properly seated and the axle slightly compressed,



- Install your rear shocks. If equipped with reservoirs, install body down, shaft up with the reservoirs facing forward. The upper stem-top mount should be installed exactly as the front was; lower installs into the factory shock mount and again, the torque spec is 100lb/ft.
35. If the axle was manipulated with a jack to index the upper portion of the airbag, ensure the axle is now on LOW jack stands and the airbags are still indexed properly into the upper crossmember.
 36. Open any door of the truck to engage the air suspension. You should hear the compressor kick on and the bags inflate to the new ride height. Confirm the airbags are properly seated into the upper crossmember.
 37. Follow the instructions in the “**CS-DEL-R-14: Dodge End Links, Rear, 2014**” Box.
 38. Install the wheels and tires and set the rear of the truck on the ground.
 39. Torque the factory rear track bar bolts to 155ft. lbs to set the vulcanized bushings **at the new ride height**.
 40. **Nitrogen charged shocks require proper pressures to operate as designed and tuned. The Backcountry come with the proper charge. If they were drained to assist installation, jack the front and rear so the suspension is fully suspended and recharge the shocks to 225psi. The King Pintop Shocks require the nitrogen to be filled to the same 225psi at full extension and should be confirmed regardless of whether they were drained or not. King does NOT always fill them to 225psi!!**
 41. Extend the steering drag link to re-center the steering wheel.
 42. Take truck in for a complete alignment and retorque all bolts after 1000 miles. Periodically check to ensure bolts remain torqued per the instructions.

ALIGNMENT

If you're taking the truck for an alignment, give them the following specs:

Toe: 0 - 1/16" TOE IN

Caster: 3.8° to 4.5°, positive — *DO NOT CROSS CASTER*

Camber: None-adjustable on these trucks.

If you're doing your own alignment:

Don't get too hung up on "0" overall toe, many people read about this on other's recommended alignment specs. Any variance on this could lead to toe-out which you DO NOT want. 1/32" to 1/16" toe-in ensures you're erring on the right side of 0° and, if you look at this measurement on a tape measure, you'll see why we describe this as a better option—it's extremely minimal.

Caster:

All 3.25" Carli Systems should have Carli Radius Arm Drops installed. This will allow you to center the eccentric bolts (caster adjustment bolts on the lower radius arm to axle connection) in their adjustment range. If you're going to cross caster for any reason, we do not recommend deviating more than 2 hash marks, side to side. In the radius arm trucks, extreme cross caster (i.e. one adjuster maxed in each direction) will pull one side down and push the other side up causing a significant lean.

Final Notes:

Aligning these trucks is easy, confirm the toes is correct as this measurement will NOT change with the lift and should still be set from a previous alignment or the factory, if new enough. That said, ALWAYS confirm the toe—we use 2 straight edges and a tape measure (old school beats alignment racks in our opinion). You can find 100 videos on toe adjustment on YouTube if you're interested in doing a manual alignment.

As for the Caster, on 3.25" systems, we adjust both sides to the center of the adjustment range. Finally, we center the steering wheel.