

INSTALLATION NOTES

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.

We recommend all fasteners that do not utilize a locking nut (Crimp-Lock or Nyloc), or reuse a lock nut (as these are technically one-time use), use a medium-strength thread-locker to ensure a good, mechanical connection. We use Loctite 243 in-shop. Further, all torqued bolts should be torque-striped/paint-marked for future inspections confirming hardware has not loosened.

Recheck all torque after the first 500 miles.

LIFETIME 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.

For full Warranty details, see: <https://www.carlisuspension.com/warranty/>

PARTS CHECKLIST

Before beginning disassembly of the vehicle, check to ensure you've received all parts necessary to complete installation.

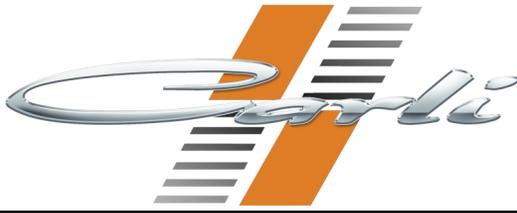
This Airbag system will come with the upper bracket box, **CS-FLTB-23-UPR**, then 1 of the 3 LOWER axle-bracket boxes listed below specific to the axle diameter for which this was purchased.

- CS-FLTB-23-UPR**
- (Qty. 1) - PC-FLTBU-23-5HOLE
Driver's Side Upper Bracket — 5 holes
 - (Qty. 1) - PC-FLTBU-23-3HOLE
Passenger's Side Upper Bracket — 3 holes
 - (Qty. 1) - PC-FLTBU-23-SPCR3
1/4" Passenger's Side Upper Airbag Bracket Spacer
 - (Qty. 1) - PC-FLTBU-23-SPCR5
1/4" Driver's Side Upper Airbag Bracket Spacer
 - (Qty. 2) - PC-FLTBU-17-NUTSTRAP
Captured Nut Brackets, 3/8"-16
 - (Qty. 1) - PC-FLTB-17-BRAKEBRKT
Axle Breather Brake Line Bracket
 - (Qty. 2) - AP-AIRBAG
Airbag
 - (Qty. 1) - PC-HEATSHIELD
Airbag Heat Shield
 - (15 Ft.) AP-AIRLINE
1/4" Airline

- CS-FLTB-17-BTM-35**
- (Qty. 2) - PC-FLTB-17-BTMBRKT-35
Lower Bracket — 3.5"
 - (Qty. 2) - AP-FLTB-17-UBOLT-35
1/2" Axle U-Bolt — 3.5" Width
 - (QTY 4) 1/2"-20 FLANGE NYLOC NUT
U-Bolt Nuts

- CS-FLTB-17-BTM-40**
- (Qty. 2) - PC-FLTB-17-BTMBRKT-40
Lower Bracket — 4"
 - (Qty. 2) - AP-FLTB-17-UBOLT-40
1/2" Axle U-Bolt — 4" Width
 - (QTY 4) 1/2"-20 FLANGE NYLOC NUT
U-Bolt Nuts

- CS-FLTB-17-BTM-45**
- (Qty. 2) - PC-FLTB-17-BTMBRKT-45
Lower Bracket — 4.5"
 - (Qty. 2) - AP-FLTB-17-UBOLT-45
1/2" Axle U-Bolt — 4.5" Width
 - (QTY 4) 1/2"-20 FLANGE NYLOC NUT
U-Bolt Nuts



PARTS CHECKLIST — *Continued...*

AP-FLTB-17-HK — HARDWARE KIT

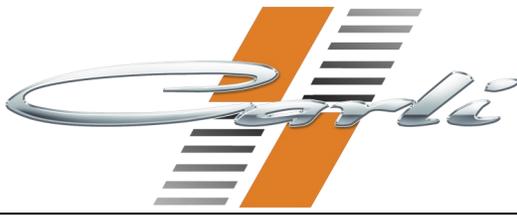
- (Qty 4) 5/8"-18 x 4/5" Bolt
- (Qty 8) 5/8" Flat Washer
- (Qty 4) 5/8"-18 Top-Lock Nut
- (Qty 4) 3/8"-16 x 1.25" Bolt
- (Qty 4) 3/8"-16 x 1.00" Bolt
- (Qty 4) 3/8" Split Lock Washer
- (Qty 8) 3/8" Flat Washer
- (Qty 2) M10 x 40mm Flange Head Bolts
- (Qty 2) 90° Push-Locks Air Fitting—1/4"
- (Qty 2) Straight Push Lock Air Inflation Fitting, Schrader

INSTALLATION INSTRUCTIONS

1. Using a 15mm socket, remove the nuts retaining the bump stop bracket to the frame on the driver's side.



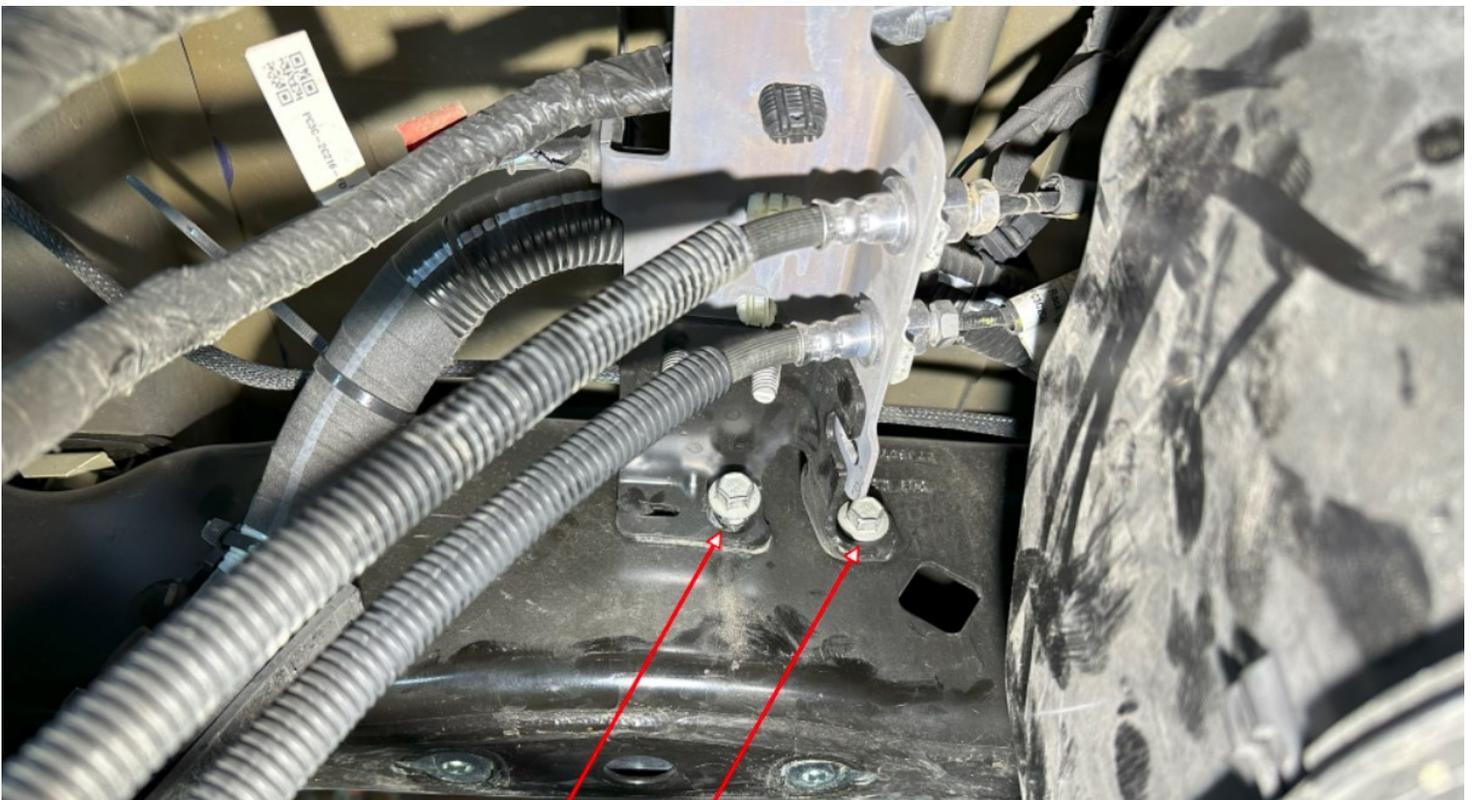
2. With the bump stop bracket removed, remove the factory studs/clips from the frame. Use screwdriver to disengage the clip and slide them downward and inward to remove.

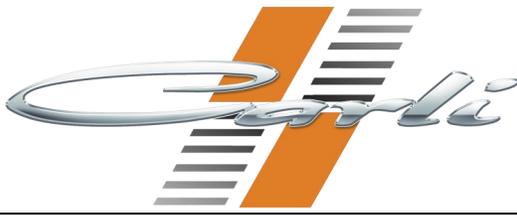


3. If the truck is equipped with a factory 5th-wheel hitch, use a 21mm socket to remove the (qty. 2) 16mm bolts/capture nuts that secure the hitch to the frame rail on each side.



4. Using a 13mm socket, remove the 2 bolts securing the upper brake line bracket to the inside of the frame rail.





5. With a panel-popper tool, remove the plastic rivet holding the factory wiring harness in place (that routes around the rear shock).

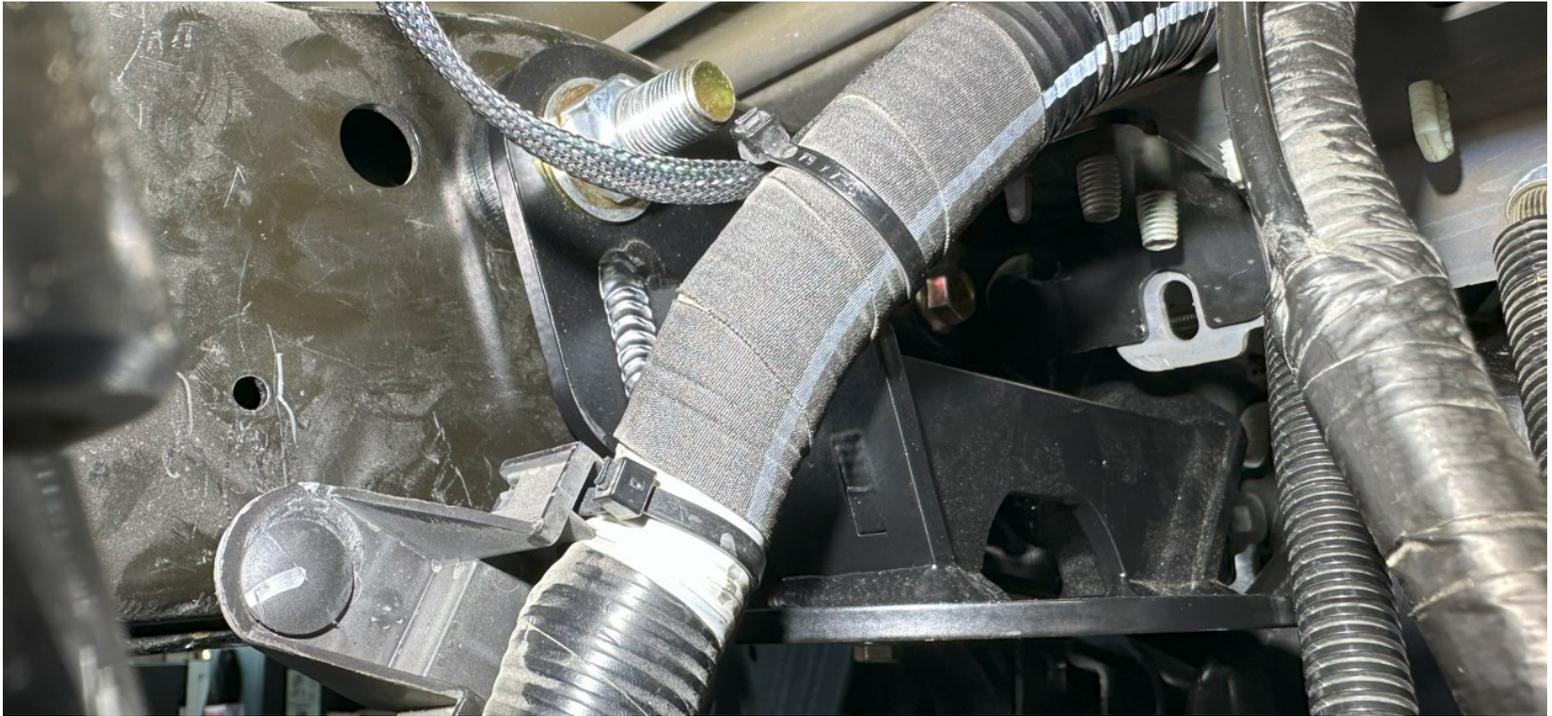
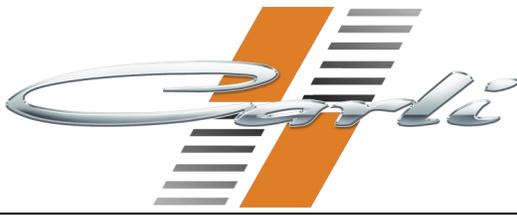


6. Slide the provided captured-nut bracket into the frame in place of the studs that were removed (that retained the factory rear bump stops).



7. Slide the DRIVER Upper bracket (5 holes) into place on the INSIDE of the frame rail between the brake line bracket and the frame. Use the provided (qty. 2) 3/8"-16 x 1.25" bolts, split lock washers and flat washers to loosely secure the upper bracket, vertically, to the capture nut bracket inserted into the frame in the factory bump-stop location.

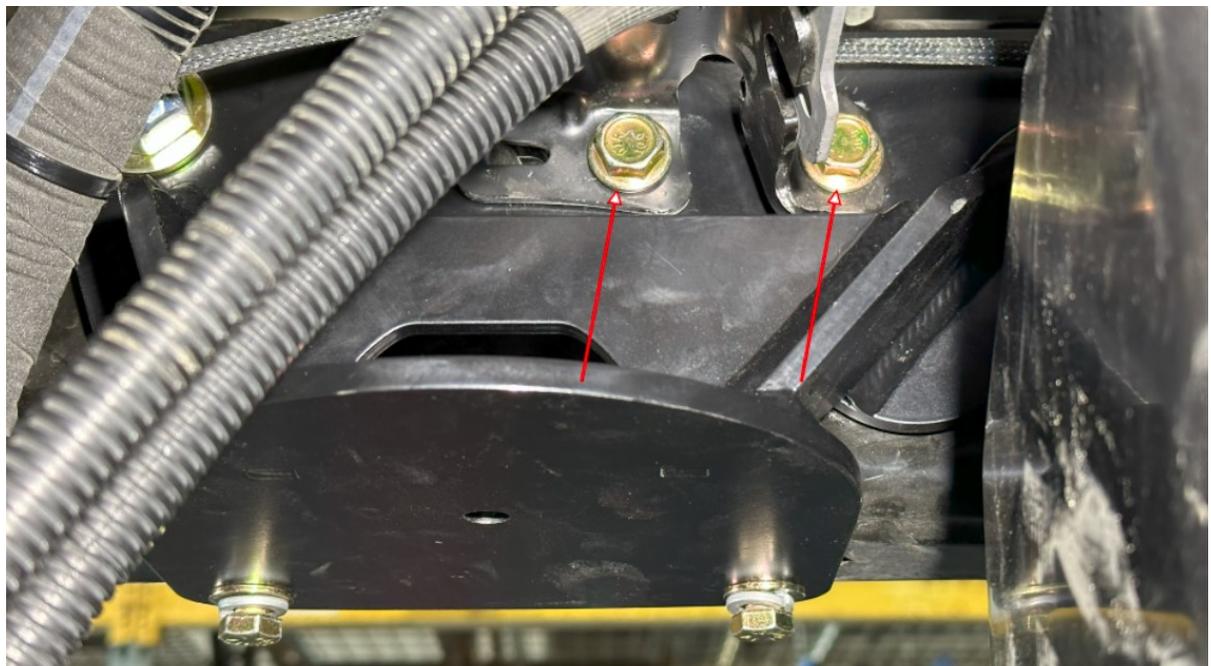
NOTE: This is where these trucks have a bit of variance — some truck have the 5th wheel bracket welded to the outside of the frame, some have it welded to the inside. SOME trucks have no bracket on either side of the frame. **These brackets are designed to fit with the 5th wheel hitch plates welded to the inside of the frame rail.** The welded 5th wheel brackets are 1/4" thick from the factory. If you install the bag brackets and you see that there's a 1/4" gap between the upper bracket and the inside of the frame, you'll need to install the provided 1/4" spacers between the Carli Bracket and the Factory frame rail to take up this gap.

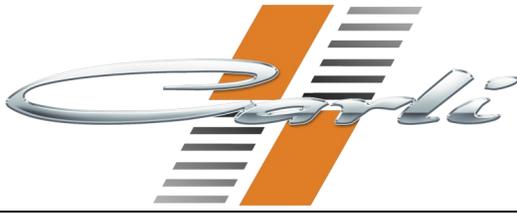


8. Insert the provided 5/8"-18 x 4.5" bolts through the frame with a washer on the head and secure with a washer and the provided nut. Again, loosely at this time.
Above shown WITH the spacer installed as this truck does NOT have the factory 5th wheel bracket welded to the inside of the frame rail.

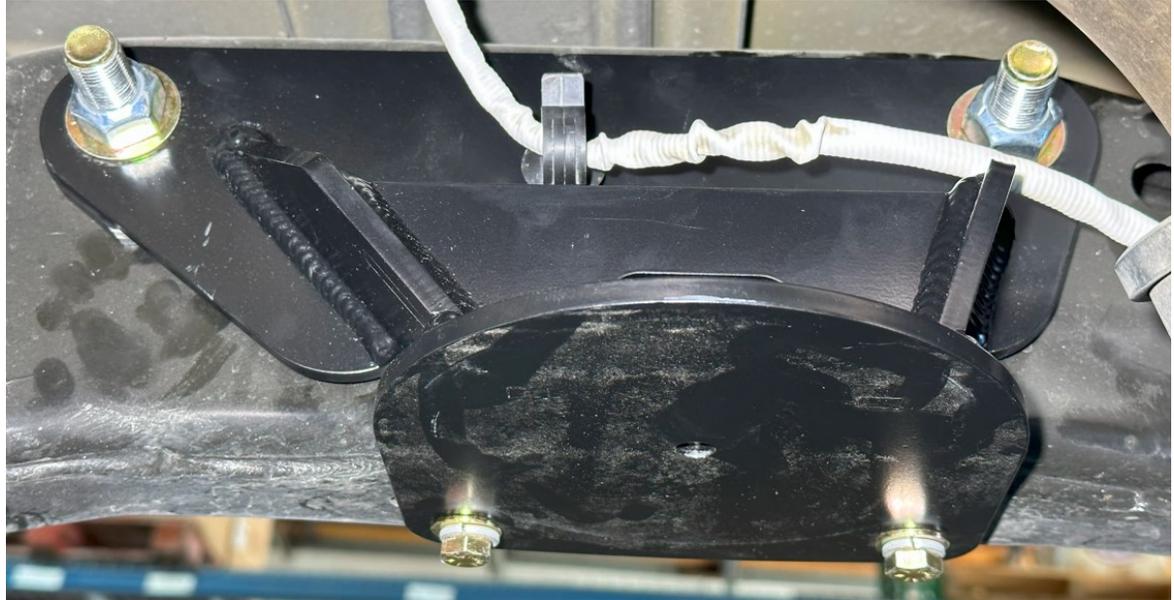
NOTE: The spacers are side specific (5 holes on driver, 3 holes on passenger) and the holes **MUST** Match up to the upper airbag bracket. If they're installed backwards or on the wrong side, you will not be able to mount the brake line bracket on the driver side or the o2 sensor harness on the passenger.

9. Loosely secure the upper brake line bracket to the factory location from which it was removed (in the frame) over the upper airbag bracket using the extended (qty. 2) M10-40mm bolts provided.

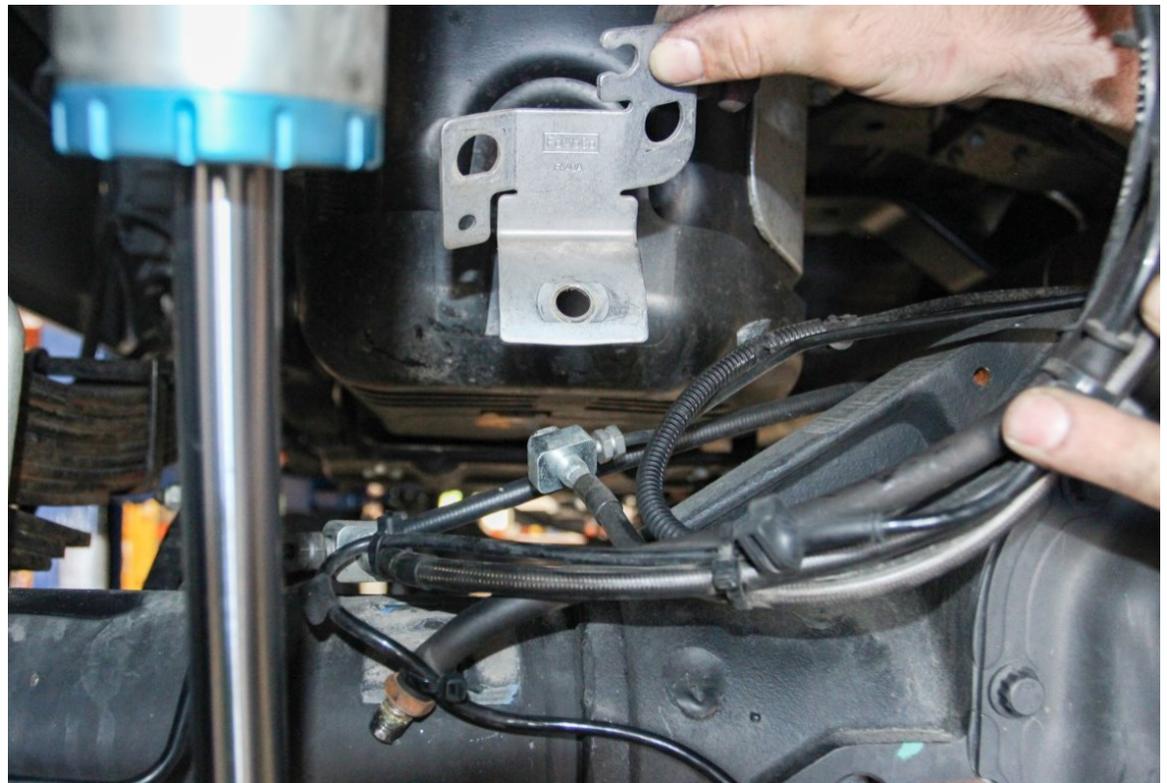


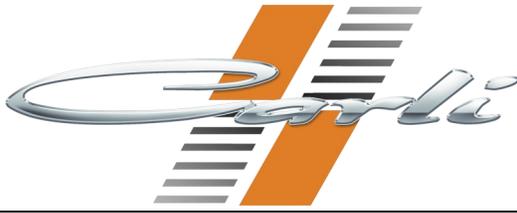


10. Repeat the process on the passenger side. Attach the Christmas-tree fitting to the hole in the Carli bracket. The passenger side is far easier as there's no brake line bracket or wiring harness.



11. With both upper brackets loosely in place, use a 9/16" socket to tighten the vertical 3/8" hardware in the factory bump-stop location first, this will ensure the brackets sit tight to the bottom of the frame. Torque these bolts to 35lb./ft.
12. Once the lower bolts in the upper brackets are tightened, torque the 5/8" main support hardware to 230 lb./ft.
13. Torque the 10mm brake line bracket bolts on to 25lb./ft. on the driver side frame bracket.
14. Moving onto the lower brackets, Remove the ABS wires from the axle bracket and pull the factory clips holding the brake lines to the axle bracket. With these out of the way, use a 16mm to remove the breather from the axle tube and remove the factory ABS/Brake line axle bracket. Loosely reinstall breather into hole to prevent any debris from entering the axle during the remainder of the installation.



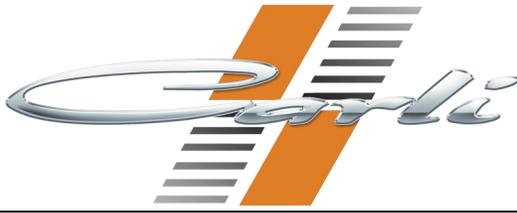


15. Attach the 90° press-lock air fitting into both Airbags and index the inlet upward. Ensure to use Teflon tape/thread sealant when installing these fittings.
16. Using the provided 3/18"-16 x 1.0" Bolt, Split-Lock Washer and Flat Washer, loosely attach the bag to the upper brackets with the air fittings in front (air inlet facing up). **Use Anti-Seize on these bolts.** Install the provided heat shield between the airbag and upper bracket on the passenger's side.

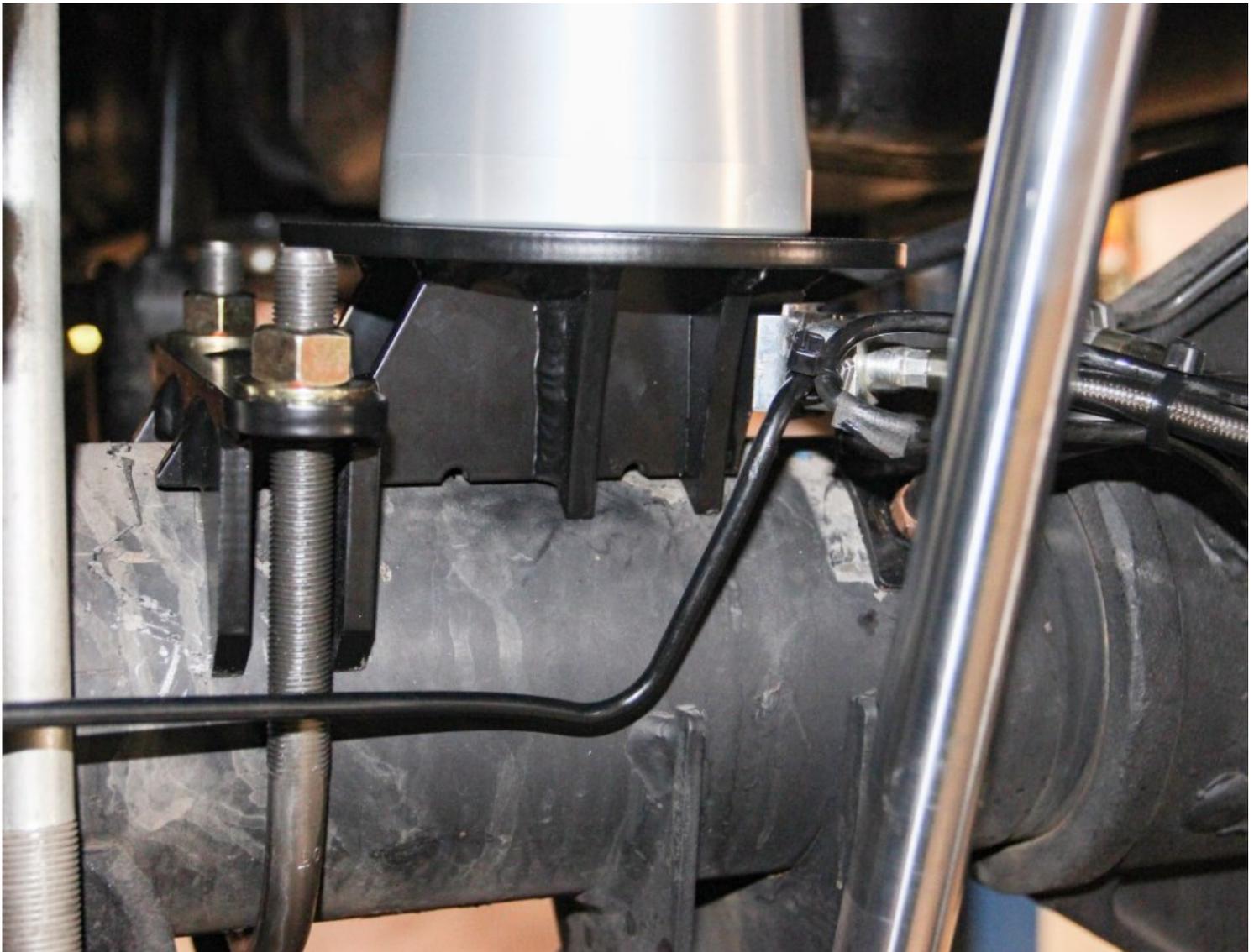


17. Remove the axle breather and use it to install the supplied Carli lower brake line axle bracket. Use the provided clips to secure the Carli Stainless brake lines to the Carli Bracket. If not running Carli rear lines, use the factory clips to secure the brake lines to the bracket.

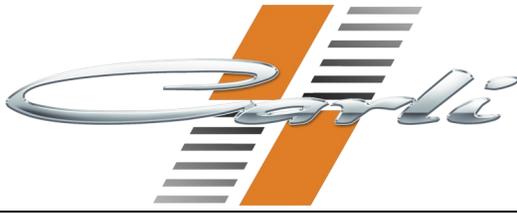




18. Install the lower brackets to the installed airbags using the provided 3/18"-16 x 1.0" Bolts, Lock Washer and Flat washer. **Use Anti-Seize on these bolts.** The U-bolt receiver will go toward the leaf spring on both sides. Looking from the top, down, the u-bolt receiver on the lower bracket should be at 9 o' clock (toward the outside) and air-fitting on the bag at 12 o' clock (front of the truck) on the driver's side. The passenger's side will be mirrored with the air fitting at 12 o' clock and u-bolt receiver at 3 o' clock.
19. It may take a few tries to get the lower bracket perfectly indexed and tightened to the bag. Once confirmed, Torque the 3/8" hardware securing lower bag piston to the lower bracket to 40lb./ft.
20. Pull the lower brackets down to meet the axle and loosely secure the u-bolts with the provided flat washers and nuts.
21. Set the truck on the ground in the rear so it's sitting at ride height. Ensure the bags are as linear as possible at ride height and the lower brackets are level.
22. Torque the lower bracket u-bolts to 80lb./ft. (evenly). A touch of space under the bracket after torquing is completely normal, the lower brackets will sit flush when loaded.



23. Torque the upper airbag mounting bolt/bracket to 40lb./ft.
24. If these bags will be plumbed into an existing compressor - use the 1/4" airline provided to route the airlines to the compressor outputs. **DO NOT "T" the bags together to a single input!!! This allows pressure transfer and can cause the weighted bag to purge it's pressure. Again, the airbags should ONLY be Used with a compressor with 2 solenoids/outputs (controls the pressure of the bags individually).**



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25. If setting the bags up for manual fill - Find an accessible location to mount the provided push-lock schrader valves and install them. We welded on a tab at the hitch but it's equally acceptable to drill a hole somewhere in the hitch/rear bracketry. Install the airline to the airbag push-lock fittings and route the airline along the frame (in an area that avoids chaffing, zip ties are recommended) to the installed schraders. We routed it along the trailer wiring harness on the driver's side. Install the airline in the push lock schraders.
 26. Zip tie the ABS Lines to the brake lines and ensure all lines are clear of rubbing the mounting brackets and airbags.
 27. Fill the bags to 50psi and spray airline and air fittings down with a soap and water mixture to check for leaks.
 28. **RETORQUE ALL HARDWARE (U-BOLTS MOST IMPORTANTLY) AFTER FIRST 500 MILES**