

Front driveshaft
needs extended
1.5"

This kit requires
a small amount
of welding.
Electronics
protection is
Recommended.



D4F4-3-X-13-10
VERSION 1.5

A 90 degree drill is
required

NOTE: This kit
requires 1/4-20",
3/8-24" and 1/2-20"
taps

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2013-2018 Ram 3500 P/U

8-10" Front Lift Kit

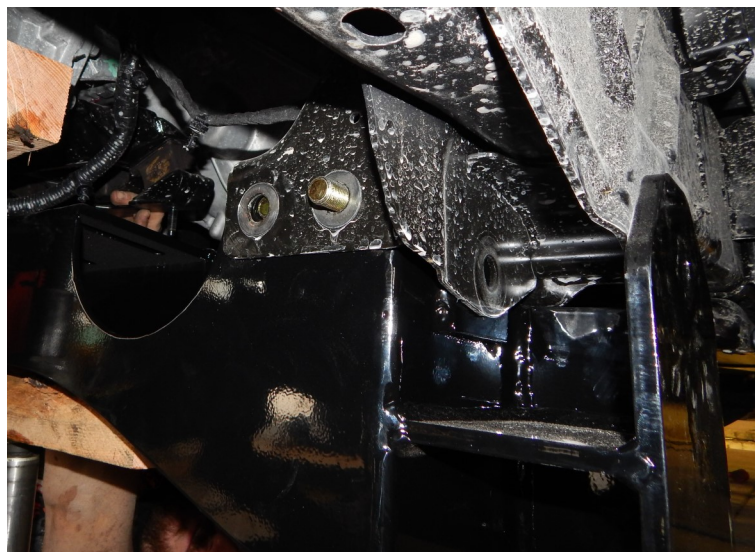
Installation Instructions

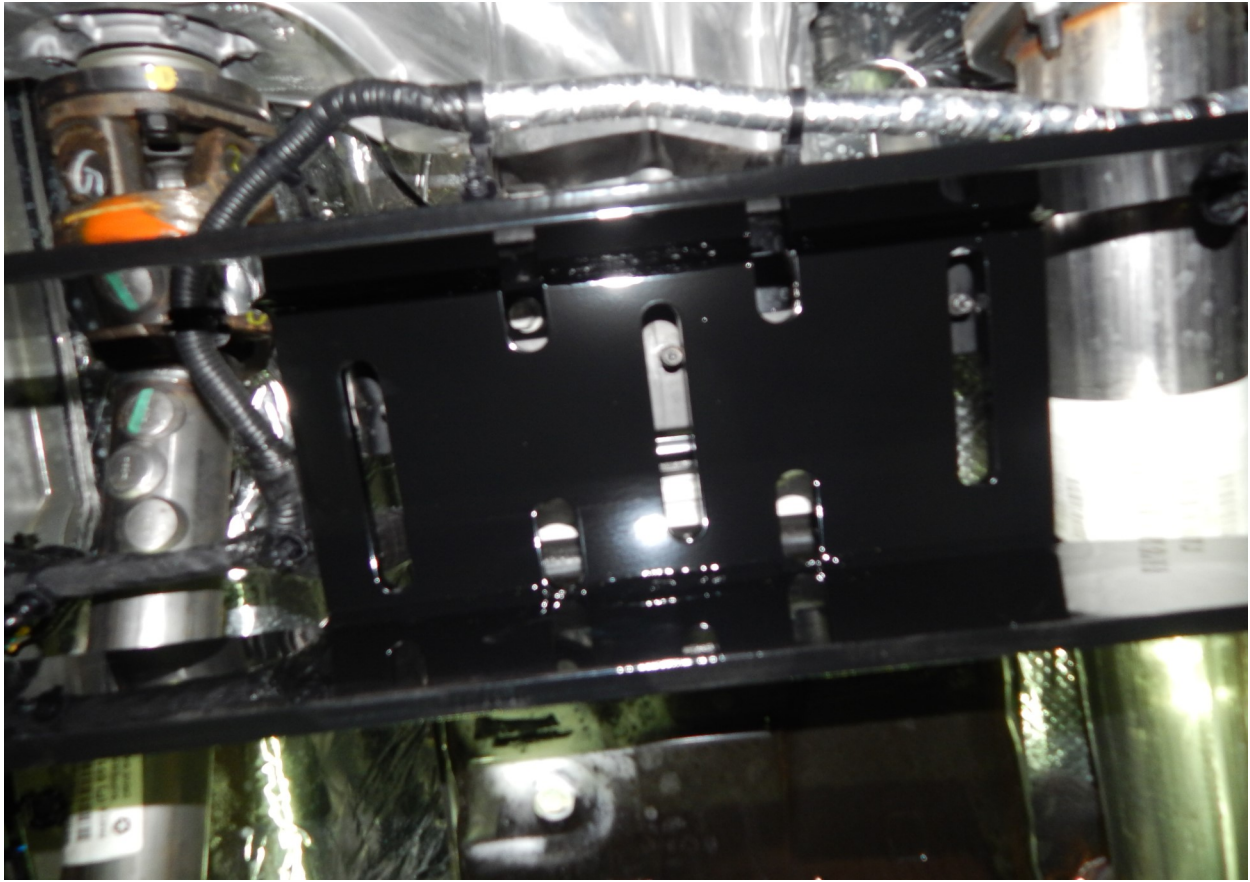


1. Jack the truck up by the front axle and place jack stands under the front of the frame just behind the radiator. Remove the wheels. Remove the shocks and unhook the sway bar end links from the sway bar. Remove factory panhard bar and keep factory hardware. Lower the jack down so the tension is off the coil springs and remove the coil springs. There will be welding on the chassis, so now disconnect all the battery cables or attach an electronics protection device on the battery.

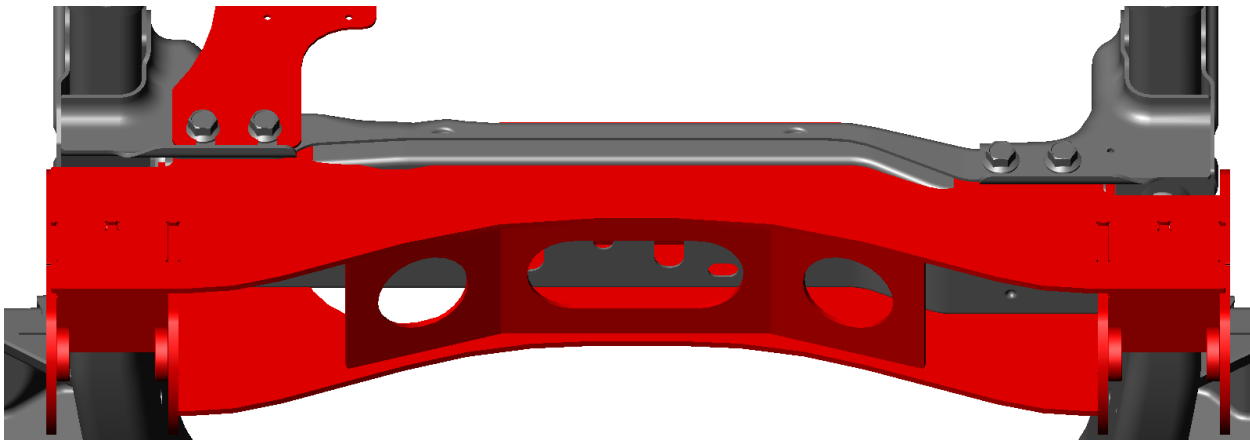


2. Place a jack under the transmission. Use a block to distribute the weight over the entire transmission pan. Remove the three nuts from the transmission mount where it fastens to the crossmember. Remove the four bolts that hold the transmission crossmember in place and then remove the crossmember. Remove the (2) bolts that fasten the control arms/radius arms to the frame. Keep the nuts for the transmission mount. Locate the cross member (part # 18299). It fastens into the factory crossmember holes with the (4) 5/8" x 8" bolts. Insert the bolts going from the back of the truck forward. Do not torque until step 4. Once these crossmember bolts are installed, fasten the transmission to the crossmember with the factory nuts. Torque the transmission nuts to 45 ft./lbs.





Bottom view of the transmission crossmember



3. After the crossmember is installed, its time to index the transfer case. The Ram's have 2 different transmission options. The Aisin R-86 is an 8 bolt unit and the standard 68RFE is 6 bolt. Remove the transfer case and lay it on the ground outside the truck.



68RFE Pictured above (6 bolt) with Borg Warner transfer case below



NOTE: When assembling the indexing ring, make sure the studs **DO NOT** protrude through the aluminum. If they do, remove them and grind them down so they are recessed one thread. If the indexing ring is installed with the studs protruding, damage to the output shaft of the transmission and input shaft of the transfer case will occur.

Use red Loctite when installing the studs in the indexing ring and on the bolts that hold the indexing ring. Use red Loctite on the nuts that hold the transfer case to the indexing ring studs.

MAKE SURE THE STUDS DO NOT PROTRUDE OUT OF THE INDEXING RING LIKE SHOWN IN THE PICTURE BELOW. GRIND THE STUDS DOWN SO THEY ARE COUNTERSUNK ONE THREAD

If you are using the 6 bolt indexing ring put the studs in the middle of the three threaded holes.

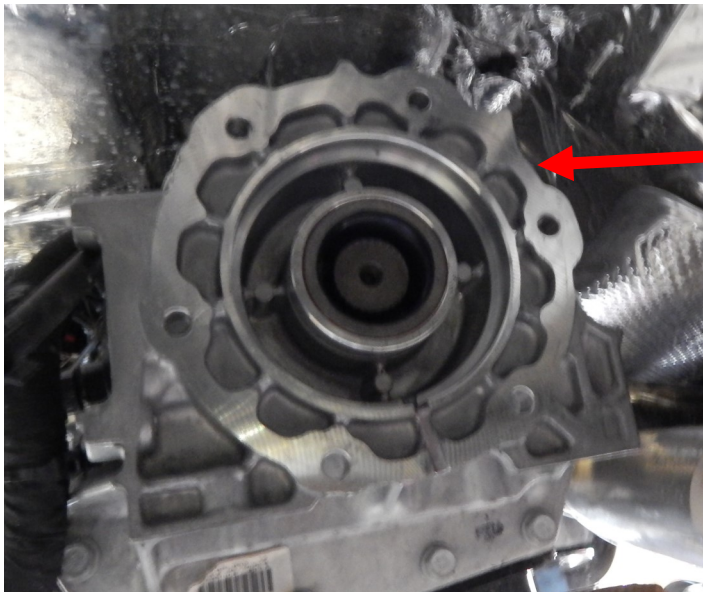
If you are using the 8 bolt indexing ring use the second hole (furthest away from the countersunk hole going counter clockwise).



Correct stud length after installation

NOTE: 11-01-2020 68RFE Indexing rings were switched to a thinner steel instead of aluminum. They don't use a seal adaptor anymore

4. With the transfer case removed, locate the seal adaptor that fits in your transmission. Remove the factory seal from the transmission. There are (3) different seal adaptors for the Dodge trucks. Two adaptors are sent with each indexing ring. Once you figure out which seal adaptor fits your transmission, press the supplied new seal in it, then place it into a freezer. Once the seal adaptor has had about 30 minutes to shrink a few thousandths in the freezer, remove it and place it in the back of the transmission. If installing the 68RFE, put the paper gasket between the indexing ring and transmission. Apply red Loctite to the bolts and use the M10 x 30mm cap head screws to fasten to the transmission. Torque to 25 ft./lbs. Place some red Loctite on the studs and reattach the transfer case to the indexing rings and tighten the nuts to 35 ft./lbs.



Seal adaptor installed with new seal

USE RED LOCTITE ON STUDS AND BOLTS

8 bolt indexing ring and seal adapters for Aisin



6 bolt indexing ring and 2 different seal adapters for manual and automatic transmissions



Indexing ring installed



5. Locate the upper trailing arms (part # 52128.5). They are the shorter trailing arms with the 7/8" Heim ends on one end. Adjust these bars so the distance is 25-5/8" center to center of the bolt holes. Locate the spacers (part # 18767) and place one on each side of the Heim end to center it up in the crossmember. Install the trailing arms with the Heim end into the transmission crossmember with the two M18 x 150mm bolts. The other end, which is the axle end of the trailing arms, fastens with the M18 x 130mm bolts. Make sure to orientate the fabricated knuckles so the trailing arms are closest to the tire and the fabricated knuckles are orientated at 10 O'clock on the drivers side and 2 O'clock on the passenger side at the top corner. See the picture on page 10.

6. Locate the lower trailing arms (part # 52136). They fasten into the cross member with the 7/8" x 6" bolts and fasten to the axle with the M18 x 130mm. Use spacer (part # 18929) on the inside of the knuckle and crossmember. This will space the trailing arms out towards the outside of the truck. Set the distance on the upper bars to 25-5/8" and the lower bars to 24-3/8" between the jam nuts and knuckle. Snug the bolts up for now. You will torque the 7/8" bolts to 275 ft./lbs. and the M18 bolts to 200 ft./lbs. in step 19. These measurements will get your axle pretty close to original pinion angle. Some fine tuning may still need to be done once the air bags are mounted and final ride height is programmed in with the control system. **NOTE:** When fine tuning move each bar half a turn on each side at a time. Failure to do so will result in the arms binding.



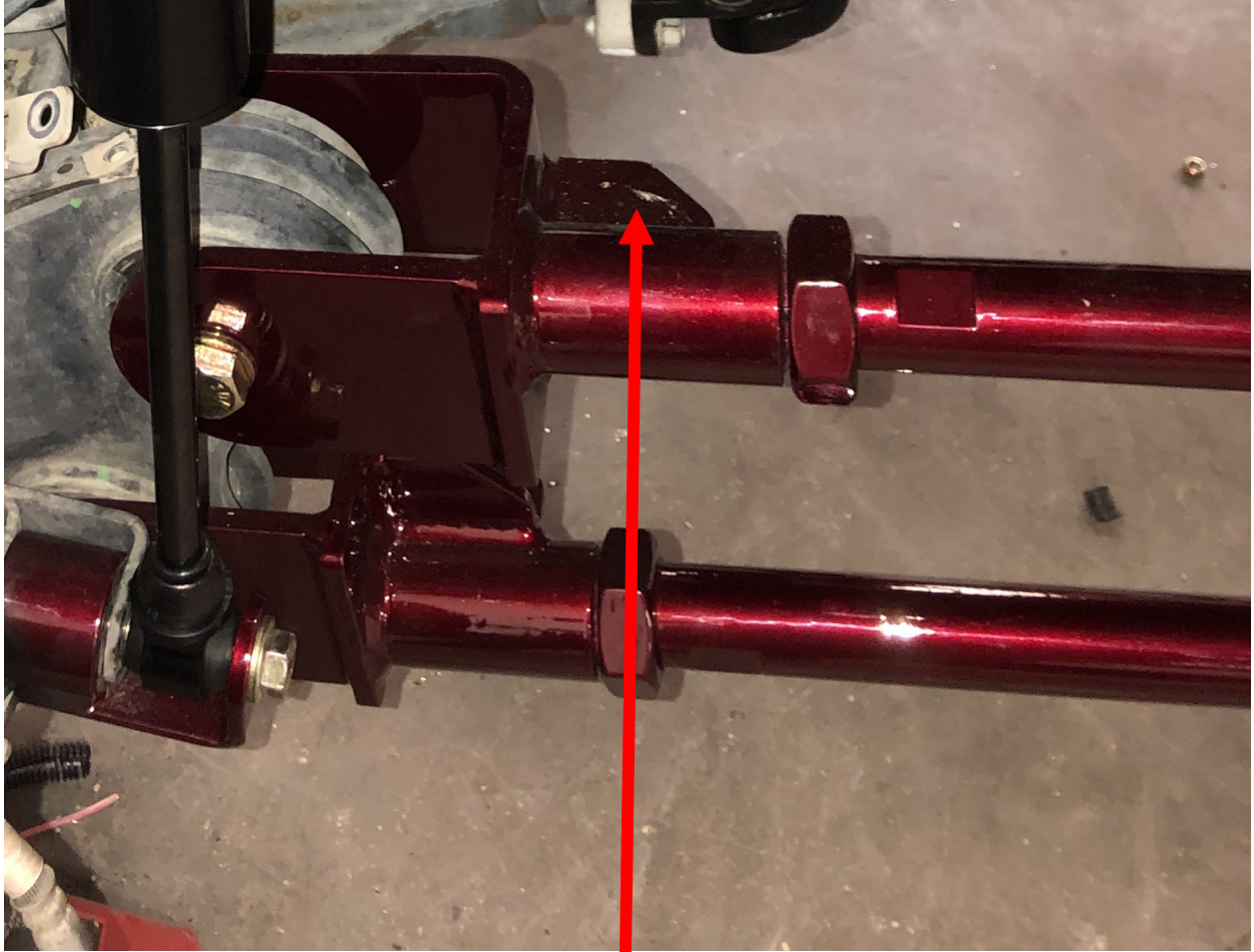
Passenger side



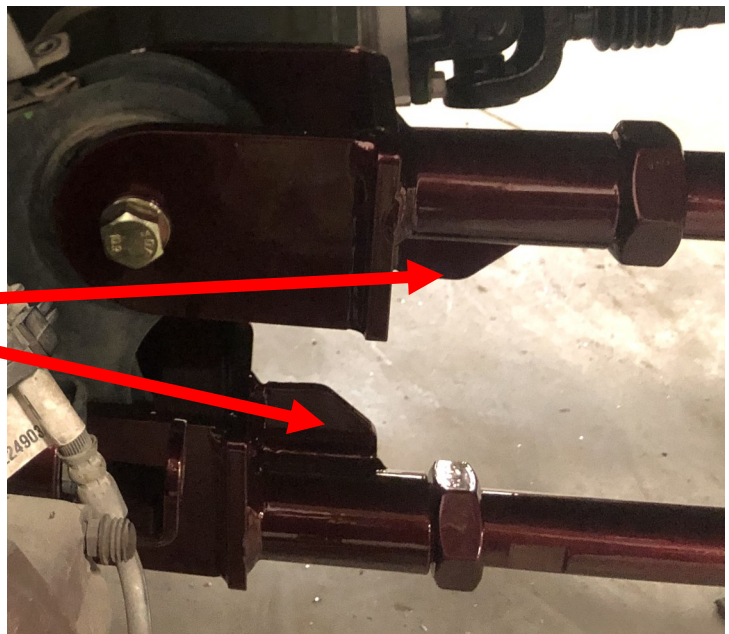
Drivers side



Top trailing arm pictured centered with the machined washers.



Make sure the trailing arm fabricated knuckles are spaced towards the tire. Also make sure the knuckles are so the female threaded portions are furthest away from each other.



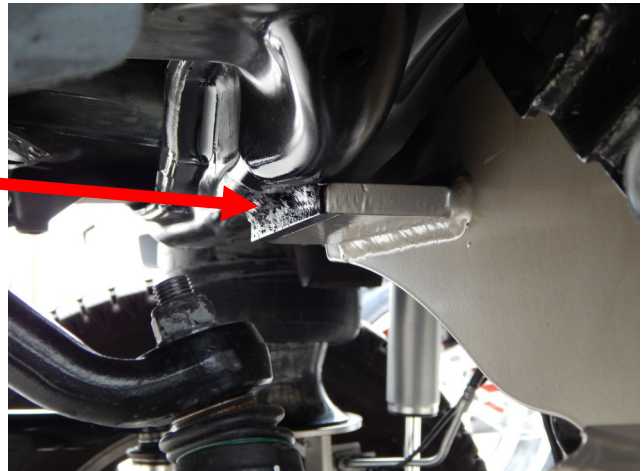
Make sure the trailing arm gussets face each other

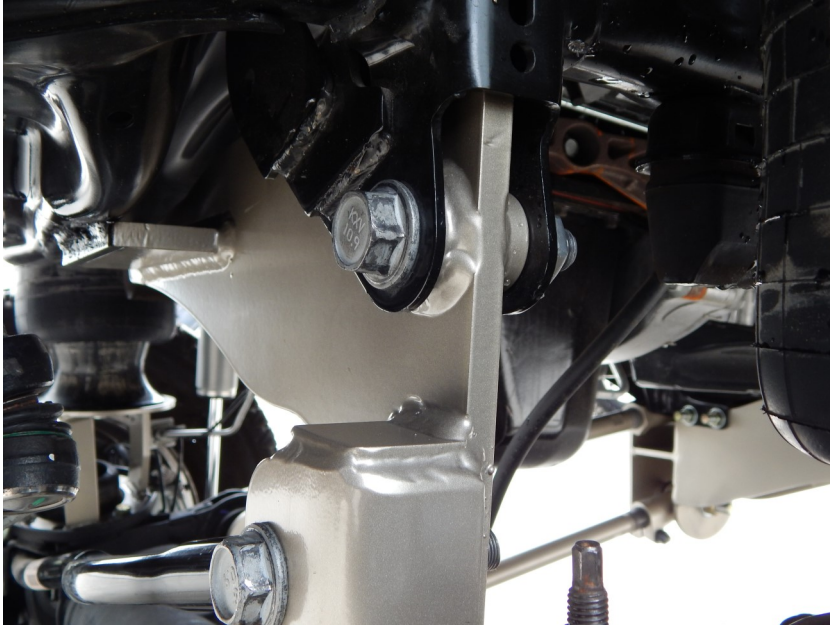


7. Place a reference mark on the ball joint threads where the jam nut sits on the steering linkage. Remove the steering linkage from the factory pitman arm. Remove the factory pitman arm. It will not be reused. Unthread the tie rod completely from the steering linkage. The tie rod end as a machined "leg" on it. This needs to be cut off due to the tie rod being installed 180 degrees opposite of the factory.

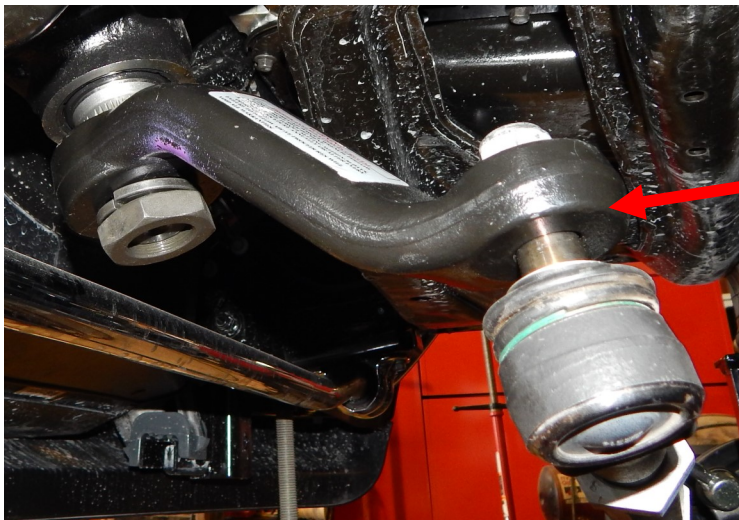
8. Remove the bolt that holds the panhard bar from the panhard bar mount. Locate the panhard bar drop (part # 18307) and use the factory bolt to connect it to the factory pan hard bar mount. The other end gets welded to the factory cross member. Just set it in place now and mark on the frame where you will have to weld. Remove the bracket and grind the area where the welding is to take place. Re-install the bracket and torque the factory bolt to 135 ft./lbs., making sure the area to be welded it tight against the frame. Weld the pan hard bar drop to the cross member. Weld the entire tab length.

Weld here



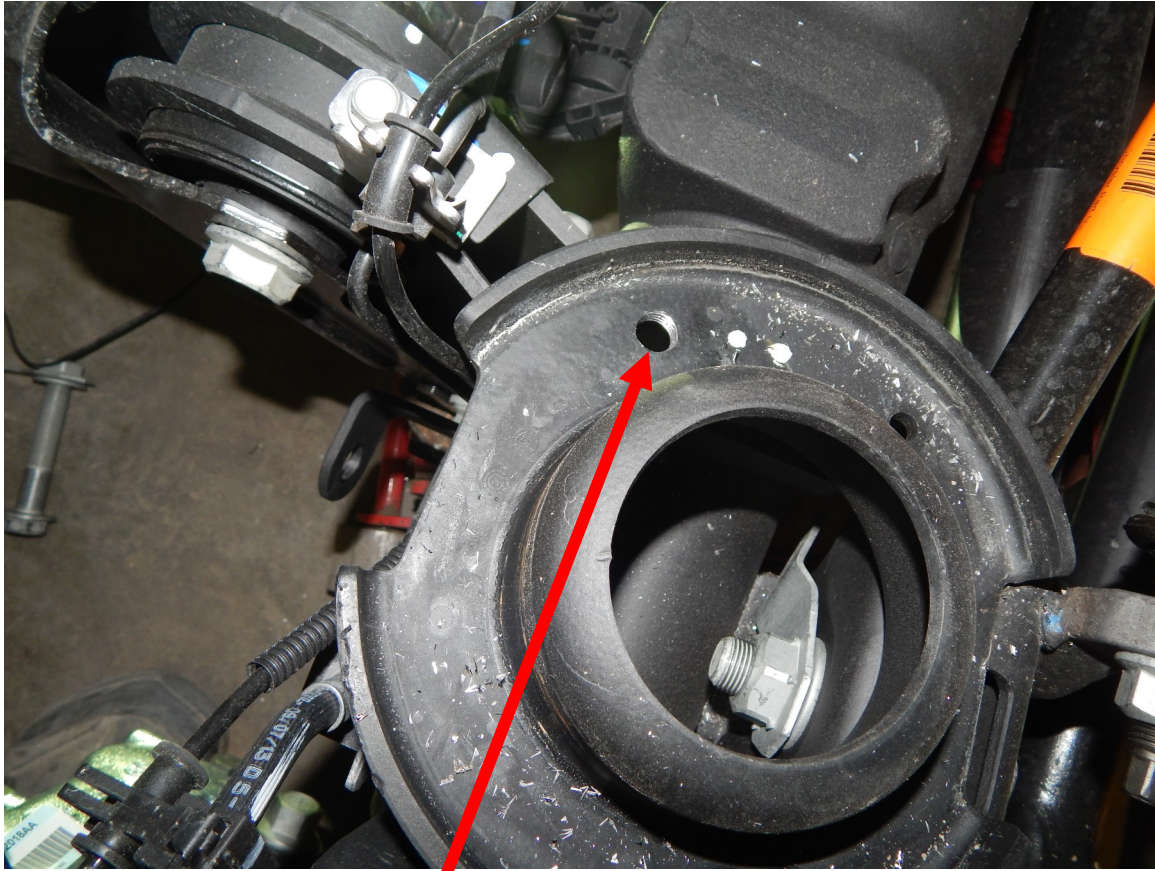


9. Locate the dropped pitman arm (part # 80103). It installs with the factory nut and lock washer. Torque to 250 ft./lbs. **NOTE: Re-torque after 25 miles.** Re-install the tie rod end off the steering rod. You will want the axle hubs straight and the steering wheel straight. Use the reference mark in step 7 to help get the correct placement of the ball joint. Once you get the tie rod where you want it insert it bottom up into the pitman arm and torque the nut to 95 ft./lbs. Use the mark you put on the threads earlier. After your test drive the steering wheel can be adjusted straight with the steering rod end.



Pitman arm and steering rod end in position before tightening.

10. Locate the lower air bag mounts (part # 18275-DS and 18286,-1 and -2 PS). There are (3) versions of the passenger side lower mounts. Place each PS lower mount on the axle and choose the one that has the air bag mounting plate level with the ground. Find the holes in the bottom of the spring bucket. The hole towards the rear of the truck will be tapped to 1/2"-20. Once that hole is tapped, drop the lower bag mount in and fasten with the 1/2" x 1" bolt. Drill a 13/32" hole into the raised center portion of the bucket. When finished, insert the 3/8" x 1-1/2" bolt and torque both bolts to 35 ft./lbs.



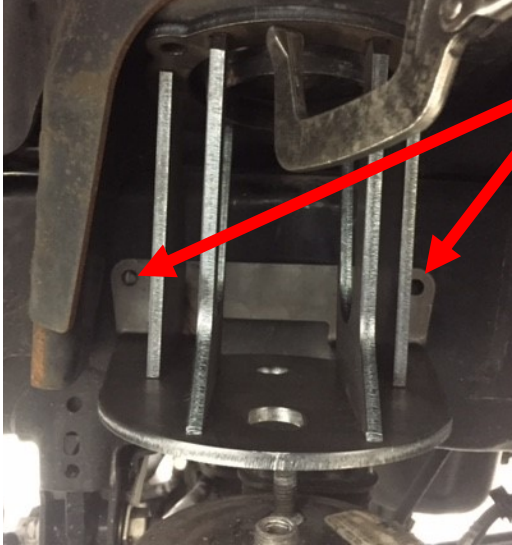
Tap this hole to 1/2"-20

Drivers side



Passenger side has 3 different lower bag mounts. Find the one that puts the lower bag mounting plate level with the ground. (there are (3) different angles of spring perches on 2014-2018 Ram trucks.)

Drill out this hole for a 3/8" bolt



Drill & tap these holes

Install reservoir bracket to upper bag mount before fastening

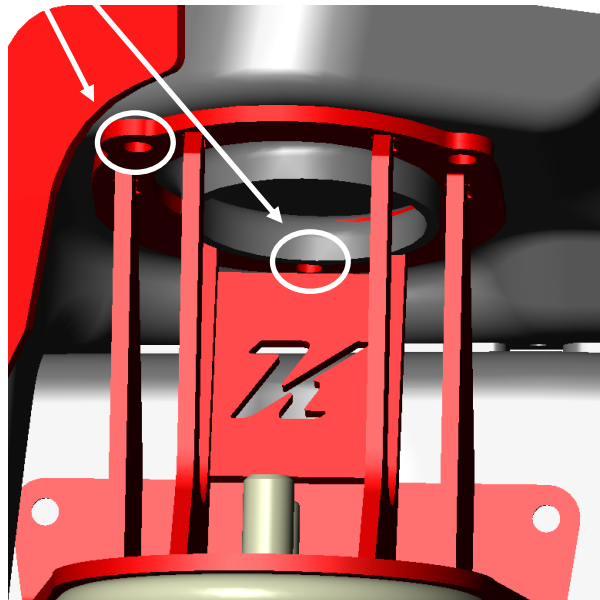
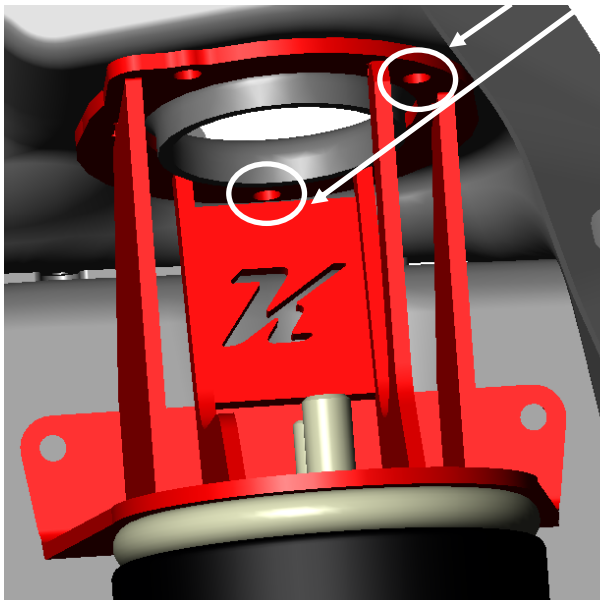


11. Locate the upper bag mounts (part # 18920-DS and 18921-PS). There are (2) holes in the upper coil spring bucket that you will use. Drill (2) $21/64$ " holes into the frame. You will then tap $3/8$ "-24. The rear hole is big enough for a $3/8$ " bolt. Hold the upper bag mount in place, line up the rear hole and mark the other (2) holes. Pull the upper bag mount, center punch the mark and drill the (2) holes to $13/32$ ".

Once the holes are drilled, fasten the upper bag mount & the reservoir bracket in place with the (3) $3/8$ " x $1-1/2$ " bolts. Make sure to Loctite the (2) $3/8$ " x $1-1/2$ " frame bolts and fasten them in place by snugging the bolts in the frame so they are not stripped out. Next, fasten and tighten the bolts to the upper shock tower. Torque them to 35 ft./lbs.

NOTE: If the frame bolts are tightened down before the bolts on the upper shock tower you will risk stripping out the threads on the frame bolts.

Drill these holes

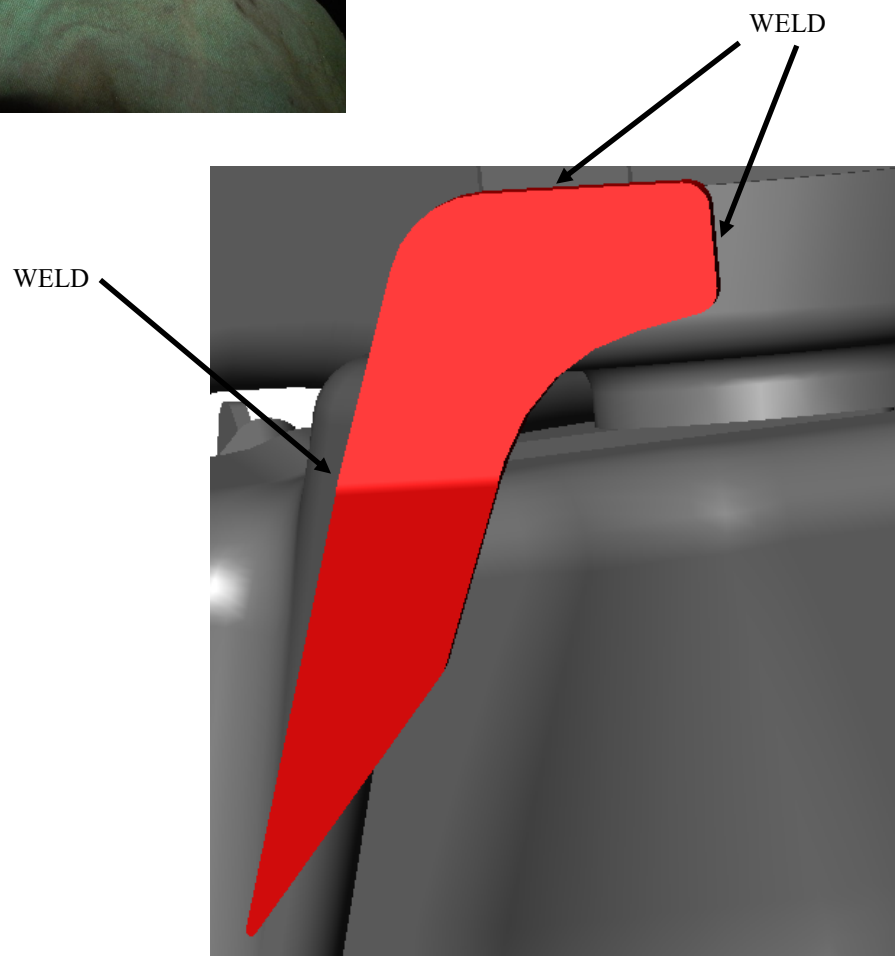


12. Locate the weld in brace for the spring bucket (part # 18436). The passenger side has one welded in from the factory, but the drivers side does not. Place the brace on the spring bucket and mark where you will be welding. Use a grinder to remove the paint on the spring bucket. Wrap up the upper bag mount and then weld the brace in place. Make sure the person doing the welding is a certified welder.



Gusset shown welded on driver's side spring bucket.

This step is REQUIRED



13. Locate the 8979 (part # F8979) air bags. Fasten them into the upper and lower air bag mounts. Use the 3/4" and 1/2" nuts and lock washers on the top and the 1/2" x 3-1/2" bolt on the bottom (with flat washer and lock washer). Tighten all the nuts and bolt to 35 ft./lbs. Locate the air fitting and install into the air port on top of the bag. Tighten finger tight then one complete turn after with the correct size of wrench.



14. Install upper shock relocation bracket (part # 10005835) in factory hole on DS/PS with 1/2"-20" x 1-1/2" bolt. Locate the shocks (part # 10096LH & 10096RH) and lower shock mounts (part # 18378). Fasten the lower end of the shock into the lower shock relocation bracket (part # 18377) & spacer (part # 18301) with the 9/16"-18 x 5" bolt. Weld lower shock bracket to add strength to shock mount. Fasten upper end of shock mount into the upper shock relocation bracket with the 1/2"-20 x 3-1/2" bolt. Torque these bolts to 125 ft./lbs. Fasten shock clamps to clamp plate with 1/4"-20 x 1-1/4" socket head cap screws & slide shock reservoir into clamps then tighten down.



Down hand weld

15. Locate the sway bar drops (part # 18336-DS and 18330-PS). Fasten in place with the factory bolts on the top and fasten the sway bar to the sway bar drop with the 7/16" x 1-1/2" bolts. Torque to 50 ft./lbs. Attach sway bar end link extension (Part # 10011944) to replace factory sway bar end links, as these will be too short for the application



Replace with Part #
10011944

16. Locate the panhard bar (Part # 80251). Attach bar to factory mount on PS and panhard drop bracket (Part # 18307) on DS. Fasten DS with M18-2.5 x 100mm bolt. Fasten PS with factory hardware. Adjust pan hard bar so that the axle is centered.



DS mounts to panhard bar drop bracket location

PS mounts to factory panhard bar location



17. Locate the steering stabilizer kit (part # 18401). The main bracket with the K fastens to the axle with (2) M8 x 40 and (2) M10 x 40 bolts. The outer shock mounts fasten to the tie rod with 1/2" x 3" bolts, as well as the factory bolt. The shocks bolt to the center bracket with the 1/2" x 3" bolts. Make sure to use the center tie bracket (part # 20227)

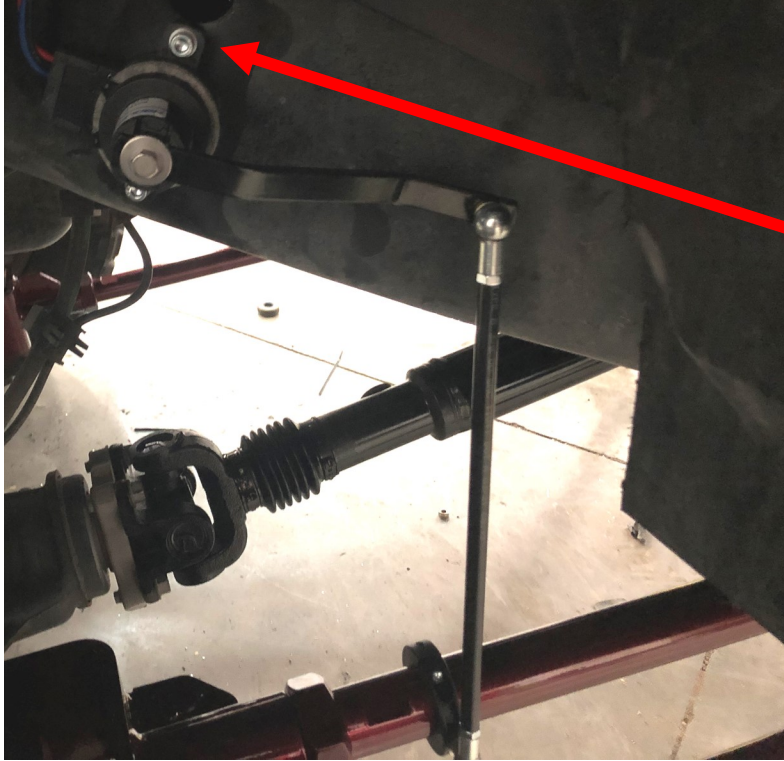


Air Controls & Compressor Box Mounting Instructions

The easiest location for mounting the Kelderman Air Control System is in the factory spare tire location. The box is secured with 'strap' style brackets to the spare tire crossmember. This is shown online at our YouTube page. Follow the link to access the Kelderman Air Lift 3H Install-RAM video.

https://www.youtube.com/watch?v=s_963Fdfkvl&t=57s

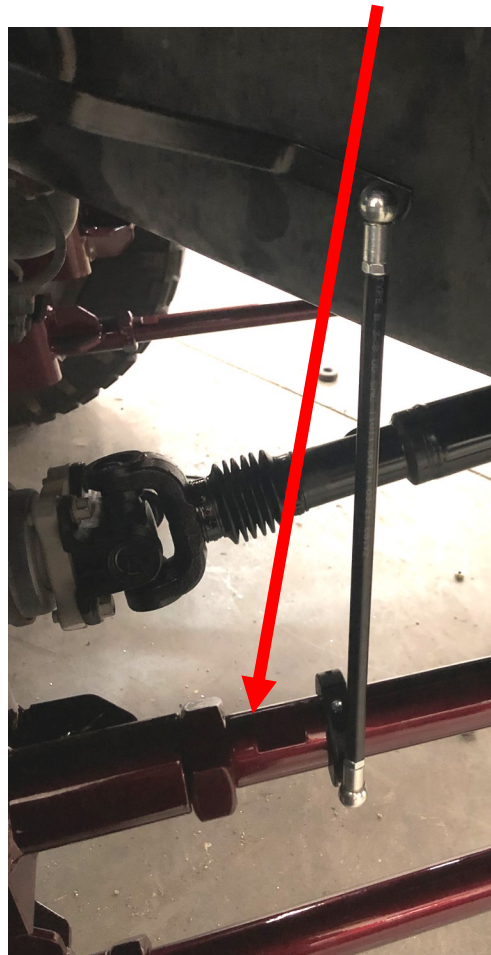




18. Pictured on this page are the Hadley sensors. They mount to the side of the frame just behind the shock. They will be mounted at an angle so the arm has more up travel. You will need to cut some of the inner fender out for additional travel. When all the air is deflated, make sure the arm isn't hitting anything. Use a 7/32" drill bit to drill the holes and tap the frame for the 1/4"-20 bolts.

19. The linkages are 10-1/2" long and the collar goes 4-1/2" away from the end of the knuckle (not the end of the jam nut)

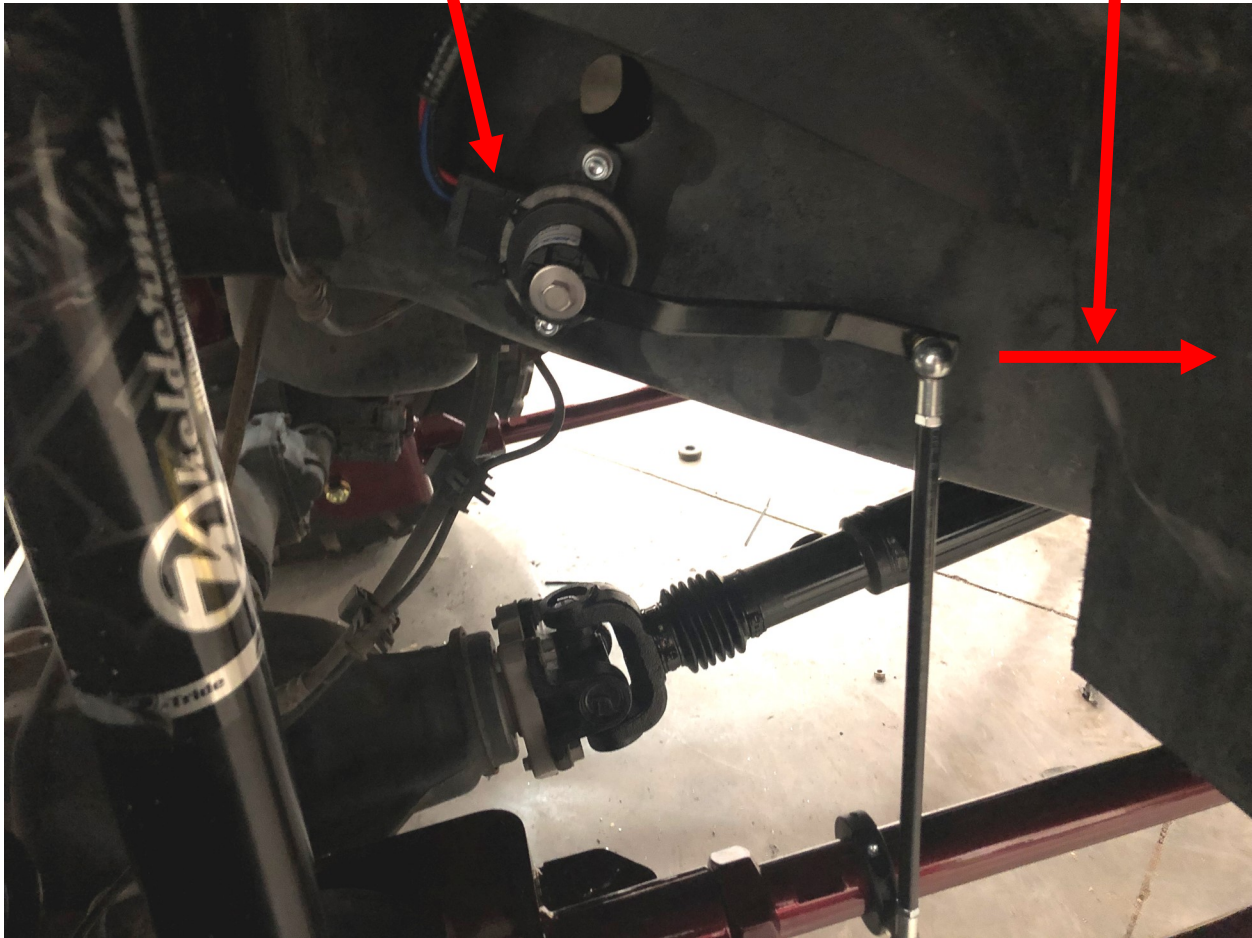
Cut the inner fender for clearance



17. Locate the sensor, collar with ball stud, and linkage. You will drill and tap the side of the frame just under the cab mount for the sensor. The sensor arm faces the rear of the truck. Make sure you have enough room for the wiring harness to clear when choosing the sensor spot. It's a tight area and a 90 degree drill is required. Use a 7/32" drill bit to drill the holes and then tap for the 1/4"-20 bolts. Attach the collar with the ball stud. The linkage should be straight up and down.

Make sure the wire harness has room to attach

Rear of truck



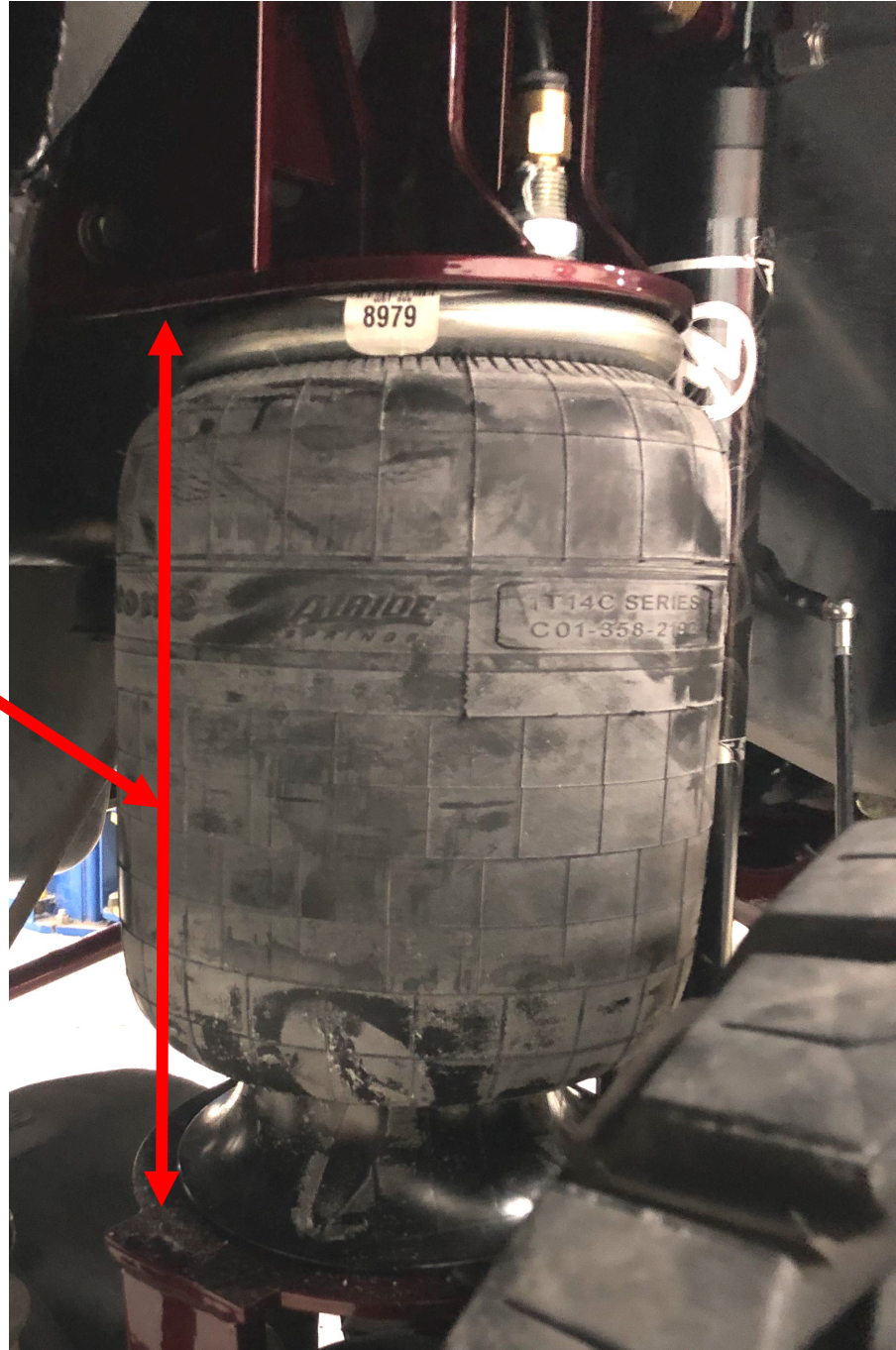
Drivers side pictured with AccuAir sensors

20. When programing the control system, the front air bag needs to run at a ride height of 11-1/2—12-1/2.” When measuring the air bag measure between the mounting brackets.

21. Go through and torque all the bolts. Once the truck has 300 miles on it re-torque all the bolts. Check the bolts at regular service (oil change) intervals after that.

Ride height of air bag is between 11-1/2 & 12-1/2”.

Measure between the air bag mounting brackets



*Reroute the factory brake lines
as shown in the picture*

