

1/2-20", 3/8-24",
5/16 x 18" taps are
required for
installation.

*A welder is
also required.*



kelderman

AIR SUSPENSION SYSTEMS

VERSION 1.3

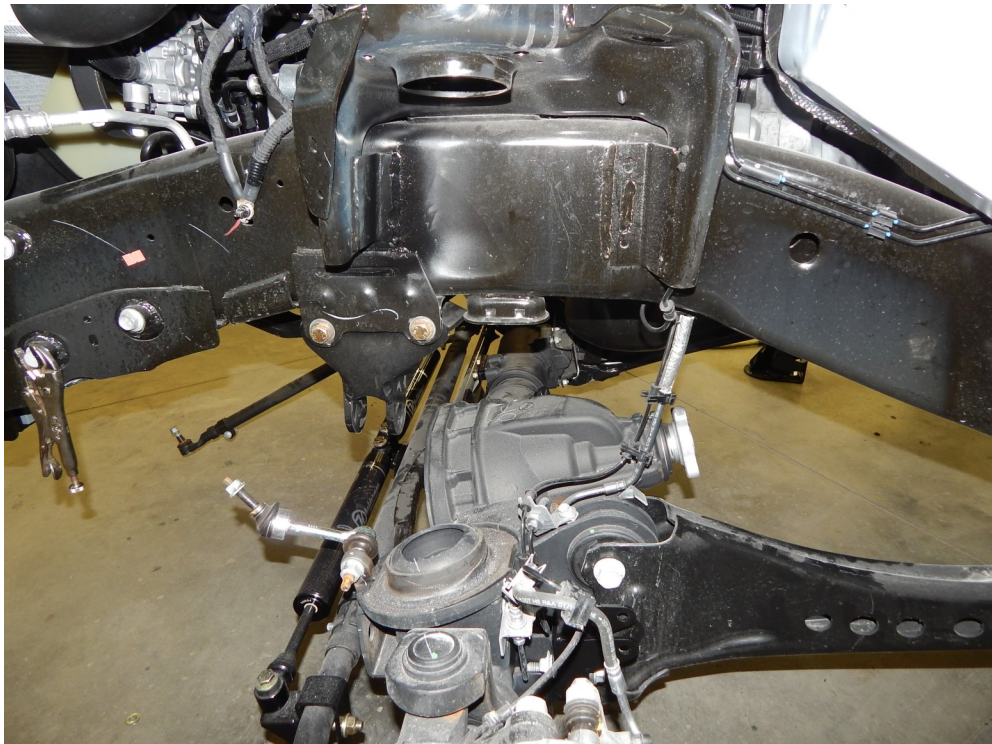
**inspect contents
of kit prior to
beginning
installation**

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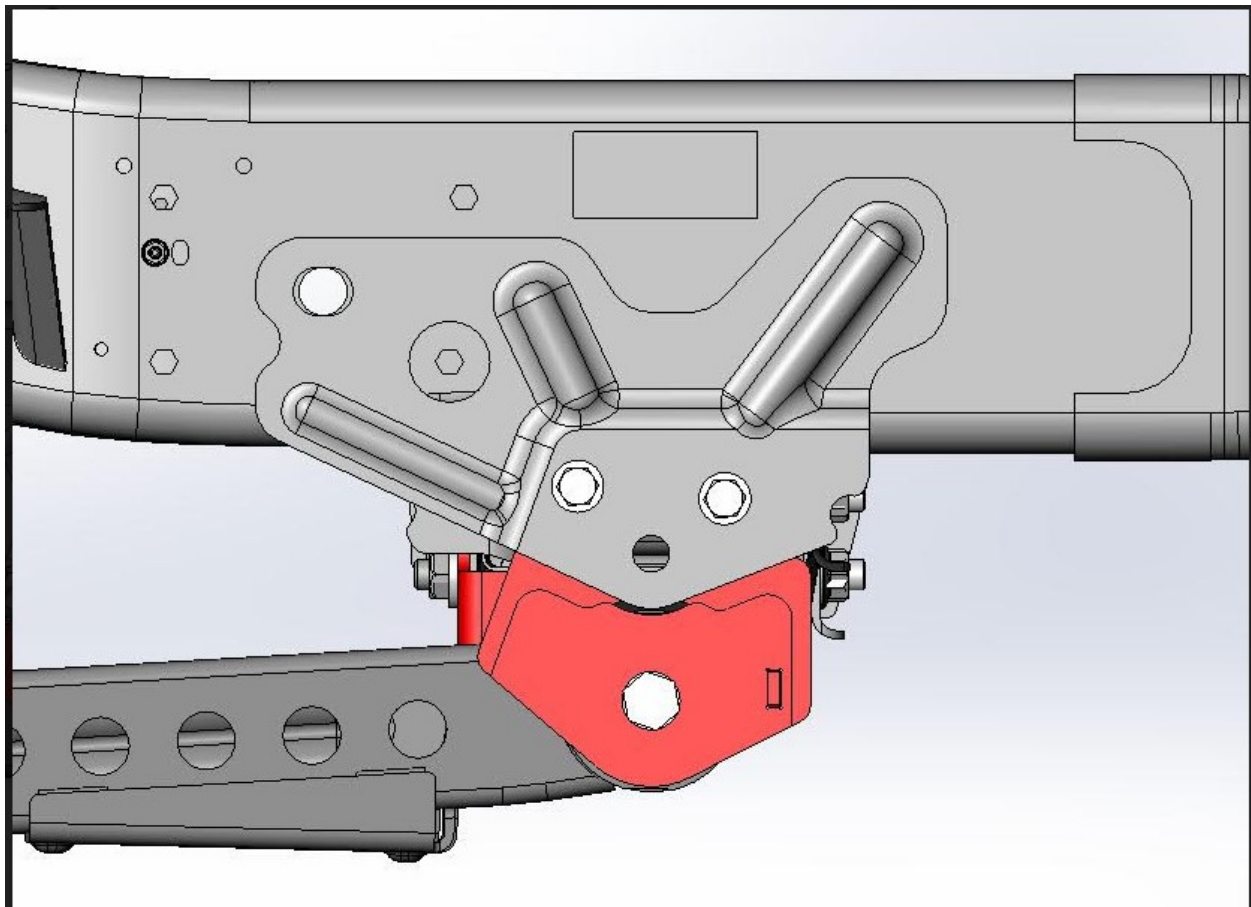
2019+ RAM 2500/3500 Front 3" Lift Kit Installation Instructions



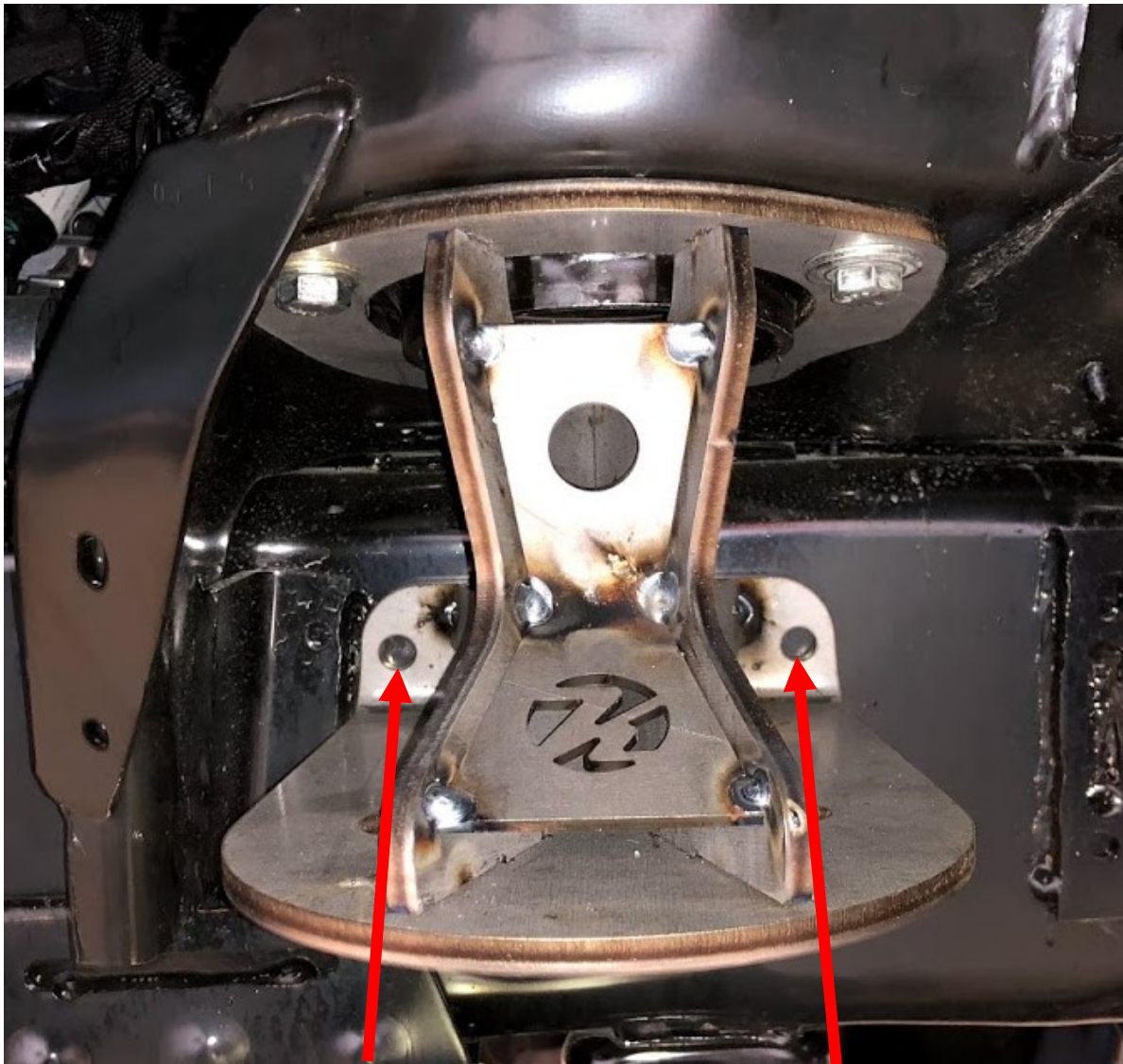
1. If you do not have a lift, jack the truck up at the front axle and place jack stands under the front of the frame just behind the radiator. Remove the wheels and remove the shocks. Lower the jack down so the tension is off the coil springs and remove the springs. Unfasten the steering arm from the pitman arm and unbolt the track bar from the track bar mount.



2. Locate the provided rear radius arm mounts (Part # 6050DS and 6051PS). They fasten into the OEM radius arm brackets. Two 17/32" holes need to be drilled into each side of the truck. Use the template provided at the end of the instructions. The following page shows bolts and orientation. Remove the rear radius arm bolts, back out the crossmember bolts and install the mounting brackets. Torque the 1/2 x 1 1/2" bolts to 85 ft./lbs. Use the factory radius arm bolt in the top hole and use the crossmember bolts to attach the front of the radius arm drops. Use the M18 x 140 bolt to connect the radius arm to the mount. Torque the M18 bolts to 150 ft./lbs. and the 14mm crossmember bolts to 130 ft./lbs..



3. Locate the upper bag mounts (Part # 6049DS and 6050PS) and upper reservoir mounts (Part # 4545DS and PS). If your truck is running monotube shocks you will not use the upper reservoir mounts. There are two holes in the upper coil spring bucket. 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 hole. Pull the upper bag mount, center punch the mark and drill to 13/32". There are also two holes that need to be drilled and tapped into the side of the frame. Use a 21/64" drill bit to drill into the side of the frame and tap the hole with a 3/8-24 tap. If using the reservoir mounts, slide them in between the upper spring bucket and upper air bag mount. Fasten the assembly in place with the two 3/8 x 1 1/2" bolts on top and two 3/8 x 1 1/2" in the frame. Torque the bolts to 35 ft./lbs.



Drill and tap these two holes in the side of the frame



The remote reservoir shock mount fastens in between the upper coil bucket and upper bag mount

4. Locate lower bag mounts (Part #5178 DS and 6013PS), the air bags (Part # F5323) and the adjustable track bar (Part #ICON 214203). Remove the factory track bar. Fasten the air bag to the lower air bag mount with the 1/2 x 3 3/4" bolt. *Do not torque yet.* The air bag will need to be turned to line up with the upper air bag mounts. 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".

5. Once that hole is tapped, drop the lower bag mount in & fasten with the 1/2 x 1" bolt. Locate the 3/8" hole in the side of the air bag mount. Drill a 21/64" into the lower spring perch, using the 3/8" hole guide. Tap this hole to 3/8-24". Once this is done insert the 3/8 x 1 1/2" bolt and torque both bolts to 35 ft./lbs. The passenger side also uses the pan hard bar to hold the lower bag in place, so insert the new panhard bar into the pass side axle mount and then fasten the assembly together with the OEM lower pan hard bar mount. Insert the drivers side of the new panhard bar into the mount and tighten the OEM bolts on both ends to 175 ft./lbs. The drivers side uses the 5/8 x 1 1/2" bolt on the front to hold the lower bag mount.

Passenger side



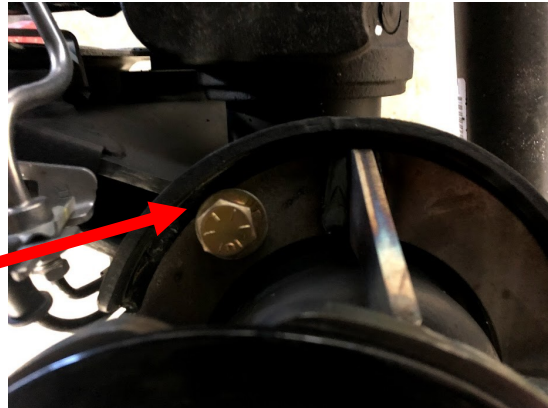
Pass side uses factory track bar bolt

Drivers side



5/8 x 1 1/2" bolt on drivers side

Drill and tap





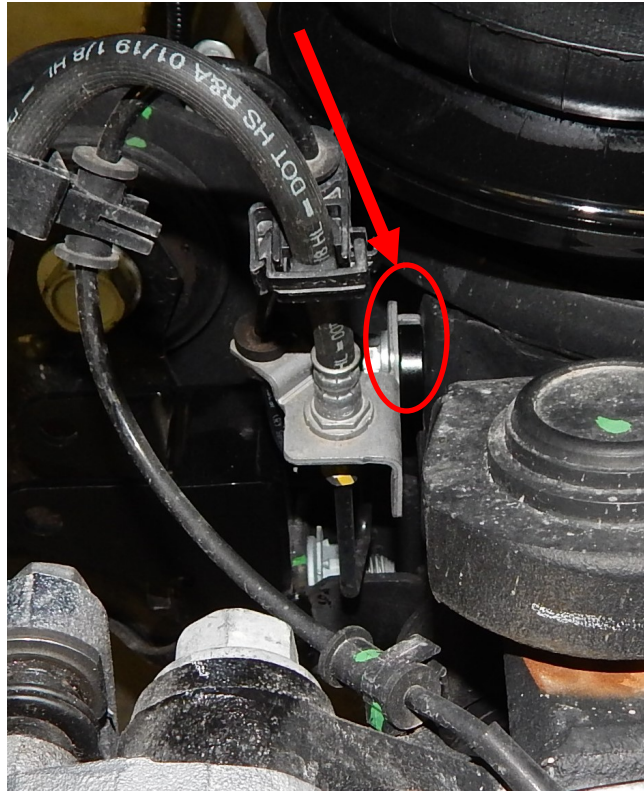
*Adjustable
track bar
installed*

6. Fasten the air bags into the upper 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 bolts to 35 ft./lbs.

7. Locate the air fitting and install into the air port on top of the bag. Tighten finger tight and then one complete turn after that.



8. Locate the brake line stand off bracket (Part # 5178). It is a 1" square with holes in it. Install it between the brake line mounting bracket and the axle. This will prevent the brake line from rubbing on the lower air bag mount.



9. Locate the lower shock mounts (Part # 18378). They fasten into the lower OEM shock mounts with the factory shock bolt.

A down hand weld is also required to add additional strength to the shock mount. Use proper safety gear and electronics protection when welding.

Weld here



10. Locate the shocks (Part #10003380) Fasten the lower end of the shock into the shock mount with the 9/16 x 5 1/2" bolt and slide the round end of the mount in the factory shock location on the axle. Torque this bolt to 125 ft./lbs. Locate the rubber bushings and steel cups. Place a cup (dish side up) on the shock and then slide a bushing (large ring up) over the shock and slide into the factory shock mount.



11. Place a bushing over the shock shaft so the large ring is down. Install the washer dish down. Thread on the lock nut until it bottoms out. Fasten the remote reservoirs to mounts. If using Fox brand shocks, use the hose clamps. If using the Kelderman shocks, use the billet clamps.

*Large ring goes into factory
shock mounting hole*



*Small ring goes towards the
steel dished washer*



12. Locate the steering stabilizer kit. Locate the center K bracket (Part # 18393) and spacer (Part # 18399). Remove the center two bolts off the differential cover. Remove the OEM factory steering shock and stabilizer bracket off the bottom of the axle. Only the bolts will be re-used. Place the center K bracket on the front of the axle. Use the M10 and M8 bolts to attach the top of the bracket to the axle and over the diff cover. If using the stock diff cover, make sure to place the spacer between the diff cover and bracket. Locate the OEM bolts that held the factory steering shock in place and use those bolts to attach the K bracket to the bottom of the axle. Torque all the bolts to 20 ft./lbs.

M10 x1.25 x 40

M8 x1.25 x 40



13. Locate the center plate (Part # 20227), stabilizer shocks (Part # 10003382) and outer shock mounts (Part # 1840PS and 18389/18409DS). The driver side outer shock mounts fasten to the tie rod with the OEM bolt and the 1/2 x 2 1/2" bolt.



The passenger side outer shock mount attaches to the tie rod with the OEM bolts that held the OEM shock bracket in place.



Locate the shocks and tie plate. Use the 1/2 x 2 1/2" bolts to fasten the body end of the shocks to the K bracket. The tie plate goes on top. The shaft end of the shocks attach to the outer shock mounts with the 1/2 x 2 1/2 shocks.

See pictures on the next page for completed assembly.

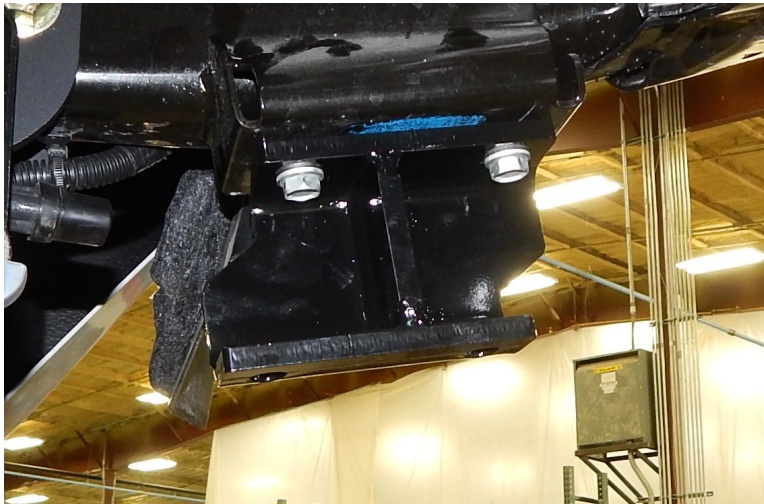
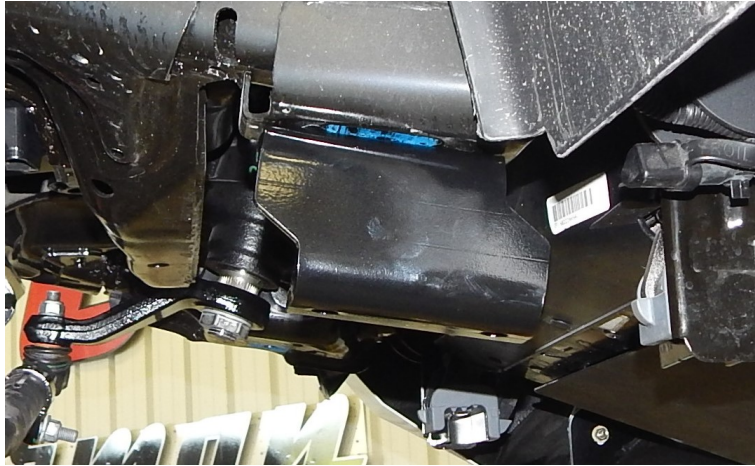
Completed Stabilizer Assembly Shown



14. Locate the sway bar drops (Part # 18336DS and 18314PS). 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.



Installed Sway Bar Drops Shown



15. Locate the optional ride height sensor, ball stud and linkage. The sensor will mount to the side of the frame. The inner fender liner will need to be trimmed at the bottom inside where it is close to the frame. Place the sensor against the frame with the mounting holes straight up and down. Mark the holes in the sensor to locate where to drill the holes. Use a 13/64" drill bit to drill the holes. Use a 1/4-20 tap to thread the holes. Mount the sensor to the frame with the 1/4 x 1" bolts. Adjust the linkage to 10". Locate the ball stud. It will thread into the control arm (factory and Kelderman). Use the 17/64" drill bit to drill the hole. Thread the ball stud into the hole. Remove the clip on the end of the linkage and attach the linkage to the sensor and control arm. Re-install the clip and the linkage install is complete.

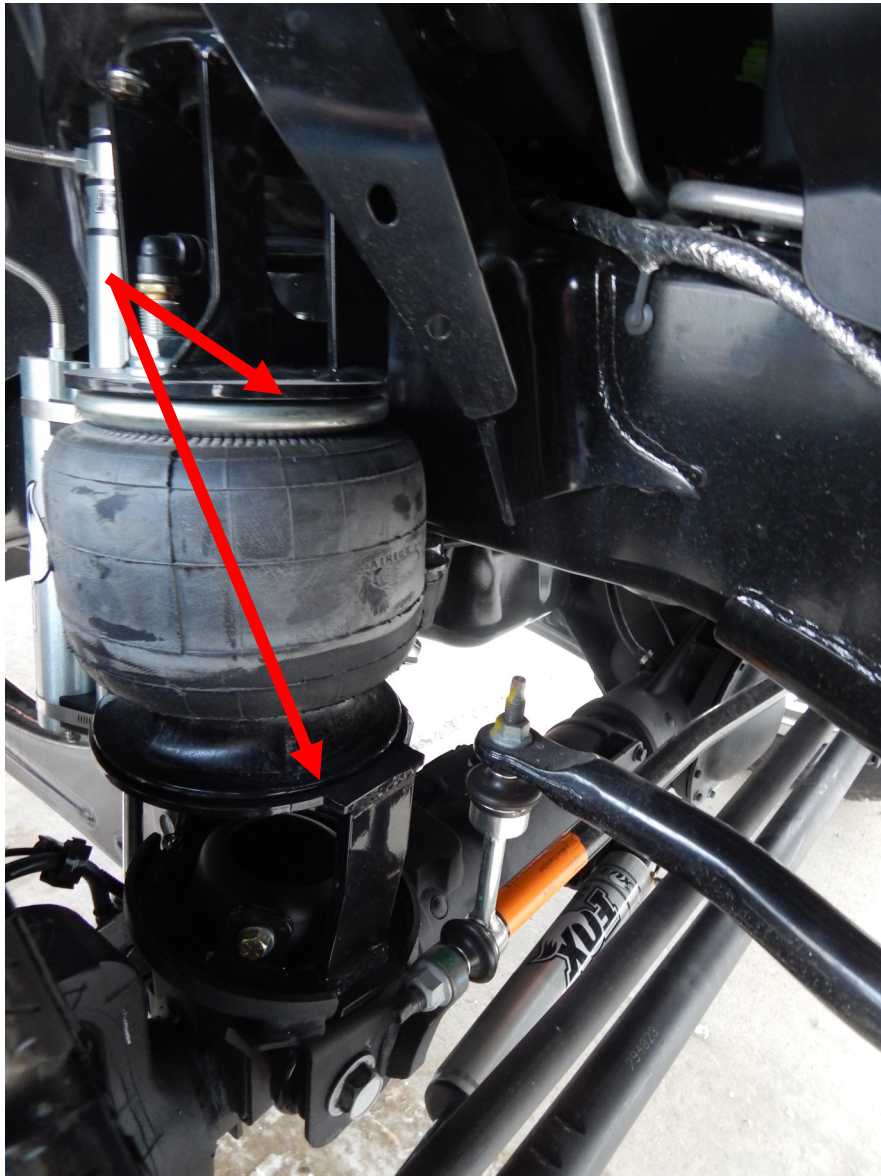


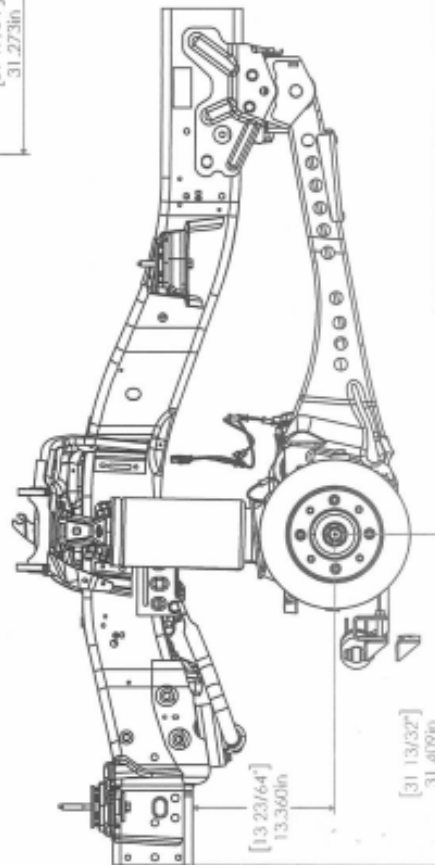
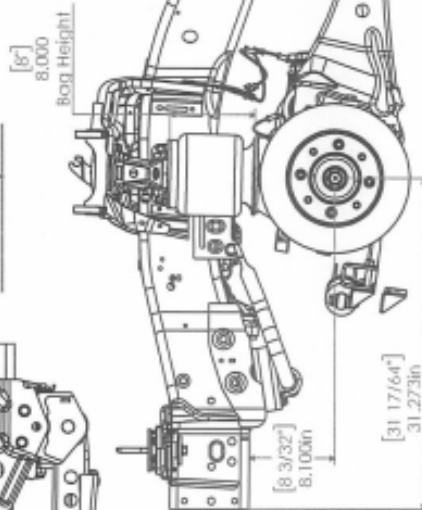
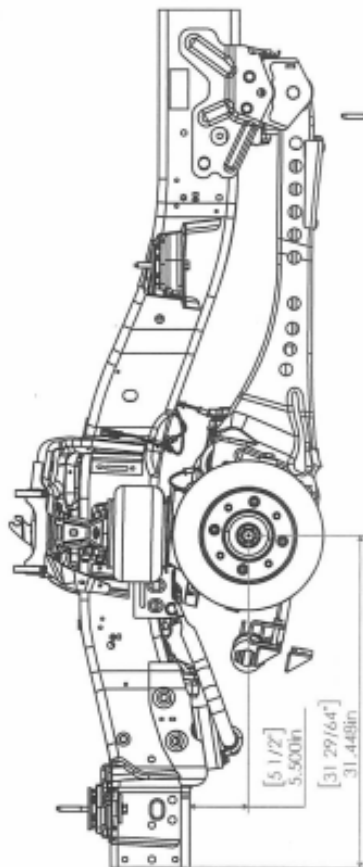
16. When programing the control system, the front air bag needs to run at a ride height of 7 1/2 - 8 1/2." When measuring the air bag, measure between the mounting brackets.

17. Move the truck in and out of the shop in order to get an idea of adjustment required for straightening the steering wheel. Use the adjustment on the drag link to set the wheel straight and conduct a test drive. If the truck pulls to one side or the other, a caster adjustment should be made. Take the truck to an alignment shop and get an alignment.

18. Once the suspension 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 7 1/2-8 1/2."
Measure as shown below.*



[illegible]

Technical drawing of a mechanical part, labeled **DS**. The part has an irregular shape with a large central hole and two smaller holes on the right side. The two smaller holes are labeled **Drill Holes 17/32"**. The drawing includes dimension lines and center marks for the holes.

[illegible]

[illegible]



Commercial Product Warranty, Disclaimers and Warnings
Kelderman techs are available at 641-673-0468 M-F 7:00-4:00 CST

Kelderman Air Suspension Systems offer a 3 year/ 100,000 mile Limited Warranty, parts and labor, to the original retail purchaser who owns the vehicle on which the unit was installed, for defects in materials and workmanship related to the fabricated parts. Non fabricated parts such as air bags, air compressors, gauges, solenoid kits, and electronic or mechanical air ride control systems are covered for 1 year/ 50,000 miles for parts and labor. In cases where ride control systems manufactured by The Air Lift Company or Hadley Products are provided, the ride control warranty in this document will not apply. Instead, the warranty will be that of Hadley and Air Lift.

Kelderman Air Suspension Systems must be contacted for warranty authorization before any diagnostic work or repairs are performed. At that time, Kelderman will provide diagnostic assistance and authorization for the repairs if warrantable. Any unauthorized diagnostic work performed before contacting Kelderman will not be covered under the warranty program if deemed unreasonable.

Kelderman Air Suspension System does not warrant any product for finish, alterations, modifications and/or installation different from Kelderman's instructions. Alterations / modifications to the final product include, but are not limited to powder coating, plating, and/or welding which will void the warranty. Some damage may occur to the finish of the parts during shipping. This is considered normal and is not covered under warranty.

Kelderman tries to ensure that the suspension parts fit the vehicles they were designed for, but due to unknown vehicle manufacturer's production changes and/or inconsistencies by the vehicle manufacture, Kelderman cannot be responsible for 100% fitment.

Kelderman's obligation under this warranty is limited to the replacement of the defective parts only. Freight charges, incidental or consequential damages are expressly excluded from this warranty. Kelderman is not responsible for damages and/or warranty of other vehicle parts related or non-related to the installed Kelderman Air Suspension System. This warranty is expressly in lieu of all other warranties expressed or implied. This warranty shall not apply to any product that has been subject to accident, negligence, alteration, abuse or misuse as determined by Kelderman.

Kelderman Air Suspension Systems are designed to be installed, and run at the recommended ride heights provided by Kelderman. All warranties will become void if Kelderman systems are run outside the recommended ride heights, or if the systems are combined/substituted with other suspension kits. Combination and/or substitution of other components may cause premature wear and inhibit the Kelderman Air Suspension from operating as designed, which may cause severe injury or death. Kelderman does not warrant parts not manufactured by Kelderman.

It is the installer and sellers reasonability to review all these warranties, warnings and disclaimers with the consumer prior to installation.

Kelderman reserves the right to supersede, discontinue, change designs, finishes, part numbers and/or applications of parts deemed necessary without written notice. Kelderman is not responsible for misprints, or typographical errors within the catalog or price sheets.