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

Welding is also required.



PART # 10004537 PART # 10006031

VERSION 1.5

inspect contents of kit prior to beginning installation

2686 Highway 92 - Oskaloosa, IA 52577 phone: 641.673.5396 www.kelderman.com

2019+ RAM 2500/3500 5-6" Front Lift Kit Installation Instructions



1

- 1.) While the vehicle is on a flat surface, measure the rear pinion angle. Record this measurement here
- 2.) The first step in the installation of the kit is to index the transfer case. There are two different indexing plates: a six bolt plate and an eight bolt plate that is used for the Al-SIN transmissions. Remove the front and rear driveshafts. To remove the front driveshaft off the transfer case, the collar has to be spread apart and then the driveshaft will be slid forward. The easiest way to do that is with a pair of pliers like the one shown below.
- 3.) Place a jack stand under the transmission and remove the factory crossmember. Unhook the wires that go to the transmission. Remove the bolts that hold the transfer case in place. Locate the indexing plate (Part # 8129-AISIN or 8129-68RFE). If the ARP studs are not installed, insert them in the hole closest to the countersunk hole 13 degree hole. The hole furthest away from the countersunk hole is for the 10-12" lift. Use vice grips to remove the studs in the transfer case. Use red Loctite and fasten the indexing plate to the transfer case with the countersunk bolts. Torque these bolts to 40 ft./lbs. Locate the seal adaptor. Re-install the transfer case to the transmission. Use red Loctite on the studs, and use the 3/8" nuts and washers and torque to 55 ft./lbs. See photo on the next page.



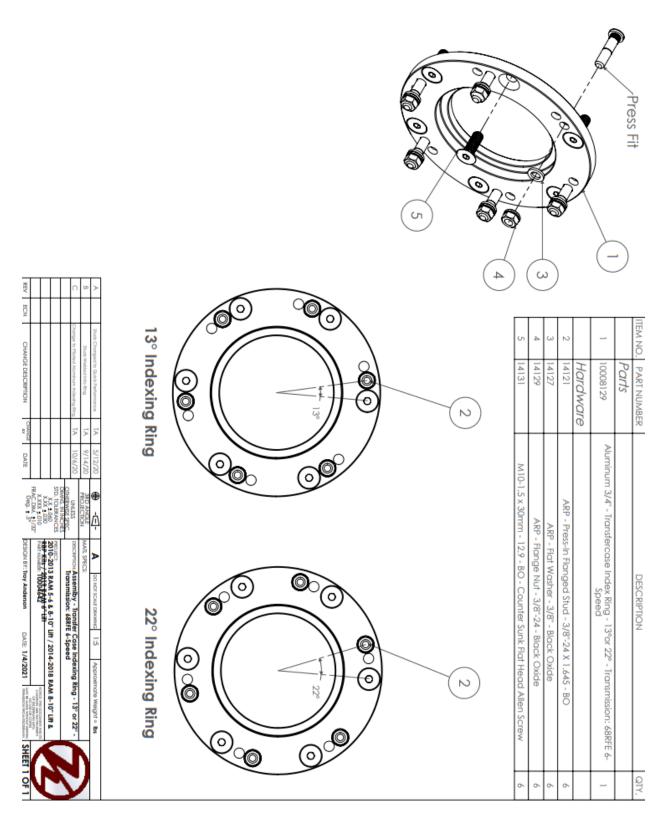
Use vice grips to remove studs from transfer case.

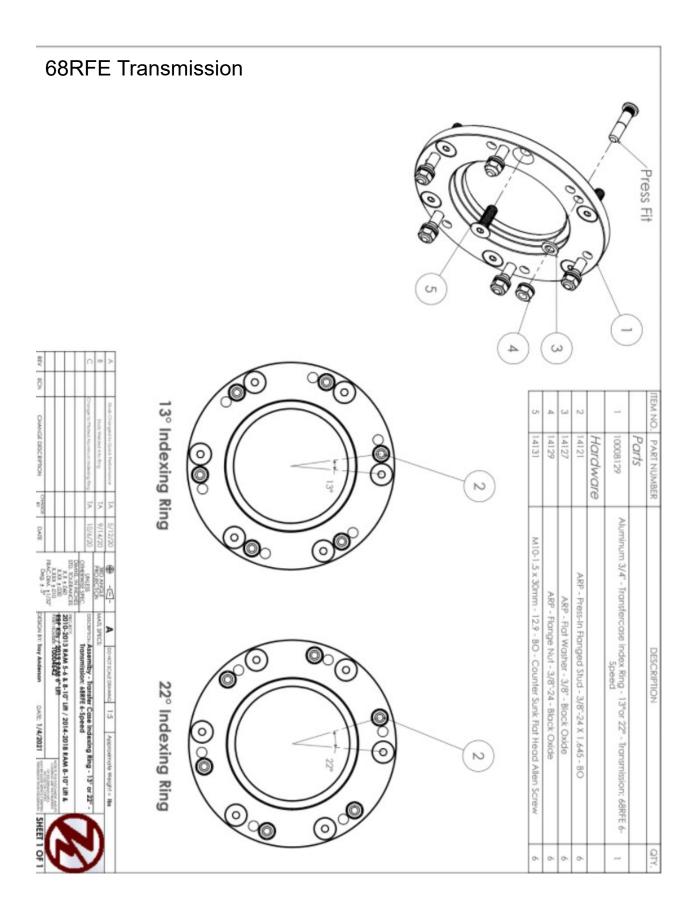
Red Loctite will be used for assembly.

68RFE pictured



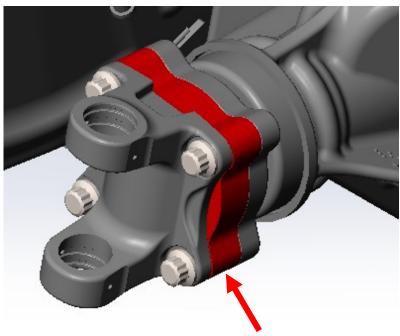
AISIN Transmission







68RFE Transfer case shown re-installed with indexing plate



When reinstalling the driveshaft, locate the 1" spacer (Part # 10006015). It fastens between the axle flange and the driveshaft. Use the provided M12-1.75 x 50mm 12 Point bolts. Torque to 110 ft/lbs.

- 4.) If you do not have a vehicle hoist/lift, jack the truck up at the front axle and place jack stands under the front of the frame and just behind the radiator. Remove the wheels and remove the shocks.
- 5.) Lower the jack down so the tension is off the coil springs and remove the springs.
- 6.) Unfasten the steering arm from the pitman arm and unbolt the panhard bar from the panhard bar mount. **Do not unhook the sway bar end links.**





- 7.) Place a jack under the transfer case. Remove the three nuts from the transmission mount where it fastens to the crossmember and remove the four bolts that hold the transmission crossmember in place. You will have to cut the bolts on the passenger side with a Sawzall unless you remove the exhaust system.
- 8.) Remove the factory crossmember. Remove the two bolts that fasten the control arms to the frame. Keep the nuts for the transmission mount. The other bolts will not be used.







9.) Locate the crossmember (Part # 10005288). It fastens into the factory crossmember holes with the (4) 5/8 x 8" bolts. Also use the M18 x 40mm bolts to fasten the side of the crossmember into the original control arm mounts. Torque these bolts to 150 ft./ lbs.

10.) Locate the (3) factory transmission nuts and fasten them to the crossmember.

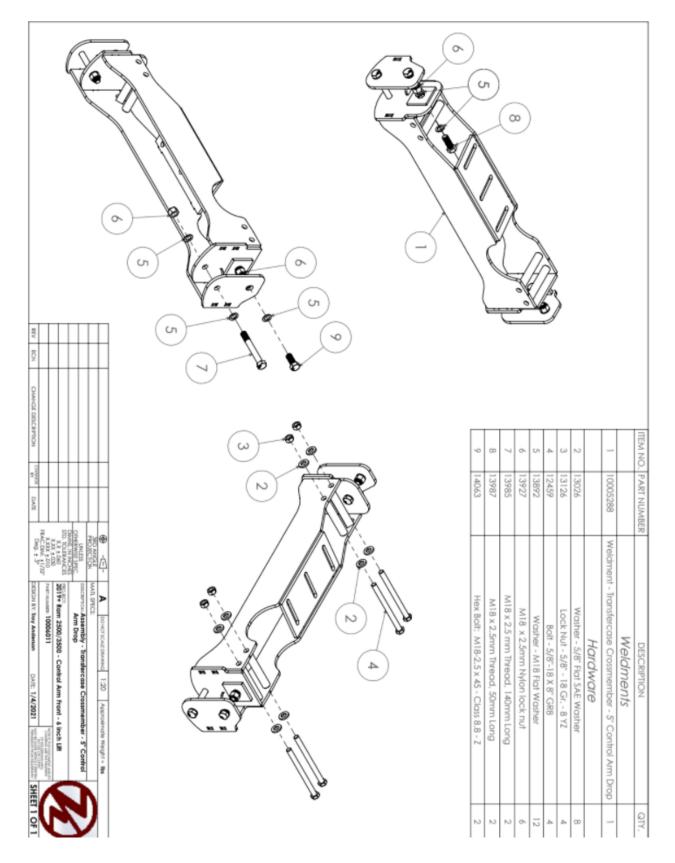




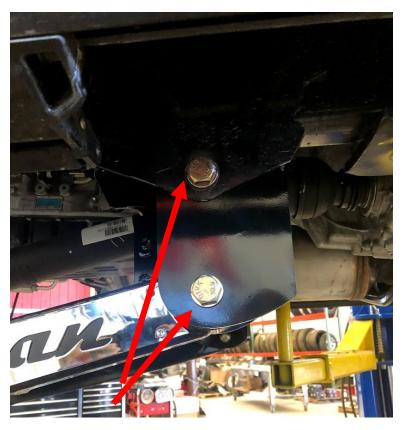




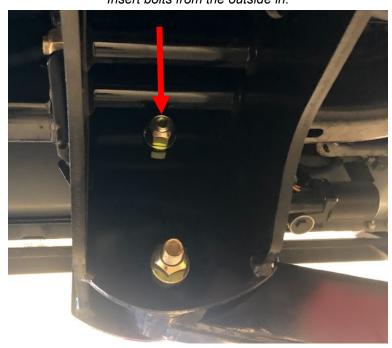




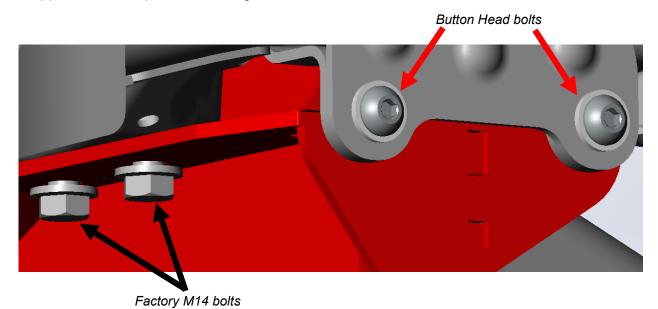
11.) Fit the optional Kelderman radius arms or the factory radius arms into the newly installed crossmember. Use the supplied M18 \times 140mm bolts, inserting them from the outside in. Torque to 150ft/lbs.



Bolts shown installed into factory crossmember mounts. Insert bolts from the outside in.

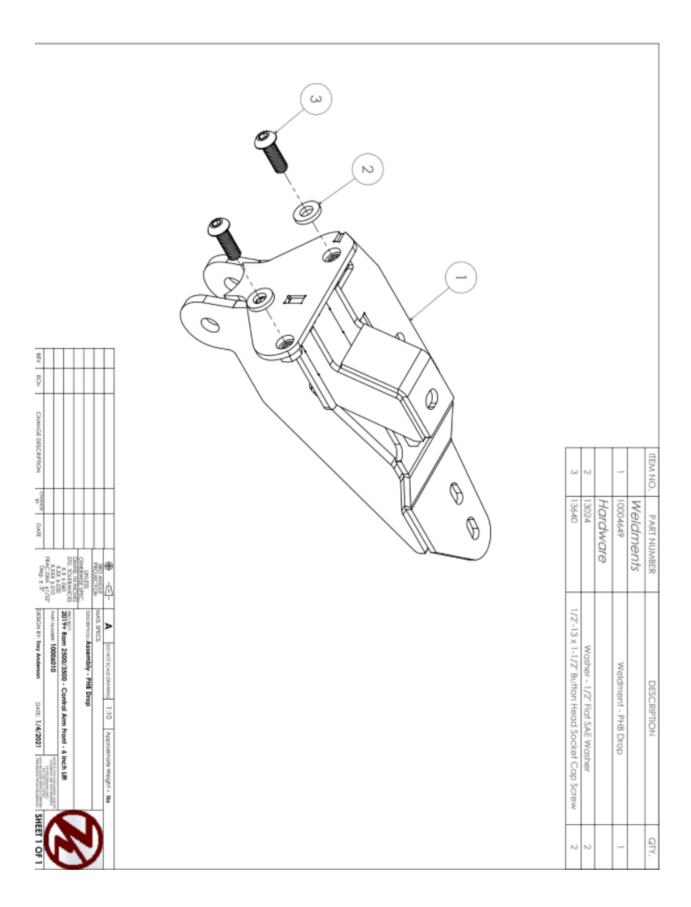


- 12.) Remove the factory pitman arm, the factory panhard bar drop bracket, and the panhard bar.
- 13.) Install the new panhard bar drop (Part # 10004649). It fastens to the side of the frame with the (2) 1/2-13 x 1-1/2 button head bolts and the OEM M14-2.0 x 34mm in the bottom of the frame. You will need to weld the outer two holes in the bottom of the pan hard bar mount to the frame. It works best to hold the mount in place and mark the bottom of the frame where you are going to weld so you can grind that area. Grind the powder coat off the mount where it gets welded to the bottom of the frame. Torque these bolts to 135 ft./lbs. NOTE: When welding be sure to use a battery saver or antizapper device to prevent damage to the electronics.



Pictures shown with panhard bar installed





- 14.) Locate the provided pitman arm (Part # 80269). <u>It looks just like the OEM, but has been reworked so the ball joint comes up from the bottom instead of the top.</u>
- 15.) Install the pitman arm and torque the nut to 275 ft./lbs.
- 16.) Loosen the ball joint on the steering arm and rotate the ball joint end out about halfway out of the adjustment sleeve.
- 17.) Roll the ball joint 180 degrees and run it back into the adjustment sleeve. Insert the ball joint into the pitman arm and torque the steering arm nut on the ball joint to100 ft./lbs. NOTE: The pitman arm needs to be re-torqued after 300 miles.
- 18.) Once the installation is complete and the air bags are at ride height, use the adjustment sleeve to straighten the steering wheel.

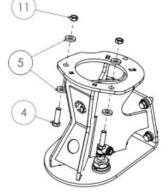




- 19.) Locate the upper bag mounts (Part # 10003648-DS and 10005191-PS). upper shock reservoir mounts (Part # 10004566) and Spacer Plates (10013536-DS and 100 If your truck is running monotube shocks you will not use the upper reservoir mounts.
- 20.) Line up the hole in the spring perch with the hole in the upper bag mount. Hold the upper bag mount in place and mark the other hole. Remove the upper bag mount, center punch the mark and drill both holes to 13/32".
- 21.) Attach Spacer plate to the Upper Bag Mount with 3/8"-24 x 1" bolts and line up the hole in the spring perch with the hole in the upper bag mount. Hold the upper bag mount in place and tack the Spacer into place. Remove the upper bag mount, weld around the spacer. *NOTE:* When welding and tacking, would recommend covering the powder coated parts, to keep sparks from damaging the powder coat.
- 22.) Fasten the upper bag mount in place by installing the (4) 3/8"-24 x 1" bolts in the spacer plate (USE BLUE LOCTITE) and only snug up with a ratchet. **Do not use an impact as it will strip the hole.** Tighten the top (2) 3/8"-24 x 1-1/4" bolts in the top to 35 ft./lbs.



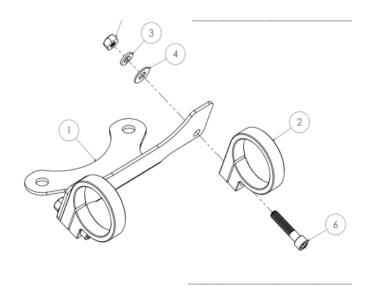


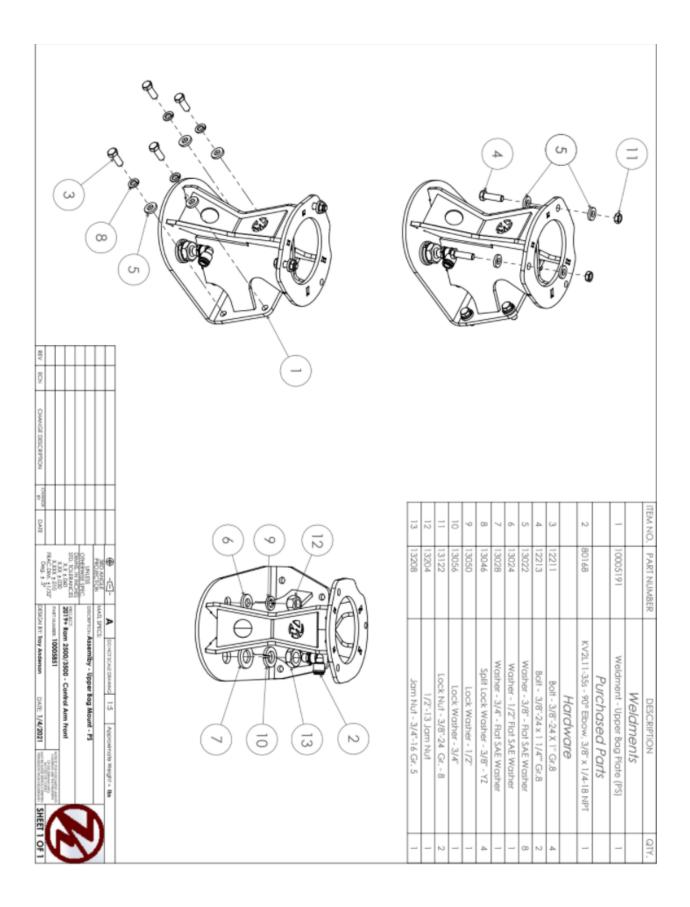


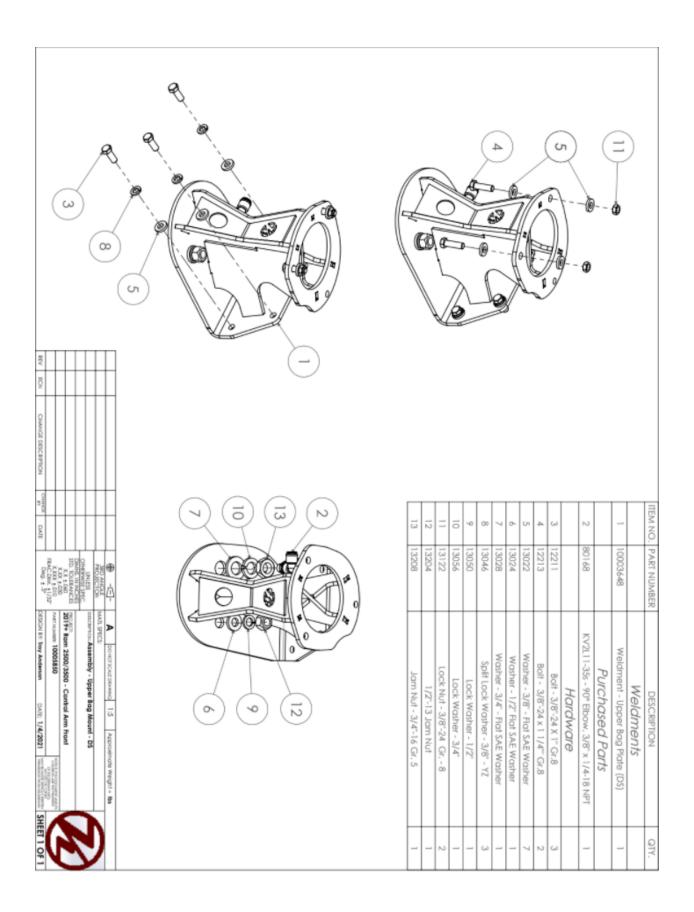
23.) Slide reservoir mount between the upper coil bucket and the upper bag mount. Attach split clamps with 5/16"- $18 \times 1-1/2$ " socket head cap screws.











- 24.) Locate lower bag mounts (Part # 10005081-DS and 10006065-PS) and the air bags (Part # F5323). Fasten the air bag to the lower air bag mount with the 1/2"-20 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.
- 25.) 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 fasten with the 1/2"- 20×1 " bolt.
- 26.) Locate the 3/8" hole in the side of the air bag mount. Drill a 21/64" hole into the lower spring perch, using the 3/8" hole guide. Tap this hole to 3/8-24".
- 27.) Insert the 3/8"-24 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. Torque the lower air bag bolt to 35 ft./lbs.
- 28.) Re-install the panhard bar. Tighten the OEM bolts on both ends to 175 ft./lbs. The drivers side uses the 5/8"18 x 1-1/2" bolt on the front to hold the lower bag mount.



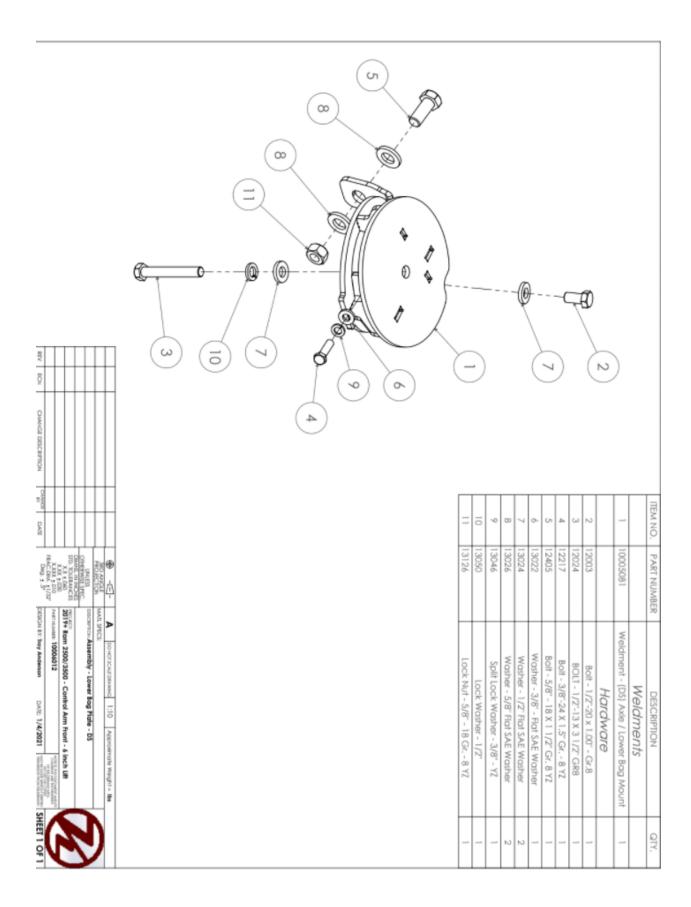


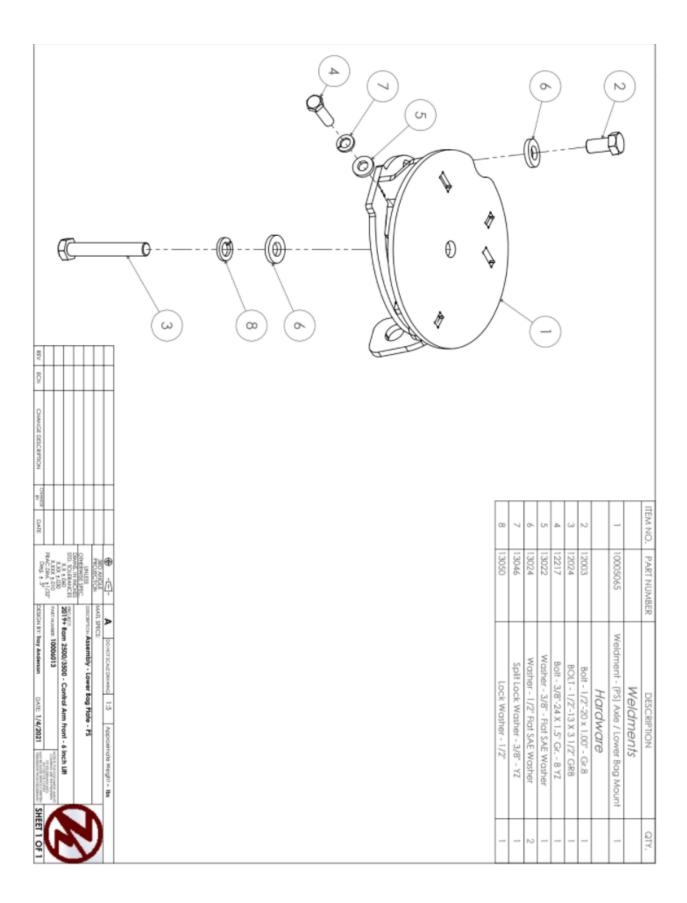
Drivers side



Drill and tap







- 29.) 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"-20 x 3-1/2" bolt on the bottom (with flat washer and lock washer). Tighten all the nuts and bolts to 35 ft./lbs.
- 30.) Locate the air fitting and install into the air port on top of the bag. Tighten finger tight then one complete turn after that.



31.) Locate the brake line spacer (Part # 10005158). It is a small plate. 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.



32.) Locate the lower shock mounts (Part # 18336DS and 18314PS). They fasten into the lower OEM shock mounts with the factory shock bolt. <u>A down hand weld is also required to add additional strength to the shock mount.</u>



33.) Locate the shocks (the part # varies by shock manufacturer) and lower shock mounts (Part # 18378). Kelderman-Raptor shocks have RH and LH shocks. The difference is the remote reservoir sticker location. Fasten the lower end of the shock into the shock mount with the 9/16"-18 x 5-1/2" bolt and slide the round end of the mount in the factory shock location on the axle. Depending on which shock you use, it may be necessary to use a washer in between the lower shock ears if the spacing is over 3/16" wide. Torque this bolt to 125 ft./lbs.

34.) 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.





35.) 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.

36.) If using the Kelderman-Raptor shocks, use the billet clamps.



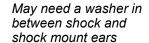
Correct installation

Should be installed like the picture on the left. Rubber bushing should go in between the factory shock mount location. With a washer down on the shock on the lower portion and washer on top of the bushing for the upper portion.

Do not stack the bushings underneath the shock mount location.



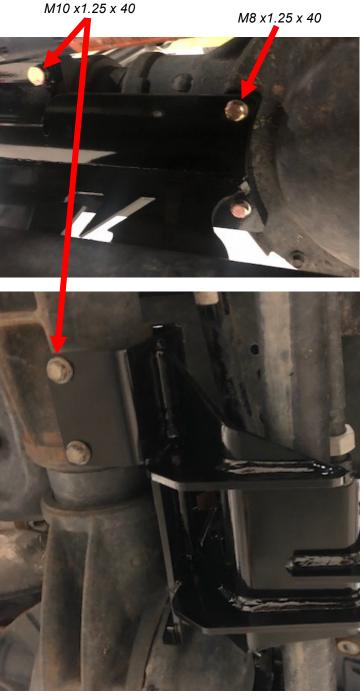
Incorrect installation

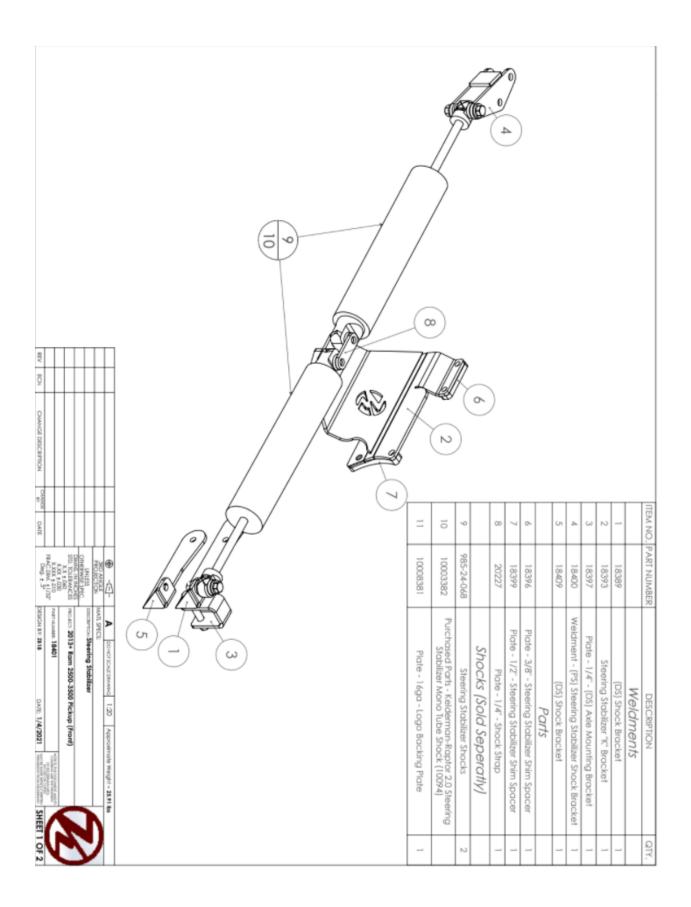






37.) Locate the dual steering stabilizer kit. Locate the center K bracket (Part # 18393) and spacer (Part # 18399). Remove the center two bolts off the differential cover. Remove the OEM factory steering shock and stabilizer bracket off the bottom of the axle. Only the bolts will be re-used. Place the 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 differential 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.





38.) Locate the center plate (Part # 20227), stabilizer shocks, and outer shock mounts (Part # 1840-PS and 18389/18409-DS). The driver side outer shock mounts fasten to the tie rod with the OEM bolt and the 1/2"-20 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.





Use the 1/2"-20x 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"-20 x 2-1/2 bolts.

See pictures on the next page for completed assembly.

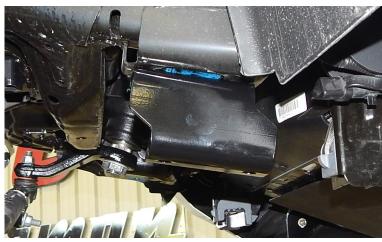
Completed Stabilizer Assembly Shown





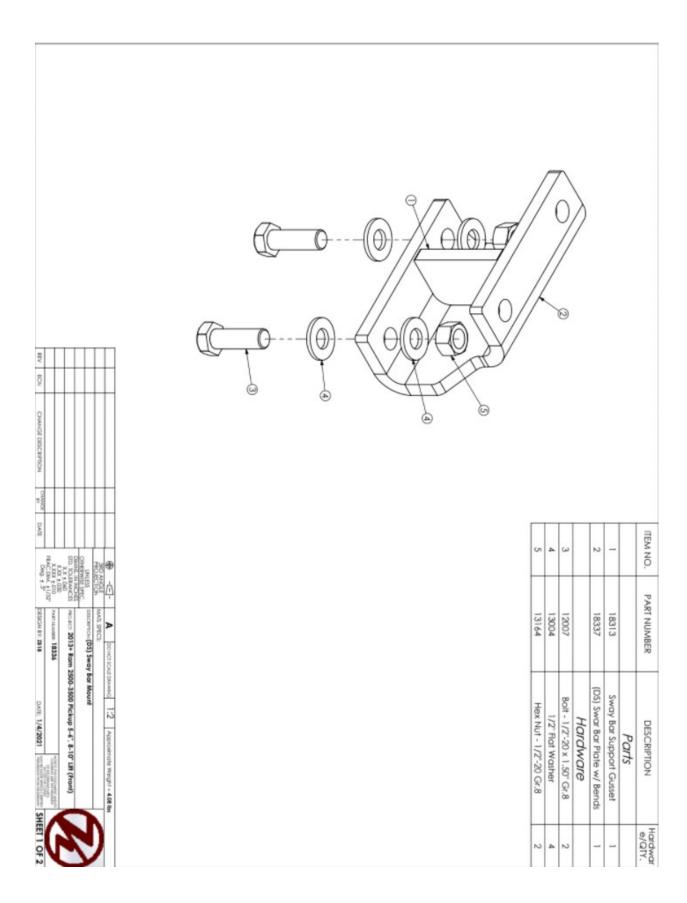


- 39.) Locate the sway bar drops (Part # 18314-PS and 18336-DS). They attach to the bottom of the frame with the factory sway bar bolts.
- 40.) The sway bar attaches to the bottom of the sway bar drops with the 7/16"-20 x 1-1/2" bolts. Torque all the bolts to 55 ft./lbs.







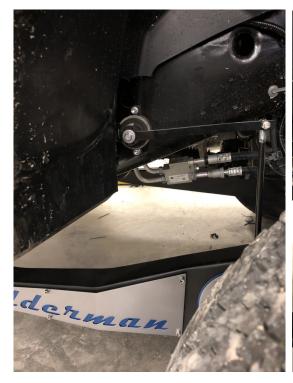


- 41.) Locate the optional ride height sensor, ball stud and linkage. The sensor will mount to the side of the frame. The inner fender liner will need to be trimmed at the bottom inside where it is close to the frame. Place the sensor against the frame with the mounting holes straight up and down. Mark the holes in the sensor to locate where to drill the holes. Use a 13/64" drill bit to drill the holes and a 1/4-20 tap to thread the holes. Mount the sensor to the frame with the 1/4"-20 x 1" bolts. Adjust the linkage to 10".
- 42.) Locate the ball stud. It will thread into the radius arm (factory and Kelderman). Use the 17/64" drill bit to drill the hole and thread the ball stud into the hole.
- 43.) 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.





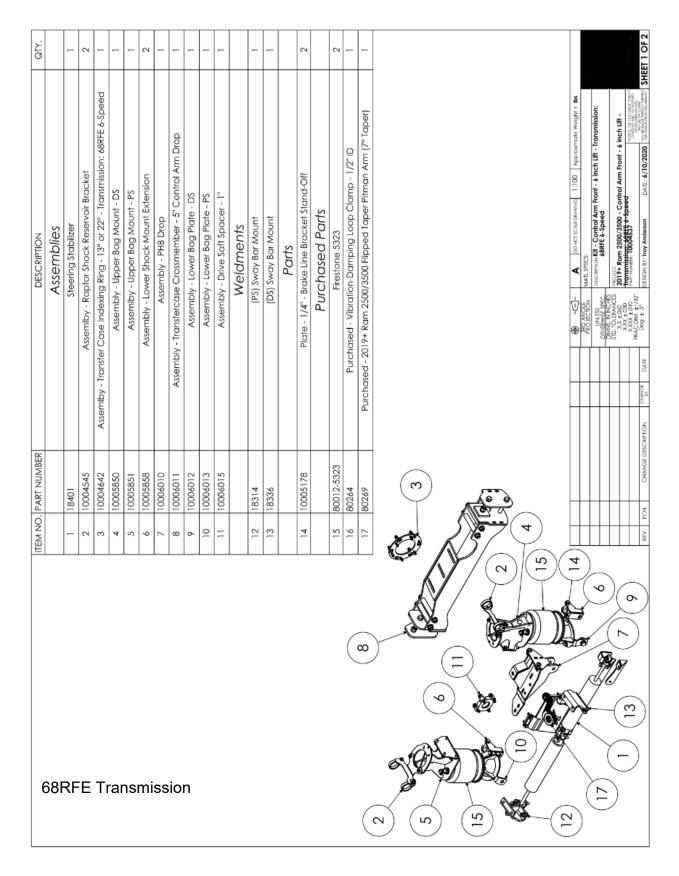
The sensor arm must be straight out at ride height. This will allow for even up and down sweep of the sensor. This is required for the air management system to calibrate correctly.

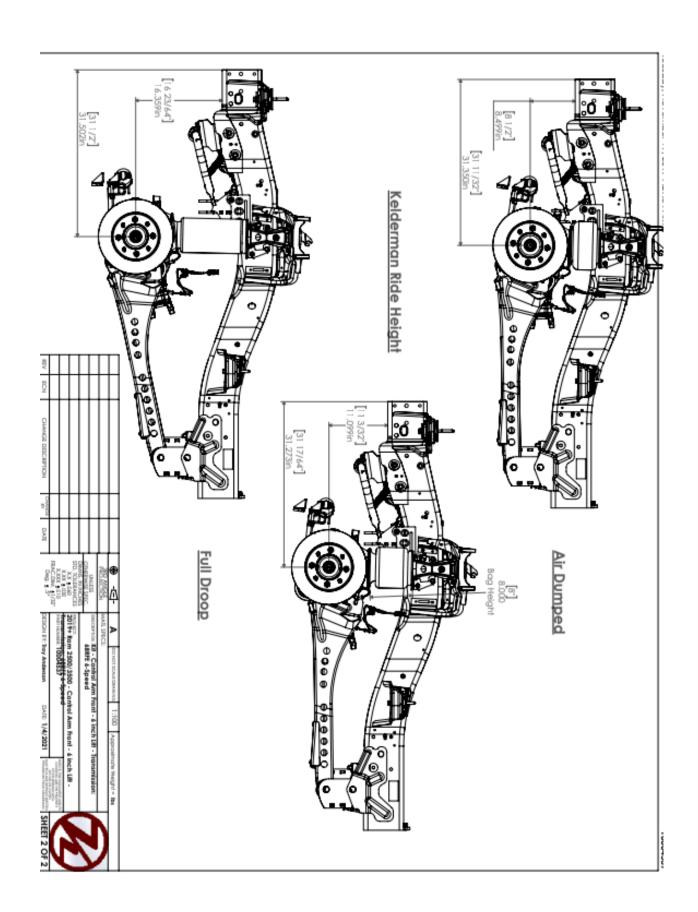




- 44.) When programing the control system, the front air bag needs to be at a ride height of 7-1/2—8-1/2." When measuring the air bag, measure between the mounting brackets.
- 45.) Move the truck in and out of the shop in order to get an idea of adjustment required for straightening the steering wheel. 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.
- 46.) Once the suspension has 300 miles on it, re-torque all the bolts.
- 47.) Inspect all components and check the bolts at regular service intervals after that.









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.

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