INSTALL INSTRUCTIONS

2014+ Ram 2500

Factory Rear Coil Spring

3” Lift Kit

Kit - D4R4-2-X-14-3



KELDERMAN MANUFACTURING

2686 HIGHWAY 92 EASTOSKALOOSA, IOWA 52577

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Kit Numbers

- This installation manual covers the following air ride kits.

Kit Number	Description
D4R4-2-X-14-3	2014+ Ram 2500 Factory Rear Coil Spring 3” Rear Lift Kit



Introduction

Important

♦It is important that the entire installation instructions be read thoroughly before proceeding with installation.

♦If your kit was ordered raw, open every box and locate all parts. There are several smaller bushing pieces and bolts that are packaged separately inside the main box.

Product Installer Responsibilities

♦Installer is responsible for installing this product in accordance with Kelderman Mfg. Inc. specifications and installation instructions.

♦Installer is responsible for providing proper installation of vehicle components and attachments as well as required or necessary clearance for suspension components, axles, wheels, tires, and other vehicle components to ensure a safe and sound installation and operation of this product.

Definition of Terms

♦**Warning:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

♦**Caution:** A potential hazardous situation may result in property damage.

♦**Note:** Provide information or suggestions that help correctly perform a task.

♦**Torque:** When italicized "torque" alerts the installer to tighten fasteners to a specified value.

bolt torque chart

Bolt Size	Grade 5 Torque	Grade 8 Torque
1/4"-20	8 *ft-lb*	12 *ft-lb*
3/8"-16	31 *ft-lb*	44 *ft-lb*
3/8"-24	*35 ft-lb*	49 *ft-lb*
1/2"-13	75 *ft-lb*	106 *ft-lb*
1/2"-20	85*ft-lb*	120 *ft-lb*
9/16"-18	121 *ft-lb*	171 *ft-lb*
5/8"-11	150 *ft-lb*	212 *ft-lb*
5/8"-18	170 *ft-lb*	240 *ft-lb*
3/4"-16	297 *ft-lb*	420 *ft-lb*
7/8"-14	474 *ft-lb*	669 *ft-lb*

Safety

Your Safety and the Safety of Others is Very Important.

♦Read and understand all safety precautions and instructions before installing this product.

CAUTION: Trucks Equipped with Parking Sensors or Other Like Devices.

♦Relocation of these devices will alter the field of view. It is the responsibility of the owner to understand how these changes affect the operation of these systems.

WARNING: Components Under Pressure.

♦Bleed all pressure from the air system before performing any maintenance or service. Serious injury could occur if components are removed while system is pressurized.

WARNING: Careless Installation Can Result in Serious Injury or Property Damage

♦Wear eye protection.

♦Disconnect the battery before doing any work on the vehicle.

♦Work on flat level ground.

♦Ensure truck is properly supported by jack stands. Never work under a vehicle supported only by hydraulic jacks.

♦Take precautions when lifting product. Due to the size and weight of this product two people are recommended for installation.

♦Never work directly under the product until it has been securely fastened to the vehicle.

♦Avoid sharp, hot, and moving components when routing electrical cables and air lines.

♦If drilling, inspect both sides of the surface and remove/relocate any objects located in the way.

♦Ensure all bolts are properly tightened before driving.

Product Owner Responsibilities

- Product owner is solely responsible for pre-operation inspection, periodic inspections, maintenance, and use of the product as specified by Kelderman Mfg. Inc. Of particular importance is the re-torque of fasteners.
- This re-torque must be performed within 2500 miles of this product being put into service.
- The Kelderman Air Suspension is fully automatic in controlling the height of the chassis when properly installed.
- No Manual Intervention to control air pressure or ride height is needed during normal operation.
- Product owner is responsible for "*down time*" expenses, cargo damage, and all business costs and loss- es resulting from a warrantable failure.

Service Intervals

First 2,500 Miles

- Check Ride Height ± 1/4"
- Check for air leaks around fittings.
- Check for any loose or rubbing hoses and wires.
- Re-torque all hardware.

Every 30,000 Miles

- Check Ride Height ± 1/4"
- Check for air leaks around fittings.

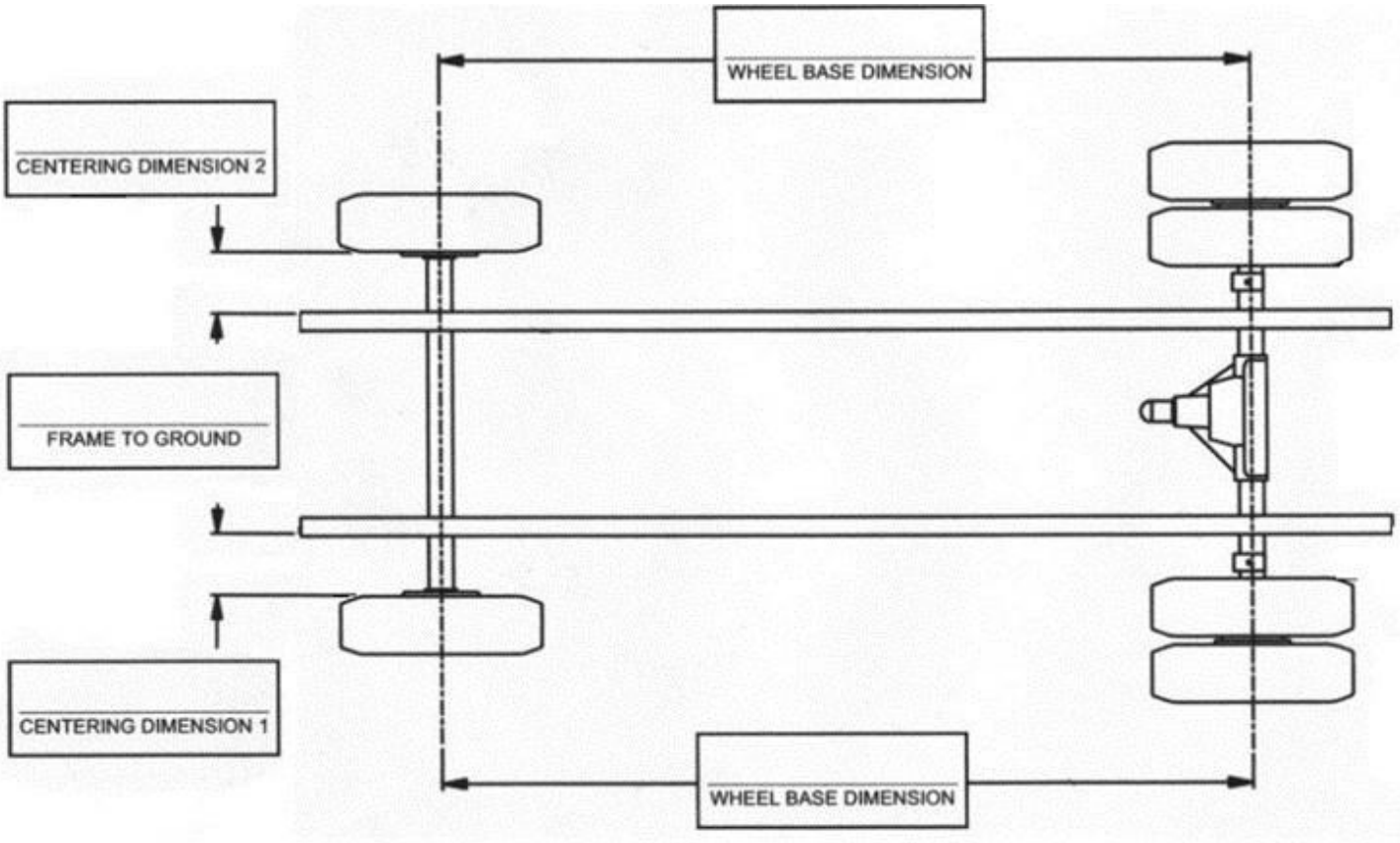
DISASSEMBLY

Before doing anything, measure the pinion angle and record it. This is important because you will need to put the axle back to this measurement after installation. See figure 1.

Pinion angle_____



Take the following measurements for future reference. These measurements will be used to adjust the suspension after installation.



ASSEMBLY

1. Before doing anything, place the truck on a level surface and use an angle finder to measure the pinion angle. Write the measurement here ___. Jack the truck up from the frame. You will also need to put a floor jack under the rear axle. Place jack stands under the frame while you work. It will be easiest for installation if the truck is approximately 10-12" off the floor. If the truck is on a lift, you will want some tall stands to support the rear axle.

2. The rear coil springs need to be removed. To do this, remove the bottom shock bolts and unhook the sway bar end links from the sway bar. <u>NOTE: WATCH THE BRAKE LINES. DO NOT STRETCH AND DAMAGE THEM.</u> You will remove the rubber mounts that the springs sit in also. Remove the top shock nuts. The shocks will not be reused, but the bottom shock bolts will be. You will also be removing the factory rear track bar as well as the four factory trailing arms, factory Panhard bar, sway bar and sway bar end links. It works well to throw a strap over the front of the axle/driveshaft to keep the axle from rotating out of position.

Coil springs shown removed from truck

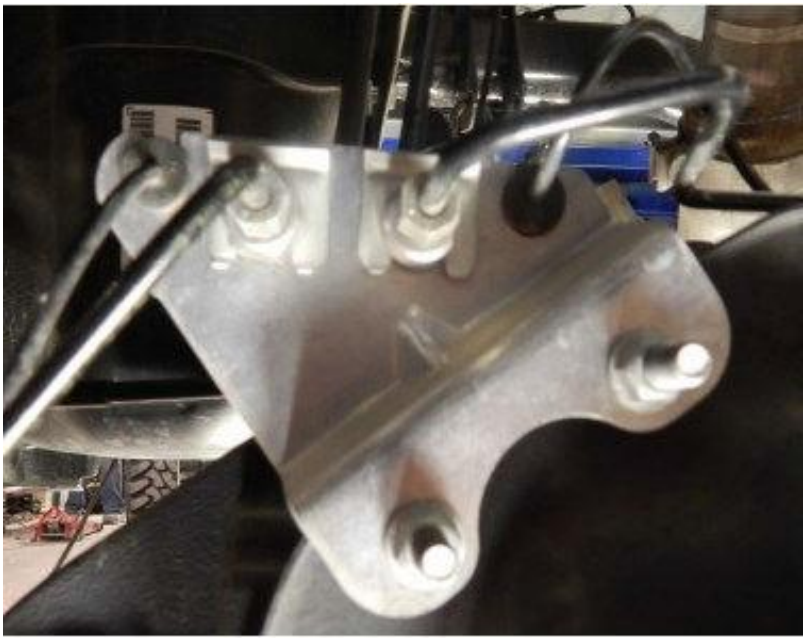


3. Locate the upper air bag mounts (Part # 19107-DS and 19106-PS). They fasten into the upper coil mounts with the 1/2" and 3/4" lock nut tools (Part # 19084 and 19083). Install the upper bag mounts in place and torque the 1/2" bolts to 85 ft./ lbs. and the 3/4" bolts to 125 ft./lbs. NOTE: The cut out for the air line fitting on the driver's side faces towards the center of the truck and the cut out on the passenger side faces towards the front/and passenger side frame rail.





4. Locate the brake line relocation bracket (Part # 19046). Remove the two nuts off the mounting studs and slide the relocation bracket over the studs. Fasten with the factory nuts. Torque to 20 ft./lbs. Fasten the brake line bracket to the relocation bracket with the 1/4 x 1" bolts. Torque to 25 ft./lbs. Examine the brake lines along the axle. Once the install is complete, make sure the brake lines are not rubbing on anything. New brake lines are not required for this kit.

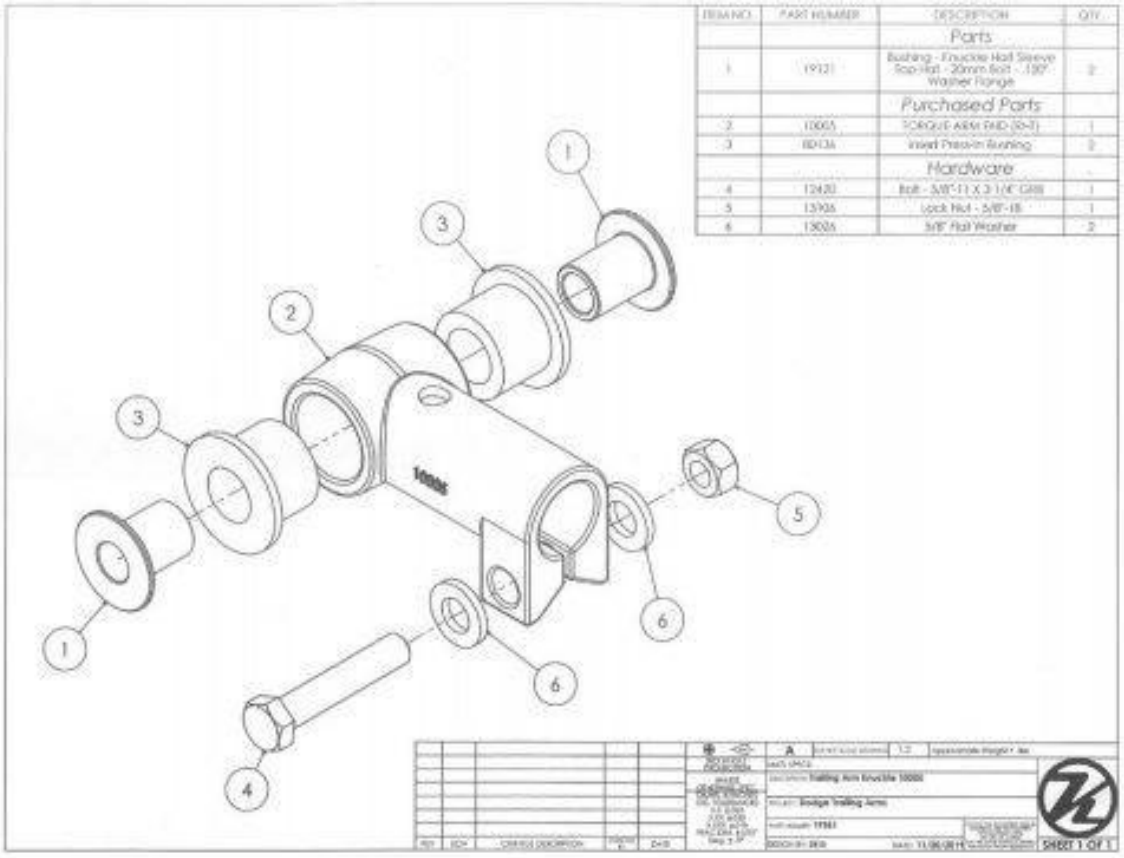


Stock brake line Bracket mount

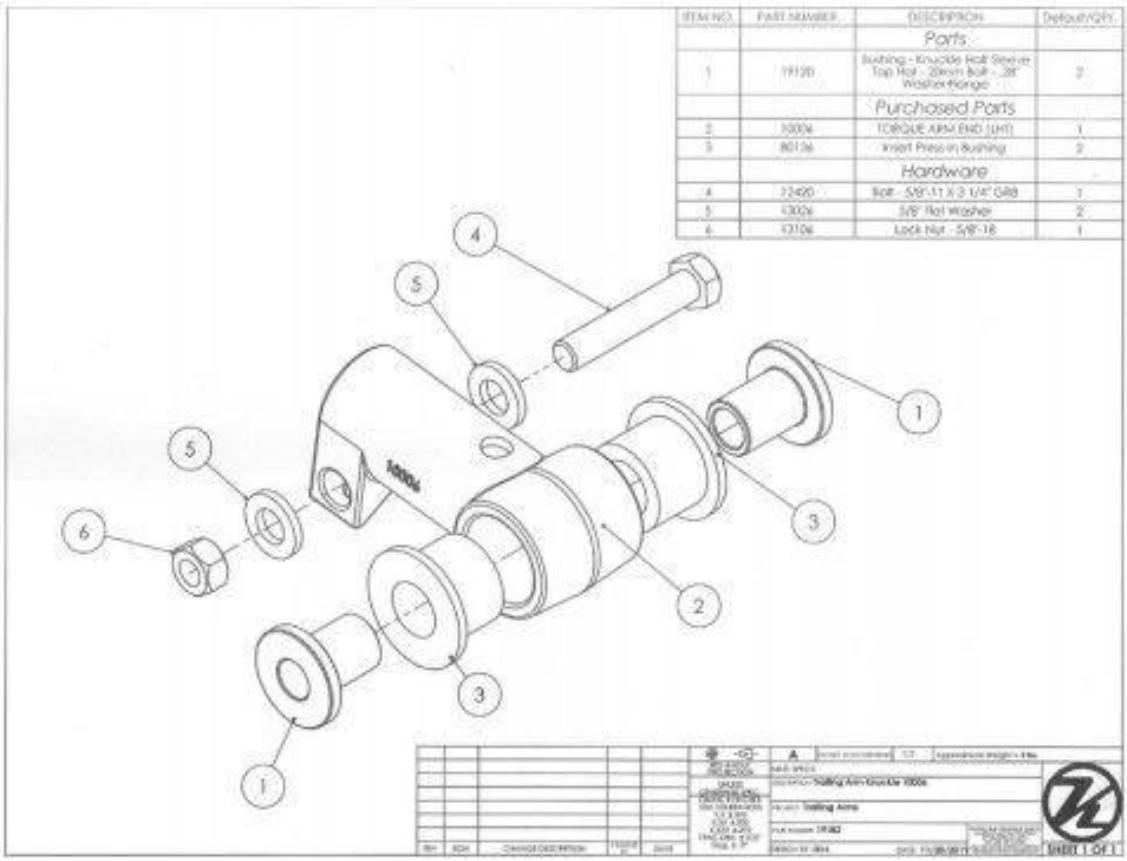


Adapter plate attaches to the differential cover and raises the brake line bracket up

5. Locate the knuckles (Part # 19181 and 19182) and trailing arm bars (Part # 52118.5 upper and 52120 lower). The upper arms get the thin wall bushings (Part # 19121), and the lower arms get the thicker walled bushings (Part # 19120).



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
		Parts	
1	19121	Bushing - Knuckle Half Sleeve Top Hat - 28mm Bolt - .120" Washer Flange	2
		Purchased Parts	
2	10005	TORQUE ARM END (RHT)	1
3	80126	Insert Press-in Bushing	2
		Hardware	
4	12420	Bolt - 5/8"-11 X 3 1/4" GR8	1
5	13905	Lock Nut - 5/8"-18	1
6	13005	5/8" Flat Washer	2

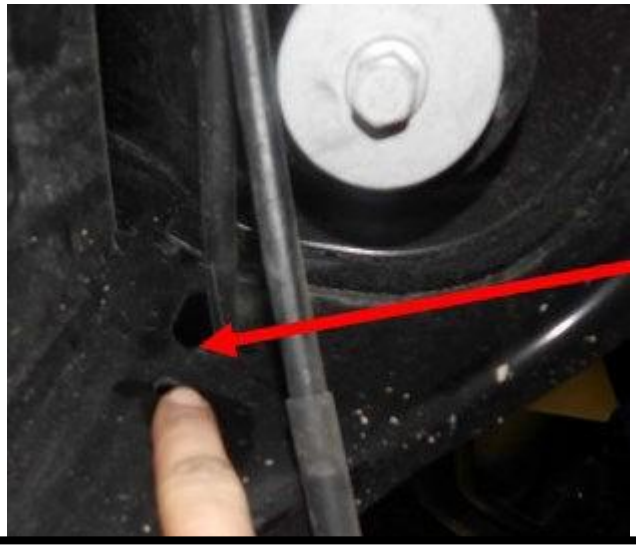


ITEM NO.	PART NUMBER	DESCRIPTION	Default/QTY.
		Parts	
1	19120	Bushing - Knuckle Half Sleeve Top Hat - 28mm Bolt - .28" Washer Flange	2
		Purchased Parts	
2	10006	TORQUE ARM END (LHT)	1
3	80126	Insert Press-in Bushing	2
		Hardware	
4	12400	Bolt - 5/8"-11 X 3 1/4" GR8	1
5	13005	5/8" Flat Washer	2
6	13106	Lock Nut - 5/8"-18	1

6. Locate the trailing arms and install the top bars first. Use the pictures on Page 8 to set the bolt orientation. The factory bolts and nuts will be reused. While the trailing arms are removed, unhook the emergency brake line on the passenger side. Use the pictures below and on Page 6 to see how to re-route the cable. It will fasten to the lower trailing arm forward pinch bolt with the supplied clamp. Once the trailing arms are installed, torque the bolts to 200 ft./lbs. NOTE: When installing on the truck, the RH knuckles so they will be on the front end of the trailing arm, and the LH can go into the truck axle. This makes the adjustments easier when all the trailing arms are orientated the same way. The top bars are the shorter ones.



set the trailing arms to 11.25" for the upper bar and 13.50" for the lower bar. At these measurements, the pinion angle and axle centering should be close. Fine tuning may be required once install is complete.



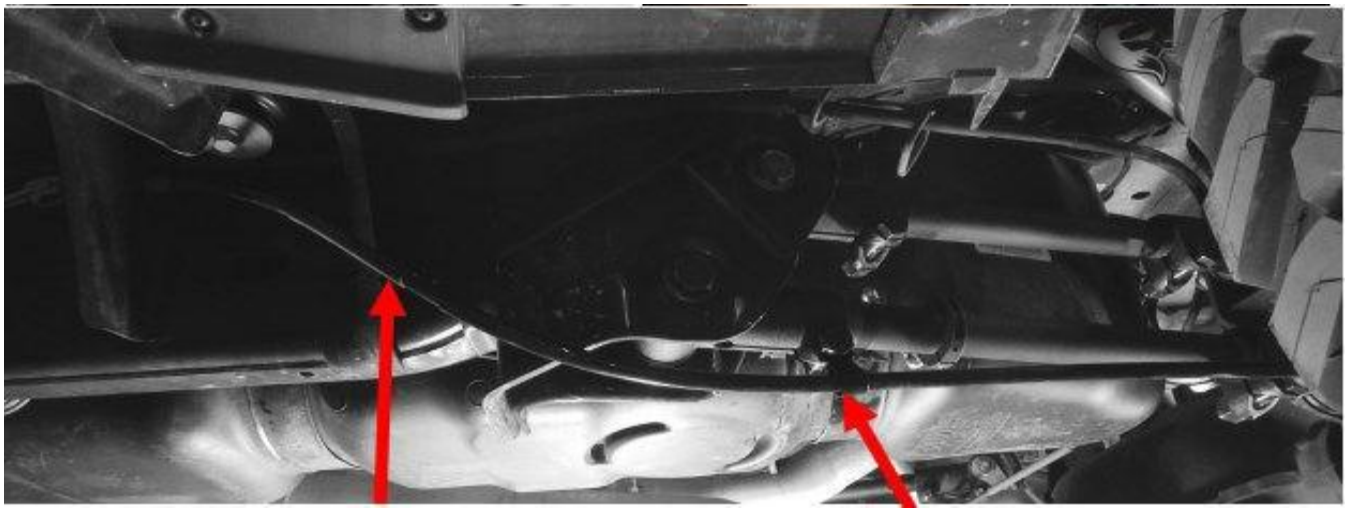
Remove the e-brake cable from this hole.



7. Remove the drivers side e-brake cable from the metal loop that holds it in place. Unhook it from the connection on the side of the frame and push it back through the mounting brackets. It will now drop down and run up to the forward bracket. It will also tie into the lower forward trailing arm knuckle pinch bolt with the supplied clamp.

Remove drivers side e-brake cable from this loop



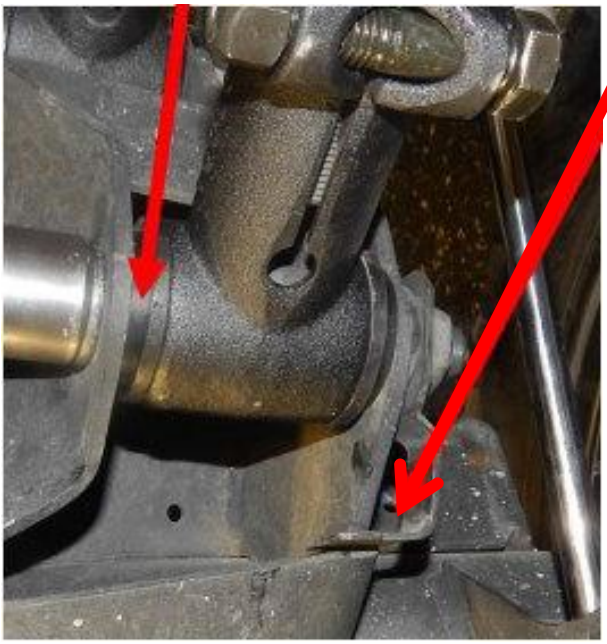


Brake cable now droops down below the rear mount that it originally was routed through

Clamp to the pinch bolt on the lower front knuckle



The lower trailing arms use the thicker walled bushings.

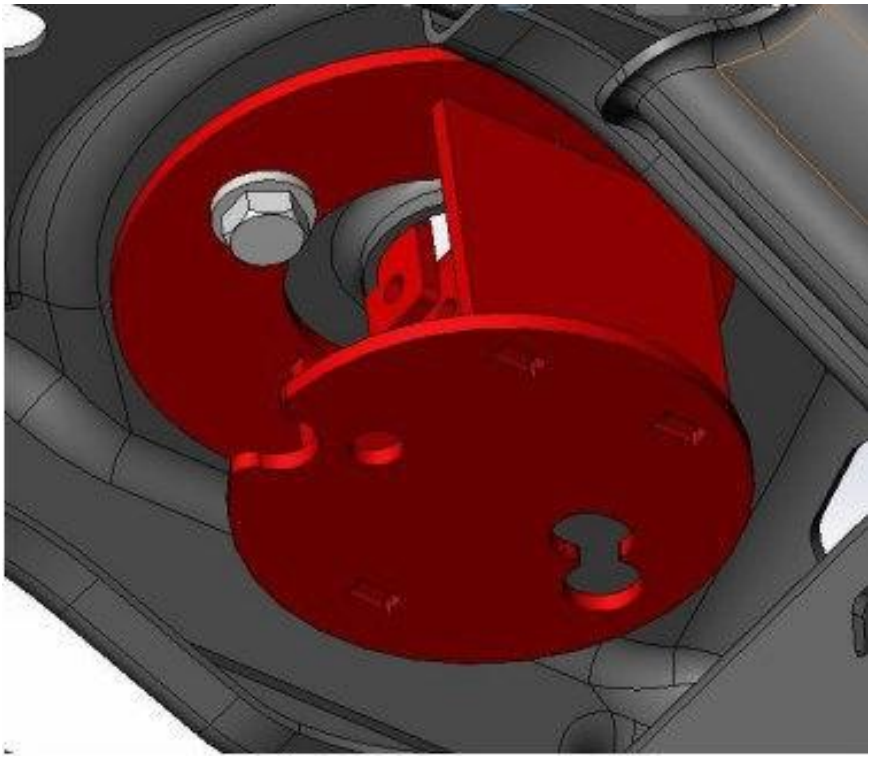


This tab needs to be bent so it will catch on the trailing arm mounting bracket.

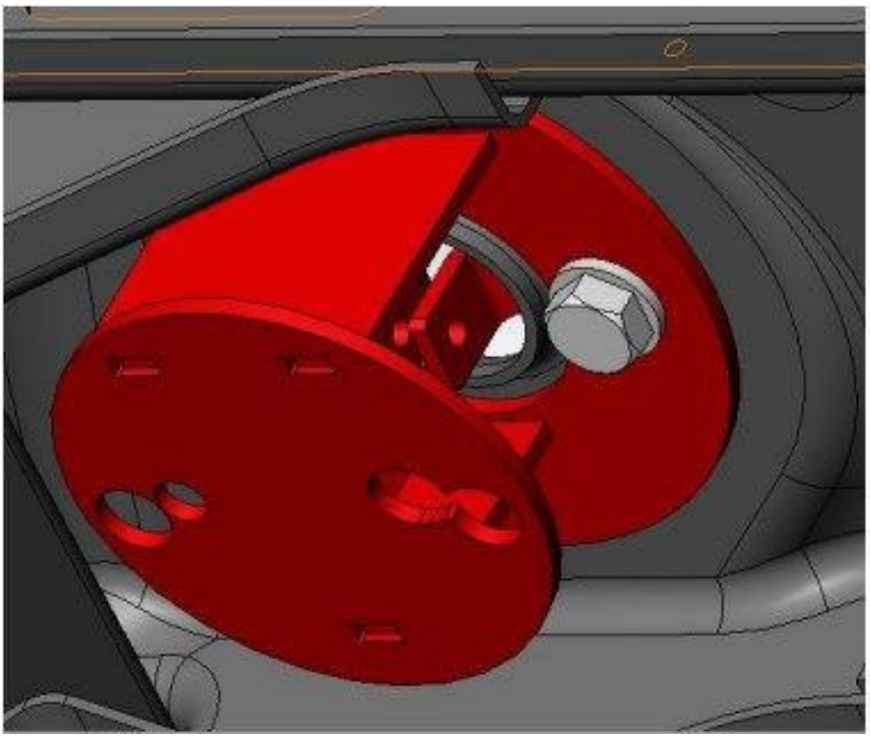


8. Locate the two holes in the top of the coil spring perch. Use a 13/16" drill bit to open up the holes. Use the 3/4" wrench nut (Part # 19084) and the 5/8" wrench nut (Part # 19083) to attach the upper bag mount to the frame. Use the 1 1/2" x 5/8" and 3/4" bolts.

Passenger side



Drivers side



9. Locate the lower bag mounts (Part # 19230 DS and 19237PS). Beginning with the driver side, place the bag mount on the axle. It fastens with the three 1/2 x 1 1/2" bolts (one hole gets drilled) and the factory Panhard bar bolt into the factory Panhard bar mount. Once all the bolts are installed, torque the 1/2" bolts to 85 ft./lbs. and the factory Panhard bar bolt to 120 ft./lbs.



Drill this hole 17/32" (not sure if this is the same on 2019) will need to look at exploded view when its done



10. Locate the supplied Panhard bar (Part #19166). Locate the (4) spacers that go into each side of the Heim ends. The two of the spacers are wider. These wider spacers go into the lower air bag mount. It fastens into the lower air bag mount in the driver's side with the 9/16" x 4" bolt and in the factory location with the factory bolt on the passenger side. Torque these bolts to 135 ft./lbs.

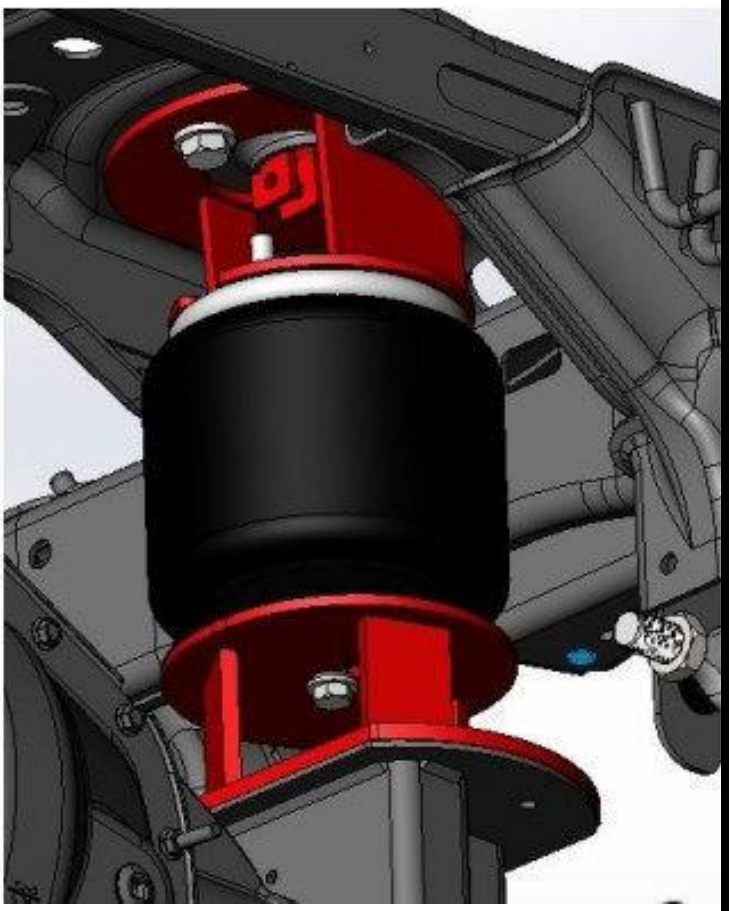
One spacer on each side of Heim end. The wide spacers go on this end.



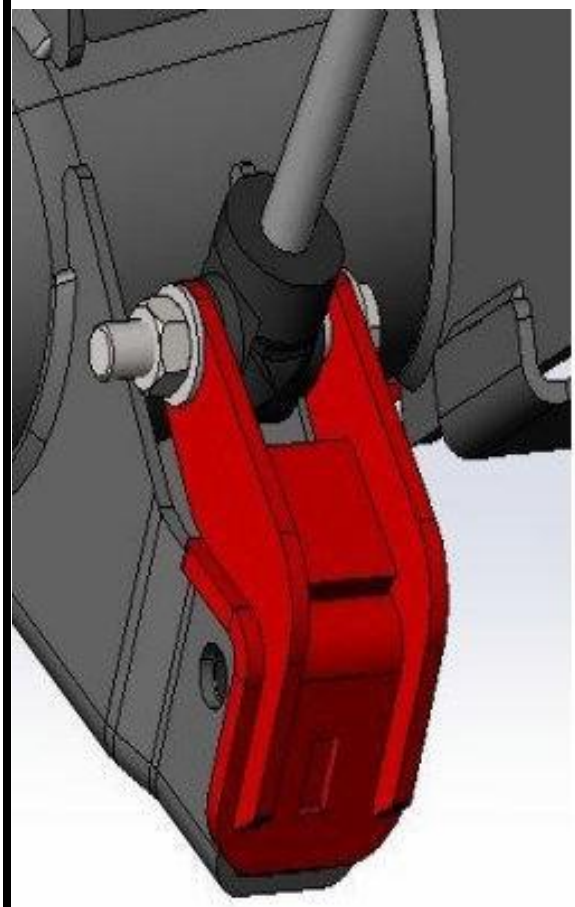


11. Locate the 5323 air bags. Insert the 3/8" 90-degree fitting (if doing the Air Lift 3H air management system) or 1/4" fitting (if doing a mechanical or manual fill). The air bag fastens into the upper air bag mounts with the 3/4 and 1/2" nuts and lock washers. The bottom of the bag fastens to the lower air bag mounts with the 1/2 x 4 1/2" nut and lock washer. Torque the bolts and nuts to 35 ft./lbs.





12. Locate the lower shock mounts (Part # 19080). They fasten into the OEM shock mounts with the ½" x 3 1/2" bolt and 3/8" x 1" bolts.





13. Locate the sway bar (Part #1129-141), sway bar bushing kit (4129-141), and sway bar extension plates (Part #18384). The D- rings will attach to the bottom of the axle. Install the sway bar extension plates between the mounts and the D rings. There are four holes in the bottom shock mount on the axle. Use the closest one to the front of the truck, as well as the third closest to the front. Use the provided grease to lube up the poly bushing before installing. Use plenty of grease and then wipe the excess off once the install is complete. Failure to grease the poly bushing will result in a squeaking noise while driving. Fasten the sway bar to the axle with the factory sway bar bolts. Torque to 55 ft./lbs.

Rear sway bar assembly shown installed w/ bushings, d-rings, and grease



Use lots of grease and clean it up after the install is complete



14. Locate the sway bar end links (Part # 25015) and the upper end link mount adapters (Part # 19161). The upper end link adapters fasten to the factory end link mounts with the 1/2 x 3" bolts and the 3/8 x 1 1/4" bolts. Fasten the bottom of the end link to the sway bar with the 1/2 x 3" bolt. Make sure to use the large flat washer on the outside of the end link (against the poly bushing). Torque the 1/2" bolt 85 ft./lbs. and the 3/8" to 45 ft./lbs.





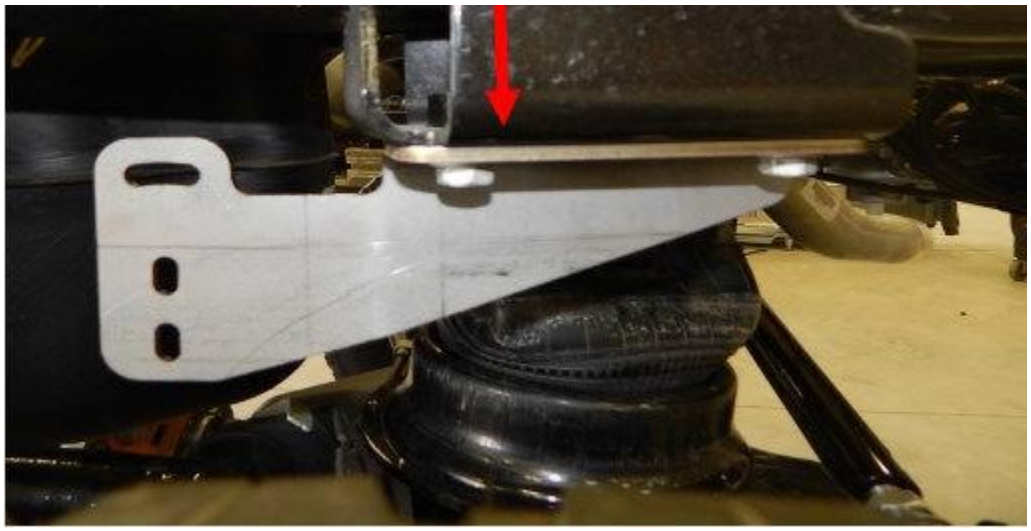
Large washer on the outside of the bottom end link





15. Locate the two ride height sensors and sensor mounting brackets (Part # 5230). The sensor mounting brackets fasten to the bottom of the factory bump stops on the frame. The pointed part of the mount faces the rear. Use the factory bolts to attach the brackets to the bump stop. The sensors fasten to the bracket with the 1/4 x 1" bolts. You can use the top slot to fine tune the sensor when going through the set-up process. NOTE: There are videos on YOUTUBE.COM/KELDERMANTRUCKS that should be watched before doing the calibration procedure on the 3H.

Sensor bracket attaches to bottom of the bump stop mount

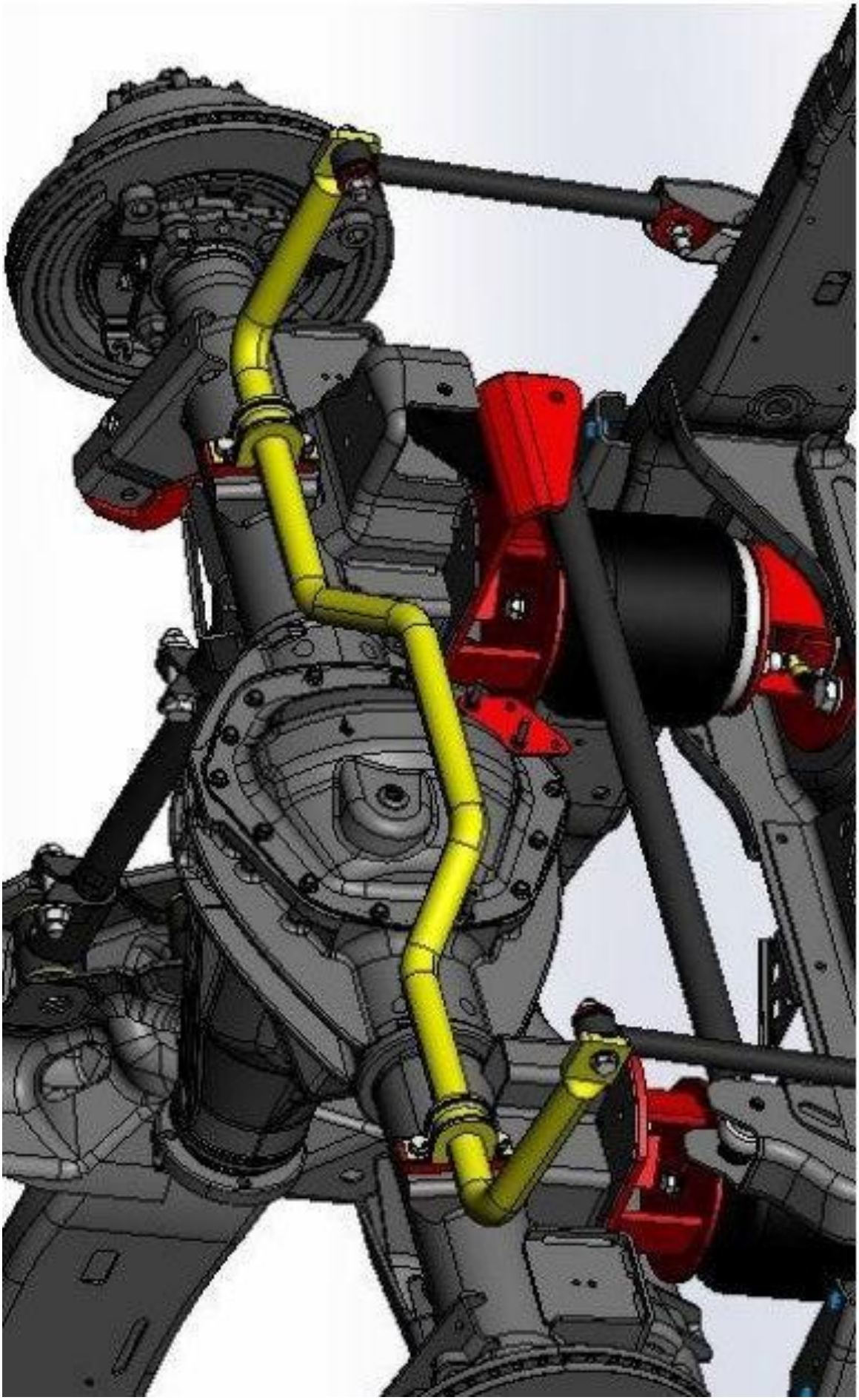




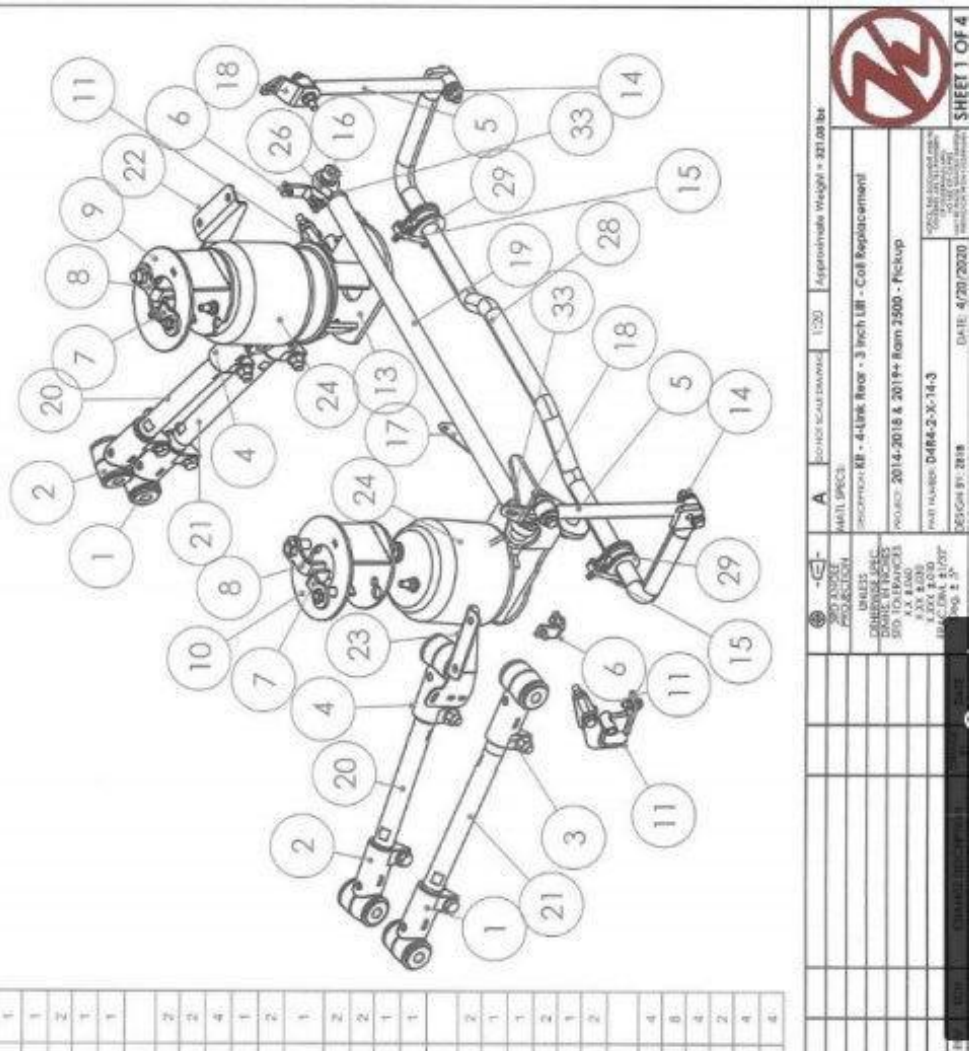
16. Locate the 3H air management system The tanks and 3H box mount where the spare tire originally set. Check out youtube.com/keldermantrucks for a detailed description on how to install the air management system.





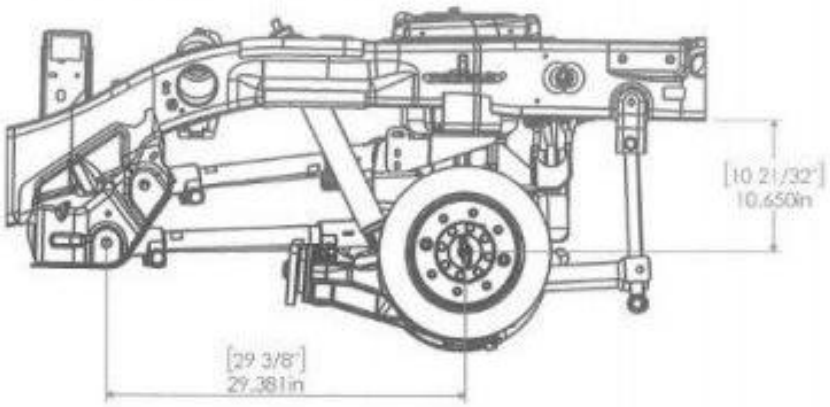


KIT DRAWINGS

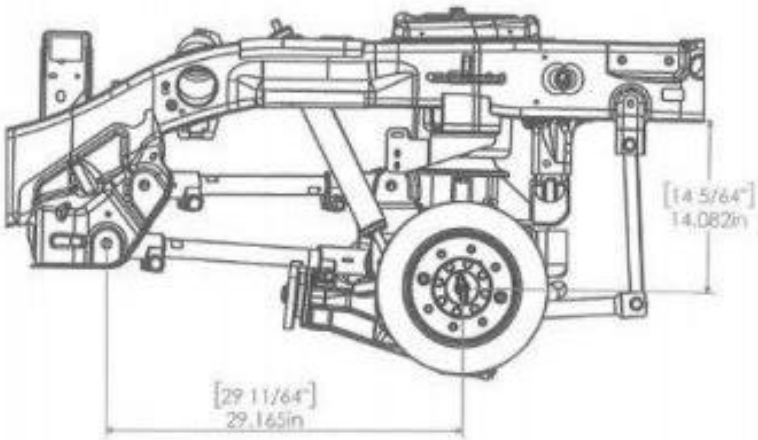


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
		Assemblies	
1	19180	Assembly - Trailing Arm Knuckle	2
2	19181	Trailing Arm Knuckle 10005	2
3	19182	Trailing Arm Knuckle 10006	2
4	19183	Trailing Arm Knuckle 10006	2
5	25015	Assembly - 13.00" End Link	2
6	10008066	Assemby - Sensor Linkage Ear	2
		Weldments	
7	19083	Weldment - 5/8"-18 Lock Nut Tool	2
8	19084	Weldment - 3/4"-16 Lock Nut Tool	2
9	19106	Weldment - (PS) Upper Bag Mount	1
10	19107	Weldment - (DS) Upper Bag Mount	1
11	19080	Weldment - Shock Relocation Bracket	2
12	19230	Weldment - (DS) Lower Bag Mount	1
13	19237	(PS) Lower Bag Mount	1
		Parts	
14	11551	Plate - 1/4" - 1.5"OD x .53" ID x 1/4"	2
15	18384	Plate - 1/2" - Sway Bar Extension Plate	2
16	18789	OUTDATED SEE PDM - Hem Bushing Spacer - Stock & Fab Location	4
17	19046	Plate - 11ga - Brake Line Relocation Bracket	1
18	19161	Plate - 1/4" - End Link Mounting Ear - w/Bends	2
19	19166	Tube - Panhard Bar (PHB) - 1.5" OD x .8125" ID x 31.75" L - Tapped (Both Ends LHT/RHT) 7/8"-14	1
20	52118.5	18.50" Trailing Arm Bar	2
21	52120	Tube - 1.5" OD x 1" ID x 20.00"	2
22	10005225	Plate - 7ga - Bump Stop Sensor Bracket (PS) - w/Bends	1
23	10005230	Plate - 7ga - Bump Stop Sensor Bracket (PS) - w/Bends	1
		Purchased Parts	
24	80012-5323	Firestone 5323	2
25	80111	7/8"-14" Right-Hand Male Shank, 3/4" Ball ID, 1 7/8" Long Thread	1
26	80112	7/8"-14 Left-Hand Male Shank, 3/4" Ball ID, 1-7/8" Long Thread	1
27	80168	KV2L11-35s - 90° Elbow, 3/8" x 1/4-18 NPT	2
28	1129-141KLD		1
29	4129-141KLD	Sway Bar Bushing Kit	2
		Hardware	
30	12021	Bolt - 1/2"-20 X 3" Gr.8	4
31	13004	1/2" Flat Washer	8
32	13164	1/2"-20 Hex Nut Gr.8	4
33	13210	7/8"-14 Hex Jam Nut	2
34	13874	M10 x 1.50" Thread, 40mm Long	4
35	13893	M10 Lock Washer	4

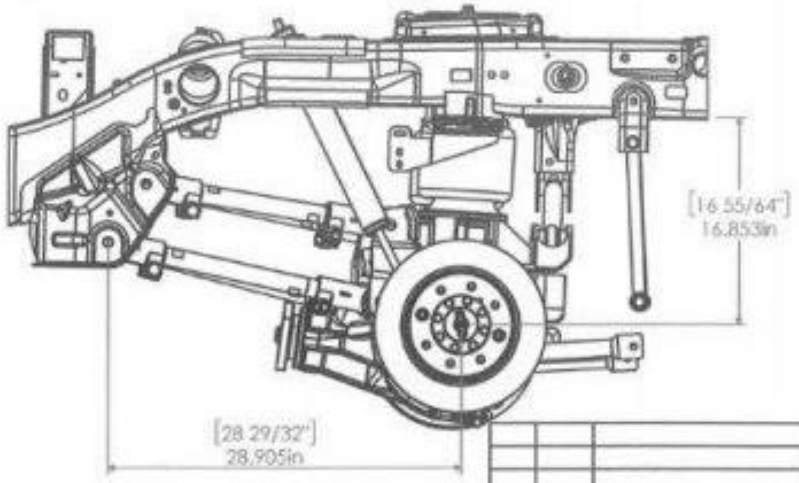
Air Dumped: Bag Height 5.4"



Kelderman Ride Height: Bag Height 8.0"



Full Droop: Bag Height 11.75"



REV	ECN	CHANGE DESCRIPTION	CHANGE BY	DATE

3RD ANGLE PROJECTION

UNLESS OTHERWISE SPEC. DIMS. IN INCHES STD. TOLERANCES X.X ±.040 X.XX ±.030 X.XXX ±.010 FRAC. DIM. ±1/32" Deg. ± .5°

A | DO NOT SCALE DRAWING | 1:50 | Approximate Weight = 321.06 lbs

MATL SPECS:

DESCRIPTION: Kit - 4-Link Rear - 3 inch Lift - Coil Replacement

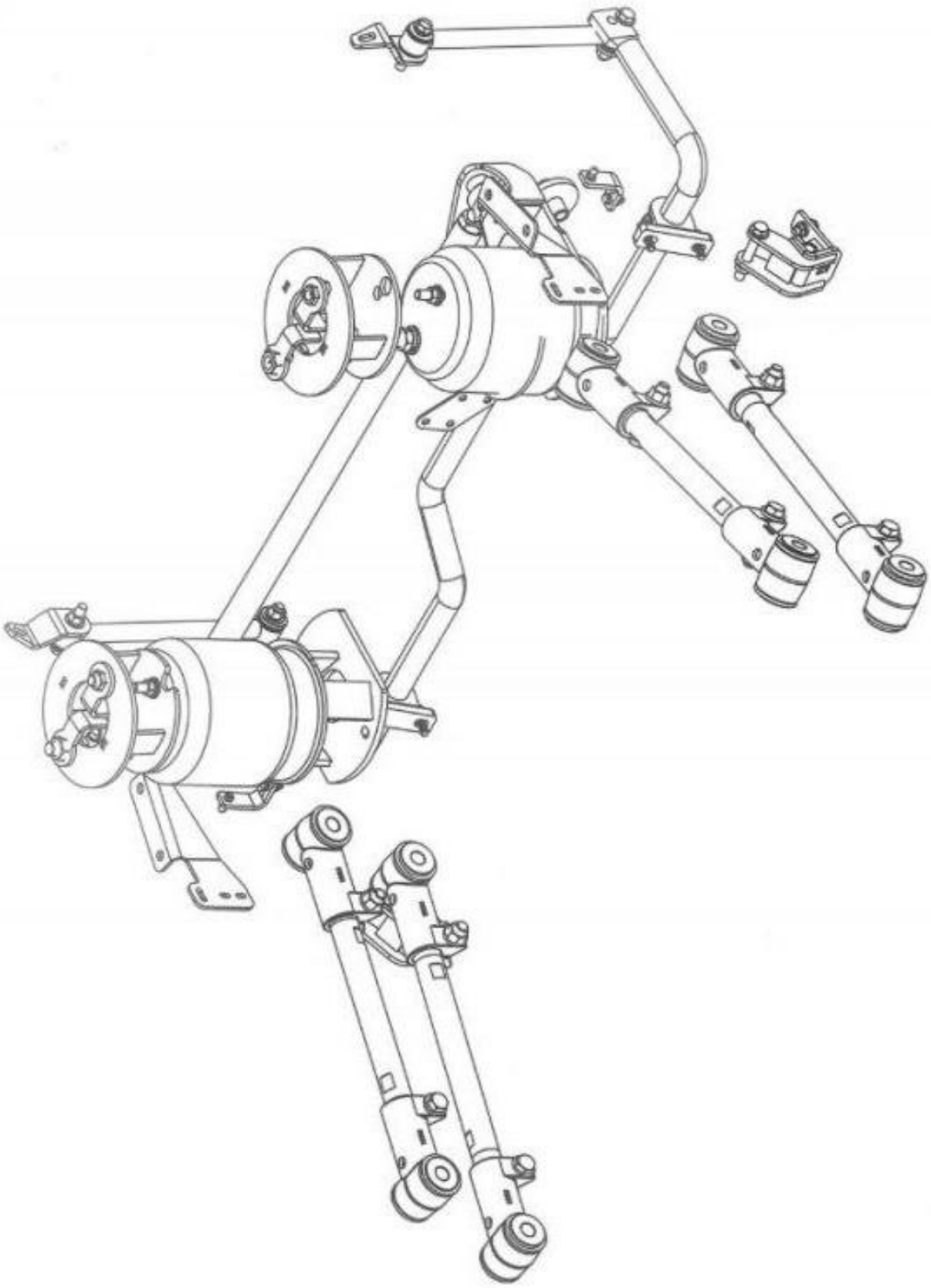
PROJECT: 2014-2018 & 2019+ Ram 2500 - Pickup

PART NUMBER: D4R4-2-X-14-3

DESIGN BY: ZB18 | DATE: 4/20/2020

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SHEET 2 OF 4



NOTES

Contact Information

Kelderman Manufacturing appreciates your business. We strive to meet the needs of our customers by providing the highest quality products. If you have any questions concerning our products, please call or email us at the following:

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Phone: 1-800-334-6150

Email: info@kelderman.com

SCAN ME

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