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**AIR SUSPENSION SYSTEMS**

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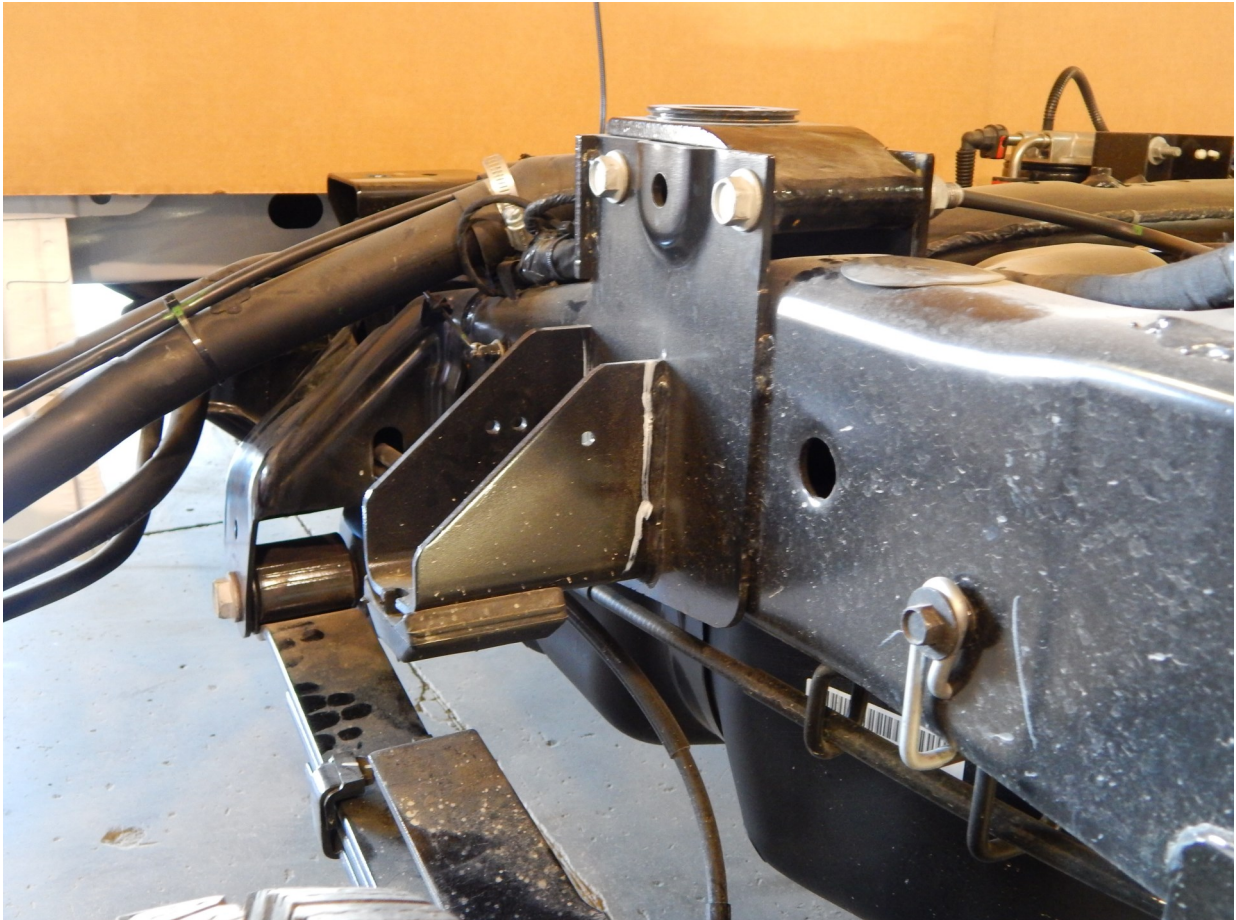
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# **2013+ Ram 3500 5-6" Rear Installation Instructions**

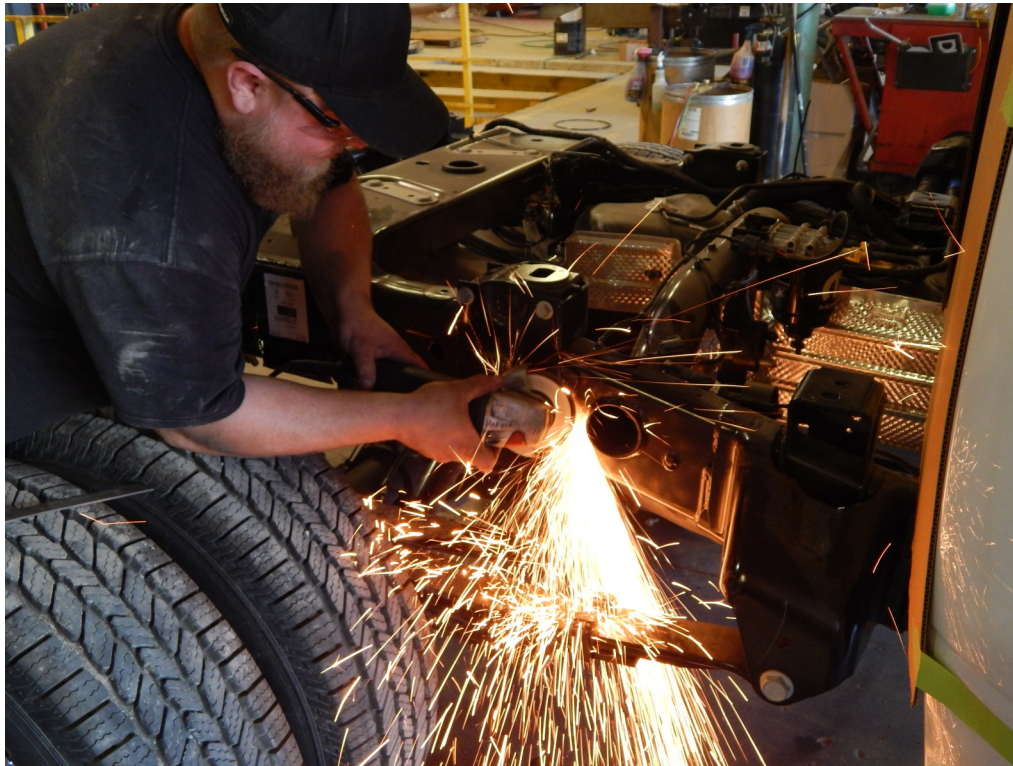


## Installation

1. Place the truck on a level surface and measure the pinion angle and write the angle down. This is important because you will need to put the axle back to this measurement after the installation. Also, take a measurement from the front of the axle to a location on each side of the frame. Write these measurements here. Pinion angle \_\_\_\_\_. Right side \_\_\_\_\_ Left side \_\_\_\_\_ **NOTE: All the bolts in this kit use a flat washer on each side of the bolt. Unless noted otherwise.** It is not required to remove the bed, but if you have the ability to do so, it will make the install much easier.
2. Jack up the rear of the frame so that the tension is off the leaf springs. Place a set of jack stands under the frame, block the tires so the axle won't move and place a jack stand under the pinion so it doesn't rotate. Remove the leaf springs, rubber bumpers fastened to the bottom side of the frame, and shocks. Keep these bolts that fasten the front of the leaf spring perch as they will be used in step 7.



3. The front over load pads will need to be cut off and removed on both sides of the frame. Once removed grind the area smooth. You will have to weld on this area in step 6.

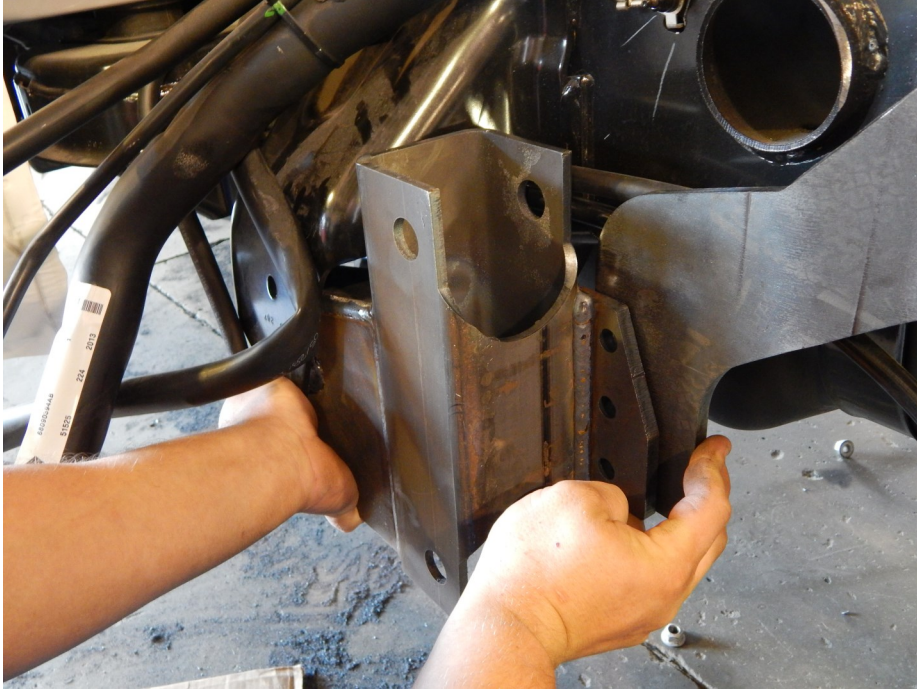




4. Locate the driver's side frame mounting plate (part # 18246). Mount it to the side of the frame with the two 7/16x5 1/2" bolts. Do not torque them yet. Just snug them up finger tight.

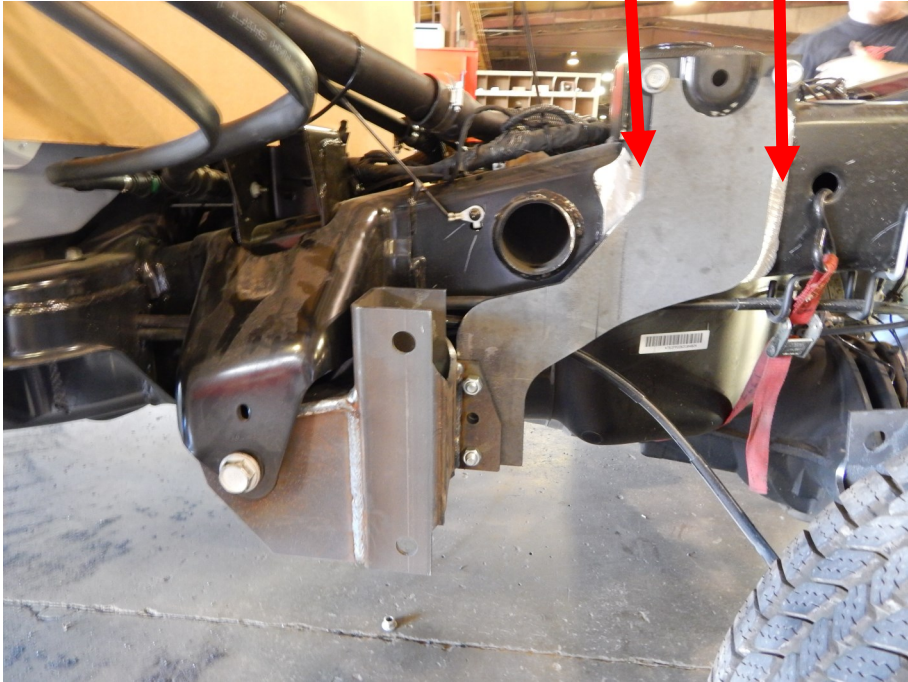
5. Next, locate the drivers side perch mount (part # 18248). Fasten this mount into the original forward leaf spring perch with the factory bolt. Do not torque yet. Locate three 1/2x1 1/2" bolts and connect the frame mounting plate to the perch mount. Once all those bolts are started, go back and torque all the bolts. Torque the 7/16" bolts to 75 ft/lbs, the 1/2" bolts to 85 ft/lbs and the factory leaf spring bolt to 150 ft/lbs.



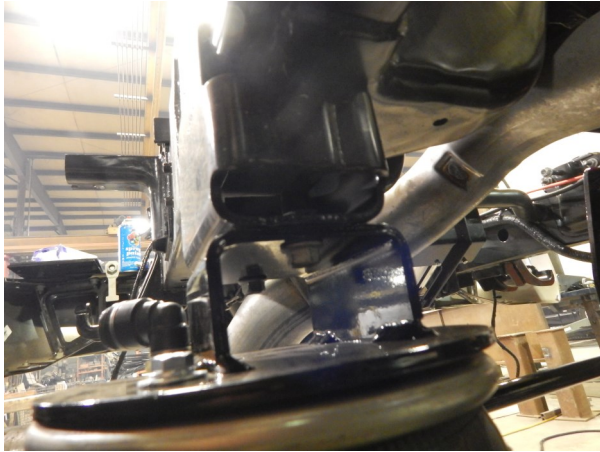


6. Once all the bolts are torqued, it is required to weld the frame mounting plates to the truck frame. Make a 3" down hand weld on the front side and a 4" weld on the back side. **Make sure to disconnect the batteries and/or use an "anti zapper" surge protector to prevent any damage to electronics. All welding must be done by a certified welder.**

3" weld      4" weld



7. Locate the drivers side upper bag mount (part # 18235). It fits where the bump stop was originally located. Make sure the large cut out faces the rear of the truck. Fasten it in place with the two factory bolts that held the rubber bump stops in place. Torque to 55 ft/lbs.



Passenger side pictured



Drivers side pictured

Air bag will be installed later in step 12. Don't install air bag yet.

8. Locate the drivers side lower air bag mount (part# 18237) and the axle clamp (part# 10043). Place the air bag mount on top of the axle leaf spring perch and drop the 5/8x8 1/2" bolts down from the top. Next slide the axle clamps up over the bottom of the axle and fasten to the 5/8 bolts. Torque these bolts to 150 ft/lbs.



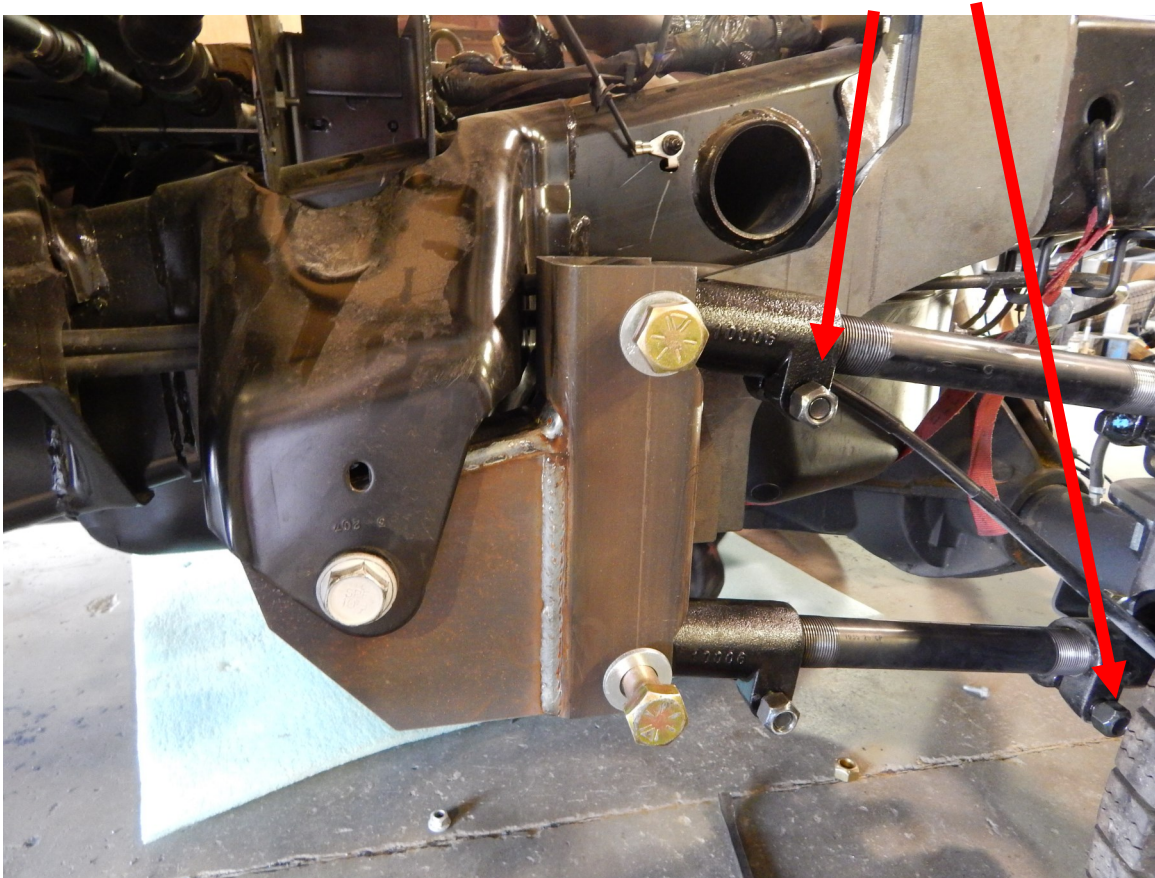
9. Repeat steps 4-8 on the passengers side.

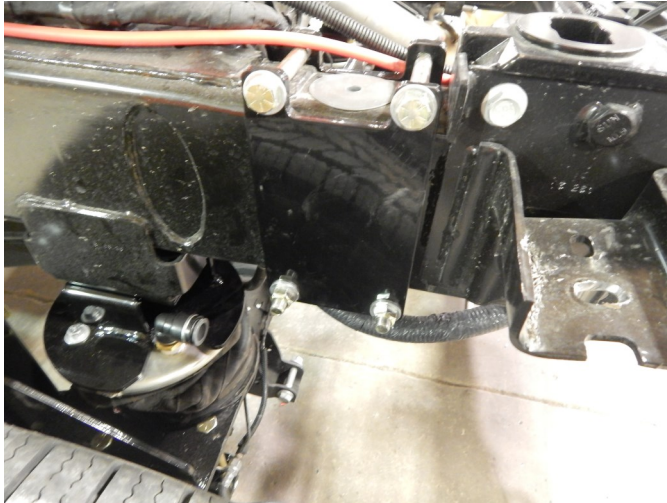


10. Locate the pan hard bar mount (part# 18256) and the pan hard bar backing plate (part# 18218). These fasten to the driver's side frame rail just in front of the rear shock. Use the 1/2x5 1/2" bolts to clamp the assembly around the frame. Torque to 85 ft/lbs.

11. Locate the trailing arms (part # 18352) and the 7/8x5" bolts. Set the arms so there is 9" between the knuckles. Insert the perch mount bolts from the outside in (nuts go on towards the frame of the truck). The lower air bag mount has the bolts the opposite way (nuts towards the tire side). NOTE: If the bolts are inserted incorrectly there is clearance risks that may cause damage to the suspension and/or truck frame.

Make sure pinch bolt nuts are away from the frame



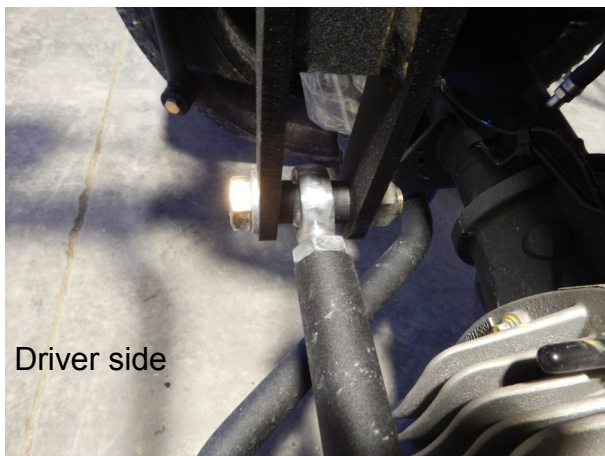


12. Locate the 5748 air bags and the 3/4" air line 90 degree fitting. Insert the fitting into the bag and snug the fitting so it will point to the rear of the truck when installed. Attach the air bag to the upper bag mounts with one 3/8x1" bolt. Use the lock and flat washer. The bottom of the air bag fastens to the lower air bag mount with the 3/4" nut and lock washer. Torque the 3/8" bolt and 3/4" nut and air fitting to 35 ft/lbs.

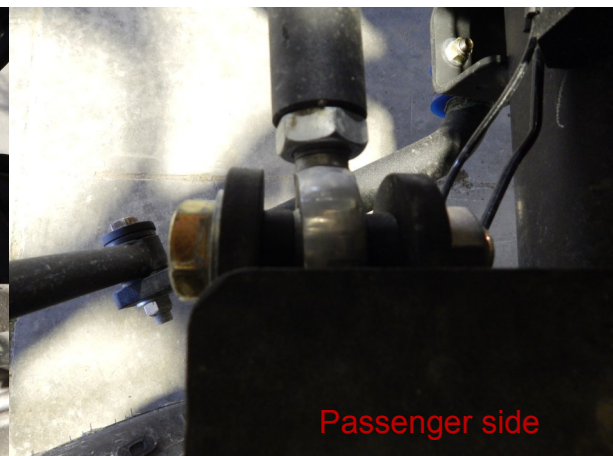


13. Locate the accumulator tanks. They mount to the original rear leaf spring perch with the factory bolt. Make sure that the large port is facing to the front of the truck. Once its installed locate the 3/4" air line and connect the accumulator tank and air bag. The small port will connect to the output on the controls. Torque the factory leaf spring bolt to 100 ft/lbs.

14. Next locate the pan hard bar and 4 spacers. The pan hard bar fastens to the lower bag mount on the passenger side and the pan hard bar mount on the drivers side. Use the 3/4x3" bolts to fasten in place. Make sure to put a spacer on each side of the heim end. Once installed torque the 3/4" bolts to 175 ft/lbs



Driver side



Passenger side



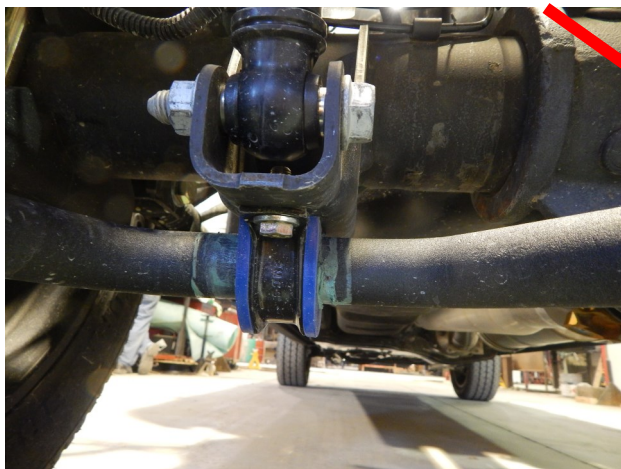
15. Locate the sway bar, blue bushing, "D" rings, end links and upper end link mounting brackets (single rear wheel only part #xxxx). Use the provided grease and slide the blue poly bushings over the sway bar. The grease helps prevent squeaking. The sway bar fastens to the bottom of the shock mounts located on the bottom of the axle with the 3/8 x 1 1/2" bolts. Install with sway bar ears pointed towards the rear of the truck. Torque these bolts to 35 ft/lbs
16. Locate the sway bar end links. On dual rear wheel trucks, the top of the end link fastens into the original over load leaf spring pad. Remove the factory rubber pad and drill the hole out to 17/32". Rock the drill for and aft lengthwise with the truck to provide the end link with articulation. The end links fasten to the outside of the sway bar with the 1/2x3" bolts. Make sure to place the large flat washer on the outside of the end link. Before the top of the end link is installed, slide the large flat washer on, then a red "donut" bushing and insert through the hole in the overload pad. Next, slide on another red "donut" bushing, large flat washer and lock nut. Just snug the lock nut up where the red bushing just begins to squish.

Thick Flat washer



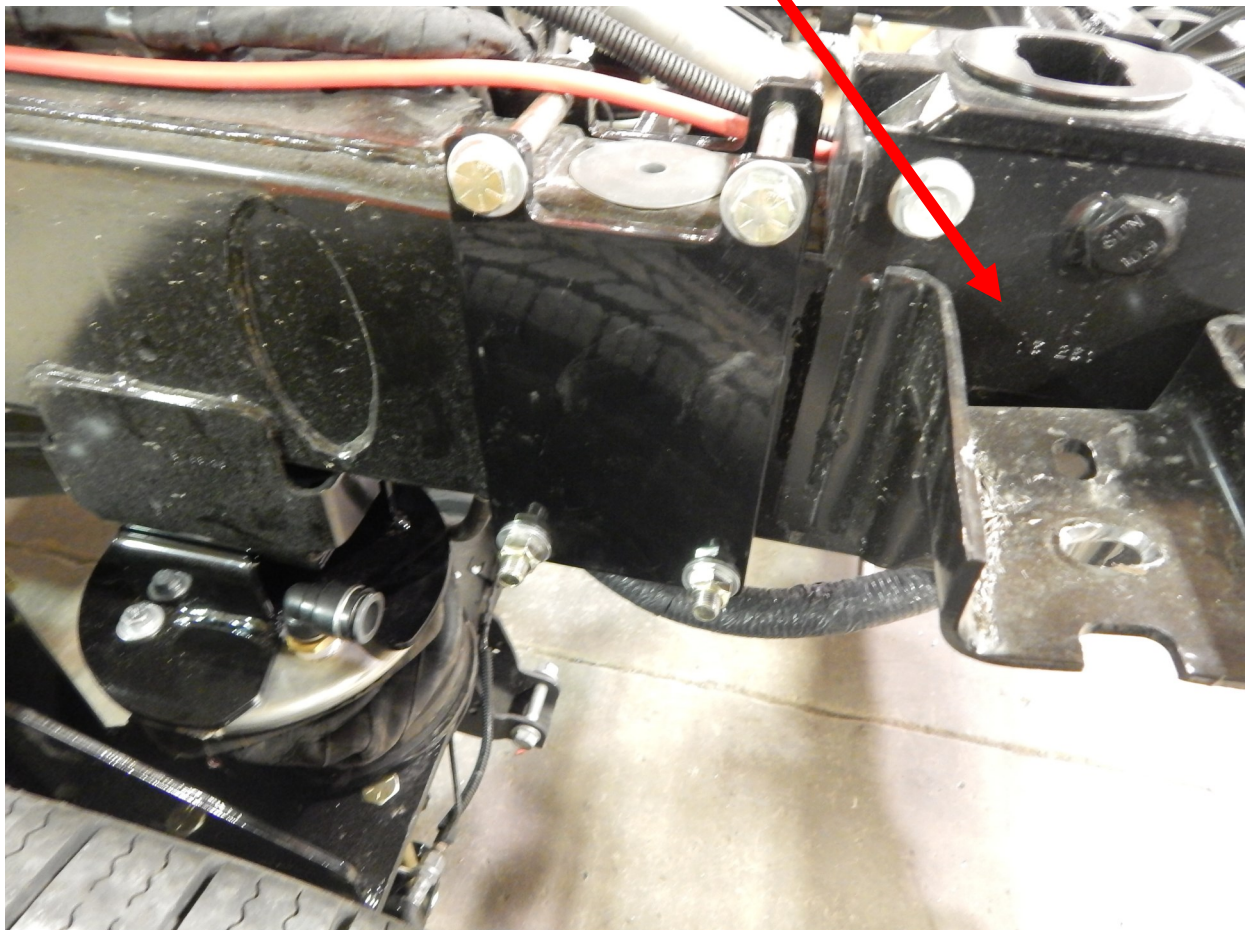
End links mount towards the tires

Large washer Drivers side



17. On the 2013 3500 single rear wheel trucks (SRW) require a different upper sway bar end link mount. As of the time these instructions were written, a picture was not available. The upper end link mount will be placed and welded where the factory overload pad is located. Use a 3" weld on each side of the bracket. It fastens to the holes in the frame just as the frame mounting plate did in step 4.

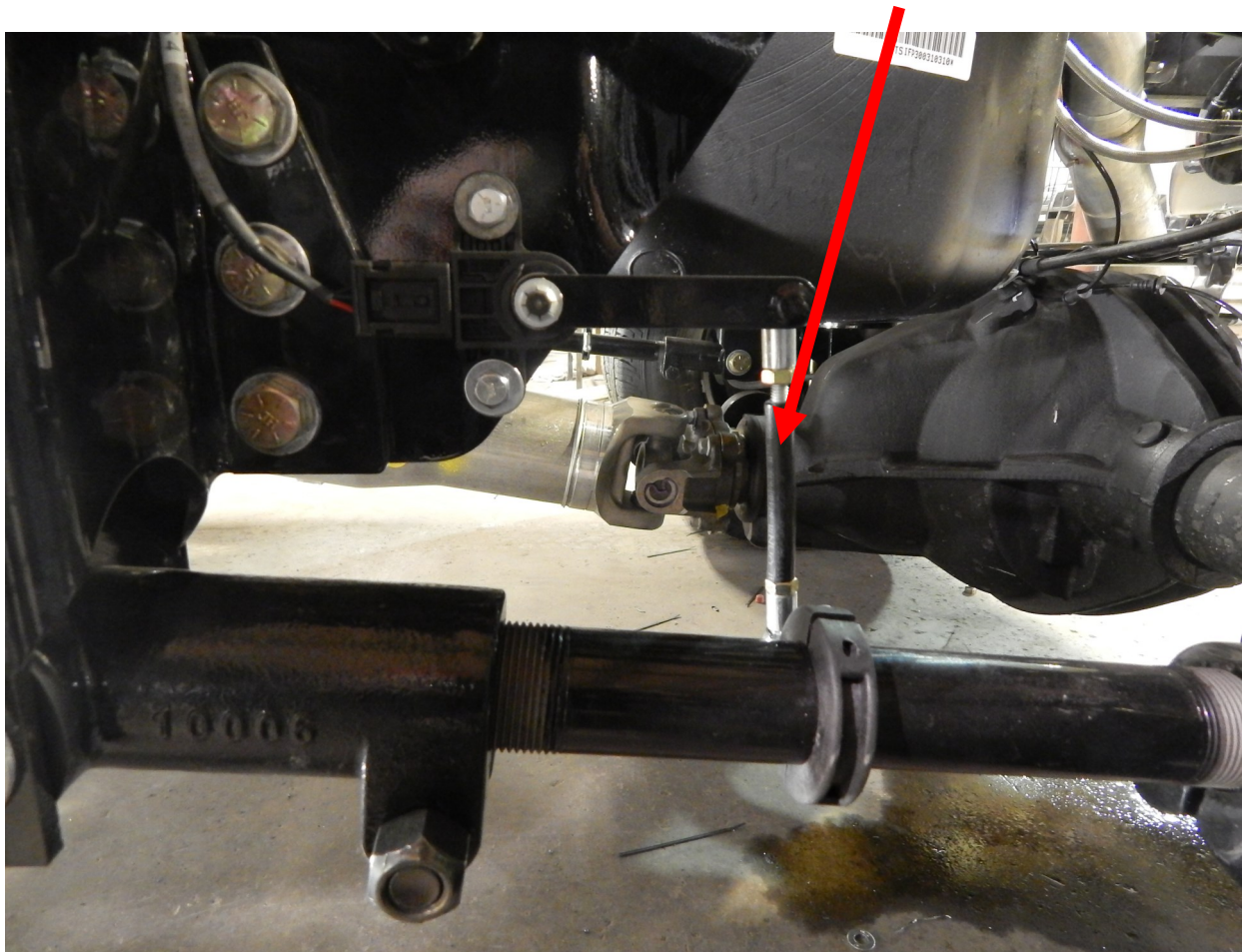
On srw trucks, this bracket is not there. The srw kits a new bracket is supplied. It gets welded here.

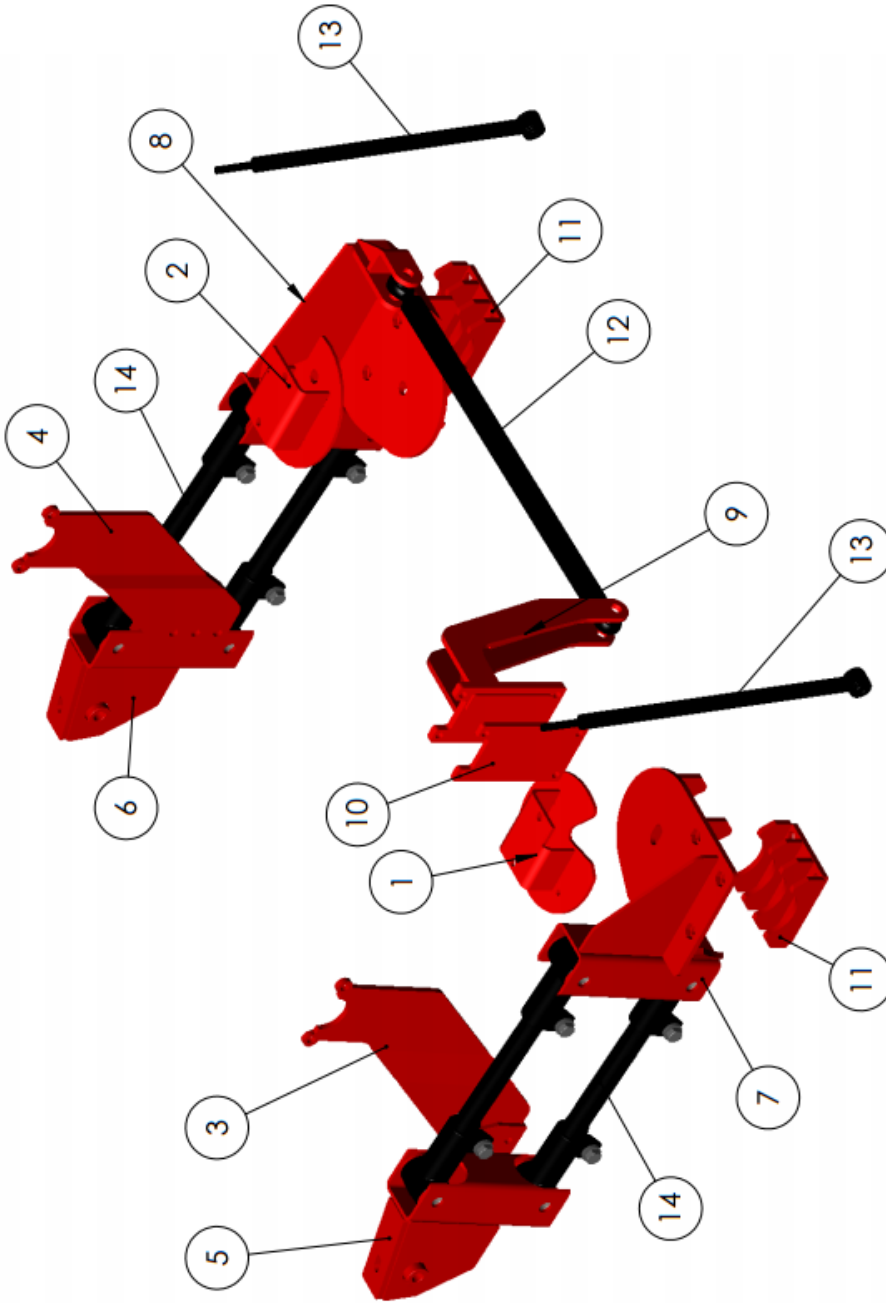


17. Locate the rear sensor or height control valve, plastic collar and linkage. It mounts to the 2 holes in the frame mounting plate with the two 1/4x 1 1/2" bolts. Torque to 15 ft/lbs. Now fasten the plastic collar onto the lower trailing arm. Once the Philips screws are tight, make sure the collar will not turn. If it does turn, remove it and use a grinder or file to trim the mating surfaces, then reassemble. Next fasten the linkage to it. Once you set up your control system, set the rear air bag to 7-7 1/2". That's where the air bag tends to ride the smoothest.

18. Next, go back to step 1 and check the measurements from step one. Use the trailing arms to set the pinion angle as well as the for and aft of the axle. Use the pan hard bar to set the axle right to left. Once the suspension is dialed in, go back and make sure all your bolts are torqued.



Linkage is 4 3/4"





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	MATERIAL FINISH WEIGHT	SIZE <b>A</b>	DWG. NO. <b>D4R4-3-X-13-6</b>	SCALE: 1:20   DO NOT SCALE DRAWING   SHEET 1 OF 4
	Project: 2013 Dodge G5 5-6" Lift TITLE: Trailing Arm			

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	18235	(DS) Upper Bag Mount	1
2	18236	(PS) Upper Bag Mount	1
3	18246	(DS) Frame Mounting Plate	1
4	18247	(PS) Frame Mounting Plate	1
5	18248	(DS) Perch Mount	1
6	18249	(PS) Perch Mount	1
7	18237	(DS) Lower Bag Mount	1
8	18244	(PS) Lower Bag Mount	1
9	18256	(DS) Pan Hard Bar Frame Mount	1
10	18218	(PHB) Frame Mount	1
11	10043	4" Lower Round Axle Clamp	2
12	18323	Pan Hard Bar	1
13	18496	End Links	2
14	18352	Trailing Arm	4

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	MATERIAL: FINISH: WEIGHT:		SIZE DWG. NO. <b>A</b> <b>DAR4-3-X-13-6</b>
	SCALE: 1:1 DO NOT SCALE DRAWING		SHEET 4 OF 4
	5		1



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Kelderman techs are available at 641-673-0468 M-F 7:00-4:00 CST

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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.

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# Compressor Box Self-Leveling Kit Wiring Diagram (ambulance prep package)

