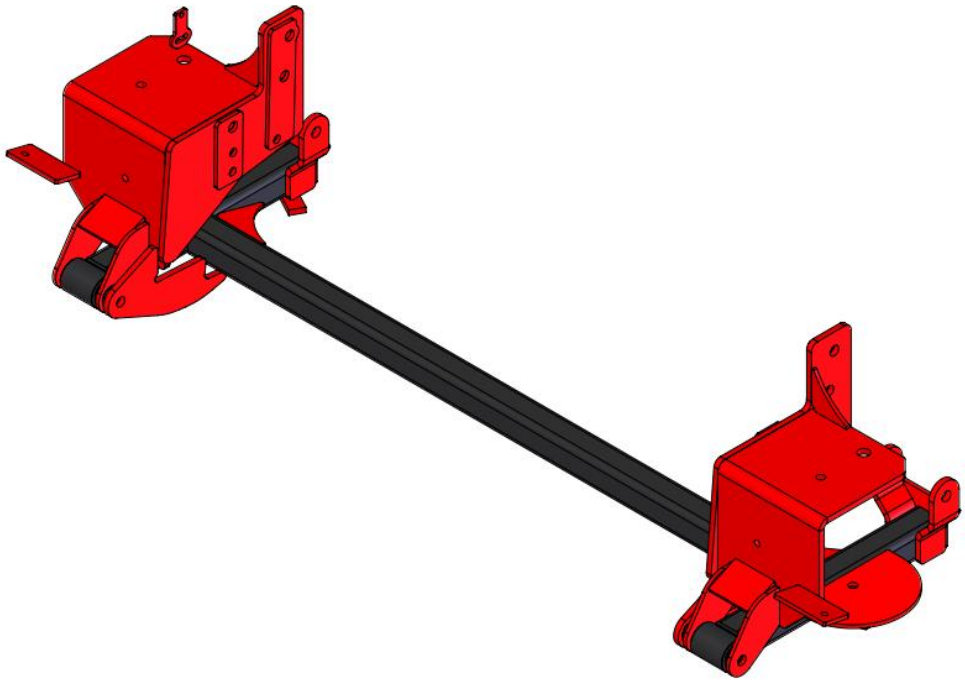
INSTALL INSTRUCTIONS

2010-2013 Ram 2500-3500
Pickup 2-Stage (Rear)



KIT
10009911
D2RX-23-X-10

KELDERMAN MANUFACTURING

2686 HIGHWAY 92 EAST OSKALOOSA, IOWA 52577

INFO@KELDERMAN.COM 1-800-334-6150

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Kit Numbers

- This installation manual covers the following air ride kits.

Kit Number	Description
10009911 (D2RX-23-X-10)	2010-2013 Ram 2500-3500 Pickup 2-Stage (Rear)



Introduction

Important

- It is important that the entire installation instructions be read thoroughly before proceeding with installa- tion.
- 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	*19 ft-lb*	26 *ft-lb*
3/8"-24	*21 ft-lb*	30 *ft-lb*
1/2"-13	45 *ft-lb*	64 *ft-lb*
1/2"-20	50*ft-lb*	70 *ft-lb*
9/16"-18	70 *ft-lb*	100 *ft-lb*
5/8"-11	90 *ft-lb*	125 *ft-lb*
5/8"-18	100 *ft-lb*	150 *ft-lb*
3/4"-16	175 *ft-lb*	250 *ft-lb*
7/8"-14	275*ft-lb*	400 *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 hydrau- lic jacks.
- Take precautions when lifting product. Due to the size and weight of this product two people are recom- mended 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.

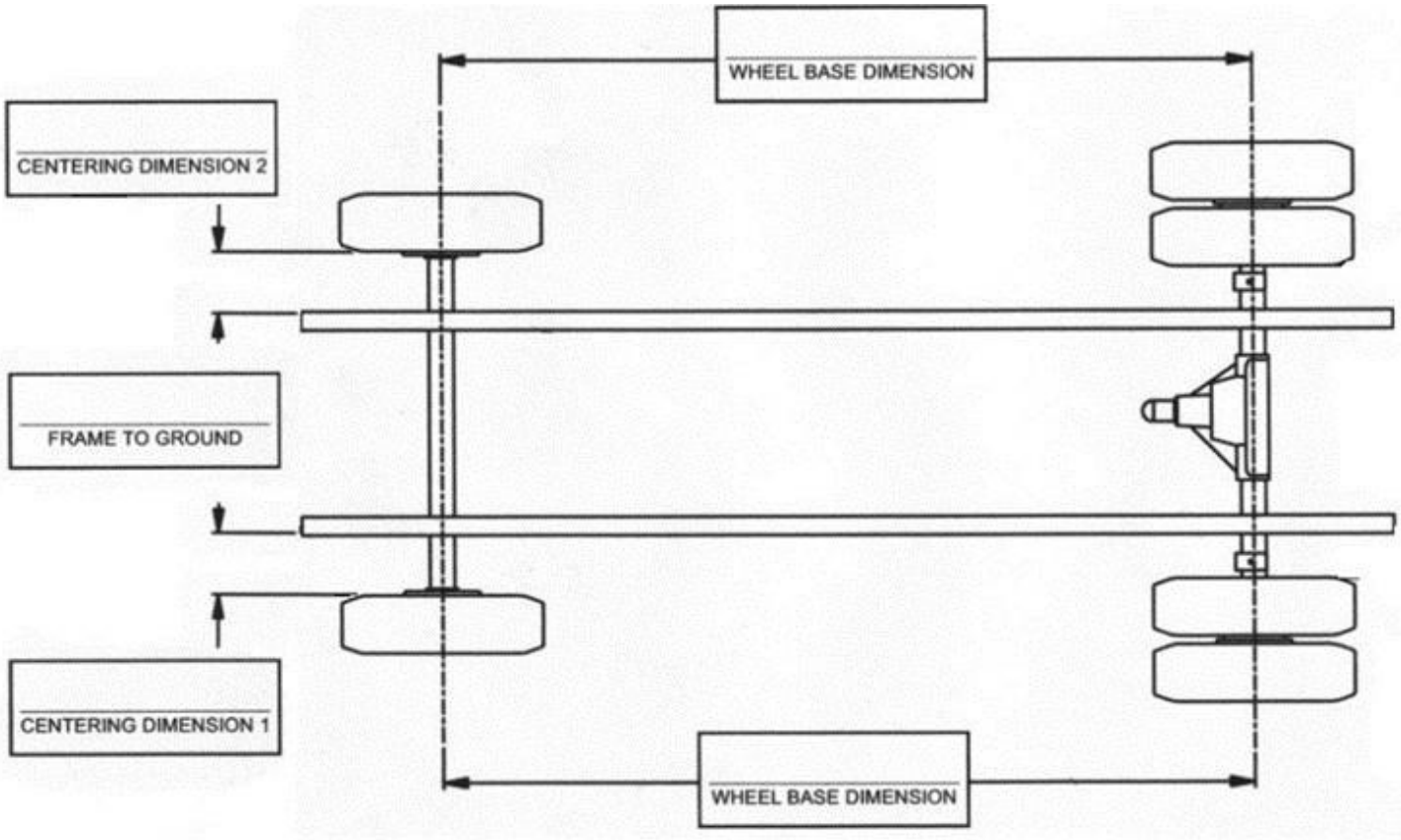
DISASSEMBLY

1.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____



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



3. Jack up the truck so the rear wheels are just barely on the ground. Remove the rear shackle bolts that fasten the shackle into the frame. Keep these bolts as they will be reused.

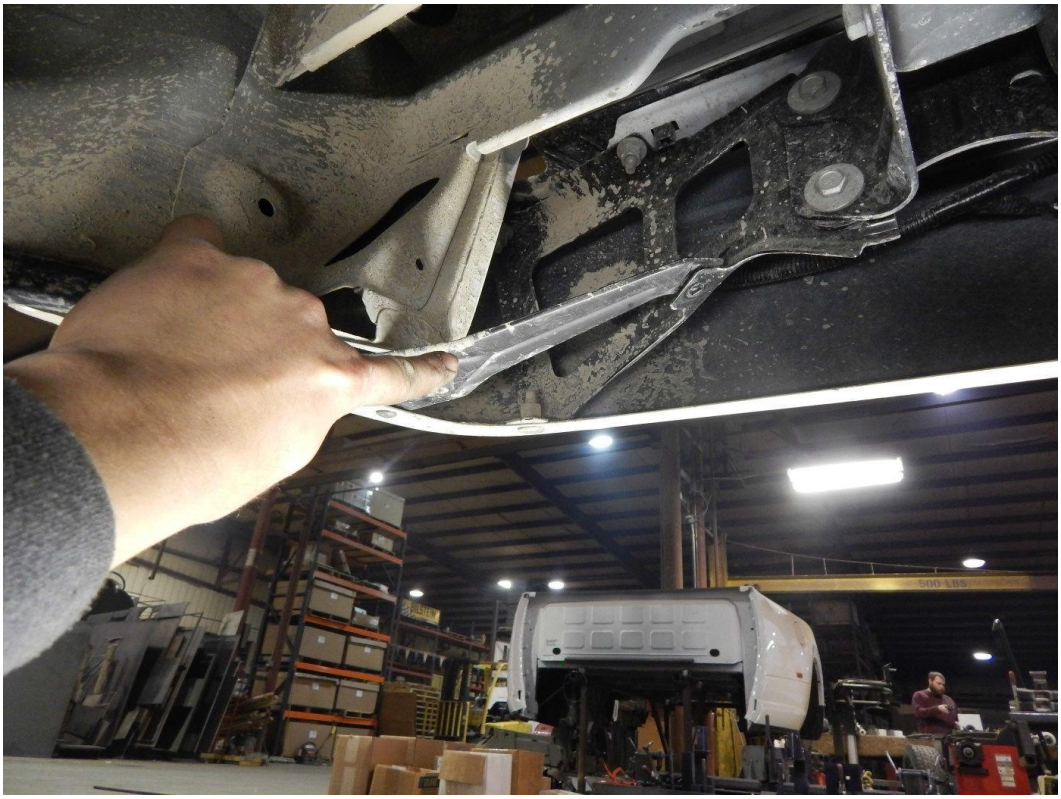


4. Now that the shackle bolts are removed, use a torch, plasma cutter or Sawzall to remove the shackle hanger from the frame. Make sure not to cut



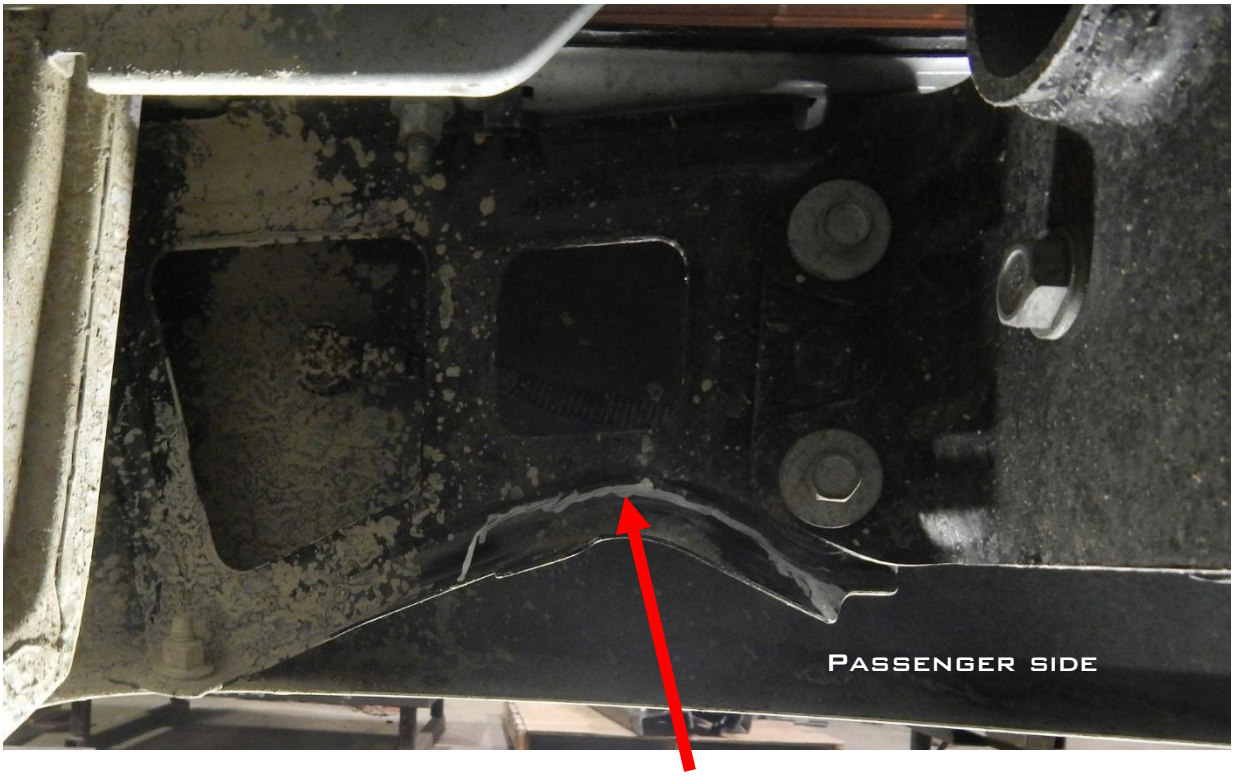
The above picture shows the hanger removed with a clean cut from a torch.

5. Next remove the bumper corner braces from the truck. They will not be reused.

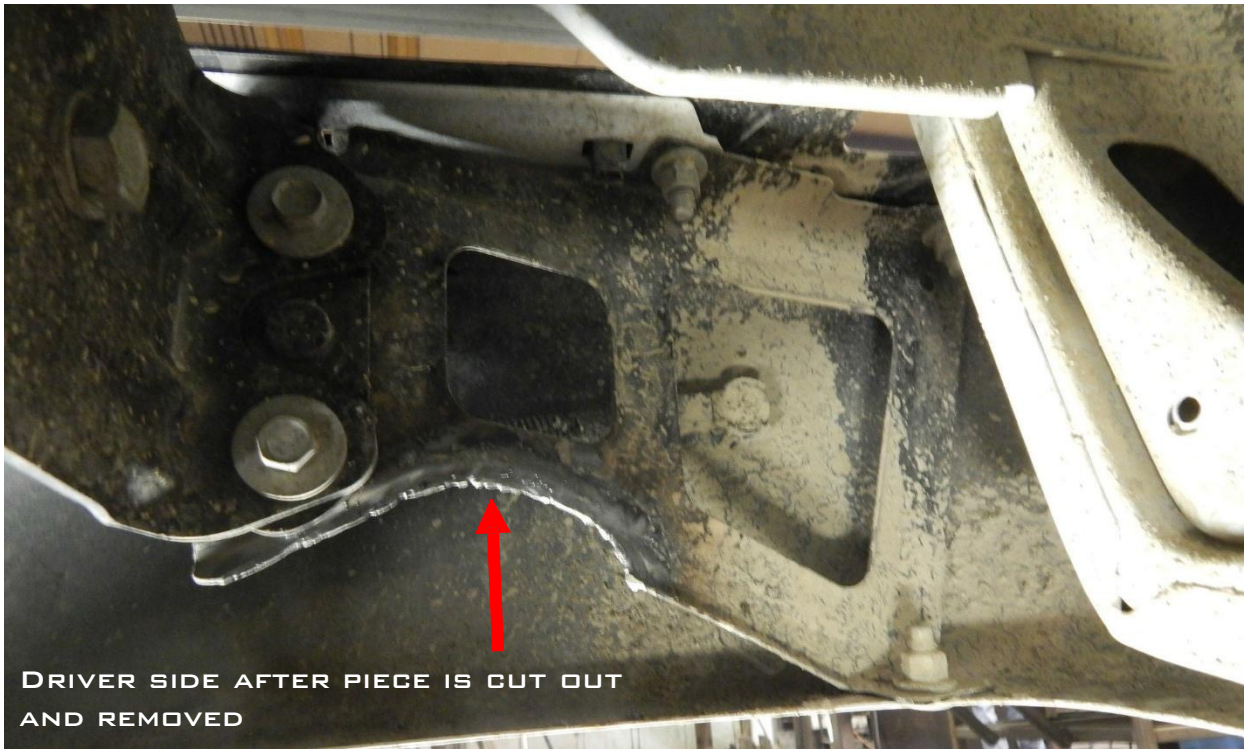


6. Now use a marker to outline the above section of support that needs to be cut out on each side. Mark in the crease of the bend.



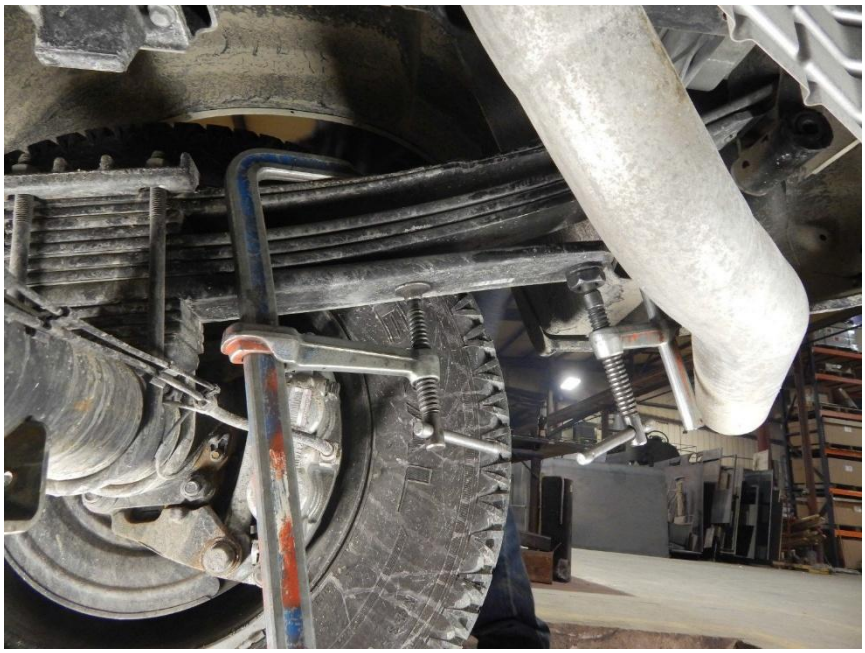


Use your torch or plasma to remove this piece.

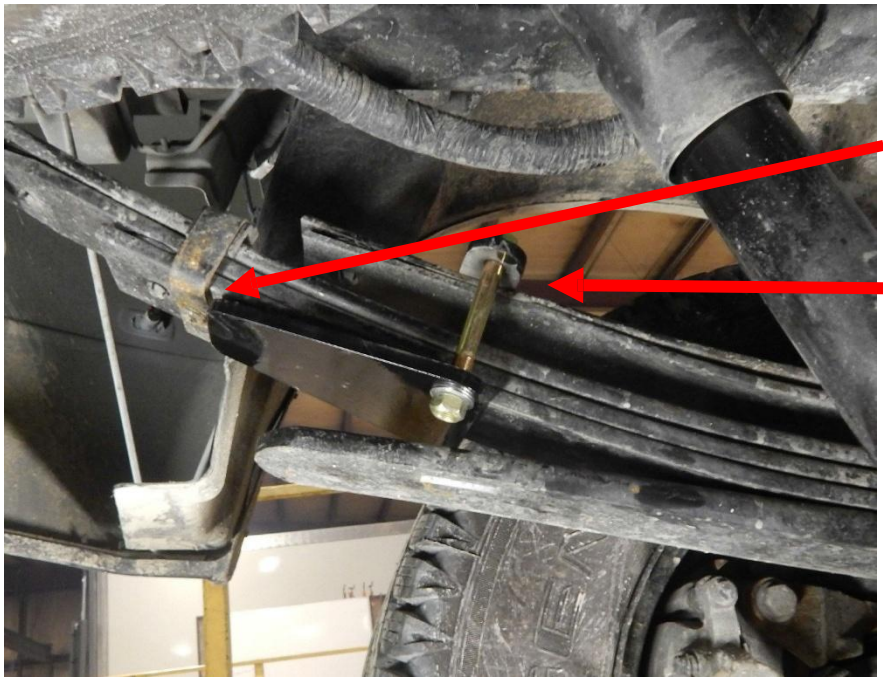


ASSEMBLY

1. If the truck has overload springs, use 2 slide clamps to pull the overload spring down. It works best to have one clamp just under halfway on the spring and another on the outer edge of the spring. Now locate the overload spring tie clamps (part# 14564DS and 14563PS) and insert them so the bolt is on the frame side of the truck. The tab goes towards the rear of the truck and rests against the clamp on the main leaf spring pack. Now tighten the ½"-20 x 5" bolts to 55 ft/lbs.



Caution!
When working around leaf springs be careful as clamps will be under tension!



2. Locate the up- per bag/ top frame mounts (part#18205DS and 18210PS). Choose which side you want to do first and remove the three M14 bolts that go into the frame around the hitch. Next place the upper mounts in place and fasten with the 5/8”-18 x 5-1/2” bolts. Torque these bolts to 125 ft/lbs.



8.Locate the air bags (part# 5323). Now attach the bags to the top frame mounts with the 1/2” and 3/4” flat washers, lock washers and nuts. Torque the nuts to 35 ft/lbs. If you are installing a self leveling kit make sure to install the height control mounting bracket at this time. Just slide it over the air bag studs be- fore the nuts are installed. See picture on next page. Insert the air fitting into the air port. Turn the fitting one complete turn after installing finger tight.

NOTE: Remove the bottom cone of the air bag when installing.
This will reduce the chances of the cone falling out of the bottom of the air bag and breaking and/ or hitting you in the face.

3. Locate the air bags (part# 5323). Now attach the bags to the top frame mounts with the 1/2" and 3/4" flat washers, lock washers and nuts. Torque the nuts to 35 ft/lbs. If you are installing a self leveling kit, make sure to install the height control mounting bracket currently. Just slide it over the air bag studs be- fore the nuts are installed. See picture on next page. Insert the air fitting into the air port. Turn the fitting one complete turn after installing finger tight.

NOTE: **Remove the bottom cone of the air bag when installing. This will reduce the chances of the cone falling out of the bottom of the air bag and breaking and/ or hitting you in the face.**

Optional height control valve mount fastens to driver side air bag bolts.



4. Locate the lower swing arm (part# 18212). It fastens into the upper bag/top frame mounts with two 5/8x6" bolts. Install the bolts so they are outside in (threaded ends of the bolts facing each other) with a flat washer on the outside. Do not put the nuts on the bolts yet. Next, find the cones for the bottom of the airbags. Insert them in place. Swing the lower swing arm up to the bottom of the bags and fasten with the 1/2x3 1/2" bolts. Torque the 1/2" bolts to 35 ft/lbs. Now locate the factory shackle bolts removed in step one. It works best to raise the truck up and use a clamp to hold the swing arm up while inserting the bolt inside out.

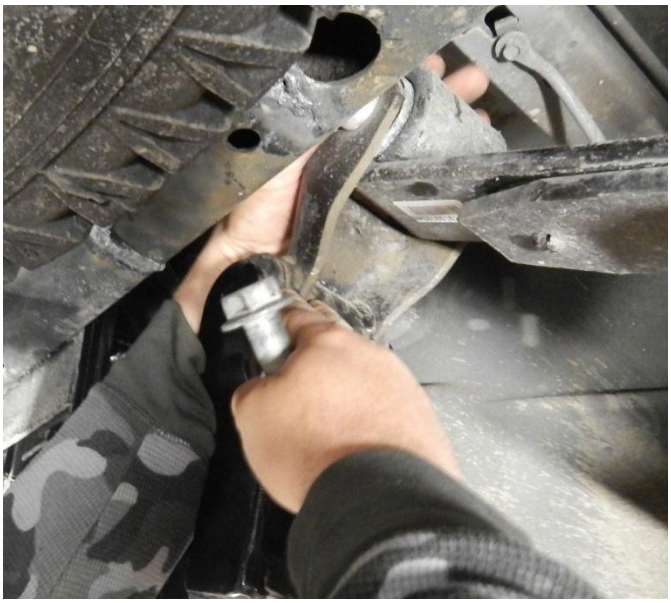
NOTE: The head of the bolt must go between the frame and the swing arm ear. If you insert the bolt backwards the threaded end of the bolt will rub on the frame causing damage to the frame, bolt and air ride.

Connect the bolt with the swing arm and torque to 135 ft/lbs. See picture on next page. Reconnect the lower shocks and torque the bolts to 135 ft/lbs.

5. Locate the lower swing arm (part# 18212). It fastens into the upper bag/top frame mounts with (2) 5/8”-18 x 6” bolts. Install the bolts so they are outside in (threaded ends of the bolts facing each other) with a flat washer on the outside. Do not put the nuts on the bolts yet. Next, find the cones for the bottom of the airbags. Insert them in place. Swing the lower swing arm up to the bottom of the bags and fasten with the 1/2”-20 x 3-1/2” bolts. Torque the 1/2” bolts to 35 ft/lbs. Now locate the factory shackle bolts removed in step one. It works best to raise the truck up and use a clamp to hold the swing arm up while inserting the bolt inside out.

NOTE: The head of the bolt must go between the frame and the swing arm ear. If you insert the bolt backwards the threaded end of the bolt will rub on the frame causing damage to the frame, bolt and air ride.

Connect the bolt with the swing arm and torque to 135 ft/lbs. Reconnect the lower shocks and torque the bolts to 135 ft/lbs.





Drivers side pictured.

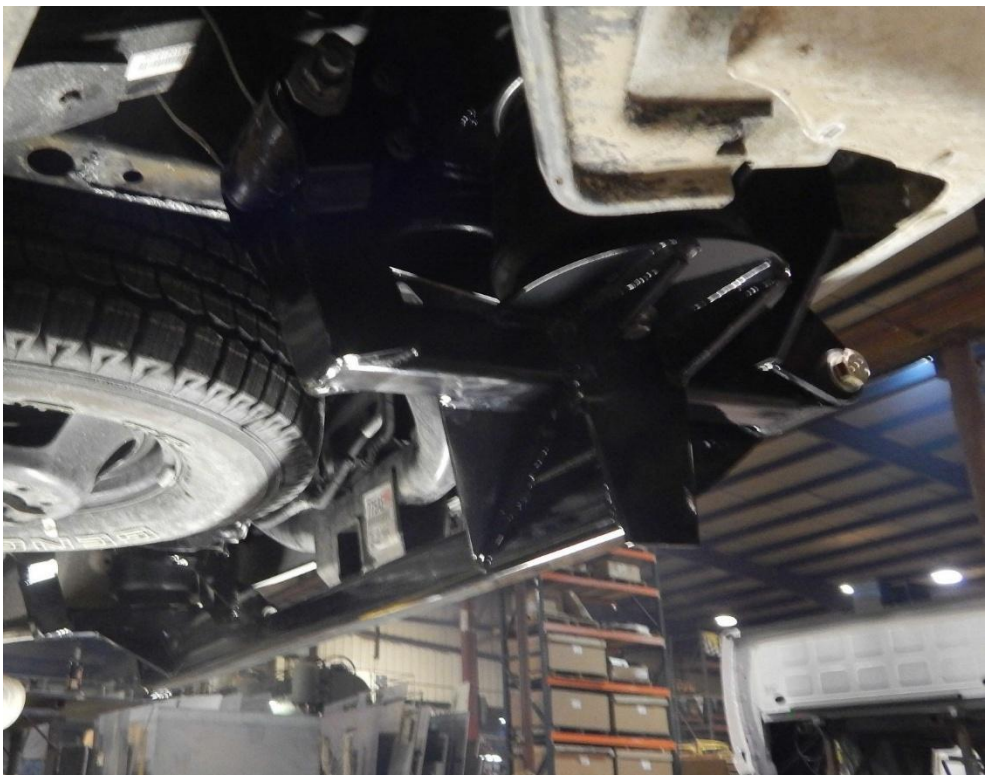
Note bolt orientation.



6. Now that the swing arm is attached to the leaf spring shackle, locate the limiters (part# 18243). Place 2 washers over the bolt and slide the limiter over the bolt. Next place another washer over the limiter and fasten everything together with the lock nut. Torque the 5/8" bolt to 150 ft/lbs.

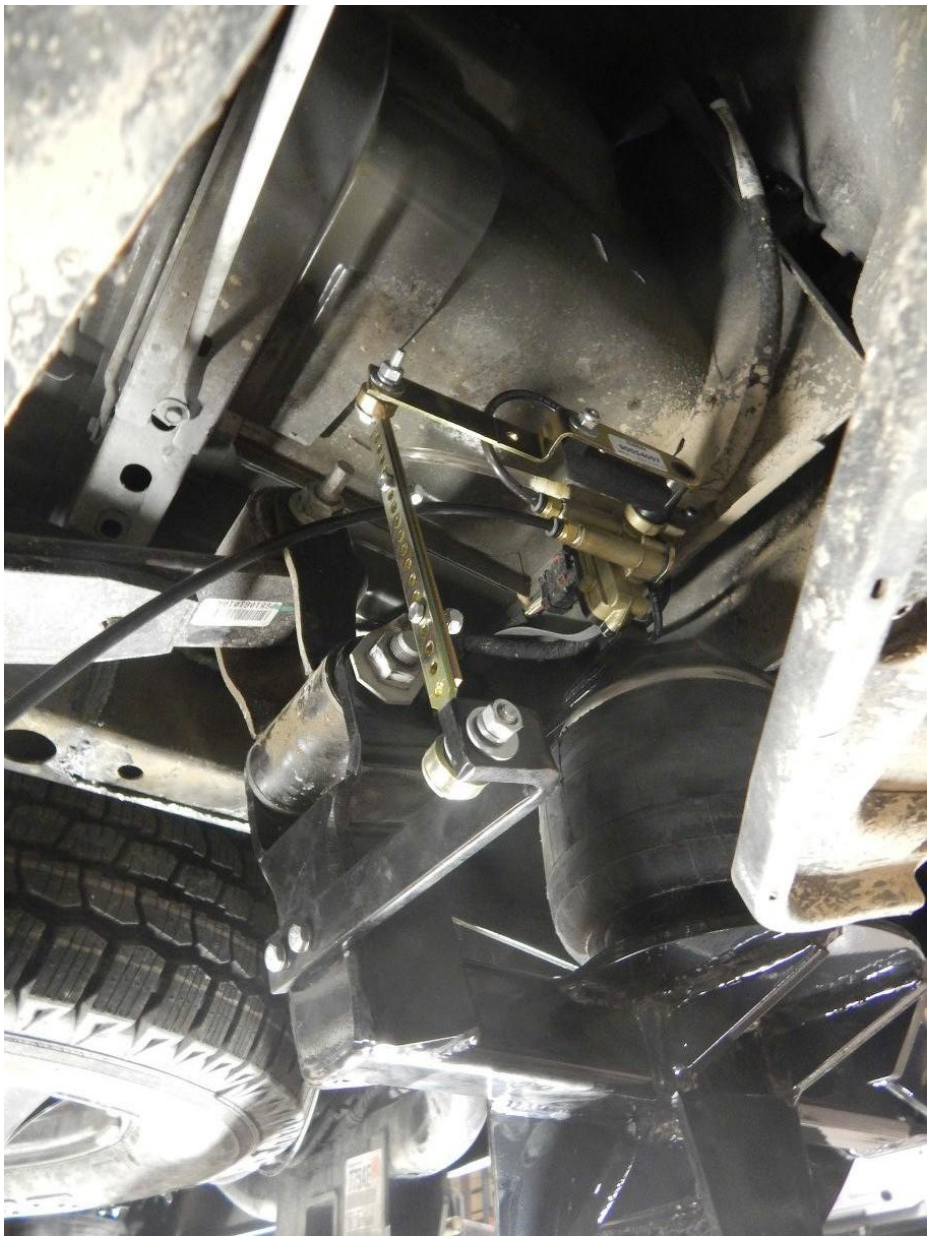


Kit installed



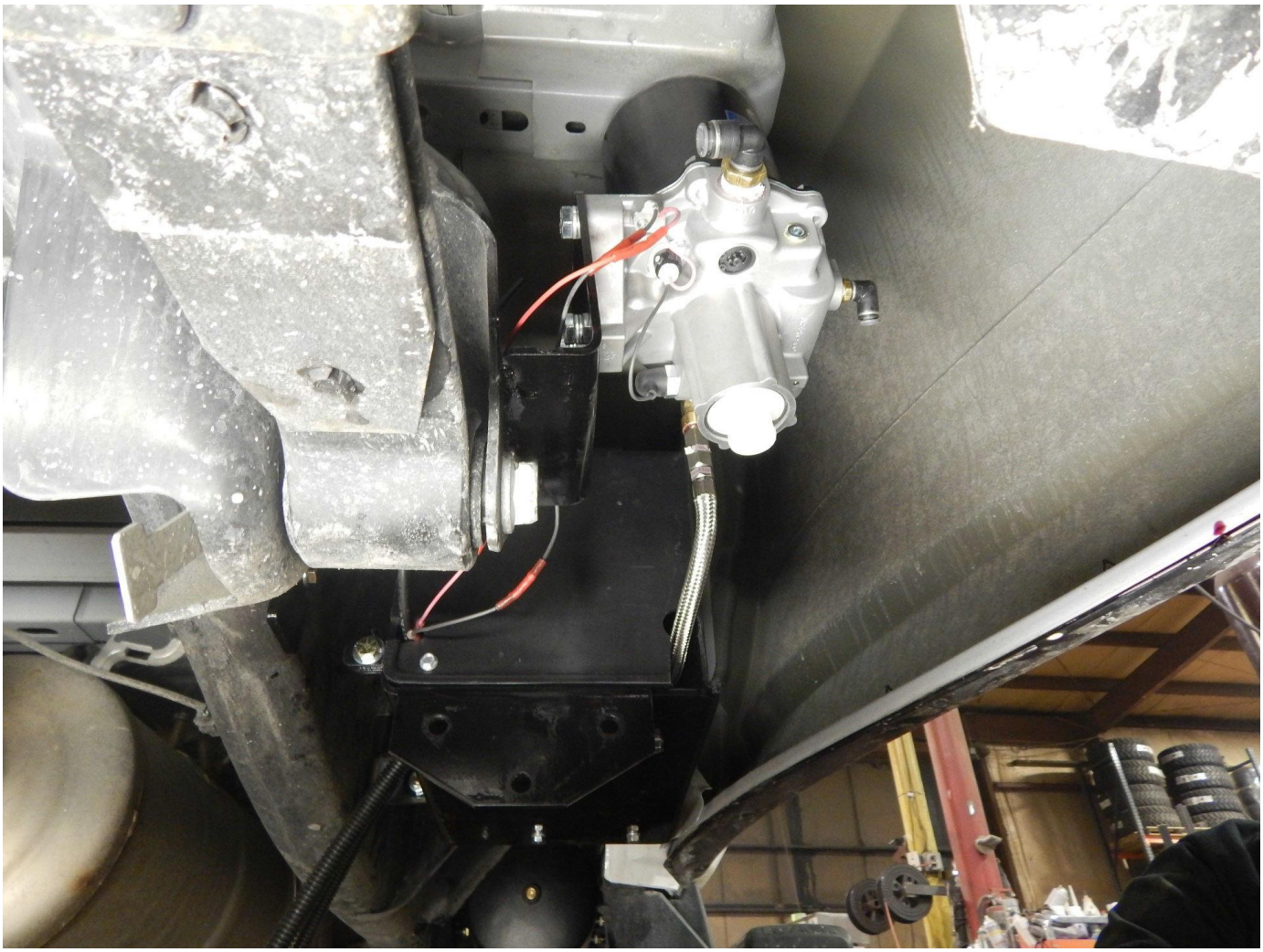
7. Now that the air ride is installed its time to plumb up the control system (if purchased). These instructions will detail how to install the slkdwd (Self Leveling Kit with Dump with Dryer) air control system.

8. Locate the height control valve. It attaches to the mount that was installed in step eight. When you take the valve out of the box rotate the arm 360 degrees each way 8-10 times. This will lube up the internal grease that tends to settle while sitting on the shelf. Now fasten the valve to the mount with the ¼-20 x1-1/2" bolts. Now you will need to fasten the linkage to the lower mounting point on the swing arm. If your swing arm has the mount welded on adjust the linkage so the lower swing arm is level with the ground when the arm on the valve is level with the ground. Use the bolts from the linkage to ad- just the length of the linkage. If the lower mount is not welded already to the swing arm you can either weld it or drill and tap for a pair of 1/4" bolts. The air ride is designed to ride with the lower swing arm level with the ground.

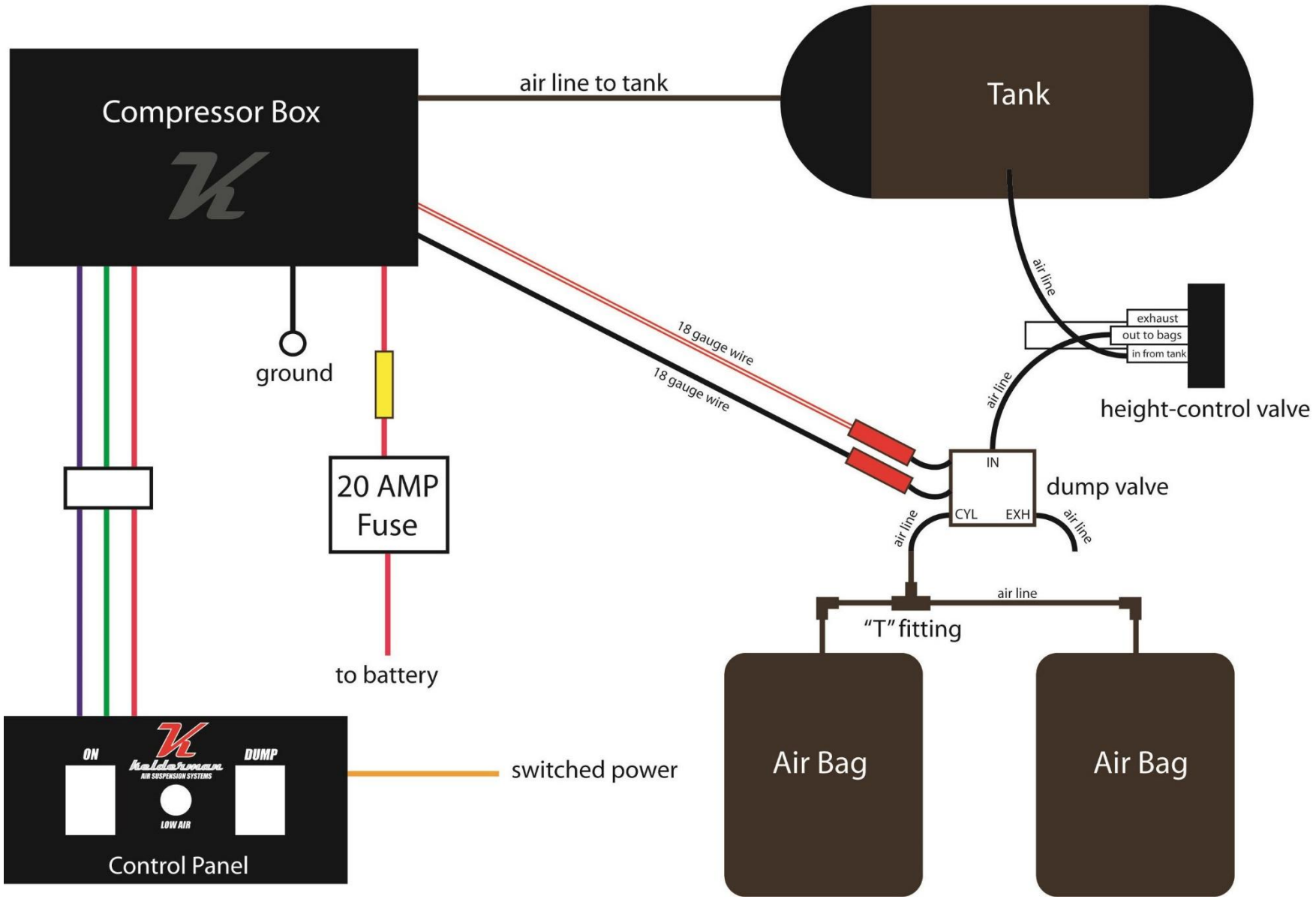


9. Now locate the compressor box and tank. The new trucks do not have much room under the trucks as they used to, so there is no set place to mount the compressor box and tank. This particular install has the box mounted on the passenger side frame rail just in front of the leaf spring perch. The tank is mounted in front of that. The dryer was removed from the box and installed on the forward leaf spring perch. Once the components are installed use the diagram on the next page for wiring and plumbing of the system.

10. Once the install is complete, check the air lines and fittings for leaks with a soapy water solution. Retorqueing all the bolts is also recommended.

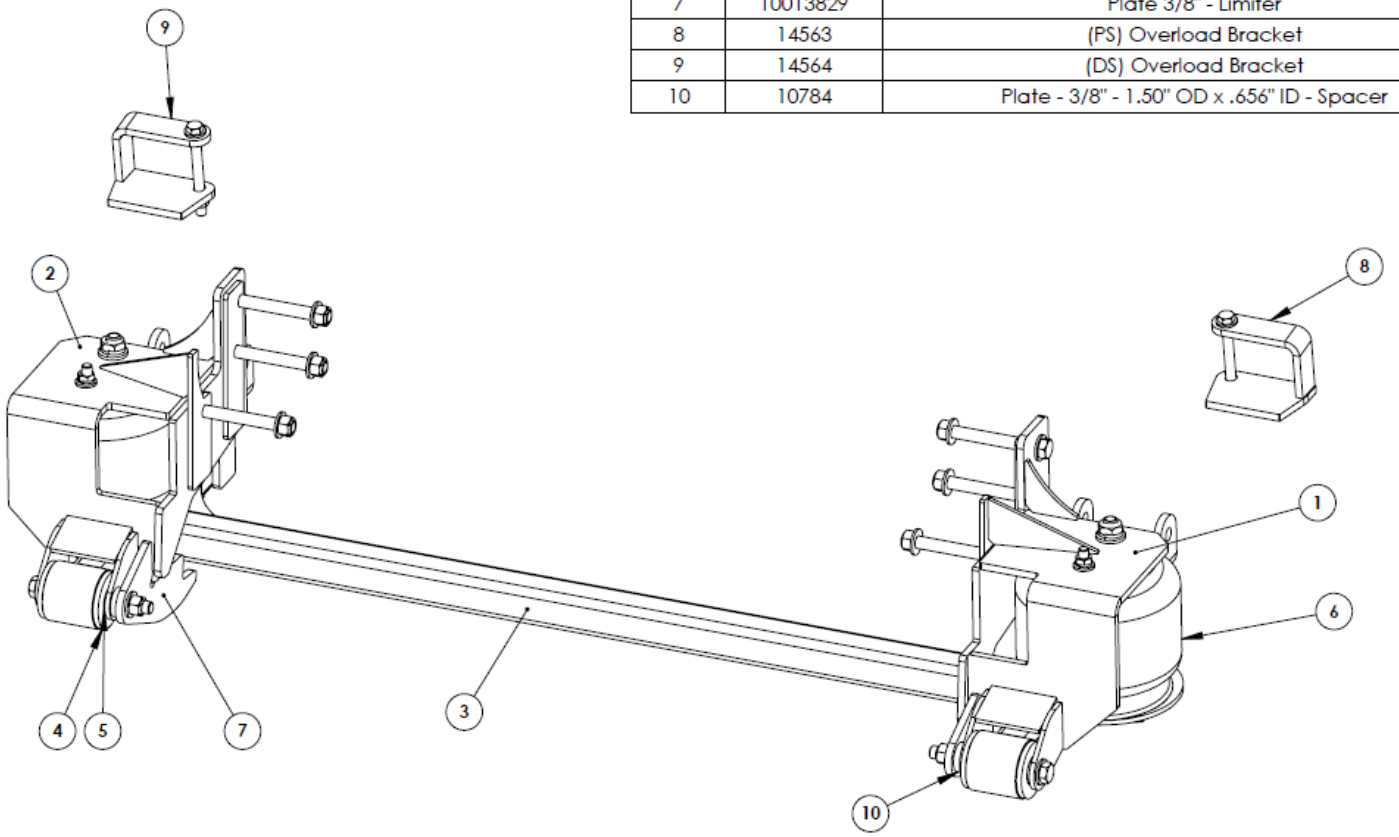


Compressor Box Self-Leveling Kit Wiring Diagram
(shown with optional dump valve)



KIT DRAWINGS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	10009907	Weldment - Top Frame (DS)	1
2	10009909	Weldment - Top Frame (DS)	1
3	10009881	Weldment - Swing Arm	1
4	10003340	Purchased Parts - Polyurethane bushing	4
5	10003938	Bushing Sleeve - ID .635" (5/8" Bolt) OD 1.50" Length 3.27"	2
6	80012-5323	Air Bag - Firestone 5323	2
7	10013829	Plate 3/8" - Limiter	2
8	14563	(PS) Overload Bracket	1
9	14564	(DS) Overload Bracket	1
10	10784	Plate - 3/8" - 1.50" OD x .656" ID - Spacer	2

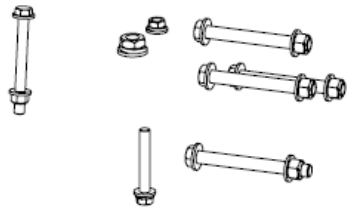


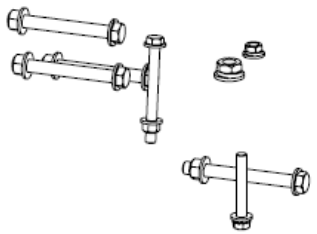
3RD ANGLE PROJECTION	A	DO NOT SCALE DRAWING	1:10	Approximate Weight = 87.72 lbs
UNLESS OTHERWISE SPEC. DIMNS. IN INCHES	MATL SPECS: See Drawings			
STD. TOLERANCES X.X ±.060 X.XX ±.010 X.XXX ±.005 FRAC DIM. ±1/32" Deg. ± .5°	DESCRIPTION: Kit - 2-Stage (Rear)			
	PROJECT: 2010-2013 Dodge 2500-3500 Pickup (G4)			
	PART NUMBER: 10009911			
	DESIGN BY:	DATE: 1/24/2023		SHEET 1 OF 2

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KIT DRAWINGS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	12024	Hex Bolt - 1/2"-13 x 3-1/2" - GR5 - Z	2
2	12037	Hex Bolt - 1/2"-20 x 5" - GR8 - YZ	2
3	12439	Hex Bolt - 5/8"-18 x 5-1/2" - GR8 - YZ	6
4	12443	Hex Bolt - 5/8"-18 x 6" - GR8 - YZ	2
5	13024	Flat Washer SAE - 1/2" - GR8 - YZ	8
6	13026	Flat Washer SAE - 5/8" - GR8 - YZ	16
7	13028	Flat Washer SAE - 3/4" - GR8 - YZ	2
8	13050	Split Lock Washer - 1/2" - GR8 - YZ	4
9	13056	Split Lock Washer - 3/4" - GR8 - YZ	2
10	13124	Top Distorted Thread Lock Nut - 1/2"-20 - GR8 - YZ	2
11	13126	Top Distorted Thread Lock Nut - 5/8"-18 - GR8 - YZ	8
12	13144	Hex Nut - 1/2"-13 - GR5 - Z	2
13	13208	Jam Nut RHT - 3/4"-16 - GR5 - Z	2
14	13978	External Tooth Lock Washer - 1/2" - GR5 - Z	2





3RD ANGLE PROJECTION	A	DO NOT SCALE DRAWING	1:16	Approximate Weight =87.72 lbs
UNLESS OTHERWISE SPEC. DIMNS. IN INCHES	MATL SPECS: See Drawings			
	DESCRIPTION: Kit - 2-Stage (Rear)			
STD. TOLERANCES X.X ± .060 X.XX ± .010 X.XXX ± .005 FRAC.DIM. ± 1/32" Deg. ± .5°	PROJECT: 2010-2013 Dodge 2500-3500 Pickup (G4)			
	PART NUMBER: 10009911		NOTICE: THIS DOCUMENT AND ITS CONTENTS ARE THE PROPERTY OF FALCONMAN MFG. INC. NO USE OR COPIES MAY BE MADE WITHOUT WRITTEN PERMISSION FROM FALCONMAN	
	DESIGN BY:	DATE: 1/24/2023		SHEET 2 OF 2

REVISION: A

20

11/5/2026

NOTES

Contact Information

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

2686 Highway 92
Oskaloosa, Iowa 52577
Phone: 1-800-334-6150
Email: info@kelderman.com

SCAN ME

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