kelderman

Peterbilt 379 Steer Axle Air Ride

Kit Number:10016174

Kelderman 379 Semi Air Ride

- **Contents**

Kit Numbers

- This installation manual covers the following air ride kits.

Kit Number	Description
10016174	379 Semi Air Ride

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.

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 needing during the course of normal operation.

- Product owner is responsible for "*down time*" expenses, cargo damage, and all business costs and losses resulting from a warrantable failure.

- **Service Intervals**

First 2500 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 : Drivers side first

Attention: Do all of driver's side first then move on to passenger side

Step 1: Ensure parking brake is applied. (*Removing the bumper is recommended but not required*) Place jacks at the strong points on the frame and lift to relieve load on leaf springs (*Note: The higher you can get the truck in the air the easier it will be to install the new leaf spring later in the installation*). Note: Make sure to mark the leaf spring spacer to ensure proper installation when installing the lower bag mount . (WARNING: PLACE JACK STANDS NEXT TO JACKS FOR ADDED SAFETY).

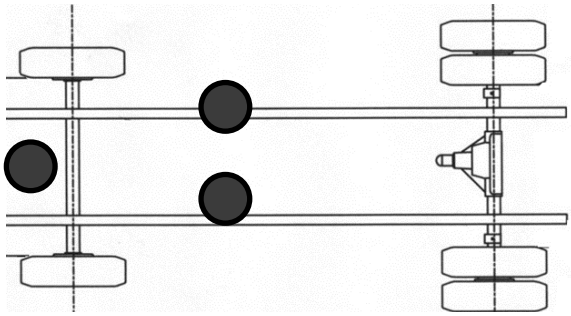


Figure #1-3: shows approximate locations of jacks front dot is on frame or strong points of truck.

Step 2: Remove the shocks and shock mounts from the frame/axle. Next, locate the front leaf mounting point, remove the pin retention bolts/pin and separate leaf from mount. Next remove the rear leaf hanger (*note: the pin and shackles do not need to be removed*). Lastly, remove the belly bar, leafs (*This piece will not be reused*) and OEM hood guide brackets

Step 3: If your truck has a fuel filter near the leaf spring casting or the hood guide, you may need to unbolt and relocate that filter after the installation of Kit. (*Note: A good place to mount this is the plate directly behind the hood guide weldment*)

Figure #4: One possible location for filter

Assembly: Drivers side

Attention: Do all of drivers side first then move on to passenger side Step 1 - 7

Step 1. Locate one of the provided leaf hanger castings and align its upper hole to the top hole of the belly bar mounting location. Ensure the casting is perpendicular to the frame and mark the two (2) lower holes. Drill to 11/16" This hole should be 8" rearward of the original hanger holes. If your hole isn't 8" back, you will need to measure out all 3 holes and drill.

Step 2: Locate driver side hood mount bracket. Fit the hood mount bracket and leaf hanger casting together and bolt onto the frame using the 5/8-16" x 5" hex bolts and matching washers and lock nuts.

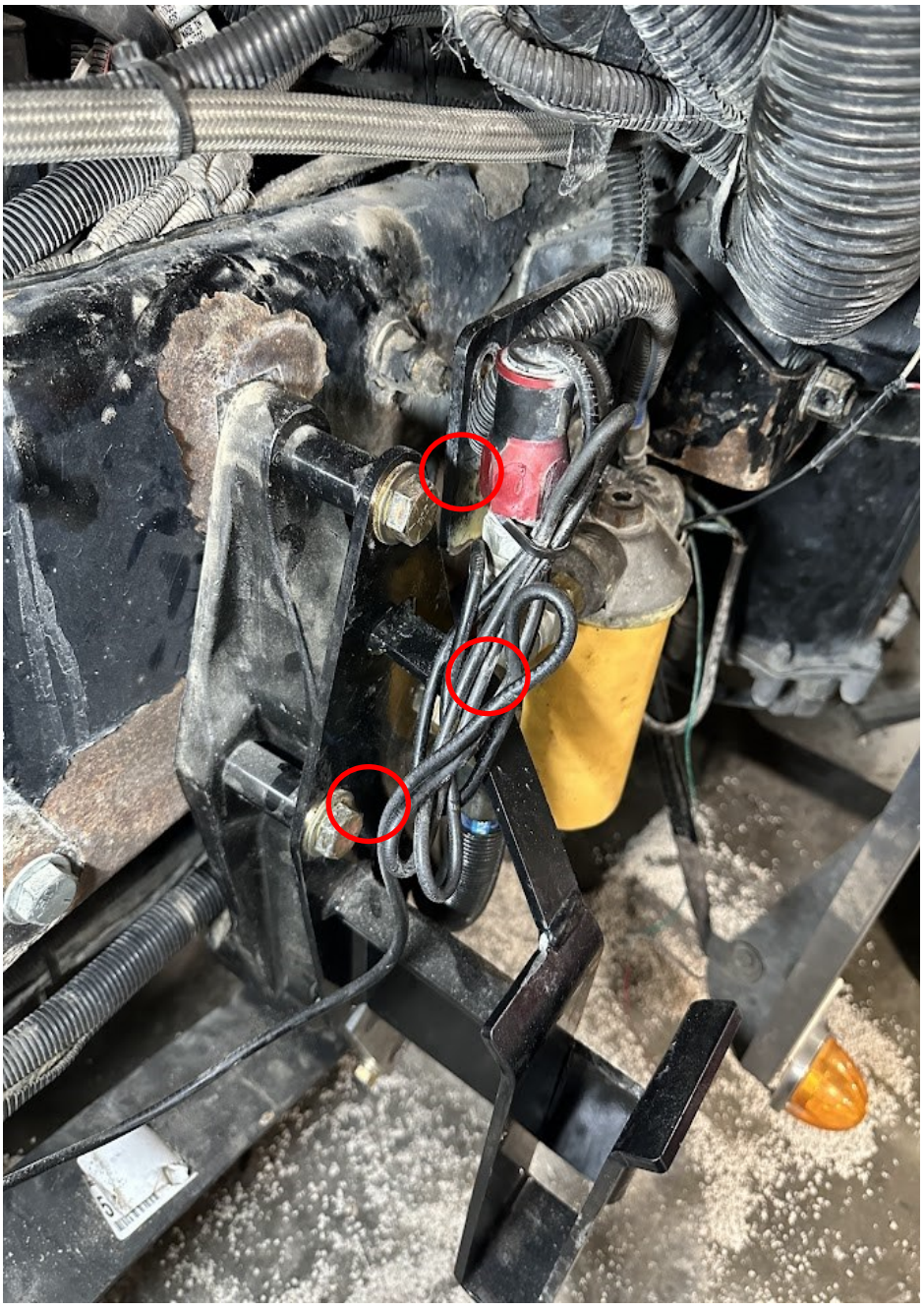


Figure #5 Shows new location of the rear shackle mount casting and hood relocation mount.

Step 3: (If the front pin are installed into the new leaf springs, remove these now). Set one leaf spring onto the axle, align the leaf spring alignment pin with axle alignment hole and fully seat the leaf spring. Next, move the front of the leaf spring into the factory mount, align the leaf spring pin's locking grooves and slide the pin through the factory mount and leaf spring(Part #02-01767). Reinstall the factory pinch bolts. Next, install the rear end of the leaf spring into the newly mounted leaf hanger using the provided shackles and 1/2-20 x 2-1/2 hex bolts, flat washers, and lock washers.

Figure #6: Shows front leaf spring mount.

Figure #7: Shows Rear Leaf spring assembly with shackles attaching the leaf to the casting mount.

Step 4: Locate the drivers side lower bag mount and provided U-bolts and install onto the axle. Make sure to keep the OEM block on the bottom to keep correct caster.

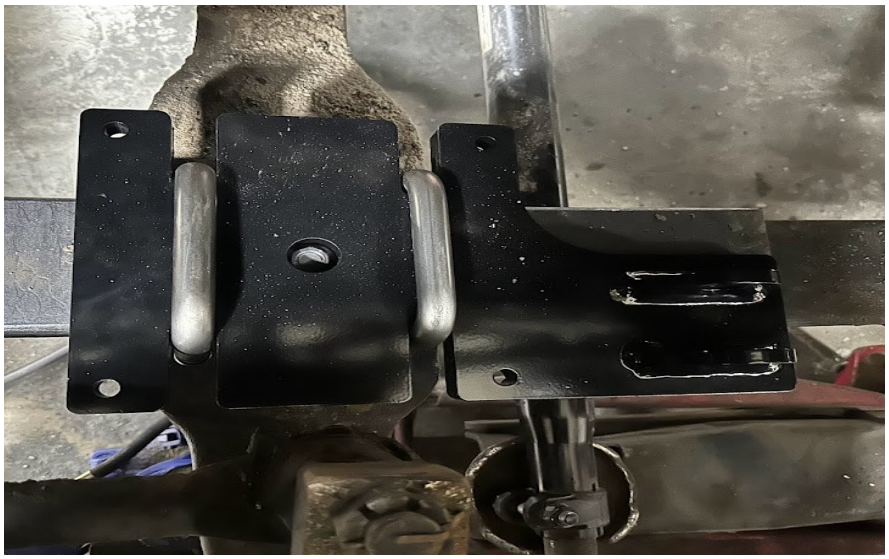
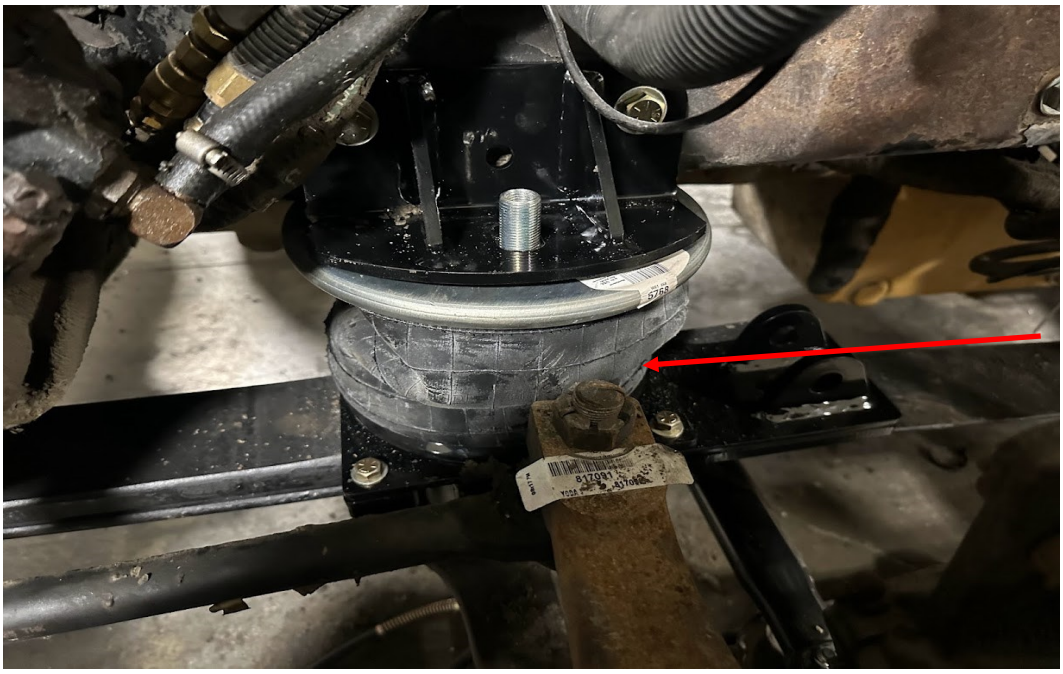


Figure #8 :Drivers side lower bag mount.

Step 5. Locate the 5768 Air bag, upper air bag mount and the lower bag plate. The air bag will bolt onto the lower bag plate with the 1/2"- 13 x 2" bolt. Do not tighten yet. Now place the upper bag mount to the top of the air bag over the air inlet. (If the 1/2" stud on the top of the air bag has not been cut off, do that now. Use the 3/4" lock washer and jam nut to fasten the upper air bag mount to the bag. Now, making sure the upper bag mount and lower bag plate are parallel with each other, tighten the bottom bag bolt to 35 ft/lbs. Now, place the assembly on the lower air bag mount and fasten to the lower air bag plate with the four 3/8"-24 x 2" bolts and hardware. The next step is to drill 2 holes in each side of the frame to fasten the upper bag mount. To figure out where to drill the holes in the frame, inflate the air bag to 8" tall. With the air bag straight up and down (*appearance like a coffee can*) mark the holes in the frame and drill two 9/16" holes in the frame. Next fasten the upper air bag mount to the frame with the 1/2"-20 x 2" bolts and hardware. (CAUTION:MAKE SURE NOT TO DRILL INTO ANYTHING ON INSIDE OF FRAME!)



Smooth the corners of the steering arm so they don't rub on the bag. Check for clearance once install is complete. 3/8" minimum is recommended

Figure#9 : Bag is bolted to the lower bag mount with the stud facing out. Top bag mount is installed using two bolts "You will need to use a grinder to smooth the edges of the steering arm to allow for extra clearance"

Step 6. Set air bag at 8" between the mounting brackets. You can use the jacks or manually inflate the bags. Now, install the upper height control valve mount with the two bottom holes from OEM shackle holes. Install the height control value facing the gold lever on the driver side towards the front of the truck using the 5/8"-18 x 11-3/4"Bolts. Next, use the two height control valve linkage kit to connect the two brackets together using the provided hardware. You can adjust this distance with the holes on the linkage kit to match your truck when at ride height. (*Note: Make sure the level indicator hole is showing also if you need to shorten this length you are able to cut the linkage arms to fit your truck.)*

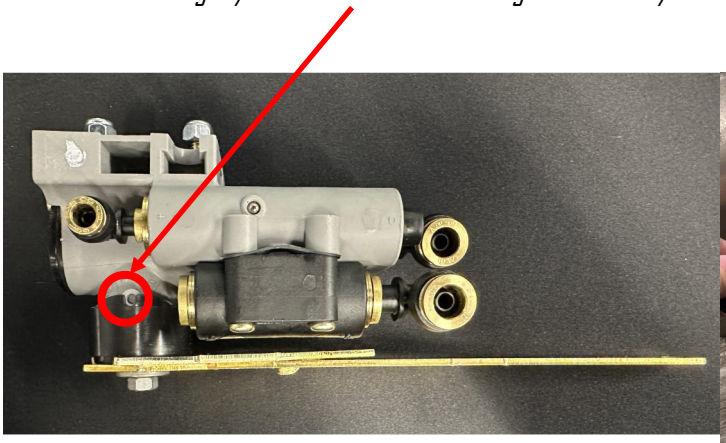


Figure #10 shows height control value. Level indicator hole.

Figure #11:Passenger side orientation of height control valve. *(Note: This will comes with a plug for the passenger side only)*

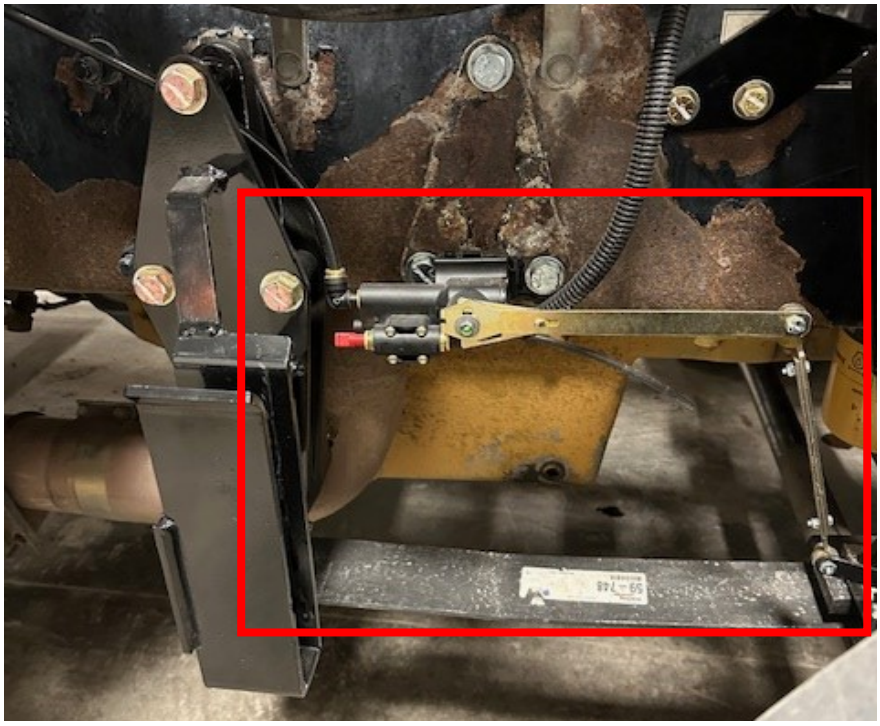


Figure #12: Shows the linkage assembly

Step 7: To plumb up the height control, find an air source coming off the air tank (preferably not the air brake tank). Use the supplied 3/8" T fitting to splice into an air line. You will now need to add another 3/8" T fitting so you can run air line to both sides of the truck. The supply line runs to the height control valve and connects to the 3/8" port marked "SUPPLY" . The other 3/8" port goes to the air bag. The 1/4" port on the height control valve controls the dump. Supplying pressure to this port will exhaust the air out of the bags, but not the tanks. Once you get both sides installed and height control valves installed, you can adjust the height control linkage to set the air bags at 8"

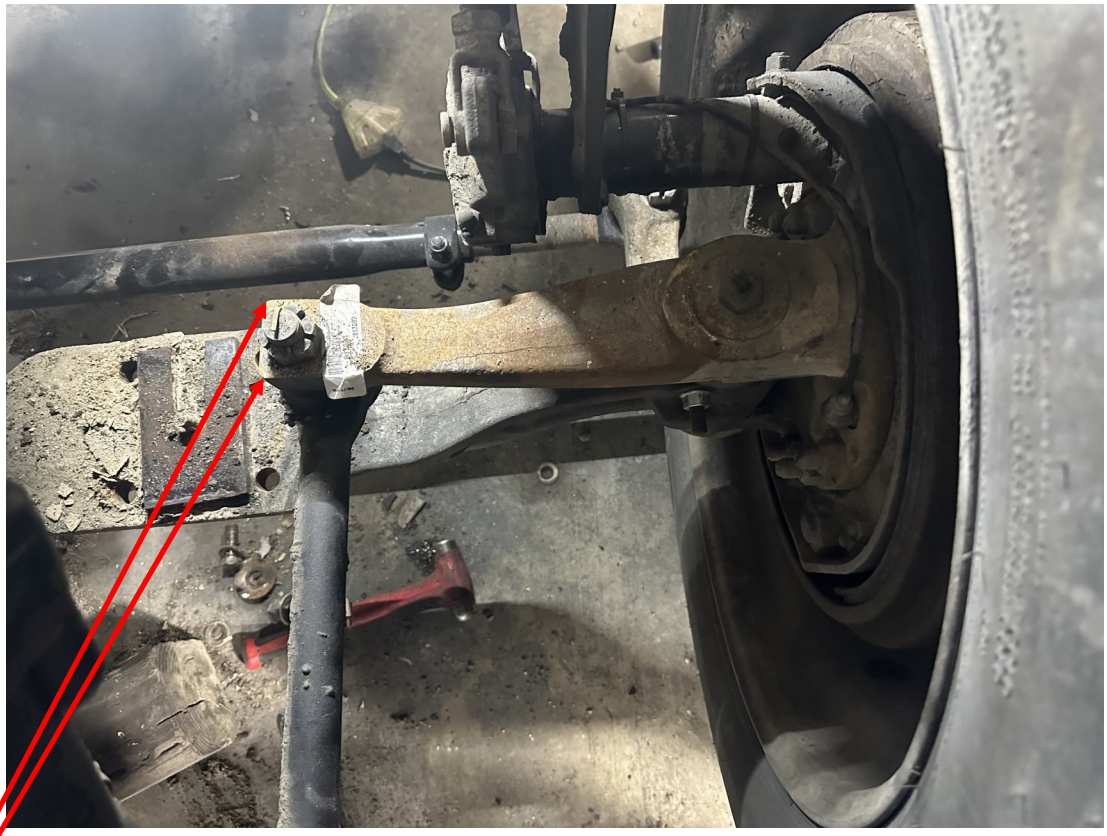


Figure #13. Aftermarket steering knuckle shown.

Note: Grind off end of steering knuckle to allow room for the lower bag mount.

Step 8: Gabriel shock Installation. Locate the shock, lower height control linkage mount, Locate a 3/4"-16 x 3-1/2" bolt and slide the lower height control linkage bracket over the bolt. Now insert the bottom of the shock into the mounting tabs and place the bolt through outside in. Next, fully compress the shock, then extend ~1/2. This should give you ~14" from center of eye to eye. (*This allows clearance for your shock so you don't bottom out your shock while lowering the truck*) Then, move the shock in an arc until you have it where you want it; ~20 deg shock angle or about a finger width space from top of shock to steering column. Once you have that location you will need to mark it and position the shock mount to match. Drill the two 9/16" holes holding the shock mount to the frame and finish installing the top of the shock using the 1/2"-20 x 1-1/2" bolts. If you have the kelderman clicker shocks, you will need to add the spacers between the mount and the ear of the shock. Note: The reservoir needs to be installed clear of any mounts.

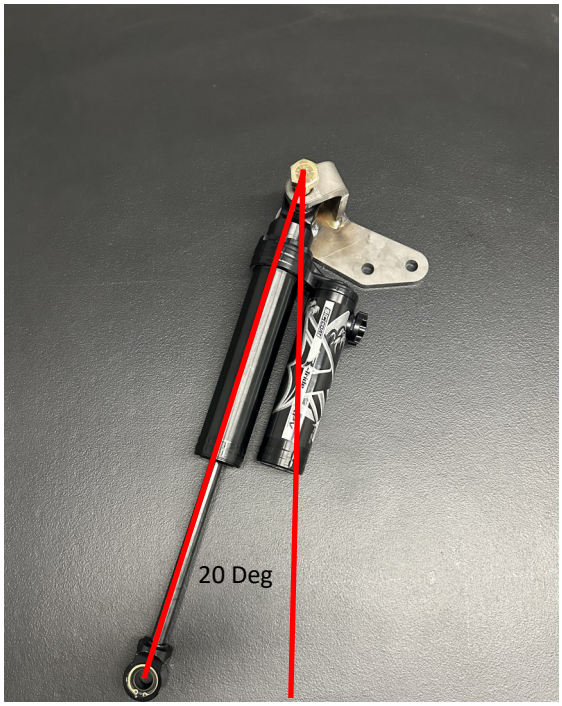


Figure #14: Shows shock orientation with Kelderman Clicker shocks

Figure #15: Shows the approximate angle of the shock. Also the position of the height control valve mount on outside of shock mount

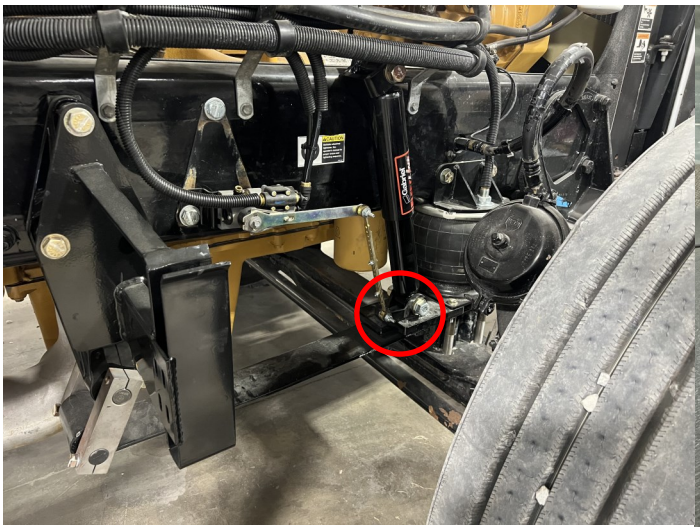


Figure #16: Figure shows heigh control value assembly and lower mount for height control valve attached to the lower bag mount.

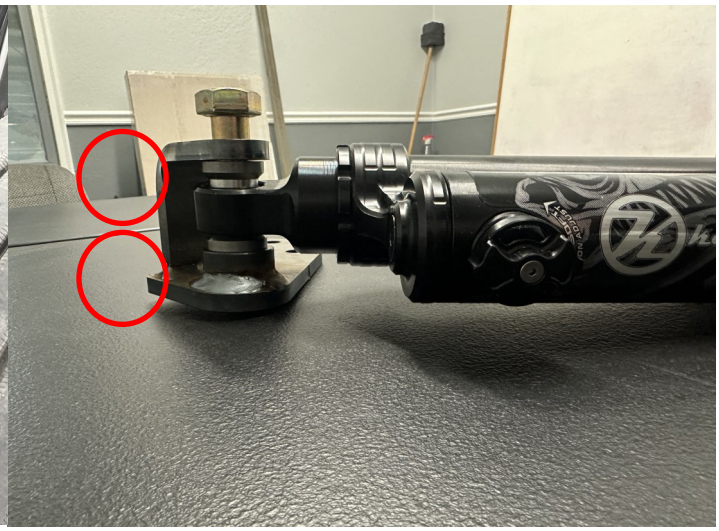


Figure #17: Figure shows side orientation of shock installation onto the mount. Note: Spacers are circled.

Step 9: Repeat steps 1-8 on passenger side

Step 10: Double check the bolts are tight and make sure the truck is sitting level.

Step 11: Test Drive: It is recommended to have an alignment done within 2-3k miles if the truck pulls either direction. If the truck is not sitting level it could pull towards one side.

Parts Key

1	10015611	Weldment - Lower Bag Mount (DS) (3/4" U-Bolt)	1
2	10015612	Weldment - Lower Bag Mount (PS) (3/4" U-Bolt)	1
3	10015613	Weldment - Upper Bag Mount	2
4	10015614	Weldment - Upper Shock Mount (DS)	1
5	10015615	Weldment - Upper Shock Mount (PS)	1
6	10015740	Weldment - Hood Mount Bracket (DS)	1
7	10015741	Weldment - Hood Mount Bracket (PS)	1
8	10015919	Weldment - Height Control Valve Bracket	2
9	10015618	Plate 1/4" - Bag Plate	2
10	10015921	Plate 14ga - Leaf Hanger Drill Template	1
11	10015883	Plate 11 ga - Height Control Valve Linkage Bracket	2
12	10015761	Filler Bushing	2
13	10015765	Shock Spacers	8
14	80355	Height Control Valve	2
15	80080	Height Control Valve Linkage Kit	2

Parts Key

16	AUBK8254-06	U-Bolt - Square - 3/4" x 4" x 6 3/4" (Box)	2
17	10016173	Modified Leaf Spring - 379	2
18	M1214	Leaf Spring Side Bar	4
19	MK16964	Leaf Spring Hanger	2
20	F5768	Air Bag - F5768 (cut off 1/2" stud)	2
21	80172	Straight Union 3/8" DOT Tube Push-to-Connect x 1/4"-18 MNPT	3
22	80219	3/8" Tubing Connection Union Tee (Plastic Fitting)	4
23	TIV11B-153	Air Line - 3/8" DOT	30
24	81490	Bolt Kit	1

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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