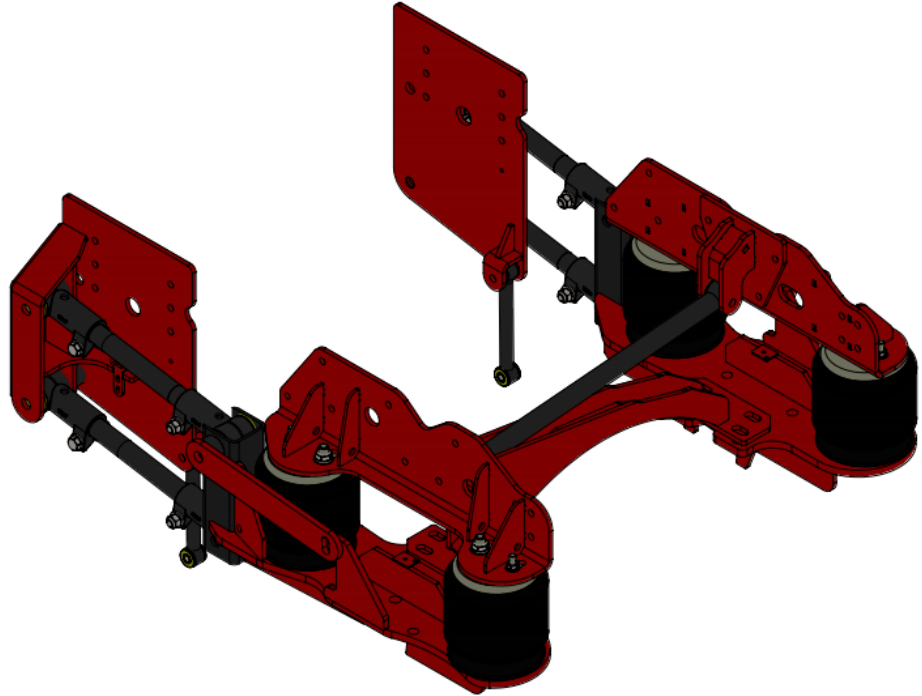


INSTALL INSTRUCTIONS**2003-2009 GM 4500-5500
CAB CHASSIS - 2WD SQUARE
AXLE REAR - 2.00 LOWERING -
AMBULANCE—KLM-17025**

****NOTE: ONLY FITS TRUCKS EQUIPPED WITH
REARWARD MOUNTED BRAKE CALIPERS, TOP
MOUNT OR FORWARD MOUNT GALIPERS WILL
HIT ON THE "TORQUE PLATE"**

kelderman**KELDERMAN MANUFACTURING****2686 HIGHWAY 92 EASTOSKALOOSA, 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
KLM-17025	2003-2009 GM 4500-5500 CAB CHASSIS - 2WD SQUARE AXLE REAR - 2.00 LOWERING - AMBULANCE



****NOTE: ONLY FITS TRUCKS EQUIPPED WITH REARWARD MOUNTED BRAKE CALIPERS, TOP MOUNT OR FORWARD MOUNT CALIPERS WILL HIT ON THE "TORQUE PLATE"**

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	<i>8 FT-LB</i>	<i>12 FT-LB</i>
3/8"-16	<i>31 FT-LB</i>	<i>44 FT-LB</i>
3/8"-24	<i>35 FT-LB</i>	<i>49 FT-LB</i>
1/2"-13	<i>75 FT-LB</i>	<i>106 FT-LB</i>
1/2"-20	<i>85 FT-LB</i>	<i>120 FT-LB</i>
9/16"-18	<i>121 FT-LB</i>	<i>171 FT-LB</i>
5/8"-11	<i>150 FT-LB</i>	<i>212 FT-LB</i>
5/8"-18	<i>170 FT-LB</i>	<i>240 FT-LB</i>
3/4"-16	<i>297 FT-LB</i>	<i>420 FT-LB</i>
7/8"-14	<i>474 FT-LB</i>	<i>669 FT-LB</i>

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 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 2,500 MILES

- ◆ CHECK RIDE HEIGHT $\pm 1/4$ ”
- ◆ 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 $\pm 1/4$ ”
- ◆ CHECK FOR AIR LEAKS AROUND FITTINGS.

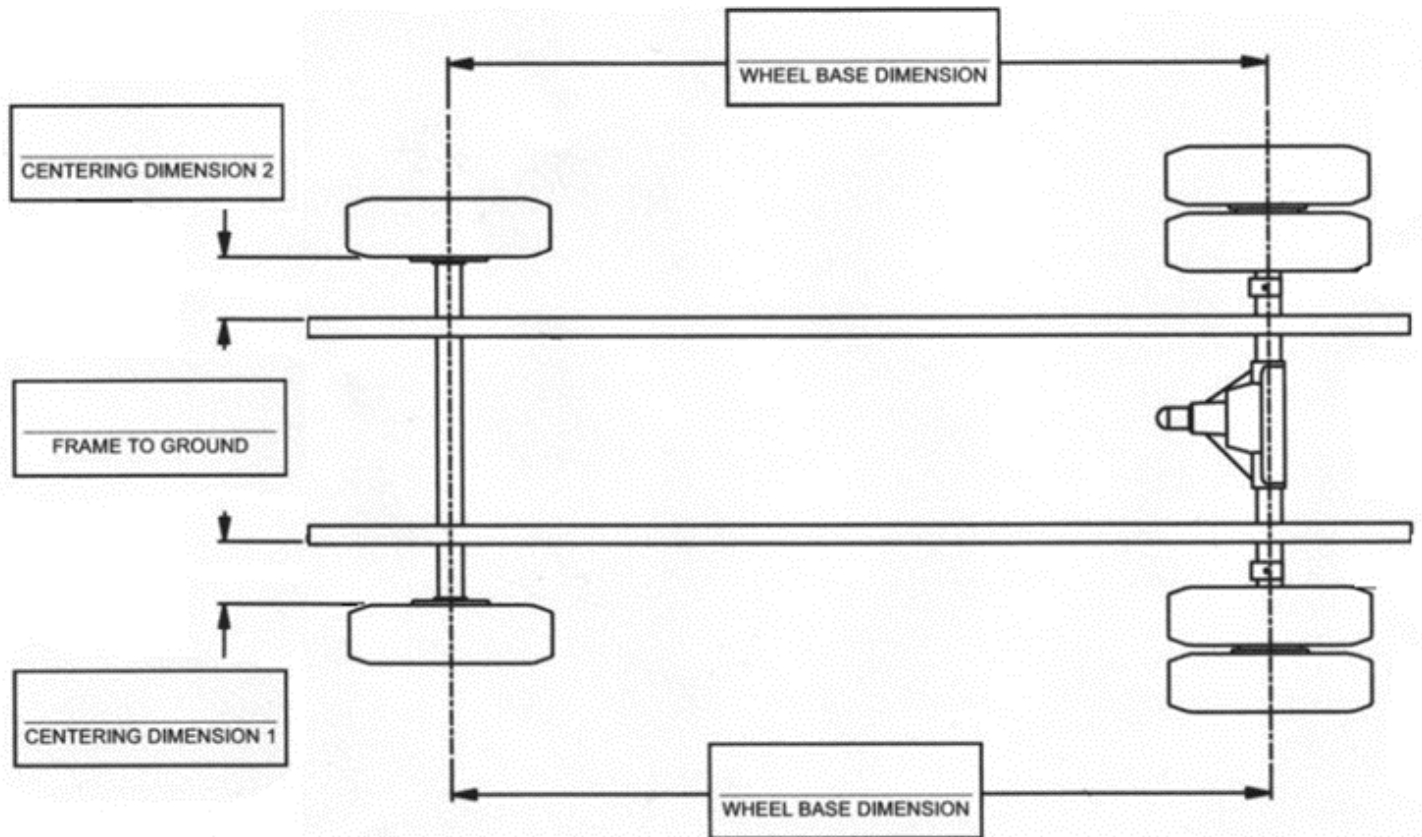
DISASSEMBLY

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.

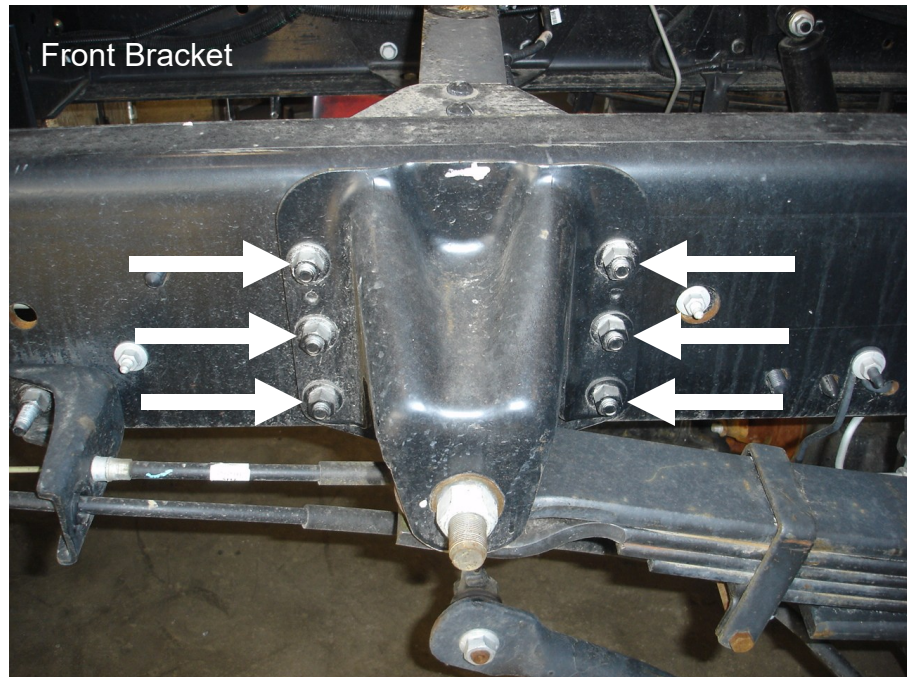


DISASSEMBLY

1. With weight taken off the rear springs, as noted in pre-installation checklist, remove the mount bolts or rivets from the Front Leaf Spring Hanger Bracket. Remove the bolts or rivets attaching the Rear Leaf Spring Hanger Bracket. DO NOT re-use the fasteners that mount the hanger bracket, or leaf spring itself. New fasteners are provided, and must be used to achieve proper clamp load on the front trailing arm mount hanger.

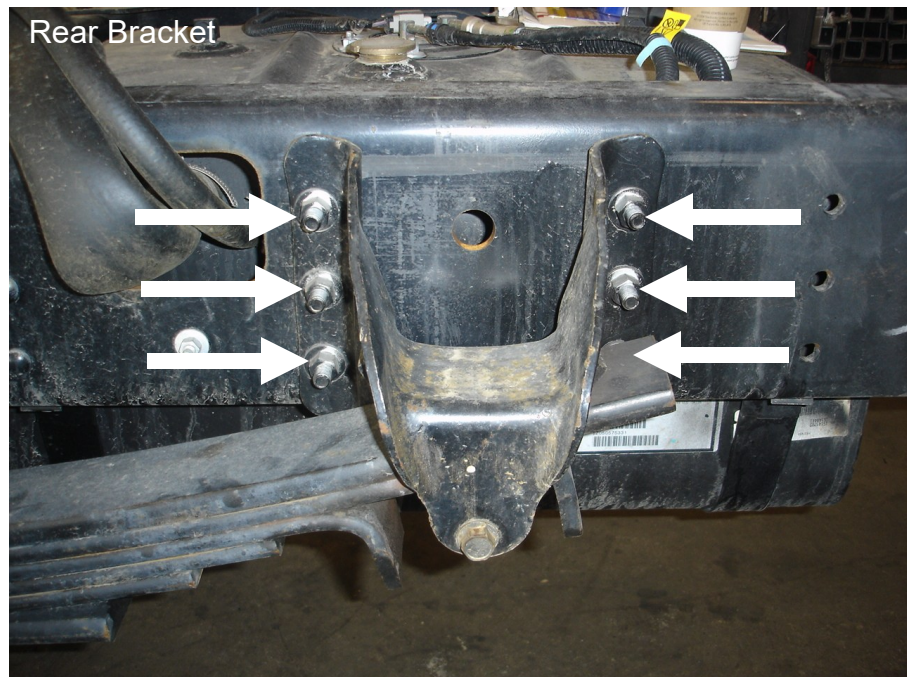
**REMOVE THESE
BOLTS THEY WILL
NOT BE REUSED**

**IF RIVETS ARE USED
CUT THEM OFF WITH A
TORCH, PLASMA CUT-
TER OR RIVET BUST-
ER**



**REMOVE THESE
BOLTS THEY WILL
NOT BE REUSED**

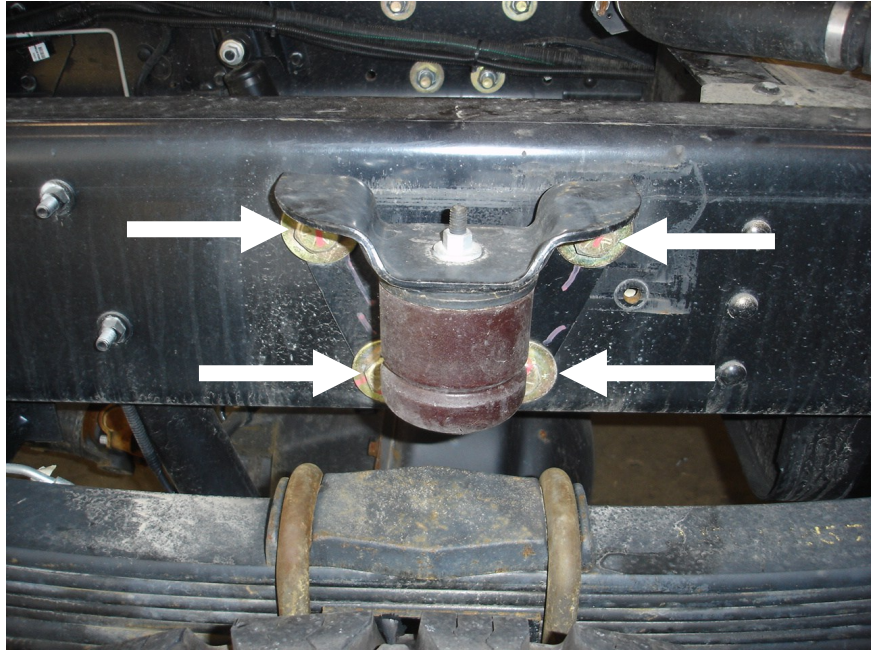
**IF RIVETS ARE USED
CUT THEM OFF WITH A
TORCH, PLASMA CUT-
TER OR RIVET BUST-
ER**



2. Remove the OE Jounce Bumper Bracket. Discard the 1/4" large flat washer. The bump stop will be reused and fastened to the bottom of the upper bag mounts.

NOTE: Verify orientation of lower axle wedge. Make sure to install the same way during reassembly.

**REMOVE THESE
BOLTS**



3. Remove existing U-bolts that attach the axle to the leaf spring. After this is done, axle, spring, and hanger will be loose on this side. Remove the leaf spring and its mounting brackets from the vehicle. Rear Leaf Spring Hanger Bracket can now be removed completely. Repeat on other side.
4. Grind/remove 1 rivet that connects the forward fuel tank cross-member to the frame. It can be removed by grinding, or air chiseling, the head off the factory-installed rivet.
5. The OEM stabilizer end link and mounting bracket must be removed. The OEM stabilizer end link will need to be reinstalled later. Discard the mount.
6. Repeat this procedure for driver's side of vehicle.

**REMOVE THIS
RIVET BY GRINDING OR CHISELING
FROM FRAME RAIL**

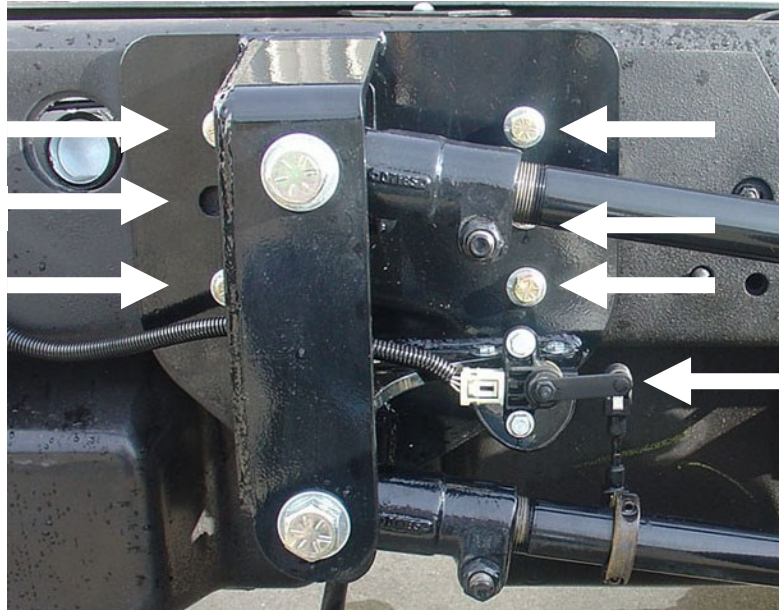


ASSEMBLY

NOTE: All bolts will use a flat washer on each end of the bolt.

1. On driver's side of vehicle, install the 4-Link Side Plate onto the frame rail utilizing the holes that were used by the front leaf spring hanger bracket. Secure with 6 bolts (1/2"x2"), 12 flat washers (1/2") and 6 top lock nuts (1/2") installed from the inside of the frame out. Torque the bolts to 135 ft. lbs. When possible, insert the bolts from the inside of the frame pointing outwards.

(6) 1/2" X 2" Bolts



Electronic height control pictured

4-LINK SIDE PLATE (DRIVER'S SIDE)

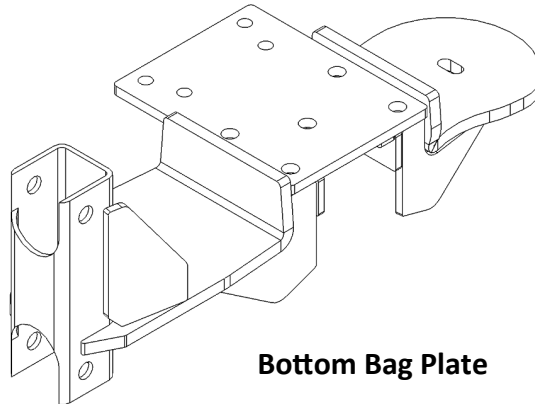
2. On passenger's side of vehicle, install the 4-Link Side Plate onto the frame rail utilizing the holes that were used by the front leaf spring hanger bracket. Secure with 6 bolts (1/2"x2"), 12 flat washers (1/2"), and 6 top lock nuts (1/2") installed from the outside of the frame. Torque the bolts to 135 ft./lbs.



4-LINK SIDE PLATE (PASSENGER'S SIDE)

NOTE: If your vehicle has a box on it or utility bed, it may be necessary to install the trailing arms into the front mounts before you install them into the frame. To do so, use the 7/8x5 1/2" bolt to fasten the upper trailing arm. On the bottom, use the 7/8x7 1/2" bolts and spacers. Make sure to put the spacer on the inside of the knuckle and the trailing arm mount.

3. Locate the lower air bag mounts. Next, put the 3/4x9 1/2" bolts through the lower bag mount from the top down. Locate the 2131 or 2119 air bags and fasten to the lower bag mount using the 1/2x4" bolts and lock washers. Set the air bags so that the air ports are facing each other towards the inside.



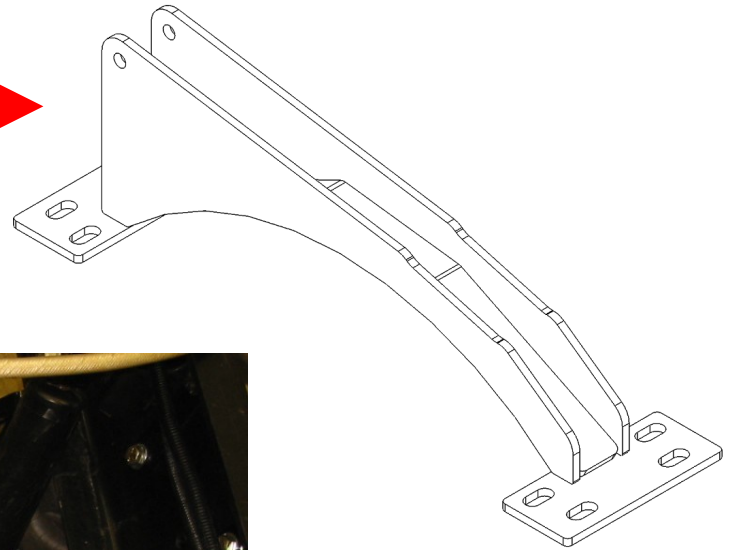
Bottom Bag Plate

4. Slide the lower bag mounts over the axle. Use the centering pin to locate the mount on the leaf spring perch. Next locate the factory lower air axle clamps. Use the 3/4" nuts and flat washers to fasten the lower axle clamp to the bottom of the axle. Do not tighten yet. Once the lower pan hard bar mount/axle cross member is installed, you will torque the 3/4" nuts to 250 ft/lb.



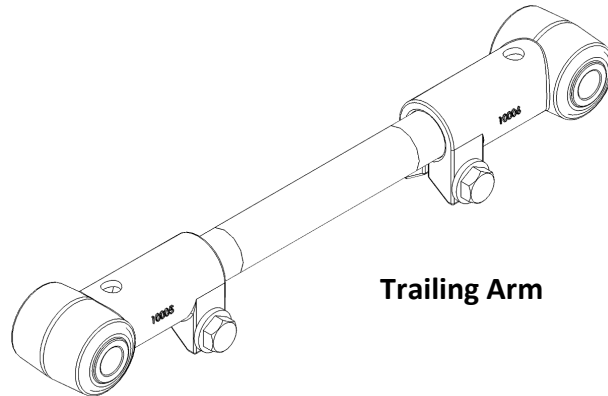
5. Locate the lower pan hard bar mount/axle cross member. The tall ears go on the drivers side. Fasten the mount to the axle with the 5/8x7 1/2" bolts and the lower axle mount. Also use the 5/8x 2 1/2" bolts to fasten the lower air bag mount to the cross member. Once all these are started, tighten to 150 ft/lbs. Now go back and tighten the 3/4x9 1/2" bolts to 250 ft/lbs.

Driver's side



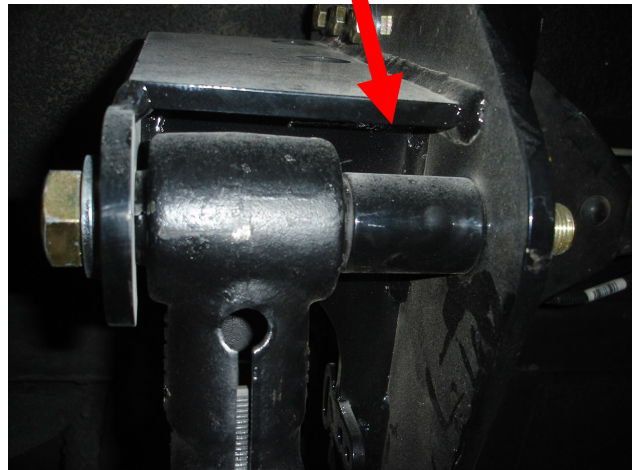
Pan Hard Bar Cross Member

6. Locate the trailing arms. If you have not already installed them in the front trailing arm mounts, use the 7/8x5 1/2" bolt to fasten the upper trailing arm. On the bottom, use the 7/8x7 1/2" bolts and spacers. Make sure to put the spacer on the inside of the knuckle and the trailing arm mount. Use the 7/8x5 1/2" bolts to fasten the rear of the trailing arms to the lower air bag plates. Once the install is complete and the bags are at ride height, torque the 7/8" bolts to 325 ft/lbs.

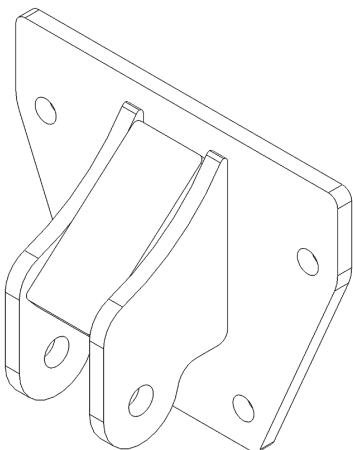


Trailing Arm

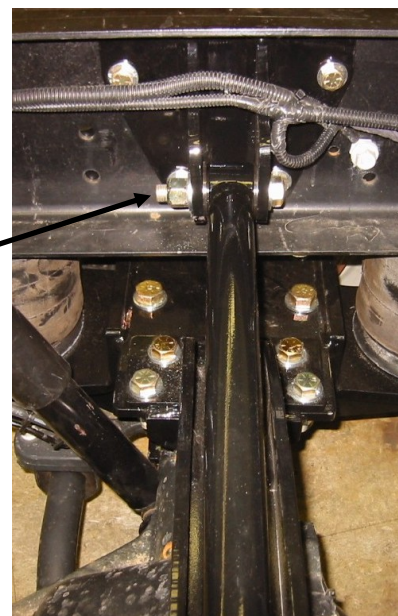
Spacer



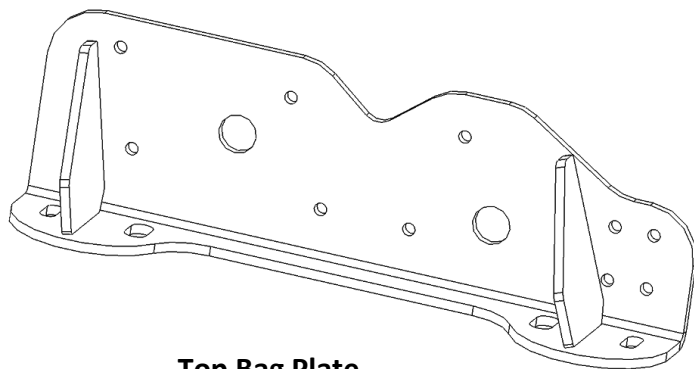
7. Locate the upper bag mounts and the passengers side pan hard bar mount. Fasten the drivers side upper bag mounts to the frame with the eight 1/2x2" bolts.



Pan Hard Bar Mount
(Pass side)



8. Next, fasten the passengers side upper bag mount to the frame using the 1/2" x 2" bolts in the outer holes. Use the 1/2" x 2-1/2" bolts on the inside set of holes that fasten the track bar mounting bracket.



Top Bag Plate

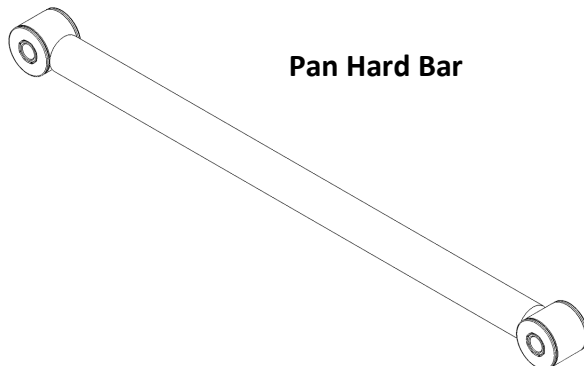


Passenger side

9. Fasten the top of the air bags to the upper air bag mounts using the 1/2" and 3/4" nuts and lock washers. Center the bags in the slots so each bag is the same. Take notice so make sure that the rear passengers side bag is not too close to the exhaust. If needed, push the bag to the outer part of the slot to make more clearance. Once the bag is positioned, tighten the 1/2" bolts to 35 ft/lbs. and the 1/2" and 3/4" nuts to 30 ft/lbs.



10. Locate the pan hard bar. Insert the pan hard bar into the axle cross-member. Make sure to use one of the spacers on each side of the bushing. Use the 5/8x4 1/2" bolt. Use the 5/8x4" bolt in the other end. Tighten the bolts to 150 ft/lbs.

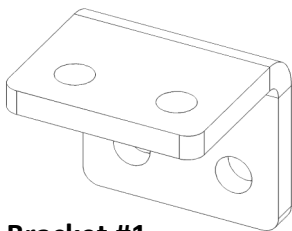


Pan Hard Bar

11. Reattach the OEM rear anti-sway end links to the 4-Link Side Plates with the 9/16x4" bolts. Tighten to 150 ft/lbs.

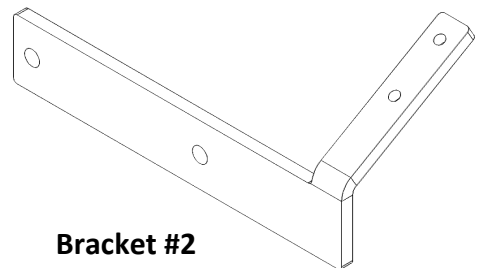


12. If the vehicle has the brake calipers on the rear, it is required to install the parking brake relocation bracket #1. If the calipers are on the front, use parking brake relocation bracket #2. Bracket #1 uses two 1/2x1 1/2" bolts.



Bracket #1

Bracket #2 uses the four 1/2x2: bolts and 4 1/4x1" bolts. These mount _____



Bracket #2

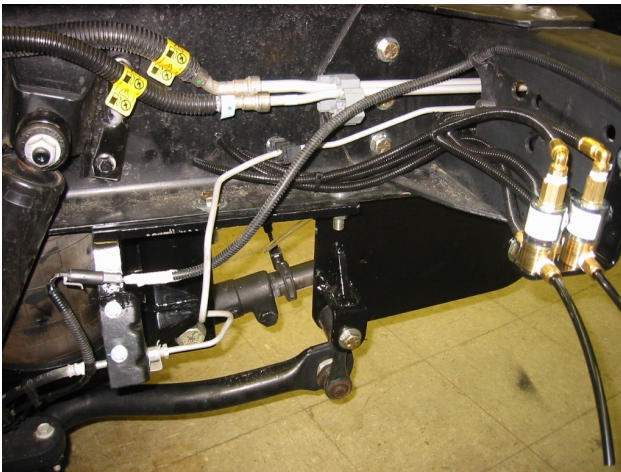
ADJUSTING WHEEL BASE / PINION ANGLE

1. With vehicle lifted to ride height on jack stands, let air out of airbags. Check wheelbase measurement on vehicle. To adjust wheelbase, turn either both left or both right 4-Link Bars. **Always turn them the same direction and only 1/2 turn at a time.** Keep **checking measurement and** adjusting until your

wheelbase measurement is the same as initial measurement. Once the alignment is done, torque the pinch bolts on the 4-Link Bars to 75 ft. lbs.

AIR COMPRESSOR / CONTROL SYSTEM

1. Plumbing of the system. Insert the fittings in the top of the four air bags. Locate the Neway height control valve and use the 1/4" x 1 1/4" bolts to fasten the height control valve to the front trailing arm bracket on the driver's side. Mount the ball to the end of the height control valve, fasten the lock collar to the lower control arm and connect the linkage between them.
2. Locate the compressor box. Mount the box somewhere on the frame, preferably on the driver's side frame rail. Use the wiring diagram provided at the end of the instruction packet to wire up the system. Also provided is an air line diagram.
3. Locate the air tank. Find an area on the frame to mount it. Make sure the drain plug is facing straight down.
4. Once you have the compressor wired up, the air line going to the air tank, run an air line from the air tank to the bottom port of the height control valve. Locate the clear line and plastic fitting supplied with the height control valve and install it in the top port. This is the exhaust. Next locate the three brass "T" fittings. Connect the two air bags on each side with a "T" fitting. Next, connect the right side and left sides together with another "T" fitting. Connect this "T" fitting to the CYL port on the dump valve. Last, connect an air line from supply port to middle port on the height control valve.



AIR LINE ROUTING

1. Attach air line to fitting on passenger side of vehicle. Route line under frame rail, and forward through hole in cross member on frame. Attach air line to fitting on driver side of vehicle. Route this line under frame rail and forward through hole in cross member. Route these lines together in the middle of the vehicle and attach to run sides tee fitting. Attach air line to branch side of fitting. Route this line forward along the inside of the frame rail on the driver side of the vehicle. Attach to fitting in air control assembly.

See note on page 23 for initial use of air compressor.

Turn the valve arm down 45°, air should exhaust from the air bag. Rotating the valve arm up 45° should cause the valve to fill the air bag.

3. Measure & Record the "Ride Height" of the air bag - measure ride height of the air bag from upper air bag mount to lower air bag mount (see Figure below).

To adjust the ride height, complete the following steps (see Figure below).

Loosen upper height control valve bolt.

Rotating height control valve body toward rear of chassis this will increase the ride

height. Rotating height control valve body toward front of chassis will decrease ride height.

Tighten upper height control valve bolt.

Once the ride height is set, reconnect the linkages. Jostle the suspension up and down and allow it to come back to ride height. Recheck the initial measurement and adjust if needed.

4. Bushing Bolts Final Torque - with the suspension at ride height, torque all bushing fasteners.

This will include all fasteners for the Control Arm and Pan Hard Bar. (Refer to *Torque* table for specific torques).

5. Reinstall shocks and mounting nuts.

6. Move the suspension through its entire range of motion by inflating and deflating the air bags to achieve full travel. Check for any interference with the pan hard bar, axle, shocks, exhaust, frame, brake lines, fuel lines, etc. Reconnect valve linkage to trailing arm.

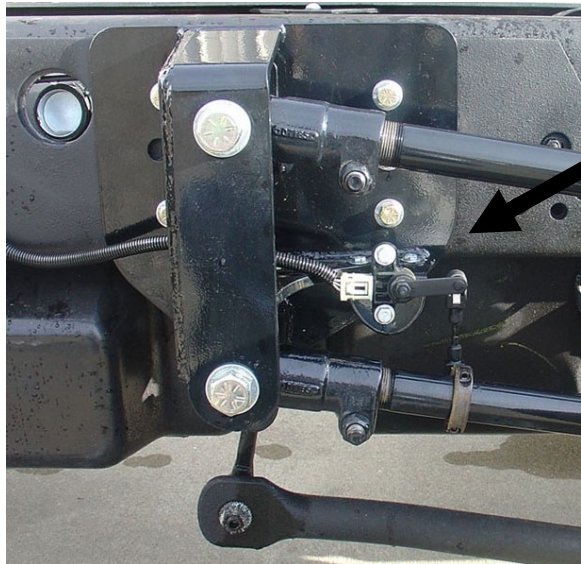
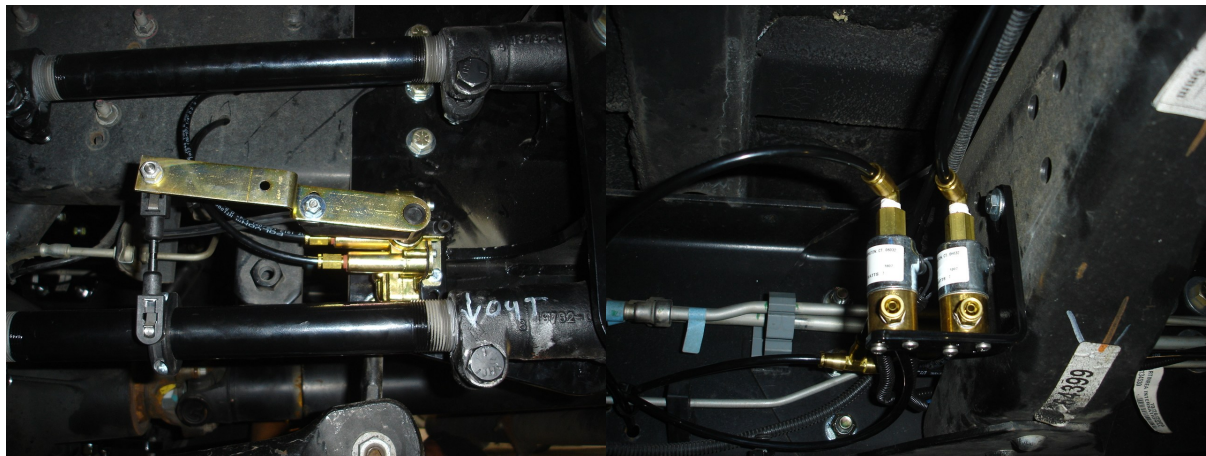
7. Recheck all fasteners for specified torque.

8. Double check all electrical connections and wire routings.

9. **IMPORTANT!** Check all fittings and air lines for air leaks.

10. Measure and record wheelbase and centering dims on final dimension sheet.

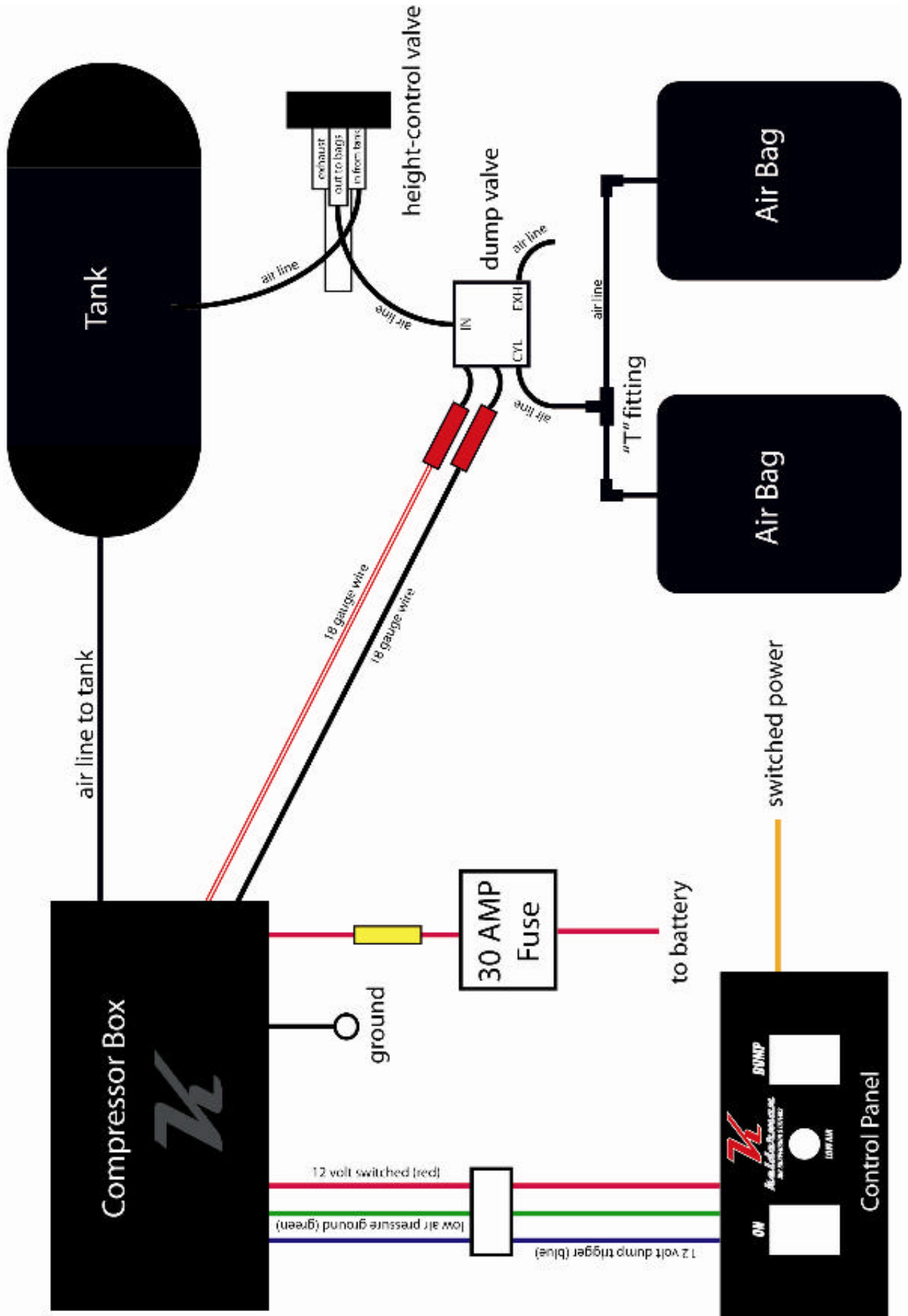
11. Reinstall the chassis body (if applicable).

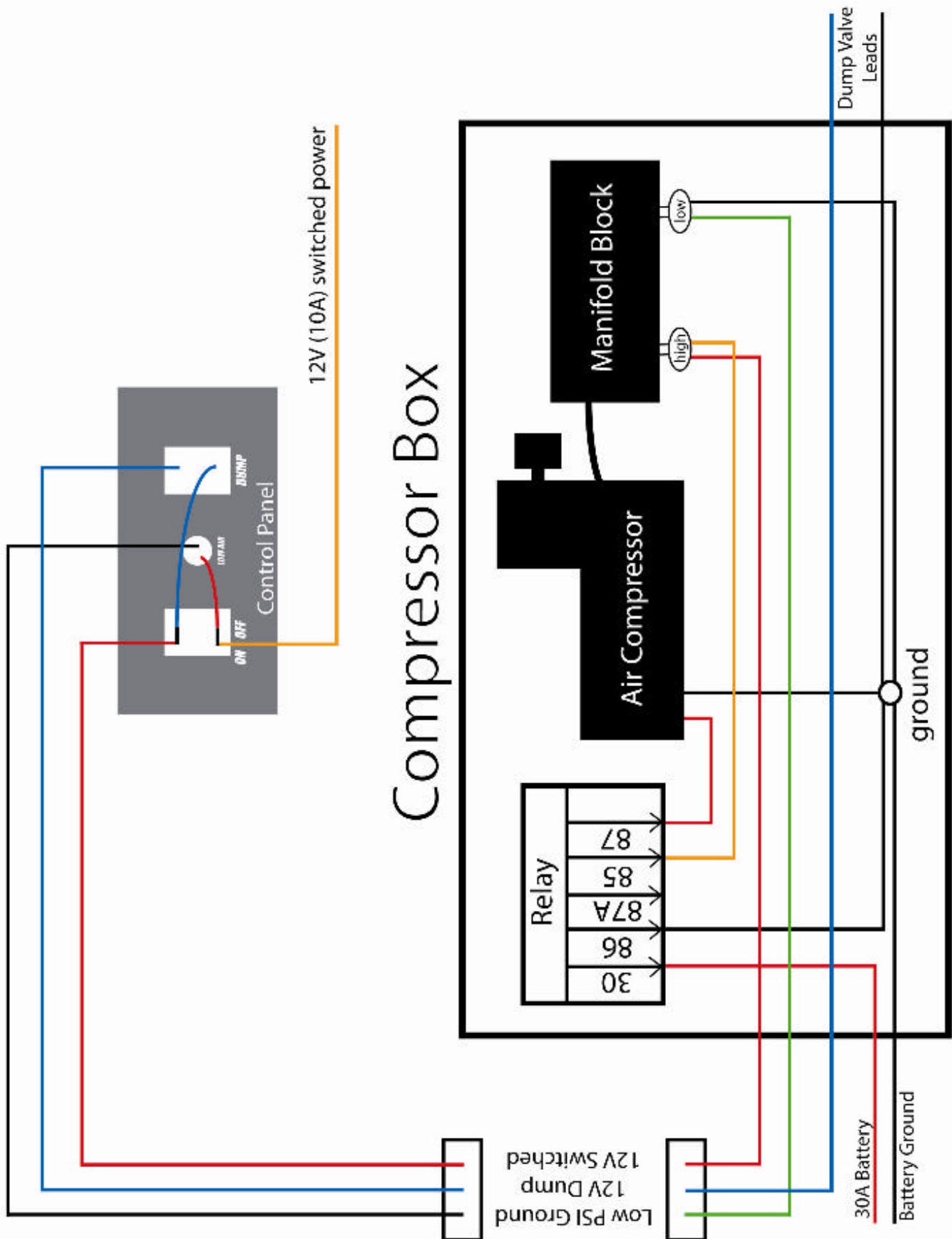


Electronic height control sensor pictured



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





OPERATIONAL GUIDELINES

1. After all final checks are complete, it is recommended to perform a road test. If vehicle pulls to the left or right, or any driveline vibration occurs, return and recheck wheelbase measurements and driveline angles. **Note:** improper driveline angles may have a detrimental affect on ride, U joints, and transmission.

2. **Kneeling Operation:** Moving the dump switch to "ON" position will exhaust all air from the air bags and lower the rear of the vehicle approximately 3-4 inches. Air bags will inflate when the switch is returned to the "OFF" position. **WARNING: Do not drive the vehicle while the Dump Switch is on and the air bags are deflated.**

3. **IMPORTANT!** During servicing check tightness of all fasteners and for any air systems leaks.

4. **IMPORTANT!** Immediate corrective action should be taken if malfunctions occur.

5. Air Bag Ride Height Setting Procedure for Systems with Dual Height Control Valves

1. Deflate the passenger side air bag by disconnecting the linkage from the arm.

2. With the driver side linkage connected, measure the ride height and adjust accordingly by the methods mentioned above.

3. Once the ride height is set for the driver side, repeat the same steps for the passenger side, including deflating the driver side air bag.

4. Once the ride height is set, reconnect the linkages.

5. Jostle the suspension up and down and then allow it to come back to ride height. Recheck the initial measurement and adjust if needed. **Note:** this procedure to set ride height can be done when empty or under light load.

Test drive. Once the system is installed, bolts torque, and the air system checked for leaks, the vehicle is now ready for a test drive. The vehicle should drive straight and be without any driveline vibration. If there is shutter upon take off, then the pinion angle is off. This can be adjusted by shortening or lengthening the upper or lower trailing arms. If the truck pulls to the right or left, the alignment is off. Adjust by shortening or lengthening the trailing arms on the same side in the entire system.

****NOTE:** Once the system is wired up and plumbed, turn on the ignition and the compressor will start running. Upon first start up when there is no air in the tank, it will take around 6-8 minutes until the system is charged, air bags filled. After the compressor shuts off, check for leaks. It works best to use soapy water or gas leak detector sold at hardware stores. Check all the fittings and connections in the entire system.

SERVICE & MAINTENANCE

The Kelderman suspension needs no lubrication and little maintenance. The following components should be checked at the same time the chassis is being serviced. However, immediate corrective action should be taken if a serious malfunction occurs. See Exploded Assembly on page 18 for details.

Caution! If maintenance or service is to be done on the air system, be sure to drain **all** air from system. Serious injury could occur if components are removed while system is full of air.

Note: It is important to release any moisture contained within the air reservoir on a daily basis. Not releasing the moisture on a regular basis will cause the drain valve to not operate properly, and may cause the valve to malfunction. Excess moisture in the system can also cause premature failure of other components including the tank itself.

AIR BAG SERVICE

The forward air bag can be serviced without removing the axle brackets from the axle. Detach the upper air bag mounting studs from the upper bag plate. Now, utilizing a modified 3/4" wrench, the forward air bag lower mounting bolt can be loosened. Then, rotate the air bag counter-clockwise off the lower mounting bolt. Now remove air bag. To install, reverse process.

SERVICE & MAINTENANCE CHECKLIST

1. Check and document rear axle alignment.
2. Verify ride height at 8" between upper and lower air bag mounting plates.
3. Verify suspension function via dump and re-inflation.
4. Check for air leaks and system integrity.
5. Check clearances throughout suspension motion range.
6. Check driveline angle.
7. Check 4 wheel alignment.

CHEVY 4500 SQUARE-AXLE OWNERS GUIDELINES

The Kelderman suspension needs no lubrication and little maintenance. However, immediate corrective action should be taken if a serious malfunction occurs.

CAUTION! If maintenance or service is to be done on the air system, be sure to drain all air from the system. Serious injury could occur if components are removed while system is full of air.

PRODUCT OWNER RESPONSIBILITIES

- Owner is solely responsible for pre-operation inspection, periodic inspections, maintenance, and use of the product as specified in the particular Kelderman MFG. instructions available by product model, except as provided in this warranty, and for maintenance of other vehicle components. Of particular importance is the re-torque of fasteners including axle bolts, four link bolts, and pan hard bar bolts. This re-torque must be performed within 90 days of the suspension being put into service.
- Owner is responsible for “down time” expenses, cargo damage, and all business costs and losses resulting from a warrantable failure.
- The Kelderman Air Suspension is fully automatic in controlling the height of the chassis. No manual intervention to control air pressure or ride height is needed during the course of operation.
- The Compressor Switch must be on for the compressor to operate. During difficult starting circumstances, (i.e. extremely cold weather) it is recommended to turn the compressor switch off until the vehicle is running, so it will not draw current from the battery. The compressor is controlled by the pressure switch located in the Air Control Box. This switch automatically turns the compressor on when the tank pressure falls below 110 psi, and turns them off at 145 psi.
- The Low Pressure Warning Light indicates a severe drop in tank pressure (below 45 psi). Immediate corrective action should be taken to determine the cause of air loss. Compressor switch should be turned off if Low Pressure Warning Light is on, and remains on even after the compressor has run for a normal period of time. **NOTE:** The Low Pressure Warning Light could come on briefly when the “Dump” feature is being used.

- It is important to release any moisture contained within the air tank on a daily basis. This is done by pulling on the attached release cable for approximately 5 seconds. Not releasing the moisture on a regular basis will cause the drain valve to not operate properly.

CHECK AT EVERY VEHICLE SERVICE INTERVAL:

Check Ride Height $\pm 1/4$ "

Check for air leaks around fittings.

CHECK AFTER THE FIRST 1000 MILES:

Recheck & tighten any loose fasteners.

Check for any loose or worn components.

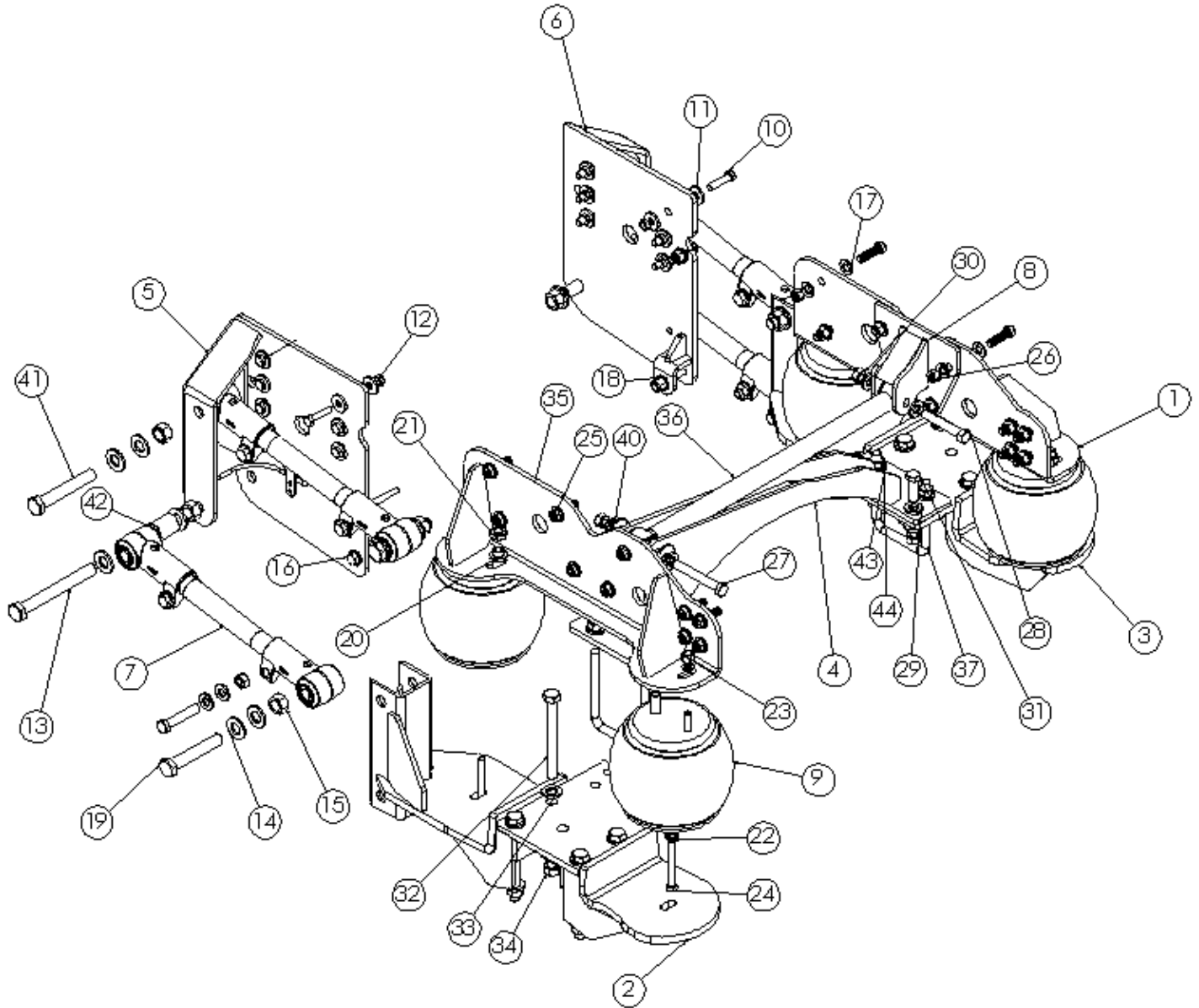
CHECK AFTER EVERY 30,000 MILES:

Check trailing arm bushings and pan hard bar bushings for wear; replace if worn.

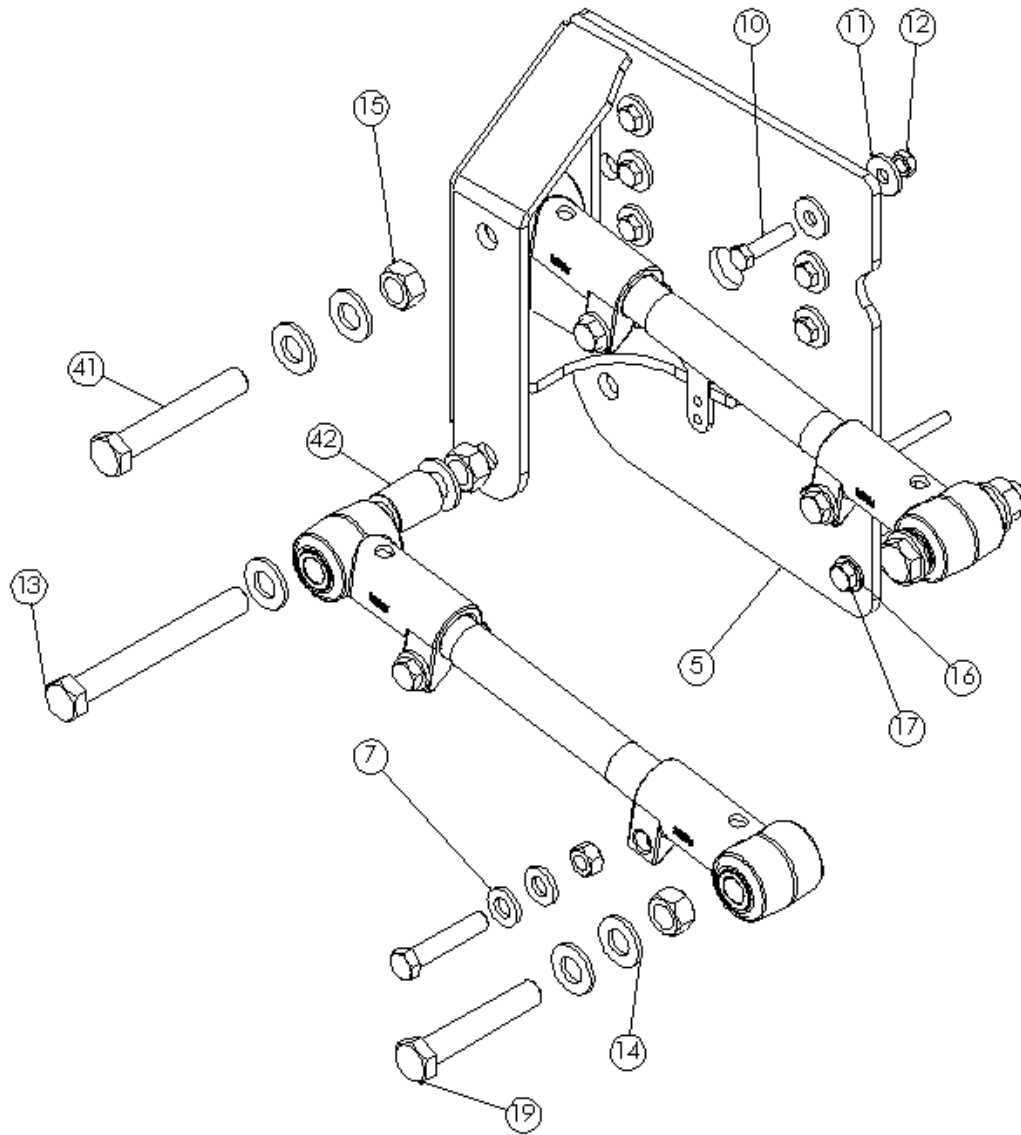
TROUBLE SHOOTING GUIDE

<u>COMPONENT</u>	<u>POSSIBLE PROBLEM</u>	<u>CORRECTIVE ACTION</u>
Air lines	Air leaks	Replace air line.
Fittings	Air leaks	Remove fitting and apply fresh joint compound. Reinstall fitting, but Do Not Over Tighten. Do not use Teflon tape.
Air Bags	A. Improper height B. Air leakage	A. Adjust valve linkage to maintain proper air spring height. B. Replace air bag.
Panhard Bar	A. Loose nuts on lateral control rod bolts. B. Worn bushings	A. Tighten securely. B. Replace lateral control rod.

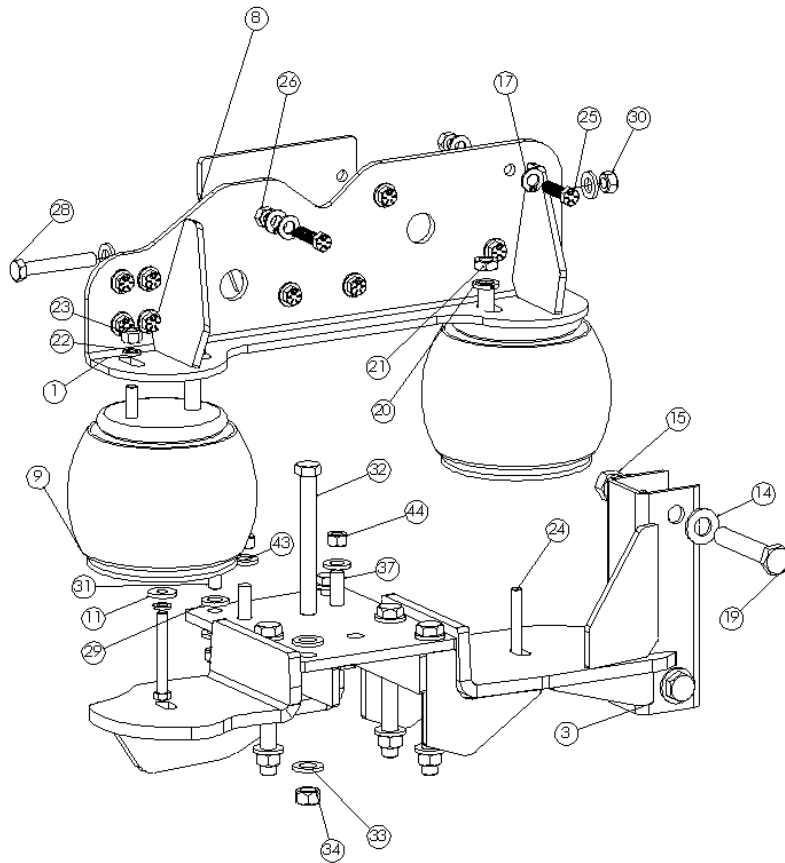
KIT DRAWINGS



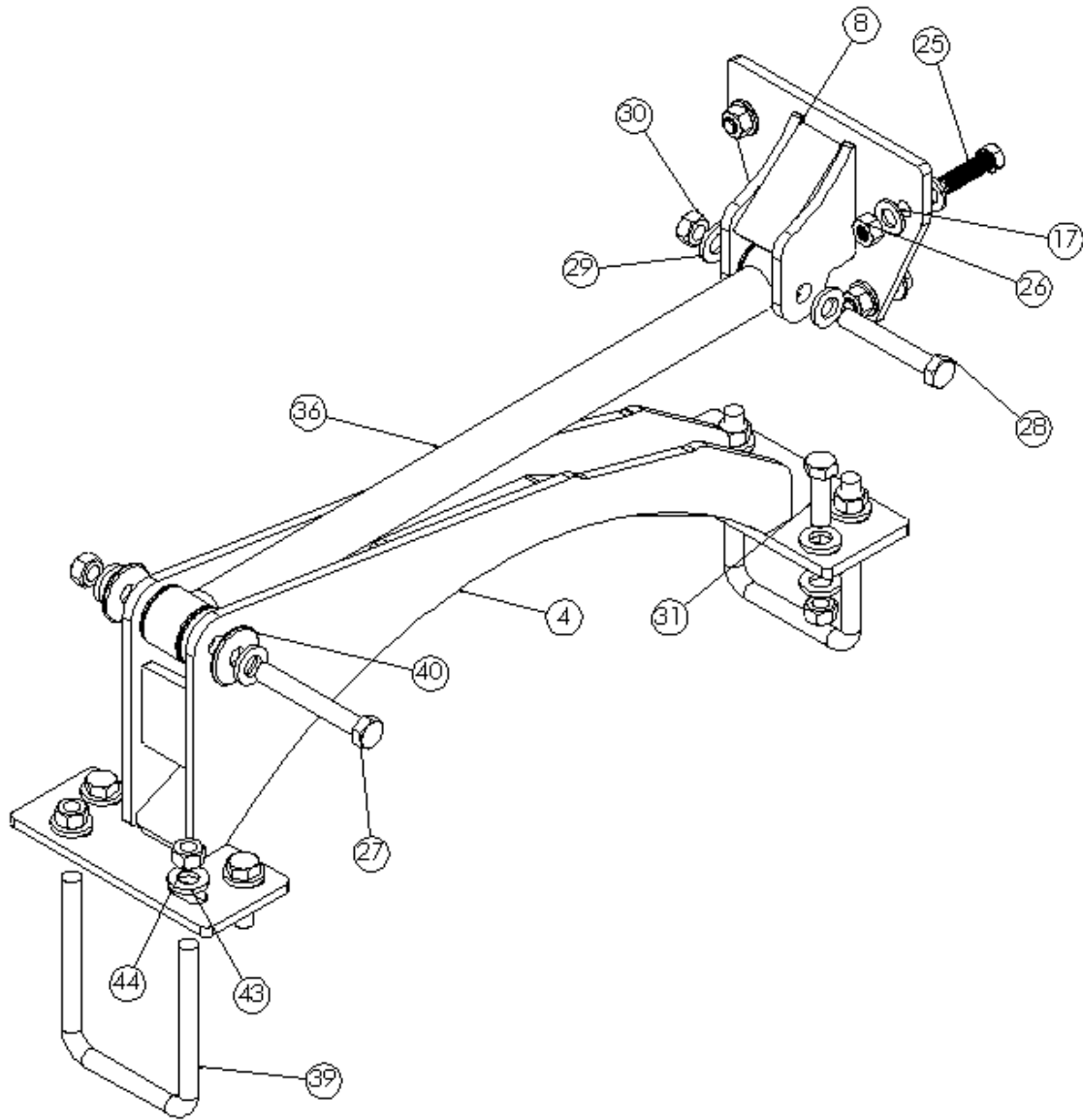
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	17335	RIGHT SIDE UPPER BAG MOUNT	1
2	17337	LEFTSIDE BOTTOM BAG ASSEMBLY	1
3	17338	RIGHTSIDE BOTTOM BAG ASSEMBLY	1
4	17339	CROSSMEMBER	1
5	17331	LEFT SIDE MOUNTING ASSEMBLY	1
6	17330	RIGHTSIDE MOUNTING ASSEMBLY	1
7	15960	TRAILING ARM- 19"	4
8	17333	PHB FRAME MOUNT ASSEMBLY	1
9	10019-X-3	FIRESTONE AIR BAG - 5323 (7 1/2" HT X 9.1" WD)	4
10	12011	BOLT- 1/2"-20 X 2" GR8	12
11	13024	1/2" FLATWASHER - 17/32" ID X 1 1/16" OD X 3/16" THK	28
12	13164	HEX NUT - 1/2"-20 GR8	12
13	12649	BOLT - 7/8"-14 X 7 1/2" GR8	2
14	13030	7/8" FLATWASHER - 29/32" ID X 1 3/4" OD X 11/64" THK	16
15	13170	HEX NUT - 7/8"-14 GR8	8
16	12323	BOLT - 9/16"-18 X 3 1/2" GR8	2
17	13025	9/16" FLATWASHER - 19/32" ID X 1 5/32" OD X 5/64" THK	46
18	13205	HEX JAM NUT - 5/8"-18 GR2	2
19	12629	BOLT - 7/8"-14 X 5" GR8	4
20	13056	3/4" LOCK WASHER - 49/64" ID X 1 17/64" OD X 3/16" THK	4
21	13208	HEX JAM NUT - 3/4"-16 GR8	4
22	13050	1/2" LOCK WASHER - 17/32" ID X 7/8" OD X 1/8" THK	8
23	13204	HEX JAM NUT - 1/2"-20 GR2	4
24	12029	SCREW-HCS-.50-20X4.00-GR8-YZ	4
25	12309	HEX HEAD CAP SCREW - 9/16"-18 X 2" GR8 ZINC PLATED	21
26	13177	HEX NUT - 9/16"-18 GR8	21
27	12431	BOLT-5/8"-18X 4 1/2"-GR8	1
28	12427	BOLT - 5/8"-18 X 4" GR8	1
29	13026	5/8" FLATWASHER - 25/32" ID X 1 5/16" OD X 11/64" THK	12
30	13166	HEX NUT - 5/8"-18 GR8	6
31	12409	BOLT - 5/8"-18 X 2" GR8	4
32	12553	BOLT - 3/4"-16 X 9" GR8	8
33	13028	3/4" FLATWASHER - 13/16" ID X 1 15/32" OD X 3/16" THK	16
34	13168	HEX NUT - 3/4"-16 GR8	8
35	17334	LEFT SIDE UPPER BAG MOUNT	1
36	17332	PANHARD BAR 26 1/4"	1
37	13810	U-BOLT 1/2"-13 - 6 1/4" X 4 7/8"	2
38	13124	HEX LOCK NUT - 1/2"-20 GR8	-
39	13004	1/2" FLATWASHER - 17/32" ID X 1 1/16" OD X 7/64" THK	-
40	16955	PHB SPACER 2" X 3/16" D 5/8"	2
41	12633	BOLT - 7/8"-14 X 5 1/2" GR8	2
42	14577	7/8" TUBE SPACER - 29/32" ID X 1 1/2" OD X 1 29/32" THK	2
43	13006	5/8" FLATWASHER - 11/16" ID X 1 5/16" OD X 3/16" THK	4
44	13126	HEX NUT - 5/8"-18 GR8	4



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
5	17331	LEFT SIDE MOUNTING ASSEMBLY	1
7	15960	TRAILING ARM - 19"	2
10	12011	BOLT - 1/2"-20 X 2" GR8	6
11	13024	1/2" FLAT WASHER - 17/32" ID X 1 1/16" OD X 3/16" THK	12
12	13164	HEX NUT - 1/2"-20 GR8	6
13	12649	BOLT - 7/8"-14 X 7 1/2" GR8	1
14	13030	7/8" FLAT WASHER - 29/32" ID X 1 3/4" OD X 11/64" THK	8
15	13170	HEX NUT - 7/8"-14 GR8	4
16	12323	BOLT - 9/16"-18 X 3 1/2" GR8	1
17	13025	9/16" FLAT WASHER - 19/32" ID X 1 5/32" OD X 5/64" THK	2
18	13205	HEX JAM NUT - 5/8"-18 GR2	1
19	12629	BOLT - 7/8"-14 X 5" GR8	2
41	12633	BOLT - 7/8"-14 X 5 1/2" GR8	1
42	14577	7/8" TUBESPACER - 29/32" ID X 1 1/2" OD X 1 29/32" THK	1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	17335	RIGHT SIDE UPPER BAG MOUNT	1
3	17338	RIGHT SIDE BOTTOM BAG ASSEMBLY	1
8	17333	PHB FRAME MOUNT ASSEMBLY	1
9	10019-X-3	FIRESTONE AIR BAG - 5323 (7 1/2" HT X 9.1" WD)	2
19	12629	BOLT - 7/8"-14 X 5" GR8	2
14	13030	7/8" FLAT WASHER - 29/32" ID X 1 3/4" OD X 11/64" THK	4
15	13170	HEX NUT - 7/8"-14 GR8	2
20	13056	3/4" LOCK WASHER - 49/64" ID X 1 17/64" OD X 3/16" THK	2
21	13208	HEX JAM NUT - 3/4"-16 GR8	2
22	13050	1/2" LOCK WASHER - 17/32" ID X 7/8" OD X 1/8" THK	4
23	13204	HEX JAM NUT - 1/2"-20 GR2	2
24	12029	SCREW-HCS-.50-20X4.00-GR8-YZ	2
11	13024	1/2" FLAT WASHER - 17/32" ID X 1 1/16" OD X 3/16" THK	2
25	12309	HEX HEAD CAP SCREW - 9/16"-18 X 2" GR8 ZINC PLATED	10
17	13025	9/16" FLAT WASHER - 19/32" ID X 1 5/32" OD X 5/64" THK	20
26	13177	HEX NUT - 9/16"-18 GR8	10
28	12427	BOLT - 5/8"-18 X 4" GR8	1
29	13026	5/8" FLAT WASHER - 25/32" ID X 1 5/16" OD X 11/64" THK	6
30	13166	HEX NUT - 5/8"-18 GR8	3
31	12409	BOLT - 5/8"-18 X 2" GR8	2
32	12553	BOLT - 3/4"-16 X 9" GR8	4
33	13028	3/4" FLAT WASHER - 13/16" ID X 1 15/32" OD X 3/16" THK	8
34	13168	HEX NUT - 3/4"-16 GR8	4
37	13810	U-BOLT 1/2"-13 - 6 1/4" X 4 7/8"	1
43	13006	5/8" FLAT WASHER - 11/16" ID X 1 5/16" OD X 3/16" THK	2
44	13126	HEX NUT - 5/8"-18 GR8	2



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
4	17339	CROSSMEMBER	1
8	17333	PHB ASSEMBLY	1
25	12309	HEX HEAD CAP SCREW - 9/16"-18 X 2" GR8 ZINC PLATED	4
17	13025	9/16" FLAT WASHER - 19/32" ID X 1 5/32" OD X 5/64" THK	8
26	13177	HEX NUT - 9/16"-18 GR8	4
27	12431	SCREW-HCS-.63-18X4.50-GR8-YZ	1
28	12427	BOLT - 5/8"-18 X 4" GR8	1
29	13026	5/8" FLAT WASHER - 25/32" ID X 1 5/16" OD X 11/64" THK	11
30	13166	HEX NUT - 5/8"-18 GR8	5
31	12409	BOLT - 5/8"-18 X 2" GR8	4
36	17332	PHB 26 1/4"	1
39	13810	U-BOLT 1/2"-13 - 6 1/4" X 4 7/8"	2
40	16955	PHB SPACER 2" X 3/16"-D 5/8"	2
43	13006	5/8" FLAT WASHER - 11/16" ID X 1 5/16" OD X 3/16" THK	4
44	13126	HEX NUT - 5/8"-18 GR8	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:

2686 HIGHWAY 92
OSKALOOSA, IOWA 52577

PHONE: [1-800-334-6150](tel:1-800-334-6150)

EMAIL: INFO@KELDERMAN.COM

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