

KENWORTH W900L AIR RIDE

1990 - PRESENT

KIT# - 10030151



kelderman



KELDERMAN MANUFACTURING

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KIT NUMBERS

- THIS INSTALLATION MANUAL COVERS THE FOLLOWING AIR RIDE KITS.

KIT NUMBER	DESCRIPTION
10030151	1990-PRESENT KENWORTH W900L 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.

BOLT TORQUE CHART

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

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).

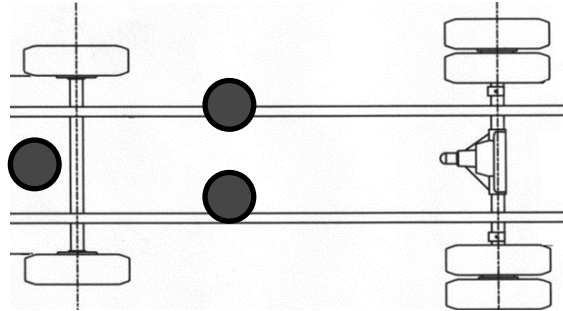
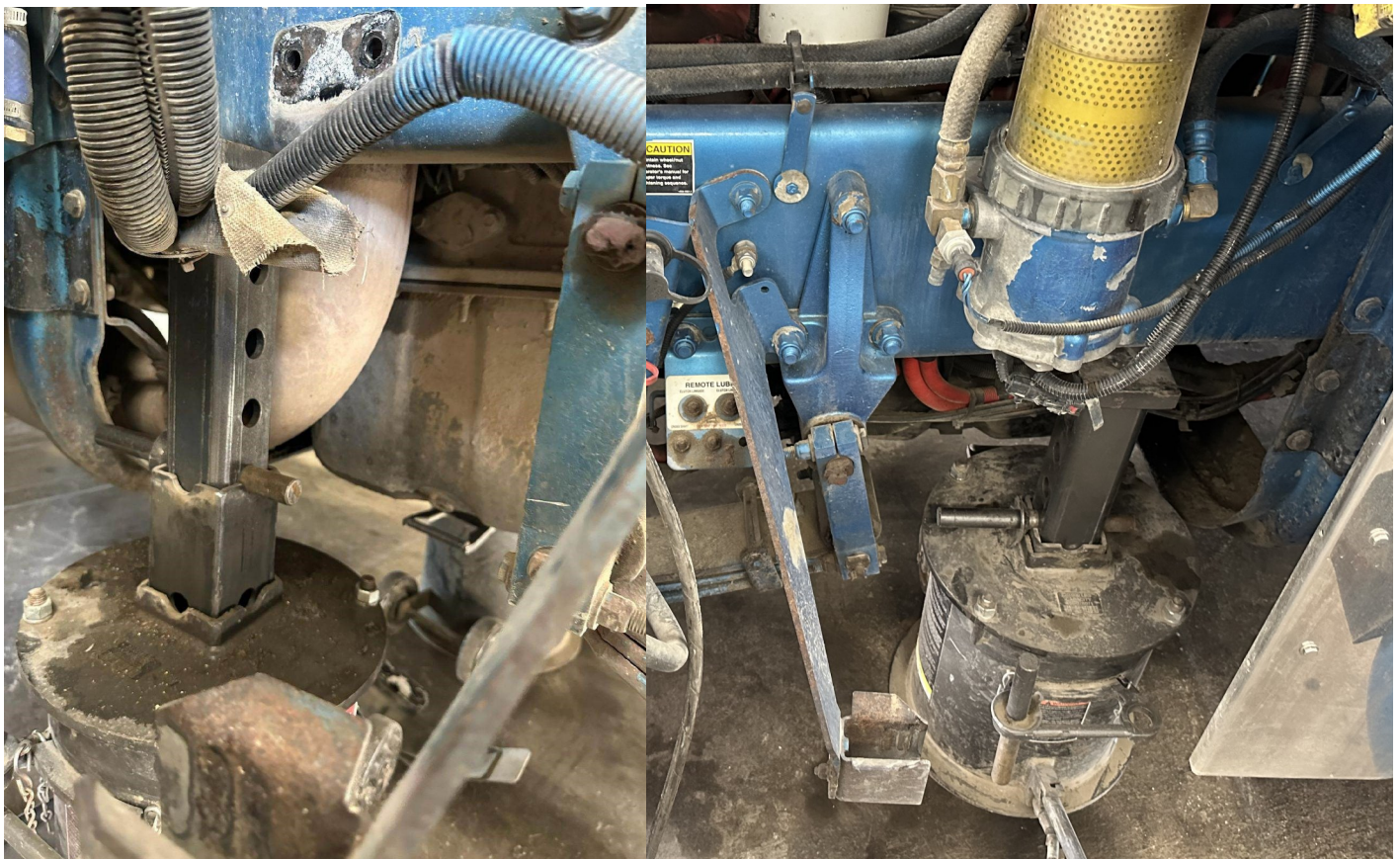


Figure #1-3: shows approximate locations of jacks
front dot is on frame or strong points of truck.



DISASSEMBLY

1. Start by disassembling the main parts of the semi suspension. This will include Shocks w/ Stud, Leaf Side Bars, Leaf Spring, Brake Sensor w/ Brackets, Castings, and Bump Stops. Note: You will want to cut off bump stops and hucks holding the brake sensor to the Truck and tie the brake sensor up to avoid damaging the lines.

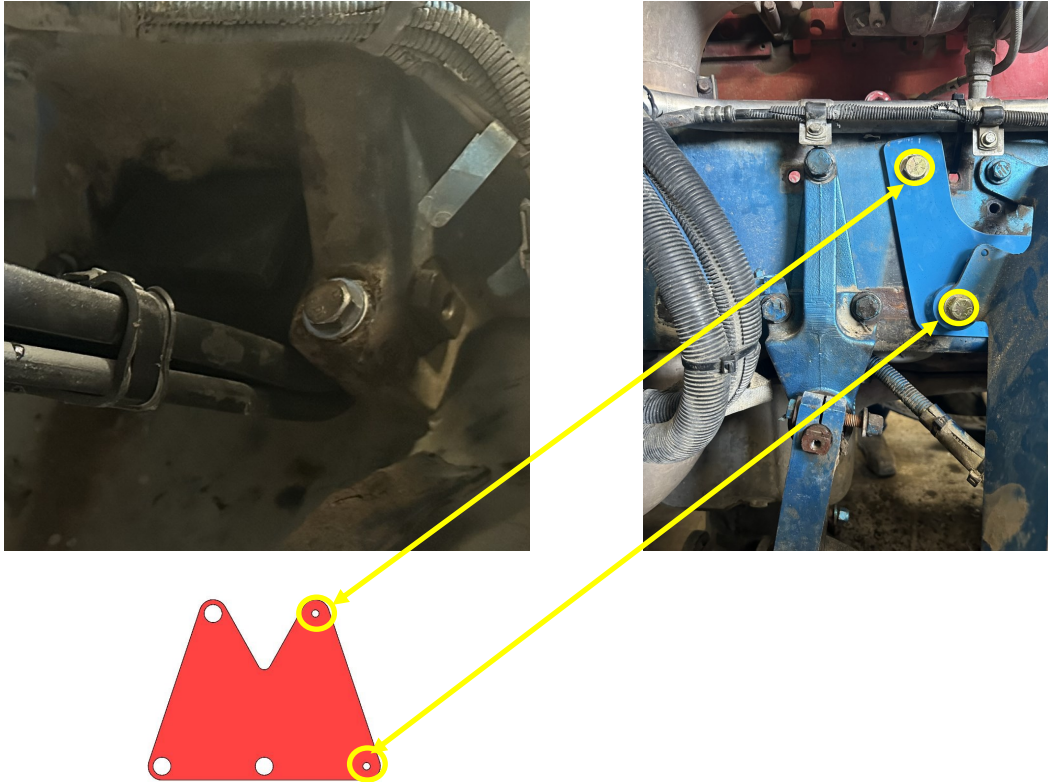


Preliminary Check: First start by grinding off the end of the pitman arm knuckle to prevent it rubbing on the bag or lower bag mount. Next, Check the bushing and castings and make sure at this stage of install replacements are not needed.



ASSEMBLY

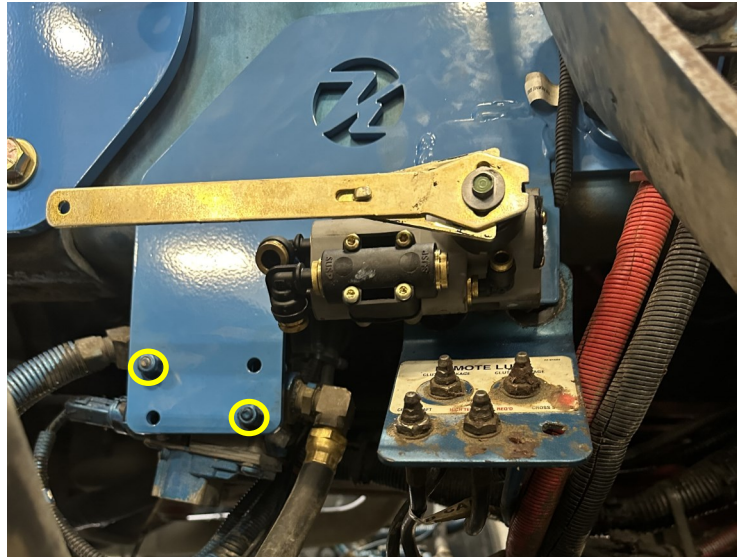
2. First, Install Casting using the drill template provided. Then, install front spring bushings and pins into leaf spring. Next, Install leaf spring using factory mounting point on the front of the truck and reinstall with factory side bars for the rear.



3. Install upper bag mount using 5/8" hardware. Note: The 3 inch bolt is used for the upper bag mount. Use it on the far hole towards the front of the truck. Cummins Engine when drilling holes for upper bag mount, you will need to drill through the motor mount bracket.



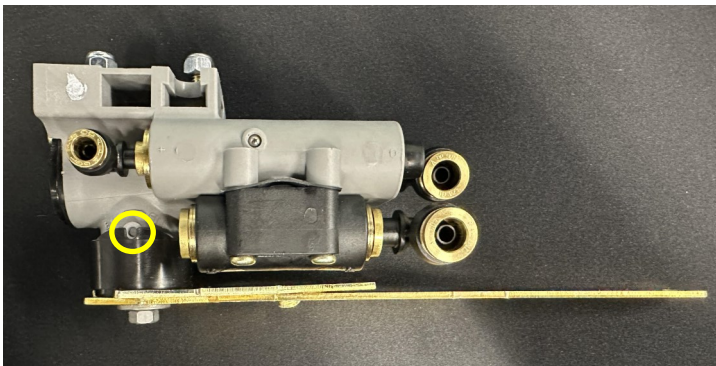
4. Install height control bracket using 5/8" Hardware. Note: The 2" bolt will be used for the top hole of the bracket. Next, you will need to reattach the brake line bracket to the new bracket using the bottom four holes.



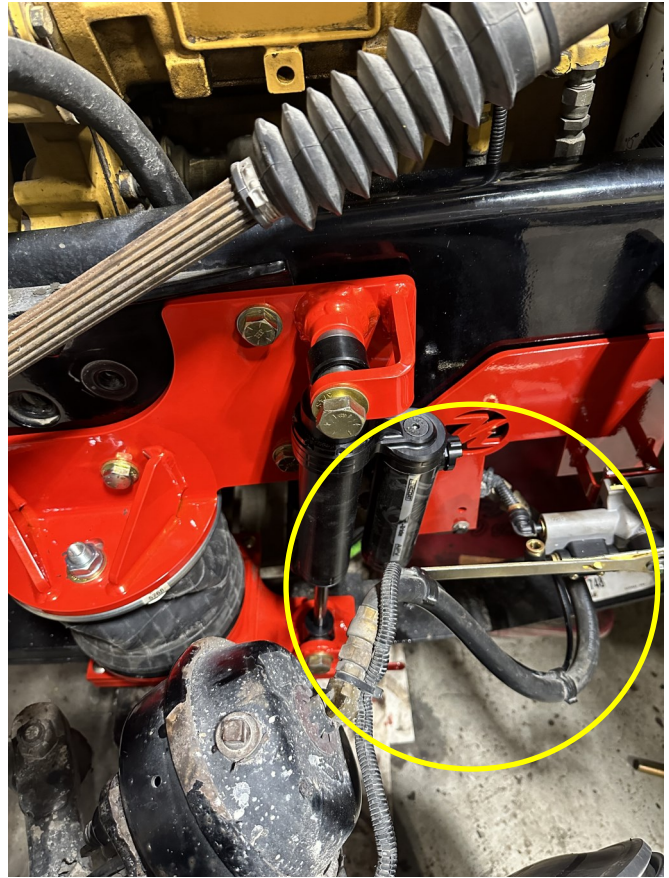
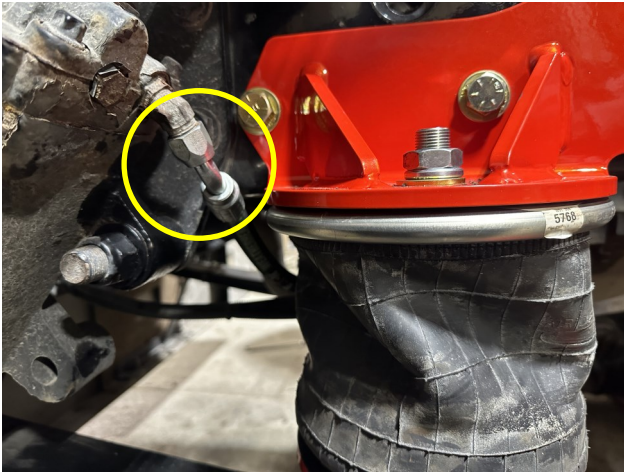
5. Install lower bag mount using the U-Bolts provided. Next, attach the bag to the bag riser using the 1/2" hardware provided. Next, install the bag/bag riser onto the lower bag mount using the 3/8" Carriage bolts provided. Once the lower bag mount is installed you may install the shock using shock spacers and 3/4" Bolts. Lastly, you will want to use the 3/4" hardware to fix the top of the bag to the upper bag mount.



6. Height Control Valve Installation. Set air bag at 8" between the mounting brackets. You can use the jacks or manually inflate the bags. Now, Install the height control valve facing the gold lever on the driver side towards the front of the truck. 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.*) Now, Using the 3/8" air line, make a line connecting the suspension port of the height control valve to the bag on both sides. Then, use the 3/8" Straight union to attach the line to the bag. Note: You will need to place the orange plug into the other side of the suspension port. Lastly, you want to use the 3/8" line and run from the supply of one height control to the other. This line should run across the front of the engine chassis harness. You want to Tee from the two supplies into the air dryer/tanks. Note: Use a 90 Deg fitting from the dryer/tanks.



7. Lastly, you will need to replace the brake lines. Also, you may need a 45 Degree adapter to prevent contact with the air bag.



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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