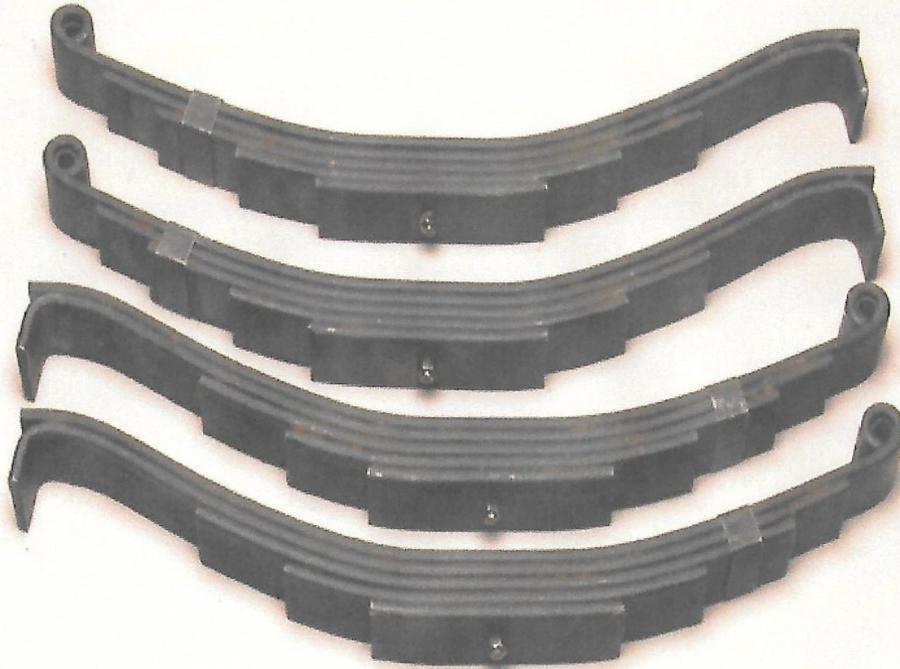


Liberty Rider System Installation



When ordering system specify 6, 7 or 8K Axles.

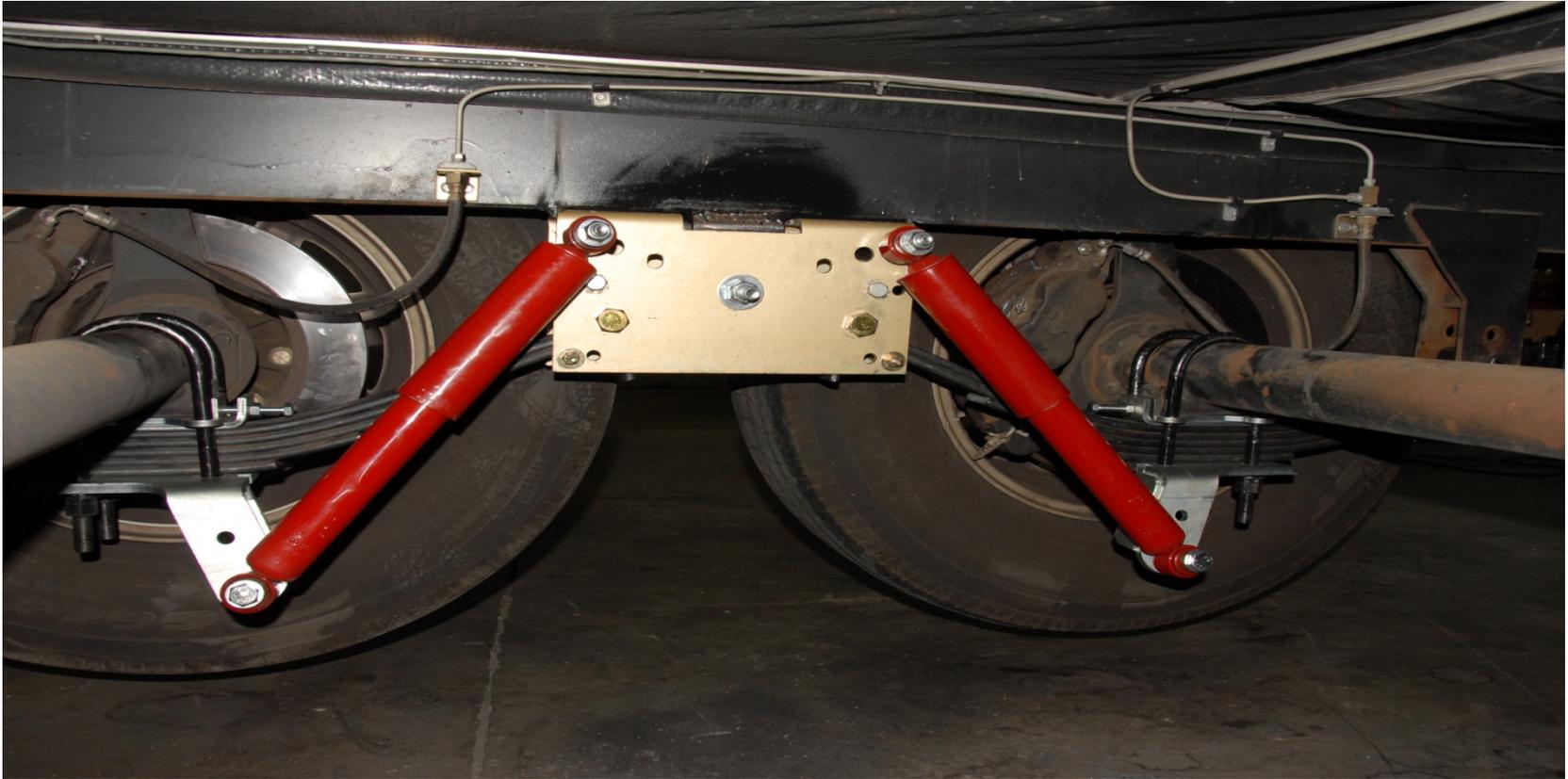
Patent Pending
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Each Double axle kit contains the following:

4 Special Slipper Springs with Titan spring eye Bushings. 1 Hardware Kit.
4 Titan roller Bushings. 8 Titan Washers. 4 Special Spring Tie Plates. 4 Heavy Duty shocks. Special order for Triple axles.

1. Before starting Job inspect Frame and all brackets for undue wear and cracks.
2. Measure U-Bolts to make sure they can be used. Also U-Bolts need to have at least 1 inch of thread showing above Nut.
3. Trailer should be supported with rated stands for the trailer.
4. Caution should be taken while working under trailer.
5. Axles will need to be supported so as not to fall.
6. **All measurements for upper shocks mounts location are to be made while trailer is on the ground. The wire around the shock holds the shock at half way up and down. Number one cause of system failure is shocks are mounted in wrong location which does not allow enough stroke which will break shocks and mounts. If installing system while trailer is off the ground and axles are hanging down you will need to cut the 50/50 wire to let the shock extend out to make your measurements.**
7. **The shocks have more stroke than needed. You can compress the shock ½ inch either way and still have plenty of stroke.**
8. The Liberty Rider mount can be drilled or welded on.
9. **If any questions need to be asked please call Sonny at 574 370 4515. 7 days a week 7 to 7 EST.**

Typical Liberty Rider Installation



Key to this improved shock operating angle is the patent pending new tie plate and bracket extension



1) The first step can be done on the bench. Begin by attaching the shock mount extenders to the right and left shock-mount assemblies.

Upper Shock Mount Bracket

Adjustable Extension Bracket for Lower Shock Mount

New Tie Plate and Lower Shock Mount

2) The adjustable bracket system is designed to fit most single, double and triple-axle suspensions, above or below the leaf springs.

When installing on system that the axle is above the spring do not install Extension Bracket.

3) Using 1/2-inch carriage bolts and Nylock nuts, install the shock mount extensions for the Joy Rider to both the right and left shock mount assemblies and tighten firmly.

From here, the rest of the install is under the trailer.



Remove the tie plates and U-bolts from the leaf spring assemblies; hold on to the U-bolts.

On some trailers the U-bolts may be either facing up or down. You will assemble the way it was removed with new hardware. Inspect U-Bolts and replace if needed.

Remove old springs and save U-Bolts. Inspect U-Bolts and if needed Replace with new ones that are rated for the axles. Remove old equalizer and discard. Install Liberty Rider on to the center equalizer hanger. Install spacer between hanger and install bolt and nut and washers loosely. Align Liberty Rider with frame and mark and drill pilot holes thru frame using the 4 holes in Liberty Rider Bracket. The 4 holes are slotted for different size frames. You can fore go the bolting if welding bracket on. Drill holes to 11/32 on thicker frames and 21/64 on thin frames. Install 3/8 self threading bolts until tight do not strip bolts out. If this happens then install a grade 8, 3/8 bolt with washer and Nylock nut. Tighten the center bolt until tight do not over tighten and squeeze the bracket so springs do not fit. Measure your front hanger from frame to hole in hanger. Install the 2 Titan roller bushings in the 3 or the 5 hole so spring will at same level and the spring eye hanger. Install the Titan roller bushings with two Titan washers on either side of Titan roller bushings. The Titan washer will keep the spring from rubbing against the Liberty Rider Bracket.

Install springs into hangers using bolts removed from old spring eyes. You may need to spread old hangers to make room for new hangers. Make sure nuts are tight but leave a very small gap between spring and hanger so it will move. Install spring into Liberty Rider center bracket and install bolt thru bracket to hold spring from falling. Make sure spring is under the Titan roller bushing. Tighten spring stop bolt until tight. Do not over tighten and squeeze bracket. Inspect all bolts and make sure the are tight.

Install U-Bolts over axles and thru new heavy duty tie plate. Use an alternating cross pattern with an accurate torque wrench. You may need to squeeze U-Bolts to get thru holes in new bracket.

Carefully tighten the U-bolts to the Axle MFG torque specs.

Do not over tighten, excess torque will damage the axles.

Install upper shock using the 12 M bolts and nuts. Put a washer over bolt and install bolt thru the upper shock eye. Install the $\frac{1}{4}$ spacer washer over 12 M bolt. Install thru the upper outside bolt hole in the Liberty Rider Bracket and install Nylock nut on bolt. Install the lower 12 M bolt in lower shock hole. Repeat the same on lower hole as upper. After shock is installed tighten both lower and upper bolts to 30 foot pounds. Lower trailer to the ground and check shock stroke. Compressed shock is $10 \frac{3}{4}$ and extended is $17 \frac{3}{4}$

