

Adjustment of the torsion bars can correct the effort required to raise or lower and latch the shells, and also how smoothly the shell raises and lowers. As the torsion bars age, they will experience a small loss of spring tension over time. Consequently, the torsion bars may not provide equal lift on either side causing the shell to bind from side to side.

NOTE 1: to change the *curb side lift*, adjust the *street side bolt*. To change the *street side lift*, adjust the *curb side bolt*. If you look underneath your trailer, the lift arm is connected to torsion bar which is always adjusted on the opposite side of the trailer.

NOTE 2: You may need to clean the threads of the torsion bar adjustment bolts using some penetrating fluid. Raise and lock the shells of the trailer, back out the adjustment bolt 5 or 10 turns counting the turns as you do so, apply some antiseize, then turn the adjustment bolt the same number of turns back in.

NOTE 3: Always make your adjustments with the shells raised.

1. Inspect all bolts associated with the torsion bars:

a. tension adjustment bolts must have the washer and worm-gear clamp.



Worm clamp in place
Missing washer



Washer in place

b. lift arm bolts must be tight.



Lift arm bolts

c. torsion bar bracket must be secure to the bottom of the trailer.



Torsion bar bracket

2. Inspect the shell height:

a. Raise the shell and measure from the bottom of the lift arm inside the pocket stop to the bottom edge of the trailer. This should be 39.5".



Measure from the bottom of the lift arm inside the pocket stop

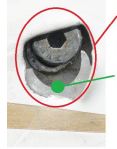


Measure to bottom of trailer (39.5").
(I set mine to 39.75" to compensate for partial pocket collapse, discussed later.)

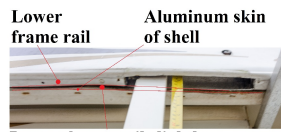
- b. I believe the addition of an awning after the original sale of my trailer added weight that may have caused a pocket stop collapse in the front shell of my trailer. The rear shells show no sign of any collapse. I have noticed that if the front lift arm is too low, the door halves will not be parallel to each other when the door is closed. If you must increase the front shell height past the 39.5", remove the top rearward bolt of the front lift arm so that you can see the torsion bar inside the lift arm, and that it does not slip below the lift arm bolts. (Top right bolt for front curb side lift arm, top left for street side lift arm). ***If the wrong bolt is removed, you will have to remove the entire lift arm from the shell which is much more work!***



Partial collapse of pocket. Note bulge.



Pivot bolt rising higher than outer skin hole
Pivot bolt is supported by a thicker aluminum sheet inside pocket.



Lower frame rail slightly pushed up inside shell



Top rearward bolt removed. Torsion bar is visible during this process.

3. Front shell center: lower and latch both shells, then unlatch the front shell only. Observe how far it rises at the center latch. It should rise equally about 6-8" from the latch.
 - a. If it rises unequally, (for example 8" one side, 6" the other), identify the higher side. Fully raise the shell and reduce the tension 1/2 turn from the opposite side until it rests equally.
 - b. If it rises evenly but more than 8", fully raise the shell and reduce the tension on both sides by 1/2 turn each. Ensure both sides rise equally at about 8" when unlatched. It is more important that each side rises equally.
 - c. The shell should latch fairly easily into the center latch. If not, try reducing the tension on the center lift arms 1/2 turn each until you can latch them fairly easily. It will take some effort, but you shouldn't need pry bars.
4. Front shell front: lower and latch the shells, then unlatch the front shell only. Observe how far it rises above the bumpers on the frame. It should rise about 4".
 - a. If it is uneven and one side is less than 4", increase the tension of that torsion bar from the opposite side by 1/2 turn until it is about 4". If it is greater than 4", reduce the tension from the opposite side.
 - b. Repeat until both sides are about 4". It is more important that it rises equally.
 - c. If you need more lift effort, you can now increase both sides by 1/2 turn each until you have the desired lift effort. Make sure both sides are even.
5. Now raise the front shell fully, then lower but do not latch. Observe how it lowers:
 - a. if it tips to the street side as you lower the shell, increase the tension for the front curb side torsion bar, or decrease the front street side torsion bar.
 - b. if it tips to the curb side as you lower the shell, increase the tension for the front street side torsion bar, or decrease the front curb side torsion bar.
 - c. ensure the front rises about 4".

For NEW torsion bars:

6. If you have NEW torsion bars, all 4 torsion bars should be backed off completely and the shell raised and lowered/latched about 4-6 times to exercise the new torsion bars. New torsion bars typically have a lot of tension in them. Lowering the shells will be difficult for the first few times. You can make this easier by raising the front of the trailer with the tongue jack so that gravity will help you lower the front shell. If you are replacing rear shell torsion bars, lower the tongue jack to lower the front of the trailer. Again, gravity will help you lower the rear shell. Now go to step 1.

Once these adjustments have been completed, fine tuning can be accomplished by turning the torsion bar tension adjustment bolts 1/2 turns each, in left/right pairs to increase or decrease the lift or close efforts.

7. Adjustment of the rear shell is done in a similar manner.
 - a. Remember that the left side is always adjusted from the right side torsion bar and visa versa.
 - b. If you must increase the shell height of the rear shell above the 39.5 specification, you may wish to remove the top forward bolt of the lift arm (top left bolt of a rear left lift arm, top right of a rear right lift arm).