Shortening a 4’x8’ Bolt Together Folding Utility Trailer to 4’x6’
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Objective-
I wanted to create a camping trailer for my family to enjoy the outdoors. For this, I set a few guidelines to follow:
1) The trailer had to be light weight to be towed by my Subaru Legacy sedan.
2) There needed to be sufficient room to sleep 2 adults and 2 children.
3) The cargo area needed plenty space to pack our camping gear.

After brainstorming, the best solution was a 4’x6’ flatbed utility trailer with a wooden cargo box and a rooftop tent. The cargo box, measuring 48” wide, 72” long and 22” high, mounted to the trailer frame. The tent unit mounted on top of the cargo box. Compact Camping Concepts had the Family Size Mombasa tent that was a perfect size for my needs. It featured 46 square feet of padded sleeping area, yet when folded away it was only 47”x71”x12”.

There were 3 options for a 4’x6’ trailer:
1) Buy a commercially built 4’x6’ trailer. The trailers I found weighed too much (400+ pounds), were too heavy duty (1 ton), and were very costly ($700).
2) Have a welding shop build a 4’x6’ trailer. The design was lighter weight but it still cost around $700.
3) Modify a 4’x8’ bolt together utility trailer to 4’x6’. The kit was $229 on sale at Fred Meyers and weighed about 225 pounds.

I picked option 3. I had the same bolt together trailer and still used it as a 4’x8’ utility trailer. The bolt together trailers are very versatile, lightweight, and easy to build. Using my existing trailer, I figured out how to modify the 4’x8’ frame to 4’x6’.

The following procedures demonstrate how to modify the Fred Meyer, Bi Mart, Redtrailers.com, or Harbor Freight 4’x8’ utility trailer to a 4’x6’ frame.
Front Section Assembly
(Left or right is always considered from the rear of the trailer)
Build the front section of the trailer frame. Bolt together the 2 front side rails and 3 cross members to make the front 4’x4’ section of the trailer. Add the connecting rails, tow bar brackets, and the tow bar as shown in the instructions.

*Tip* This task was easiest when the frame was upside down.
Modification and Assembly of the Rear Section
To make the trailer 4’x6’, the front 24” of the rear section needs to be removed. Measure 24” from the back of the rear side rails. Mark 24” and cut each rail at that point. The cut will be through 3 bolt holes in the side rails. Line up a cross member even with the cut and mark the side rails for the new bolt holes. Use the upper bolt hole in the end of the cross member. Drill the 3 bolt holes in the front area of each side rail. Bolt two cross members to the side rails to make a 2’x4’ rectangular. Do not put the bottom bolts in the front, bottom corner holes.

*Note* Notice the bolt sitting higher to clear the spring hanger
Spring Hangers
For correct trailer balance, the axle needs to be moved forward from its stock location. Switch the spring hangers from right to left and left to right. **From now on, the spring hangers will stay switched and be oriented that way on the trailer.**

There are three holes on the rear 7 3/4” of each spring hanger; two on the bottom and one on the side. Line up the front corners of the 2’x4’ rear section to the bottom spring hanger holes approximately 7 1/4” from the end and bolt together. Use the spring hangers as guides to drill the other two holes in the side rails. Bolt together and the spring hangers and rear section are now one unit.
**Joining the Front and Rear Sections**

With the front upside down, lay the rear section upside down behind it. Slide the two halves together so the spring hangers overlap the front section side rails. The front of the rear and rear of the front cross members should be touching.

Use the existing stake pocket holes to bolt the two joining cross members together.

Use the existing holes in the spring hangers as drill guides. There will be 2 bottom and one side hole in each spring hanger. Drill and bolt through each hole. On the inside of the front side rails, there is a hole about 6” from the rear of the section. Drill through the spring hanger and bolt. The front section is now held to the spring hangers by four bolts on each side.
Suspension
The suspension is stock from here on. Follow the instruction guide and finish bolting the trailer together. The leaf springs still mount with the slipper ends towards the rear of the trailer and the axle mounts to the leaf springs.
*Advised Upgrades and Modifications*

*Advised Bearing Grease Upgrade*
The stock bearing grease is not suited for use in trailer bearings. Prior to installation, wash the bearings in solvent to do away with the stock grease. Repack the bearings with trailer or marine grade grease and install the hubs according to the directions.

*Advised Tire Swap*
Switch the 8” wheels/tires to 12” wheels/tires. The larger diameter tires spin 25% less creating less wear on the bearings. The trailer will also ride smoother and more level with an increased height of 2”.

*Advised Raised Fender Height*
In switching to 12” wheels/tires, the fender height needs to be raised. Redtrailer.com sells 9” high fender seats that raise the fenders 1 13/16”. If you don’t want to buy new fender seats, use the stock 7 3/16” fender seats and drill holes higher in the trailer side rails. Either option keeps the tires from rubbing the fenders.

*Advised Coupler Upgrade*
Switch to a 2” ball coupler. There are 2 reasons why:
1. The supplied 1 7/8” coupler is poor quality. When adjusted properly it is difficult to latch and release.
2. Consistency between trailers. I have two trailers with 2” ball couplers and did not want to switch balls for towing certain trailers.

Buy a 2 ½” wide coupler with a 2” ball socket ($7.99 at Harbor Freight). Also buy (5) ½”x1” bolts, nuts, lock washers, and a ½” drill bit. Clamp the new coupler in place and use the front side holes and the three rear holes as guides to re-drill the tongue. Bolt through all 5 holes and the coupler is mounted. The top front hole can be drilled with a 3/8” hole to mount the supplied safety chains.

*Advised Spring Hanger Modifications*
Cut the caster base mounts off the spring hangers 1” before the bolt hole. This is for weight reduction and a cleaner look.

*Advised Stabilizer Jacks*
Stabilizer jacks are important for stabilizing the trailer prior to opening the tent. I used 2 pair (4) Atwood folding stabilizer jacks, one mounted on each corner of the frame. In travel, they fold up parallel with the front and rear cross members. When folded down, they stick out to the sides of the trailer and can adjust almost 6 inches; this helps level and stabilizes the trailer.

To mount, use the existing bottom corner holes of the trailer to mount the jacks. Then, use the jacks as a guide and drill a second 3/8” mounting hole in the cross members. Bolt the jacks through the holes.
**Lightening the Trailer**

In order to keep the trailer lightweight, there are some things not needed.

**Items swapped or added**
- Changed 8" wheels/tires for 12" +5#
- Changed coupler from 1 7/8" to 2" 0#
- Added 4 folding stabilizer jacks

**Items to discard**
- 1 cross member -7#
- Front 24” of rear side rails -7#
- Caster wheels -1.4#
- Cut spring hanger -3#
- Stake pockets -4#
- Caster bases -4#
- Hinge plates -1#

Changing, removing or not using these items lessened the trailer weight by about #. The trailer now weighs in at 200#. Structurally, the trailer is not be affected by these items being removed.
Final Thoughts
Performing 2 cuts and drilling 12 new 3/8” holes made shortening the trailer a straightforward process. The wiring was just like any other flat 4 wiring harness. I was able to finish the trailer in an afternoon and it gave me a perfect, light weight frame to start my camping trailer.