

Project Toy Hauler Patio

By Gary L. Mace

We really enjoy using our toy hauler ramp as a rear patio. We put our propane firepit there with a few chairs and it is the perfect place for morning coffee or evening cocktail. Sadly, the manufacturers do not make these ramp doors watertight so if left in the rain it can cause rotted wood. That means we are constantly putting everything away to close ramp in case it rains. That takes all the pleasure from using it.

Following are pictures with captions to show how I made our ramp door weatherproof. I then used my woodworking skills to make a lightweight set of rear doors so we can leave the patio setup for an entire trip without worrying as much about heat/cooling loss and security. The doors cost me about \$375 in materials and the actual weight added was only 110 lbs



The first step was to remove all hardware from the ramp door. I then peeled off the warning labels. You could tape these to a sheet of paper and save them in the owners manuals if you wish. Next, I used my hand sander to lightly sand the aluminum rails so they would hold paint better.

To better seal the ramp door, I decided to use Rust-Oleum truck bed liner. It can be rolled or brushed on and seems durable. I also considered that Flex Seal rubber coating all the rave on TV but that stuff can be pretty slippery when wet so not an idea choice for an inclined ramp one must ride a motorcycle on. This Rust-oleum truck bed liner has a sand mixed with it and dries with a grippy texture.





I first used a brush to gob the bed liner along the seams and over all bolt heads. I would suggest tightening the bolts first. We found several were very loose. I let that dry and did a second coat gobbing the bed liner along seams and over bolt heads. After that dried, I rolled on two coats with a rough surface roller. Your goal is to seal any path of water from the surface to the inside of the ramp door.

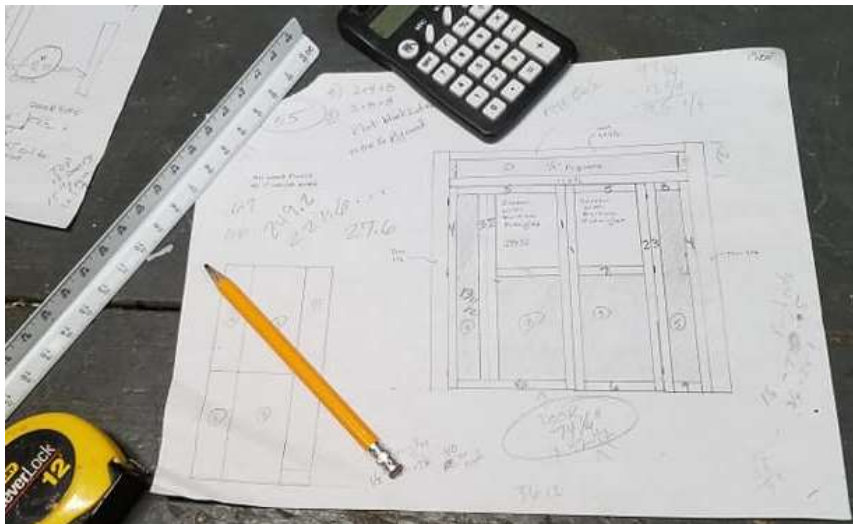


This photo shows what your goal should be. All seams and bolt heads are coated with a thick layer of truck bed liner. We will watch these seams over time and if we see any cracking, we will also add some black silicon chalking. But I do believe this stuff is durable enough that should not be needed.



The last step of sealing the ramp door was to use a bead of black silicon on all hardware and the mounting holes and reinstalling the door and cable hardware.

The second part of our patio project was to make some doors for between the RV and patio. Ours came equipped with a tent style wall with roll up windows and had to be zipped to enter or exit. Although better than the roll down screen, it still was inconvenient and did a horrible job of sealing our bugs keeping in heat/cool. We considered buying three seasons doors offered on many higher priced toy haulers but they cost in the neighborhood of \$3000 and we could never get a straight answer whether they would even fit our unit. So, I broke out pencil and paper then designed and built my own doors. My goal was to build something as lightweight as possible. I drew a design that used one large door and then a smaller door. The large door would be closed all the time except when loading/unloading. The smaller door would be what we use to enter/exit the patio area. With both open, we have about a 66" opening which is plenty to load our motorcycle or our side by side UTV. Why not just use two large doors? Space. The floorspace of the ramp door patio is small so a large door to enter/exit would eat up a lot of space that we could not put chairs or tables. But since I am tad bit OCD, it was important to me that the design be symmetrical looking even though it used two sized doors. For lumber I used basic 2x4's planed down to 1 1/8" thick, then ripped exactly in half to about 1 3/4". Nearly all framing is those boards. For panels I used 1/4" sanded plywood. The result is a sturdy wall of doors that total only weighs 110 lbs



Now what I can't offer you is a dimensioned set up plans and step by step instructions. I draw a concept with rough dimensions and measured and adjusted as I built. This drawing will give you a rough idea as to the concept. If your building skills end at putting Ikea furniture together, you may want to pass on this idea. 😊



The trickiest part of my plan was how to anchor this wall of doors into the camper. When they build these, they often only put sturdy wall supports where they know they will be needed. Our XLR 27QB was never intended to have three season doors so I am certain there are not wall studs in this area beefy enough to simply bolt into.

So, I opted for a free floating designed that would hold the main vertical support on each side between the ramp door frame and the rails for the Happijac bed system. The cross members you see are attached to the 1x6 but are not screwed into the walls anywhere. The top will be held in place by the header panel and the 1x6 are screwed into the flooring at bottom.

Next, I built the header panel that would go between the two free floating vertical supports. I screwed these together using pocket screws. This panel only weighed in at 14 lbs. You will need a second set of helping hands to hold this place as you connect it to the vertical supports.





Next, I constructed and hung the large door. I used slider locks to secure this door to the header and into the floor. I used 4 hinges for each door. I stapled screen to the window on the outside. For windows we used Acrylic Sheet shown below from Home Depot. Sturdy yet lighter weight and more break resistant than glass. This door with window and all hardware weighed in at 28 lbs.



With large doors hung. As you can see, I measured to be sure there was adequate space between folded patio rails and my doors when closed. In my case, that was 6" from Happijac frame to the 1x6 side support which also allows for enough clearance for the bed to raised and lowered.





I then constructed this small door and the side panel (not pictured) and installed them. They weighed in together at 31 lbs

To keep the window in place in sliding track, I made a very simple pin by inserting a 3/8" dowel into a 5/8" dowel. Simply remove the dowel to lower windows, insert it to secure window closed.



The reason I ended up planing my 2x4 lumber to 1 1/8" that was as thin as I felt I could go and still route a 1/4" groove for the plywood, a 1/4" groove for sliding window and still have enough left for strength.



Set up for use. Note that small door does not use up entire ramp area to open.

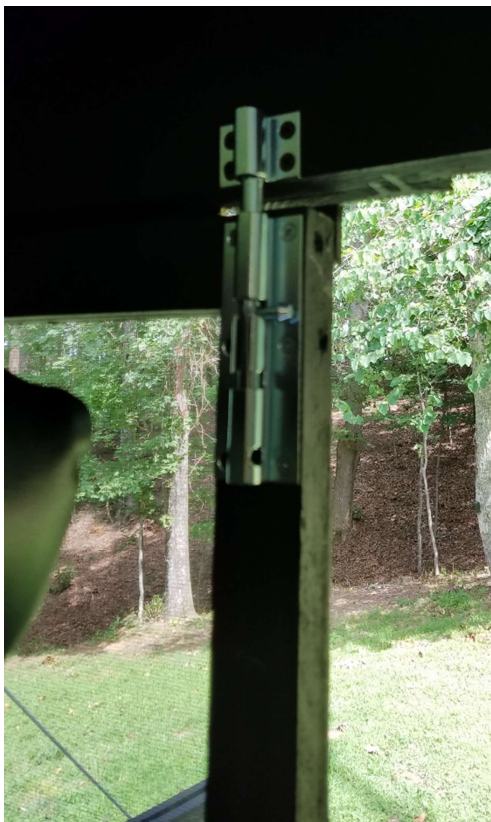


Both doors open for loading. With the way our hauler is made, this is as wide as I could load anyway.





We mounted black vinyl blinds to the outside for privacy when desired. Could be done inside but it would be a very tight fit between drop down bed.



Both doors lock into header with slider locks. The large door also locks into a hole in floor with a slider lock. Both doors are cut about $\frac{3}{4}$ " above floor to allow for flex. I filled this gap using brush type door seal.

I used a steel washer screwed into the floor around the lock hole to prevent damage as the door moves during transit.

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