

Transporting the Shay

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The Shay is ready for the first run at the track. But first, the ~ 500 pounds must be moved from the basement workshop to the track. I've put together this page to show at least one way to do the transport. Recall that I'm a novice so this was all new to me.

Tracks: The shay will be transported in my Ford Escape, a small SUV. The back seats will be folded down to make room for the equipment. The first step was to put together some tracks; a longer track for the engine and a short track for the tender. The tracks were made from 2X4s as shown in the photo. The front of the longer track rests on the folded down right seat back. The 2X4 at the very rear is beyond the 2X4 tracks to support the loading/unloading track. The center cross 2X4 is lodged against the seat back hinges to keep it from sliding forward.



Moving from basement to driveway: My son agreed to help move the shay from the basement workshop to the driveway. There is a walkway from the basement outside entrance around the house to a small deck at the front. Moving the shay on the hydraulic table was no big problem except for the effort to push the ~600 pounds up the incline. The three steps at the top however were a challenge. I told my son no big deal --- but he was skeptical. The locomotive was rolled to the rear of the table and then the front end of the track could be lifted together with the front wheels onto the step. The locomotive was then slid to the front and the back end was lifted up and on on the step. Fortunately the step was wide enough to hold the 4 wheels.



One more step and we were on the driveway. About 5 minutes from basement to drive.

Note that this scheme moved the weight of the locomotive over the set of wheels that were not lifted leaving only half the weight of the table over the wheels to be lifted. The track was essentially a lever to further reduce the weight to be lifted.



The hydraulic table was then rolled to the back of the Escape and raised to match up to the 2X4 tracks and then slid into the vehicle and the table lowered to set on the rear cross 2X4. The locomotive was then easily rolled onto the wood track. This took a couple more minutes. My son said "that was much easier than I expected". I told him "it was well planned by an engineer". He wasn't impressed.



A 2X2 block was screwed to the left 2X4 track just ahead of the foot peg. (This will be revised later since the foot pegs proved to be too low.) This will keep the the locomotive from moving forward. Bungee cords were then used to secure the trucks to the 2X4s. One bungee was positioned so as to hold the locomotive against that 2X2 block. This should keep the locomotive steady during normal driving.



The right rear seatbelt was then fastened over the boiler to keep the locomotive from shooting forward due to a sudden stop. This puts new meaning to "buckle in something you love". The towel is to keep grease off the the belt.



The tender track has a 2X6 front support fastened to the tracks by shelf brackets. There is a 5/16" stud with wing nut to secure the front of the tender. The tender truck was also fastened down with bungee cords..



This shows the loaded shay. Note that the spare tire (and jack) was removed from the compartment under the tracks. There is room for a 5 gallon fuel can and a bucket of tools to the left of the tender.



Unloading: The ~one hour drive to Mill Creek Central Railroad went smooth. MCC has a convenient unloading arrangement directly onto the transfer table. This photo shows rolling out the tender.



The table was then rolled over and aligned with the locomotive.



The locomotive also slid out easily.





The shay has arrived! All that is needed is to connect everything together. The Wal-Mart bag on the tender is an "economy" cover for a foam cushion. That's Dick McCloy, MCC President observing.

The return ride went smoothly too. Loading took less than 5 minutes and the same to unload back home.

The tender securing arrangement consisting of the stud in the front and the bungee cord across the rear of the truck seems to be a good long term solution.

The locomotive securing arrangement also worked well and is satisfactory for a while. However, the wood block stop ahead of the left foot peg won't work after the foot pegs are raised. The bungee cords are also a pain to put on and take off. Dick McCloy suggested a dummy coupler in the front. Another possibility is to make something that clamps the two trucks down. Will come back and update this when I get that all figured out.

Update: The wood track unit worked out quite well. It's fairly light so it's not too hard to remove and reinstall. A cross brace rests against the seatback hinges which will keep the unit from sliding forward if the back of the unit is prevented from lifting up. The photo shows a fixture that connects the wood unit to the spare tire hold-down bolt. This will hold the wood track unit down and against the seatback hinges.



Locomotive front restraint: The bungee cords worked pretty well but were a chore to connect. The fixture shown on the right was made to restrain the front of the locomotive. The vertical bar in the center was machined to accept the front coupler. (I've been told 3/4" angle will also work.) The bar across the top supports the bar and also prevents the coupler from sliding up in the case of a sudden stop. The locomotive is rolled against the bar with an open coupler. Once the coupler closes and latches, the locomotive is secure.



Locomotive rear restraint: The end of the threaded rod of the fixture shown on the right slides through the hole in the locomotive - tender coupling. The wing nut is then tightened down to hold the locomotive against the wood rails. The threaded rod is bent to fit around the brake link.



With the added fixtures, the locomotive and tender can be loaded and unloaded in a couple minutes.

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