

## Shay Cab - Shelf & Platform

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The plan was to go back and add to the first Cab page as additional work was done on the cab. However, it is now clear that the design of parts of the cab are heavily dependent on the layout of the plumbing and it is normal for one to fabricate sections of the cab in coordination with construction of other areas of the locomotive. The new plan for the Cab documentation is to cover the cab in the following three short pages:

- The cab sides
- Cab shelf over the rear cylinder and platform over reversing gear
- Cab roof, floor and walkways

This is the page devoted to the shelf and platform. These parts are integrated with the plumbing because the brake valve and whistle valve will be located on the shelf and the atomizer regulator will be located under the platform. From a maintenance point of view, it is desirable to be able to access each piece of plumbing without disconnecting other plumbing. For example, one wants to be able to access the plumbing under the cab floor without disconnecting the brake and atomizer plumbing. Conversely, one wants to be able to get at the brake and atomizer plumbing without disconnecting any of the water or steam plumbing. These concerns have led to the following cab disassembly features:

- The cab front, sides and roof can be removed as a unit without disturbing any plumbing. Once the 8 screws are removed, the cab can be lifted off vertically.
- The cab floor can be removed after the cab front and sides have been removed by taking out an additional 7 screws, sliding it back about one inch and to the left about 1/2 inch.
- There are screws from the cab front and sides into the platform/shelf unit. However, the platform is also anchored to the frame via the reversing gear stand so that is supported after the cab sides and front as well as the floor have been removed.
- Access to the atomizer regulator ( a likely high failure rate component) is via the cover over the platform. That cover can be removed without taking out any other parts.

**Photos of Cass Shays:** Photos of some of the Cass shays were reviewed before starting the platform and shelf. This is a photo of the shelf on Cass 5. They were doing maintenance on the locomotive when this photo was taken; that's probably not the normal storage location for the tool box.



This shows the back of the shelf on Cass 5. Plumber's delight!

I couldn't find a photo that shows the overall platform over the reversing gear on Cass No 5. This is the platform and engineer's chair on Cass No11.



This is the side of the platform on Cass No 5, taken to record the platform height (On the original uncompressed photo it's easy to read ---- 17" high).



The Cass No 5 platform width --- 34"



The Cass No 5 engineer sets on a box rather than the fancier seat with back on Cass No 11 shown earlier. I didn't look in the box but suspect it holds lunch, coffee & donuts, roadmaps, etc.



**Shelf & Platform:** The shelf and platform were fabricated from ~0.100 thick HR sheet steel. The brass fitting in the photo is a prop to hold the shelf horizontal for the photo. The shelf top and back were made first, fitting between the cab front, cab side, and the boiler. Pieces of 1/8" square rod were silver soldered to the edges next to the cab front and side edges to give sufficient width for screw holes. Holes for #1 button cap screws were drilled and tapped in four rivet positions near the corners. The self top and back were silver soldered together.

The platform cover and outer back were also silver soldered together.



This shows the platform cover in position. There are two platform backs, the inner one attached to the platform side and the outer one attached to the top.

Silver soldering tip: The assembly was put together a few pieces at a time. The pieces were held together with 1/16" roll pins for the silver soldering. For example, the 1/8" rods were first soldered to the shelf top and shelf back and then the top and back were soldered together in a separate operation.

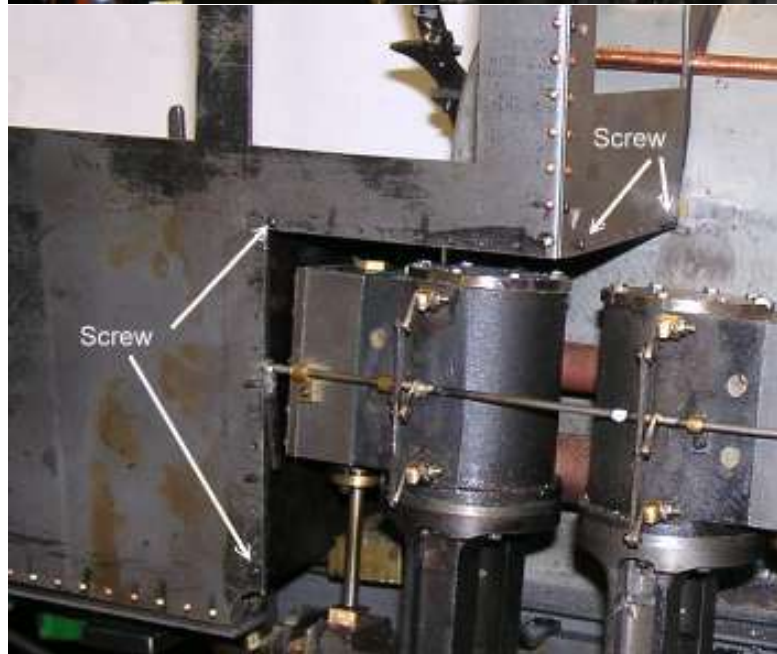


The platform side is attached to the reversing gear stand with a couple # 4 screws.

The platform side and the shelf back were joined using screws through a short piece of 1/2" angle. After the assembly was installed and adjusted as required, the assembly was removed and the joint between the platform side and the shelf back was silver soldered.



The shelf is attached to the cab with screws through the cab front and side using button head cap screws that look like the rivets.



This shows the inside of the cab with the platform top removed.



The platform top is in position here.

Comment: The shelf is much thicker than the cab front and side because it must remain rigid when supported only by the the platform side screwed to the reversing gear stand. The edges are not visible so the extra thickness is hidden. The platform on the prototype is made from wood so the 0.100" plate is roughly to scale.

Holes have been cut in the cab floor and then the configuration changed so that some holes are no longer needed. Also, the cab floor ended at the back of the boiler. It now appears that a better design would be to run the left side of the cab floor up to the front of the cab. A new cab floor will be made after the locations of all holes are firm. (This is one area where I don't want to follow the prototype by putting little patches over unused holes.)



The next step is to mount the atomizer regulator in the platform and to work on the burner.

[Shay Project](http://www.nelsonslocomotive.com/Shay/Cab/Shelf/CabShelf.htm)  
[NLW Home](http://www.nelsonslocomotive.com/Shay/Cab/Shelf/CabShelf.htm)

