

# Replacing the Deck Hand Rails

After almost 25 years the deck hand rails on Sea Dragon have been sanded so many times there is little left of them. While considered replacing the teak hand rails with stainless steel, I really like the look of teak.

The first step was to find replacement hand rails... Not an easy task. Sea Dragon has two (2) sets of hand rails:

*They are two (2) hand rails forward with  
3 loops on 13" centers made of 1 1/16" stock 2 1/2" high by 42"*

*And two (2) on the cabin top which have  
5 loops also on 13" centers made from 1 1/16" stock 2 1/2" high by 68"*

As I searched for replacements, I was able to find several companies that produced standard hand rails but all were made with the loops on 11" centers. I talked with several shops that would make custom hand rails and the prices ranged from \$500.00 to \$1,400.00. Then fellow Pearson 365 owner, Don Woodruff, who offered to make hand rails. I took him up on the offer and just days before Christmas four (4) beautiful hand rails showed up on our front door step.... Just like Santa.



As you can see the hand rails on Sea Dragon have been sanded and finished one time too many. Yes that is the bolt showing sticking out of the top of the rail.



In addition to have an odd dimension for the distance between loops the ends are different length.

The aft end is shorter at 3" and the forward end is 3.5".

**Aft end of both Rails 3"**



**Forward end of both Rails 3.5"**



The loops on the *Sea Dragon* are on 13" centers.



Above you can see the new hand rails.. Note the rails are NOT flat on the bottom but cut at an angle to match the slope of the coach roof so that they sit vertically.

Below you can see the new hand rails next to the old rails.



The forward rails are easily removed by simply unscrewing them from the V-berth (head & Saloon)

However the aft hand rails are through bolted with the interior hand rails... To remove the aft rails I had to find the screw heads which are hidden under plugs. To do this, I drilled a pilot hole through the plug. next a long screw is screwed into the hold until it strikes the hidden screw. Once contact has been made, I slowly tighten the screw and the plug will slide out.

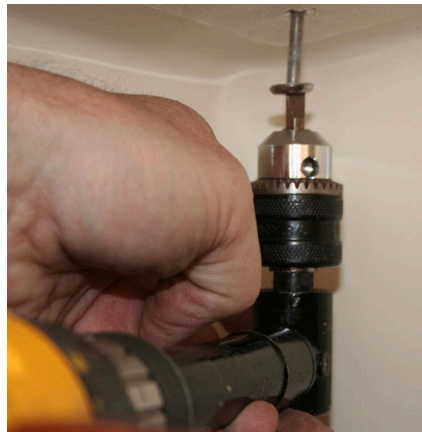
One of the things I am considering is NOT installing the new exterior hand rails directly above the interior rails. Instead I am thinking about moving the interior rails in board so that they are easier to reach. Now they are near the center of the settees and difficult for my wife to reach.



Once removed I noticed that differences in each of the contact points. Some were clean, while other clearly had a lot of dirt under them... This leads me to believe that the only way dirt can get under the rails is if water is running under them carrying dirt. This may be the source of my mystery leak I have been chasing for three years... Keep your fingers crossed.

After removing the rails I cleaned the area well and filled the holes with silicone sealant while I drill and finish the rails over the next few weeks...

Note: I marked each rail as I removed it as I will be using the old rails as the pattern to drill the new rails. And I have no idea if they are drilled the same... I would be bummed to mess up nice new rails.



One of the starboard aft rail's screw is in the dish rack and not easily reached. Using my hand-dandy \$4.99 [Harbor Freight](#) right angle attachment I was able to quickly and easily remove the last screw.



The first step was to clamp and align the original rail and the new rail so I could mark each hole to be drilled.

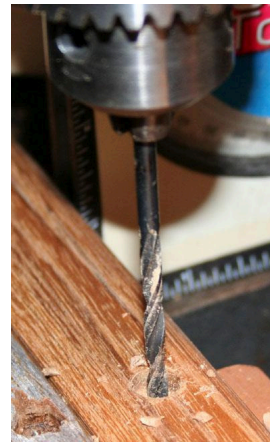
Using a square I marked each hole. Then I found the center of the rail.

Next the rails are clamped onto the drill press and using a 3/8" (1/8" drill bit) countersink to make the hole.





The bit was not long enough to drill all the way through the rail so a longer bit is chucked in and the hole is complete.



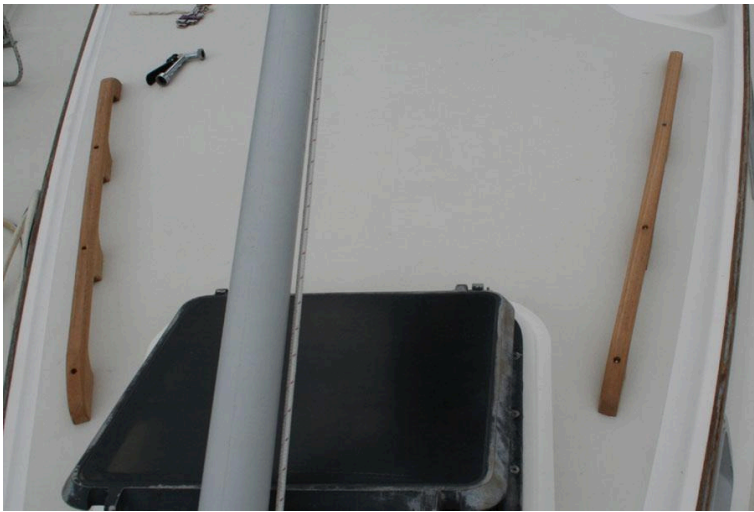
NOTE: the hole is enlarged to

In order to improve the seal I countersink each hole so that I will be able to create an O-ring like seal.



After several months of procrastinating, I finally installed the hand rails. With the first handrail I learned a very tough lesson. I had taken such care to drill the new handrails at 90 degrees only to learn that the original holes were anything but 90 degrees. It appears that the factory installed the handrails by drilling both the coach roof and handrails at the same time and only "eye-balling" the location and angles.

So I took them home and did the best I could to match the angles of the old handrails. This made it possible to finally align the holes and bolts & dry fit the rails.



After dry fitting the rails I cleaned the holes very, very well and inserted the nuts. Another lesson learned is that the smallest amount of wood will jam the threads of the screw & bolt. Each of the bolts and nuts on *Sea dragon* are 10 x 32 and anywhere from 2.5" to almost 6" in length. To set the nuts in the handrails, I simply placed the nut on spare screw and tapped it into place with a small hammer.



Next each rail is tapped off and large amounts of **Boatlife Life Seal** are added to the bottom of the rails and deck. Then with the help of a fellow Pearson owner the handrails are installed. I left the **Life Seal** undisturbed for 24 hours before removing the tape and excess **Life Seal**. Once it has cured for a 10 to 14 days I will re-tighten the handrails and install the plugs.

In my case, I applied liberal amounts of **Life Seal**. I am willing to deal with the extra cleanup to feel good that they will not leak AND I will no have to go through the install ordeal again.

