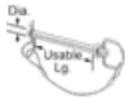


Description

Lowering the mast on our boat puts the radar dome right down on the deck. The previous owners provided a great crutch made of PVC to support the mast when lowered, but it took up considerable storage space. We had seen another boat that had a permanent “foot” on the mast itself that didn’t look too bad.

Parts Ordered

1. 3” x 3” aluminum square tube, approximately 15” long from <http://www.onlinemetals.com>
2. Short pieces of aluminum angle from <http://www.onlinemetals.com>
3. 3/8”, 1/2”, and 1” thick Starboard
4. Large 5/8” clevis pin from <http://www.mcmaster.com>



Clevis Pin with Hairpin Cotter Pin and Lanyard
316 Stainless Steel, 5/8" Diameter, 4-1/2" Usable Length

5. Screws, etc.

Design

We liked the idea of a mast-mounted foot, but wanted something that would be out of the way when not in use. It is likely not all N37 masts are the same, so this design may or may not work on other boats.

I measured the radar arch support and found that an aluminum box tube would fit inside the runners, but I needed something to make it slide in and out easily and not scratch everything in the process. I decided to use a smaller-dimensioned box, and attach some Starboard to the outside to allow it to slide easier.

I didn’t want to deal with welding, so I decided to just bolt-on some angle pieces to allow a wide “foot” to be used.

Assembly

I started by figuring out the landing angle of the deck and cutting the pieces to allow a Starboard “foot” to land at the right angle.

Next I bolted on the angle pieces to insure the holes were lined up with the correct angle across the front.



Test Fitting Pieces

Next, I cut starboard pieces for the sides and top, as well as a thick “foot” for the front. The thickness of the side pieces was critical to fit exactly in the mast channel section. I decided not to use up more starboard on the bottom because there was not much structure underneath that part on the mast. The top piece, of a precise thickness, coupled with placement of the through-bolted clevis pin, would allow all stress contact to be contained up off the bottom and on the top piece alone.

For the side pieces, I drilled and tapped the aluminum box section and used aluminum machine screws to attach them without nuts.



Starboard Pieces

I assembled everything and tested the fit at the mast. I sanded down the back side of the starboard pieces until the assembly fit exactly into the mast channel. Once the thicknesses were right, I carefully measured, clamped, and drilled one hole in the mast channel, and two hole positions in the foot tube for the clevis pin, one position for stowed, and one extended.

I took all the pieces back apart and sanded them clean. I had found some Rustoleum paint that exactly matched the exterior color of our boat, so I decided to use that to match the mast color.



Ready for Paint

Once painted with three coats, I reinstalled the starboard pieces and re-tested everything for fit.



Painted and Ready for Installation

Completion

Here is the fitted foot in the stowed and extended position with the large stainless clevis pin through the mast.



Stowed Position



Extended Position

Then came the real test. We lowered the mast onto the foot and the deck angle turned out to be just perfect.



Comments and Do-Overs

In hindsight, there is not that much sliding range between what was suitable for stowing and what was needed when extended – only about 5-6”.

However, the height of the tube is EXACTLY at the smash-your-head-on-it height (we had already moved the horn from this position for that reason), and any amount of clearing this area was a good thing.