



**97. A stainless bracket for the bow light. Start with a paper pattern, mark the bends and mounting holes.**



**98. Centerpunch the holes for drilling**

easier to use a drill press. I have a small benchtop import press that handles the small (1/4") thicknesses of metal quite easily. The only downside to my small drill press is that it was easily stolen. I'm on my second press. An American-made press is recommended if you can afford it, as the Chinese-made ones are very poor in quality, but they do work. Buy new bits before you try to drill stainless. A TiN (titanium nitride) coated drill bit, well lubricated, will go through stainless if it isn't rushed. A cobalt bit does a much better job.

### **Fabricating Without Welding**

Some useful things can be made out of stainless without welding. I used stainless steel sheet to make mounting brackets for my sheet winches and new Aqua-Signal Series 25 navigation lights. All that was required was cutting out the shape of the



**99. Round sharp edges with a file and/or sandpaper**



**100. Drill the holes using a drill press and cobalt bits.**

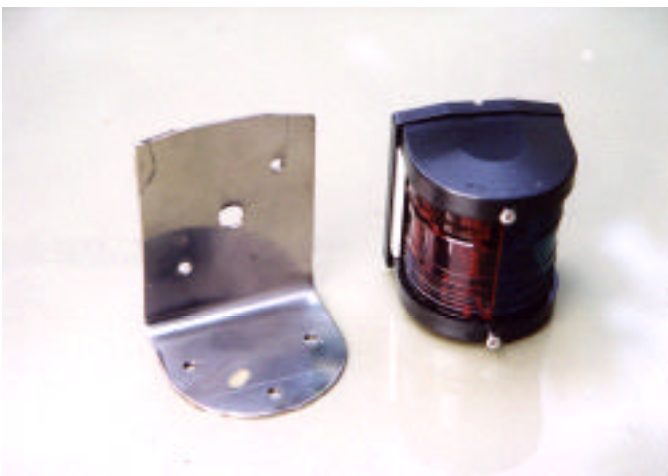


**101. Buff the surface of the stainless using a buffing wheel.**



**102. Bend the bracket at the marks using a bench vise. Using wood blocks prevents scratches.**

bracket, drilling it, and bending. I made a paper template to start with, marking the location of all the holes and bends. Next I cut out the shape, using a hacksaw with the finest blade that I could find. When you use a hacksaw, you should have at least two teeth on the metal being cut at all times, otherwise the teeth could be broken off. Since the stainless sheet was very thin, I had to cut it at an angle, which was a general pain in the... well, let's just say it was a pain... but I managed. I drilled the holes using a TiN coated bit and plenty of cutting oil. Still, it protested quite a lot, and I had to stop several times to cool the bit. Lastly, I bent the steel to shape using a bench vise and a wooden mallet. Stainless can be readily bent to shape if you don't bend it too tightly, and cold-bending stainless tends to work-harden the steel a bit. You only get one chance, though... any attempt to straighten an incorrectly-bent piece of stainless will usually result in cracked steel. Even if it doesn't crack, the strength of the steel will be seriously compromised, and it shouldn't be used.



**103. The finished bracket**



**104. I built these winch bases using identical methods as the bow light bracket.**

Finishing the stainless was done with my stationary 6" wire wheel and buffer, which I've talked about previously. Buffing the stainless results in a good-looking, bright shine that should be followed by a stainless polish.

### **Upholstery and Canvaswork**

Now we can finally move on to an area where we can work without getting too grimy... the boat's canvas. I'm grouping the upholstery under the same general heading, though I'm sure that this isn't traditionally known as "canvaswork," but since it's accomplished with essentially the same tools and materials, it seems logical to talk about it here. (Note: If you've never touched a sewing machine before, don't start by recovering your cushions. Skip ahead to "Canvaswork," where some smaller projects are described. Get comfortable with those first, *then* tackle the covers.)

#### **New Cushions and Covers.**

The cushions and covers on my old boat weren't too bad, especially considering their age and the abuse that they'd suffered of late. I tried cleaning them by taking them to a car wash and pressure-washing them in the bed of my little pickup. The original cushions aren't removable, so you have to clean them in place. While this isn't so bad, the trick is getting enough water out of the newly-cleaned cushions so they will dry quickly. Otherwise they tend to acquire a lovely mildew smell, which is why I needed to clean them in the first place. The original foam still had a fair bit of spring left, but it smelled rather gross. My cleaning experiment was only partly successful, and even after they were cleaned, they still looked old, worn, and tired, so I bit the bullet and threw them all out.

I ordered all new foam from a foam rubber supplier here in Chattanooga. It cost about \$123 to do the entire boat in 3" foam, rather than the stock 2". I also ordered a blend of 1" medium laminated to 2" of firm foam. I had originally specified 1" of soft, but the foam supplier talked me out of it. In retrospect, I shouldn't have trusted their professional judgement. The medium-firm blend is fine for sitting, but not for sleeping. When laid on, you can tell absolutely no difference between my new cushions and the old ones, and it feels too hard. Since the foam was cut and laminated to order, there was no returning it. Moral of the story... go to the warehouse and sit/lay on some samples before you have it cut.

I saved a little by buying the foam in sheets and cutting it myself. An electric carving knife works, though it doesn't cut quite as cleanly as the hot wire cutter that the