

RiversWest Bronze Casting Class October 18, 2008



In tough economic times, now as in the past, there is a great appeal in doing things for yourself that you would normally pay someone else to do, especially for people who are inclined that way already. Of course that includes many members of RiversWest, most of whom would prefer to use their own strength and skill to row, paddle or sail small boats than to take the much more expensive path of depending on engines and fuel. Many of us look back with regret to a time few of us ever saw, but which we have read about, when every part of a boat was built by the owner using hand tools.

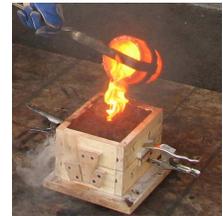
RiversWest members Julien Khan, Ron Davies and Mark Neuhaus had taken a bronze casting course from Sam Johnson in Seattle about a year ago, and they came back so enthusiastic that they convinced the board to invest \$350 to set up a small foundry at RiversWest. Interest grew among other members, so we approached Sam about giving a class here. Sam gives bronze casting classes to boat builders all over the country, notably at the Wooden Boat School in Maine, and he was one of the founding members of RiversWest.



The class limit was 12 students, and we filled it up. Sam had brought all the equipment needed, and since we also had a small foundry built from his plans, we were able to keep two going at once. Both



forges were built to Sam's specifications. Bronze casting has been around for thousands of years and can be done with primitive equipment, which is one of the big attractions. Refractory cement is used to build the furnace using a sawn up 5 gallon can, creating a base, a lid, and a cylindrical furnace with a hole in the side to insert a pipe. The pipe is attached to a propane tank, and a small blower is used to inject oxygen. The temperature of the molten metal is 2300 degrees Fahrenheit.



The basic process is to place a pattern, which might be another casting you are trying to reproduce, in a wooden box called a flask. Sand is pounded in around it from both sides, with a dusting of parting compound in the middle, so that the two halves can be separated and the pattern removed. Small pieces of wood are put in as well, to create channels for the molten bronze to fill the mold. When the form is complete the metal is poured in. After a brief wait for it to harden the casting is removed from the sand, and in most cases a large amount of grinding and polishing are needed.



The class was a huge success. Everyone made at least 6 or 8 pours, and nearly all of them turned into useable parts. Most were made from patterns that Sam brought to the class, from oarlocks and cleats to special tools for use in the foundry process.

