

# My Home Foundry: Workshop info for the hobby foundry worker.

Notes from issue 01: **The Hot Metal Ezine.**

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Topic 03:

## **GENERAL WORKSHOP SKILLS.**

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Can cover a whole gamut of things, not just your skills with foundry work. If you want to continually build your mini workshop/foundry by building new equipment, it is essential that you have the following skills

### **WELDING.**

You should be able to use some of the following equipment:

Manual Metal Arc. (stick welder).

MIG Welder (Manual Inert Gas welder)

Oxy acetylene gas welding plant.

To build really good gear, you'll find, as you progress in metal casting, that these skills will be needed more and more. If you can't, or don't want to weld, that's fine, you can always pass the job onto some one else who can...but don't you think it would be so much easier to carry out the required work right in your own workshop.

If you can't weld, but want to learn. perhaps you could enrol in a welding course at trade school...it's not that difficult to learn.

The ability to make something, and then do a trial fit to make sure the item fits or works OK is so much quicker when you do ALL the work, and you're not waiting for someone else to get around to doing it. which only creates time delays for project completion.

Generally I have found that most people who get involved with hobby foundry work seem to already have a very good workshop. Quite a few have lathes and mills etc....these types of machines are great to have if you can afford them.

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### **2A > Wood Working Skills.**

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If you're going to stay around the metal casting scene for a while, you will need to hone your old woodwork trade school skills.

You will be making lots of patterns, your wood working skills will serve you well...find that old chisel set, and sharpen them up to a fine edge, your gunna need 'em real soon.

Don't attempt a difficult pattern making project straight off, start with the simple stuff, work you're way up to the difficult two or three part patterns.

You do not need any high tech expensive tools for pattern making, some of the finest patterns have been made with ordinary woodworking hand tools, the trick is having the skills to use the tools to make good quality foundry patterns.

It takes time to understand how the two skills of pattern making and moulding work all fit together, in the large foundries they are quite separate jobs... in your foundry...you wear both off the caps.

### **3B> Sand Moulding.**

The simple art of ramming up your sand mould can be frustrating if things do not go the way you wish, the first thing you should do before you even look at ramming some moulds is carry out the following simple checks on your moulding sand.

(Just a quick note, In USA you spell it as molding, in OZ, we spell it as moulding) OK.

Check test No 1.

#### **Compression test.**

First off, just feel the sand; it should be cool, moist and silky. Then push your hand into the sand heap, or bin, grab a handful of sand, squeeze the sand as hard as you can, open your hand. does the sand hold together and stay in the shape of your hand and fingers. The sand should NOT stick to your hand, if it does, it contains too much moisture. If your sand just crumbles, it's too dry. It will need reconditioning.

Test No 2.

#### **Tensile Test.**

After the compression test you can try the tensile test, hold the compressed piece of sand between the fingers of both hands. gently apply some sideways pressure to the piece of sand, (just like trying to break a chalk stick) you should feel a slight resistance before the sand breaks in two. The break should be clean.

If the sand just crumbles in your hand and breaks into several parts, your sand is too dry, and may need some addition of water & bentonite so that the sand particles bind together better. Now you either hand riddle the sand, or put it through a motorised gyratory riddle.

If you happen to own, or have built a motorised gyratory riddle you already know just how handy these machines are.

Anyone interested can visit our web site to read more about these machines and how to build them.

Visit our web site for down to earth hobby metal casting ebooks:

<http://www.myhomefoundry.com>

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