

HOBBY METAL CASTING

October 6th 2004.

Hello & welcome.

This is our first weblog; we'll use the blog to deliver free info to the many hobby casters around the globe. It will be in addition to **The Hot Metal Ezine** that we publish monthly.

Why Metal Casting.

People ask me: why do I cast metal, the simple answer is; to make things that would normally cost lot's of money to have made in a commercial foundry...I don't mean to knock the commercial guys, it's just that as a hobby worker you can set your self challenges to create a pattern, make a sand mould and then melt and pour the metal.... it's kind of magic to watch it all happening, metal casting has a kind of medieval feel about it because you're replicating what founders have been doing for centuries...melting and casting metals.

You get to learn new skills, and once you get the hang of it; the sky is the limit when it comes to the many things you can make.

Some people cast metal just for the sheer hell of doing it...and this is what got me into it in the very beginning, then after awhile, I thought of all the ways that I could use these new found skills to actually make things of value.

The Project.

Then one day the boys...our boys, wanted me to build a Go-Kart...wow, what a great father-son project that turned out to be.

It took twelve months to build.... and the hobby foundry played an important part in the overall construction of the Kart, we went into all of the details, but the most important parts we made for the Kart were the cast Alloy wheel Rims, both front & rear wheels were of a split rim design on which ride-on mower tires were fitted, large wheels at the back & small ones for the front.

MDF Patterns.

The wheel rim patterns were made from MDF craft wood, the wheel rim half patterns were made from several square pieces of MDF which were cut larger than the actual size of the outer wheel rim diameter, they were glued together with PVA wood glue, clamped lightly, and allowed to set overnight.

The MDF "blocks" were then mounted in the four-jaw chuck and then the rim pattern was turned to the correct profile.

A generous allowance was made for shrinkage, and for machining to the correct dimensions.

An inner and outer rim had to be made as the rim was of a two-piece construction.

Several attempts at producing useable castings were made, at this stage of my metal casting hobby I knew little of the cause of porosity etc that does nothing but produce weak aluminium castings.

Degassing.

Luckily I met and became friendly with a bloke not far from me who had set up a commercial foundry, he supplied me with degassing tablets called "hexachlorathane" the fumes that these tablets gave off were disgusting, I hated the stink they caused.

Later on, another low fume, low toxic compound called Nitral C19 was found to give excellent results, this compound has been used ever since.

Coveral11 is another flux material, which is used to cover the Al melt in the crucible during melting; this has the effect of reducing the absorption of impurities from the atmosphere during melting.

Another method to control this is to use a crucible cover to protect the metal as it melts.

The Joys of metal Casting.

If you possess basic workshop metal working skills you are in good stead to build your own hobby foundry equipment, tools, and workbenches which you will require to carry out your hobby foundry projects.

If you don't have the necessary workshop skills, but still wish to try metal casting, you may have to ask a friend or someone to help you as you go along.

You could even do a joint hobby foundry venture together; two heads are better than one when it comes to coming up with ideas etc.

This brings us to an end with this short weblog.

We'll continue another day.

Col C.

PS.

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