

## Wheel Turning

Turning up cast iron wheels is seen by some people as a black art, it is not, but one does however get very black doing it! Here is how I go about it.

Simply put, I use a version of the method advocated by W Castellan, which was published in MRJ No: 44 in 1991, modified using Alan Harris's advice to avoid overloading the spokes when turning up the flange and tread.

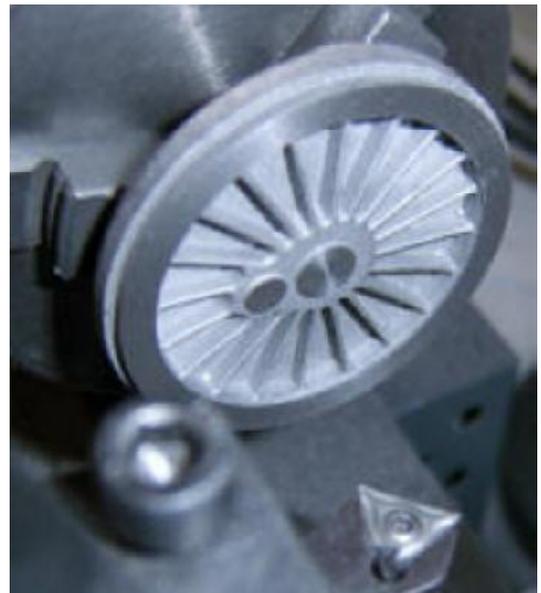


The first thing to do is set the casting up in a set of soft jaws by its tread, having first filed off any casting pimples and true up the spigot and the back of the wheel. The soft jaws are turned down to be a slightly larger diameter than the wheel itself. This provides more grip and a very positive location. Mark each wheel to indicate jaw 3 (or whichever is convenient for you).



The next picture shows the back and spigot trued up. Get all the wheels to this stage before proceeding further.

Now change the jaws for a conventional set and mount the wheel in the chuck by the spigot but ensure that the mark is now *opposite* jaw 3. Each wheel then has the face skimmed, the tread and flange turned down to within 0.01mm of its finished size.





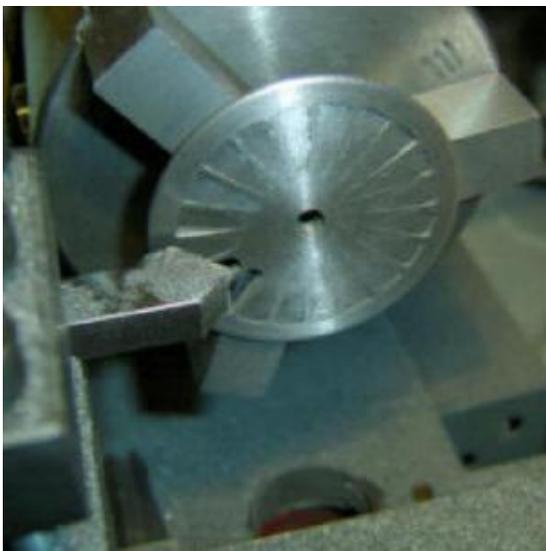
The flange and tread are then turned down to exact size using a forming tool. I use a form tool from the Scale 7 Society who produce one for fine scale as well, which is sharpened prior to turning up each wheel.

The axle hole drilled using three sizes of drill and reamed using 4.74mm reamer from Alan Harris. All the operations up to this point are carried out on each wheel in turn before removing it from the chuck.



The spigot is then sawn off while mounted in a vice and remounted in the chuck by the tread using the soft jaws again, ensuring that the mark is now back on jaw three.

The back is turned down until the spokes shew through and the wheel is 3.5mm thick. Polish them using 1200 grit wet and dry wrapped around a file. Do use a handle, do not use steel wool and take care!



The vice on the vertical drill stand is then set up with a jig to drill the crankpin holes, all exactly alike and in line.



Insulation is achieved by turning up paxolin bushes for one side, or cutting alternate spokes, filling with araldite and repeating the remainder when the glue has cured.

To be continued - axle turning and fitting.