Haigh mill cap etc: We've done it – well, almost!

After 3 very hard days of work at the mill, the cap is finished to a state that the scaffolding is no longer necessary, and may now come down.

The glass fibre/polyester resin work took a long time because only small batches of resin could be mixed and used due to the short curing time. Even reducing the amount of catalyst didn't seem to slow things down much.

The 2-pack resin paint had a similarly short curing time, and if more than about 500 ml was mixed at a time, it would start to gel in the pot and had to be discarded. Nevertheless, I think the end result has come out well.

The 7 rusted-in bolts of the cross are presenting a more intractable problem, which I have not yet solved. I hired a "Magdrill" locally, but could only obtain a broach (hollow drill bit) to cut 40mm deep in the time available. Longer broaches are obtainable, but need to be ordered specially, which takes time.

I managed to drill 6 of the bolts to 40mm, but there were other problems, particularly with the electricity supply. The 110v Magdrill was nominally about 1500 watt, and I brought my 2.5 kva generator to power it. This generator would operate the drill's electro-magnet, but little power was left to rotate the drill bit itself under load. Consequently the drill would not cut.

Bullens allowed me to use the power supply from their 6 kva generator, but the power was still inadequate due to the long length of the extension leads from the generator near the gateway to the mill which caused a drop in voltage. Bullens, at my request, kindly moved their generator up to the mill, and this made a difference. The drill, however, was still underpowered, but it would cut slowly with very gentle pressure on the feed control.

Another snag I discovered is that the face of the old cast-iron cross isn't very flat. There are humps and bumps, and it is difficult to get the Magdrill's electro-magnetic base to stick to it properly. In certain places it would wobble or come unstuck, which wasn't helpful !

It is well known that 110v machinery isn't as powerful as 240v. Maybe we will have to use a 240v drill, but I'll investigate the options and report back.

Due to the time constraint, I wasn't able to attempt to knock out the bolts, but I feel they need deeper drilling anyway, and a new strategy to get them out. The length of bolt rusted into the cross is about 60mm, so a 40mm depth of cut is less than adequate. I'm fairly sure that 50mm broaches are obtainable, which is better, and I'll try to get a 60mm one if I can.

The bolts will be accessible through the hatchway in the cap, and I'll work out a safe method to get them out in that way. Of course, the new sails cannot be put up until these bolts are out, and their holes cleared out for the new bolts.

I'm afraid that there will be further costs involved attached to getting these bolts out, but I'll come up with an estimate. The problem was caused in the first instance by the use of unprotected steel bolts to fasten the previous set of sails.

Before removing these bolts and fitting the new sails, I will need a suitable access to the top floor in the mill's tower, which I understand is being rebuilt at the moment. This is so that I can get access into the cap, and also fit the holding-down brackets to the curb.