

## Stanton Windmill Restoration Report – 2001

Since the last report work has continued on the shutters. All 108 frames are now assembled and a couple have been covered with hessian to work out the procedure. Unfortunately the hessian, which was carefully selected to closely match the original shutters, was sent from the manufacturer in Dundee but never delivered! It eventually turned up but was very frustrating as we were all geared up ready to go, and lost nearly 4 weeks.

Work has been continuing with the repair and restoration of the stone tun, and this is now starting to come together. Much remains to do however and it is fair to say that a new one would have taken less than half the time!

The assembly of the 108 shutters and their covering with cloth has been a massive task. Thanks to those SMG members that assisted me with the covering; Chris Hullcoop Martin Hanson, Sue Hiddleston, Luke Bonwick, Robert and Caroline Shackle.

Plans for 2001 are taking shape. The neck bearing is worn out and the bolts holding the windshaft neck on are in need of attention, so the remaining sails will be taken down during the first work-in to take the opportunity to repair the windshaft and bearing in relative safety. If all goes well then it ought to be possible to put the new sails up at the second work-in, followed by the present pair after their refurbishment. The sail frames will be modified by lengthening them at the heel by one bay; new uplongs and sail bars will be provided where required. All the existing paint will be stripped off and the whole lot primed and painted with a better quality paint than is used at present. It was hoped to have four sails on during 2001, which is the 250th birthday year of the mill, but the amount of refurbishment needed may be too great to complete in time. As in past years, work will also be taking place to the roof of the buck, floors, millstone casings and spouts, as time permits.

### The May Work-in

A good start was made on the repair of the roof and there was further progress on the repair of the stone tun and roundhouse walls. The new sails and clamps have been assembled on the ground and the new shutters are being fitted.



*Assembling the new sails on the ground and fitting backstays*



*The new shutters under construction, and the one surviving original on which they are based*



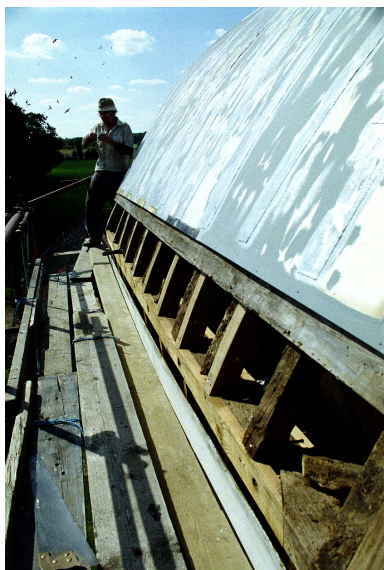
*Removing the old (1987) sails*

Armour Engineering are attending to the striking gear and Thurton Foundry are making a new triangle. The old sails were taken down on Wednesday 30th May and the mill now looks like a chicken according to one

of the helpers! The old sails, made by Chris Wilson in 1987, were found to be in excellent shape so these will be altered and repainted. One of the clamps has rotten patches but may still be re-usable, with repair. The real bonus was that the stock is in quite good condition and is capable of modification and re-use.

The August Work-in and subsequent work

*Records of the right side roof before repair*



The roof repairs involved the cutting back of the right purlin face, which was decayed in a few places but had suffered mostly from rodent damage, and plating with new timber, plus a reinforcing plate for most of the length on the inside (to match the left side, done last year). The rafter feet were then plated with new oak and rejoined into the purlin. New boards sealed the gap and then the steel roof sheeting was replaced. This sheeting dated back to the “holding operation” done by SMG in 1979 and remained in good condition. The lower section was made from lots of small offcuts so I decided to renew this with new material to avoid lots of joints. Once finished the flashing to the head boards was renewed and the roof given 4 coats of paint. The last job on the roof was to fit the rope guides to the ridge. The scaffold platforms were then taken down, restoring the mill’s clean lines.

The pair of sails, which had been removed in May, has been altered to tie in with the more authentic design seen in pre 1914 photographs of the mill. This was achieved by scarfing an extension of about three feet onto the heel of the whip, to add the tenth sail bar, and by shortening the point of the whip by about one foot and remorticing for the original bar, to allow the two shutter bay at the tip. The extension was done by cutting back and laminating using Douglas fir, with a gap filling epoxy resin adhesive. This same material was also used to seal the various shakes and other minor defects in the whips. New hemlaths are being provided, the old uplongs being reused for the inner laths. All bolts have been renewed with stainless steel. Both sails have now been rebuilt. They will be refitted once the stock and clamps have been patched up, several pockets of decay having got into them in the 13 years that they were on the mill. These repairs will be carried out using modern timber conservation



*Lengthening the sail whip by laminating new material onto the heel*



*Splicing in new material at the middle of the stock, using epoxy resin adhesive and dry preservative plugs embedded in the old timber*

at Stanton is now unique in having its poll end bolted on to the wood shaft rather than the more usual finned gudgeon. The whole weight of the sails, and the torque, is carried by four 30 inch long bolts of 1 1/8 inch diameter. These frequently worked loose, and were of questionable material, so the decision was made to renew them in steel. Lock nuts have been provided in an attempt to stop them from working loose and as they were removed and replaced the chance was taken to reinforce the seatings in the old oak shaft with epoxy resin. The poll end may have once been straight on the shaft but it is anything but now, and the windshaft neck waffles about by + or - 1/8th inch. The old swing pot neck bearing had worn unevenly in the past and was completely beyond repair so a new wooden neck bearing in a steel case has been provided. Wooden bearings are quite commonplace in mills and are more tolerant of badly aligned shafts than brass. The old bearing will be retained as an exhibit and could be refitted (with a new brass) if the windshaft were to ever be renewed in future.

While the sails were off the chance was also taken to remove the striking rod for straightening, a job that involved heating it to cherry red with two huge blowlamps, then bending it using a scaffold pole. All the striking gear has been refurbished, with bearings bushed and new pins. A wooden bush was also fitted to the outside end of the poll end to prevent the rod from sagging under the weight of the spider.

Following 1½ years of hard work by mill enthusiasts from the SPAB and Suffolk Mills Group the two new sails were hoisted onto the mill on September 7th and are now turning once more. The sails have been designed to replicate the original ones that were lost in the 1930's and are larger than those fitted in the late 1980's. A "mini work-in" was held at the mill in late October (19-23rd), at which further work to the sails

methods in an attempt to save the 99% of good timber that survives. The work to the stock and clamps is too extensive to allow the sails to be refitted this year as hoped, especially as the weather has been almost unrelentingly bad this year. At the end of the year both clamps have been repaired and painted, and the stock has been straightened up and refaced, in the process shedding surplus and unnecessary weight. The decay in the middle was attended to but the cold weather in late December has delayed the repair of the various minor defects elsewhere in the stock.

The other major item of work done during the summer was the replacement of the neck bearing and renewal of the windshaft neck bolts. The windshaft

took place, and on the following Sunday (28th) there was a 250th birthday party, complete with cake, for the mill which dates from 1751.



*Hoisting the new sails*



*The mill as standing in December 2001*



*The "Birthday Cake", donated by a friend of the mill*

Work on the second pair of sails will continue through the winter and the sails will hopefully be ready for erection by late spring.

Plans are now being prepared for the second phase of work, which will be the restoration of the remainder of the mill buck (left side, back, all floors and ladders and the remaining machinery). The only work remaining in phase one, apart from the completion of the sails, is the repair to the brickwork and the completion of the left stone tun and spout.

The weather has been difficult for much of the last year, and some work was delayed; much has been achieved however, thanks in no small part to those volunteers from Suffolk Mills Group and SPAB Mills Section that continue to give their skills and time to the project. Helpers during 2001 were Chris Wilson, Chris Hullcoop, Sue and Christine Burden, Neil Everitt, Richard Morgan, Martin Hanson, Sue Hiddleston, Luke Bonwick, Robert and Caroline Shackle, Des Codd, Stephen King, John Ford, Alan Wallis plus various members of my family, Charles, Betty, Melanie, Matthew, Gregory and Peter Dolman.

Peter Dolman  
Stanton Mill