HAMPTON GOES IT ALONE

Jim Hutchinson describes how he set about fitting an hydraulic drive to a Josher butty

Owning a Josher pair is a bit of a liability especially with so many experts and rivet counters waiting to pounce the moment we do any work on either of the historic boats. The motor *Owl* with its Seffle engine (see September 1993 *WW)* took about five years to restore and, apart from a 10ft cabin extension, is still very much an admired working boat. But what to do with the butty *Hampton* was more of a problem. Our eldest son, Tim, and his wife wanted to be able to use it independently from *Owl* and we wanted to be able to make it into a boat we could retire on to without it losing the traditional Josher look. Above all, we didn't want to do anything to the butty which would make de-conversion difficult. In principle, therefore, we decided to go for an undercloth conversion with a suitable method of propulsion.

● ***Hampton*** **on its first solo trip at Cosgrove Lock on the Grand Union.**

Before considering the engine we had to sort out the hull and bottom. Although the elm was in good condition, Jim Macdonald's surveyor's hammer went right through the footings in several places and we had little choice but to renew these and put a new steel bottom on. We then had to embark on some serious research to find the best method of fitting an engine. Apart from the rather improvised bolting on of an outboard onto the 'ellum, which is what the old boatmen called the butty's characteristic rudder, there are three main ways of doing it: (a) a prop shaft through the stern post; (b) the construction of a swim by cutting away the rounded stern plates; and (c) a propeller in the 'ellum.

The most successful conversions have involved hydraulic drives. If you want to retain the boatman's cabin, as we did, there is simply not the head-room to accommodate a prop shaft.

Method (a) has been done on several butties but talking to owners we found there are serious drawbacks. A space of about a foot has somehow to be found for the prop between the stern post and the 'ellum. This can be achieved by chopping off and remodelling the stern post – in our view not an option because of the radical surgery that would be required on an historic boat. Alternatively, it is possible to cut a section out of the bottom of the 'ellum which is then rehung on a new bottom bracket. Boats which are modified in this way apparently are difficult to steer because as soon as the tiller is moved fully over, the water has nothing to push against since the vital part of the 'ellum has been cut away. The second drawback is that rather ugly anti-cavitation plates often have to be fitted.

● **Detail of the foot of the 'ellum showing the ARS hydraulic motor before the hydraulic pipes were fitted.**

The steel band is in place and the hydraulic motor is encased in a protective cowling.

All photographs by Jim Hutchinson.

Tim Hutchinson being shown the new drive at WFBCo just before the re-launch.

Method (b) is recommended when there is a long back well deck to accommodate the swim and where the owner doesn't mind altering pretty drastically the shape of the hull. Josher butties have very little space on the back deck and a newly constructed swim would also reduce the space in the boatman's cabin.

I did think it might be possible to have two hydraulically driven props one on each side of the curved hull but no one I spoke to could advise me on whether it would work and so we decided on method (c) a prop in the 'ellum – a method successfully tried before on *Capella* – and the work was entrusted to the Warwickshire Fly Boat Company. The main elements of the system are a modern diesel engine mounted just forward of the boatman's cabin, an hydraulic pump and oil reservoir and a new steel 'ellum with the hydraulic motor and propeller fitted at the bottom of it.

The engine we chose was the reliable workhorse – a 1.8 BMC. We wanted something in complete contrast to the semi-diesel Seffle on *Owl*. Calcutt Boats supplied a reconditioned engine with a specially modified flywheel and bellhousing adapter. The engine was then sent away to ARS Anglian Diesels to have the hydraulic pump fitted where the gear box usually goes. The engine and hydraulic unit is fitted just in front of the boatman's cabin and is tucked away under the gunwale. The plan is to enclose it in a sound-proof box, the size of two or three tea chests. Also in the same part of the hold are two stainless steel water tanks and a diesel tank which act as ballast tanks. The hydraulic pipes are fed under the side bed, up through the back deck via swivel fittings and down the stock of the new steel 'ellum.

Ken Freeman at WFBCo meticulously fabricated an exact replica in steel of a Braithwaite & Kirk 'ellum. Everyone who sees the new one is convinced it's wooden. Because no alteration has been made to the hull, a future owner has the option of putting back a wooden 'ellum and removing all trace of motorisation. At the foot of the steel 'ellum the hydraulic motor is bolted in place with stainless steel bolts and enclosed in a protective cowl. The prop (17in x 12in) is surrounded by a steel ring which is sturdy enough to protect the prop against submerged obstacles; it prevents cavitation and when the boat is at full speed it ensures an almost ripple-free wake.

Tim and I took delivery of *Hampton* on Boxing Day and we set off back to Cowroast to beat the winter stoppages. It far exceeds anything we hoped for. The speed is unbelievable and the manoeuvrability startling. It is rather like having a giant outboard motor. The boat turns on its axis and in a lock it behaves just as though we've got bow thrusters! We soon found there were additional advantages: it's very easy to remove plastic bags from the prop and a quick burst of the throttle and a carefully aimed 'ellum is guaranteed to shut a fully open bottom gate. Admittedly, the stopping distance is greater than we'd become used to with *Owl* and the light front end made it ride up onto the ice. But this is more than compensated for by the most amazing characteristic: almost uniquely on the canals, here is a boat that steers backwards as easily as forwards!

Detail of the new steel 'ellum showing the hydraulic connections. The upper bracket on the 'ellum is of a non-traditional design with a steel peg, rather than the usual retaining chain. This is for safety reasons so that the 'ellum cannot become detached from its mountings.