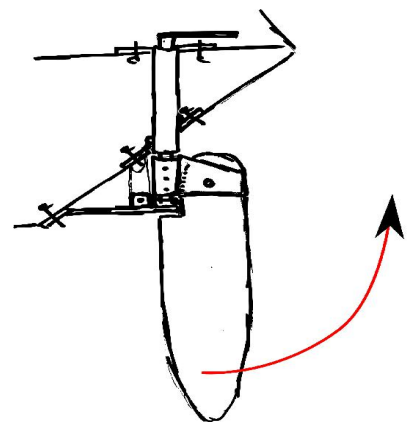


## New rudder construction for Coaster Mellon door Carol Fuchs

I purchased Mellon in 2011 in the UK after having sailed some rented Drascombes (Longboat Cruiser and Coaster) in the Netherlands. For the history: we owned a Dabber by Honnor Marine in the 1980-ies, since then we sailed a 25 feet keeled boat or made several canoe-trips all over Europe.

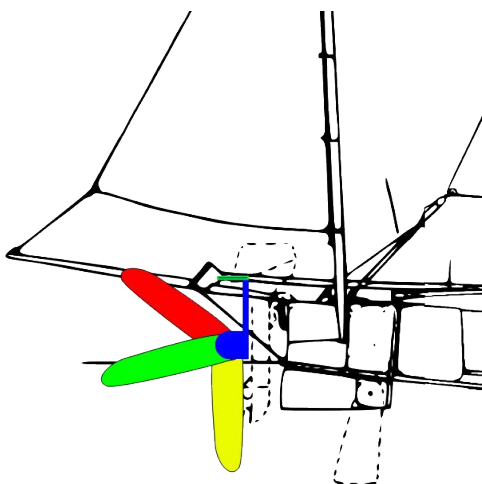
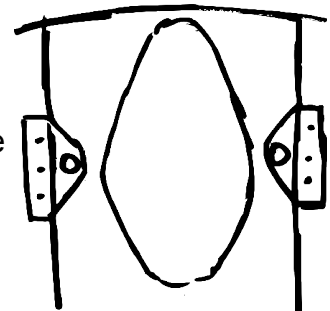
Since my first re-contact with the Drascombes I was never really content with steering with an oar when in the shallows. In water less than one meter the rudder had to be lifted and then I was standing on the stern deck, or twisted in the cockpit, trying to hold course with a long awkward lump of wood (that always jumped out of the transom rowlock) and on top of that came the need to use still some of the centreboard and my own weight to keep a balance between centre of effort and centre of lateral resistance.

So I thought about an alternative for Coaster Mellon, which would make steering with an oar unnecessary. It had to work in deep water as well as in the shallows, but also when drying out. So the whole rudder blade should fold up clear out of the water. Also the arrangement should be placed further aft on the boat to provide a more positive helm, while reducing the force on the tiller. The tiller itself had to remain where it is. Finally steering with the motor should also be improved, so it would be easier to manoeuvre at low speed in harbours. In this I was inspired by an article by Jörn van Boven and Adrie Overbeeke from Schiermonnikoog about their Cruiser Longboat Tantra II.



My solution was to make a lifting double rudder in the motor 'pit' aft.

On each side of the motor leg a rudder sticks down. These sit a little bit behind the propeller so that the screw and the rudder blades cannot hit each other. Both blades can be lifted so that they are completely clear of the water, but they can also be used in depths from 0.3 to 1 meter.



In shallows the blades stick out behind (green), although in that position some extra strength is needed to steer. When they are down (yellow) the blades are hardly visible – and therefore I think that they are not 'out of style'.

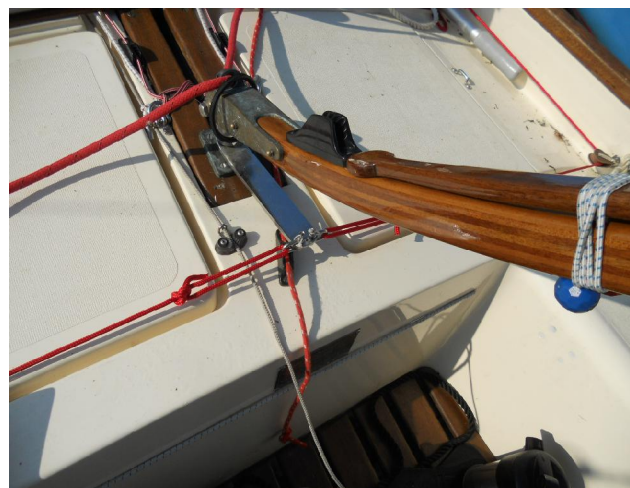
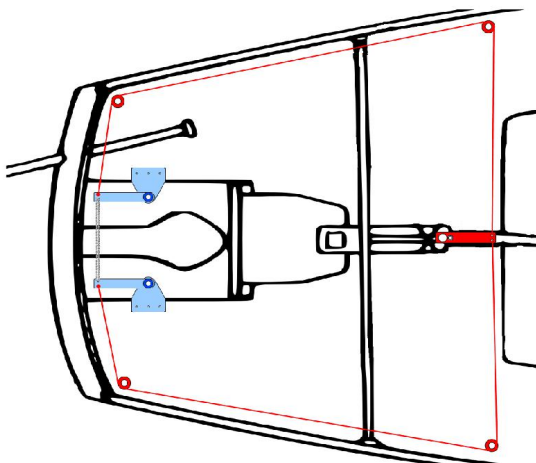
I made the blades myself out of plywood (24 mm) and epoxy. They are slightly streamlined and a little bit balanced (the axis of rotation of the rudder is a small amount behind its front edge).

The area under water is approx 80 x 24 cm each. The two blades together are more than twice the surface of the standard kick-up rudder, and I shall think about smaller blades - winter is coming....

There is a 4 mm line to raise each board, and an 8 mm bungee elastic which holds each blade down, so the blades can pivot up having touched the ground without becoming damaged.



The blades are steered using the standard tiller in its normal position. The tiller itself is unchanged, but the way it works is very different (for example there is no rudder under it anymore!). The transfer of forces from tiller to rudder was achieved using 6 mm lines passing through 4 small pulley blocks. Small 20 cm levers on the helm and on top of each rudder shaft work the rudders. I am now investigating other ways to transfer the steering forces from tiller to rudder.



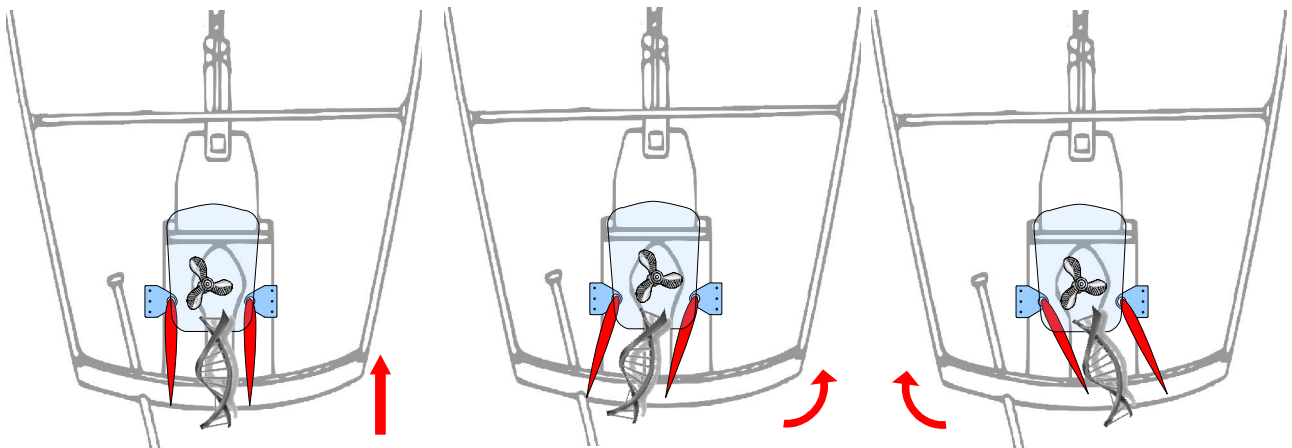
Behind the motor in the 'pit', two stainless tubes with bearings stick down through the transom. The rudders mount in there. As already said, on the shaft top two small levers hold linkages between helm and rudders.

The metal work was carried out by a local professional craftsman, using stainless steel. His work is very accurate, there is no gap between the parts and thus no more clattering.....



I joined in with the 2012 Smis Feeder cruise using this system, Noordpolderzijl (drying out little Dutch harbour) in and out at low tide and including a period drying out on the Eemswad. I did stow the original rudder on board for safety, but it was unnecessary. Due to an accident in the locks at Lauwersoog (broke my arm) I could not join the main Smis cruise, but I think that the system would not have given problems. For my trip to Rügen (this summer) I have been thinking about improvements.

It turned out that the performance of the motor was much better. The thrust of the water was directed between the rudder blades, and this has improved the steering. With a standard rudder arrangement (with rudder in front of the motor) sharp turns must be assisted by turning the motor. Now with this rudder arrangement it appears that only in extreme situations must the motor also be turned.



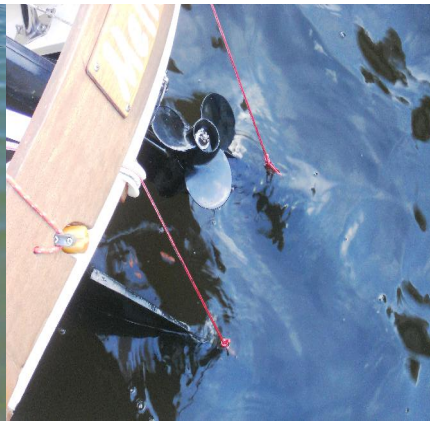
Several members of the NKDE have inspected the construction, and their comments range between 'I want one too', 'very ingenious' and 'definitely not Drascombe'!

I think I will always be able to steer Mellon in future without using a steering oar – even in the shallows – and I find that very good and worthwhile. Meanwhile the rest of the boat and the fellowship of our Krings are adequate Drascombe – style for me.

Here are a few photos of the rudders in use.



*blades down*



*'shallow waters'*



*blades up*

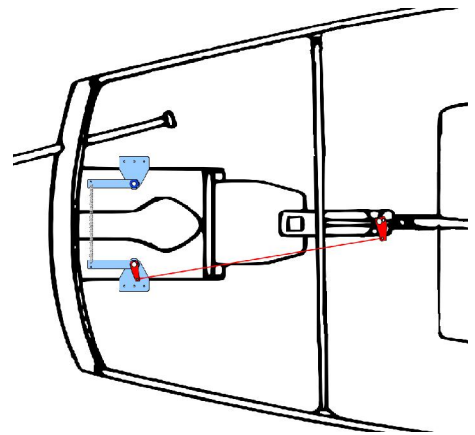
Carol Fuchs  
Coaster Mellon



## Improved Rudder construction Coaster Mellon (follow up)

I have now found a second way to transfer the steering effort from the helm to the levers on top of the rudders. In German the solution is called 'Schubstange' (in Dutch 'drijfstang'?) and may be in English it is a push rod.

On the starboard side under the helm there is a new stainless steel bracket with a round topped peg. From this the forces can be transferred aft by the rod. On the starboard rudder there is a similar lever to the one on the helm, only turned the other way up, so the twin rudders can work without the former steering lines .



To fit this I have had to change the Barton mainsheet track and fit the old style mainsheet tube found on the earlier boats. The Barton traveller could not be longer used with this solution and he did never work to my satisfaction. I shall test out this new construction during my summer cruise near Rügen – an (ad-)venture.

But I have kept the steering lines on board

- just in case.....

Carol Fuchs  
Coaster Mellon

