



(Not such) new kids

Louay Habib takes a closer look at the origins of the not-so-well-known Persico marine division which was most recently responsible for the build of Ian Walker's Fastnet Race record-breaking VO70...

In 1972 Pierino Persico began making wooden moulds by hand for the automotive industry in his small garage in Nembro in northern Italy. Today Persico Spa employs 300 people across three divisions and is considered a world leader in rotational moulding and automotive tooling.

Pierino's son, Marcello, in turn heads Persico's marine division, chosen by Abu Dhabi Ocean Racing to build their new Farr-designed VO70 for the 2011-12 Volvo Race. In spite of the modernity of its

current output, in the Persico reception you will still see examples of the company's earliest work, modest tooling elements lovingly carved by Pierino Persico himself.

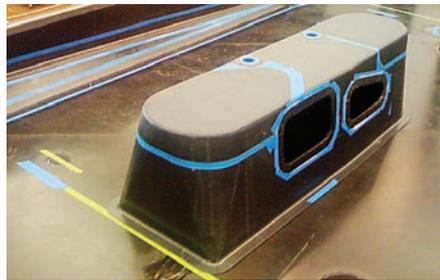
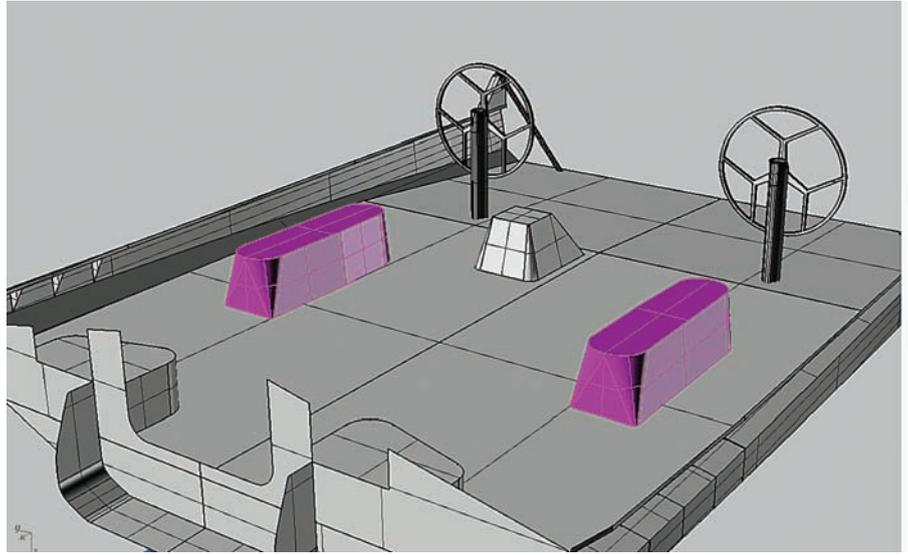
'My father has always had a passion for wood,' explains Marcello. 'He loves working with it. When he started it was hard for him to break into Turin's closed world of racing car and motorbike manufacturers; but customers could see the quality of his work and eventually the business came.'

In 1985, after being introduced to American rotational moulding technology at an Italian trade show, Pierino Persico flew straight to the USA, where, despite speaking very little English, he had soon signed a licence agreement to use some of the latest equipment. Among Persico's early customers were Aprilia, Moto Guzzi and other famous motorbike manufacturers. Today Persico's rotational moulding division has an annual turnover in excess of 20 million euros, producing tooling and parts for everything from military helicopters to playground equipment.

The company has always been active in searching for new markets and a nautical division was launched in 2000. Persico had already attracted a small following for specialist components, including precision machining ACC keels for the Il Moro di Venezia America's Cup programme. But what surprised Pierino Persico were the relatively old-fashioned methods he saw still being employed in boatbuilding. He was especially amazed to see moulds being produced laboriously by hand. He appreciated the skill, after all that was how he himself had started out, but he knew that the results could be improved.

So in 2000 the marine division installed a 25m CNC mill and soon substantial orders were coming in from Italian shipyards for hull and deck tooling as well as finished products. Using their advanced technology Persico could produce such moulds in less time and with more accuracy than the yards themselves, and soon word spread. In 2006 Persico supplied the moulds for Russell Coutts's one-design

DANIEL FORSTER/ROLEX



Clockwise from top left: CNC-milled automotive moulds – Persico’s automotive division milled the fin and bulb for Abu Dhabi’s VO70, afterwards the same team went back to producing end-products for Mercedes and Audi; plan, process, complete... Abu Dhabi’s winch pods come together; nodules show the amount of metal removed in CNC-machining a VO70 fin from solid billet; VO70 hull comes out of the mould – the 25m hull tooling was machined in one piece over the course of 10 days with the CNC mills running 20 hours per day

RC44 programme and also built two ACC designs for Luna Rossa. This was the big breakthrough, making the transition from tooling supplier to boat manufacturer.

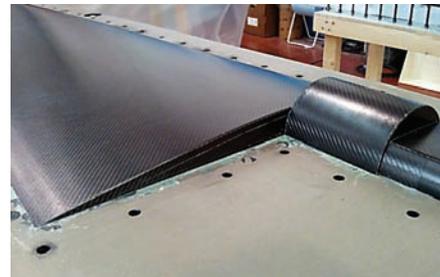
‘To be honest, it was a huge step up for us,’ explains Marcello. ‘We had to put a lot of investment into the Luna Rossa programme, including building a large oven. But the project proved worthwhile. We had by now taken a good look at the yacht racing market and decided that the sector looked a good place for us in the long term.’

A more recent investment by Persico was the recruitment of Mark Somerville as build director. Somerville’s 25-year career encompasses the build of five Volvo racing yachts and 10 ACC designs, plus more recently working on the construction of Oracle’s Cup-winning trimaran, *USA 17*.

Somerville first met Pierino Persico in 2009. ‘I spent two weeks looking at Pierino’s set-up. I wanted to see what the facility was like and what I could add to the programme, how far we could go together. After just a few days it was pretty clear that we shared similar ambitions.’

‘The facility has a lot of space, very modern equipment and all the overhead gantries you could wish for; but I still had to ask the hard question about whether or not they would bring in more investment. Well, they did and that is how we arrived at where we are today.’

‘Even looking at quite recent work with BMW Oracle, the milling machines we now use here at Persico are considerably more accurate, and way more accurate



Once the female tooling (left) is completed, making perfect rudders for a new VO70 becomes a ‘relatively’ straightforward process – and you don’t want to be running short

compared with, say, 10 years ago. The pace of change is like with cell phones, where last year’s model is exactly that. At Oracle we were certainly achieving a high level of accuracy but the machinery and the software just move on so quickly!’

Not just boats

‘At about the same time I joined Persico,’ says Somerville, ‘there was a move to join forces with a leader in another, parallel sector. Sparmaking was the obvious choice for us, given the precision work we achieve. The subsequent tie-up with Future Fibres in Valencia has made good sense.’

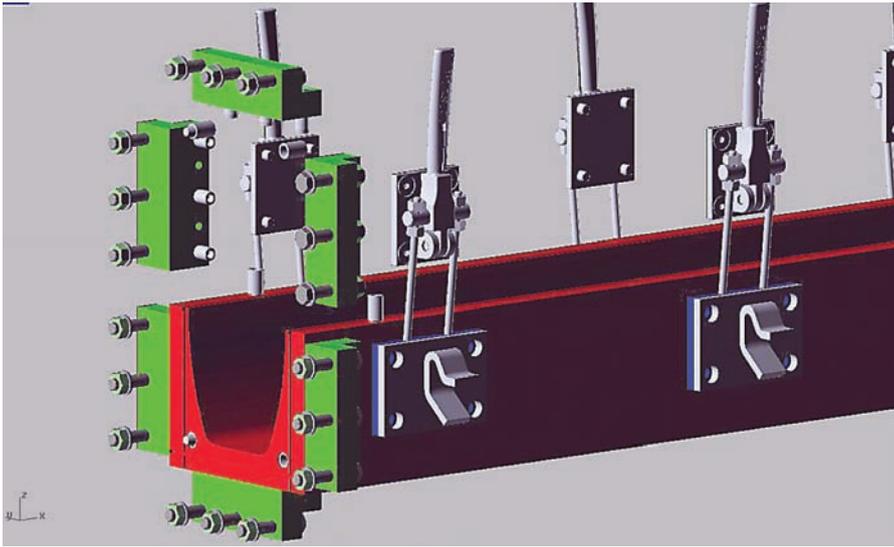
‘Between the two of us we now have a collaboration that places us at the cutting edge of both composite rigging and mast construction. In fact, I spent my first months here developing the moulds and tools that we [Persico] supply to Future Fibres today. Those moulds are based on a combination of my own experience and 30 years of Persico know-how of creating

thermally correct aluminium moulds from solid block. The results are outstanding.’

Somerville is now overall operations manager at Persico’s nautical division where his first boatbuild project was the Abu Dhabi Volvo 70. The hull, deck, interior, rudders and daggerboards were all produced at Persico from CNC-milled female moulds, which the company maintain are more cost-effective as well as more accurate than the prefabricated and moulded equivalents used elsewhere.

‘Actually, I never really got my head around the original female mould concept,’ explains Somerville. ‘Taking a female mould from a hand-crafted male plug is just reproducing the imperfections in the male plug.’ Likewise, trying to fabricate a female mould from scratch. Surely, if the female mould is designed by computer and then milled directly the results are going to be more accurate?’

Of course, Somerville had used this technique before – CNC-milled moulds were



An advanced CAD system operating throughout Persico and linked with rig-partners Future Fibres in Valencia allows only approved staff into the design and engineering process. Substantial milled aluminium spar mould (left) and dedicated autoclave (right)

used exclusively for the BMW Oracle ACC hulls and the 2010 trimaran. In Valencia in 2007 Oracle's Farr-designed ACC hulls may not have delivered Larry Ellison the Cup, but they were widely believed to exhibit exceptional accuracy compared to most of their conventionally built rivals.

'When you go down this route for the first time you are entering the unknown, you haven't done it before. You know how capable the machines are and you have done your due diligence and you know what the consequences could be if it went wrong. But it is still a big piece of the puzzle and you only get one shot at it. You have to be confident in your ability and the people around you before you take the decision to mill a full hull mould.'

'But by using direct CNC we also add a lot of detail into these moulds, which is extremely efficient. This has extraordinary beneficial implications for the design of the boat. It may seem ironic, but by producing a more elaborate mould we save weight; by including more detail we reduce the need for secondary bonding and flanges to attach structure to the hull, which cuts down the finished weight.'

'A more detailed mould also allows pin-point accuracy for key points when seen in three dimensions. An example of this is the position of the daggerboard boxes. The entry at deck level and the exit through the hull all come out at exactly the right location and angle... something that is almost impossible to achieve by hand.'

'There are also huge advantages in having on-site facilities for producing tools

and parts. If you don't like how they have turned out it is quicker and easier to redesign them and make a better end product – that is why the leading racecar teams now do virtually everything in-house.

'Another driver here is the importance of the auto division which is where the Persico story began. The standards in the automotive division necessarily need to be extremely high, as they do in the rotational moulding division. If you are producing a mould that will be used to produce many thousands of parts for luxury cars, there are literally huge implications if you don't achieve exceptional quality control.'

'The days of the long board are numbered – and if we can machine all of our moulds and tools it's a double bonus; we clean up the workshop and so produce a more sterile environment for laminating.'



Pierino Persico at work in his garage in Nembro in 1972 hand-carving wooden tooling for the region's car manufacturers

CUSTOMER OPINION

– Jason Carrington

Jason Carrington is technical manager for Abu Dhabi Ocean Racing, his sixth Volvo/Whitbread Race project. Carrington was also the project manager at Green Marine for the Volvo 60 Assa Abloy, the first female moulded boat of its kind...

'We decided early on that for the new boat we wanted to take advantage of a fully milled female mould, so this really limited our options. I came out to Persico in August 2010 and met Pierino, Marcello and Mark. I was impressed with the facility and more than anything I liked the people. Pierino and Marcello were passionate about our project and I felt that given the opportunity they would deliver a great boat. Mark is technical and passionate about building raceboats to a very high standard; quite often it's a battle to get a yard to push the boundaries. Racing around the world the difference between an average build and a great boat is frankly huge. At Persico I believe we found a yard that shares my own philosophy as to what is possible.'

'Before committing to Persico we also talked at length to Richard Gillies who was very much in line to build our boat. For various reasons this did not transpire, but it was Richard who drummed into me the benefits of milling the tool – in many ways he was instrumental in us taking this approach.'

'Producing a female mould in this way is not just so much more accurate but also quicker – a machine is doing the work and you don't rely on labour to hand-fair the tool, which is a pretty miserable job and not terribly accurate. And the tool can incorporate a huge amount of detail straight off the 3D file; all the detailing is exactly where the designer intended it.'

'The Volvo 70 rule is quite strict so potential gains need to be grabbed at. I have to say that we could not have achieved anything like the same results with a plug/mould, or worse still with a fabricated female tool.'

'Another advantage is Persico's other activities – there are a handful of excellent boatyards in the world but I cannot think of one with this set-up. We have made virtually everything for the boat here and that gives you a fantastic amount of control. Also, Harken and Cariboni are just a few miles away, which is ideal when you want to discuss a new equipment idea.'

'Persico's founder, Pierino, does not have an office or even a personal computer – he is still just constantly touring the various divisions, sitting in on technical meetings, observing and sharing his vast experience. Marcello heads the nautical division, and daughters Alessandra and Claudia head the automotive and rotational moulding division. It really is a tightly controlled family business and it shows... In a good way!'