

## Design

In contrast to various 30ft sportboat offerings the new C&C 30 has clear offshore pretensions with great attention paid to watertightness. The boat will launch with a base price of US\$124,950. The deck plug (opposite) shows neat use of asymmetry in efficient hatch placement

# High performance... sensible price

The co-founder of the Farr 40 class, Barry Carroll, introduces the new C&C 30

Every new production keel boat wants to claim instant one-design status. In reality, to be a successful one-design a boat has to first be a successful raceboat. It has to be well built, price competitive and able to win under a myriad international and local rating rules before any one-design fleet can develop. Even when one-design fleets are established internationally we believe that a boat that can compete and win in open fleets under handicap against other similar-sized designs gives the owner more opportunities to race and win... in other words, offering excellent bang for the buck value.

In one sense Mark Mills' design brief for the C&C 30 was simplicity itself: throw the rating rule books out of the window and design the 30 to be as fast, stable and fun to sail as possible. Engineer it to ISO Cat A so it can compete in popular medium-distance offshore events, like the Chicago-Mac, Stamford-Vineyard, Cowes-St Malo, Gotland Runt and Giraglia races so that the 30 is not just an around-the-buoys daysailer. Give it a deck layout and interior accommodation that reflect the best current raceboat practice, and include watertight hatches that are built for offshore racing, control line systems that aren't open to the sea and OSR-compliant pulpits and

lifelines. Create a boat that is strong, seaworthy and durable, but don't worry too much about the dining room furniture: it is not needed, so there won't be any.

Mills Design made extensive use of CFD analysis from KND Sailing Performance and North Marine Group. Both use North Sails' VPP which allows a seamless flow of data back and forth between the yacht designer and sail designers. KND focused on measuring the hydro lift, drag and moments for various hull configurations, whereas North used their Virtual Wind Tunnel (VWT) and Flow/MemBrain programs to generate aero lift, drag and moments to drive the VPP. Combined with Mills' own in-house programs, these powerful analytic tools allowed detailed research and analysis of various design paths to develop quickly and efficiently.

But as sophisticated as modern computer analysis may be, performance ultimately comes down to the vision and skill of the designer. Mills' record of success from boats like *Soozal* to *Alegre* will take the next step with the C&C 30, a design that should prove to be exciting, fast and an ideal vehicle for both inshore racing and one-design fleets, as well as medium-distance offshore races.

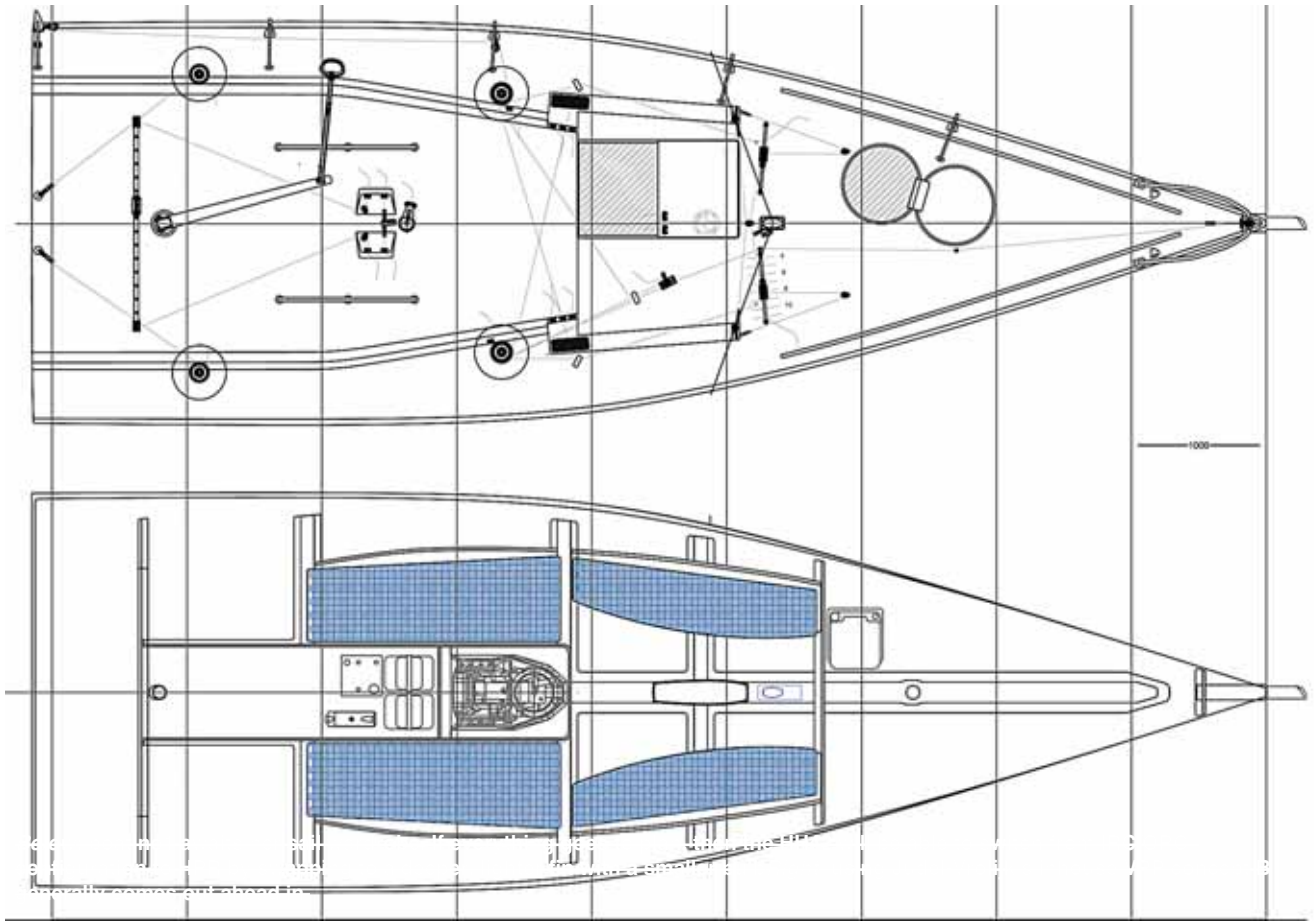
The C&C 30 is not specifically targeted at any rating rule, but is designed in the belief that raw boatspeed matters. Nonetheless, it's fortunate that in the past few years IRC, ORCi and ORR have converged somewhat to not over-penalise lighter, faster, pure raceboats in the smaller size range. We have seen new designs built to the High Performance Rule

(HPR) stun larger, better-rating boats both boat for boat and under handicap – proof that sheer boatspeed can still win. For this reason there is a lot to like about HPR, with its goal to produce fast modern designs that are seaworthy and fun to sail – luckily this fits perfectly with the design brief of the C&C 30.

In its initial configuration HPR took a no-holds-barred approach to materials and construction techniques, encouraging the design and build of 40ft+ boats that were twice the cost of a conventional well-built production boat. These designs have been far too complicated and costly to appeal to the broad production boat market.

However, recently HPR has made a concerted effort to increase participation in the smaller end of the offshore racing fleet. To that end, a new series of rating incentives is being devised which are intended to encourage sound, cost-effective production techniques in these smaller boats without over-compromising on their performance. The goal is to greatly reduce the cost of participation and allow well-designed, well-built smaller production boats to be fully competitive in HPR. The engineering and build team at C&C have been integrally involved in helping HPR to craft these rule incentives, and we believe the C&C 30 and HPR will be a good fit.

Cost matters in sailboat racing, in the 30ft range even more, and one-design construction leads to significant cost savings. High-quality production moulds create accurate, finely detailed composite structures with efficiency and repeatability. Modern infusion techniques produce



The focus on speed, handling and cost-effective racing inevitably led C&C away from the 'dual-purpose' racer-cruiser concept. The C&C 30 is instead conceived to be a purpose-built, fast, fun-to-sail raceboat. The decision to eliminate superfluous (in this case) interior accommodation helps achieve an aggressive weight budget. It also saved money that could be better spent on state-of-the-art gear and the best sail-handling systems. The C&C 30 comes standard with all the gear one needs to race at the highest competitive levels, with careful choices made to optimise the cost-benefit ratio.

For example, the C&C 30 includes a carbon-fibre keel fin as standard. Initially we investigated a welded steel keel spar, due to its lower cost. However, the unknown effects of corrosion, especially in welds, led to our decision to use carbon fibre, which besides being more reliable also permits a much lower VCG. The blade will come out of its CNC-machined mould finished to very precise one-design tolerances and, most importantly, unseen internal corrosion will never be a factor, even 20 years down the road.

C&C Yachts are now at full throttle with their new 30 one-design, bringing a new energy to the C&C brand. This required consulting the top performers in the industry, such as Mills Design, KND Sailing Performance and the North Marine Group, who have spent countless hours working on this exciting new project. Together they helped get the C&C 30 OD from concept to completion, with its debut planned for March 2014. □

exceptional glass/resin ratios and robust structures. Builders become more efficient as they produce multiple boats, lowering labour costs. Engineering, procurement and management costs are spread out over many units, thus lowering cost per boat.

C&C Yachts are thus fortunate to be based in Bristol, RI, the heart of American raceboat building, where these principles have been practised for decades. Bristol is also the backyard of some of the best material and gear suppliers in the world: two of the largest composite material suppliers are 10 minutes away, as are highly skilled marine machine shops and composite speciality shops.

Bristol is also the home of Hall Spars who will supply the carbon rig on the 30.

Our equipment supply partners Harken, Lewmar and Ronstan all have local operations so their expertise and support are always at hand. Having all our major suppliers within an hour's drive is a huge cost advantage over remote builders who have to import every piece of hardware.

The production team at C&C have literally hundreds of years' combined experience in every phase of yacht building. There are dozens of craftsmen here who've built everything from J/22s, Mumm 30s and Farr 40s up to Maxi boats. And unlike start-ups in competing low labour-cost countries, New England craftsmen have a huge amount of experience of creating high-quality raceboats from the very start. The C&C 30 is the latest in this long tradition.

