

IRC'S Top Designers

Four designers bring us up to speed on their latest projects.

BY CHRIS MUSELER

Mark Mills

Ireland's Mark Mills has spent the last 10 years developing a firm grasp on the IRC rule and its intricacies. Today, he's a leading designer of IRC raceboats in Europe, capturing wins at last year's Cowes Week with the IRC 39 *Mariners Cove.ie* and the IRC UK Nationals with the 40-footer *Tiamat*. With a heavy focus on production designs, Mills hopes to bring the excitement of custom racing to the rest of the world.

Mills, who is on the Royal Ocean Racing Council's technical committee, says IRC is relatively stable, with a strong incentive for dual-purpose smaller designs. "It makes sense to me to have the

smaller boats safer, more practical, and slightly heavier," he says, adding that, under IRC, the size barrier between racer/cruisers and flat-out racers falls in the 40-foot range. "At 55 feet, IRC isn't giving you as much credit for having a comfortable cockpit and more displacement," he says, "so a more extreme, stripped-out racing boat makes sense."

Mills says the IRC rules committee does a good job making sure everything isn't obvious, but he stops short of saying the rule is too secretive. "They keep the inner workings cloaked," he says, "but this is healthy for the rule."

After reviewing hundreds of rating certificates each year, Mills uses information from owners, backed up with his instinct, to design a boat to IRC. He says certain areas of design have more or less standardized: the centers of buoyancy are similar and sail area and keel shapes are close. "Have we cracked it?" he asks. "Absolutely not. But we do feel comfortable that our designs are competitive across the range."

Like many of Europe's top designers, Mills studied yacht design at the University of Southamp-

ton. His first successful design was a custom 32-footer, a popular size for custom racers in Ireland and England. *Aztec* was designed to the CHS rule, a precursor to IRC, in 1996. The boat won nearly every major CHS event in Ireland in 1997 and won its class at the prestigious Commodore's Cup that year. This design, he says, exemplified his approach where he avoids "unwholesome elements" that may come from designing a rule-beater. An artificially short waterline is one area he stays away from, saying, "it's too extreme," creating incomplete hull shapes.

Therein lies Mills' specialty: dual-purpose, attractive, and good-sailing boats. "Our office style is focused on deck layouts for dual-purpose boats like our IRC 39," says Mills. "We put a lot of effort into cockpit coamings, ergonomics of the seats, and the cockpit floor height." The 39 has dual wheels, which are unusual for this size, but allow easy access to the transom.

To make custom designs more accessible, Mills has several production projects in the works with designs catering to mid-range IRC racing. His IRC 43 is currently

According to designer Mark Mills, the IRC rule favors racer/cruisers under 40 feet or so and pure raceboats above that size.



under production in Dubai, along with a DK 46 being produced in Malaysia, China, and Taiwan. There are also two projects beginning in Turkey for his MAT 12.

www.mills-design.com

Simon Rogers

The son of a boat-builder, and one by trade, Simon Rogers has a practical background he says has been invaluable in his design work over the past decade. This knowledge of materials and construction has lead him to focus on stable production facilities for his IRC 46 and 36 being built in Taiwan and England, respectively. He says his design philosophy of drafting a “great boat first and considering the rule second,” works well with IRC and it’s borne out in the results of his boats.

“The goal is to produce a powerful, clean, efficient boat,” says Rogers. “The owners have to have fun and it’s not a lot of fun to spend \$1 million on a slower boat.”

Roger’s approach to his IRC designs is to keep out of the transition zone of 42 to 44 feet where a focus on displacement moves to lighter, high-performance boats. “To design a 46-footer,” he says, “means you get ahead of a 45 at the top mark and then you can sail away.” For the smaller boats, he

says the rule plays into the natural demands on that size, stating that a 36-footer will get tossed around in chop while sailing upwind if it’s too light; displacement becomes an important part of stability. “The bigger boats can afford to be lighter to the relative length and the rule doesn’t penalize as much [for this lightness].”

Having his IRC 46 built by CMI at the Cobra factory in Thailand was a business decision he believes some designers often overlook. As a former boatbuilder, Rogers knows how tough it is for small operations to stay afloat. “We’ve got a safe option for someone with a production boat that’s customized,” he says. Simons’ new IRC 46 *Danbury* won last year’s Garmin Hamble Big Boat Series, in England, with five wins and three seconds, and is a refinement of his previous IRC 46 design. He believes the 46 is for the top end of club racing where only three to four “really good guys” are required.

Rogers is well known for his work in open classes, too. He designed the Whitbread 30 *Sticky Fingers* and Jonathan McKee’s Mini-Transat boat, *Team McLube*. He is currently working on an Open 40 design and this focus on pure speed shows up in his recent IRC designs. “When it’s blowing, you can sail with one hand on the helm,” he says. “People come off the boat with huge smiles on their faces saying, ‘If this is the future of racing, I’m in!’”

Though hull No. 3 of the IRC 46 is going to Australia, the second boat, *Yeoman XXXII* will be heading to Acura Key West Race Week, and hull No. 4 is sold, and heading to Chicago. He adds that at nearly half the cost of a TP 52, around \$800,000 complete, his IRC 46 is an attractive alternative. “IRC is managed very well,” he says. “It

moves with the masses, who are not very grand-prix oriented.”

www.rogersyachtdesign.com

Jason Ker

A chance commission from a friend who was bored with his 25-foot sportboat led Jason Ker into the world of performance yacht design. Having worked for a firm designing everything from high-speed ferries to amphibious vehicles, it was a refreshing change that opened doors for the young designer who is now working on a range of IRC designs while serving as head designer for the Shosholozza America’s Cup campaign.

“I learn from all types of boats,” says Ker, who currently has a production IRC 39 racer/cruiser being sold for an attractive \$316,000. “The America’s Cup work has given me the tools to analyze what works and what doesn’t.” His most successful design recently has drawn on these talents, creating a 50-footer that has produced winning results in both offshore and buoy racing.

“We accept that we’re not going to win in all conditions,” says Ker. “Because a lot of our design work is done for the UK, where it’s variable, our designs will normally perform well everywhere.”

The 50-footers *Snow Lion* and *Magic Glove*, both launched in 2006, are good examples of this approach. The two have the same hull form and sail plan, but *Snow Lion* has a layout specialized for offshore racing, and *Magic Glove* is set up for going around the buoys. The former won its class in the Centennial Bermuda Race, and the later was the overall winner at Ireland’s Cork Week. *Magic Glove* is heading to Acura Key West Race Week this year.

Ker sees IRC as a bit secretive

Simon Rogers has produced four of his semi-custom 46-footers, the most recent of which is headed for Chicago.



Jason Ker's duties with Shosholoza keep him busy, but he still finds time to design boats like *Fair Do's VII*, which was the top individual boat at the 2006 Rolex Commodore's Cup.



only because the committee doesn't reveal the rule's algorithms. "We use common sense and experience to know what the effects [of design on rating] will be," he says, "and that seems to work well with IRC. We keep to the rules guidelines, within the fixed dimensions, then we optimize for speed."

Though Farr Yacht Design doesn't have as much time working under IRC as European designers, Jim Schmicker has quickly gotten the U.S. firm up to speed.

The latest 46-footer to come out of Ker's office, *Fair Do's VII*, was a bit of an extreme design, he says, that was also successful on the course this year, crowned top overall boat at Cowes Week and winner of its class at the Commodore's Cup. The boat has a square aft section and a spoon bow that is not pretty, but effective. "We didn't like the bow shape," says Ker. "We're trying to improve the aesthetics with, among other things, a flying knuckle [for the bow]."

Ker has been putting more time into the smaller boats recently, and improving certain aspects of production, including a computer-milled keel for the IRC 39. He says he enjoys the challenges of designing smaller boats to the IRC rule. "The smaller boats need more inertia to punch through the waves," says Ker. "You could design a superlight small boat, but you'd get rated out of existence."

www.kerdesign.com

Jim Schmicker

Farr Yacht Design is one of the most successful firms in the world, but the group has only worked on IRC specific designs for the past two years. The firm is based in the United States where the rule has only recently taken its place in major big-boat events. FYD's Jim Schmicker is behind the latest U.S.-designed IRC machines.

"The rule is definitely in its formative stages in the States," says Schmicker, who has worked on the firm's first three IRC-specific designs, which came out in 2006. "The IRC's core strength is in smaller boats, but here PHRF covers that group." The Beneteau 10R, a 34-footer he helped design with IRC in mind, is in a difficult position in U.S. IRC fleets, typically grouped with bigger boats. A 46-footer to his design, launched in Italy last summer, is a more appropriate size, he says, for the current North American fleet.

Schmicker believes the rule has a transition point between 40 and 50 feet where displacement gives way to light, performance designs. Besides the 42-footer *Sue*, built for a Chicago owner, and its sister-ship built in Australia, he is focusing on larger IRC designs, optimizing the Cookson 50 to the rule and drafting a 98-footer.

So far, Schmicker hasn't seen the sort of wild changes in boat styles with IRC as was the case with IMS. "IRC is more performance oriented, especially in the larger boats," he says. "You're not trying to make the boat slower so it can handicap even slower." This performance approach, he says, plays right into his office's strengths. "We're making a very quick boat that can compete for line honors in all of the major offshore races," he says.

Though most maxis are narrow for their length, Schmicker's current designs are significantly wider, with more power in the hull shape. He says that because of the canting keels, the boats are sailing at a lower angle of heel and that the drag from a wider form is less of a concern.

Another area Schmicker is focusing on is waterline length. Some European designers are playing with overhangs and bow shapes to help shorten the waterline, but the Farr office is producing its first generation of IRC-specific boats with long waterlines and short overhangs. "We've done our homework with respect to other IRC designs," says Schmicker. He points out that IRC measures the boat upright. With a longer waterline, he explains, a design is able to have flatter sections under-



neath the center of the boat with tighter bilges. These harder turns in the hull shape allow for efficient use of waterline length when heeled.

Schmicker says that even with developments in technology, he finds it interesting that IRC is tending towards simplification. Though the rule is more stable and simple than its predecessors, he says Farr is still working hard to improve in-house VPPs, adding, "Yacht design is not going to get any easier."

www.farrdesign.com

TOP LEFT, CARLO BORLENGHI/SEA AND SEE