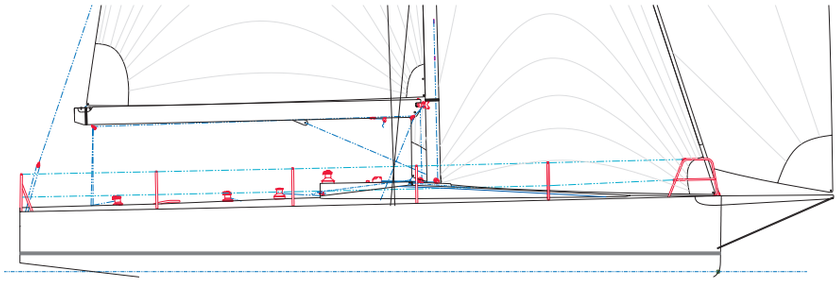
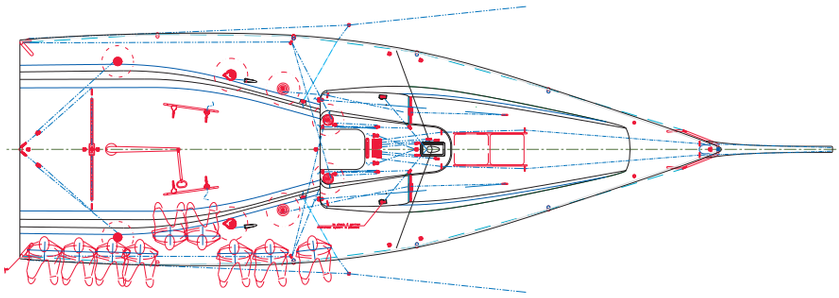
A friend returns

Originally designed for the still-born (and oh so excellent – ed) IRM rule, Jason Ker's speedy little 11.3 design has also scored consistently well under IRC. At the instigation of a US group the design has now been shrewdly updated… and accelerated

TIM WRIGHT





Having experienced much fun and success in his now nine-year-old Ker 11.3 design, US-based Hunt Lawrence has brought together Jason Ker, Doug Brophy of New Wave Yachts and US Watercraft to fulfil their dream of bringing an affordable, no-compromise, offshore-capable modern raceboat to the sub-40ft market.

Lawrence was initially keen on getting a second Ker 11.3 as a pair to his own 11.3 *Cracker*, in which his team had won their class in the 2007 Block Island Race Week. However, Lawrence was persuaded by Ker to build a new design that benefited from the considerable advances in knowledge and technology that the intervening eight years and an America's Cup participation had brought to the Ker office since the original design was completed.

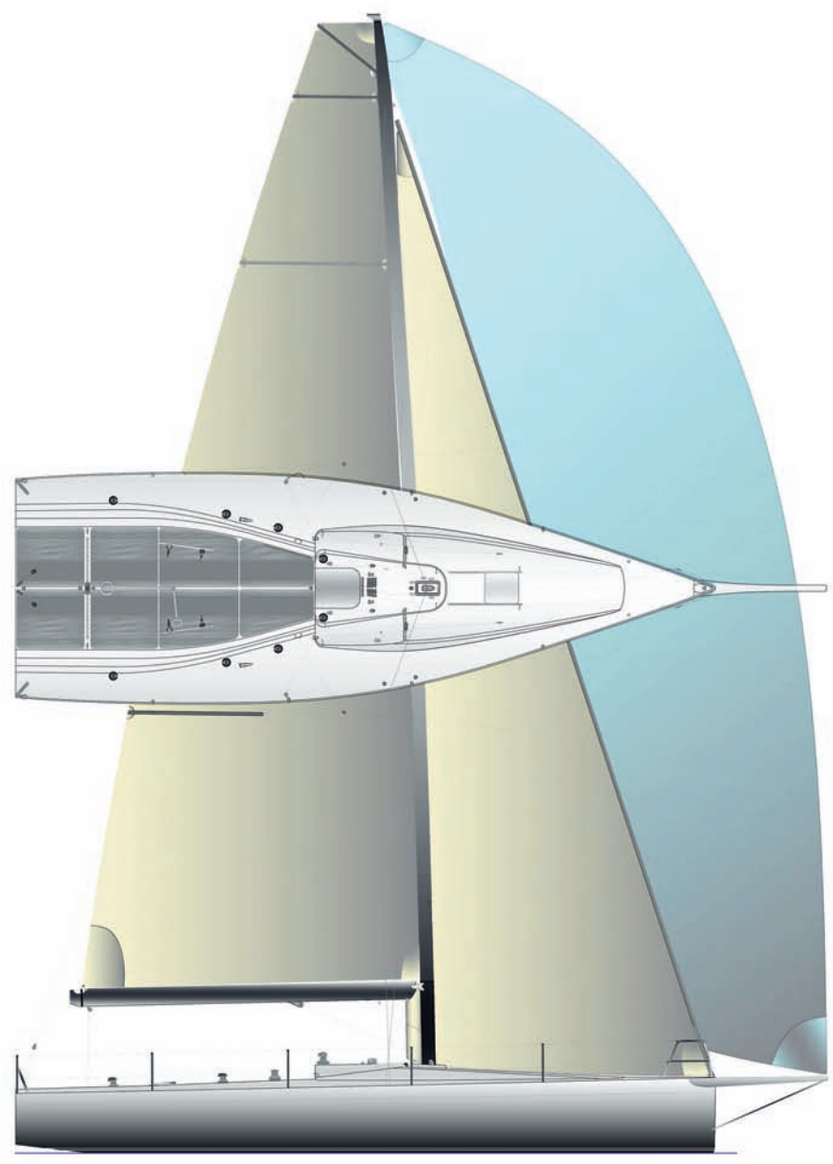
However, by the time that Ker was contacted the project had progressed to where a new set of Ker 11.3 spars and sails were already built; no problem, Ker simply drew a new boat under the existing sail plan. Hence the Ker 11.5 was born.

'The 11.3 has proved to be a great performer in many of the world's classic offshore races,' said the Valencia-based Ker, 'but we've taken this opportunity to improve on a nine-year-old design with infinitely better VPP and CFD tools and knowledge than we had back then.'

He's not wrong in the claim of the Ker 11.3's strong pedigree: besides taking class wins in many important events across the world, 11.3s have recently won honours in the Rolex Sydney-Hobart and South China Sea Races as well. Ker is very confident that while the 11.3 design is patently durable, the upgrades inherent to the Ker 11.5 will be a big step forward.

With roughly the same LOA and DSPL, the Ker 11.5 hullform differs in being considerably more powerful through having more beam and draft. Ker explains that the adoption of this more powerful hull is possible because the more modern hullform exhibits significantly reduced wave drag, which compensates for the greater frictional (wetted surface) drag; his own CFD and VPP studies show the Ker 11.5 and the Ker 11.3 (with the same sail plan) producing similar corrected-time performance in the light (6kt) wind range.

Ker believes that while adding sail area will always make a boat more competitive in very light winds, excessive sail area makes it impossible to stay competitive under IRC (or its predecessors) in medium winds against the fleet in general. So, as the Ker 11.3 has shown its potent light-air capabilities in the USA by winning Block Island Race Week in 2007, increasing the light-air (corrected-time) performance of the new design any further relative to the Ker 11.3 was deemed to be wasteful.



Opposite: **Jason Ker's original 11.3 has provided plenty of giant-killing performances under IRC even though the boat is on the light side for today's most popular rule; in the right conditions blazing speed still pays dividends. The new 11.5 (*above* and *left*) offers more of the same, with a faster hull form under a similar rig configuration, and with more attention paid to value for money – no carbon means less cost and a better IRC number**

However, once the Ker 11.5 heels slightly, it sheds much of that extra wetted surface, while its greater stability kicks in to allow it to carry more sailpower further up-range than its predecessor could. Accordingly, the new design features 150m^2 bowsprit kites versus the 123m^2 symmetrical kites of the original 11.3 design.

Construction of the tooling for the Ker 11.5 is now underway at US Watercraft in Bristol, Rhode Island, where Randy Borges and his team have for the past few years been producing new boats off various moulds inherited from Carroll Marine and TPI Composites. Picking up the boatbuilding talent as well as the tooling from Carroll Marine when Barry Carroll shut his doors, Borges has transformed what was a premier finishing shop (known then as Waterlines) to a proper full-production operation, and has been turning out impressive new Farr 40s, Farr 30s and J105s on demand. But while this facility has filled a vital niche in the US producing existing class designs, the new Ker 11.5 will be the first new design produced here.

Construction is strong, light but also very cost-effective. The hull and deck are in E-glass/epoxy/foam sandwich, with additional laminate and H200 high-density non-linear PVC foam core under deck fittings and in other heavily loaded areas. Internal structural elements are mostly in GRP and are flange-bonded into the hull, with non-structural components again in E-glass/epoxy/foam sandwich.

A welded and anodised aluminum frame will be bonded into the hull's inner skin to handle loads from the keel and rig. Scantlings, materials and workmanship all conform to ISO regulations.

The keel is an SG iron fin with composite fairings plus lead bulb, all bolted to the hull with super-duplex stainless steel bolts. The keel is bedded into the hull recess with epoxy. Rudder stock is from carbon/epoxy laminates, as is the tiller steering.

Interior accommodation is designed for practical offshore racing, with four fixed bunks with zippered stowage underneath and two pipe cots, a dedicated navigation station, camping-style galley stove and sink, 70 litres of flexible water tankage and a plastic raw water-plumbed head.

On-deck hardware will be from Harken, with transverse jib tracks nicely integrated into the ergonomically developed cabin top, which provide a full range of jib control, efficient line leads and a good aerodynamic seal of the gap between the jib and the deck (of great importance to America's Cup designers!).

Chainplates will be built of E-glass composite, with Nitronic-50 pins through 316 stainless steel bobbins. The carbon spars will come from Southern Spars. The sprit pole will also be in carbon, and the headfoil will be a Carbo foil from Harken.

US Watercraft's experience with the strict one-design standards of classes like the Farr 40 will keep the Ker 11.5s close in tolerance, though the pre-existing Ker 11.3 spar plan on Lawrence's hull No1 will feature the Ker 11.3's shorter STL on a conventional pole rather than the bowsprit planned for later boats.

'We see this boat as being perfect for a client base that is interested in a fast, offshore-capable boat, where performance is not compromised for non-performing features you'd see on a typical dual-purpose boat,' says Brophy. 'One of our target areas is Long Island Sound, where there has always been a core of enthusiastic owners who want a modern high-performance boat that can be comfortable for short offshore or overnight races as well as around the buoys.'

Brophy hopes to create a critical mass among this group similar to when a strong local IMS 40 class enjoyed a lot of activity and close racing in and around the Sound. He thinks this size and design will be ideal for those not interested in the hassle and expense of a larger boat programme, yet it is still large enough to be capable of racing in all the regional events; alternatively, it might suit those stepping up from smaller, less offshore-capable designs such as Farr 30s and Melges 32s. With a base boat offered at around $US250,000, this is also seen as very good value.

Ker and his team have designed the hull-form of their interesting new boat with little constraint beyond length and displacement, so allowing impressive offwind performance, rather than resorting to the usual dual-purpose typeform associated with designs in this size range, and Ker has carried this forward into the 11.5's 2008 IRC test rating (with the large 150m^2 kite) of 1.168 TCC.

Lawrence's hull No1 is scheduled for an April launch, in time to make all of the 2009 New England regatta season.

Dobbs Davis ❑