

THE CANOE

OLDEST AND FASTEST

The International Canoe still wears the crown as the fastest singlehanded dinghy of them all. **Jeremy Evans** uncovers how one of the oldest dinghies on the water has been brought up to date, while reigning world, European and national champion, **Lester Noble**, gives some on-the-water pointers...

It all started with 'Rob Roy'. That was the canoe paddled by John MacGregor, with additional propulsion from a lug-sail mounted on the bows. John was keen enough on his craft and founded the Canoe Club in 1866 – which became the Royal Canoe Club in 1874, with members such as Warrington Baden-Powell (brother of Lord Baden-Powell, founder of the Scout movement) developing the

concept into a full sailing machine.

They also went racing, which provided low cost entry to a sport for the wealthy, using canoes powered by balanced lug main and mizzen rigs. In those early days, the helmsmen were still sitting inside the canoes as if paddling, while shifting bags of lead shot to ballast the windward side.

Serious competition began in 1875 when the Royal Canoe Club put up a

Sailing Challenge Cup – which is still fought over at the national championship today. The lure of canoe sailing also spread to the USA and Canada, so Baden-Powell proposed that teams should race for the Canoe Club International Cup in 1884, now recognised as the oldest international trophy for small sailing craft.

Unfortunately the British were defeated



at the first event, due to the innovative and 'unsporting' American practice of sitting on the windward gunwale. Worse was to follow, as the American Paul Butler began the 'dastardly' practice of sitting outside his Canoe on a plank-like seat that slid from side to side. Bitter controversy raged, and the sliding seat was alternately allowed and banned during the closing years of the century.

Paul Butler also introduced the self-draining cockpit, while Linton Hope was one of the first to try a pivoting centreboard on the Thames. A few years later, Linton designed the first Hope Canoes in 1908, with a recognisably modern shape using a planing stern so the whole front of the boat could lift out of the water.

The Great War put an effective end to development, with nothing much happening until the canoe took a great leap forward by turning itself into an

international class in the 1930s. This was down to the inspiration of Uffa Fox, who challenged for the New York Canoe Club International Trophy in 1933, equipping his boat with a solid wood forestay to comply with the American 'two mast' rule. After a successful assault on the trophy, Uffa was able to mastermind new international rules combining the best of canoe ideology from America and Britain.

Following the Second World War the International Canoe was revived once again, with a fully battened mainsail first appearing in 1946 and the forerunner to the contemporary curved sliding seat starting to catch on in the 1950s. In 1957 Canoes began to enter handicap racing, and were given the fastest Portsmouth Harbour handicap for single hulled boats. The first world championship was held at nearby Hayling Island in 1961 with foreign competitors from the USA, Germany and Sweden unable to beat the British.

Peter Nethercott made the most recent changes to the Canoe hull – which has remained a basic one-design since 1971. Thirty years seems like a long time to retain the same shape, but there are minimal restrictions to deck layout and sail plan, so long as the main and jib only add up to 10sq m. Rig control systems have improved alongside sailing techniques, with wood being superseded by carbon as the favoured material for hulls and decks, in addition to spars. Stiffer, lighter boats mean that 10kg of the all-up weight can now be provided by correctors, keeping older boats in the class happy until the time comes for weight reduction all round.

GOING ASYMMETRIC

The most recent innovation is the asymmetric spinnaker, which has resulted in the class being split between those racing in IC Classic (ICC) or IC

Eric Twiname was a Canoe convert.

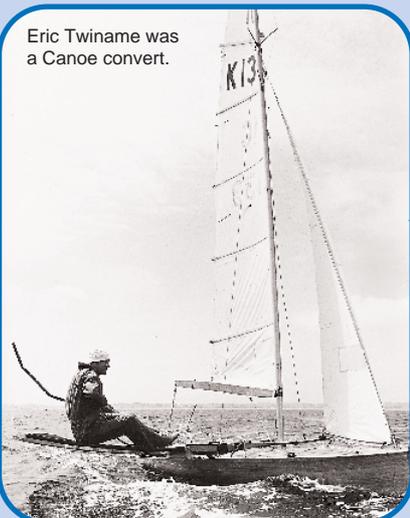


Photo – Alistair Black



Asymmetric (ICA) mode. This was created by a problem in downwind performance, which meant that in some conditions a Canoe was as slow as a Laser – and looked in poor shape to fight off parvenu singlehanders led by the Musto Skiff and RS700.

The spinnaker gives sailors a new challenge and thrill, reasserting the Canoe's right to be the 'fastest singlehander on the water' with a few pulls on a handle tripling downwind sail area to 30sq m.

It now seems likely that the ICA will

Lester Noble's all-carbon fibre Canoe was built by John Ellis using a hull shape developed by past class champion Colin Brown – although a one-design there are slight differences in tolerance. The seat is made in glass sheathed plywood, a more than adequate material for the 9-12kg weight allowance which ensures that a heavy seat provides extra leverage. Foils were made by Top Foils in Harrogate, using wood sheathed in carbon. The daggerboard uses a swinging box which rocks in the boat and can pivot up on impact.

become the dominant class, despite the prospect of an already awesome learning curve becoming even steeper. The last two autumn events in the UK calendar saw more asymmetrics than classics on the start line, and there are likely to be more than 30 asymmetric powered Canoes racing in the UK next season –

which is a lot for a class that is tiny.

Following an asymmetric display at the last European championship near Brest, German, Swedish and French owners all rushed to order bowsprits and chutes. There is talk of the Australian fleet converting – you can't imagine the home of skiffs staying with the classics – and

HOW TO SAIL IT

LESTER NOBLE is half the brains behind Orange Mountain Bikes which designed and built the winning machine in the 2001 UCI World Cup Downhill championship. He started Canoe sailing in 1992 and is the reigning world, European and national champion – who better to explain how to handle the super-slim beast?

ON THE BEAT

If the breeze is up to the top end of Force 2 or above, it will allow the helmsmen to get full leverage on the end of the seat. This is where the Canoe always looks spectacular and is why many of today's Canoe sailors are in the class. There are not many dinghy monohulls faster than a Canoe upwind. With the possible exception of the 49er, the Canoe will give them all a run for their money, scurrying much higher and faster than you would believe possible with its small rig. But, while the mainsail and jib only measure a tad over 10sq m, the speed is provided by a super-slim 17ft waterline coupled with the weighted outrigger of the old fashioned seat which protrudes over two metres from the centreline.

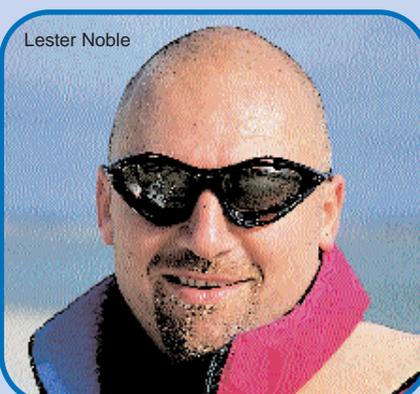
The narrow hull creates such minimal resistance to manoeuvres that only an 18 inch deep rudder is required. This creates an exceptionally light helm which

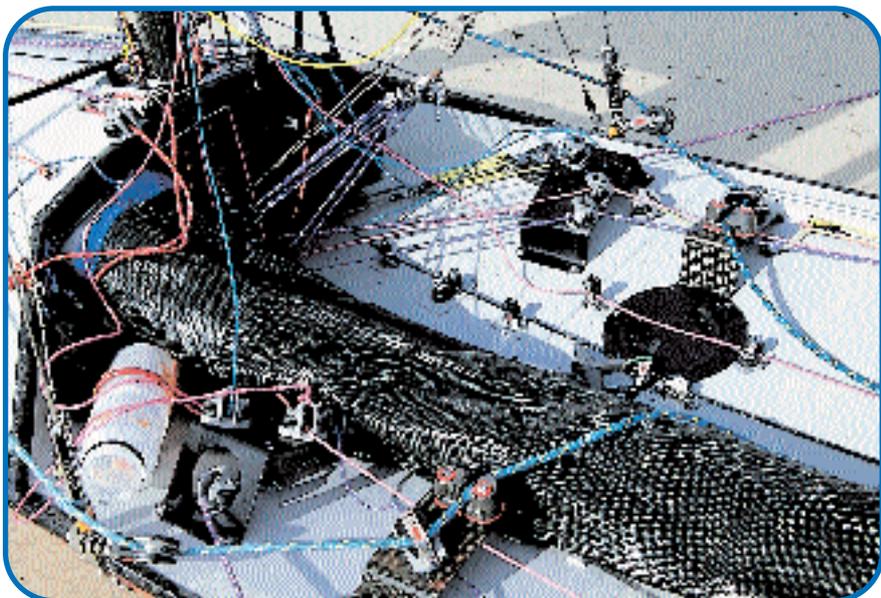
doesn't change even if it's blowing old boots – once experienced, the light, sensitive feel will spoil your enjoyment of any other boat. Although light, it is also instantly responsive, with the bow darting around to the slightest touch of the rudder. I think it must compare to the way a Formula 1 car feels in comparison to

your family saloon.

In front or rear view silhouette, the Canoe can look awe inspiring with the body of the helmsmen appearing unattached to the boat. Fellow sailors are often fooled into thinking that this is where the Canoe must be at its most precarious, with the helm having very little time to react to lulls or headers. Yet if the boat does flop to windward, the sliding seat gives stability by resting on top of the water for a short time – enough for the quick reacting sailor to move back onto the hull.

The sliding seat is not cleated when hanging over the side of the boat, as many people assume. It merely relies on the weight of the sailor and friction to hold it in place. So things can get quite alarming when the boat is heeled by a gust, with the sailor optimistically hanging off the end of the seat which suddenly starts to slide downhill. As you hurtle towards the mainsheet cleat with its





A lot of string requires a tidy mind, but the idea is to set the boat up for the wind strength before the start and leave alone while racing. Cunningham and kicker are led to the top of the foredeck next to the mast, where there is also an adjustable jib cunningham with the option of sliding the jib up and down the forestay to change sheeting angles in different winds. The all important spinnaker pump handles are either side of the daggerboard where the surrounding area is kept clear to ensure snag-free operation. The single self-tacking jib sheet is twinned either side and led to the ends of the seat for adjustment on reaches. The whole system is tensioned by a mass of elastic inside the seat which allows for sliding.

UK supporters hope next year's Canoe world championship in Rhode Island will be the turning point when the ICA becomes accepted as standard.

The modern spinnaker was originally tried by a German sailor who showed it off at the 1999 world championship in

Sweden. Rob Michael of Razorback Boats then developed a workable system using a pump-up/pump-down mechanism that had been tried on International Fourteens without success.

In true Canoe spirit, the size of the spinnaker is massive. Most ICA sailors

have started with 18sq m kites, though Lester Noble has plumped for a 20.5sq m masthead monster. It's not possible to go any bigger due to the constraints of an 18m-long mast, 1.8m bowsprit and maximum distance aft for sheeting the sail – plus the fact that if the foot is too low, it catches in the water.

Despite the size, Lester has sailed his Canoe in Force 6 with its kite and reckons it's not that much more difficult than controlling the Canoe without a spinnaker. That assumes you're sailing in flat water. If the Canoe is charging through waves, the low bow and foot dangling near the water can become 'traumatic'. An additional problem occurs sailing upwind, when water can get trapped in the chute and slow the boat down.

LAST WORD

Two new guys, both in their 30s or 40s, were racing at the Canoe inland nationals held this autumn on Draycote Water. Someone asked them 'Why are you sailing a Canoe?' The answer was the same. Having seen the Canoe in action years ago, they had always dreamt of experiencing the epitome of upwind speed. Then they heard about the asymmetric and with the downwind problem sorted it became a case of 'now or never'. That's true of most Canoe sailors. They know it's going to be a hard road, but once mastered they'll be enjoying the most ultimate reward.

aluminium mounting, you suddenly understand where the Canoe phrase 'being guillotined' comes from. The seat is also placed on fore and aft runners, and is manually pulled to allow the helmsmen to get weight aft, a necessary requirement for downwind work in a choppy sea.

TRICKY TO TACK

With the Canoe being only a metre wide and rather top heavy – similar to a bicycle – it becomes very unstable at slow speeds. So tacking, particularly in a blow when wind resistance slows the boat to almost stationary, is still the most

precarious moment.

There are basically two ways to tack. The first uses the traditional route under boom; the second was introduced when the sail plan changed to a more high aspect ratio with centre main sheeting, which allows enough room to walk around

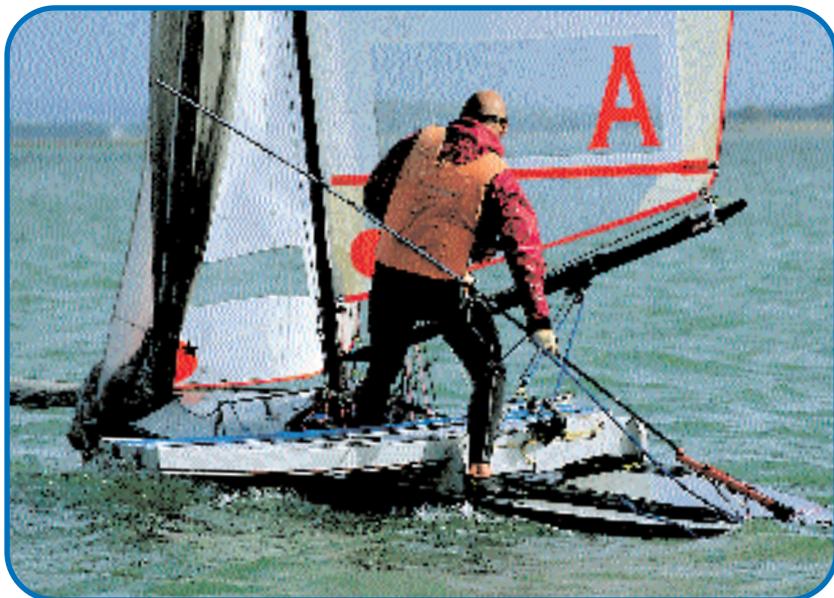
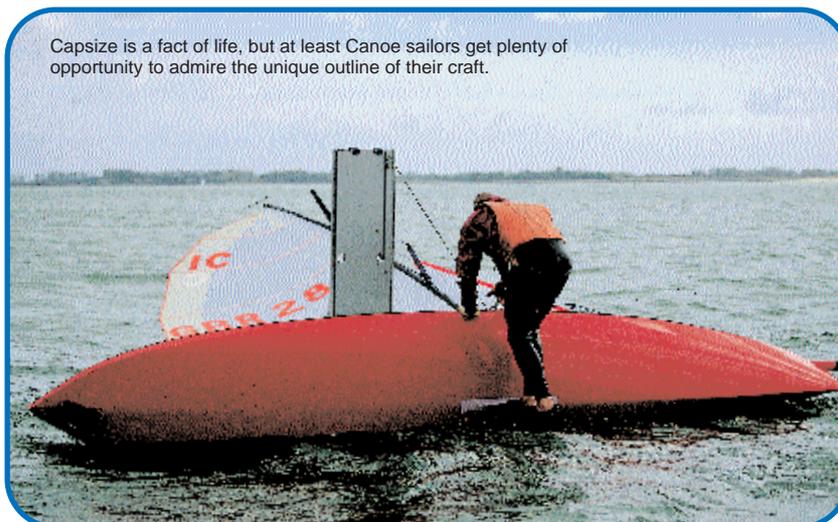


Photo – William Rowntree



Capsize is a fact of life, but at least Canoe sailors get plenty of opportunity to admire the unique outline of their craft.

the back of the boom. The first method – kneeling under the boom – is seen as slightly safer by virtue of the lower centre of gravity of the helmsman, albeit slower.

I prefer the second technique, mainly because it is faster and more suitable for the recently introduced self-tacking jib. Canoes have tried self-tacking jibs in the past, and I don't know why they never caught on until boats were fitted with the asymmetric. I can only assume that in the past the kneeling tack was preferred, and an instantly self-tacked jib can tip the boat over if the sailor is not fast enough from knee to seat. Either that, or the self-tacking traveller was not to the standard of the smooth running Frederiksen fitted today.

So, this is how you perform a standing tack: From the end of the seat, un-cleat the main and let it out slightly, whilst quickly shuffling in along the seat and holding the tiller extension like Lady Macbeth. Gradually ease the boat into the wind, making sure the mast is vertical. Stand up on the boat quickly, and with your front hand – which is still holding the mainsheet – grab hold of the seat by one of the centre foot wells and hurl it to the opposite side. This is where you discover if the mast isn't vertical. If it's not, the seat will be hurled into the water, stalling the boat and causing it to trip into a capsize.

Once the seat is on the opposite tack, steer the boat through the eye of the wind whilst taking a quick step aft of the boom, moving round the back and onto the seat. This needs to happen just as the self-tacking jib swings onto the new tack and starts pulling. If it's windy, then it's advisable to let more mainsheet out to give more time to shuffle out along the seat and counteract the power of the fully battened main as it flicks onto the new tack.

Quickly uncross your arms by jamming the main, and transfer your new back hand onto the tiller extensions. Then start pulling in the main with your new front

hand as you move onto the end of the seat. Hook your feet under the strap that runs along the seat, hike off the end and you're away.

UP WITH THE KITE

With the addition of a 20sq m asymmetric dwarfing the main and jib, Canoe sailing suddenly becomes a case of the tail wagging the dog. So when rounding the windward mark, getting the kite hoisted and pulling takes precedence over all other tasks. Menial jobs to achieve better mainsail settings – releasing downhaul, kicker and outhaul – are forever forgotten and simply remain on their optimum setting for the upwind leg.

The Canoe's pump-action hoist and retrieval is the work of Rob Michael of Razorback Boats to create a spinnaker system that must work cleanly. It follows the same pattern as all the recent asymmetric classes, with the halyard led through a siamese back-to-back pulley to hoist the kite and extend the bowsprit at the same time. To facilitate the hoist being singlehanded, a pulley with handle is placed just prior to the spinnaker rocker cleat, with the same on the opposite side of the centreline for dropping the kite. The halyard, which is led across the boat from uphaul to downhaul side, has a pulley attached in between the two cleats. This is attached to an elastic 'takeaway' system that can be adjusted by another control line, allowing the elastic tension to be removed entirely.

Prior to the hoist, check the downhaul side of the halyard is not cleated and that the elastic system is under tension. With your back hand still holding the tiller extension, your front hand grabs the uphaul handle and pumps the halyard as vigorously as your fitness and strength allow. With the relatively low bow of the Canoe, a quick hoist is a must if you want to avoid catching the low footed kite in the tide.

Once the hoist is complete, release the elastic tension system so the downhaul side of the halyard flows out and does not foul the smooth setting of the spinnaker.

Retrieval of the kite is the same procedure in reverse. Pull the control line to re-tension the elastic system, grab the downhaul handle and pump the slack out of the system. Release the spinnaker sheet if still cleated, then use your index finger to release the spinnaker halyard with your front hand still holding the downhaul handle. Immediately commence vigorous pumping of the downhaul handle, with concentrated effort needed to keep the spinnaker out of the water.

There are two important checks to make sure the hoist and drop work smoothly. Firstly, the halyard length is critical. Too long and the elastic can't tension the halyard sufficiently, so the pump handle does not return back to its start position. Too short and the spinnaker downhaul pulls the centre patch, affecting the smooth setting of the kite. The second check is to make sure the elastic is in tip-top condition, or it will not tension the system sufficiently. With the system being left under tension from the leeward mark to the next windward mark, it is amazing how fast the elastic loses its elasticity. Changing the elastic every six weeks is advisable.

One other important consideration is to drop the spinnaker on port tack, whenever possible. With the forestay being near the bow, the spinnaker chute is normally placed on the port side of the boat. Retrieval on port tack means the spinnaker is pulled over the starboard side, with the foredeck serving as a platform to keep the spinnaker out of the water.

GYBING IS EASY

With gybing being performed at speed, the bicycle analogy describes how easily the canoe can be eased through the manoeuvre. Like all boats gybing in a breeze, it is imperative that the turn is



Although the seat looks dated, it still offers the best form of leverage over the winged trapeze speed machines. On tight reaching legs there's nothing – 49er, Laser 5000, RS800, RS700, Musto Skiff, International Fourteen – that has been able to go as high as the Orange Canoe. That's even with the 20sq m kite (significantly bigger than Musto Skiff or RS700) which also packs a good punch when taking the low route.

commenced with the boat bang upright, but providing the boom swings across whilst the boat is dead downwind the small mainsail will create little tipping momentum.

The technique is to crouch down, probably on one knee, keeping your centre of effort low. Tug the seat over to the other side, whilst pulling the boom across by gripping all the mainsheet lines above the lower pulley and mainsheet jammer. At the same time, put the tiller over making sure the tiller extension is pointing away in preparation for being seated on the other side. As the boom comes across, use a little counter tiller movement to position the boat slightly to the lee on the new side. This counteracts the sudden force of the mainsail going out.

The technique is similar with the kite – it just requires a little more preparation.

Prior to entering the gybe, I find it wise to cleat the spinnaker sheet which frees up your front hand to pull in the slack of the redundant windward sheet and jam it off under tension. This makes gybing the kite quicker and tends to avoid 'wineglassing'. The rest of the gybe follows the same pattern as the standard manoeuvre, but once gybed your first priority is to get the spinnaker flying. The preparation at the beginning of the gybe makes this a lot quicker: simply release the old sheet and pull in the new.

All sounds rather complicated I agree, but no one claims the Canoe is an easy boat to sail!

INTERNATIONAL 10SQ M CANOE

Length: 5.18m

Beam: 1.018m

Max centreboard draught: 1.0m below hull Minimum all-up weight ex sails: 83.5kg

Max correctors: 10kg

Sail area: 10sq m (max mainsail 8.5sq m)

Sliding seat: max extension 2.04m from centreline: max width 500mm

Recommended crew weight: 60-85kg

Asymmetric (under trial): max extension of tack 1.8m; sheeted no further aft 2.68m from stern.

Class website: www.intcanoe.org

Class secretary: Peter McLaren, 01225 332299

DID YOU KNOW?

- Today's blasting asymmetrical wonder has evolved from a dug-out log that became a sailing dinghy. The class began racing in the mid 19th Century when Warrington Baden-Powell became the first Canoe champion, 125 years ahead of Lester 'Orange' Noble.
- Tacking is the most difficult thing to do on a Canoe. The combination of a top heavy seat on a hull less than a metre wide makes it desperately unstable when you grind to a halt, head to wind.
- Canoes are sailed by a small band of enthusiasts. Around 20-25 boats turn out for most open meetings, with all boats currently raced less than five years old. Hayling Island SC has the biggest fleet, while Ullswater SC packs the most talent having scored 1-2-3 at the nationals and 1-2 at the Europeans.
- You can get started in the class and learn to sail a 'Classic' with decent wooden boats from around £1,000 upwards. Multiply by 10, and add some more, if you want to buy new. Alternatively, Lester's Orange Canoe is up for sale to make way for a new one being built for the 2002 world championship. This boat has won every championship it has entered since its launch in 1998 and comes with three mains, five jibs and two spinnakers at a tad under £10K.
- The Canoe has been acknowledged as the fastest singlehanded dinghy since 1957. However, the RS700 has been racing with an estimated PN of 860 in its first season, well below the current 911 for the Classic Canoe and provisional 884 for the Asymmetric. The bottom line seems to be that the RS700 may go faster in very light airs or when bashing through waves, neither of which the Canoe likes. But if it's flat water and the breeze is up, the Canoe will be quicker upwind and sail tighter and faster with the kite as the seat provides huge leverage. Given the right conditions the Canoe is the number one singlehanded speed machine and the most difficult to sail.

