



Nacra 20 Carbon

RIGHT The 20ft Nacra is lighter than a Formula 18, which makes launching simpler.



More than 40 years since the Tornado was launched, its pole position as the fastest production one-design cat is about to be overtaken, by the extraordinary Nacra 20 Carbon, as **Jeremy Evans** discovers...

Specifications

Hull design:	Morelli & Melvin
Platform & rig:	Peter Vink
Foils:	Niels Bunkenberg
Hull construction:	Nacra, California, USA
Length:	6.2m
Beam:	3.2m
Sailing weight:	170kg
Sail area:	Mainsail 21sq m Jib 5.2sq m Spinnaker 28sq m
Mast:	10.45m
Guide price:	€23,500 + VAT

Nacra is a transatlantic brand, combining the design expertise of Morelli & Melvin in the USA with the cat racing knowledge of Gunnar Laarsen and Peter Vink at Nacra Europe and Performance Sails in Holland. Their most successful collaboration has been the Nacra Infusion, winner of two Formula 18 world championships and still ranked as a top design, followed by the Nacra 20 Carbon launched in 2010.

The Nacra 20 Carbon is awesome – not just because of the bright pink one-off commission for an English customer! It is very light (10kgs lighter than a much smaller Formula 18), very stiff, very powerful with a superb carbon/Kevlar 'gaff' style mainsail by Performance Sails and is fitted with long, curved daggerboards, which are the current

major trend in high performance multihulls. The Nacra 20C also looks a thrilling machine, on or off the water!

Foils and rig

Pete Melvin and his team at M&M designed the hull shape for a new 20ft Nacra, with Peter Vink of Nacra and Performance Sails in Holland working on overall length and beam, board position, platform layout and controls, rig and sail design. Niels Bunkenberg, well known as a top designer in A-Class cats, was commissioned to equip the new Nacra with suitably curved foils.

This concept was developed for 60ft racing trimarans, spread to 18ft A-Class singlehanded catamarans and poses a direct challenge to conventional straight daggerboards. The major advantage is that a curved board can provide enough

lift to substantially reduce wetted surface area on the leeward hull. The obvious disadvantage is complex construction and a big hike in costs, with spare boards for the Nacra 20C around £1,400 apiece. We met up with Grant Piggott, an

rigid, beautifully made and excellently engineered as they slide effortlessly inside curved cases. The Nacra 20C rig towers above the boat with sky-scraping functionality, featuring a superb carbon/Kevlar square top mainsail that pays

“It feels precise and predictable. Of course, control may not feel quite so easy leaping across waves...”

expert cat racer who runs GP Sails at Warsash and promotes Nacra in the UK, for a Nacra 20C session at Weston SC. Apart from the fact that this particular boat is pink, the first thing you notice is that it's even wider than a Tornado with massive 3.2 metre beam, providing a huge lever for the crew to hold down maximum sail power. This also means it has to be transported on a tilting trailer to fit inside the legal width limit or have beams removed from the hulls, which is common practice for Tornados.

Compared to the Formula 18 Nacra Infusion, the Nacra 20C hulls appear slimmer and less tubby, since it's a much bigger boat with greater longitudinal stability. Hull shape is also very different. Distinct chines on each side of the bows are designed to deflect water with minimum drag as the boat powers through waves, while the sterns have almost flat transoms, raising expectations of being able to fly downwind on the foils!

Despite their pronounced curve, the epoxy carbon foils appear extremely

homage to old gaff rigged boats. There's a lot of power available, with bigger mainsail and spinnaker than a Tornado.

On the water

It helped to have a mellow day for a first session on the Nacra 20C with Force 3-4 and small waves on Southampton Water. So long as you have space, it's no big deal to launch a 20ft cat that's lighter than a Formula 18, making sure the mainsail is fully depowered (no downhaul and preferably no mainsheet) and head to wind. Unsurprisingly, there's loads of space when you climb on board and the boat feels extremely stable.

In a light-moderate breeze the aptly named 'Thriller' felt stable, predictable and effortlessly quick. It's extremely easy to get on and off the wire, whether you're crewing or helming, and unlike smaller boats there's more than enough room for two to walk on the side. However, crew trim is less critical when you have 20ft of leeward hull providing longitudinal stability, enhanced by a curved foil lifting

the hull which should help to prevent the bow burying. From the crew's position, mainsheet load upwind and spinnaker load offwind felt surprisingly heavy, despite Grant doubling up the standard single blocks for spinnaker sheets. Later in the session, Grant eased the halyard to flatten the spinnaker and lighten the load, but the basic fact is that sails of this size and power require well tuned arm muscles!

From the helm's position, I rate the Nacra 20C as really special – a delightful, delicious and absolutely thrilling boat to sail. It felt an absolute beauty to drive off the wire with the telescopic carbon tiller extension – very precise and predictable, with an absolute feeling that you can control exactly where the boat is going – providing one of the very best steering sensations I have ever experienced on a cat. This is down to a beautifully balanced design that combines maximum sail power with minimum rig and platform weight. Of course, steering and control may not feel quite so easy or precise in a fresh Force 4 when the boat is leaping across waves...

With such a stable platform, tacking and gybing was straightforward in mellow winds, though the helm needs to watch where the boat is heading and be ready for the big mainsail to power up! Despite the wide beam, tacking felt predictable and reasonably quick. You would never choose a tacking duel with something like a Laser, but that becomes irrelevant at more than triple speed.

Assessing the performance of the curved boards and learning how to use them will clearly take time. They did not ▶

BELOW The superb mainsail is surely as close as a sailmaker can get to the control and drive of a solid wing, with 'main element' angle managed by a 1:10 mainsheet system.

BELOW LEFT While you can have a lot of fun flying high, it will not be the fastest – the solution is to partly retract the boards, keeping the leeward hull on the water to maintain maximum control.





TOP The black carbon boards look wonderful, but you need to be careful about blasting across shallow tidal water when replacing a single board costs around £1,400!

ABOVE Going high with the kite puts on the power and loads up the sheet. The curved boards are helping to provide lift. Later in the session, Grant discovered how to do a 'wheelie' by moving crew weight right back!

feel particularly different to a pair of straight daggerboards and it was impossible to gauge if we were getting more lift. But before launching the Nacra 20C, Peter Vink's team did extensive tests with two boats fitted with straight and curved foils. The latter gave much better performance between 8 and 16 knots, which is when most racing takes place. In light winds, there is probably little difference. In strong winds, I suspect a pronounced learning curve may be necessary! Due to the curved shape of the boards, either one or both hulls will tend to fly up onto their foils at speed, particularly sailing through waves. The problem is

when they fall off the foils and crash down with a dramatic decline in speed. Peter Vink explains that while you can have a lot of fun sailing with hulls out of the water, it will not be fastest round the course. The solution is to partly retract the boards as the wind gets stronger and the boat goes faster, keeping the leeward hull on the water to maintain maximum control.

The verdict

The Nacra 20C was launched in January 2010. It's by no means mass market and Nacra expect to sell more than 100 boats by the end of this year all over the globe - Europe, USA, Canada, Asia, Australia, Africa and the Middle East. High profile customers include Team Oracle which has bought three 20Cs for their America's Cup training. If ISAF revert to a two-man multihull for the 2016 Olympics, the Nacra 20C could be top choice.

Anyone who sails a Nacra 20C can be guaranteed of a boat that is beautifully conceived and built, and will attract admiring glances in the boat park and on the water - a lot of people will want rides! You can expect to be the fastest sailboat on the water (well, unless you sail alongside Extreme 40s, AC45s, modified M20s or similar!). It's great for long distance racing, and you should also know that sailing this boat will bring a huge smile to your face - it is exceptional, but that pink is optional!

By the time you add in a trailer, covers, spare foils and other bits and pieces, the cost of a Nacra 20C could be around £35,000. But aside from the price, it won't suit everyone. The Nacra 20C is a high powered beast that will comfortably carry weight, making it ideal for two blokes, with a fair amount of grunt required on the front. ■



ABOVE You don't need to shift weight right forward when driving upwind due to a combination of hull length, volume and lift from the curved foils.

From ???

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Tornado

Length: 6.09m
Beam: 3.05m
Sail Area: Main + Jib 23.6sq m
Spinnaker 25.87 sq m
Weight: 175kg

First launched in 1967, with constant development for Olympics 1976-2008, including a major update to the rig. Still extremely fast, with the bonus of becoming a virtual one-design.



Marstrom M20

Length: 6.10m
Beam: 3.05-3.52m
Sail Area: Mainsail 24 sq m
Spinnaker 25-28sq m
Weight: 115-142kg

High aspect mainsail with no jib, which due to low drag is lightning fast upwind, with sail power doubled by a spinnaker downwind. Special wide versions such as the Vampire are currently the fastest 20ft cats around.



Foruma 18

Length: 5.52m
Beam: 2.6m
Sail Area: Main + Jib 20.85sq m
Spinnaker 21 sq m
Weight: 180kg

Leading high performance international cat class is 'open' for different designs such as the Nacra Infusion, Hobie Wildcat, C2 and Shockwave. Sailing weight comparatively heavy, but racing very tight with fleets up to 180 boats at world class events.