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Cross Country

READ BY HANG GLIDER AND PARAGLIDER PILOTS IN COUNTRIES AROUND THE WORLDWIDE



Play Time

PIEDRAHITA : BEACH LIFE : LUC ARMANT : HANG LOOSE : EVEREST

BETWEEN THE SHEETS

ICARO MAVERICK 2

EN C
Gliders are all about glide and in this department the Maverick 2 really performs, says Marcus King

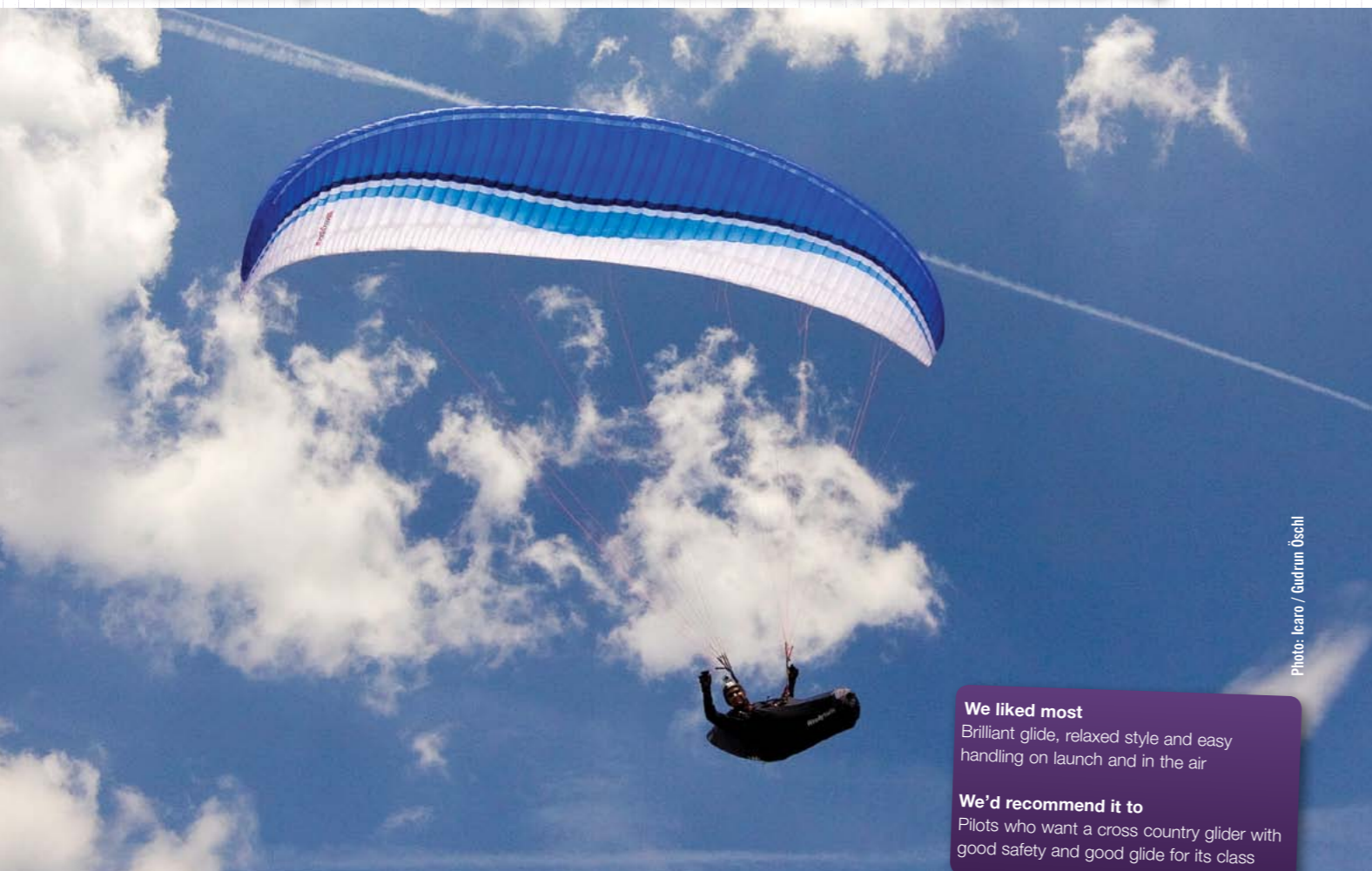


Photo: Icaro / Gudrun Üschil

We liked most
Brilliant glide, relaxed style and easy handling on launch and in the air

We'd recommend it to
Pilots who want a cross country glider with good safety and good glide for its class

ICARO'S DESCRIPTION

The Maverick 2 combines the handling and safety of the original Maverick with the latest performance gains of high performance gliders.

BACKGROUND

Icaro gliders are celebrating their tenth birthday this year. Originally a spinoff from the Italian brand Icaro 2000 hang gliders they are now a totally independent company based in the German Alps.

The company also runs a repair workshop and has undertaken ISO 9001:2008 certification.

FROM THE HORSE'S MOUTH

What were your aims when designing the Maverick 2?

We wanted to build a glider of the new generation, combining all the new technologies of C class wings. We set out to achieve the highest performance available without sacrificing any of the handling and safety of its predecessor.

The new wing uses most of the latest technology trends. How do these affect its behaviour?

The Maverick 2 has battens and a special profile with A-lines attached further back. With this

construction far better performance and greater stability is achieved. It is easy to launch, with no tendency to overshoot. Even in strong winds it can be pulled up accurately without the risk of the pilot being dragged.

What will original Maverick pilots notice most about the new wing?

It is a completely new concept that has been tailored for XC pilots. It has a higher trim speed and 6-8 km/h more top speed. On half speed bar the new Maverick is as fast as its forerunner but even more stable and with a much better glide. Because of the new technology the glide on bar, or in turbulent conditions, is sensational. With a slightly higher wing load and the new profile the handling has been improved and therefore even small and tight thermals are easy to centre.

What's next from Icaro?

We try to replace our wings on three to four year cycles. We will be replacing the school glider next and are developing a small mountain glider.

CONSTRUCTION

This glider is bristling with all the latest must-have technologies. Up front nylon rods reinforce the

cell walls. As with some other new designs these extend much further than has been the norm until now and support a larger part of the profile. This has allowed Icaro to move the A-tab further back, which they say increases the stability of the wing especially at speed. Moving to the top surface you will also see an extra seam at the highest point. This is used to better control the shape of the profile in this aerodynamically critical area. The nylon rods used in the construction are very flexible. Icaro told us they recommend packing the glider cell on cell, and ideally in a concertina bag.

Moving to the trailing edge you'll find the mini ribs that just about every new glider seems to sport these days. Like most of the designs we've seen these are sewn externally. These extra ribs create a more consistent profile across the span of the wing in what is another critical area.

The sail is made from Porcher NCV, a popular material in the industry. Icaro have used various weights of the material within the design, including the 27g/m² variant on non-load-carrying internal structures to reduce weight. The medium size that I flew weighs 6.35kg. Sticking your head inside it's obvious everything is well finished.

The wing has a relatively high aspect ratio of 6.06 and less curve than some wings, resulting in a high

projected aspect ratio of 5.01. Most other wings in this class have a projected AR of nearer 4.5.

Icaro make use of a hybrid three-line layout, in that they use an extra support tab in the central section of the wing. This is said to give better support to the centre of the wing under braking and also improves the recovery characteristics following a collapse. The lines themselves are Edelrid Technora with the upper cascades being unsheathed to reduce drag.

The risers are of a sleek, racy design as you would expect for a cross-country wing. They are nicely finished with a clean look that is a great improvement over older Icaro wings I have flown. There is a baby-A riser to make pulling big ears easier. The brake handles are relatively thin but are well padded and have a removable stiffener. They are attached to the risers with strong, material-covered magnets and have a swivel to stop the brake lines twisting up.

The speed system is pretty complicated for a wing of this class, with differing amounts of acceleration being applied across the span. The system uses good quality metal-bodied Harken pulleys that are covered for protection.

Overall this is a well-constructed wing, produced using quality components.

ON THE GROUND

On launch I found the wing needed a steady pull as it rises above you. There is no tendency to overshoot – in fact if you don't keep the pressure on during the climb phase it is more likely to drop back down. The wing inflates easily and once overhead is easy to control.

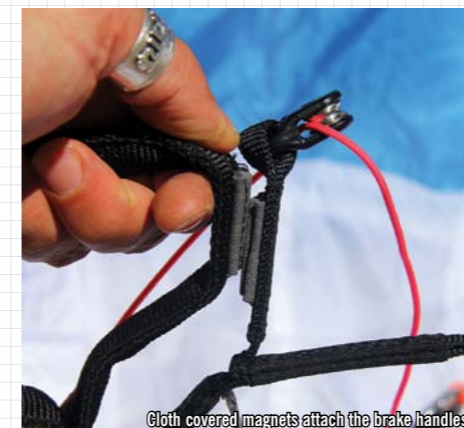
This smooth, unrushed behaviour is also notable during forward launches despite the wing's high aspect ratio.

IN THE AIR

Once in the air the wing has direct, solid handling. If you like light brakes you may find it too heavy, but it gives a good solid reassuring feel to the wing. Turns can be easily achieved with a mix of weightshift and brake and the angle of bank is easily controlled for maximum efficiency.

The feedback from the wing is subtler than some wings. This is one of the effects of moving the A-tabs back and even in rough air the wing doesn't feel nervous, giving a nice smooth ride.

In thermals I would have liked it to bite a little bit more, and found myself having to go hands-up to push the wing forward rather more than I am used to. The positive side of this is that even in the strong, late-spring thermals here in the south



Cloth covered magnets attach the brake handles



Thin, racy risers with a complicated speed system

of France the wing felt solid at all times and never felt like it was going to pitch violently. All very reassuring when you are rocketing out of a rocky gully at 10m/s.

As I spent more time with the wing my flying style adapted and a complete lack of collapses, even on quite bouncy days, speaks for itself. I was happy to fly hands-off taking photos with this glider. Once centred in the core I found the wing stayed locked in easily.

I found sink rate was on a par with the other wings I flew with. The wing's smooth efficiency made thermalling less hectic, giving me the chance to look at the route ahead and make decisions rather than having to concentrate on flying the wing.

Big ears are easy to pull thanks to the separate risers, and flip out pretty instantly when released. Spirals and asymmetric spirals are easy to enter and control the level of sink. The Gs are reasonably high at high sink rate as you would expect for this style of wing, but not excessive.

Wingovers were easy to get going with a nice smooth sweeping feel, and it was easy to get them well coordinated. As for other manoeuvres, while I am sure this wing is capable of them, it doesn't cry out to be thrown around acro style – this is a cross country machine.

ON GLIDE

Let's get the only negative I could find out of the way first: occasionally I felt that the wing got knocked back by turbulence, and I felt the need to push it forward.



Nylon rod reinforced leading edge

Now the positives: the highlight of the wing is its performance, and its glide is an area where it really shines. You can tell this wing glides well, right from the moment you let it head off. While I won't get into numbers that can often be misleading, I can say that I made plenty of long glides in real conditions with other similar class gliders and even some from higher classes, and never felt disadvantaged. In fact the performance of the wing often had me grinning.

The speed system is easy to use and smooth, making small adjustments to the acceleration easy to achieve. If anything, the wing becomes more stable at speed and even flat out I never felt that the leading edge was becoming fragile.

CONCLUSION

There's no doubt that Icaro have created a wing that has bags of performance while retaining smooth, unfussy handling that many will appreciate. Its efficient design combined with a solid feel should keep you relaxed on long days out in the sky.

The Maverick 2 has been created using the latest technologies combined with attention to detail and quality production. Definitely one to have on your shortlist if you like this style of wing. **XO**

THE REVIEWER

Marcus King flew the Icaro Maverick 2 Medium (90-110kg) at an all up weight of 105kg, flying a selection of pod and open harnesses.

www.icaro-paragliders.com



Chunky metal body speedbar pulleys