You already own...a high performance dinghy!

Glide Free Foils

METS DAME Award 2014

GLIDE FREE DESIGN

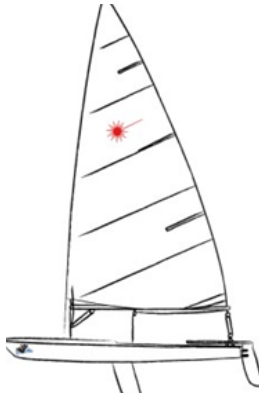
STYLE & SIMPLICITY

The style of the hull is based on the Flying Dutchman, which is perhaps one of the most influential classic dinghy hull shapes copied to a large extent by 470, Contender, RS600 and also Laser.

i. The Laser hull shape has simple, moulded, classic clean lines. It is today, the epitome of the basic, classic sailing dinghy.
ii. There are no wings, trampolines, gantries, hiking seats, trapezes etc.
iii. The rig is extremely simple, unencumbered by stays, prodders or wing sections.
iv. The construction is simple with standard materials making it cheap & durable.
v. The hull is practical, easy to lift, launch and the centreboard retracts without hitting the boom
vi. The hull profile is shallow with low windage and moderate weight.

Glide Free Foils are a completely new innovation for Laser sailing dinghies. Foils are underwater wings which can lift a sailing boat clear of the water, greatly increasing its speed, performance, excitement and fun. We have engineered an easy to use product, which retrofits to the world's most popular adult sailing dinghy, making 'foiling' practical and affordable for all sailors, not just the elite.

Laser dinghies are ubiquitous globally providing a ready-made market where you don't need to buy a boat, as you already have one!



FOILING CONTRAPTIONS

The efficiency of hydrofoils is well known and has been applied to sailing craft for many years. The foils provide both stability and reduced drag, greatly increasing sailing performance. Most previous foils extend from the side of the boat for stability and use multihulls as a stable support platform.

The hallmark feature of these designs has been a general lack of elegance. Most existing foiling craft are complex contraptions with multiple hulls, large trampolines, massive deck beams, and multiple foils. While being impressive engineering feats, they are certainly ungainly and in the most part quite impractical.

DESIGN ESSENCE

While the foiling Moth is very well known and a fantastic engineering development with incredible performance, it retains the essence of a ‘contraption’, with large cloth trampolines on tubular ‘wings’, extended gantry aft, bow mounted wand and triangulated mast support structure.

The essence of our design is simply to have the Laser dinghy fly... low, very fast and silently, just above the waves. It appears suspended in mid air, displaying the hull’s clean lines below, just as a magician levitating the boat with no sign of strings or supports.

Our unique design has sought to eliminate as much of the paraphernalia around foiling as possible, by removing all but the essentials, namely the centreboard and rudder.

It is this elegant simplicity which distinguishes our creation, disguising the hidden complexity and detailed engineering which make this possible.

Furthermore, the nature of the sailing dinghy, requiring skill and balance, has been preserved. The centreline foils ensure that the boat is sailed ‘dinghy’ style.

We have also retained the simplicity of the Laser dinghy, uncompromised by the addition of hiking seats, trapeze, gantry etc.

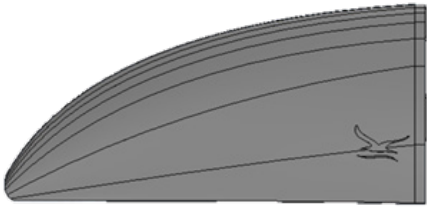
FORM & FUNCTION

To achieve this design elegance is most certainly not simple. There are many practical limitations to attaching, rigging, launching and successfully sailing such a foiling craft.

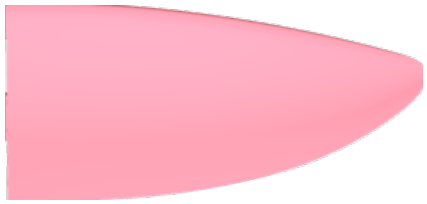
We have sought to extend the simplicity and style of the basic Laser dinghy to this functionality. The aim being to make the foils simple to rig, launch and sail. Wherever possible we have used the same basic materials of construction, in keeping with the construction of the Laser itself.

Wherever possible we have sought to employ the simplicity of classic forms from nature and pleasing shapes which embody hydrodynamic functionality in order to create a pleasing and functional product.
The classic lines of the spitfire wing tip have been used on the high lift main foil, while the low drag form of the sharkfin has been used on the rudder tips.

Retraction of the foils is in keeping with the original Laser raked centrecase and retractable swing rudder, making it easy to launch in shallow water.



harkfin low drag rudder tip



Spitfire high lift mainfoil tip

Graceful gentle reverse curve lines of the low drag laminar flow foil cross section is employed in both the vertical and horizontal foils, while the clean lines and low drag of flapless foil eliminates the conventional control flap.

Rudder horizontal foil with low drag Sharkfin wing tips

VISION

Our vision is to bring the excitement of foiling within reach of all sailors, not just the elite. We also foresee a re-invigoration of interest in dinghy sailing, just as when the equally ubiquitous Windsurfer and Hobie cats first appeared.

We believe it is important to maintain the simplicity, form and style of the Laser while making foiling practical, safe & affordable.

We have sought to;

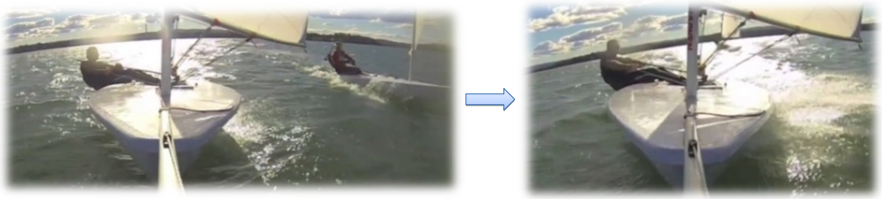
- Remove the complexity.
- Eliminate unnecessary appendages.
- Integrate the key components.
- Maintain elegance and simplicity of the Laser dinghy..... *without compromise!*

VERSATILITY

- The foils can be fitted and removed in minutes, without the need for any fastenings or alteration to the existing boat.
- The rudder retracts aft in the normal way and the centreboard is easily inserted in shallow, knee deep water. There is no need to carry the boat into the water on its side or launch in deep water.
- Even with the centreboard foil fully retracted, it easily clears the boom, so you don't have to worry about surprise gusts hitting the boom on the centreboard and capsizing when launching.
- The foil wing tips can be easily removed and replaced with smaller of larger tips to match the breeze and crew weight.

INCREDIBLE PERFORMANCE

Not only have foils been added to the Laser, but the handling and functionality of the standard Laser has been significantly improved with a lighter balanced helm and significantly improved stability.



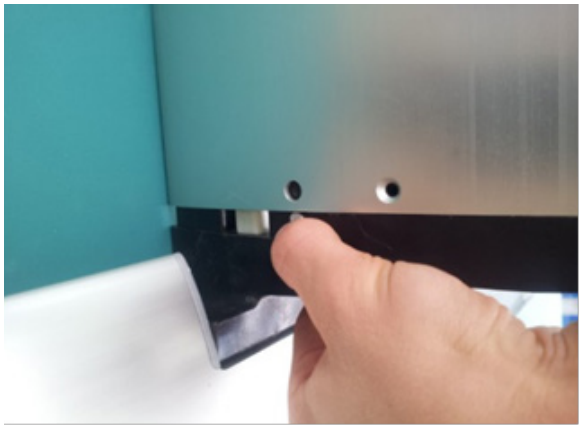
Perhaps the ultimate confirmation is the incredible performance of the Laser dinghy when using Glide Free Foils. Speeds of 18-25kts are possible, a 200-300% improvement over displacement sailing speeds.

While the foiling cats improve their displacement speed by just 20-30%, the Laser dinghy on foils improves its normal performance by well over 200%. This is no mean feat! To think that your humble Laser can out perform most standard catamarans and skiffs on a reach is truly incredible!

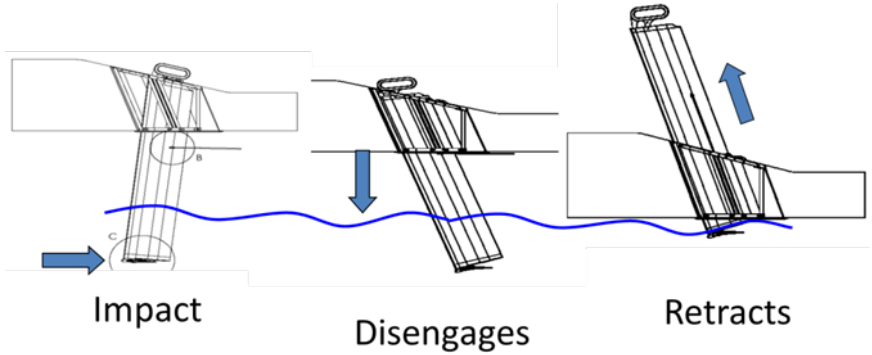
QUALITY & SAFETY

We have sought to manufacture the foiling kit of high quality engineering materials, built for mass production, not just a glossy one off prototype. The engineering detail of the extrusions, fine tolerances of the mouldings and finishes are all high quality and well engineered.

The key components are interchangeable and neat integrated spring clips allow the kit to be fully assembled and afterwards pulled apart and flat packed for transportation without the need for tools.



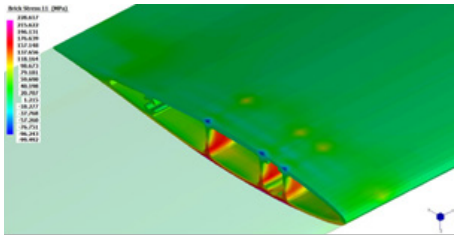
Safety is a significant feature, necessary once you are sailing at over 15kts. The design employs unique safety features to automatically absorb impact and disengage the foils on impact. This reduces the risk for personal injury and damage to the boat.

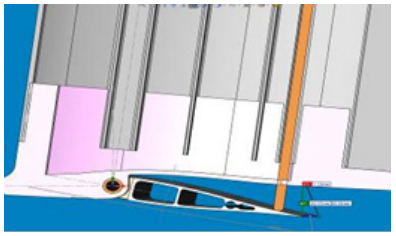


The multi-purpose Safety hook prevents the centreboard foil from falling through the boat and guides the foil into position within the centrecase insert.

EGINEERING

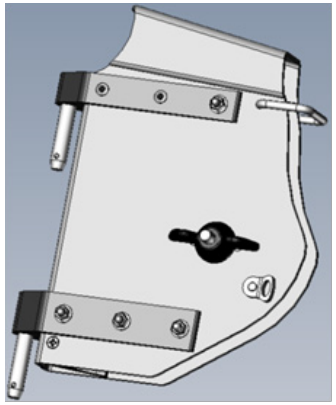
Advanced engineering design has been used on all critical components and where we found shortfalls in existing FEA design tools and materials, we have developed our own.

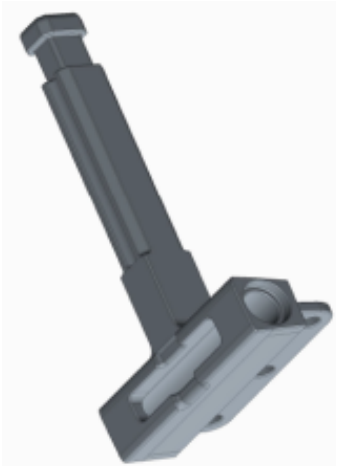




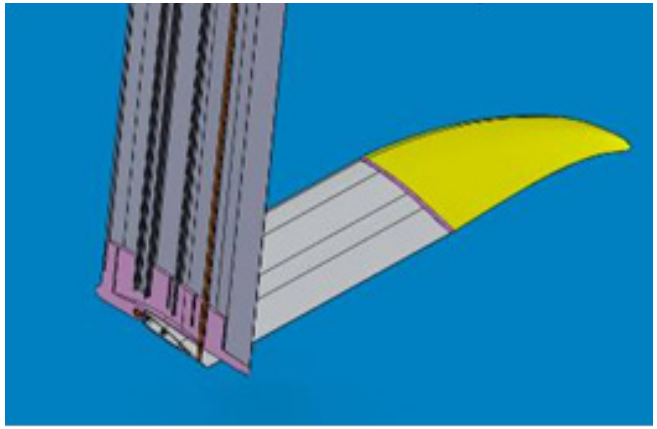
Where the standard Laser components such as rudder stocks were not strong enough we have developed our own high strength, light weight solution.

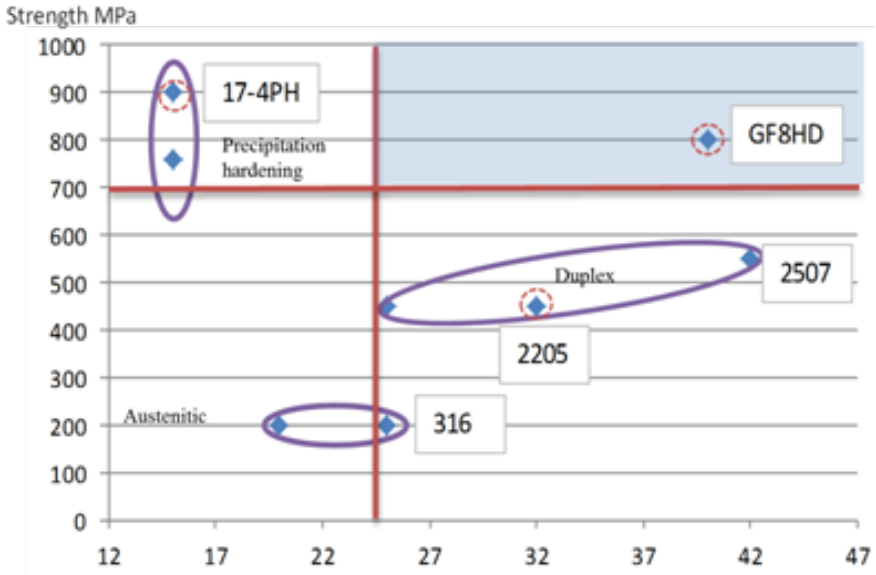
A significant development has been a new, high strength hyper-duplex stainless steel for our investment cast critical components.





Prototypes have been produced using the latest 3D printing and we have even pioneered 3D printed investment cast components for the high strength structural joints.





COST

A significant issue with foiling is the cost, putting the experience of foiling well out of the reach of mere mortal sailors. Surprisingly the Moth at around $25,000 has been the most affordable. An A-Class cat can set you back $35,000 plus another 3-5K to fit the foils. The two man Phantom is around $40,000 and the latest GC-32 at $330,000 which appears to be well out of reach of the average sailor!

Perhaps the most significant feature of the Glide Free Foils for the Laser dinghy, is the low entry cost. You don't need a new boat, as you already have one. At under $5,000 the foiling kit enables you to experience the thrill of foiling for less than 20% of the cheapest alternative!

Glide Free Foiling kit for Laser $5,000

A terrific benefit of the retrofit "clip on" foils for the Laser is that you don't need to decide if you should invest in a Moth or an A-cat to go foiling. This would only mean you have two boats to store and maintain, especially if you prefer to race your Laser in regattas as well

While the cost may seem quite a lot compared with the price of a basic Laser, it is certainly comparable with other types of sporting equipment such as a good quality road or mountain bike and is a lot more affordable than any other way to experience foiling!

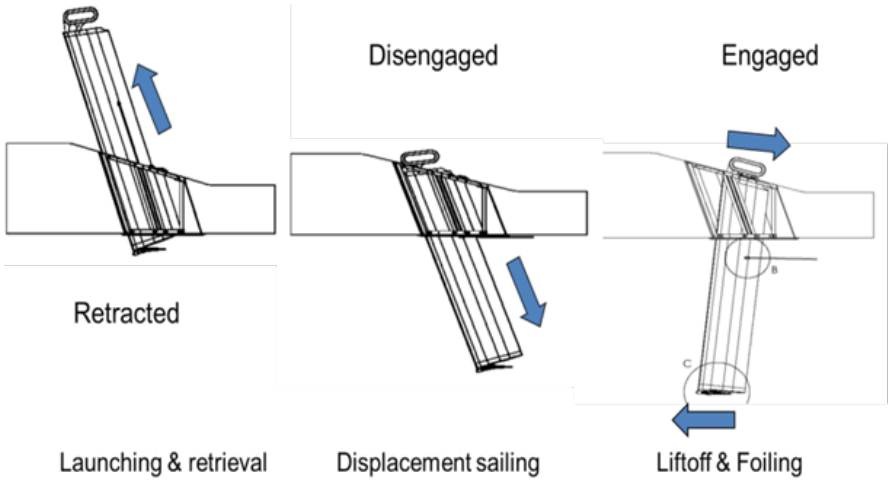
Moth - $25.000

A Class Cat – $35,000

PRACTICAL

EASY LAUNCHING

The foils are designed to retract, making it easy to launch the boat from a standard trolley in shallow water. Lower the foils after you leave the beach and sail away in displacement mode. Engage the centreboard to go foiling. Retract the foils before coming into the beach.



SIMPLE OPERATION

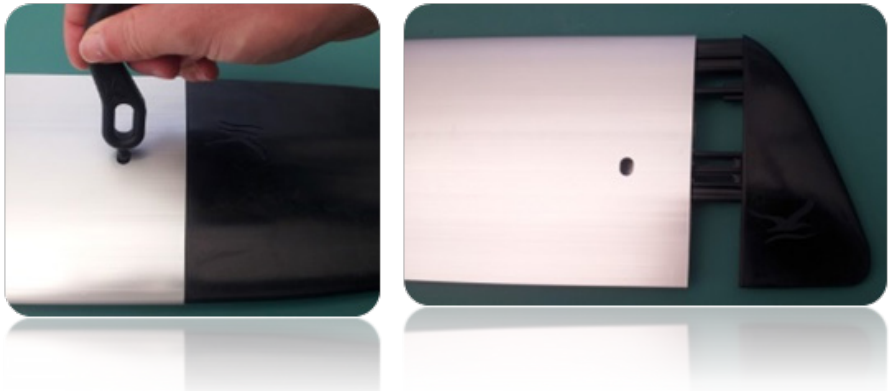
The foils are very simple to insert and operate. Initially insert from beneath and retract in the same way as a standard board. Insert the safety hook. Lower the board to sail in displacement mode. When you are ready to foil, pull the handle aft to engage the lifting foil.

INTEGRAL WAND

The sensing wand is integral with cenntreboard and retracts within the centrecase.

DETACHABLE WING TIPS

The detachable wing tips are interchangeable for light and heavy winds using a simple spring clip.



FOILING KIT

Features:

- Easy launching in shallow water.
- Retractable foils for easy launching.
- Retrofit without fastenings.
- Detachable foils for easy transport.
- Interchangeable wing tips & speed foils.
- Versatile high quality carry bags.
- Your laser remains race legal.
- Safety quick release.
- No need to buy a new boat
- Affordable high performance

GLIDE FREE FOILS

Email: info@glidefree.com.au
Website: www.glidefree.com.au

THE FOILING KIT CONTAINS

- Centrecase insert, gearblock and toggle pin
- Centreboard with integral wand, pushrod and handle
- Centreboard lifting foil with standard and speed foil tips, Tee joint and spring clips
- Rudder with pushrod and adjusting nut and retaining cord.
- Rudder stock with retaining clips, thrust washer, spacers.
- Tiller with cleat and universal joint.
- Rudder lifting foil with Tee joint and spring clip
- Safety hook, gear block packers
- Carry bags for Centreboard, Rudder and Centrecase

The foiling kit is packaged for ease of transport in a set of high quality padded carry bags.


Imagine yourself...doing this!
GLIDE FREE FOILS