

SAIL FREE

CHRIS JACKSON TRACES THE DEVELOPMENT OF THE GRAUPNER MICRO MAGIC

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The development of the Graupner Micro Magic design can be traced back to a succession of different models in their range and the boat remains very popular although it has now been on the market since 1997. MMI featured a short review and a cover photo of the original back in November 1998 and when we received a box containing the latest iteration, the RTR Racing Version, we thought it might be useful to review the earlier versions, as well as the latest, for the benefit of the many new readers of the magazine over the last few years.

THE MICRO MAGIC CONCEPT

We were lucky enough to be invited to visit the Graupner head office and factory near Stuttgart during the period this boat was being developed and tested, and it is in fact one of a good number of excellent sailing boats which the company first produced during the era.

Even as a teenager Thomas Dreyer became well known internationally as a fine builder and competitor in the Marblehead class and when he finished his education he joined the design team at Graupner. He was responsible for the Miramare One Metre, the Libera Ocean ketch, the Butterfly trimaran and several classic near scale sailing craft of which the largest is the Rubin, followed by the smaller Saphir.

At this time there was great interest worldwide in the tiny 6.5 m monohulls being sailed single-handed across the Atlantic from France to the West Indies and the overall style of the Micro Magic Mk1 is very much in the style of these boats. The result of his long experience and with freedom to design a neat, well-balanced hull with plenty of ballast in the bulb keel has been the tiny Micro Magic.



The Mk 1 Micro Magic as supplied, with ali tube mast and spars, rubber grommet sail fittings and yellow colour sails, and scale rudder tiller

THE GERMAN RACING RULES

It was not long before there was great interest in racing these boats, especially in their homeland, and by 2003/4 a series of races and a set of rules were developed. These rules were laid out by



A Mk 1 hull, showing the early profile deck hatch and moulded in false foredeck hatch. The rig has been updated to use carbon spars and Graupner racing fittings



The Carbon Edition has distinctive read sails and black 'carbon-effect' hull mouldings, but retains the standard fin and rudder

THE MK 1 KIT

The earliest kits that were produced had the familiar ABS plastic mouldings for the hull, deck, hatch and finbox, all of which had to be assembled by the buyer. The fin blank and rudder were also plastic, and the internal structure of the hull was laser-cut timber. The rig was very straightforward, with good quality single panel sails, aluminium tube mast and booms and rubber grommets for adjustment. The rigging was in a polyester cord with small bowsies and entirely conventional. The complete package was very pretty and owners soon discovered how well she sailed for a boat of such small size.

the boat's designer, Thomas Dreyer, and allowed for a great deal of freedom in modifying the boat.

The German racing fleet held their first national championships in May 2004 in Schotten, near the Graupner factory in Stuttgart and numbered over 300 by the end of 2005. The German rules require that the basic hull, deck and cabin mouldings are retained, but internal fitting out can be anything the builder wants. The fin must retain the overall depth but may be otherwise completely different to the kit item, as can be the rudder.

The ballast weight can also be of any weight and dimensions. Whilst only one fin may be fitted per race, it is allowed to swap fins during an event, and in place of the single rudder it is allowed to fit two or even more! The rules allow for builders to add as many servos and extra controls as they wish, experiment with different ballast weights and disposition and also to change a great deal of the rig provided the sail area remained within the factory specified maximum area. The round mast may be changed for one of aerofoil shape with a maximum side width of 20 mm, the soft sail area adjusted to compensate for the added side area of the mast.

The German rules remain much as first published and their nationals continues to have plenty of support, with around 50 boats entered. It is worth mentioning that whilst the rules allow all sorts of experimental ideas to be built and sailed, if you want to win races then something a little less experimental is often the best choice.

THE RACING VERSION MICRO MAGIC KIT

Clearly the popularity of the boat as a racing machine led to Graupner deciding to develop a much-improved version of the original, and although he had moved by then to Daimler



A Micro Magic Racing Edition completed by John Cox from parts beaten up in a postal accident!

Benz, Thomas Dreyer was consulted on this development. The new hull had some changes in profile and so did the keel and rudder, but the most obvious upgrade was the complete range of purpose designed fittings based on carbon mast and spars. The gooseneck and kicker were engineered in plastic and metal and provide excellent control, and the little boom fittings are neat, lightweight and efficient.

The fin moulding is notable for two movable pieces, which allow the fin to be mounted a little forward or

THE RTR MK 1 PACKAGE

Rather than consign the earlier mouldings to the store cupboard Graupner decided to offer the Mk 1 as an RTR boxed item and this was put on the market as a very cost effective way of buying a really well sorted sailing boat. There is a growing market these days for people who do not want to spend their time putting a model together, and the repackaged Mk 1 has proved a very well targeted product.

THE INTERNATIONAL CLASS RULES

The second country to find itself with a growing fleet of boats was the Netherlands, where the distributor had the good sense to put a registration number and form in each kit sold and offer a link to a national website. It soon became clear that many skippers wanted a set of rules, which cut back on the possible modifications allowed by the German rules, and in the end this produced a separation from the German group and the establishment of what is now known as the International Micro Magic Class Rules.

The hull, deck and cockpit cover have to be Graupner products, and the internal modifications are limited. The fin and rudder must be kit spec items and it is not permitted to modify them in profile or side area. The weight of the ballast, and the overall weight of the boat ready to sail are also controlled. These rules cut back the



The latest RTR Micro Magic as assembled completely in accordance with instructions



The Graupner 40 MHz FM transmitter is the factory supplied and fitted option. Good quality and takes the usual AA cells

number of controls to rudder and linked sails only, cutting out the factory fitted foresail slot trim servo which has to be isolated or removed to comply with the class rules. The Class Rule lists the official Graupner parts which must be used. The rigs remain fairly open to modification but does not allow for anything other than a round untapered mast, and soft sails.

THE CARBON EDITION KIT

This appeared at the Nürnberg Trade Show in 2008 and was immediately checked out by the racers among the MM fleet. The hull and general plastic/carbon skin was made up from plastic sheet to which an outer skin of short carbon fibres finished with a resin coating had been added, but otherwise the kit was effectively identical to the existing Racing Version.

Whilst a purely carbon moulded hull would likely have been lighter and therefore an attraction for racing skippers, the hull and key parts of this version turned out, if anything, a tiny bit heavier so it has never attracted as much interest as it might have done.

Another thing, which builders soon discovered, was that greater care during assembly was required to avoid any trace of adhesive blemishing the very lovely skin of the boat. The Carbon Edition boat is also easy to spot from the red colour of the Icarex material used for its sails.

THE UPGRADE TRADE!

The popularity of this tiny boat has extended to having around 20 countries linked into their international website and naturally the top racers all want to gain any slight advantage to their own boat.



The RTR hull and hatch cover as supplied complete with installed R/C gear



The RTR rig, mast and booms in carbon with all fittings, and readymade sails



The timber-stand slots together neatly



The keel and rudder as supplied. Note the mounded 'spacers' attached to the fin where it enters the hull

THE RTR RACING VERSION

The latest version of the Micro Magic came very well packaged and with building instructions that are comprehensive but need to be read very carefully. The images showing the build and rigging process are clear and well marked. The fin and ballast are finished but with the centre position spacers glued to the top (the other spare spacers are not supplied). The fin/ballast is finished with a white spray finish and weighs an impressive 419 grams, very close to the maximum 420 grams, and is finished to a high standard.

Radio gear and three servos, including foresail slot adjuster, are all fitted in place, with sheeting lines ready to attach to the booms. The rudder servo tray seems to be more substantial and this should stop any movement and deformity. You must also drill a small hole in the bulkhead for the 40 MHz receiver aerial that runs to the backstay fitting and up the backstay, unless of course you intend binning the 40 MHz unit supplied and replacing it with a 2.4 GHz combo.

The jib boom, main boom/kicker assembly and mast are completed with stays, shrouds and jib to deck cords all attached so you just need to attach the main boom kicker to the mast and that is completed. The only problem is which way up to have the main boom kicker as the pictures have the boom at the top and the drawings have the boom at the bottom (I put the boom at the bottom with the bottlescrew acting as a compression strut).

Now with just the sails to fit I opened the pack and was surprised to find them fully completed with battens fitted and with the cord already inserted into the jib luff pockets. The white sails look good but are of a different material than the earlier Racing Version and seem to be slightly stiffer. This all made for easy rigging and with the hooks already fitted to the hull and mast this was completed very quickly.

Under the International Class Rule little can be done to the hull, fin and rudder except to tidy up the R/C gear, but the rig and sails are often quite substantially modified.

A simple option is to buy some tailor-made paneled sails in place of the kit supplied items. It is also possible to change the mast for some stiffer tube, which means you can do away with the cord shrouds to reduce windage. This also makes changing the rig a lot easier, and in turn the top skippers now use anything up to five alternative rigs to suit different wind and wave combinations.

The UK website, linked to the international one, is at www.magicmicro.org and this lists a number of companies which can supply these options. The general view of the racing members of the current class association is that more restrictive rules would be hard to police but there are many clubs which sail the standard version of the boat in most wind conditions at events when over-pressed it still goes remarkably well!



The foresail and boom fittings. The kit instructions assume you are going to leave the rig fitted but a detachable link could be added

I was surprised to find that a switch is not supplied and the batteries are plugged straight into the receiver from a plastic AA cell holder. As a short-term option I removed one dry cell from the plastic holder when not sailing to cut the electrical circuit. Also the receiver is stuck to the lower side of the hull in a potentially wet area. I would recommend placing the receiver under the deck by the fin box and adding an extension lead from the receiver to the batteries with a wired in toggle switch.



Mainsail boom with gooseneck installed as a compression strut.



The author's Racing Edition has this waterproof switch installed, and makes for easy access



The masthead with moulded plastic backstay and forestay attachments. All supplied with suitable cord ready to go!!

caught once under the jib adjuster servo arm. With a bit of thought these problems are solvable.

As the winds lightened during the evening I became less competitive as the sails would not easily take shape, as they seem slightly stiffer, and the foot adjusters, clamps with bolts, held the foot out of shape. This last problem can be solved by slightly opening the hole in the sail so it is free to move a little easier.

The servos have no identifying marks or labels so I am not sure of the torque and speed but they seemed to perform quite adequately



The RTR Micro Magic ready for sailing

Next was the weigh in – with the 4 AA batteries in the holder supplied the total weight is 942 grams – with a 66 gram rechargeable pack the total weight is 878 grams – with the third servo removed (jib adjuster) the total weight is 867 grams, only 7 grams over the minimum weight!

Within one hour of starting the Micro Magic I was ready for the launch and with a good top suit breeze the yacht was both responsive and balanced. I encountered a few problems with the jib sheet as it became entangled between the sail servo tray and the fin box, plus it was

in top suit conditions. As for the third servo (jib adjuster) this is adjusted on the transmitter with the sail servo arm by using it side to side – this would take some time to get used to (it is not allowed under the International Class Rules) and would be better off linked to a separate adjuster knob on the Tx if you swap radio to 2.4 GHz.

CONCLUSIONS

All in all I was very pleased with the performance of this yacht which goes well as assembled straight out of the box and with some very minor adjustments can be improved to make the most of its potential. Although the Micro Magic is tiny it is a really well balanced and attractive boat and the RTR version will undoubtedly provide good sailing without the need for any further, major expenditure. Most important is the value for money at a price of approximately £200 for the RTR boat sans radio – this is cheaper than purchasing all the items required to build a kit!

We are grateful to Mike Weston of RC Yachts, Swanley Park, New Barn Road, Swanley, Kent BR8 7PW for the provision of the test item. If you want to get hold of one then he will be happy to supply the basic boat, with or without radio Tx and Rx, and he also stocks a range of additional Micro Magic parts for the keen racer! Telephone number 01322 666363, or check out www.rcyachts.org.uk **MMI**



Identical twins, well almost! The Racing Edition and the latest RTR Micro Magic are very similar indeed and excellent value.

