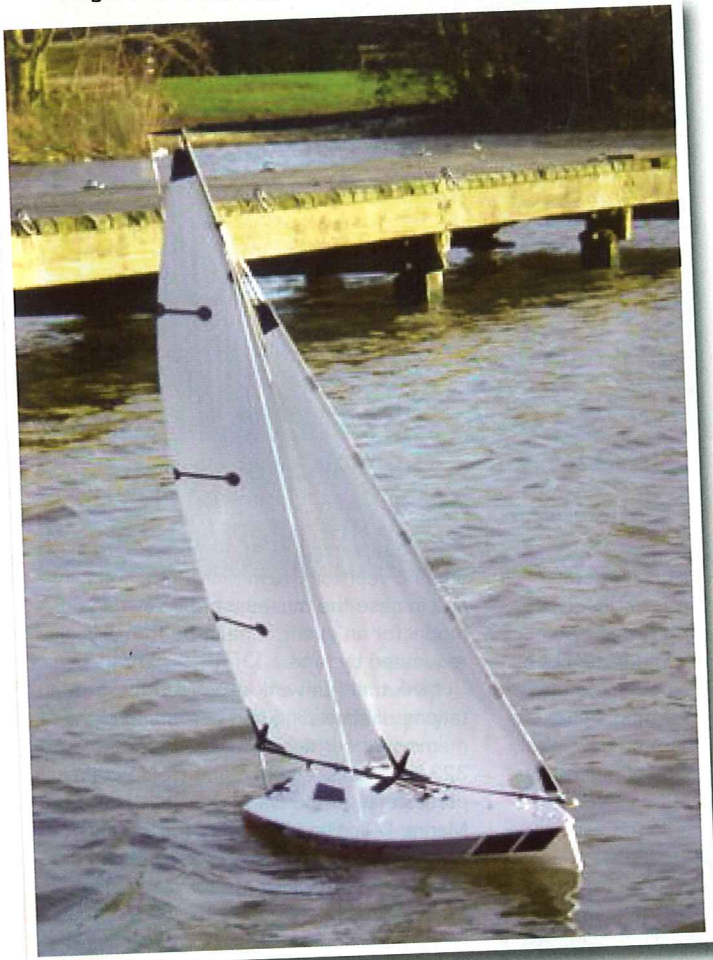




BELOW: The Micro Magic Racing completed 'straight out of the box'



Following on from the success of the first version of this little racing sailboat, Graupner have launched two quite different versions of the same basic design. The first is a RTR version of the original model with rig and sail details much as for the 'do it yourself' kit, and the

second is this very much upgraded version for individuals to build themselves for racing and high level trim use. The original was designed in 1998 and was based on the single handed boats used by the then mostly French fleet sailing a single-handed race across the Atlantic, an event which has grown steadily every year to accommodate international interest from designers, builders and young skippers looking for a challenge.

MICRO MAGIC RACING

THE EDITOR REVIEWS THE NEW 'RACING' VERSION OF GRAUPNER'S MINIATURE SAILBOAT

The original Micro Magic has become very popular in Holland and Germany and smaller numbers are to be found in Canada, Finland, France, Portugal and Spain and no doubt other countries. In the UK the interest has developed less quickly but at the beginning of this year a website devoted to the class has been put in place and at least one race meeting scheduled. In many ways the production of this very high spec version from the manufacturers may well help avoid long discussions about the extent in which the basic kits can be upgraded and still sail happily in a fleet with other boats in more basic state.

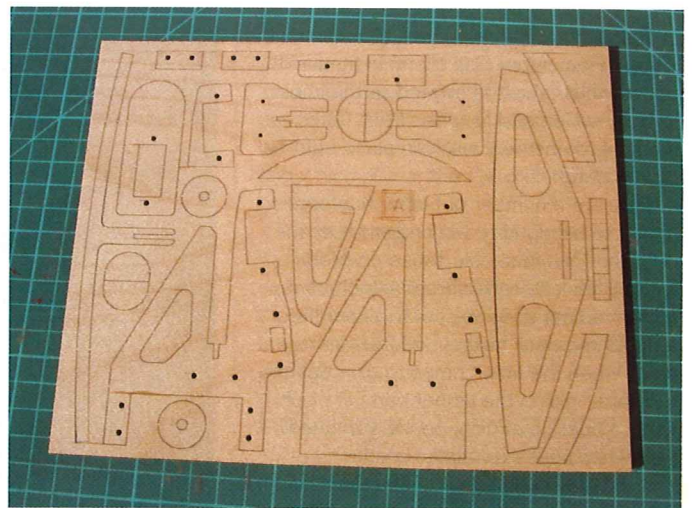
BELOW: The paperwork, excellent plans, full building instructions and a decal sheet



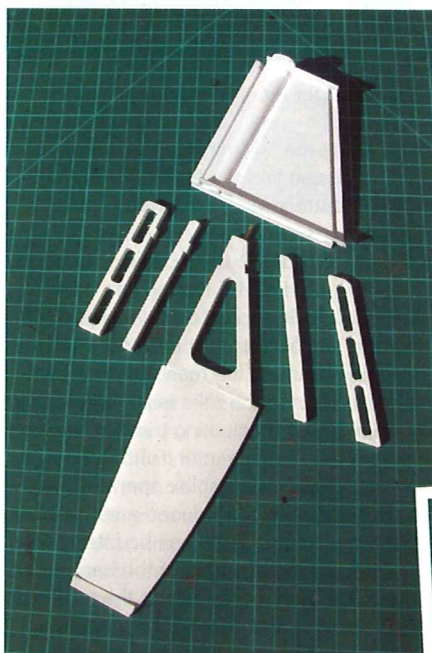
The Box Contents

Everything you will need to build the boat is included inside the box, except the radio equipment, adhesives and paints. The hull moulding is in high grade ABS, as is the deck and the hatch cover which comes complete with neat moulded edges to help keep it watertight.

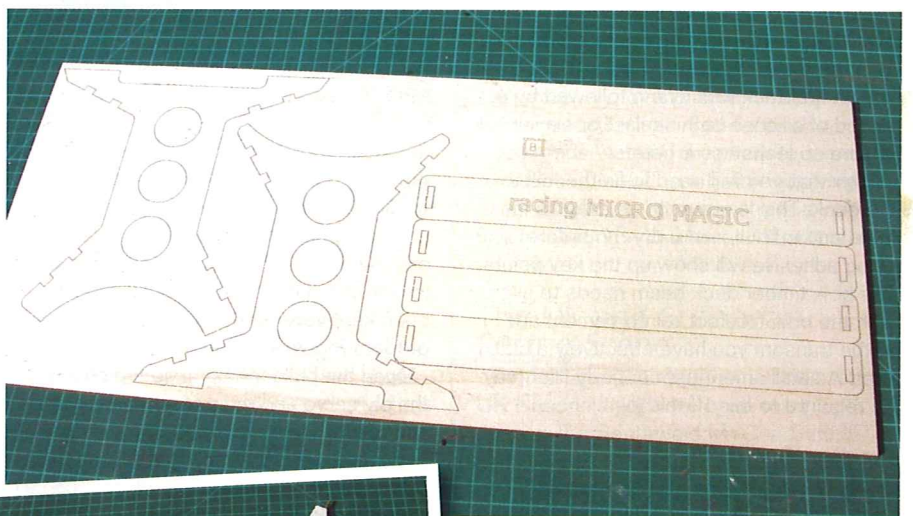
ABOVE: Racing these small R/C sailboats is always competitive



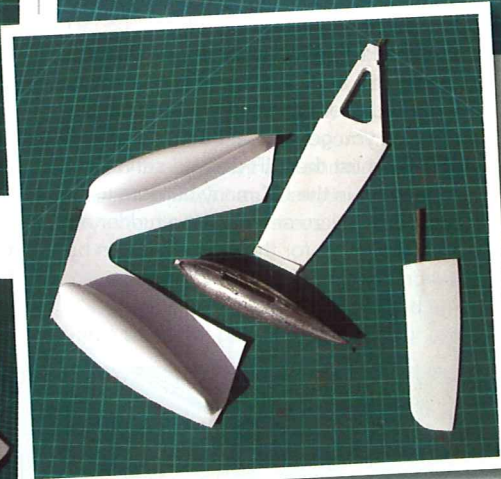
ABOVE: All the smaller parts are packed into sealed, clear poly bags **ABOVE:** The laser cut timber hull parts



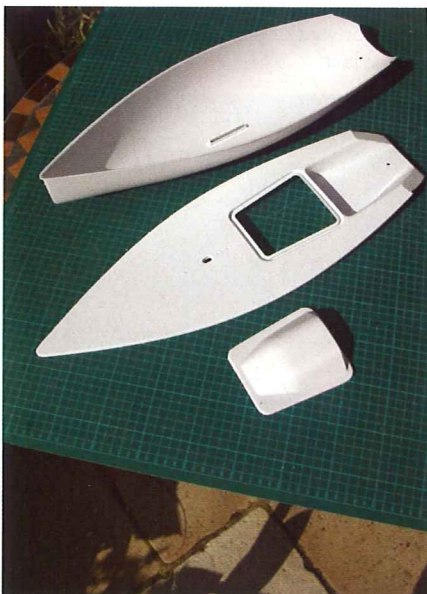
ABOVE: Keel moulding, fin box and fin box plastic trims



ABOVE: The timber parts of the boat stand included in the kit



LEFT: Keel blade, ballast moulding and twin ABS fairings



ABOVE: Hull, deck and hatch mouldings are provided in high grade ABS

The keel and rudder are moulded plastic, the keel of much better profile than the standard kit, with interesting packing pieces so that the skipper can modify the position depending on the strength of the wind. The bulb, also much finer in profile, has two ABS covers which can be fitted over the metal ballast to complete a smooth surface at little effort.

There are two large sheets of timber in the box. The larger provides all the pieces of a sturdy boat stand which is the usual Graupner practice. The second has all the hull parts. Both sheets have been laser cut to the highest standards and no trimming

will be required for the items, although surfaces will have to be protected from water and moisture by the application of clear varnish or other paints. Graupner have even gone to the trouble of offering two radio platforms, one for regular size servos and the other for miniature size ones.

The ready-made sails can be found in the bottom of the box, protected from possible damage by stiff cardboard backing. The material used has the trade name Icarex and the sails are well above the level normally found in RTR sailboat kits. The rest of the fittings come in the usual clear poly bags and should be kept in them until you have positively identified them so they do not get lost!!

Hull Assembly

The first item to be assembled is the fin box, supplied as two ABS sides, with flanges on both edges. This needs to be well glued as the edges will get some pressure and need to remain watertight. Apply the adhesive of your choice, either cyano

or Stabilit Express, and leave to set completely. Remember also that it is the inside edges which must be aligned as they need to be a really good fit to the keel. Offer up the keel to ensure it will fit in place before it is too late!

There are a number of timber reinforcements to be glued to the underside of the deck, and these should cause no problems. Check that the shroud attachment reinforcement pads are not too near the edge of the deck or they will foul the hull sides when the time comes to glue deck to hull. After gluing the timber parts in place apply a coat of varnish, possibly thinned with white spirits or related product, so that the coating is absorbed by the timber. When dry light sandpaper to remove the roughness.

The fin box has to be glued to the hull over the slot already cut into this, and care must be taken to ensure it is vertical and firm. A first tack with cyano followed by a thread of silicone bath sealant or similar will ensure no leaks occur here.

After that you will need to fix the hull to the deck. This is not quite as easy as for the standard hull, and a dry run before using adhesive will show up the key points. The bow timber deck beam needs to align with the bow forefoot reinforcement and at the transom you have effectively a butt joint. A small amount of car body filler may be required to fair off this joint.

Radio Equipment

This kit is designed for the more advanced levels of sailing and provision is made by Graupner for a variety of servos and either two or three controls to be used. Hence the provision of two alternative radio trays, one for standard size servos and the other for miniature ones.

The rudder has of course to be controlled and for this a small size servo is entirely strong enough. For the main sail control servo a standard size budget servo can be used, or a high torque smaller and there-



ABOVE: The completed boat on its stand, with decals as per kit

fore lighter servo can be employed. Finally, the builder can choose to install a third small servo to operate a jib slot adjuster, something which has been a popular extra on a number of the more competitive boats in Germany where the class rules have been kept very liberal to give builders lots of room for clever ideas.

Once the builder has made the choice the ply servo and radio tray can be cut and reinforced as required, given a coat of water protection varnish and then the servos can be screwed into place. The sail servo arm is supplied in the kit, and has pulley blocks attached to each end before being fitted over the plastic moulded servo arm which you get as standard. Graupner's instructions list their JR derived servos numbers but in the UK many builders use a Hitec HS 65 micro servo for the rudder and a standard servo for the sails – this can be upgraded to a HS 635 for extra torque.

The boat also needs a suitable two or three function receiver and there are many

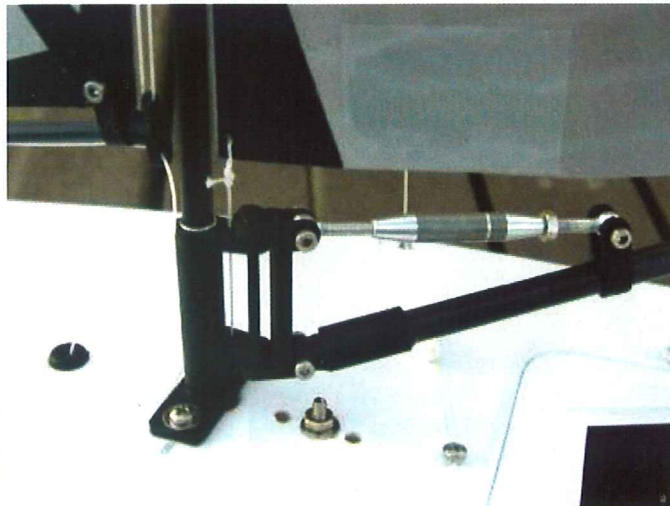
of these on the UK market, the smaller and lighter you can find the better. Finally, an onboard battery pack is required.

The Keel and Ballast

The keel on the MM Racing has been very cleverly designed to allow three different positions to suit different wind strengths. Shifting the mast back or forwards or altering the rake is a long established method of adjusting trim but on such a small boat the movement of this would have been quite a complex operation, so the designers have produced a series of plastic mouldings which can be fitted to the front and back edges of the basic keel so that the skipper can adjust the profile position of the keel blade. There are two slim, 'square'-section mouldings which give the central position, and two larger double width mouldings which can be used either in front or behind the basic keel to give a more forward or aft position to the keel and ballast.



ABOVE: The headsail boom is neat and very light



ABOVE: The gooseneck and mast foot. Note screws holding mast fitting and the keel bolt



ABOVE: Although the instructions suggest you do not use the MM in over Beaufort 3 winds, if you do you will get some hot racing moments!

The lead ballast is supplied as a single bulb with a slot for the plastic keel blade, and needs cleaning up with a 'Surform' file and or sandpaper. The builder can enclose the blub inside the two ABS half mouldings supplied or finish it by painting depending in their preference. The all up weight of the top German mms is very carefully adjusted by their skippers and each has his or her own ideas of the best sailing weight and trim and one can imagine keen MM sailors buying some extra keels and ballasts so as to have alternative items in their car boot to suit the day.

The Sails and Rig

The main mast comes as a single carbon tube and to this the gooseneck and lower mast stub need to be built up and attached. As usual the Graupner drawings and instruction leave little to go wrong, and the assembly of the headsail boom is similarly neat. Most items can be fixed with a small application of cyano but avoid doing this to the sail angle adjusters, they are supposed to slide up and down the booms.

The different stays and shrouds are supplied in the kit as a length of white fine polyester line, and to these the convention-

al bowsie adjusters need to be threaded. Coloured line could be used to personalise your boat but beware of the 'give' in some products. Above all you need a line which will hold its set tension without stretching and which allows the rig to distort in stronger gusts of wind.

The mast step is fixed just in front of the keel box, and there is a fitting to be screwed down to hold it neatly and take the pressure. This is done once the rake of the mast has been sorted to the skipper's preference.

Painting and Decorating

The kit comes with a very stylish set of decals which can be applied carefully using soapy water to allow them to be slid into place on the required large areas of hull. This method is well established and when the water dries out the decals will hold their position perfectly.

Alternatively for an individual finish the builder can rub the hull surfaces down with 1000-grade wet and dry paper to remove all traces of mould wax before applying paint. Acrylic car spray cans give a very fine finish for the investment of only a few pounds.

The UK and European Racing Scene

By the time you read this article a first UK Nationals will have been run in mid June at the Southwold MYC in Suffolk, and this has to some extent been brought about by the decision to offer six places to the UK at a first European MM championships in Holland later in the year. If you want to find out more about the organized side of Micro Magic racing, including a downloadable set of the German rules (in English language) go to the website: www.micromagic.info



ABOVE: The MYA fleet of Micro Magics in its store with some recent Racing versions added

KITBOX DATA

GRAUPNER MICRO MAGIC RACING

High Spec R/C sailboat kit

LENGTH: 530 mm

BEAM: 180 mm

KEEL DEPTH: 160 mm

UK RETAIL PRICE: £110

MANUFACTURERS

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D-73230 Kirchheimteck

Germany

WEBSITE: www.graupner.de