

3D Printed Micro Magic RIG SET

A Micro Magic RIG SET with a modified deck plate that fits the Graupner Micro, the Hacker New Micro Magic & the Hacker gooseneck. Suitable for 5 & 6 mm masts.

It is available on **i.materialise.com**; <https://i.materialise.com/en/shop/designer/geert-middel>

Material

By default, the material is white Nylon. The most commonly used color is black. Optionally, various other colors can be ordered. Color and surface treatments will cost a little more than standard white. The paint penetrates the material to a limited extent and the white can become visible again when filing or cutting. A waterproof felt tip pen offers an excellent solution for this (especially effective with black).

Depending on the color choice, the surface finish is also different. This is due to the production process of both printing and dyeing.

Goal of the set

Building an excellent rig for a reasonable price using:

- Mast 5 mm (**or 6 mm**)
- Boom 6mm
- Jib boom 4 mm
- 2 mm carbon for the gooseneck
- 2.5 / 3mm for the crane

Sail, line/twine and carbon masts etc. must be purchased separately.

Tools

1, 2, 2.5, 4, 5 & 6 mm drill, sandpaper, small flat and round files, superglue etc.

3D print set main components

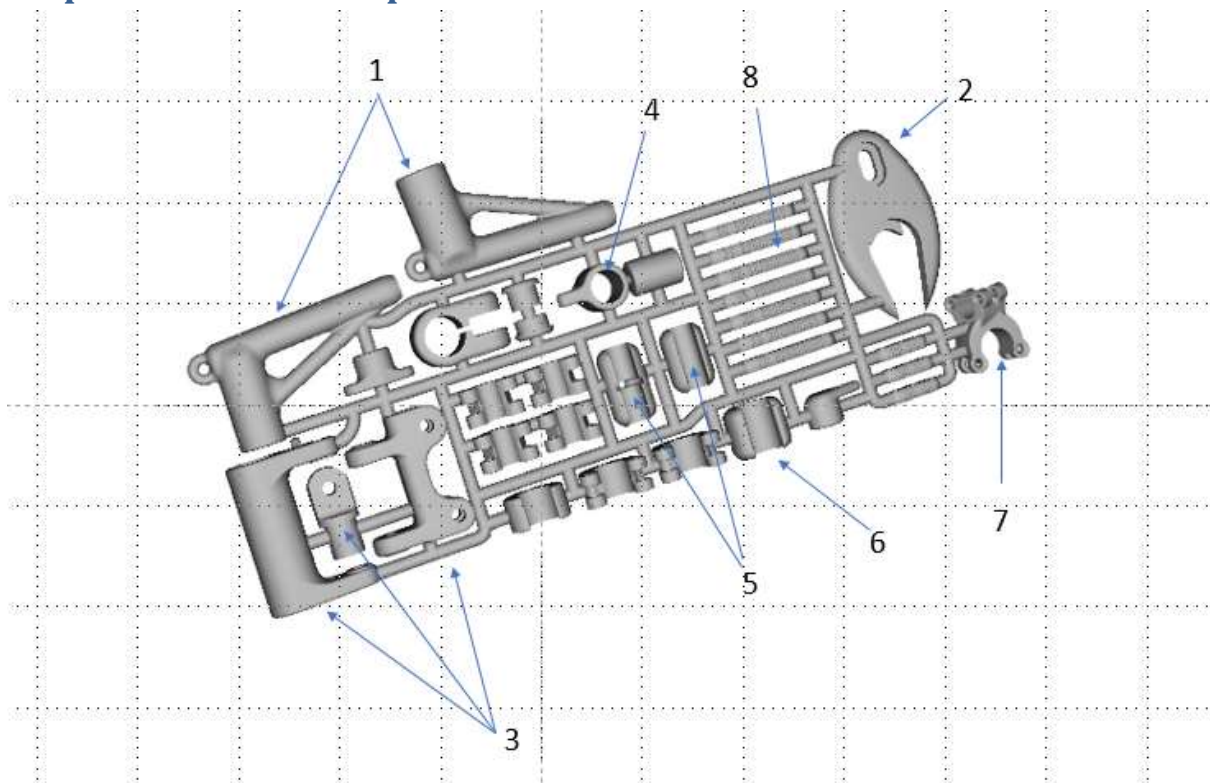


Figure 1

Figure 1	Function	Remarks
1	Crane /mast top	Two, for 5 and 6 mm mast
2	Deck plate	
3	Gooseneck assembly	Take care in making it move smooth without play.
4	Standard forestay attachment	Only for A rig. Mounted ca 62.5 cm above deck
5	4mm clips for jib boom	Good holding power without need for glue and can be moved up & down the jib boom for fine tuning.
6	6mm clips for mains boom	See 5
7	Clip to attach jib boom to the mast	Fix jib and main during transport & storage
8	bowsies	Standard and small

Guidelines for the dimensions of the carbon parts

Part	Length	Remarks
Mast support sleeve	110.. 112 mm	Alu or Carbon 6 mm. Not used in the 6 mm mast version
Boom	210 mm	6 mm Ø
Jib boom	210 mm	4 mm Ø
Mast	Length luff mail sail + 125 mm	5 mm Ø

Remarks on using the Rig parts

The photos give a good picture of the use of the 3D RIG parts. There are some extra parts in the set, so do not be alarmed if something remains. It allows the assembly of a complete rig and also offers the self-builder the option to use the parts to create a rig to their own design. As mentioned before two versions are available: for 5 & 6 mm masts.

Mast top

For the backstay you use mast top **part (1) with a carbon rod (2 or 2.5 mm)**. The standard A rig uses part 4 to attach the forestay. For all other rigs the forestay is attached to eye of the mast top.

Gooseneck

The gooseneck-boom can be attached with bolts and nuts, but sometimes a sheet will jam on a bolt. Here a piece of 2mm nylon, cut of the set. is used to assemble the gooseneck parts. For the swiveling part of the gooseneck a 2 mm carbon is used (or a 2mm metal rod). Use a cordless drill and fine sandpaper to make the carbon rod fit nicely. Where necessary use a 2mm drill to make the holes to the desired size. The boom attachment part of the gooseneck must be free moving in the horizontal axis but not have too much play in the vertical axis. The set is designed so that everyone can make the play according to their own insight. At the top of the gooseneck a tiny eye can be used to bring the mainsail luff tensioner to a camp on the boom.

Mast support sleeve (not used in 6 mm mast version)

The gooseneck slides over a 6mm mast sleeve (optionally aluminum or carbon). The mast sleeve is closed at the bottom with cap to prevent ingress of water (weight!) in the mast when green water hits the deck! The 5 mm mast slides into the mast sleeve and must be fixed with glue.

- With the 6mm mast version the gooseneck is slides directly over the mast and fixed at the correct height. Here too the mast can be closed-off at the bottom with a cap.

Jib boom

For the jib boom there is the choice between the standard end piece with two holes for the topping lift and the jib sheet and the one with only one eye for the topping lift. For those who use a different sheet attachment the end piece with only an eye for the topping lift is the best option. On the photo the sheet clip and adjustment remain with the boat and are clicked on the boom. This prevents the

fiddling with fishing hooks with cold hands when changing rigs. A movable clip with eye and one of the available 4mm clips are used to attach the sheet.

At the front of the jib boom part has an ultra-low eye to keep the jib as low as possible. Also, it has a hole for the counterweight. A moveable clip is included for holding the jib boom low on the deck. On the inside of the clip a groove guides the line over the boom and back out through a hole at the bottom.

Note

- ***Be careful with carbon dust that is released during filing and sawing; it is very unhealthy and should not enter your lungs. It also makes your beautiful colored parts dirty. A black set of course has no problems with this, but the white all the more.***

