

Longboard 1000

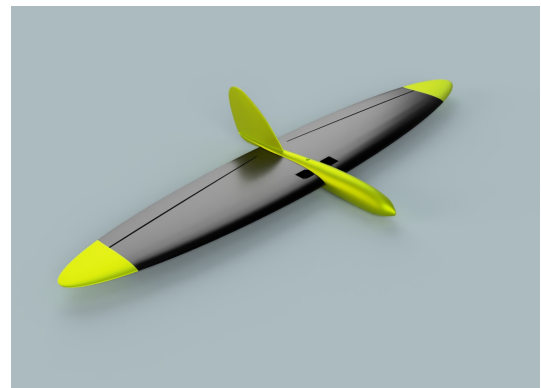
Rev 0.0 – 02.03.2021
3d-printz Original



Take-off-weight: ca. 200g (LW-PLA) ca. 400g (PETG)
Wingspan: 1000 mm
Airfoil: PW1211
CG: 35-37 mm
Wingload: 15-26g/dm²

additional Material:

RC-Components
Bowden
CA Glue
Cutterknife
Sandingpaper
4mm Carbonrod
Plasticscrew M5
Nut M5

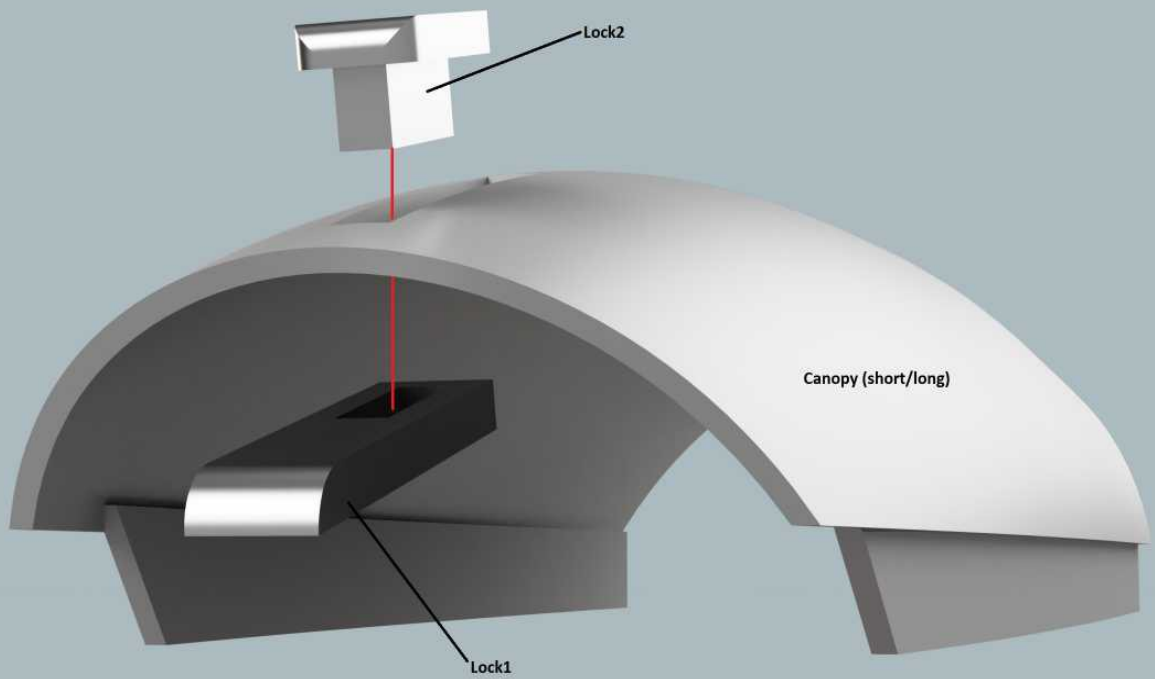
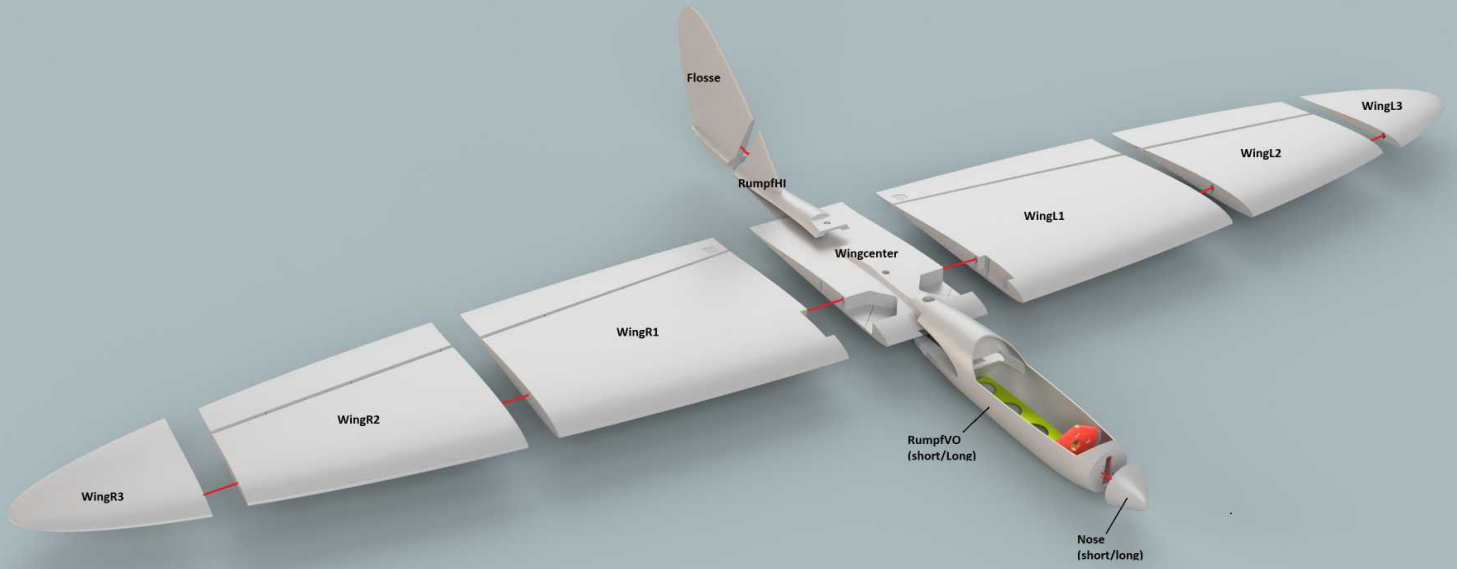


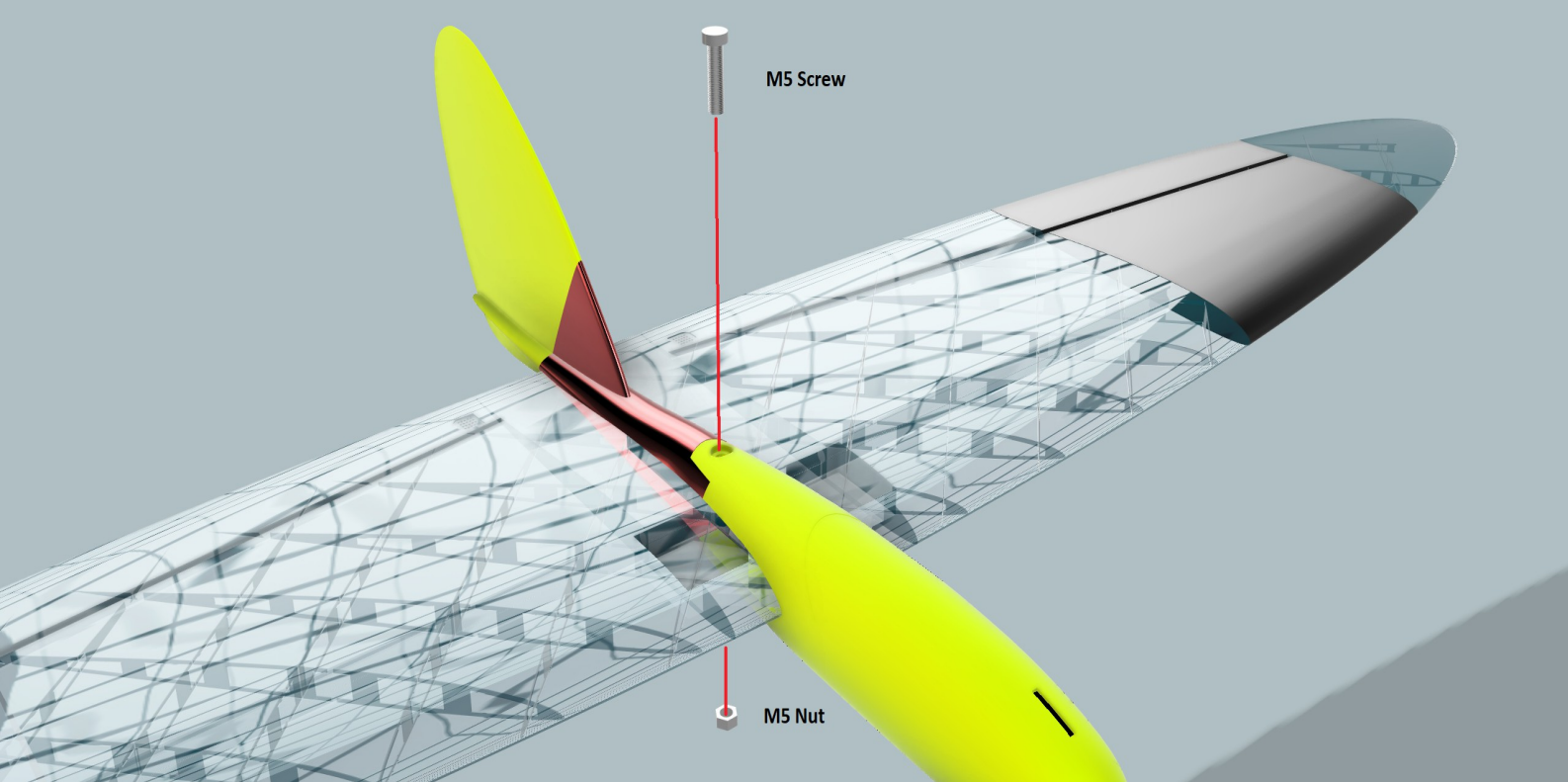
Electronic Components:

RC Receiver
Battery (zB 2S Lipo 350mah or 3S Lipo 500mah)
2x Microservos
optional Motor - Roxxy A2220/20 1330kv (for longnose) or Racerstar BR2212 (for shortnose)

Trivia

Even if the longboard looks like a flightboard on steroids, it is a completely redesigned model. The airfoil used enables very tight circles and extends the speed spectrum from snail to warp speed. The interchangeable fuselage accepts two different engine variants and is available in 2 lengths to save trim weight in the glider version. The removable fin, which, like the fuselage, sits on a rail and is held in place by a plastic screw, can be reprinted as an easily replaceable wear part in a short time and can thus be carried as a spare part on every flight. The longboard has a slight V-shape for more stable turns. Once properly calibrated, you can dare almost any adventure that RC-flying has to offer with the brisk wing, but of course it feels particularly comfortable on a slope;)





Construction

As you can see in the exploded view, the assembly is very easy. First sand down the faces which are getting glued with some sandpaper, then attach the individual segments to the 4mm carbon rod (length 820mm) and glue them together one after the other - you can use commercially available superglue for this. Make sure to pay attention to the alignment of the wing segments, you can use some adhesive tape to protect them against slipping during the drying phase.

After the wings you can glue the fin to the rear part of the fuselage (fuselage HI) and secure it against slipping here as well. The reinforcement plate (cockpit) is glued into the front part of the fuselage (Fuselage VO), for this there is an extra bridge on the fuselage - simply glue the plate in with plenty of superglue.

Gliderversion (longnose):

For the gliders fuselage you can now glue on the nose (pay attention to the marking that must point upwards) and attach the bulkhead to the fuselage (gliderspar). In order to place your trim weight as far forward as possible, the nose is hollow, so it makes sense to finally attach the nose only when you already placed your lead for the CG.

Motor Roxxy (longnose):

For the small Roxxy engine, glue the "firewall" between the engine and the fuselage - this should definitely be made of PETG or heatresistant PLA! Then you can install the motor and glue the gliderspar to the hull as reinforcement.



Motor BR2212 (shortnose):

For the large engine, glue in the cockpit first. Then you can screw the motor to the „Motorspant“ and check everything for fit. Only when everything fits, glue in the motor with the „Motorspant“ screwed on - after gluing the motor is difficult to remove again without damaging the fuselage!



Electronics

The wing servos are installed horizontally. Since the wing profile is quite thin, small servos are recommended. The servos can either be glued in or screwed in with two stops made from balsa strips.

These servos are for reference:

[Banggood GHS37A 3.7g Servo](#)

If you wish to fix the servocover by screws you can place the covers in the desired position and use a hot paperclip to carefully melt little holes into the Wing.

Recommended Battery: **Roxy: 2S 350-500mah / BR2212: 3S 500mah**

Motor:

[Multiplex Roxxy 1330KV](#)

[Racerstar BR2212 1400KV](#)

...or similar

Aileronhinges

To link the ailerons, simply glue the rudder horns at the marked points and shorten them if necessary (the second hole worked well for us). To make the ailerons easy to move, carefully bend them on the edge of a table and move it up and down until the hinge can be moved without great resistance. If the hinge breaks (especially high risk with PLA and PETG), it can then simply be attached with some adhesive tape alternatively. In general, it is a good idea to secure the hinge against breakage at least on one side with a few strips of adhesive tape.

Throws

Using the recommended CG from 35-37 mm behind leading edge we recommend these throws:

Aileron: +/- 7mm, 20% Expo
Elevator: +/- 4mm. 40% Expo

CG

The right center of gravity is essential for comfortable flight behavior. This is precisely why it should be chosen individually by yourself. The starting value can be assumed to be about 32 mm behind the leading edge. If more power and more agile flight behavior is desired, the center of gravity can be shifted further back, but the rudder deflections should then also be adjusted.

Please note that the center of gravity and the rudder deflections should be chosen by the pilot himself for each built longboard - the values given here are only guidelines.

We wish you a lot of fun with your Longboard!!!