

Vladimir's Model



Organic 2.5 SP

The Organic is a 2 metre Glider designed specifically for the American 2 metre Class.

Available in 2.0 M SP or 2.5 SP Meter versions the model is ideal for 2 meter thermal soaring competitions, F3J or Sport Thermal Soaring. The model is also ideally suited to Slope flying.

The Three-piece wings are a unique construction of high-tech materials and are the feature that sets this model apart from the rest. Using free flight technology and combining the best high tech materials to produce a model of outstanding strength combined with lightweight.

The wing "D" box is of Kevlar cloth, fitted over balsa ribs and riblets and bonded to a carbon spar. Each Rib is capped with a solid carbon cap strip. A

solid carbon trailing edge completes the wing. The ailerons and flaps are knuckle jointed with shrouded gaps. Carbon joiners retain the wing tips. The wing panels are covered in Oracover.

The use of combined high tech materials produces a wing of outstanding strength and torsional rigidity that is still extremely light in weight. To be appreciated the construction of the model has to be seen. The wings are extremely strong and are capable of being winch launched or two man towed without problem. The flapped MH32 wing section ensures that the model has an extremely wide speed range and good thermal flight characteristics when flown from either the flat or the slope.

Specifications:

Wing span: - 2.0m, 2.5 m
Length: - 1.16 m
Wing Section: - MH 32
Wing Area: - 41.5 dm, 46.2 dm,
Tail plane section: - NACA 63A 007
Kit weight: - 550 g, 670 g,
Flying Weight: from 950 g (Glider version)
Controls: - Rudder, Elevator, Ailerons, Flaps, and Crow Brakes.
Optional: - Electric Motor

Accessory Pack:

Accessory pack includes: Carbon fibre Wing Servo covers, Clevises and couplers, Aileron / flap horns, Tow hook, wing and Tailplane retainer bolts

Building Instructions

Please read all building instructions first before proceeding.
These instructions are for the general guidance of the builder only; please feel free to complete the model using your own favourite methods of assembly or equipment.

The model is delivered ready covered, care should be taken to protect the surface finish during the installation of the radio control equipment and control linkages.

Note: - Further items will need to be purchased in order to complete this model.

Receiver, battery, 5 – servos and Hoopes wiring harness

Glider /electric Version: -

1.) Wings: -

Feed the Aileron servo wires into the ready cut slots in the wings and fit a reliable plug and socket system to the wires to enable the panels to plug together and the wing servo's to plug into to the fuselage mounted receiver. We recommend using the Hoops Wiring Harness. These will fit directly into the pre- cut slots in the root ribs.

Prior to mounting the aileron servo's into the wing servo wells, clean any release agent from the Carbon Sheeting inside the servo well using acetone, and abrade the surface to ensure a good bond to the servo or mounting rails. The servo's can be secured using hardwood blocks bonded into the wells, the servo's being retained with wire straps screwed into the blocks. Alternatively the servos can be simply bonded in place using 5 minute epoxy, score or abrade the surface of the servo to ensure a good bond. The latter is my own preferred mounting method.

2.) Bond the aileron horns of choice to the ailerons, aligning the horn up with the servo output arm. The flap servo is mounted in a similar way to the aileron servos. Ensure the flap movement will give approximately 70 degrees of down movement

3.) Vee Tail:

Fit the Vee tail plane to the fuselage, hold the elevator horns in place and mark out the correct position of the horns so as the horn correctly align with the pushrods in the fuselage.

Check that the horn fits in the fuselage neatly and the tail plane will move up and down to its full extent of travel without hindrance. Securing the elevator horns to the elevators using epoxy or Cyo. (Ensure full elevator movement is possible)

4.) Fuselage:

The Fuselage is delivered with a separate nose cone and inner fuselage nose section.

Fit the completed wings and tail plane to the fuselage and tape the rudder and elevator servos, the receiver and the receiver battery to the outside of the

fuselage. Connect the servos to the Vee tail horns using a the etched Teflon housing and 0.40 dia. carbon pushrods.

The Tow hook should be positioned approximately 6 to 10 mm in front of the CG. (Adjust to suit personal taste)

Organic 2 M SP & 2.5 SP

The completed 2 M model should balance at a point about 80-87 mm from the leading edge of the wing and the 2.5 SP 95-102 mm.

Add lead to the nose of the model to achieve this. The centre of gravity can only be correctly positioned when the model is flown, as the ultimate position is one of personal choice. Once the correct CG position is determined, bond the lead into the nose of the model.

It is better to carry extra battery power than lead nose weight.

Note: - The R/C equipment is mounted on the underside of the inner fuselage; Nicad and receiver must be secured in place with waterproof tape to ensure that they remain in their correct place when the sheath nose is removed. Mark the position of the receiver, battery and servos on the inner nose. Cut out rectangular slots for each component. Fit the servos by screwing down onto plywood or epoxy board strips placed on the under surface of the inner nose. The positions of the servos and the Receiver in the inner nose can be reversed from that shown in the sketch below if desired.

Strengthen the fuselage around the area of the tow hook mounting plate using multi layers of glass cloth and Epoxy resin, Bond in place a 3 mm thick epoxy board plate to spread the launching load across the fuselage. Strengthen with glass cloth.

Flying the model can only accurately set the tow hook and CG positions; they are also a matter of personal taste.

5.) Electric Flight version: -

An electric flight fuselage is available as an optional extra.

Prepare a motor mounting ring from plywood at least 5 mm thick, or a laminate of 1.5 mm epoxy board and 3 mm plywood. Bond the motor mounting ring into the fuselage with epoxy resin and micro fibre or chopped strands and carbon fibre tows.

The batteries will fit behind the motor and into the space under the wing mounting. The elevator and rudder servos should be fitted to the rear of the space under the wing mounting.

The layout of electric flight equipment within the fuselage is dependant on the size and weight of the equipment used, and should be placed to achieve the CG position.

The recommended layout of the electric flight equipment is as follows: - From nose to tail: - motor, speed controller, battery, servos and receiver. If a separate receiver battery is used, this should be positioned to suit the CG.

6.) Recommended Control Movements: -

Elevator	+ 12 mm / - 8 mm
Rudder	+ 12 mm / - 12 mm
Ailerons	+ 16 mm / - 10 mm

Launch setting: - Flaps: - 12 mm down - depending on wind strength
Ailerons: - 6 mm down
Elevator: - + 1 mm, Mix in up elevator on successive launches, until model starts to weave on the line, then reduce setting slightly to give a straight launch

Butterfly Flap: - - 70 deg down
Aileron: - + 15 mm up
Elevator - 2 mm - Set to suit, the model should not balloon up when the brakes are applied

Speed: - Flaps and Ailerons: - Reflex Up + 1 mm to + 3 mm,
Elevator -1 to -1.5 mm down, adjust to suit.

Distance: - Flaps and Ailerons: - Neutral, Elevator - Neutral.

Thermal: - Flaps and Aileron: - Down - 3 mm to 5 mm,
Elevator + 1 to 1.5 mm up, Adjust to suit.

Flap. Aileron - Elevator Mixing: -

Speed:	The Rudder coupling is switched off Up elevator is coupled to Down Flap - Full up = + 5 mm flap (down)
Distance:	Up elevator is coupled to Down Flap - Full up = + 5 mm flap (down)
Thermal:	Up elevator is coupled to Down Flap - Full up = + 5 mm flap (down)

Rudder / Aileron Mixing.

Coupled Rudder with aileron can be used for all tasks except Speed Flying; For Speed the coupling should be switched out, preferably as part of the programme in the transmitter.

These instructions are for general guidance only, please feeling free to complete the model in your own favourite methods. Please fly your ORGANIC in safe manner. Please remember, it is always better to check before you launch than rebuild after you crash.

We welcome any Recommendations or Alterations, Settings or Tips in order to improve these instructions.