

PRODIJ LUX

Prodijs is a sailplane intended for high performance slope flight and racing in the 60" speed category and for use with the catapults (Zip launch). Due to the high speed it is necessary at the time of construction to have no slop in the control system. Its small size makes it very handy without conceding performance. To be able to exploit all slope conditions it is necessary to be able to ballast. One should not neglect this stage of construction. The recommended radio installation takes account of this constraint and we strongly advise it to you. If nevertheless you must make a personal installation take into account the requirement for ballast. Painting is of an acrylic type that does not like solvents. It is necessary to avoid alcohol and other white spirit. Best to use is soapy water. The kit makes it possible to choose between various options of radio installation, according to your criteria:

Version 2 axes:

Ailerons - Elevator. This version makes it possible to enjoy slope flight with 2 micro-servos, and does not require a programmable radio.

Version 3 axes:

Elevator - Rudder - Ailerons. This version is more fun for stunt flying. With a stab and fin it does not require a programmable radio. If you on the other hand use a programmable radio we advise you to set up the model as a v-tail.

Version 4 axes:

Elevator - Rudder - Ailerons - Flaps. Prodijs was especially conceived for the 4 axes. I.e. that its flaps (2 ailerons which bends down at the same time) are very effective. This version also makes it possible to benefit from air-brakes (2 ailerons which rises at the same time) very effective. It claims 4 micro-servos or 4 sub-micro servos and a programmable radio, but gives the greatest versatility and performance in flight. It is with this version and a mixing elevator towards flaps that one will obtain the best performances in pylon racing.

The duration of construction is 7 to 10 hours.

Technical information :

Span : 1500 mm

Chords : 170, 120, 55mm

Surface : 20 dm²

Profil : MG 06

Length: 840 mm

Weight : 650 g to 750g

Ballast : 300 g

Loading : 32.5 à 37.5g/dm²

Max loading: 50g/dm²

List of Accessories Provided.

- 1 servo tray
- 4 Clevis links
- 4 threaded rods m2 for the commands of ailerons, and the rods of stab.
- 2 carbon tubes diameter 4mm for the pushrods.
- 2 M4 wing screws.
- 2 Pre-fitted M4 blind nuts.
- 1 Pre-fitted ballast tube and ballast sleeves
- A small piece of 3oz. F/G for reinforcing the v-tail joint.
- Wing root template to zero ailerons

List of Required Accessories.

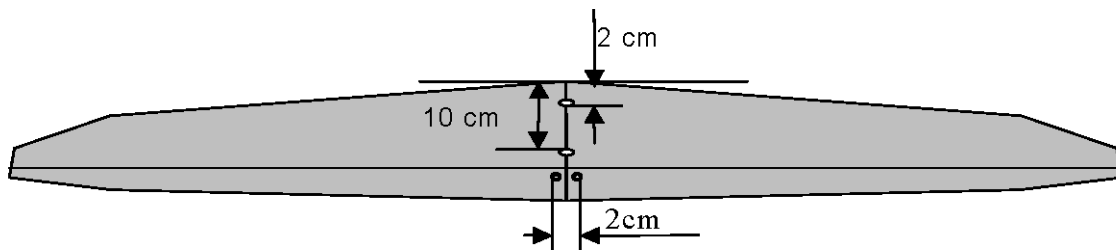
- Adhesive doubles face for the fixing of the 2,3 or 4 servos in the fuselage (Goop or 5-minute epoxy)
- 2 small screws for the servo tray to fuselage.
- Epoxy resin, micro balloon and the cyano.
- Lead to fill ballast sleeves

2. Installation of the control horns.

You are only required to fit the ball links in the wing.

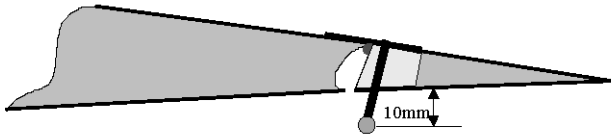
This is done by drilling a hole in both aileron slightly bigger than the diameter of the rod, fill the hole $\frac{3}{4}$ full of slow cure epoxy, using a pin to ensure you have expelled any trapped air, then gently push the rods into the holes and secure and leave for 12-24hour.

We advise you lightly score the rod to improve the epoxies grip on the rod.



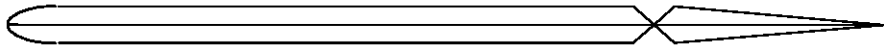
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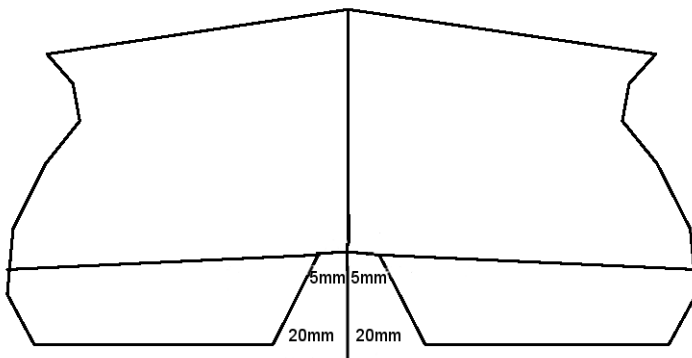


3. The stab

If you have opted for the balsa stabs it is necessary to sandpaper the leading edge into round and the flaps in skew to refine the trailing edge.



If you bought the bagged tail you will only need to cut back the elevators to 5mm tapered to 20mm to create the required clearance.



3.2 Installation of the elevator control horns.

The control elevator horns are made from piano wires of 2mm of diameter. It is necessary to fold the wires ready for installation to the elevators.



You will now need to route out a channel in the elevator being careful not to penetrate the top skin.



Rods are installed after the stabs are fixed to the fuselage.

3.3 Completion and joining stab.

The stab can be glassed or covered with film, the second solution is lighter and more rapid. We have given you a 110 ° template for the approximate



Once the wings are held in the correct place, use an quick epoxy to fill the small gap on the underside of the stabs



Once dry you can cut a small piece of the supplied glass cloth the same size as the stab seat on the fuselage.



Mask off the area so as not to get epoxy everywhere.
Wet the cloth with epoxy and place over the joint, you can use clear tape over the wet cloth and epoxy to give you a smooth finish



For extra strength you can use a mix of epoxy and micro balloons for a fillet weld in the top joint



3.4 Attach the stabs to the fuselage.

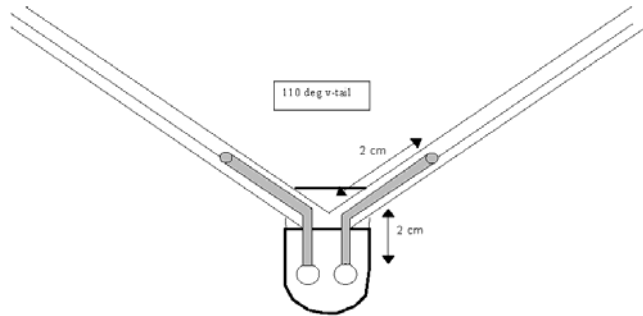
Mix a small batch of epoxy and micro balloons, apply to the seat and put the stabs into position until the epoxy has cured. A good way to make use the stabs are straight and true to the wings, is to attach the wings and lay the plane upside down on a flat surface, this will ensure the stabs fix to the fuselage with perfect alignment to the wings.



3.5 Fixing the ball links to the elevators

When fixing the ball links in to the elevators it is important to remember that as the controls are pushed, given the up direction, the balls will be pushed closer together, so leave enough gap.

Once you have done a few trial and are happy that all the bends in the rods are in the right place you can fix them.



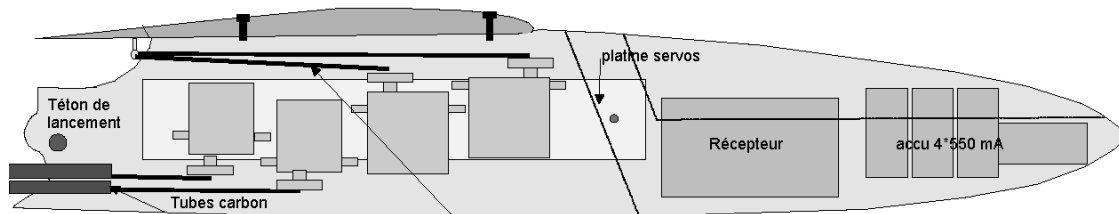
Place a small amount of epoxy and micro balloon mix in the routed channel then push in your ball links, cover with tape and leave to dry.



For added strength you can also use a small amount of the provided glass cloth, cover, wet out and again use clear tape for a nice finish.

4.2 Installation radio

The fuselage receives all the servos (2, 3 or 4 according to the selected version), the receiver and an battery 4 elements of 500mAh. While placing battery at the good place, not inevitably ahead one should arrive at a correct centring without lead addition in the nose or the tail. For the servos one can even find place for 2 servos standard but with mini servos(HS85MGs) or micro servos (HS65BBs) one will be able to carry more ballast. Attach servo rails to the tray and secure the servos with screws. Here an example with 4 microcomputer-servo for the flaps and the stab:



You can use blutack to trial fit the servos, making sure they run with no snags before fixing.



In the picture above a thin piece of ply has been fixed in the fuselage with epoxy to hold the battery and the RX has been stuck to the side with Velcro, this allows everything but the ply to be easily removed so the servo tray can slide out with minimal trouble.

The servo tray is placed in the fuselage and is screwed by 2 round head wood screws directly by exterior, on the right blank of the fuselage.

We advise either using small counter sunk bolts with small capture nuts or small counter sunk wood screws and epoxy an small thin piece of ply on the servo side of the try to give the screws something better to grip to.

With this method of assembly radio operator, the radio is easily accessible and does not weaken the fuselage at any point.

Drill 2 holes on the end of the pylon for the passage of the rods of the ailerons.
Flaperon control exit. Use a small 5mm drill bit then use a file to get the shape you require.



4.3 Aileron pushrods.

The rod of ailerons are simple threaded rods m2. The precision adjustment will be made by turning the clevis. Make sure they are a straight shot to the control horn.

The 2 rods of elevator will be made out of carbon tube of 4mm of diameter with inserts of threaded rods with each fast end stuck to epoxy. For the length, the method is the same one as for the ailerons.

4.4 Ballast tube

The ballast tube is pre installed and only requires the sleeves to be filled with lead.



5. Center of Gravity

Set the CG to 75 mm of the leading edge. With an battery of 4x500mAh, it almost does not require

lead. For the first flights one can advance the CG of 5mm by adding 15g in the nose.

6. Control throws and mixes.

Positive (+) values refer to down movement of the control surface in question and are measured at root of the control surface.

Elevator -7 / +7mm

Rudder -11 / +12mm

Ailerons -10/ +8mm (Fun -16/+13mm)

Snap Flaps -7/ +7

Camber -1/+3mm

Spoilerons -20mm

6.1 First flight

The first flight will be done without ballast, all the control surfaces exactly with the neutral, CG 70mm from the leading edge and a dual rate of 60%.