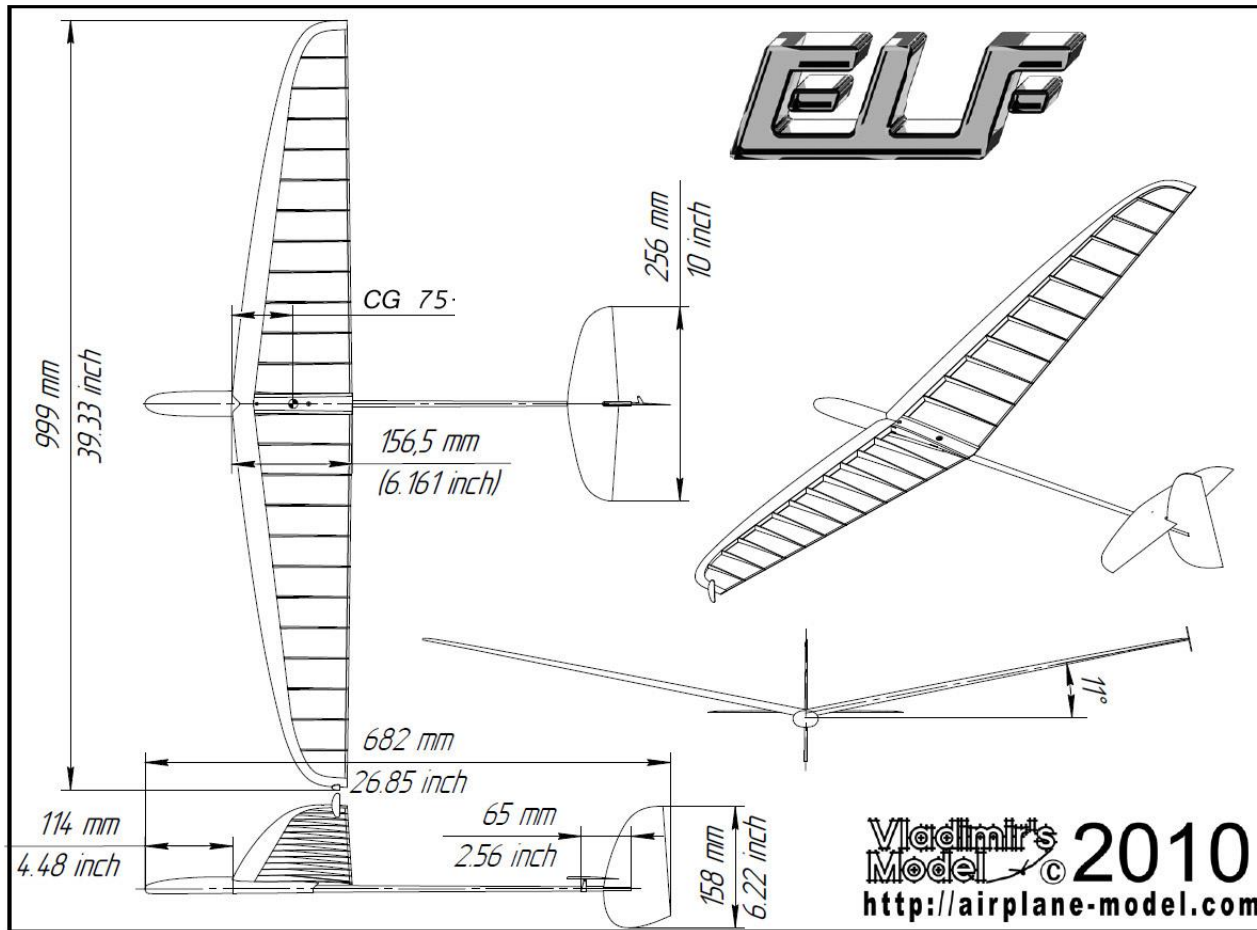


ELF – Assembly Guide



Vladimir's
Model



What is the ELF?

ELF - a low weight mosquito class 1m span discus launched glider.
The ELF allows the pilot to soar in small places as never before.
ELF's high tech construction makes the model stronger and lighter.
High prefabrication allows the model to be assembled in one evening.
The ELF gives a lot of fun in a small package!

Ready to fly weight of
only **95** grams!

(Dependent upon R/C, battery and construction.)

HyperFlight Notes

If you don't want to use the SmartLipo shown in this manual we have sourced some alternative batteries. Don't worry about a switch, just plug in the battery when flying.

If using 2.4GHz RC use the **HyperLipo 2S 175 mAh LiPo battery** and SD100 servos. No voltage regulator is required because all modern receivers and these servos can work fine on this voltage (8.4V). This will give over 2.5hrs RC duration on one charge.

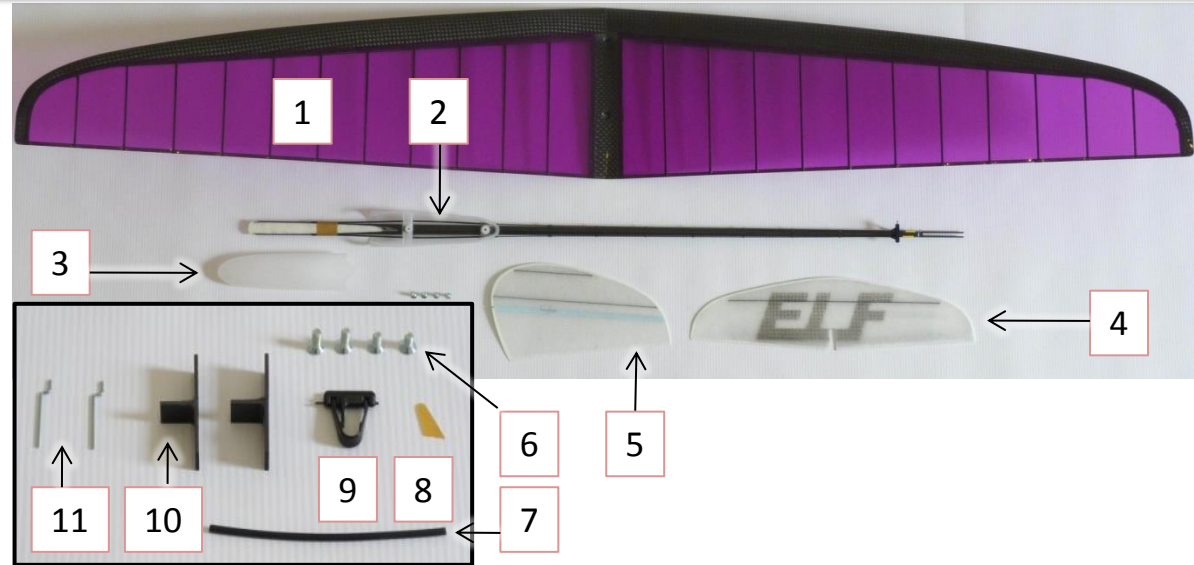
If using 35MHz RC use the **Losi 150 NiMH** battery, and any suitable servos, though we would highly recommend the SD100 - the only servo with the good centring required by this high performance model. This will give about 2hrs duration.



Parts key & required materials

The ELF kit includes these parts

- 1) Wing
- 2) Boom, pod, pushrods, V mount
- 3) Nosecone
- 4) Tailplane (hoz stab)
- 5) Fin & rudder
- 6) Wing attachment bolts (front-long, rear-short)
- 7) Heat shrink tubing
- 8) Rudder horn
- 9) V mount - now supplied ready fixed in place
- 10) DLG throwing blades
- 11) Z shaped wire servo connectors (2)



Recommended Radio Equipment

Battery: SmartLipo 240, 175mAh LiPo, Losi 150 NiMH

Servos: Diamond D47, Ripmax SD100

Receiver: Spektrum AR6250, AR6255*, AR6100e, Futaba R6004FF*, Orange DSM2 compatible, Jetti Duplex R4 & R5, Multiplex Mlink RX-6 Light & RX-5 Light*, Schulze Alpha-535 *case removed



Required Building Materials

Medium & thick cyanoacrylate glue (CA) -not foam safe

Craft knife

Pen

Ruler



Masking tape

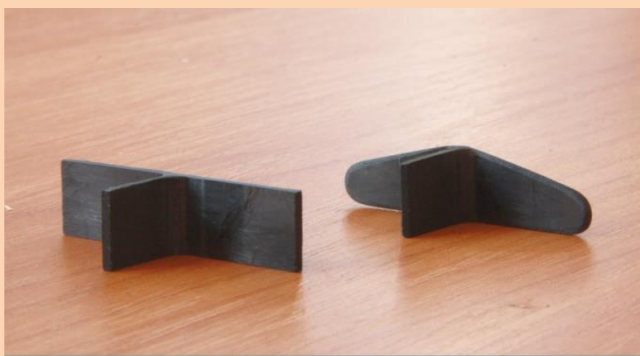
150 sandpaper

Pliers

Desire ☺

Bonding the throwing blade

1



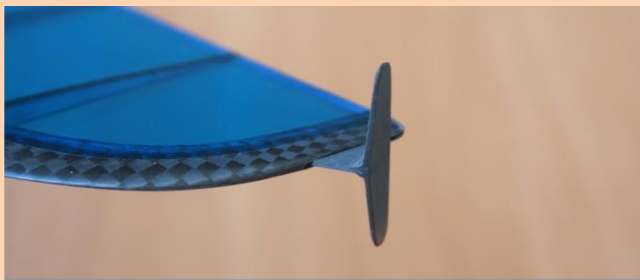
Cut and sand the throwing blade so it is comfortable for you.

2



Identify the tip that takes the blade – the left wingtip if you are right handed, or vice versa. Fill the wing tip slot with thick CA.

3



Quickly slide in the throwing blade and fill any gaps with more thick CA.

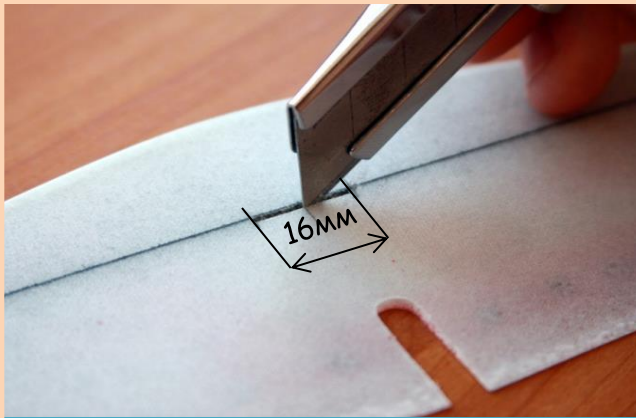
4



Fill in the slot on the other wing with thick CA. Optionally add a little weight to balance. Or fit the other blade so everyone can enjoy flying your Elf!

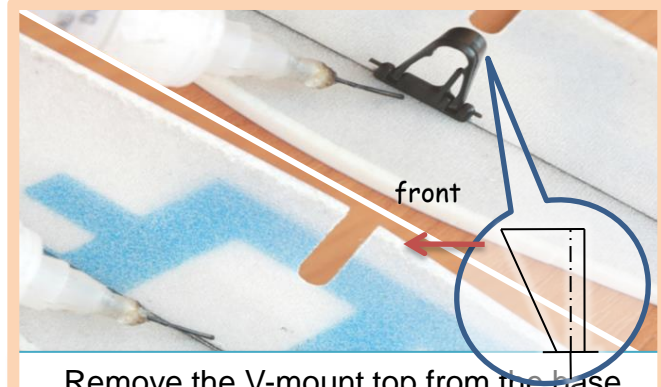
Gluing rudder horn and V mount top

1



Cut a groove in the center of the stabilizer just behind the spar. Do not cut into the carbon!

2



Remove the V-mount top from the base. Glue the top to the stabilizer. Do not refit the wire axle. **This photo is wrong! The V mount top should be the other way round**

3



Mark 50mm from the bottom of the rudder. Cut a groove for the horn. If using Nuke 3 servos drill horn nearer hinge to inc throw.

4



Fit the rudder horn in place and glue. Then glue the rudder into the slot in the boom.

Installing the pushrods

5



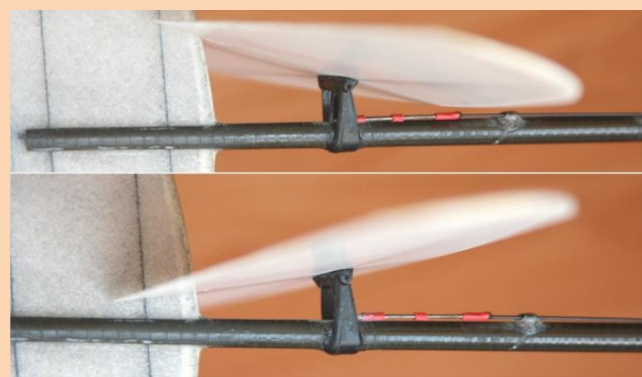
Attach the pushrod to the rudder horn. Disregard the photo, use a wire-in-tube pushrod fitting for the rudder.

6



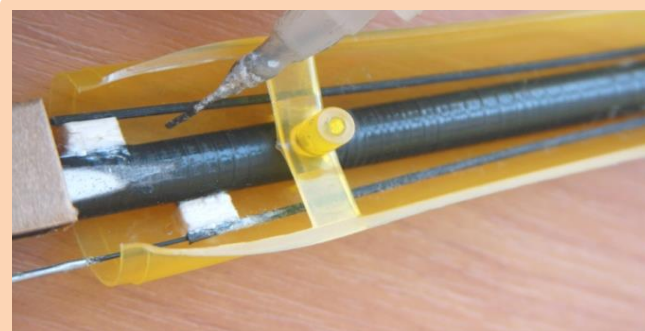
Attach the stab pushrod. The pushrod outer guides will keep it in place.

7



Check the stab can move to max angle without fouling.

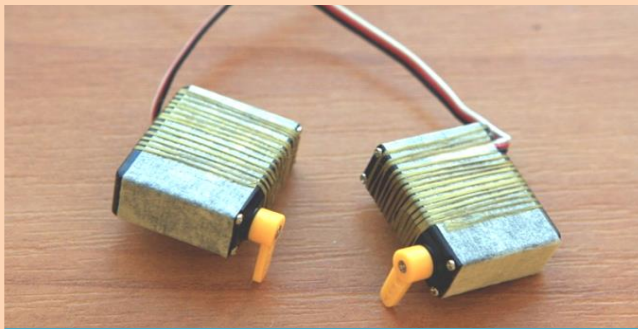
8



Fit long guides inside the pod and shim them with scrap balsa or foam.

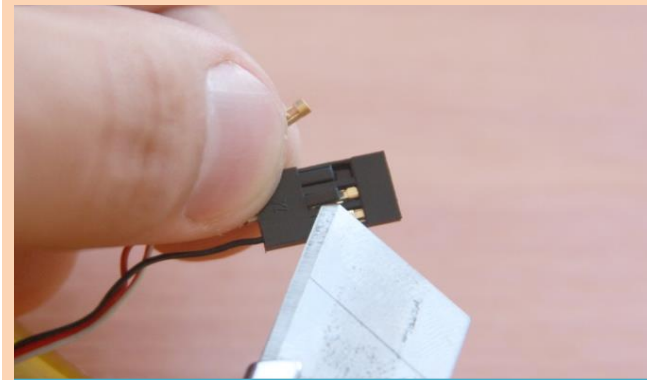
Installing the RC equipment

1



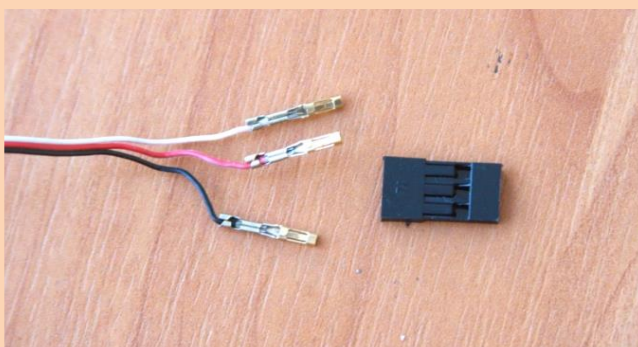
Remove the servo mounting lugs and wrap the servos with masking tape. Optionally wrap them with Kevlar thread to increase case rigidity.

2



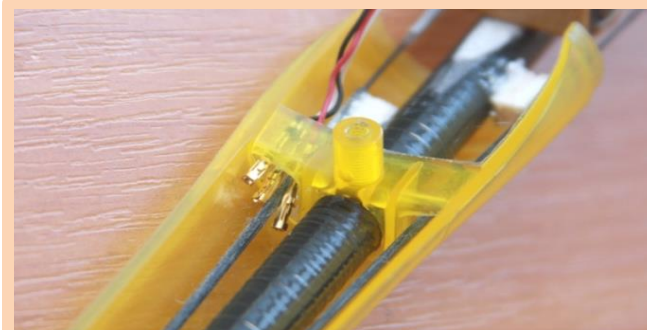
Remove the wires from the plug by gently teasing each leg and pulling out the wire.

3



Do this with all connectors.
Note the polarity!

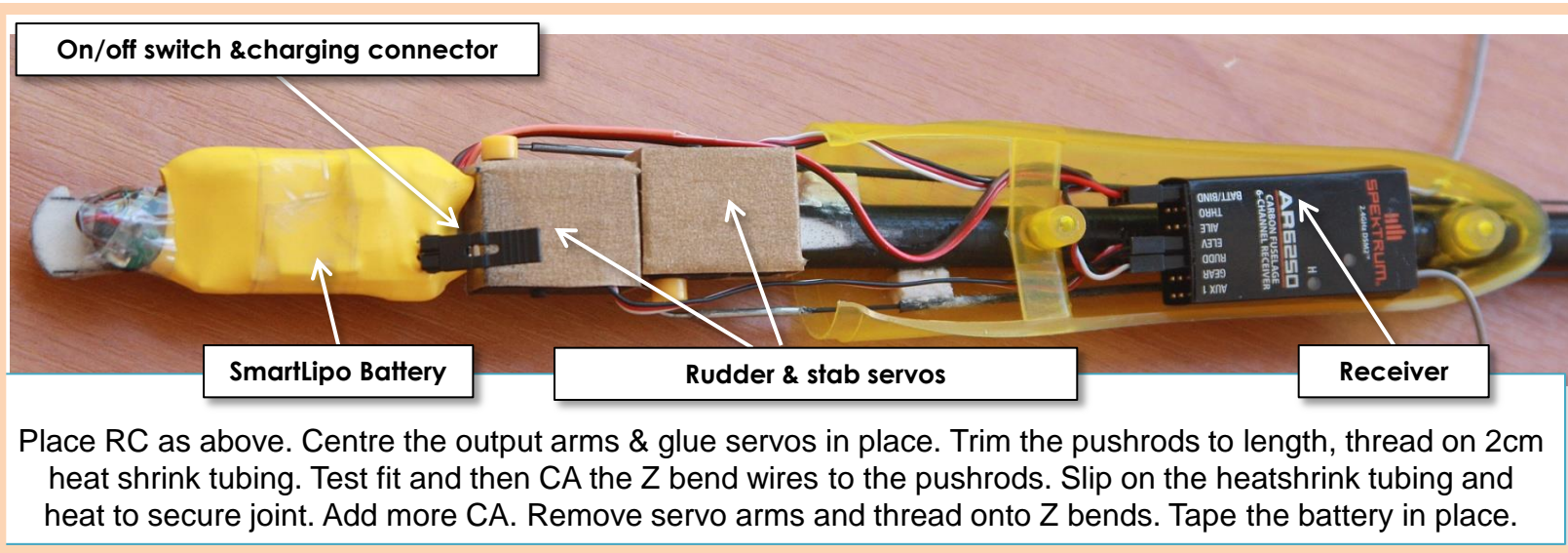
4



Now thread the wires through all the holes in the pylon. Put the plugs back. **Ensure the polarity is as on fig 3! Check servos before gluing in place.**

Equipment final assembly

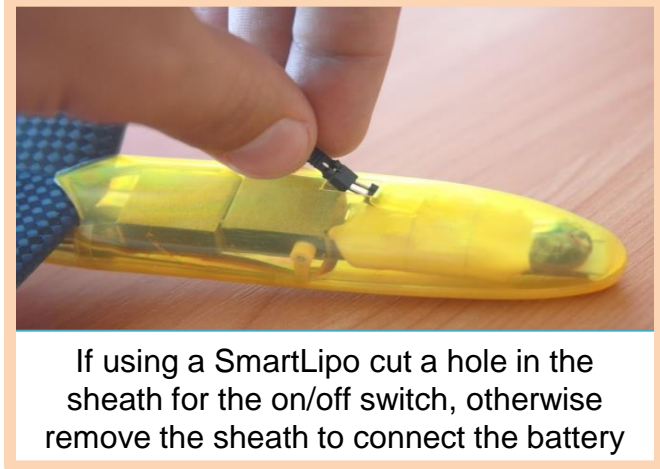
5



6



7



Balancing the model

1

Set the centre of gravity initially to 74mm - 75mm from the front edge of the wing at the root. Add lead weight as required. Advanced fliers move the CG back after the test flights if this suits your flying style.

Program as much rudder throw as possible, at least 20mm each side.

Set horizontal stabiliser (tail plane) to be parallel to the boom. Program 9mm of up elevator (measured at the root trailing edge), and 9mm of down elevator. Optionally set up a rate switch to reduce throws for launch.

2

Start with gentle side arm launches. When trimmed try 360° launches. Let the model balance itself in the wind, and make a 360° turn, releasing into the wind. Do not cantilever the wingtip to hold it against the wind – this will crack the tip.

Fly safely, do not launch near others.



Program the transmitter

Vladimir's
Model

UK Dealer: **Hyperflight**

www.hyperflight.co.uk

e-mail: sales@hyperflight.co.uk