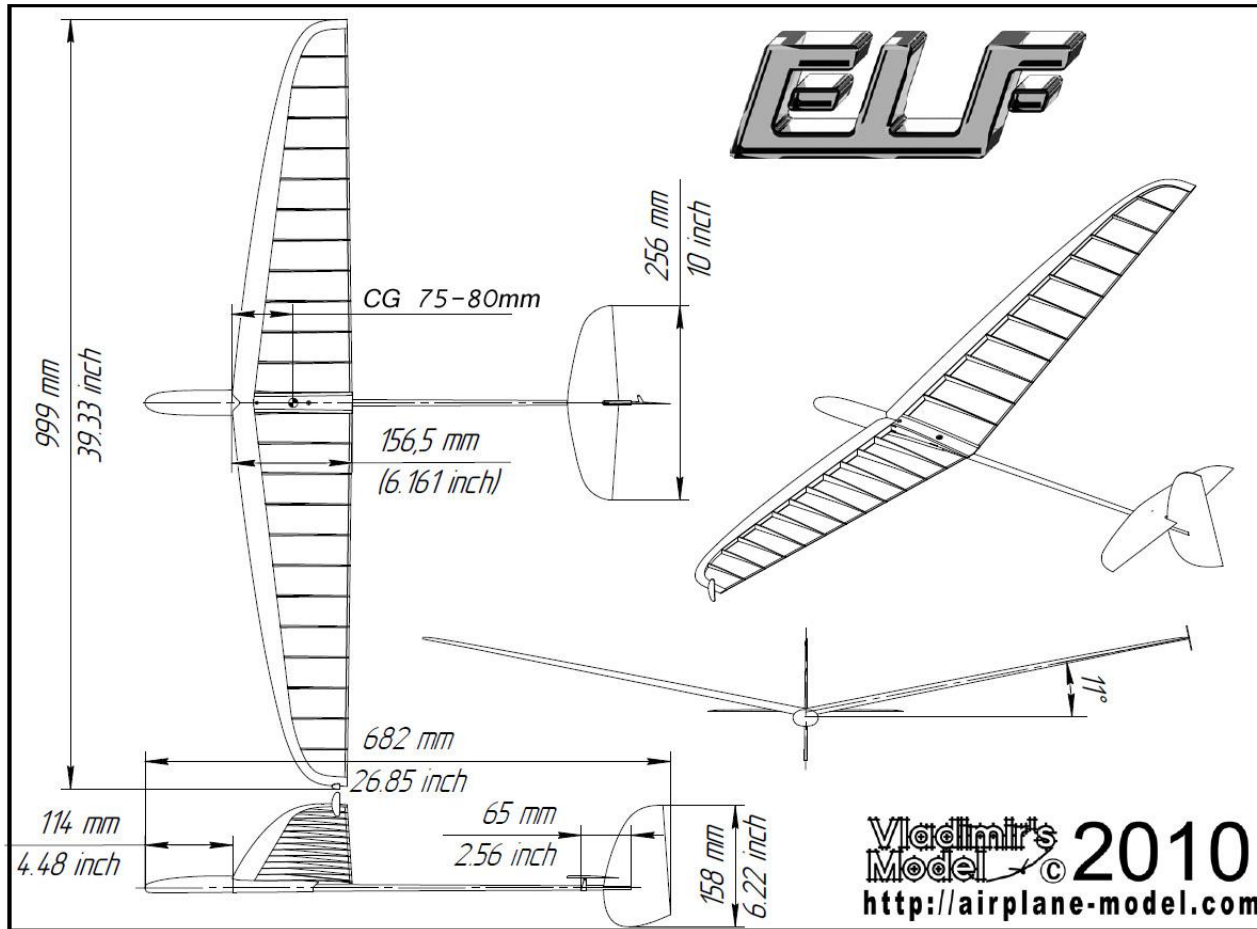


ELF – Assembly Guide



Vladimir's
Model

ELF

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.

The ELF gives a lot of fun in a small package!

ELF's high prefabrication allows the model to be assembled in only one or two evenings.

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

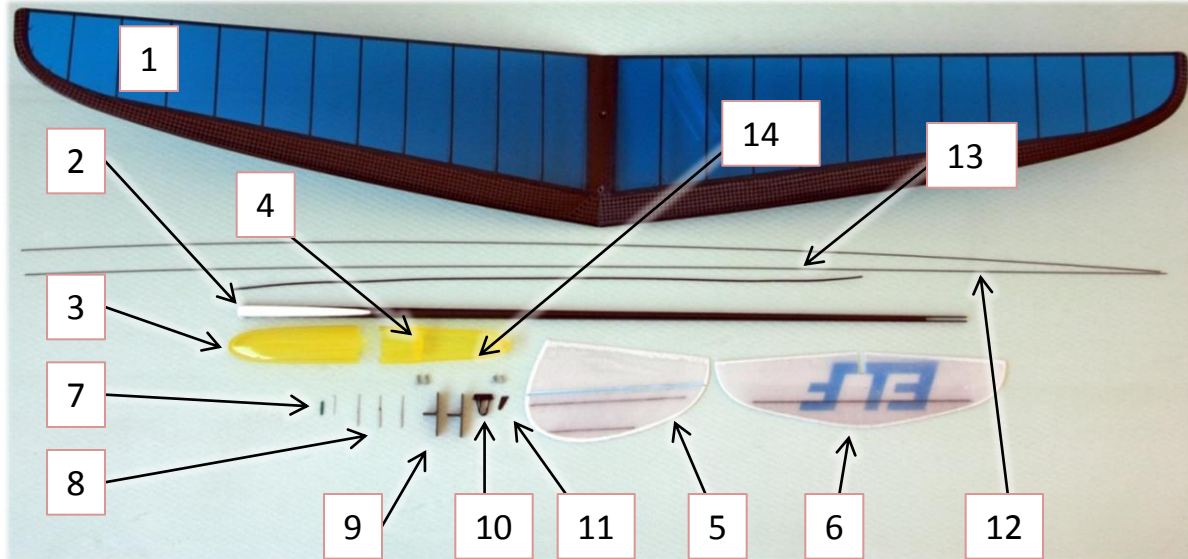
(Dependent upon R/C, battery and construction.)



Parts key & required materials

The ELF kit includes these parts

- 1) Wing
- 2) Boom
- 3) Sheath
- 4) Pod
- 5) Fin & rudder
- 6) Tailplane (stab)
- 7) L shaped wire & heatshrink
- 8) Wire-in-tube pushrod end fittings (3)
- 9) Winglet (2)
- 10) V-mount
- 11) Rudder horn
- 12) Pushrods (2)
- 13) Pushrod outer guide (one only)
- 14) Wing attachment bolts



Recommended Radio Equipment

- SmartLiPo 240 (Li-Po, regulator & charger)
- Servos: Diamond D47, Ripmax SD100, Blue Arrow 2.5g
- Receiver: Spektrum AR6250, AR6255 (case removed), AR6100e, Jeti Duplex R4 & R5, Schulze Alpha-535



Other receivers:
Futaba R6004FF,
Orange DSM2 compatible,
Blue Arrow R3P5-H/T



Required Building Materials

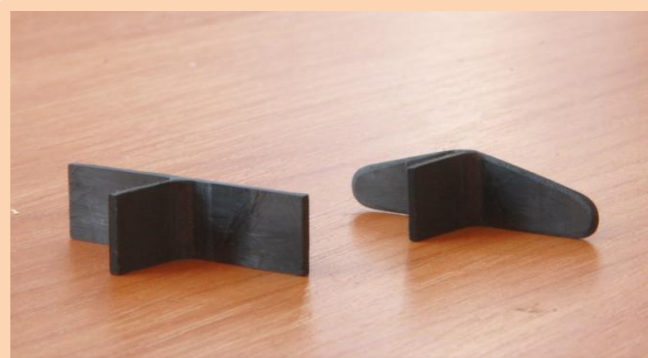
- Medium & thick cyanoacrylate glue (CA)
- Craft knife
- Pen
- Ruler



- Masking tape
- 150 sandpaper
- Pliers
- Desire ☺

Bonding the throwing winglet

1



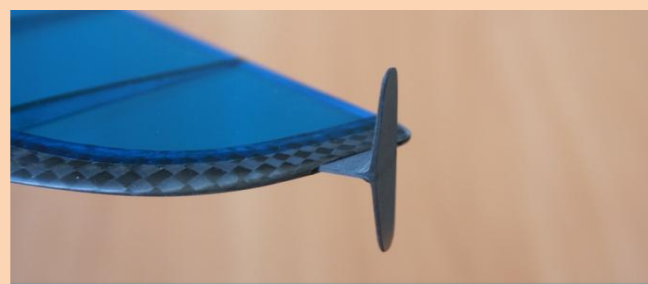
Cut and sand the throwing winglet so it is comfortable for you.

2



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

3



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

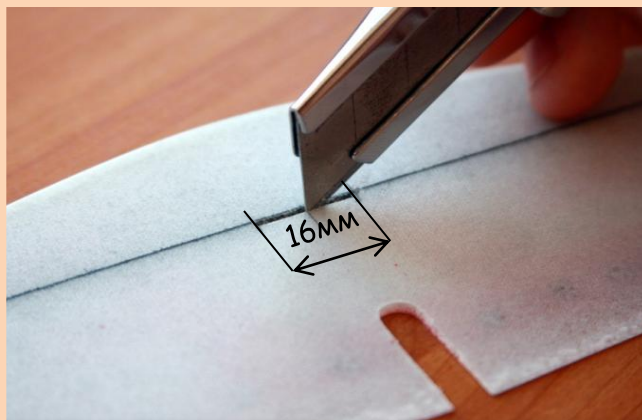
4



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

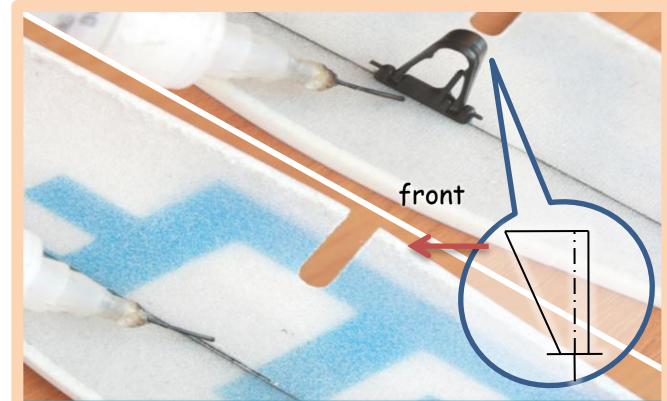
Gluing rudder horn and V mount top

1



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

2



Glue V-mount with the wide side forward. Do not fit the wire axle.

3



Mark 50mm from the bottom of the rudder. Cut a groove for the horn.

4



Fit the rudder horn in place and glue.

Gluing the rudder & V mount base

1

Dry assemble the V mount and the pod on the boom, do not glue them.



2



Insert the fin into the slot in the boom, carefully glue with cyano on both sides.

3



Install the stabiliser on the V mount, adjust so it is perpendicular to the fin.

4



Carefully glue the V mount to the boom.
Do not get CA on the V mount hinge!

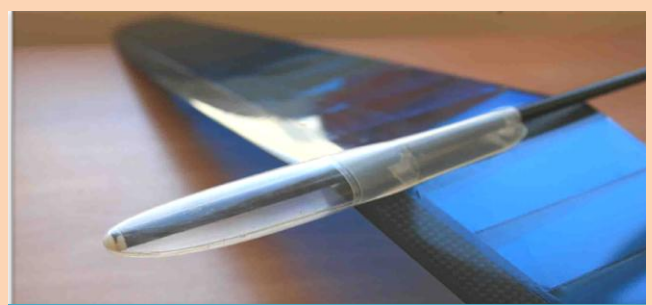
Attaching the pod to the boom

1



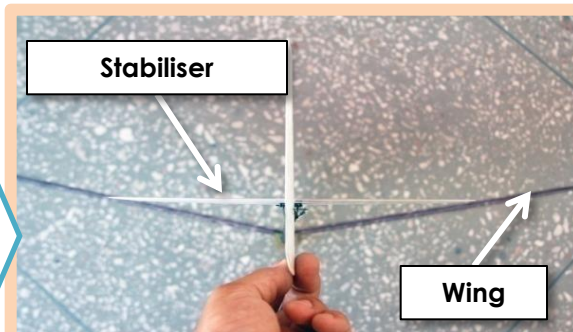
Sand the rear hole in the pod and the boom contact surfaces.

2



Screw the wing to the pod. Slide on the sheath and adjust the pod position so the boom touches the sheath's nose.

3



Adjust so the wing is aligned correctly, as above.

4



Glue the pod rear hole to the boom with CA.

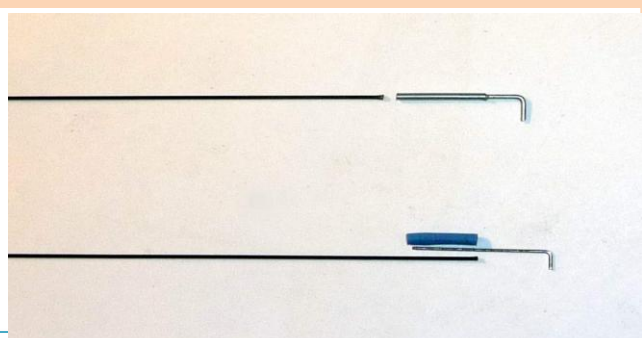
5



Remove the wing and CA the pod underside to the boom.

Making up & fitting the pushrods

1



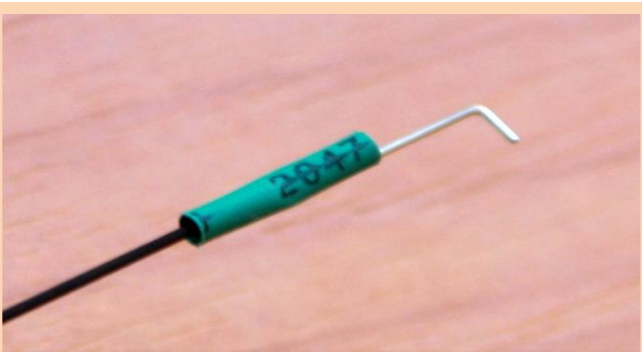
To make the rudder pushrod bend an L into a straight wire-in-tube end fitting & glue to the pushrod.

2



To make the elevator pushrod CA the L shaped wire to the carbon rod.

3



Slip on the heatshrink tube and heat with a covering heat gun.

4



Cut the pushrod outer tube into 5mm lengths and CA these guides to the boom 30mm apart. If possible use a thin wire to act as a guide when placing the guides, as they are less easily glued to the wire.

Installing the pushrods

5



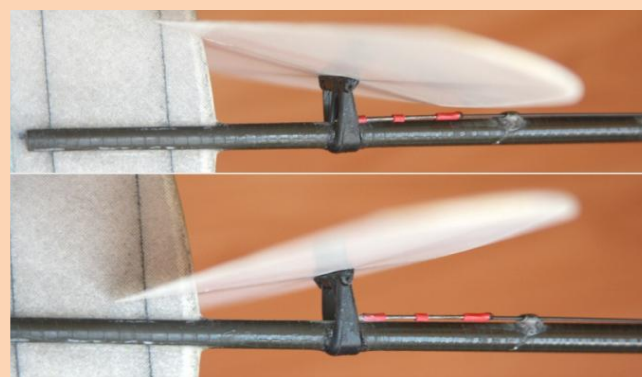
Attach the pushrod to the rudder horn. Disregard the photo, use a wire-in-tube pushrod fitting for the rudder.

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.

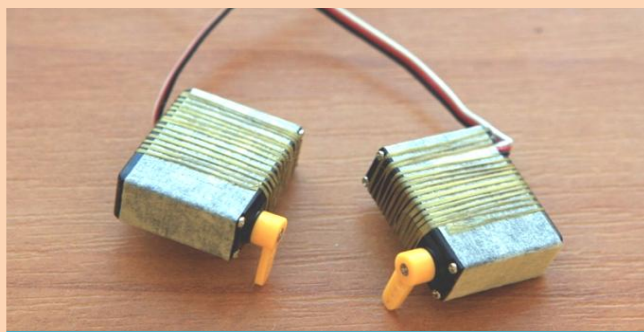
8



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

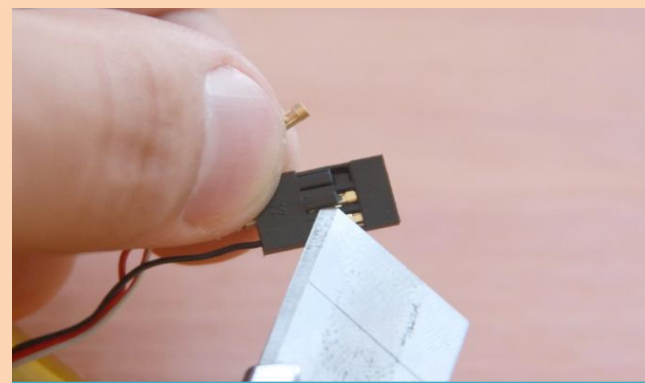
Installing the RC equipment

1



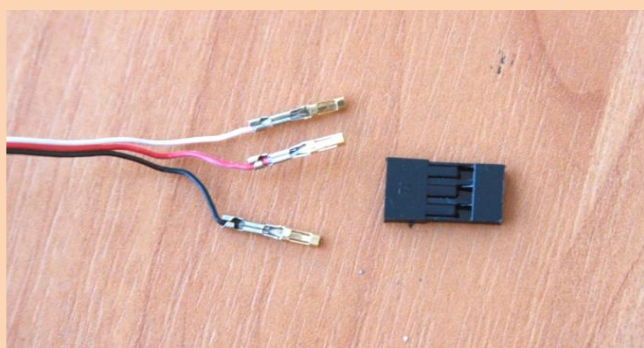
Remove the servo mounting lugs and wrap the servos with masking tape. Optionally wrap them with kevlar thread to increase case rigidity.

2



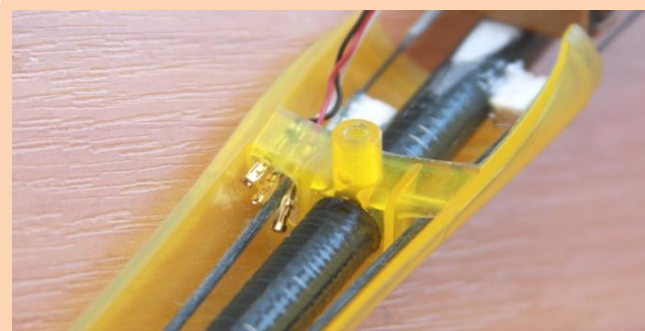
Remove the wires from the plug by gently teasing each leg and pulling out the wire.

3



Do this with all connectors.
Note the polarity!

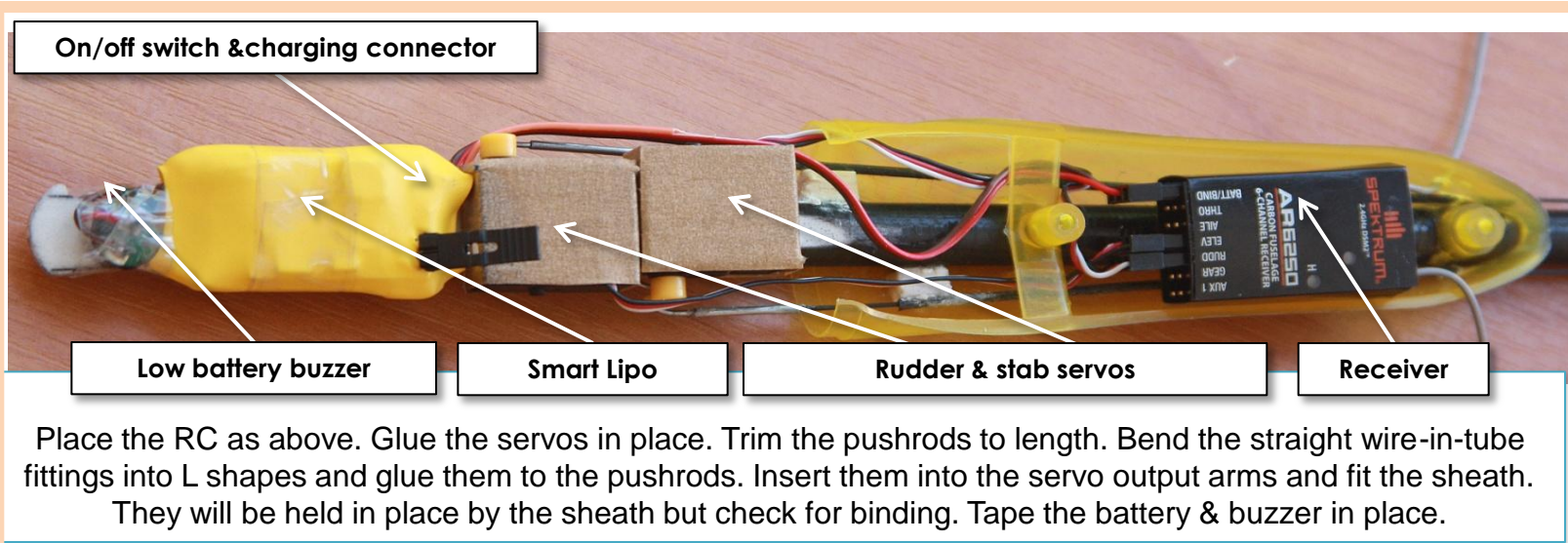
4



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

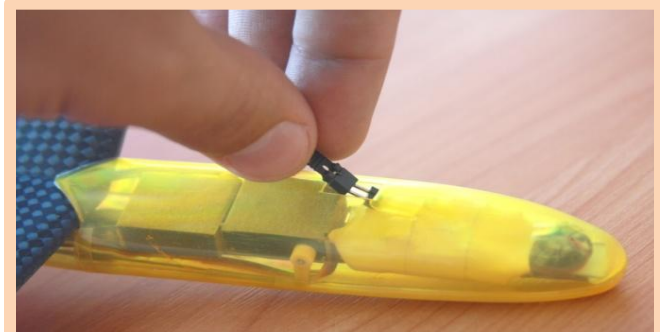
5



6



7



Balancing the model

1

Set the centre of gravity initially to 75-80mm 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



Program the transmitter and fly!

Go flying - do not forget the rx charge lead or the transmitter!

Fly safely, do not launch near others.

If you have any questions about the assembly, or to purchase other products please contact:

Vladimir's
Model

UK Dealer: **Hyperflight**

www.hyperflight.co.uk

e-mail: sales@hyperflight.co.uk

