RCPowers F117 Build Log

Cutting Settings for 100W laser

6mm Noma-Plan (Depron):

- Focus distance: 8.5-9mm (normal focus is 12mm)
- Cut:
    - Speed: 100
    - Power: 30%
    - Corner Power: 25%
- Score:
    - Speed: 250
    - Power: 18%
    - Corner Power: 12%
- Engrave:
    - Speed: 350
    - Power: 18%
    - Corner Power: 11%

2mm Dense Multiplex (plywood):

- Speed: 15
- Power: 90%
- Corner Power: 70%

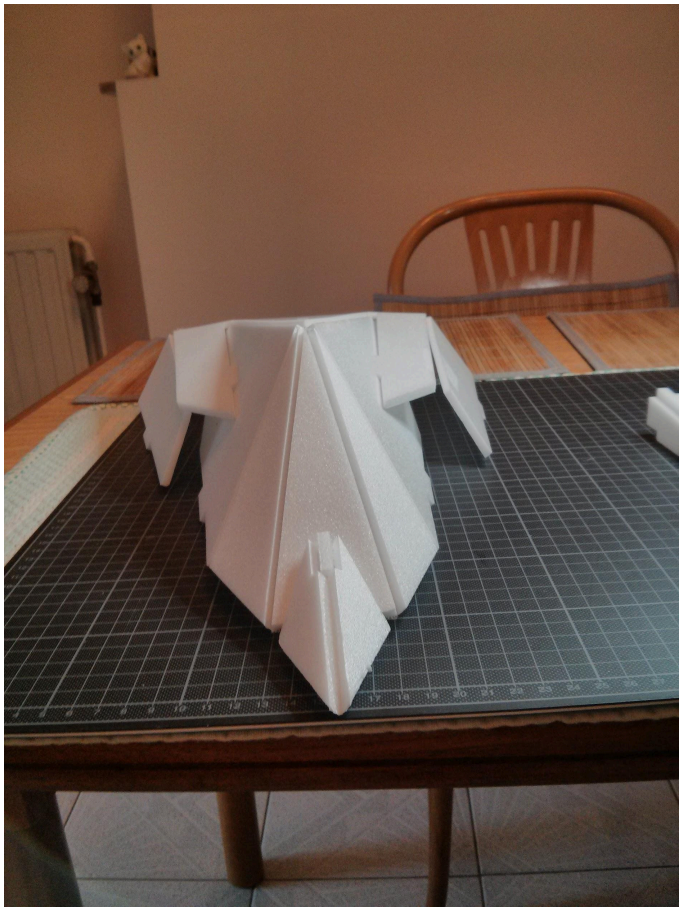
Plan

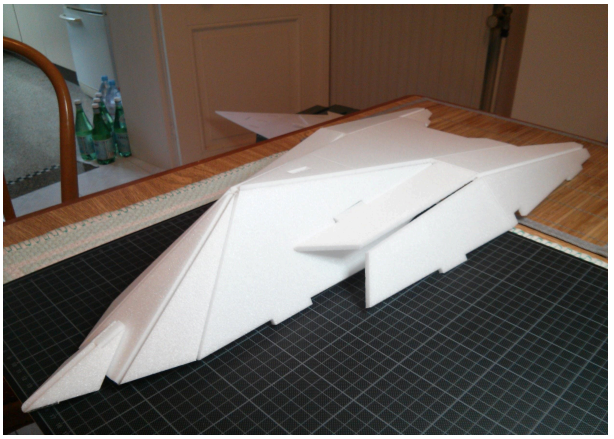
Cut Parts

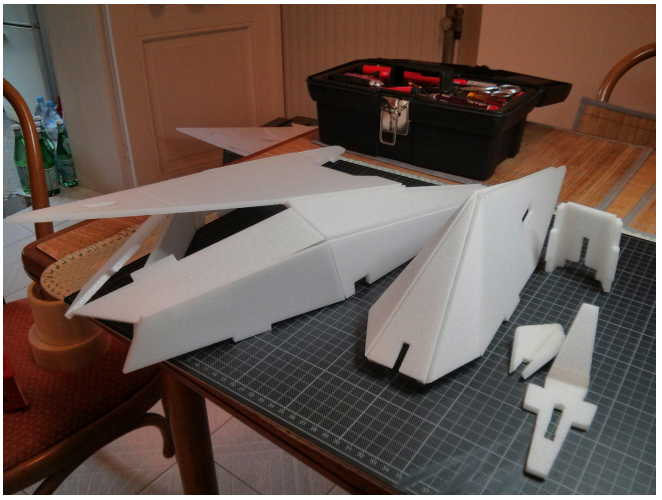
Done!

Fold Scores and Reinforce with strapping tape

Done!







Glue Carbon Rod

Done!

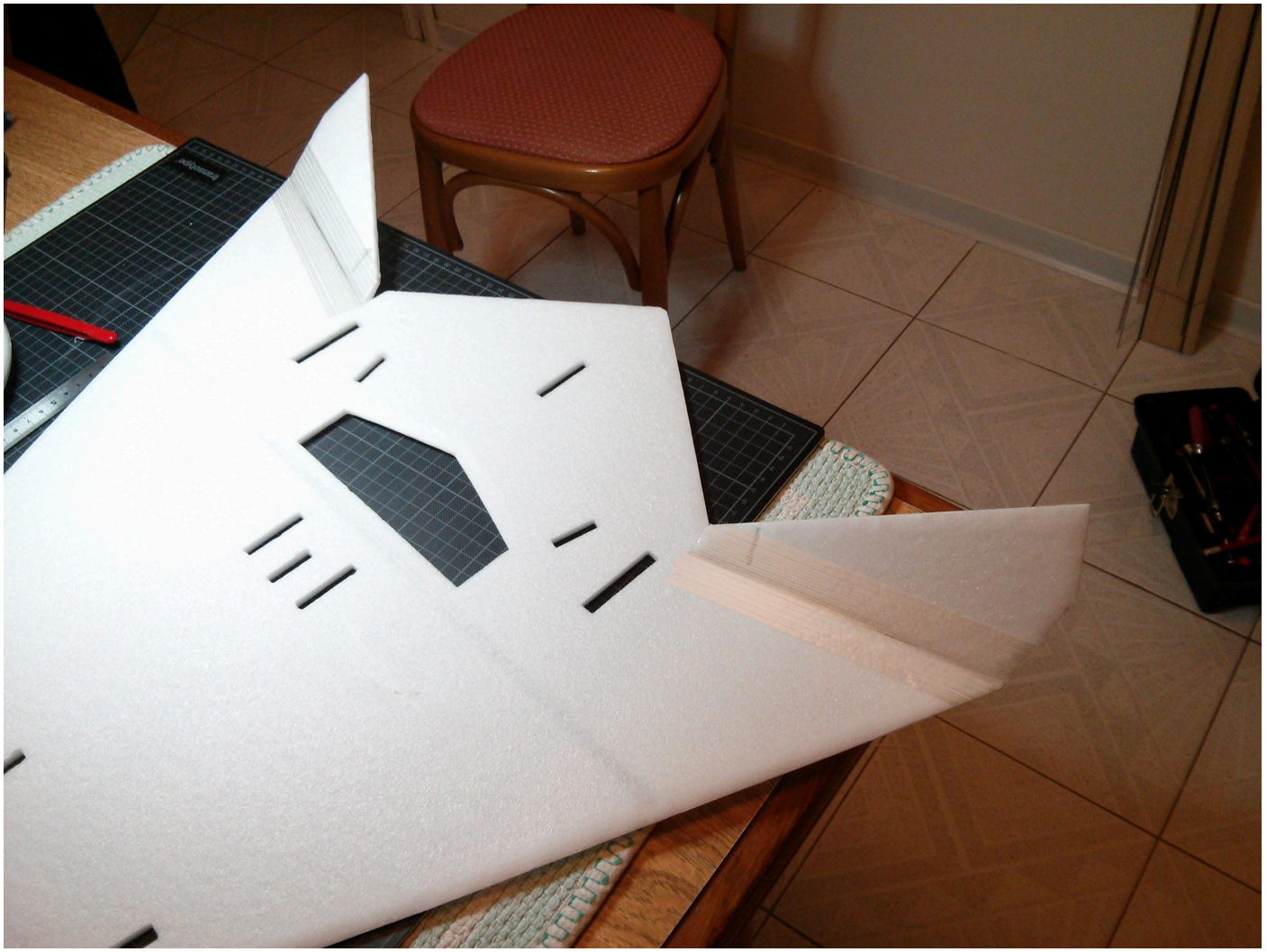
Round leading and trailing edges of wing, tail, prop cut out

Done!

Bevel & Hinge Elevons

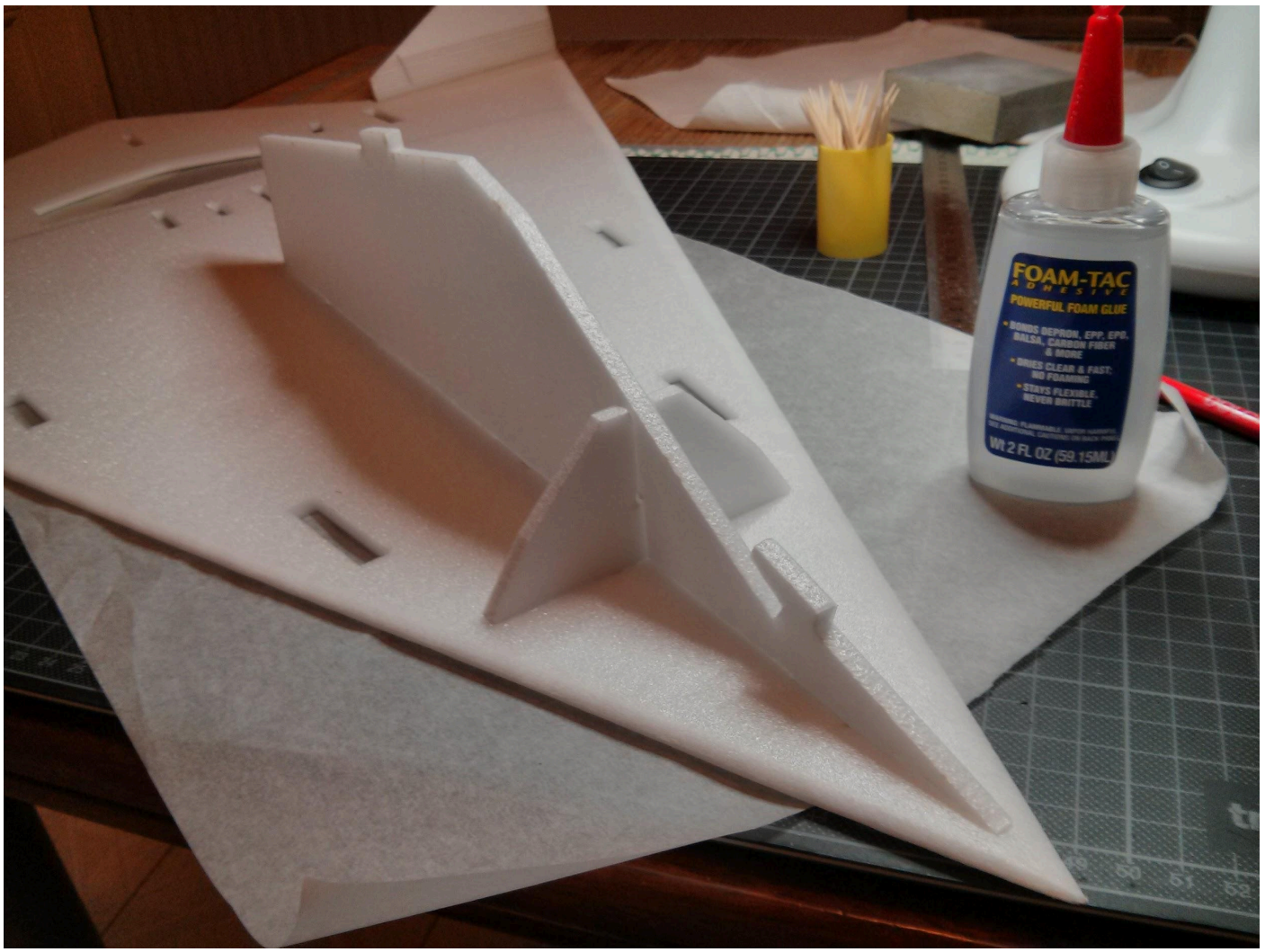
Done!

- cut distance d = 6mm tan 30° = 3.5mm



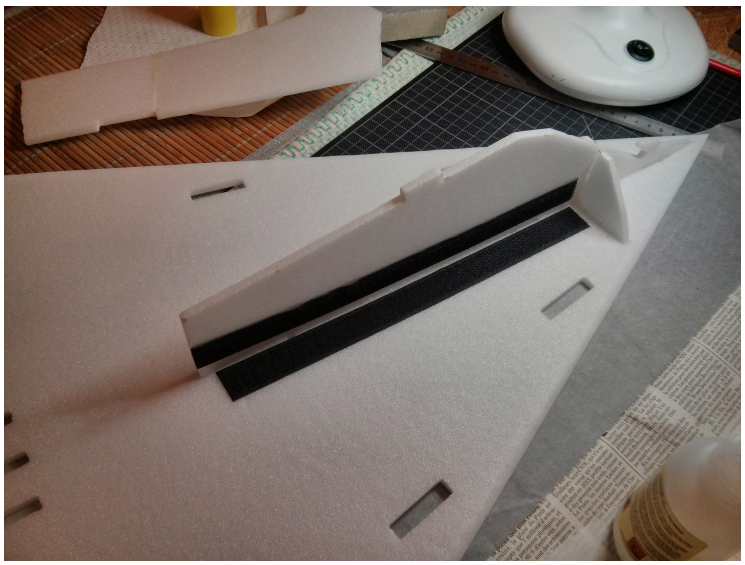
Install Internal Nose Support

Done!



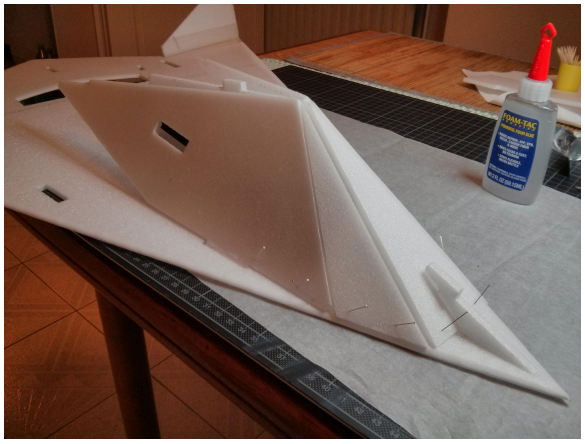
Install long Battery Velcro

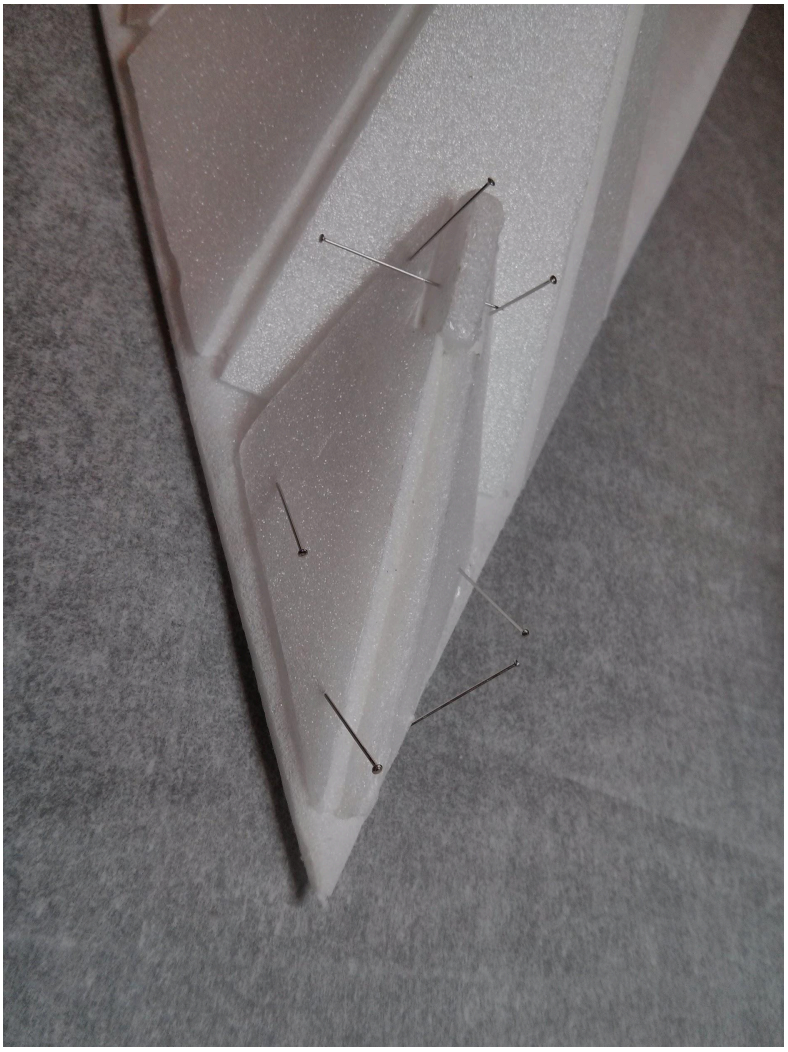
Done!



Install Front Fuselage & Nose Cone

Done!

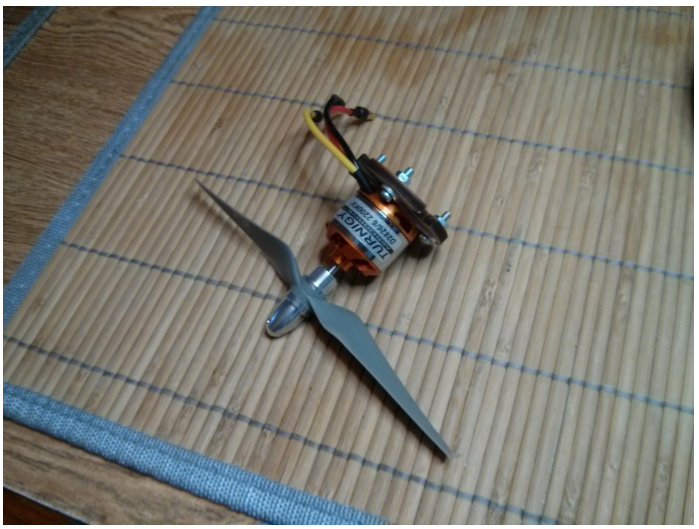


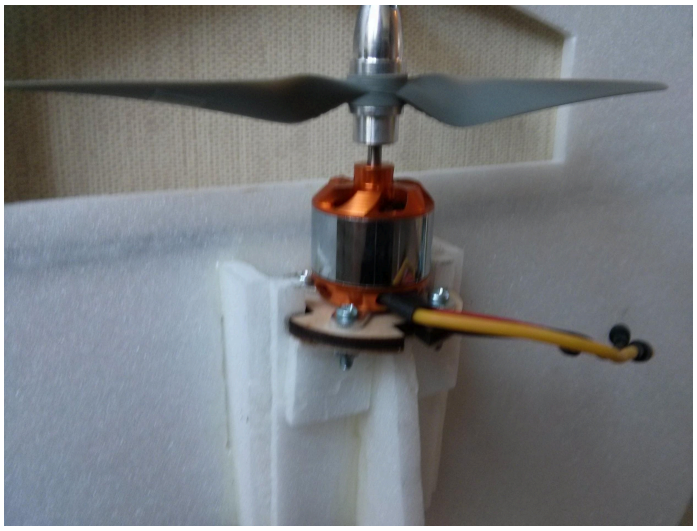


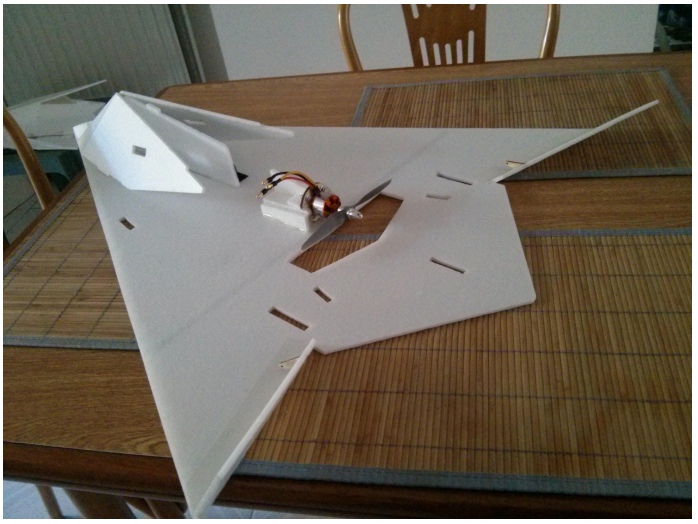
Install Motor Mount and Motor

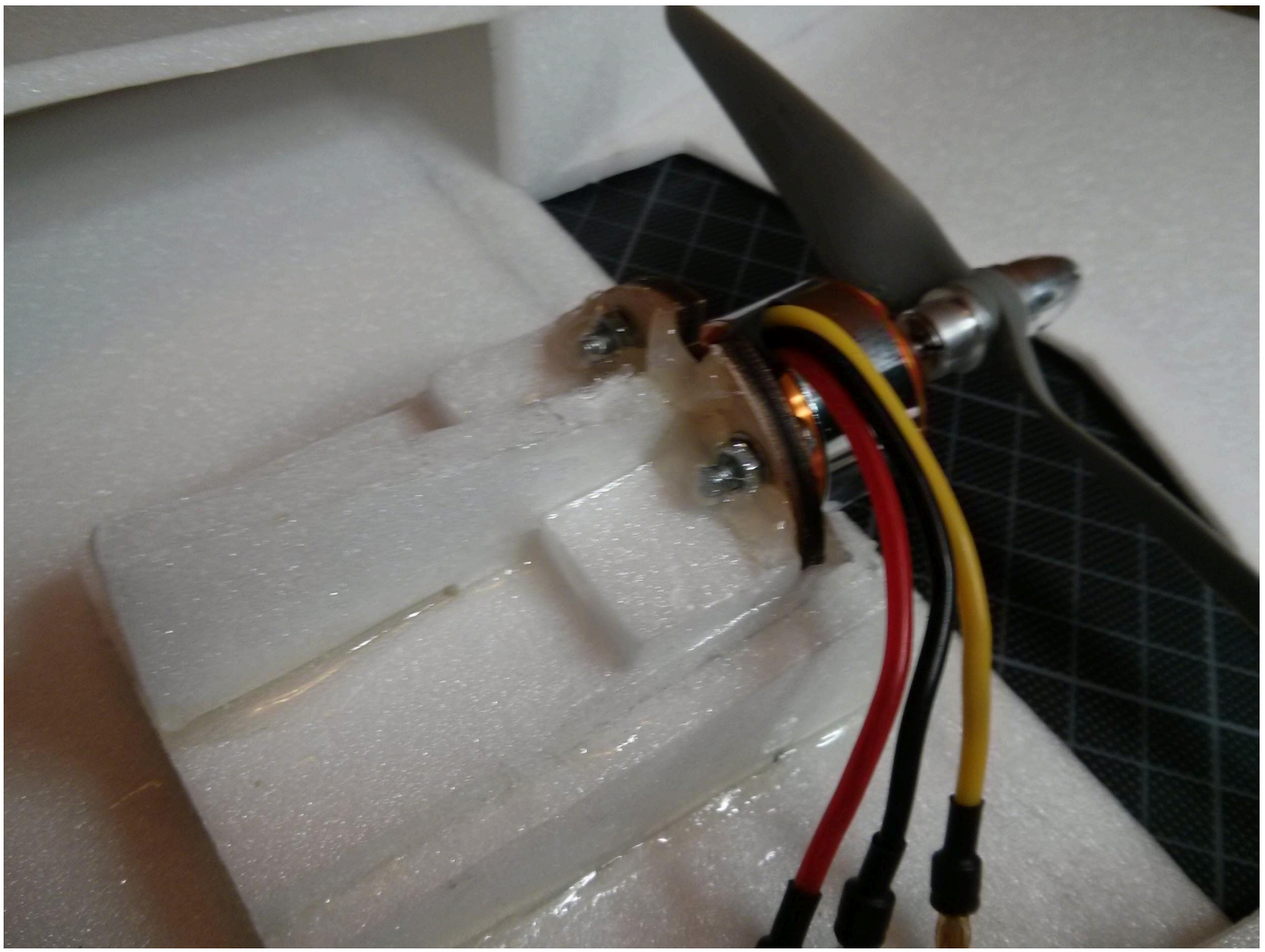
Done!

- parts glued,
- motor thread locked and prop tightened down,
- mounted motor to plane,
- reinforced with hot glue



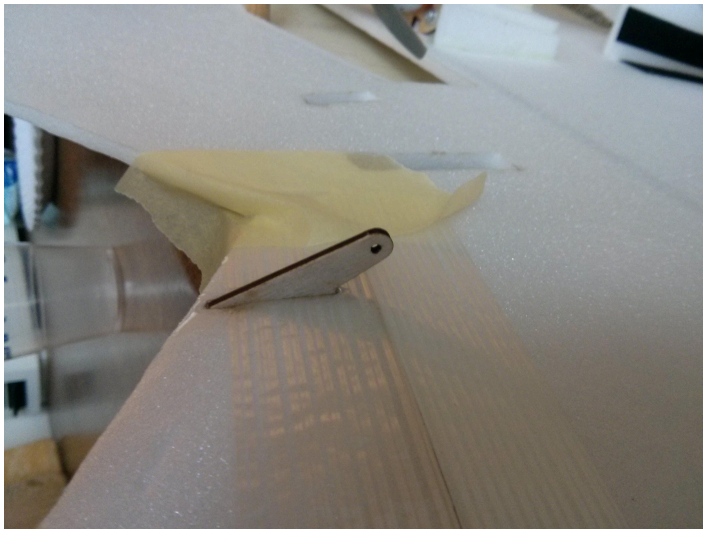






Install Control Horns

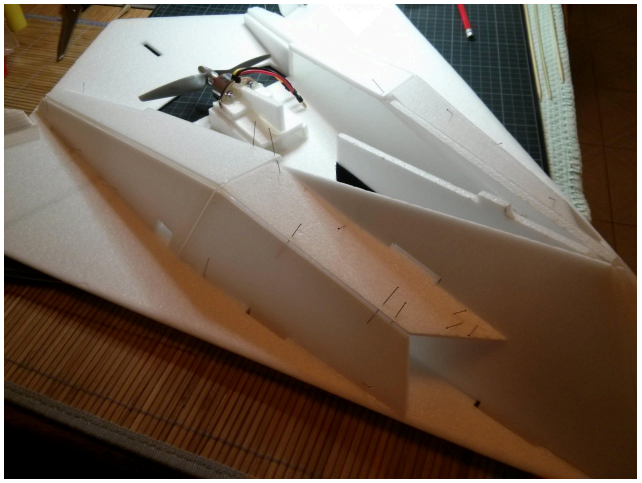
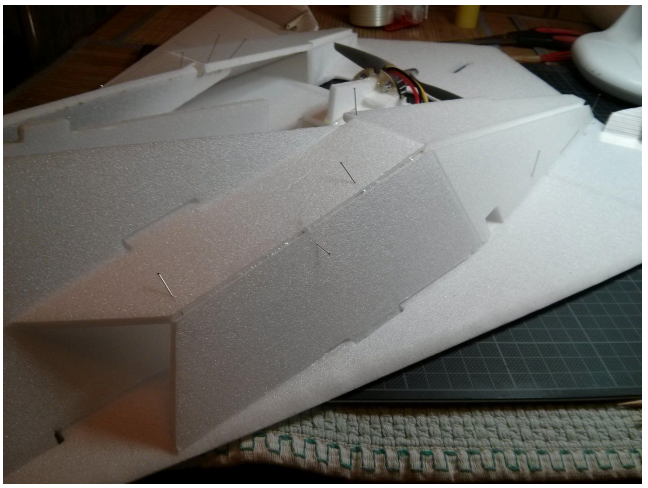
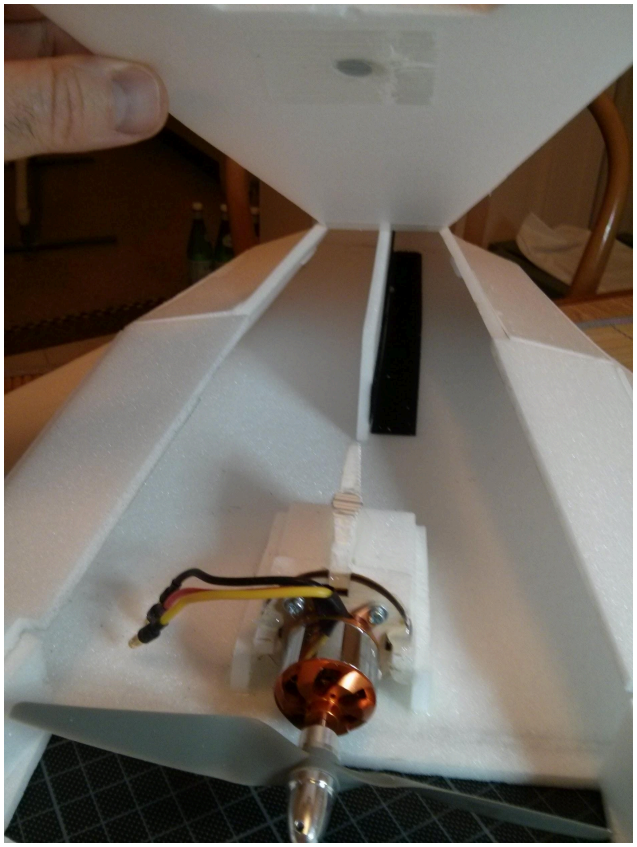
Done!



Install Rear of Fuselage

Done!

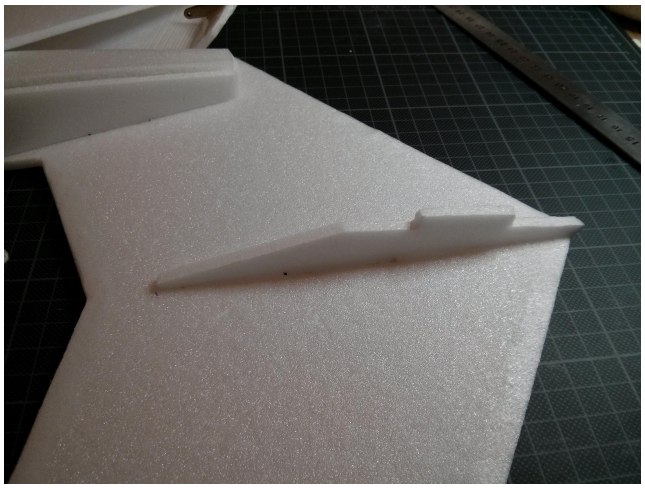
- Access Hatch cut out!
- Installed Magnets

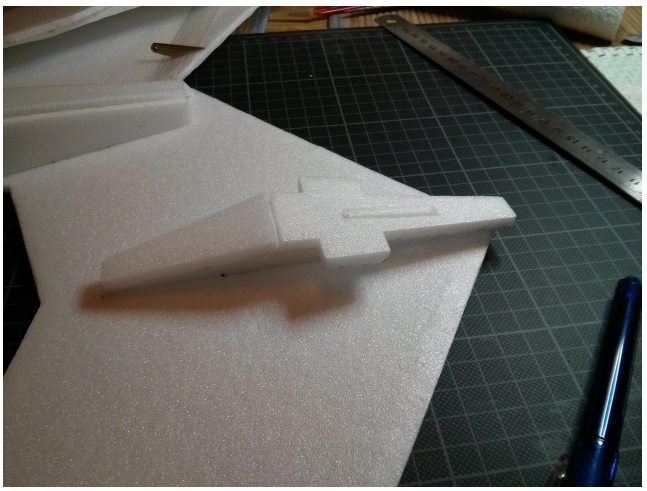




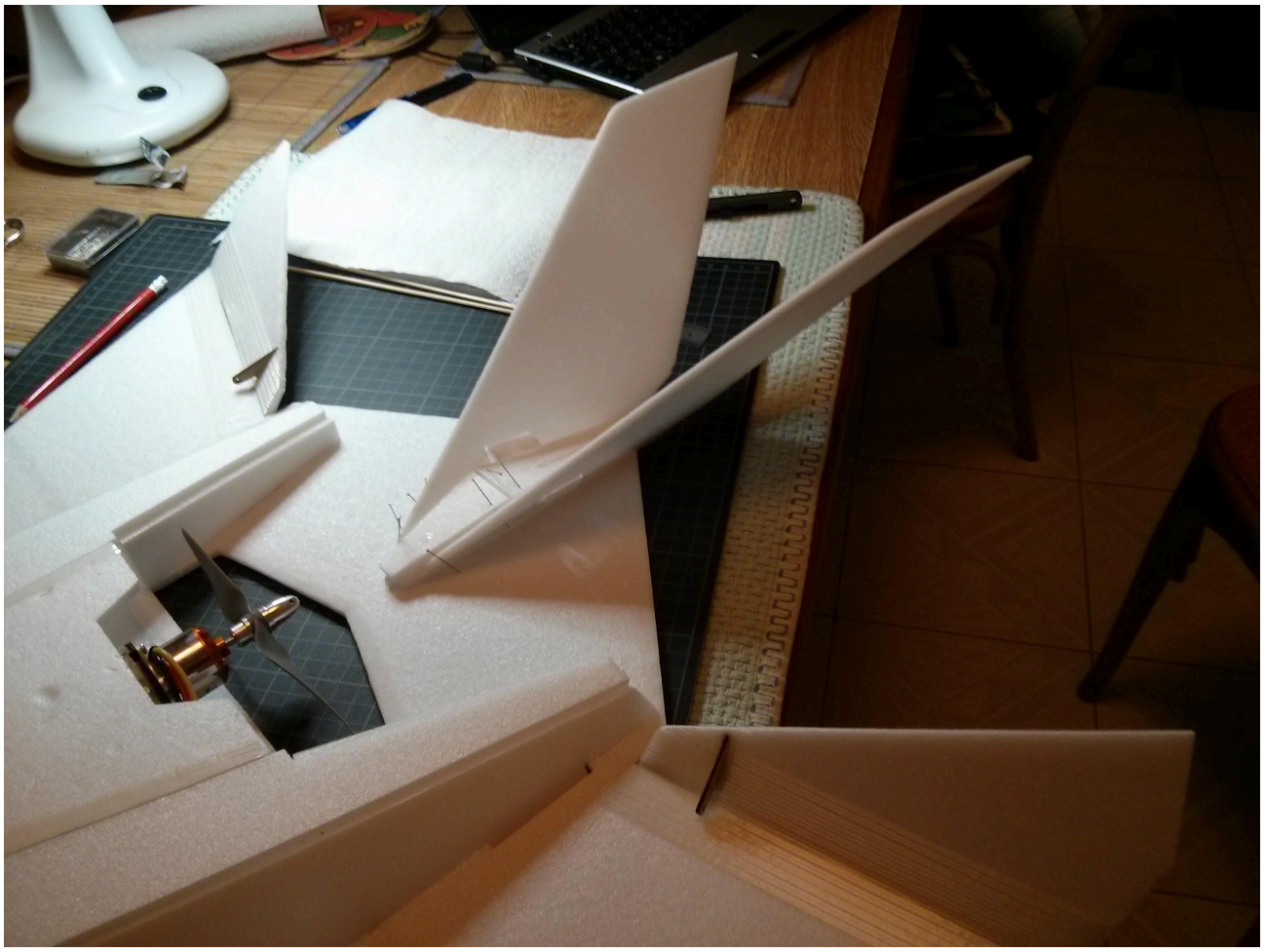
Install Vertical Tails

Done!

- installed supports
- installed tails



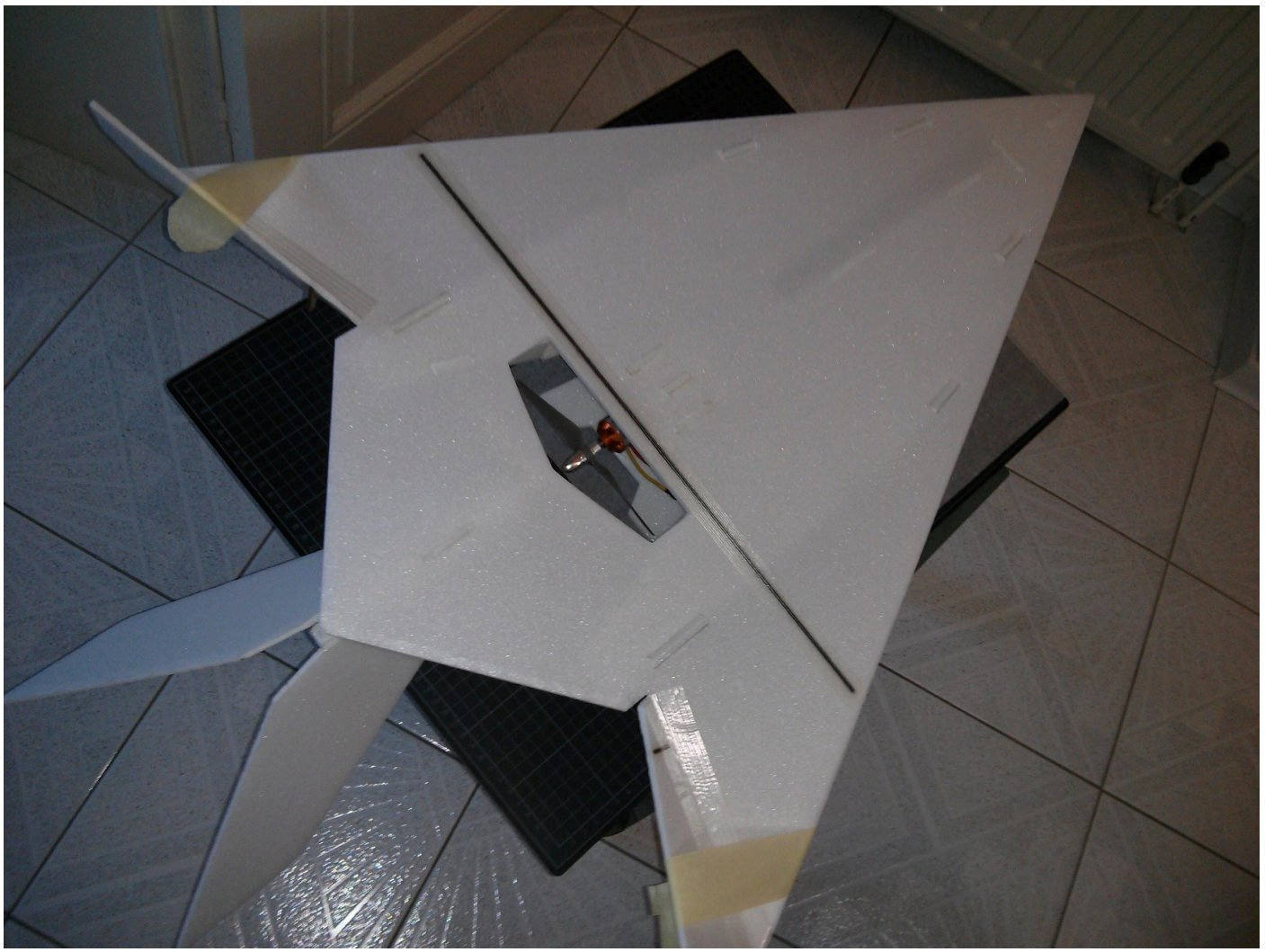




Reinforce everywhere with epoxy

Done!

- fuselage
- tail
- filled all gaps
- ensured 3mm space for elevon movement



Paint & Finish

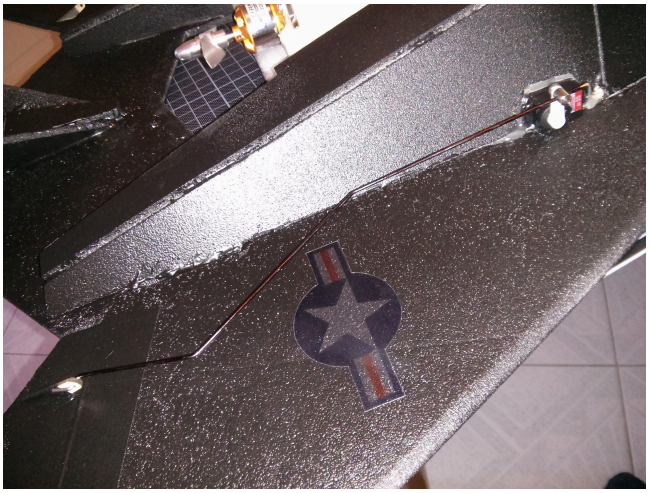
Done!

- mask for servo mounts and cockpit tape
- protect motor and prop

Install Servos

Done!

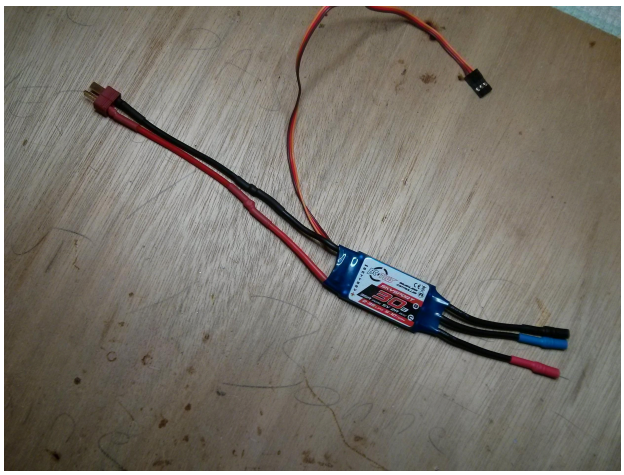
- soldered control rod ends - this was not used finally,
- Used Z-bend at control horn and stopper at servo arm - this 1.5mm control wire bends well



Install ESC & RX

Done!

- soldered connectors to ESC and extended power wires
- programed radio
- servos are set up
- rx fail-safe is set



Set Center of Gravity

Done!

As per the plans: **7cm behind the mid notch, 8cm ahead of the motor mount notch?**

not 38cm from nose!

done: rx, esc velcro'd in place

Final finishing

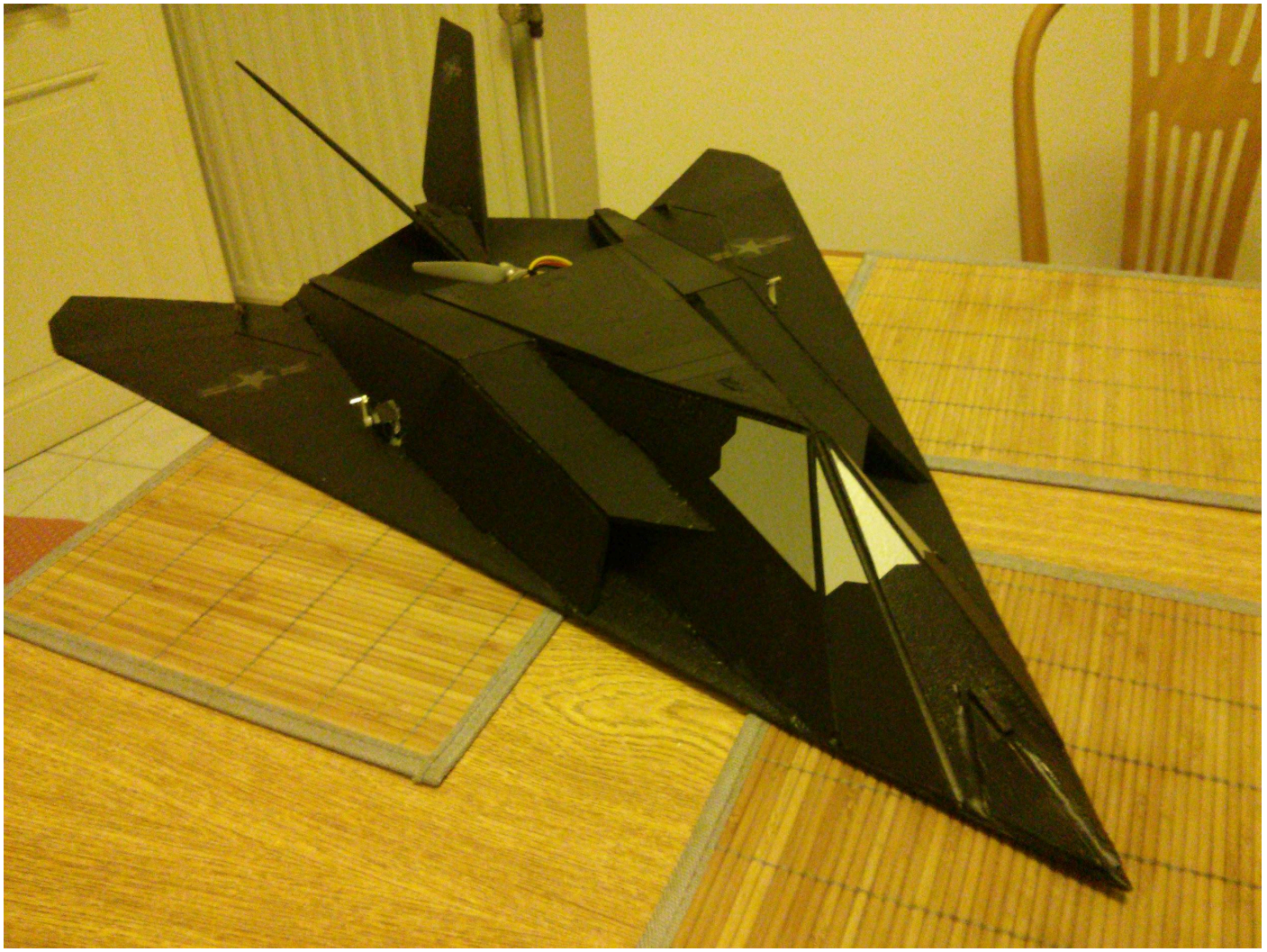
Done!

- done Reinforce Nose & Wing Leading Edge with black tape,
- done: Touch up paint as needed...
- done: put on USAF Rondelles
- done: cockpit stickers are on!

Current Status: Completed, awaiting maiden!

Take a look at the Video Tour dated: 2014-11-12 16:46

2014 11 11 22:00

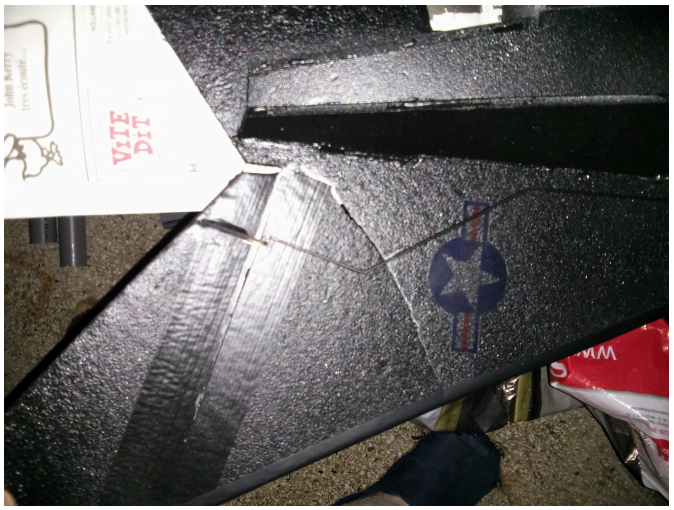
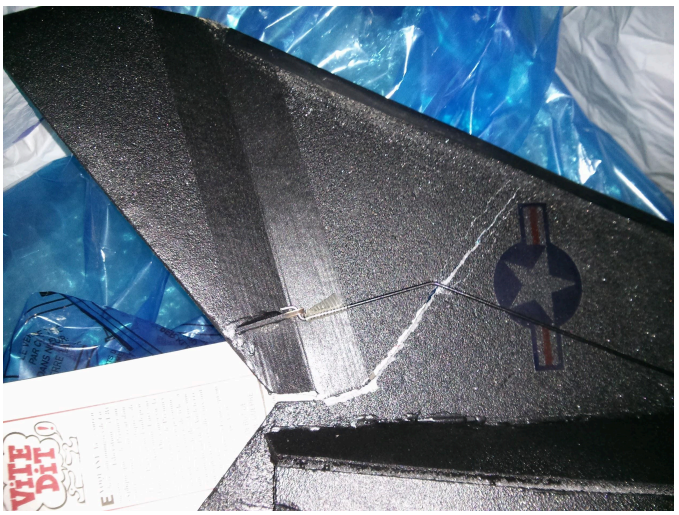


Maiden Flight 5 April 2015

After a first failed maiden flight, I tried again.

This video shows how well she flew, until both wings cracked and only by incredible pilot skill did she make it back, inverted, in one piece.

I guess the Noma Plan foam is not as rigid as Depron. My plan is to reinforce the wings with a carbon spar, and carbon rods on the leading edges. We'll see how that works out!

Wingtip Reinforcement

I will put in 20cm long diagonal spars made from flat carbon put in "vertically", i.e. NOT laid flat, but "standing up" so to speak

First I marked the cut line with pencil.

Then I cut an initial trace with the scalpel, going over it 2 or 3 times.

Then, I enlarged the cut with a small screwdriver, until the carbon blade could fit in a little bit.

The, I used the carbon blade itself to dig out enough to let it sit flush.

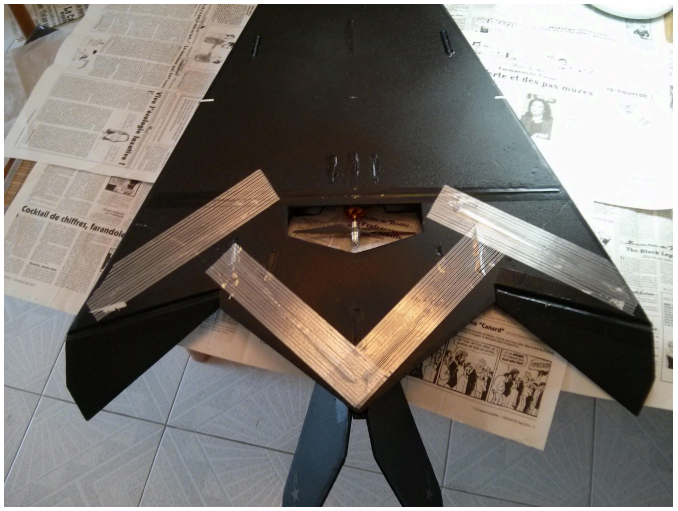
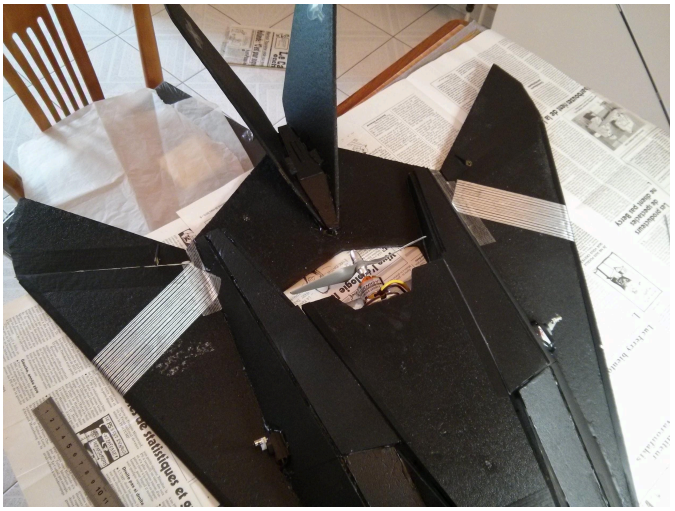
All the digging out was guided by the metal rule.

Once the carbon beams fit in snugly, I removed them and protected the surrounding part of the intrados with masking tape, to avoid making a mess with the epoxy. Note how the end of the masking tape is folded on itself to allow for a "grip" when removing.

When epoxying, I was disappointed to find that the beams would not fit flush any more. The epoxy must have been thick enough to keep them raised a bit, sigh.. In any case, the beams will be covered with strapping tape once the epoxy hardens...




Then I reinforced the fuselage aft of the propeller.

And finally, I reinforced the trailing edges of the tails but I'm not sure if this will do any good.

After a test flight or two, I will repaint it and put the cocardes (a.k.a. roundels) back on.

Second Maiden: SUCCESS !

With the wings reinforced, no problems! It flew well in gale force winds!

There is still some strange behaviour at stall, it spins counter-clockwise. This may be because of asymmetries or because of uneven neutral positions of the big elevons.

Here's the video.

Repainting


Le Canard enchaîné
Gattaz : histoire d'un coup de chaud
Une vie clés en main
Alexis Tsipras


Sarkozy se prend à la fois pour de Gaulle et pour Monte-Cristo
Le Canard enchaîné
Journal satirique paraissant le mercredi
La déclaration de politique générale du Premier ministre ne déchaîn
L'Assemblée a voté en doute
FACE AU TOLLÉ, LE MEDEF REPORTE SES PROPOSITIONS POUR L'EMPLOI
GATTAZ PÈTE LES PLANS
A l'UMP, le retournement, c'est maintenant !
La révolte des gueux
Guantanamo forever ?
Vainqueur de
Alexis Tsipr
Des djihadistes très Pieds-Nickelés
Une vie clés en main