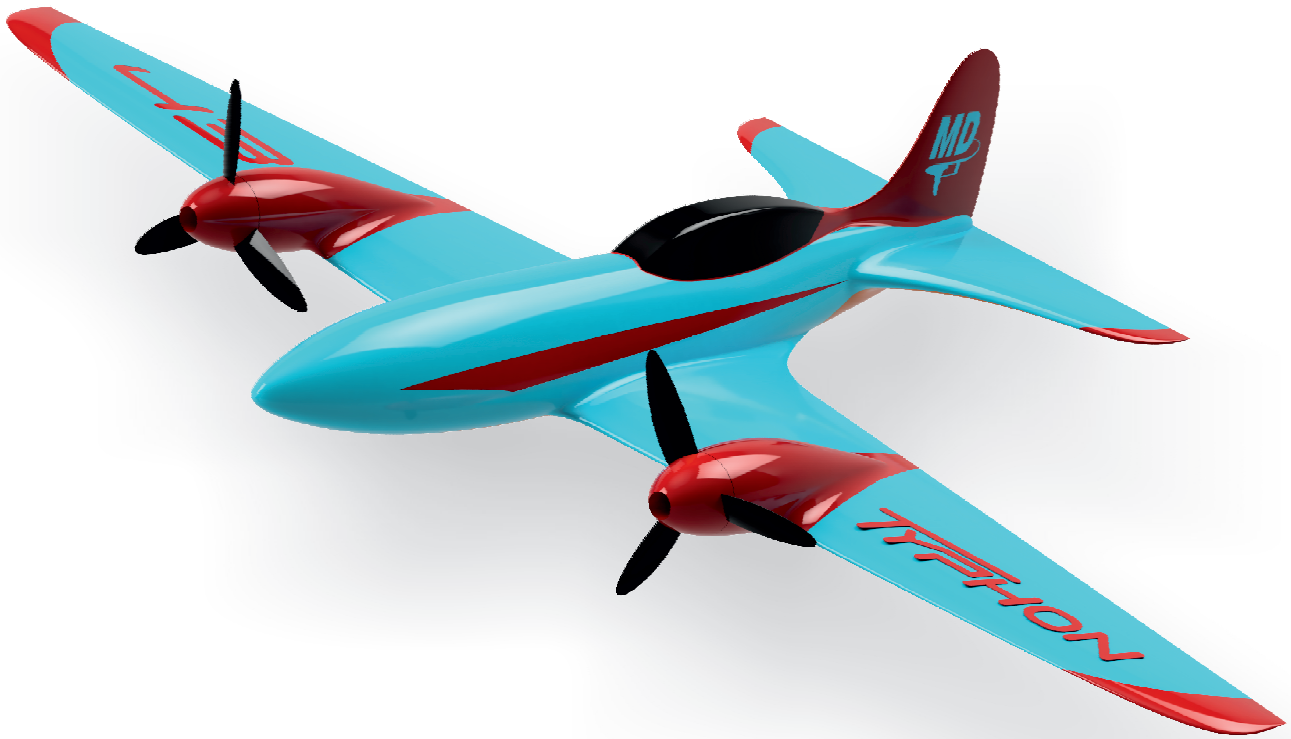




# TYPHON



## Build Instructions



# Printing

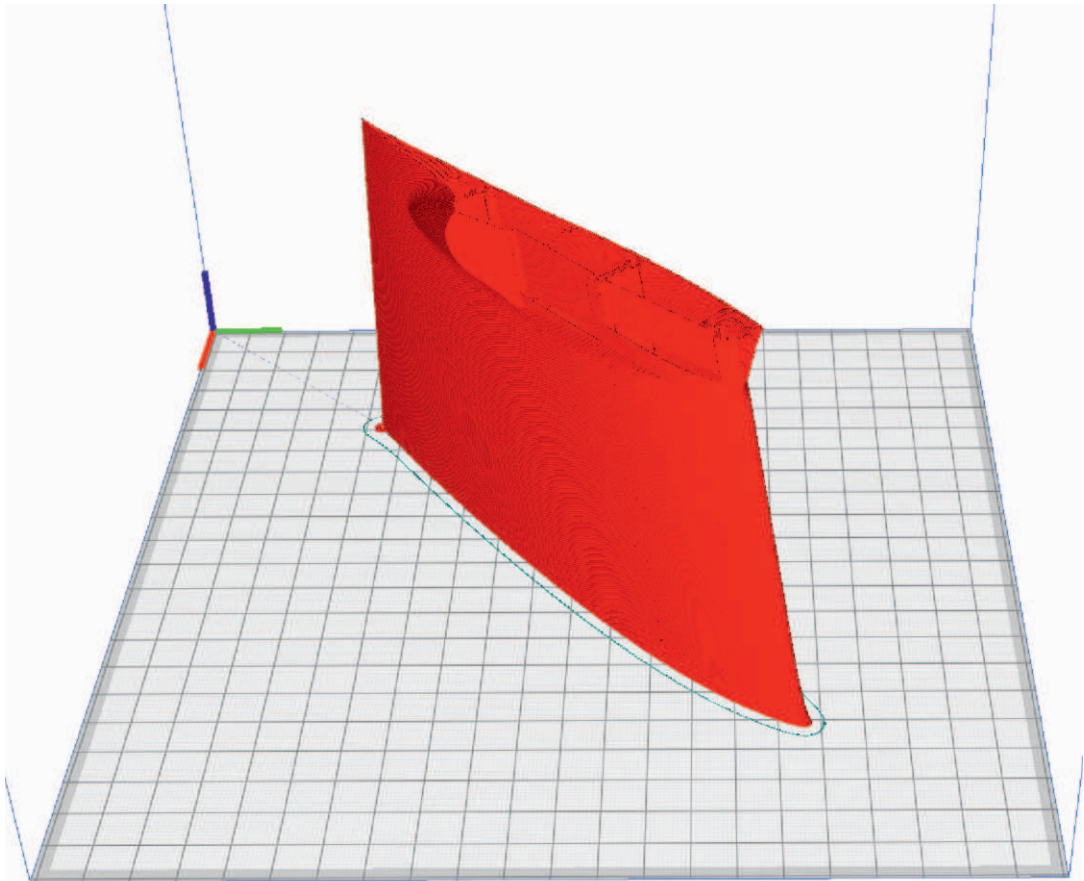
Minimum printer size:  
150mm x 150mm x 175mm  
0.4mm Nozzle  
0.2mm layer high



The slicer **MUST** have a Surface Mode. The only slicers with Surface Mode are Ultimaker Cura and Raise3D ideaMaker and their derivatives. Both are free.



All **bule** parts must be sliced in Surface Mode and all **red** parts must be sliced in Normal Mode.



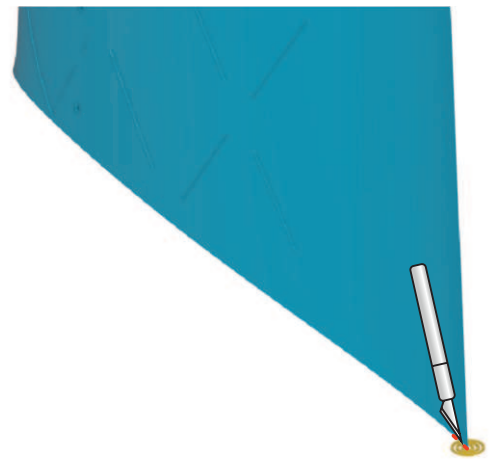
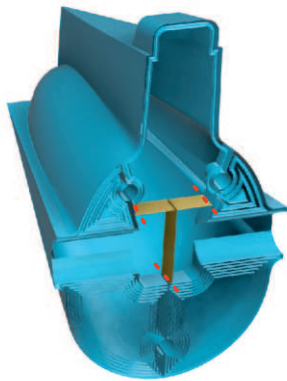
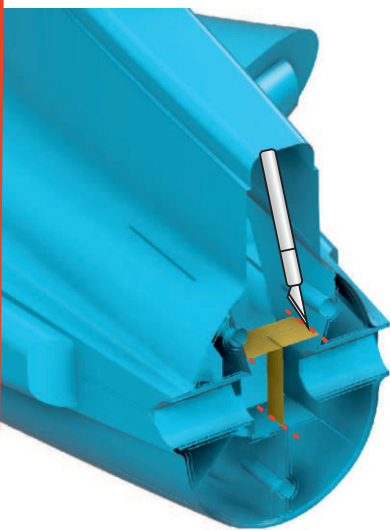
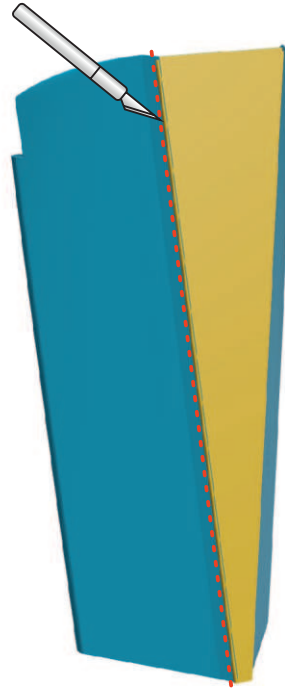
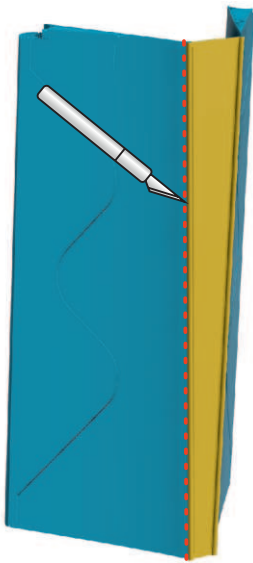
Choose the material and flow to get a wing loading and durability that you like.  
LW PLA recommended for 2S Builds,  
Normal PLA recommended for 4S Builds.

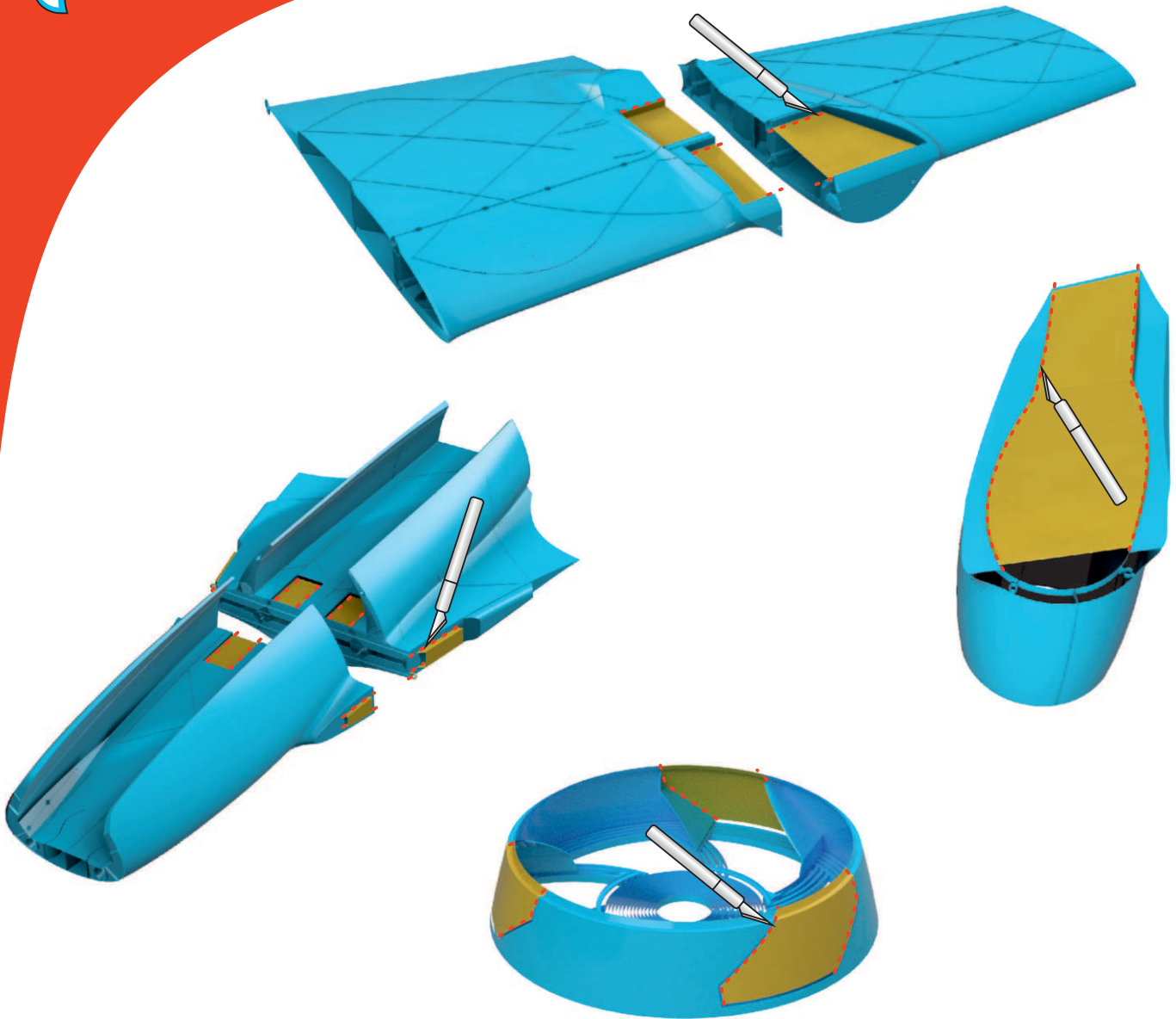
Scaling the plane works very well. It can be used to simply get a bigger airplane or to fit electronics that would not fit in the default size. The plane is still printable at 200% with a 0.4mm nozzle.



# Part preparation

Remove print incorrections and the surfaces marked yellow. They help the prints stay together during printing. You can use scissors or run a sharp blade multiple times to cut the parts.





**Black pins** are used for hinges.  
They can be cut from 1mm carbon  
fiber rod, alternatively from 1mm steel rod.  
8 are needet.



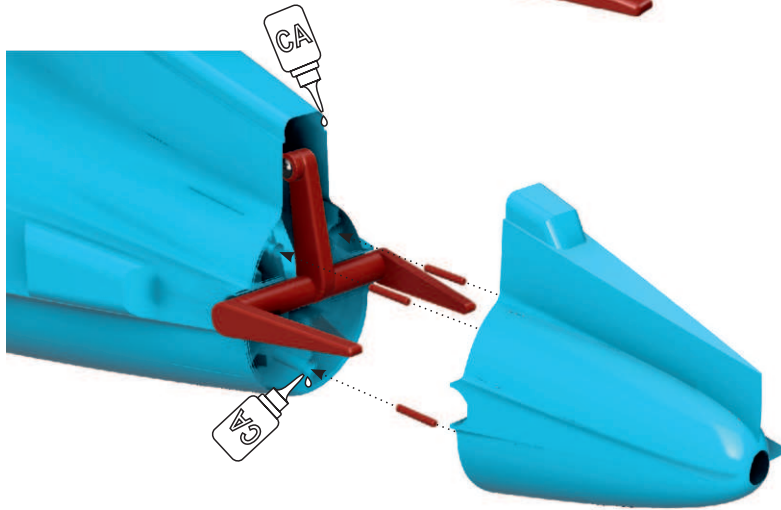
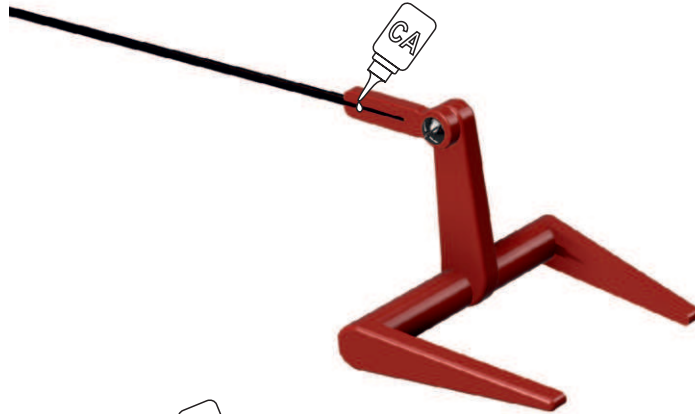
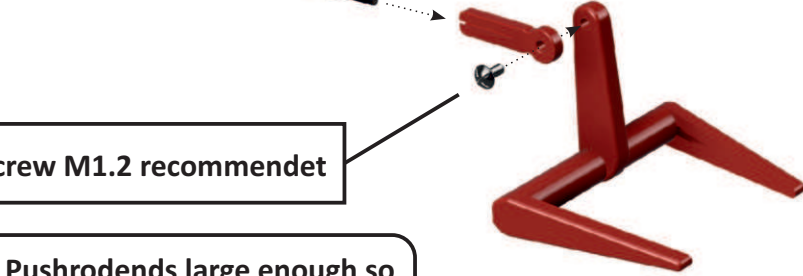
**Red pins** are for alignment only.  
They can be cut from 1mm carbon fiber rod,  
alternatively printed from PLA in Normal Mode.  
31 are needet.



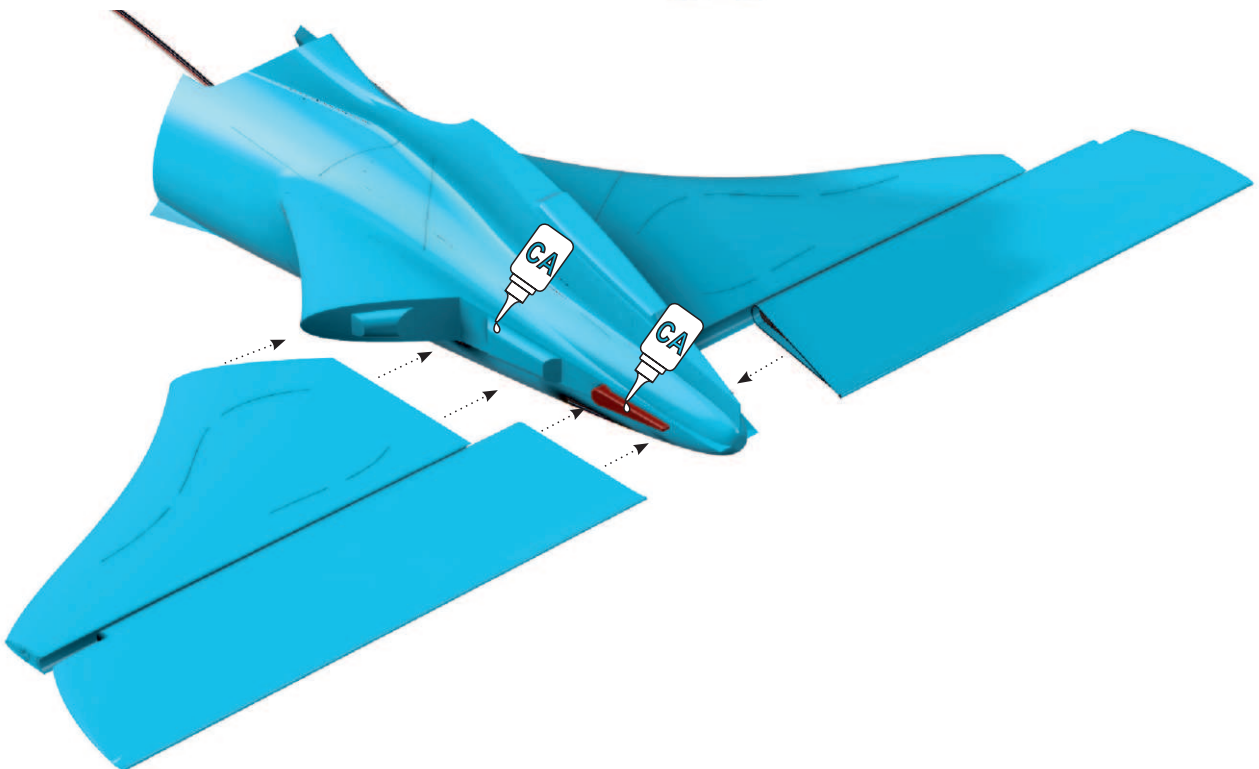
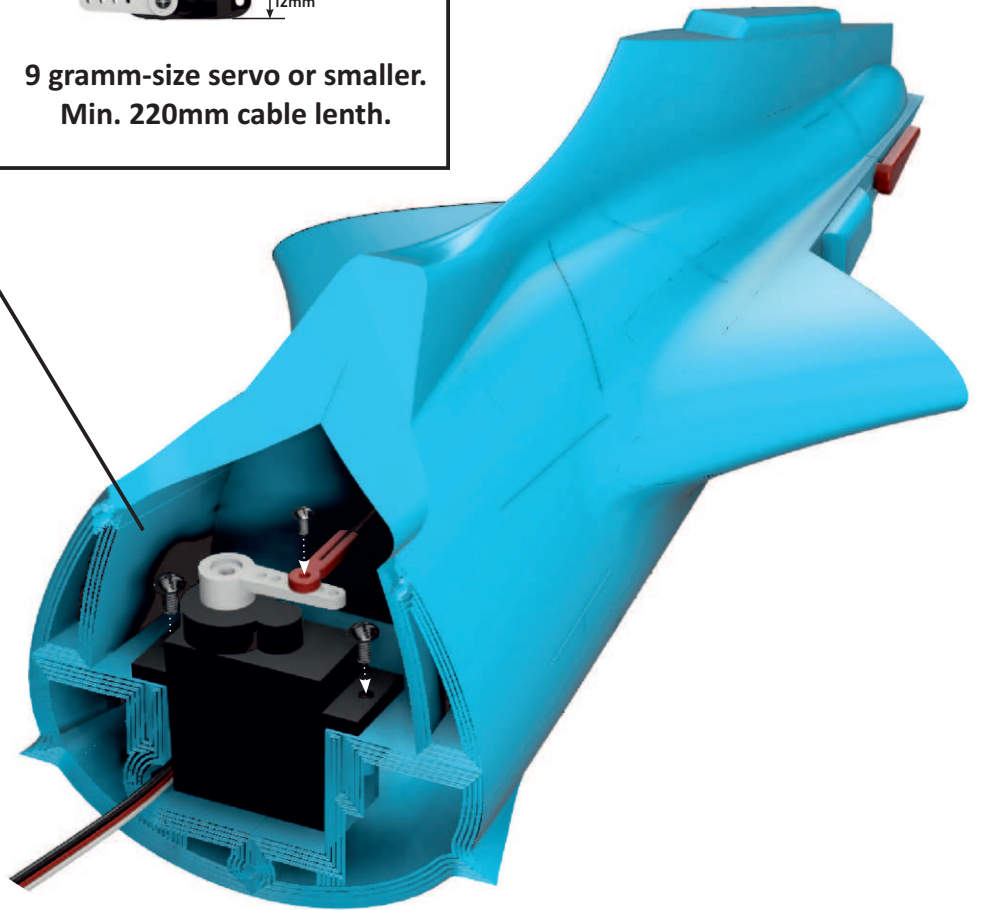
Carbon fiber rod 1mm x 158mm

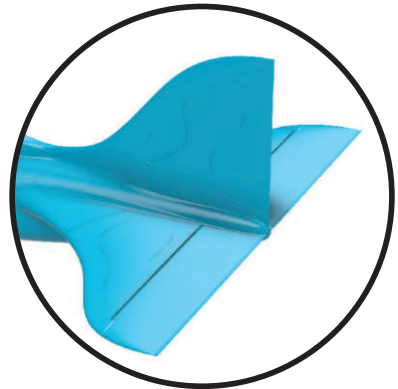
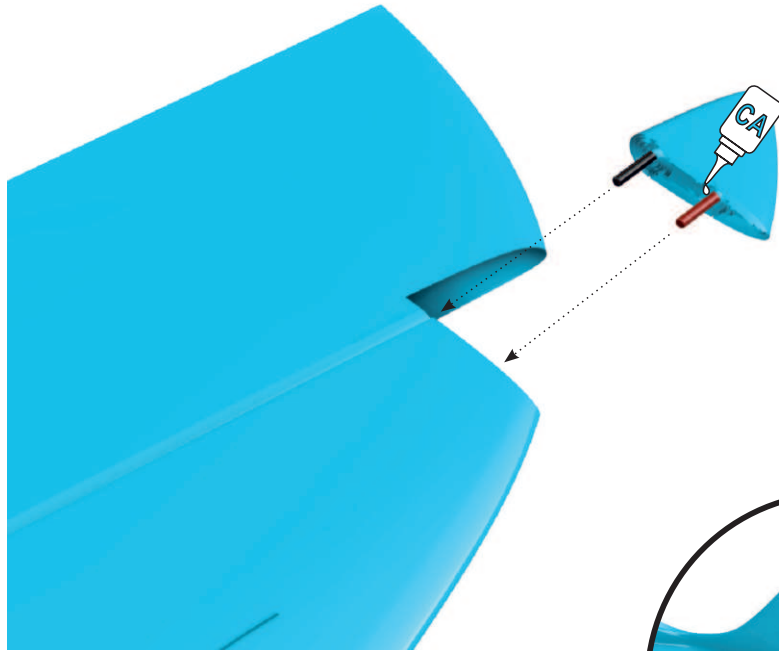
Micro screw M1.2 recommendet

Drill the hole in all Pushrodends large enough so that it can rotate free around the screw.

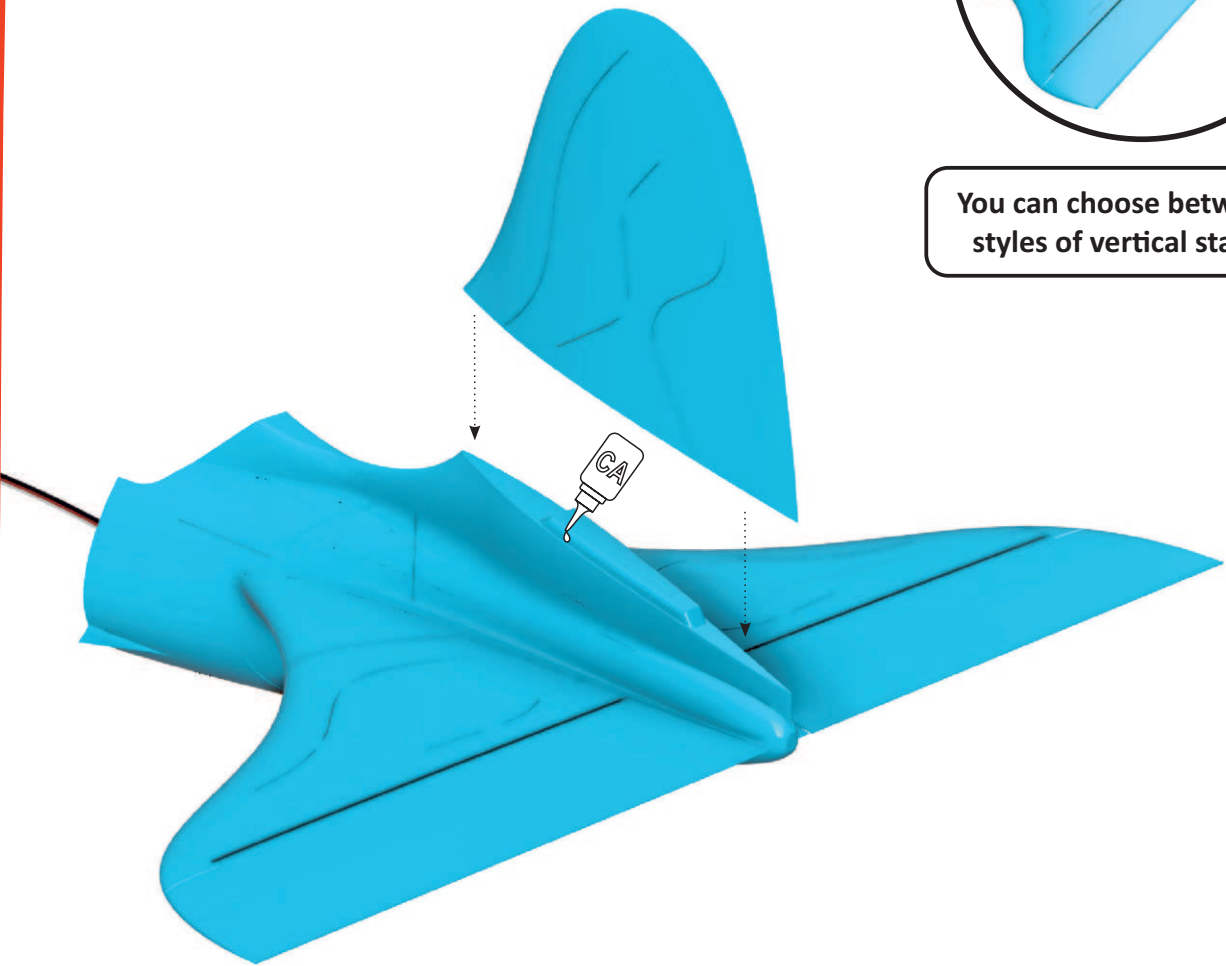


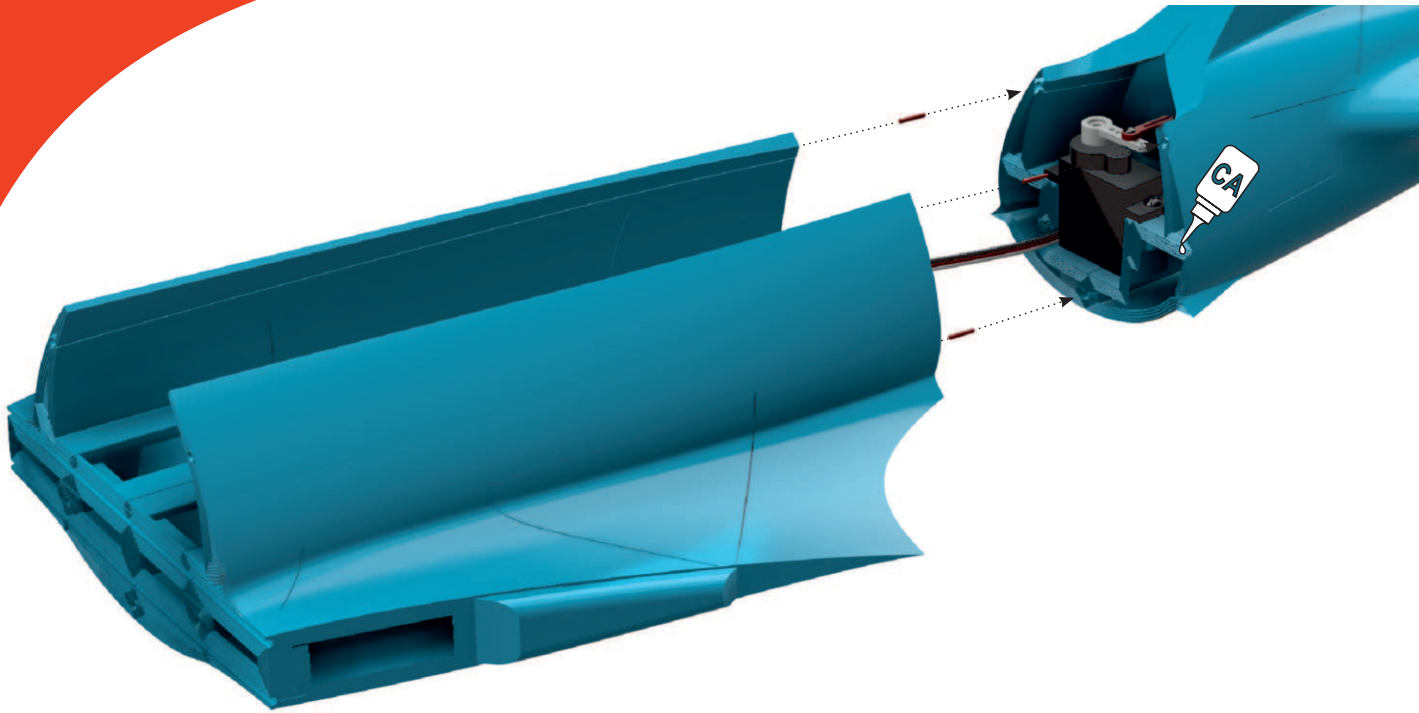
Make sure that the elevator controller moves with the pushrod.



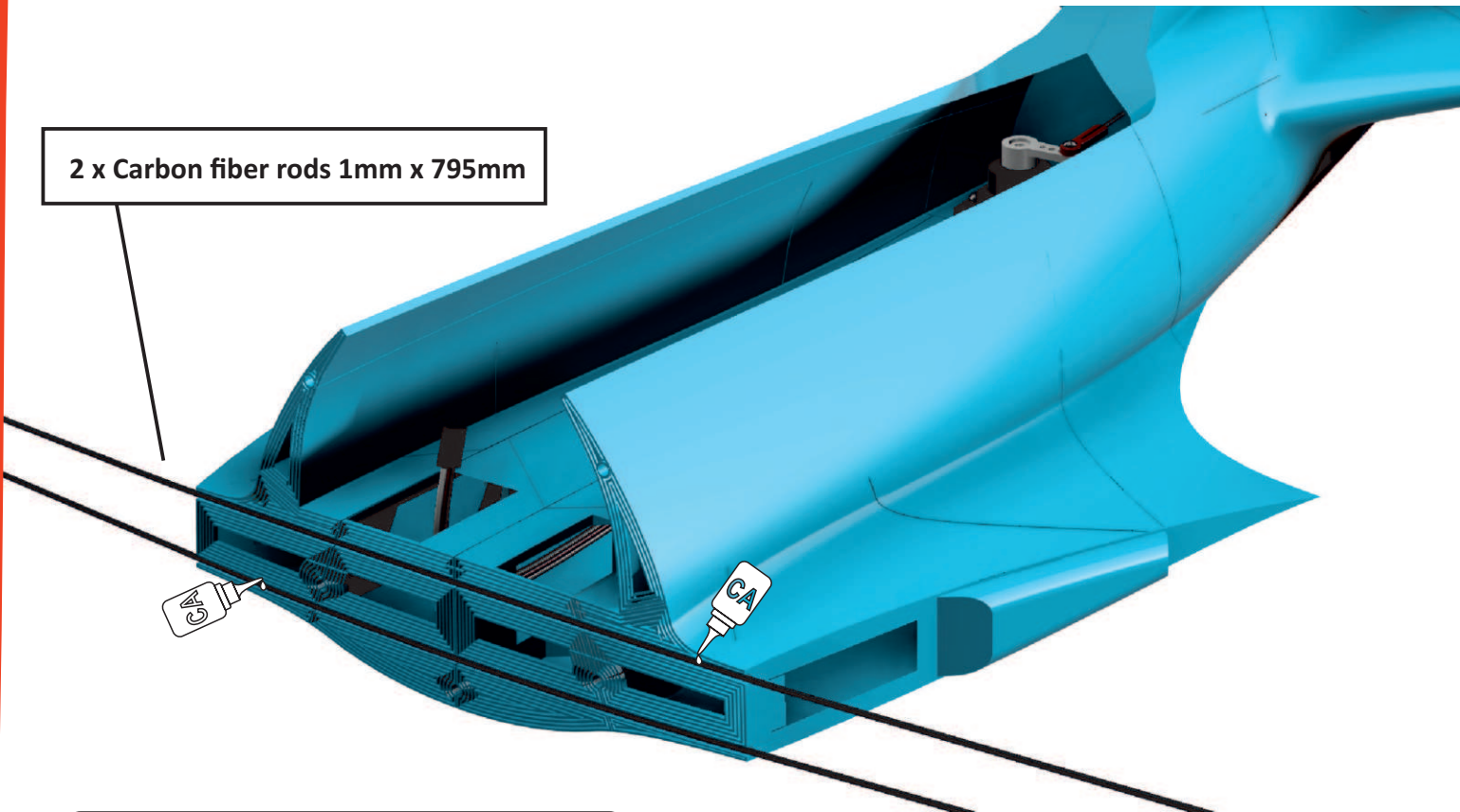


You can choose between two styles of vertical stabilizer.



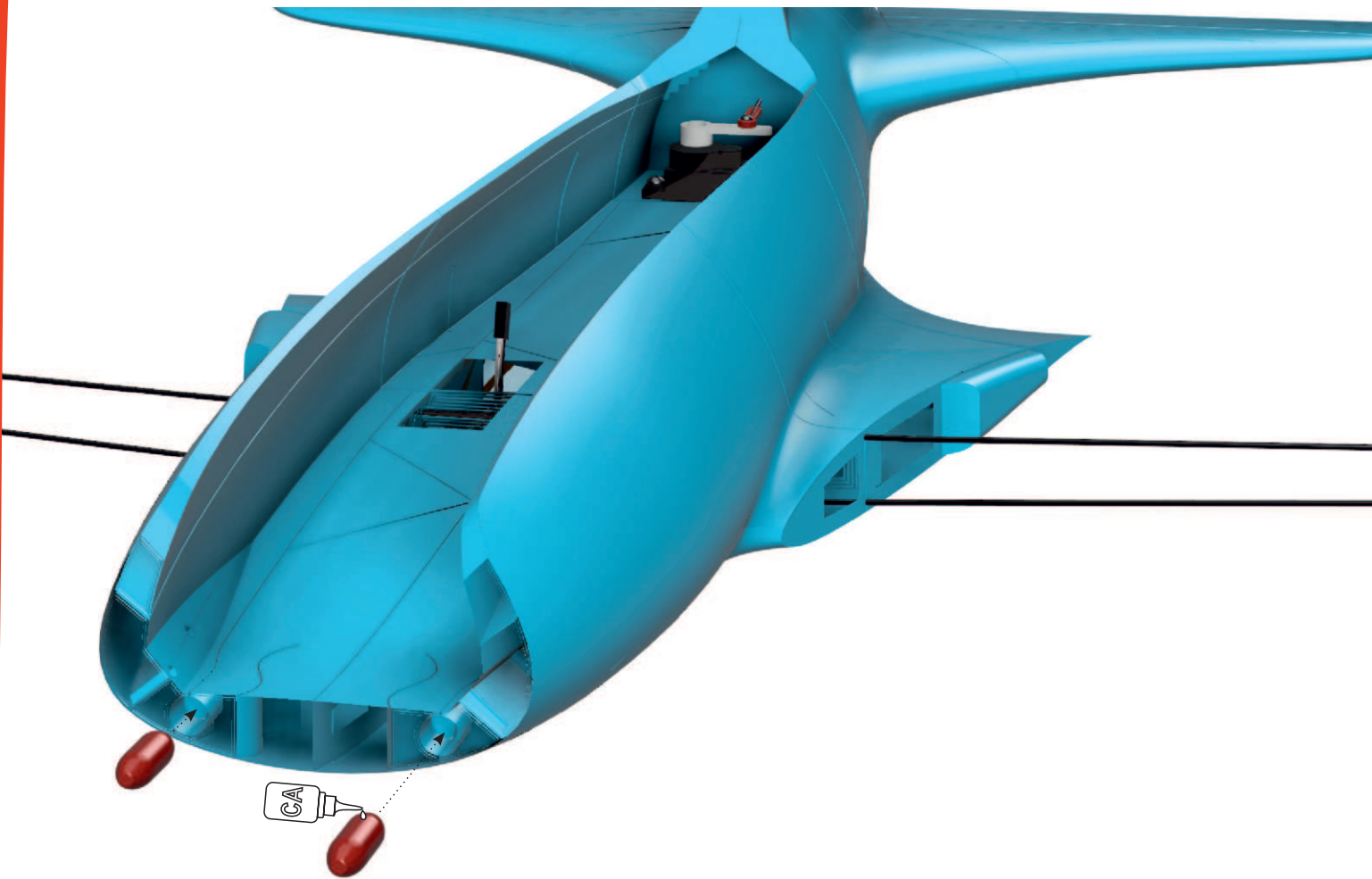
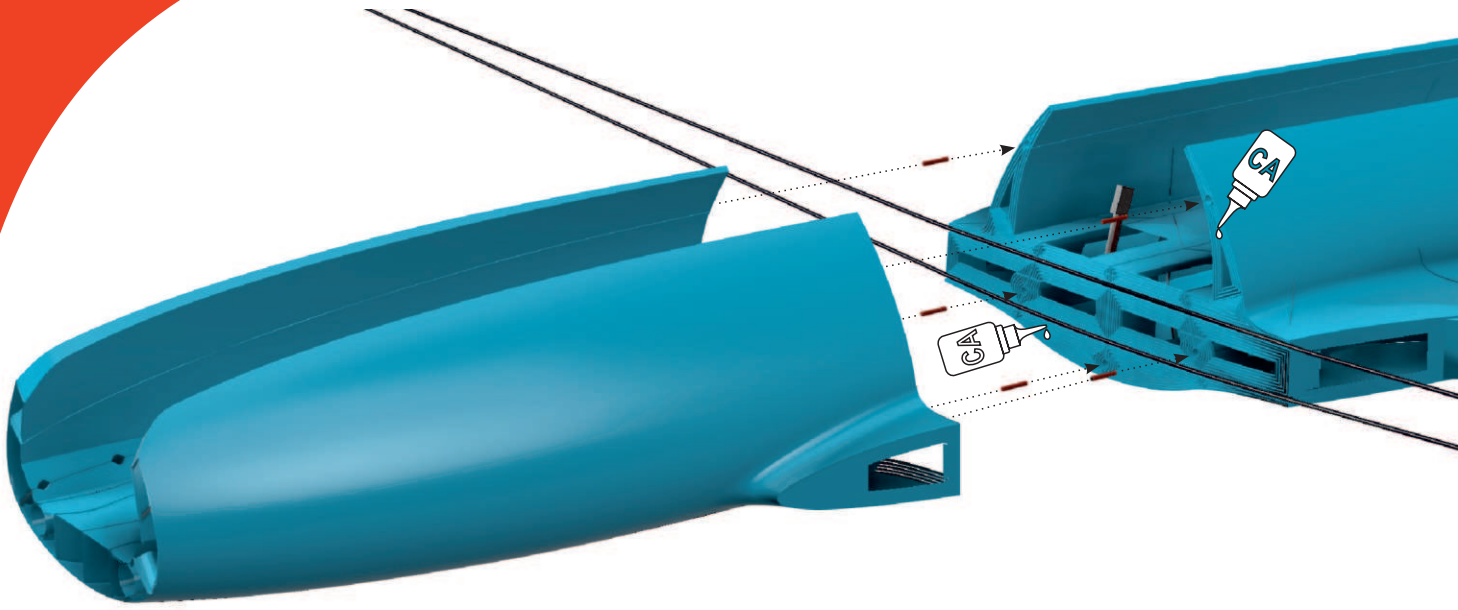


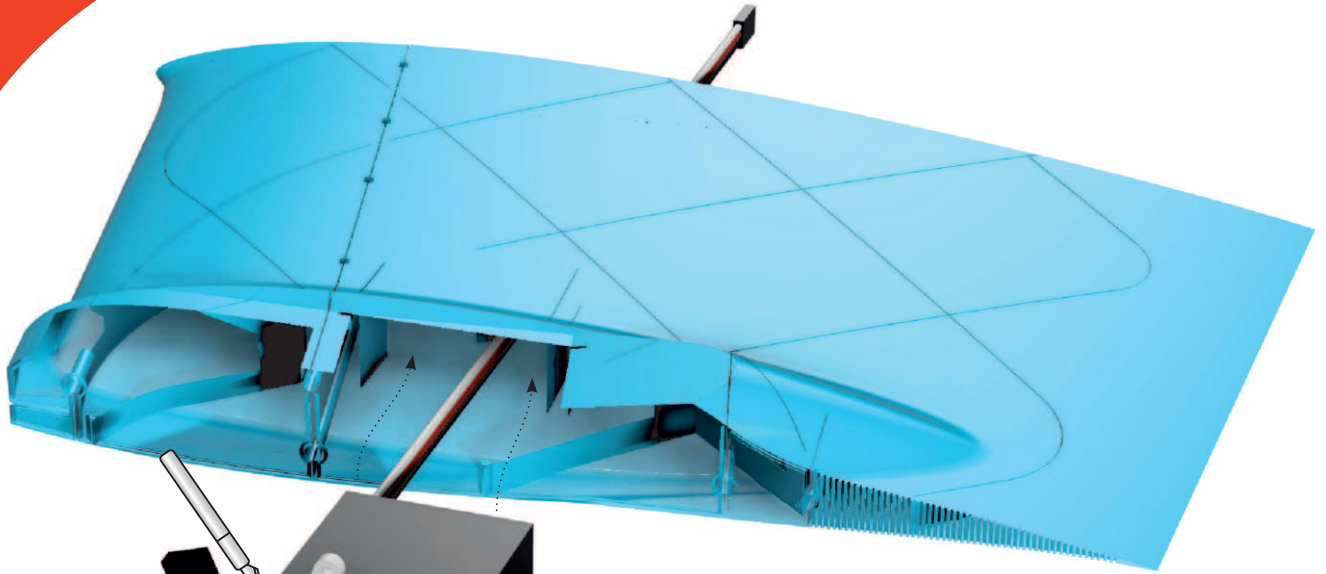
2 x Carbon fiber rods 1mm x 795mm



Secure the carbon rods with thin glue.  
Make sure that they are right in the middle.







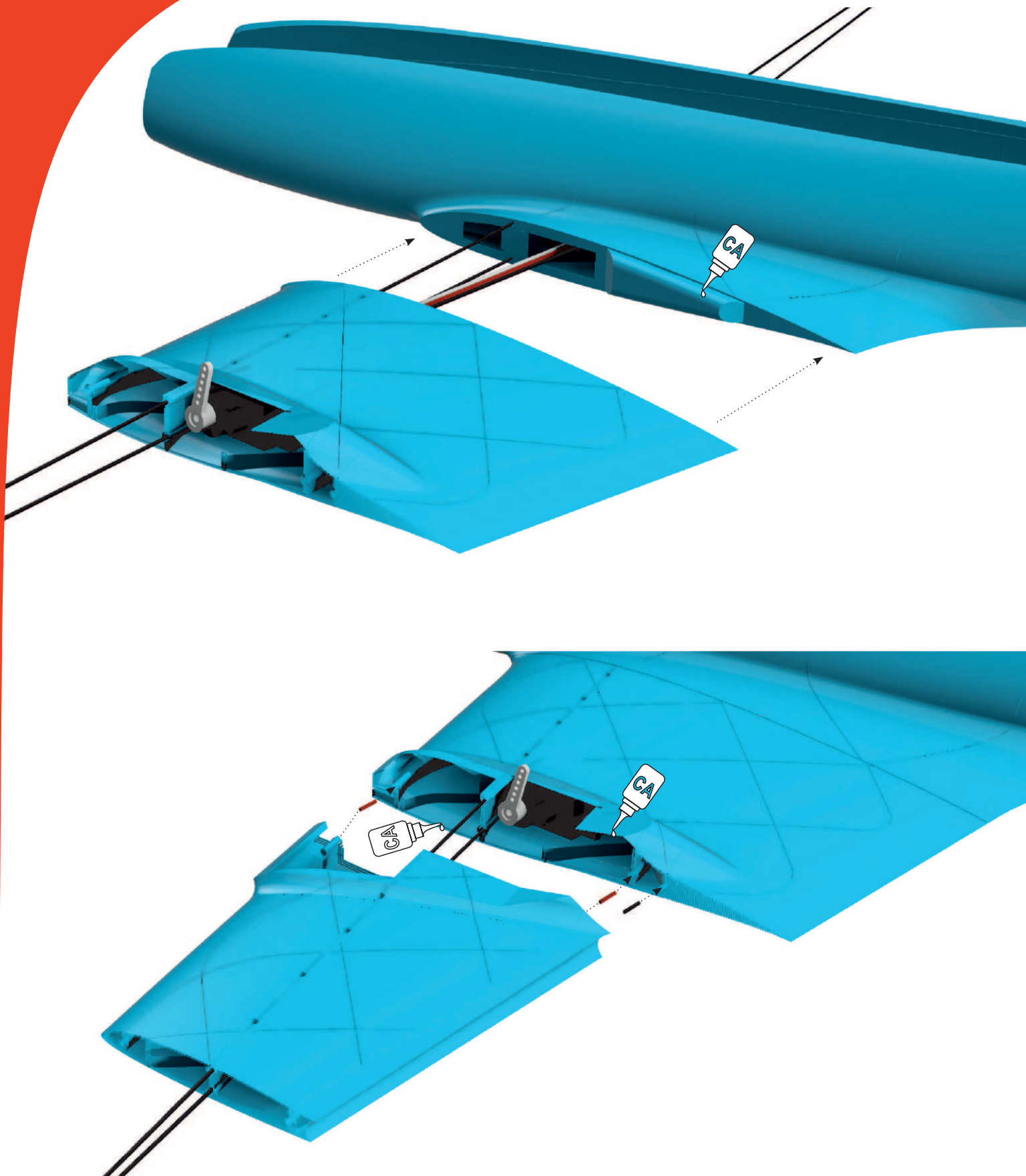
Cut the front tab of the servo away to make it fit.

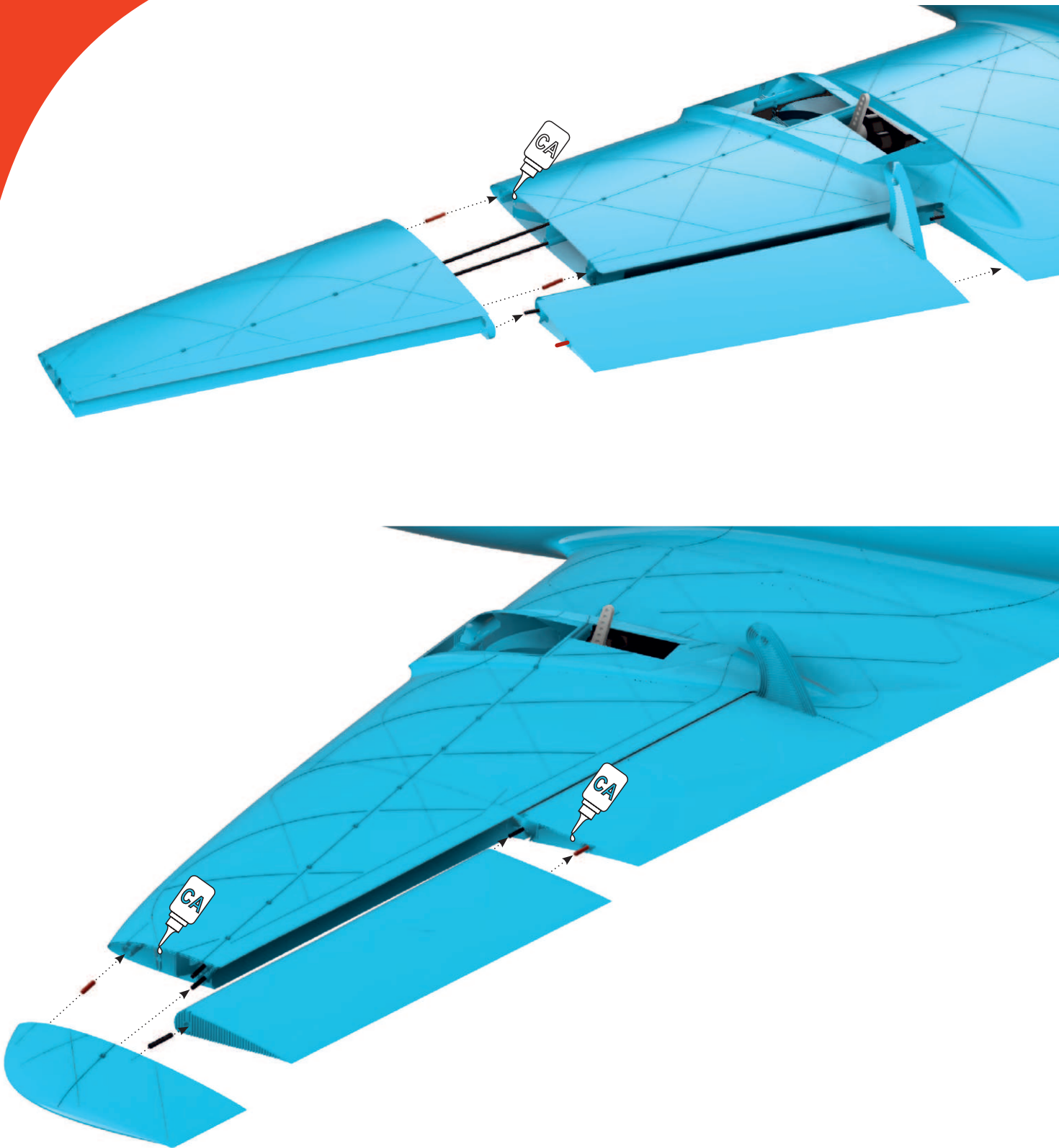
9 gramm-size servo or smaller.  
Min. 170mm cable lenth.

Wing servo neutral position should be at 15° to get mechanical differential ailerons.



Use thick glue to mount the wing servos.

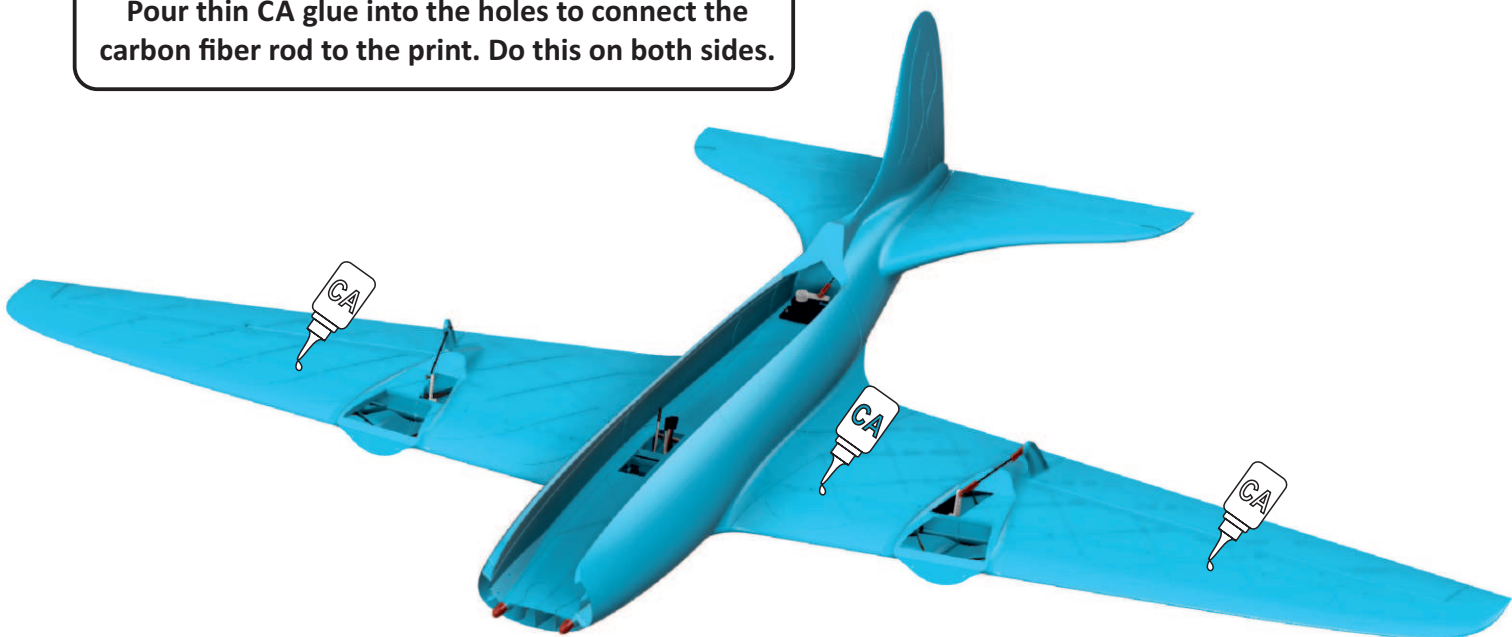




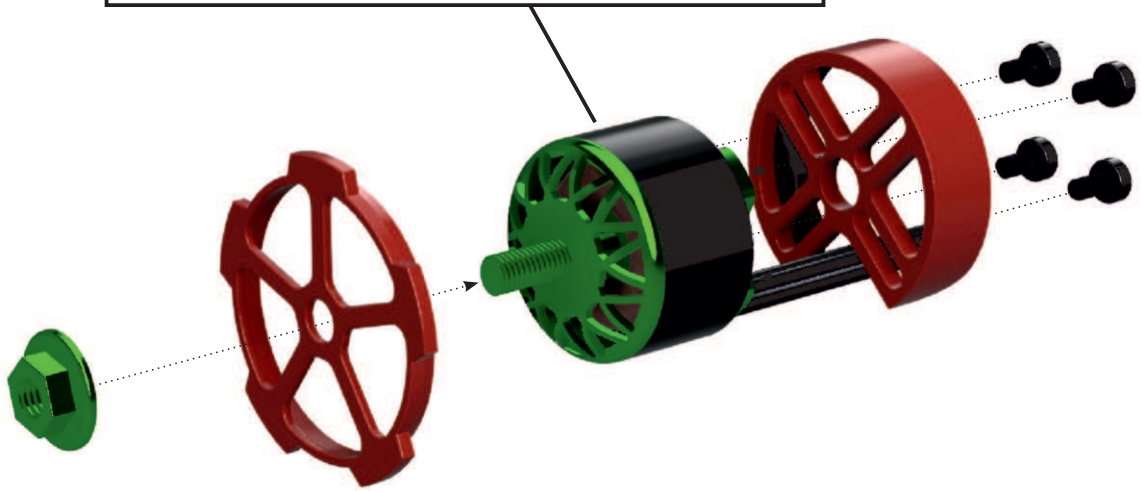
Carbon fiber rod 1mm x 43mm

Mirror these steps to the other side.

Pour thin CA glue into the holes to connect the carbon fiber rod to the print. Do this on both sides.

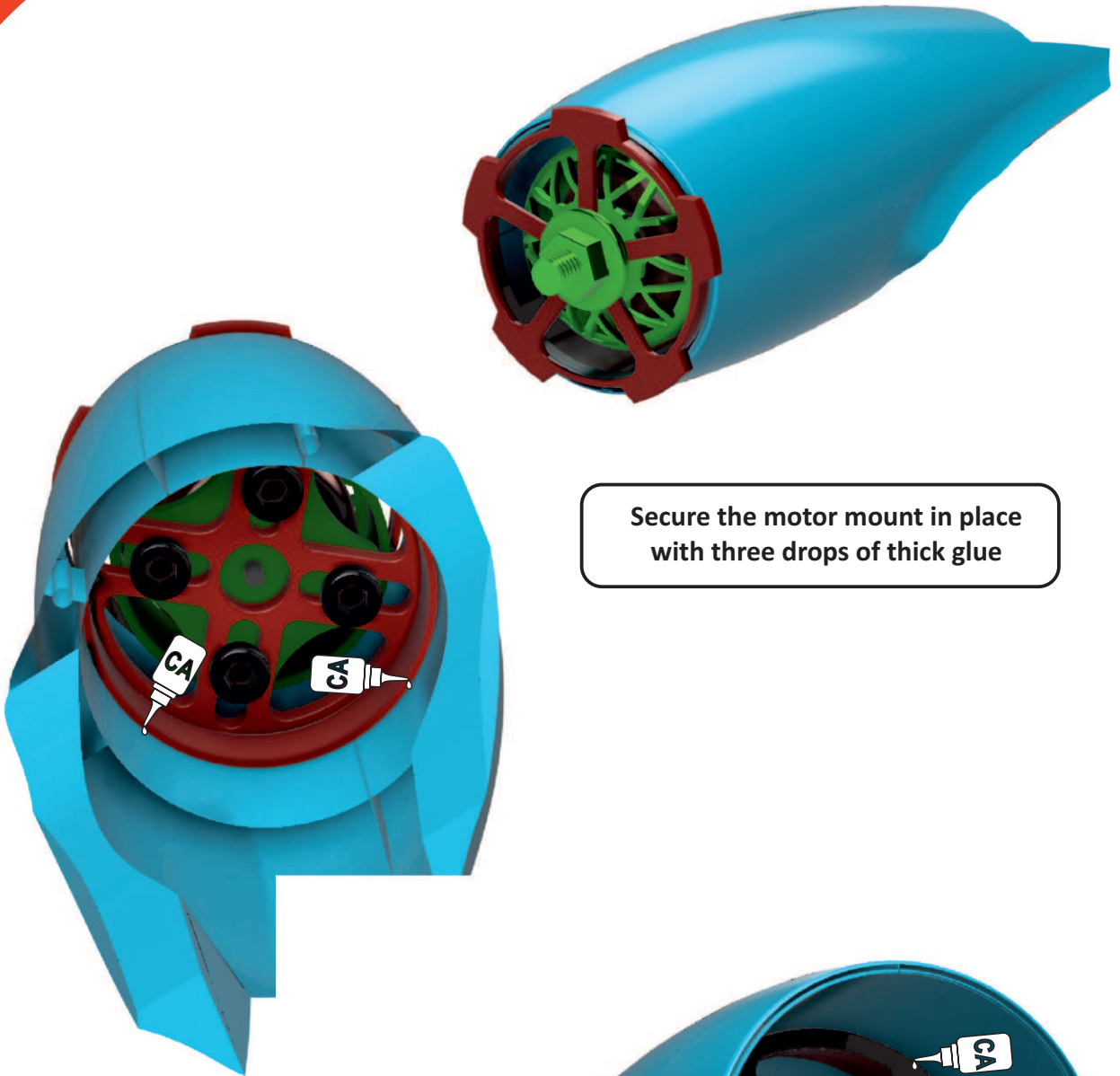


Brushless motor. Anything from 1404 to 2207 stator size is possible. 2205 2200kv recommendet.



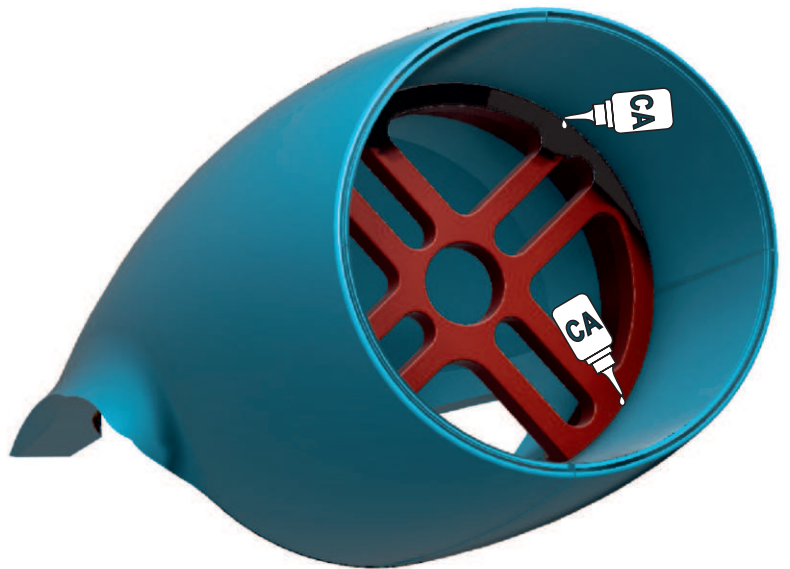
Use the motor glueing tool to find the right placement of the motor mount for any motor height.





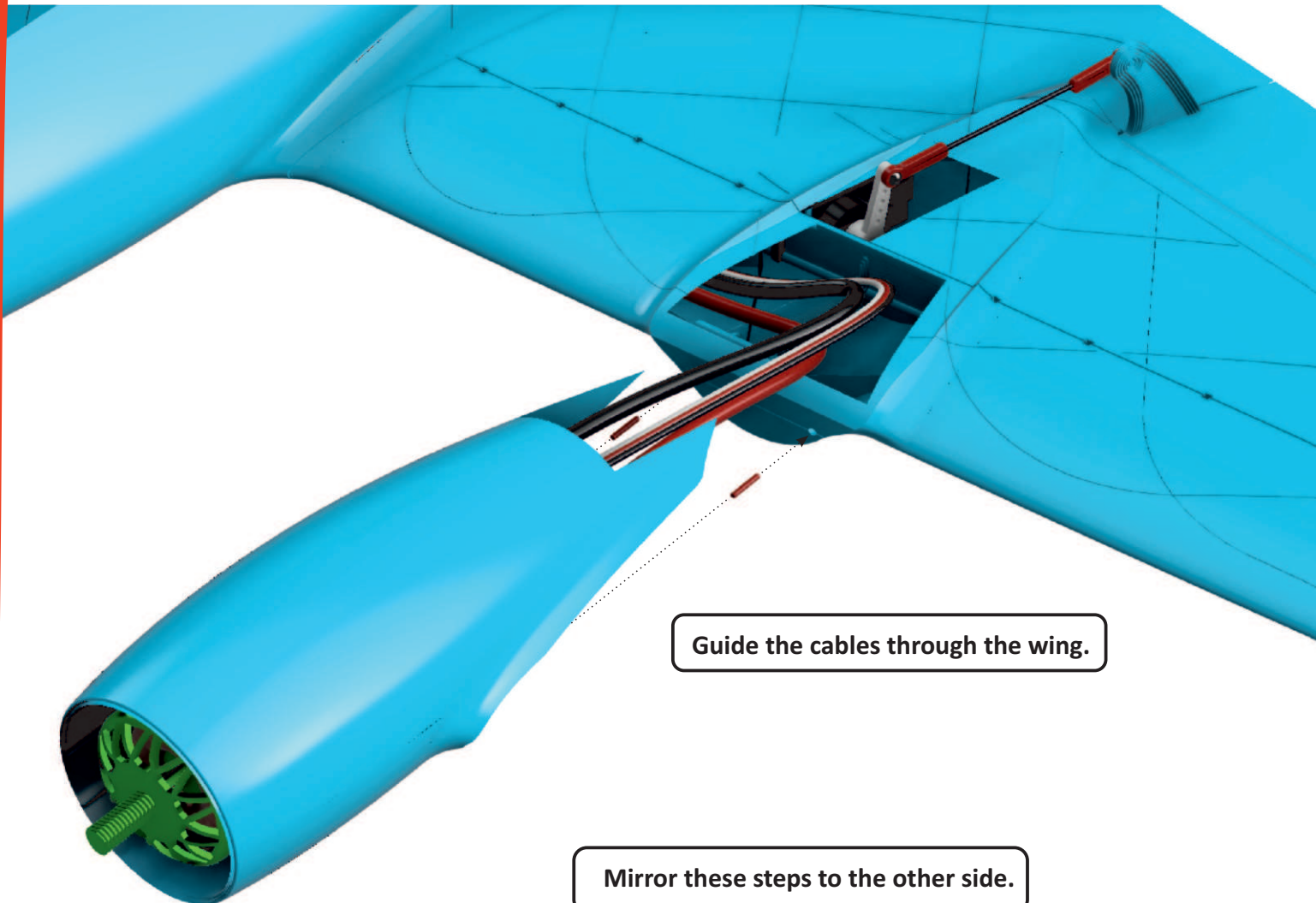
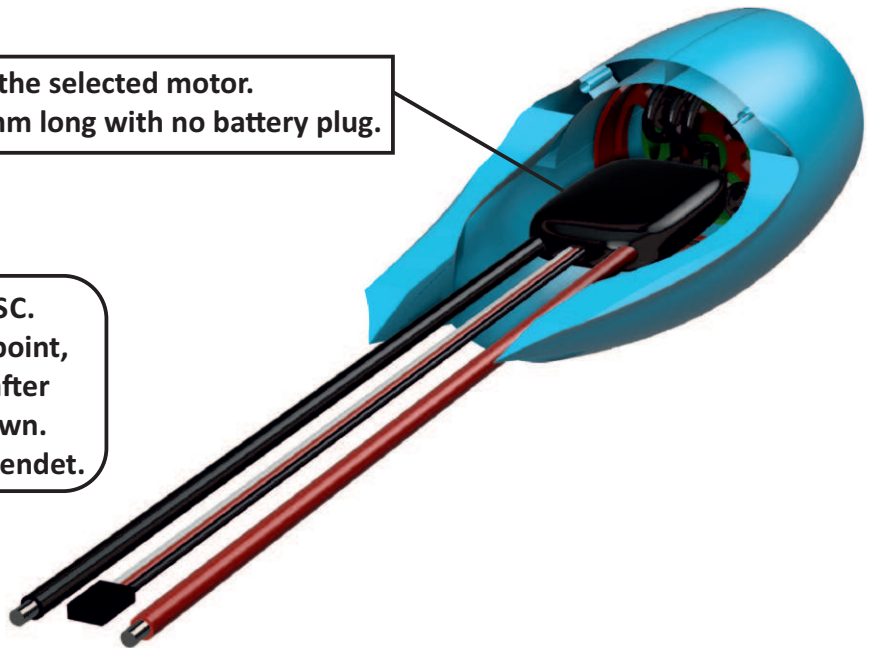
Secure the motor mount in place with three drops of thick glue

Now unscrew the motor and reinforce the motor mount with thin glue.



ESC that fits the selected motor.  
Cables should be 270mm long with no battery plug.

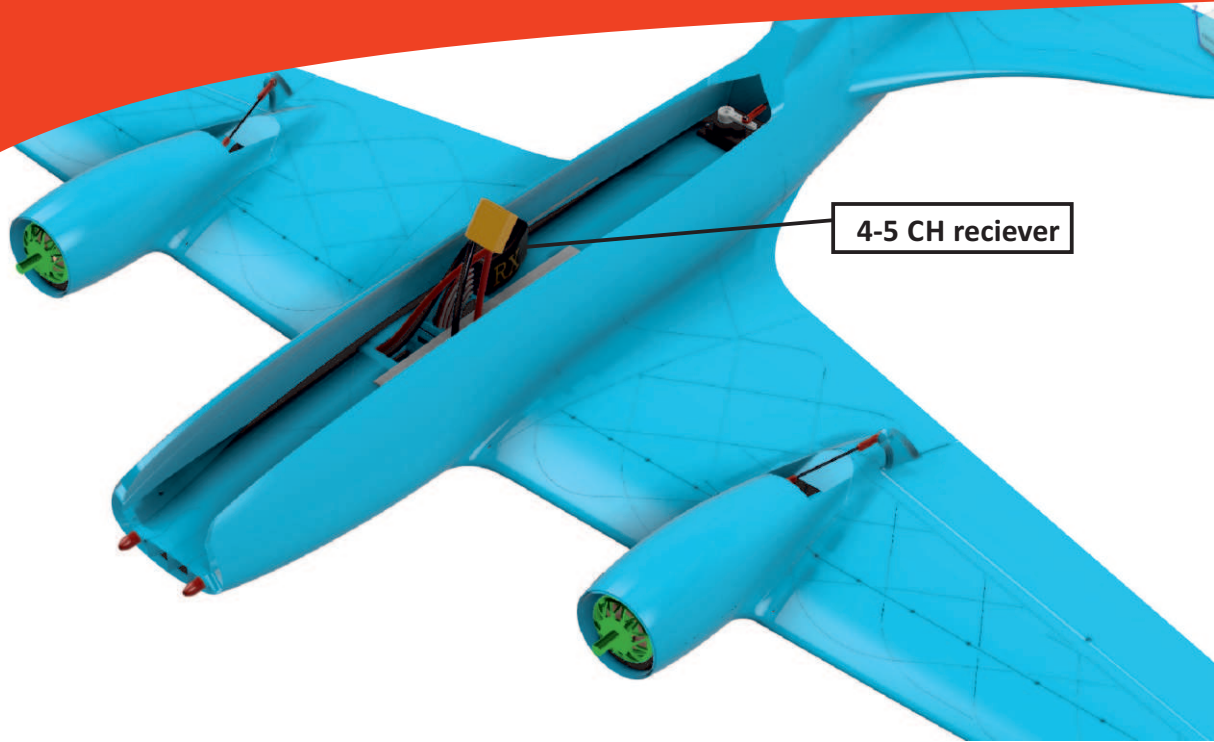
Connect the motor to the ESC.  
Check motor direction at this point,  
you can not get to the ESCs after  
the motor pods are glued down.  
Counter rotating props recommendet.



Guide the cables through the wing.

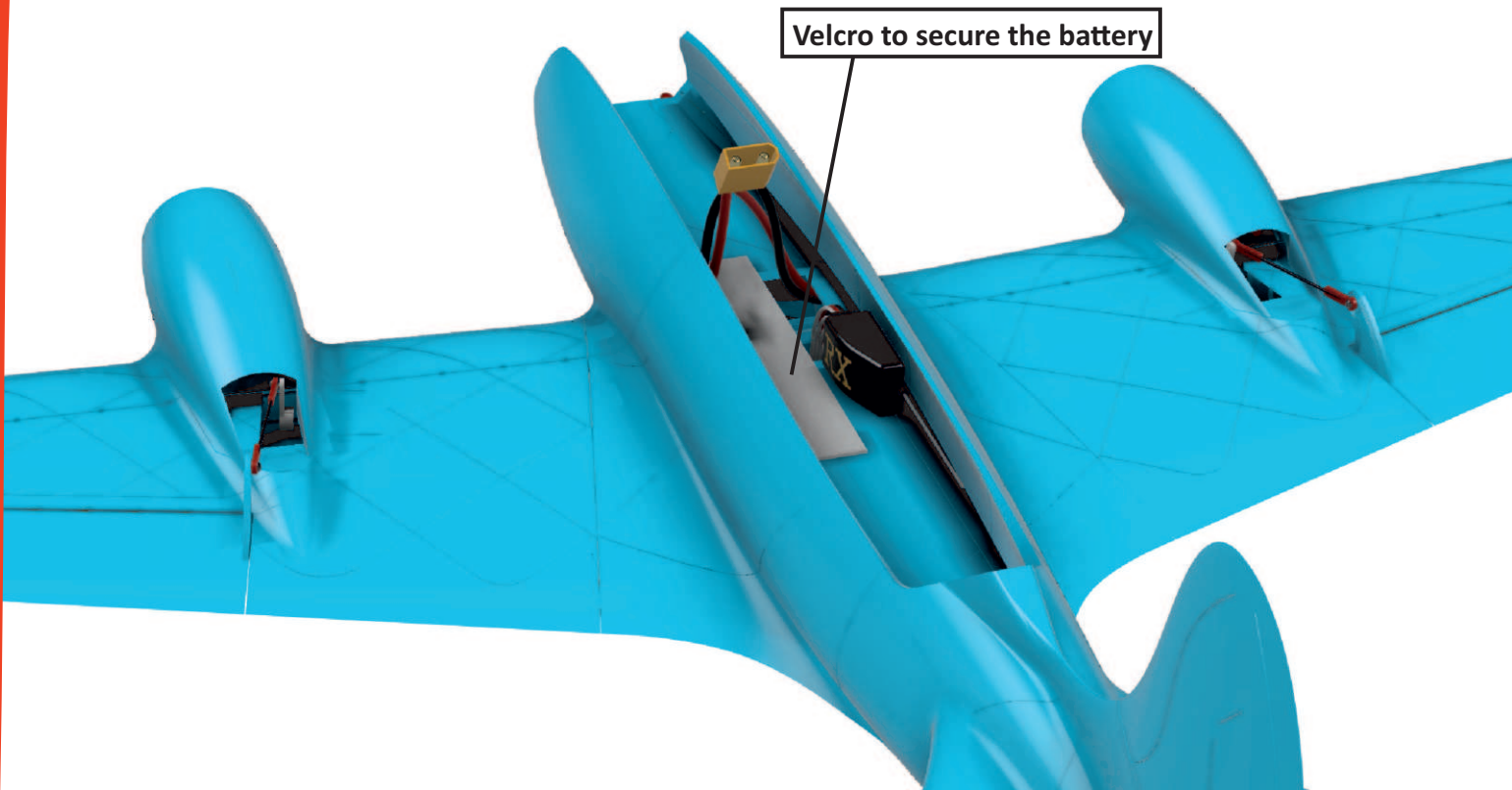
Mirror these steps to the other side.





4-5 CH reciever

Solder the battery plug to the ESC cables in a Y cofiguration.



Velcro to secure the battery

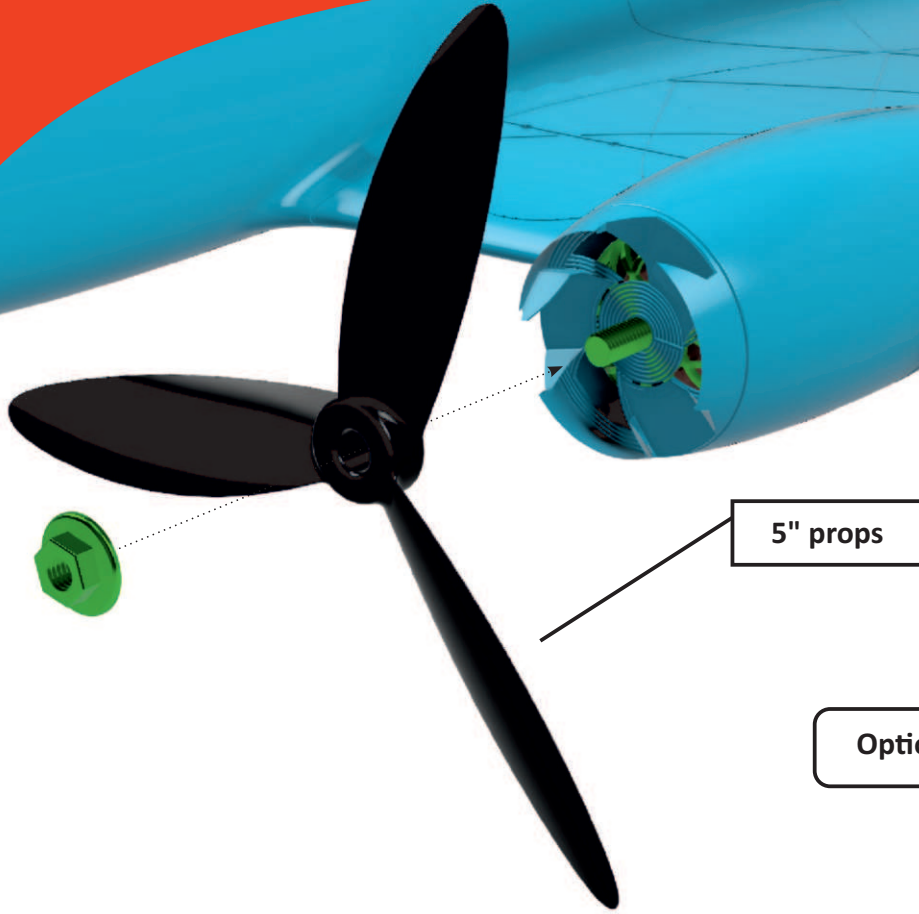


FPV camera



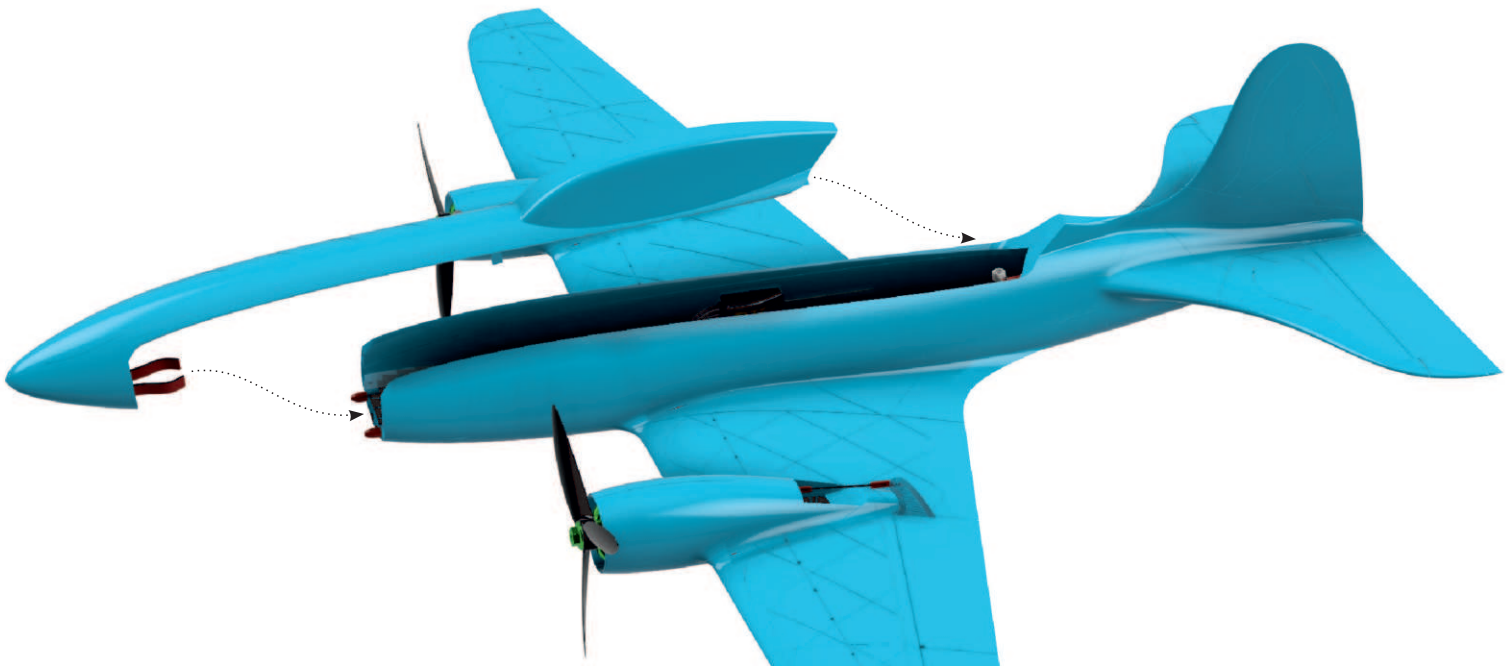
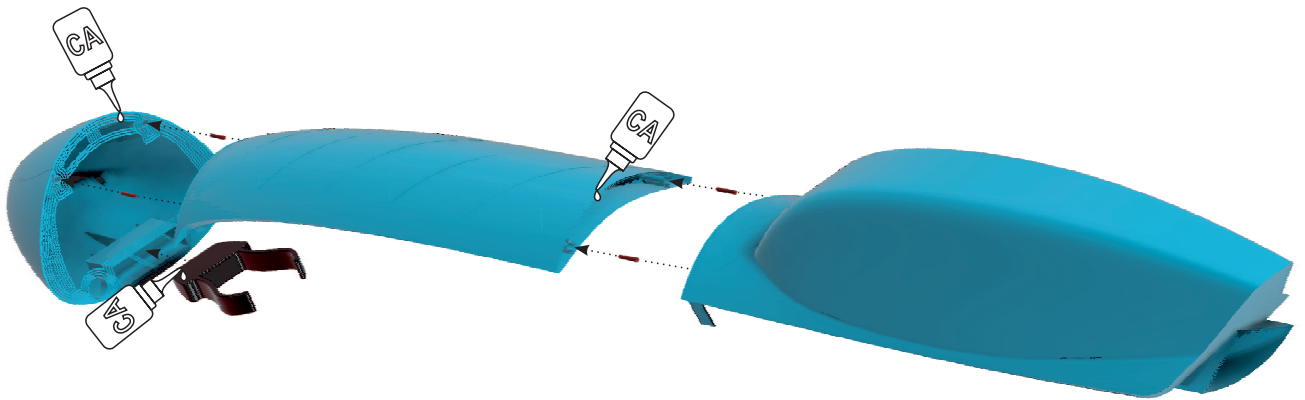
Optional FPV camera mount.





Optional spinners.

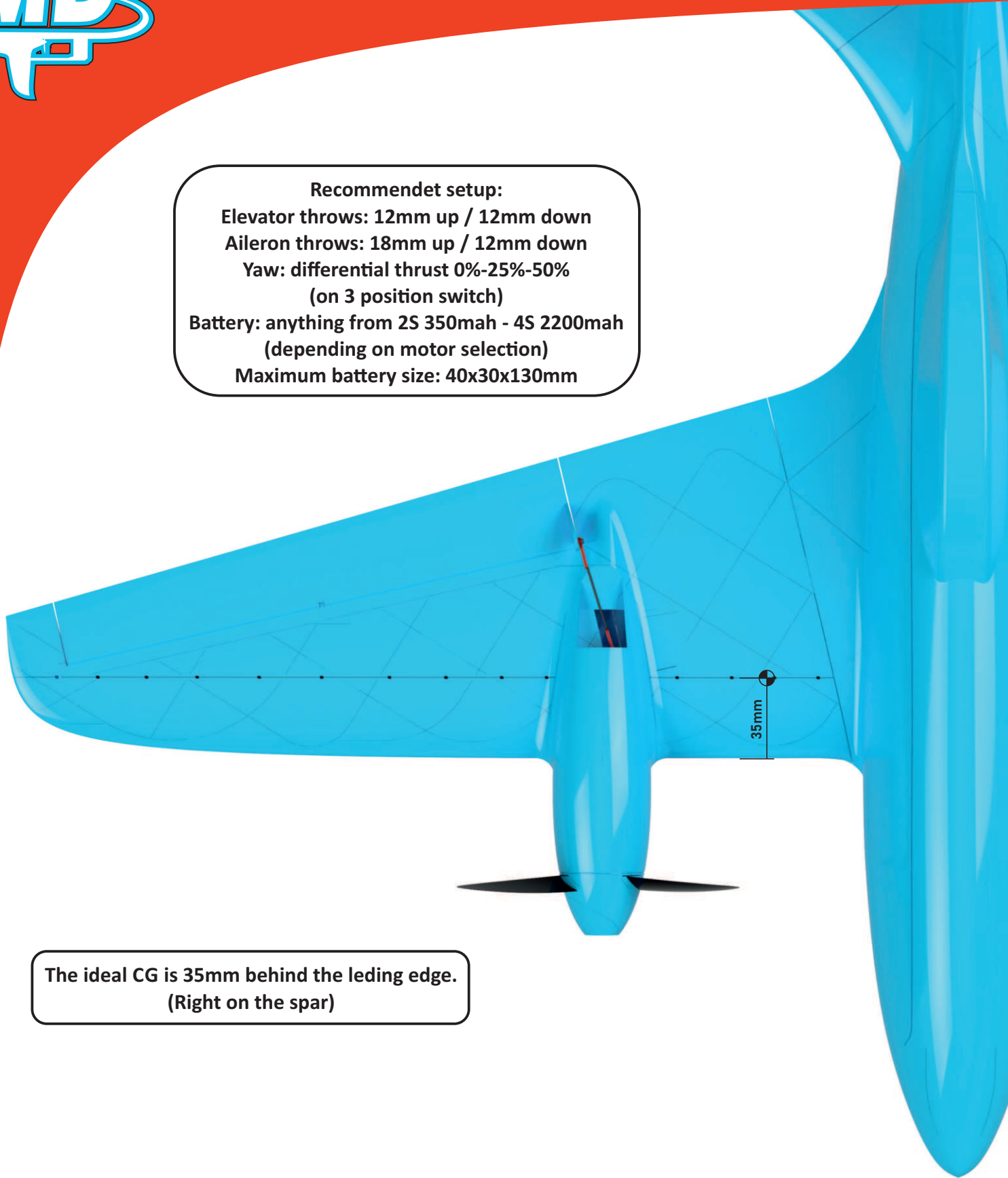






# Build

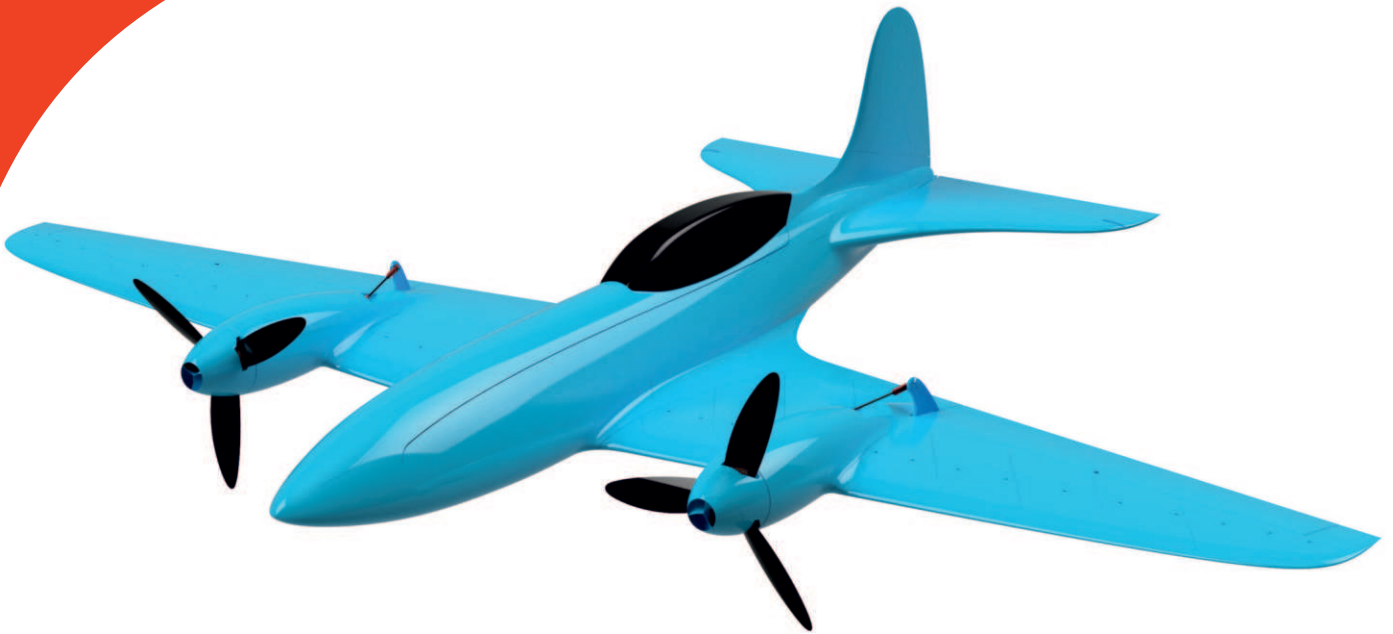
**Recommendet setup:**  
**Elevator throws: 12mm up / 12mm down**  
**Aileron throws: 18mm up / 12mm down**  
**Yaw: differential thrust 0%-25%-50%**  
**(on 3 position switch)**  
**Battery: anything from 2S 350mah - 4S 2200mah**  
**(depending on motor selection)**  
**Maximum battery size: 40x30x130mm**



**The ideal CG is 35mm behind the leding edge.  
(Right on the spar)**



# Build



*Happy Flying!*

## Disclaimer

The purchase contains digital files that allow you to produce the parts for this airplane on your own 3D printer. No physical product is being shipped. The files are for personal use only. Please contact me if you want to use them in any commercial way.

The files may never be passed on to any third party. This is a remote controlled aircraft that requires skill, caution, and responsibility while building and while operating the aircraft. Always consider the safety instructions of any product, material or tool associated with the build and operation of this aircraft. Always be aware of possible dangers related to building or operating radio controlled aircraft. Always consider your local law when operating the aircraft.

Of course, we do not have any influence over what you, the user of this product, do with the product and can not be made liable for damages, injuries or violations of the law in association with our product.

If there are any unclarities about the build, please feel free to contact me: [emdemodeldevelopment@gmail.com](mailto:emdemodeldevelopment@gmail.com)