Manual – Extra NG 78″

1- Introduction:

WELCOME TO THE PILOT-RC TEAM!

Thank you for choosing a Pilot-Rc plane as your next model. We hope that you enjoy many successful and exhilarating flights with your new plane. Please read through these instructions before you start building or flying to assure a successful experience, and welcome to Team Pilot-Rc!

YOUR MODEL:

Please note that some photos from this manual may be from a different model, however for illustration purposes, the construction step required is the same as per the photo, regardless of model.

Your model can be setup using either gas or electric power, please adapt your setup as required to allow for the specific components required for your build (batteries or fuel tank and ancillary items)

Model:	Extra NG
Wingspan:	78″ (1.970mm)
Length:	74.2″ (1.884mm) without spinner
Wing area:	1,216 “² (7,847 cm²)
Weight:	12.5lbs (5.7kg)

INCLUDED HARDWARE:

- Complete air frame with all basic accessories (such as carbon fibre main undercarriage, tail-gear
- Complete air frame with all basic accessories (such as carbon fibre main un dercarriage, tail-gear assembly and wing-
  tubes as well as fiberglass control horns and wheel pants)
- Pre-installed hinges and pre-mounted canopy

- Fuel tank and fuel tubing pre-prepared, fuel dot and breather valve
- Wheels, axels and wheel pants
- Pre-prepared pull-pull wires and pushrods with ball links
- Matching carbon spinner

REQUIRED HARDWARE:

Motor: 30-40cc or equivalent electric

Servos: 5 or 6 high torque (minimum 20kg) plus throttle // Uses x1 per aileron, x2 for the elevator and x1 on rudder

Also requires all the usual accessories such as transmitter, receiver, propeller, batteries, powerbox, extension leads and possibly other small accessories.

PILOT-RC RECOMMENDED HARDWARE:

- **Servos:** Pilot-Rc PW20AH (20Kg – 0,14s at 8,4v)
- **Servo arms:** Pilot-Rc 1,6" Aluminium arms (included with Pilot-Rc servos)
- **Wingbags**: Pilot-RC wingbags

OTHER ACCESSORIES NEEDED TO COMPLETE:

- Epoxy Adhesives
- Cyanocrylate adhesives
- X-Acto and Saw knives
- Sandpaper
- Thread lock
- Aircraft stand or support
- Drill, screw drivers, allen keys, wrench set, pliers, etc

2- DISCLAIMER

All Pilot-RC products are guaranteed against defects for 30 days of your receiving the model. This warranty is limited to construction or production defects in both material and workmanship, and does not cover any parts damaged due to misuse or modification.

Should you wish to return this airplane for any reason, all shipping costs are the responsibility of customer.

If any parts are needed to be replaced by the manufacturer, the original parts must be returned, at the costumers expense.

Do not regard this plane as a toy! This plane is meant for ages 14 and above.

The manufacturer can not supervise the assembly and maintenance of the model or ensure your correct radio installation. Therefore, the manufacturer can not be made responsible or liable for any damage occurring during the use of this radio controlled model. As such all responsibility for the correct build, maintantence and operation must be accepted by the customer. The operation of the model is taken as acceptance by the customer of their acceptance to the above.

The model is highly prefabricated and ready for use, however please also assure that any pre-installed (such as pushrodand ball link sets, fuel tank, etc) components are tight, secure and airworthy both for the first flight and subsequent flights as part of your routine maintenence and verification.

In no event does Pilot-RC accept any liability to exceed the original cost of the basic Pilot-Rc airframe provided (accesories such as engine or radio system are also excluded from liability).

To ensure safety, please read the instruction manual thoroughly before assembly. Building and operating model planes requires diligent practice and correct guidance. Any neglect, carelessness or lack of experience can cause serious bodily harm or damage to property.

Seek the assistant of local model flying clubs and or an experienced aeromodeller for assembly, operation and maintenance to ensure a quick and successful learning process.

Fly only at designated model flying fields approved by the AMA (Academy of Model Aeronautics), the MAAC (Model Aeronautic Association of Canada) or the similar corresponding governing body for your country.

Pilot-RC reserves the right to update the model, instructions and limited warranty without notice.

If you have any problems and questions, please contact Pilot-RC.

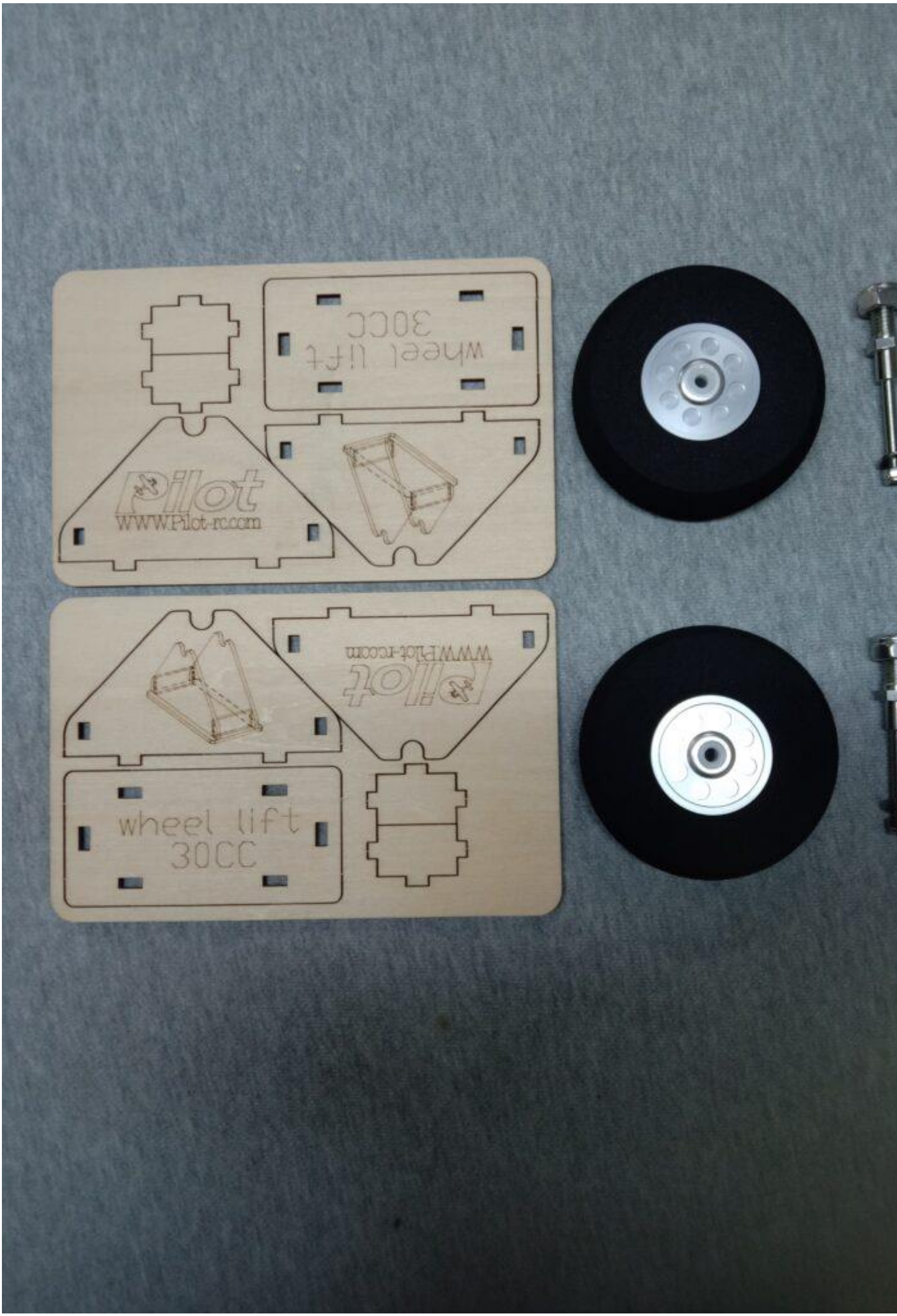
3- Assembly

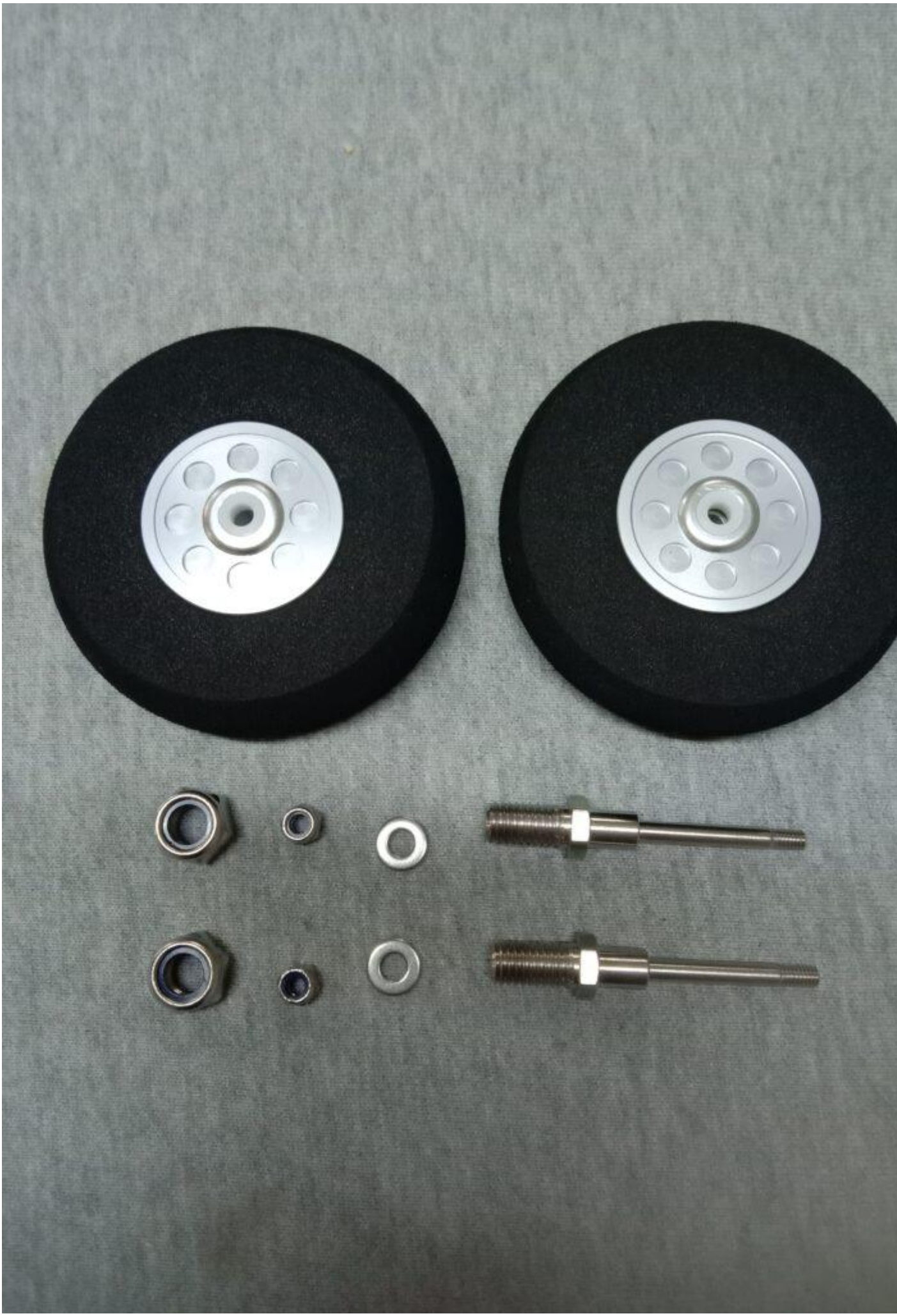
MAIN LANDING GEAR ASSEMBLY:

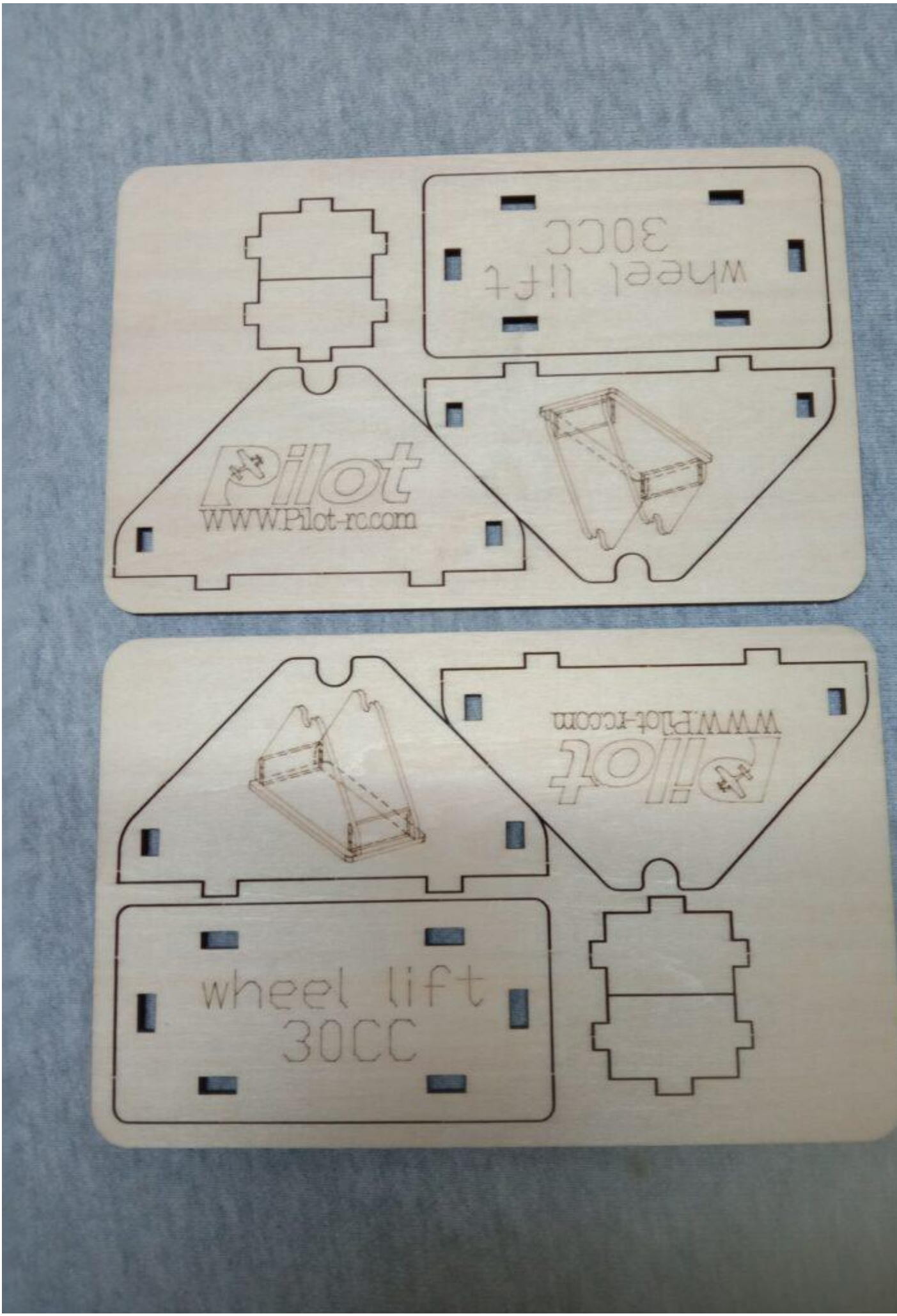
Position the fuselage upside down and screw on the 2 piece carbon undercarriage to the fuselage using the nuts and bolts provided and remember to put Aluminum piece in center of landing gear

Screw the wheel axles on to the landing gear, and then slide on the wheels and secure in place with the provided grub screws.

Some users may prefer to leave the wheels until the end of the build, to prevent the model moving on the build table.


Pilot
www.Pilot-rc.com
wheel lift
30CC
Pilot
www.Pilot-rc.com
wheel lift
30CC



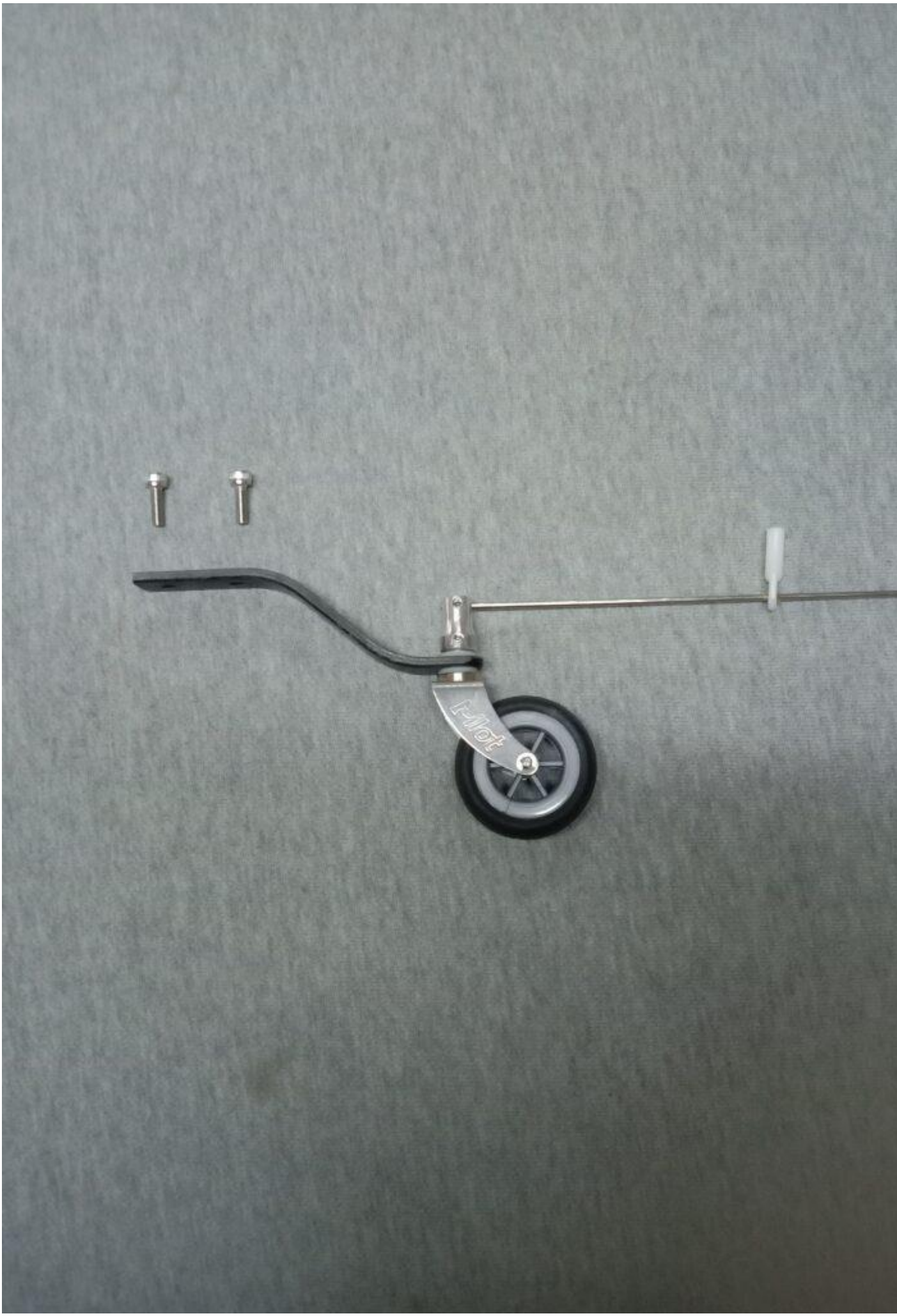

wheel lift
30CC
Pilot
www.Pilot-rc.com
Pilot
www.Pilot-rc.com
wheel lift
30CC

TAIL WHEEL INSTALLATION:

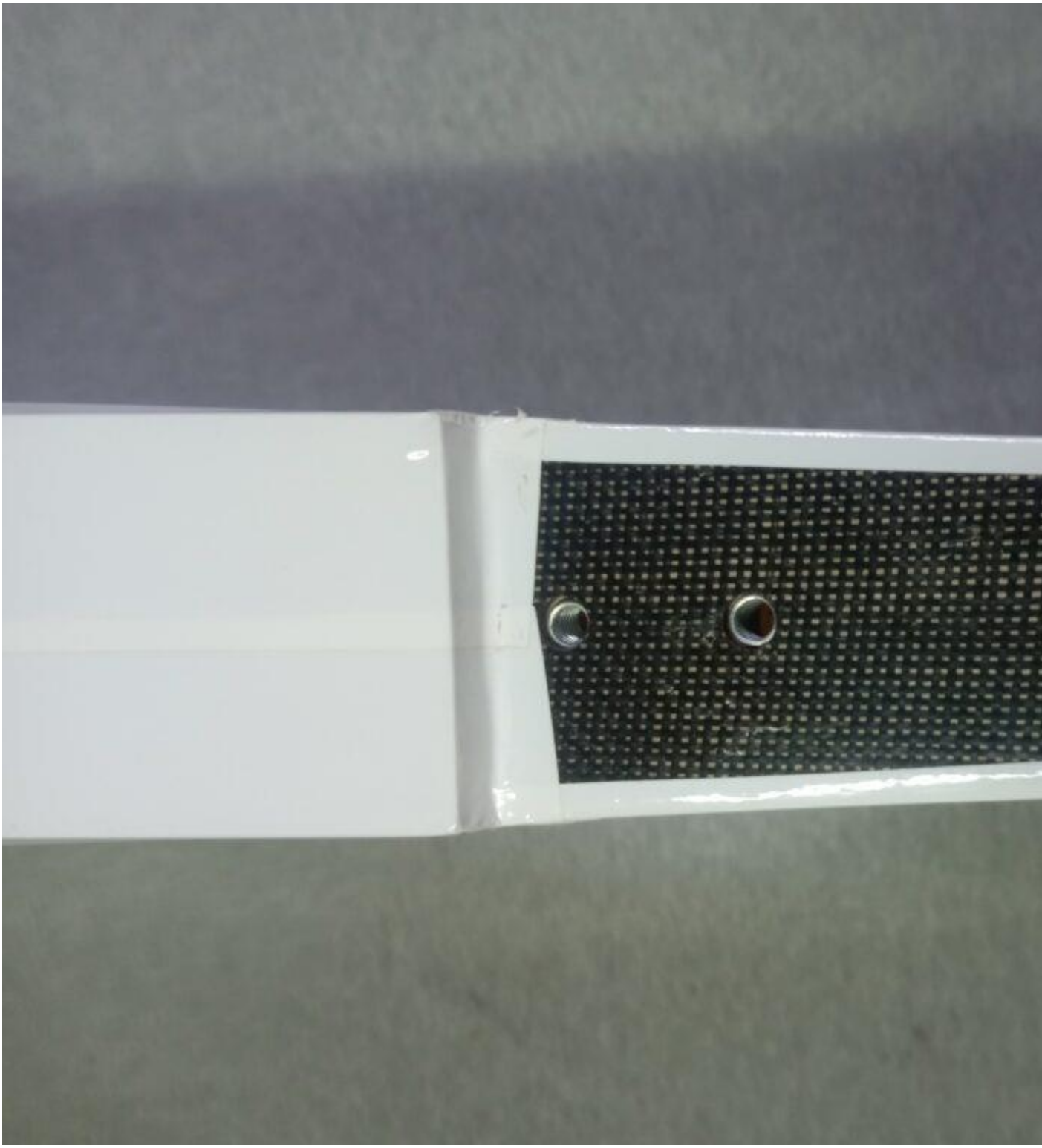
Using the provided screws, simply screw the tail wheel to the underside of the fuselage.

Attach the steering rod at one end to the tail wheel assembly using the grub screw and the other end to the underside of the rudder itself having glued in the provided ball link.

We recommend to keep the pivot point of the tail wheel as in line with the hinge line as possible to assure a bind free movement of the springs.


F-Pilot


Pilot



INSTALLING THE CONTROL HORN ON THE ELEVATOR:

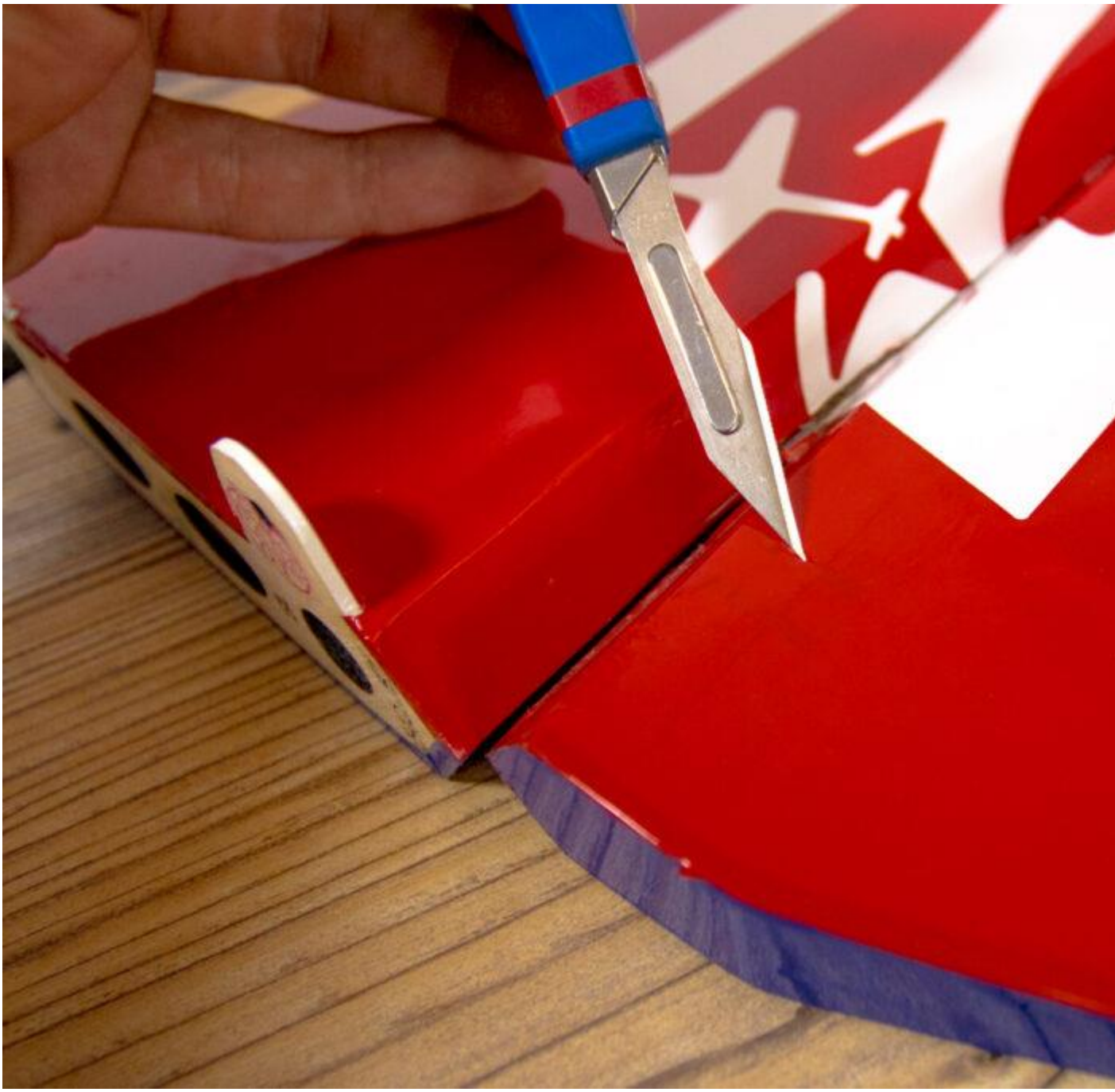
IMPORTANT NOTICE: Due to this models smaller size, **single** control horns are provided. As such, only one of the two slots should be revealed when cutting away the covering,

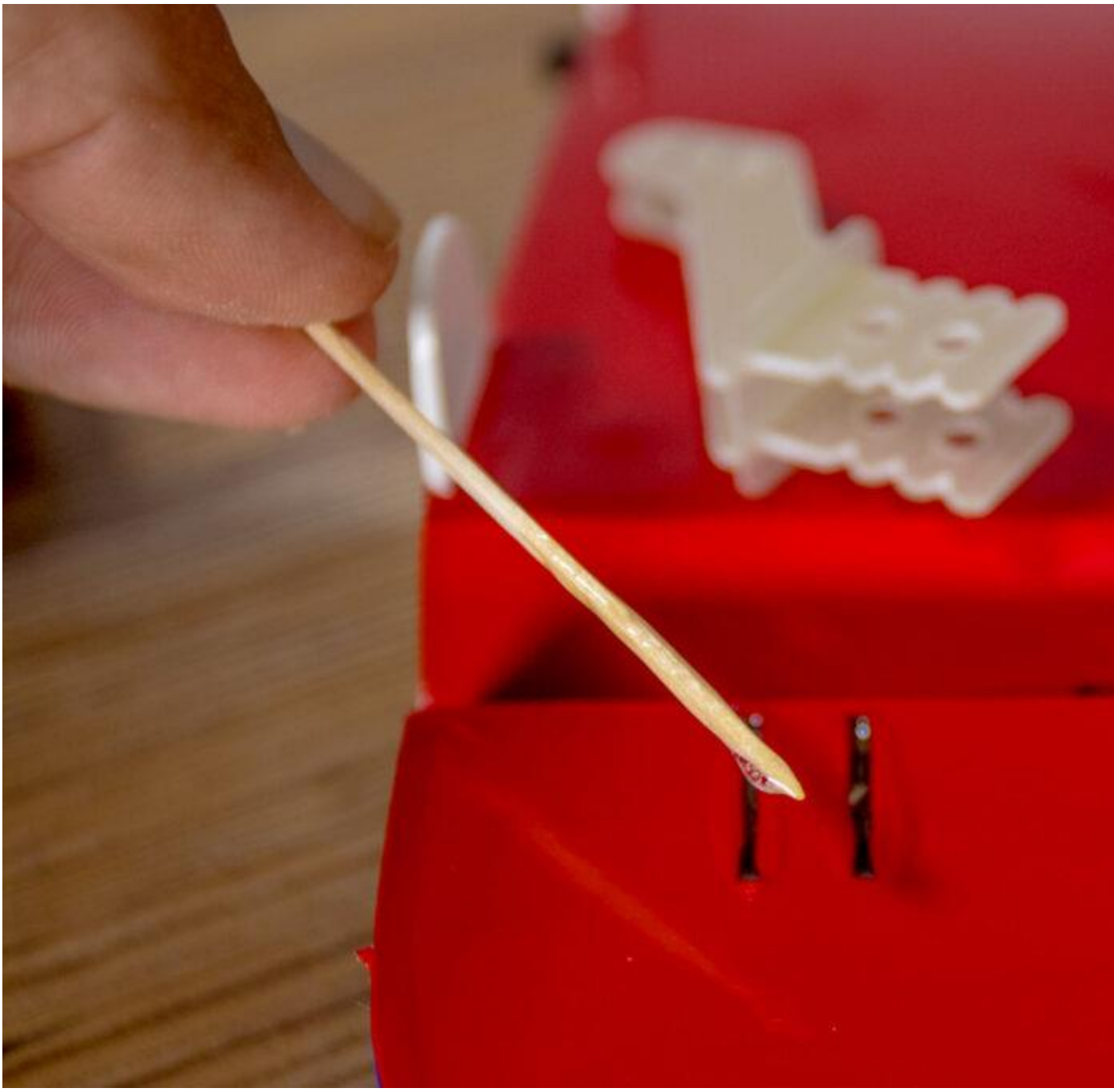
It is very important to sand horn to assure a strong bond once glued to the model.

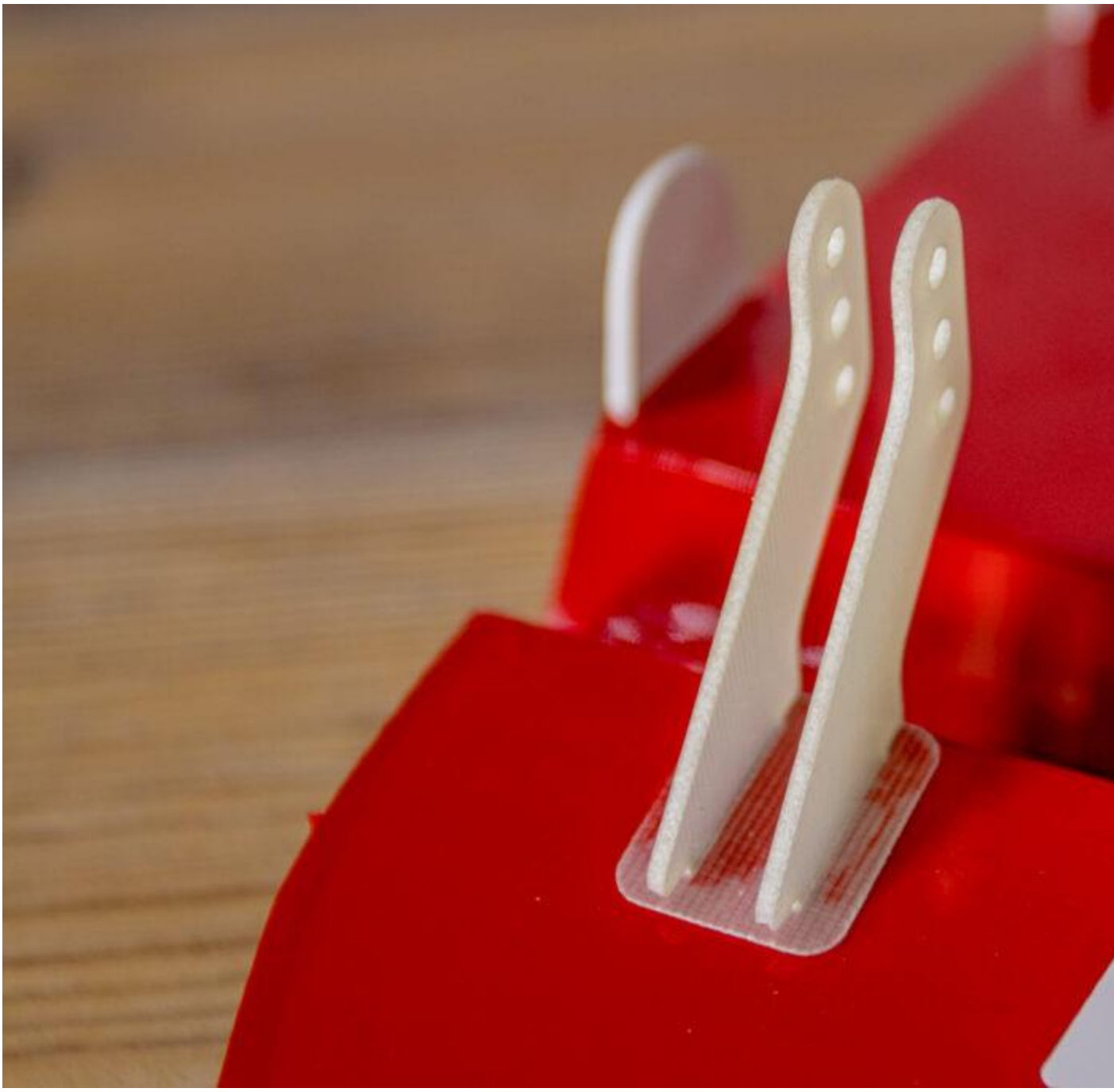
Locate and cut the covering where the horn will be glued

Glue them to the surface using epoxy glue

Excess epoxy glue can be removed with acetone







These pictures show double control horns from a larger model. Please only cut and install the single horn provided.

INSTALLING THE HINGE AND CONTROL HORN ON THE RUDDER:

It is very important to sand horn to assure a strong bond once glued to the model.

Locate and cut the covering where the horns will be glued

Glue them to the surface using epoxy glue

Excess epoxy glue can be removed with acetone

glue Epoxy inside hole of hinge both rudder and vertical tail and then put hinge

from rudder into vertical tail and put rudder inside


Pilo


Pilot


Pilo


PASSED

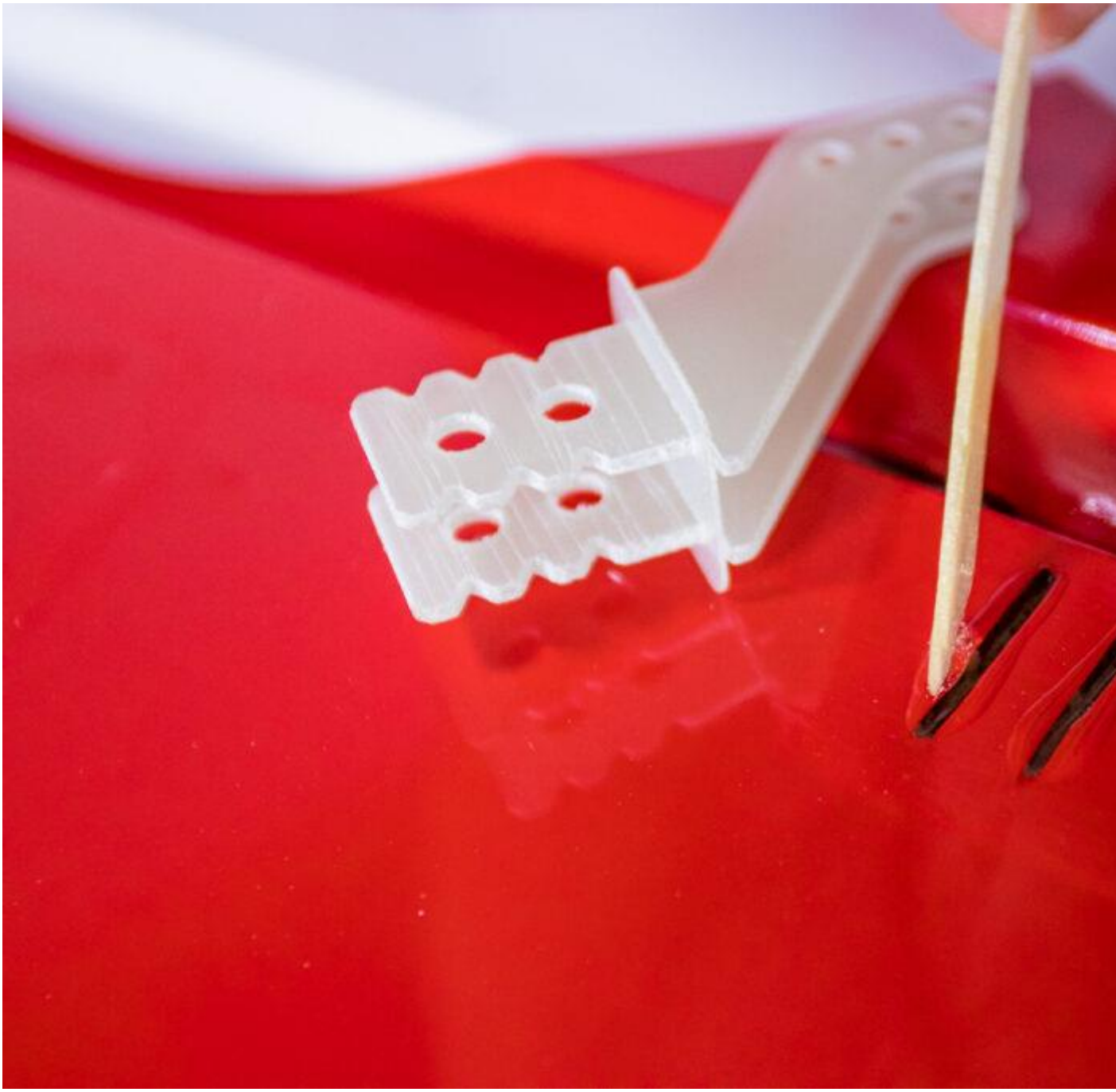
INSTALLING THE CONTROL HORN ON THE AILERONS:

IMPORTANT NOTICE: Due to this models smaller size, **single** control horns are provided. As such, only one of the two slots should be revealed when cutting away the covering,
It is very important to sand horn to assure a strong bond once glued to the model.

Locate and cut the covering where the horns will be glued

Glue them to the surface using epoxy glue

Excess epoxy glue can be removed with acetone



These pictures show double control horns from a larger model. Please only cut and install the single horn provided.

AILERON SERVO INSTALLATION:

open cover Aileron servo cut the wood inside the servo mount

When using Pilot-RC servos, no extension wire is necessary as these come with 50cm wire as standard.

Use the included string and tabs to route the servo wire through the wing and screw the servo in place.

Centre the servo with your transmitter, attach the servo arm and connect the servo to the ailerons with the pushrods provided.

extension
wire length 100M
39


extension
wire length10cm
1.6"


Pilot
M3
Pilot
PW-28AH
BRUSHLESS
SERVO
Pilot
357
F
1.6"


M3

RUDDER SERVO INSTALLATION:

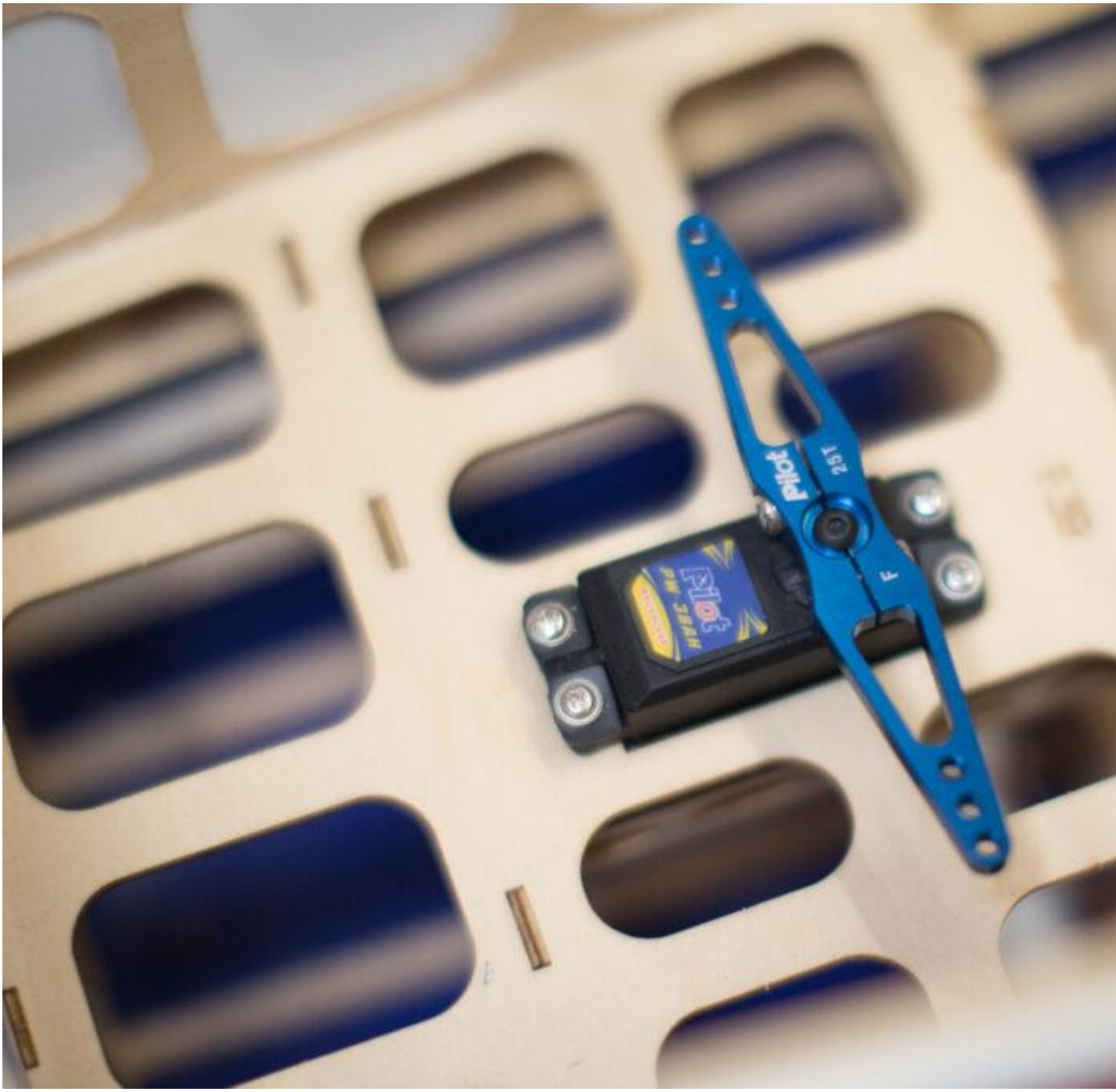
Screw the rudder servo to the allocated tray inside the fuselage

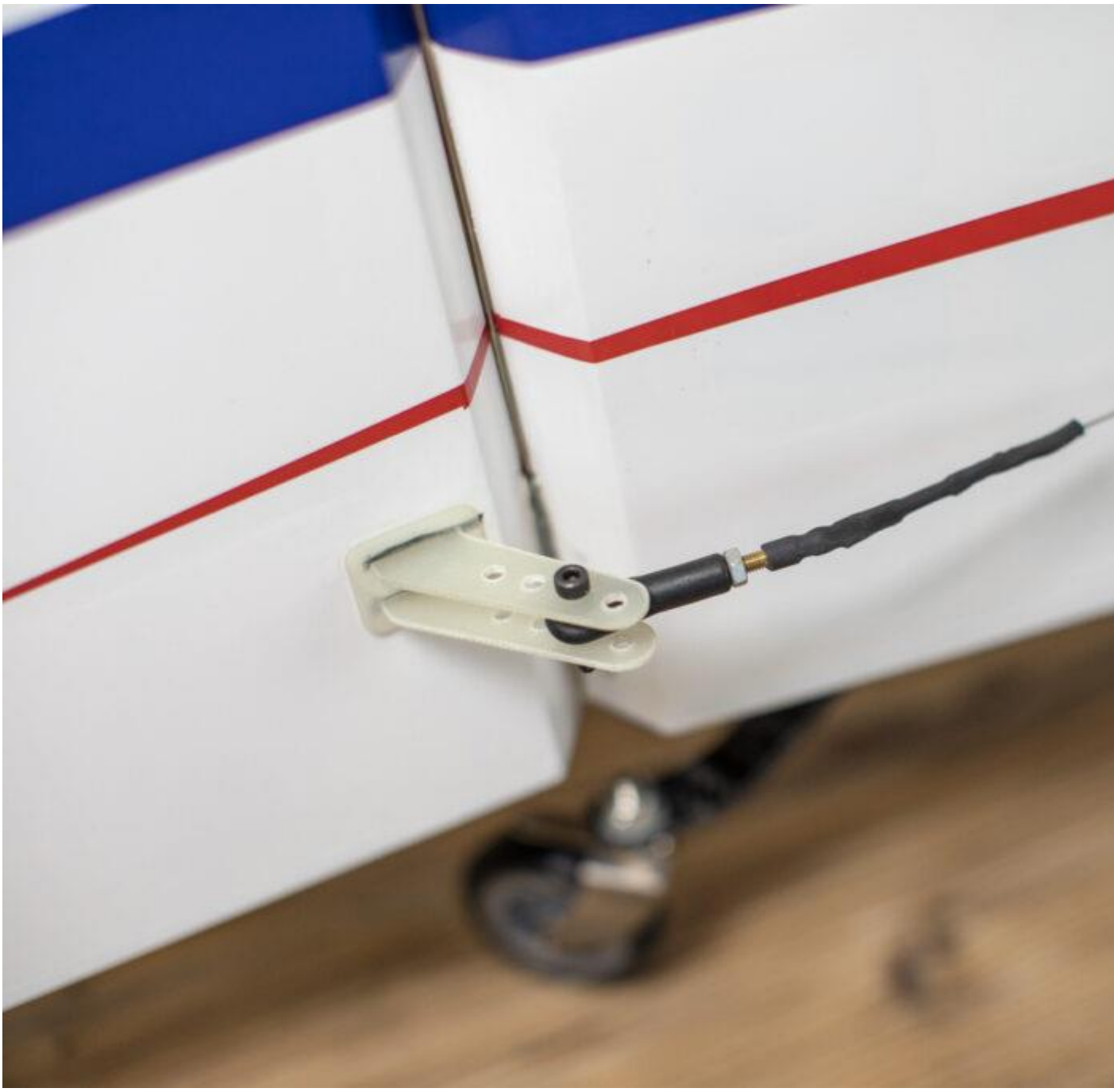
Centre the servo with your transmitter and attach the double servo arm

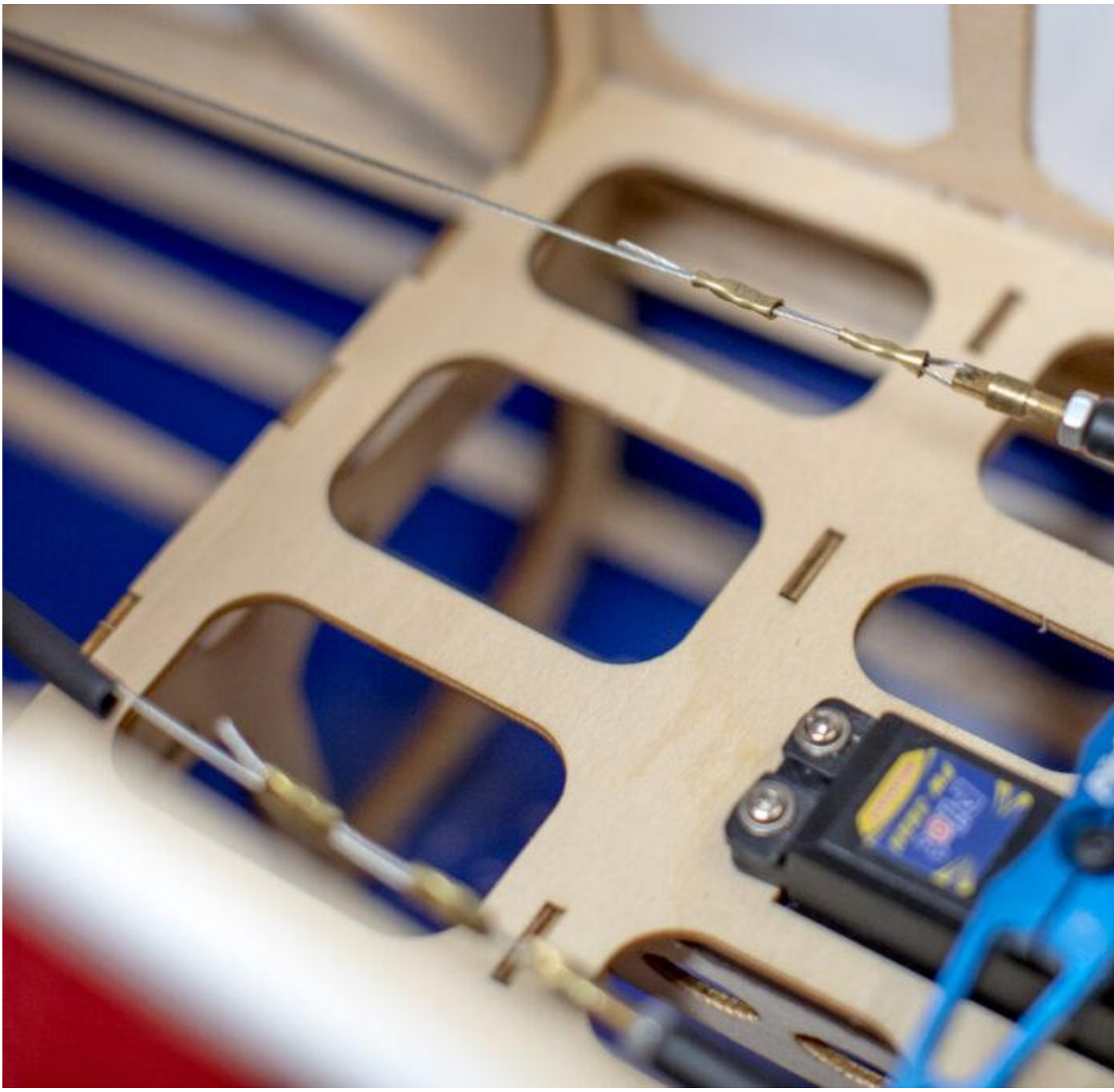
Attach the provided pull pull wires to the rudder control horns and thread the pull pull wire carefully through the fuselage slots all the way back to the actual rudder servo.

Attach the ball links to the rudder servo horn and pull through any excess pull pull wire until both sides are tight and without slop. Tension should be similar to that of the strings on a guitar.

With everything correctly in place, crimp the small copper tubes firmly onto the wires to permanently fix the wires in place, before sliding over the heat shrink.

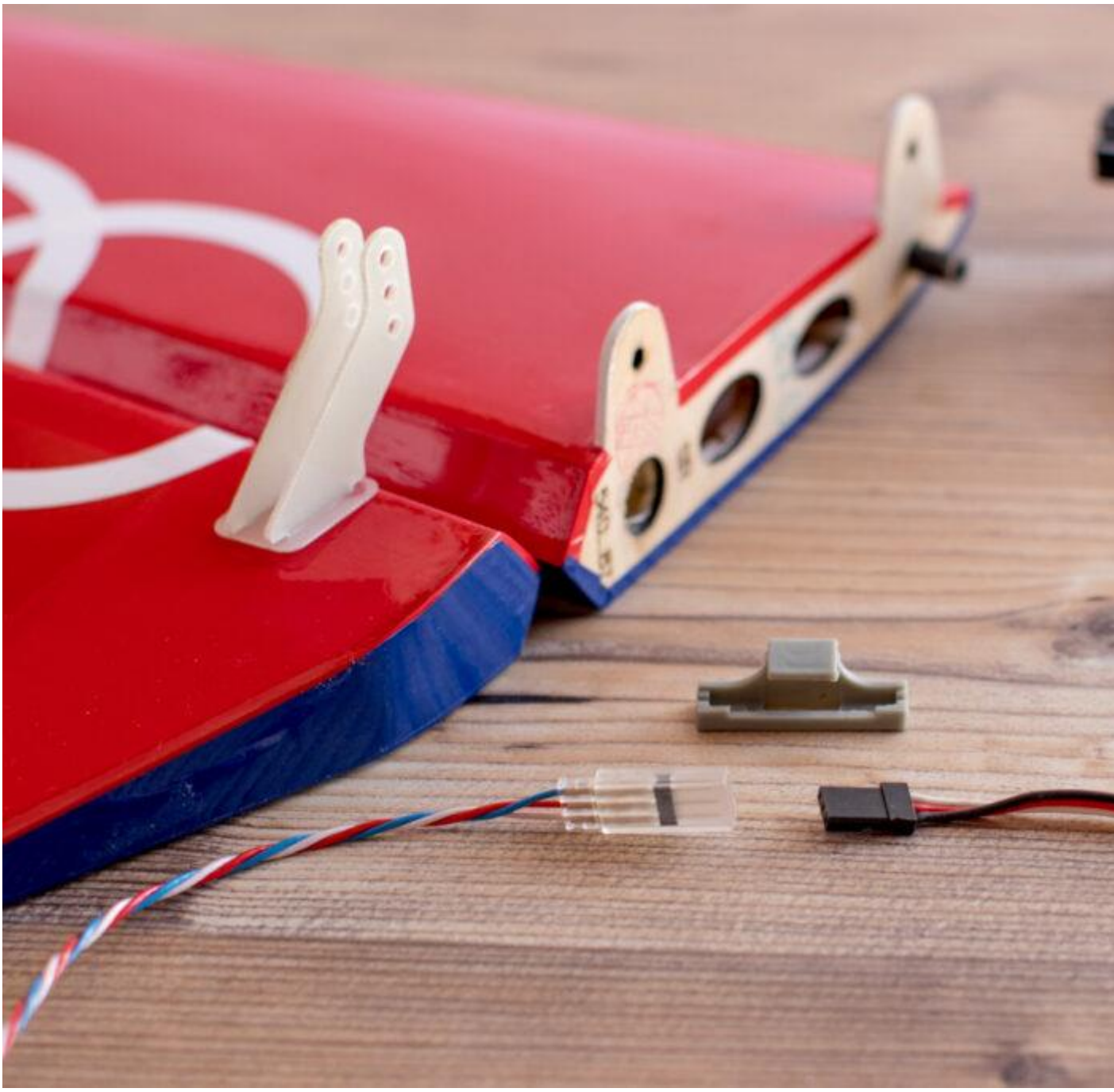

Pilot
21T





ELEVATOR SERVO INSTALLATION: DOUBLE SERVO SETUP:

Pilot-RC Extra NG78 provides the option to install two elevator servos, one for each elevator half.




GK


OCK


OCK


G-SHOOK
Pitot

MOTOR INSTALLATION:

The Extra NG 78" is provided with the firewall already mounted, and comes with the appropriate engine incidences applied.

Due to the engine incidence, in order for the prop hub to exit the cowl in the correct location (in the center) you will need to mount the engine slightly off-centre on the firewall.

You will find this new “off-centre line” laser engraved on the firewall.

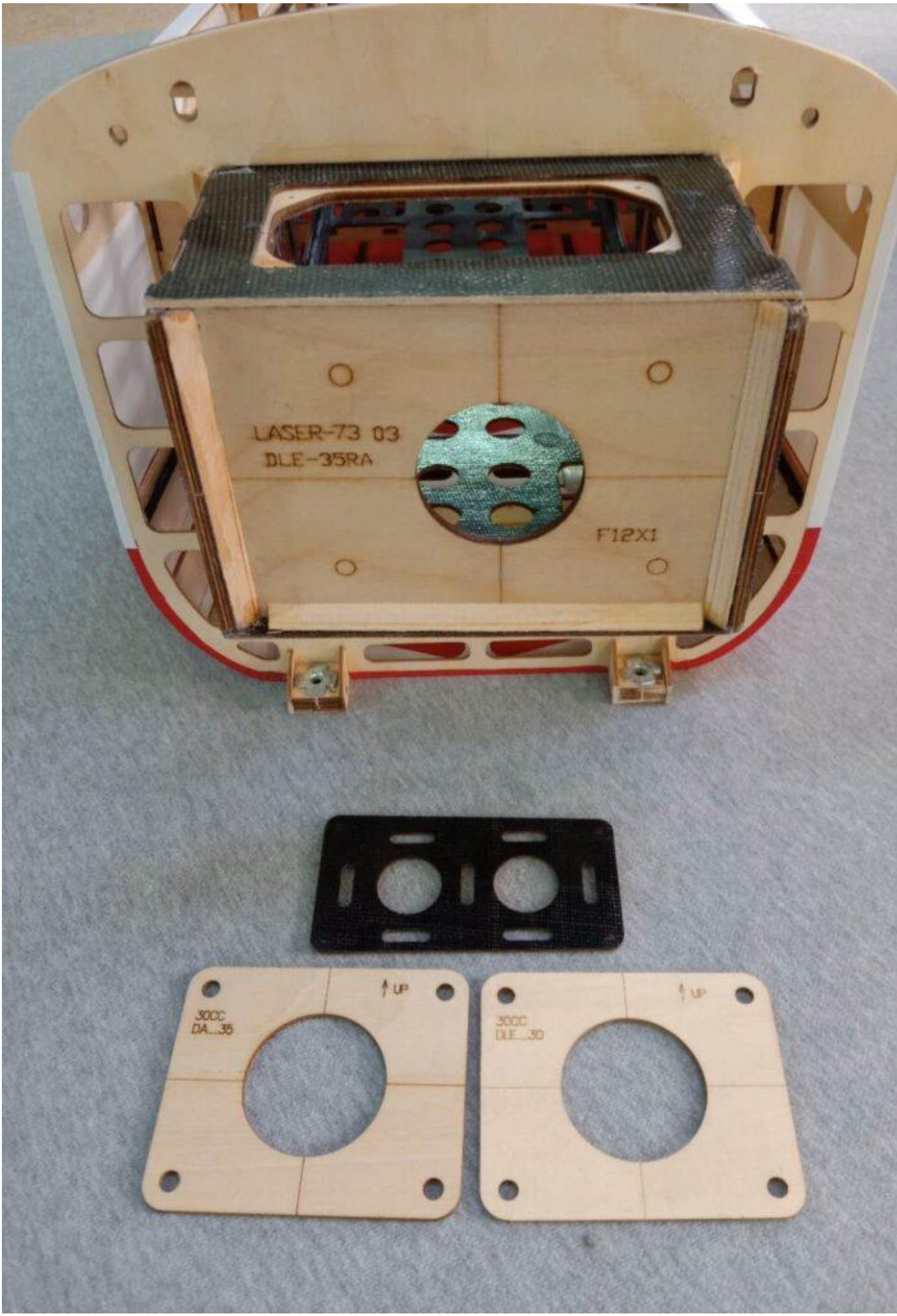
Using these lines, mark the necessary locations for the engine bolt holes and drill accordingly. These are already engraved if using a DLE35RA.

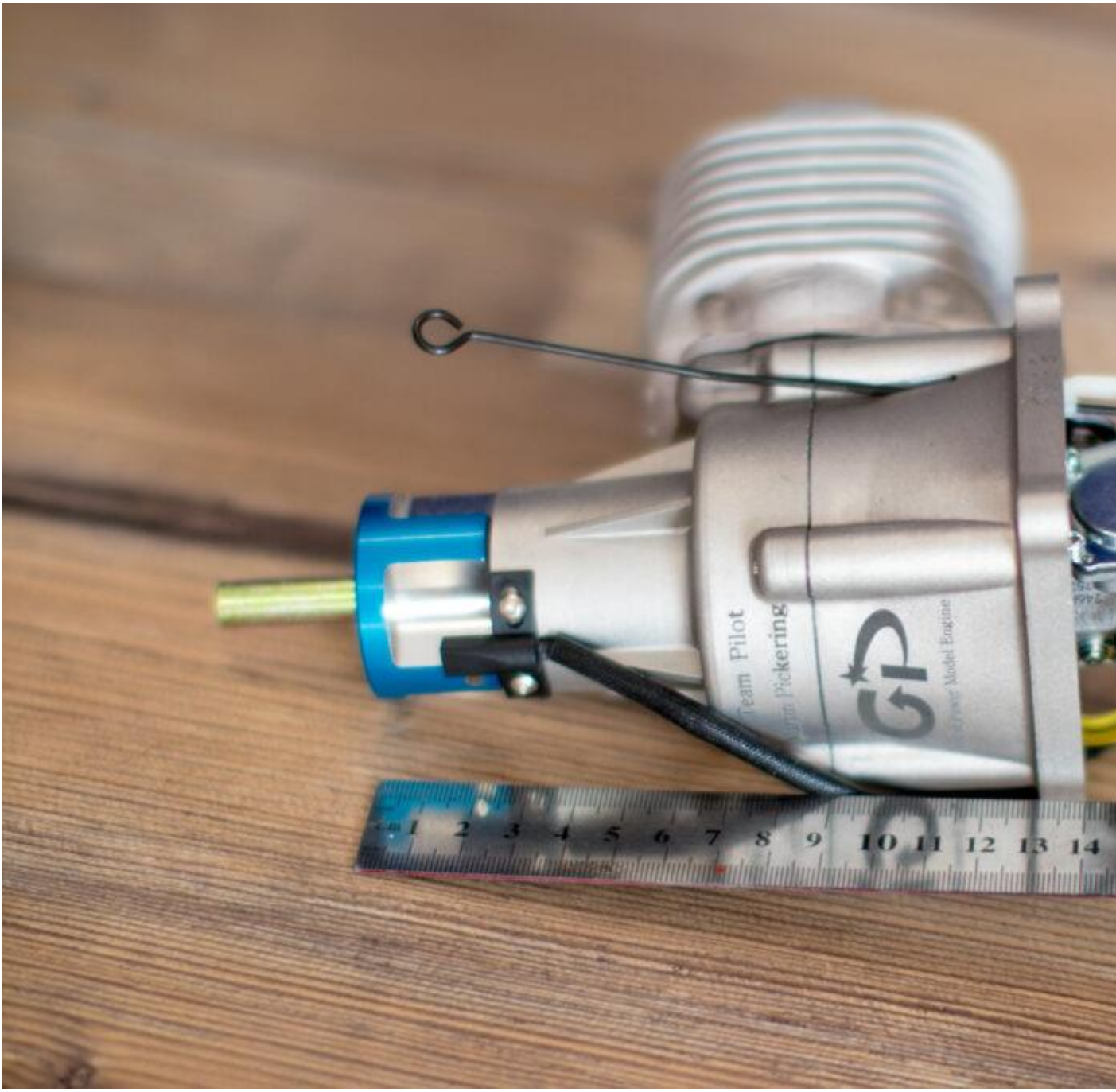
Once completed, securely screw your engine to the firewall using your preferred method bot, nut or blind nut method.

Included are additional wooden shims which can be used as standoffs for your chosen engine if required.

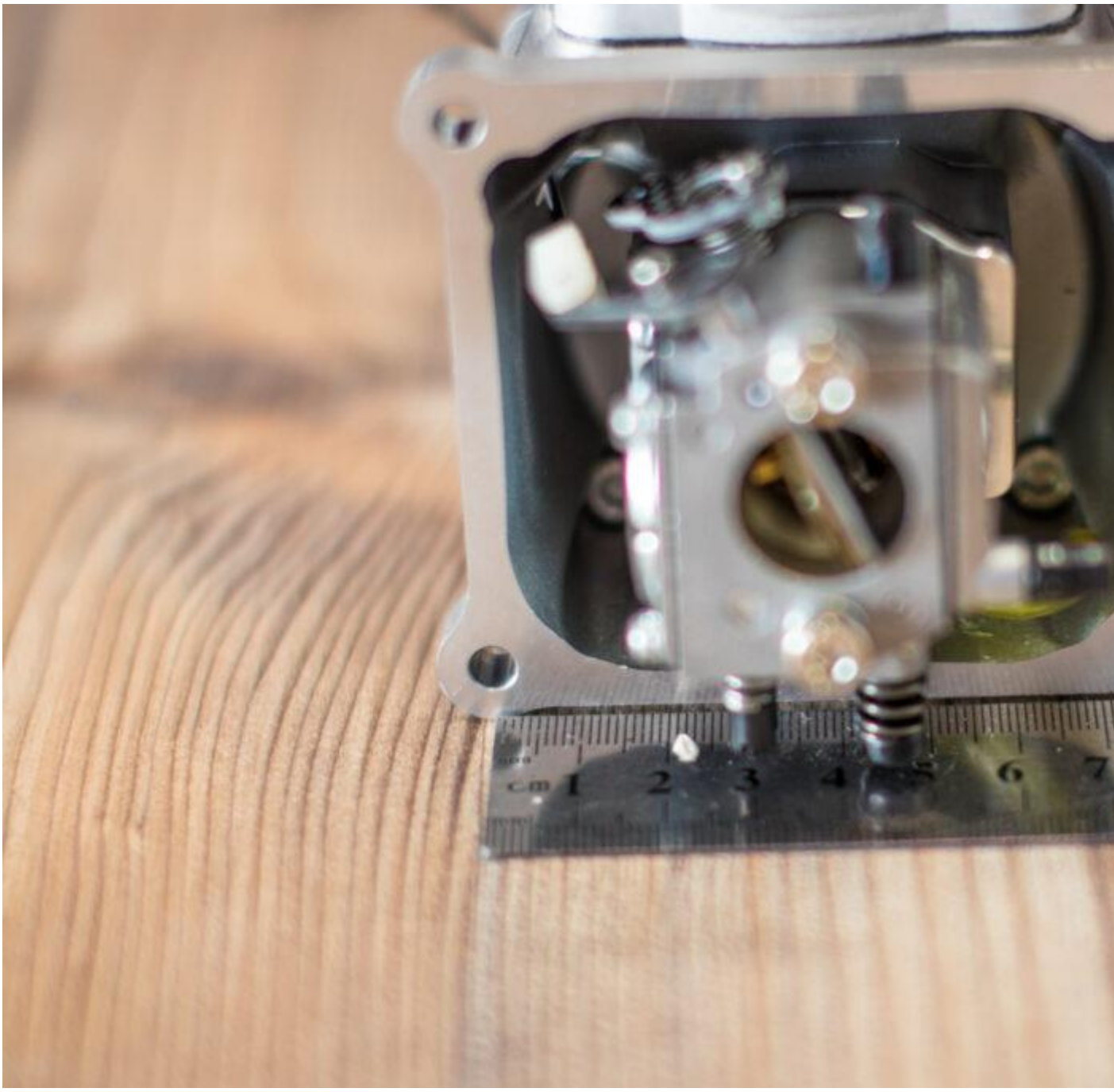
Secure the engines CDI ignition to the engine box, we recommend on top of the firewall however this may vary depending on your installation.

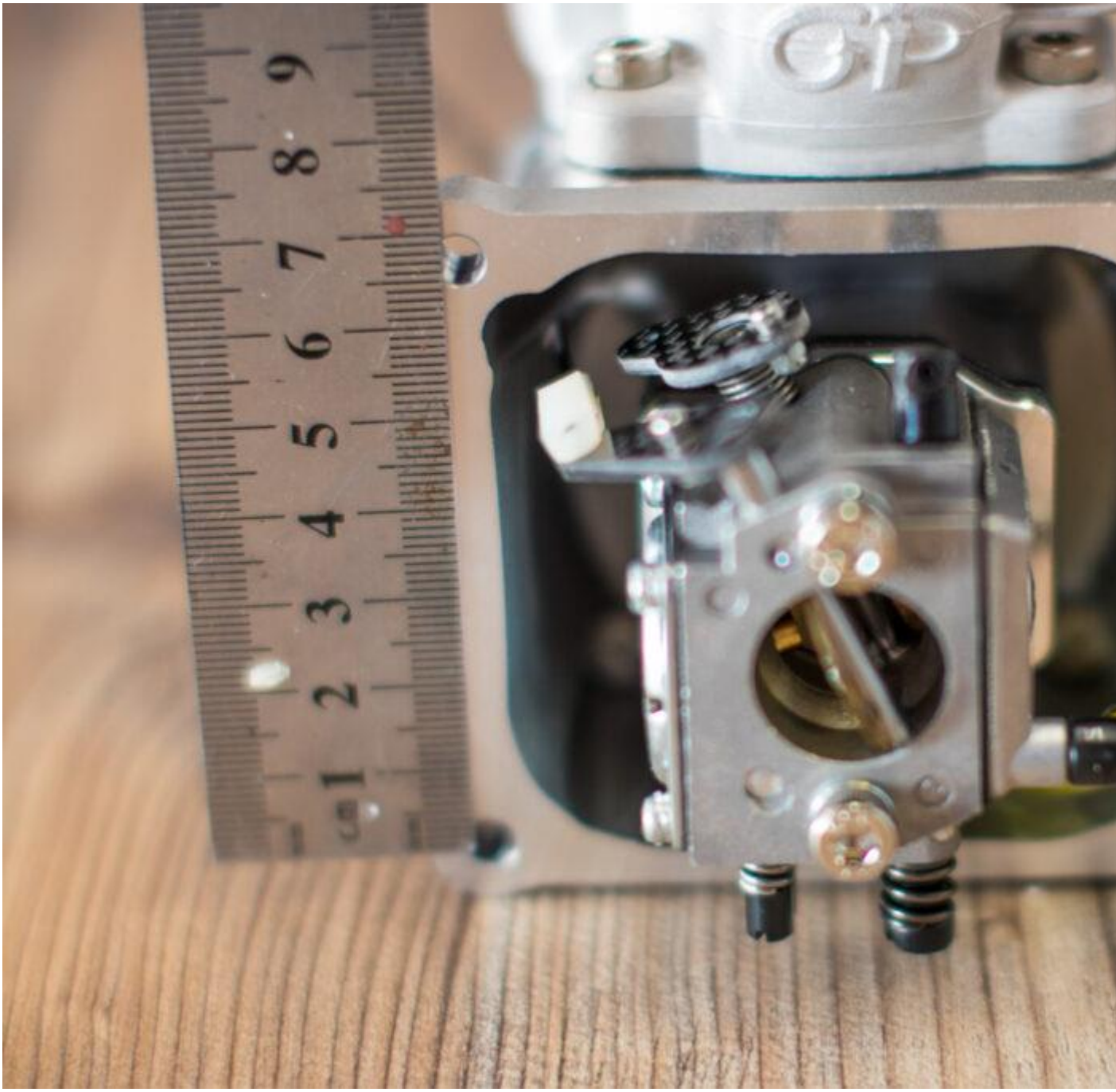

Pilot
F13X1
EXTRA NG_78
GP_38
06
F15X1
Pilot-QC
PASS
Pilot

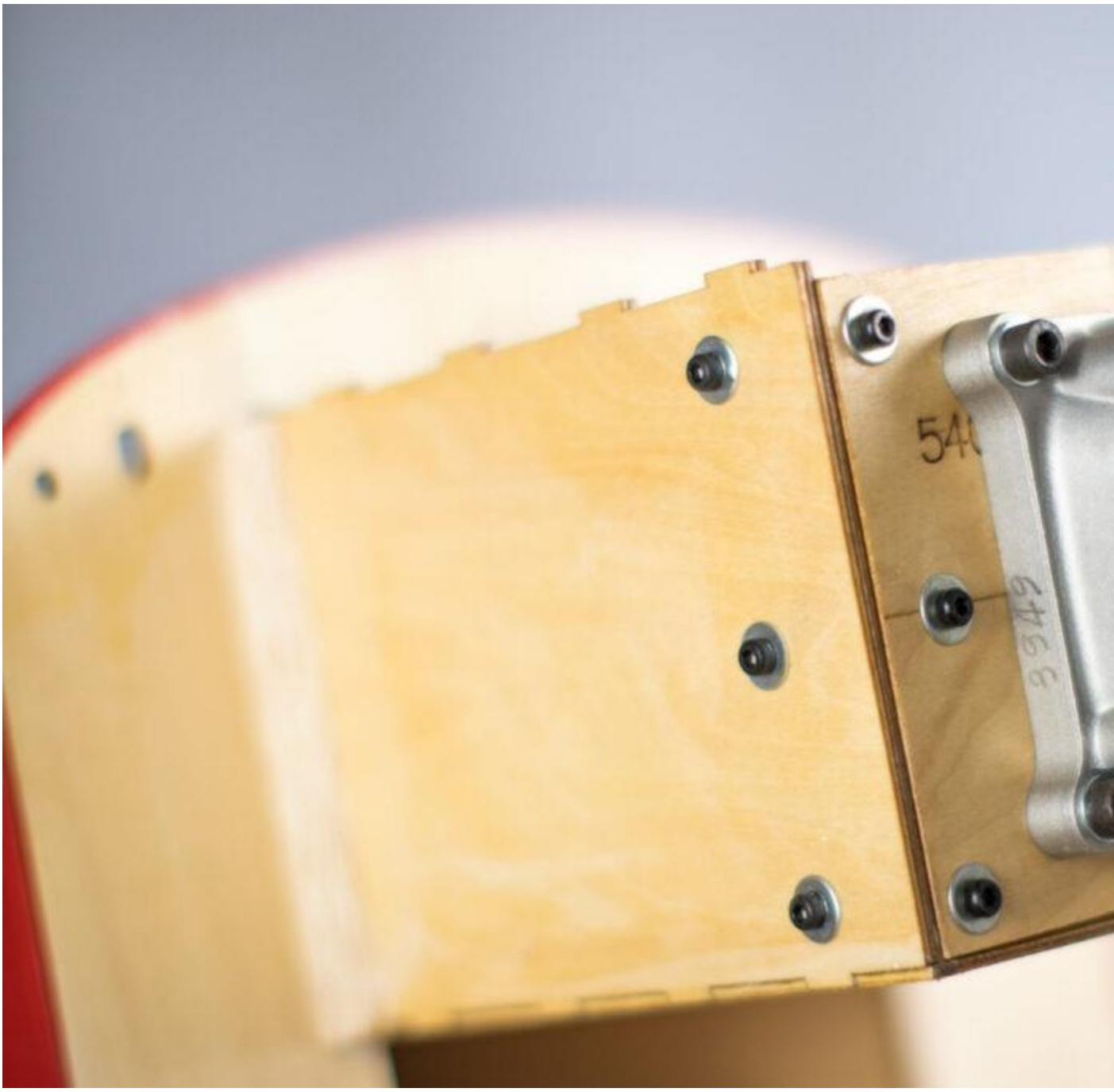

LASER-73 03
DLE-35RA
F12X1
UP
30CC
DA_35
UP
30CC
DLE_30

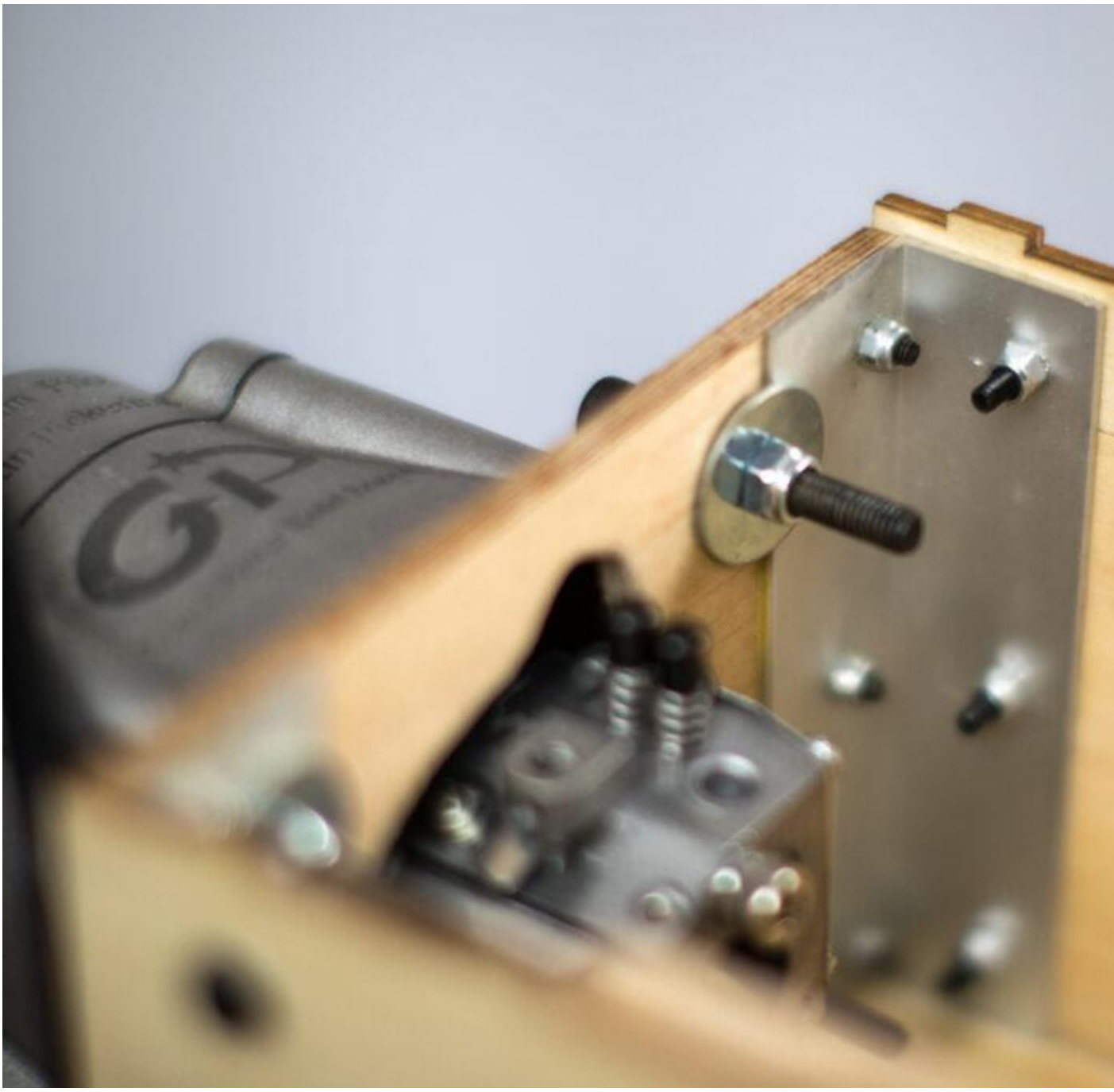

Team Pilot
Pickering
GP
Advance Model Engine
1 2 3 4 5 6 7 8 9 10 11 12 13 14

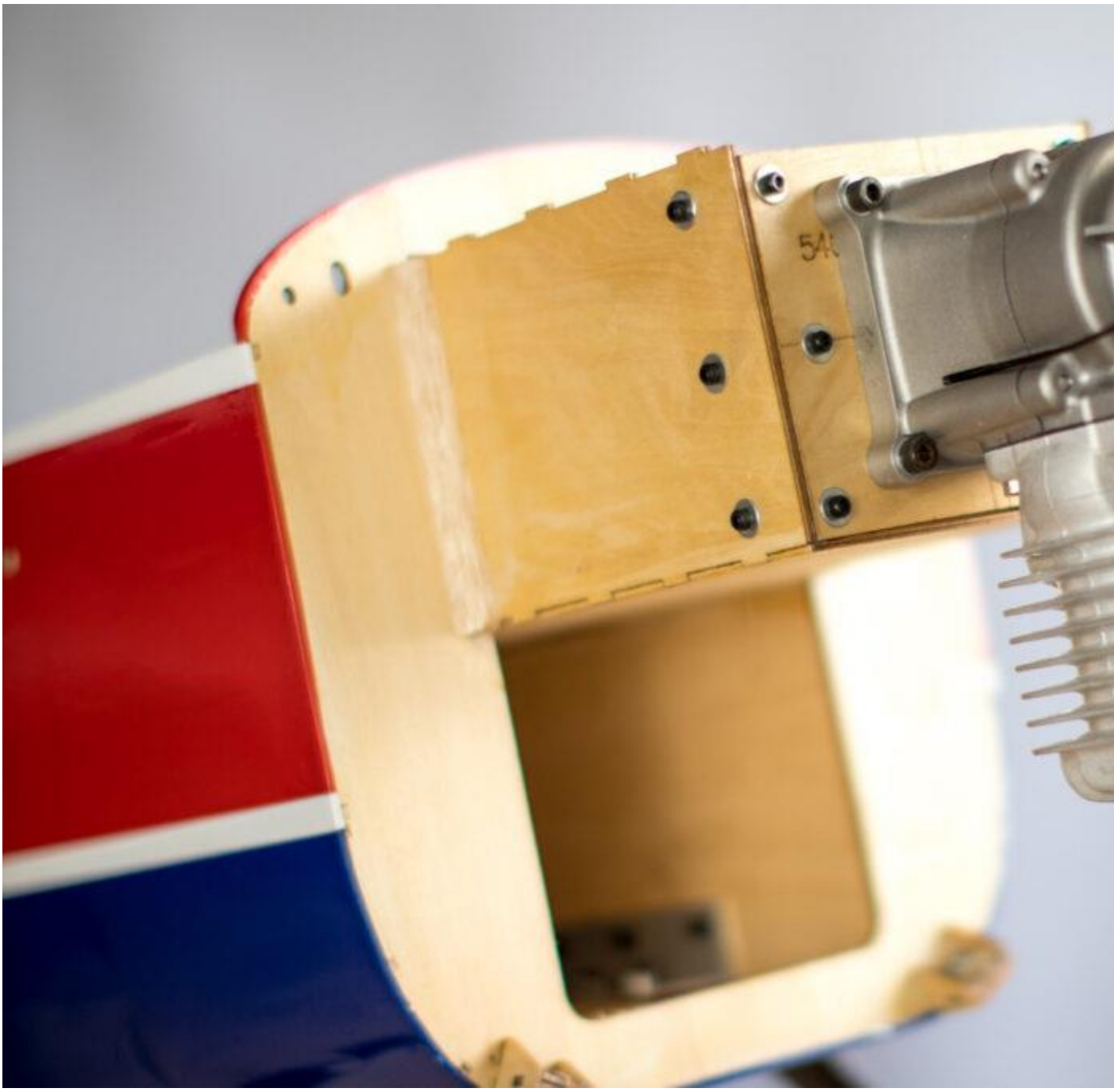

540_87

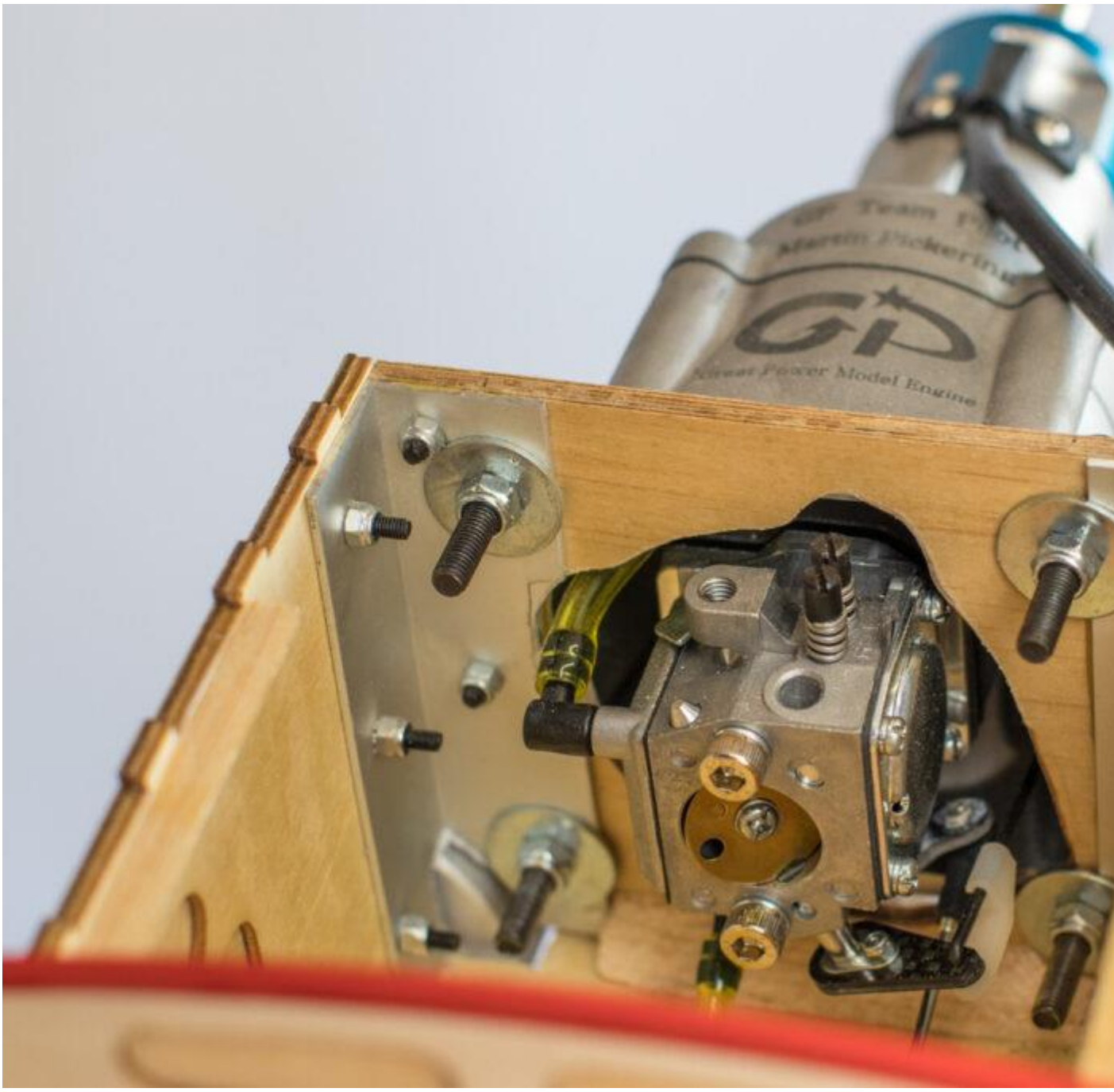

cm 1 2 3 4 5 6 7

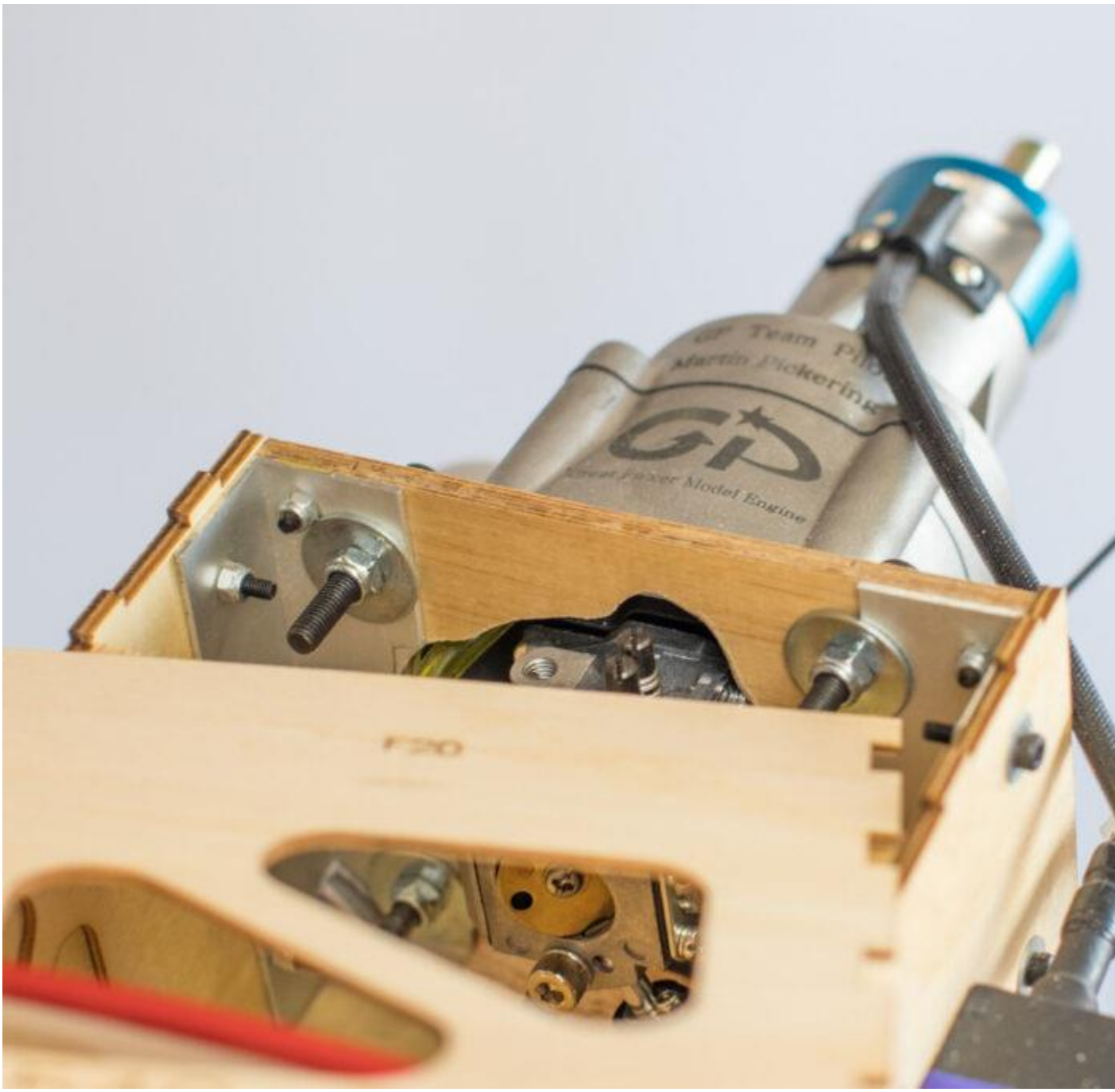


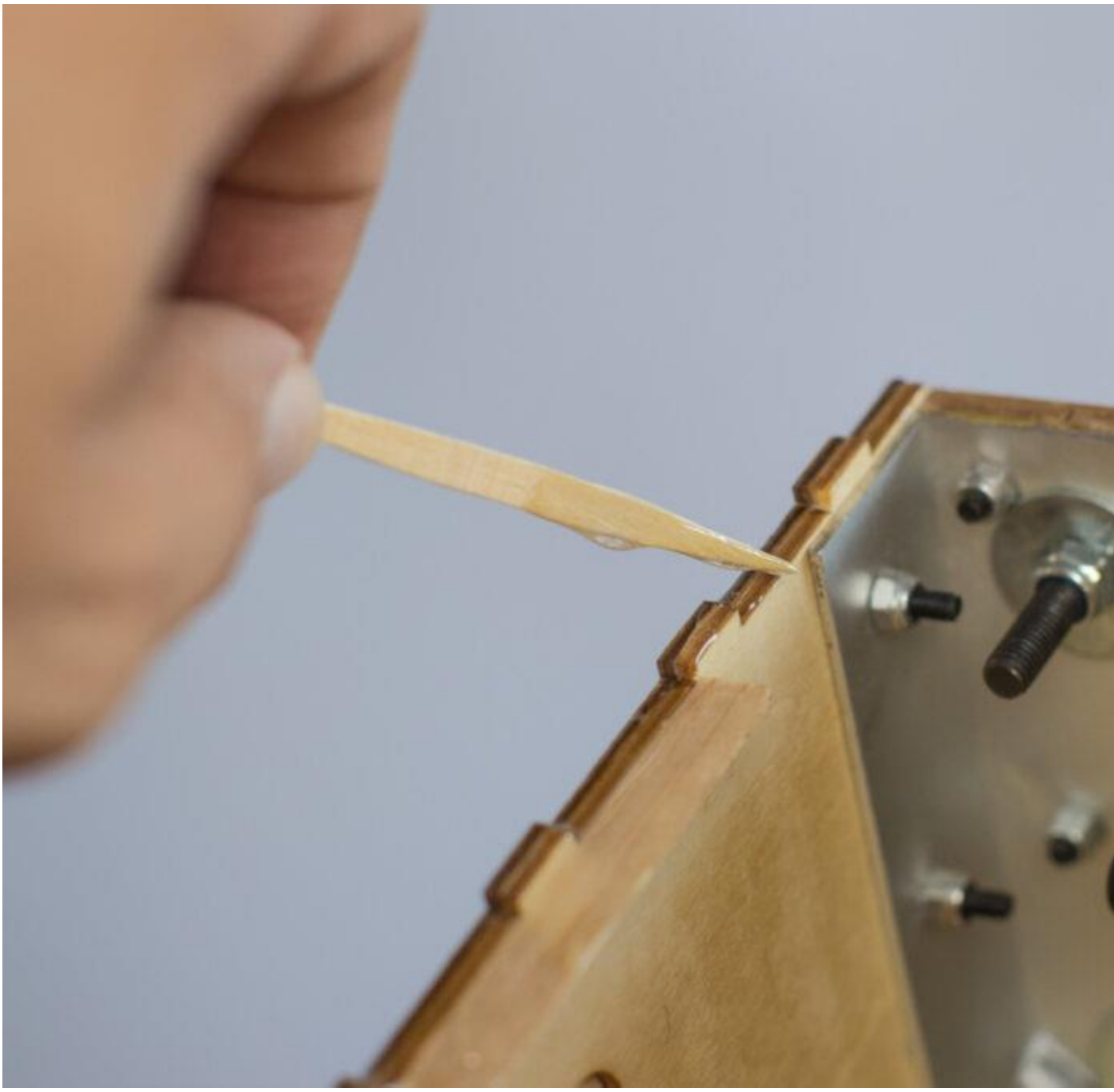

540
3349

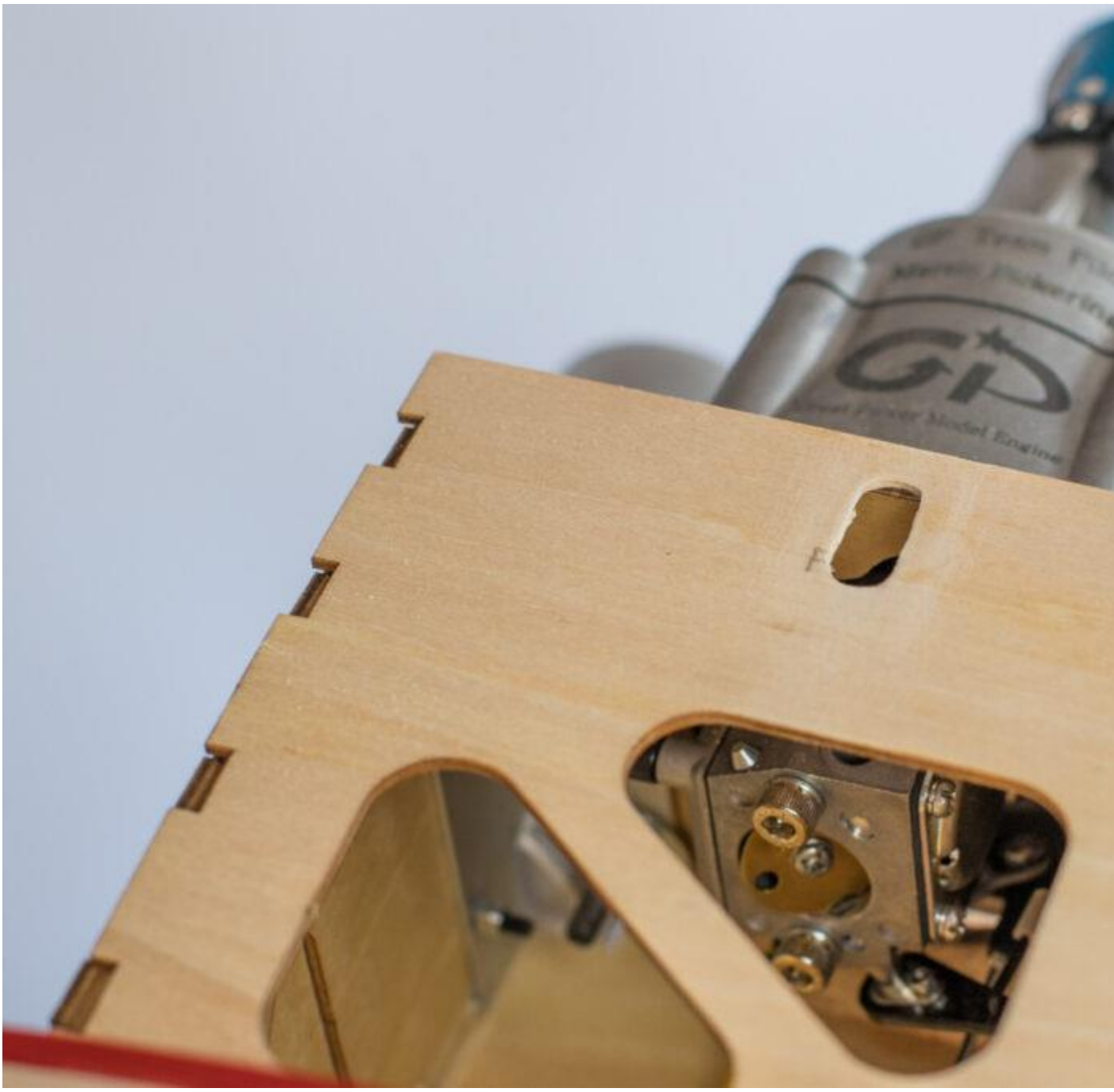


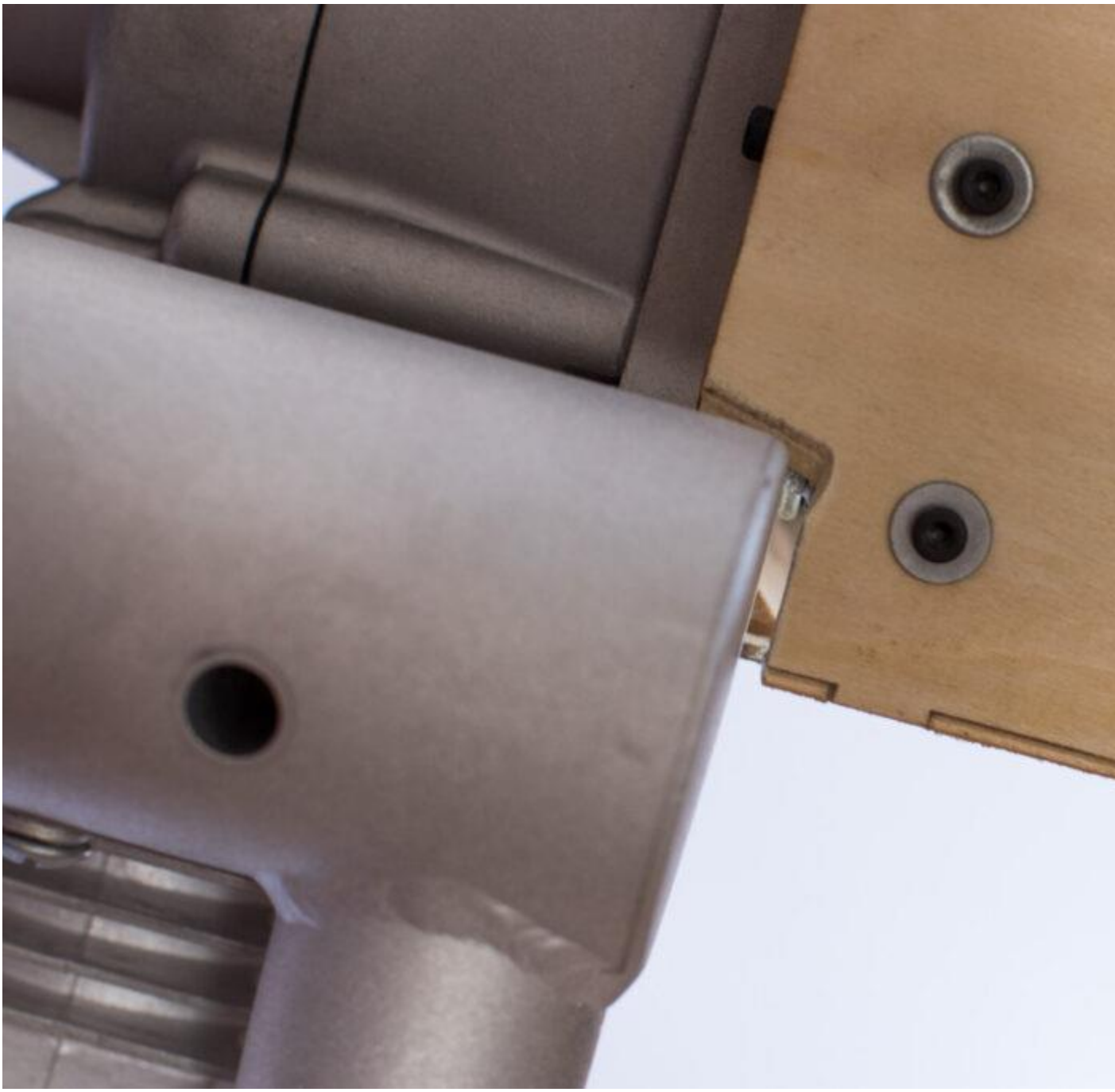


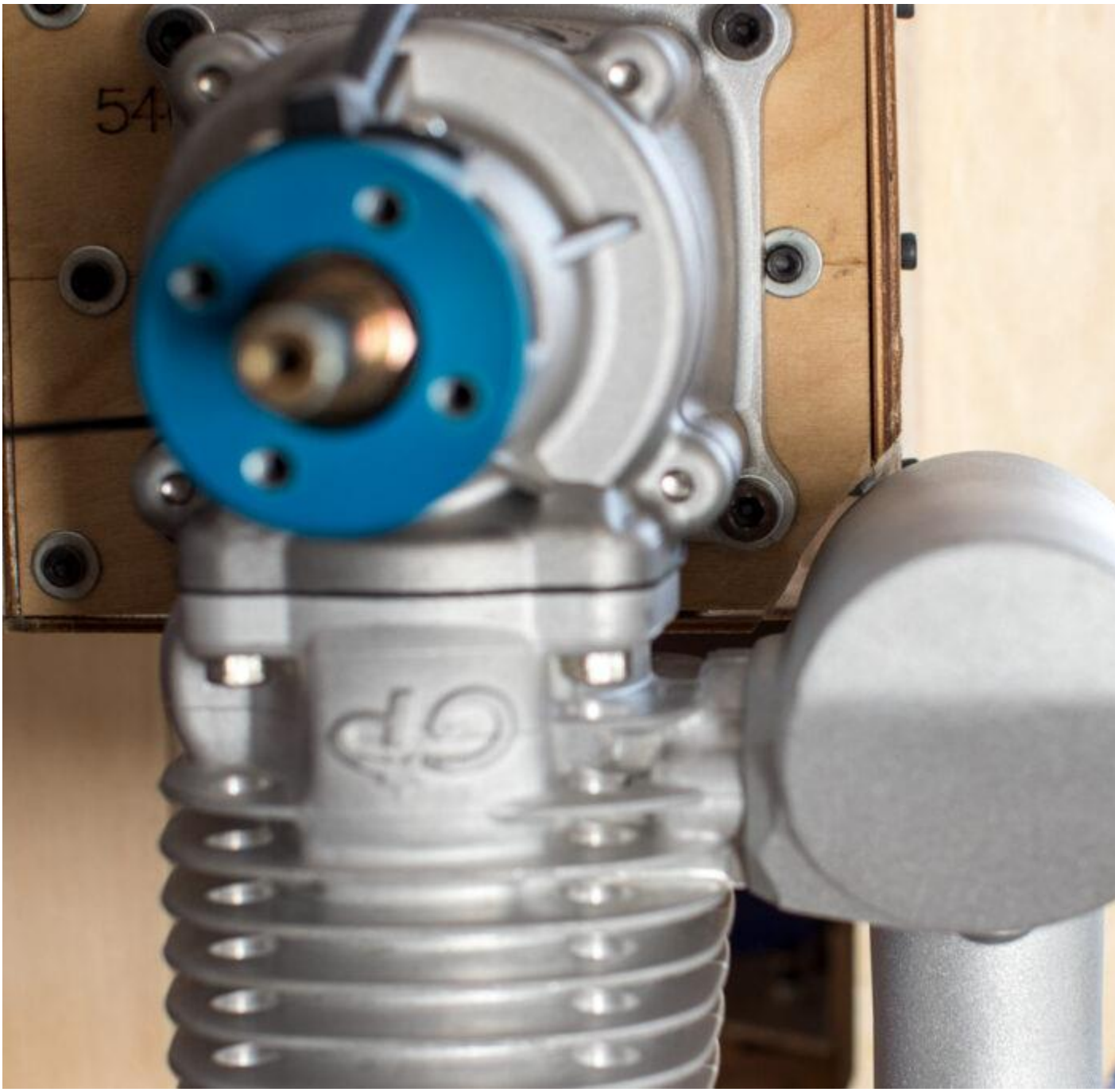

Great Power Model Engine

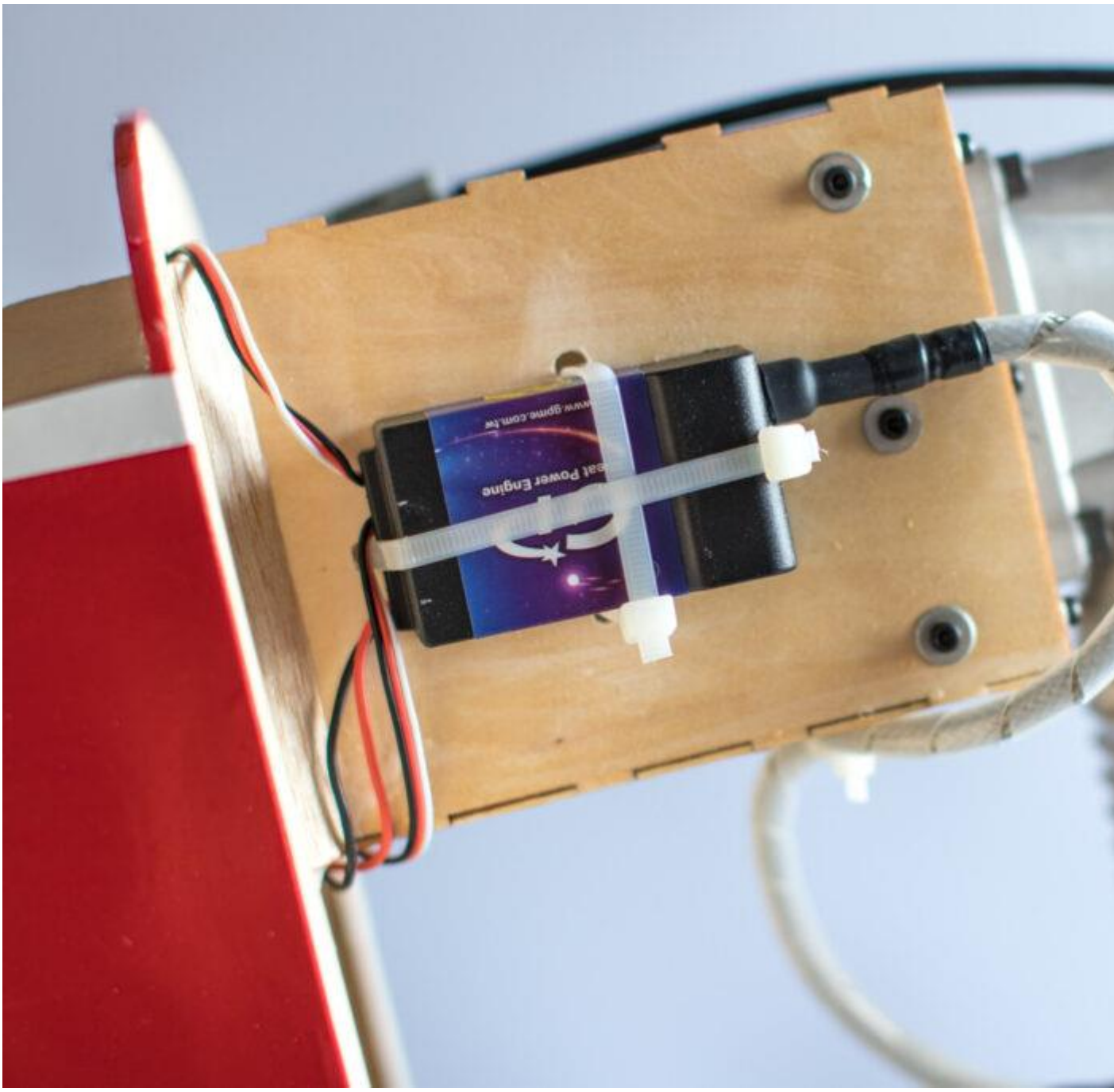

Martin Pickering
GP
Model Engine
F30





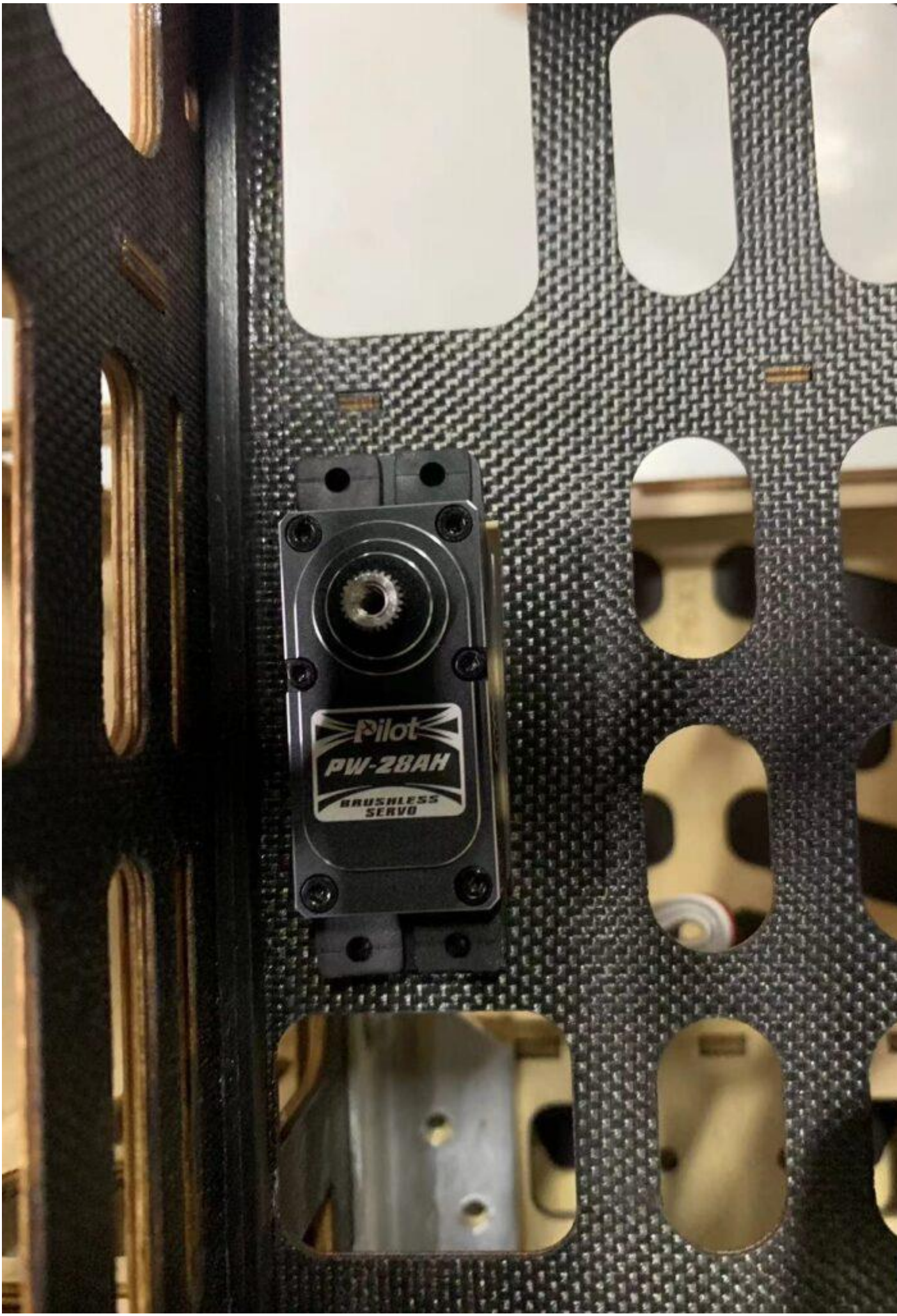






THROTTLE SERVO:

For the installation of the throttle servo, simply screw the servo to the provided servo mount, and then screw and glue this in its final location where required for your particular engine. Use the included pushrod to connect to your engine, making sure that of a smooth and bind free movement.


Pilot
PW-28AH
BRUSHLESS
SERVO

COWLING INSTALLATION:

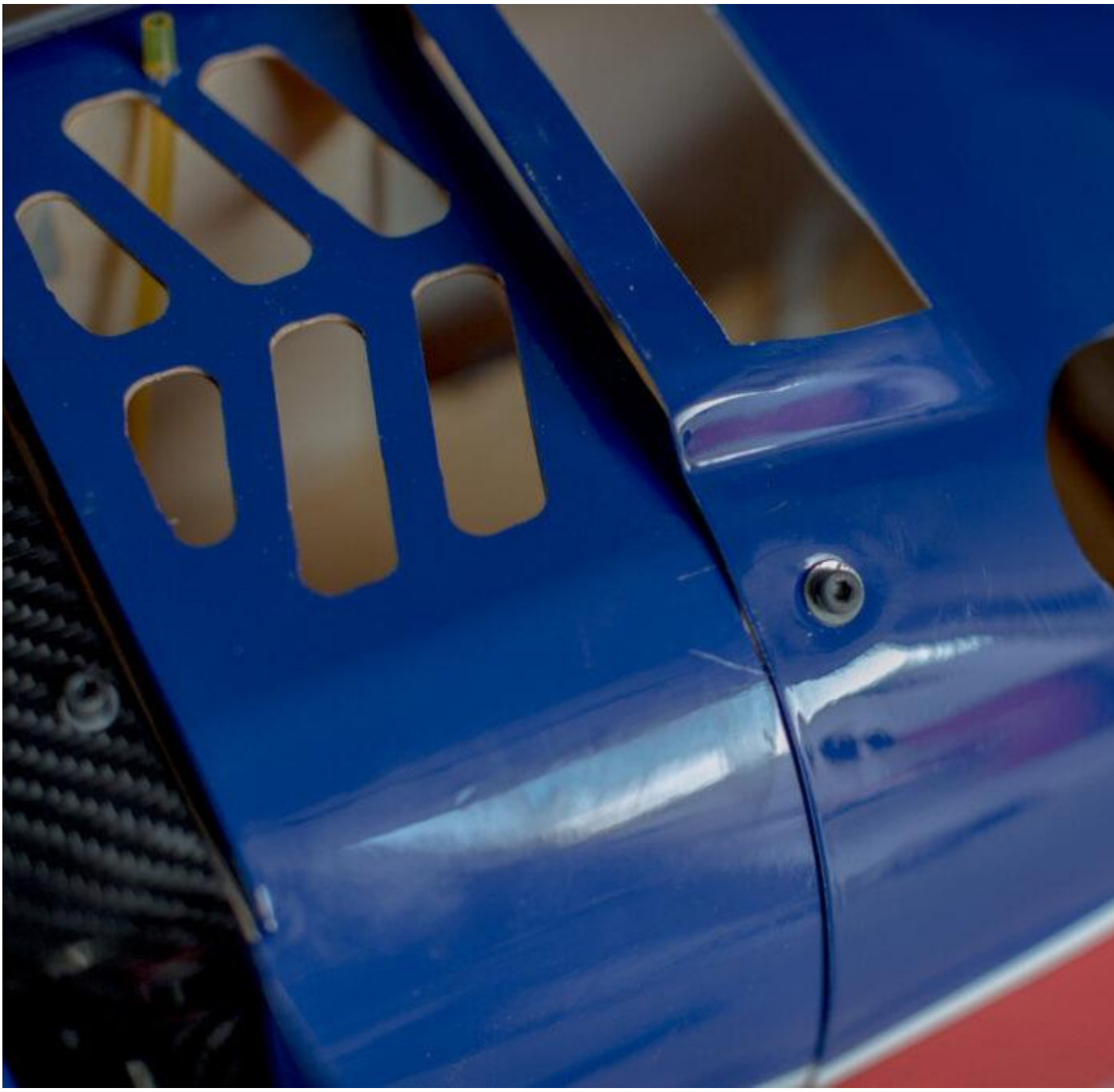
The cowling is installed with a single pre-installed bolt on the top half, from the inside of the fuselage going forwards, and two additional bolts going through the cowling from the bottom.

With the cowl off, turn the model over, and place some small strips of masking tape in line with the two bolt holes. Draw a straight line on the masking tape going over the holes, and mark/measure where the hole is relative to the lines.

Install the cowling, tightening the top bolt. Place additional masking tape on the cowling, and with a ruler continue the straight lines drawn previously.

Measure back to the marked point where the holes are, and then remove the cowl and drill out the two necessary holes with a 2,5mm drill bit.

Re-install the cowl using the top and bottom bolts.



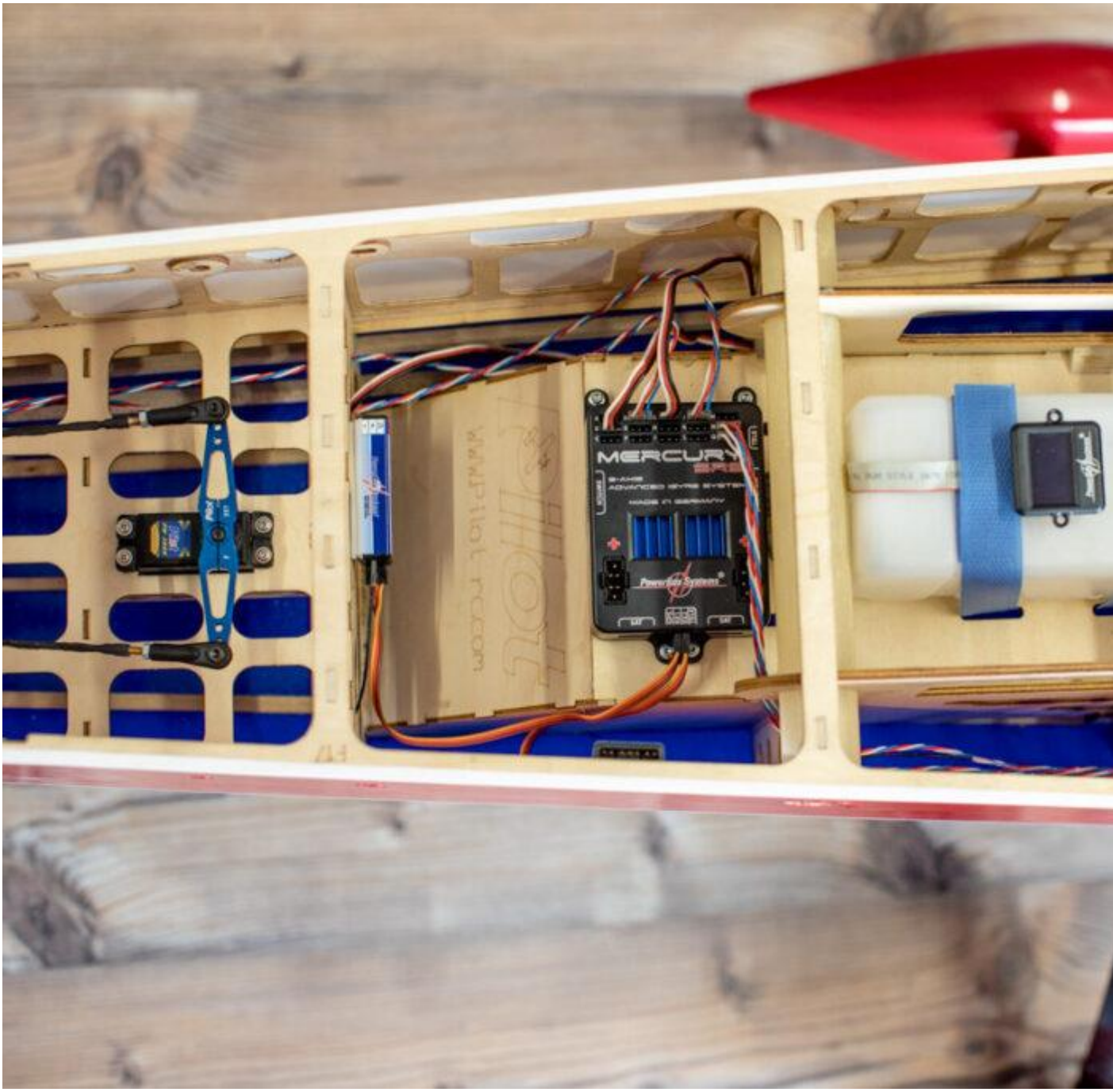
INSTALLATION OF ANCILLARY COMPONENTS:

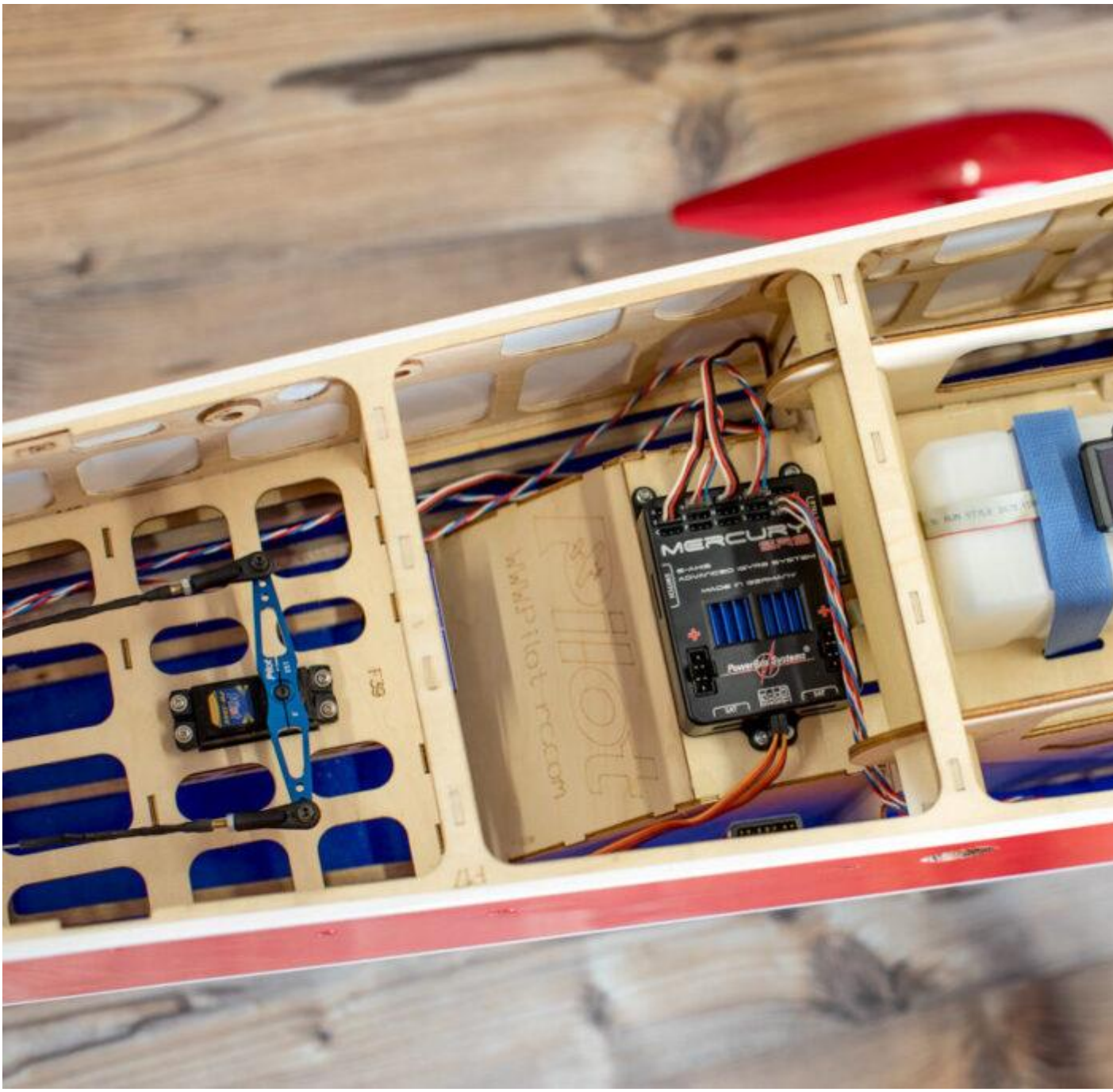
Check the correct location of your chosen battery and ancillary components depending on your CG.

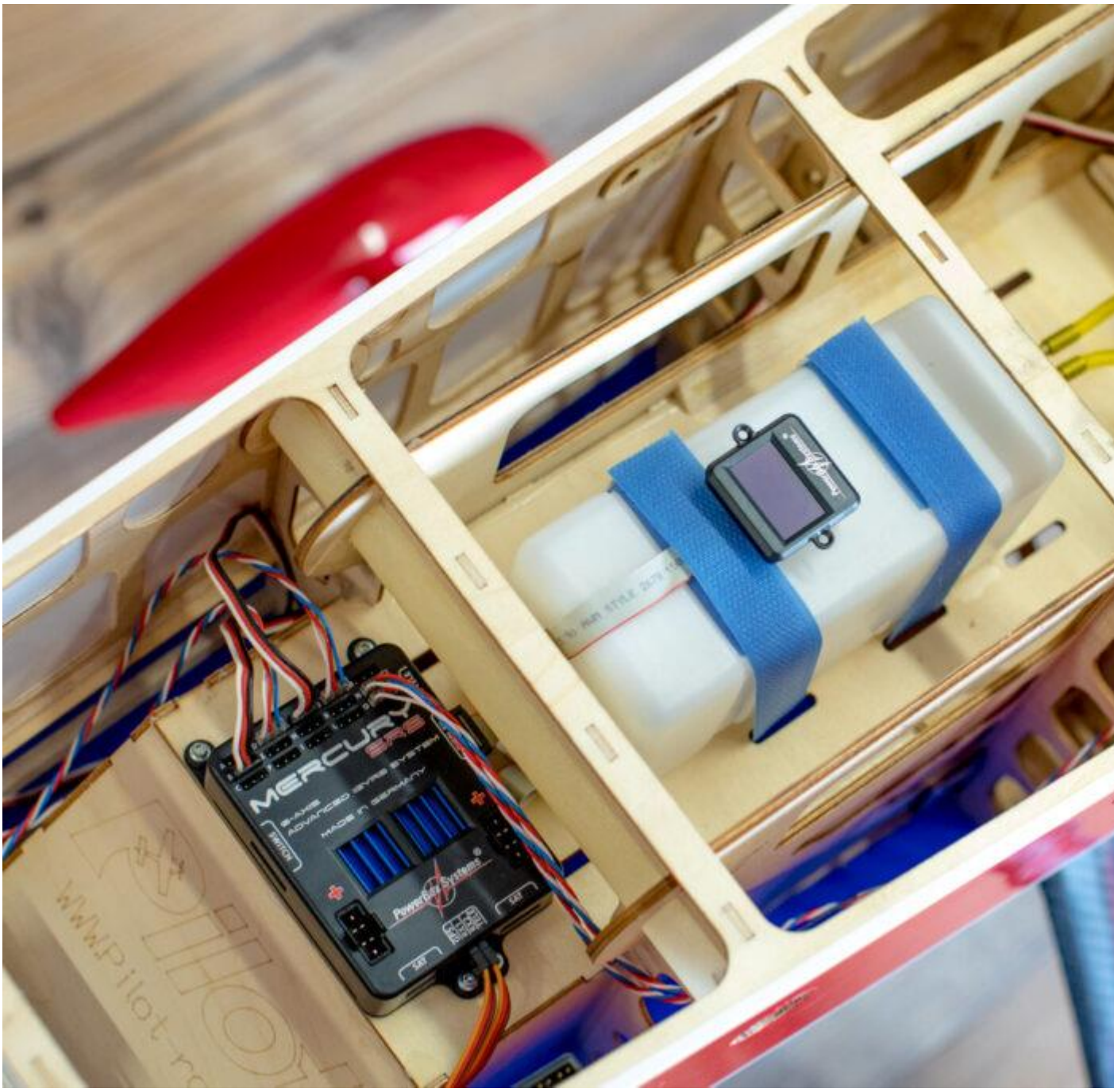
Install your receiver with double sided tape or velcro, making sure that all servo leads can be easily connected without being too tight, and that the receiver is securely fixed in place.

For specific tips on receiver and antenna location, please consult your receivers manual.

Make sure that all ancillary components are securely fastened or tied down and can not come loose in flight.


MERCURY
PowerBox Systems


MERCURY
PowerBox Systems



WHEELS PANTS INSTALLATION:

Slide the wheel pants over the wheels and axles, supporting the rear of the pants to line up with the ground and mark where to drill the two screw holes in the wheel pants.

Remove the wheel pants and drill the holes for the appropriate holes.

Before putting back on the plane, mount the bolt with the blind nut on the wheel pant and tighten until the nut sits flush with the wheel pant.

Remove the bolts and the nuts should stay in place.

Slide the wheel pants back over the wheel and bolt in place.

BALANCING THE CG OF AIRPLANE:

The CG is marked inside the fuselage, near the wing tube.

Install the included balance rods in their position, attach the canopy and check the balance of the model. Move your batteries accordingly until correctly balanced.

Personal CG preference can be adjusted following the first flight.


CG


550

STORAGE AND MAINTENENCE:

When not at the flying field, if leaving the model on the ground resting on the wheels, please use the included “Wheel Lift” cradle that is included with the kit. This will lift the model slightly, by taking the weight from the wheels, holding instead from the wheel axels, thus preventing the light weight foam wheels from deforming over time.

CONTROL THROW DEFLECTIONS AND SUGGESTED EXPO.

General flying:

Surface	Deflection
Ailerons:	20º
Elevators:	20º
Rudder:	20º

Full 3D acrobatics:

Surface	Deflection
Ailerons:	38º
Elevators:	50º
Rudder:	45º

DOUBLE CHECK:

Double check that all screws are installed, all components tightly secured, batteries and or fuel tank are full, all surfaces are working in the correct directions, balance is correct and range test passed before performing your maiden flight.

WE WISH YOU A SUCCESFUL MAIDEN AND MANY HAPPY FLIGHTS WITH YOUR NEW MODEL.

Tony Tan, Pilot-Rc