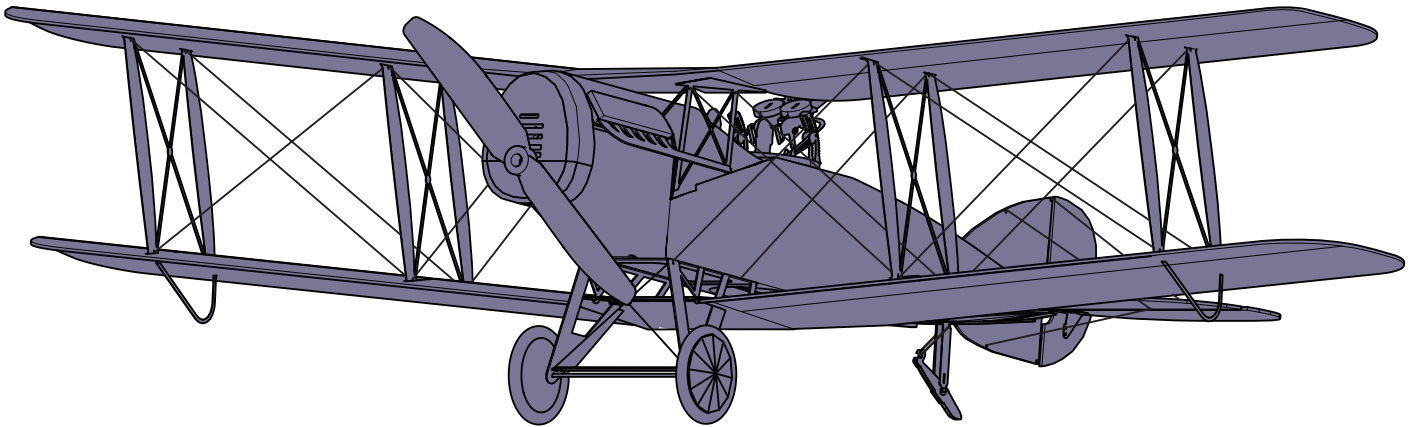




ASSEMBLY GUIDE



Bristol F.2b



Introduction

Thank you for purchasing this Microaces Aero Kit. Designed using innovative ideas, advanced materials and detailed aircraft illustrations, this 1/24th scale aircraft will bring you hours of building enjoyment and many more exciting flying hours too. Please take your time to familiarise yourself with these instructions as the aircraft assembles in a very unique way, following a sequence of steps that should be adhered too to ensure a satisfactory and flyable model.

Safety

It is extremely important to us that you and those around you remain safe while building and flying Microaces kits. Please take note of the following notices of safety. Microaces Aero kits contain parts and packaging **unsuitable** for handling by small children. Please ensure that children under the age of 6 years are prevented from handling the component parts or packaging of this kit. Although the resulting model is lightweight, we DON'T recommend that you fly it near or over others where there is a danger of striking someone. We DO recommend that the maiden flight is performed over long grass in calm weather away from others.












Assembly

Read all the instructions carefully before starting assembly.
It is important to use the recommended glues or an equivalent with similar properties. Foam parts must be glued with a foam safe cement or permanent damage can result to components. Ensure your knife has a fresh or sharp blade installed to ensure a clean cut.

Warranty

Microaces warranties this kit is supplied with all components present and that those components are free from cosmetic or structural damage to an extent that would impair the assembly of the kit, alter the aesthetics of the built model and/or the flight performance of the resulting model. If any parts are missing or damaged please contact us via email at: support@microaces.com

Key

- | | |
|---|--|
|  Note (Information) |  Attention |
|  Part Number |  Do Not Glue |
|  Contact Adhesive (Foam Safe) |  Score before assembly |
|  Aliphatic Resin (or Foam Safe CA) |  Cut |
|  Paint |  Sanding Required |
|  Area of adhesion for glue | |

KIT PARTS

Sheet Parts

1 x 2mm Laser cut Depron airframe
1 x 1mm printed & laser cut Depron fuselage
2 x 1mm printed & laser cut Depron flight surfaces
2 x 200 micron printed & laser cut polypropylene
1 x polyester sticker sheet

Loose Parts

1 x 0.8mm laser cut plywood motor mount
2 x neoprene tyres
2 x elastic band
6 x 3mmØ x 1mm neodymium magnets
1 x 100mm x 3mmØ plastic tube
3 x 500mm x 0.4mm x 1mm carbon fibre strip
1 x 100mm x 1mmØ carbon fibre rod
1 x piano wire elevator control rod
1 x piano wire rudder control rod
2 x profile pilot figure
1 x Spectra rigging wire
3D printed fuel prop

RECOMMENDED TOOLS/GLUES

Knife or Scalpel with fresh blade

Steel Rule or straight edge

Sanding Stick or sand paper (180 grit recommended)

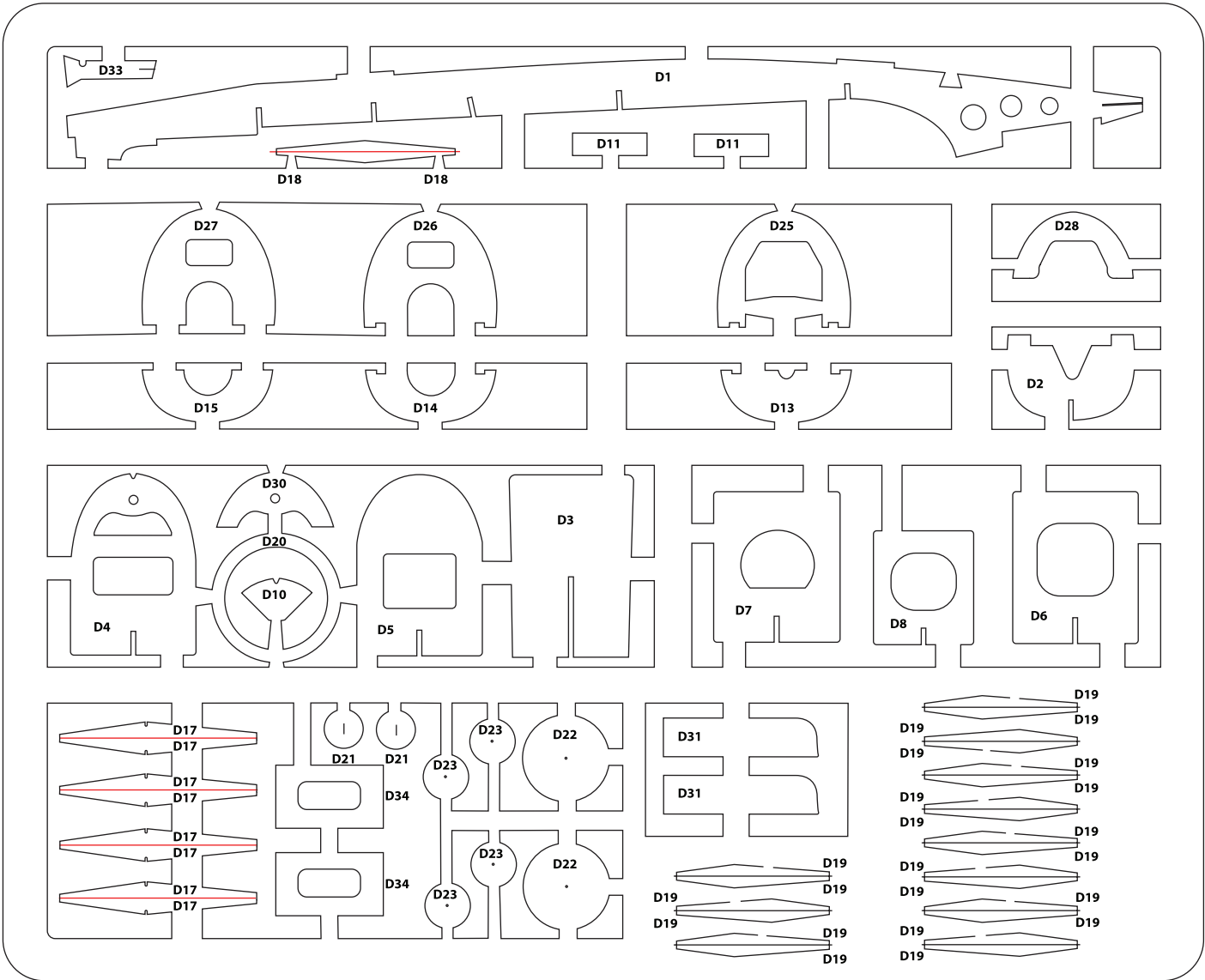
Tweezers

Needle nose pliers

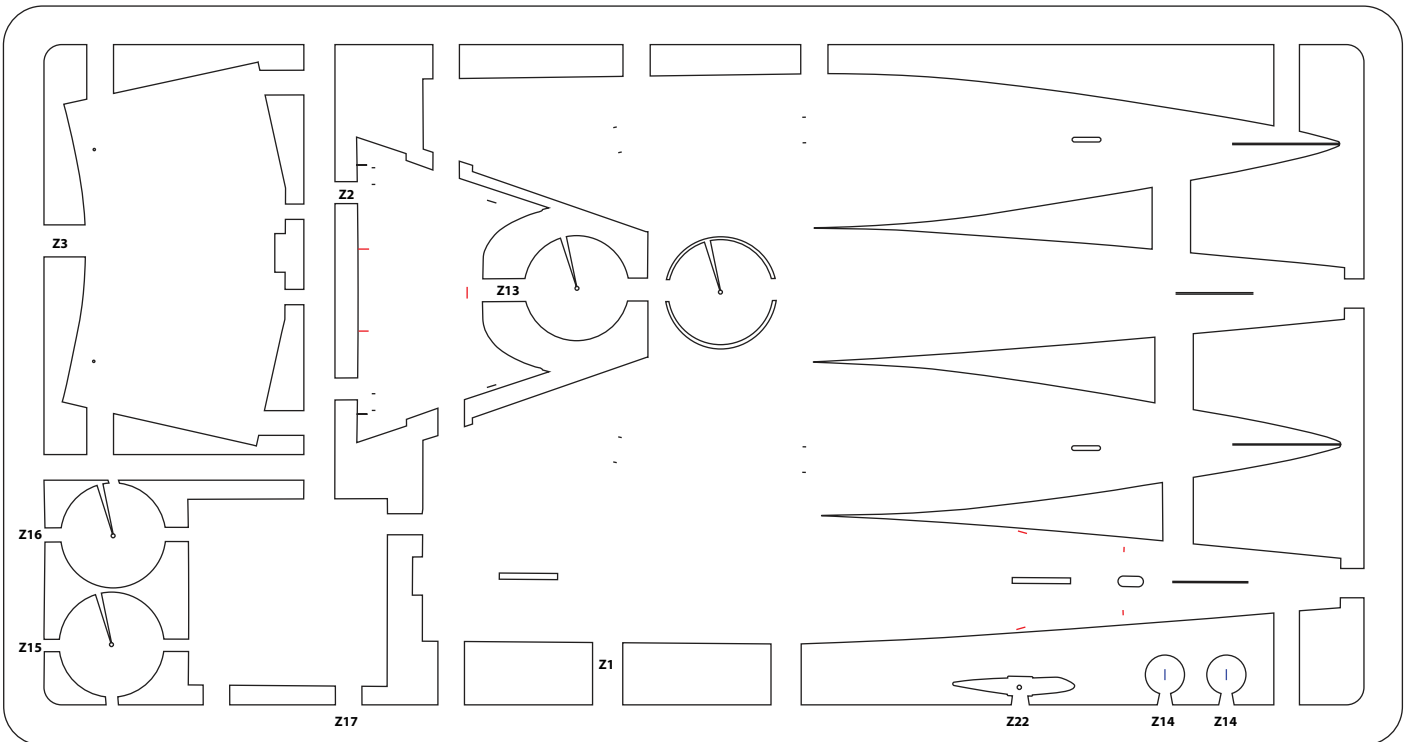
UHU por foam safe adhesive (For foam & plastic)

Aliphatic Resin or Foam safe cyano glue (for rigging & re-inforcement)

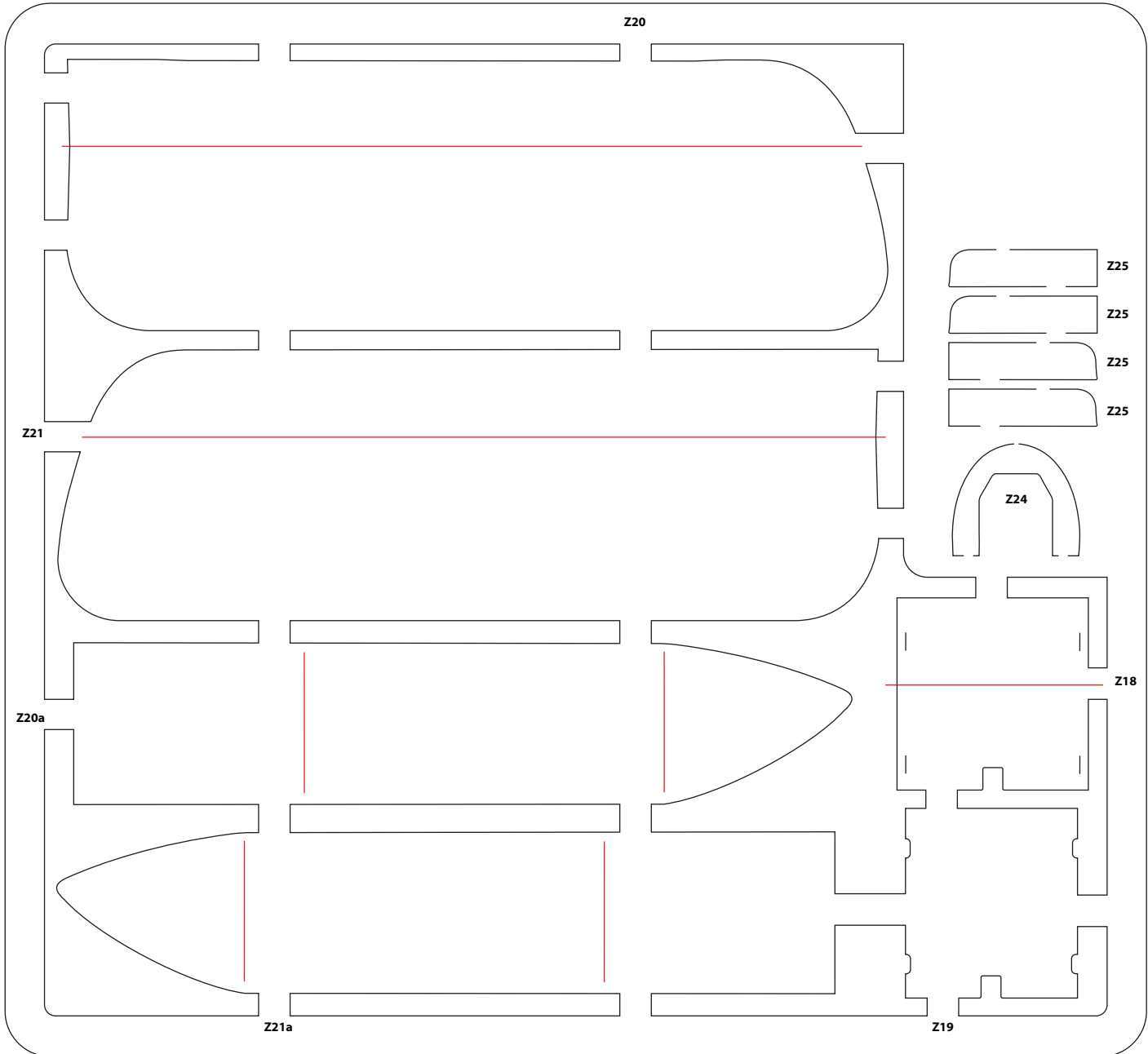
2mm FOAM



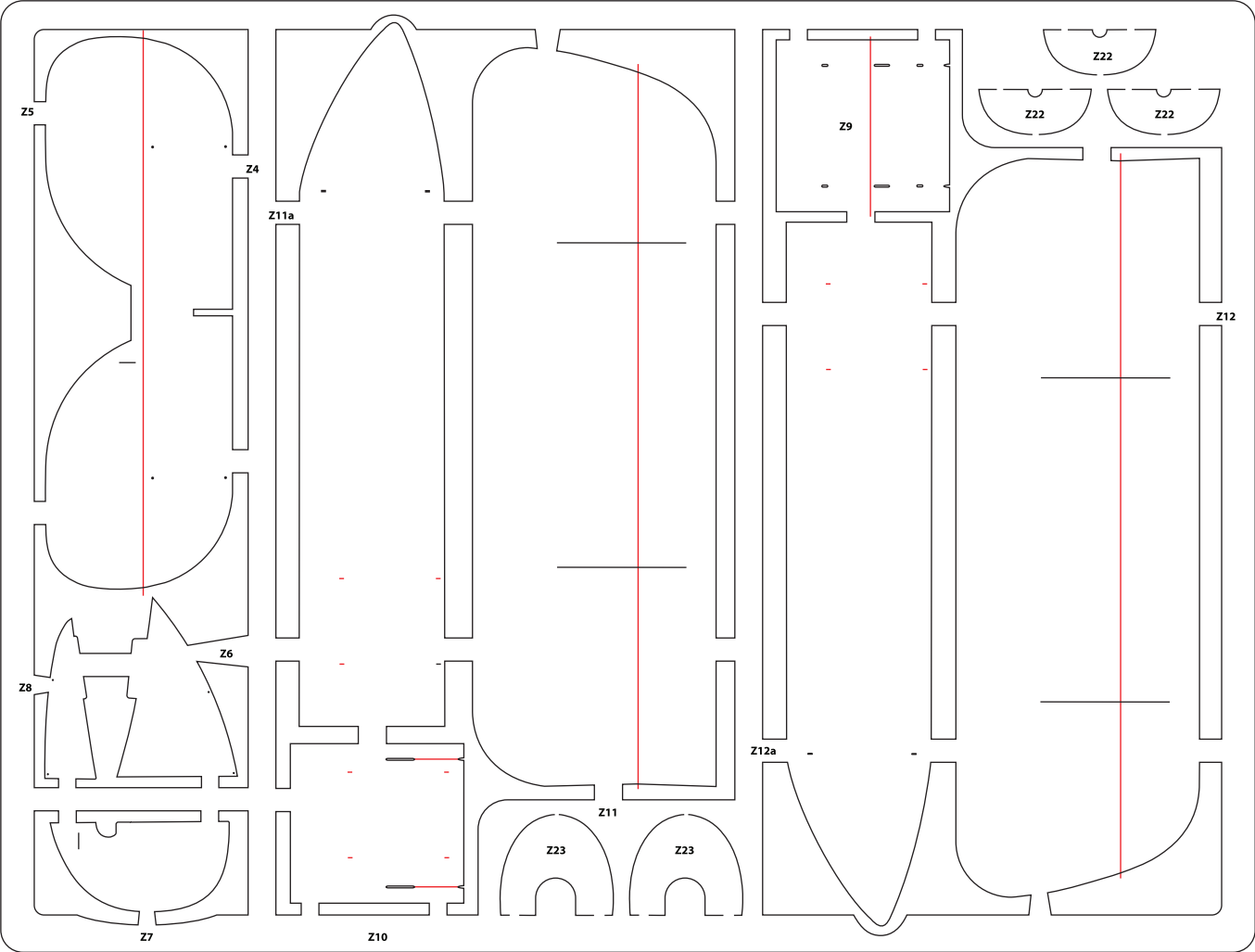
1mm DEPRON FOAM



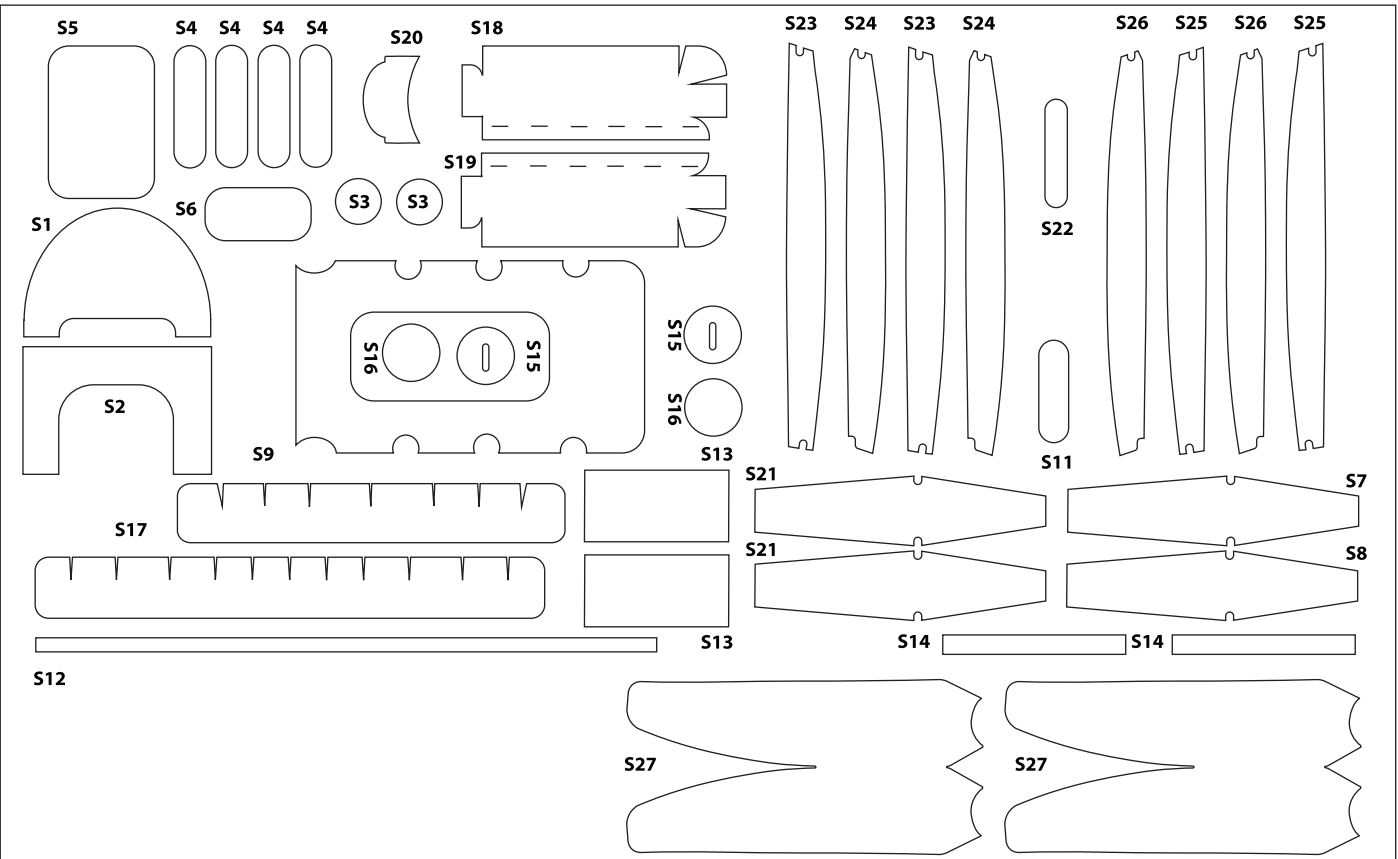
1mm DEPRON FOAM



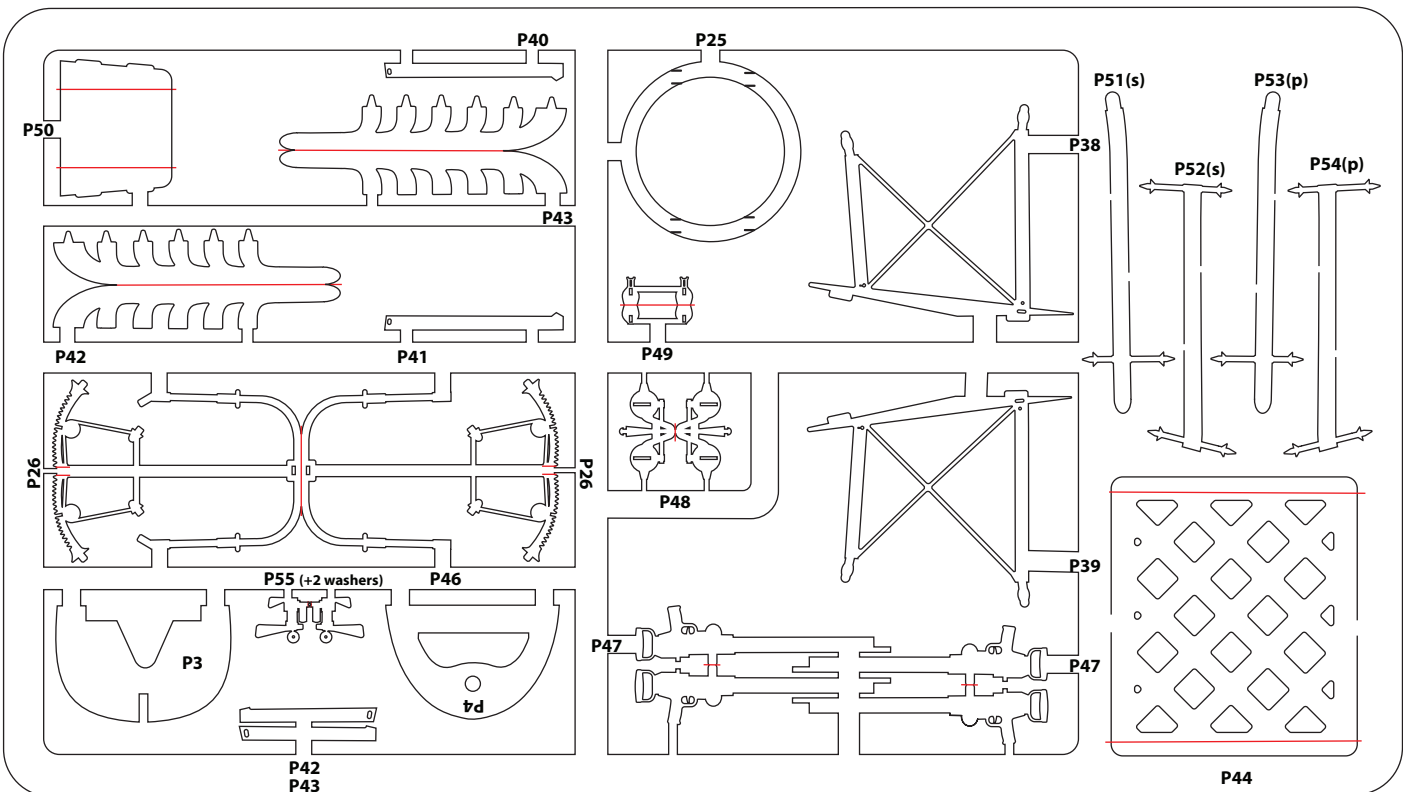
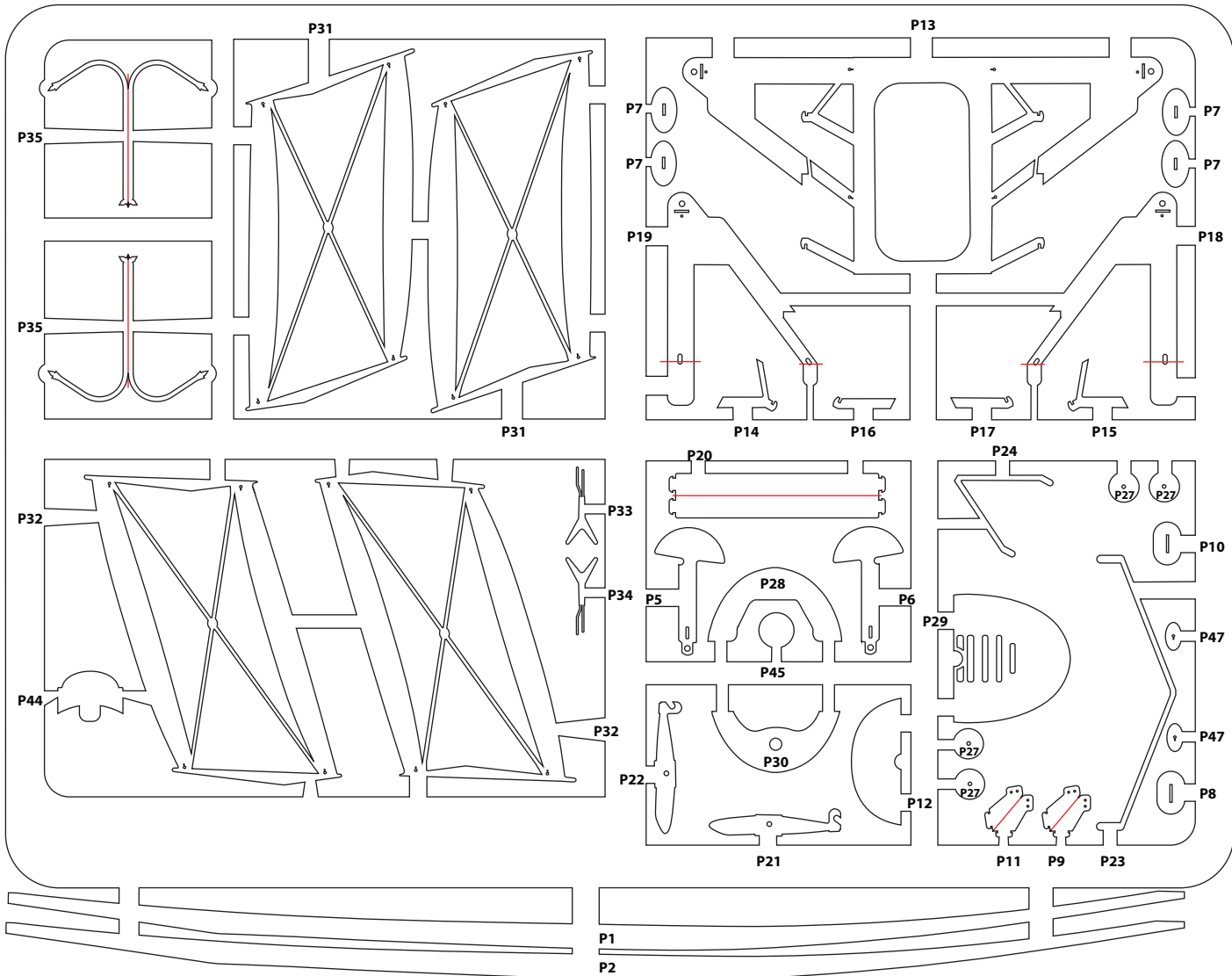
1mm DEPRON FOAM



STICKERS



PLASTIC PARTS



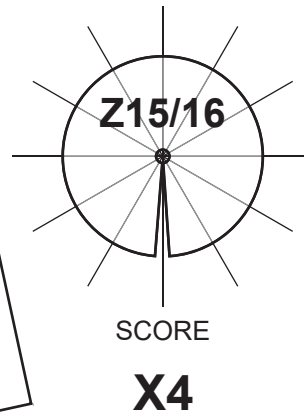
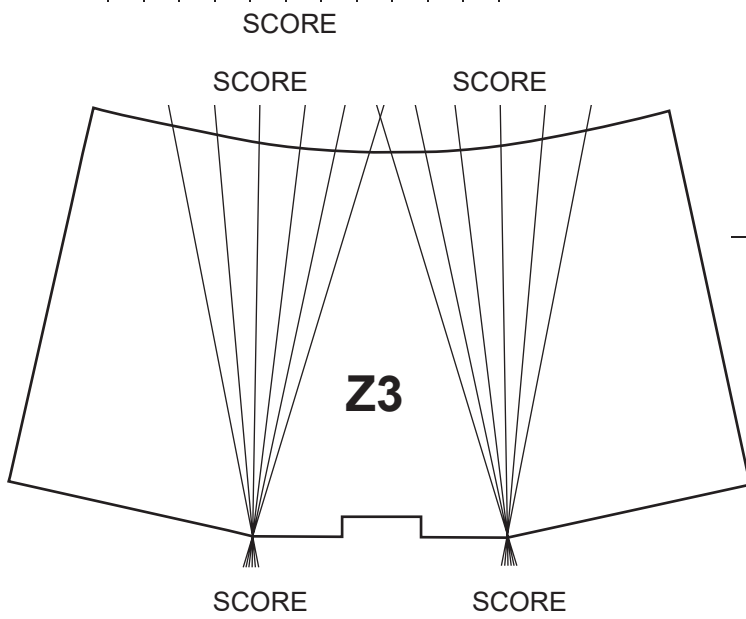
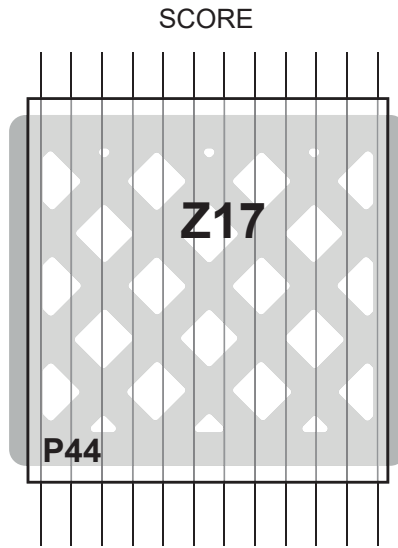
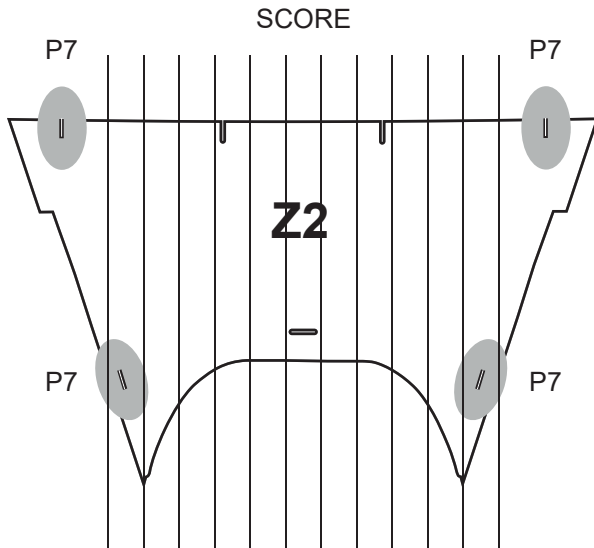
SCORING & BEVELING GUIDE #2

Method for scoring 1mm Depron

Using a straight edge as a guide, score the depron with the **reverse** side of a craft knife or a ball point pen.

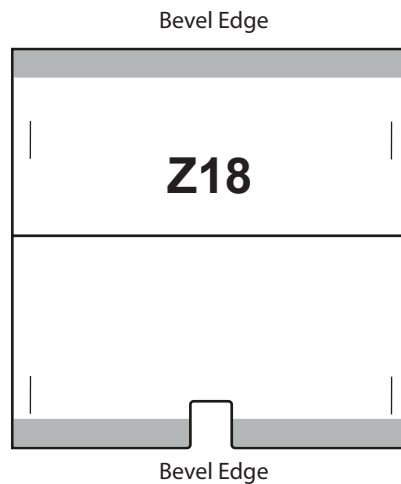
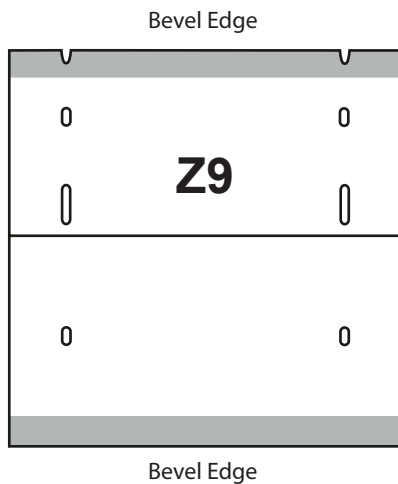
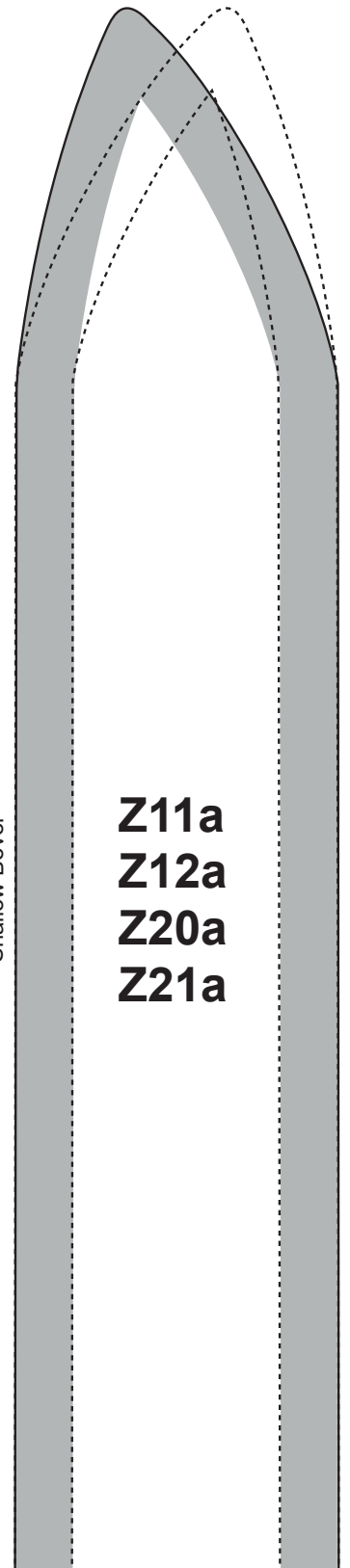
If you haven't used this technique before it is essential that you practice using a scrap or spare piece of 1mm Depron prior to processing any kit components.

! Always score on the UNPRINTED side of the Depron unless otherwise directed



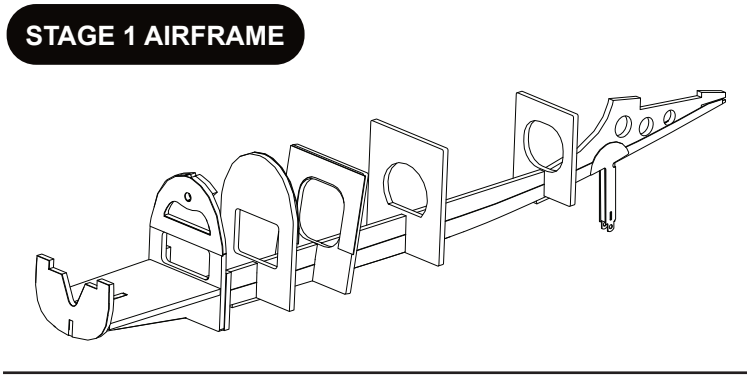
Shallow Bevel

Z11a
Z12a
Z20a
Z21a



Drawn to scale: Print without scaling and use for scoring parts indicated

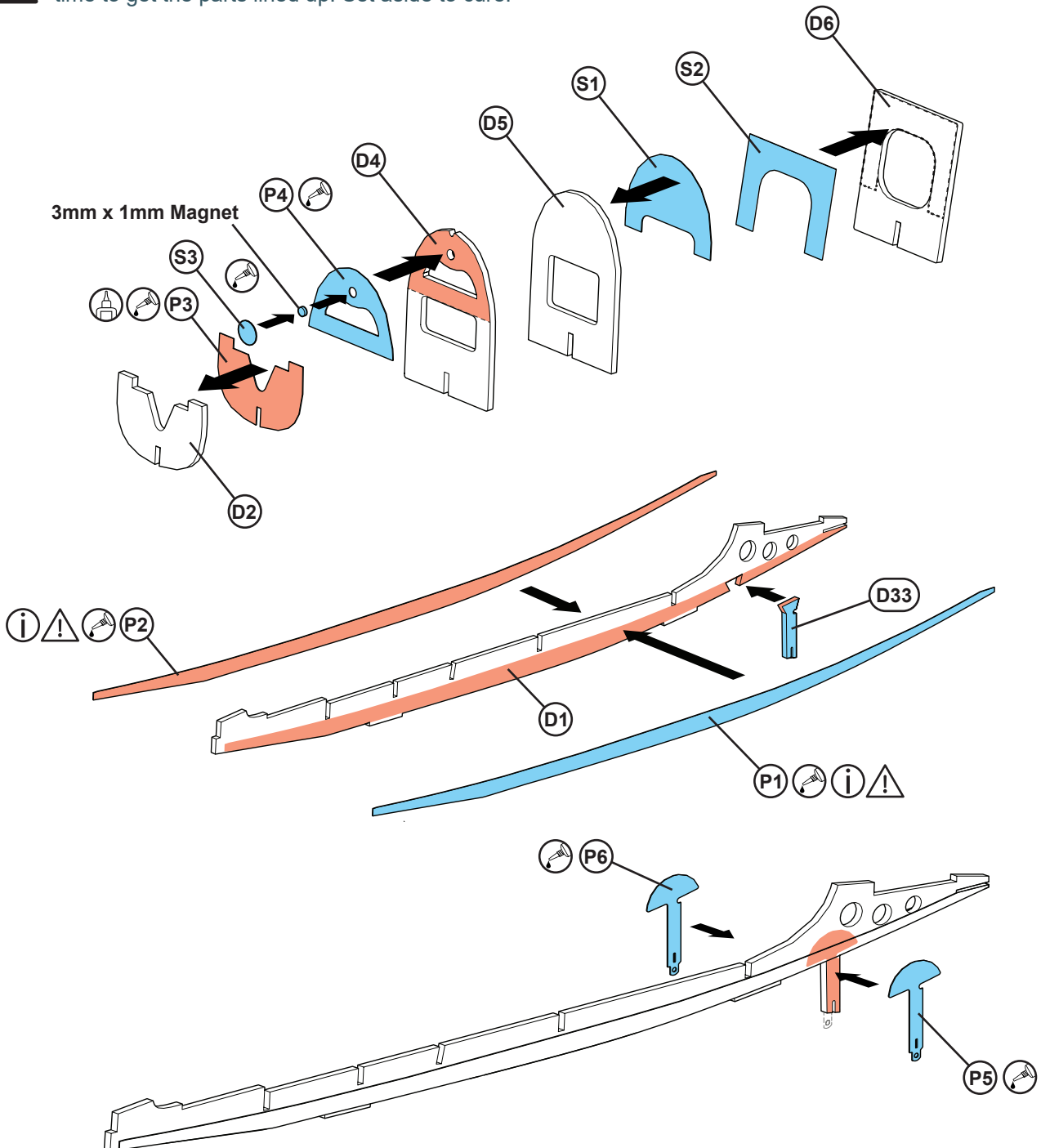
STAGE 1 AIRFRAME



The plastic parts used in the airframe are there to increase the strength of the structure in vital areas whilst still providing some flexibility.

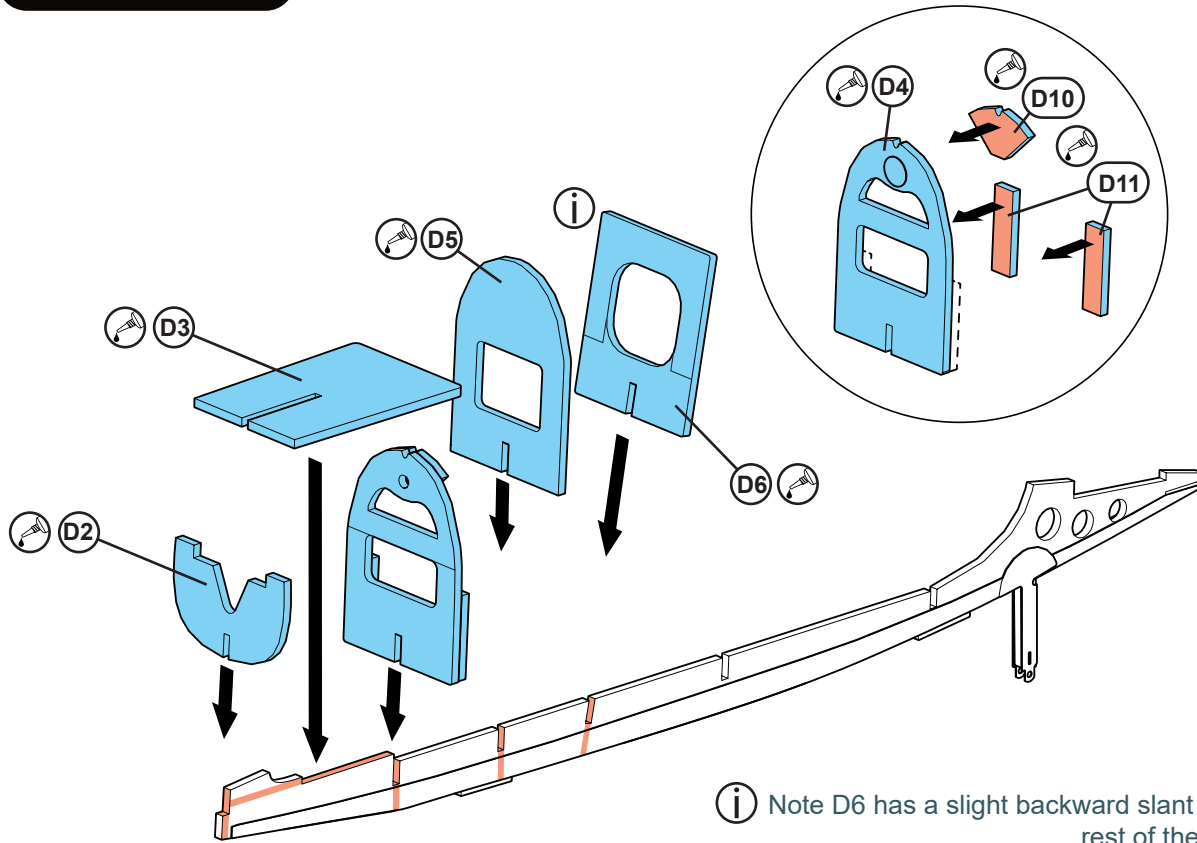


Apply a thin layer of adhesive to the plastic part and attach immediately to allow some wiggle time to get the parts lined up. Set aside to cure.

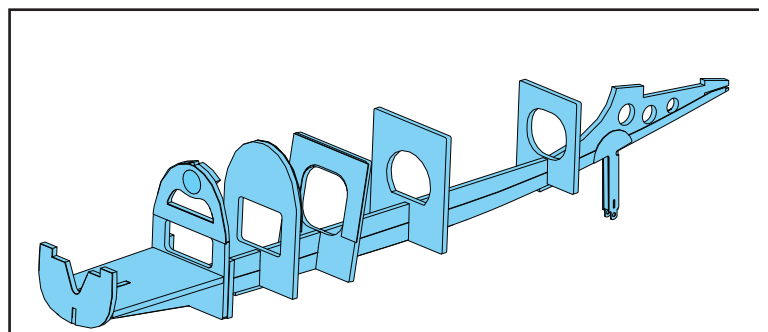
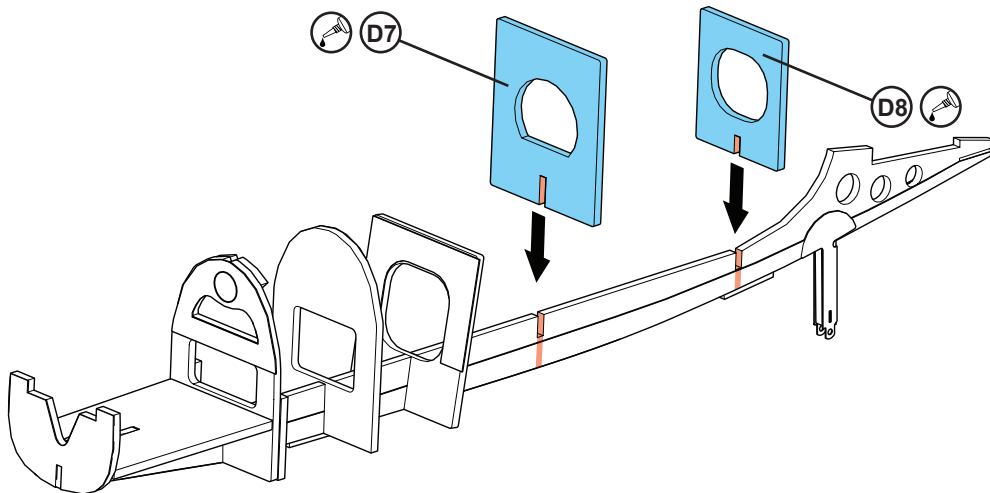


STAGE 1 AIRFRAME

i Note: D4 former assembly



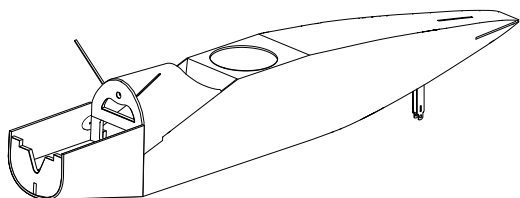
i Note D6 has a slight backward slant compared to the rest of the upright formers.



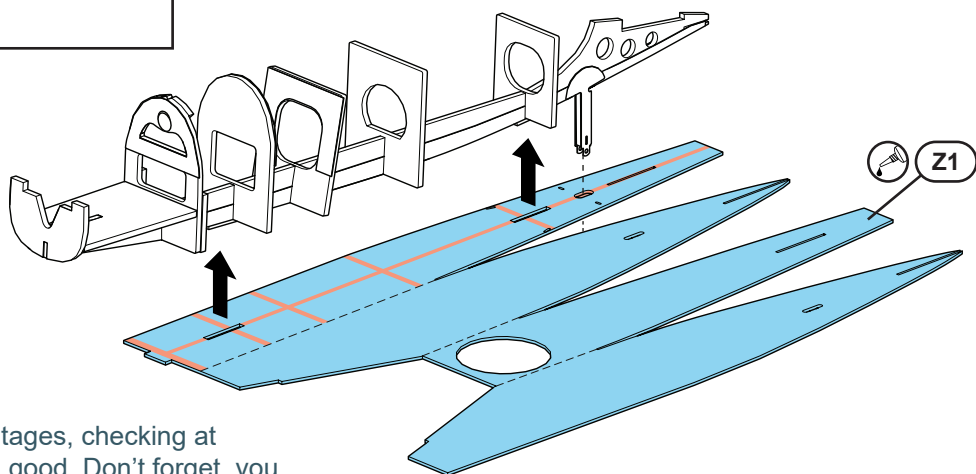
STAGE 2 FUSELAGE



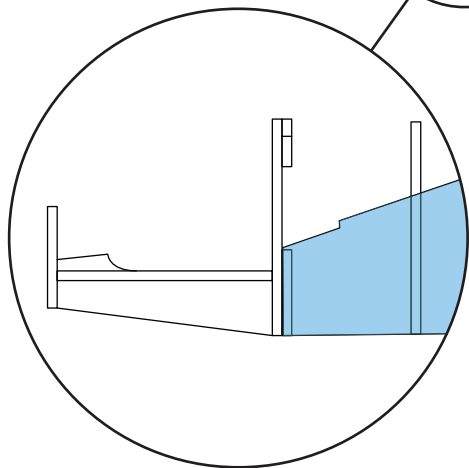
Bevel & Score before installation -
See Scoring & Beveling guide #1



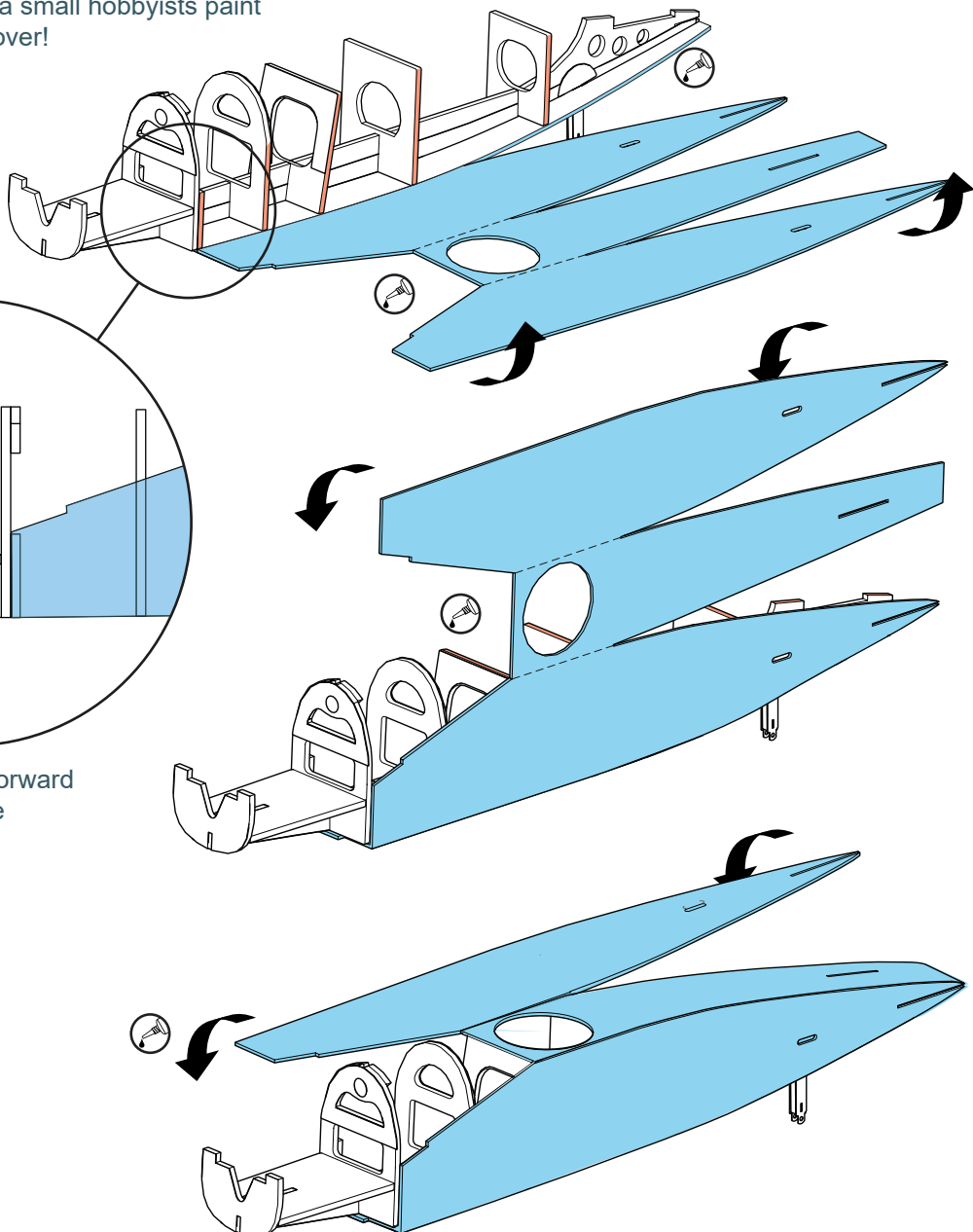
Dry fitting before gluing



Attach the fuselage skin in stages, checking at each stage that alignment is good. Don't forget, you can always dissolve UHU glue with naphtha (lighter fluid) applied to joints with a small hobbyists paint brush if you want to start over!

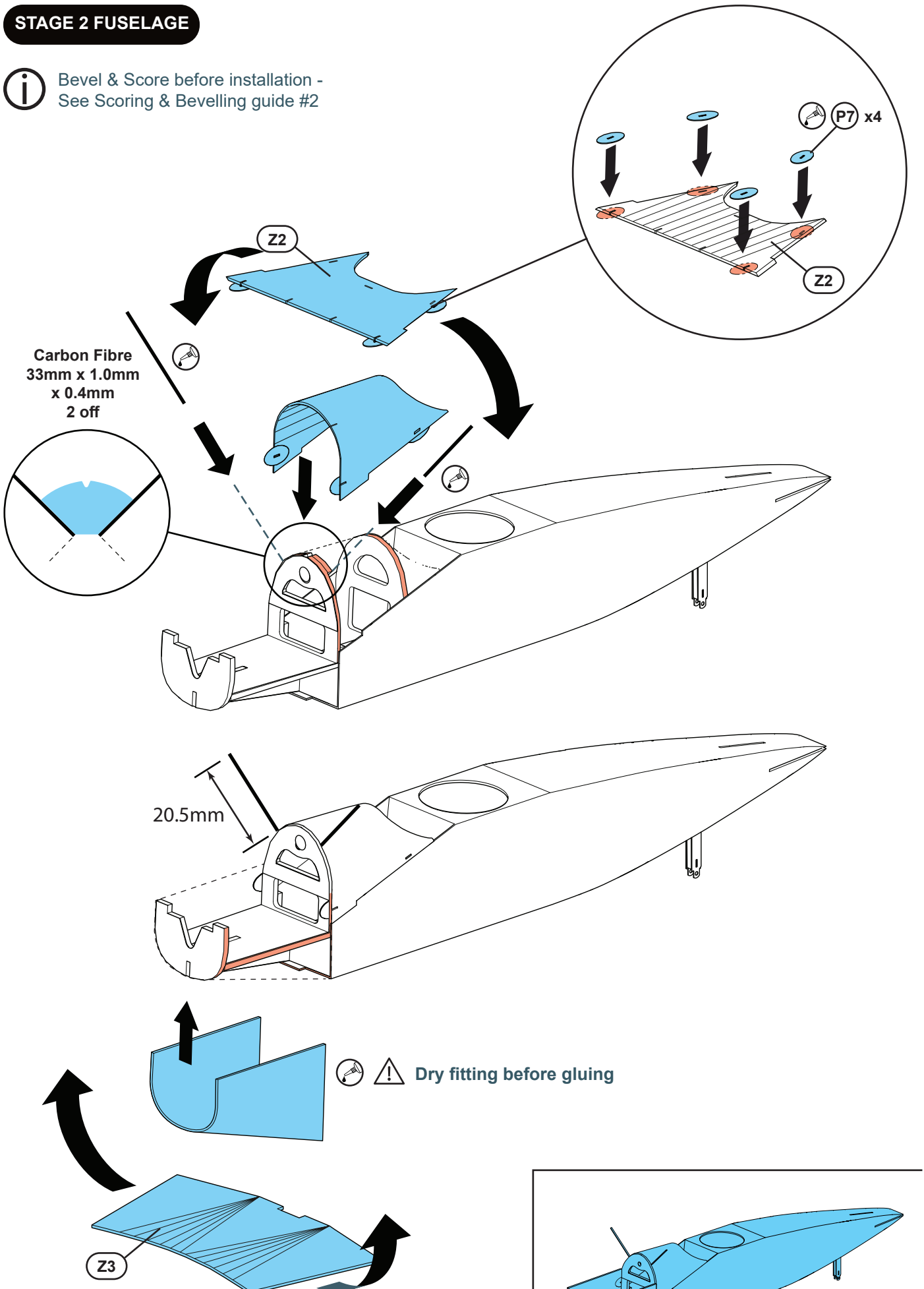


Note position of forward edge Z1 on frame



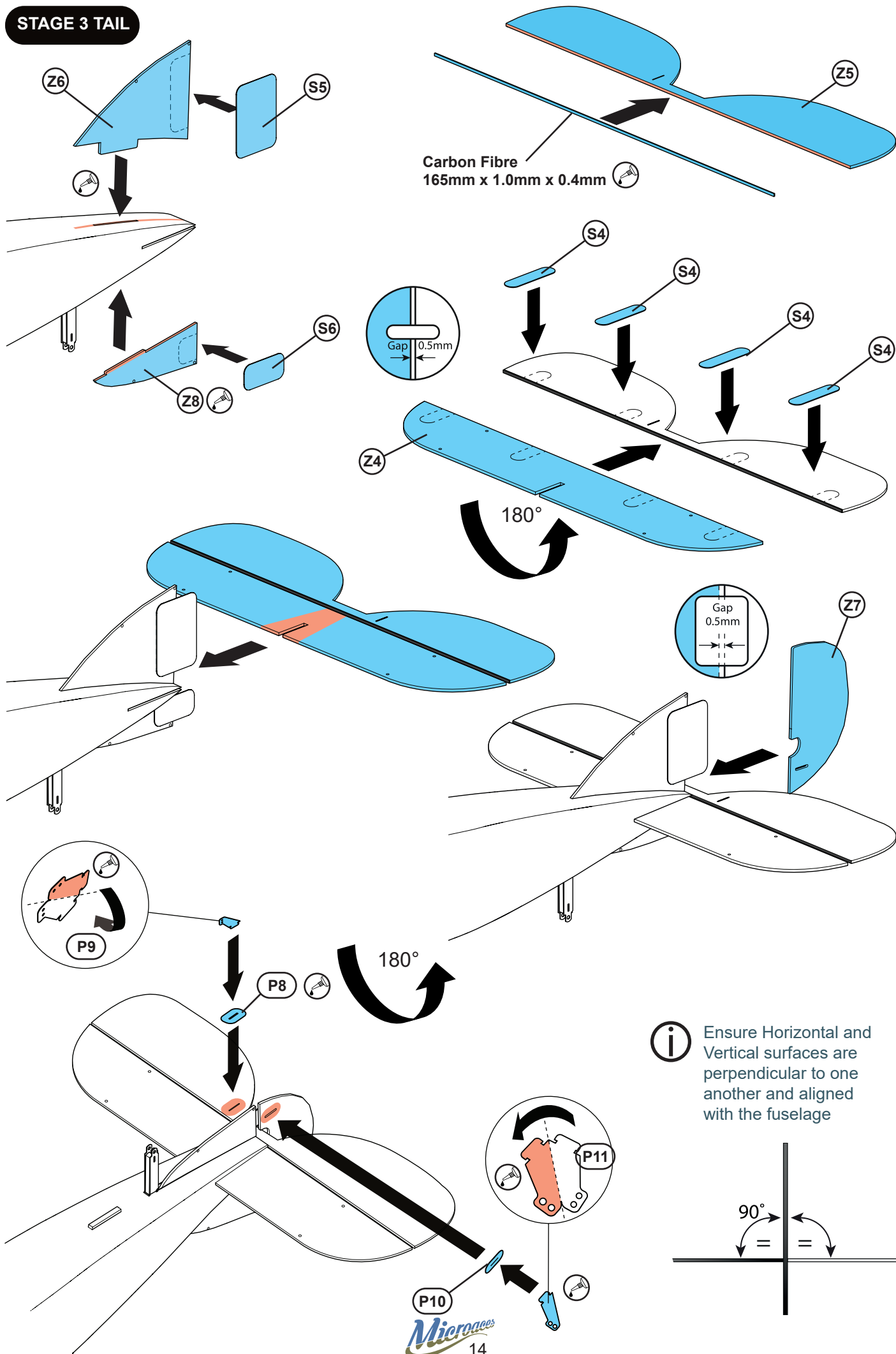
STAGE 2 FUSELAGE

i Bevel & Score before installation -
See Scoring & Bevelling guide #2



i Bevel & Score before installation -
See Scoring & Bevelling guide #2

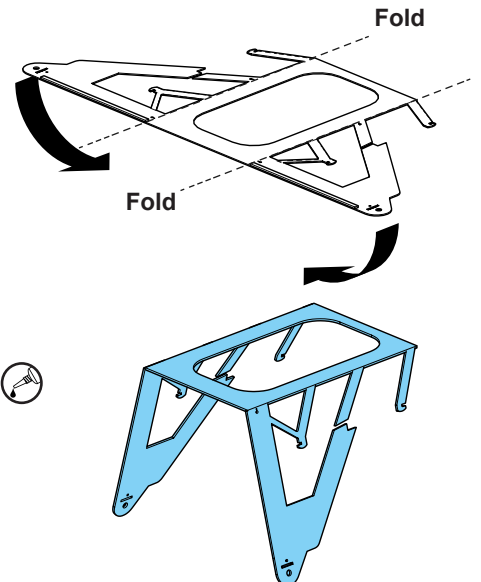
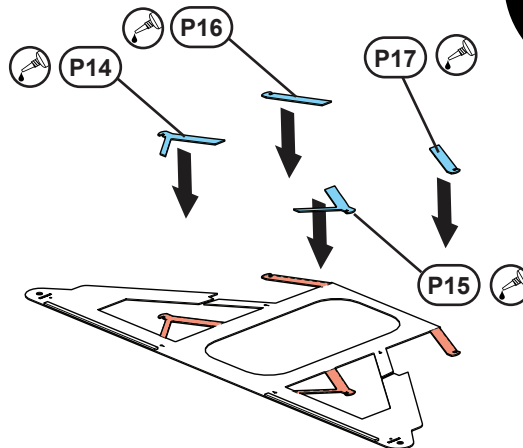
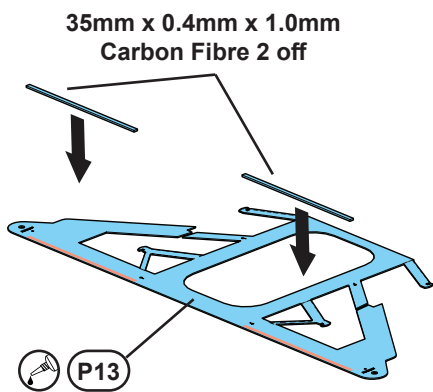
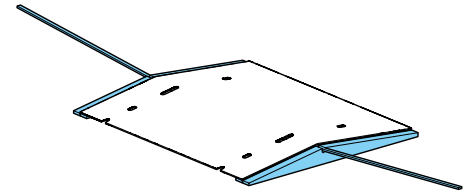
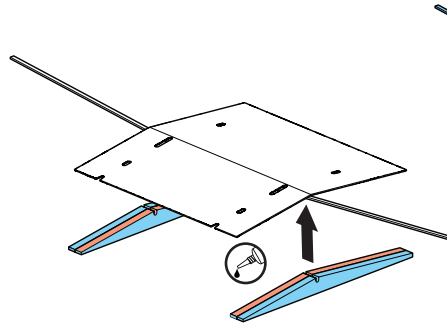
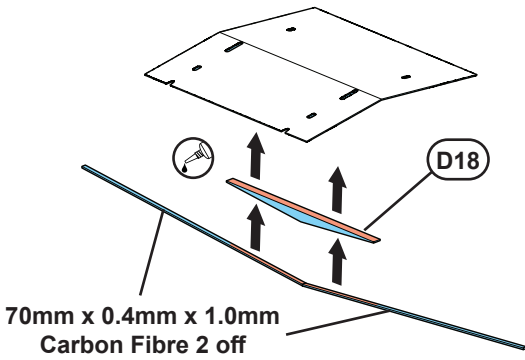
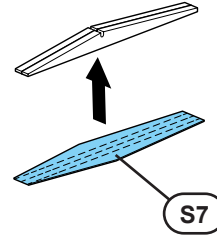
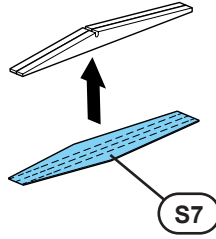
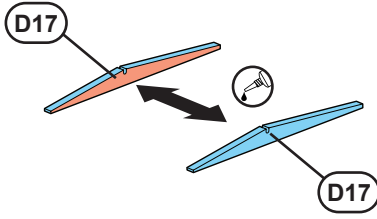
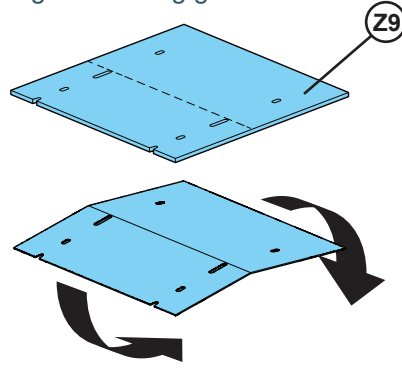
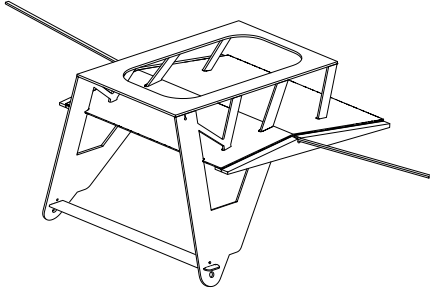
STAGE 3 TAIL



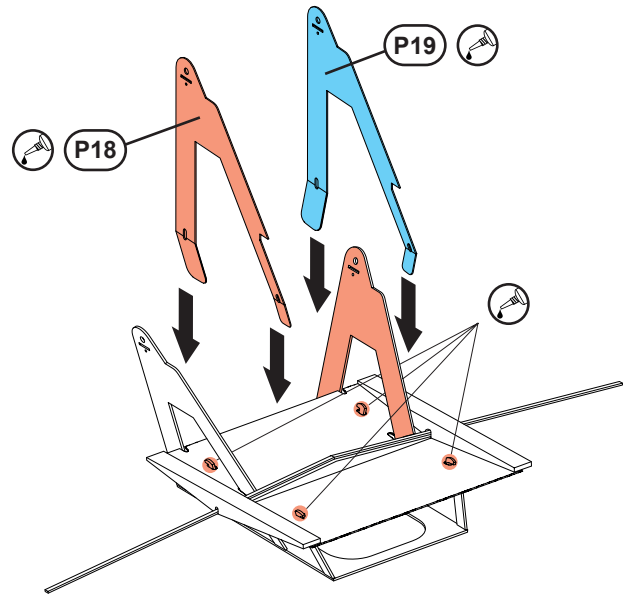
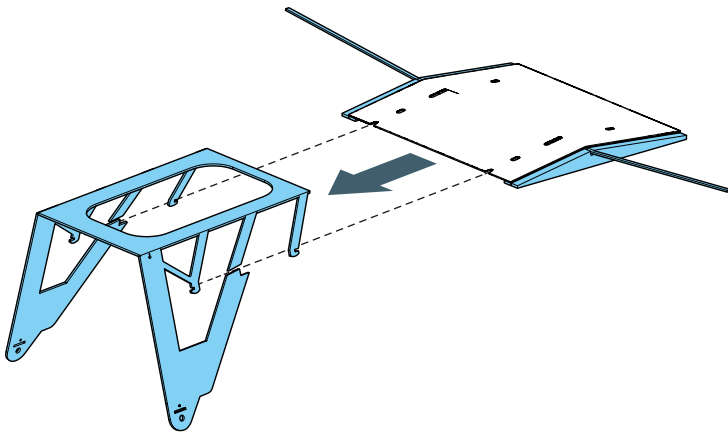
STAGE 4 UNDERCARRIAGE



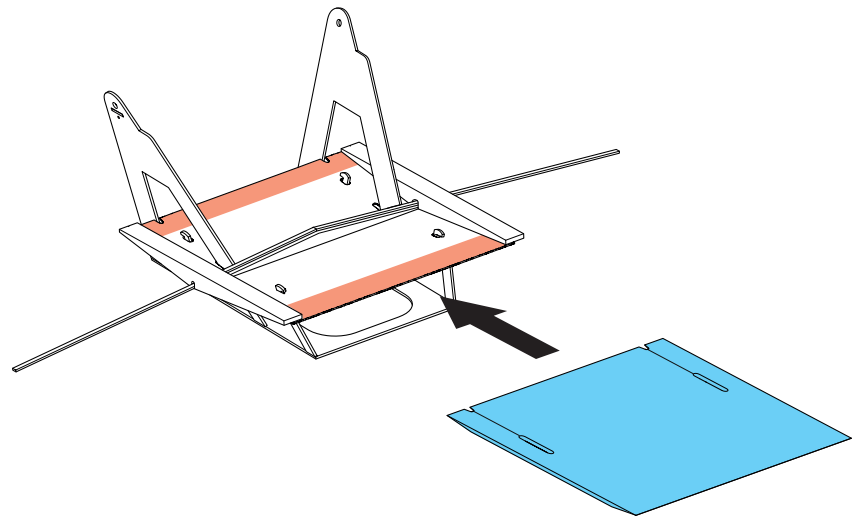
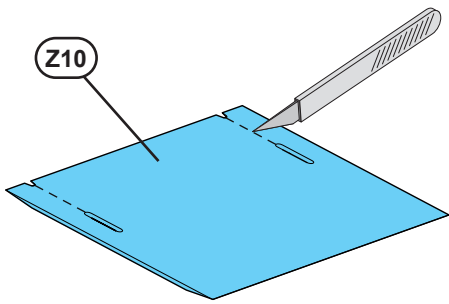
Bevel & Score before installation -
See Scoring & Beveling guide #2



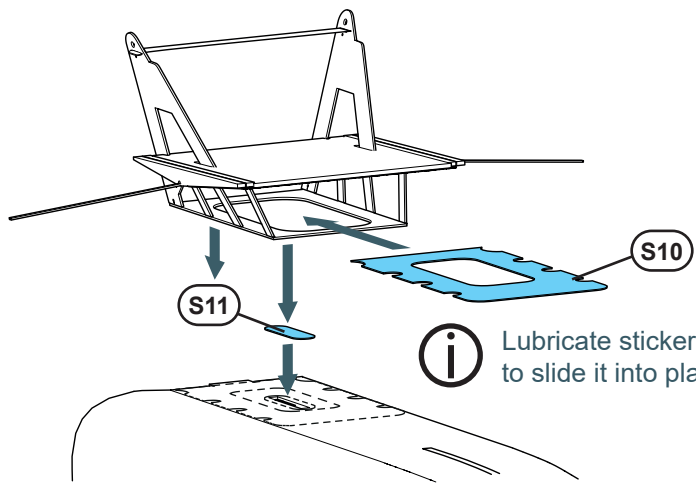
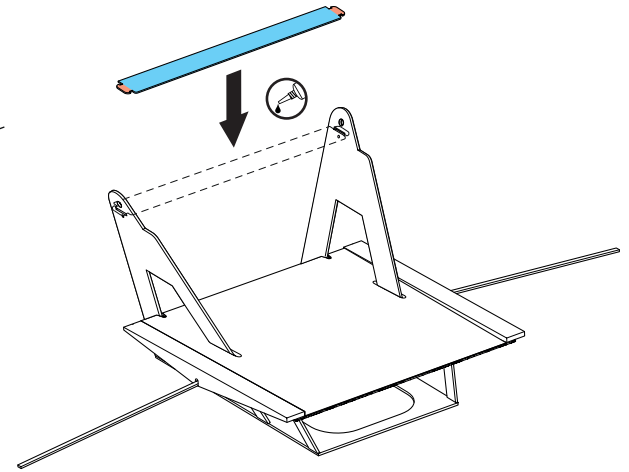
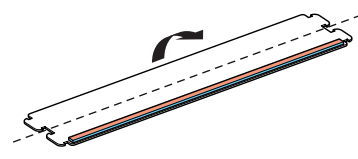
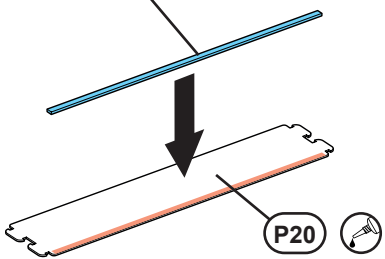
STAGE 4 UNDERCARRIAGE



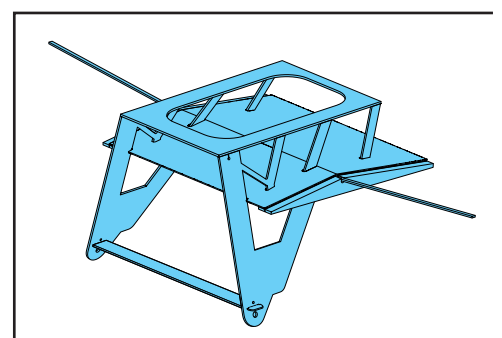
i Bevel & Score before installation - See Scoring & Beveling guide #2



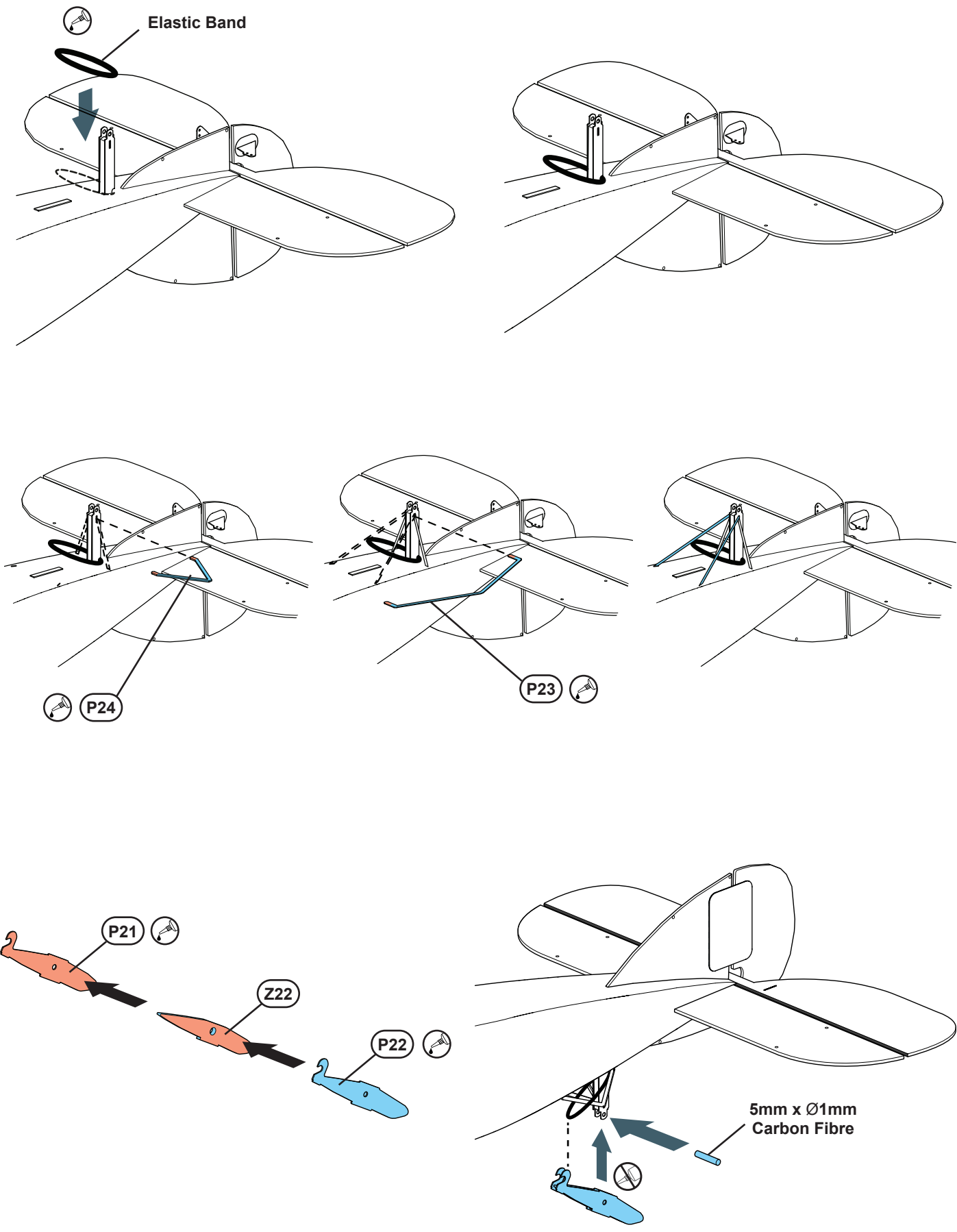
47mm x 0.4mm x 1.0mm Carbon Fibre



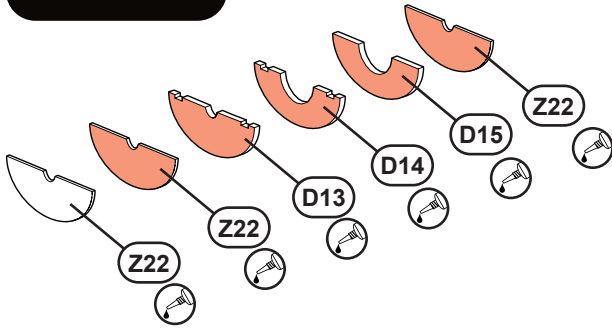
i Lubricate sticker with soapy water to slide it into place.



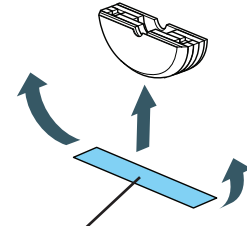
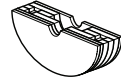
STAGE 4 UNDERCARRIAGE



STAGE 5 CHIN

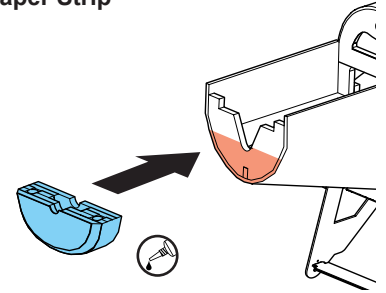
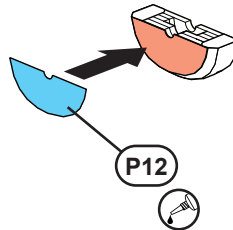
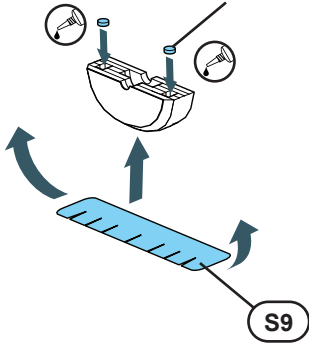


8mm x 50mm



Paper Strip

3mm Ø x 1mm Magnets x 2

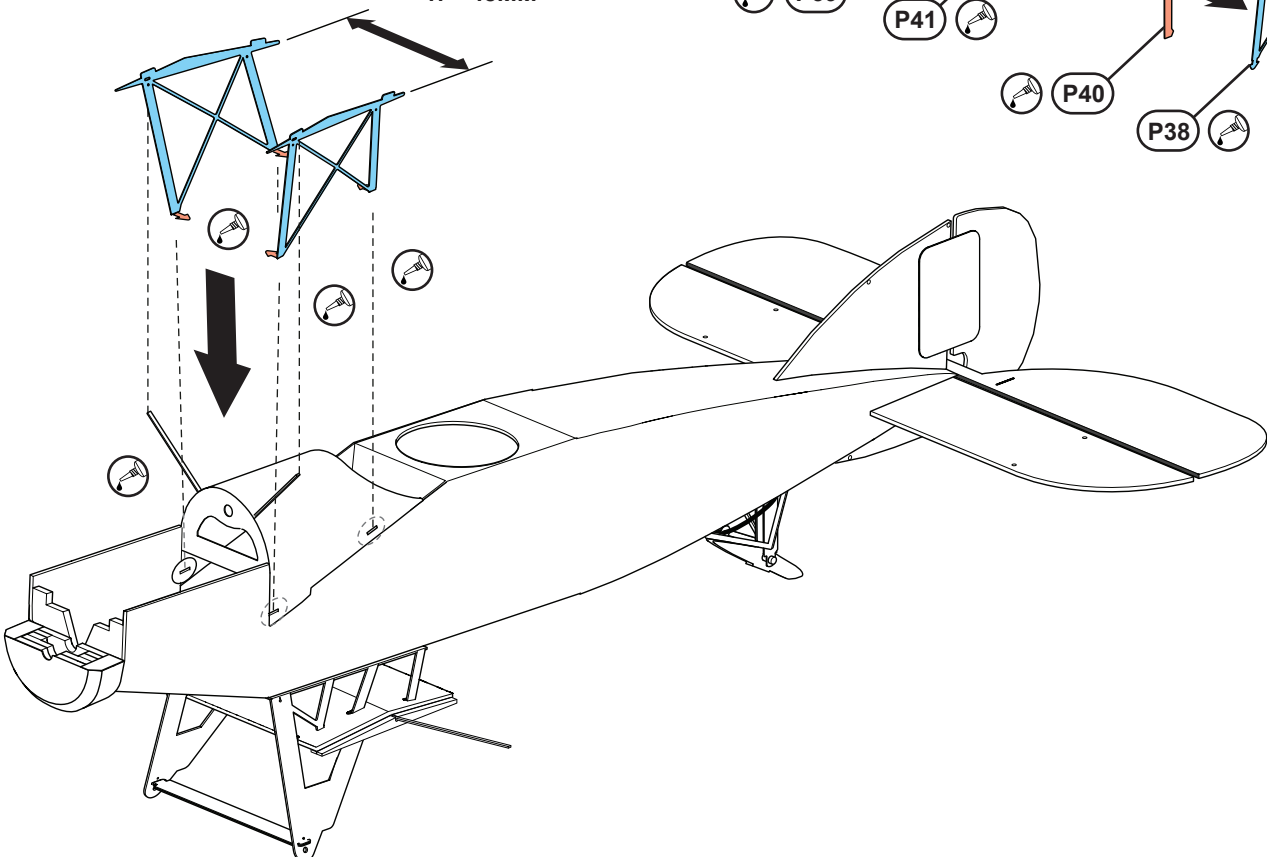
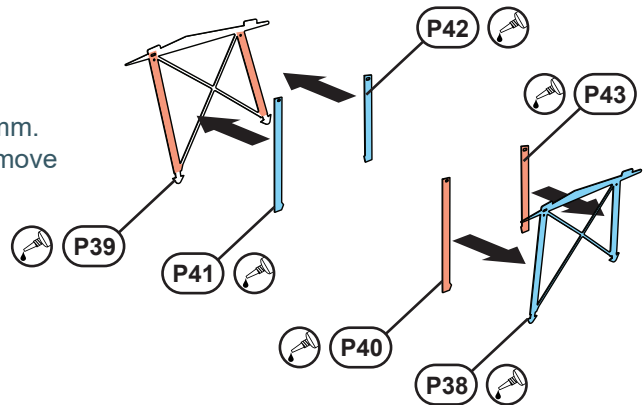


STAGE 6 CABANE STRUTS

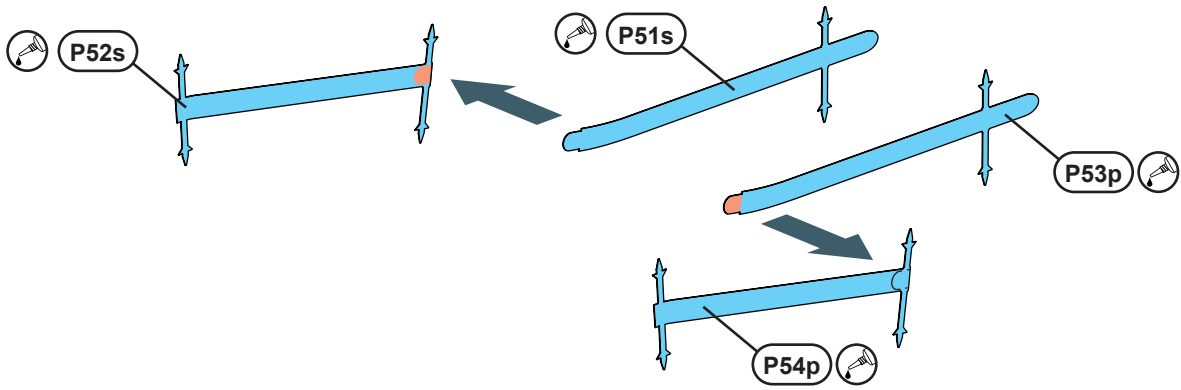


Slot the carbon fibre supports into the holes provided in the top of the cabane struts. Measure the distance between the top of the two struts and adjust to 47-48mm. If excess carbon fibre protrudes through the struts, remove once glue is dry and prior to upper wing installation.

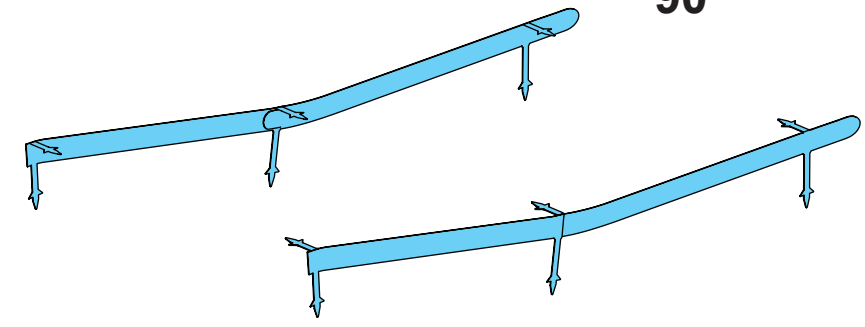
47 - 48MM



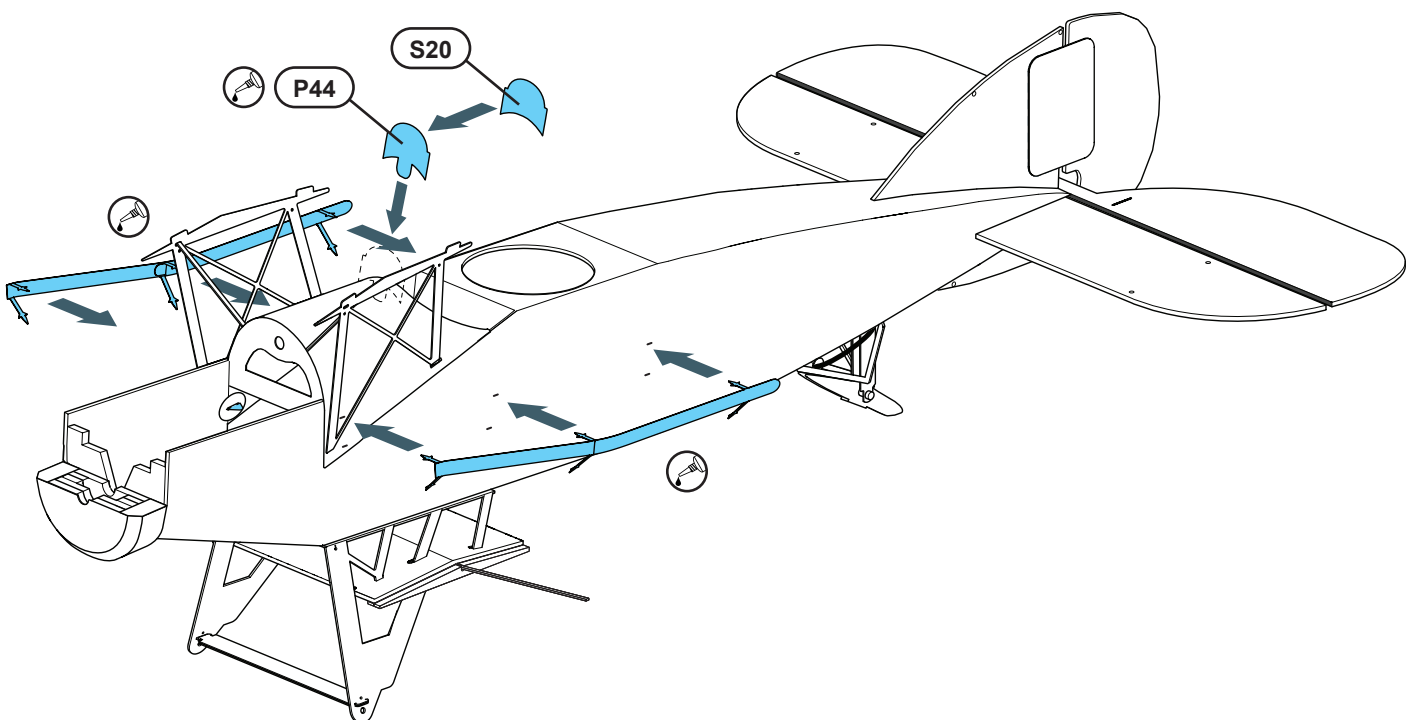
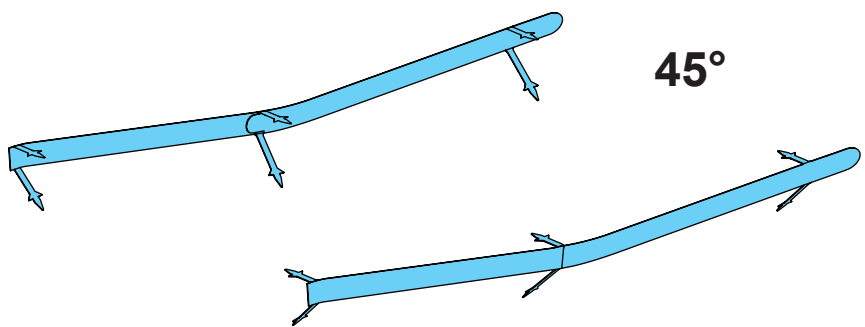
STAGE 7 EXHAUST EXTENSION



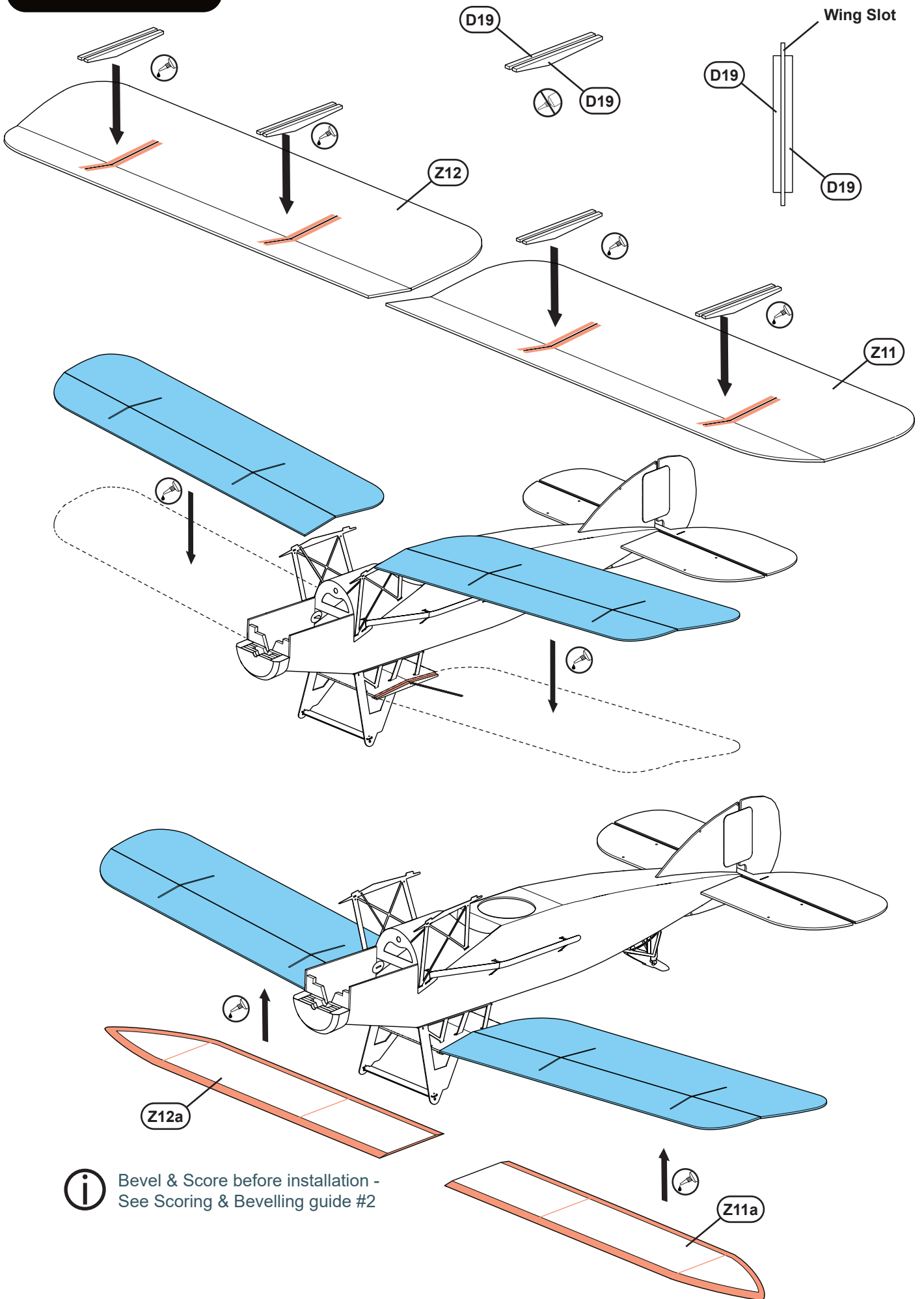
90°



45°



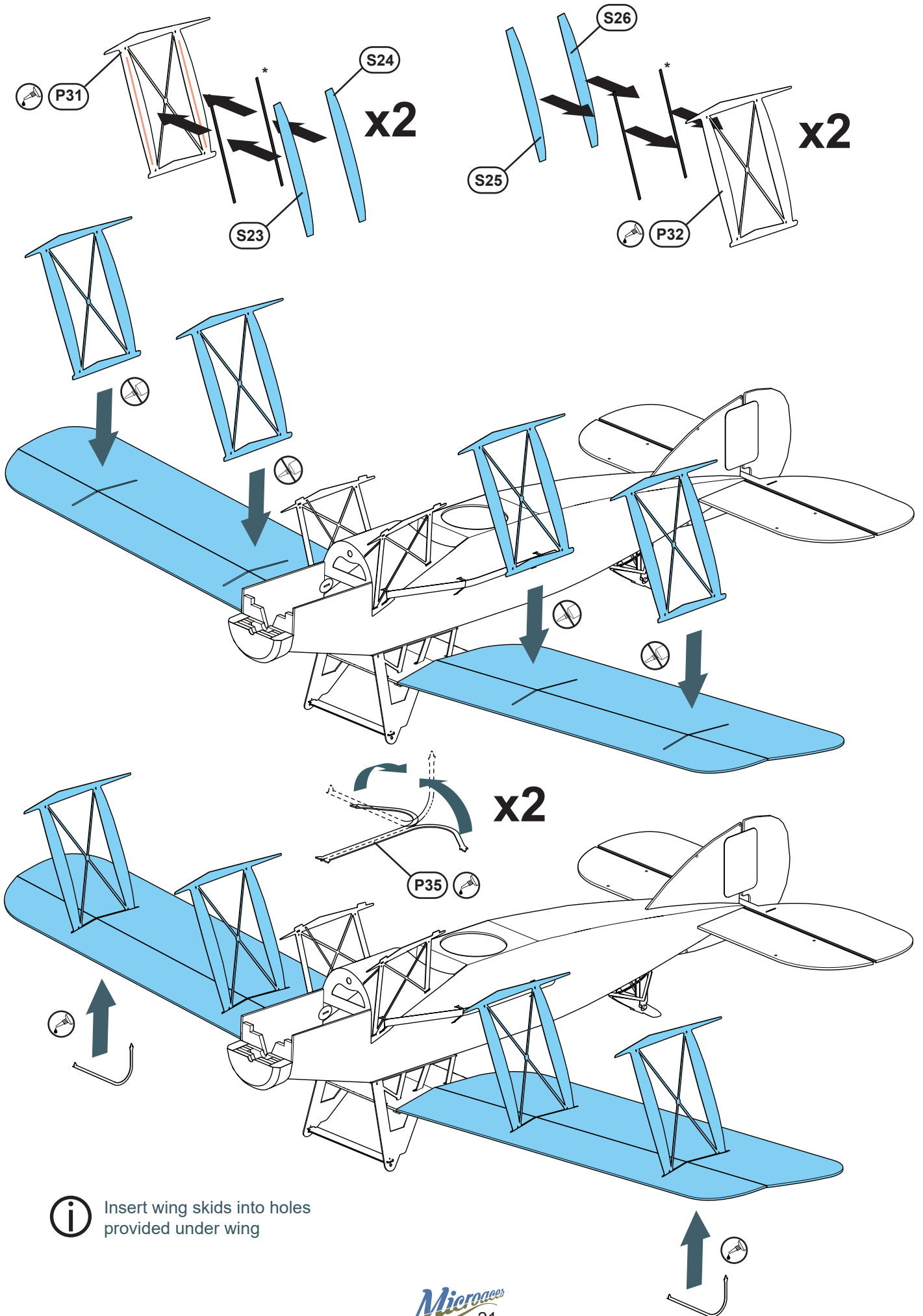
STAGE 8 LOWER WING



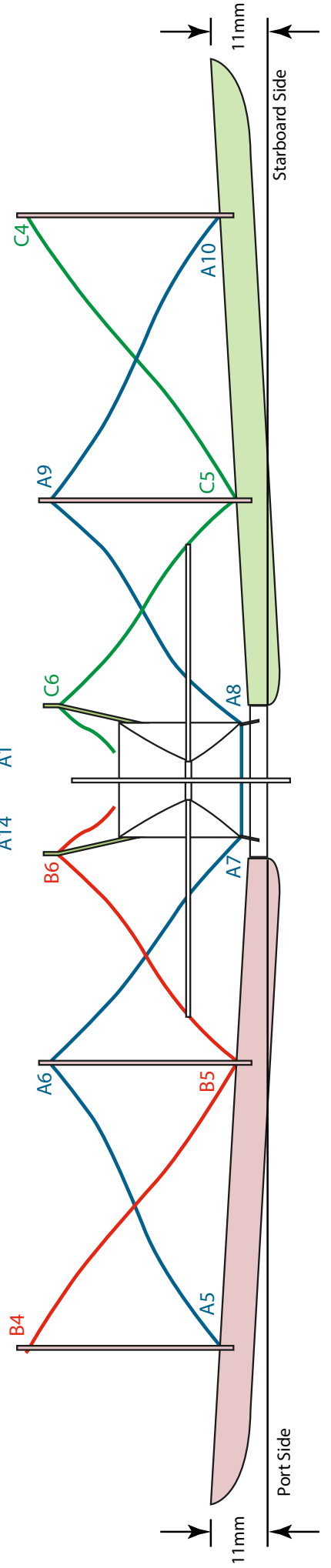
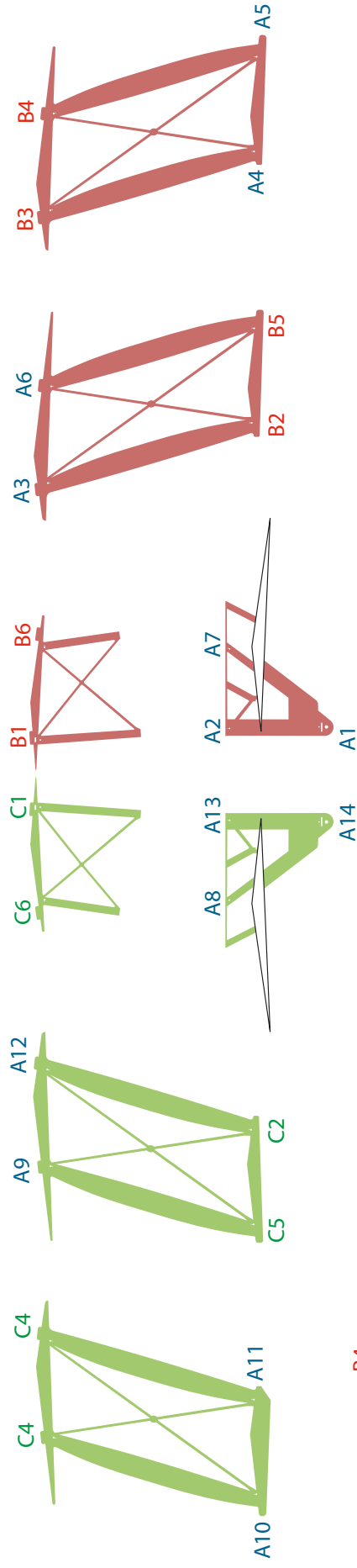
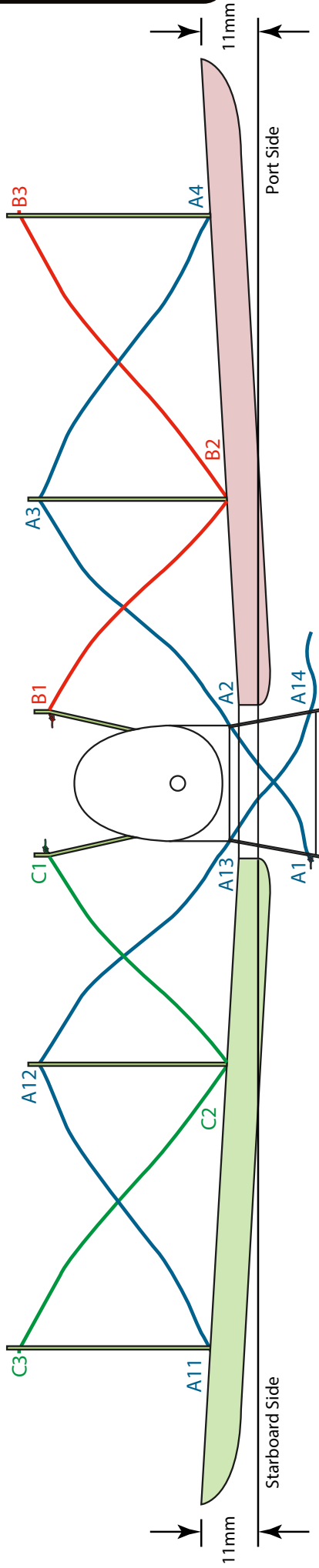
i Bevel & Score before installation - See Scoring & Beveling guide #2

STAGE 9 INTERPLANE STRUTS

* Carbon Fibre
60mm x 1.0mm x 0.4mm 8off



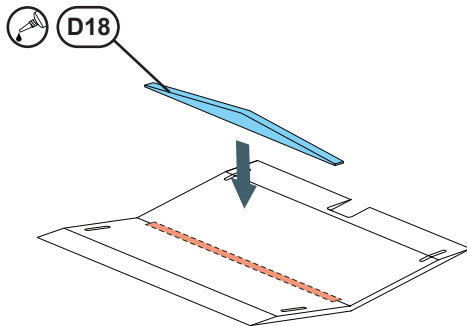
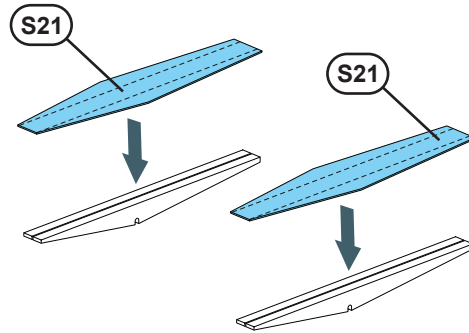
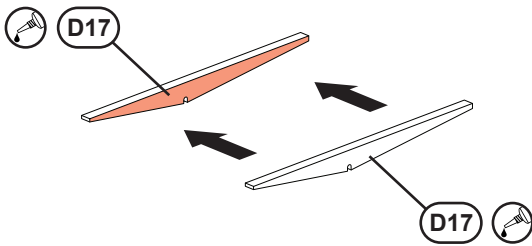
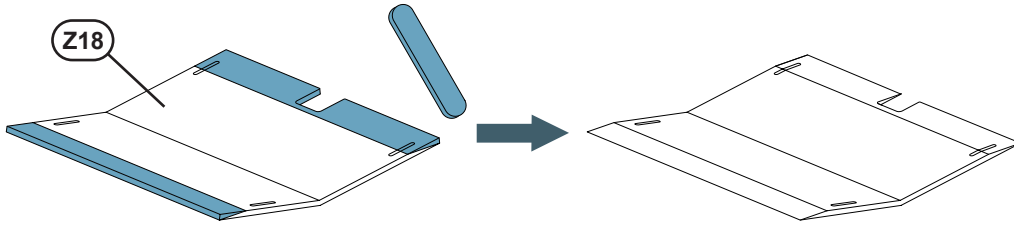
STAGE 10 PRE-RIGGING



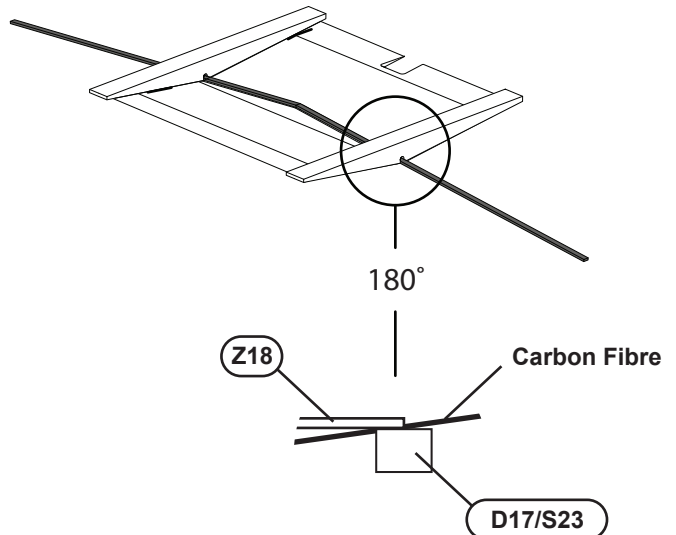
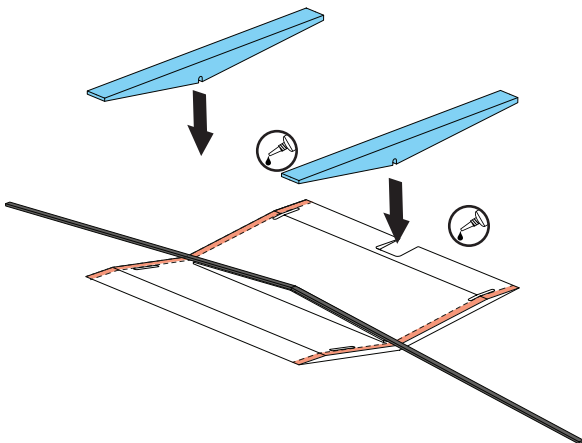
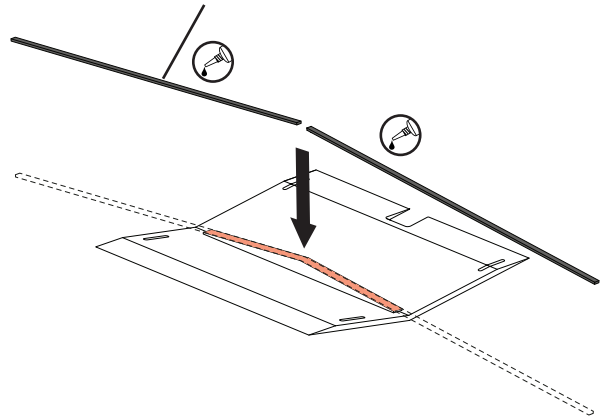
STAGE 11 UPPER WING



Bevel & Score before installation -
See Scoring & Beveling guide #2



* Carbon Fibre
70mm x 1.0mm x 0.4mm 2off

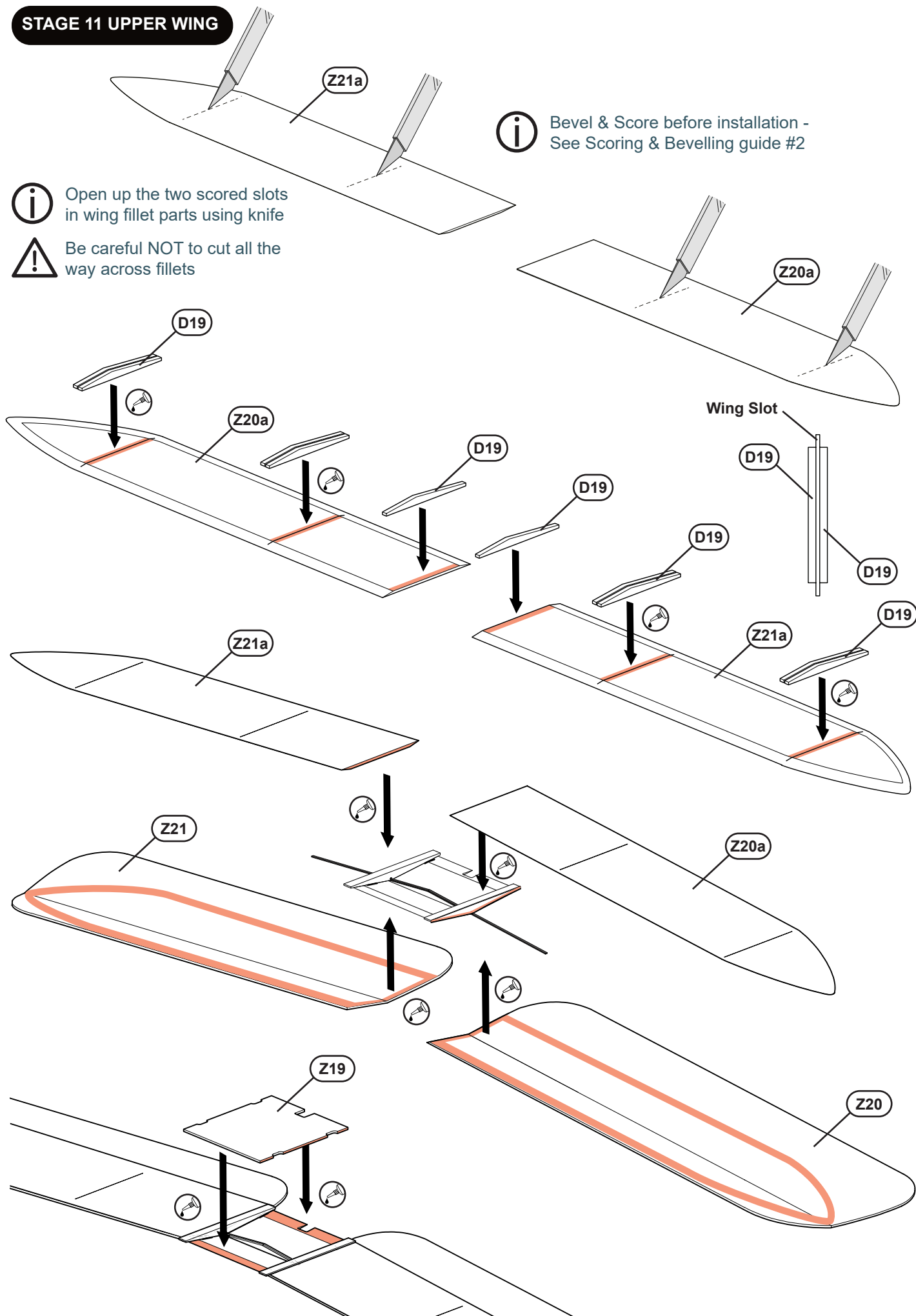


STAGE 11 UPPER WING

i Bevel & Score before installation - See Scoring & Bevelling guide #2

i Open up the two scored slots in wing fillet parts using knife

! Be careful NOT to cut all the way across fillets



STAGE 11 UPPER WING

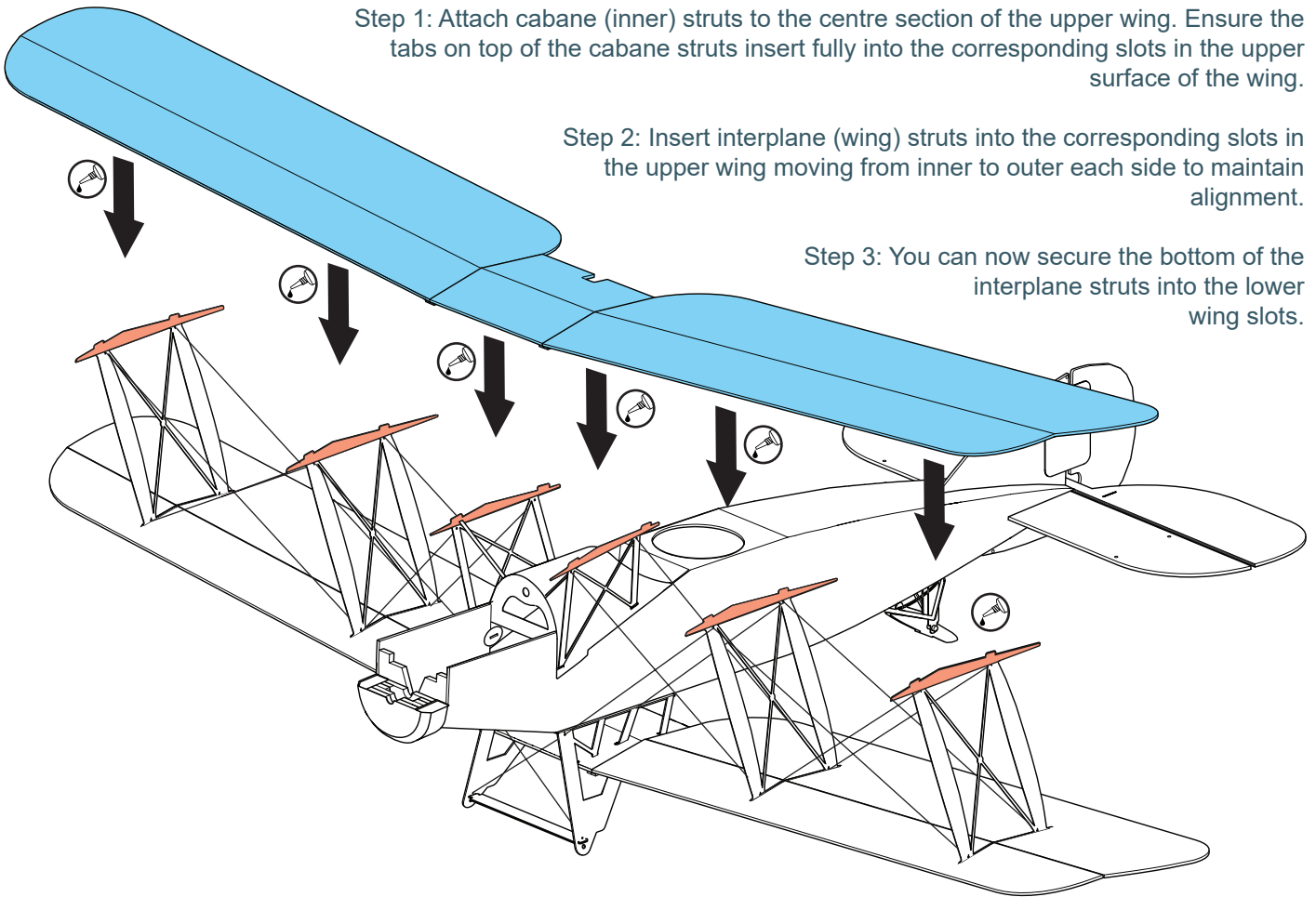
Mounting the Wing

A dry run without glue is recommended to familiarise yourself with the process.

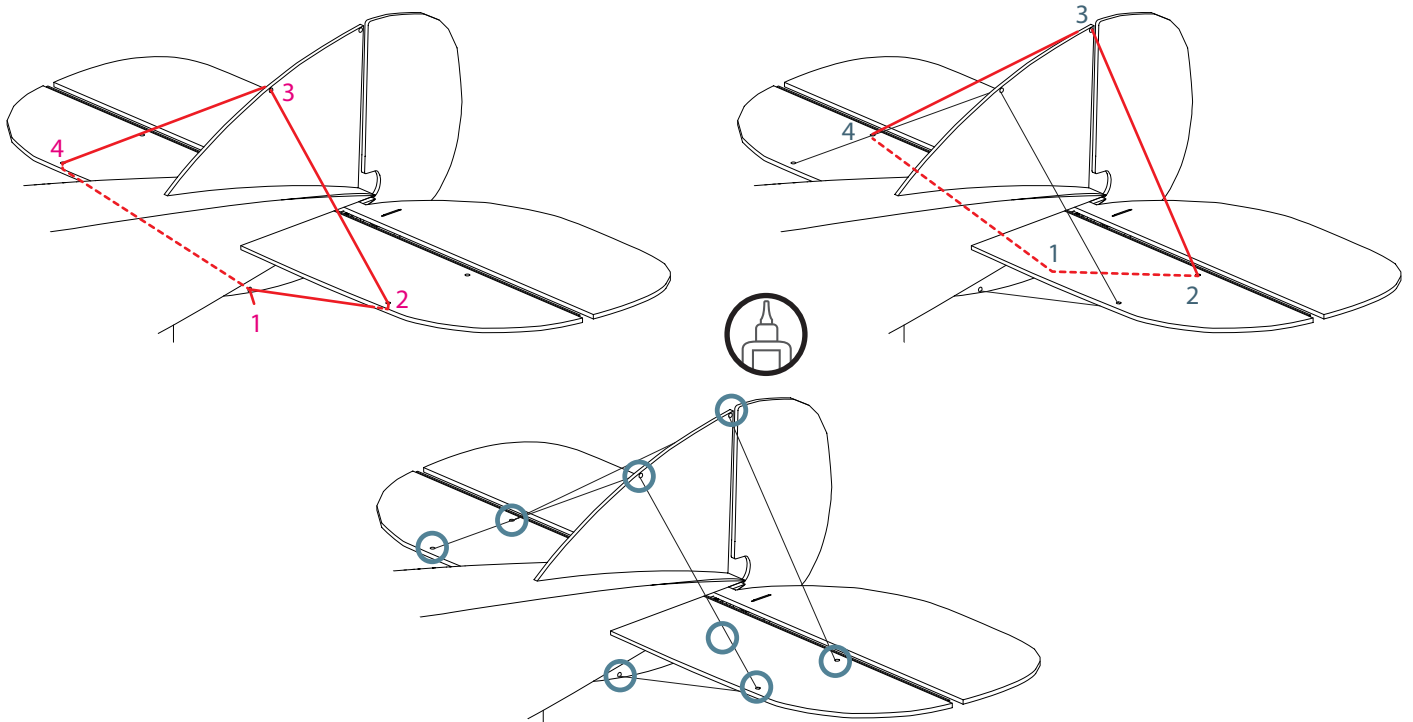
Step 1: Attach cabane (inner) struts to the centre section of the upper wing. Ensure the tabs on top of the cabane struts insert fully into the corresponding slots in the upper surface of the wing.

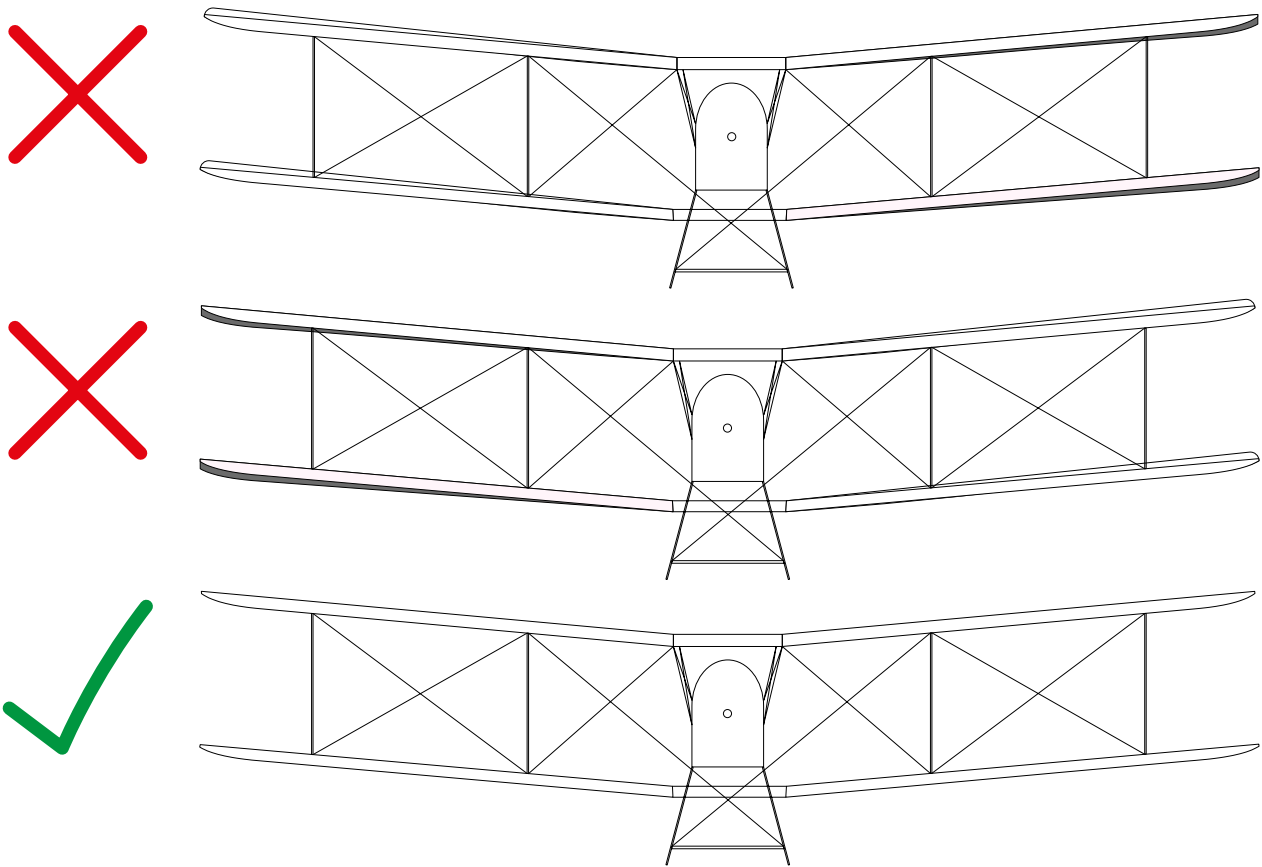
Step 2: Insert interplane (wing) struts into the corresponding slots in the upper wing moving from inner to outer each side to maintain alignment.

Step 3: You can now secure the bottom of the interplane struts into the lower wing slots.



STAGE 12 RIGGING - TAIL



FRONT VIEW**Ensure correct alignment when tensioning the rigging**

The rigging on the Bristol is functional. It strengthens and stabilises the wings to provide predictable flight characteristics so is important to get right!

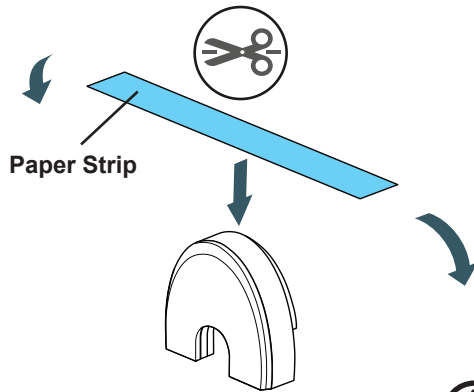
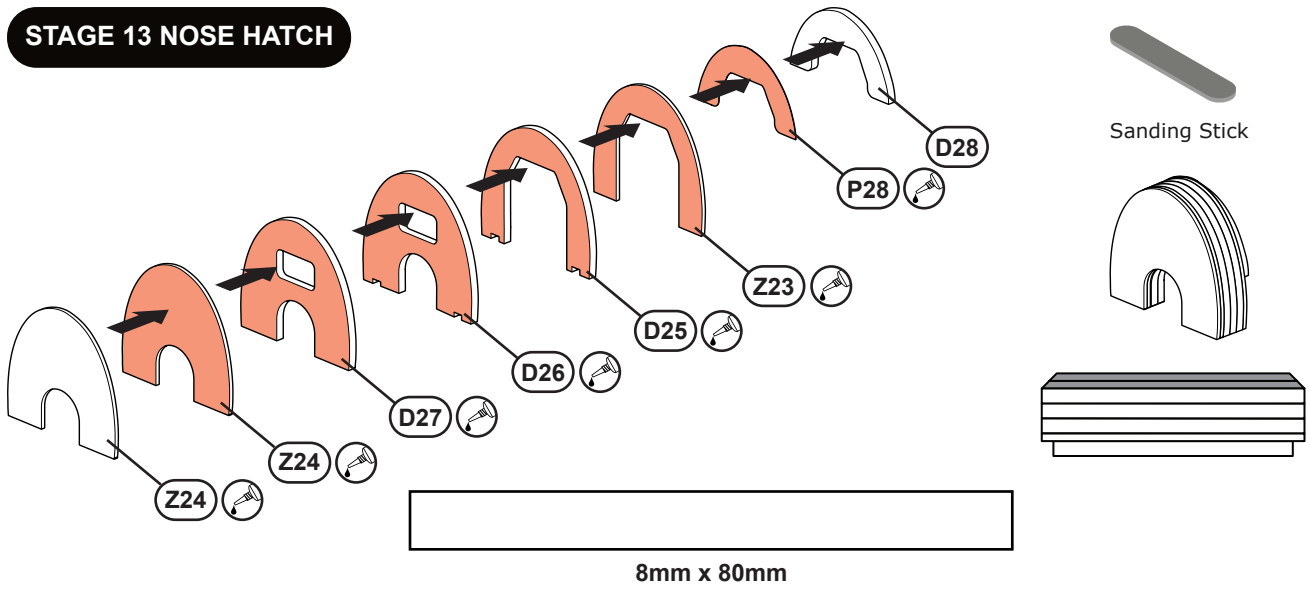
Stabalise the wire on both sides of the aircraft at the lower points on the undercarriage with some CA or Alphatic resin adhesive.

Tension the wire between struts. Because of the shape of the laser cut holes in the struts, you can lock the thread at each point that it passes through a rigging hole.

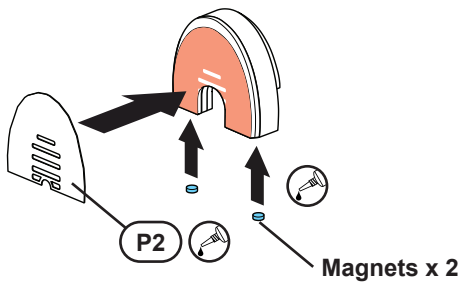
Work on tensioning the wire on both sides of the aircraft simultaneously to help maintain symmetry. Stick the end points of the rigging to the underside of the wing once happy with the tension.

Check alignment visually then add a small amount of adhesive to each point where the rigging passes through strut work to lock everything into place.

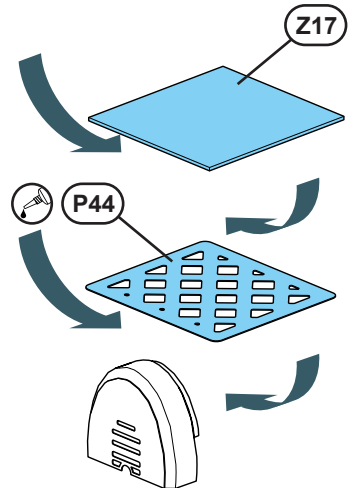
STAGE 13 NOSE HATCH



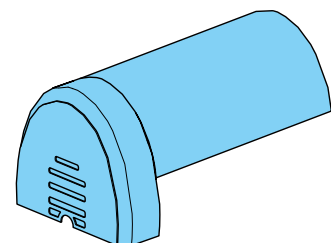
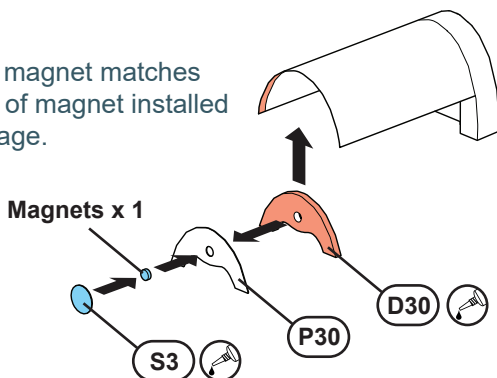
i Bevel & Score before installation - See Scoring & Beveling guide #2



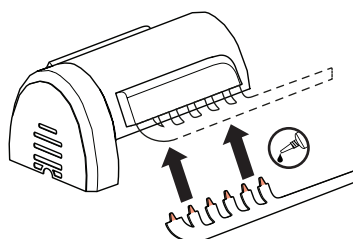
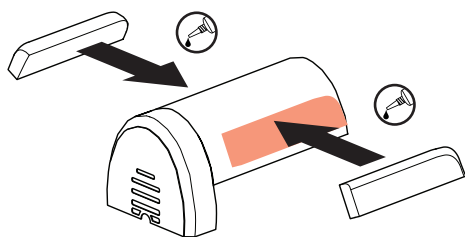
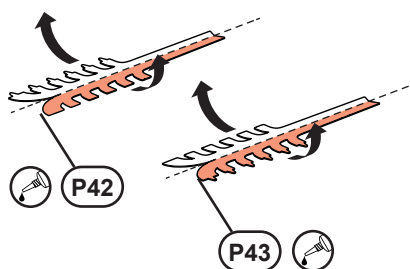
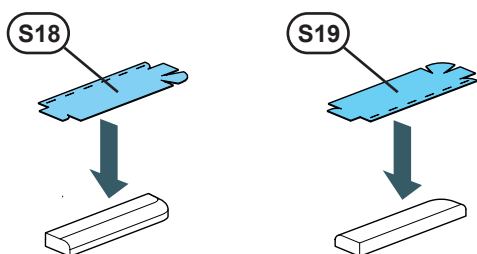
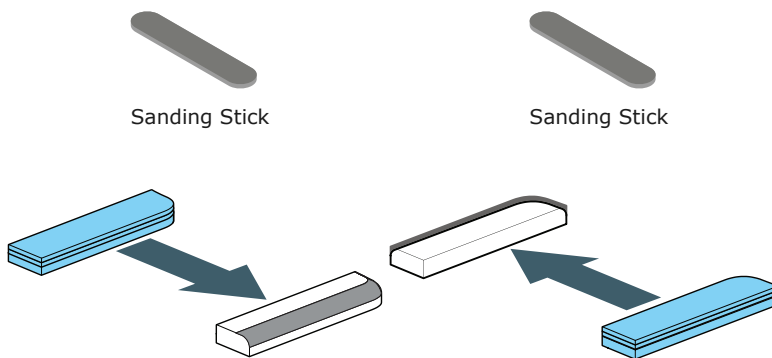
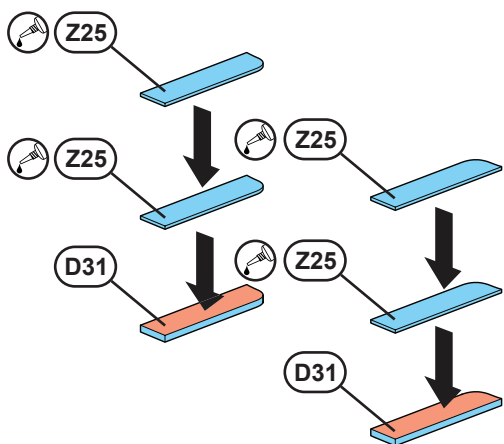
i Ensure magnets match magnets previously installed in chin.



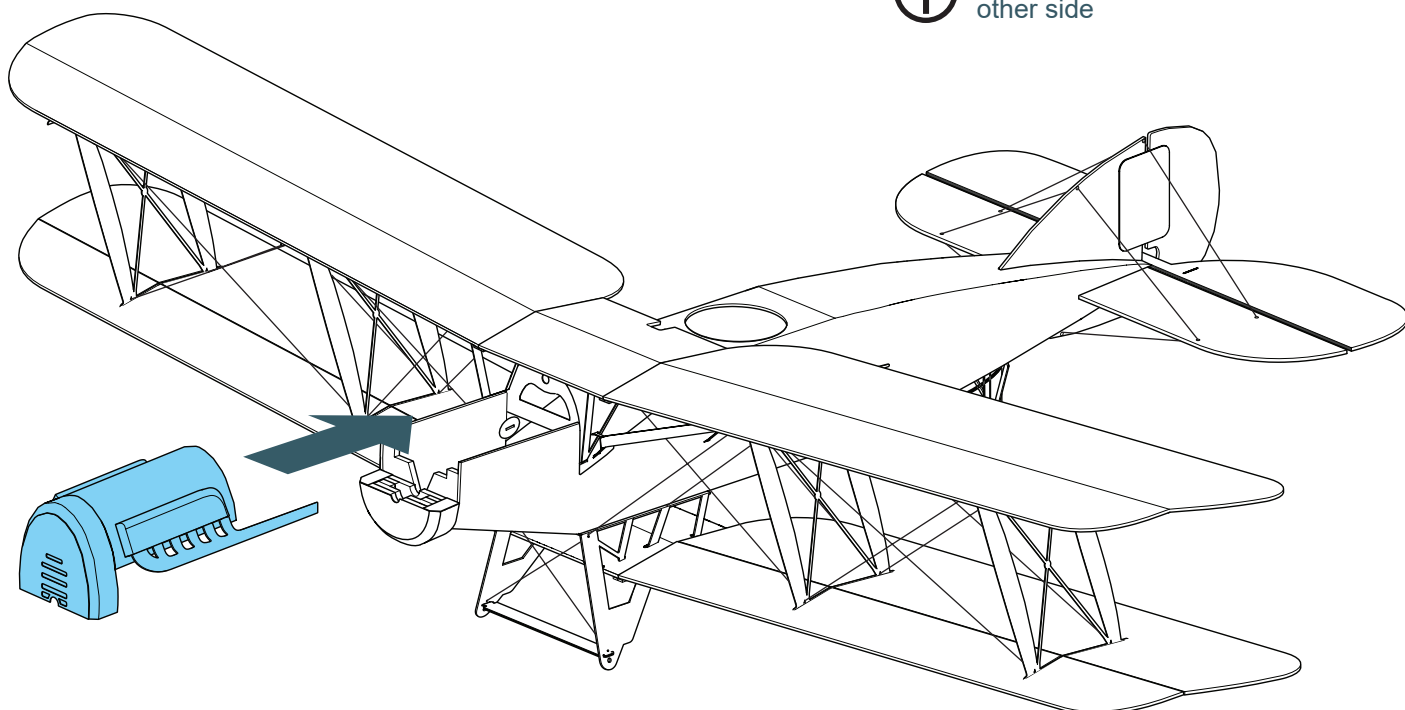
i Ensure magnet matches polarity of magnet installed in fuselage.



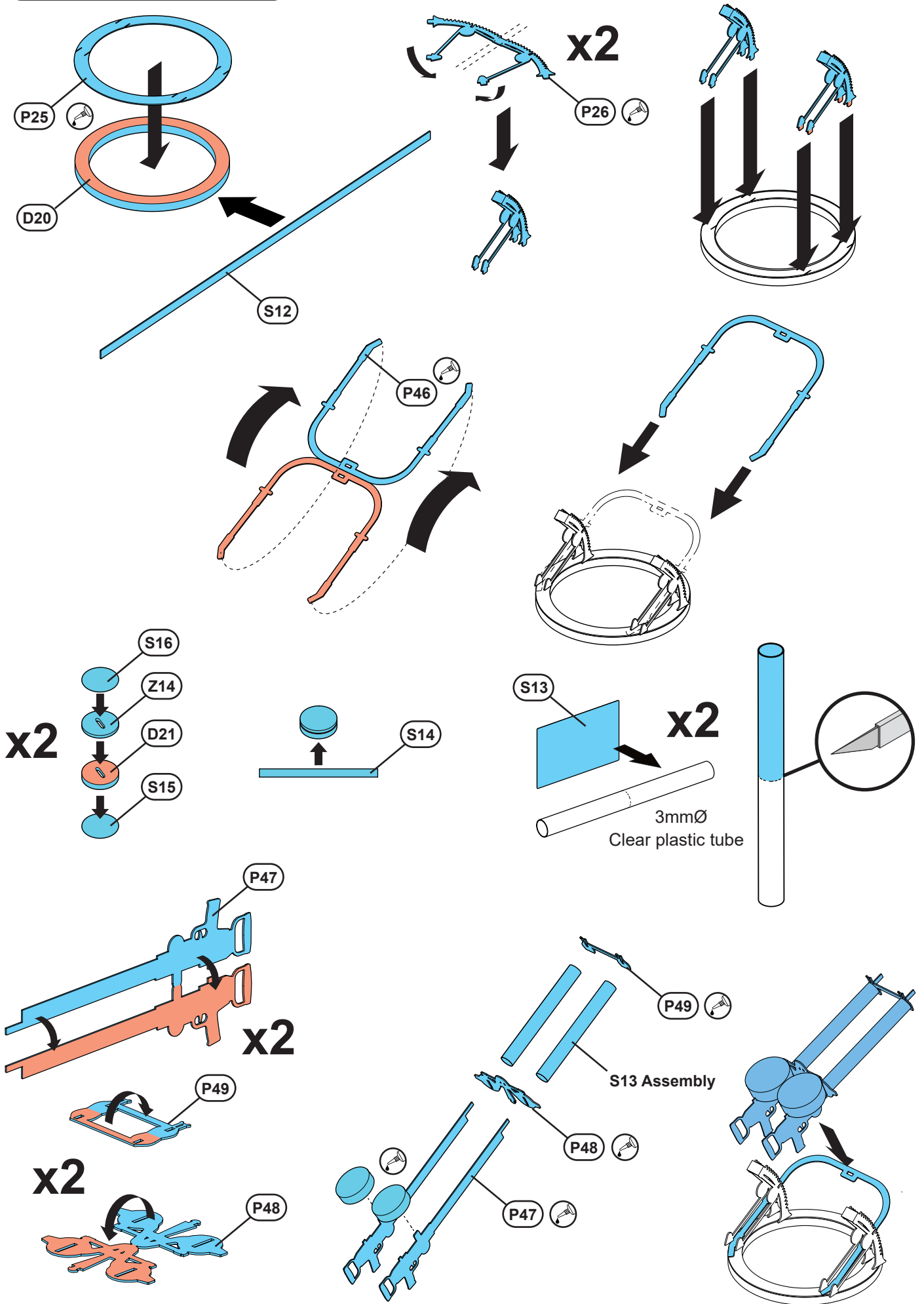
STAGE 13 NOSE HATCH



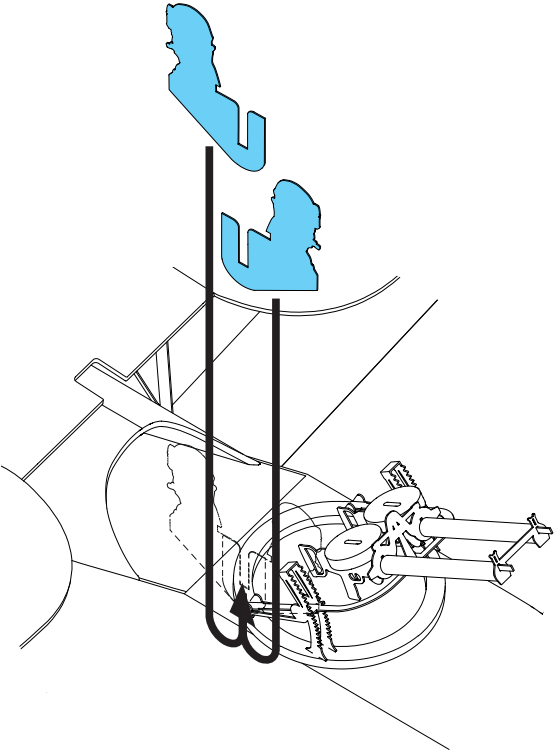
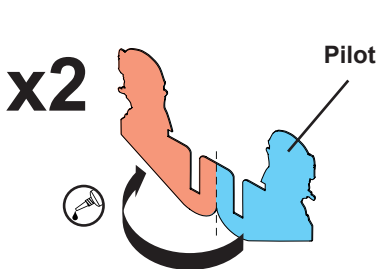
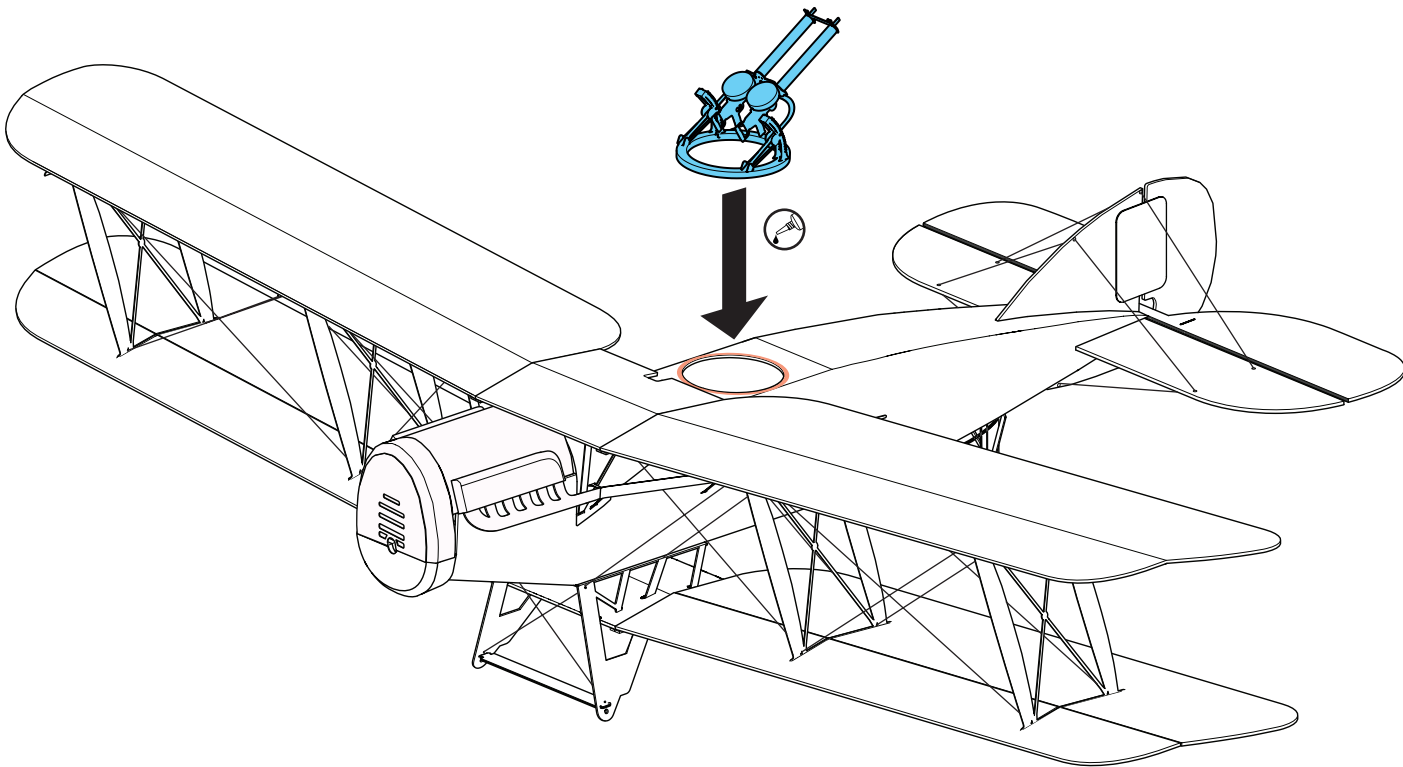
i repeat with second exhaust on other side



STAGE 14 ADDITIONAL DETAIL



STAGE 14 REAR GUN & MOUNT/PILOT



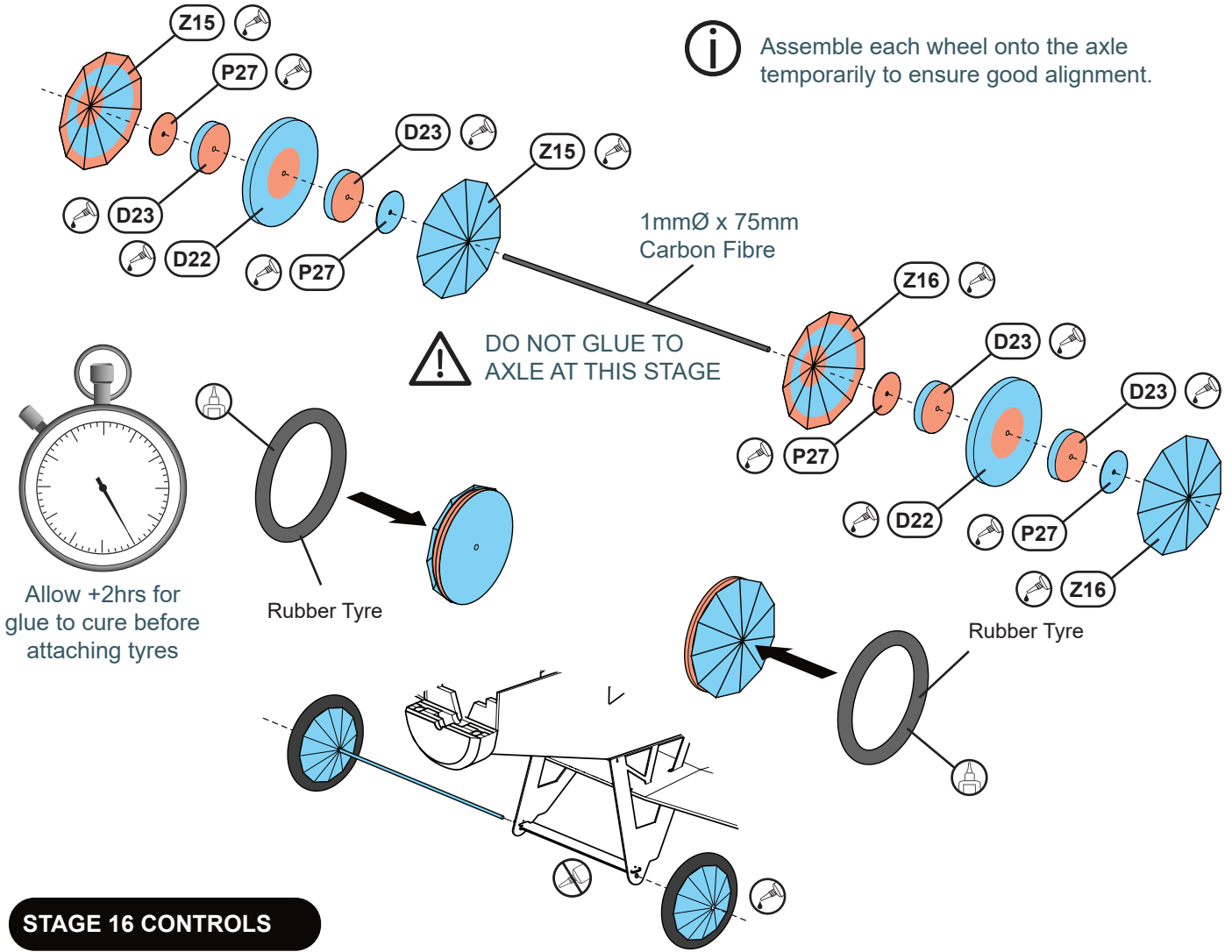
STAGE 15 WHEELS



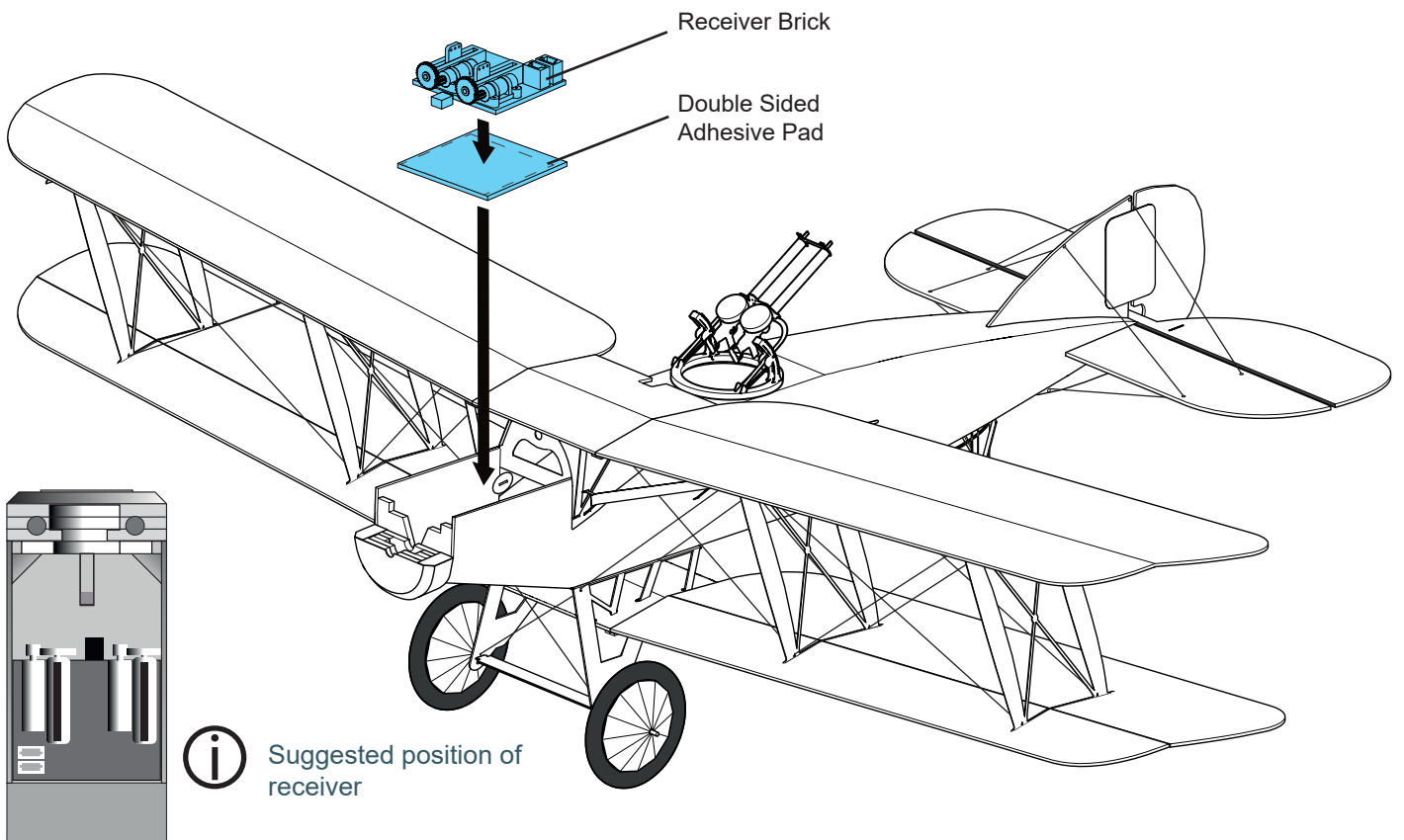
Bevel & Score Z15 & Z16 before installation - See Scoring & Beveling guide #2



Assemble each wheel onto the axle temporarily to ensure good alignment.



STAGE 16 CONTROLS

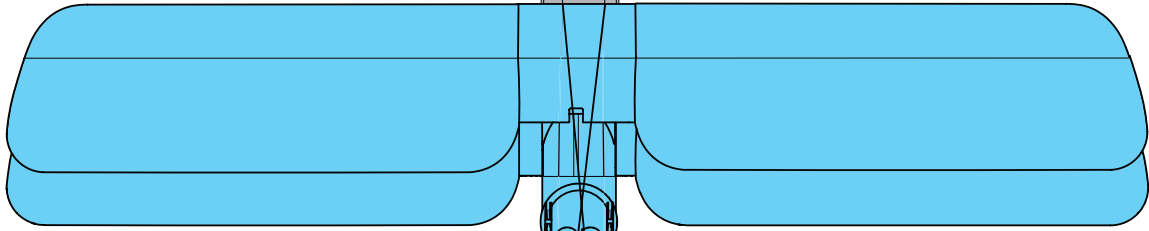
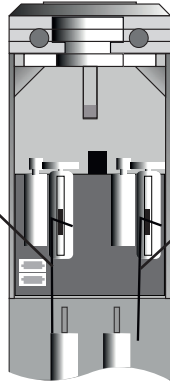


Suggested position of receiver

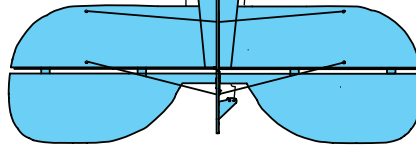
STAGE 17 CONTROLS

Control Wire
(Rudder)

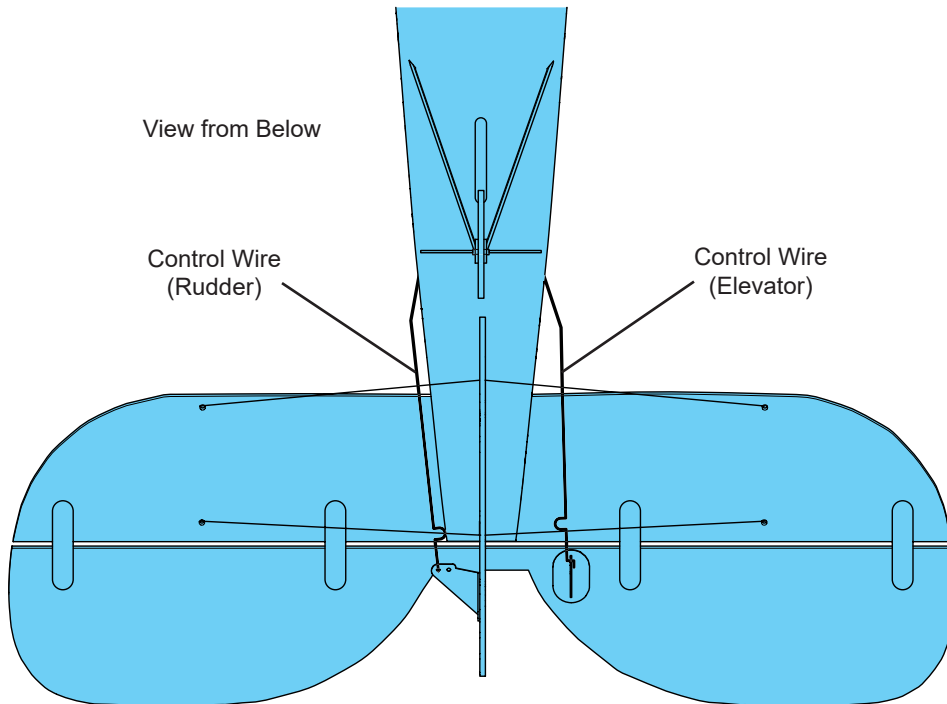
Control Wire
(Elevator)



View from Above



View from Below



Control Wire
(Rudder)

Control Wire
(Elevator)

Building Tip

The Control Horns for the rudder and elevator are very flexible. Install the control wires for each and use tweezers to bend the horns to insert the 'Z' bend into the hole.

Use the outer hole of the control horns for more gentle control of your aircraft!

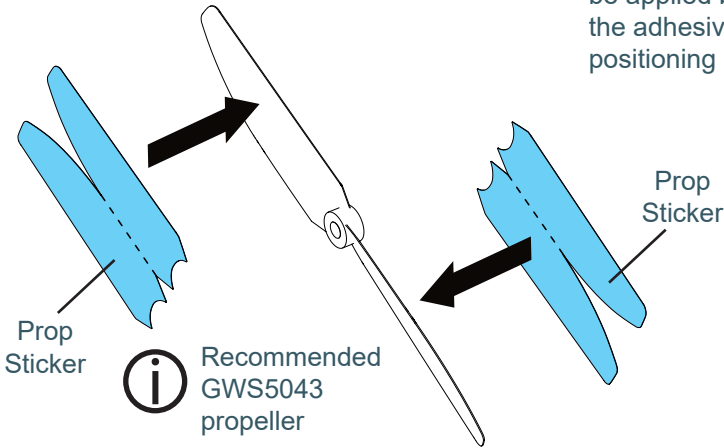
90°

90°

STAGE 18 MOTOR & PROPELLER



Complex Stickers can be applied by wetting the adhesive side to aid positioning

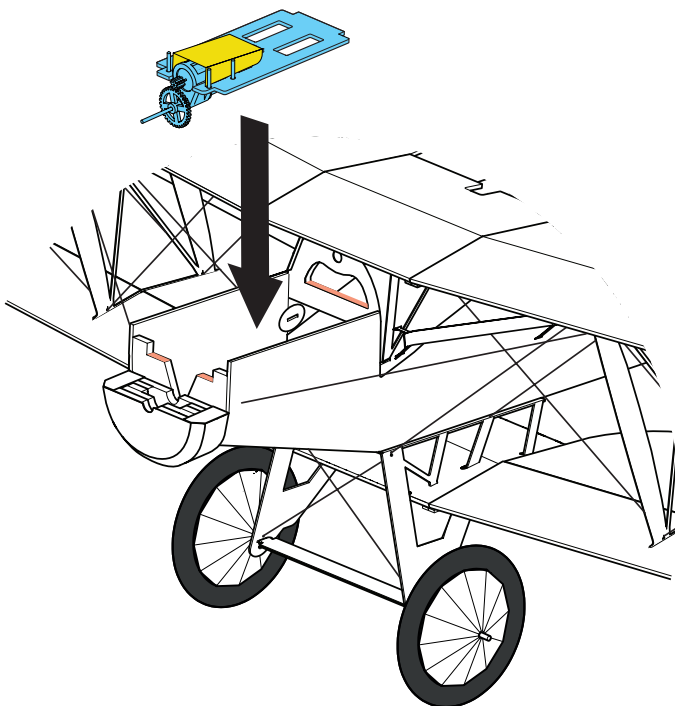
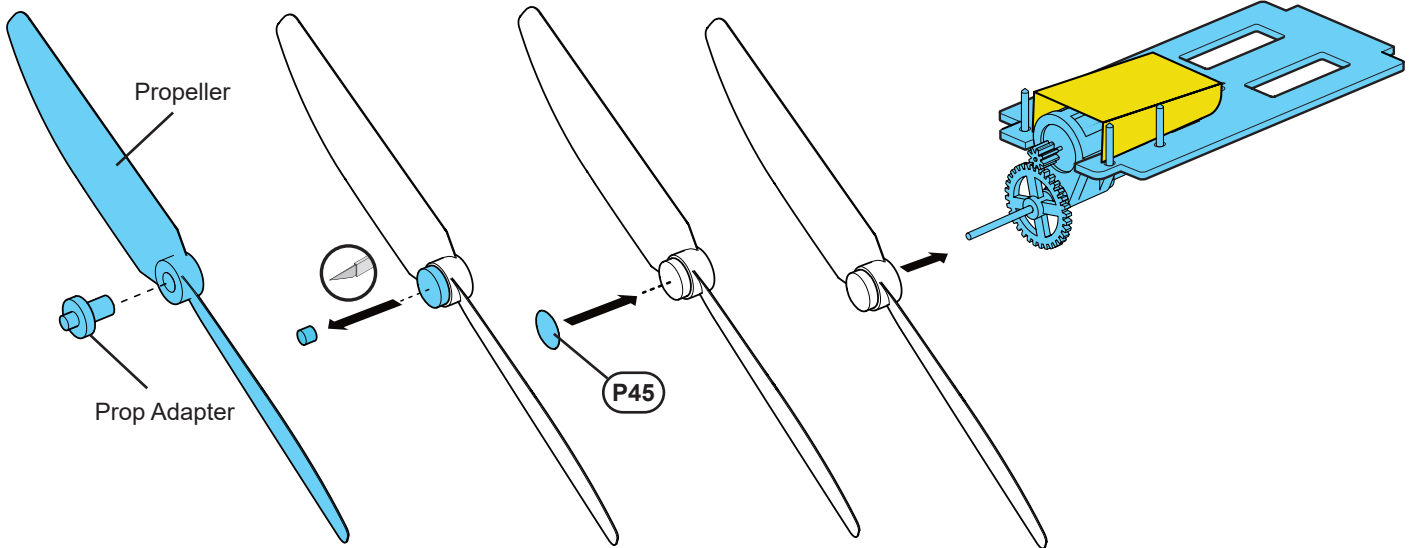
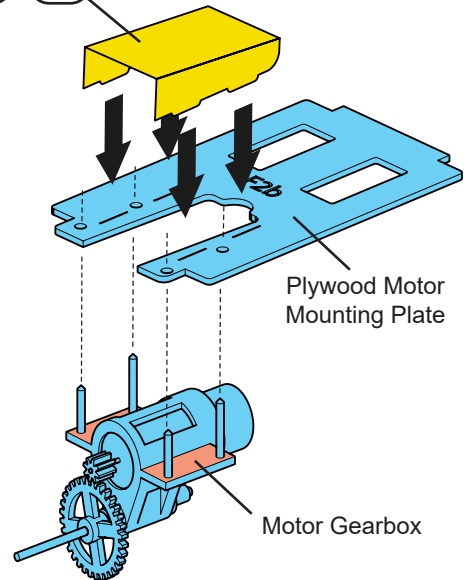


Recommended GWS5043 propeller

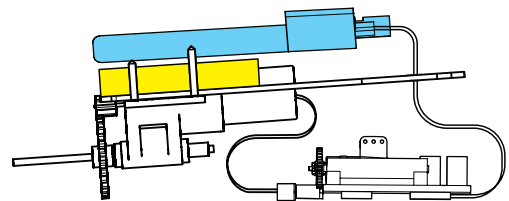


P50

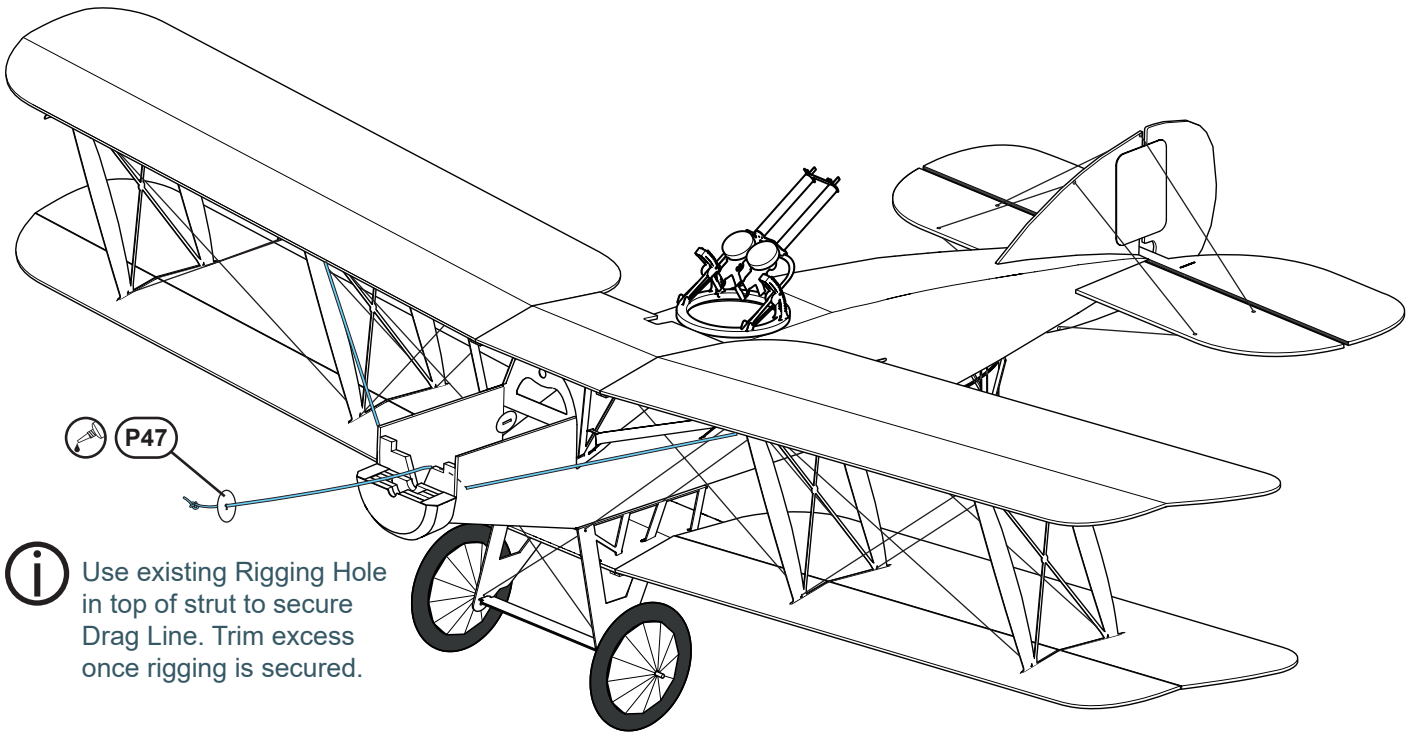
Battery Mounting Plate



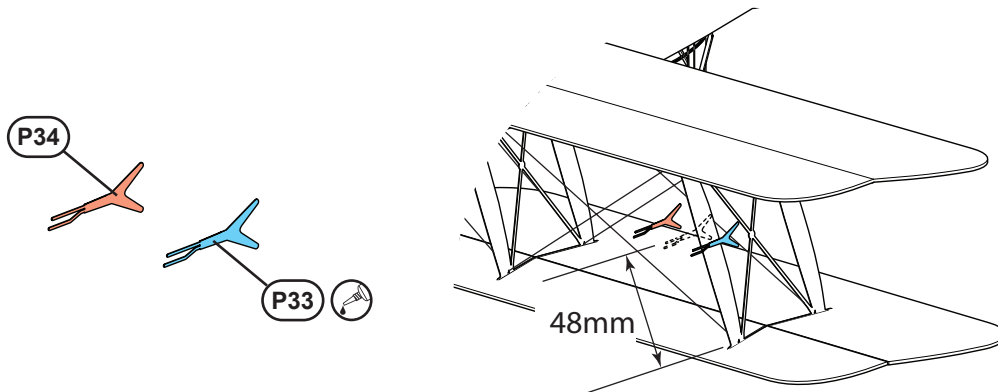
Battery Position



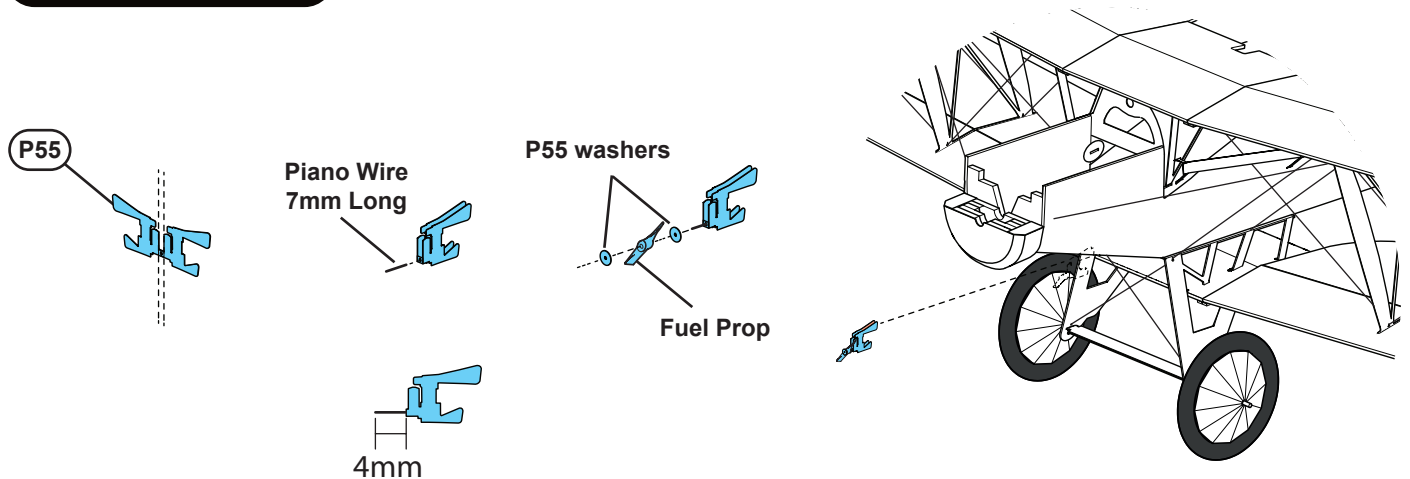
STAGE 19 DRAG LINES



STAGE 20 PITOT TUBE



STAGE 21 FUEL PROP

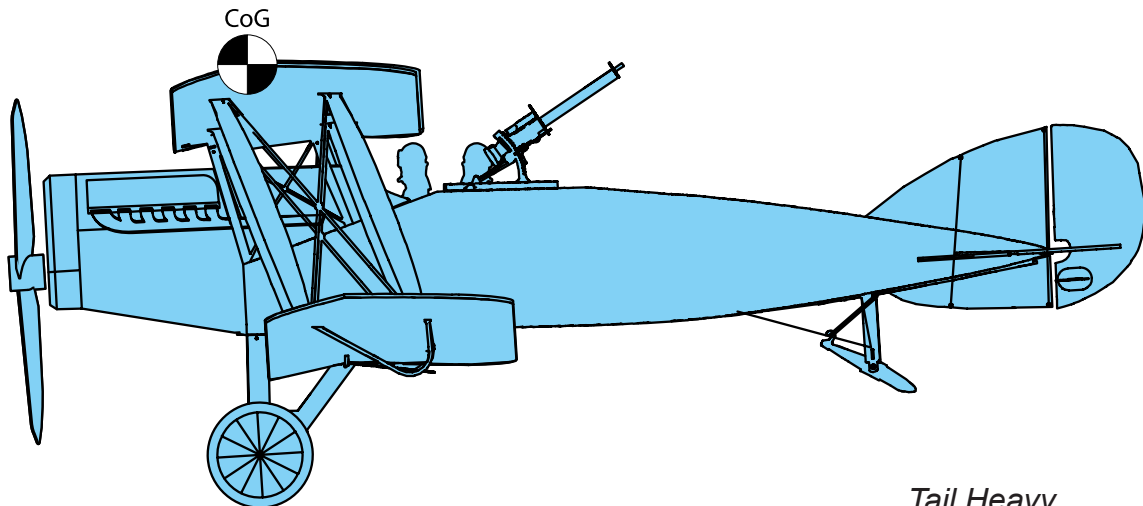


STAGE 22 FINISHING TOUCHES

Centre of Gravity (CoG)

With all the electronics installed including the battery, the CoG should be around the apex of the top wing as shown on the diagram below.

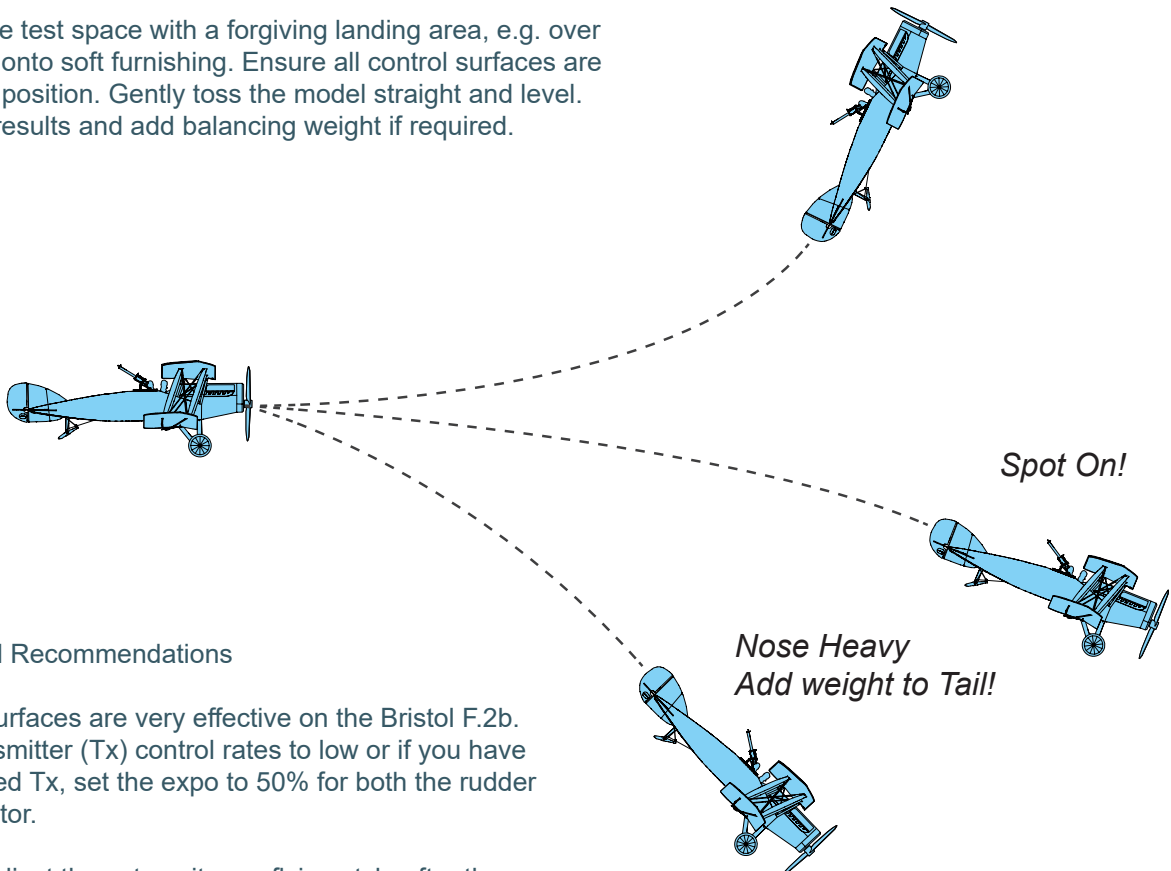
Balance on finger tips to see if the aircraft balances at this point. Before adding any weight it is advisable to perform a glide test. Add weight accordingly to obtain a smooth glide.



Glide Test - How to!

Find a suitable test space with a forgiving landing area, e.g. over long grass or onto soft furnishing. Ensure all control surfaces are in the neutral position. Gently toss the model straight and level. Observe the results and add balancing weight if required.

*Tail Heavy
Add weight to Nose!*

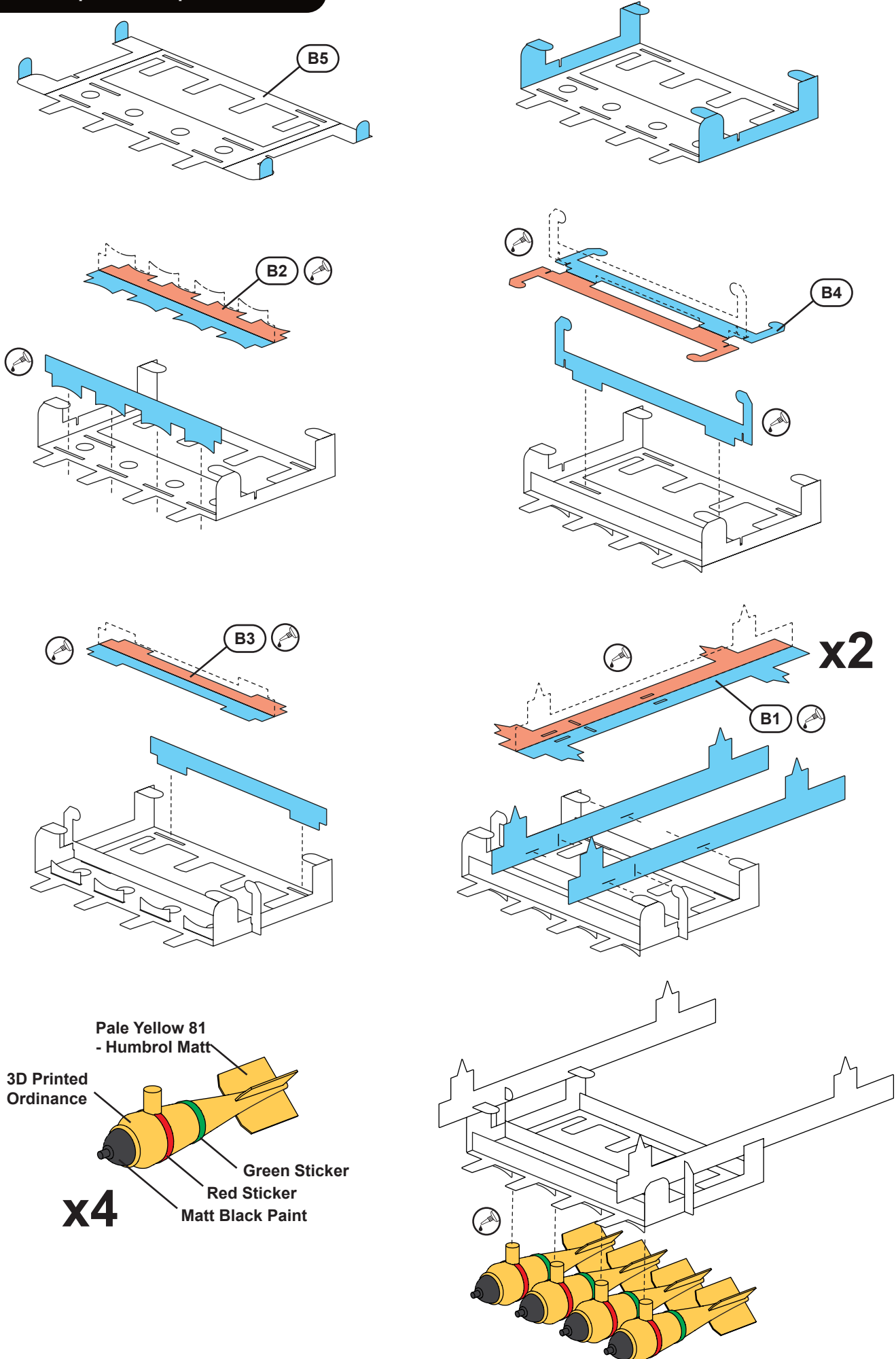


Radio Control Recommendations

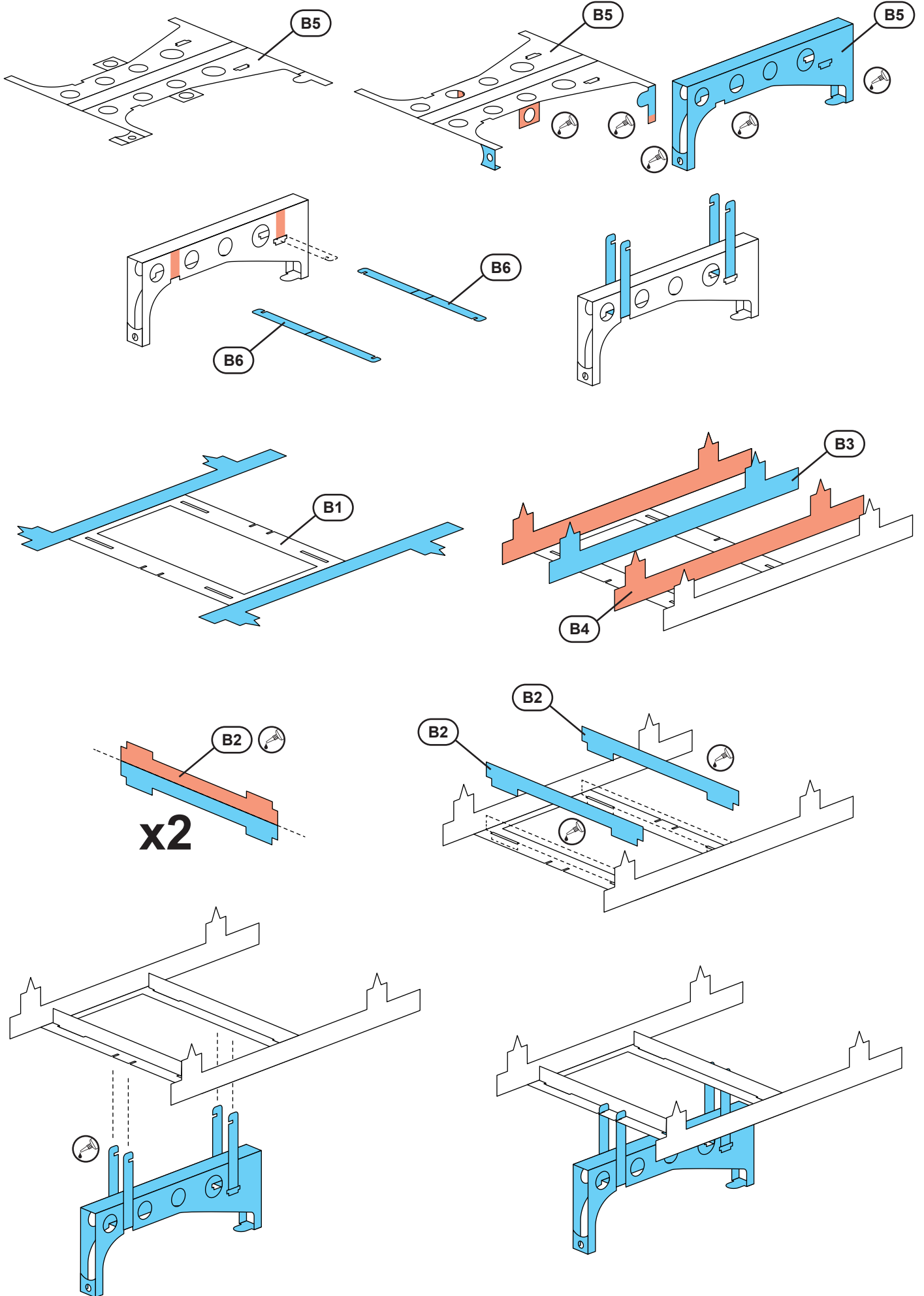
The control surfaces are very effective on the Bristol F.2b. Set your transmitter (Tx) control rates to low or if you have a computerised Tx, set the expo to 50% for both the rudder and the elevator.

Feel free to adjust these to suit your flying style after the maiden flight!

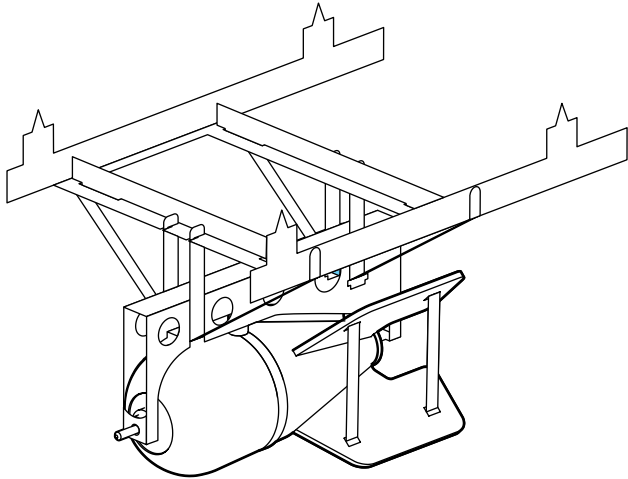
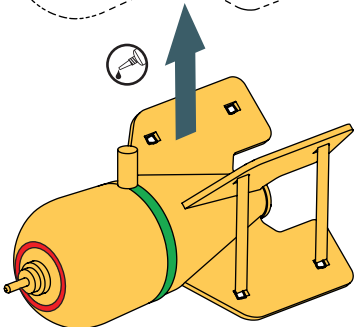
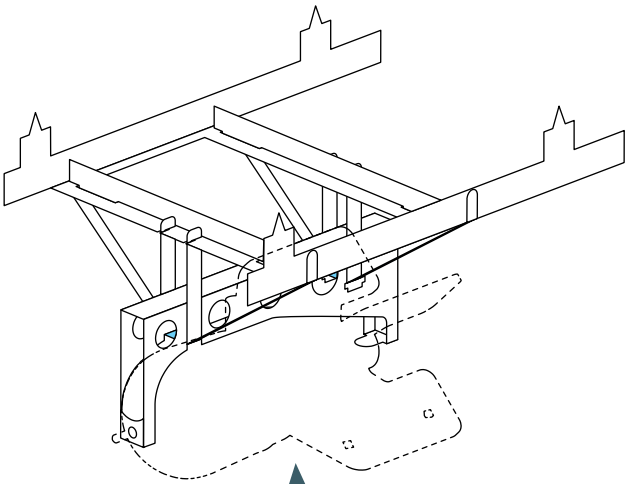
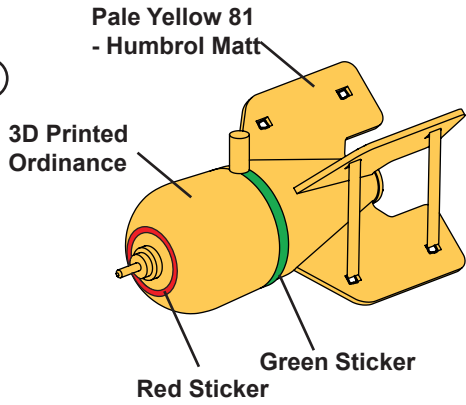
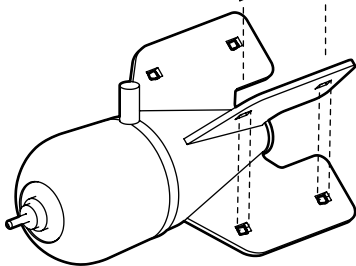
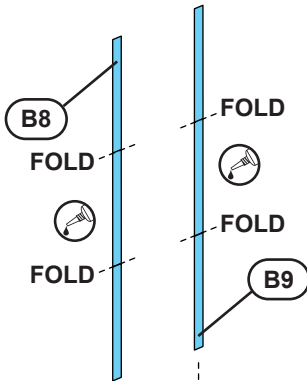
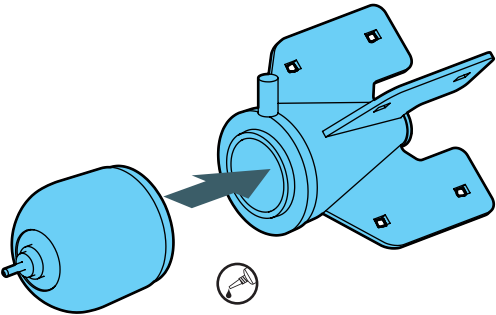
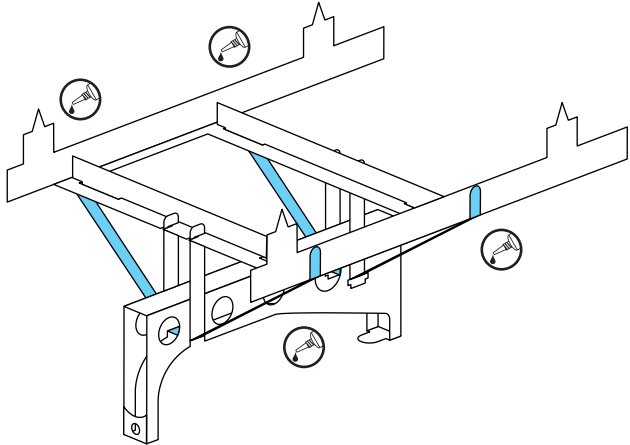
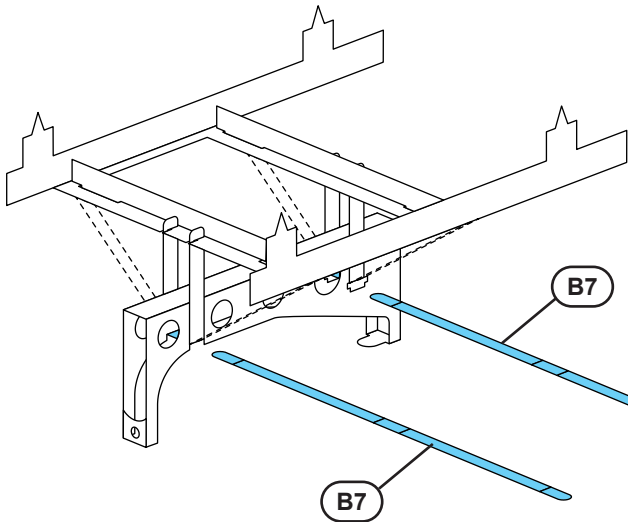
STAGE 23 Optional Cooper Bomb Rack



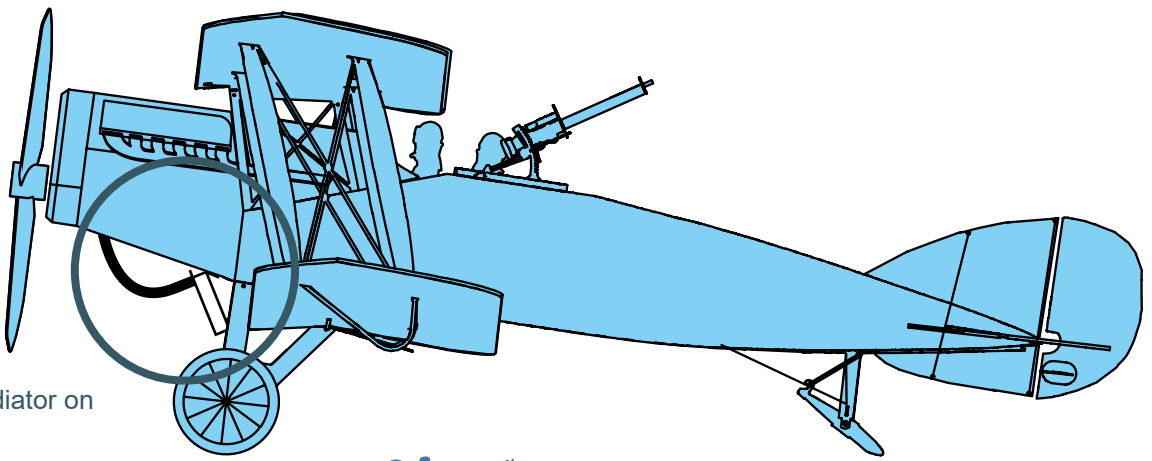
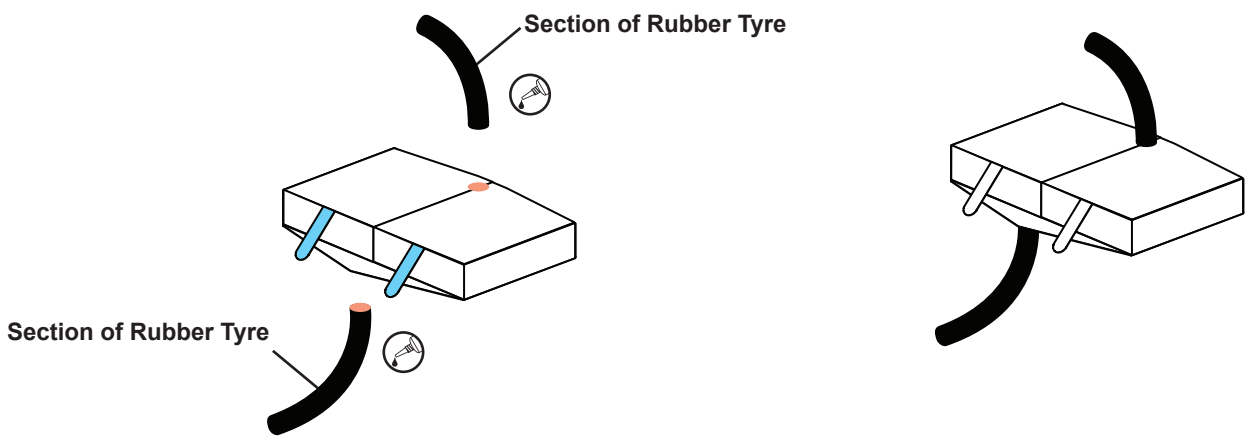
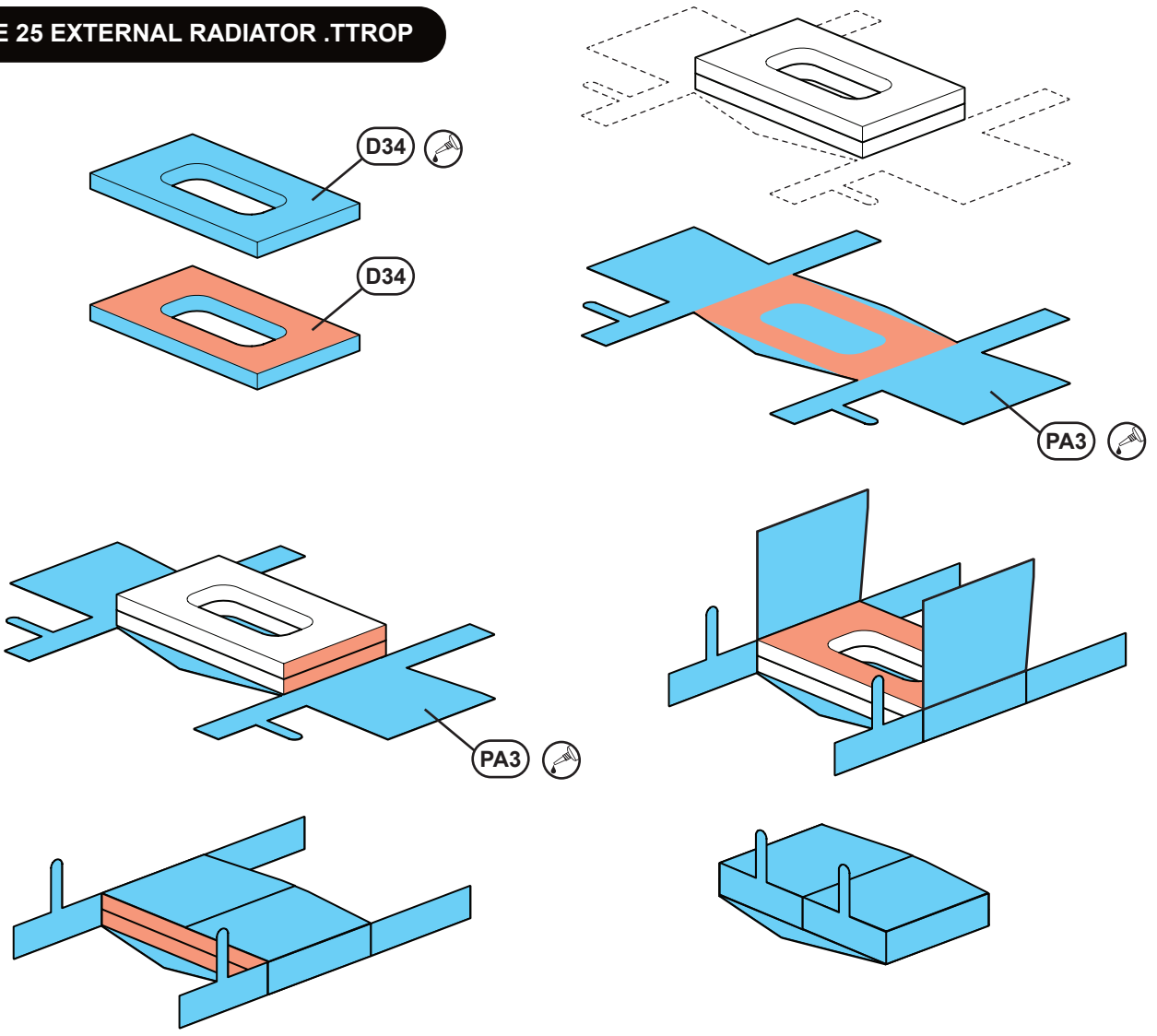
STAGE 24 Optional RL112lb HE Bomb Rack



STAGE 24 Optional RL112lb HE Bomb Rack



STAGE 25 EXTERNAL RADIATOR .TTROP



i Position of Radiator on fuselage