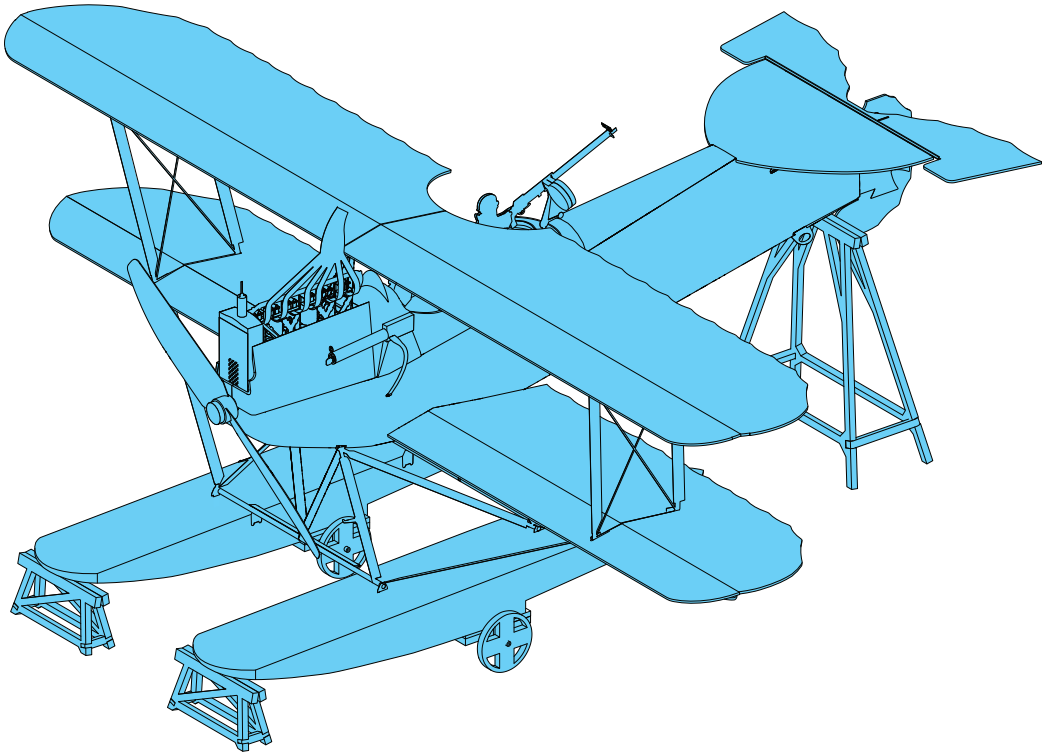
Microworks
MAKING HISTORY

ASSEMBLY GUIDE



Hansa-Brandenburg

W.12

German Fighter Float Plane

Introduction

Thank you for purchasing this Microaces kit. Designed using innovative ideas, advanced materials and detailed aircraft illustrations, this scale model 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 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 (first) 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 that 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


Alphatic Resin (or Foam Safe CA)


Cut


Paint


Sanding Required


Area of adhesion for glue

KIT PARTS

Sheet Parts

2 x 2mm Laser cut Depron airframe/floats
3 x 1mm printed & laser cut Depron fuselage/floats
2 x 1mm printed & laser cut Depron flight surfaces
2 x 200 micron printed & laser cut polypropylene
1 x polyester sticker sheet
1 x 0.8mm plywood parts
1 x 3mm plywood parts (optional display stand)

Loose Parts

4 x 3mmØ x 1mm neodymium magnets
2 x 4mmØ x 1mm neodymium magnets
4 x 500mm x 0.4mm x 1mm carbon fibre strip
1 x 200mm x 2mmØ carbon fibre tube
1 x 100mm piano wire
1 x piano wire elevator control rod
1 x piano wire rudder control rod
2 x profile pilot & crew figure
1 x Spectra rigging wire
2 x rubber band (white)
1 x self adhesive ballast strip
1 x 100mm x 6mmØ plastic tube (clear)
1 x 70mm x 5mmØ plastic tube (black)
1 x 50mm x 3mmØ plastic tube (clear)

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)

RECOMMENDED ELECTRONICS

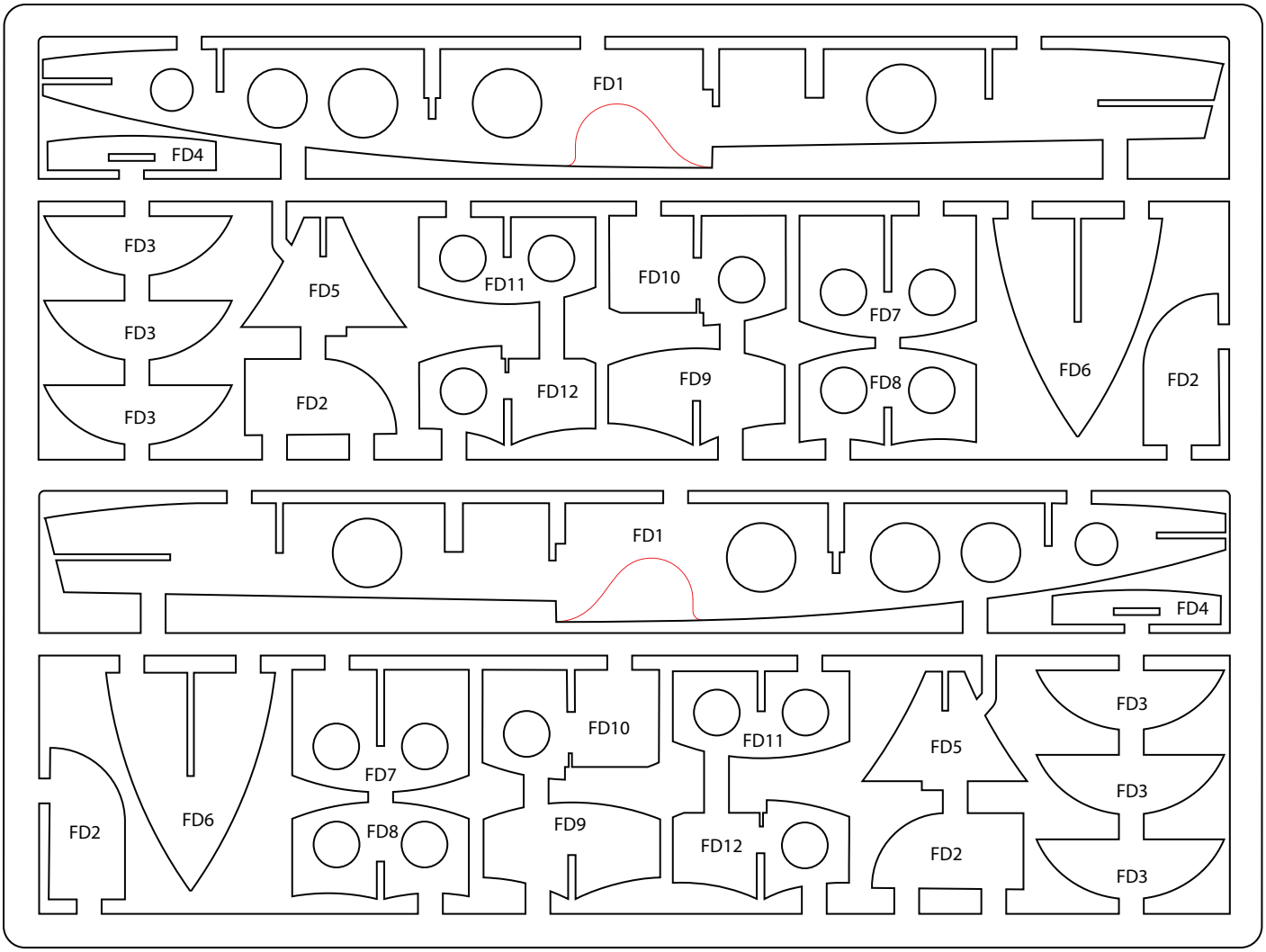
Microaces AIO 5 channel receiver

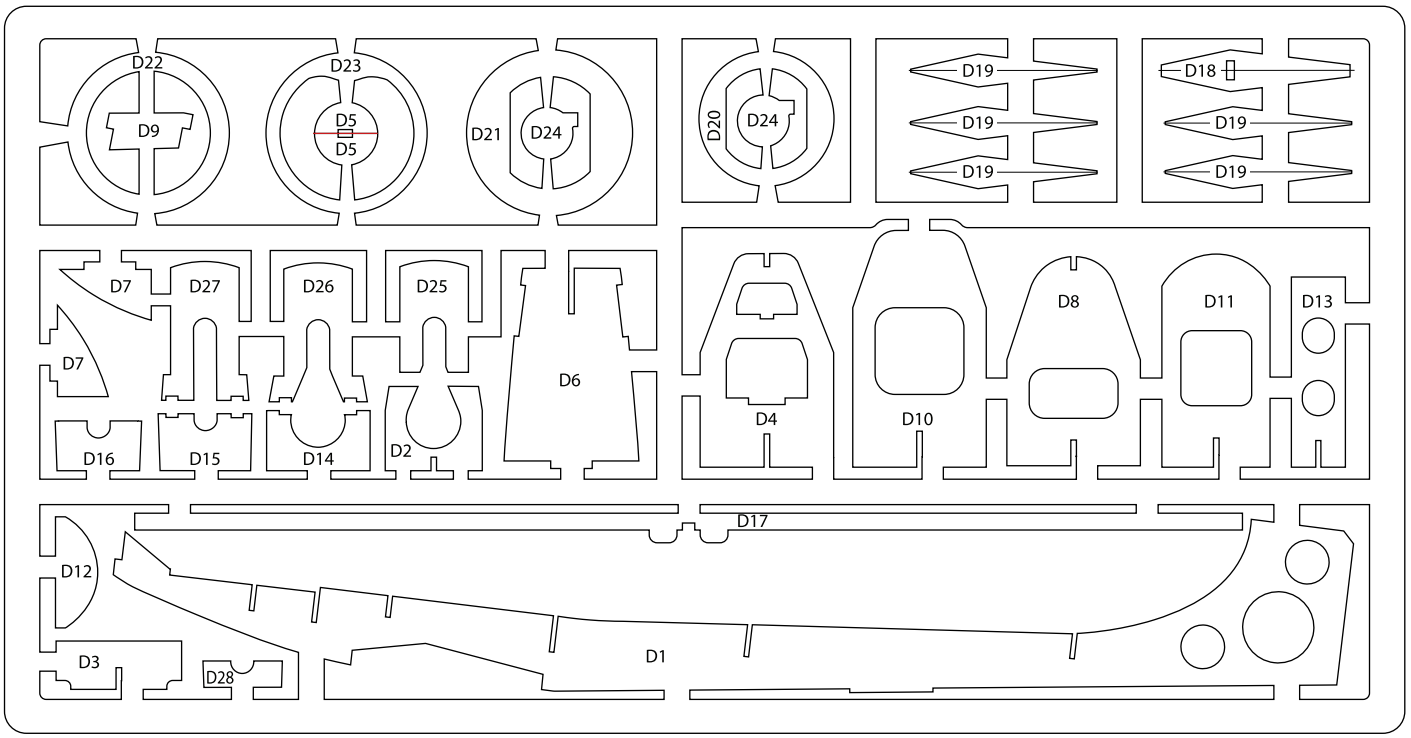
Microaces Micro Motor & Gearbox PLUS

GWS 5030 propeller with prop adapter.

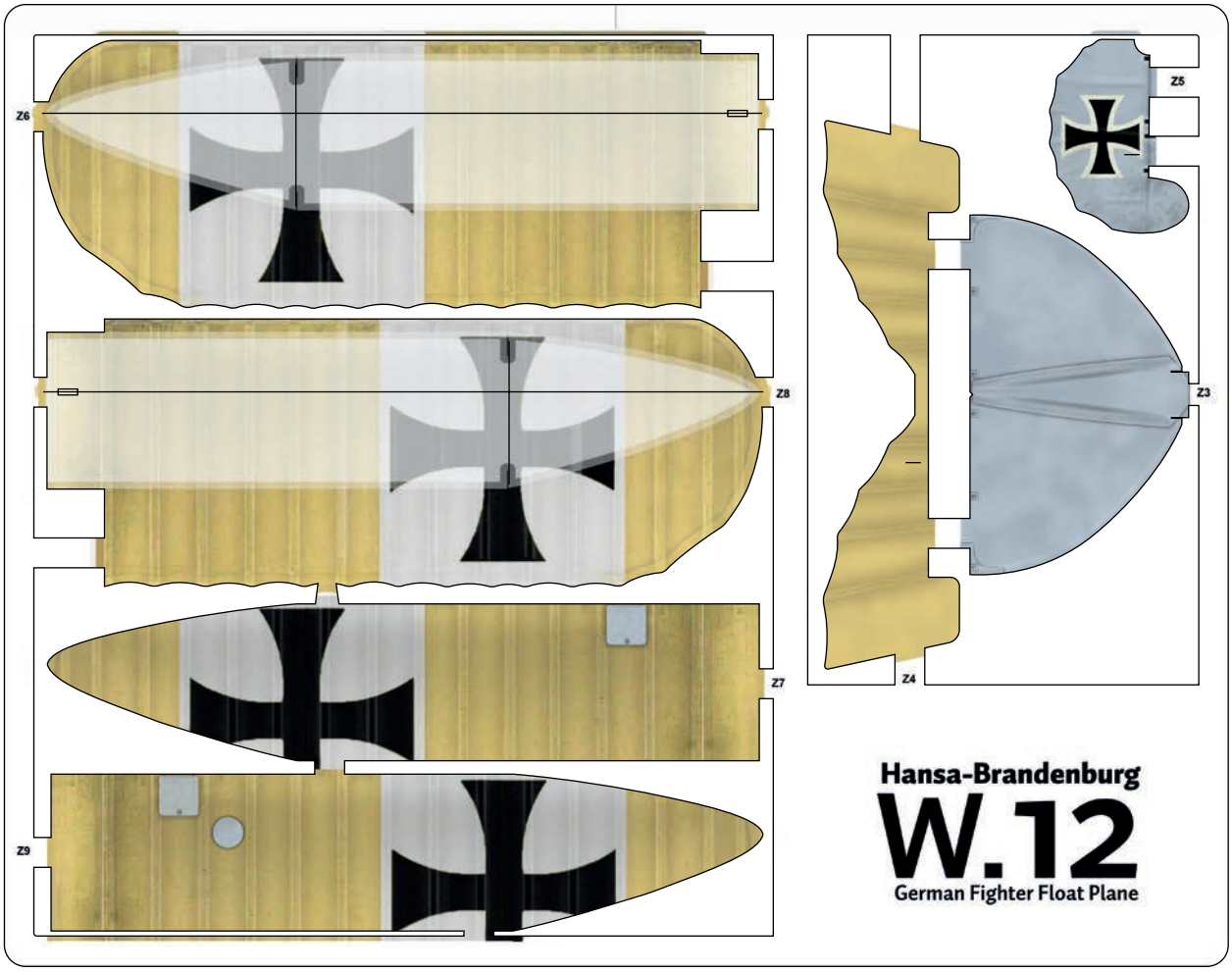
150 - 180mAh 3.7v Lipo Battery 45c with UM connector

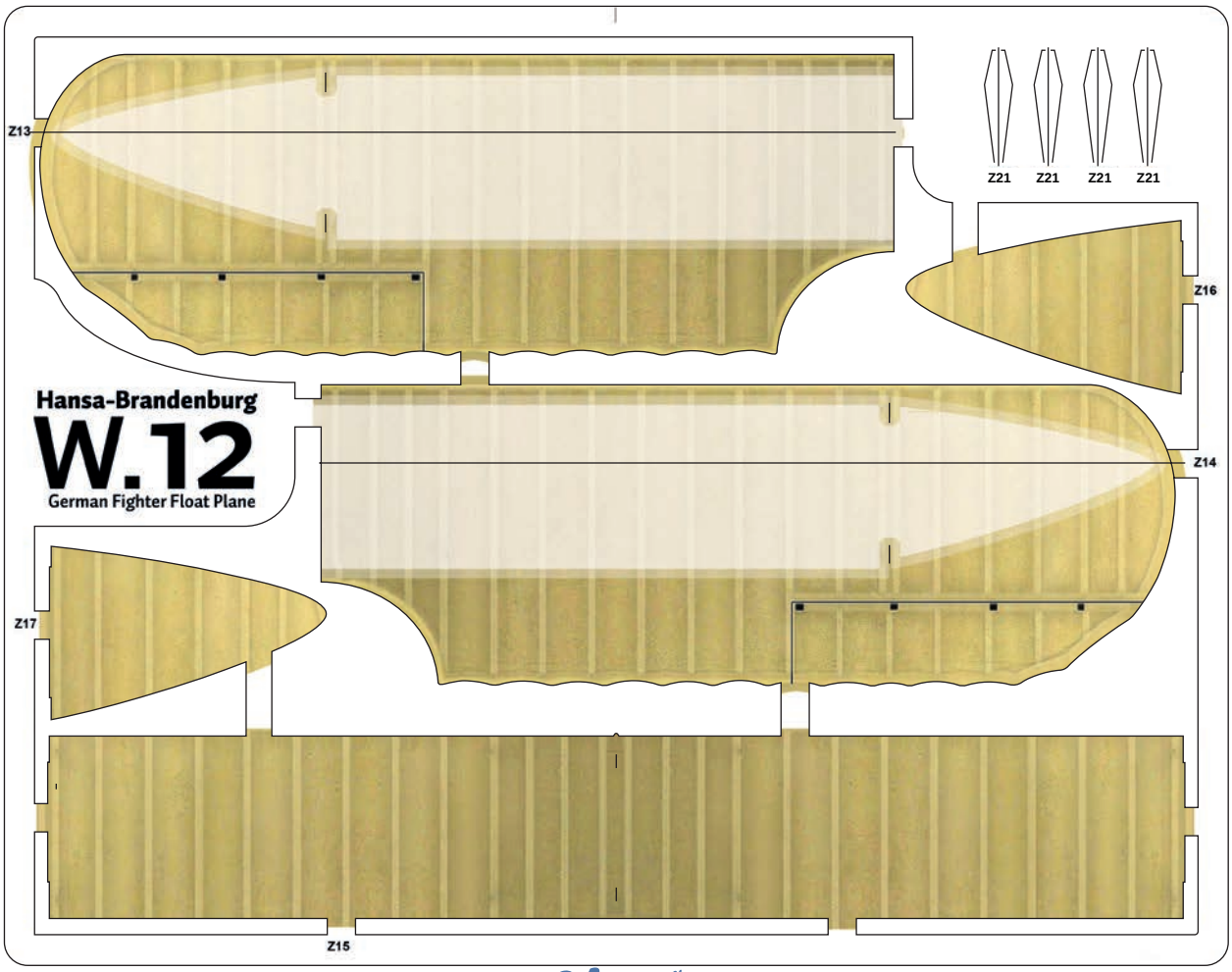
2mm DEPRON FOAM





1mm DEPRON FOAM





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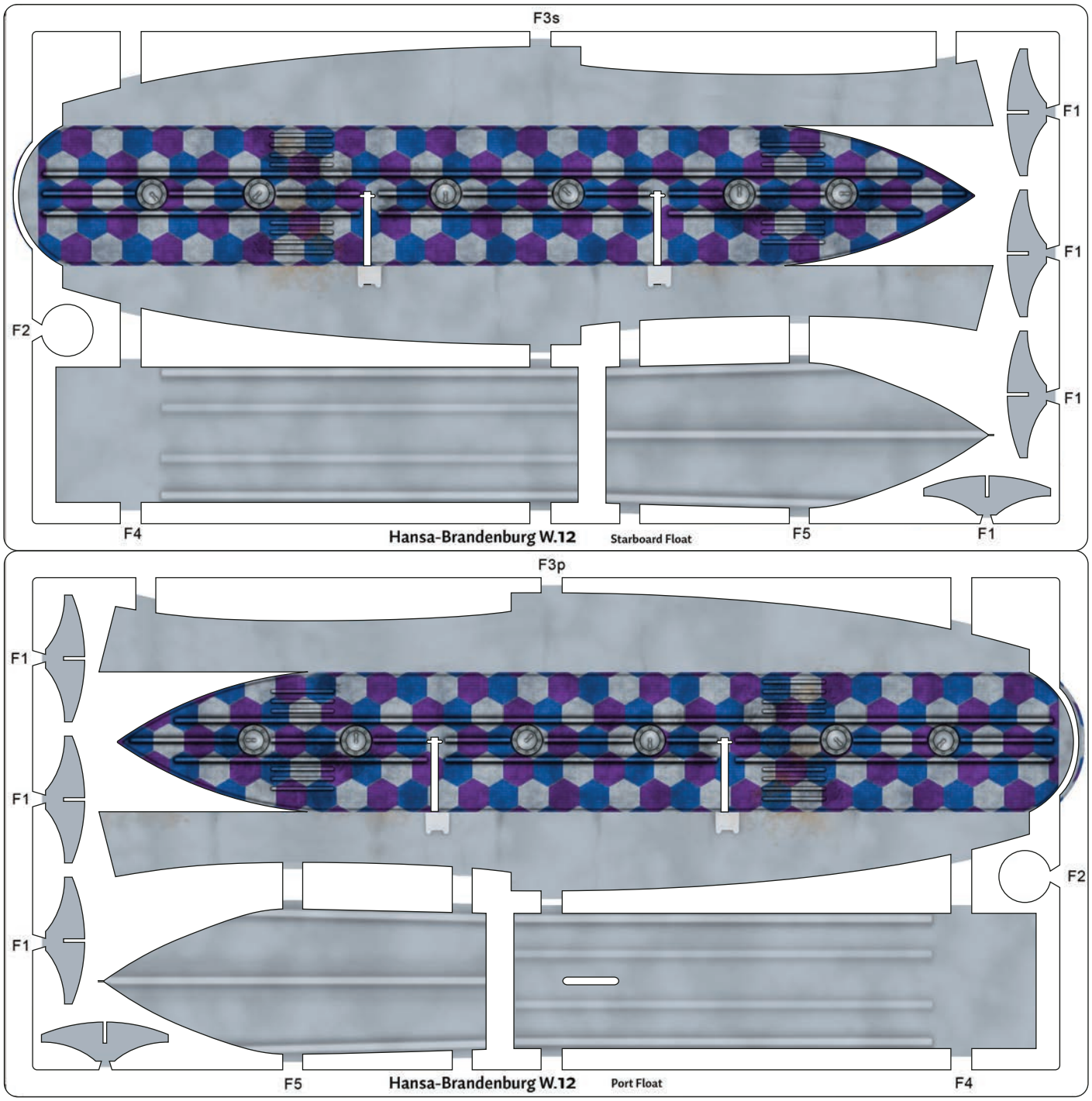

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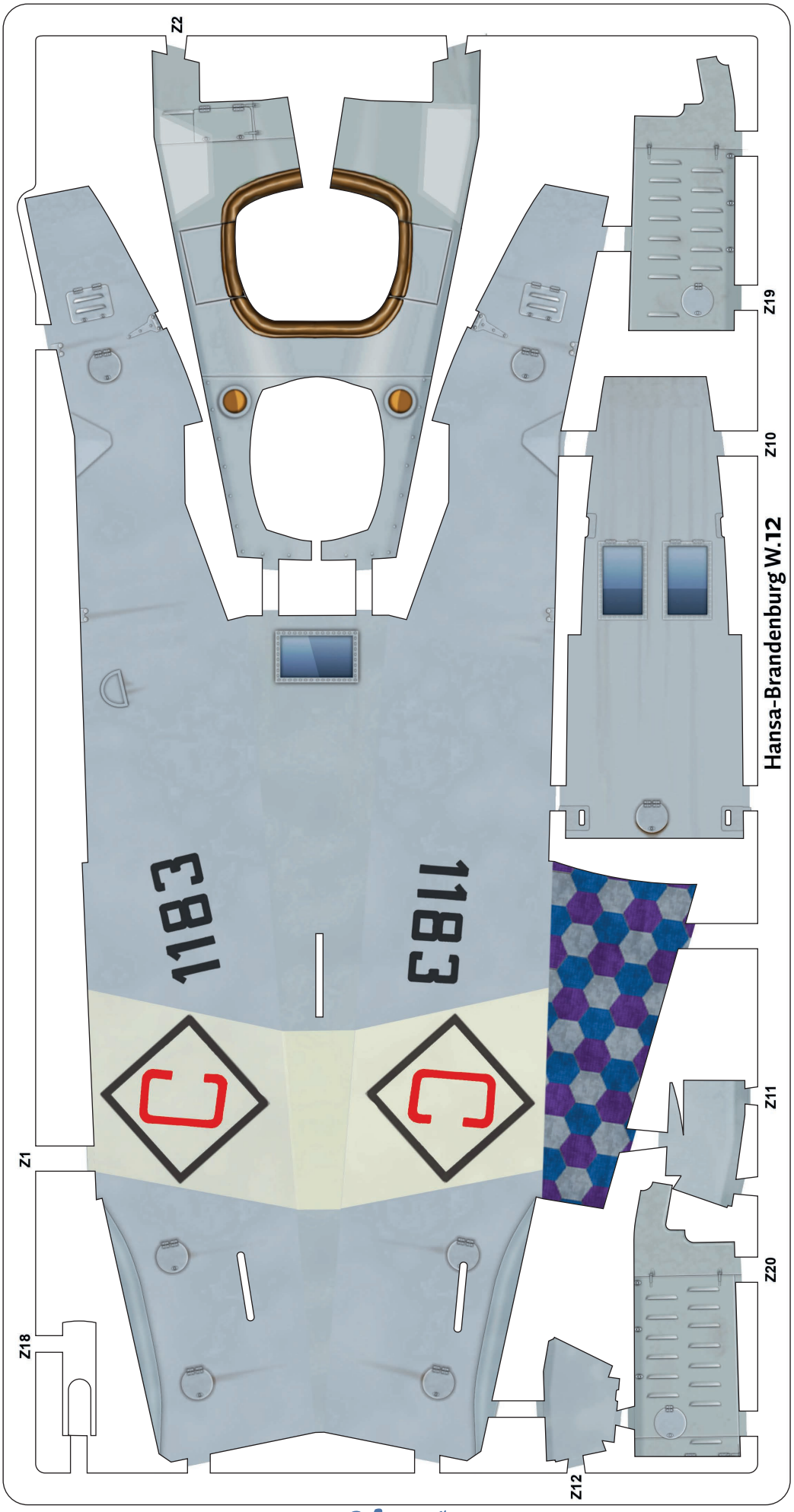
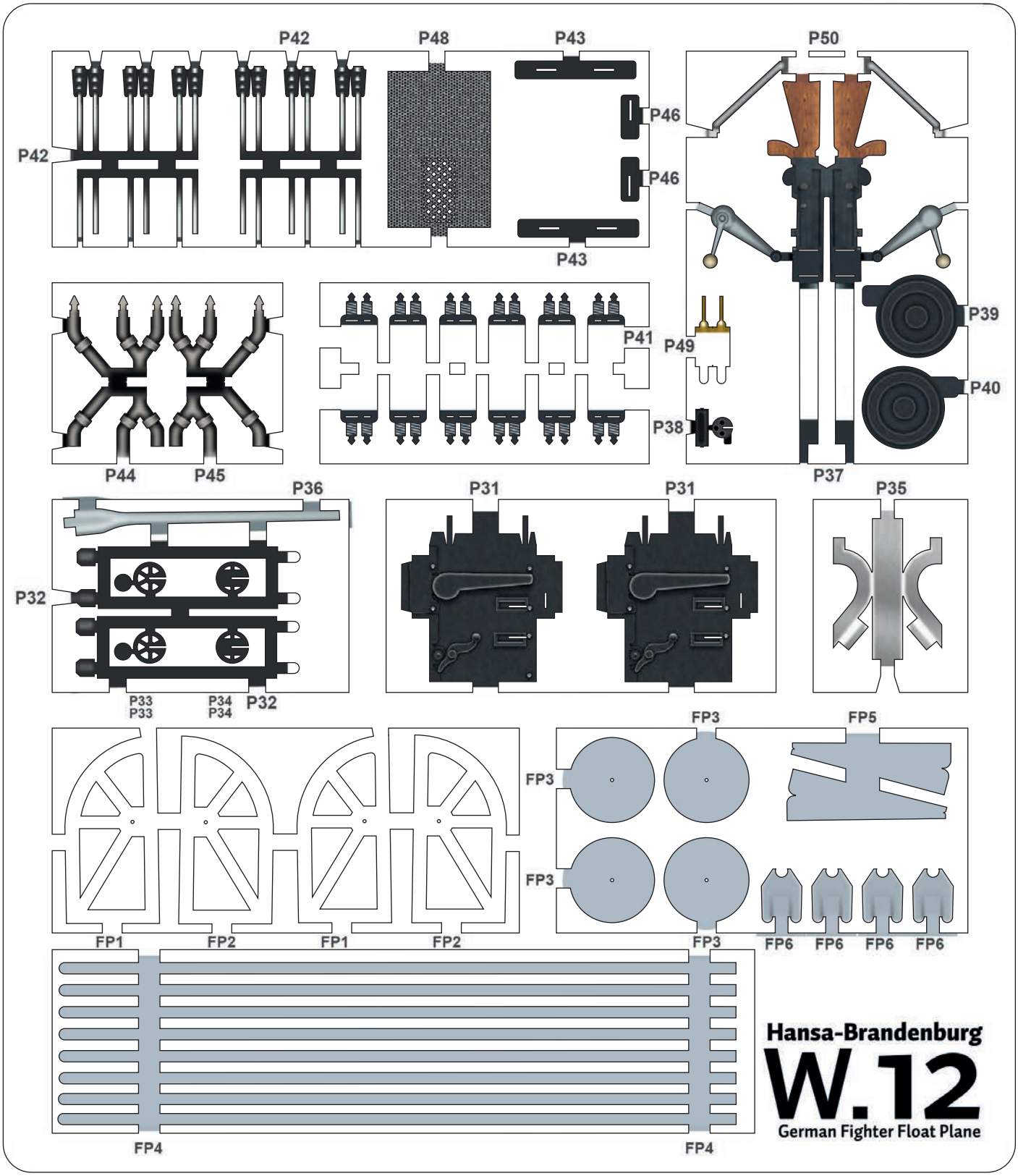
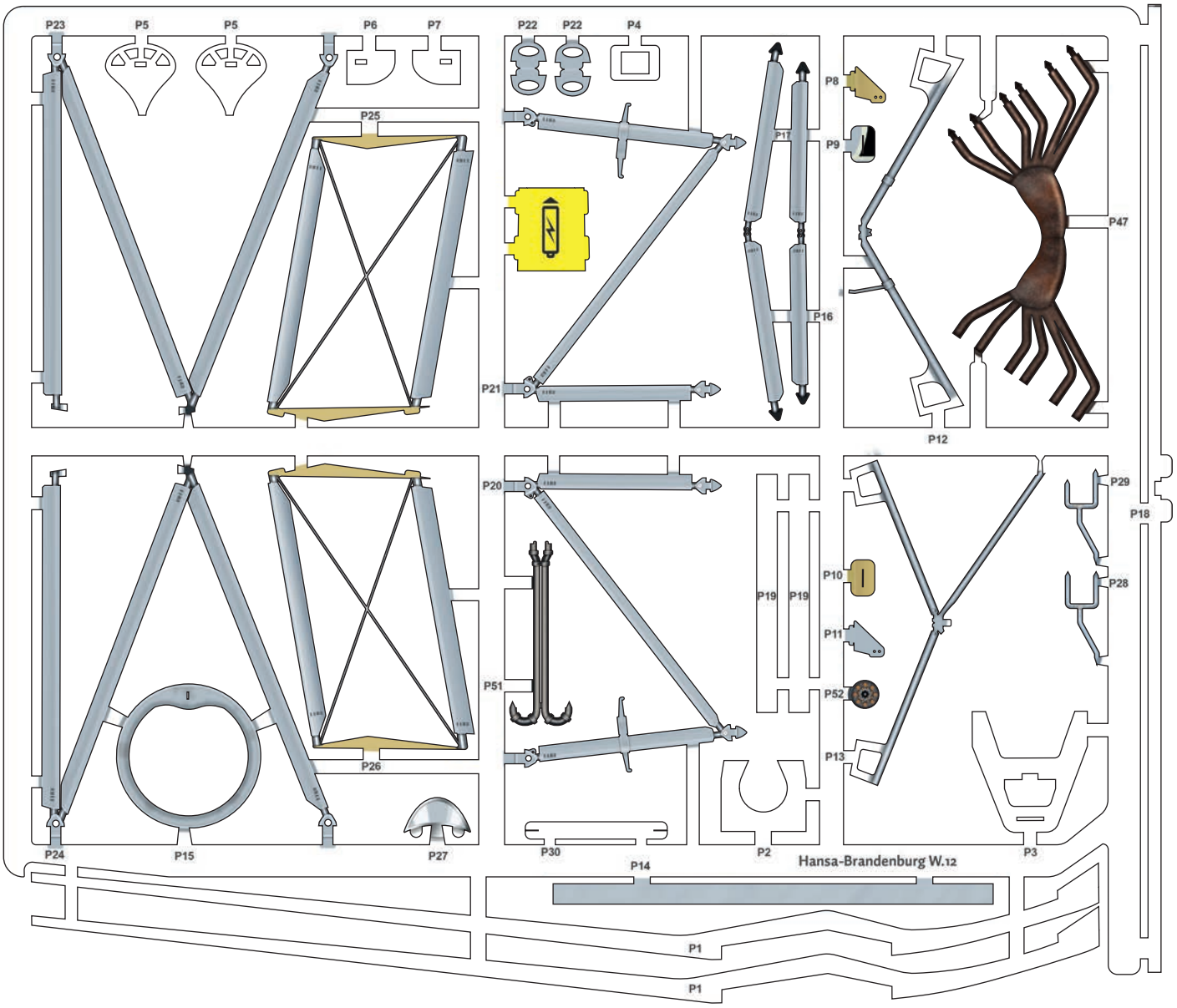


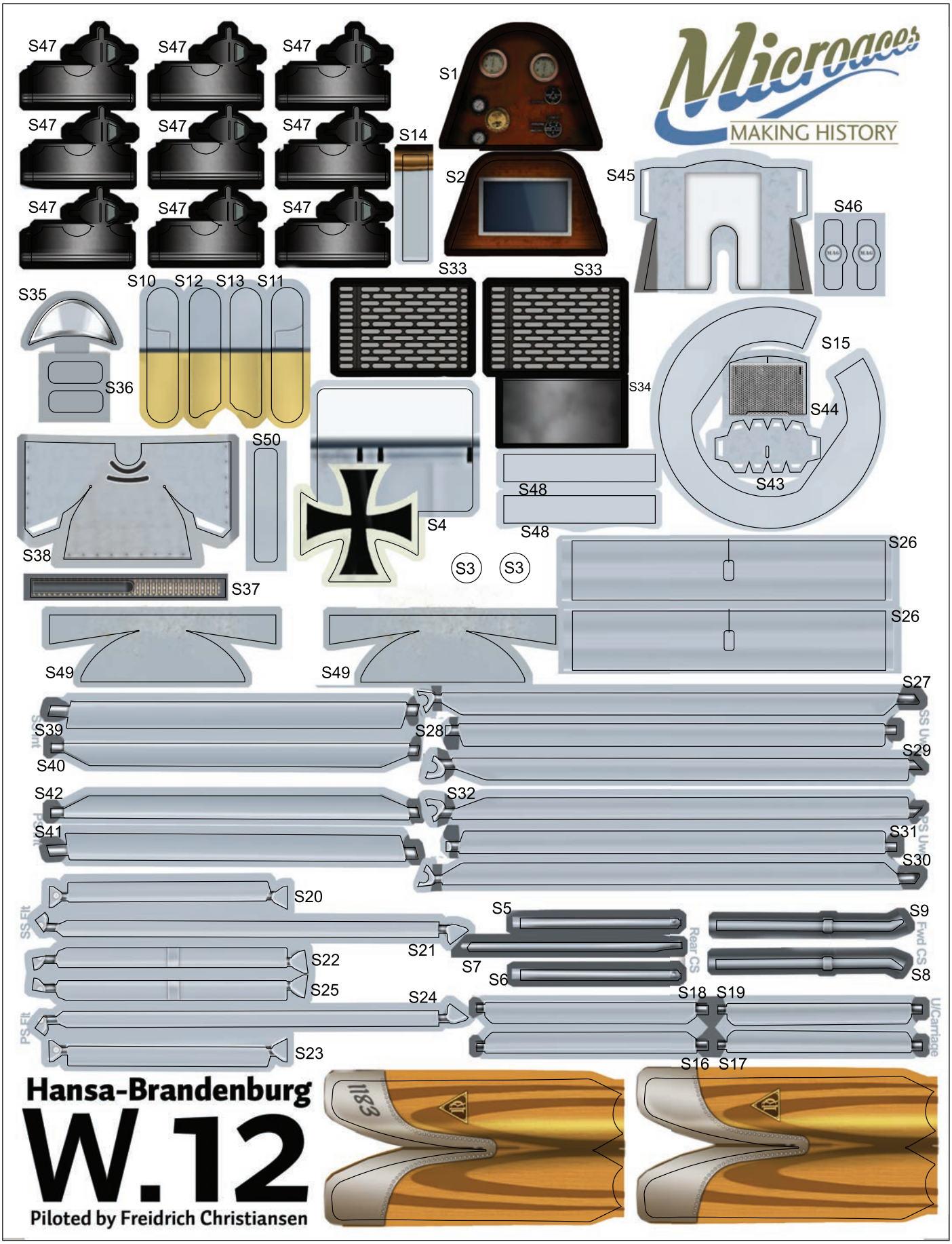
PLASTIC PARTS



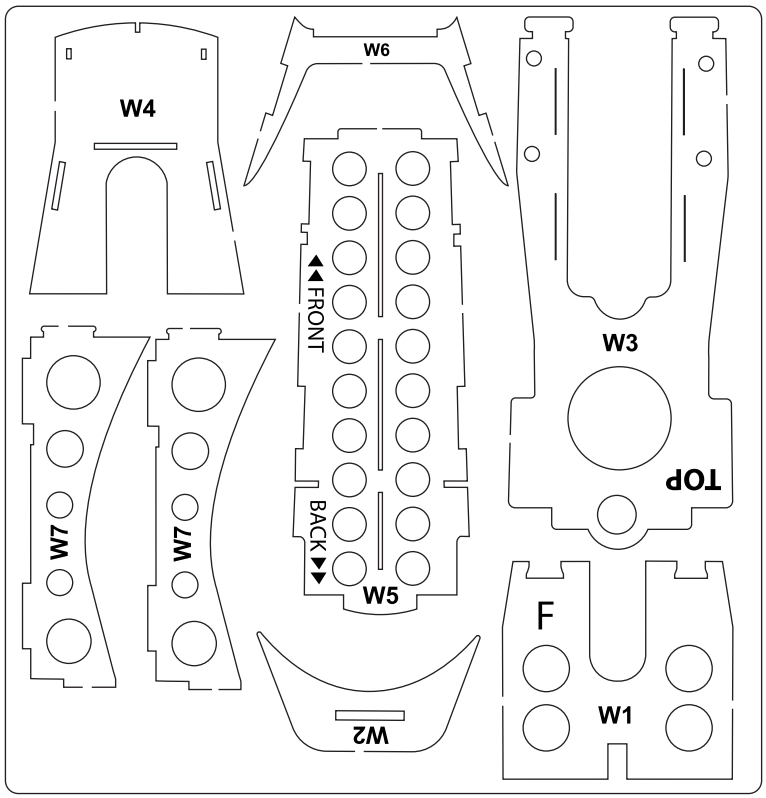
PLASTIC PARTS



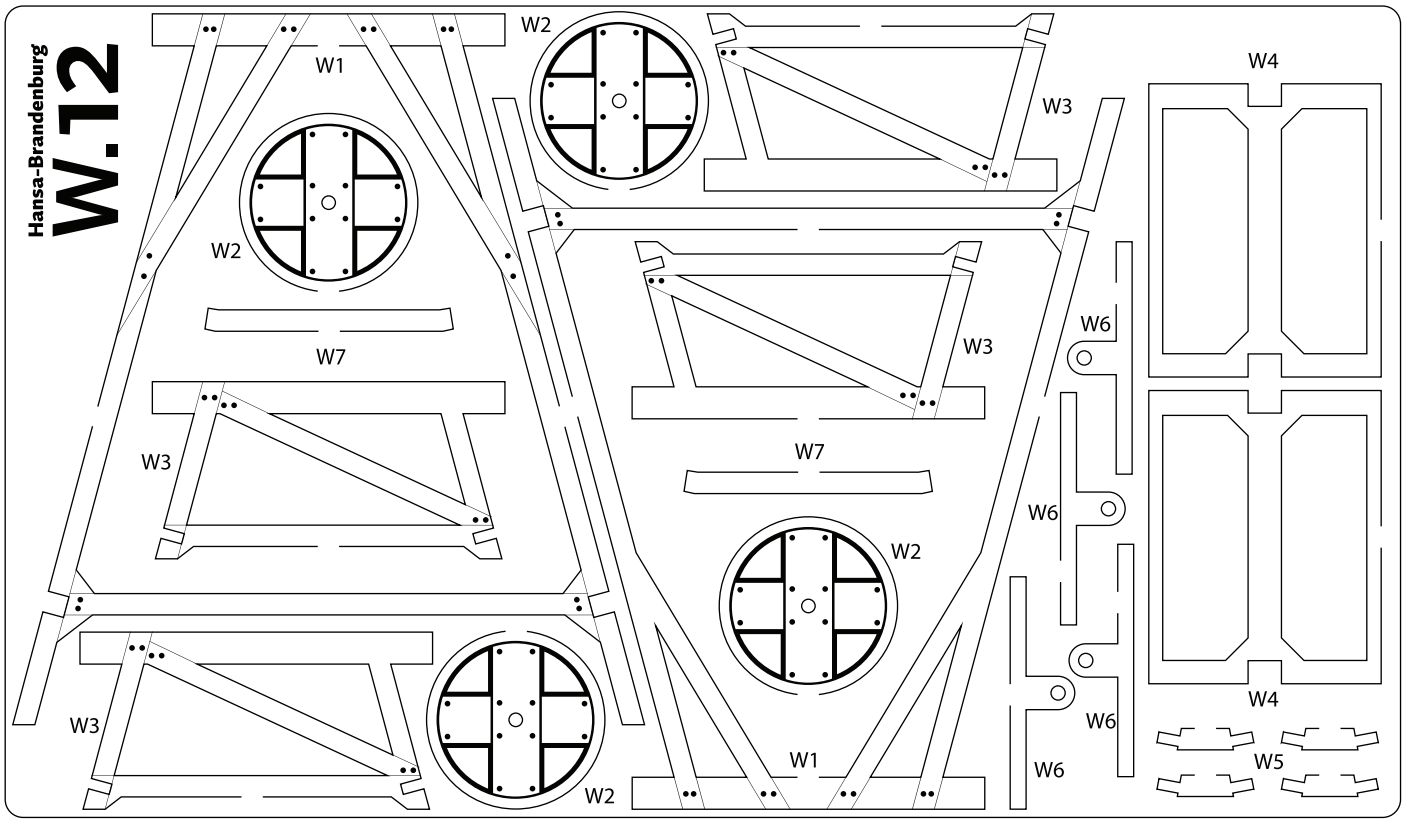
STICKERS


S47
S1
S14
S2
S45
S46
S33
S10
S12
S13
S11
S35
S36
S34
S15
S44
S43
S50
S48
S4
S38
S3
S26
S37
S49
S27
S39
S28
S40
S29
S42
S32
S41
S31
S30
S20
S5
S9
S21
S7
S8
S22
S25
S24
S18
S19
S23
S16
S17
Hansa-Brandenburg
W.12
Piloted by Freidrich Christiansen

0.8mm PLYWOOD



3mm PLYWOOD (optional extras)

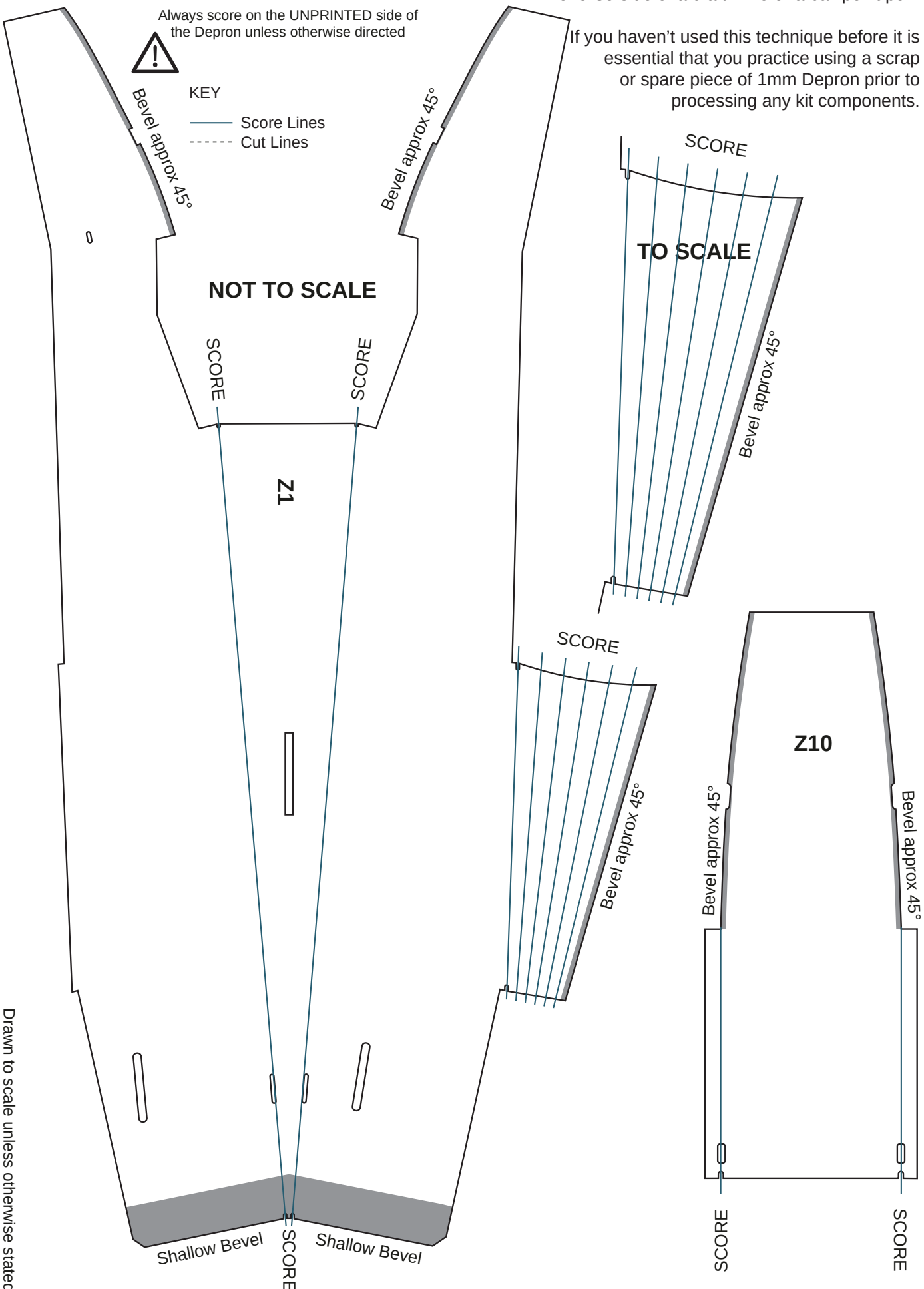


SCORING & BEVELING GUIDE #1

Method for scoring 1mm Depron

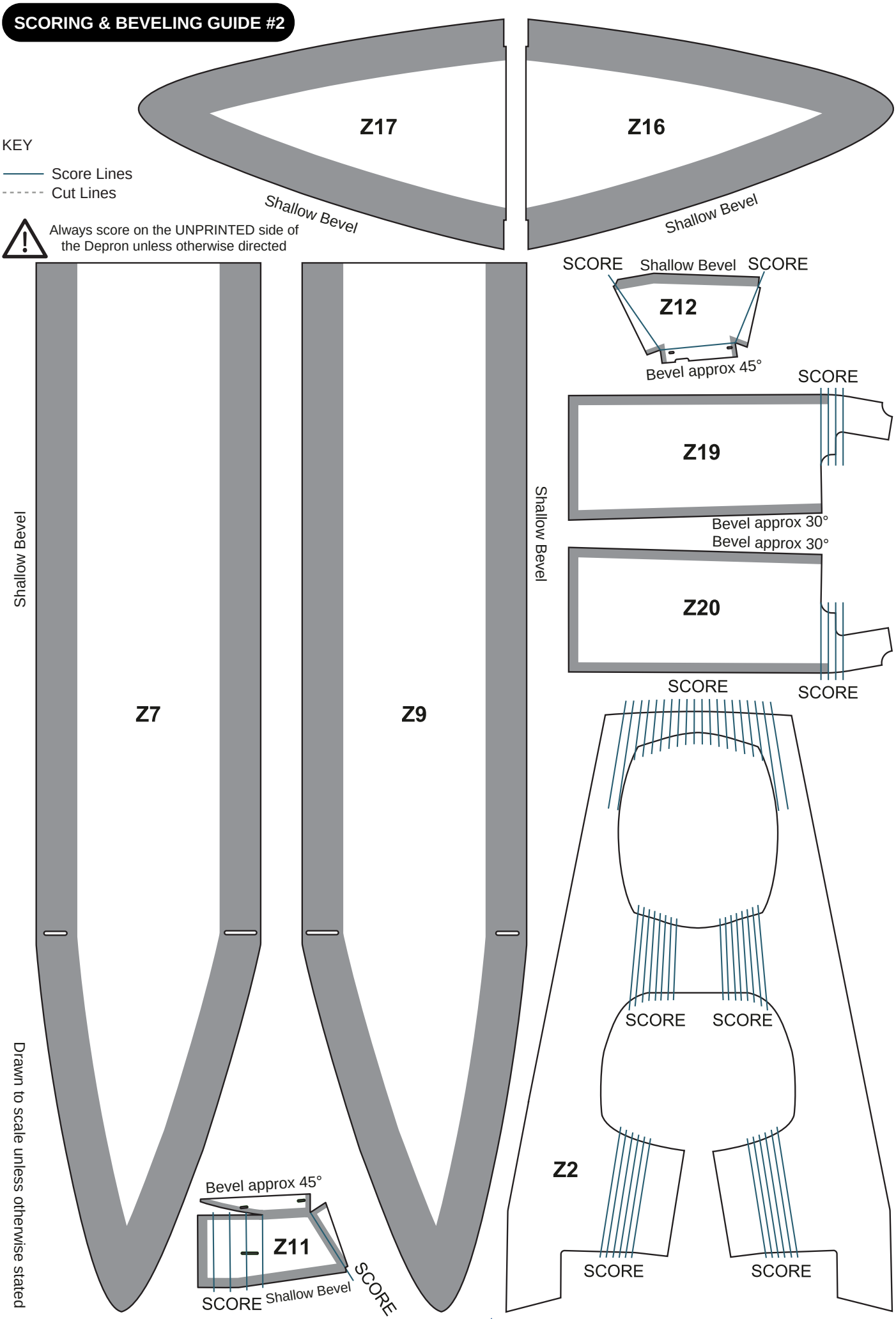
Using a stright edge as a guide, score the depron with the ***reverse*** side of a craft knife or a ball point pen.

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.

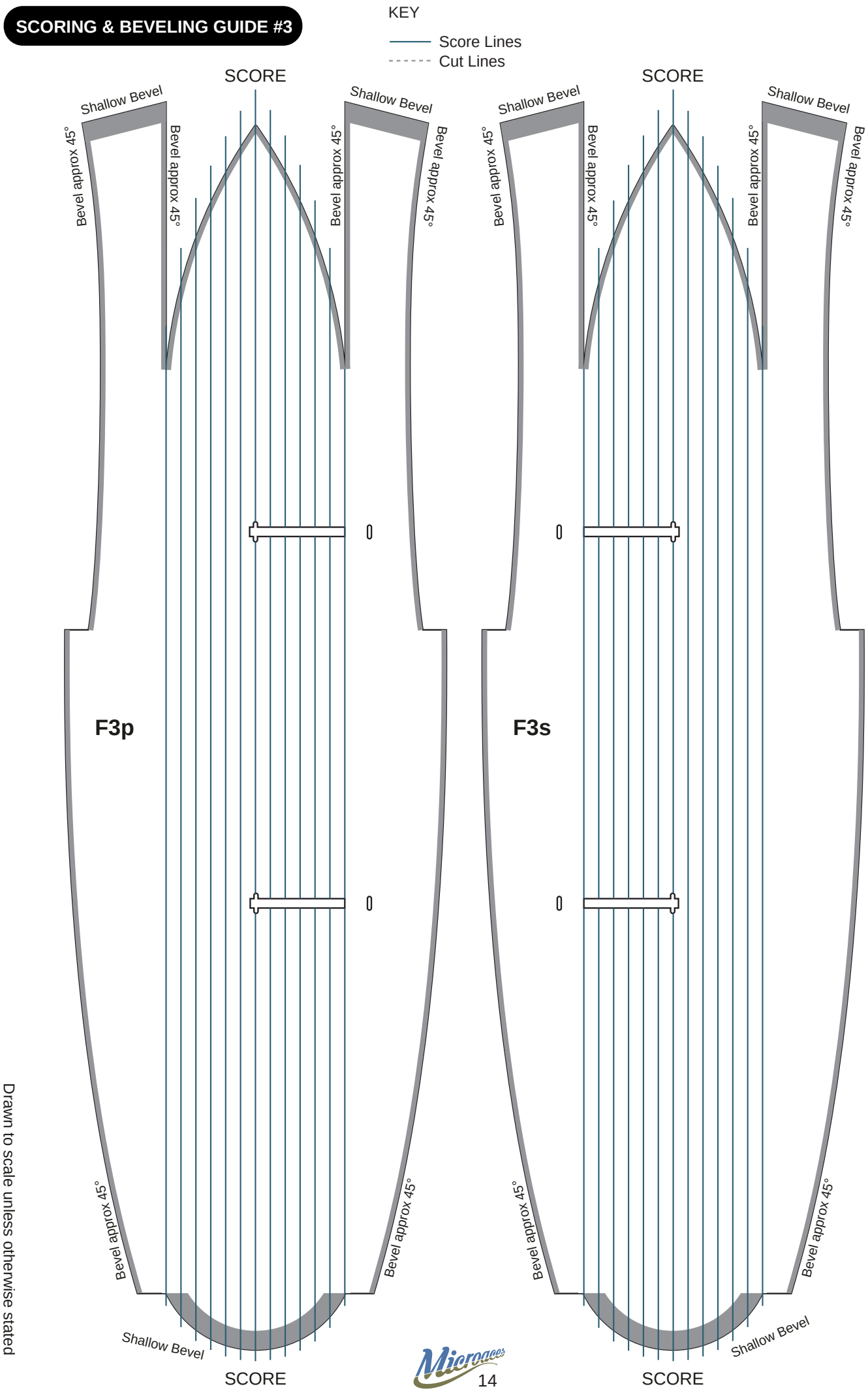


Drawn to scale unless otherwise stated

SCORING & BEVELING GUIDE #2



SCORING & BEVELING GUIDE #3



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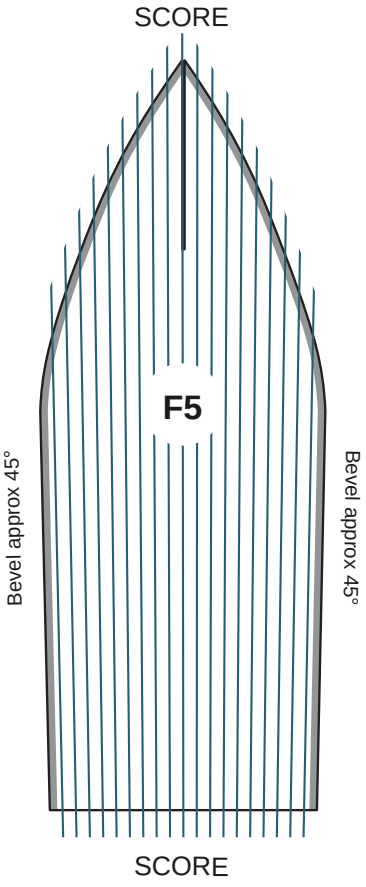
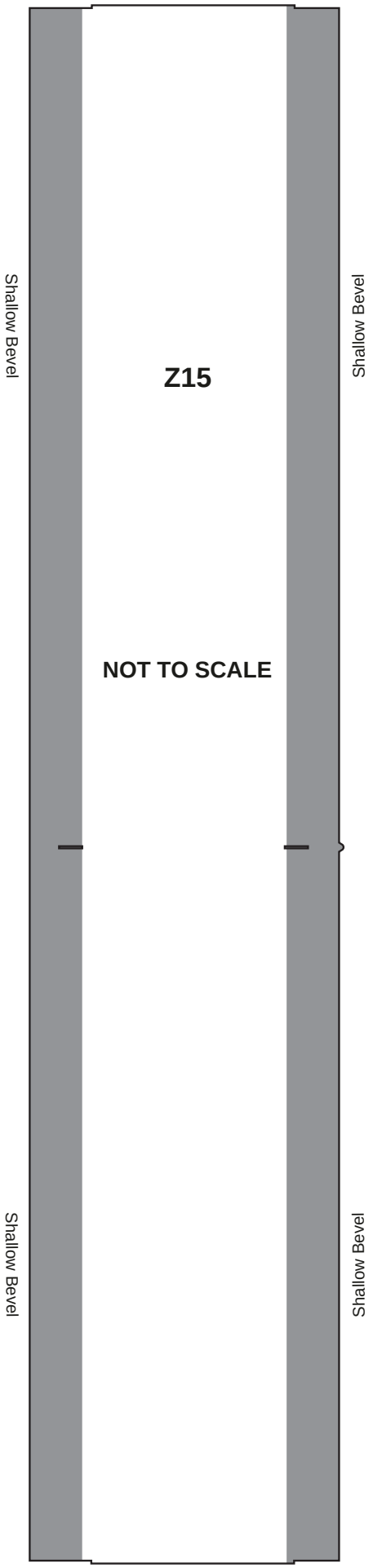
SCORING & BEVELING GUIDE #4

KEY

Score Lines

Cut Lines

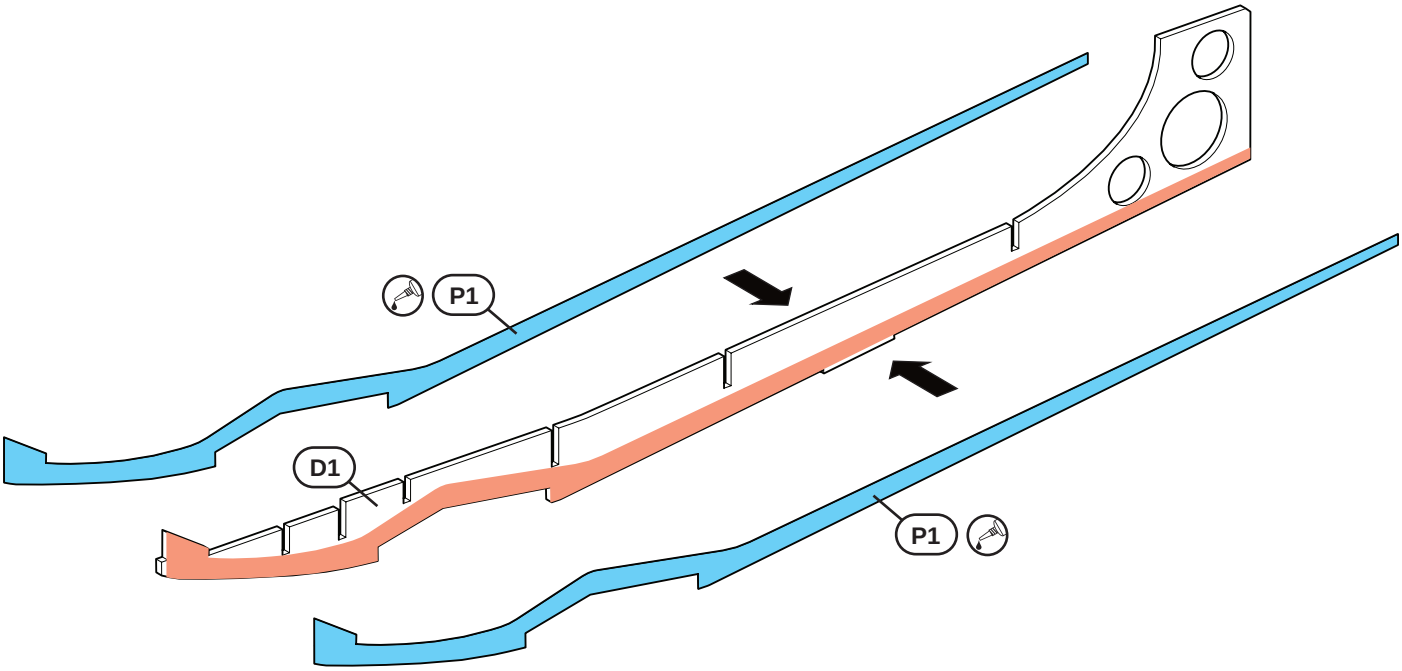


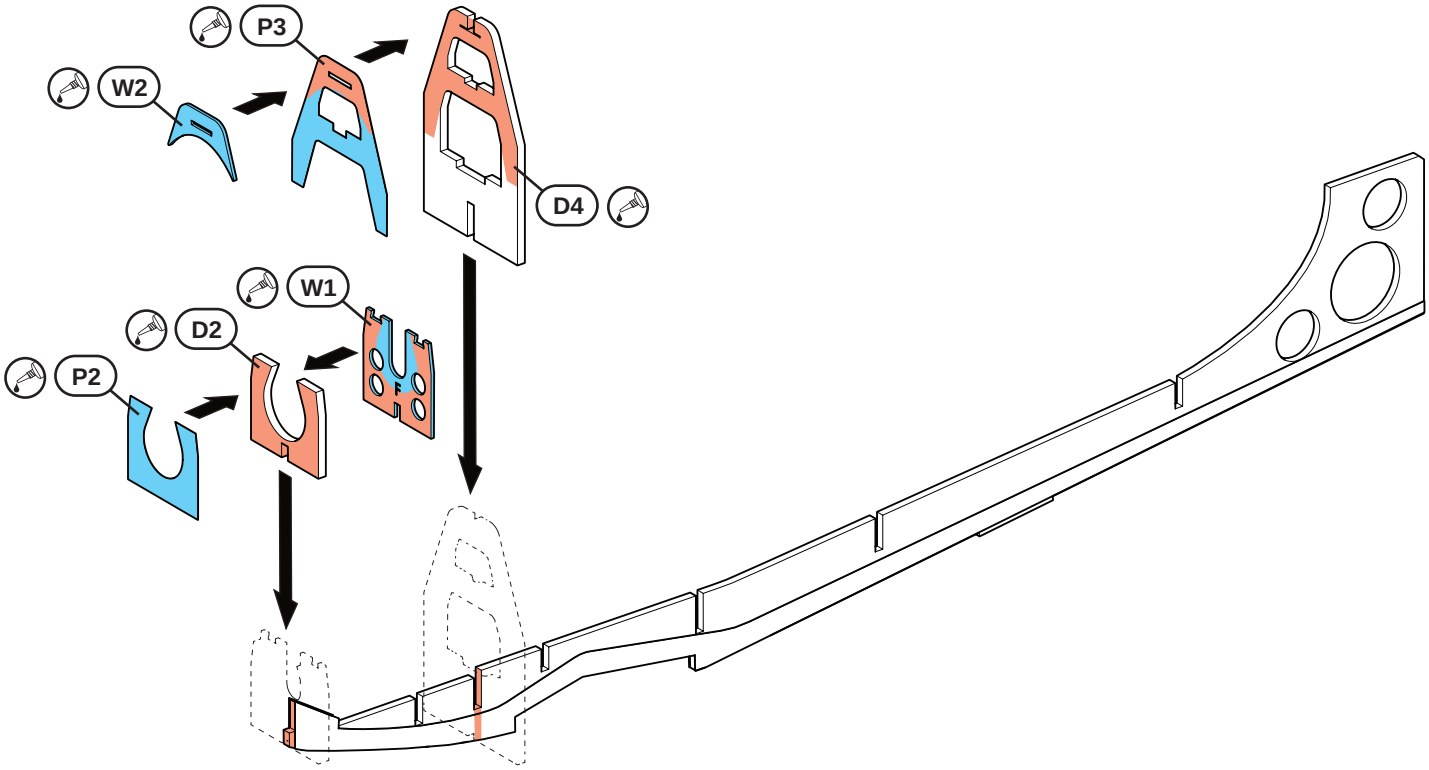


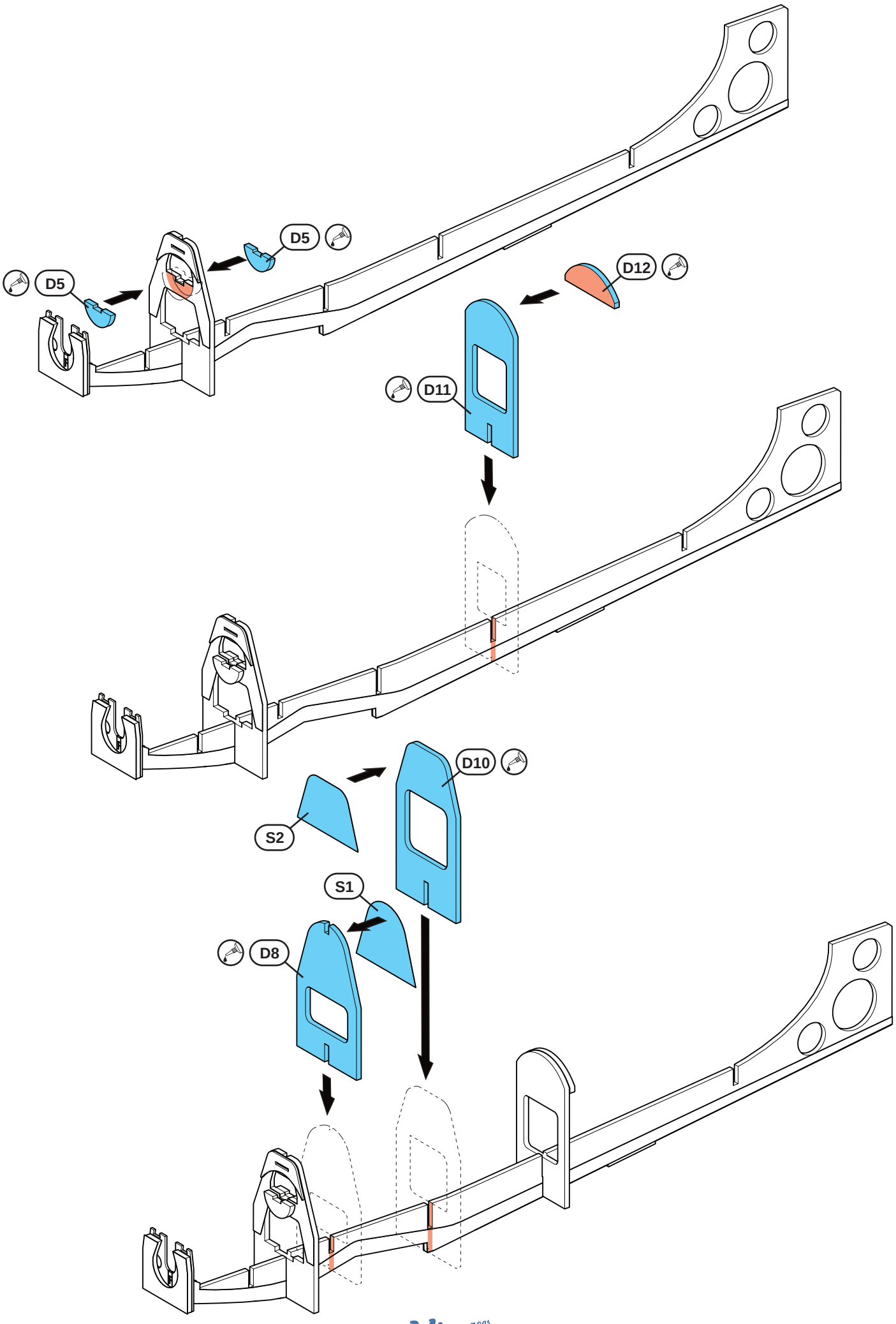
STAGE 1 AIRFRAME

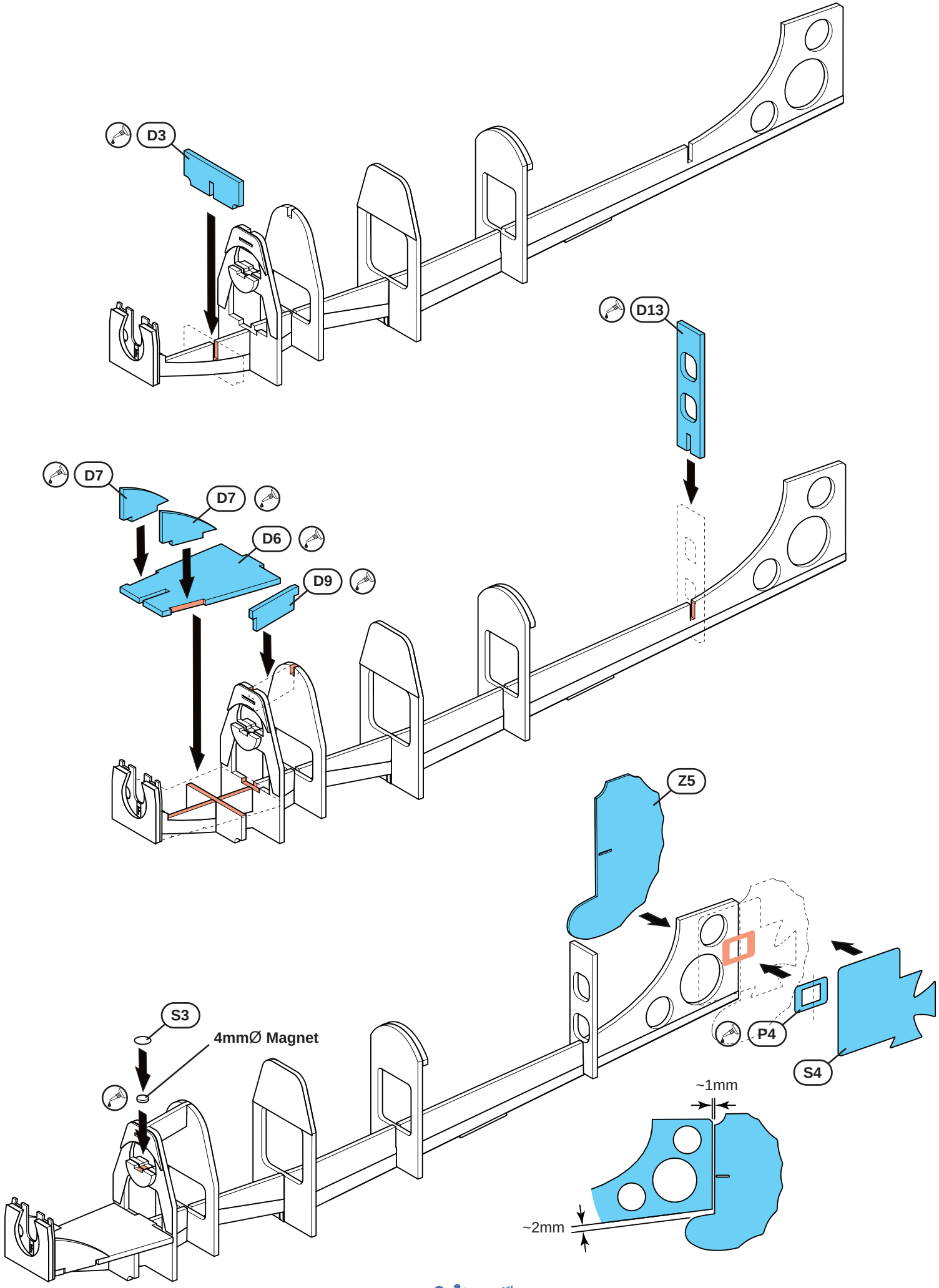
The plastic parts used in the airframe are there to increase the strength of the structure in vital areas whilst still providing some flexibility.

Apply a thin layer of adhesive to the plastic parts and attach immediately to allow some wiggle time to get the parts lined up. Set aside to cure for 30 mins or more.



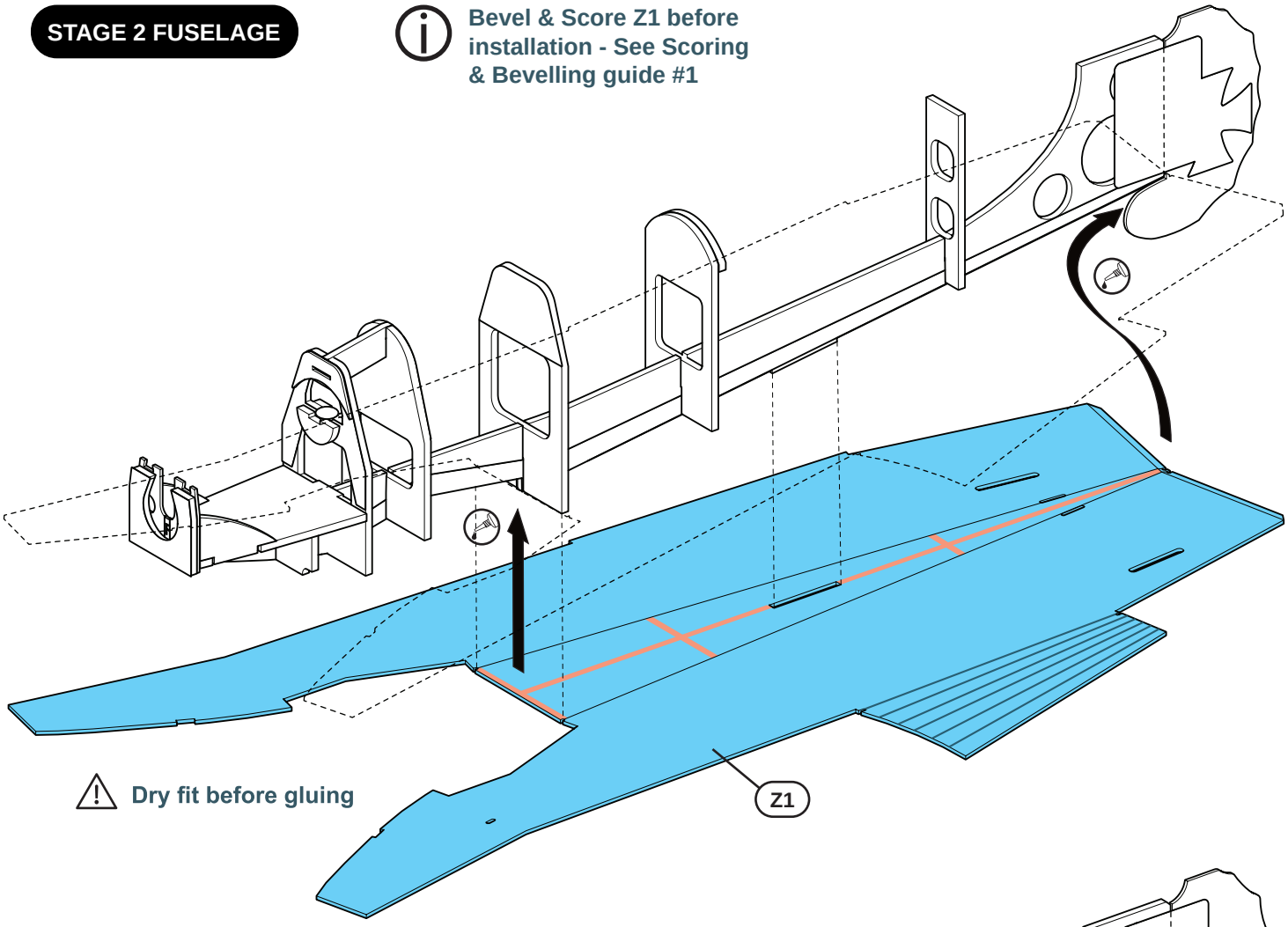


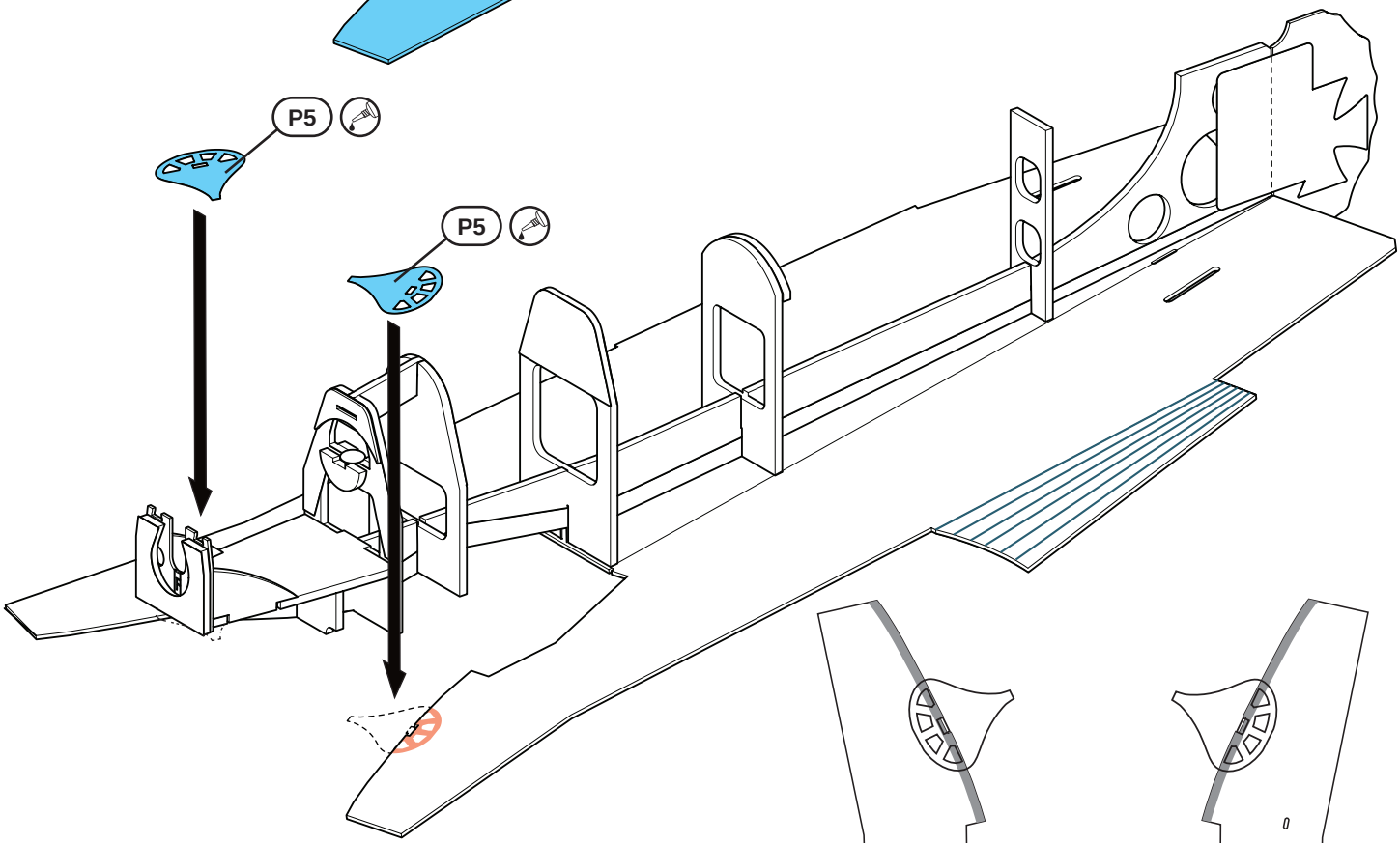

D5
D5
D12
D11
D10
S2
S1
D8


D3
D13
D7
D7
D6
D9
Z5
P4
S4
S3
4mmØ Magnet
~1mm
~2mm

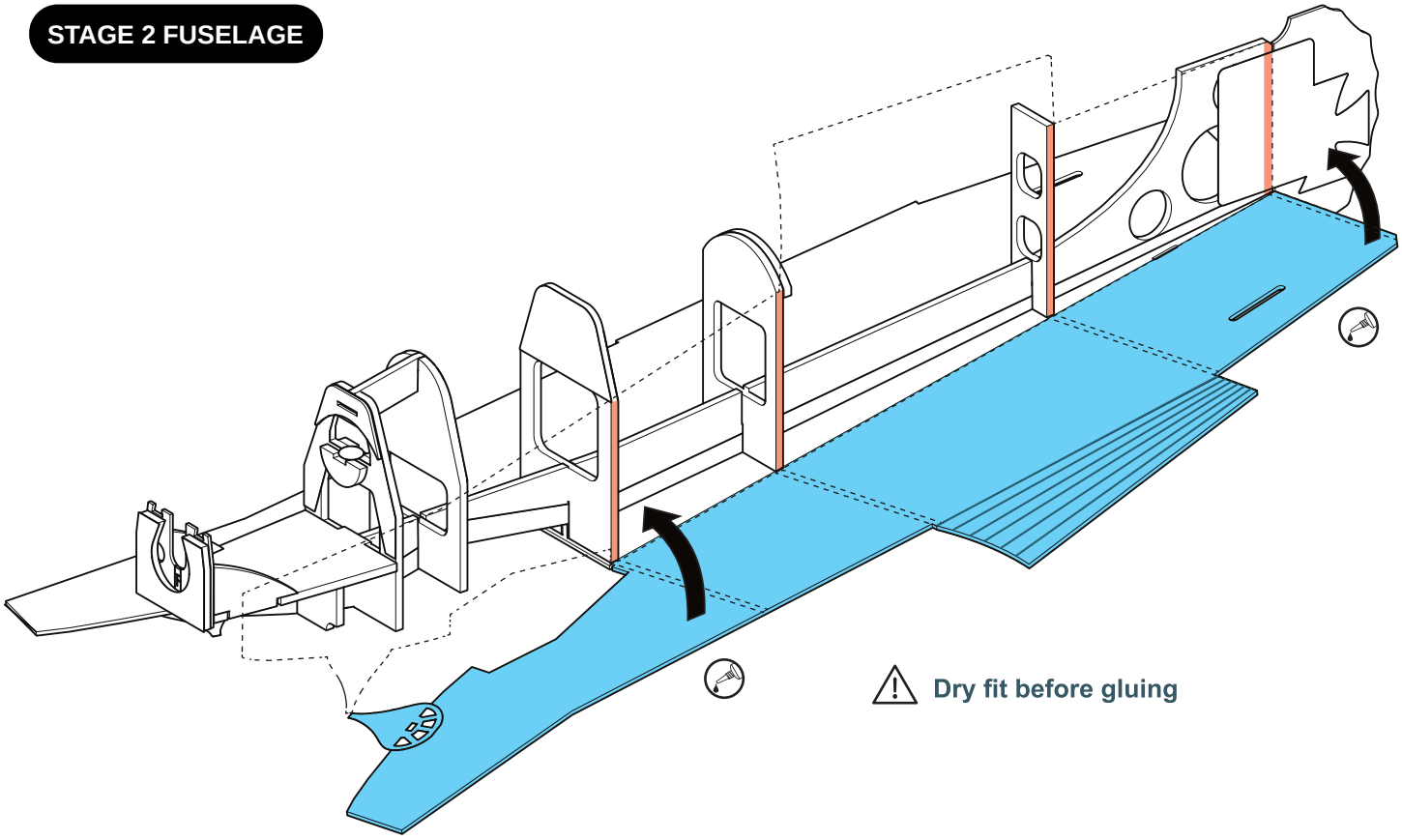
STAGE 2 FUSELAGE

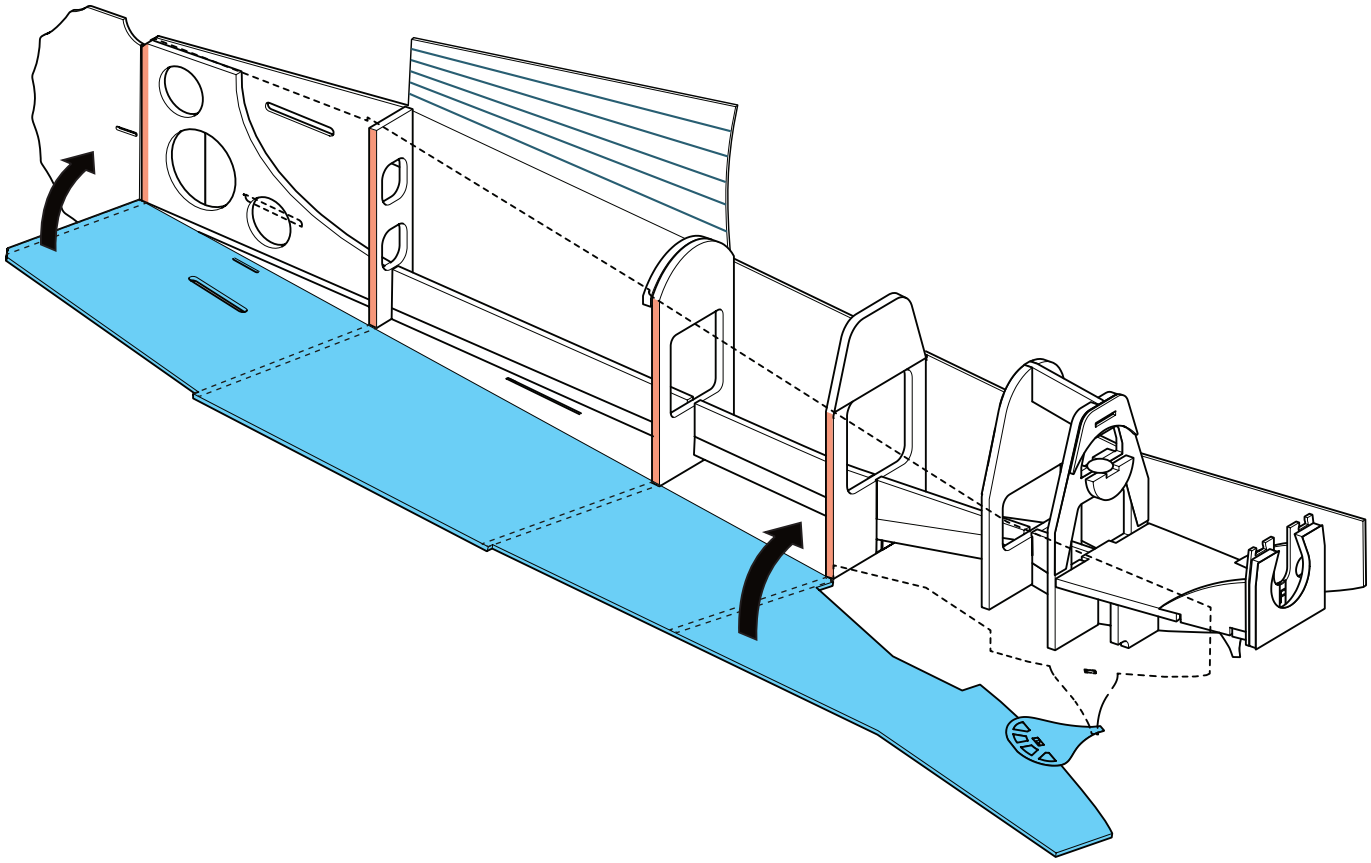
Bevel & Score Z1 before installation - See Scoring & Bevelling guide #1

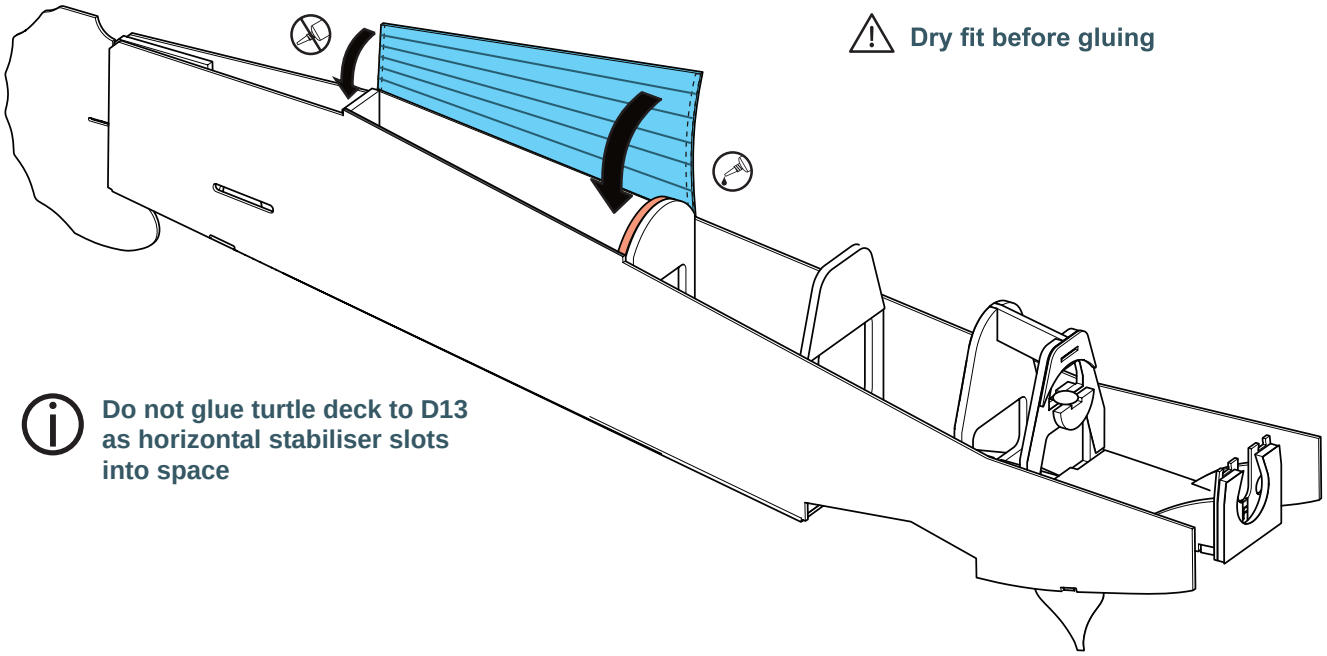


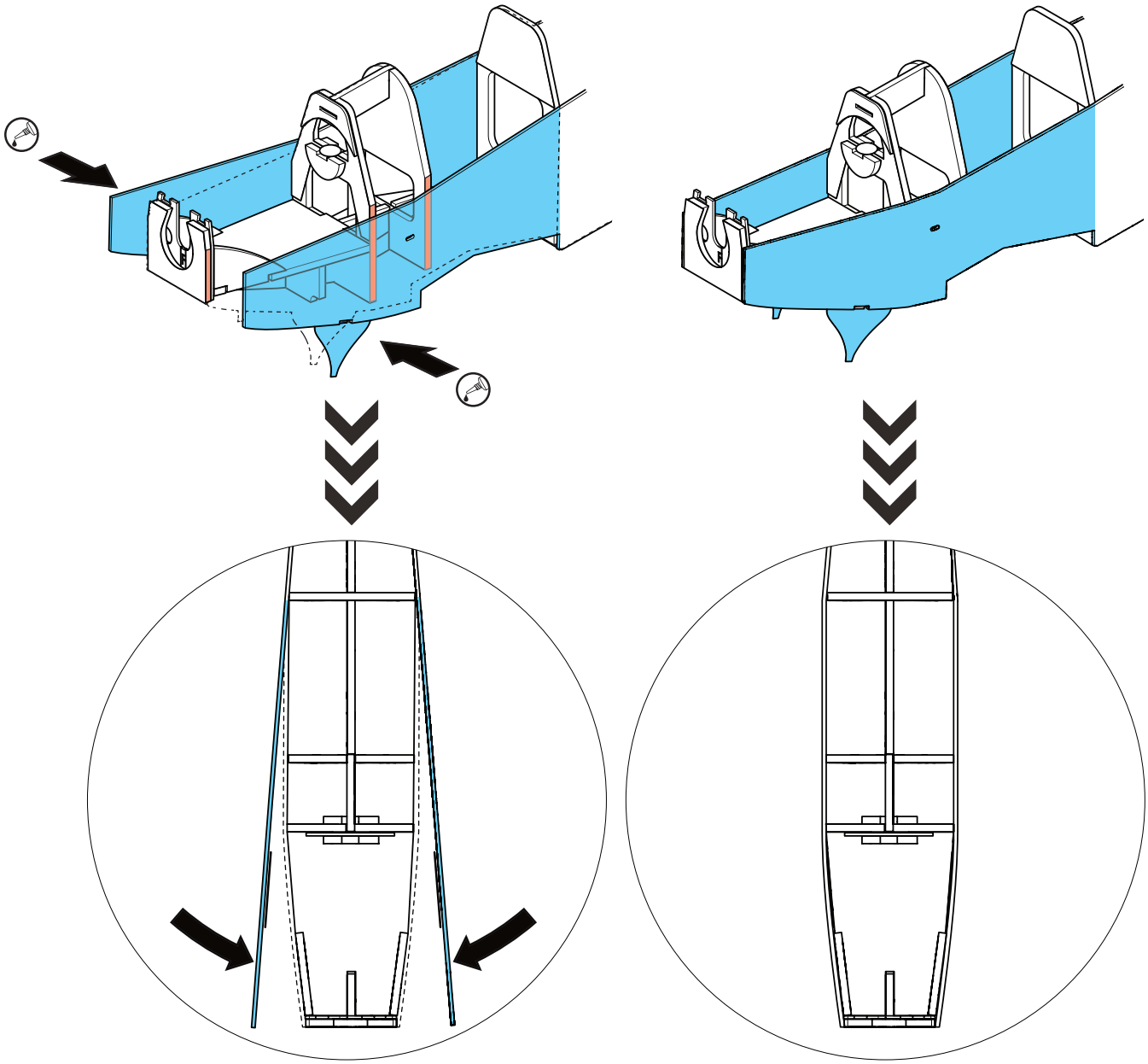


STAGE 2 FUSELAGE

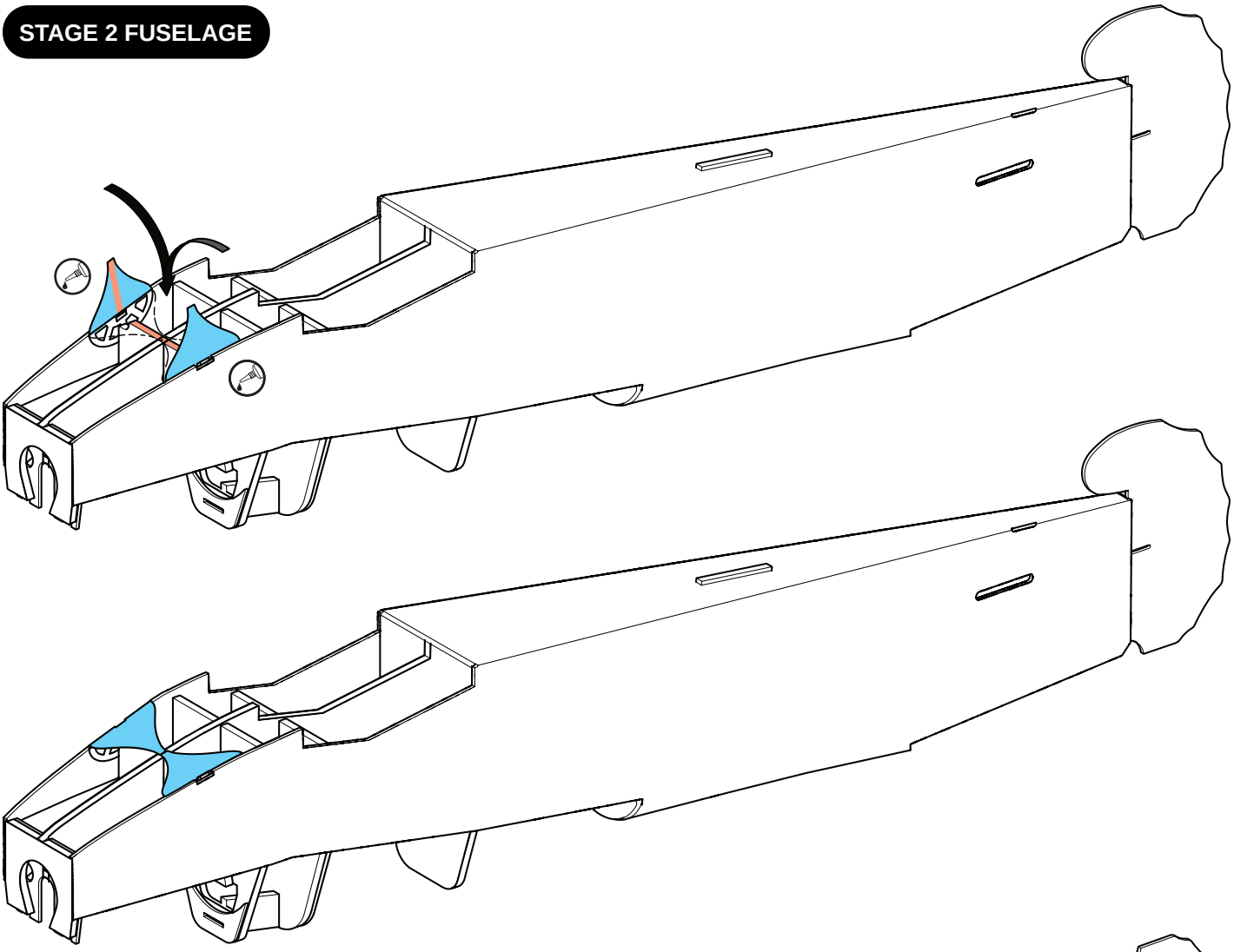


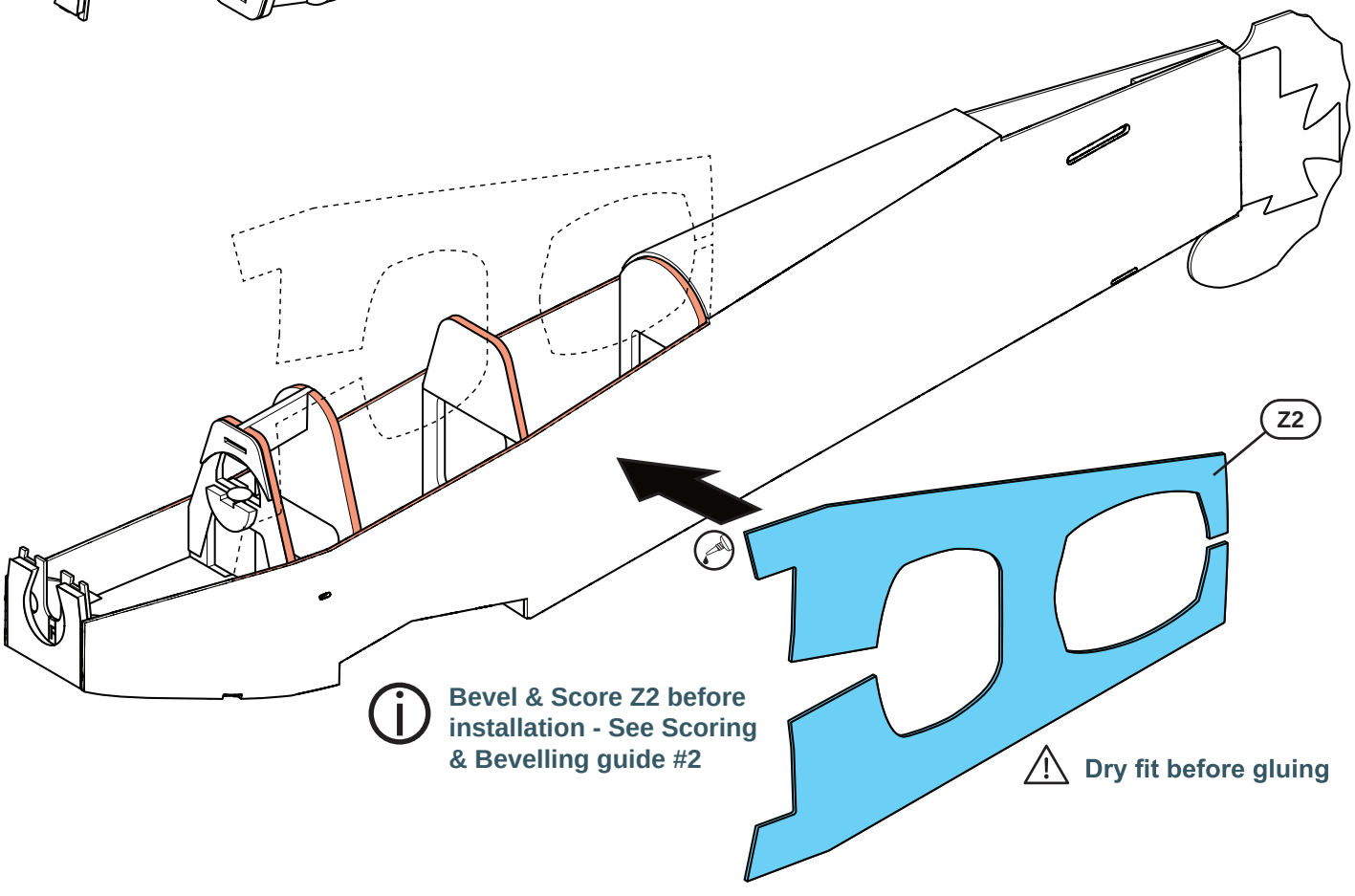



Dry fit before gluing
Do not glue turtle deck to D13
as horizontal stabiliser slots
into space



STAGE 2 FUSELAGE

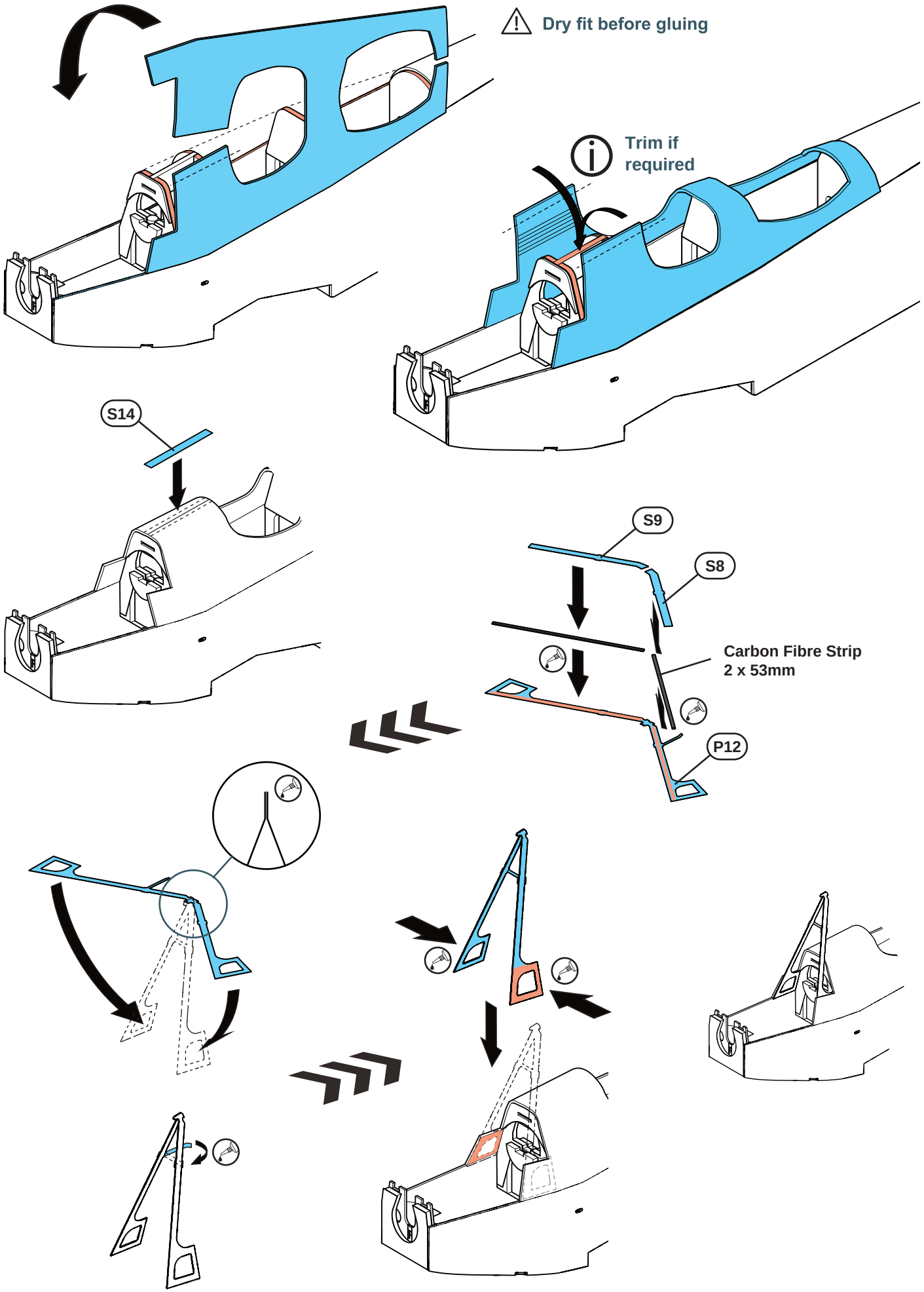




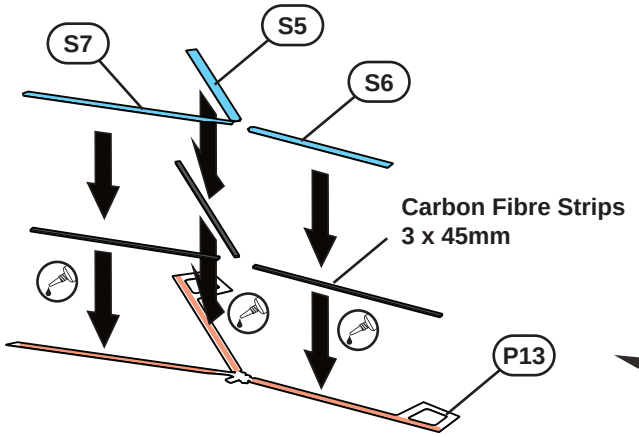
Bevel & Score Z2 before installation - See Scoring & Bevelling guide #2

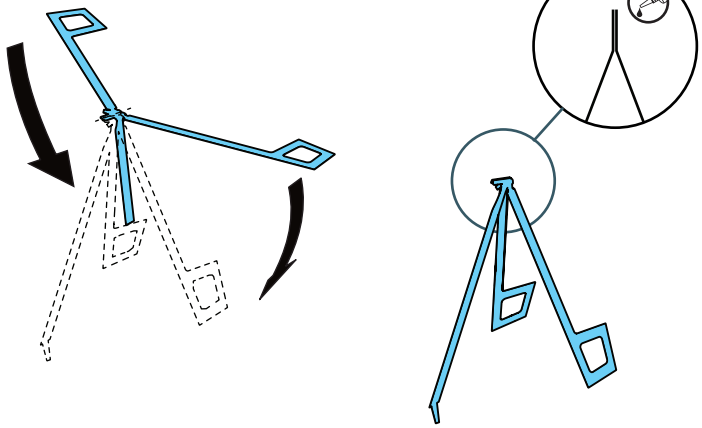
Dry fit before gluing

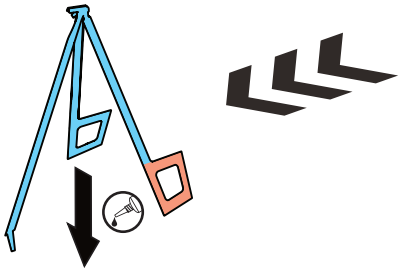
STAGE 2 FUSELAGE

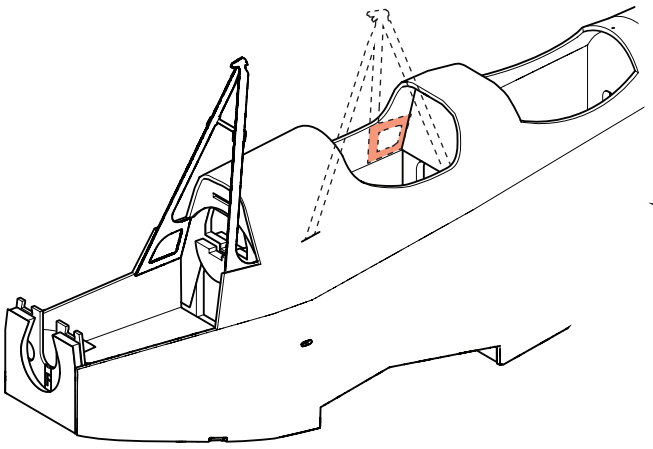


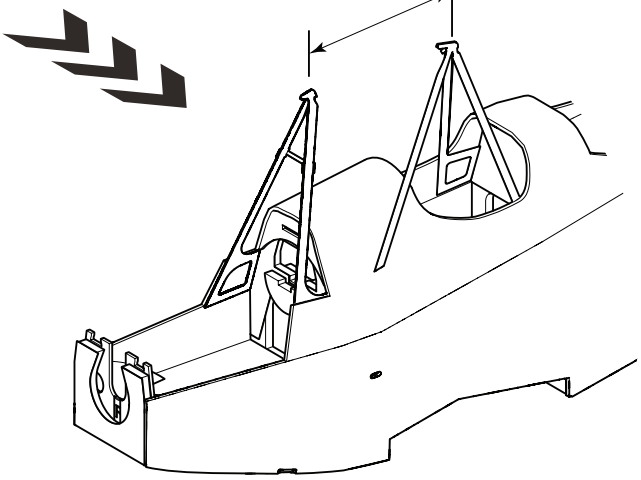
STAGE 2 FUSELAGE



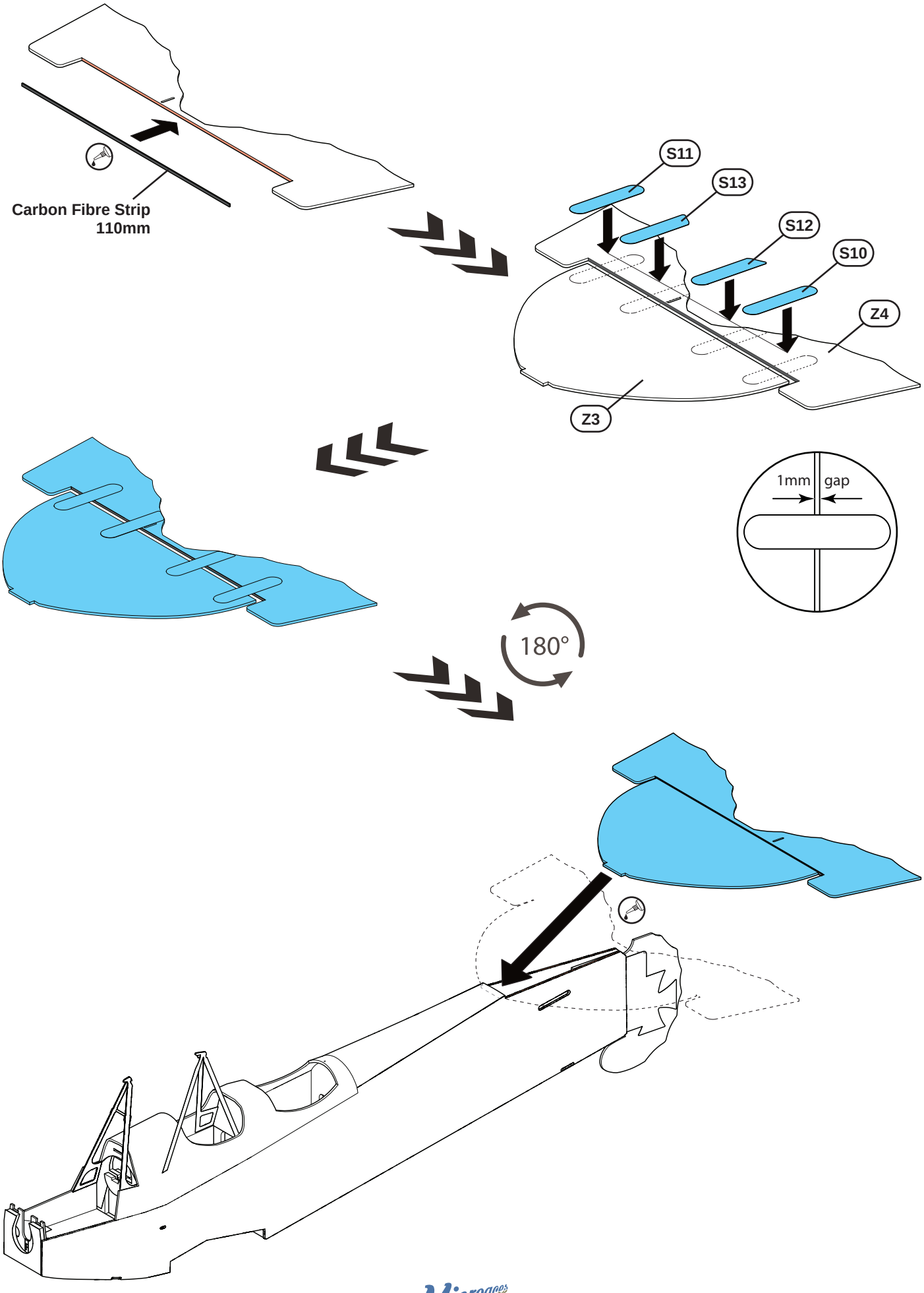




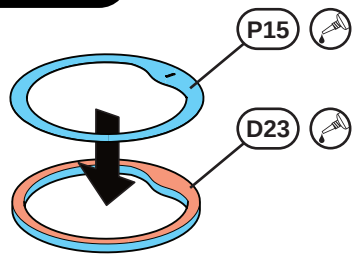


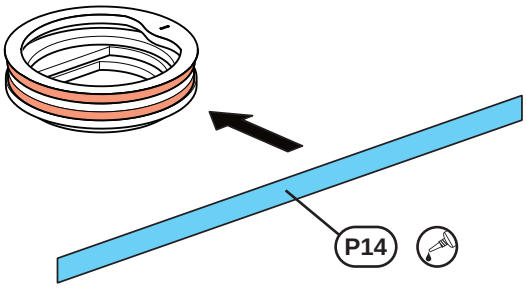


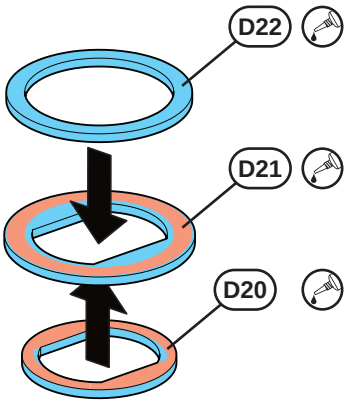
STAGE 3 TAIL

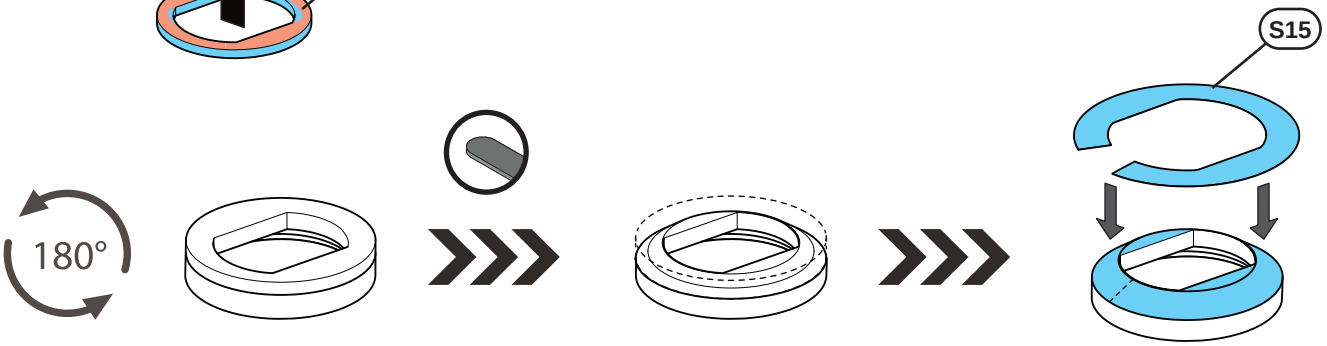


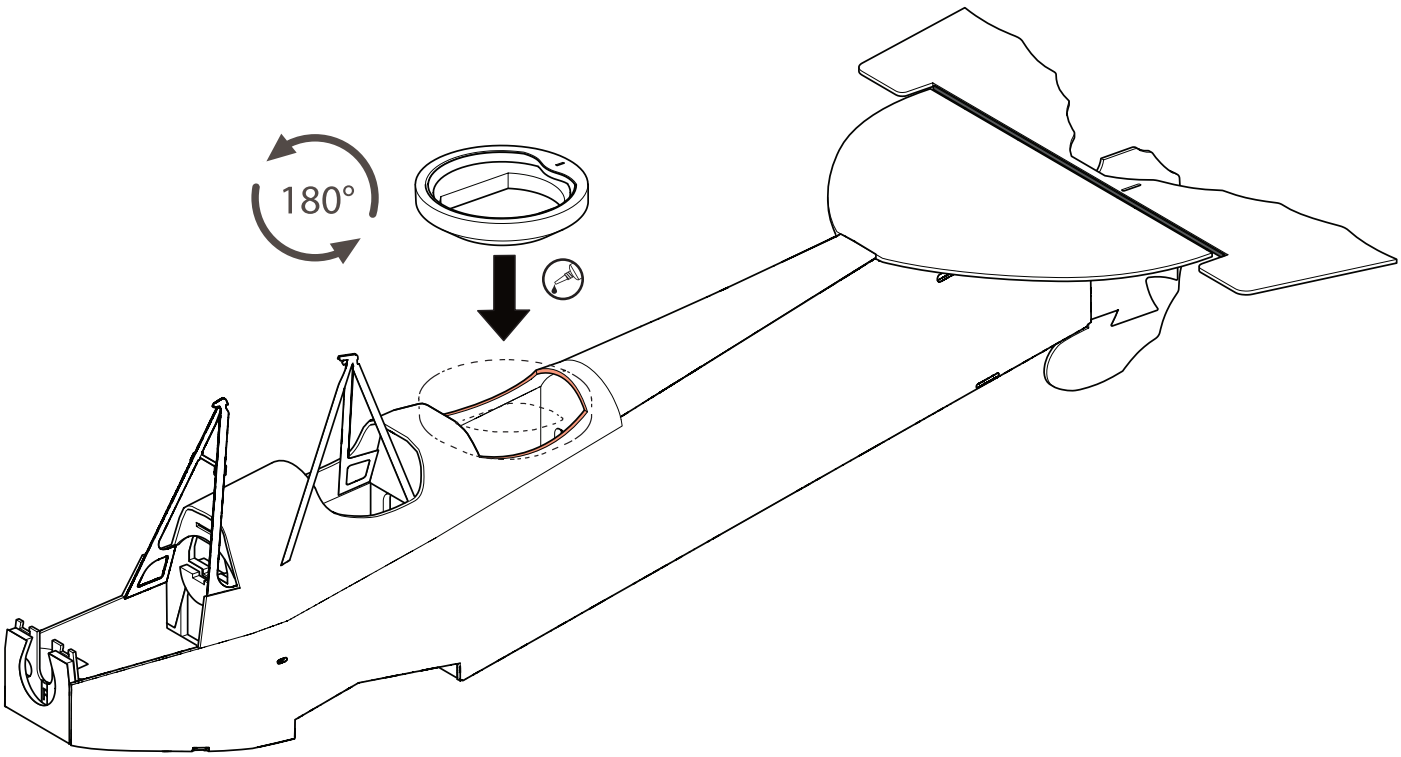
STAGE 4 TURRET



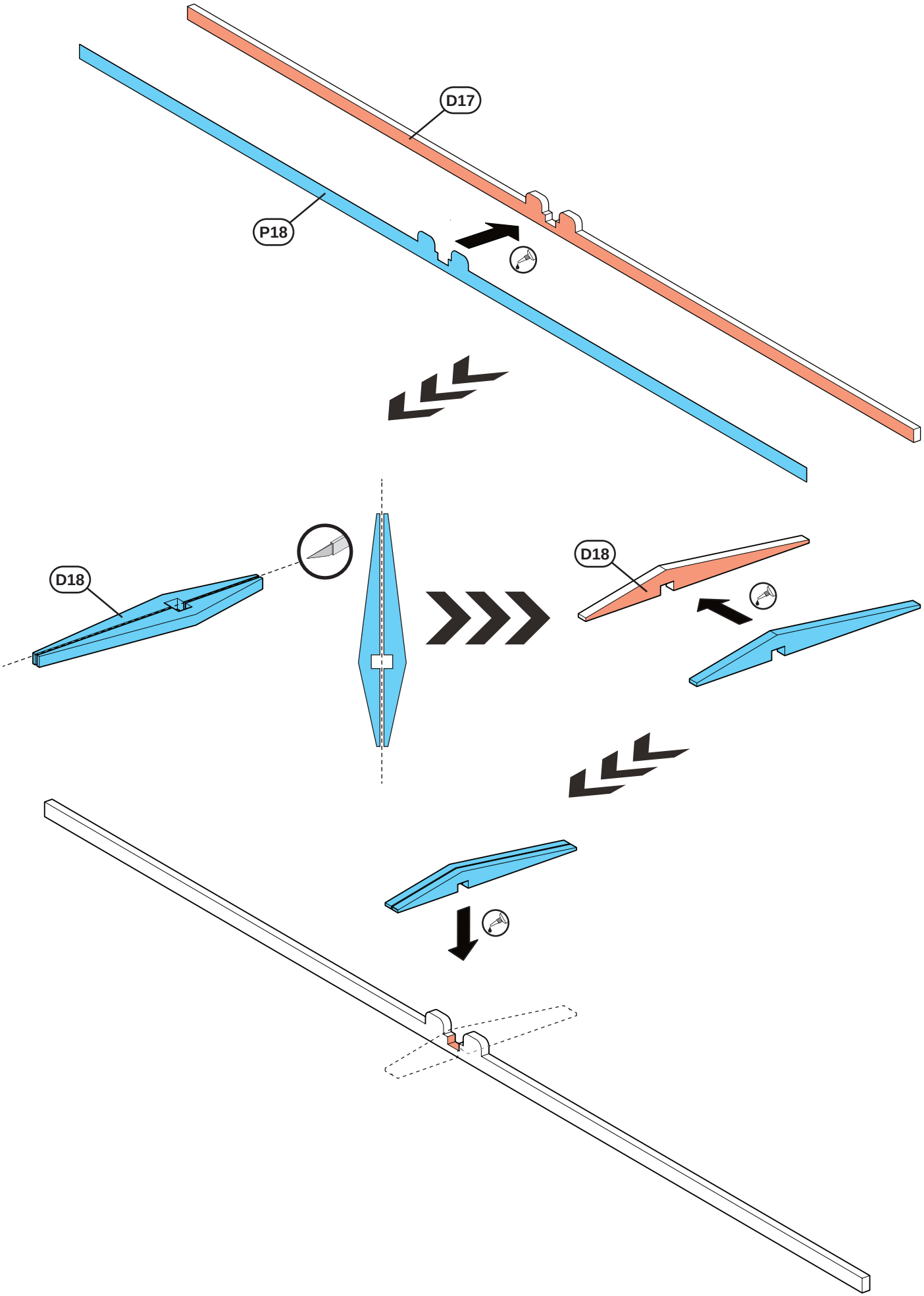




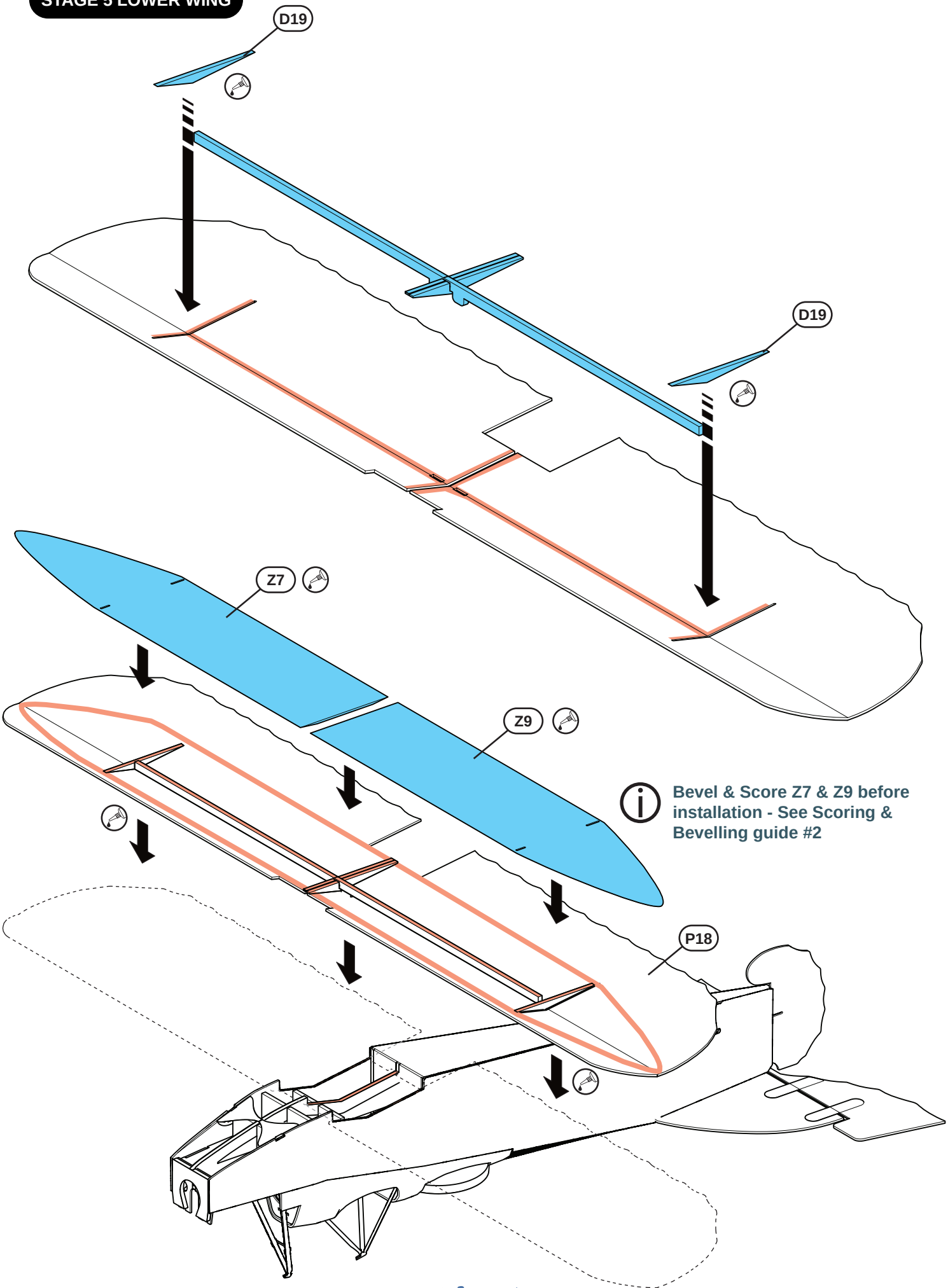




STAGE 5 LOWER WING

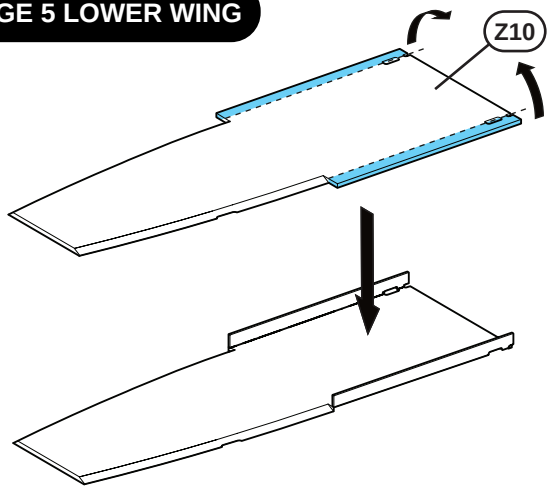


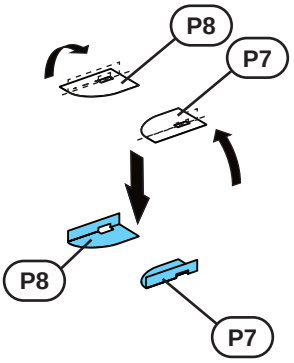
STAGE 5 LOWER WING



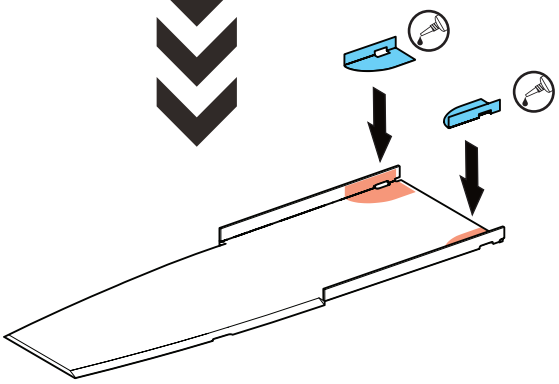
Bevel & Score Z7 & Z9 before installation - See Scoring & Bevelling guide #2

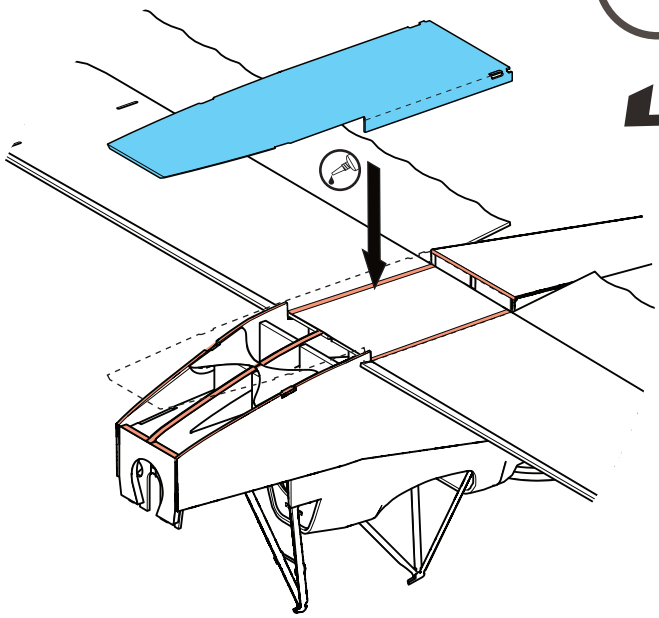
STAGE 5 LOWER WING

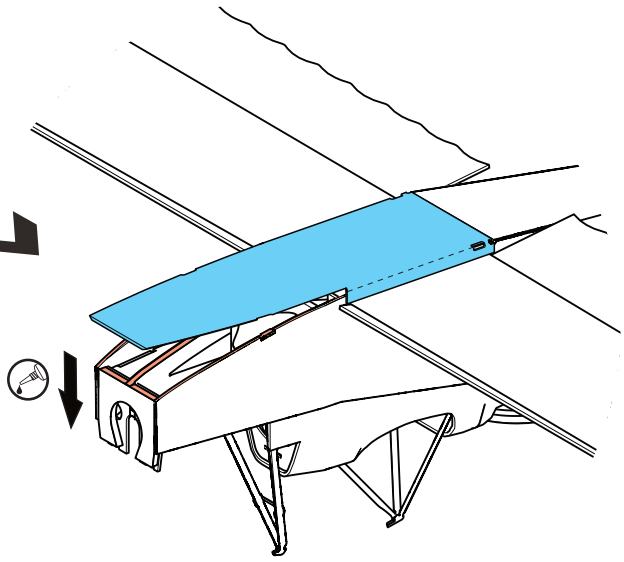


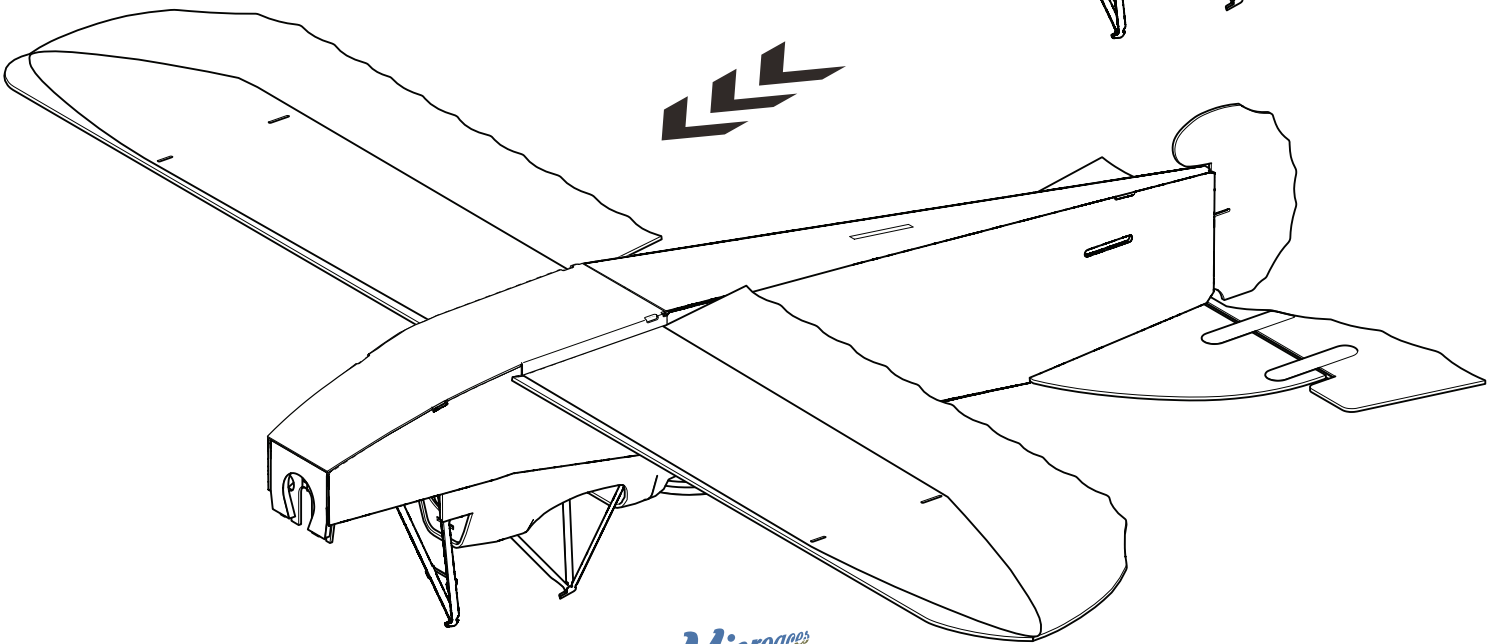


Bevel & Score Z10 before installation - See Scoring & Bevelling guide #1

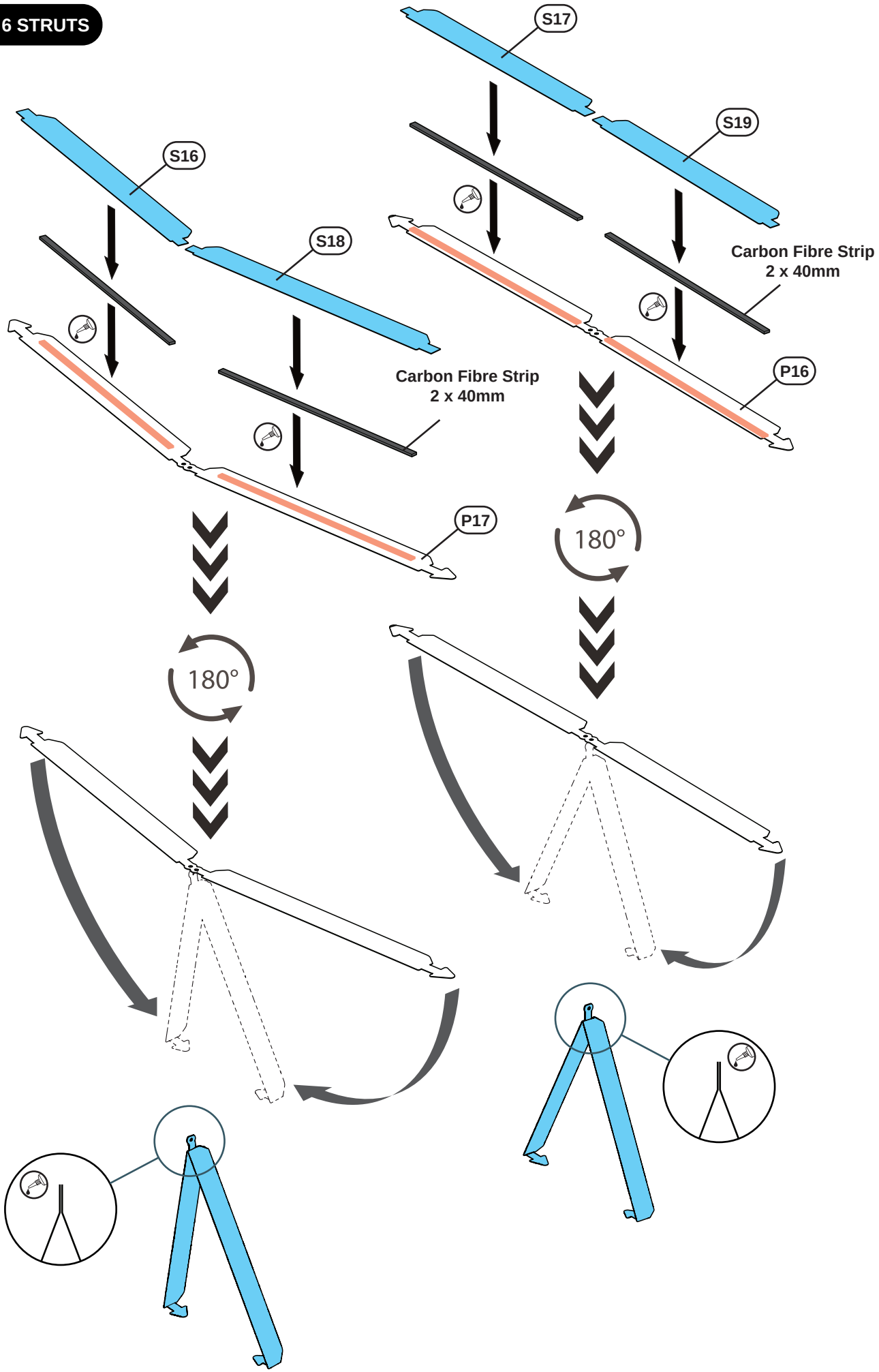






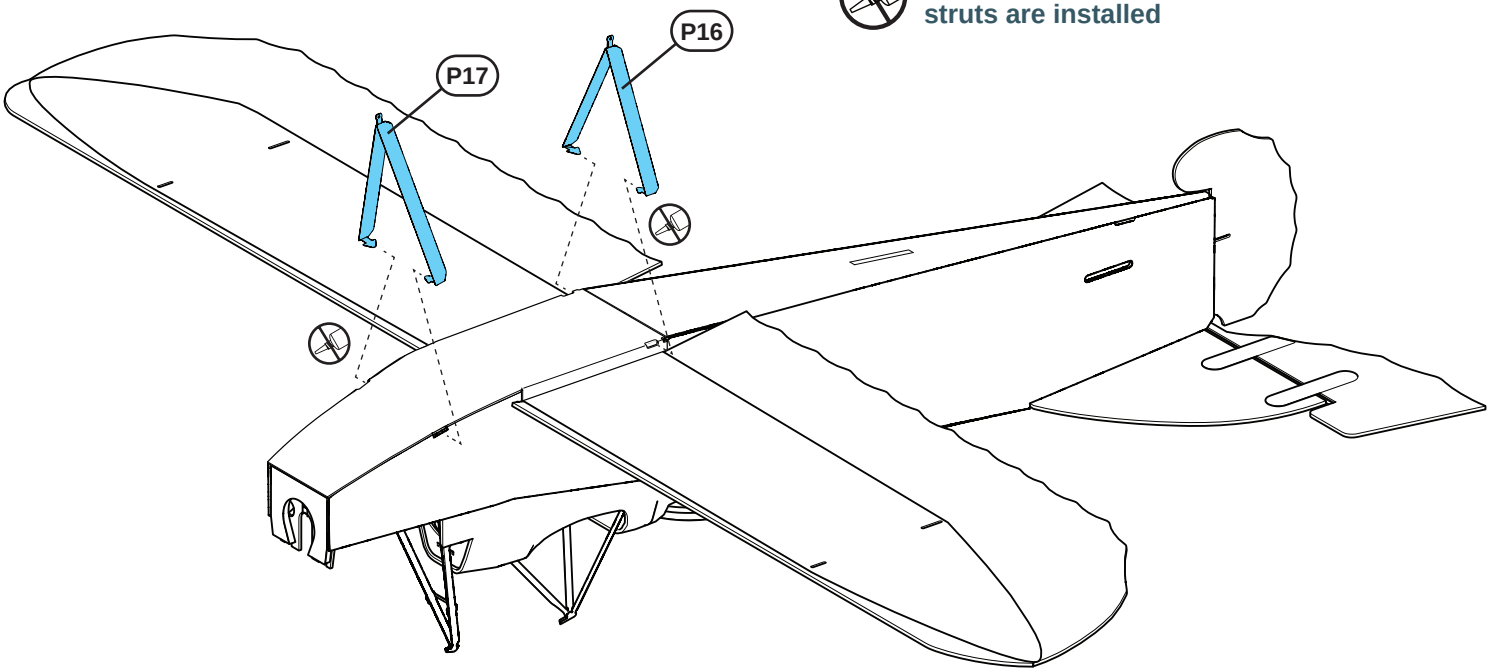


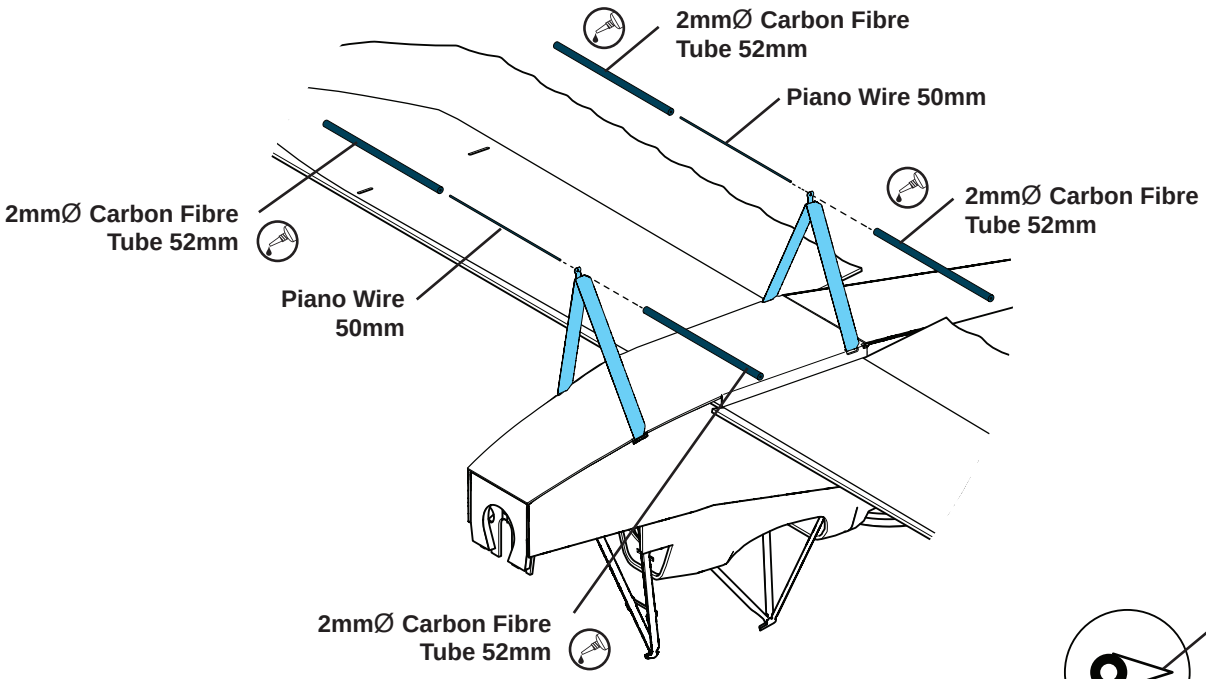
STAGE 6 STRUTS



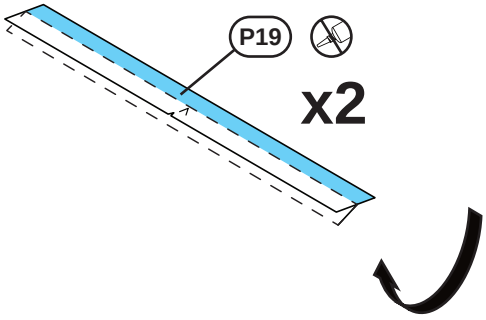
STAGE 6 STRUTS

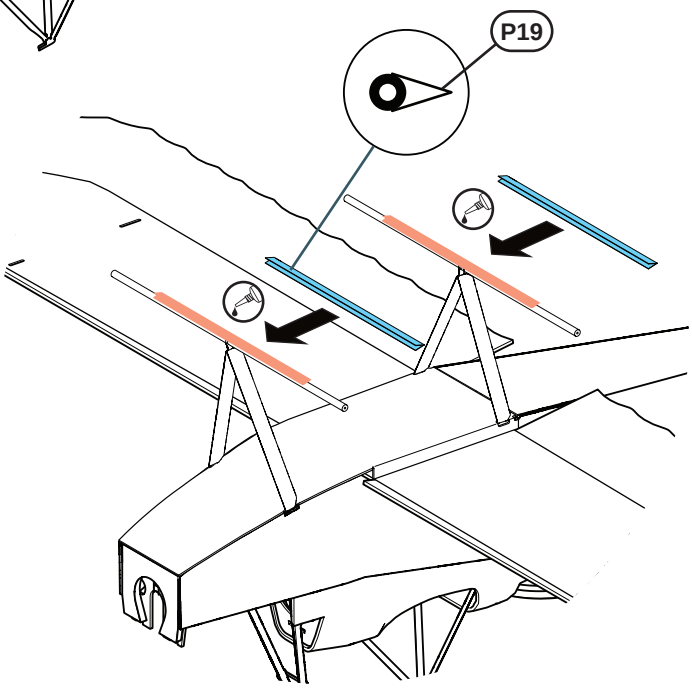
Delay gluing until ALL underwing struts are installed



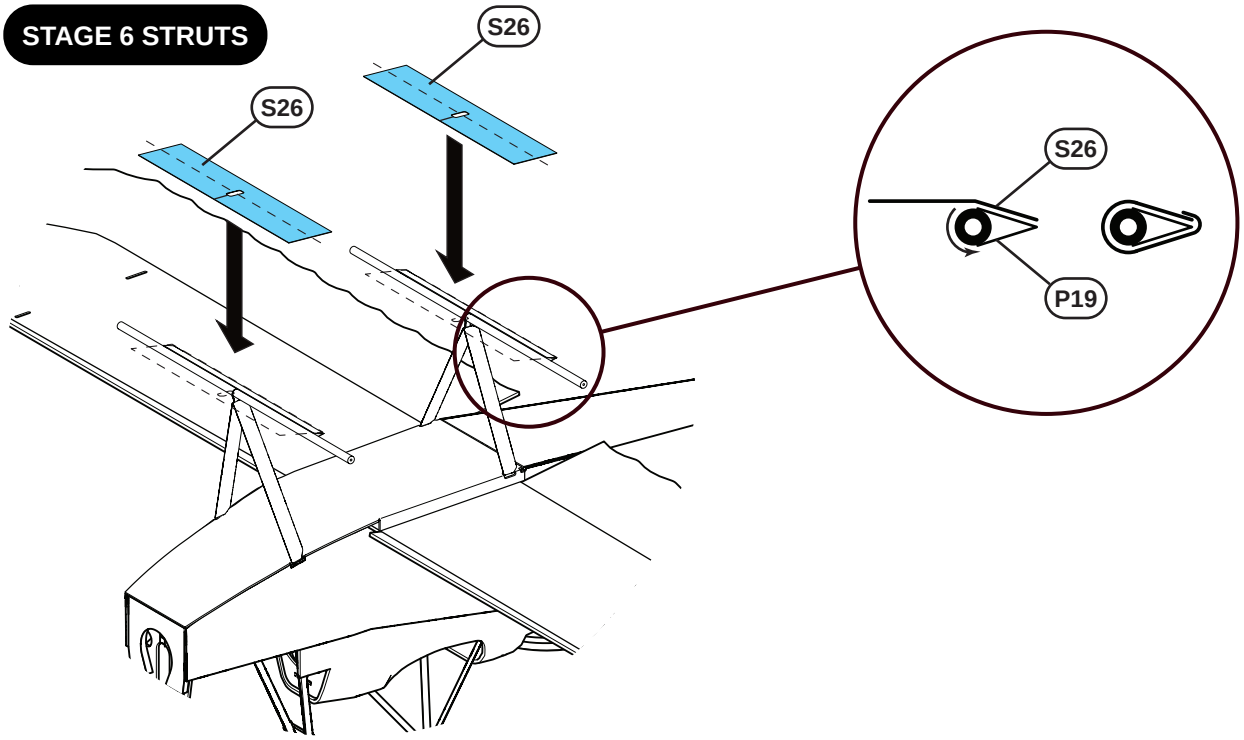


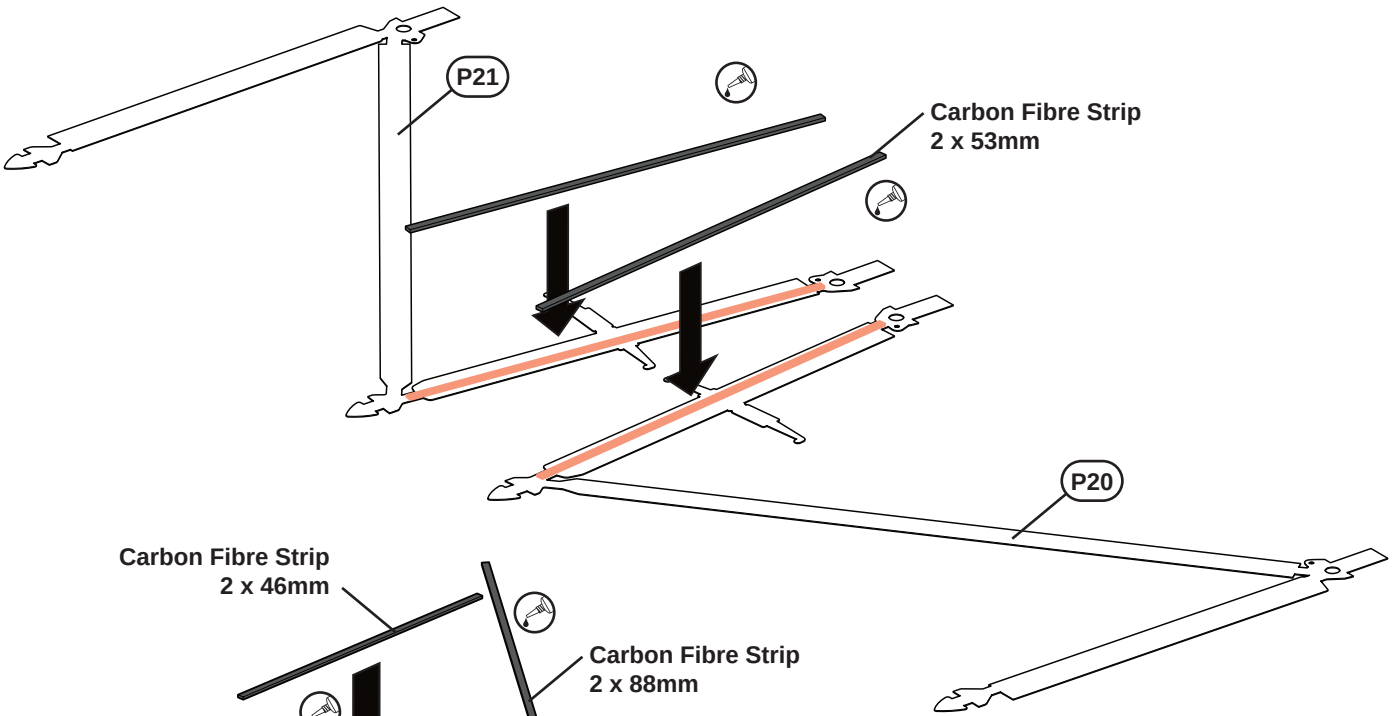
Use central V in P19 to locate centrally on underwing struts

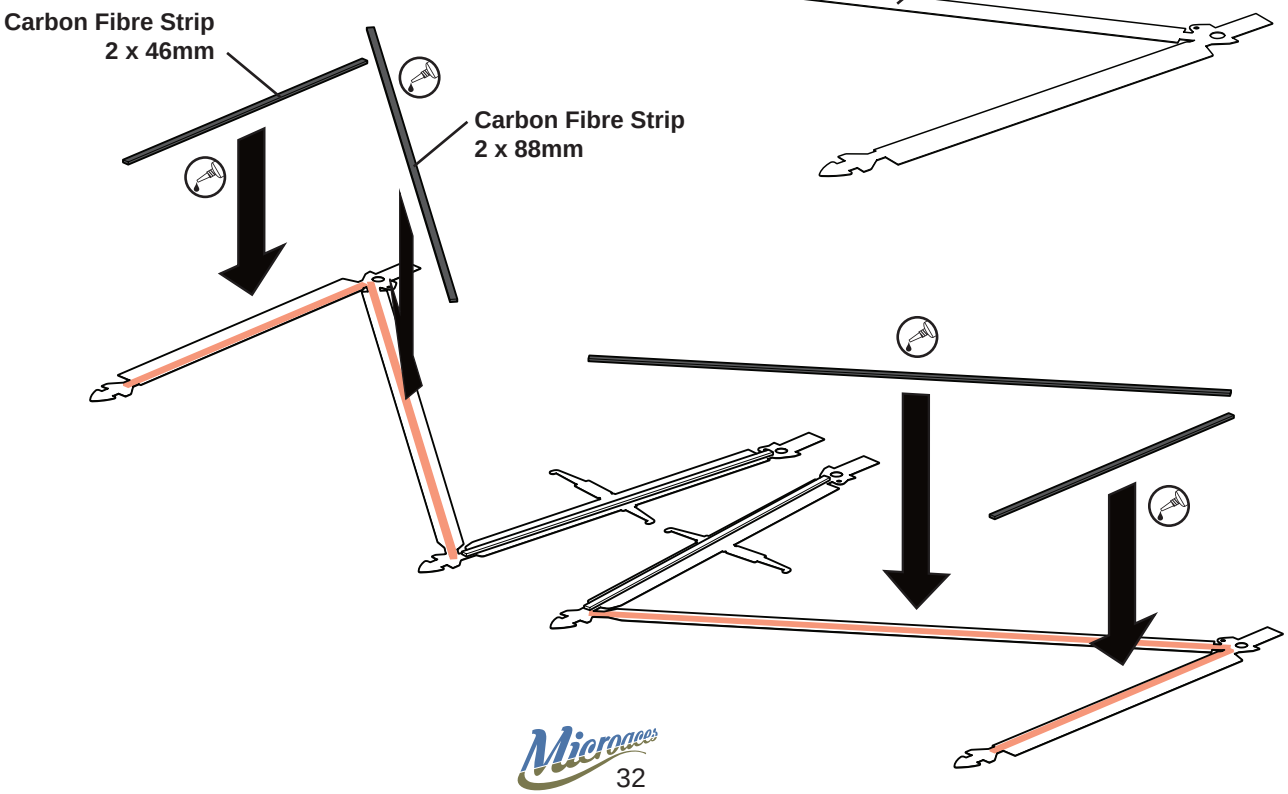




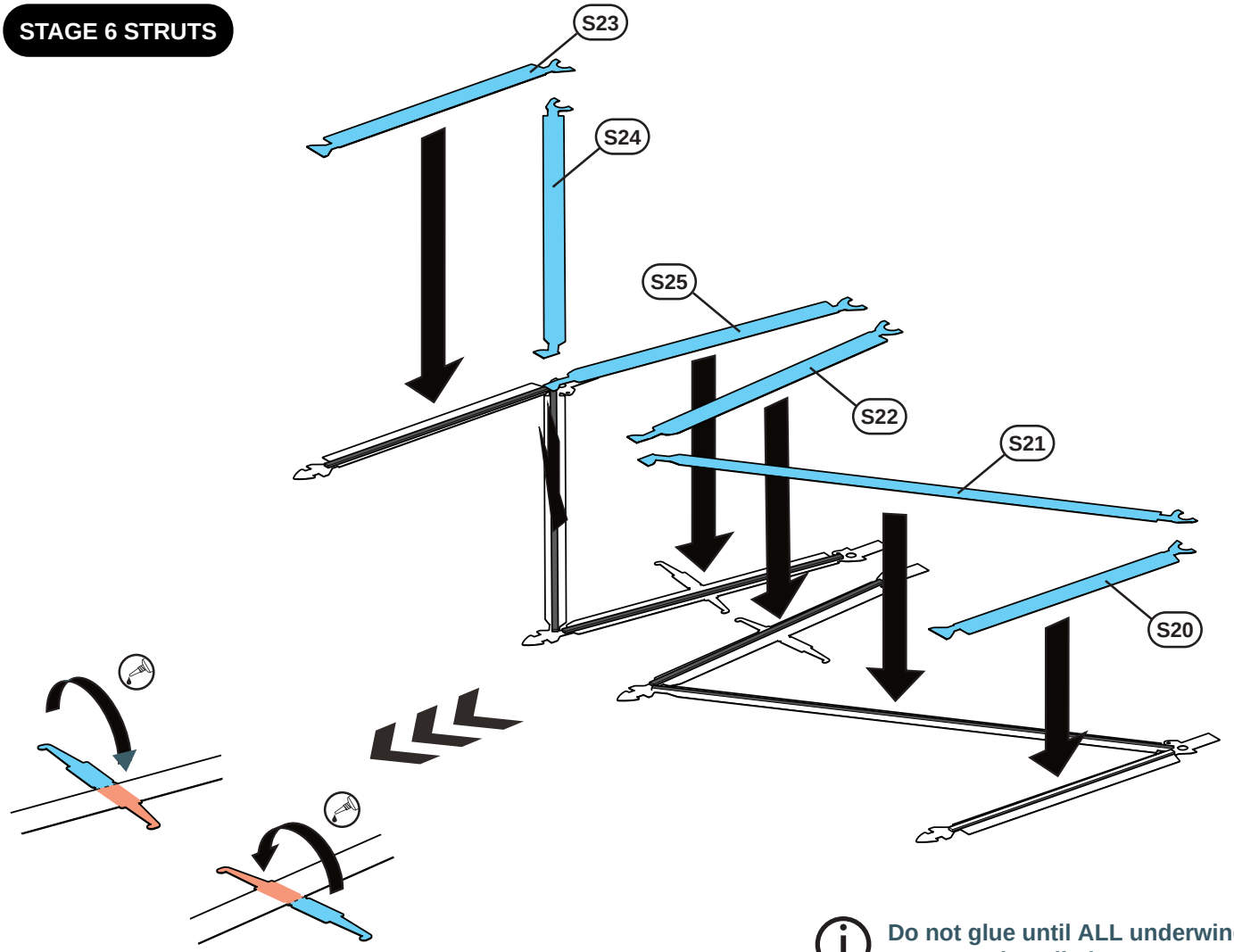
STAGE 6 STRUTS



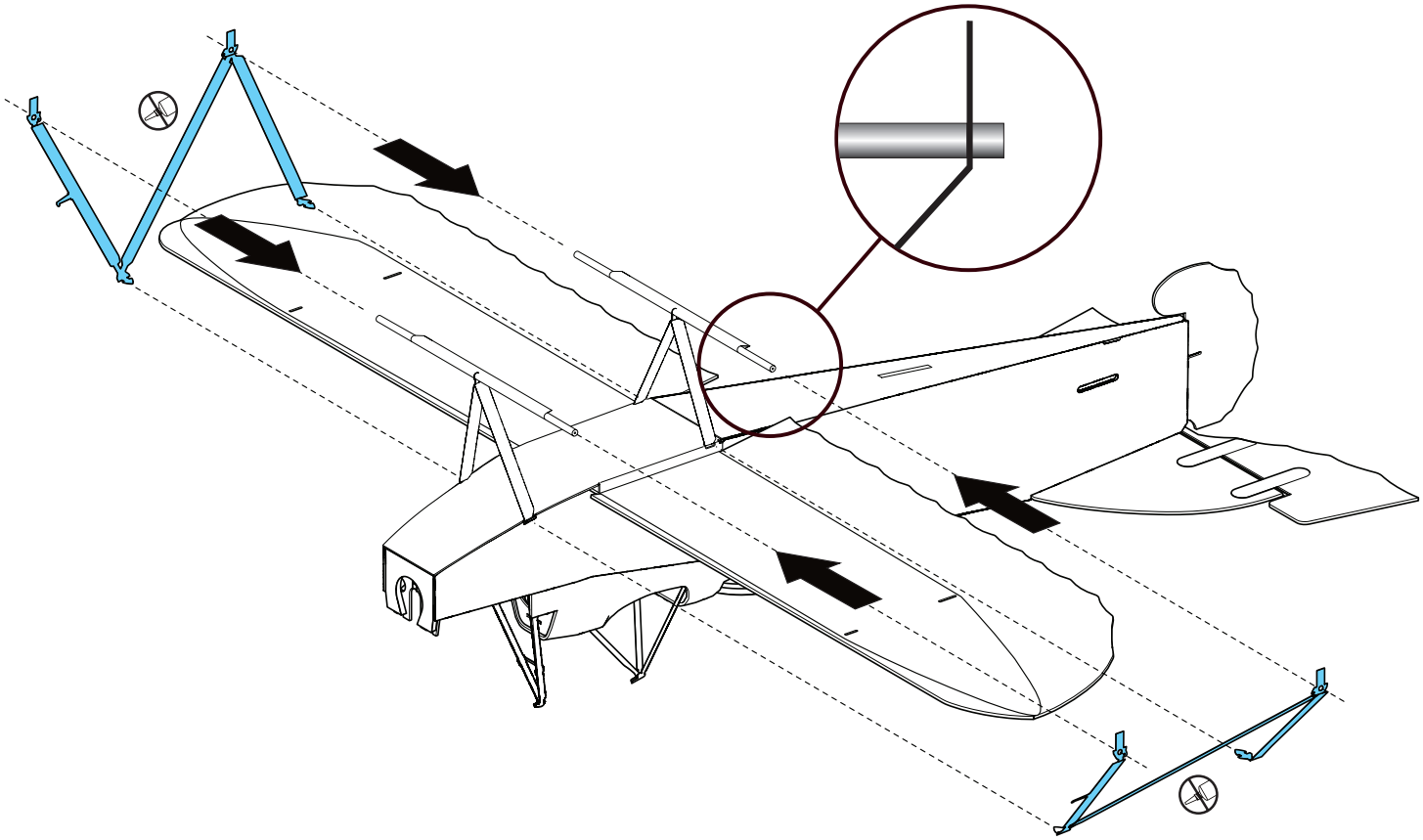




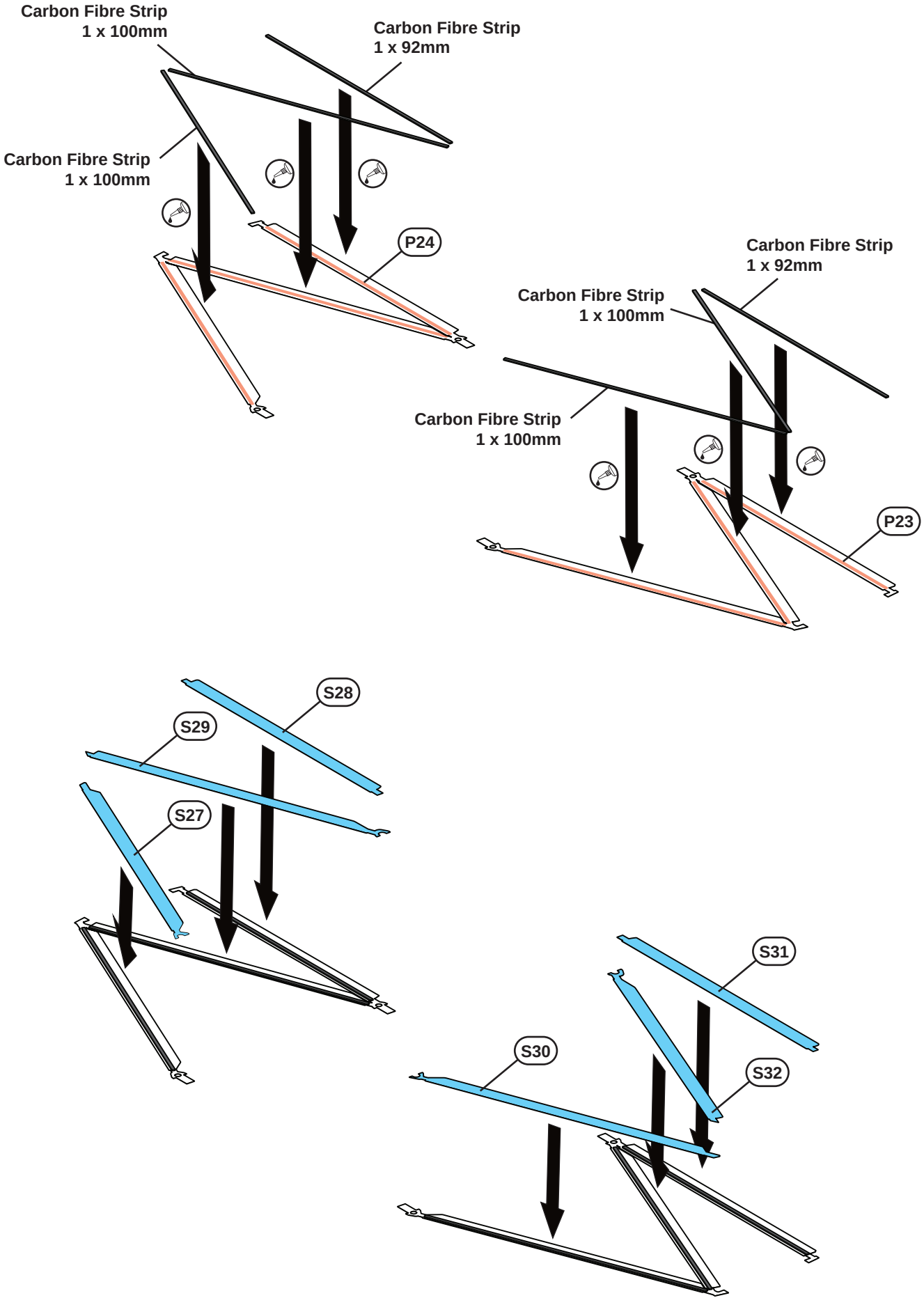
STAGE 6 STRUTS



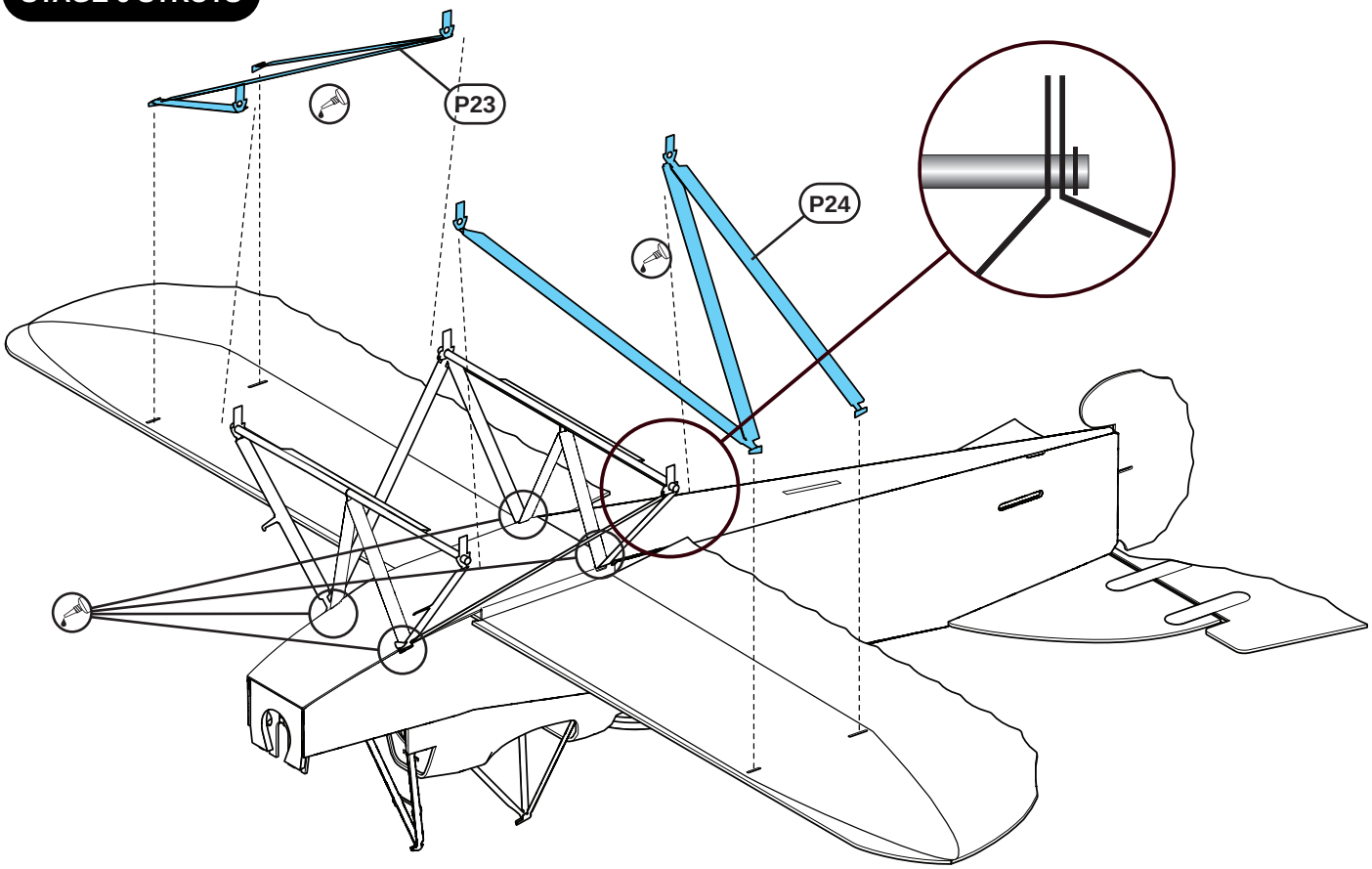
Do not glue until ALL underwing struts are installed



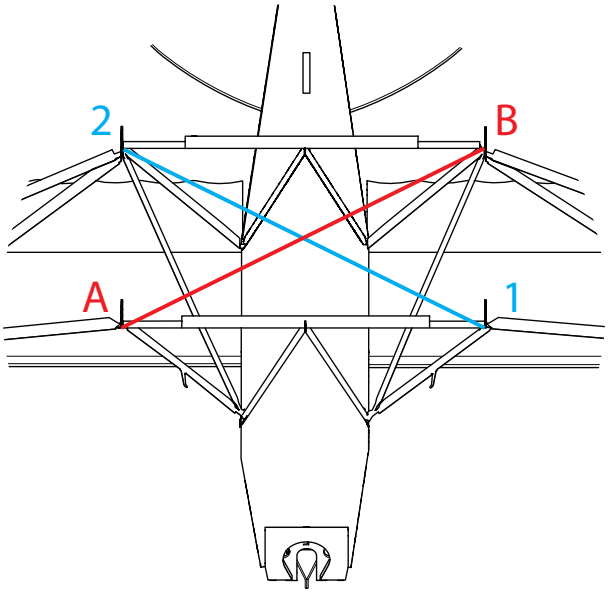
STAGE 6 STRUTS



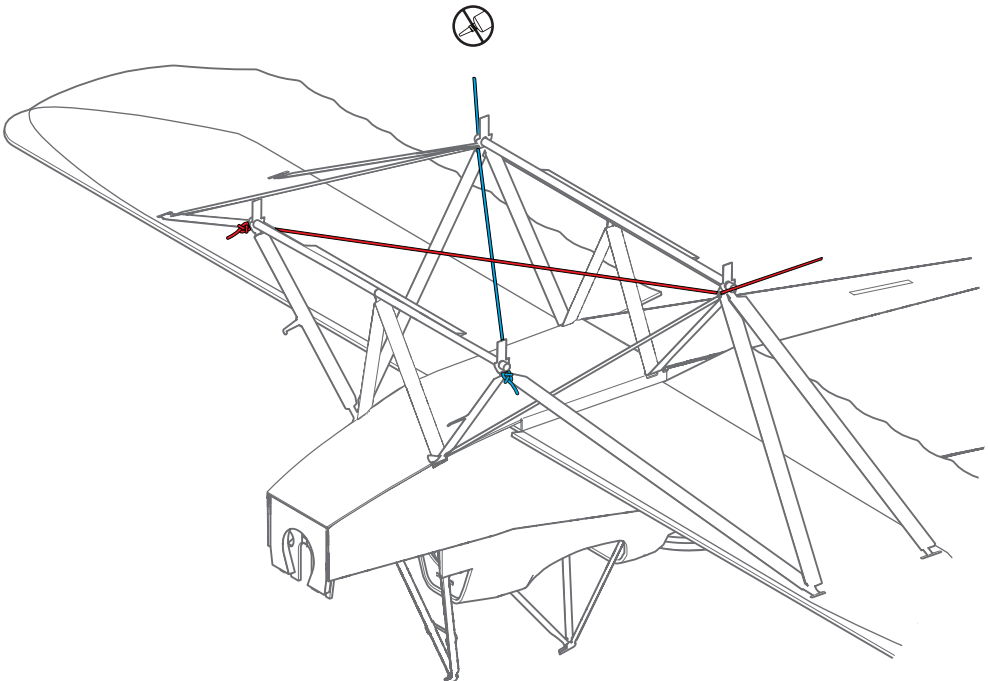
STAGE 6 STRUTS



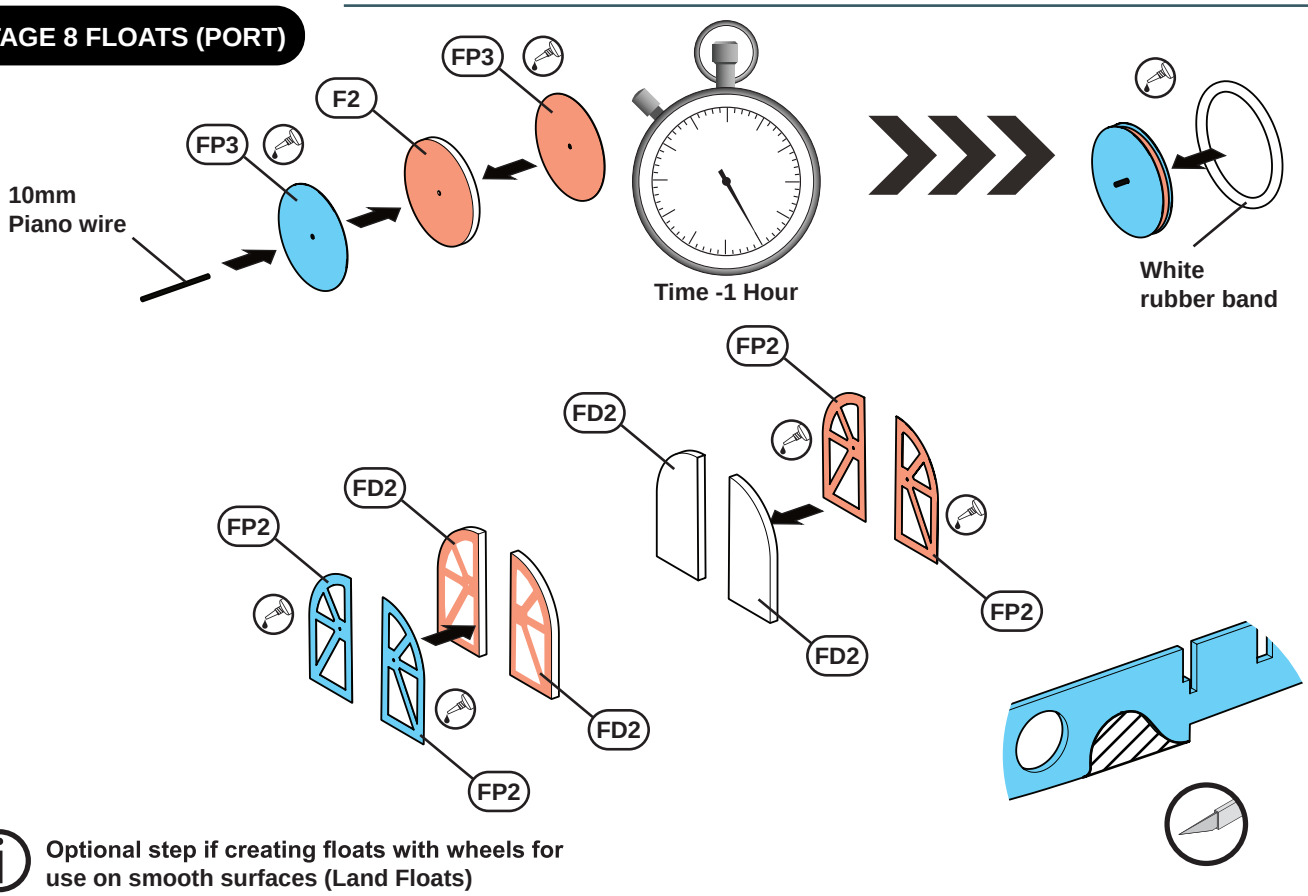
STAGE 7 RIGGING



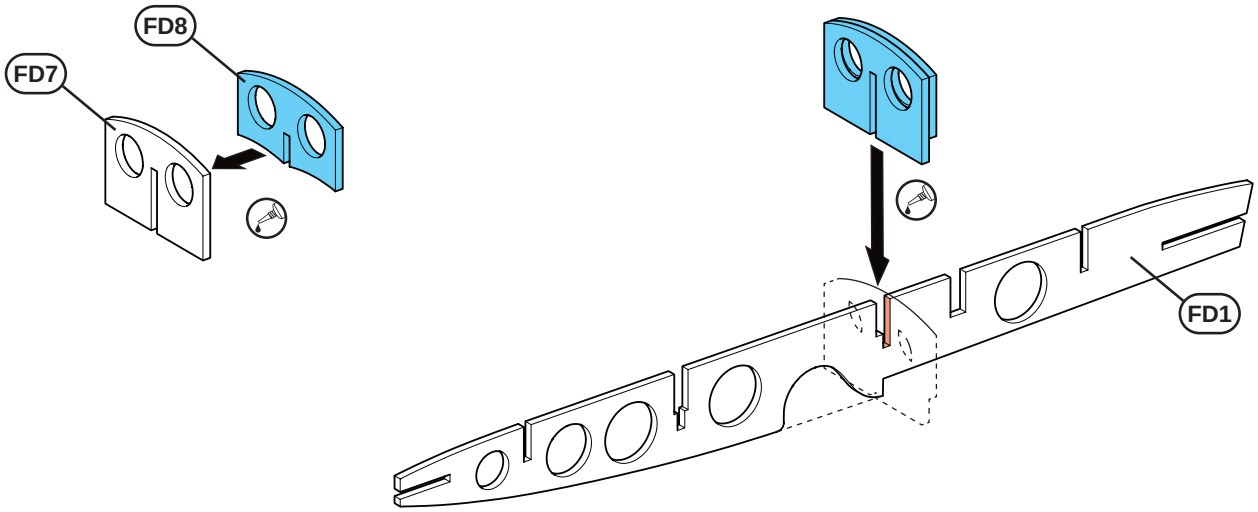
Do Not secure or trim rigging until floats are attached on page 44



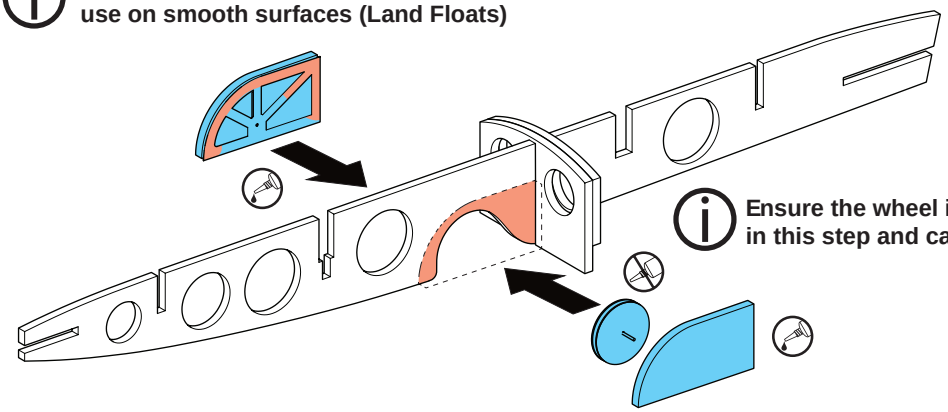
STAGE 8 FLOATS (PORT)



Optional step if creating floats with wheels for use on smooth surfaces (Land Floats)



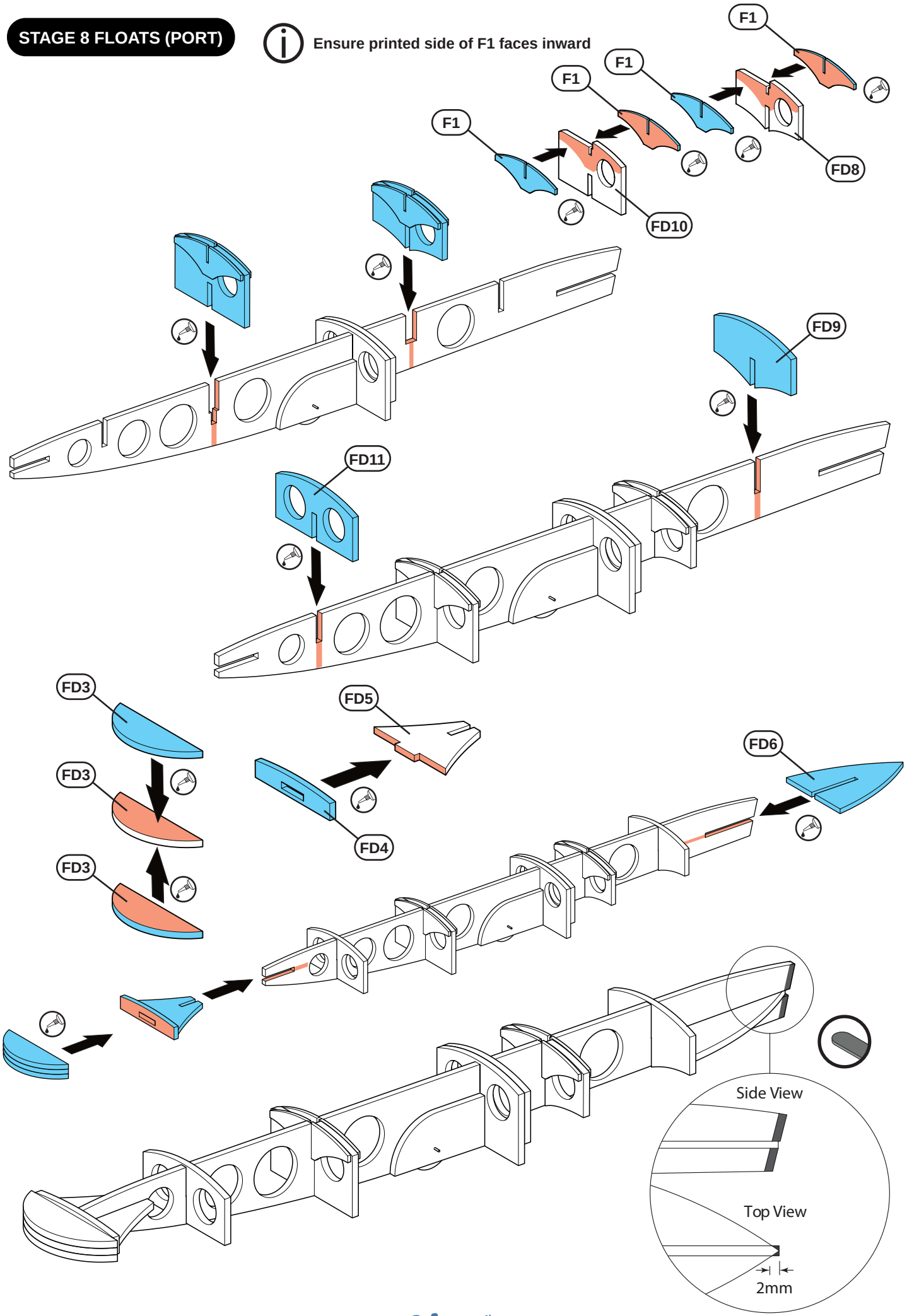
Optional step if creating floats with wheels for use on smooth surfaces (Land Floats)



Ensure the wheel is not glued in this step and can spin freely

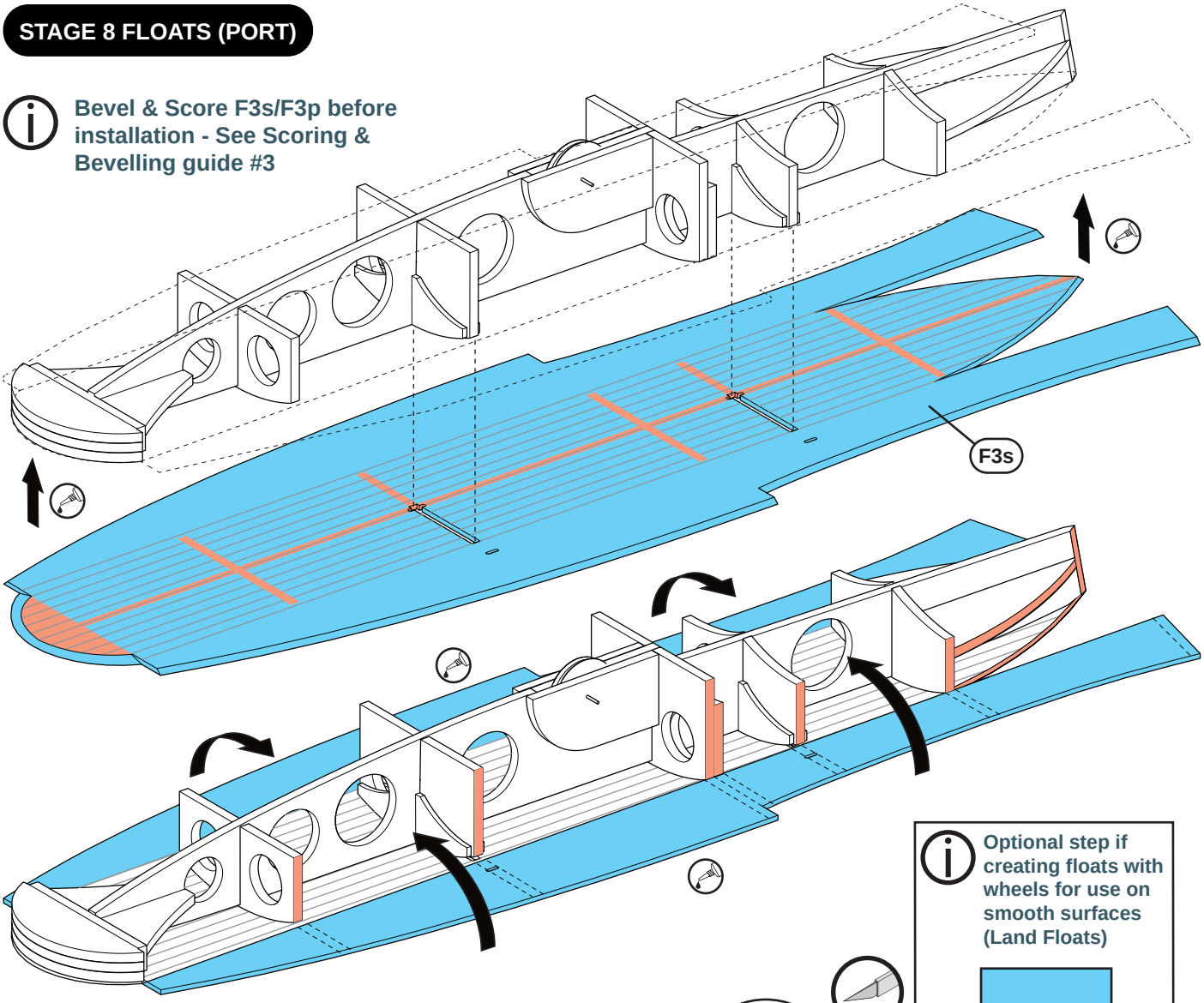
STAGE 8 FLOATS (PORT)

Ensure printed side of F1 faces inward

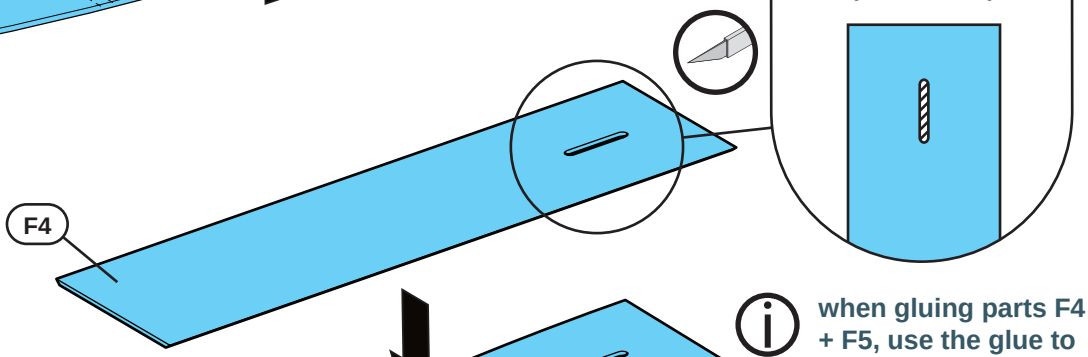


STAGE 8 FLOATS (PORT)

Bevel & Score F3s/F3p before installation - See Scoring & Bevelling guide #3

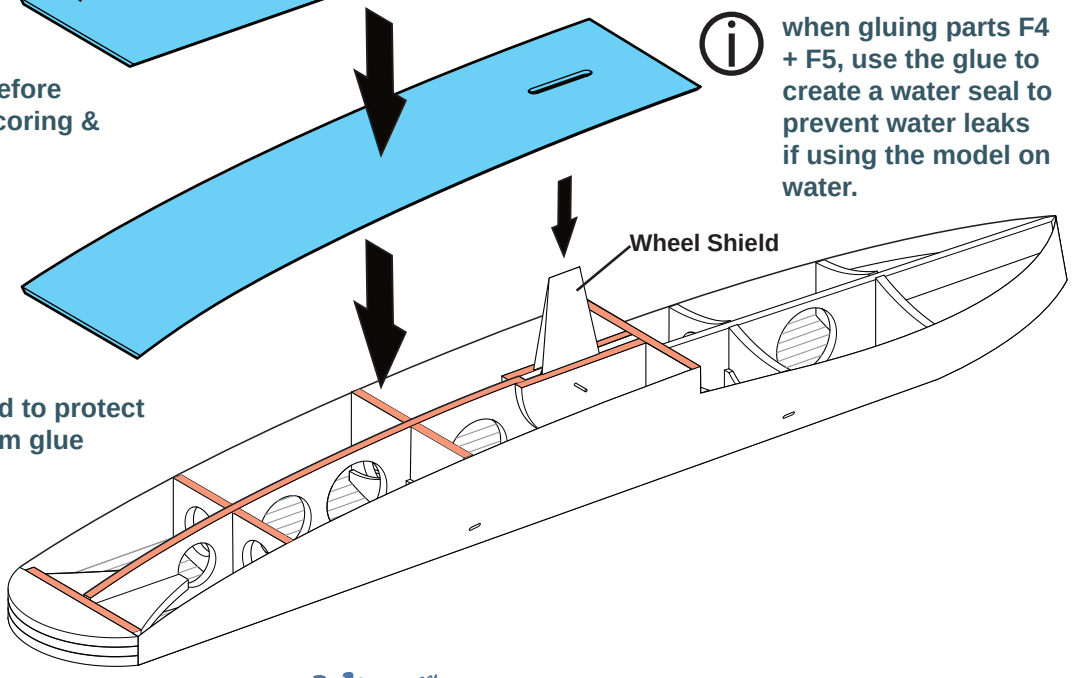


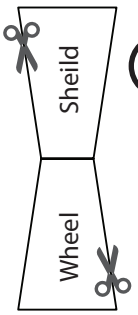
Optional step if creating floats with wheels for use on smooth surfaces (Land Floats)



Bevel & Score F4 before installation - See Scoring & Bevelling guide #4

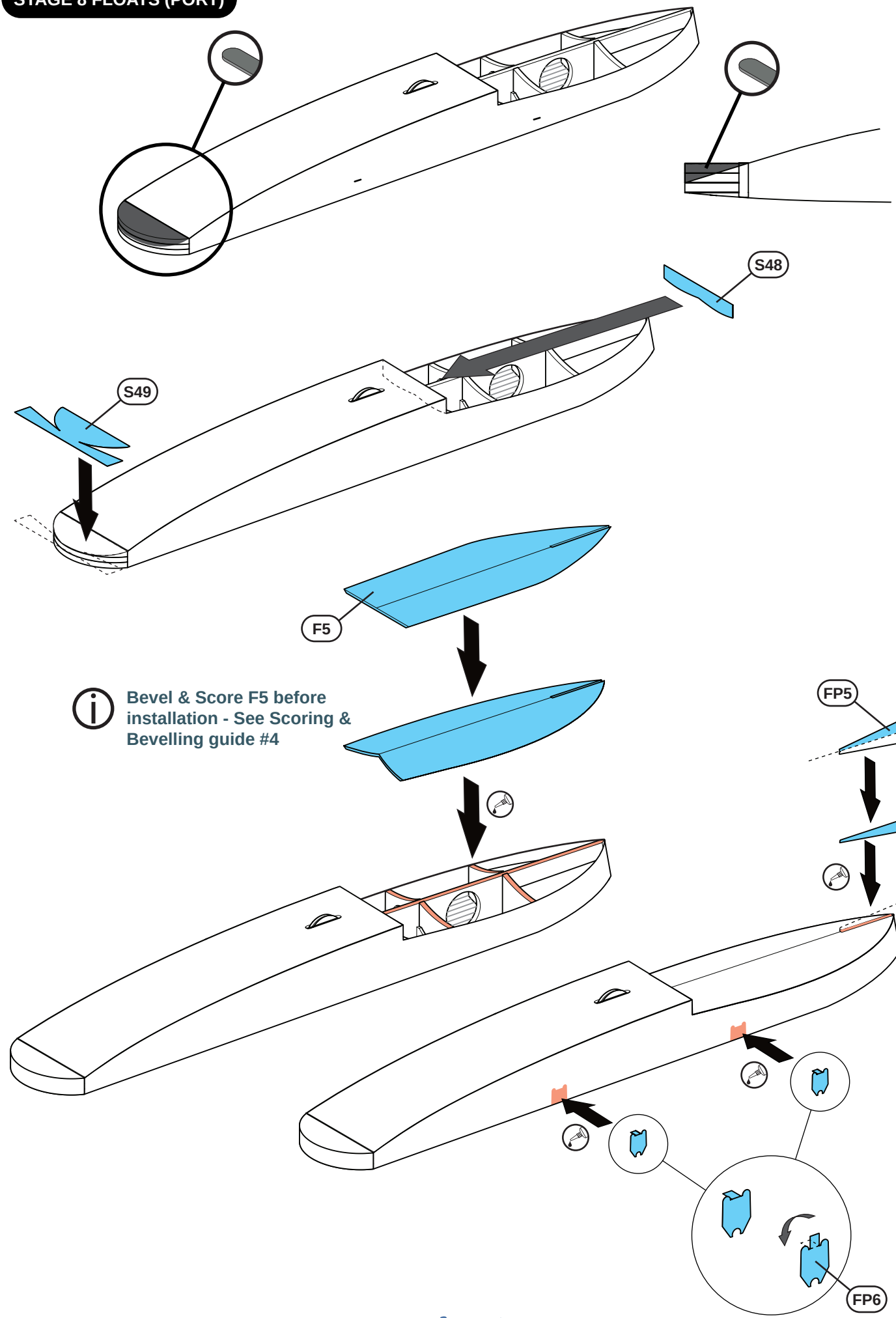
when gluing parts F4 + F5, use the glue to create a water seal to prevent water leaks if using the model on water.



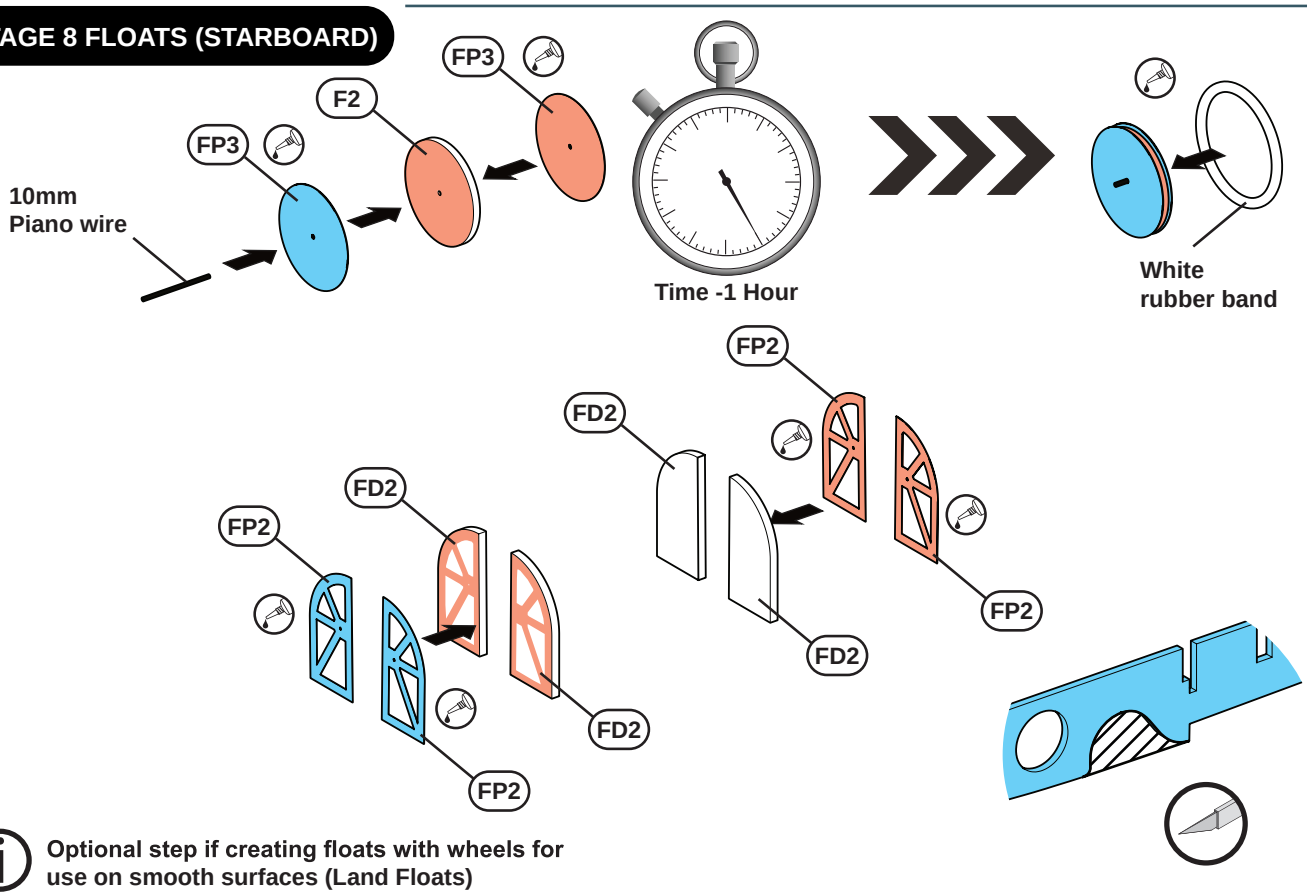


Use shield to protect wheel from glue

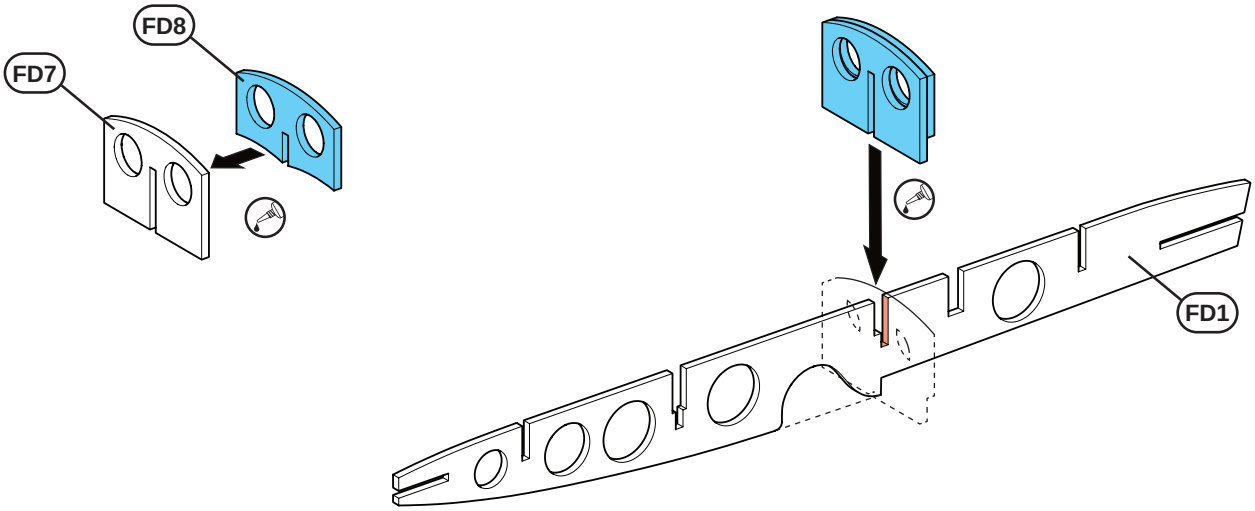
STAGE 8 FLOATS (PORT)



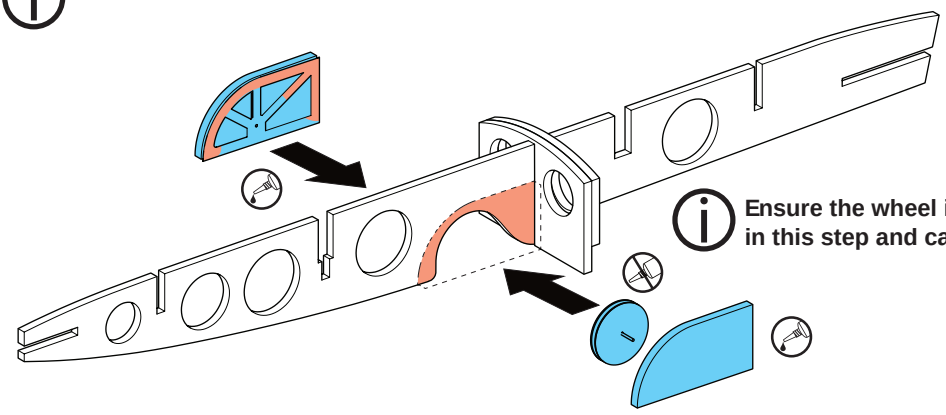
STAGE 8 FLOATS (STARBOARD)



Optional step if creating floats with wheels for use on smooth surfaces (Land Floats)



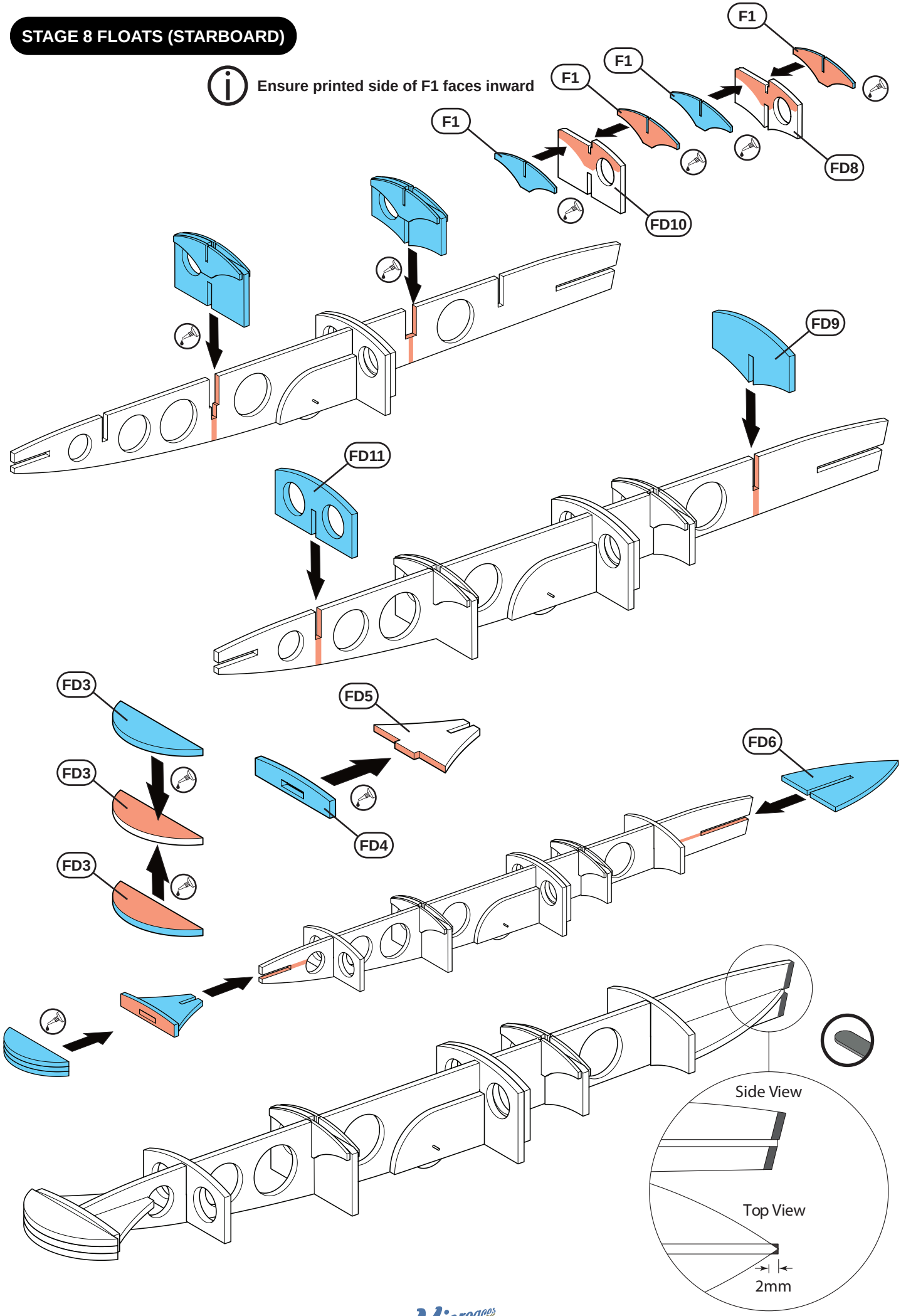
Optional step if creating floats with wheels for



Ensure the wheel is not glued in this step and can spin freely

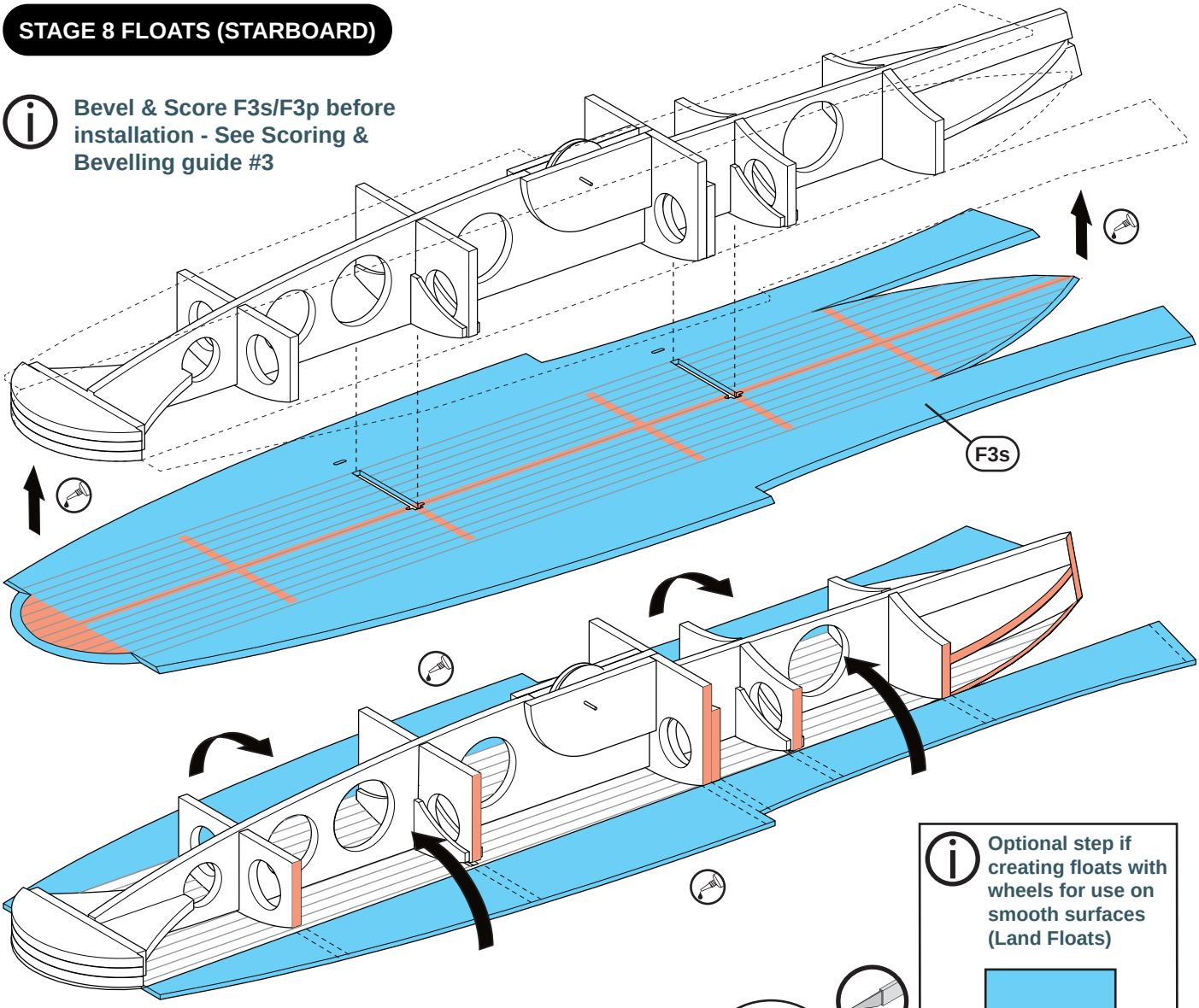
STAGE 8 FLOATS (STARBOARD)

Ensure printed side of F1 faces inward

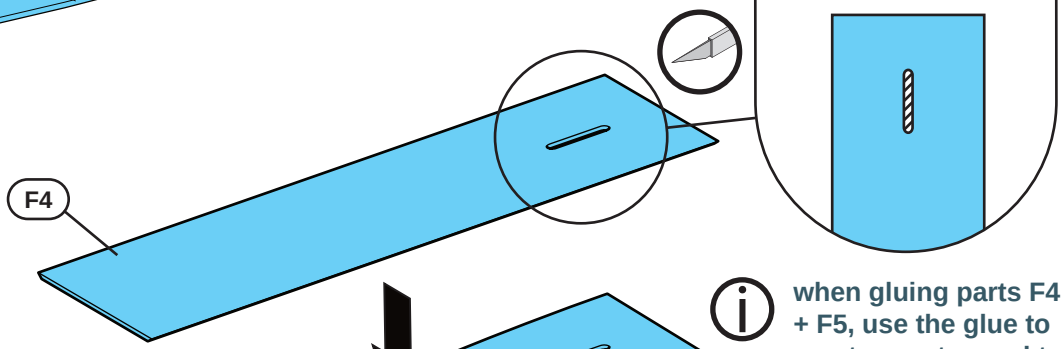


STAGE 8 FLOATS (STARBOARD)

Bevel & Score F3s/F3p before installation - See Scoring & Bevelling guide #3

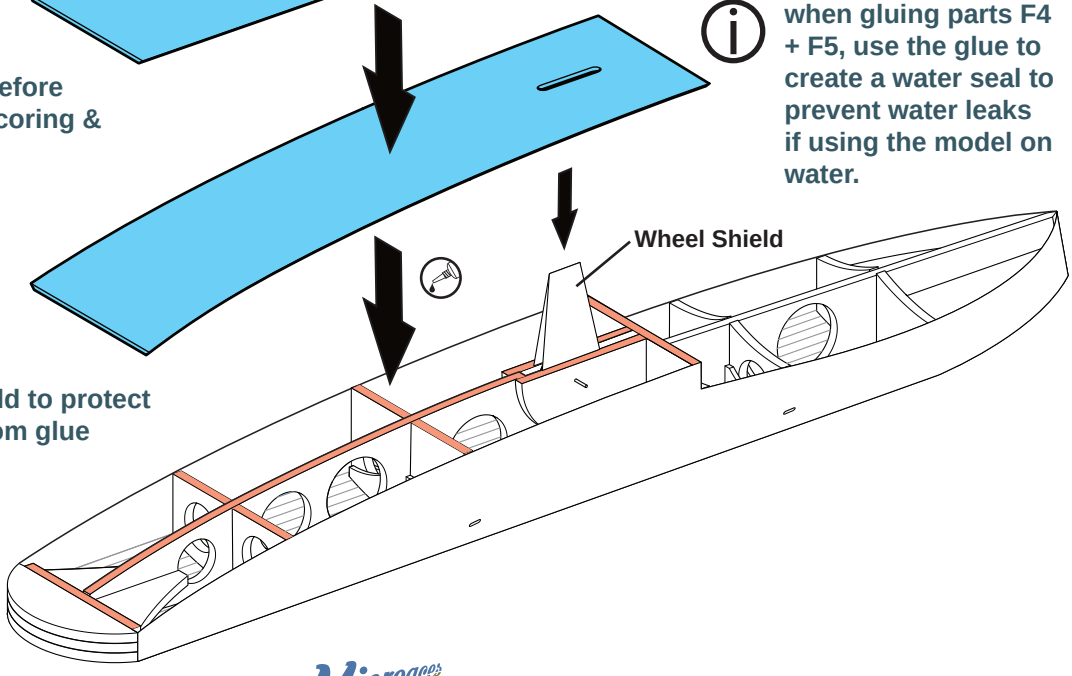


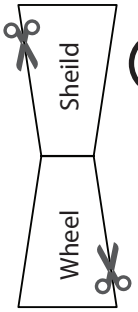
Optional step if creating floats with wheels for use on smooth surfaces (Land Floats)



Bevel & Score F4 before installation - See Scoring & Bevelling guide #4

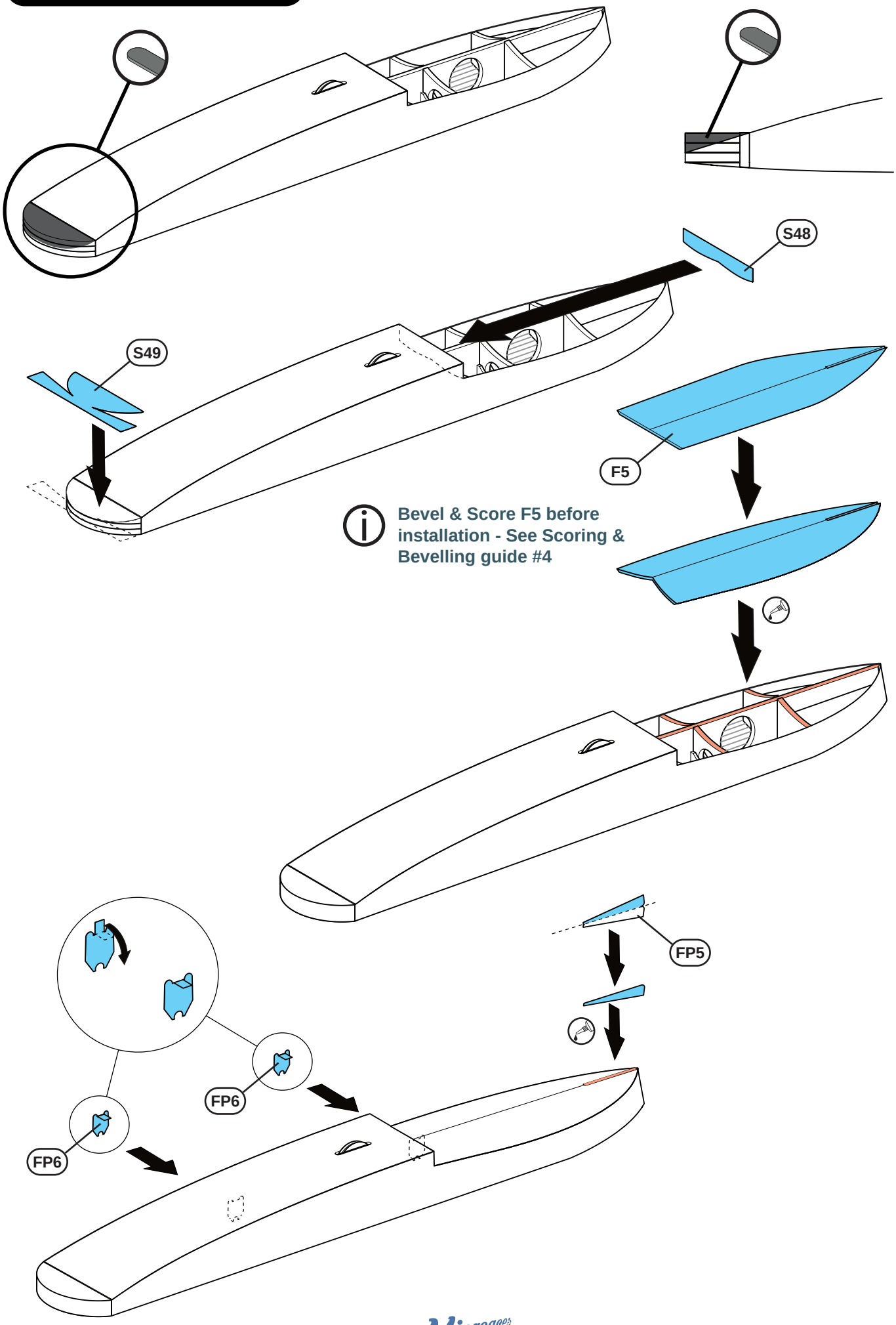
when gluing parts F4 + F5, use the glue to create a water seal to prevent water leaks if using the model on water.



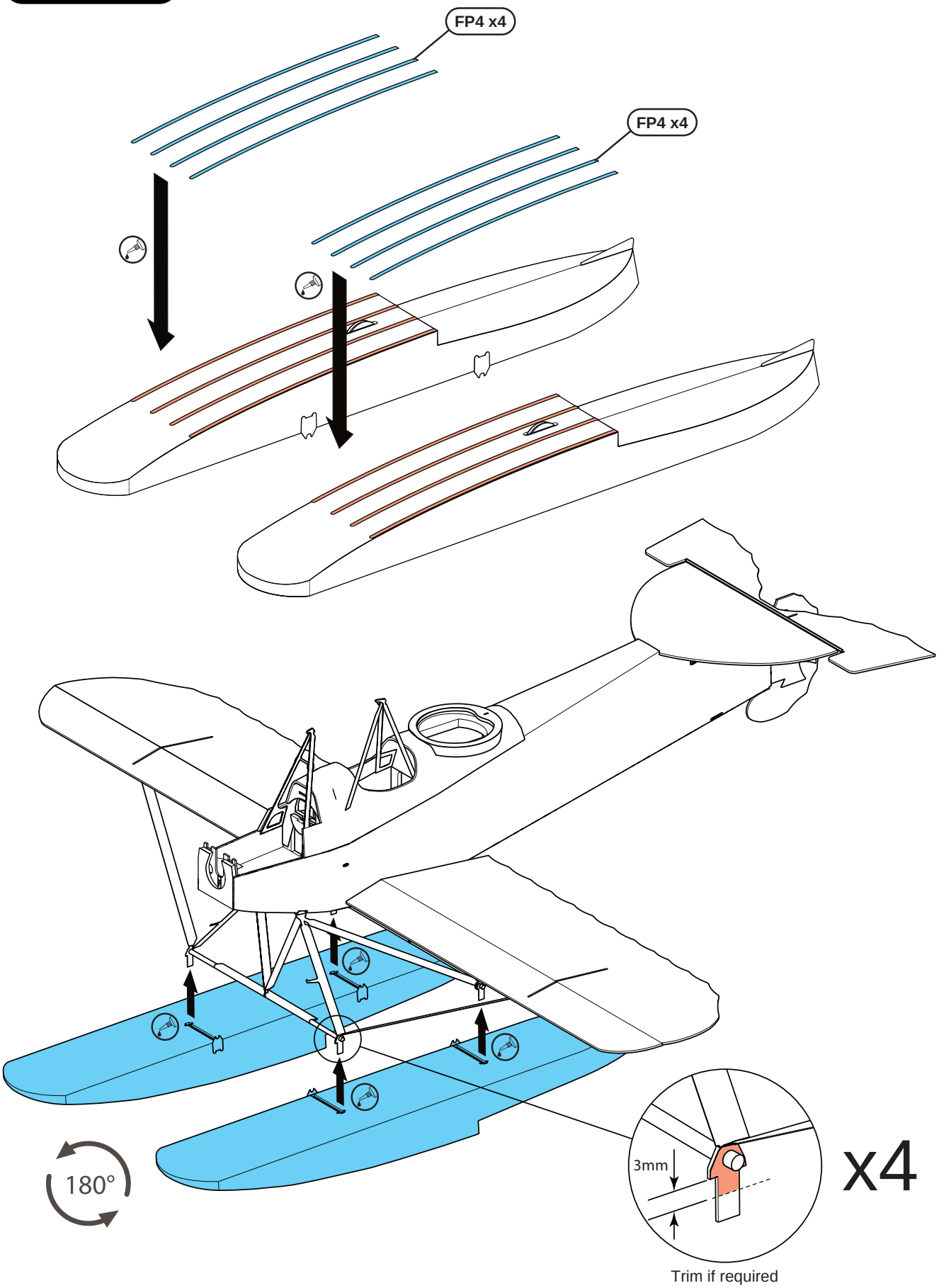


Use shield to protect wheel from glue

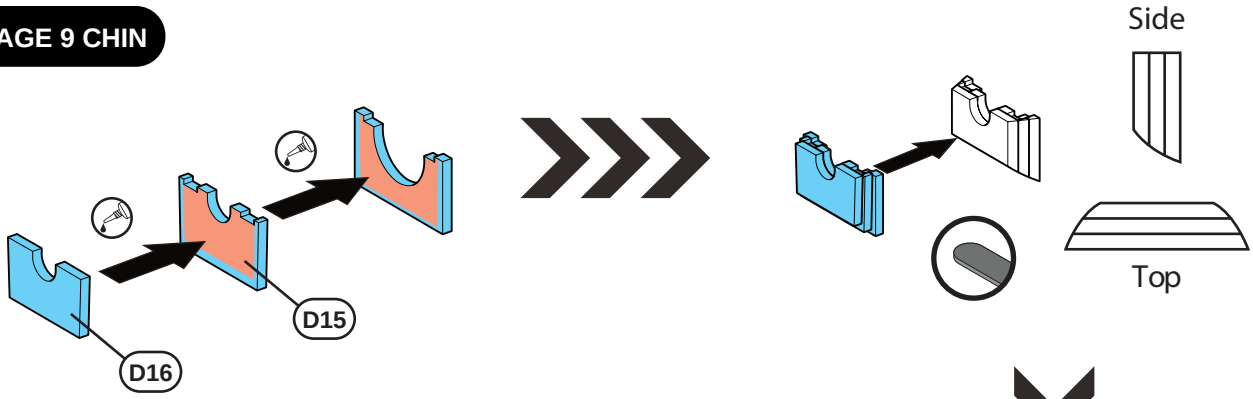
STAGE 8 FLOATS (STARBOARD)

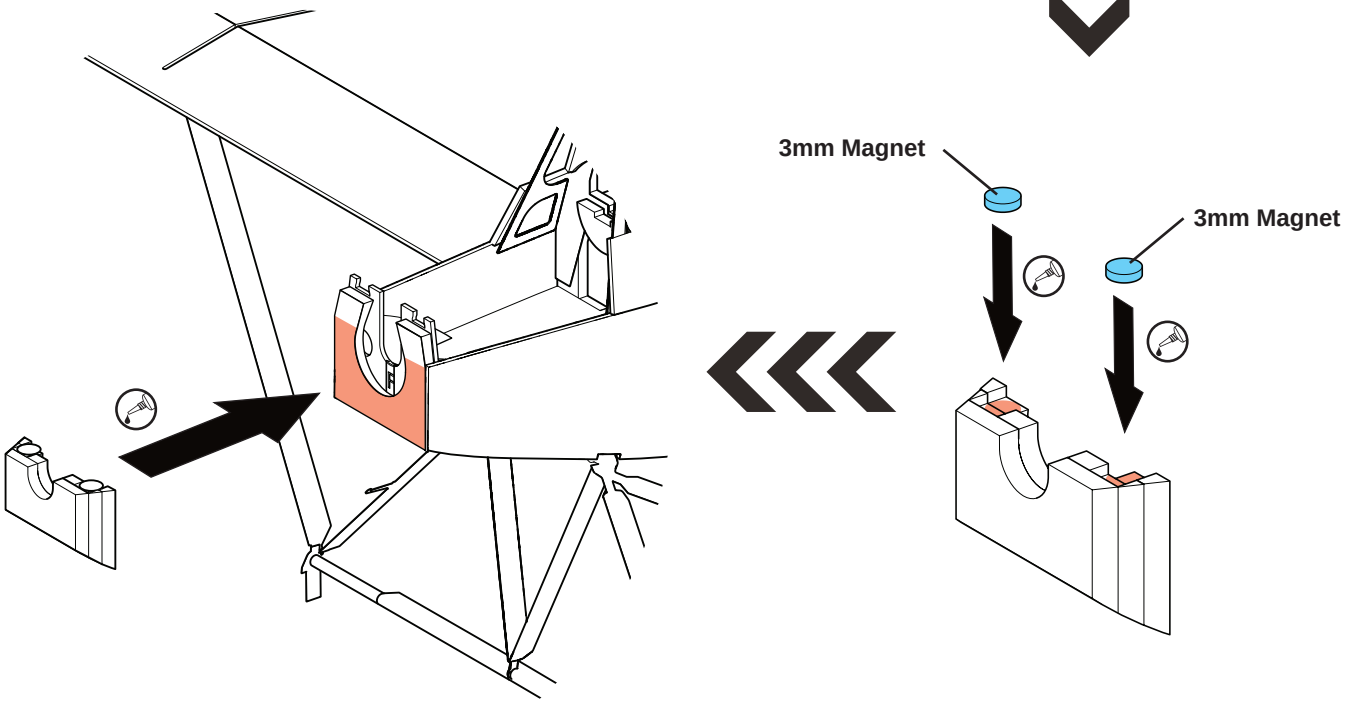


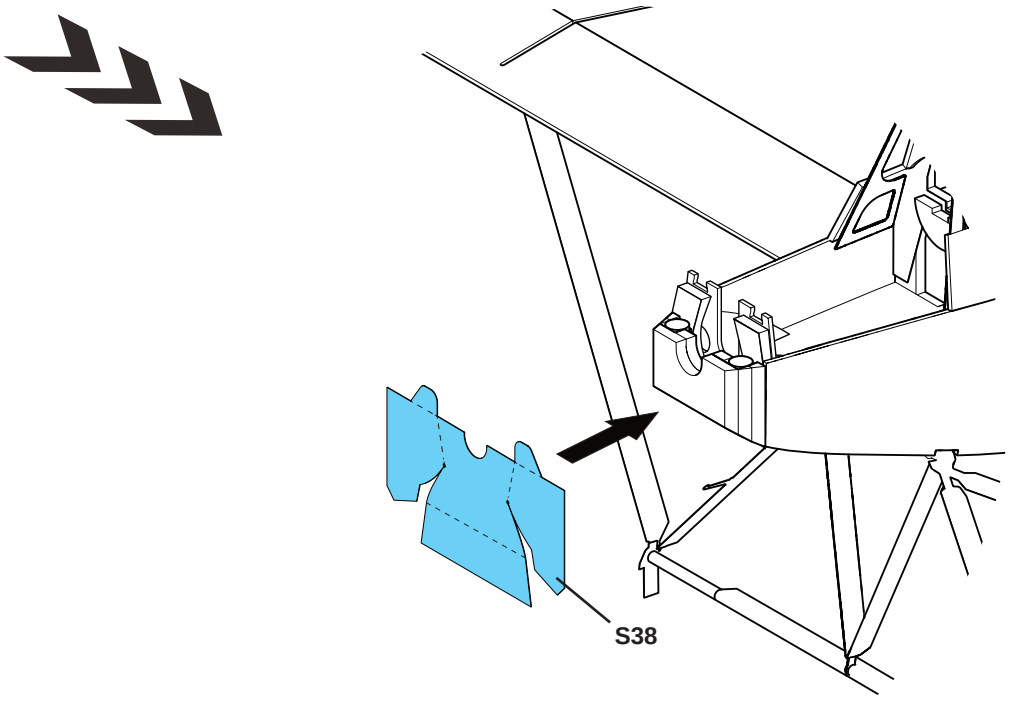
STAGE 8 FLOATS



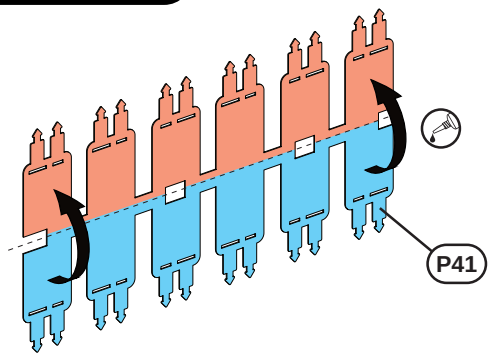
STAGE 9 CHIN

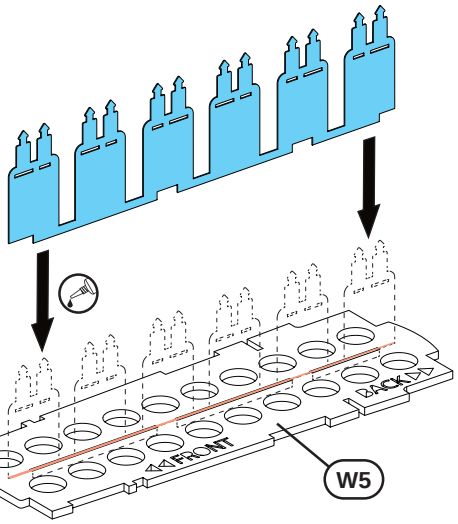


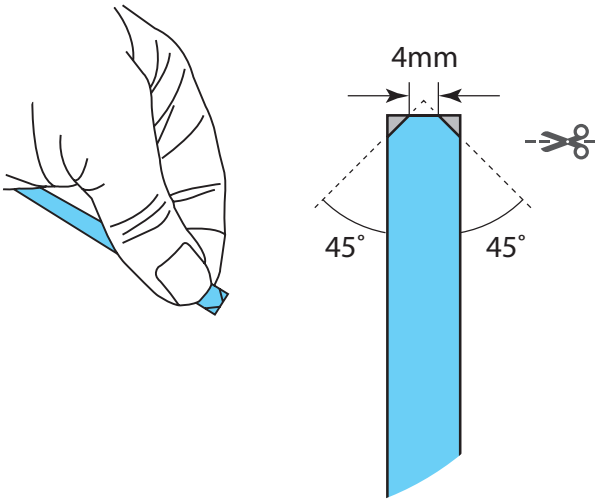


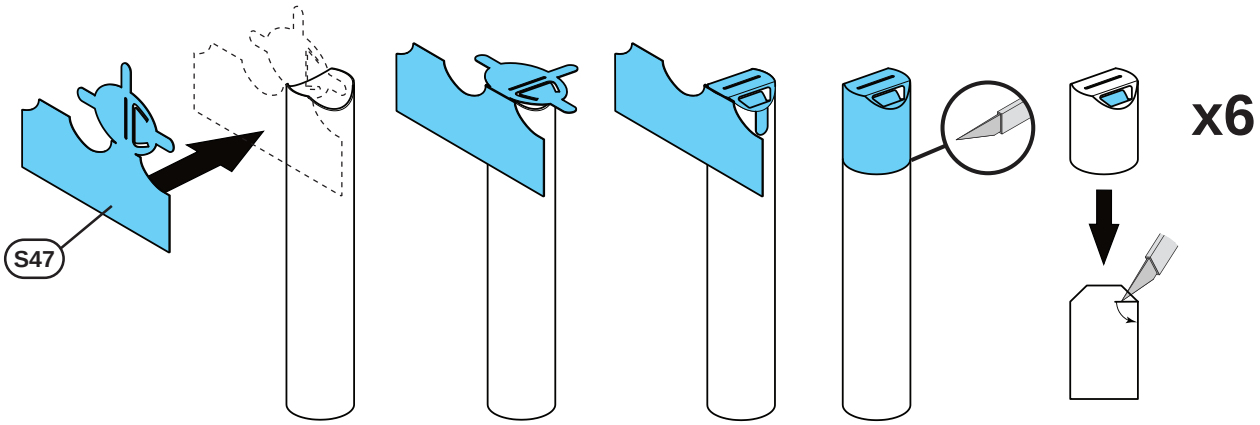


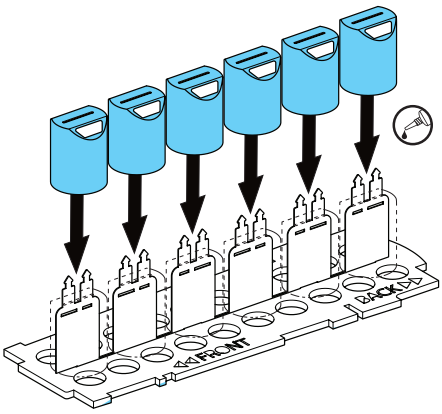
STAGE 10 ENGINE

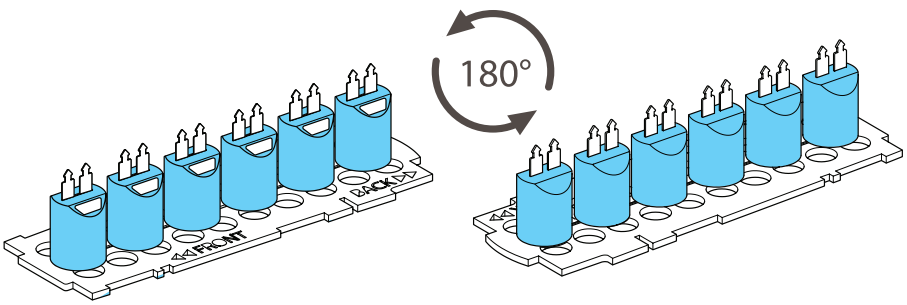




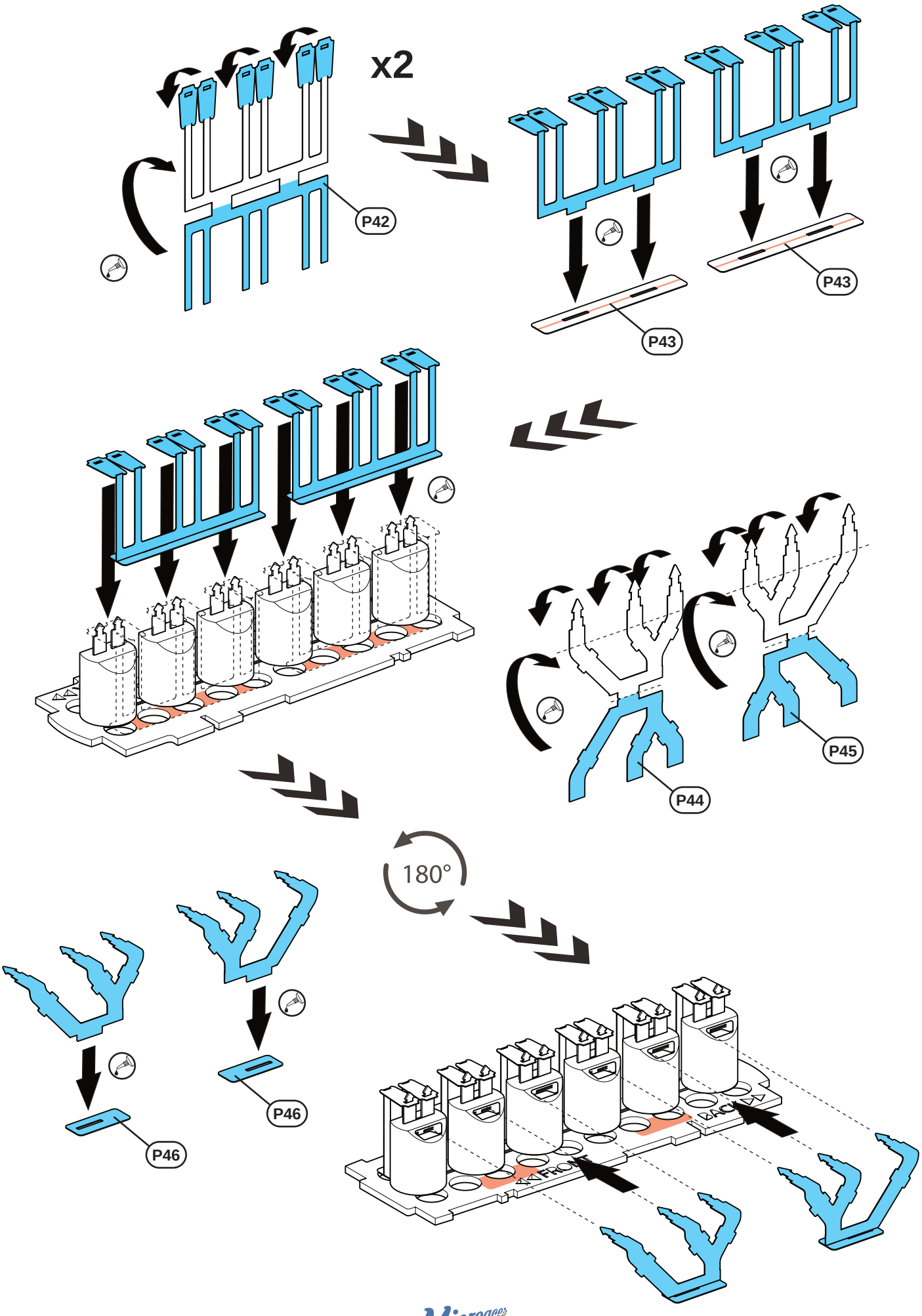




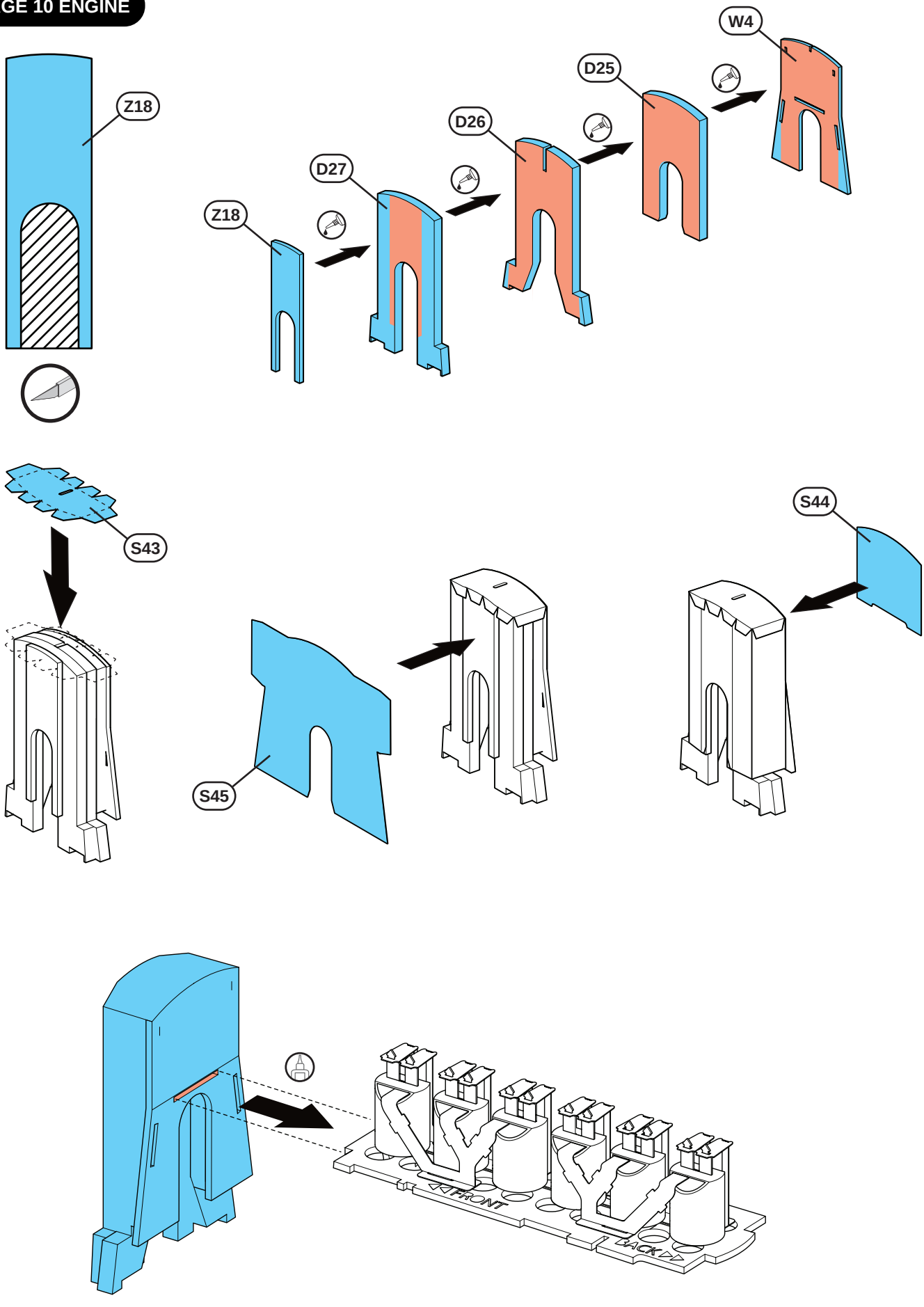




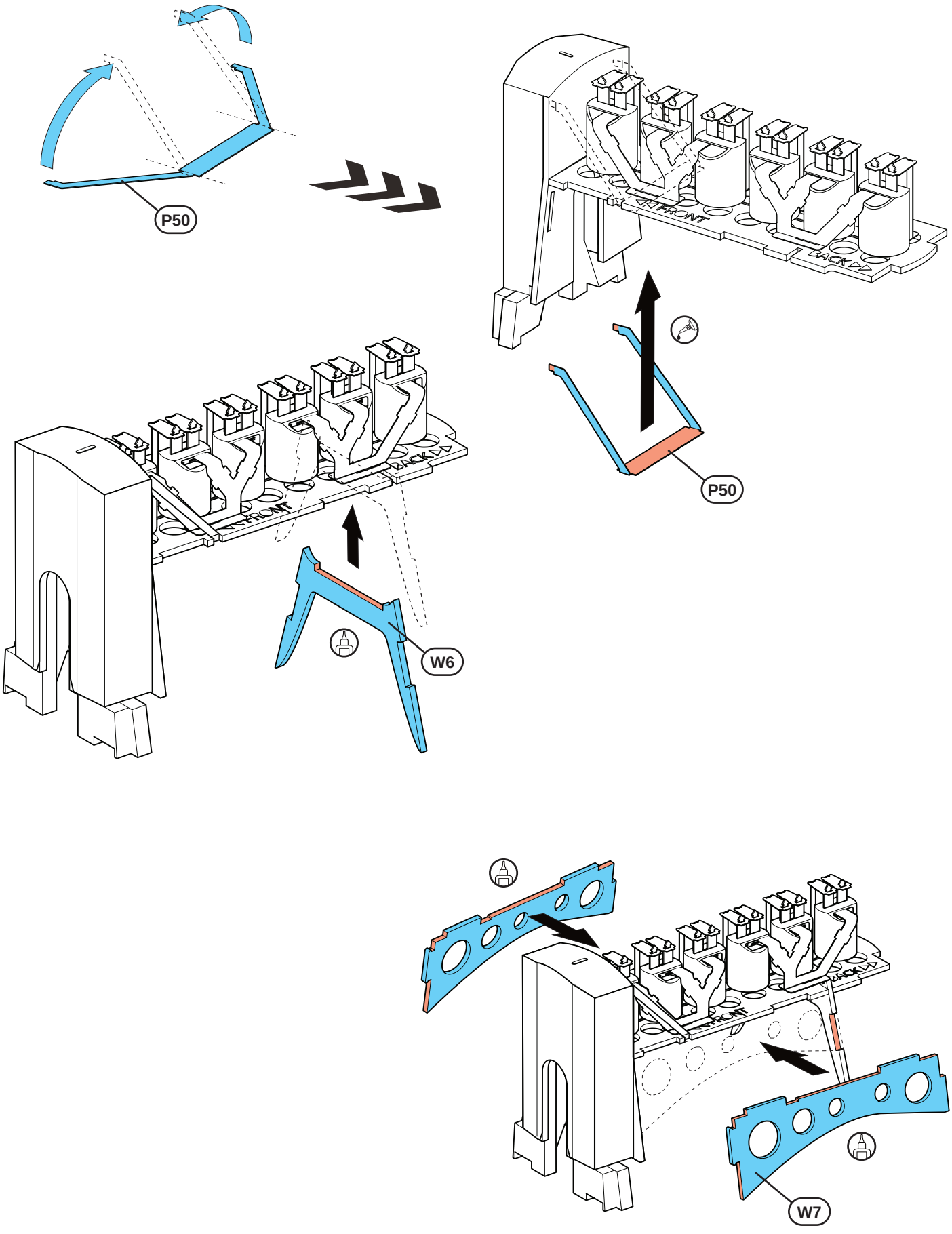
STAGE 10 ENGINE



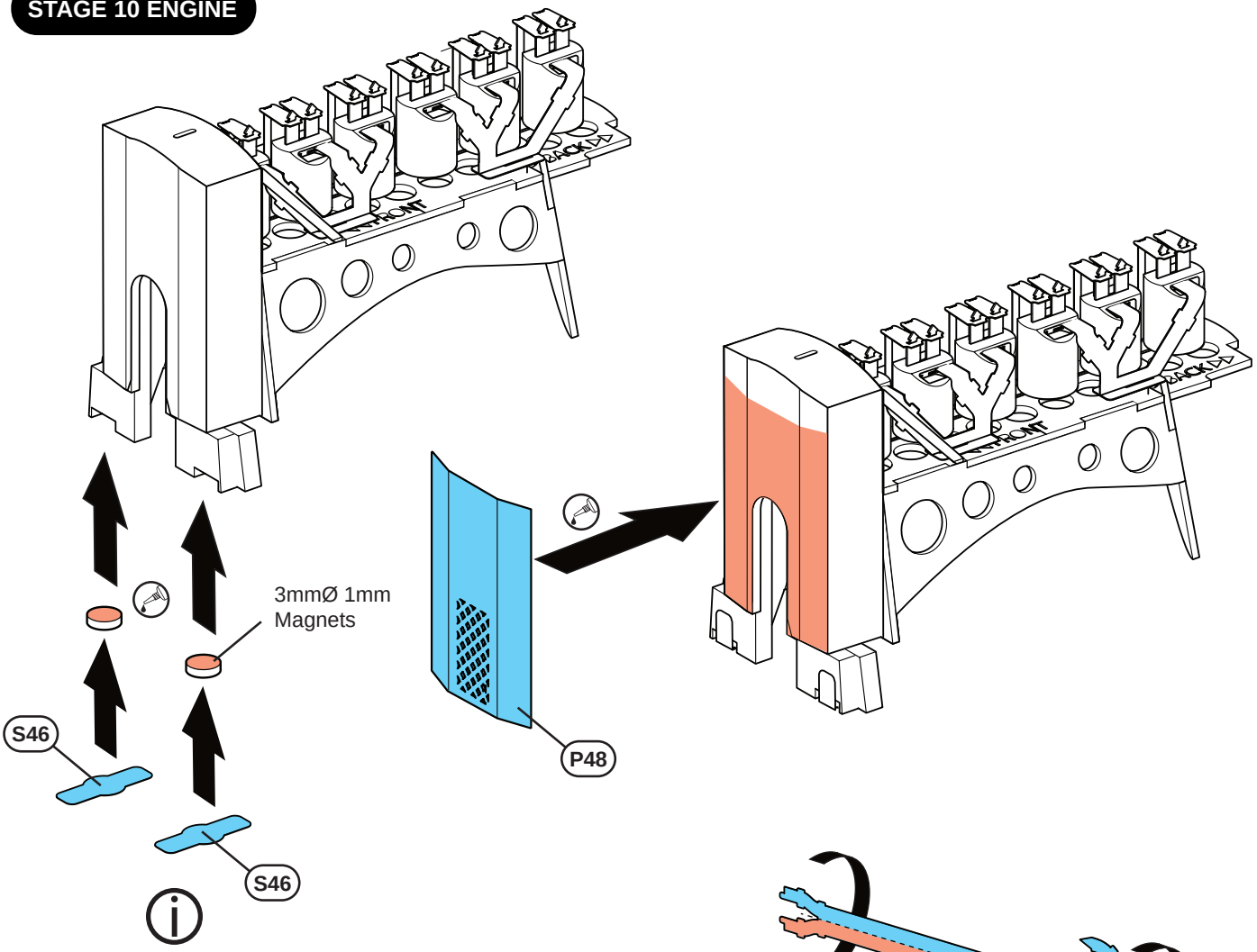
STAGE 10 ENGINE



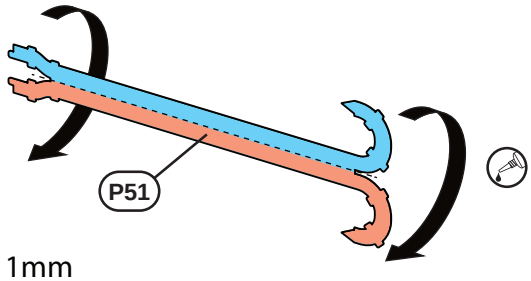
STAGE 10 ENGINE

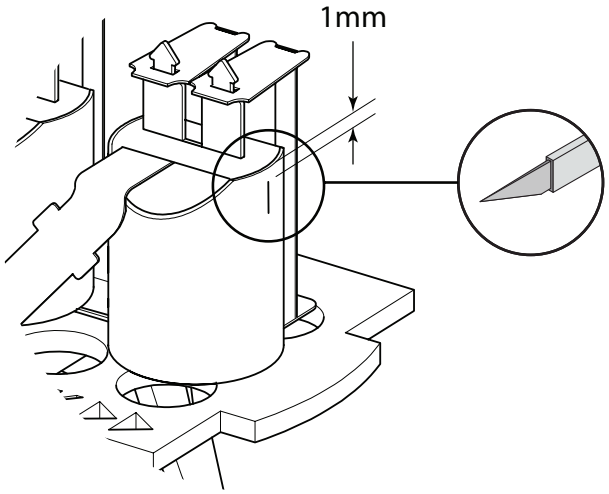


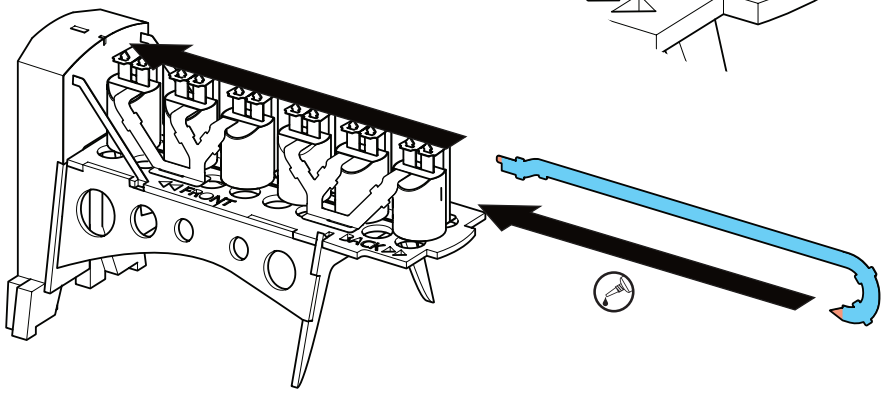
STAGE 10 ENGINE



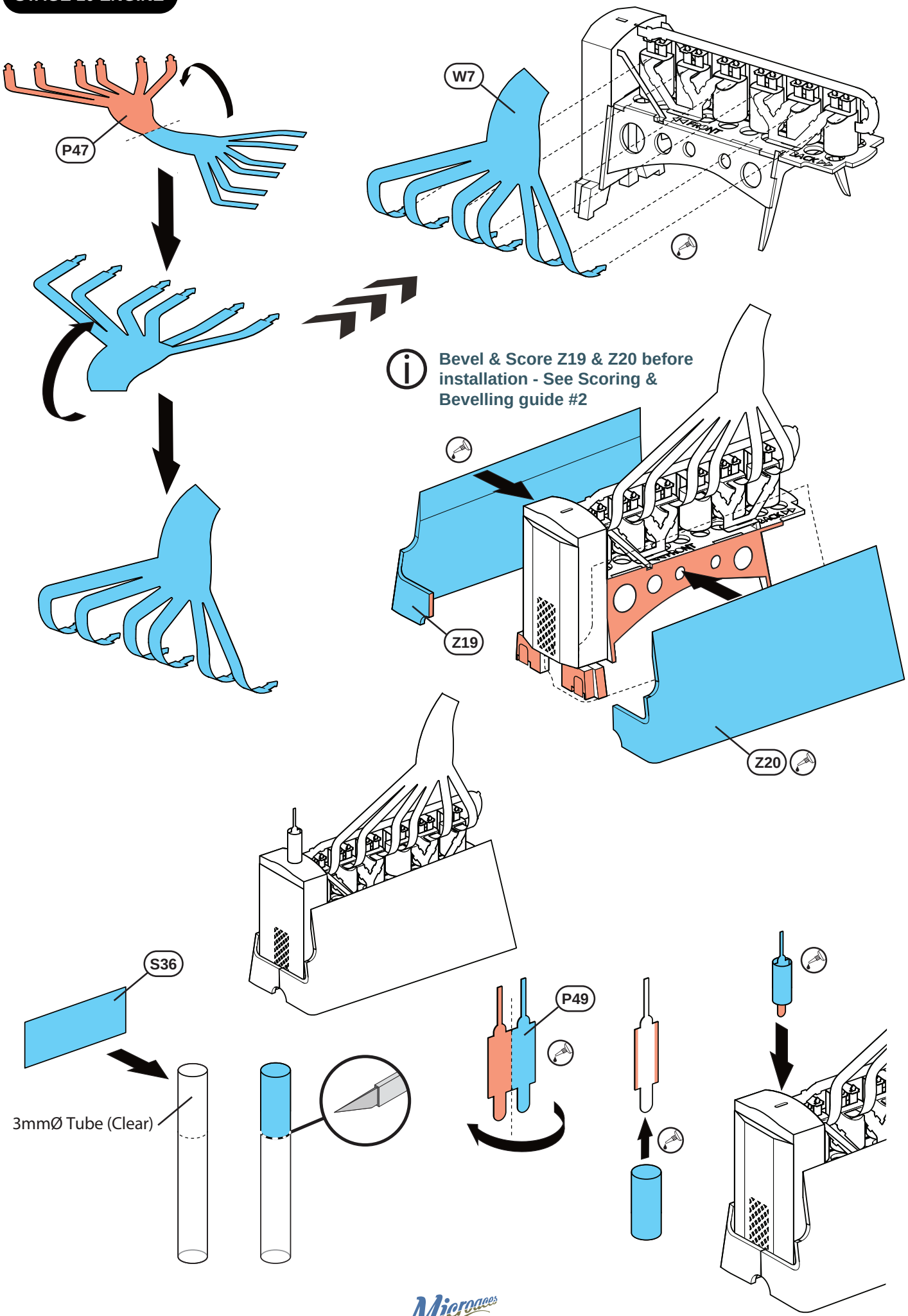
Ensure the magnet is correctly oriented before installation. Do this by matching it to the mag net installed in the chin before installing it here.



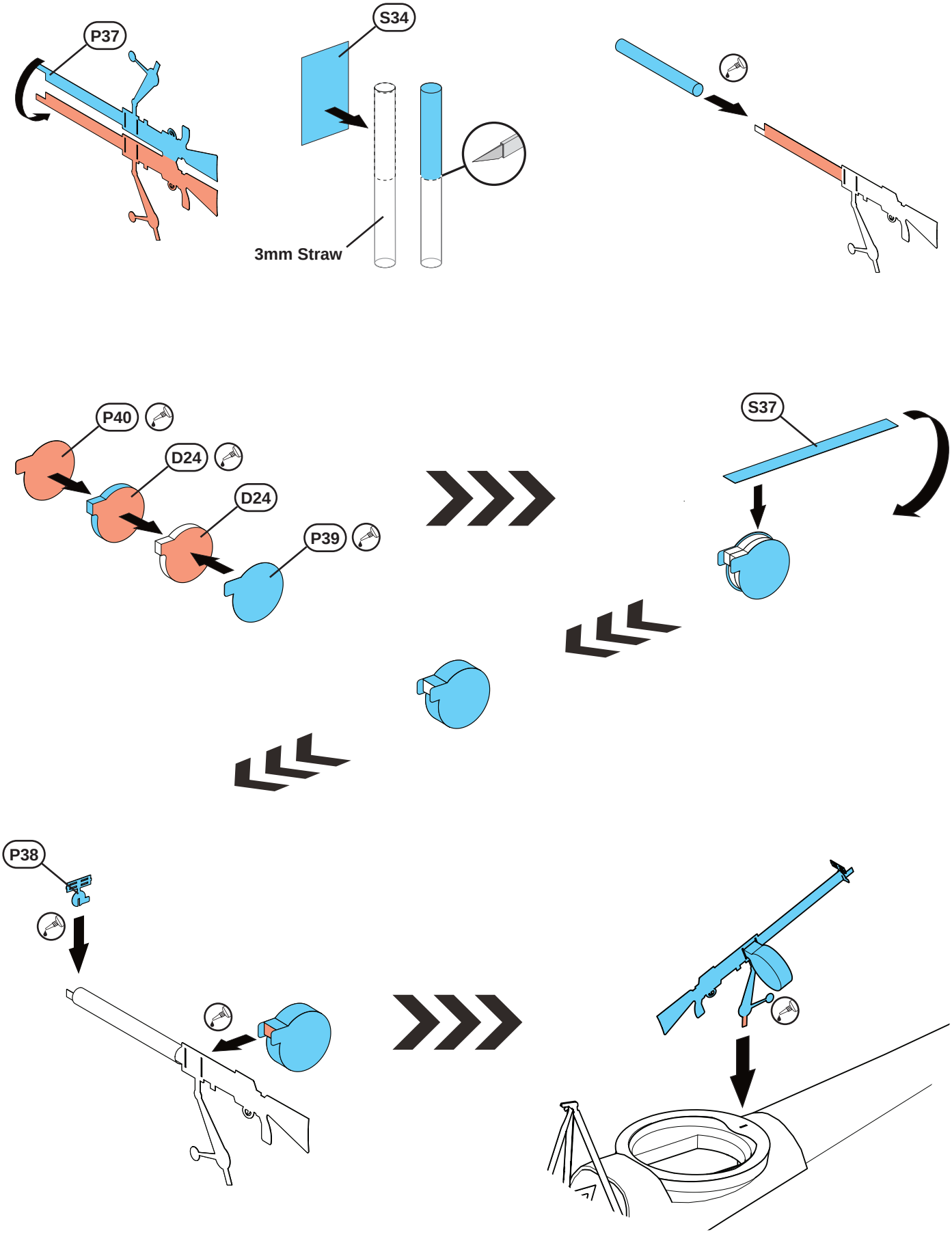




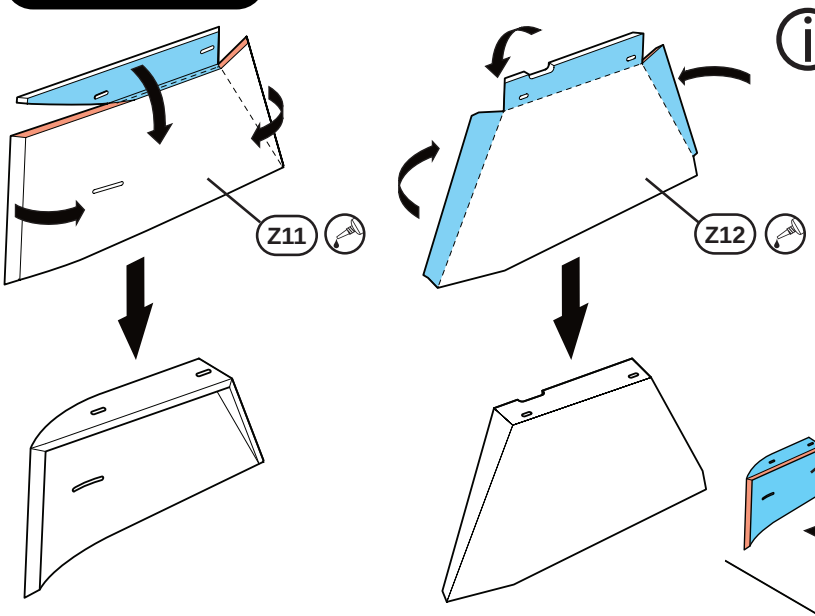
STAGE 10 ENGINE



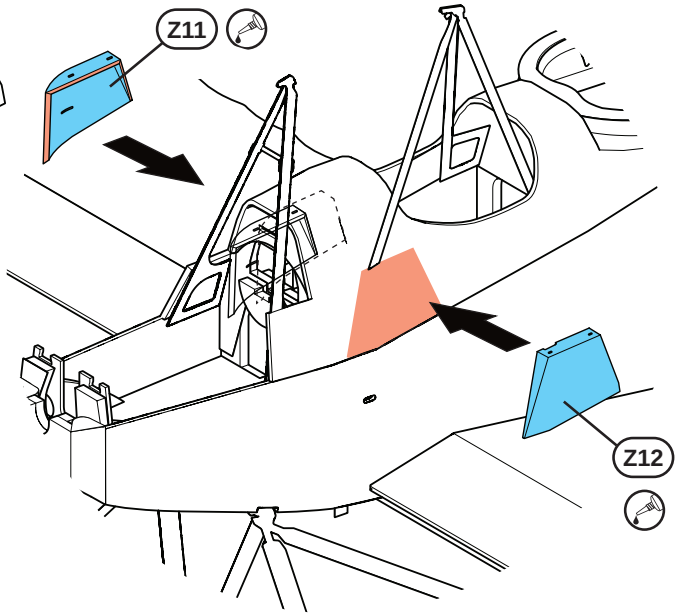
STAGE 11 DETAIL

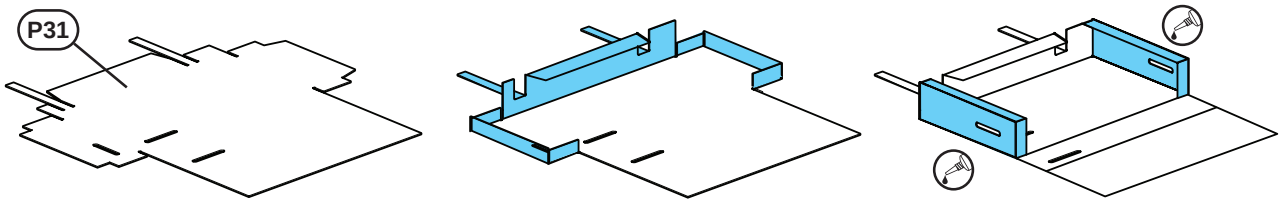


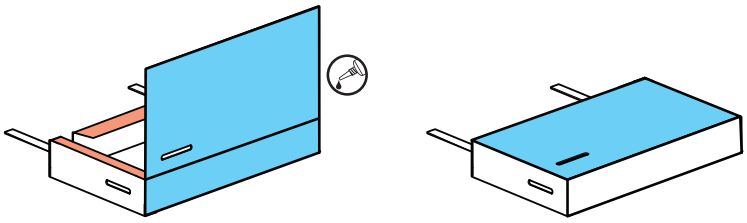
STAGE 11 DETAIL



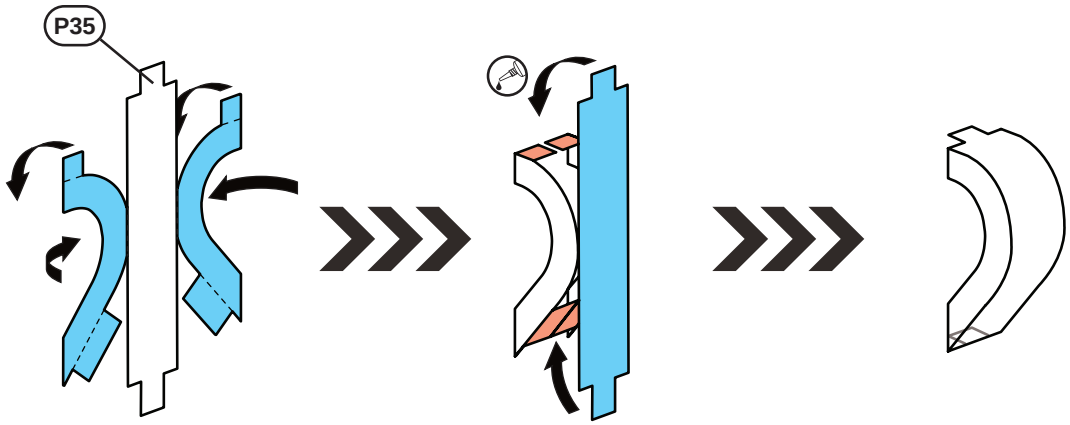
Bevel & Score F5 before installation - See Scoring & Bevelling guide #2



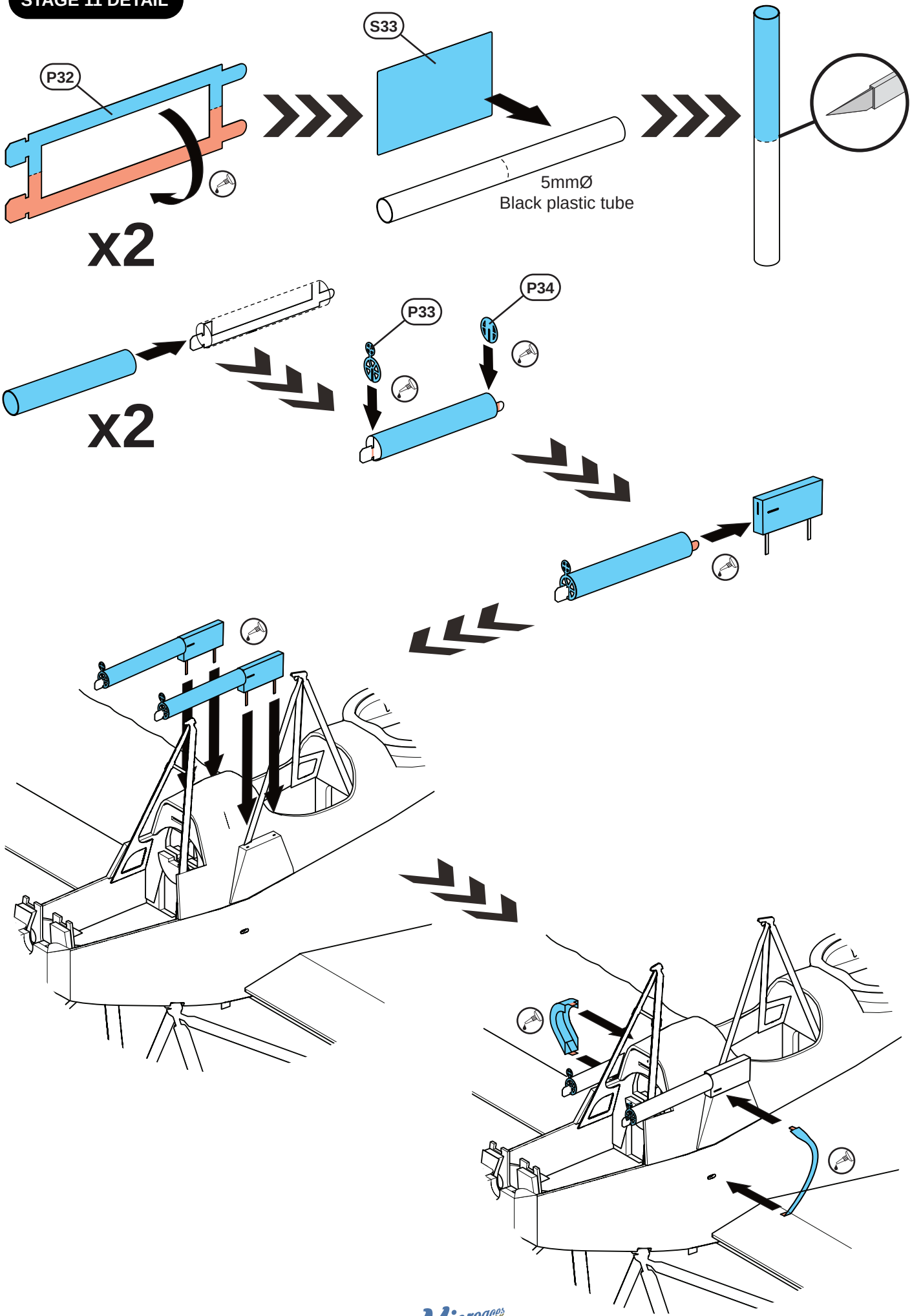




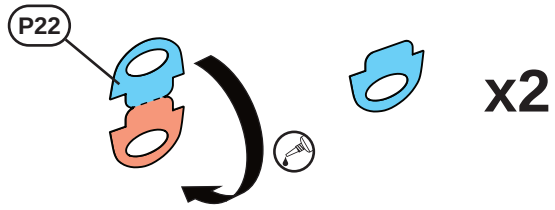
x2

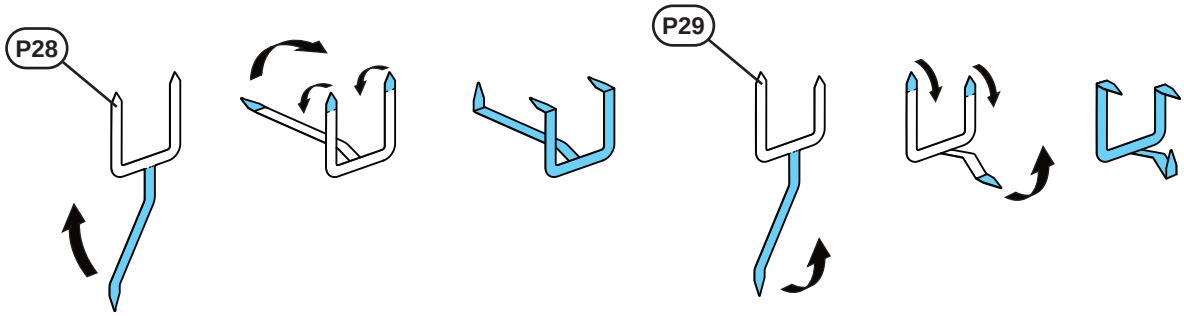


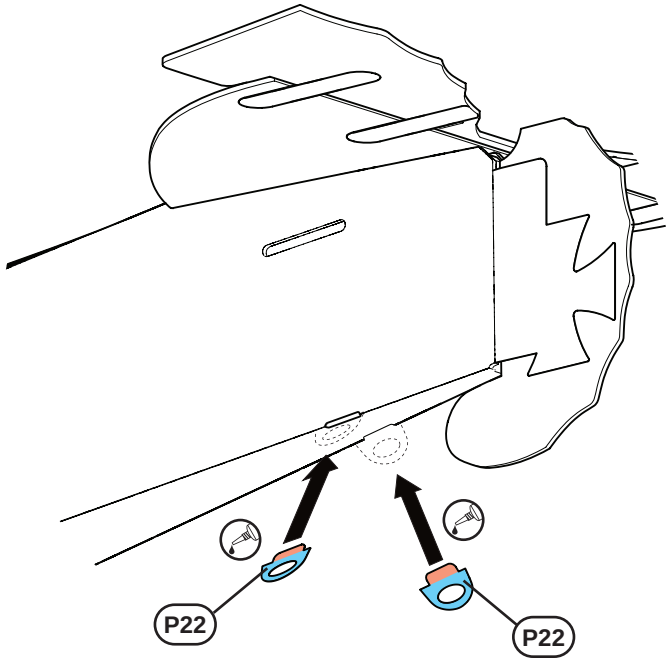
STAGE 11 DETAIL

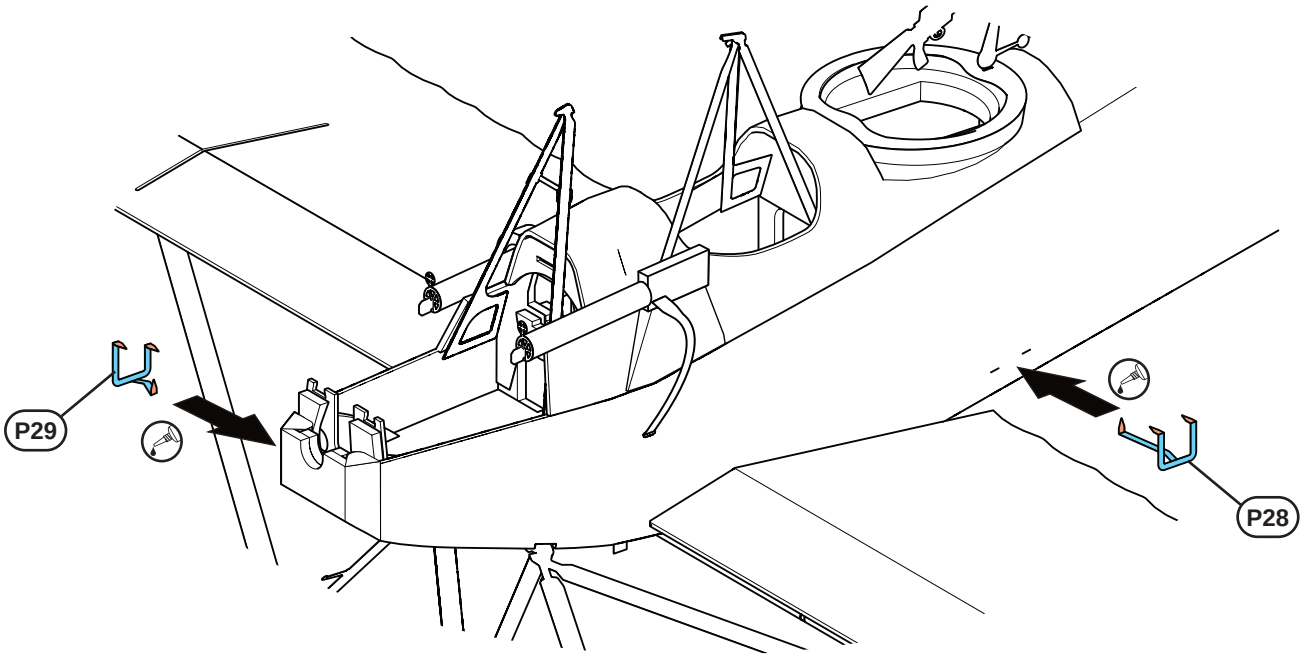


STAGE 11 DETAIL

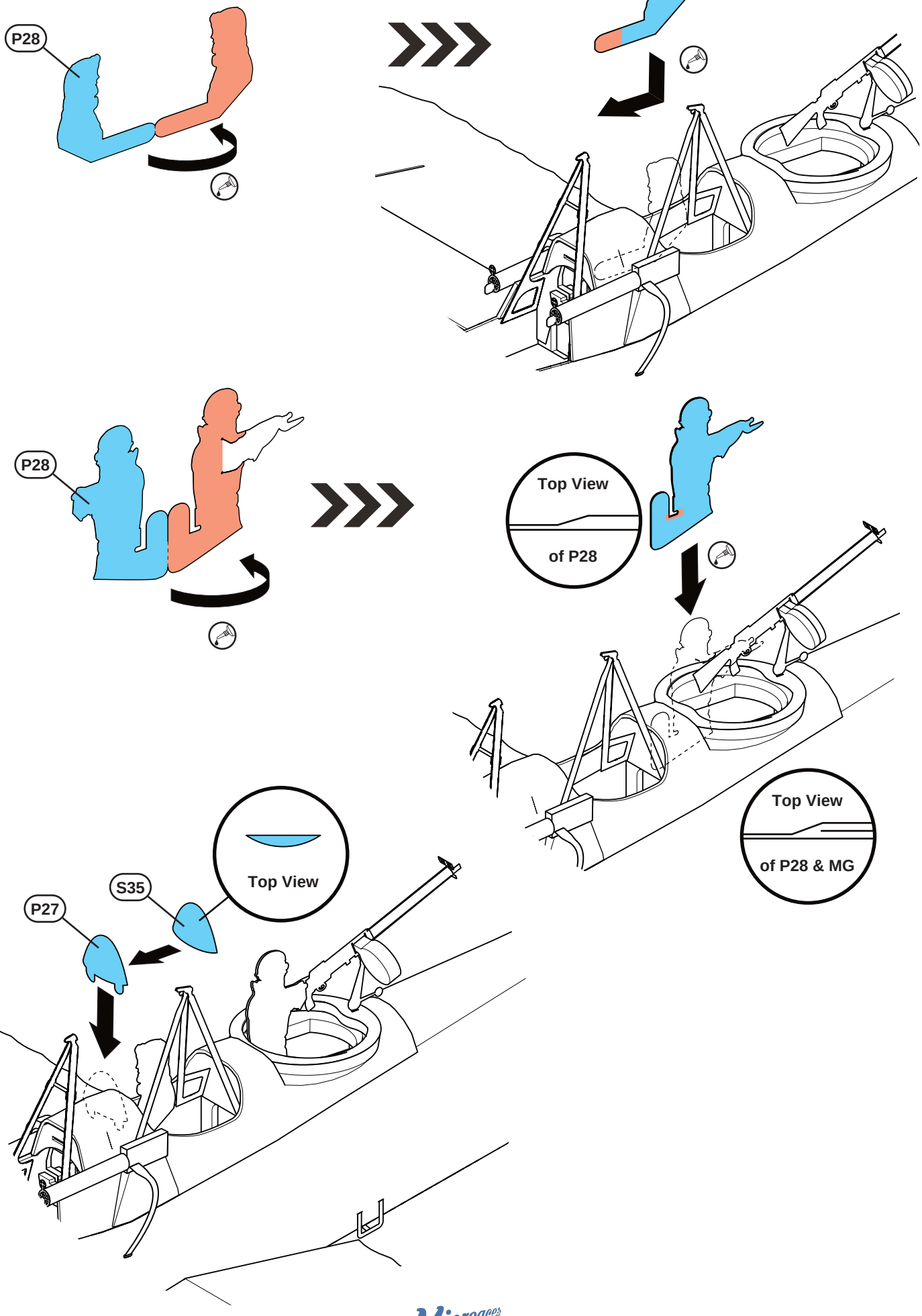




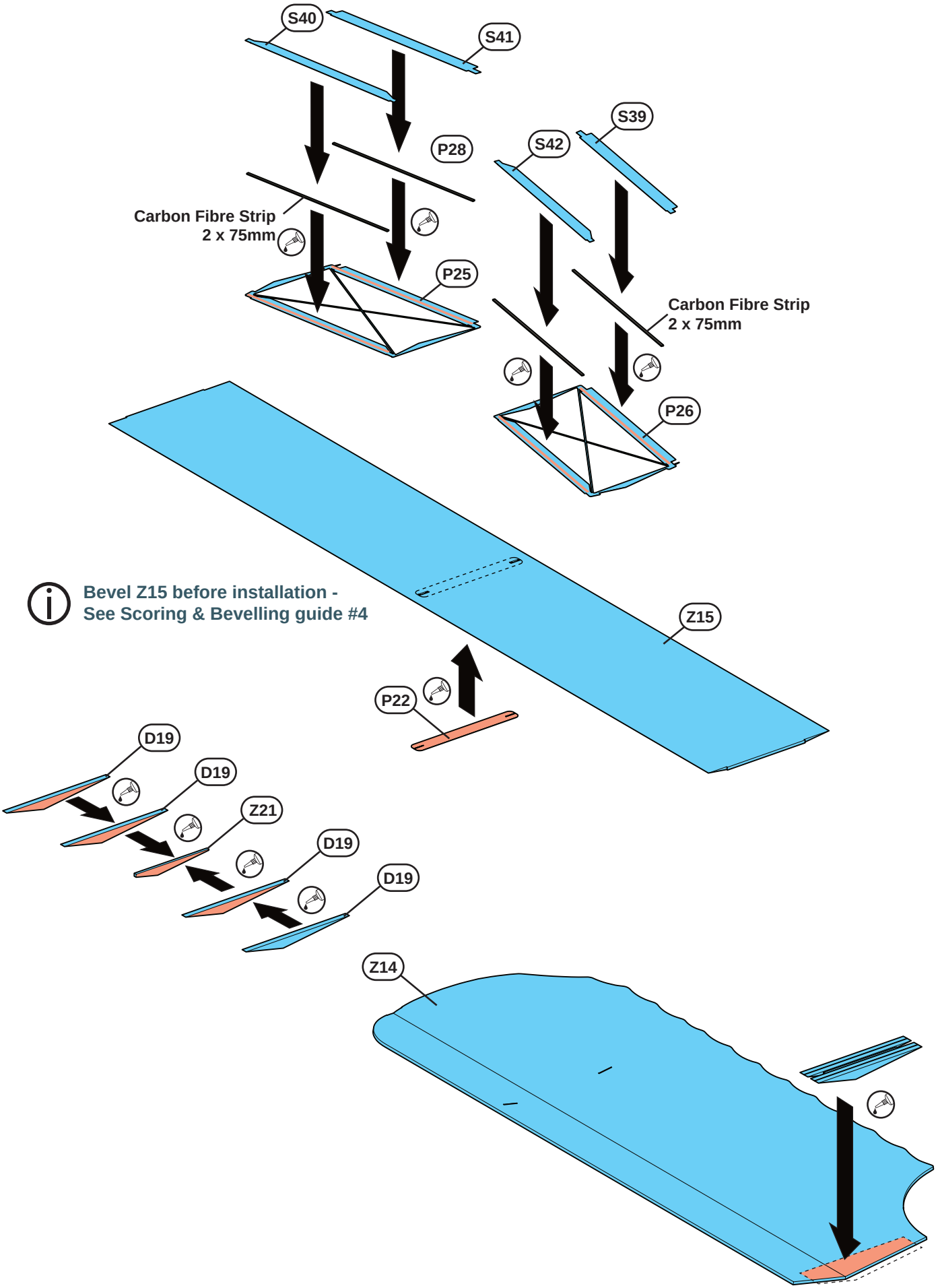




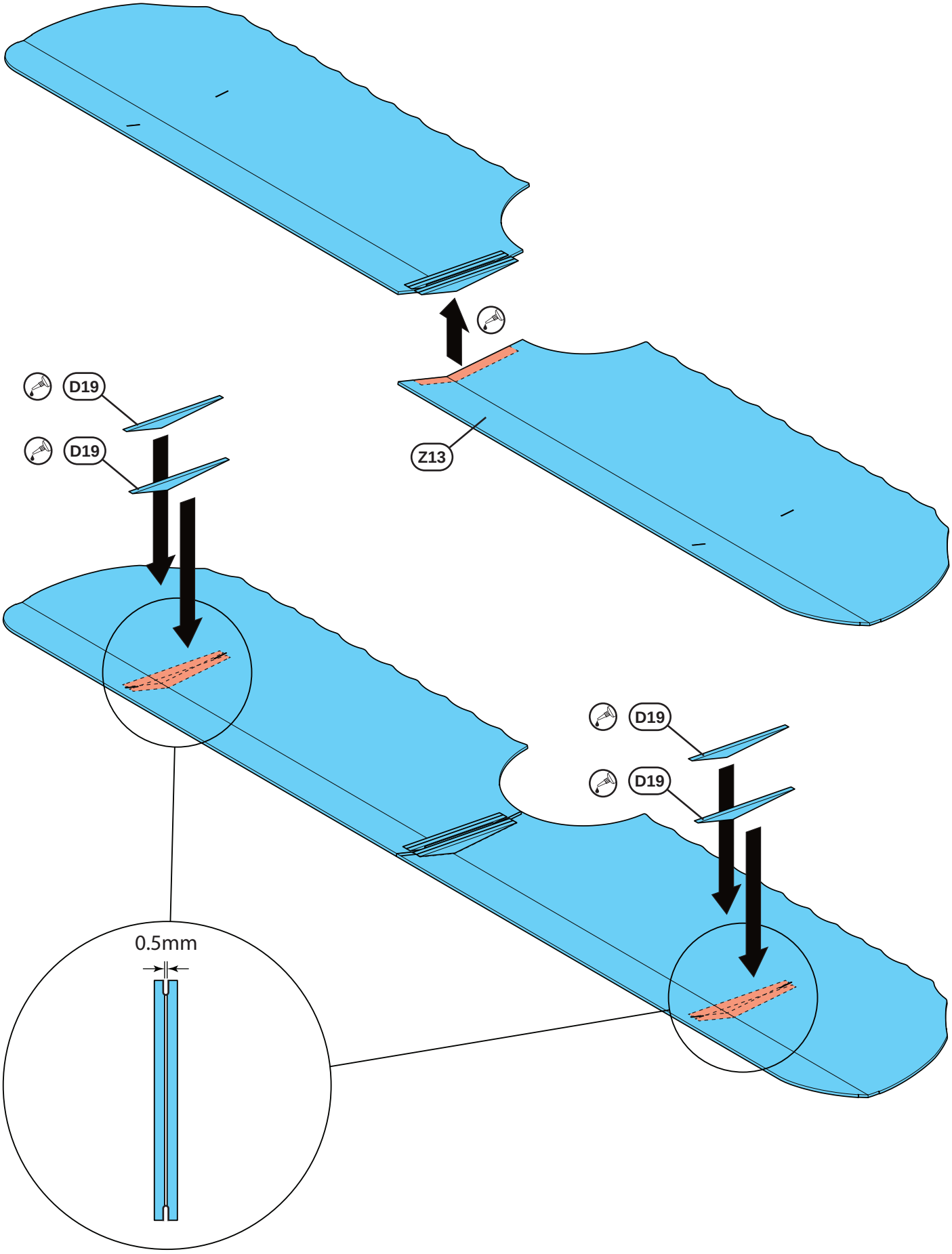
STAGE 12 PILOT & CREW



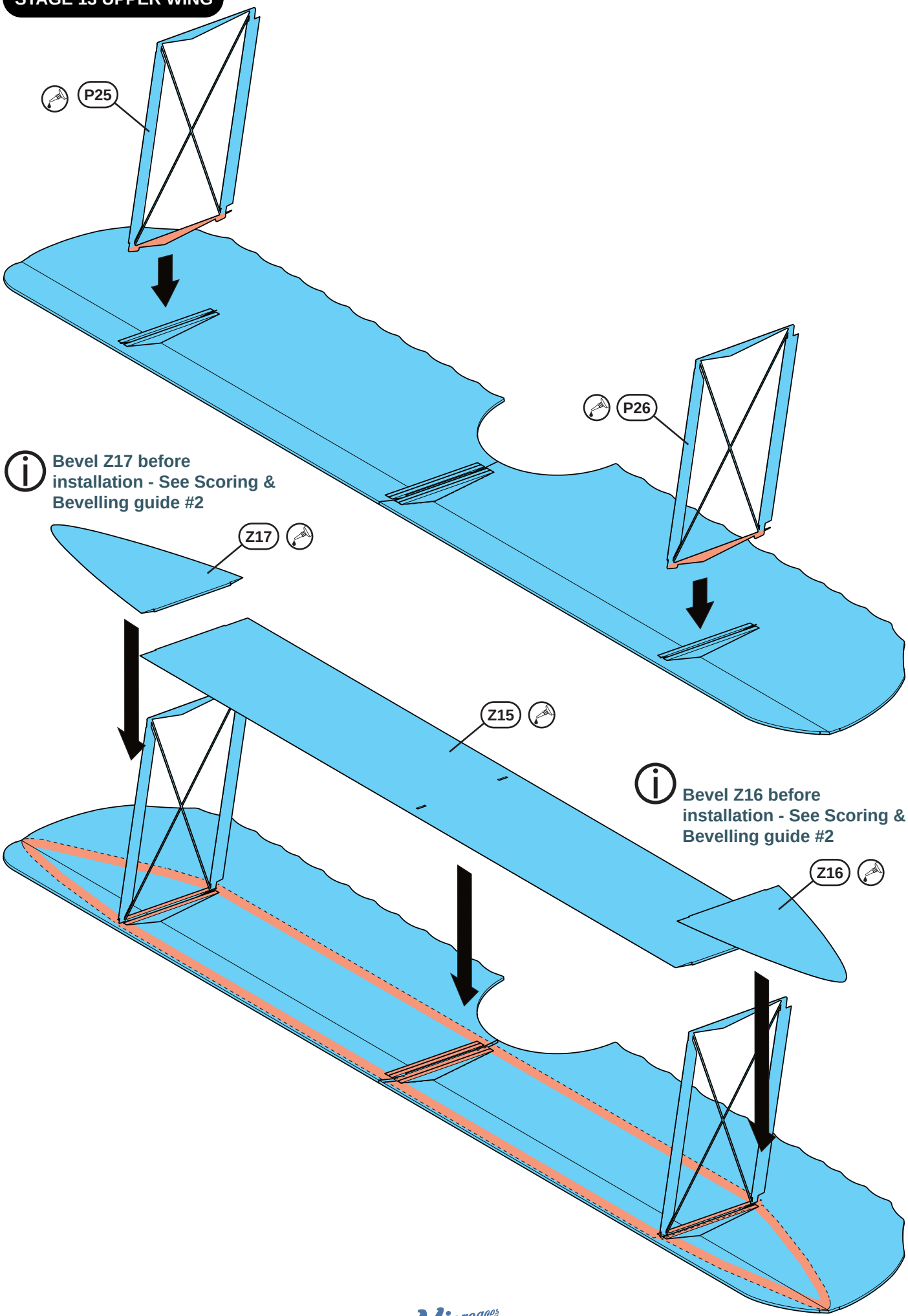
STAGE 13 UPPER WING



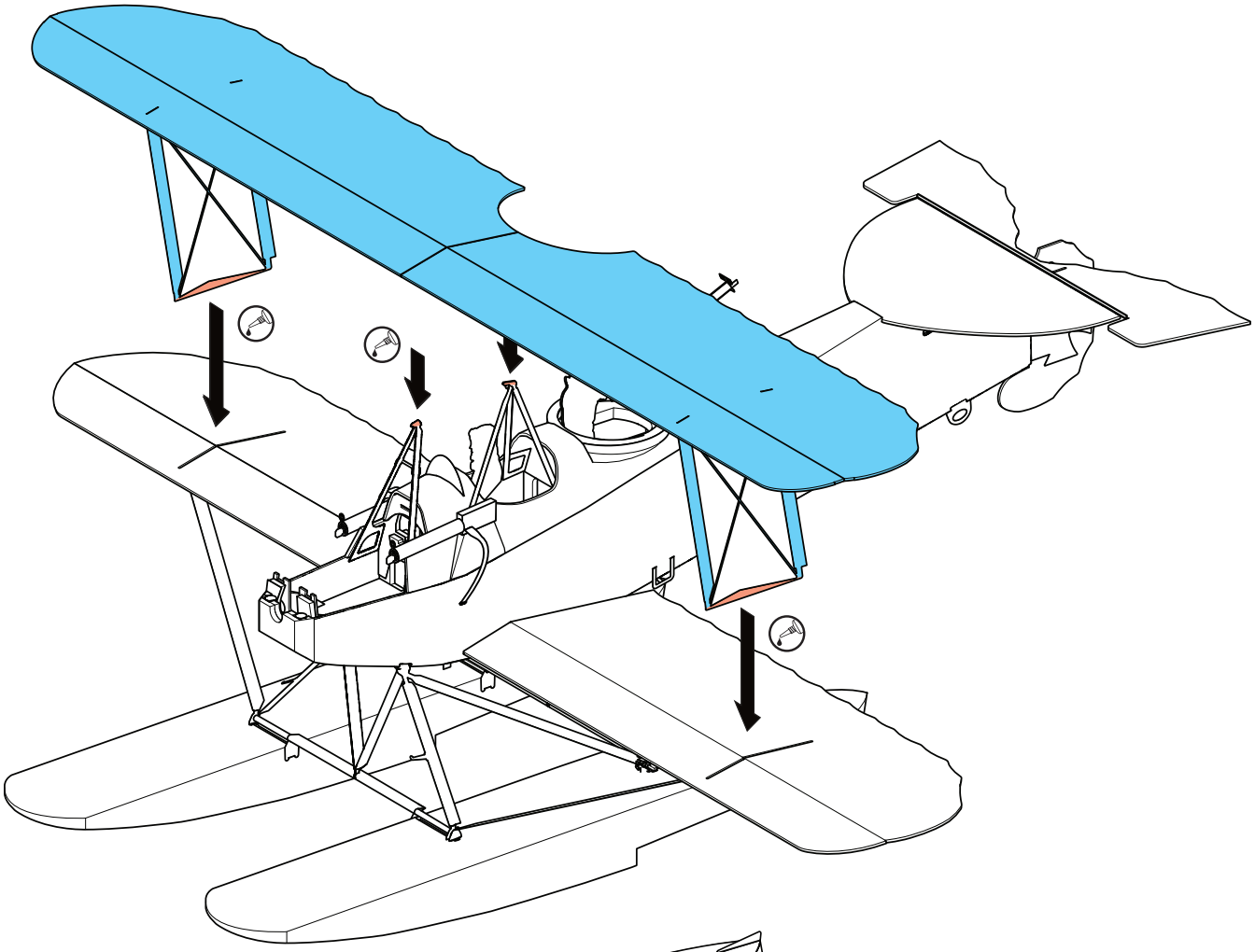
STAGE 13 UPPER WING



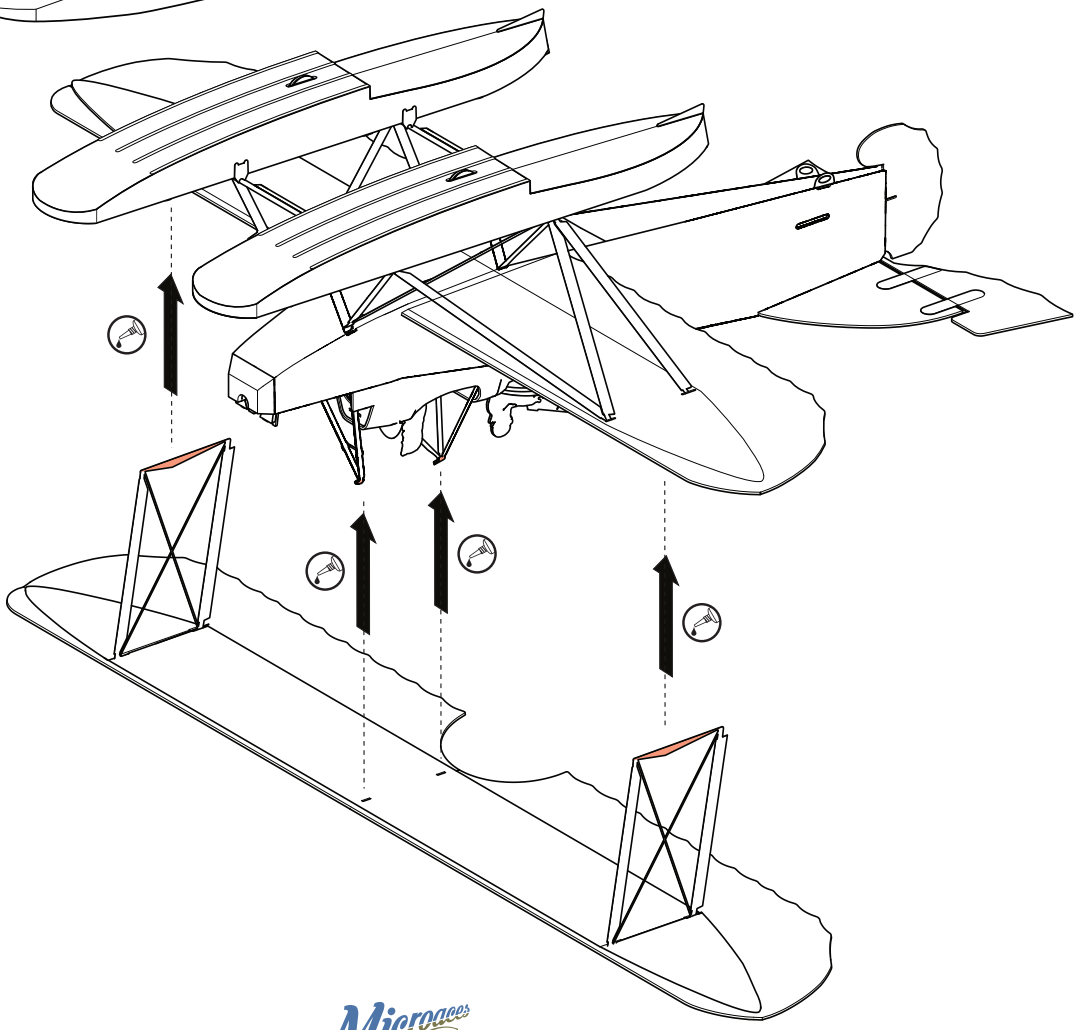
STAGE 13 UPPER WING



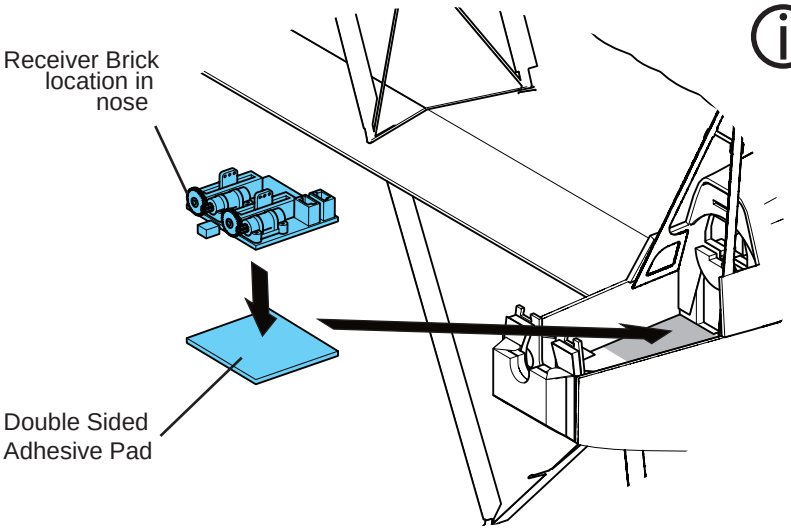
STAGE 13 UPPER WING



Alternative view

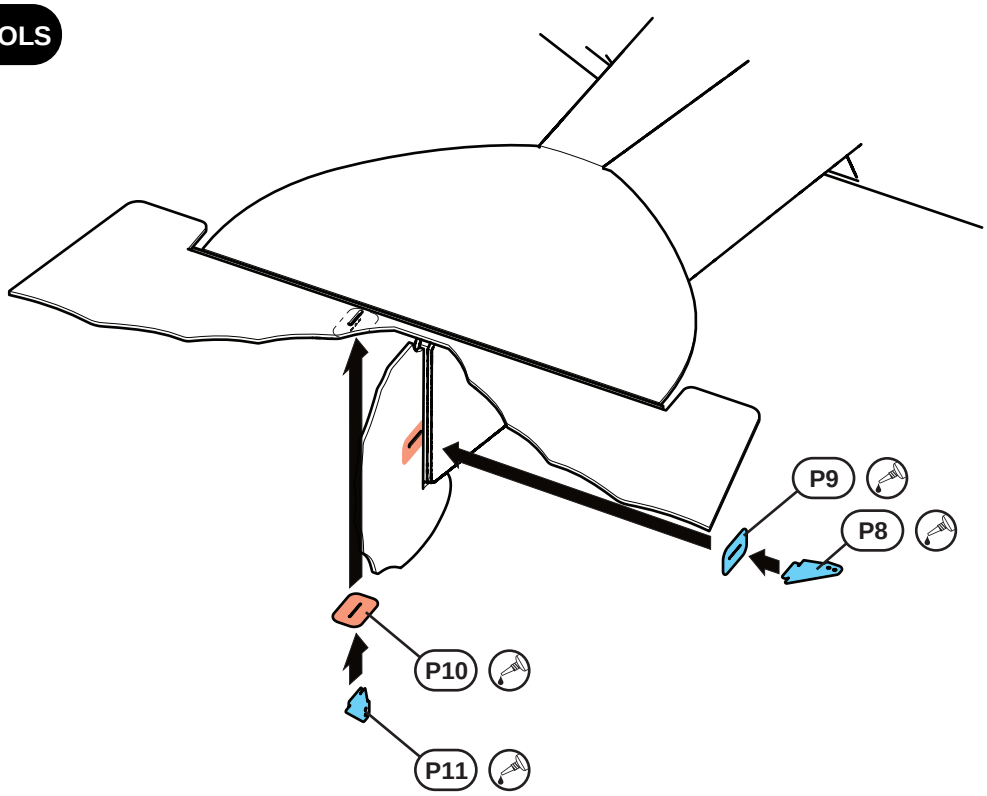


STAGE 14 ELECTRONICS



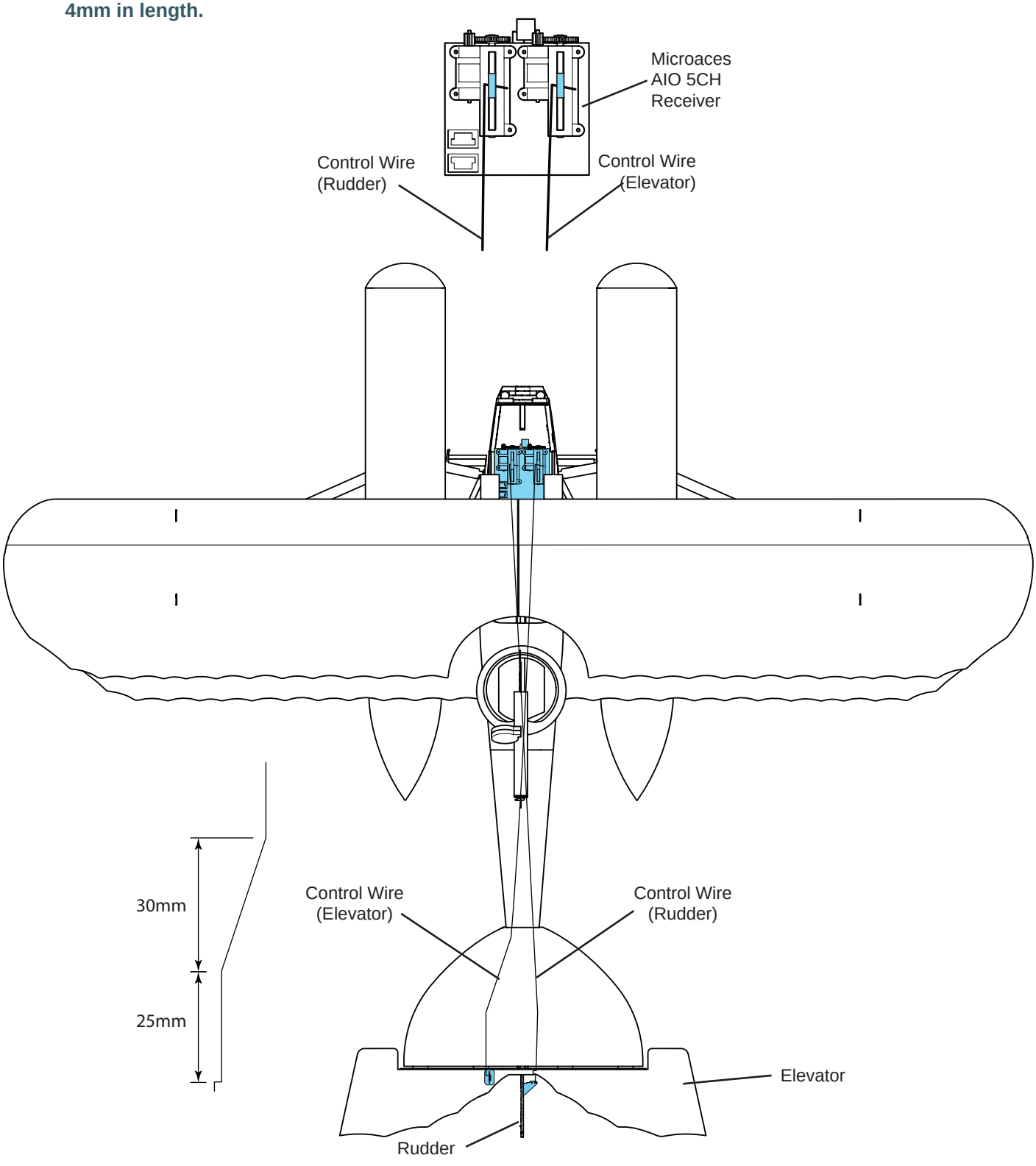
Ensure receiver servos are centered before installing. To do this, bind to transmitter and center trims on Elevator & Rudder (and/or Aileron if mixed to rudder on transmitter).

STAGE 15 CONTROLS



STAGE 16 CONTROL RODS

Insert individual control wire from the rear and attach to appropriate control horn. Set control surface to neutral then, using slim or needle nose pliers, bend the end of the control wire at the point it will need to attach to the servo arm. Un-hook the control wire from the control horn, pull out of the fuselage and complete the hook bend for the servo arm. Trim hook to 4mm in length.

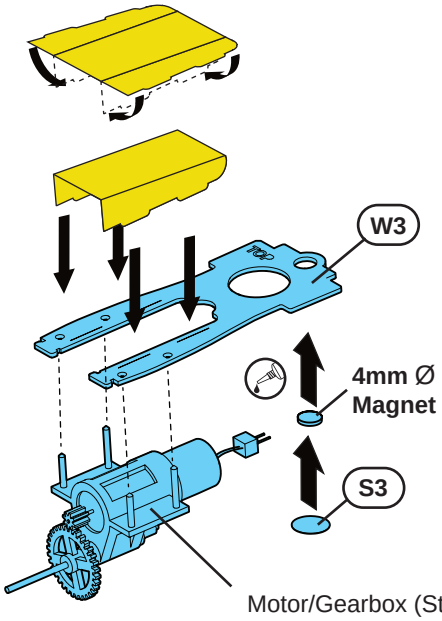


View from Above

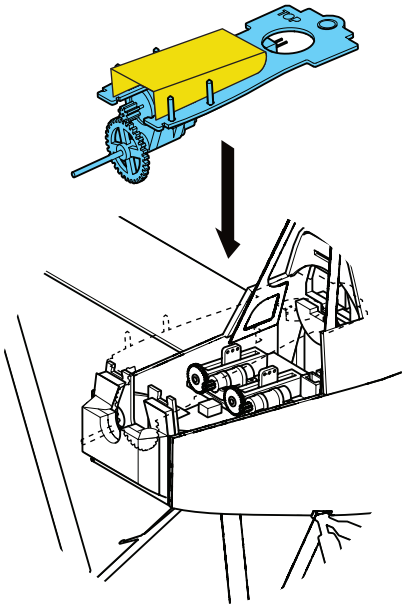
The Control Horns for the rudder and elevator are very flexible. Install the control wires for each and use tweezers to bend the horns to insert the 'Z' bend into the hole.

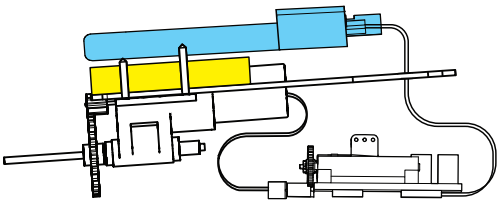
Use the outer hole of the control horns for more gentle control of your aircraft!

STAGE 17 MOTOR

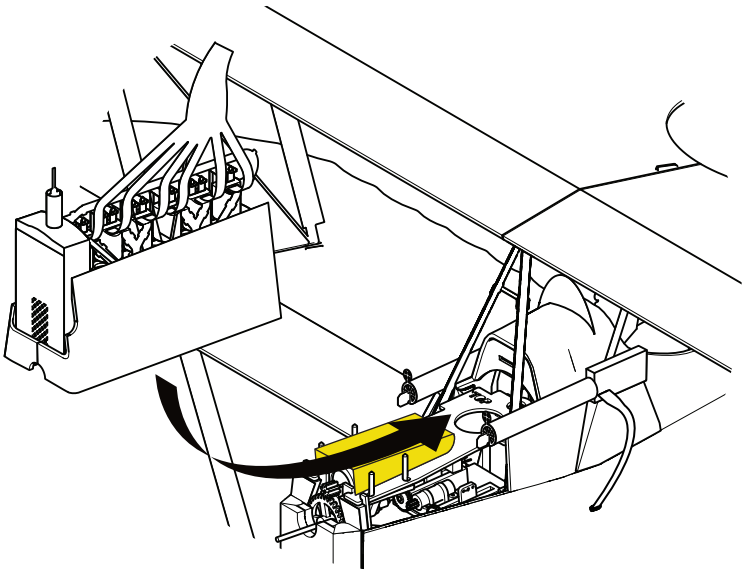


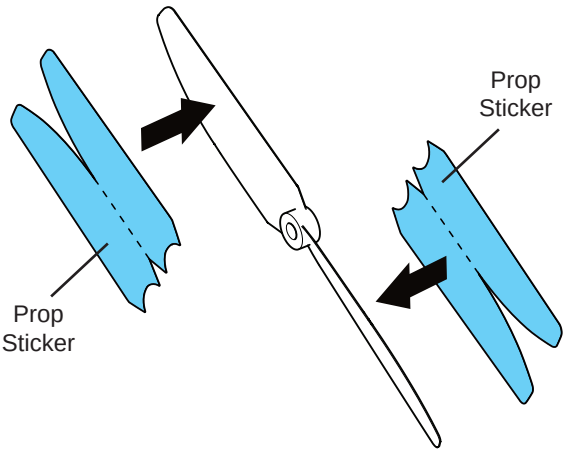
Motor/Gearbox (Standard length prop shaft)

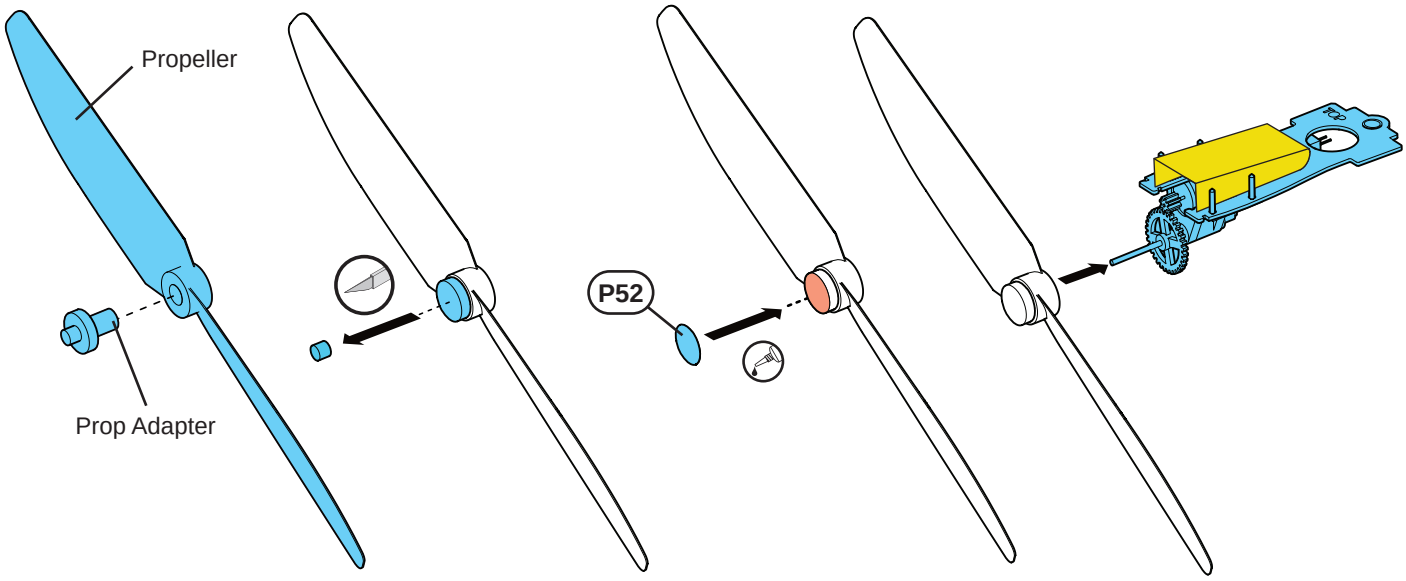




Battery Position





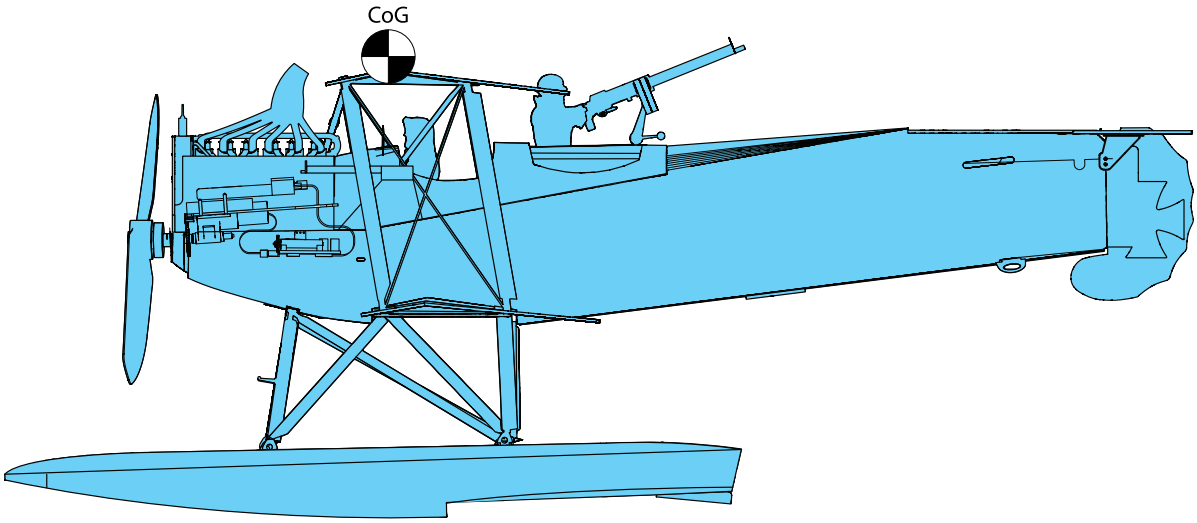


STAGE 18 FINISHING TOUCHES

Centre of Gravity (CoG)

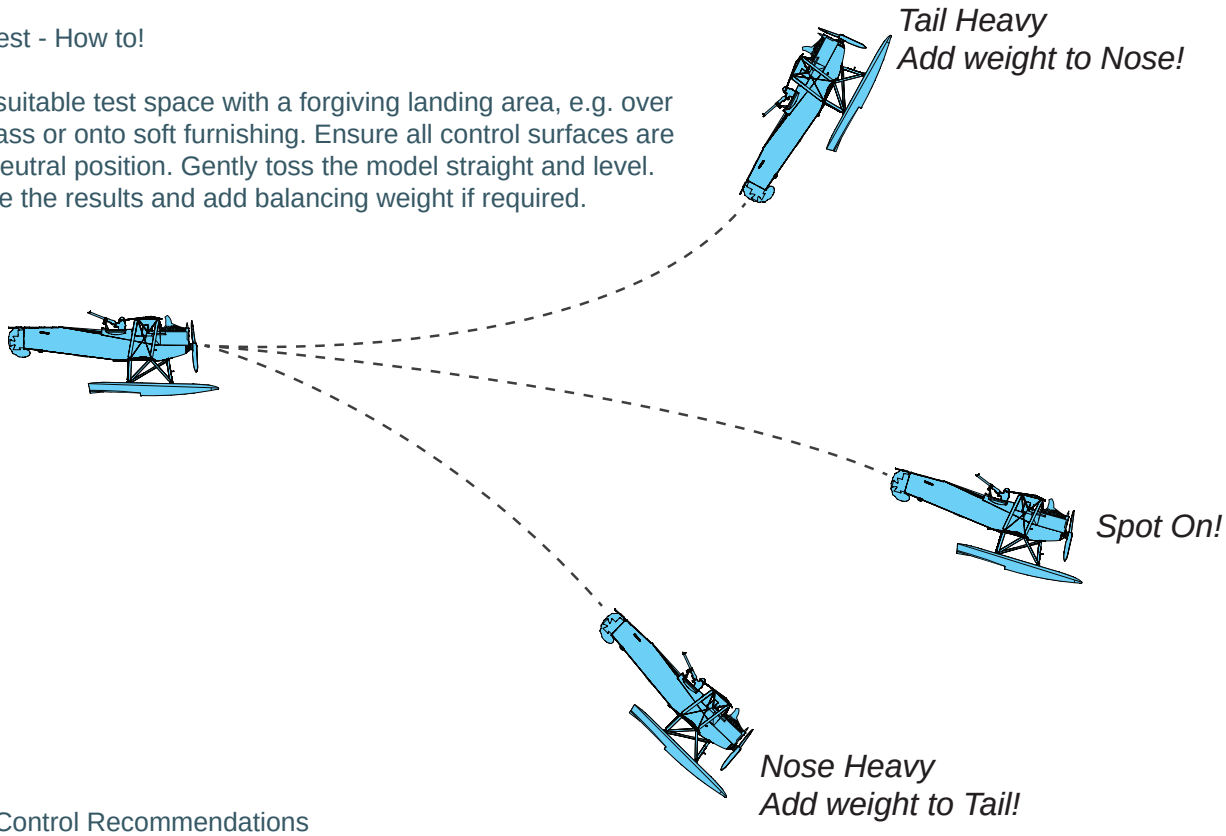
With all the electronics installed including the battery, the CoG should be around the apex of the top wing as shown on the diagram below.

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.



Radio Control Recommendations

The control surfaces are moderately effective on the Hansa-Brandenburg W.12 Set your transmitter (Tx) control rates to low or if you have a computerised Tx, set the expo to 20% for both the rudder and the elevator.

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

STAGE 19 DISPLAY STANDS/TROLLEYS (OPTIONAL EXTRAS)