



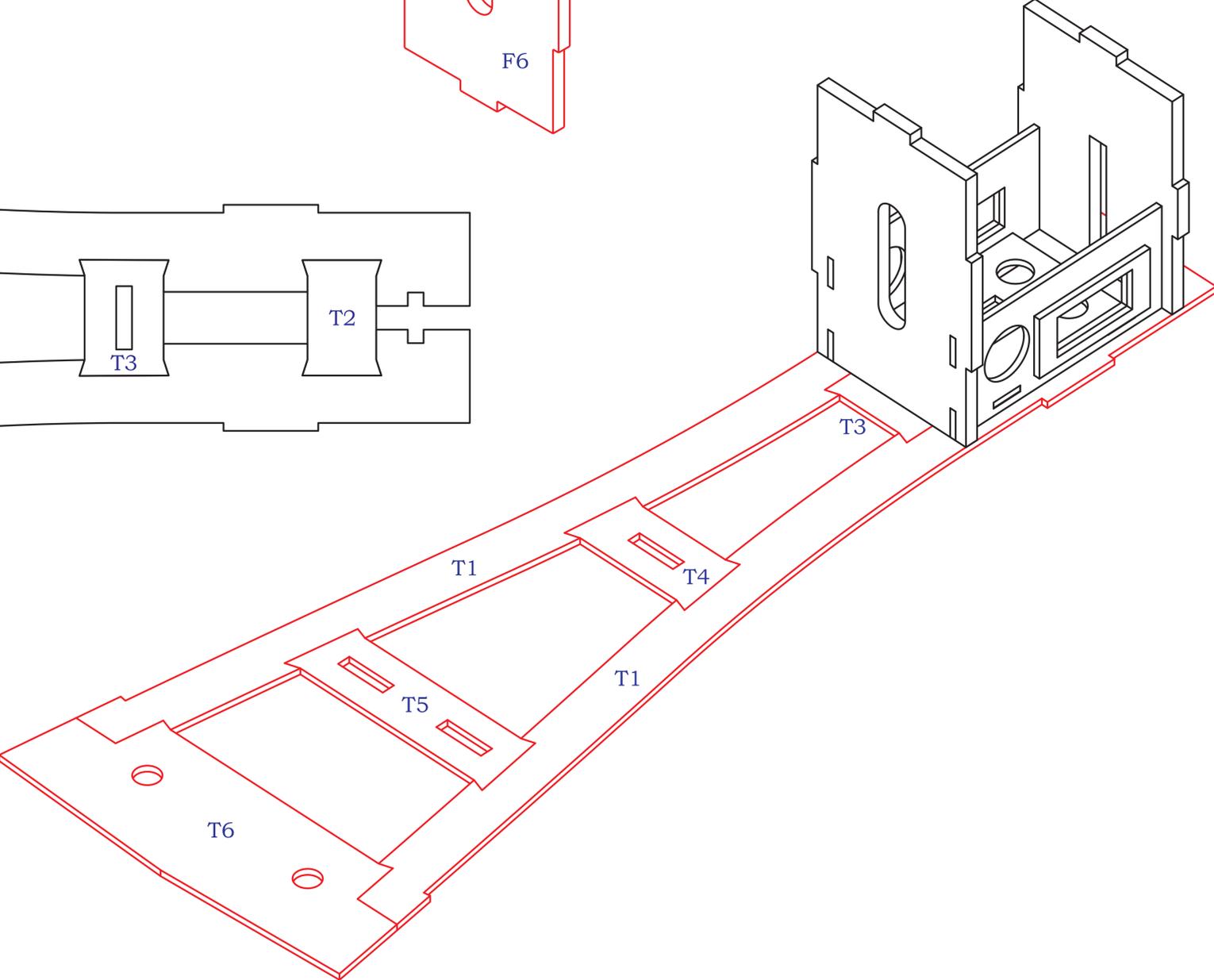
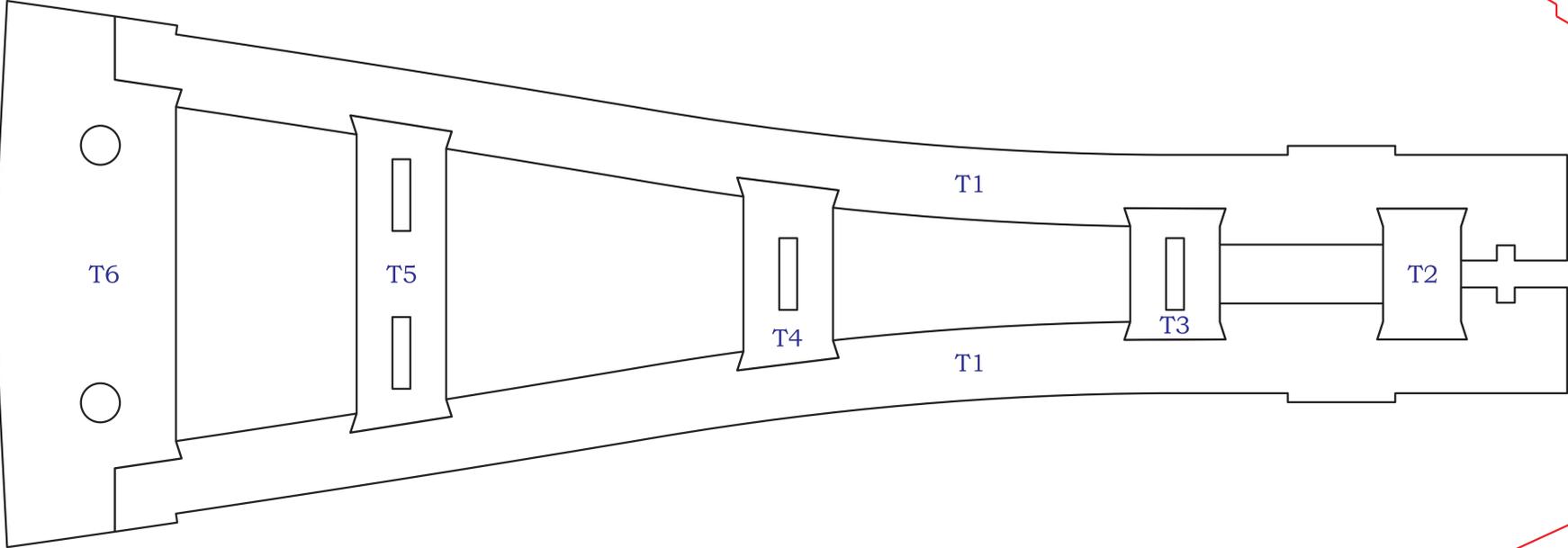
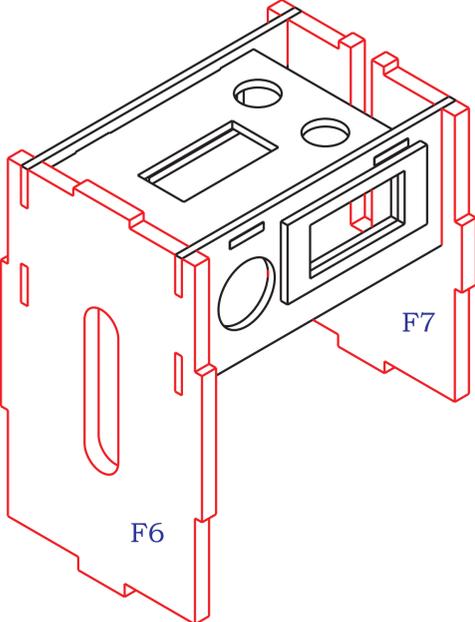
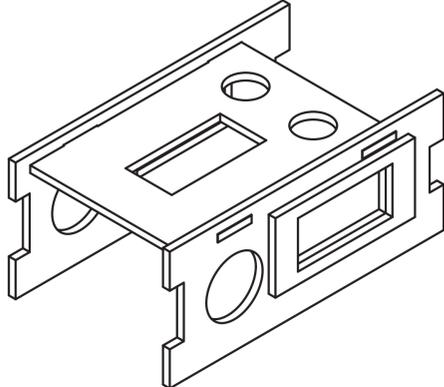
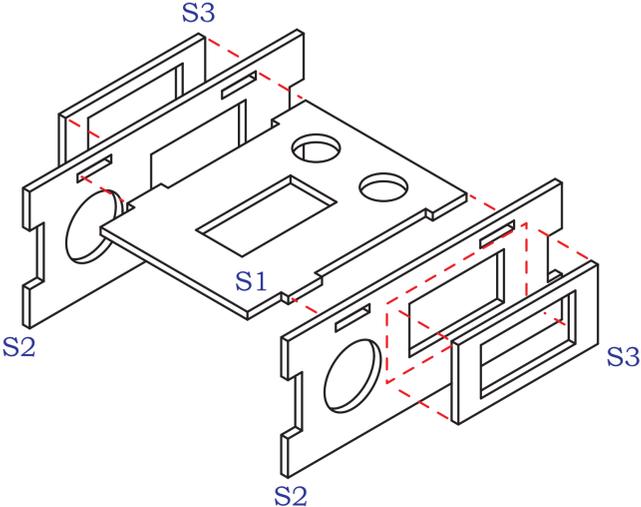
GIA NORMAN

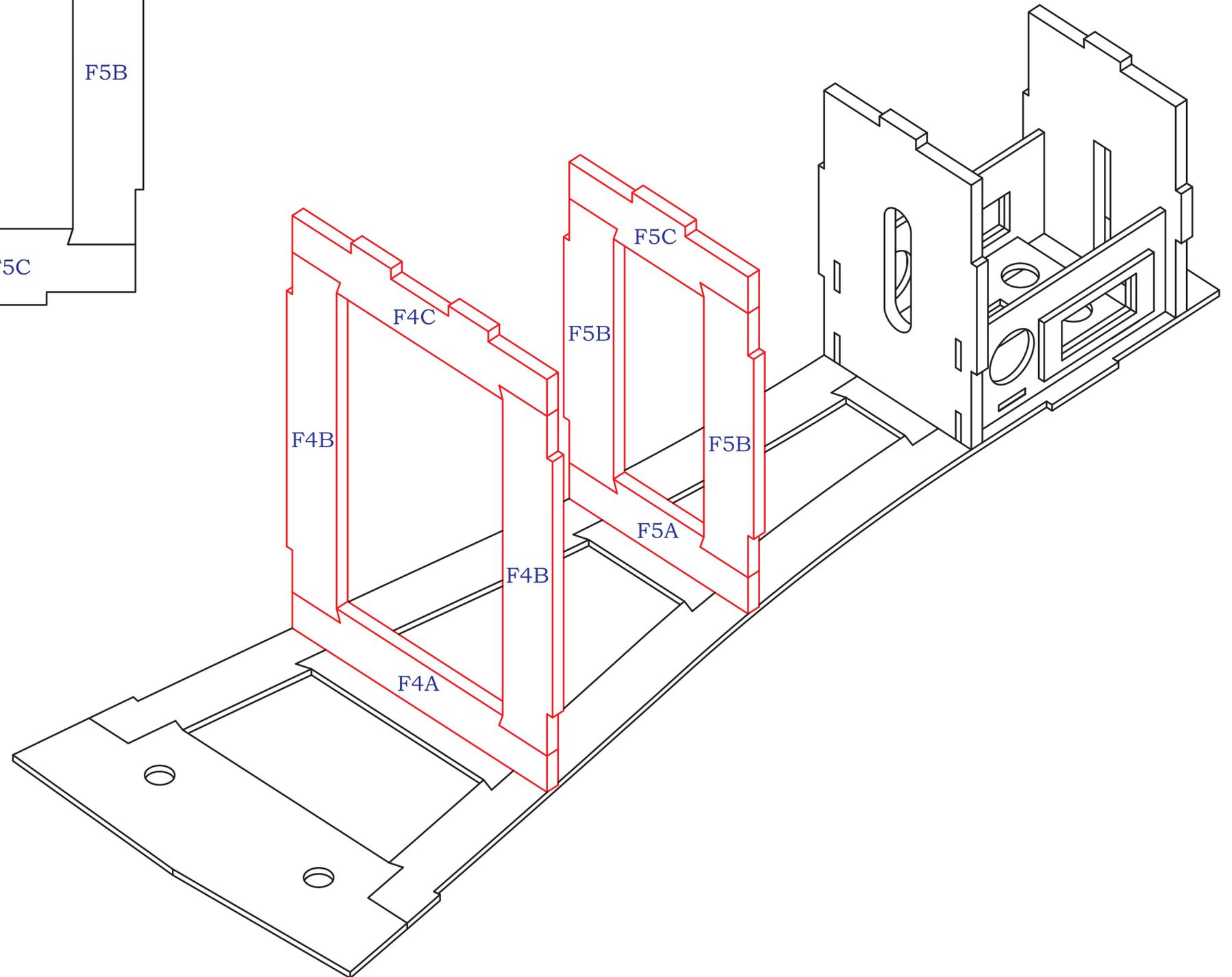
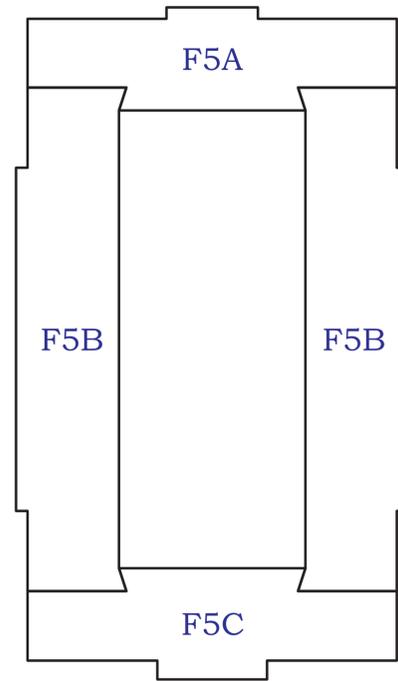
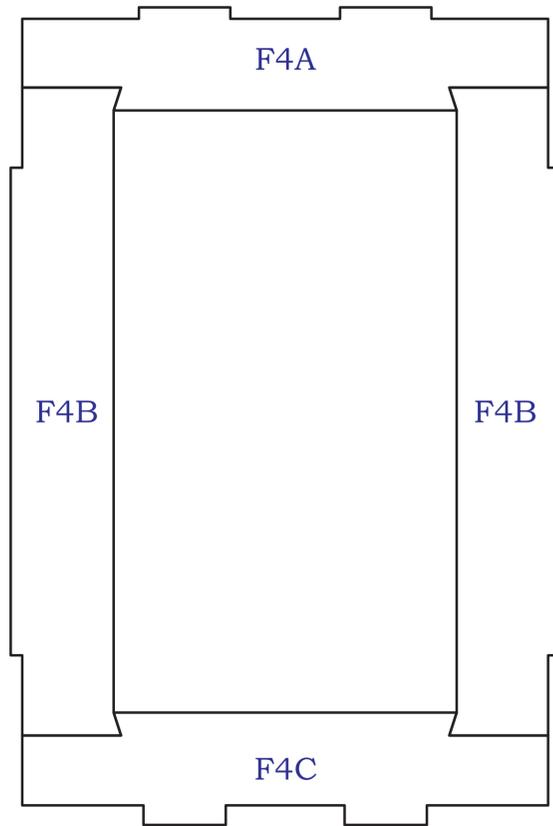
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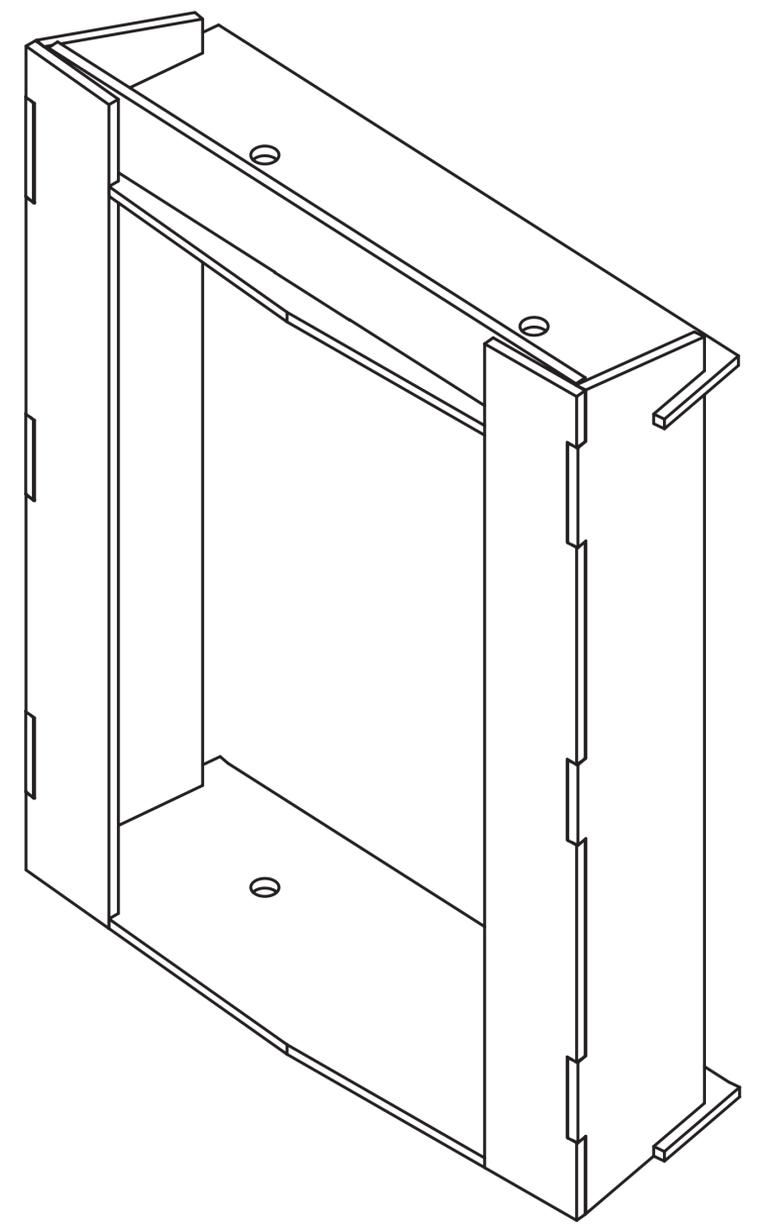
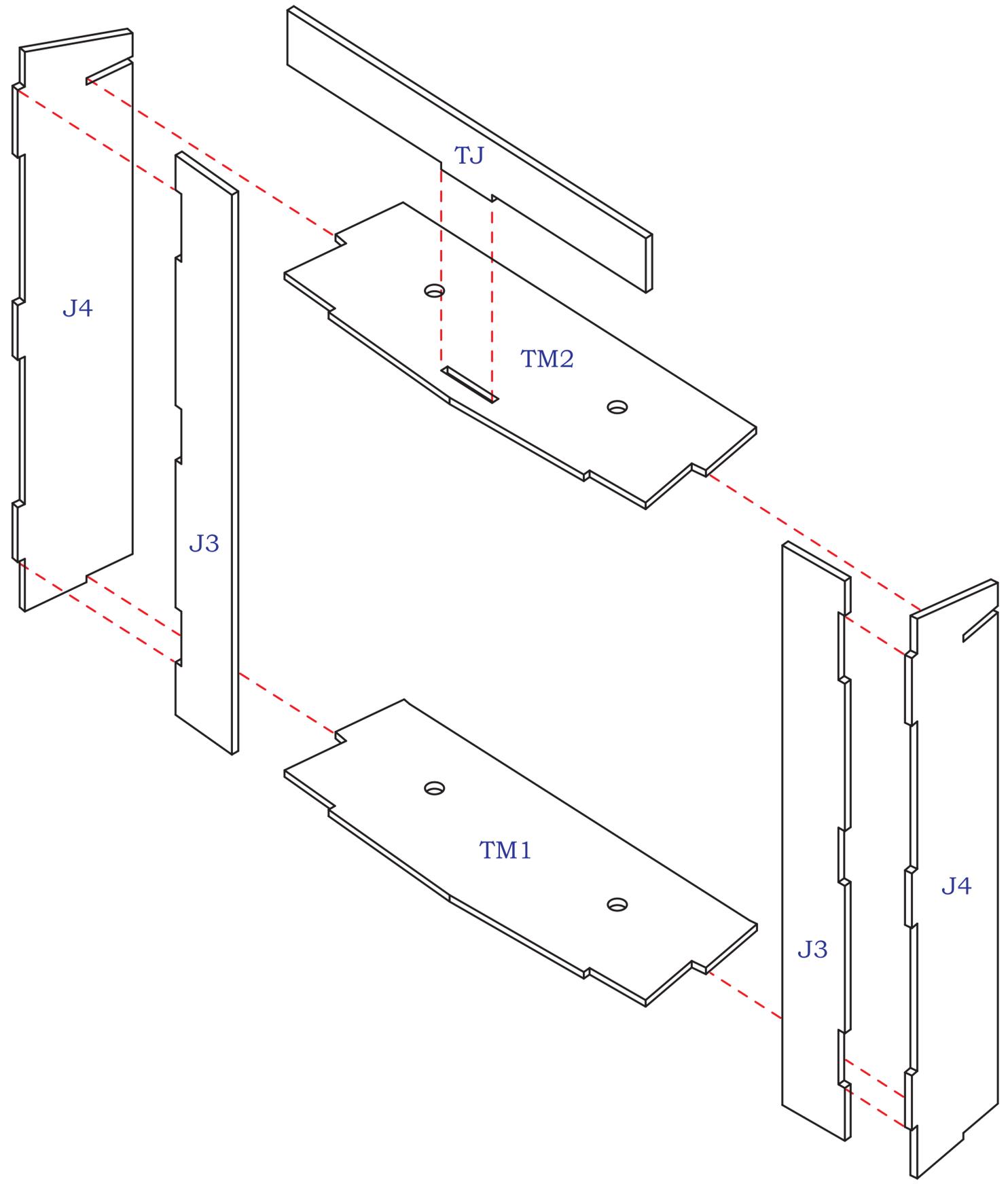
Laine's Planes

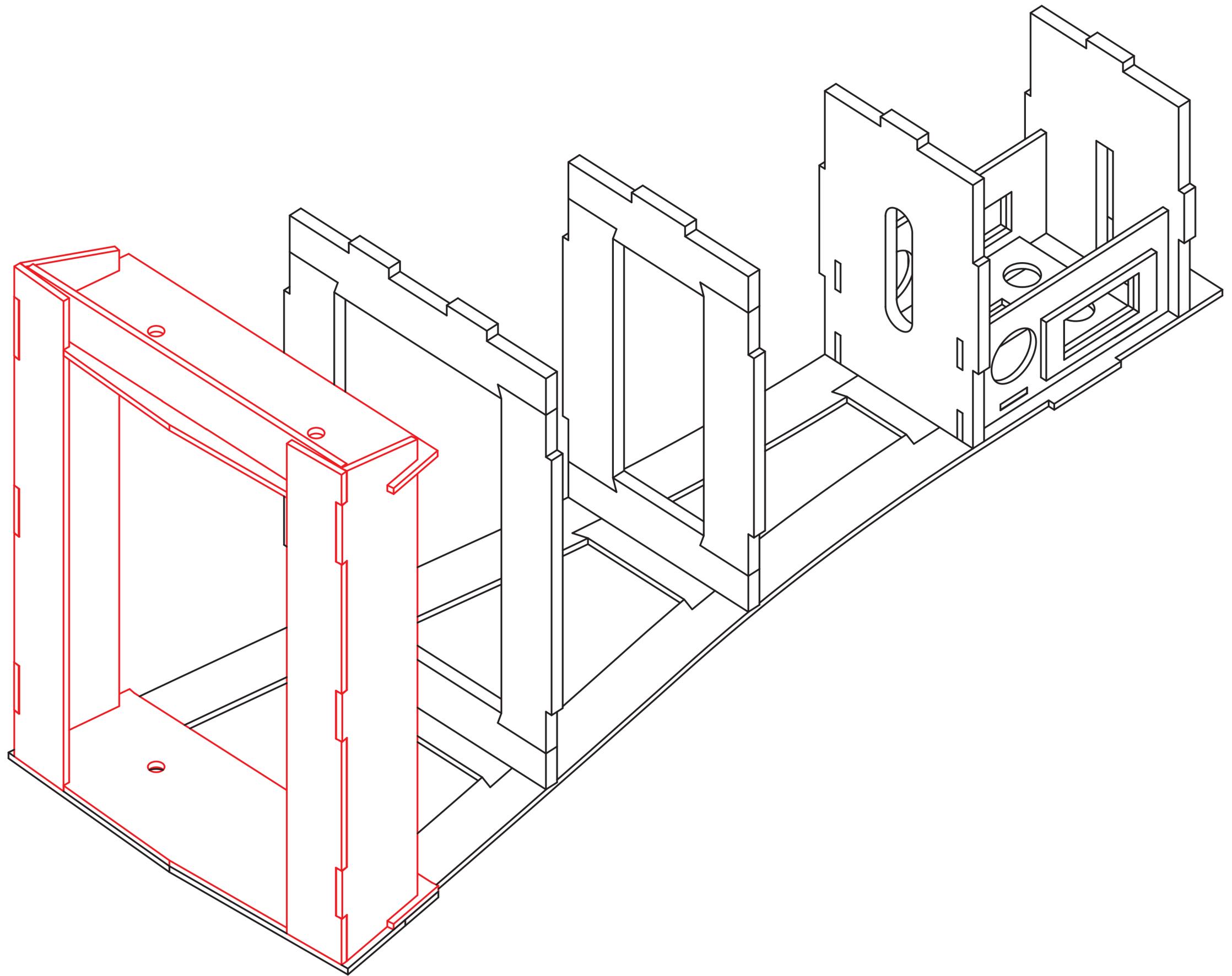
Revised: Nov. 04, 2015

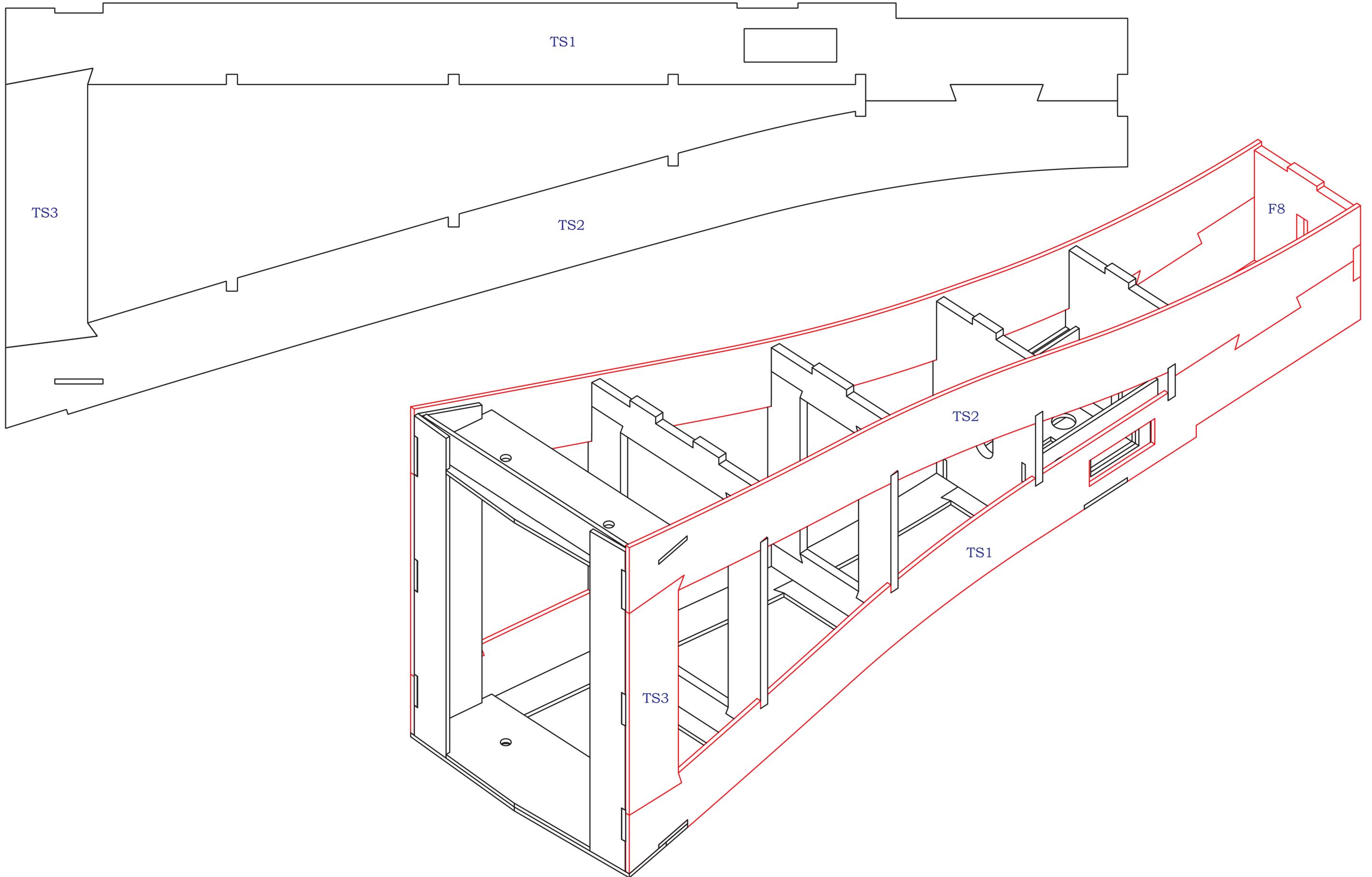
Fuselage Assembly - Tail Section

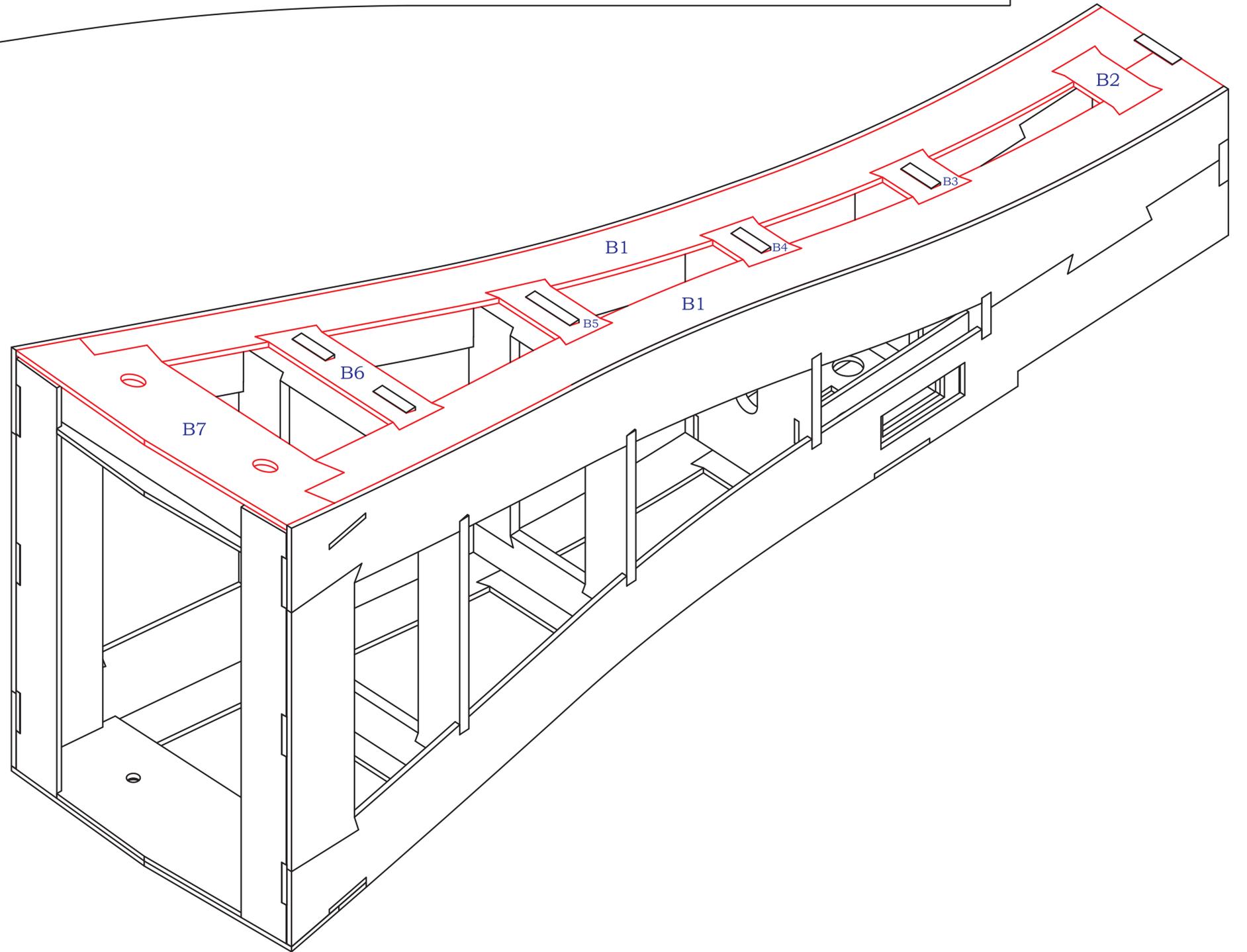
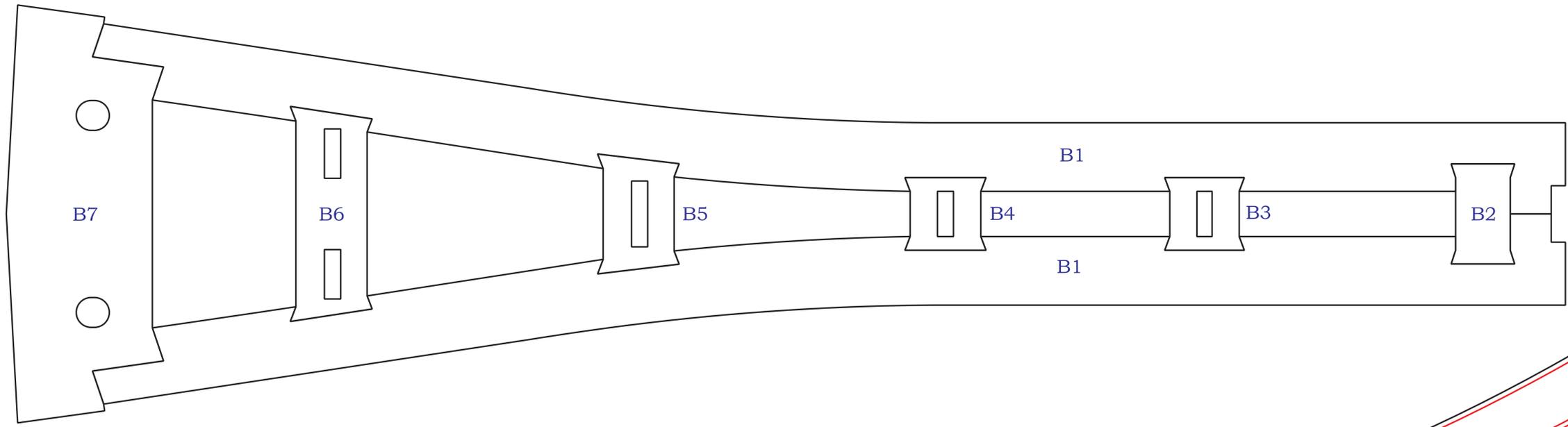


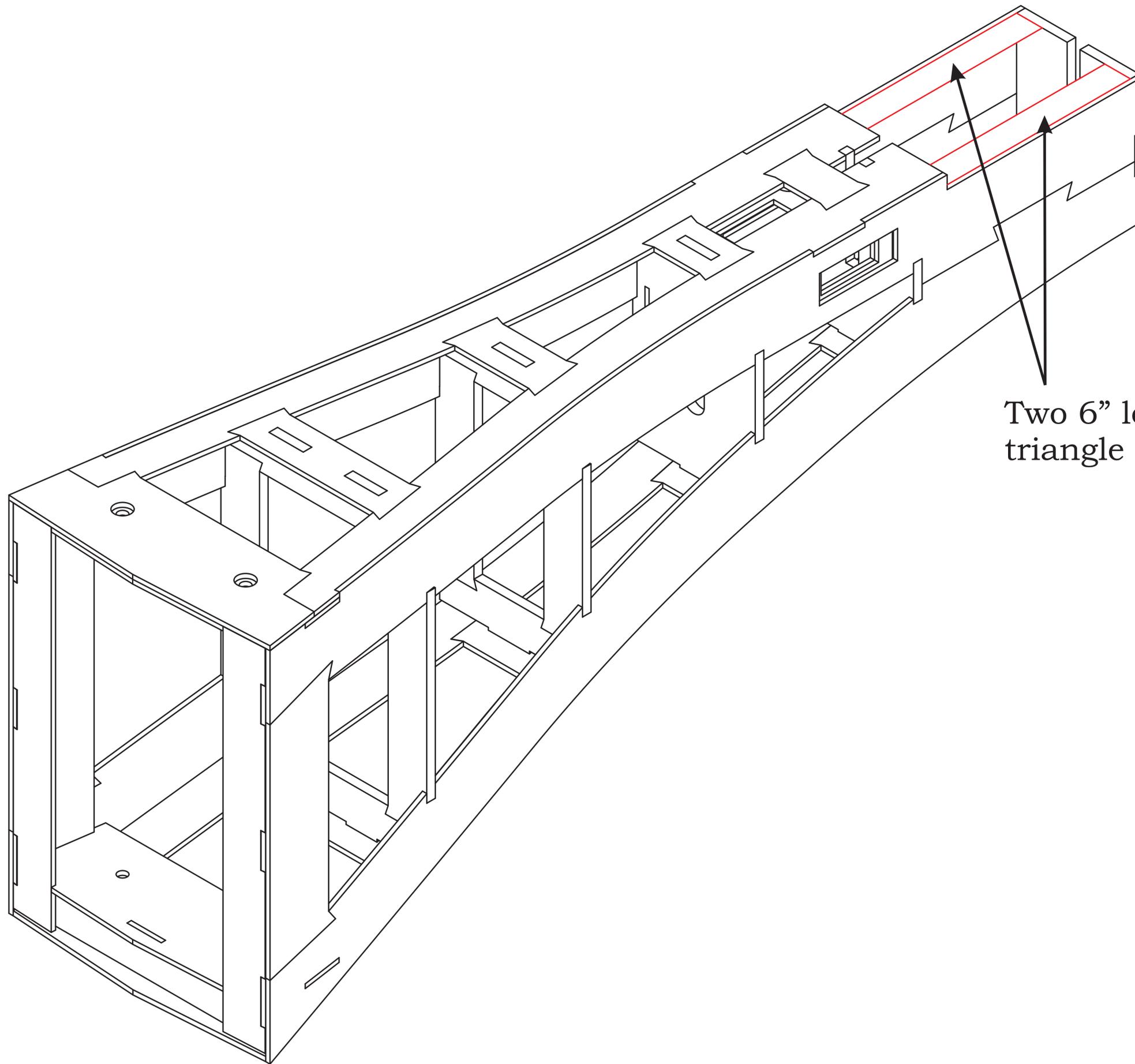






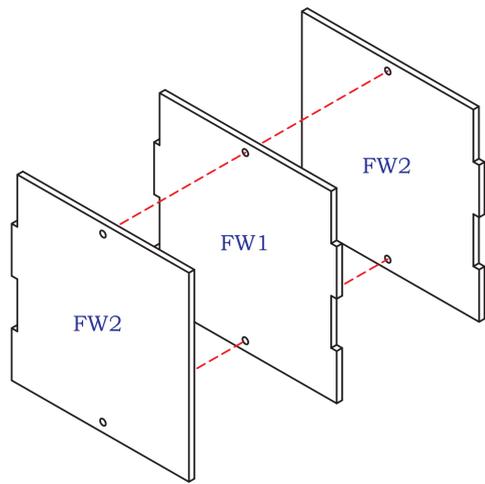




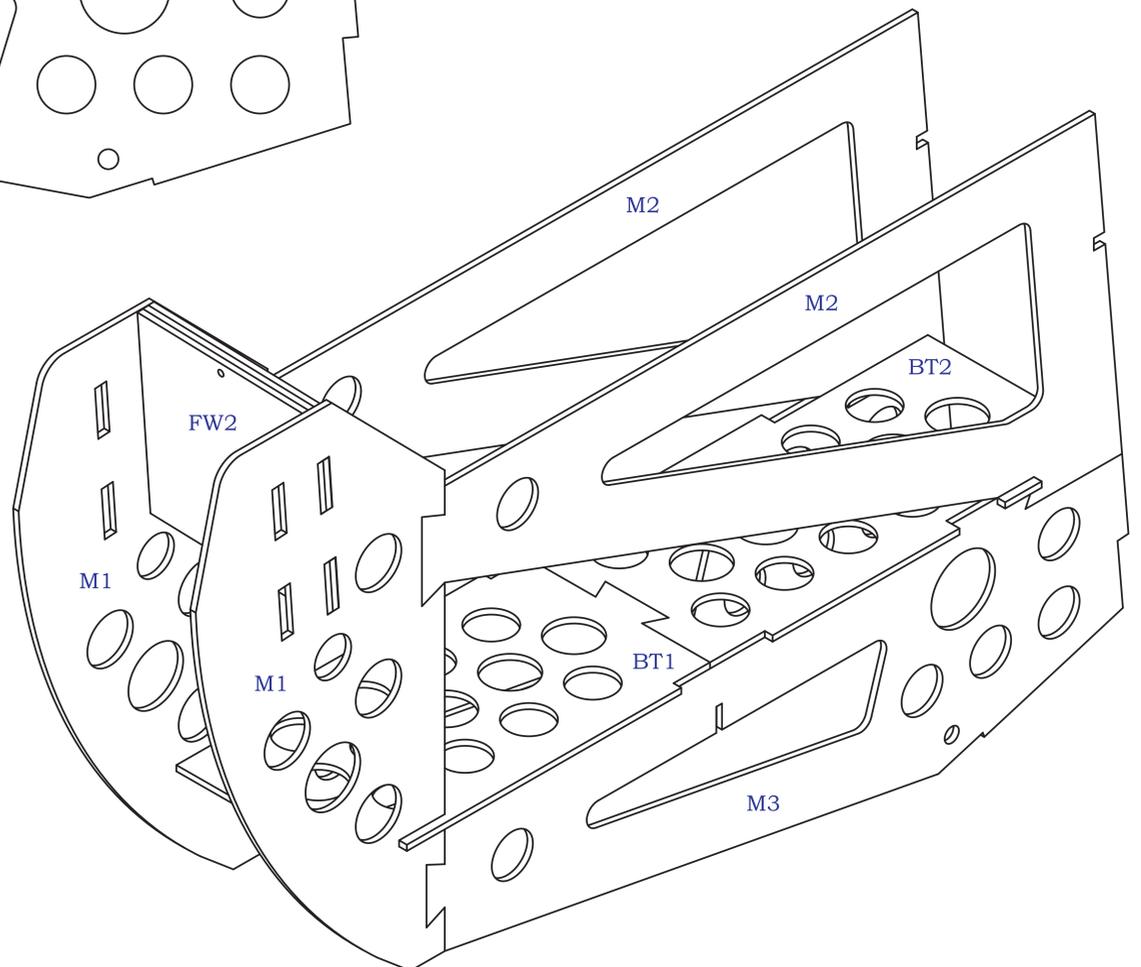
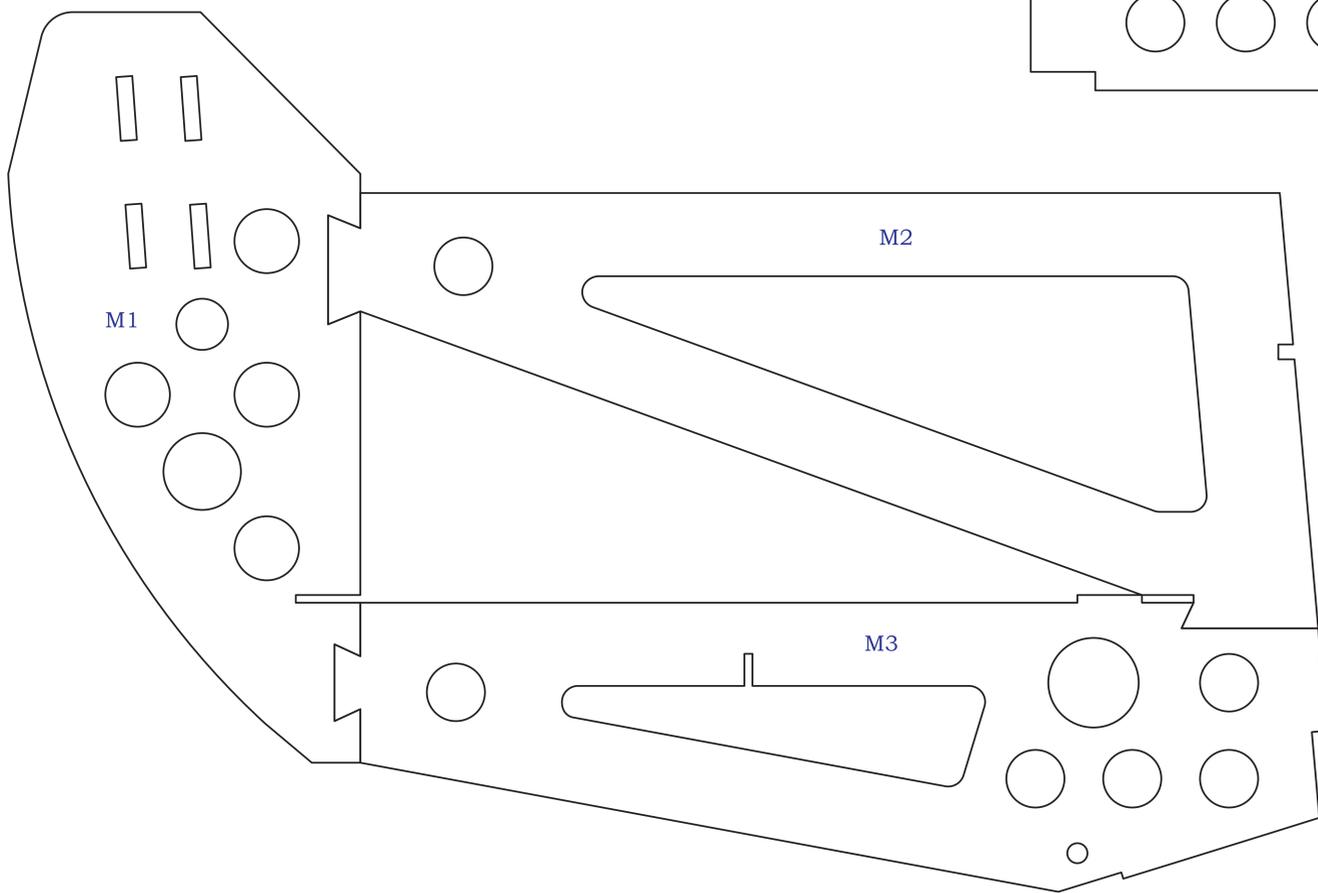
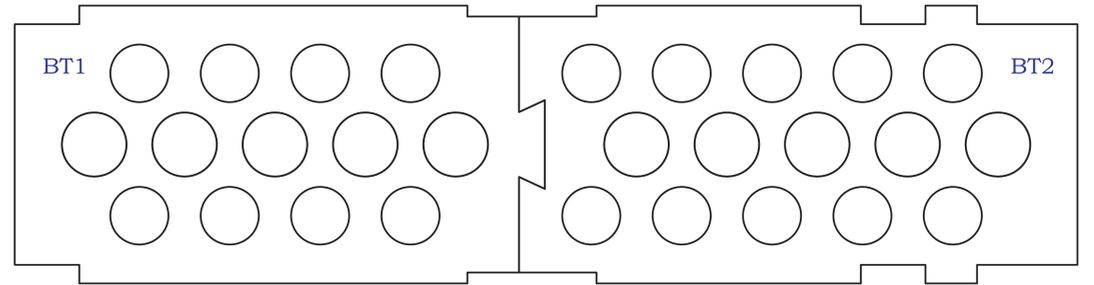


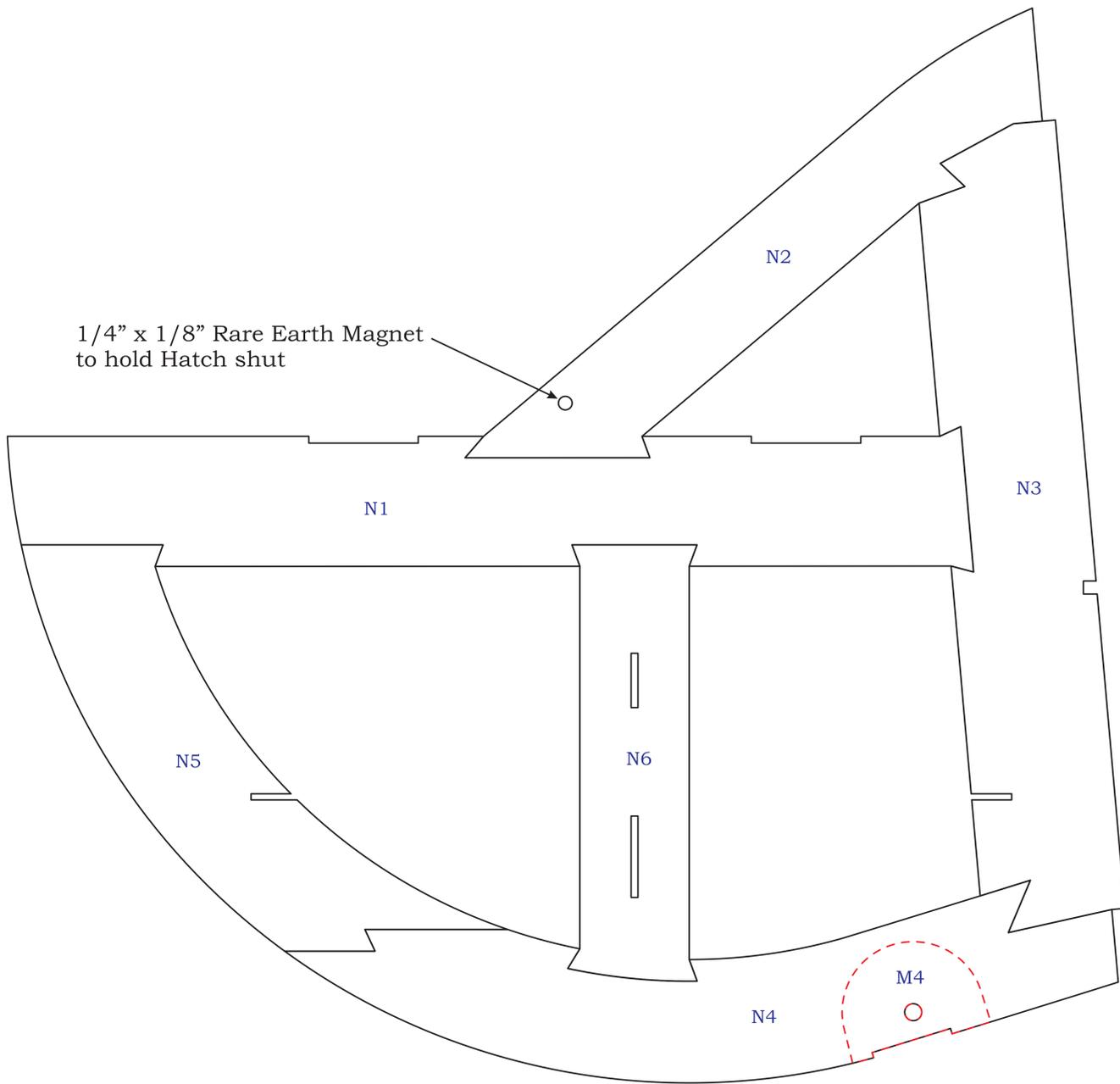
Two 6" lengths of 3/4"
triangle stock

Fuselage Assembly - Forward Section

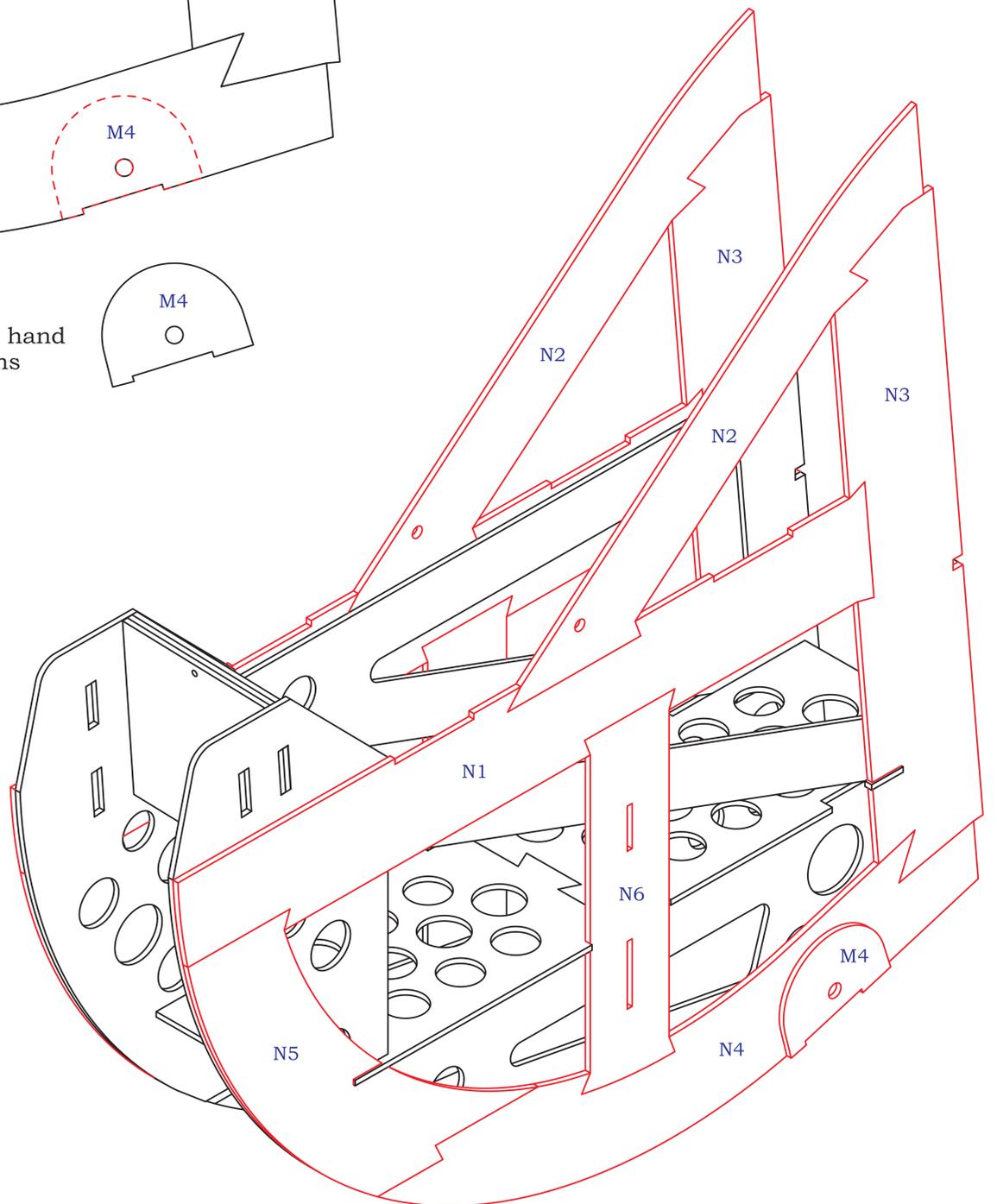
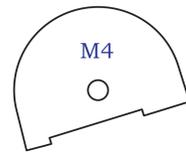


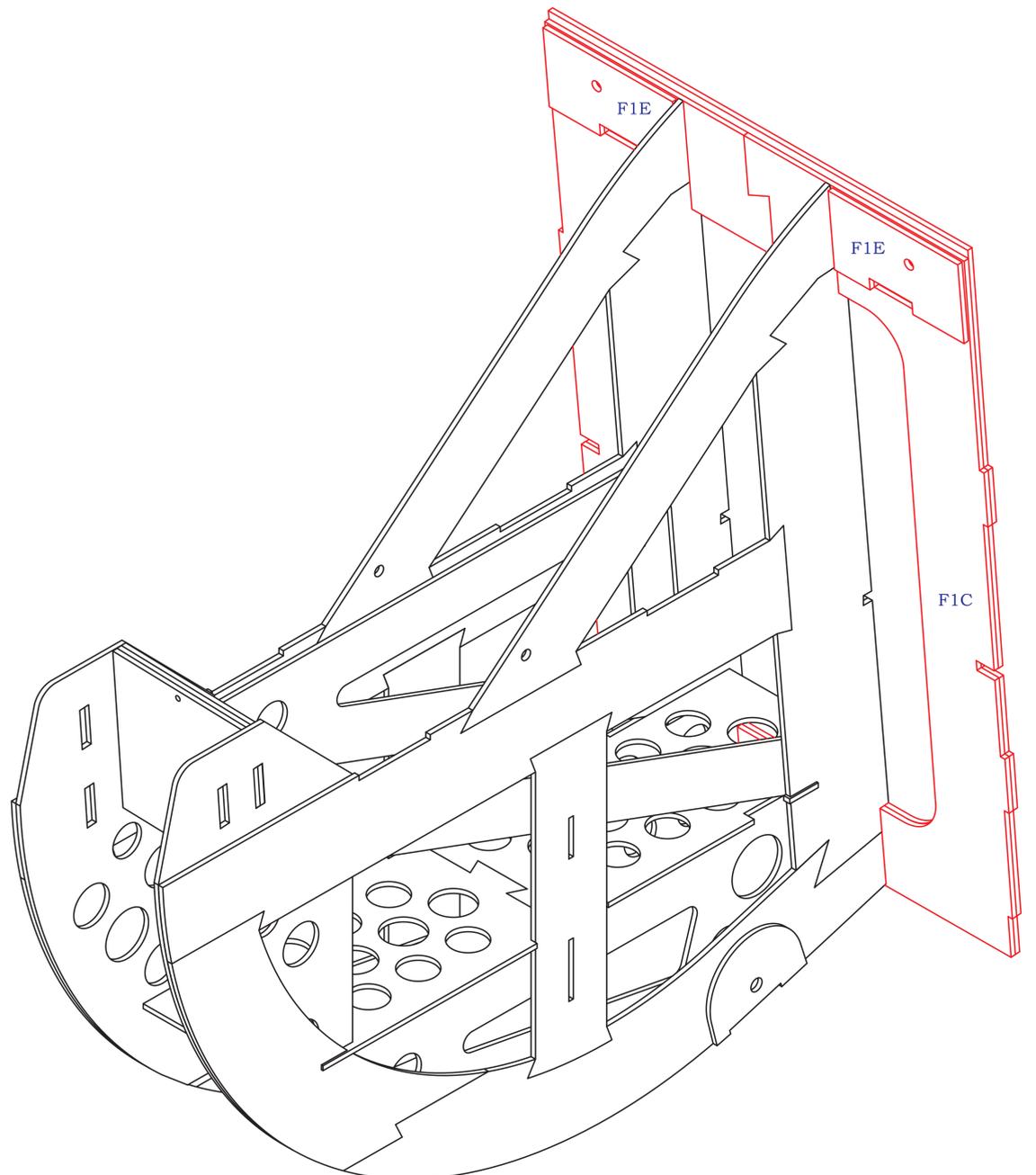
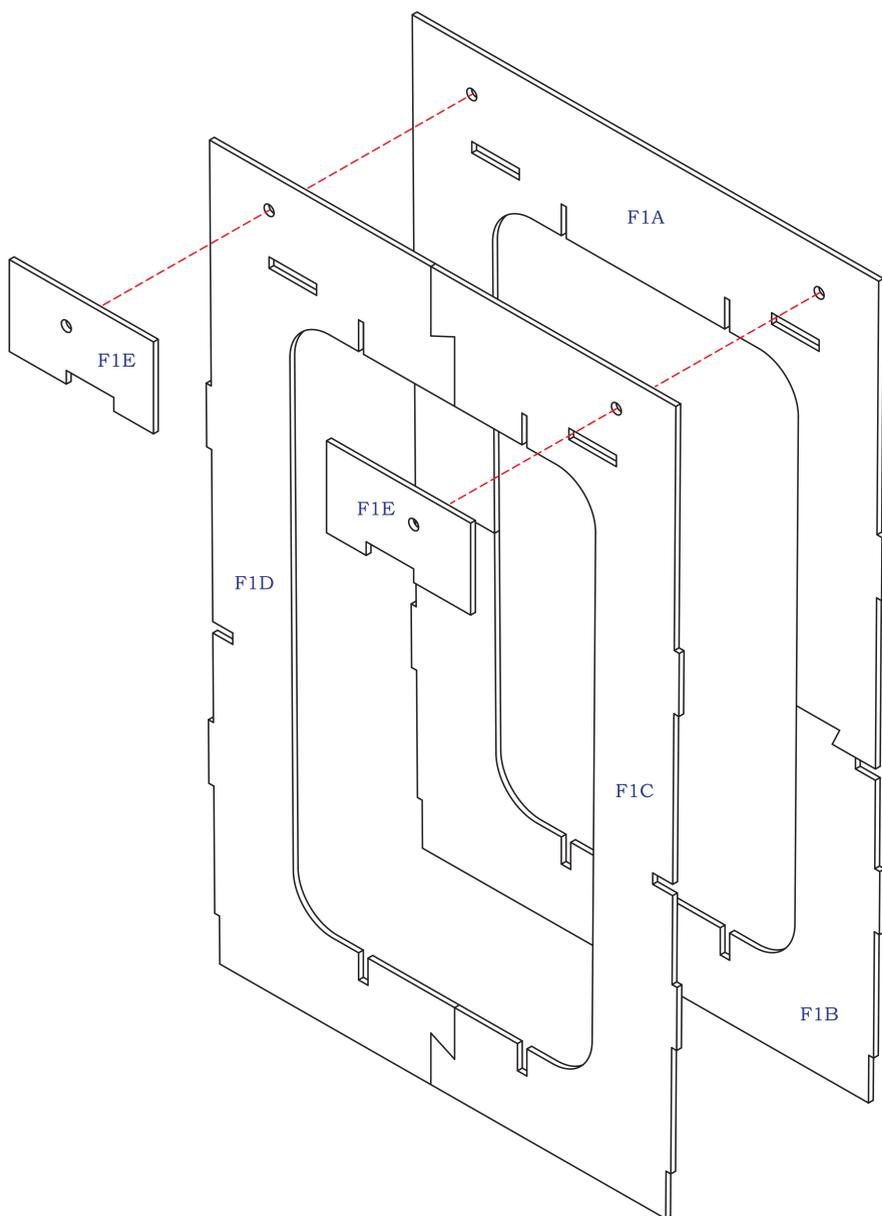
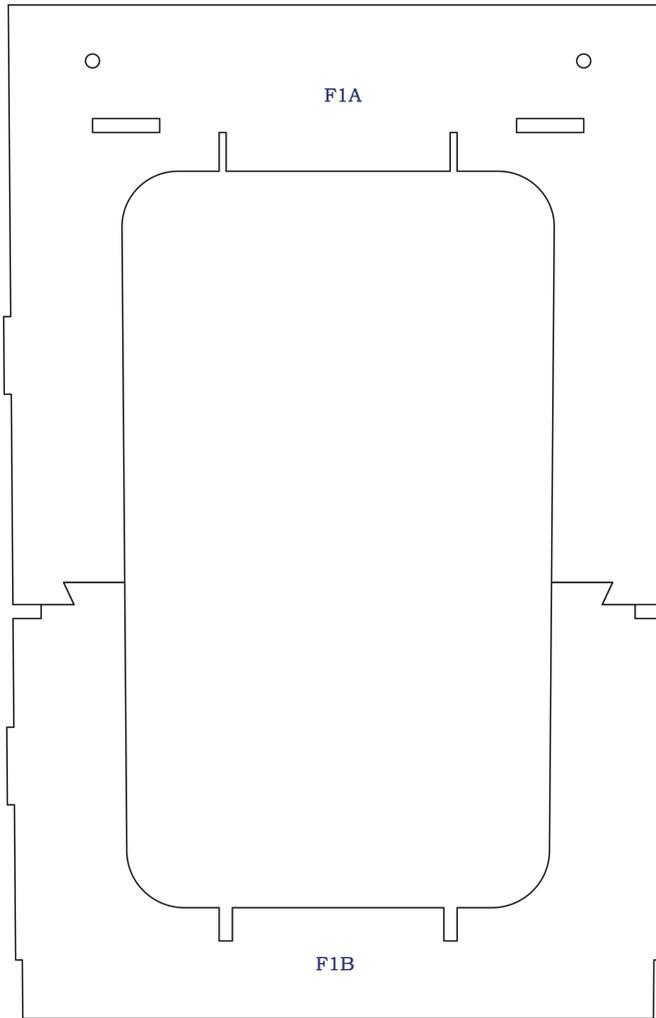
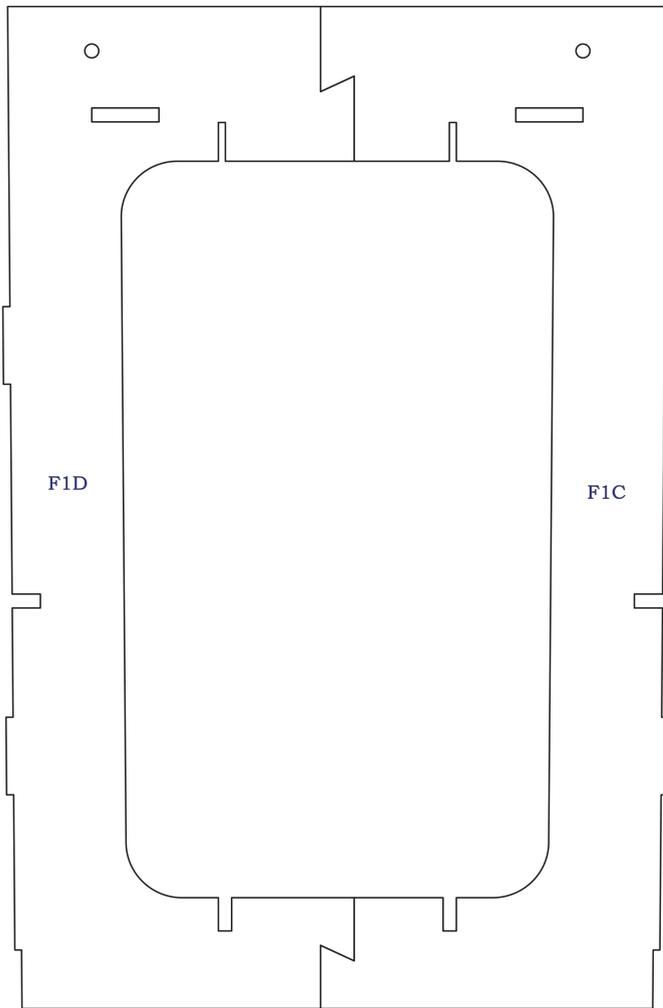
Align firewall layers using 1/8" diameter holes. Right and Left sides should have a slight offset between each layer to allow for right thrust angle when installing firewall.

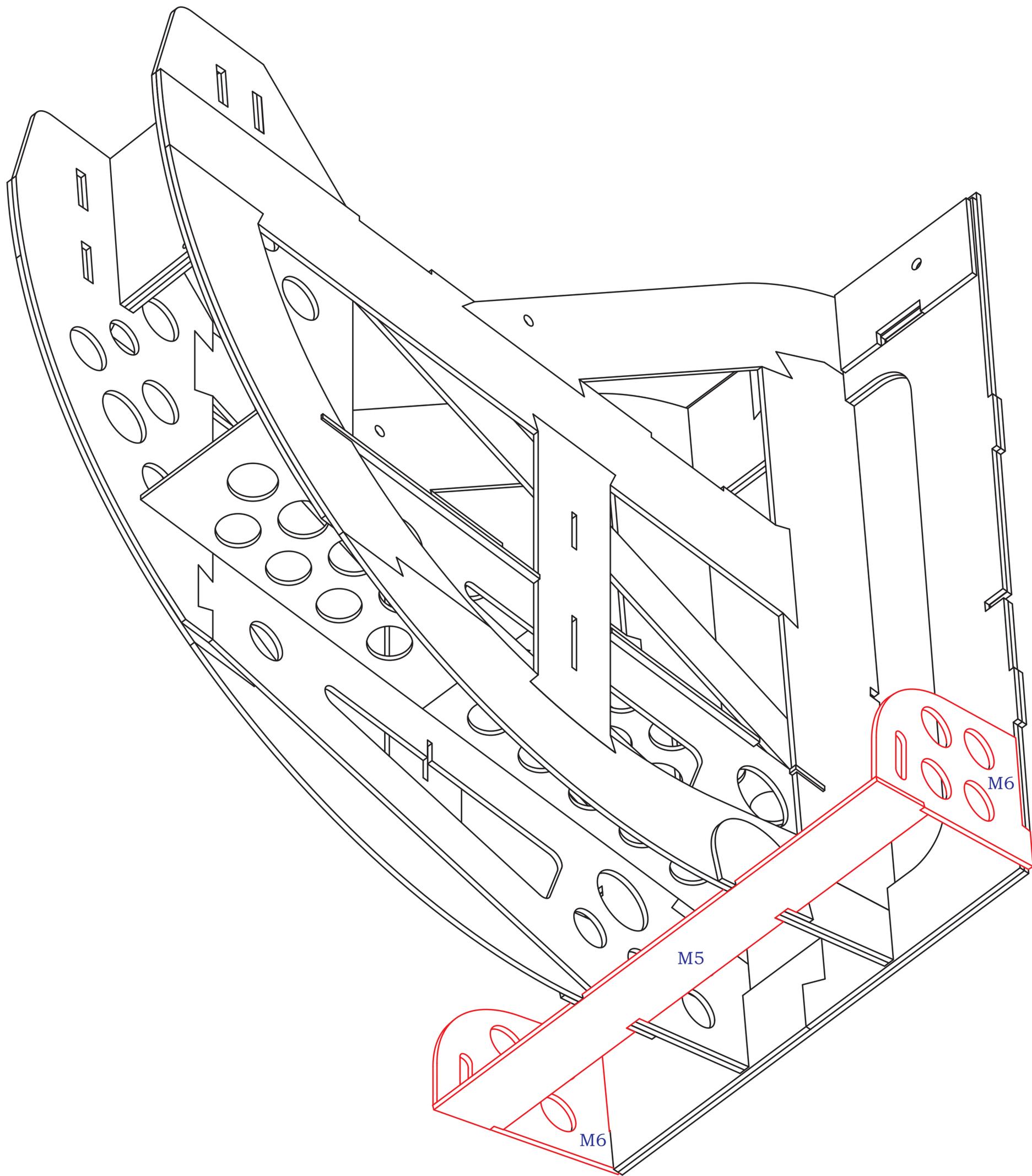


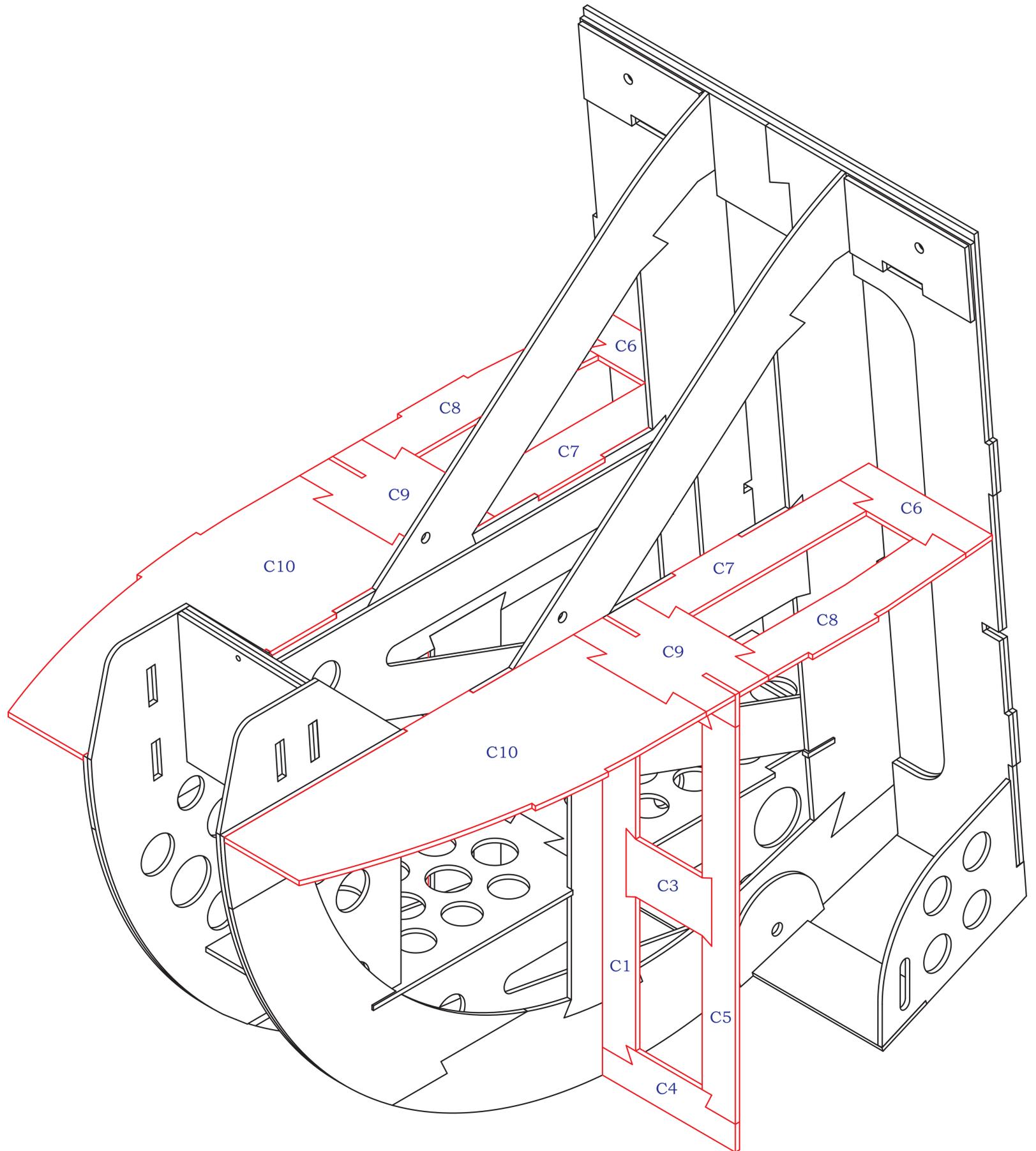
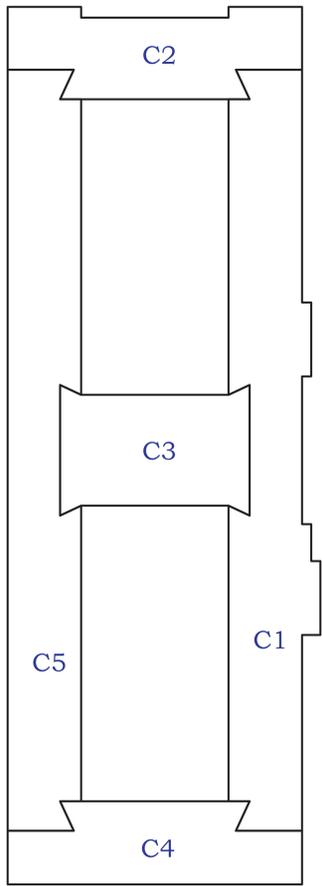
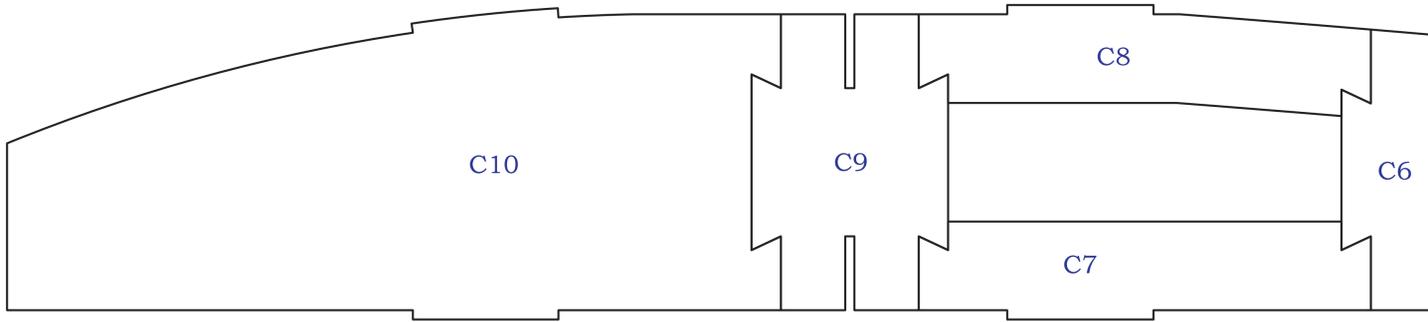


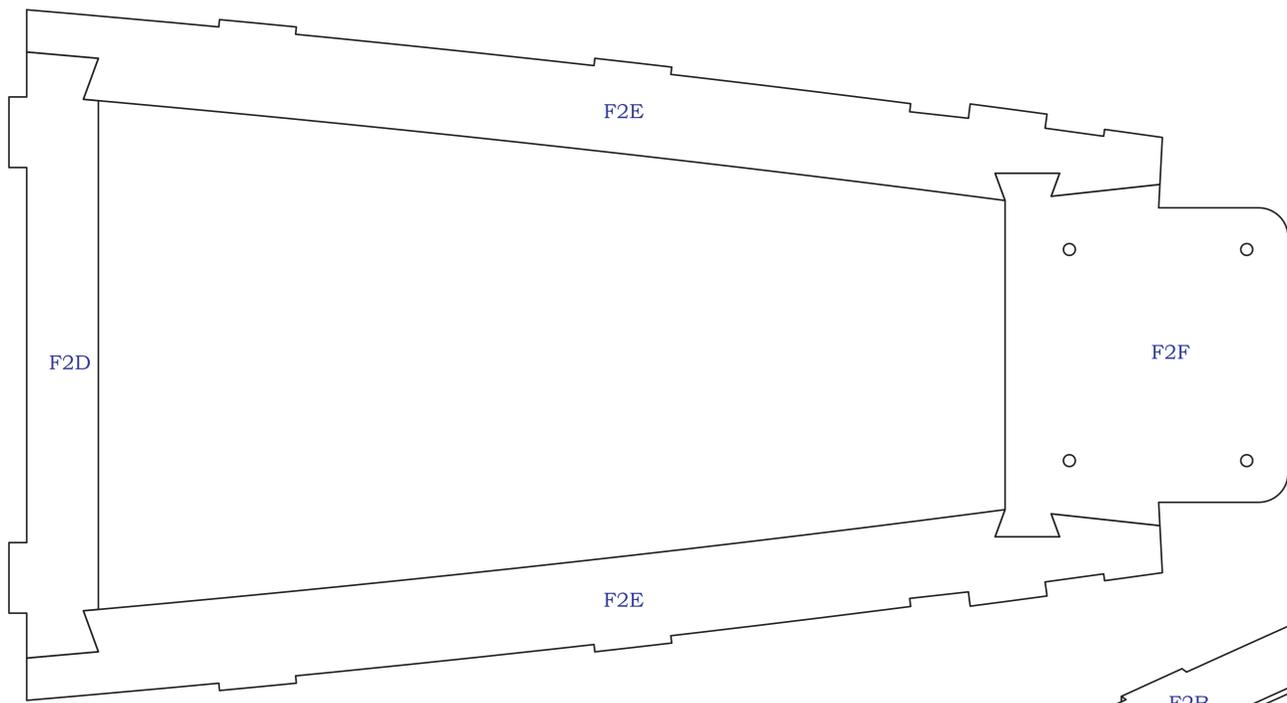
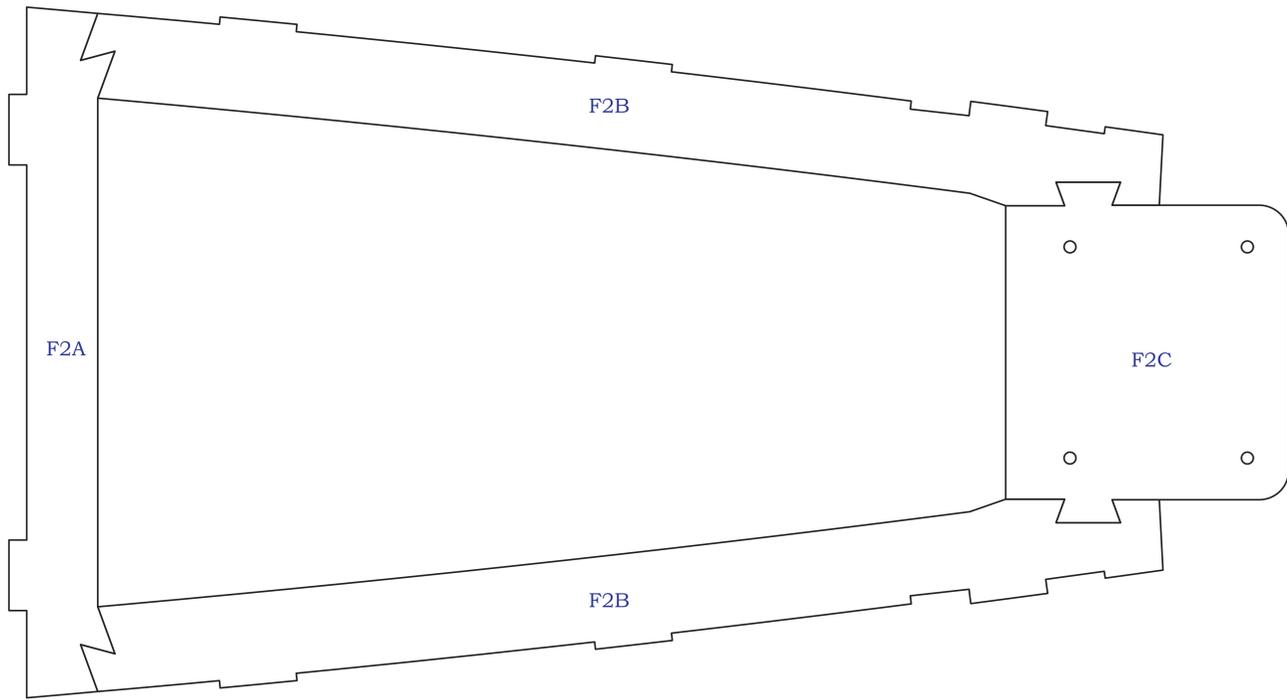
M4 is glued on top of N4
Be sure to assemble Left hand
and a Right hand versions





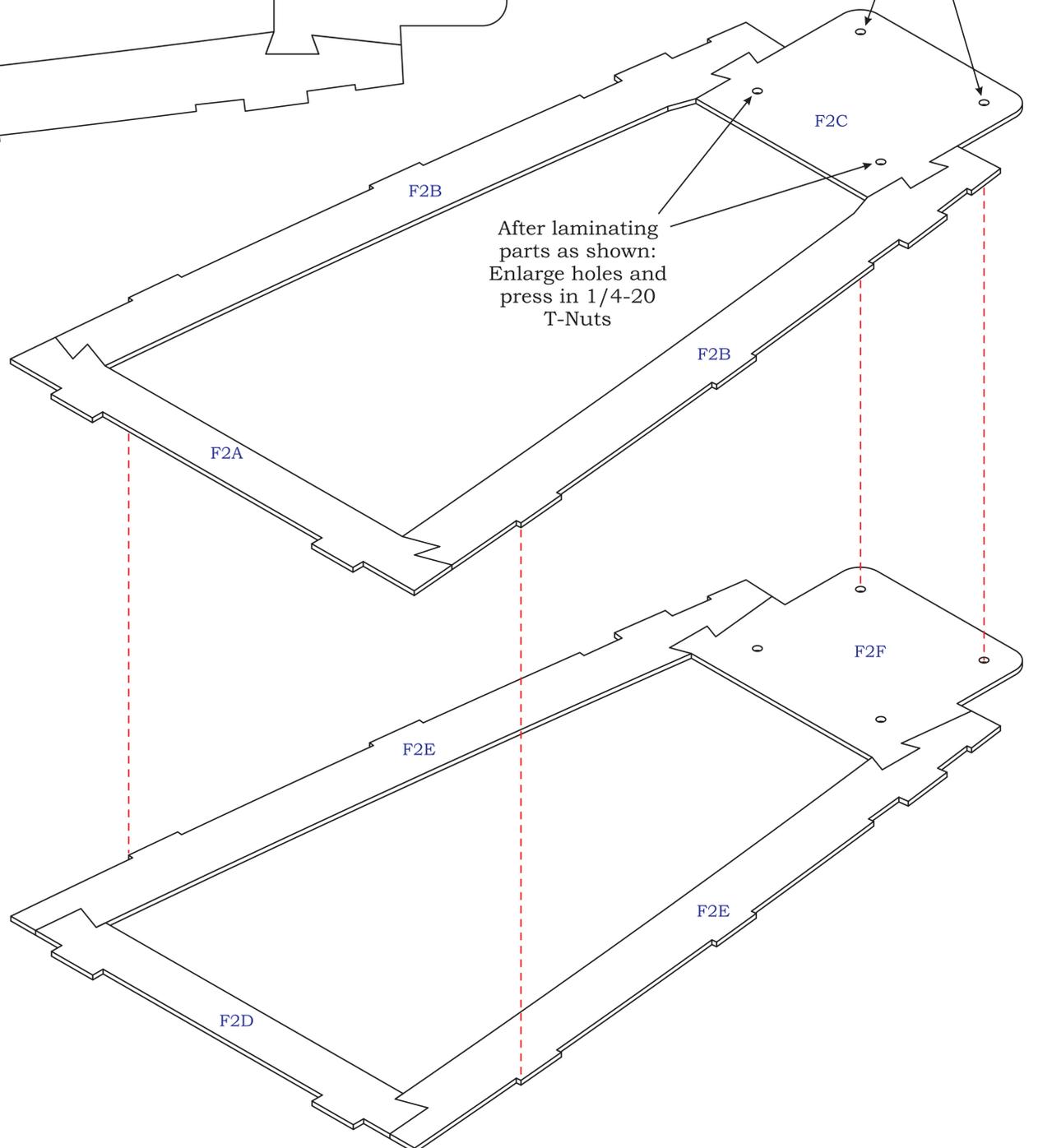


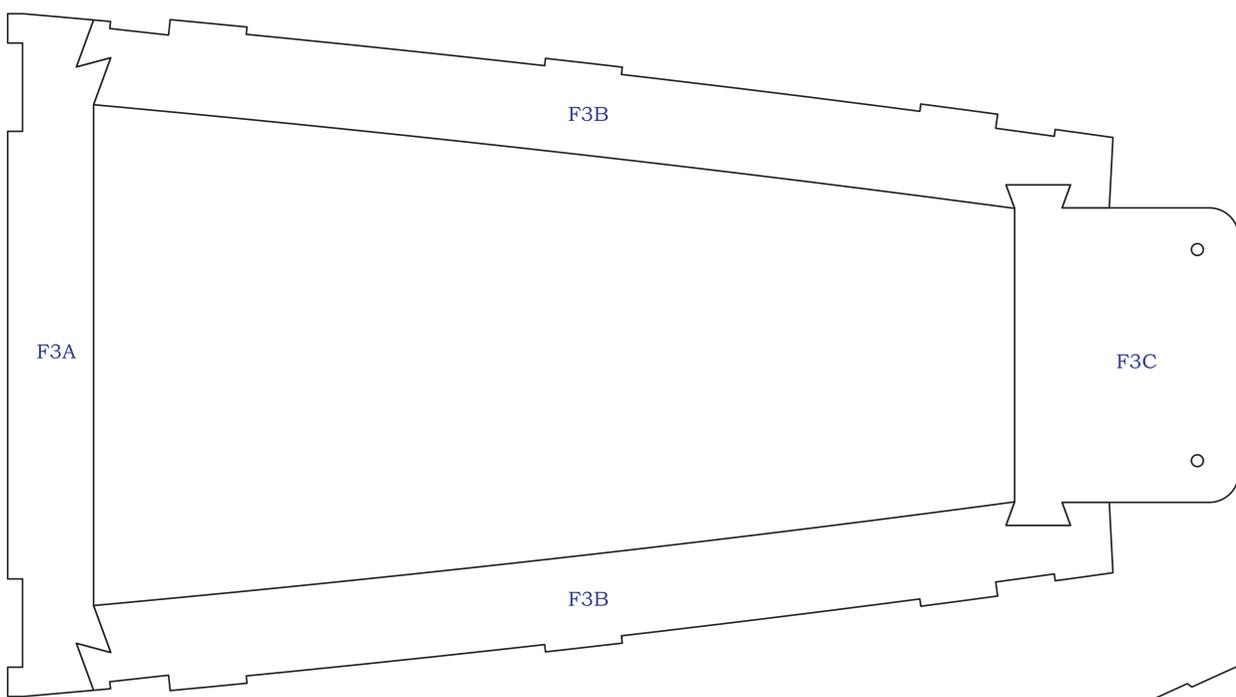
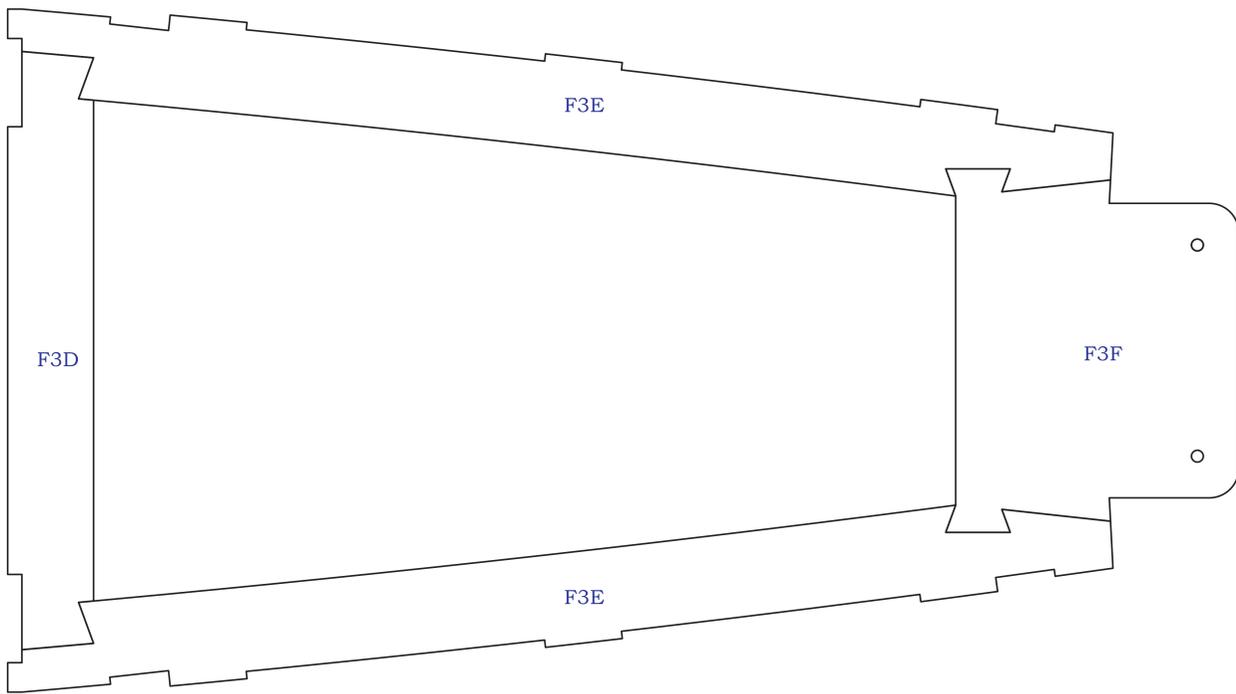




After laminating parts as shown:

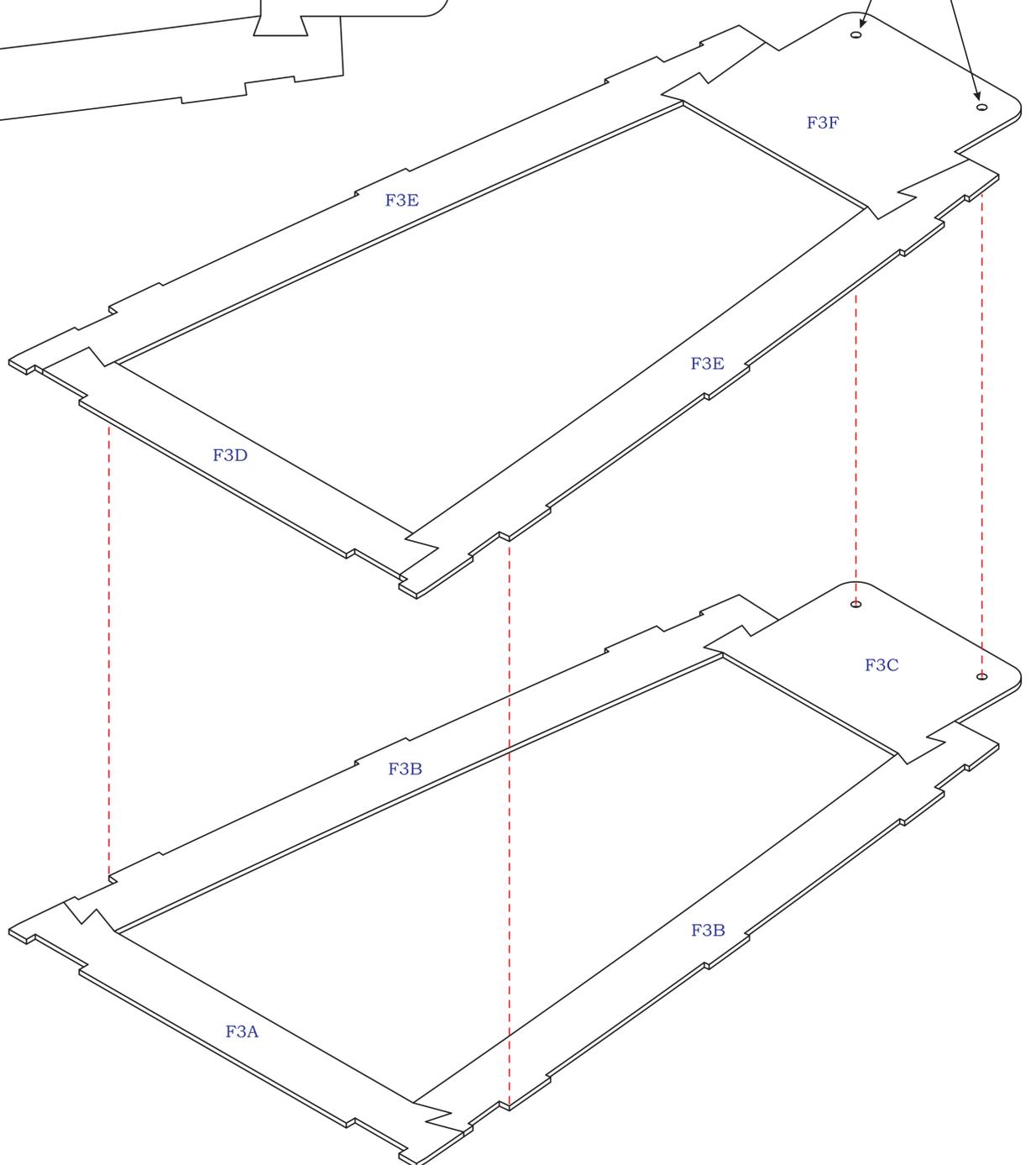
Tap holes for 1/4-20 bolts and harden threads with CA
or
Enlarge holes and press in 1/4-20 T-Nuts

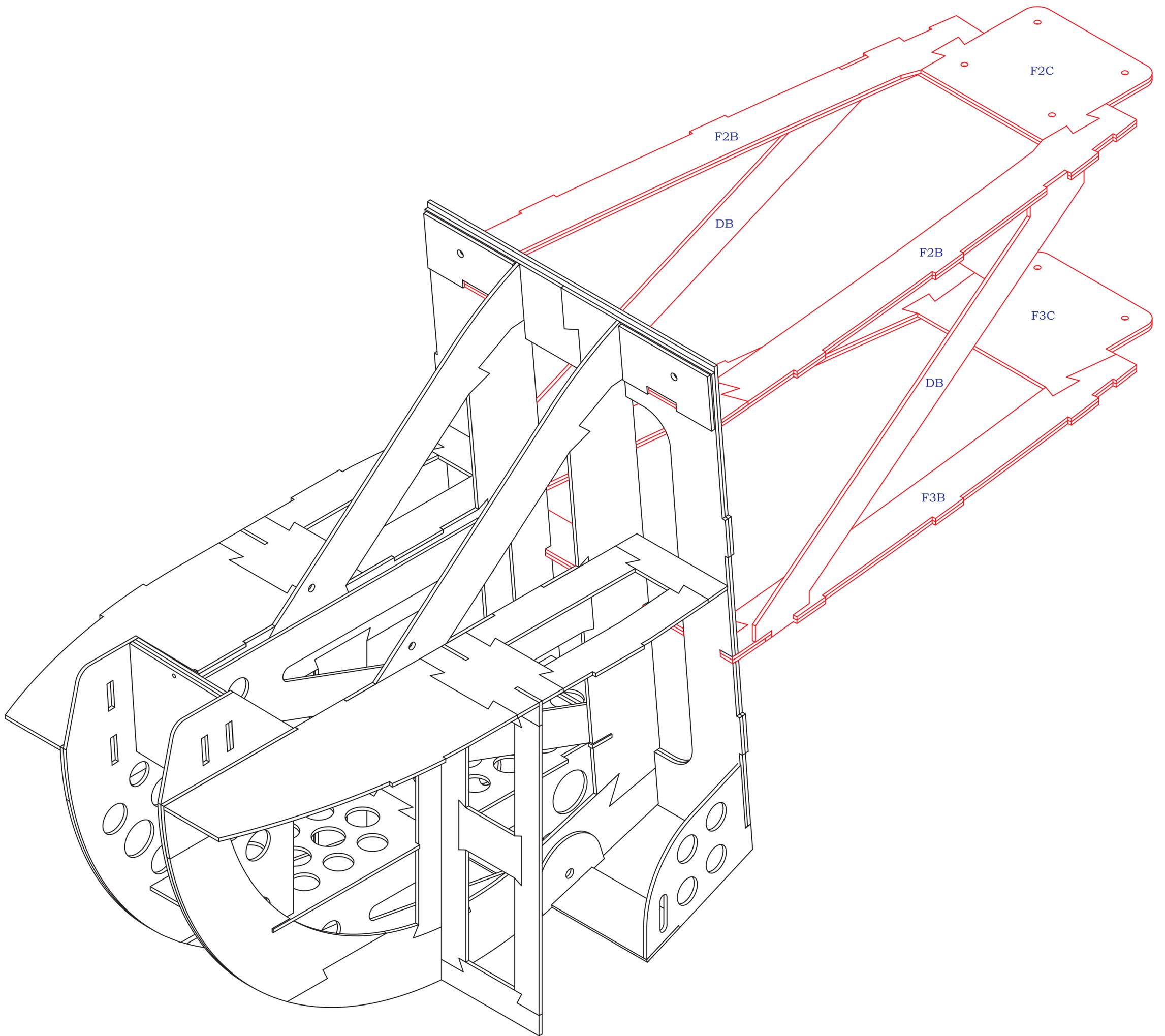


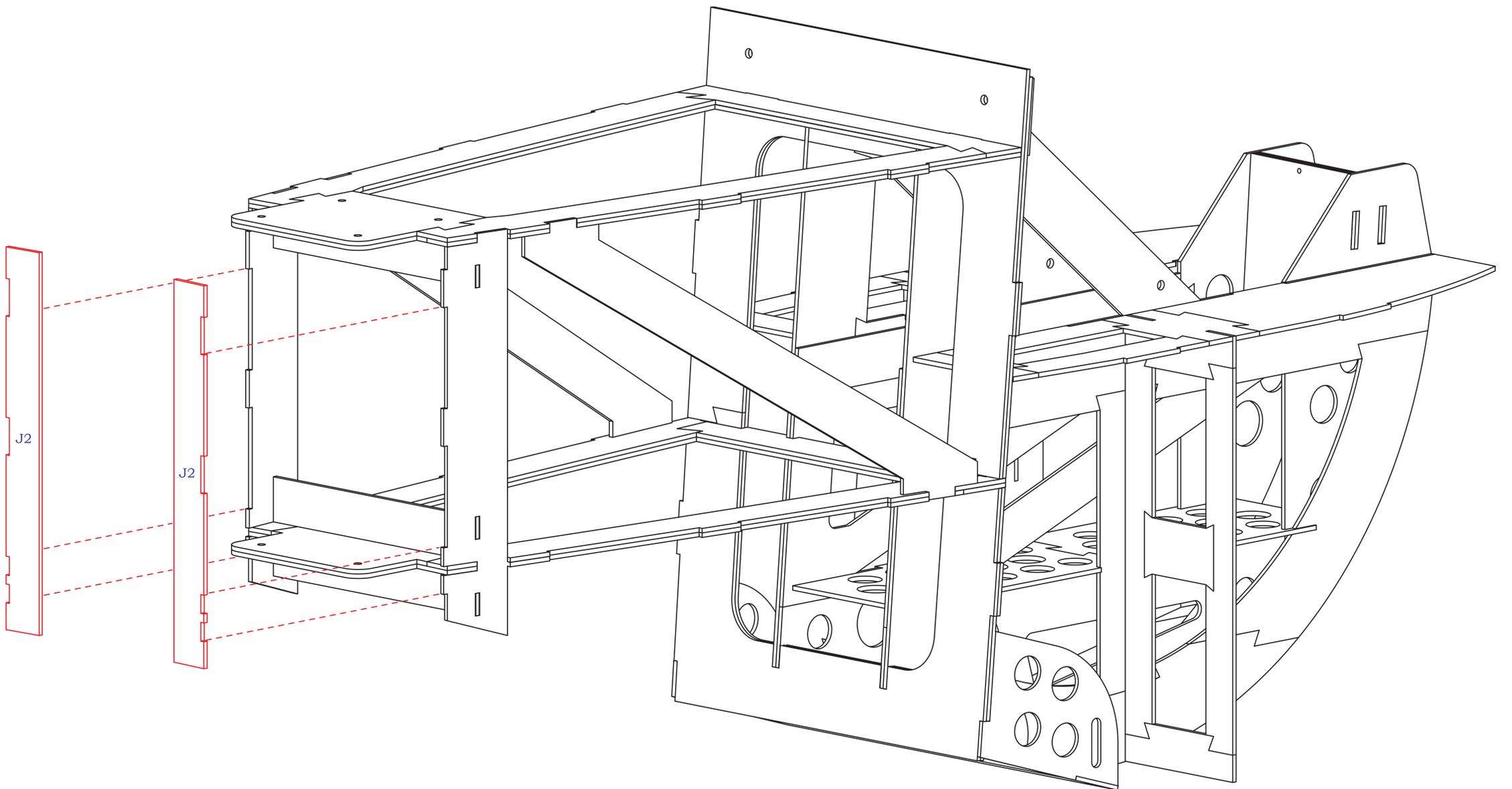
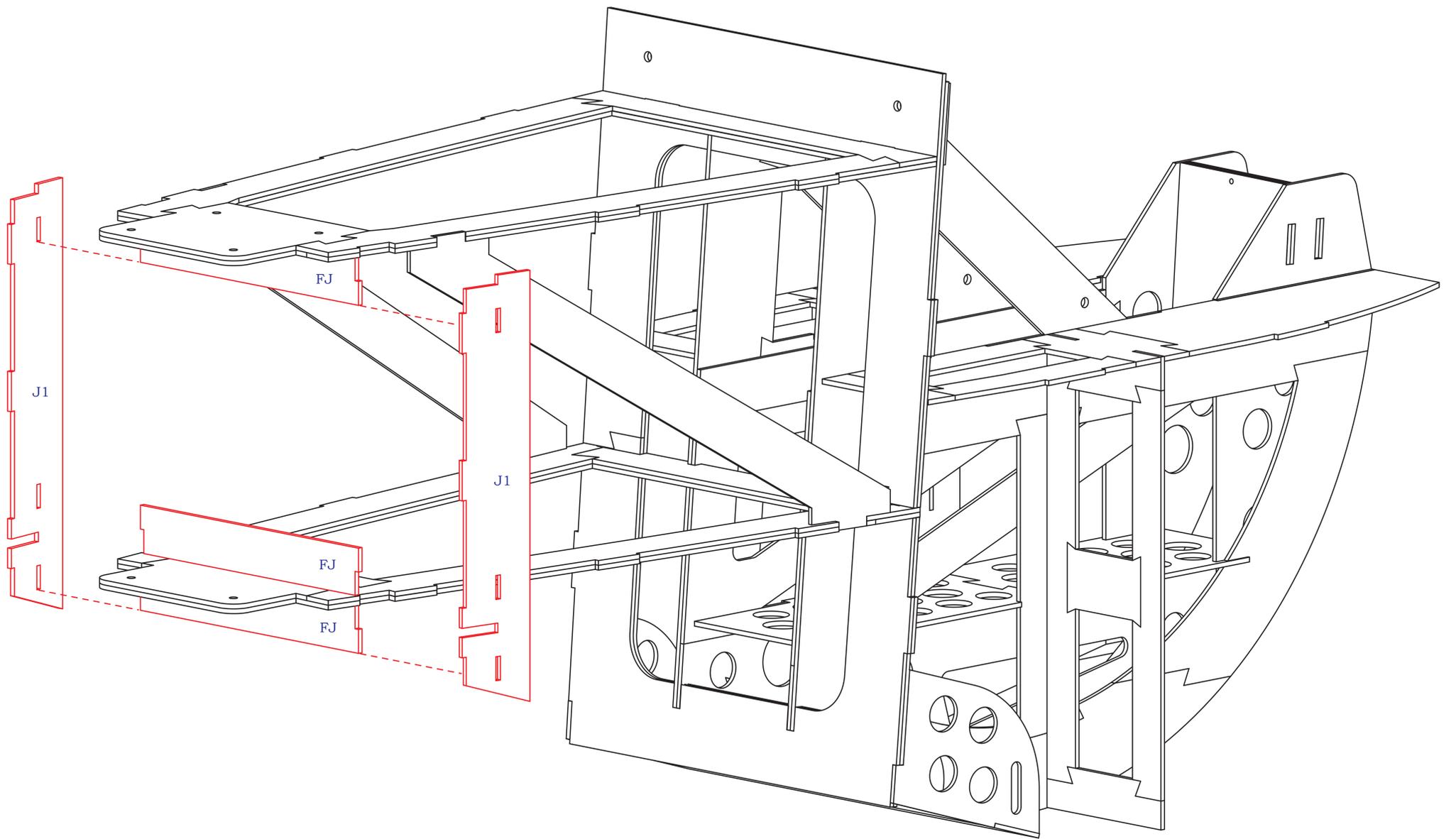


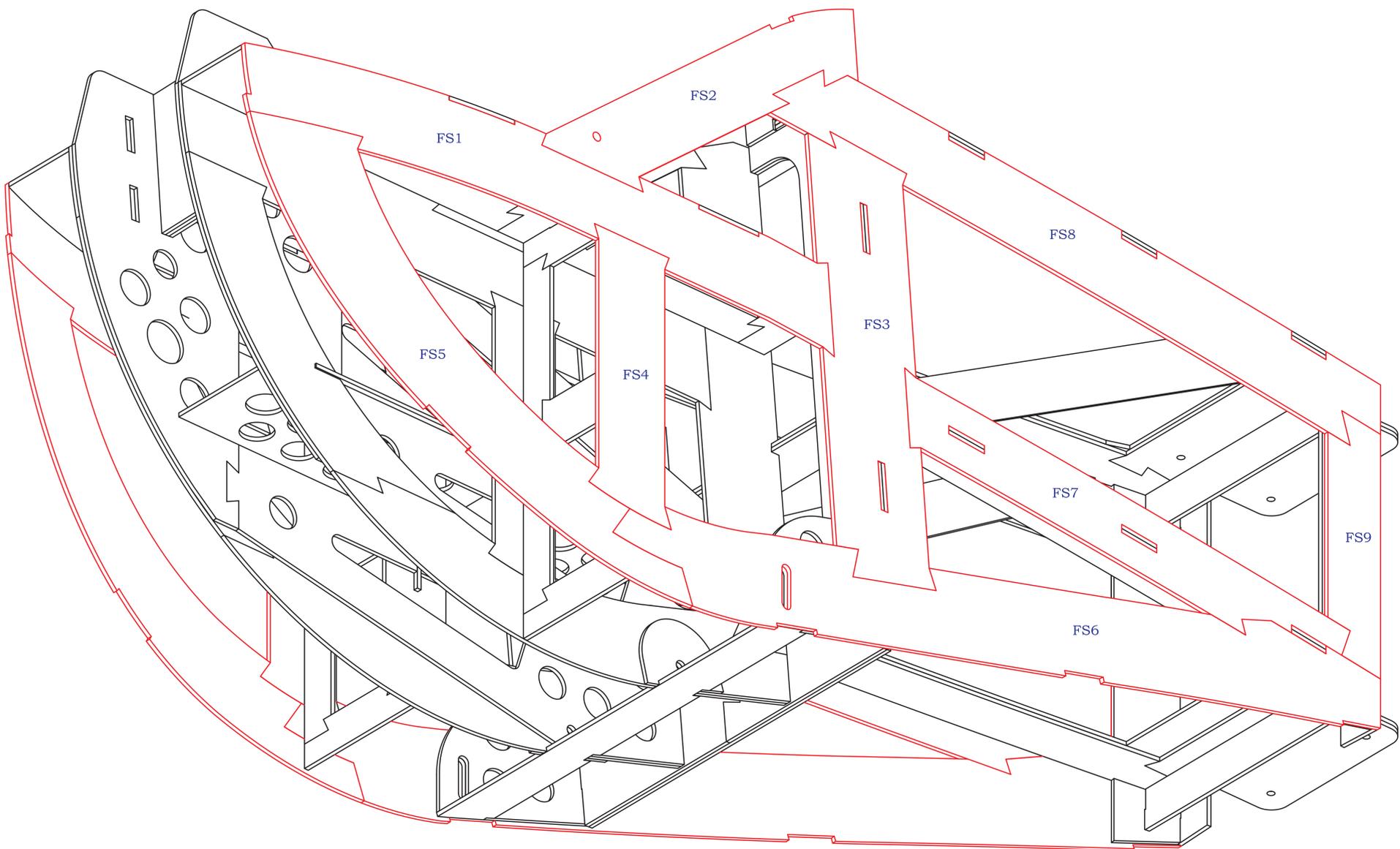
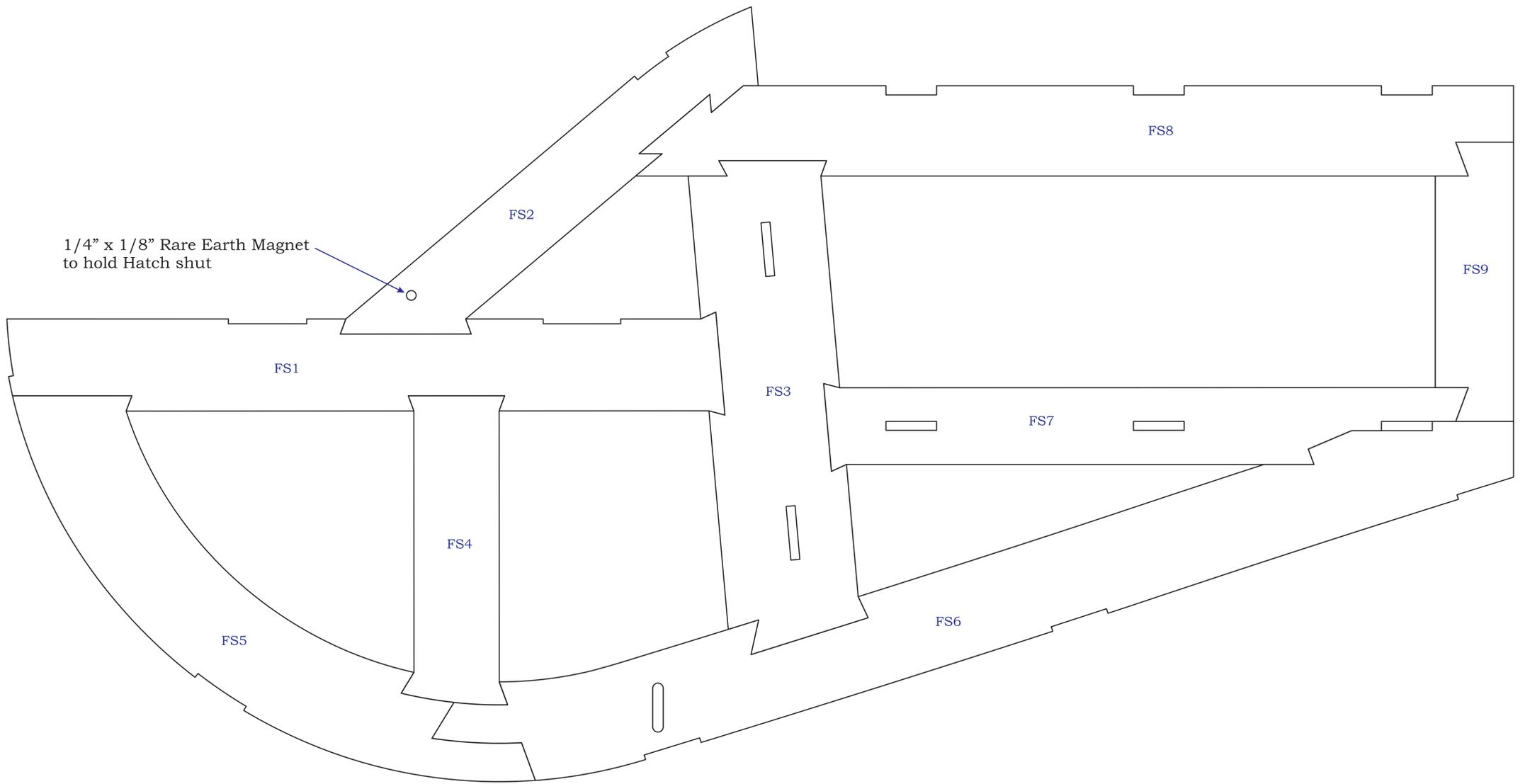
After laminating
parts as shown:

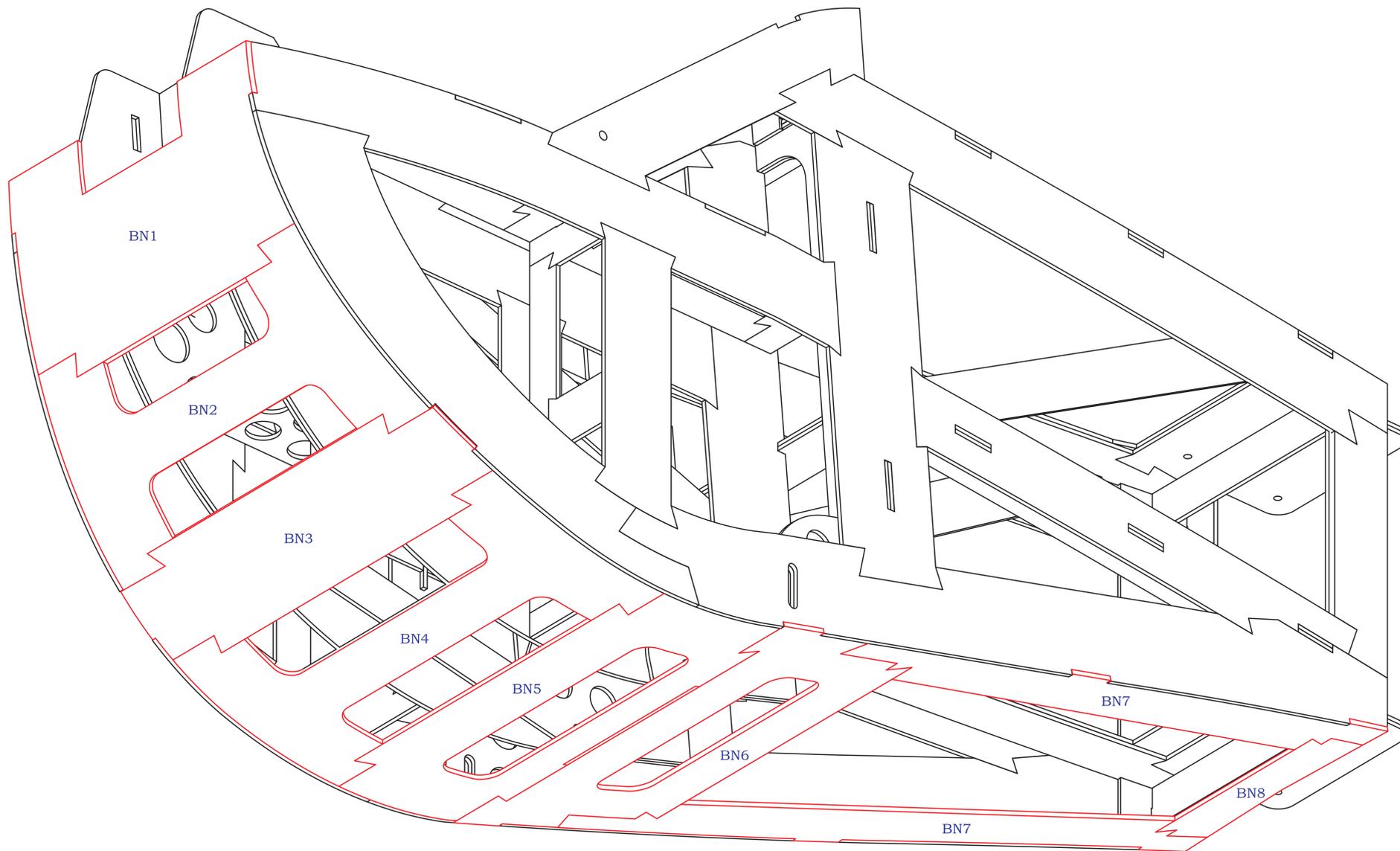
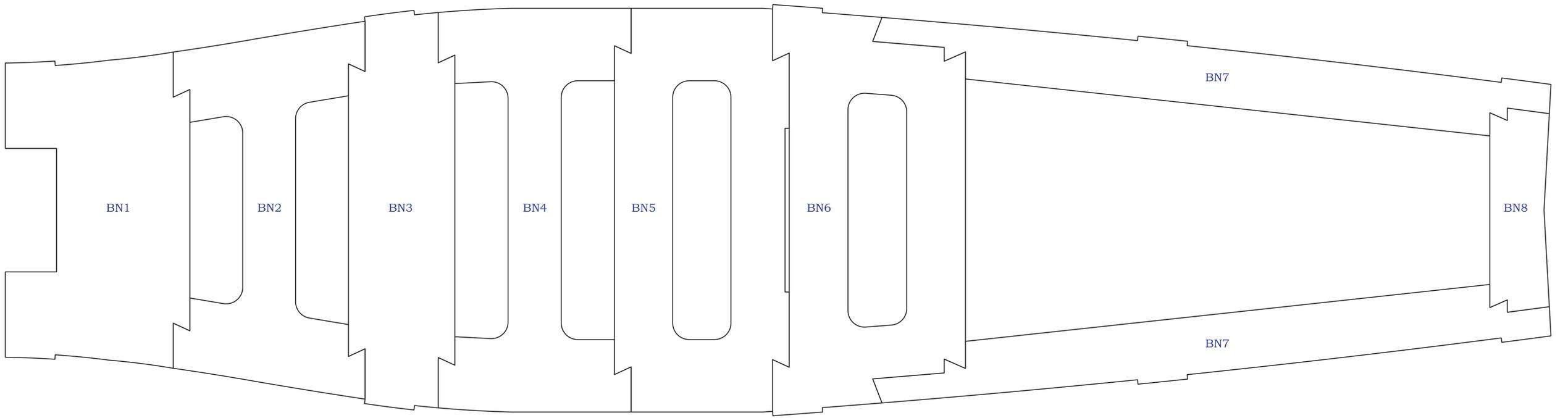
Tap holes for
1/4-20 bolts and
harden threads
with CA
or
Enlarge holes and
press in 1/4-20
T-Nuts

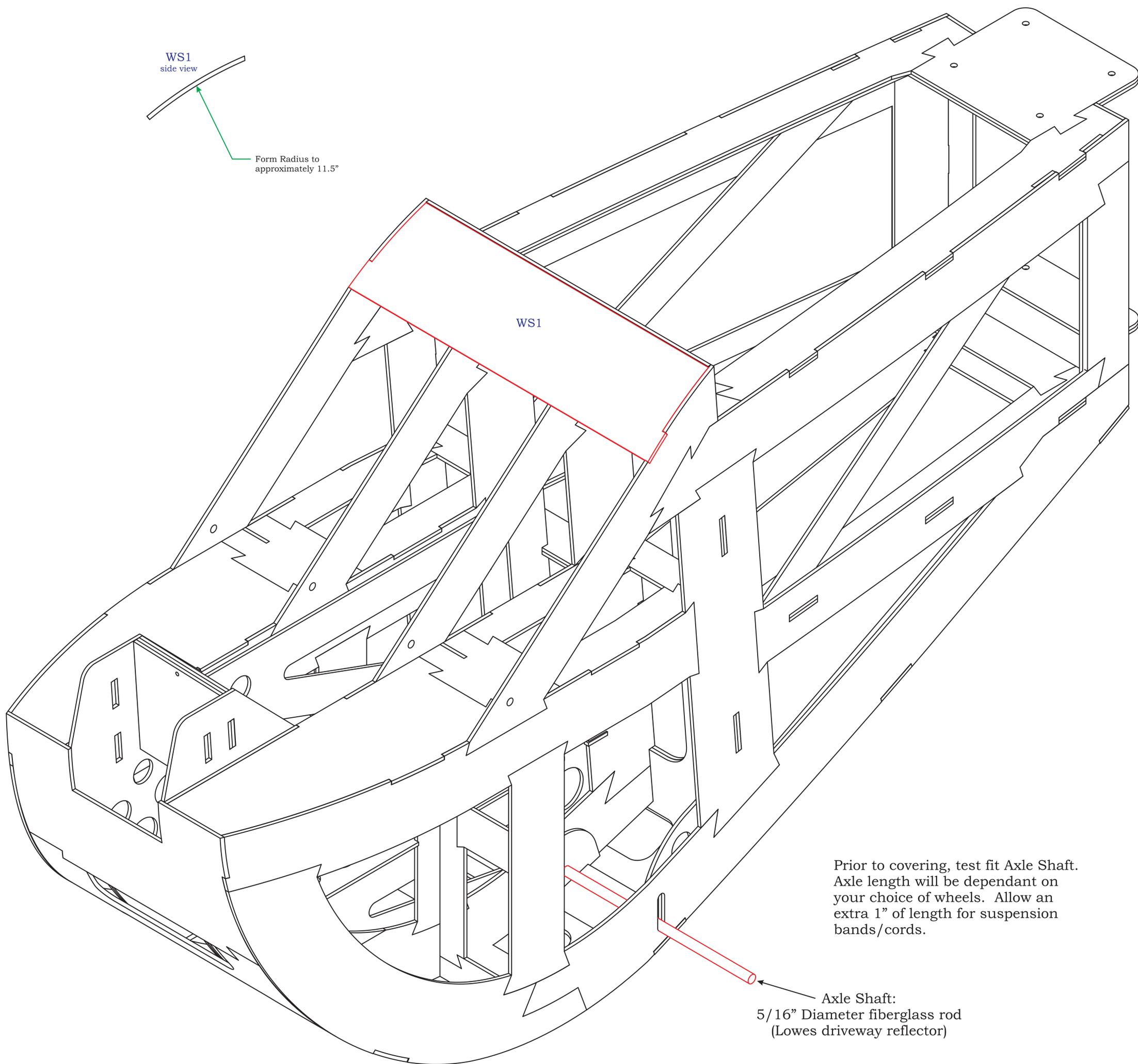












WS1
side view

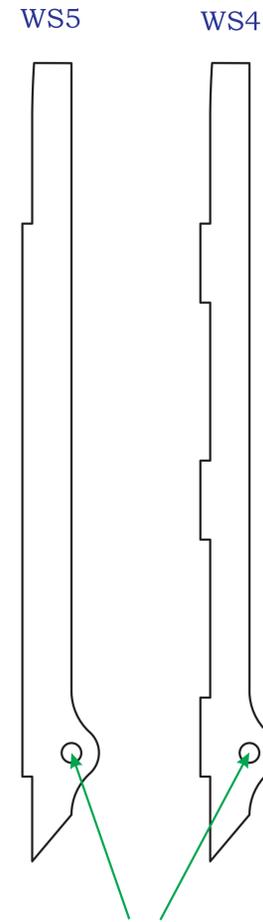
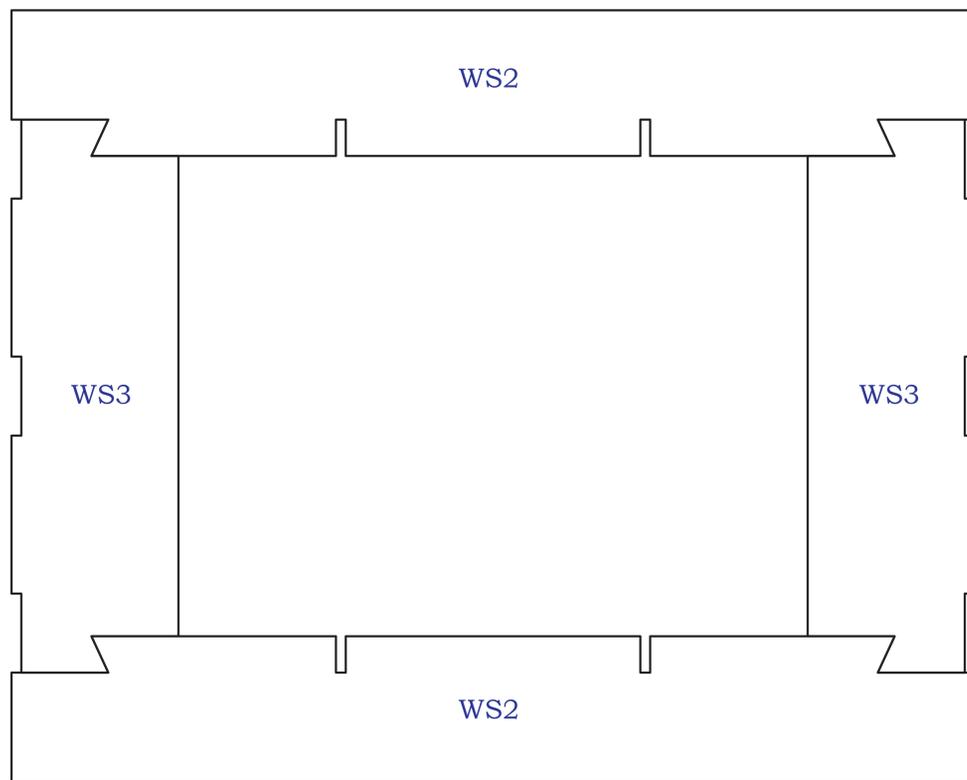
Form Radius to
approximately 11.5"

WS1

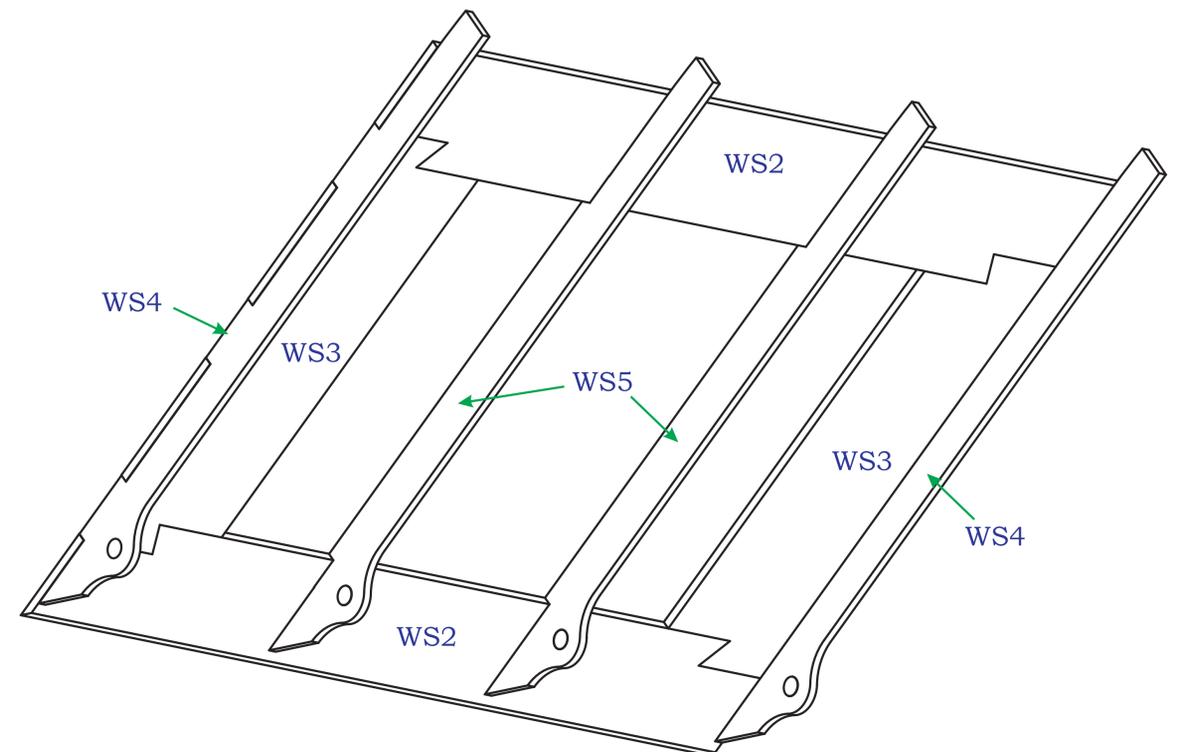
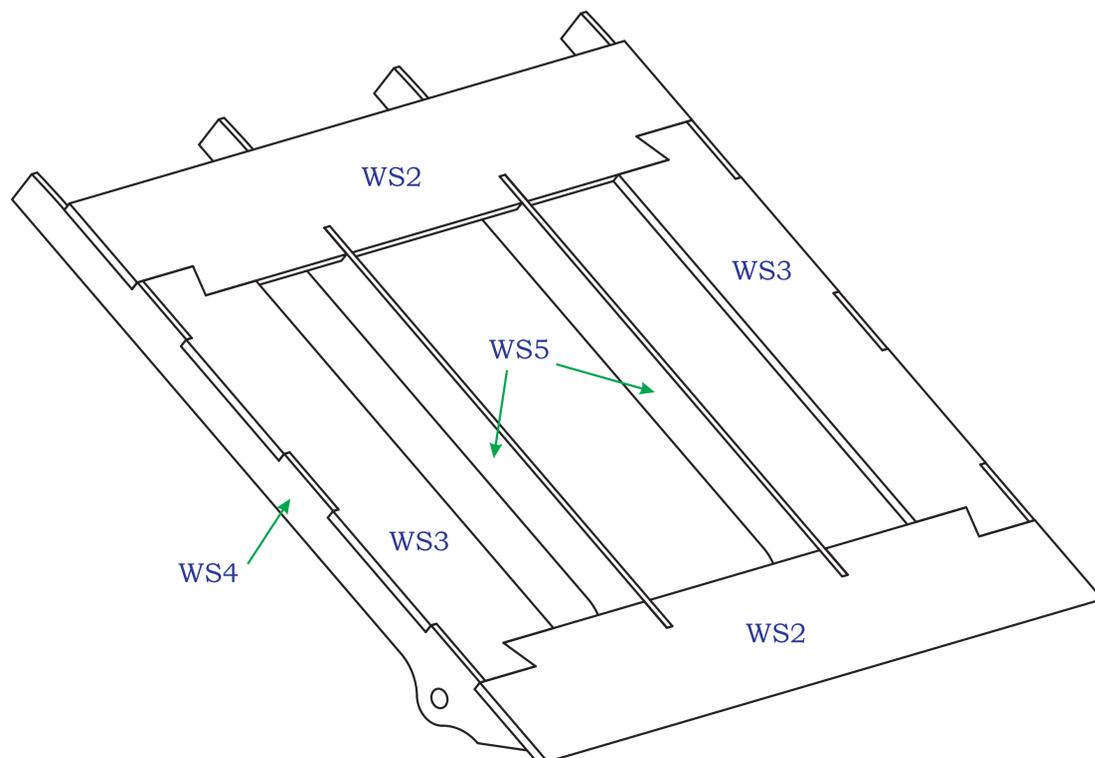
Prior to covering, test fit Axle Shaft.
Axle length will be dependant on
your choice of wheels. Allow an
extra 1" of length for suspension
bands/cords.

Axle Shaft:
5/16" Diameter fiberglass rod
(Lowe's driveway reflector)

Fuselage Assembly - Hatch

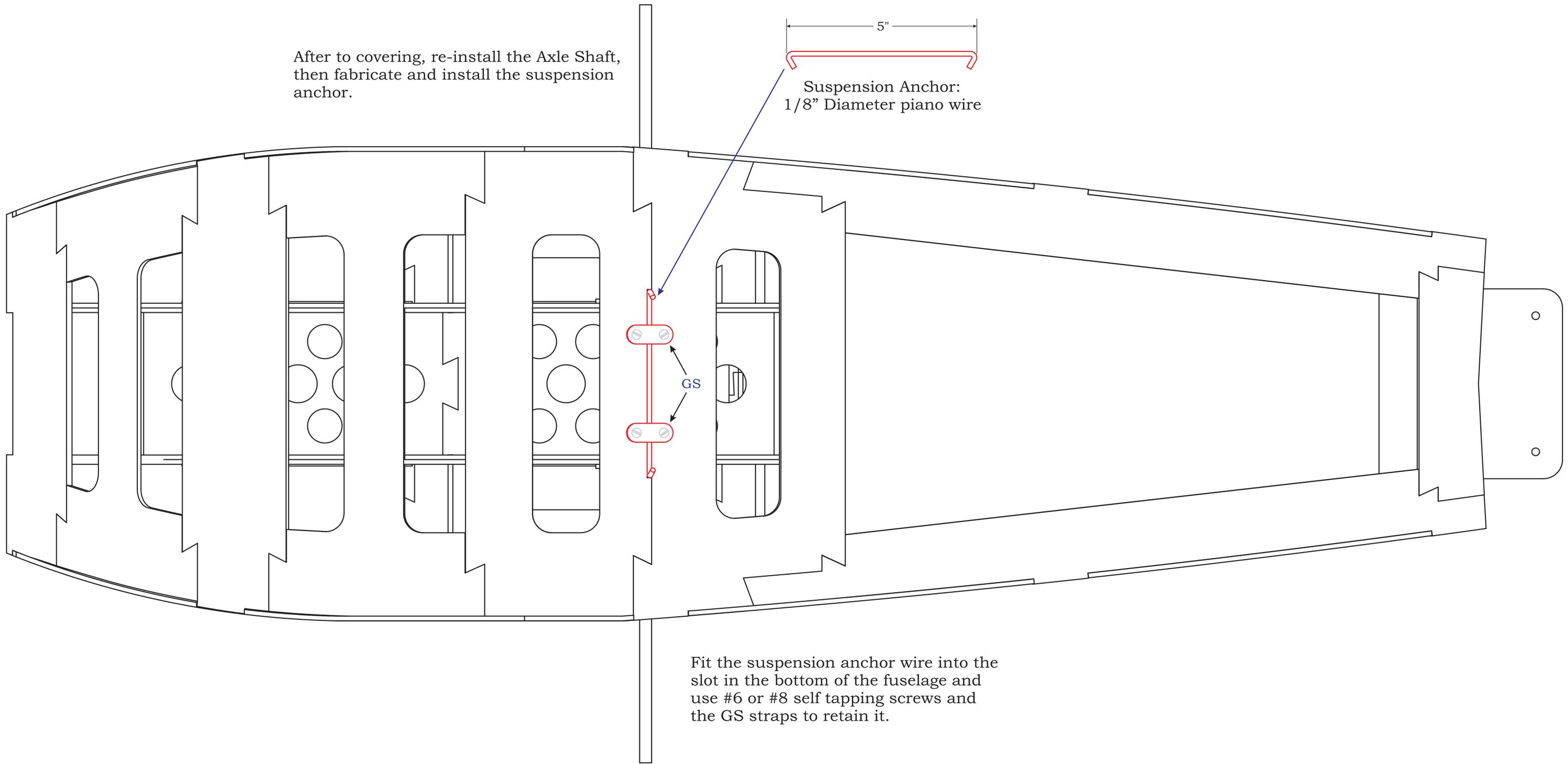


1/4" x 1/8" Rare Earth Magnets
Watch orientation of poles
Needs to hold hatch shut,
not keep it open

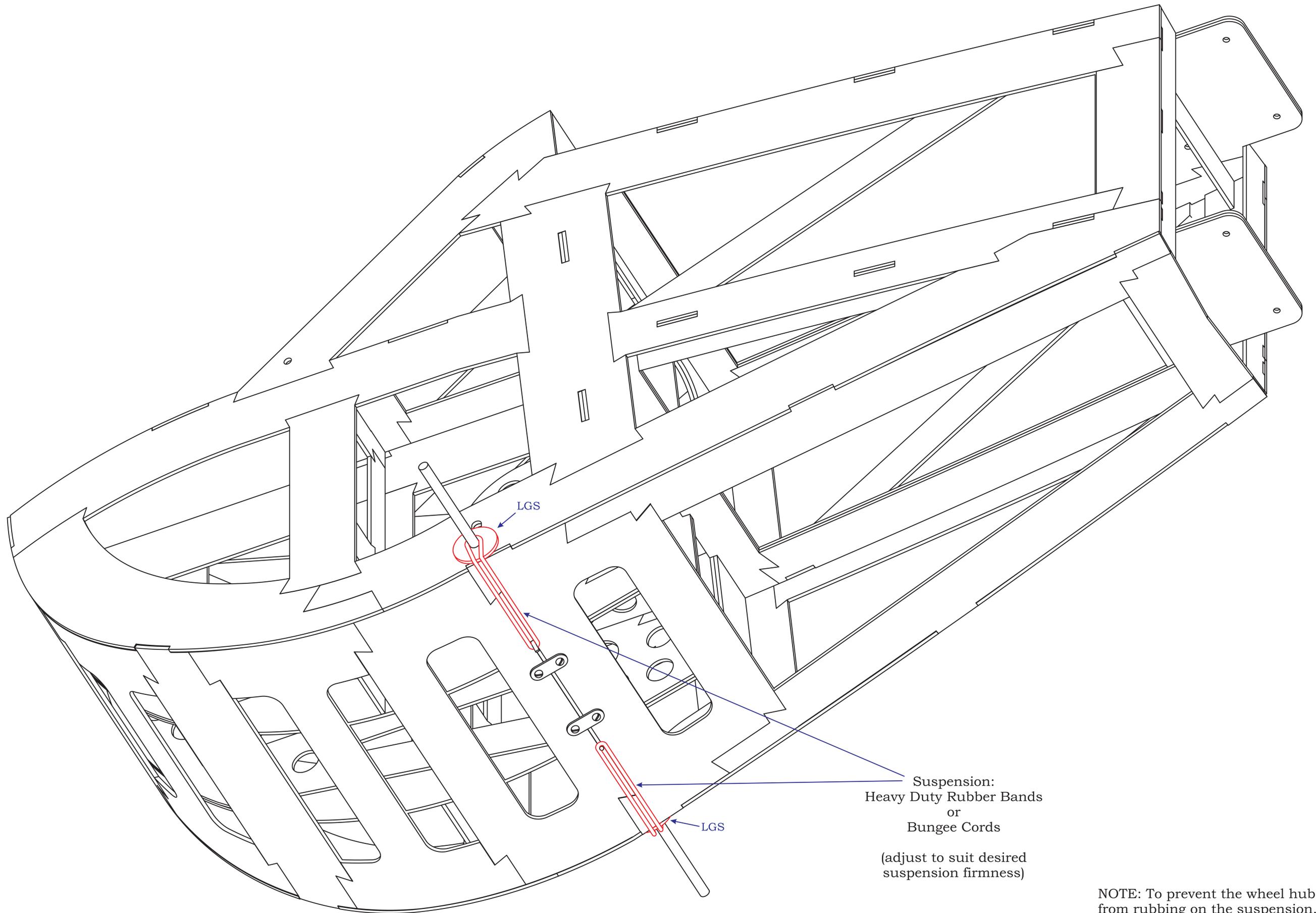


After to covering, re-install the Axle Shaft,
then fabricate and install the suspension
anchor.

5"
Suspension Anchor:
1/8" Diameter piano wire



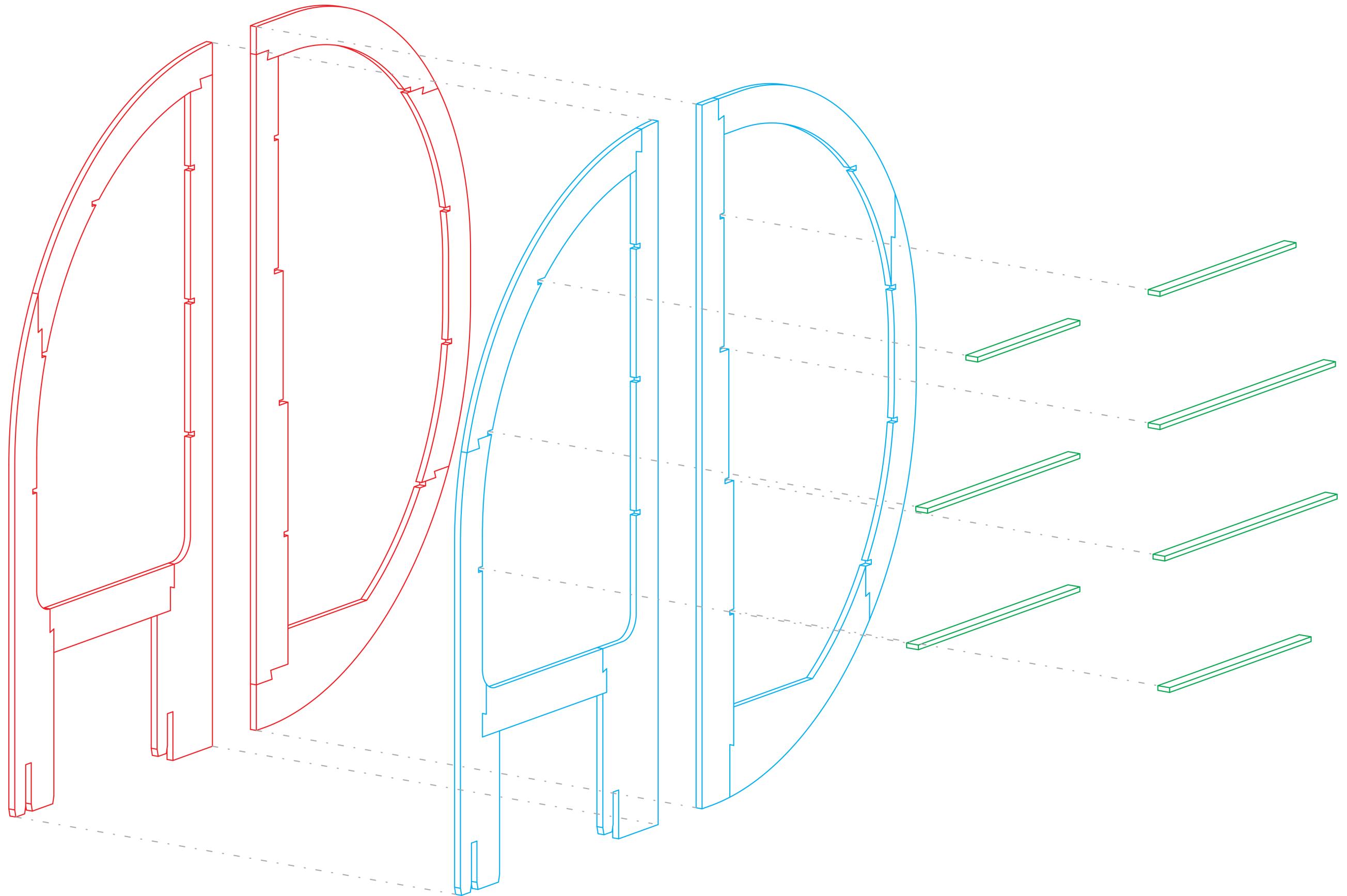
Fit the suspension anchor wire into the
slot in the bottom of the fuselage and
use #6 or #8 self tapping screws and
the GS straps to retain it.



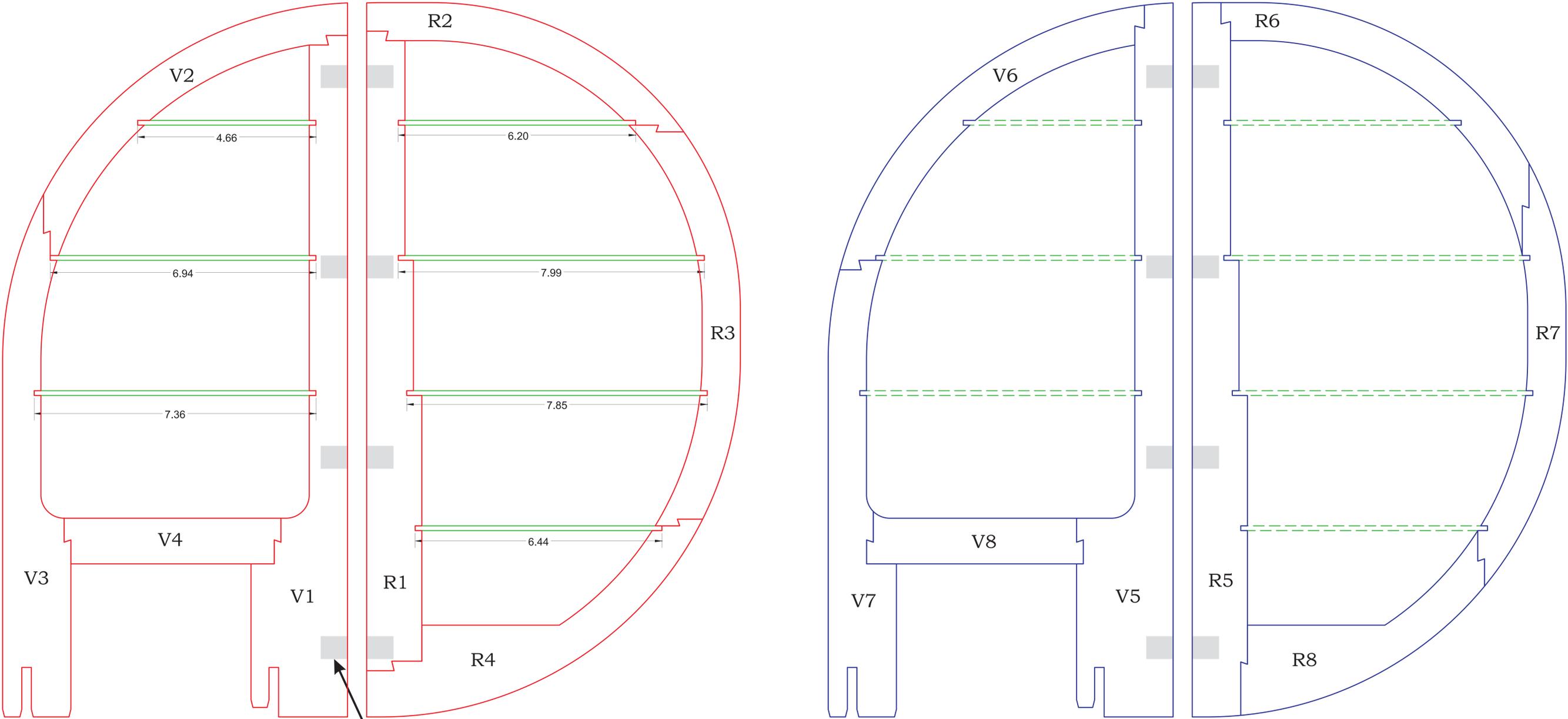
Suspension:
Heavy Duty Rubber Bands
or
Bungee Cords

(adjust to suit desired
suspension firmness)

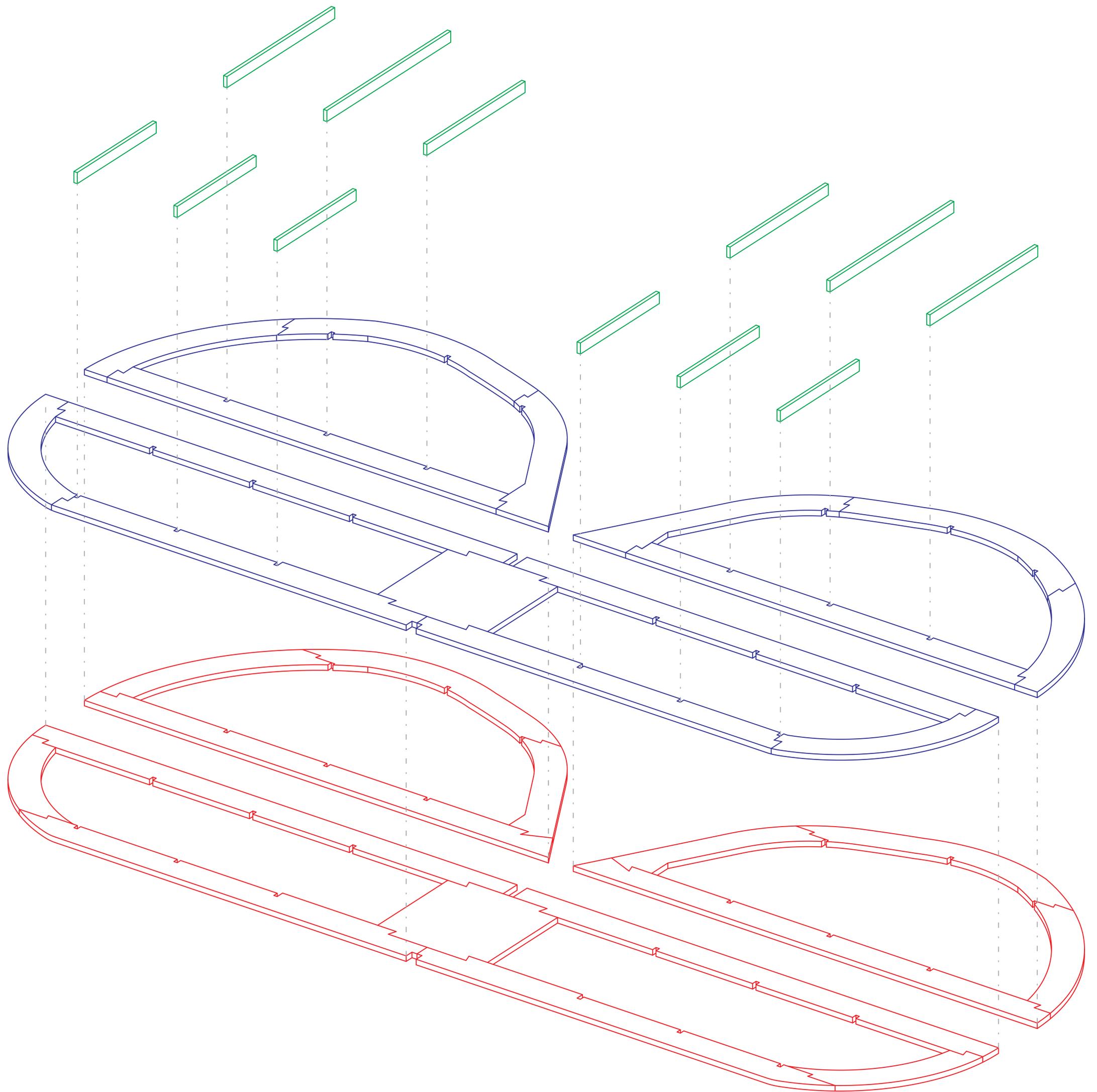
NOTE: To prevent the wheel hubs
from rubbing on the suspension,
place a second LGS washer over
the axle after the rubber bands
or bungee cords are in place



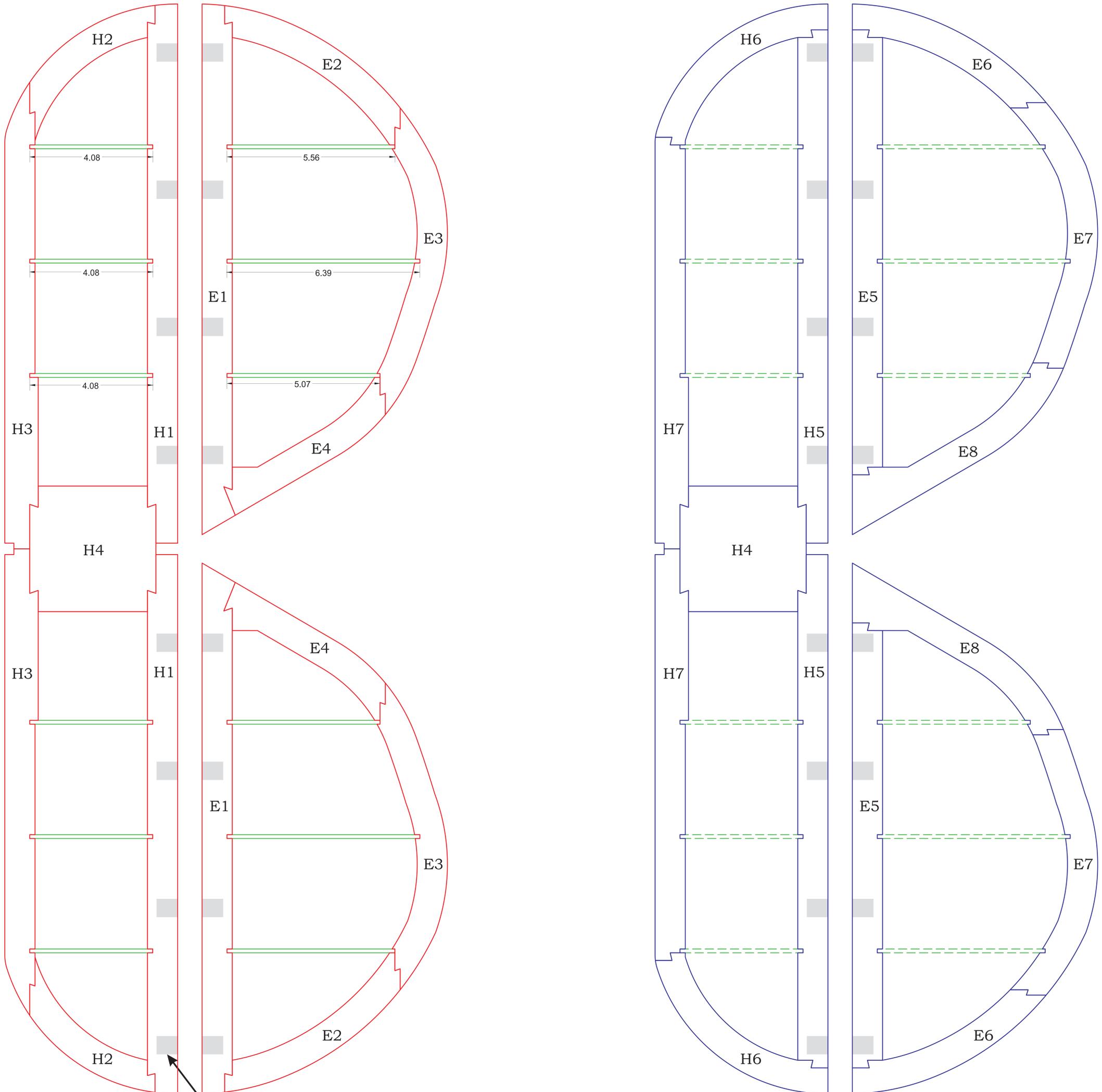
Stringers (ribs) for the these surfaces need to be hand cut to length. Approximate lengths are shown on the drawing.



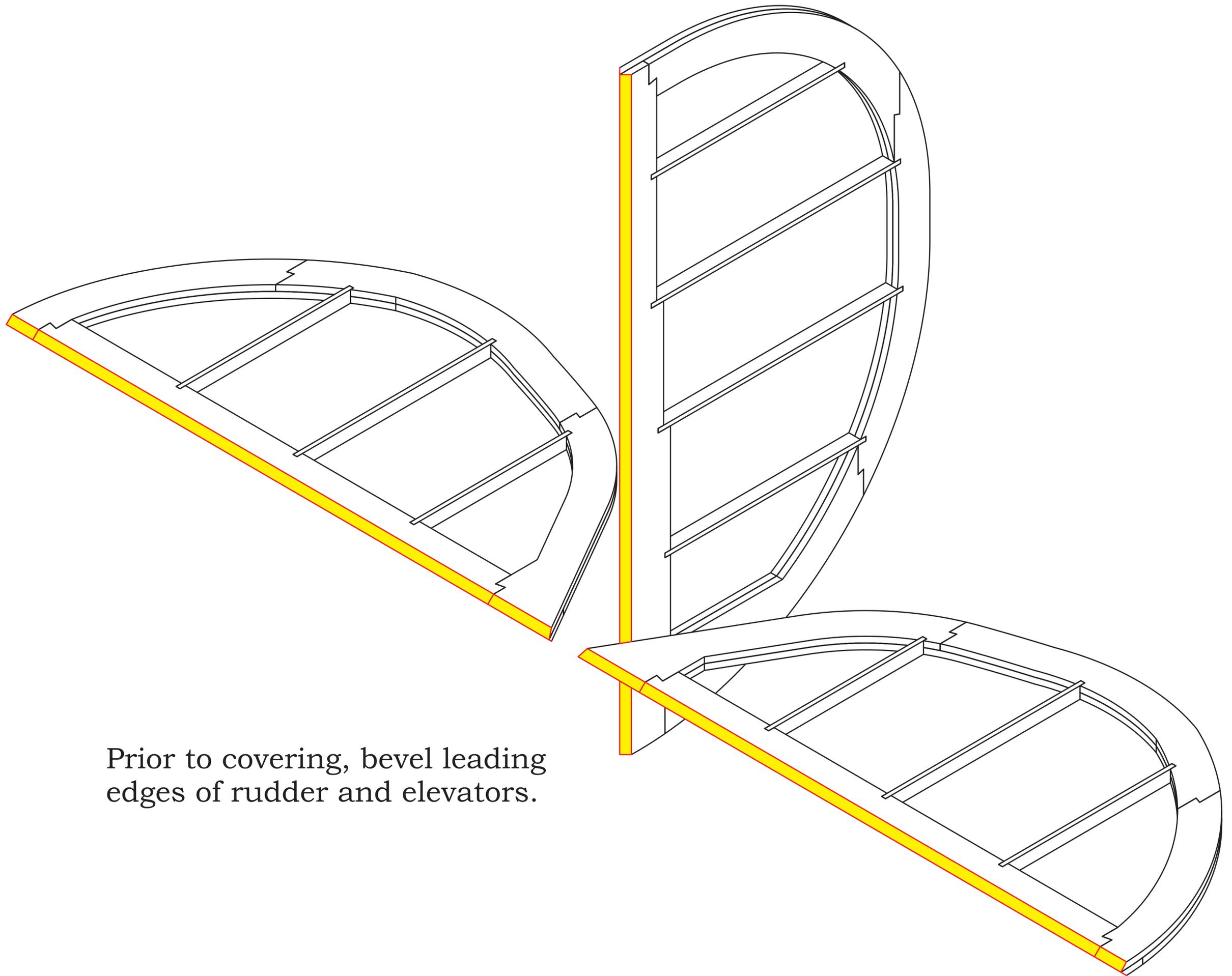
Suggested locations for CA hinges. When using CA hinges keep these areas free of glue when laminating left and right sides to make cutting of hinge slots easier.



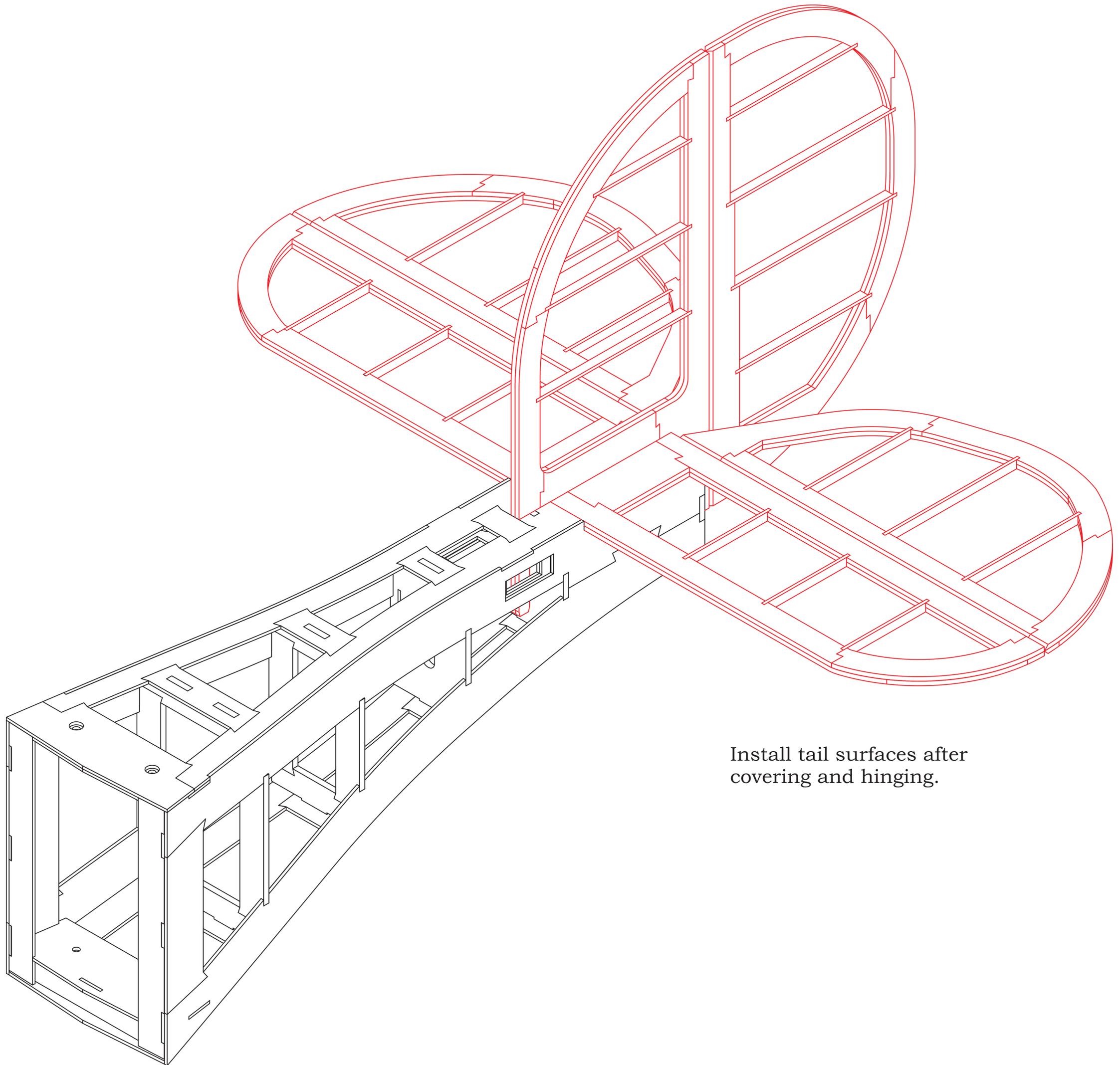
Stringers (ribs) for the these surfaces need to be hand cut to length. Approximate lengths are shown on the drawing.



Suggested locations for CA hinges. When using CA hinges keep these areas free of glue when laminating top and bottom surfaces to make cutting of hinge slots easier.

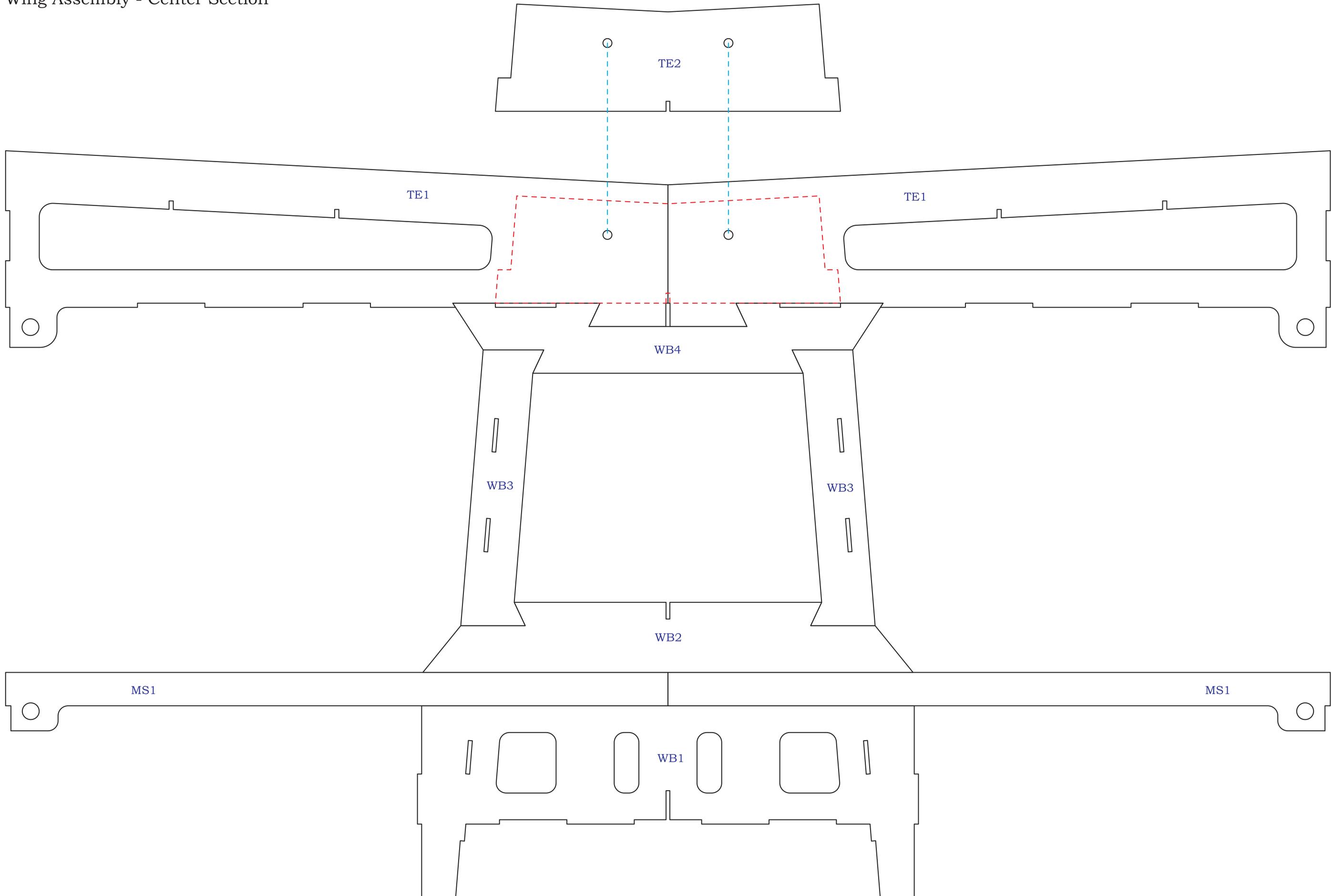


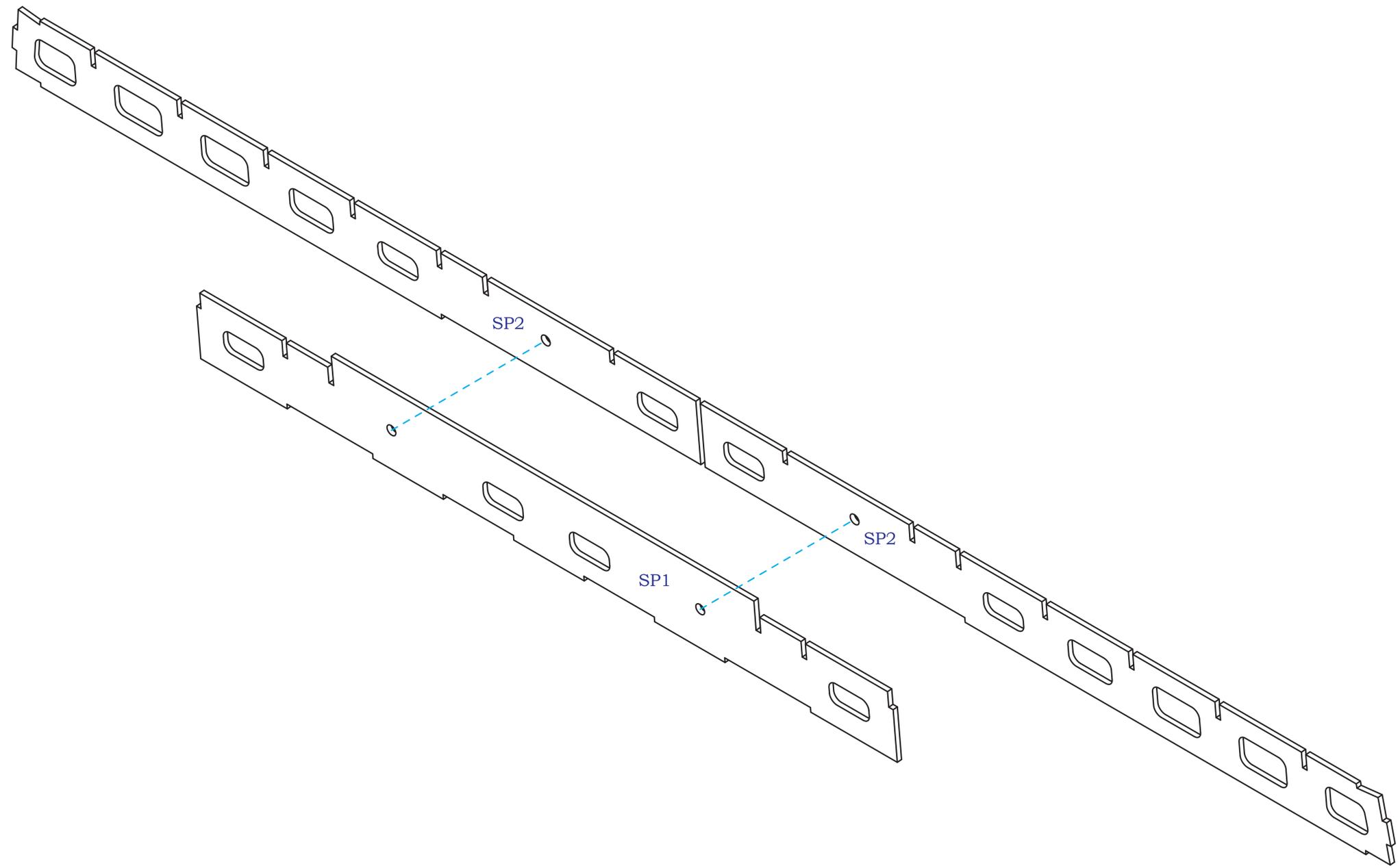
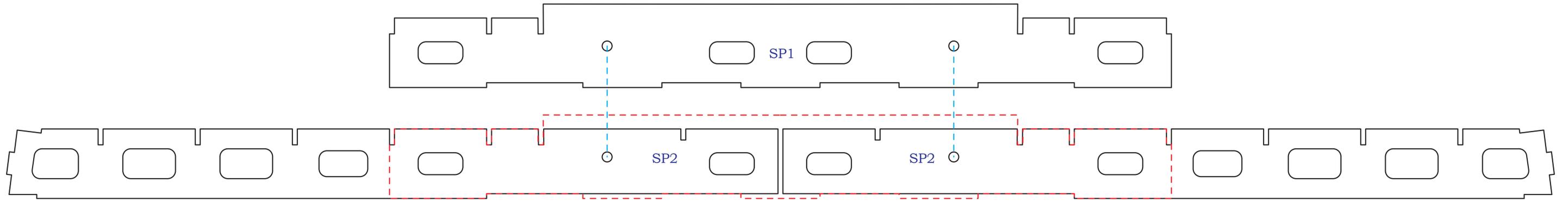
Prior to covering, bevel leading edges of rudder and elevators.

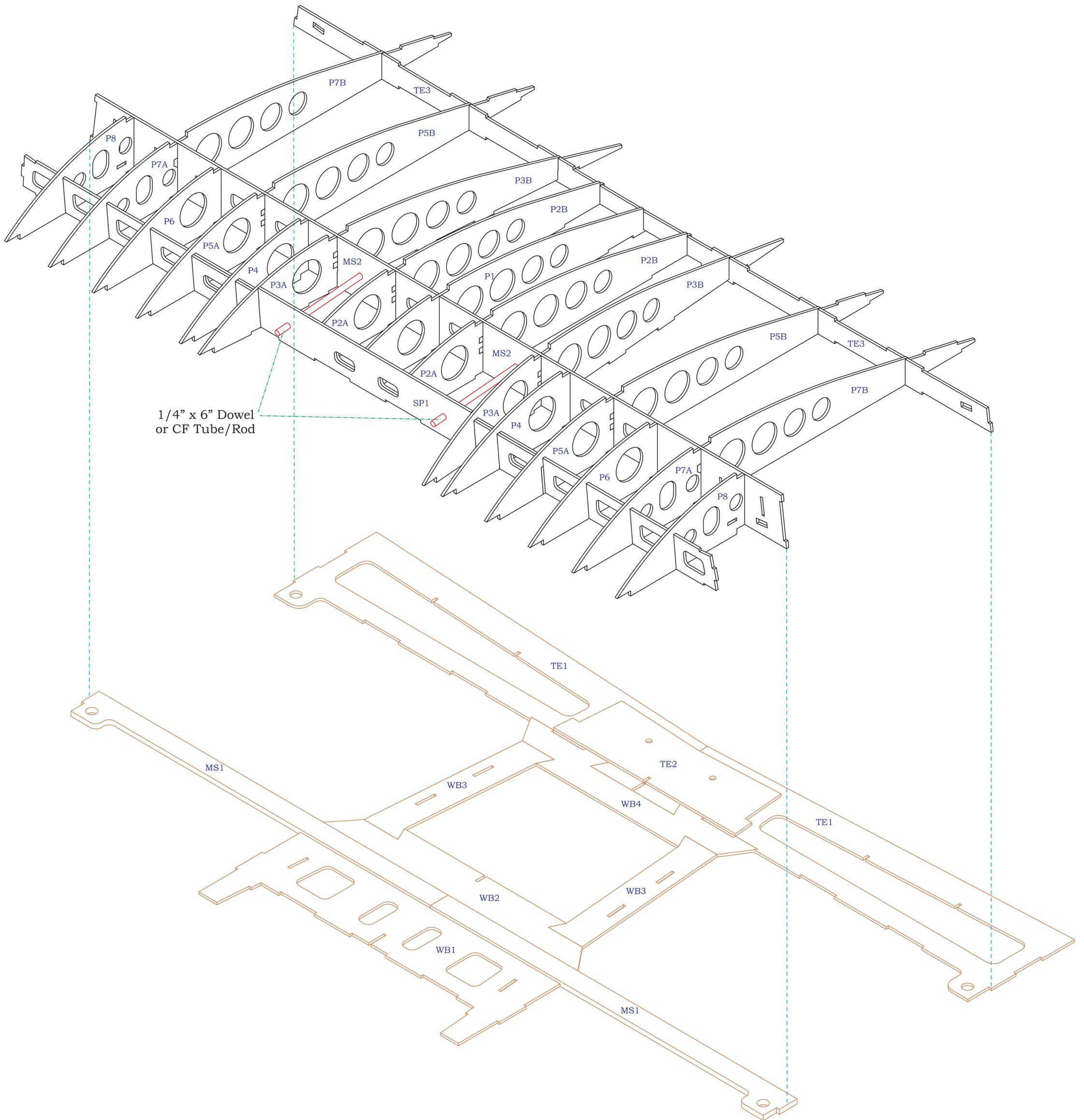


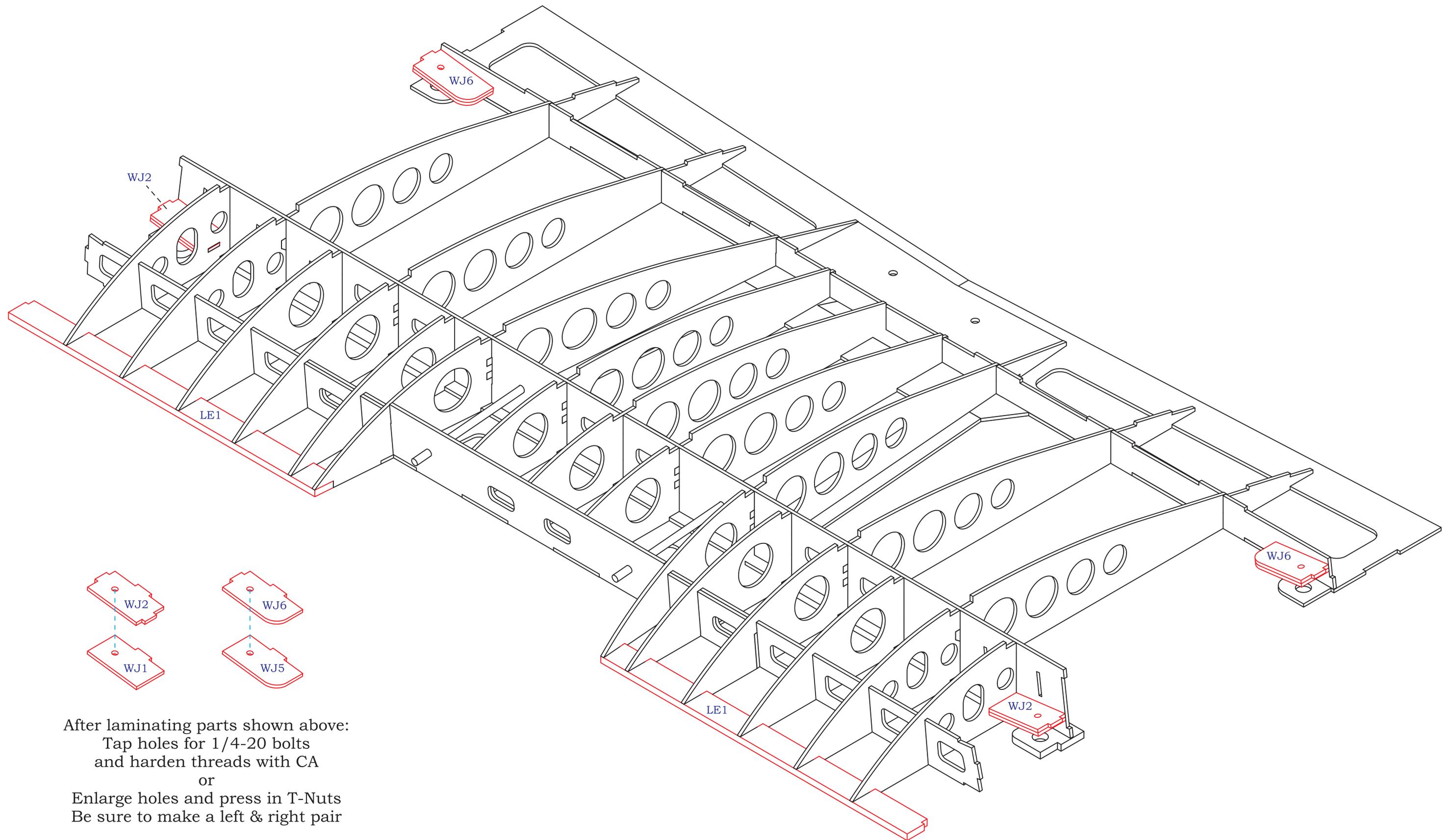
Install tail surfaces after covering and hinging.

Wing Assembly - Center Section

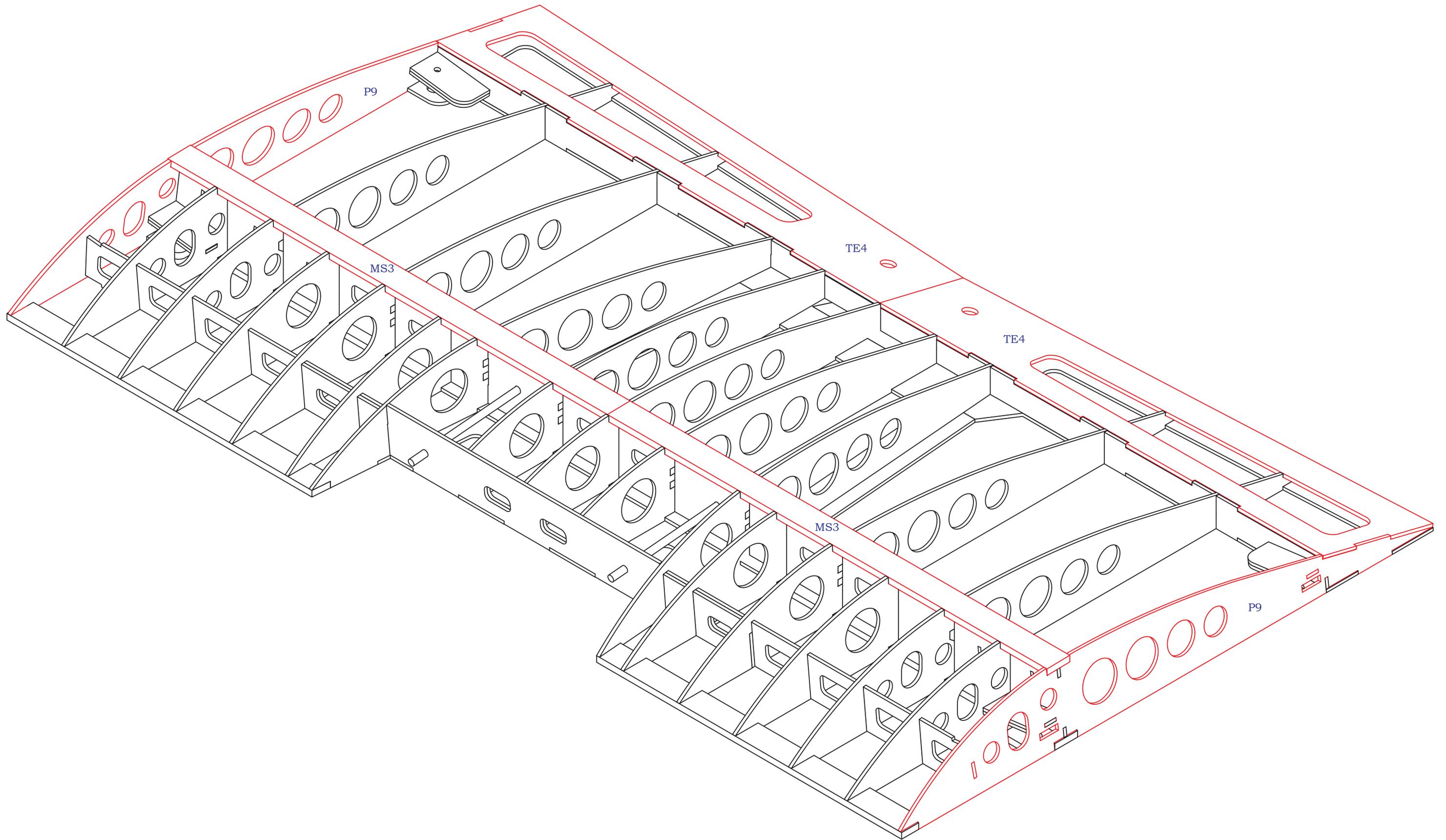


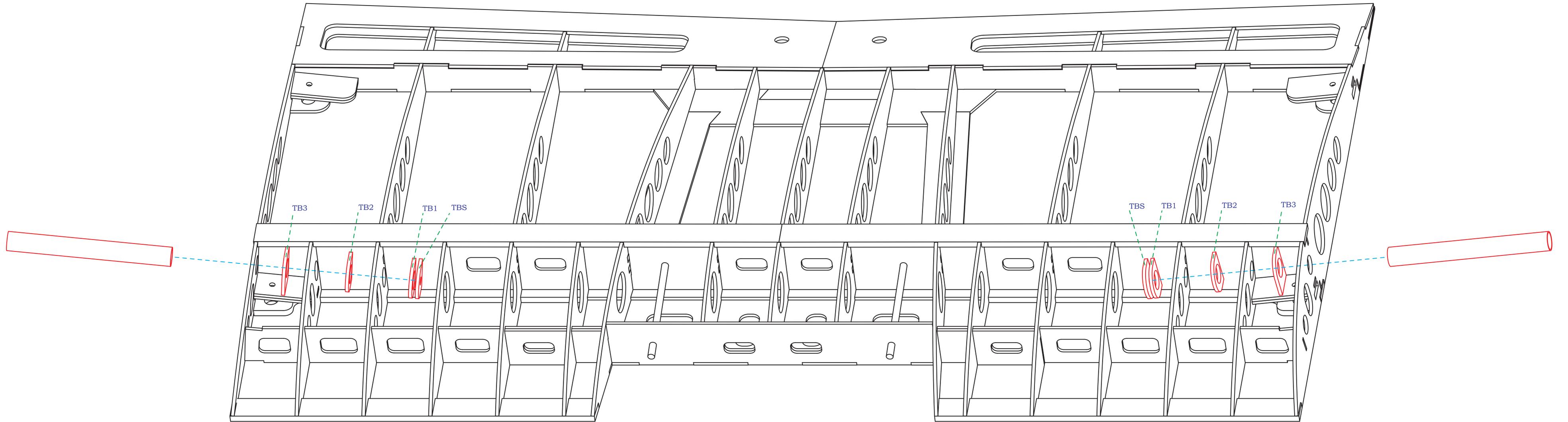




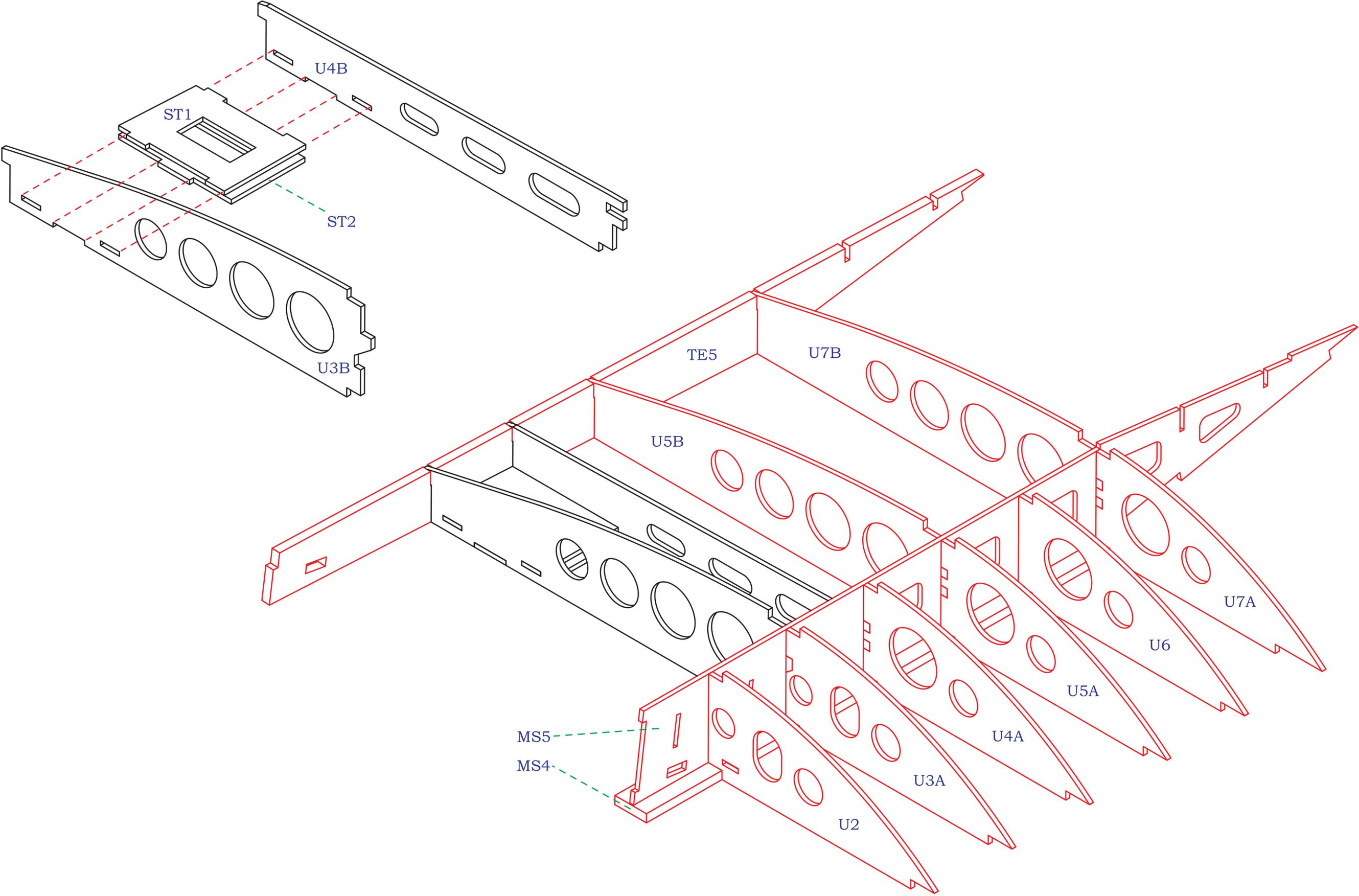


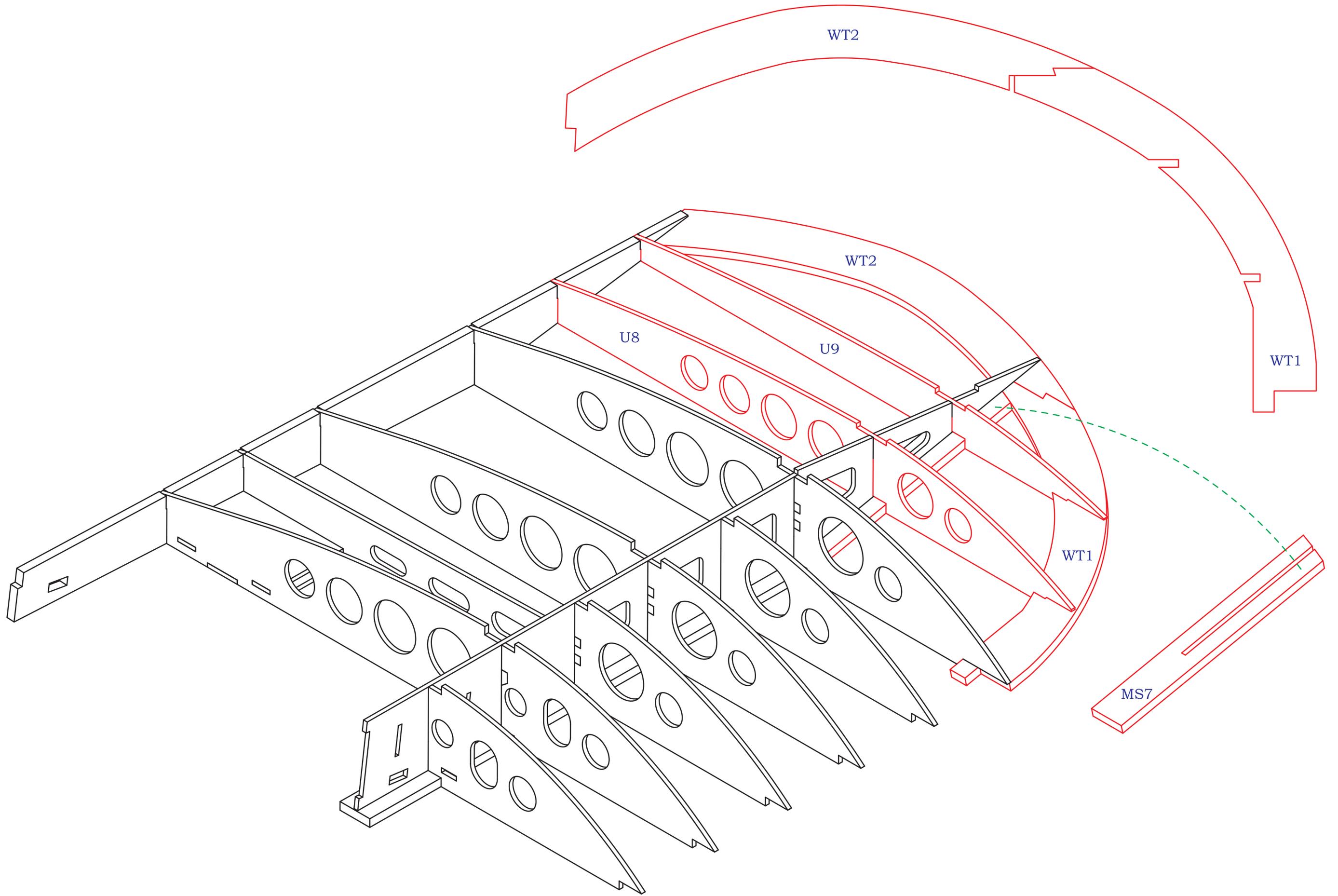
After laminating parts shown above:
 Tap holes for 1/4-20 bolts
 and harden threads with CA
 or
 Enlarge holes and press in T-Nuts
 Be sure to make a left & right pair

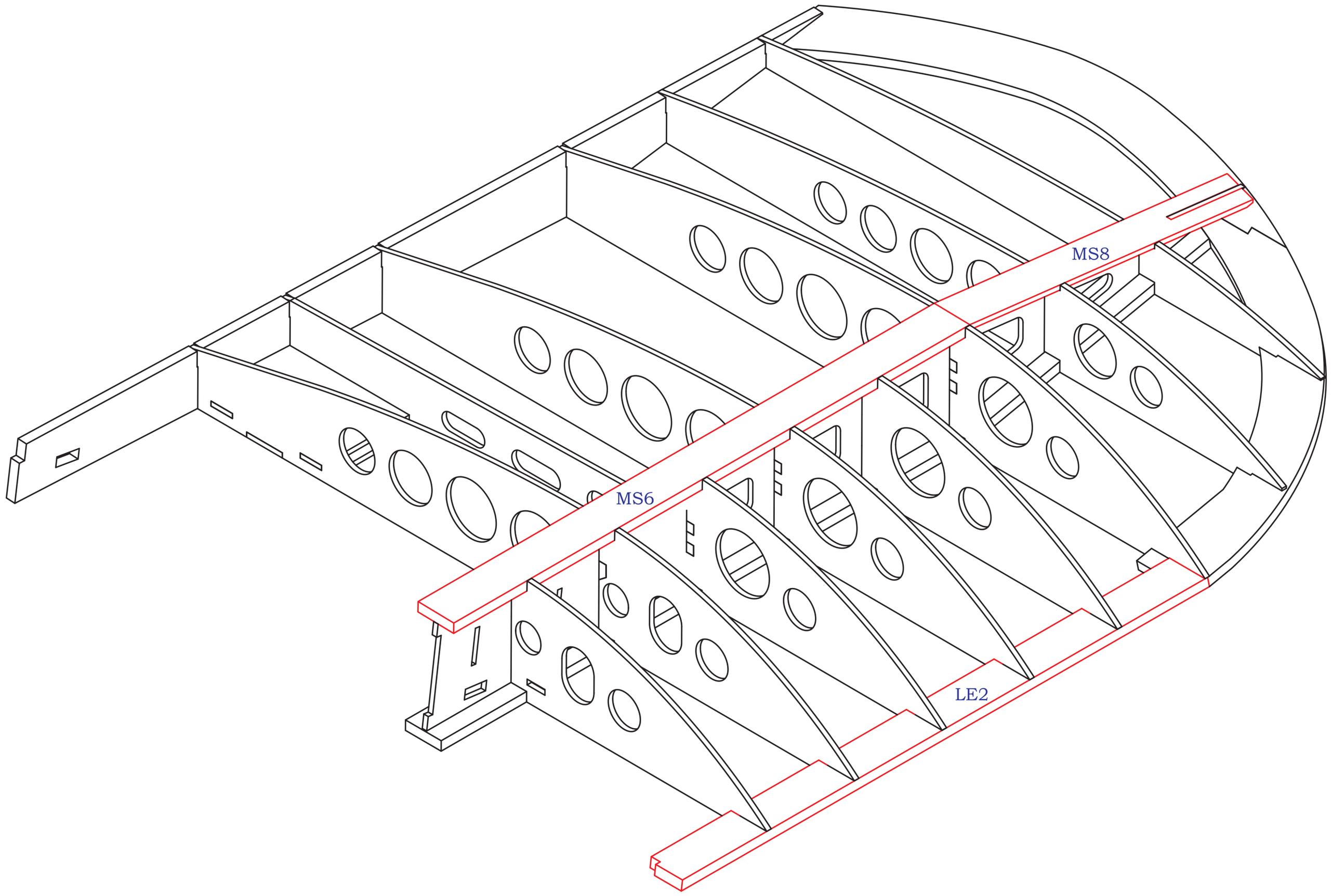


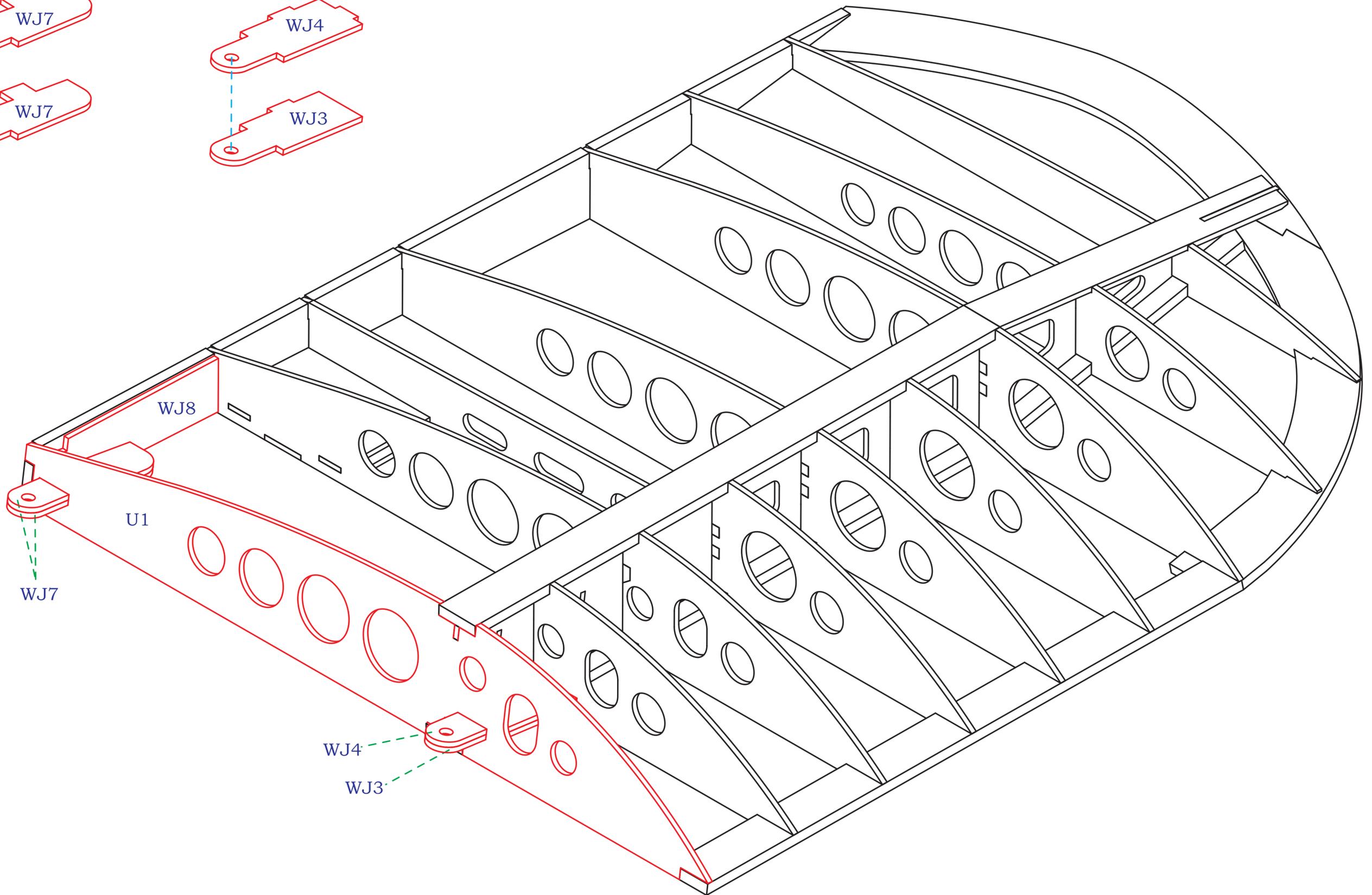
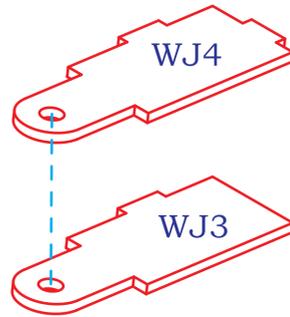
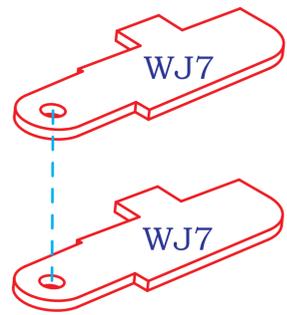


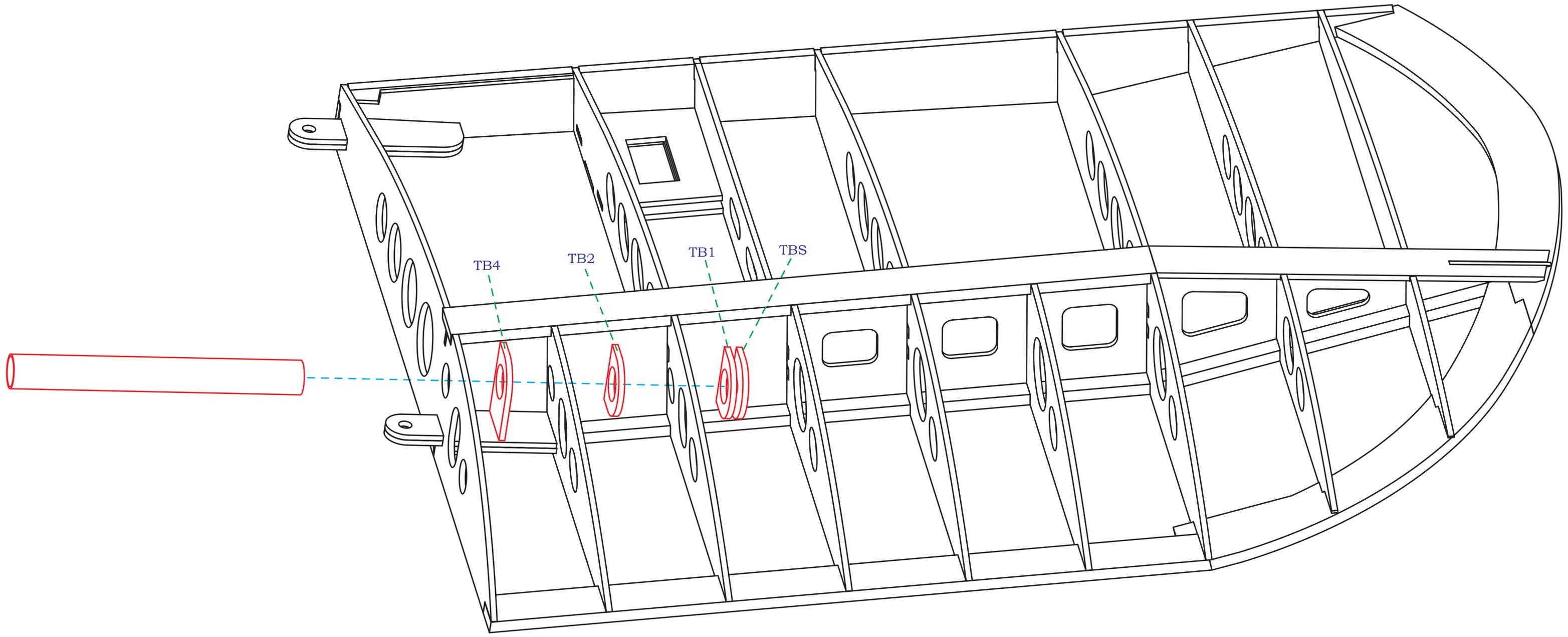
Wing Assembly - Tip Section

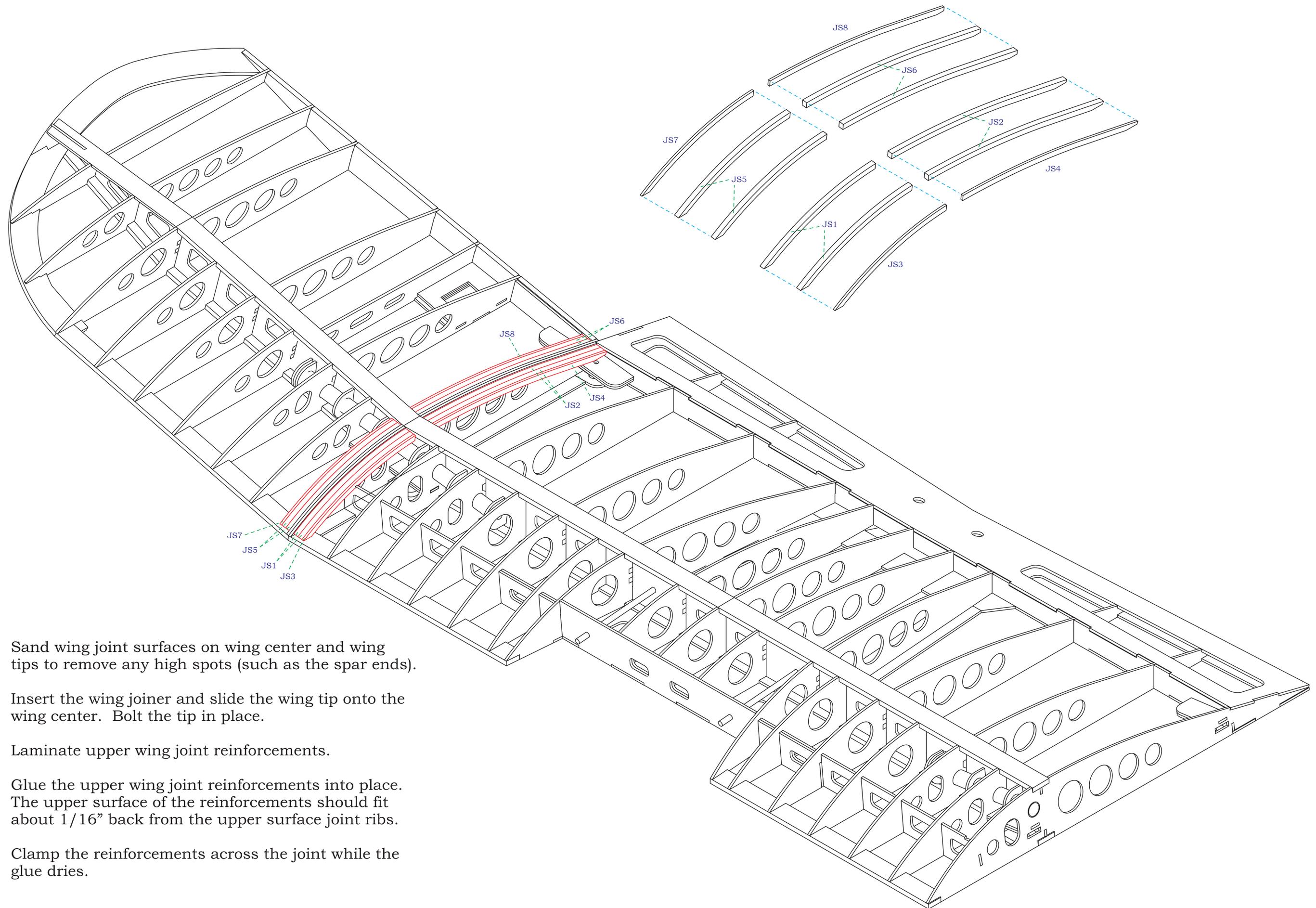












Sand wing joint surfaces on wing center and wing tips to remove any high spots (such as the spar ends).

Insert the wing joiner and slide the wing tip onto the wing center. Bolt the tip in place.

Laminate upper wing joint reinforcements.

Glue the upper wing joint reinforcements into place. The upper surface of the reinforcements should fit about 1/16" back from the upper surface joint ribs.

Clamp the reinforcements across the joint while the glue dries.

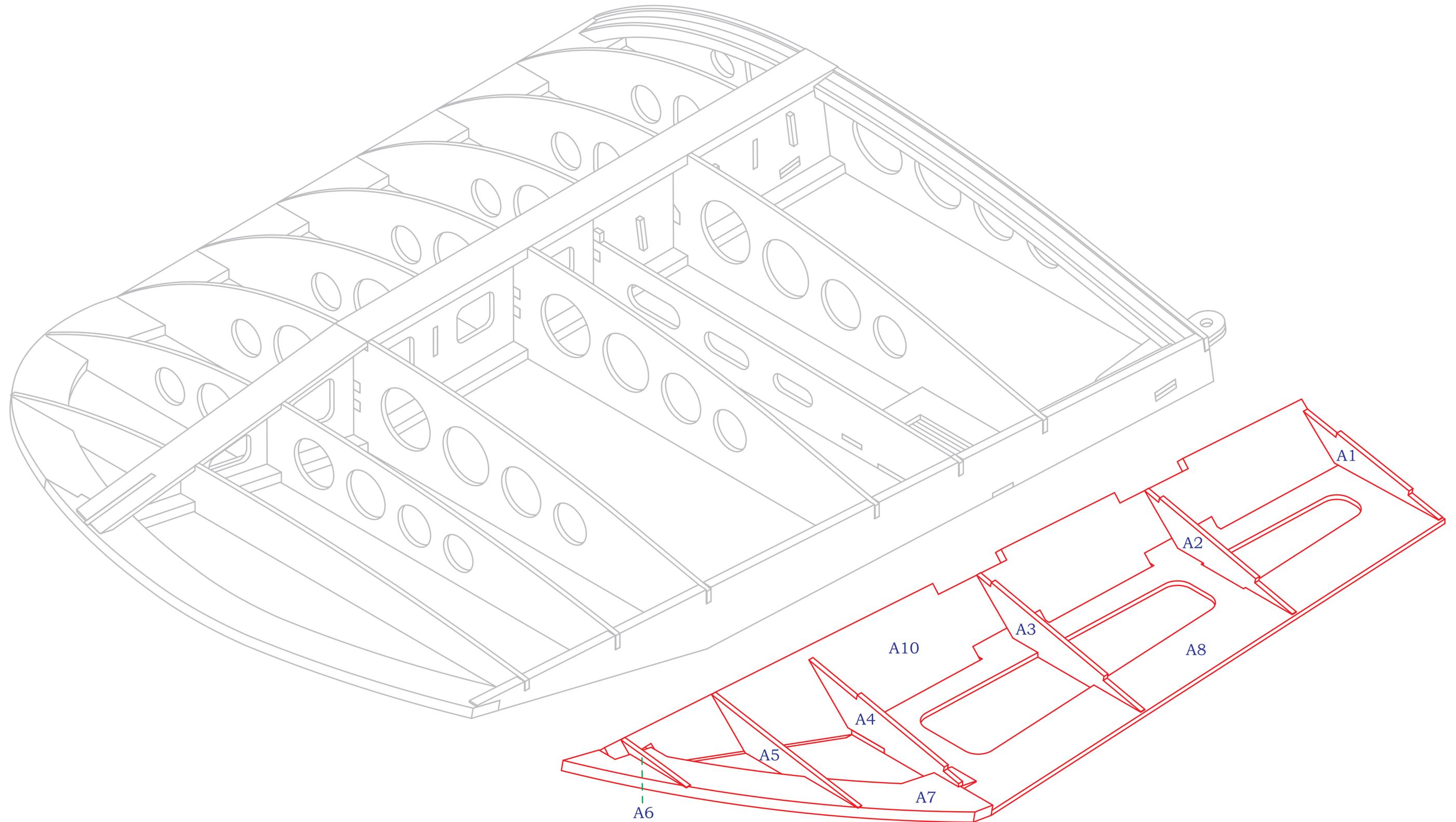
Glue the lower wing joint reinforcements into place.

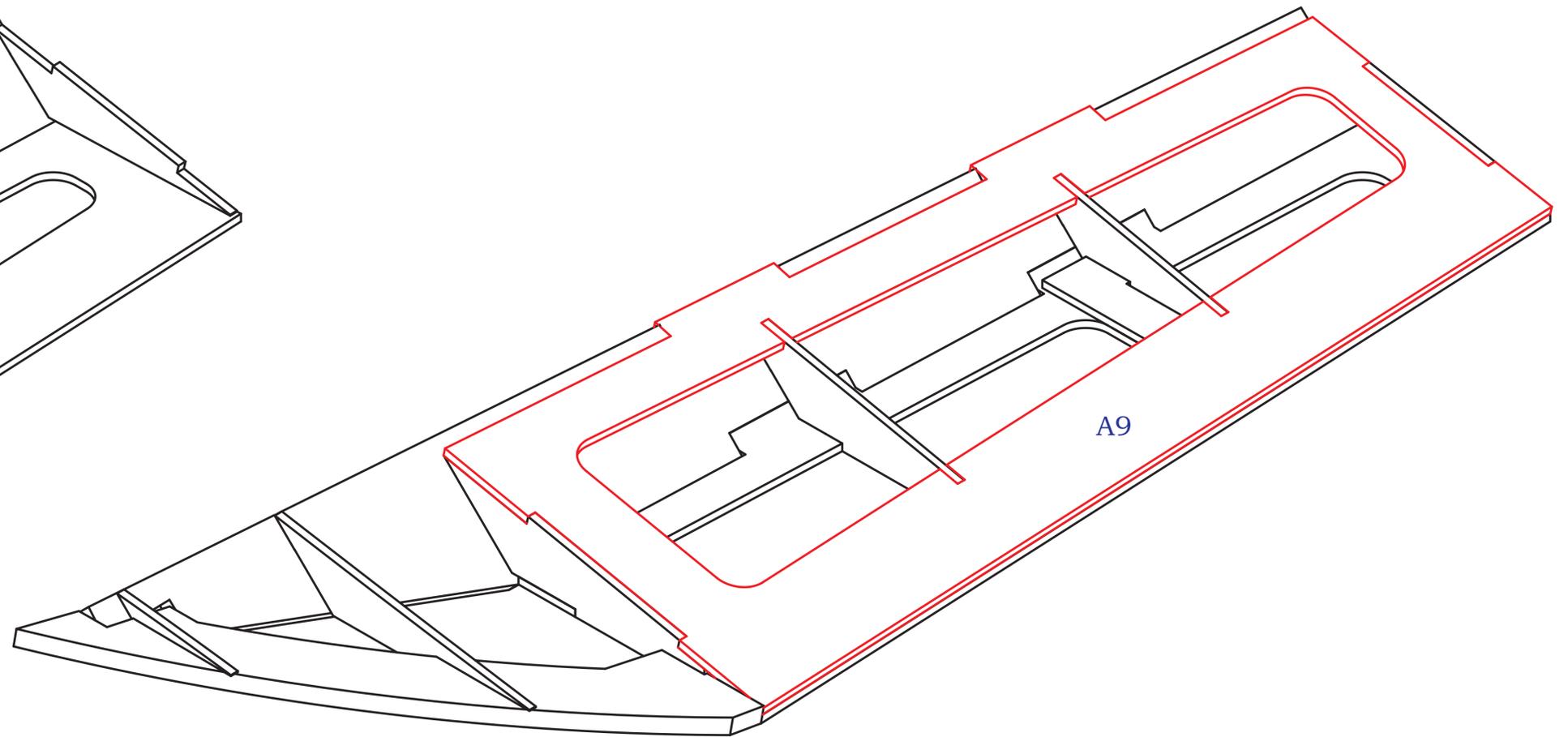
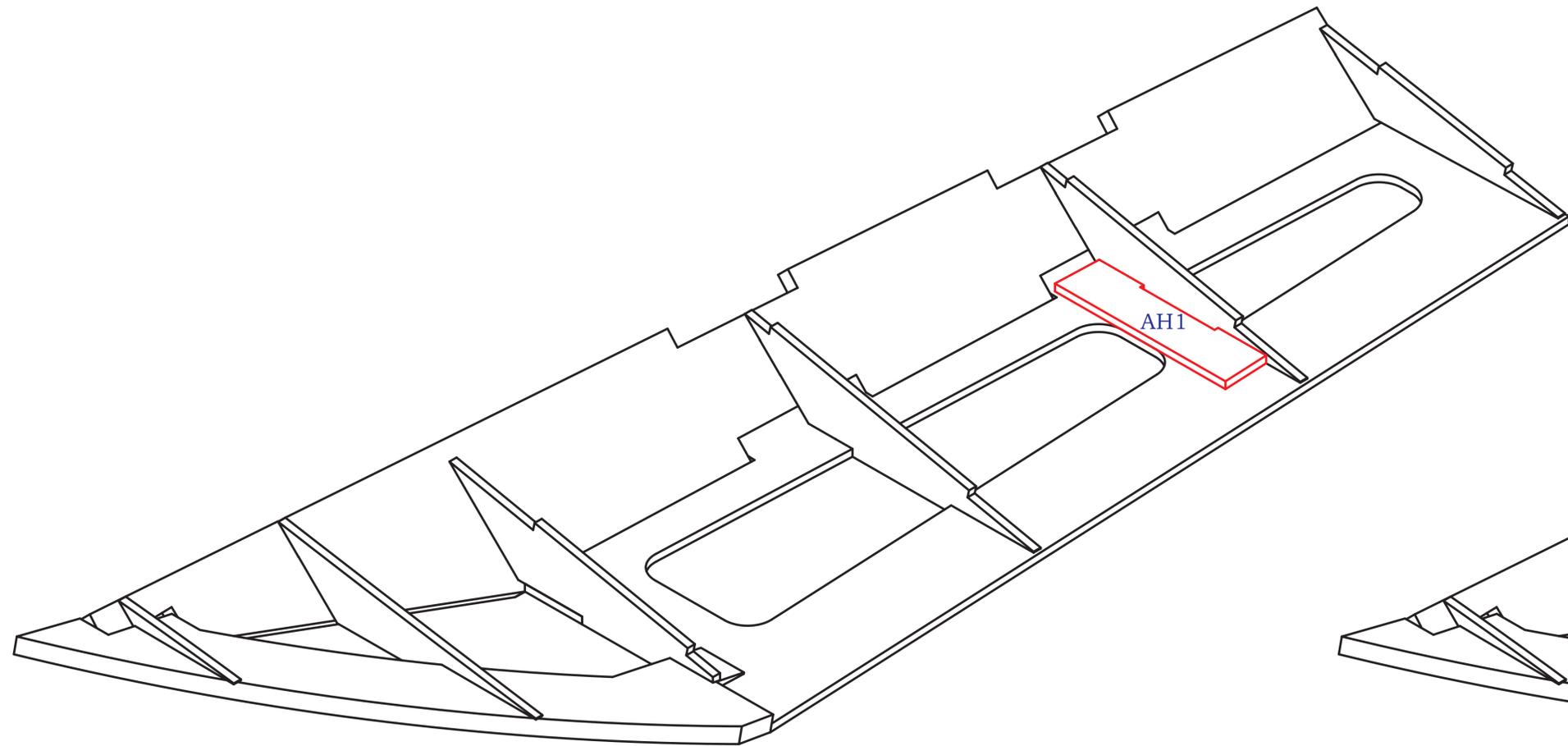
Clamp the reinforcements across the joint until the glue dries.

Repeat the upper & lower joint reinforcement for the opposite wing tip.

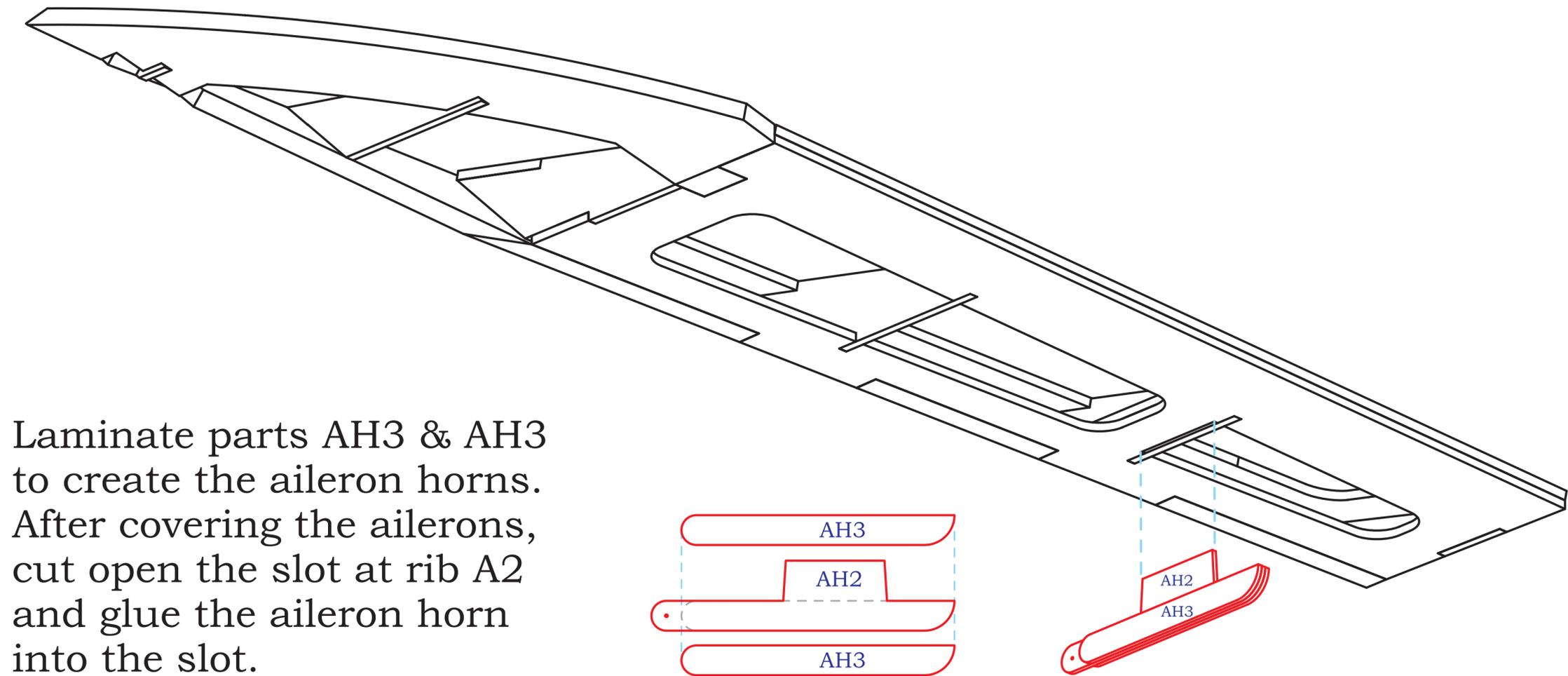
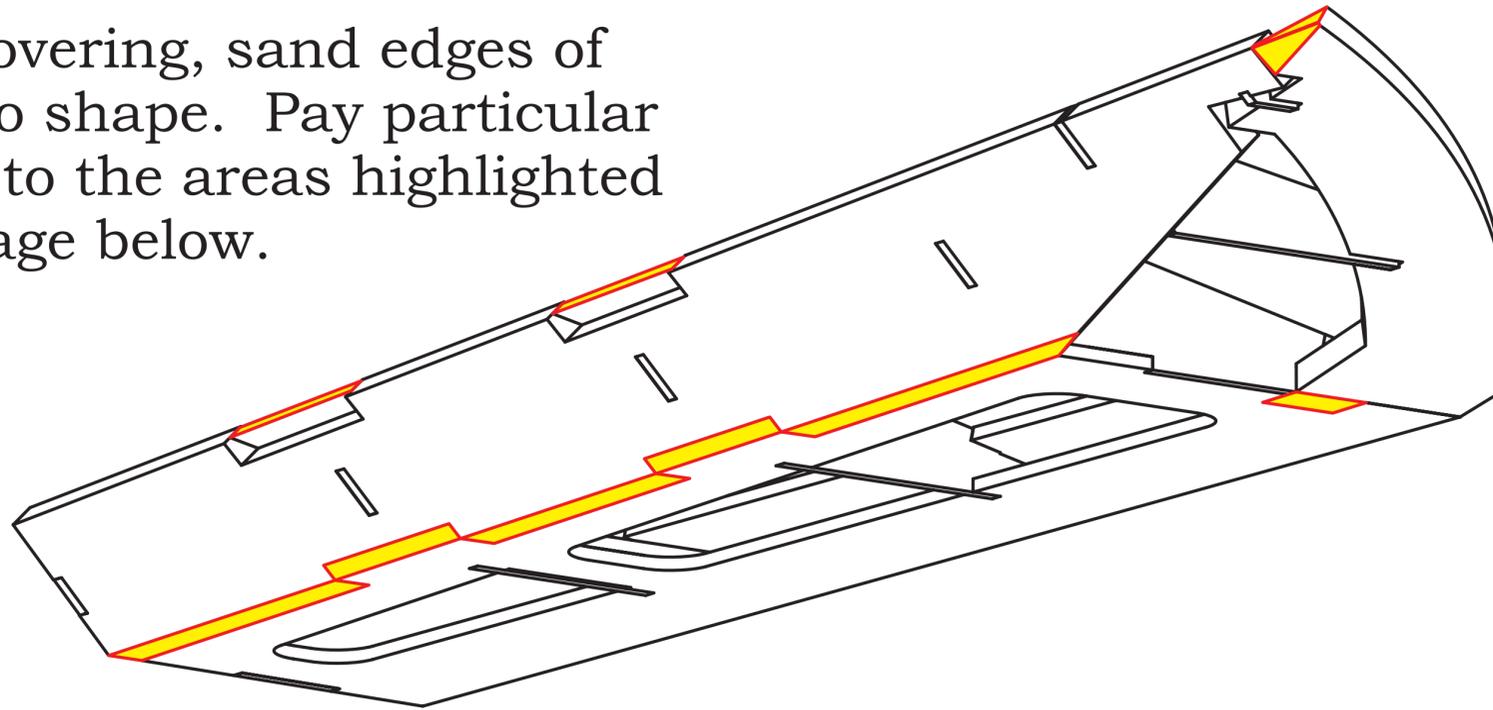


Wing Assembly - Ailerons





Prior to covering, sand edges of ailerons to shape. Pay particular attention to the areas highlighted in the image below.



Laminate parts AH3 & AH3 to create the aileron horns. After covering the ailerons, cut open the slot at rib A2 and glue the aileron horn into the slot.

When hinging the ailerons to the wing tip sections, be sure to position the aileron about 0.1" out from the wing joint to provide sufficient clearance for aileron movement.

