MV-217 X'TAL Design

2020/08/20

Metalwork

Aluminum Panels

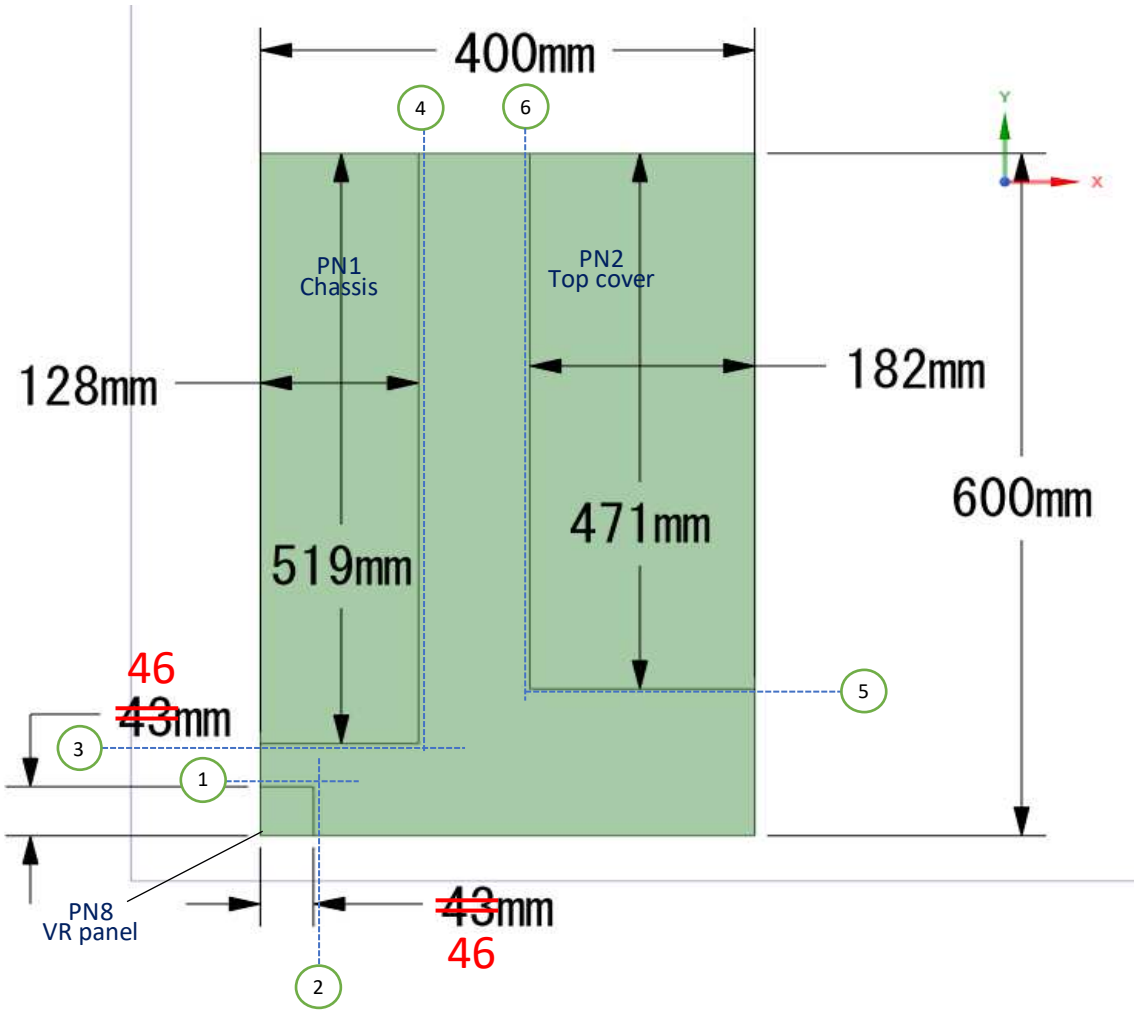
*** Cutout**

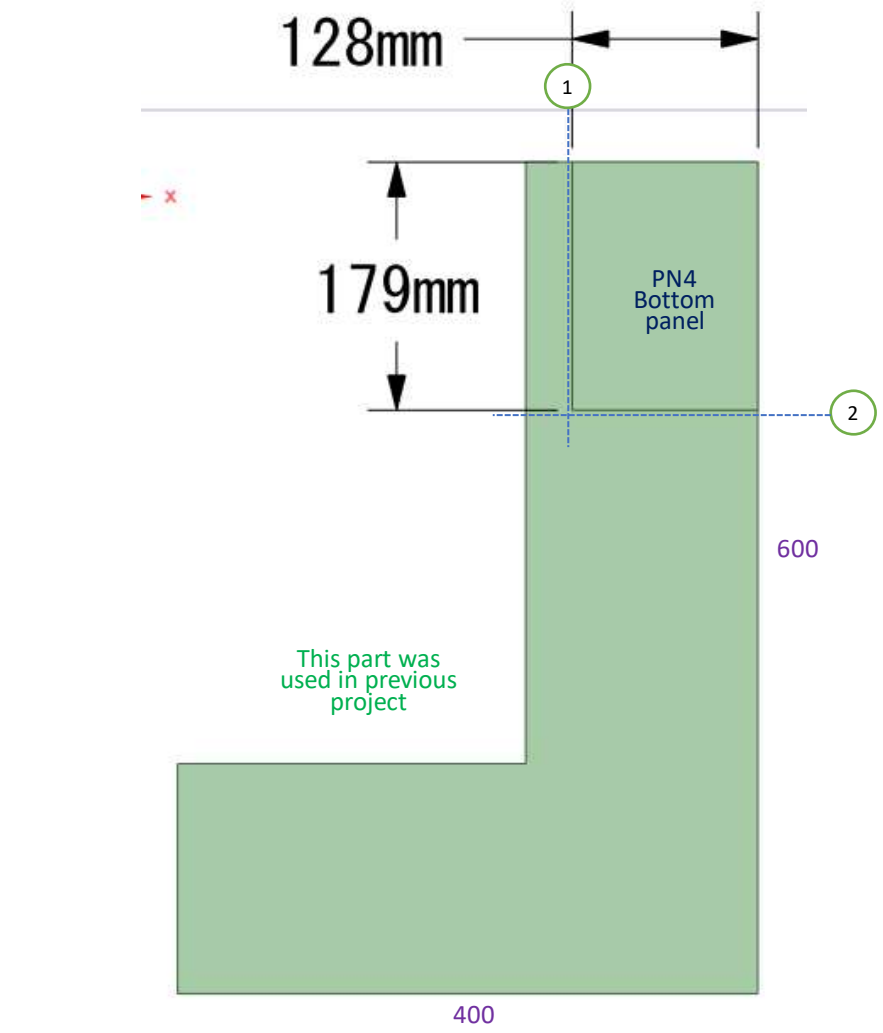
Aluminum panels, PN1-2, PN4, PN8-10, are cut out from two (2) aluminum panels whose dimension is 1 x 600 x 400mm.

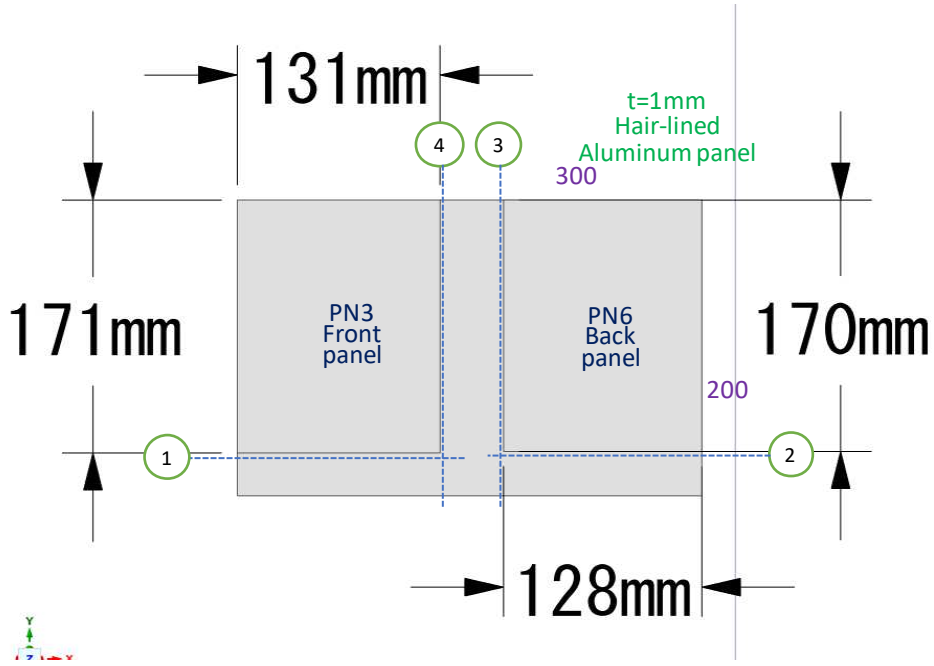
Aluminum panels, PN3, PN6, are cut out from one (1) white-painted aluminum panels whose dimension is 1 x 300 x 200mm.

Tools: power jigsaw, linear guide, flat file

Margin: 2mm (confirm it when #1 and #2 are cut)



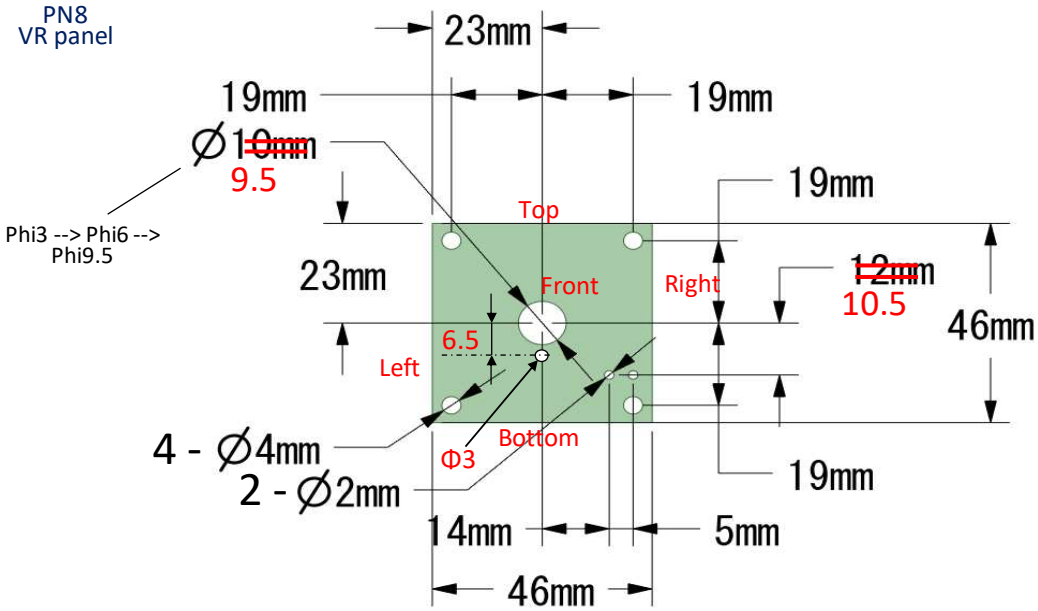

128mm
1
179mm
PN4
Bottom
panel
2
600
This part was
used in previous
project
400

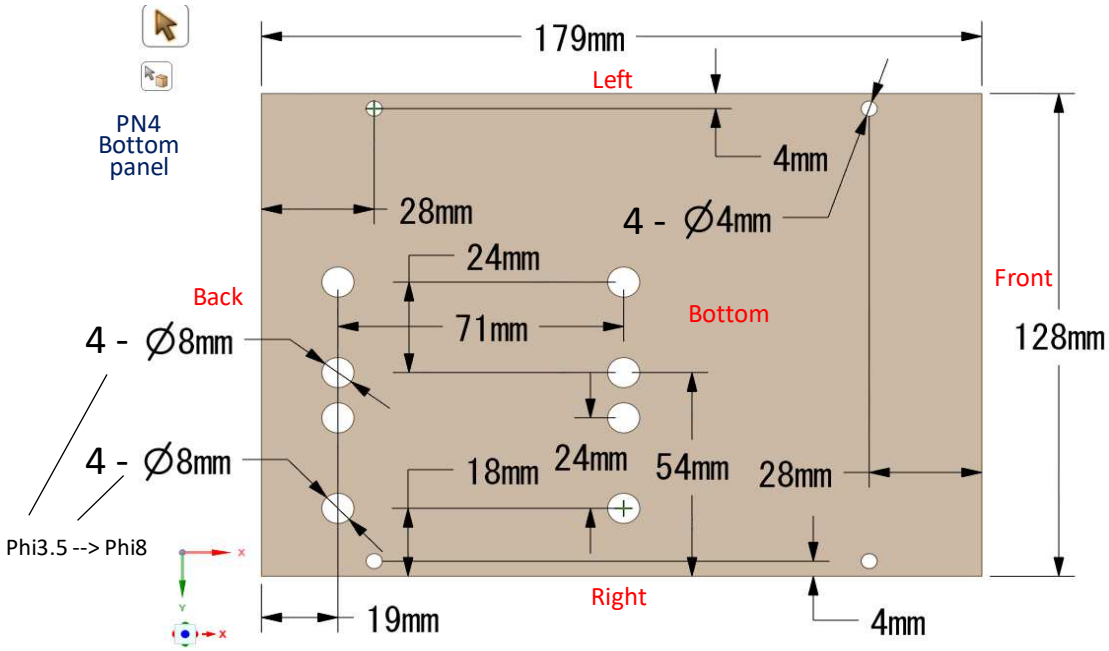

131mm
t=1mm
Hair-lined
Aluminum panel
4
3
300
171mm
PN3
Front
panel
PN6
Back
panel
170mm
200
1
2
128mm

*** Drilling**

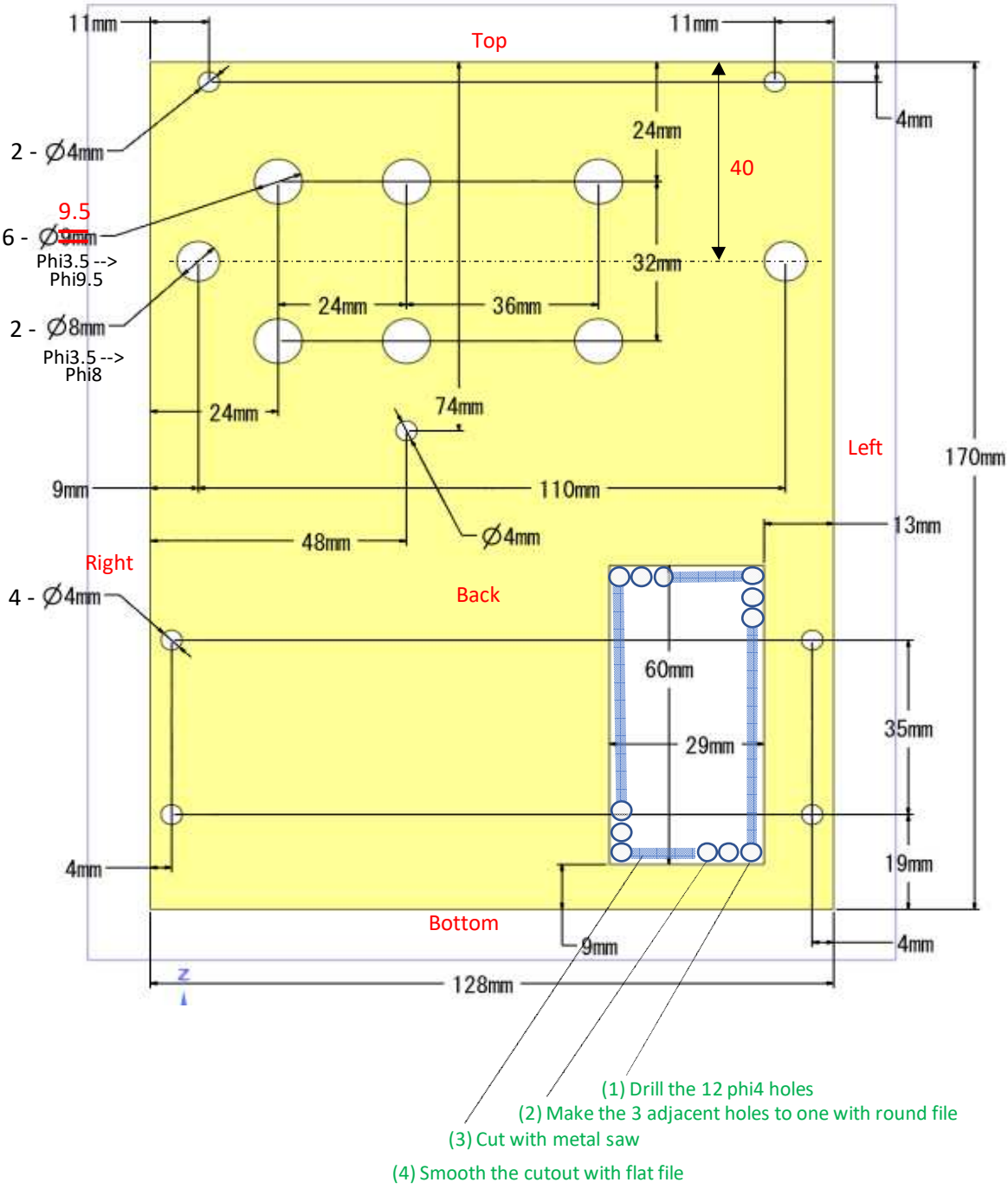
Process the panels in ascending order of size.

Tools: centerpunch, drilling press, round file, flat file, metal saw



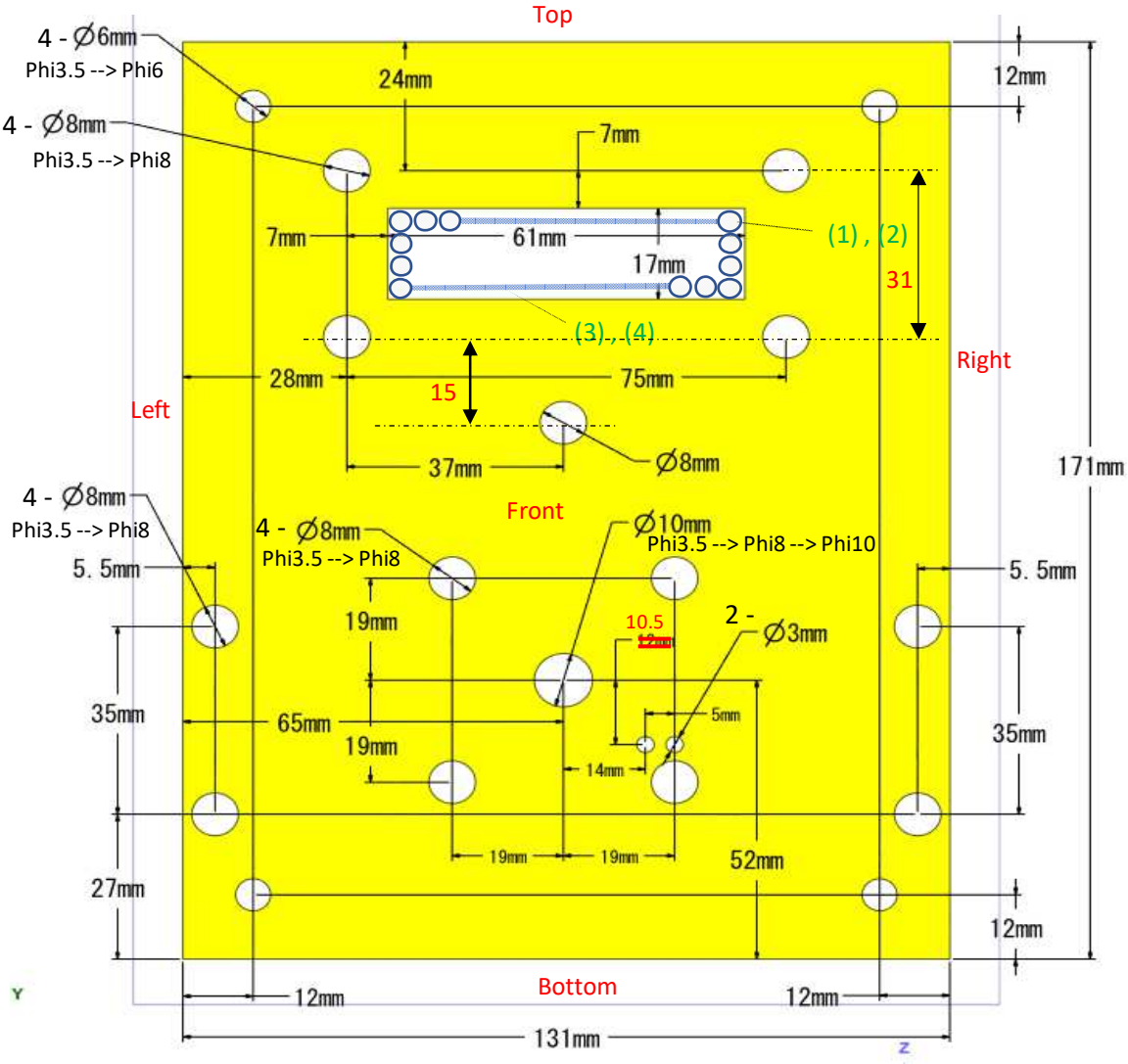


PN6
Back
panel

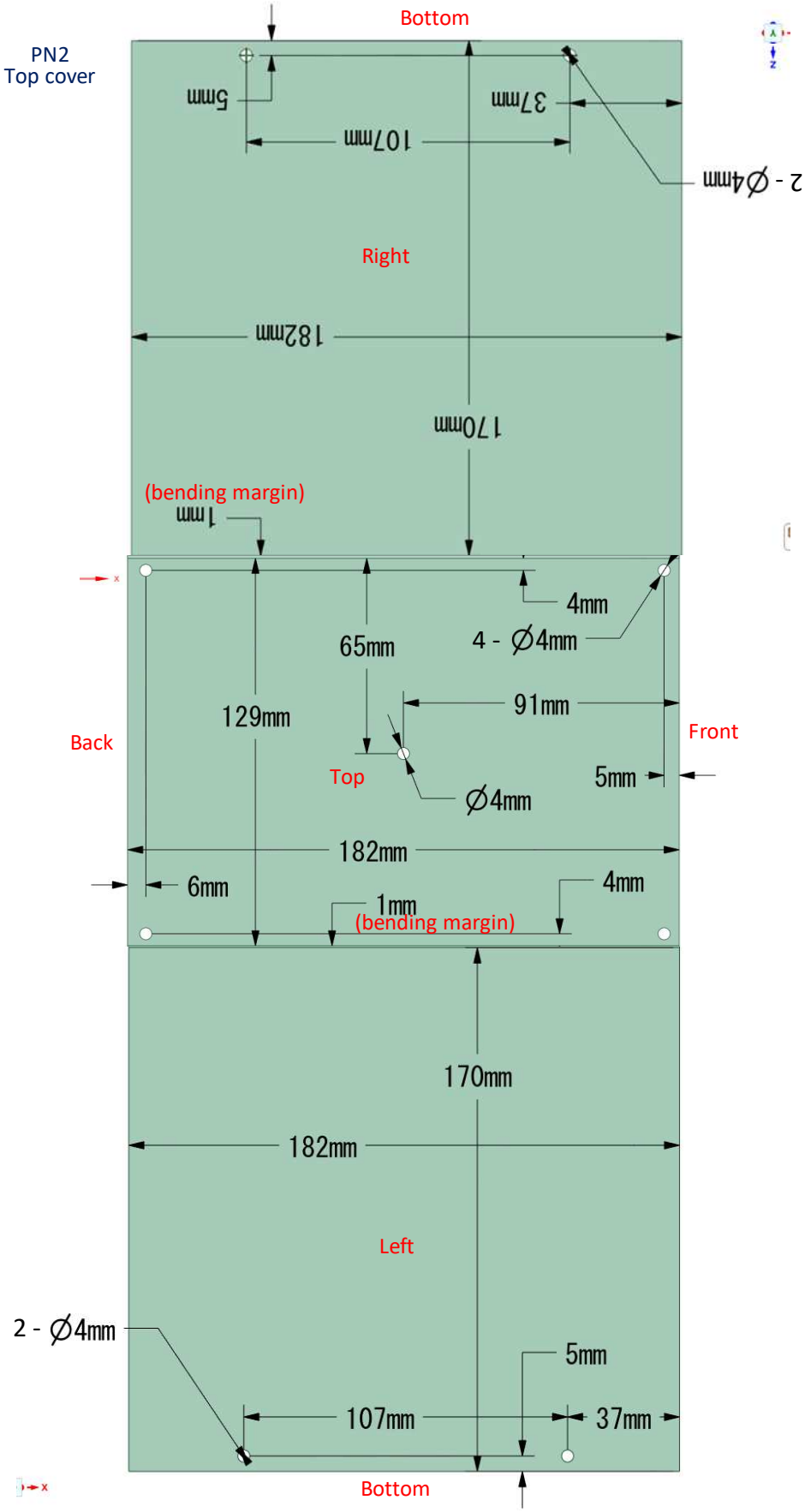


(1) Drill the 12 phi4 holes
(2) Make the 3 adjacent holes to one with round file
(3) Cut with metal saw
(4) Smooth the cutout with flat file

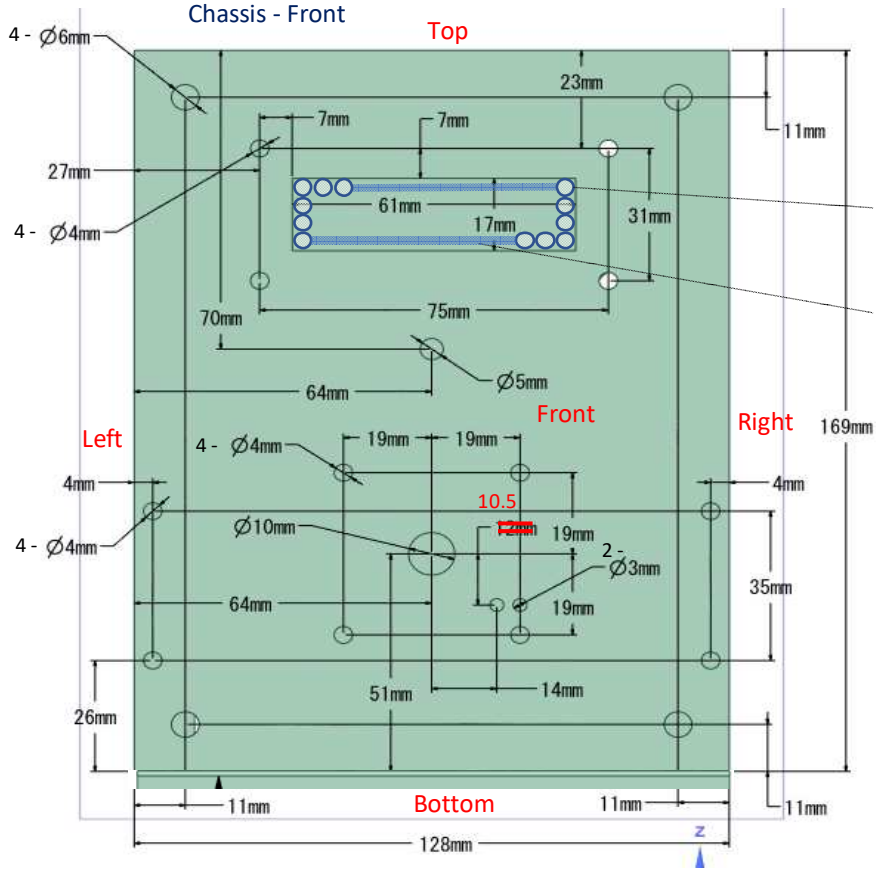
PN3
Front
panel



(1) Drill the 12 phi4 holes
(2) Make the adjacent holes to one with round file
(3) Cut with metal saw
(4) Smooth the cutout with flat file

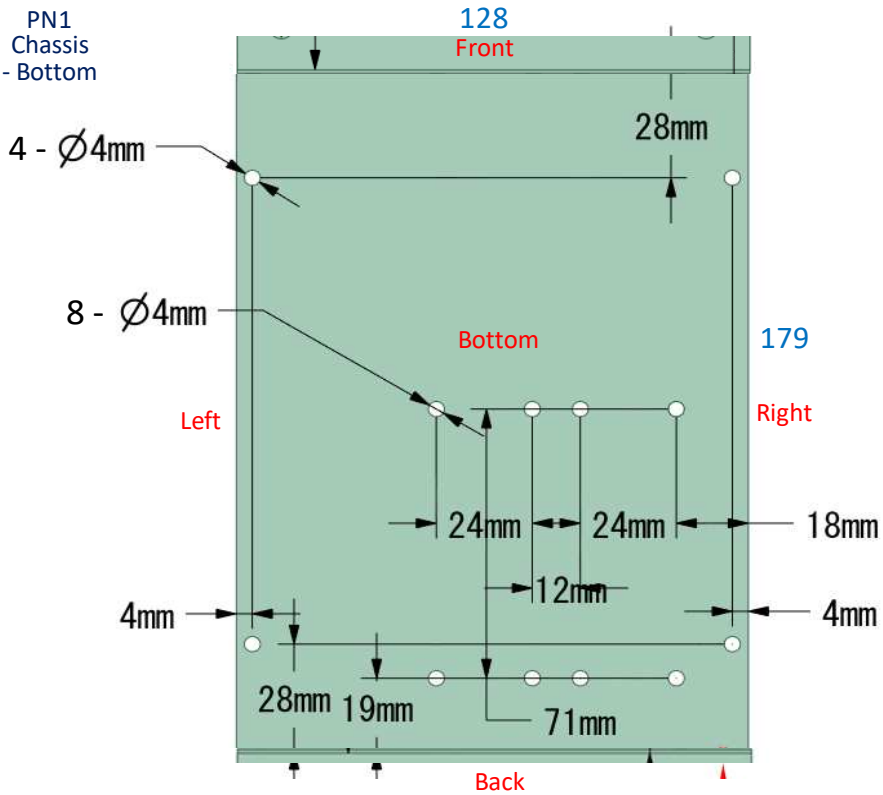

PN2
Top cover
Bottom
5mm
37mm
107mm
2 - Ø4mm
Right
182mm
170mm
(bending margin)
1mm
4mm
65mm
4 - Ø4mm
129mm
91mm
Back
Front
Top
5mm
Ø4mm
182mm
6mm
4mm
1mm
(bending margin)
170mm
182mm
Left
2 - Ø4mm
5mm
107mm
37mm
Bottom

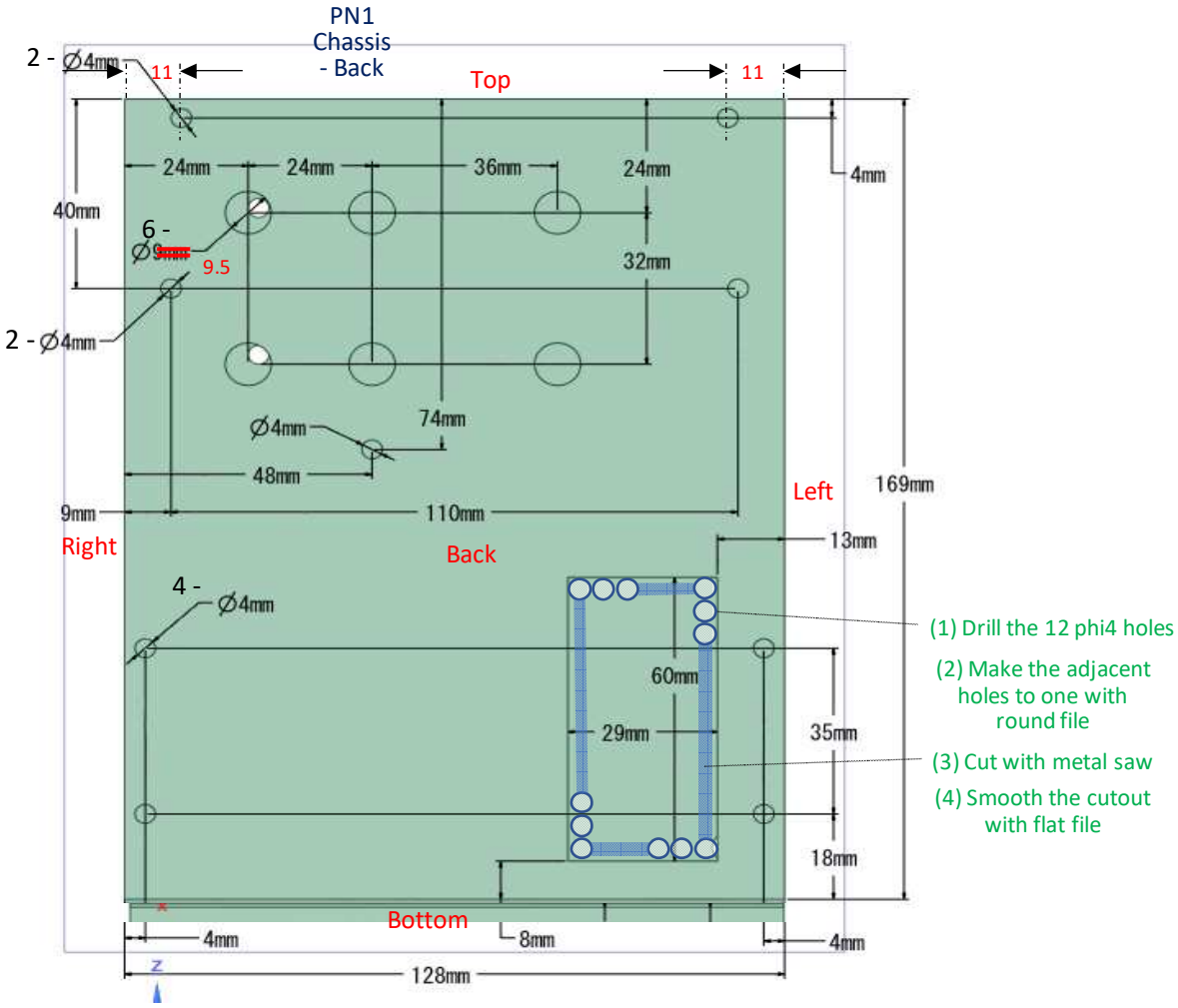
PN1
Chassis - Front



(1) Drill the 12 phi4 holes
(2) Make the adjacent holes to one with round file
(3) Cut with metal saw
(4) Smooth the cutout with flat file

PN1
Chassis
- Bottom

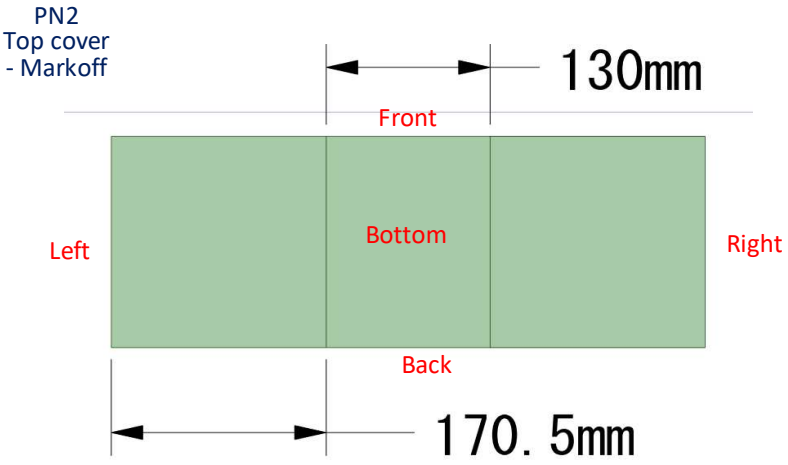




*** Bending**

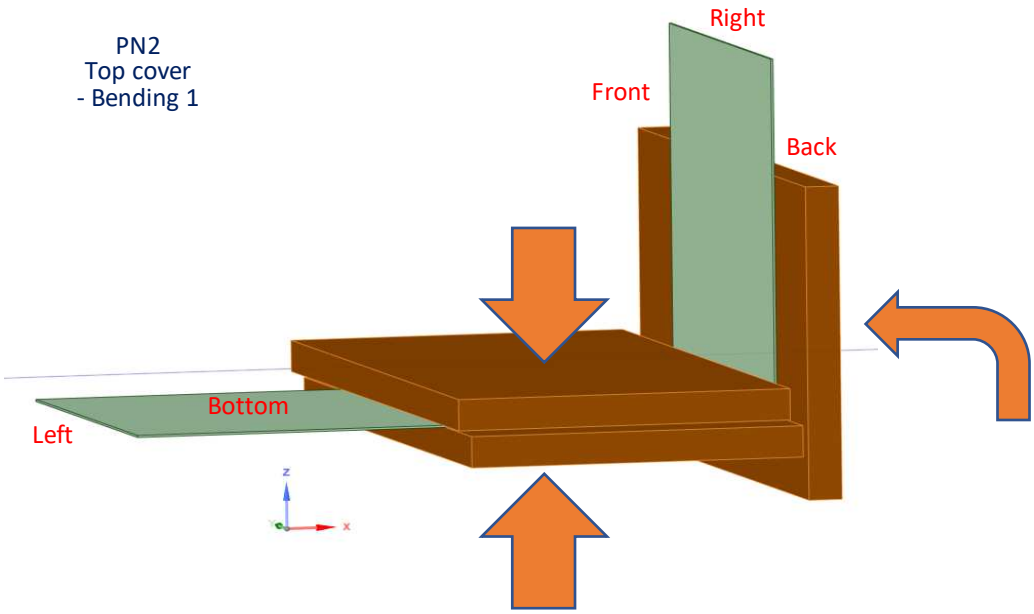
Bend PN1 (Chassis) and PN2 (Top Cover) into horse-shoe shape.

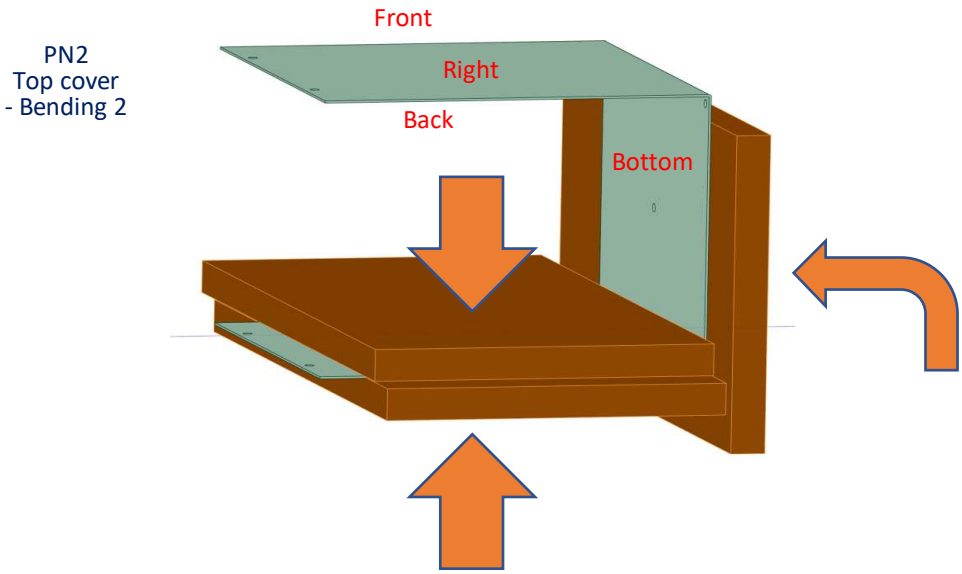
Tools: three (3) wood boards, stabber, acrylic cutter

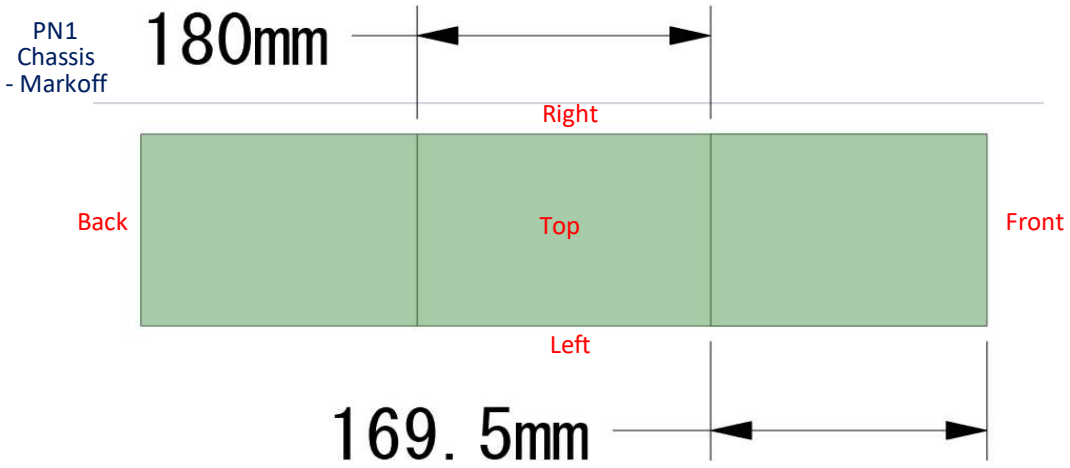


Deepen the mark-off lines by 0.3mm with the acrylic cutter.

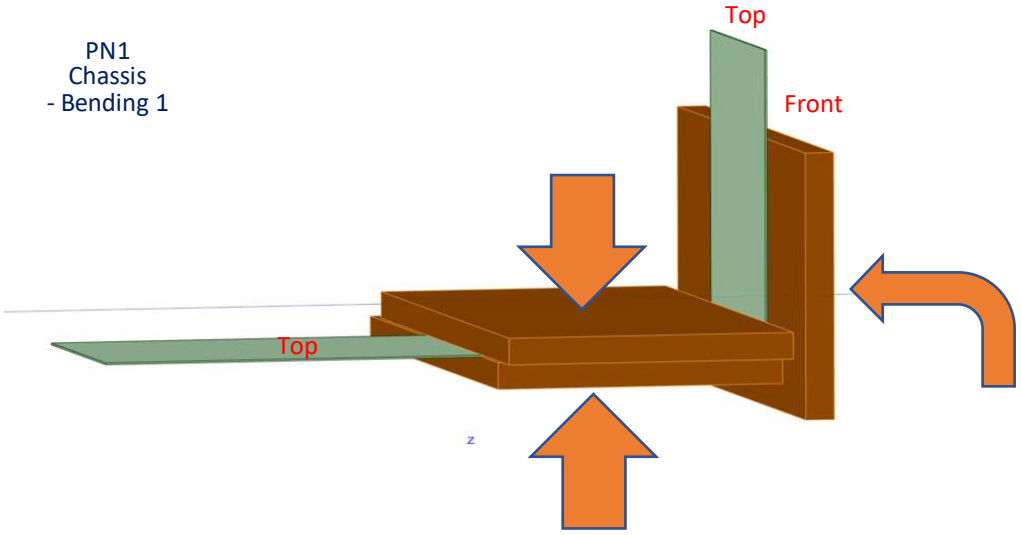
Bend PN2 by using three (3) wood boards.

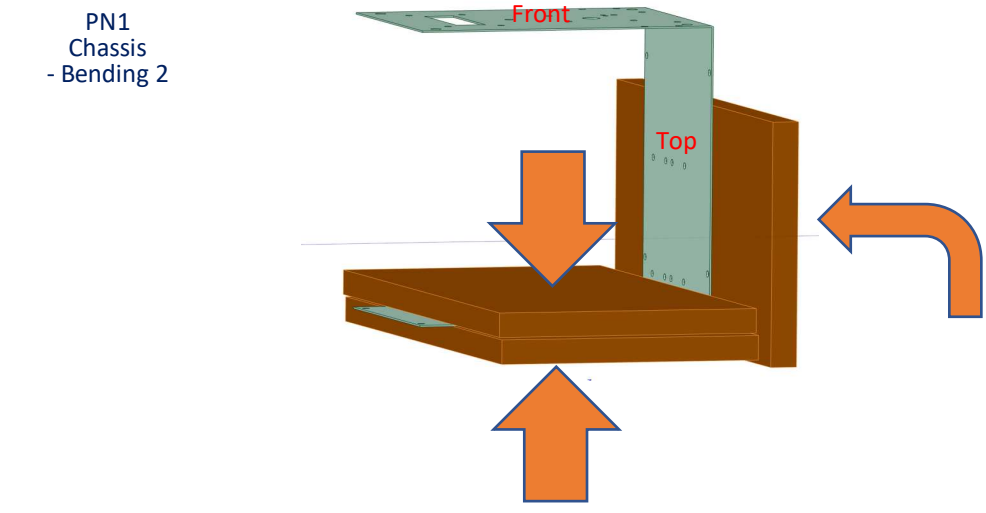




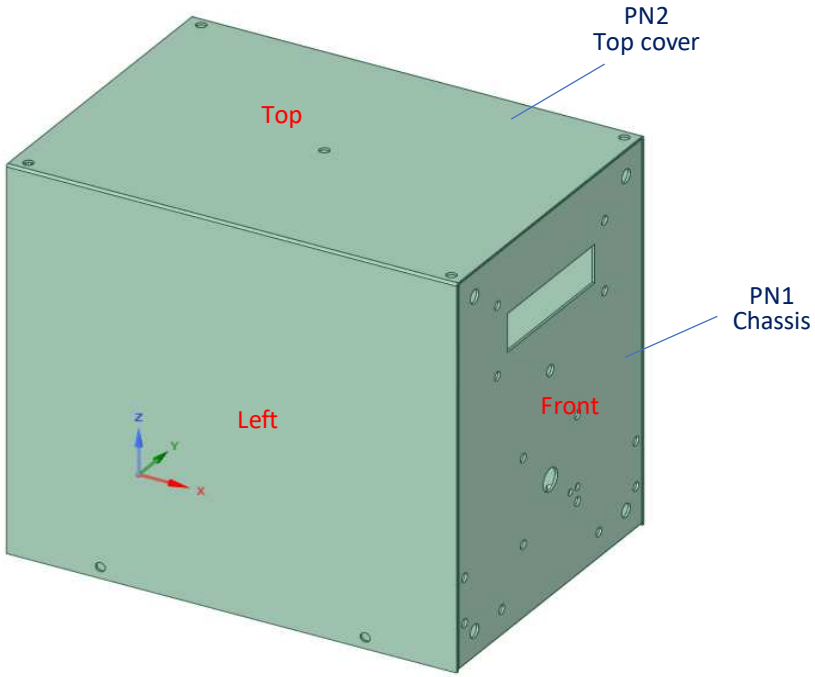


Deepen the mark-off lines by 0.3mm with the acrylic cutter.





Confirm the result.



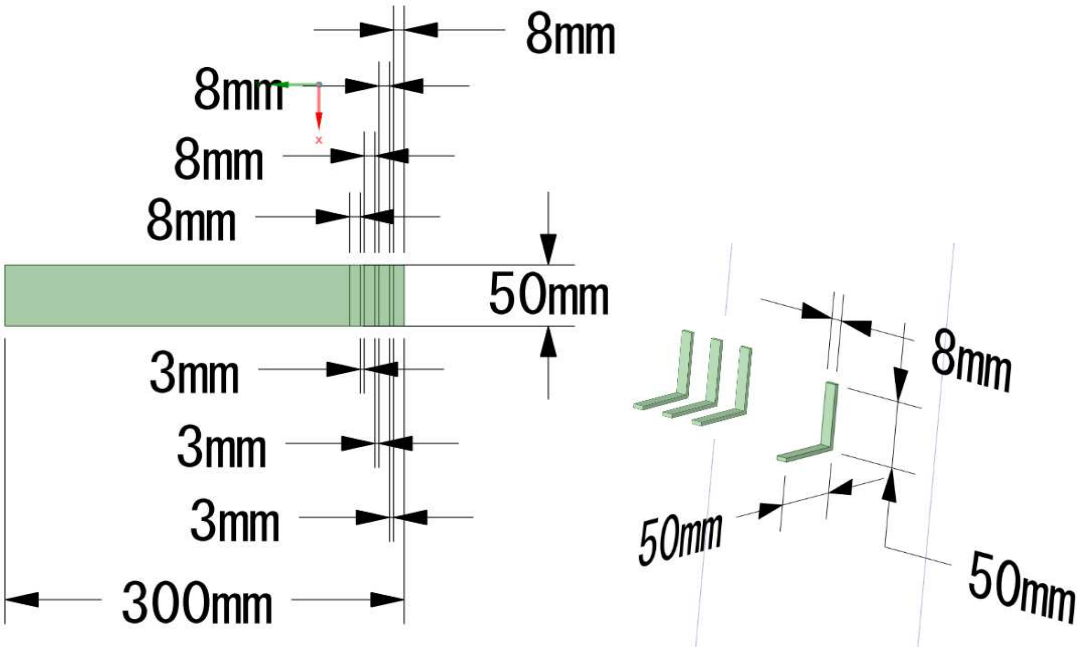
Aluminum L-shape Angles

*** Cutout**

Cut four (4) 8mm-wide L-shape angles out of the aluminum L-shape angle of 3 x 50 x 50 x 300mm.

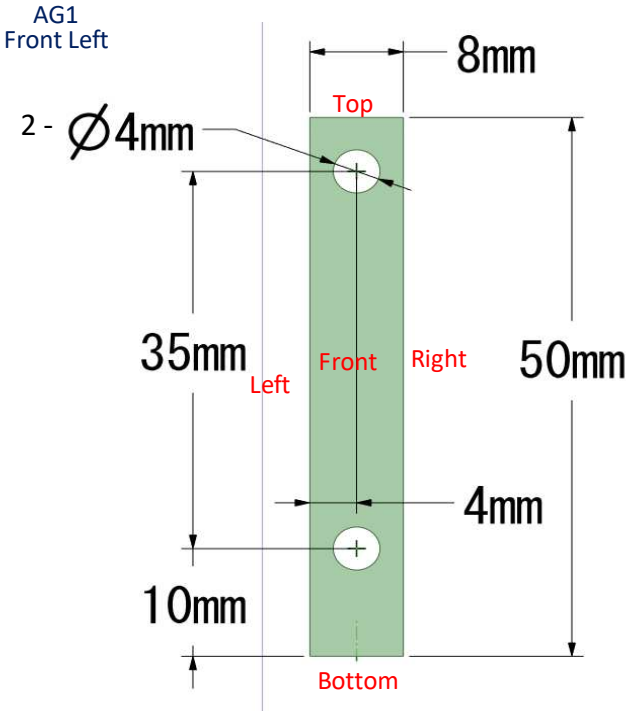
Tools: power jigsaw, linear guide, flat file

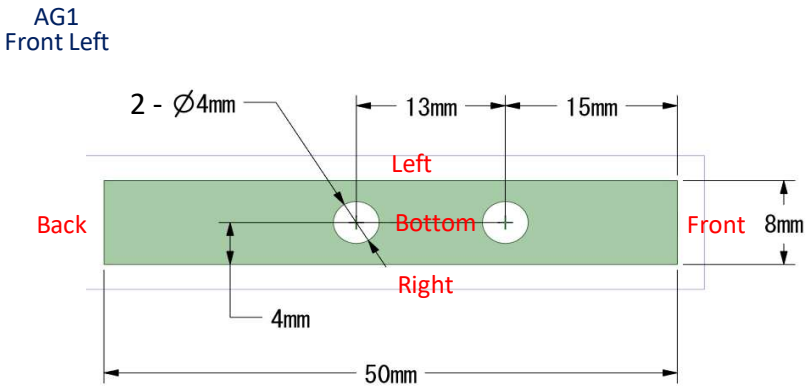
Margin: 3mm



*** Drilling**

Tools: centerpunch, drilling press





AG2, AG3, AG4 are the same in dimension.

*** Tapping**

The phi2.4 holes of AG1, AG2, AG3, AG4 are to tapped with M3 tap.

Tools: M3 tap, tapping handle

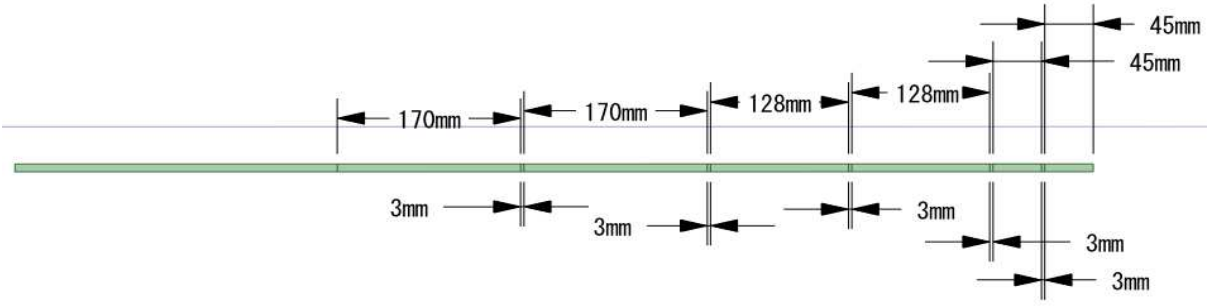
Aluminum Square Bars

*** Cutout**

Cut out SB1-SB6 from the aluminum square bar of 8 x 8 x 1000mm.

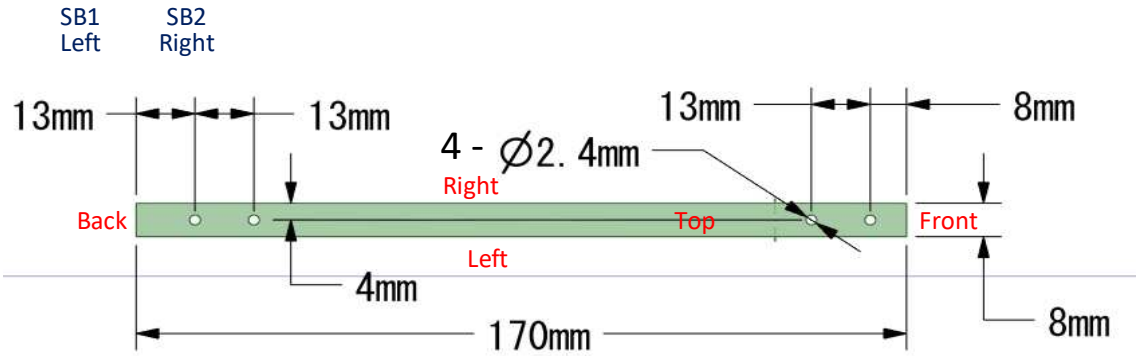
Tools: power jigsaw, linear guide, flat file

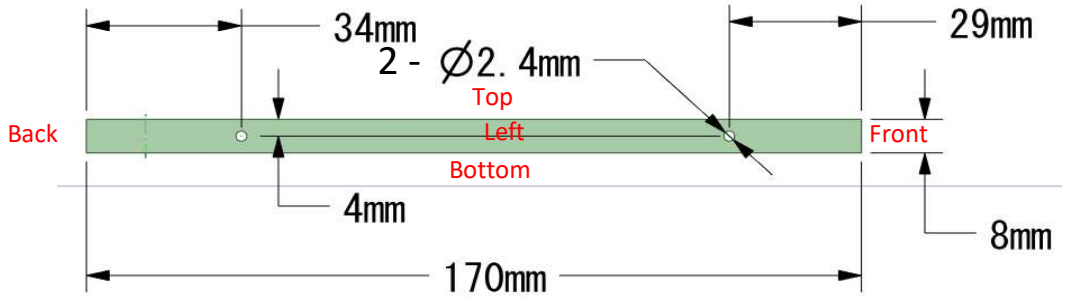
Margin: 3mm



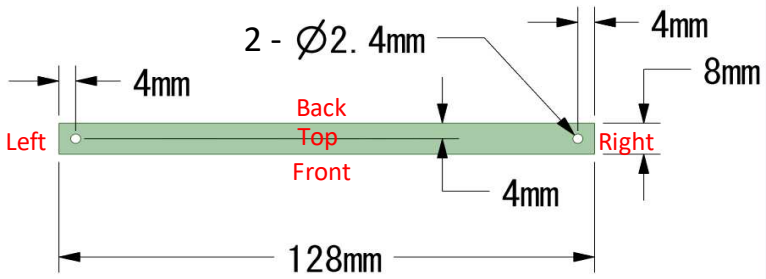
*** Drilling**

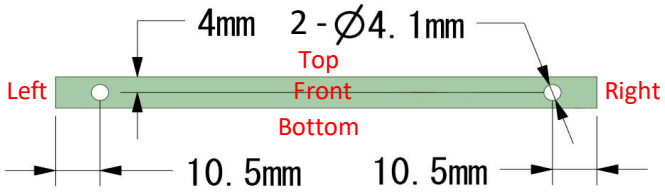
Tools: centerpunch, drilling press



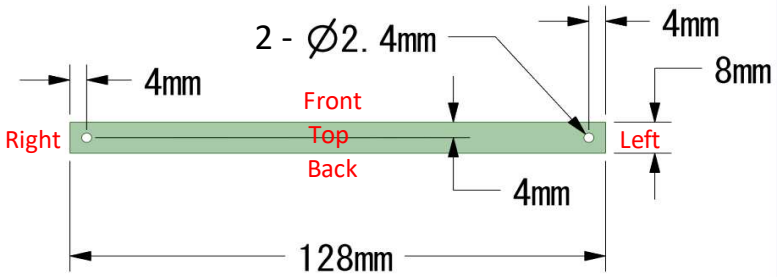


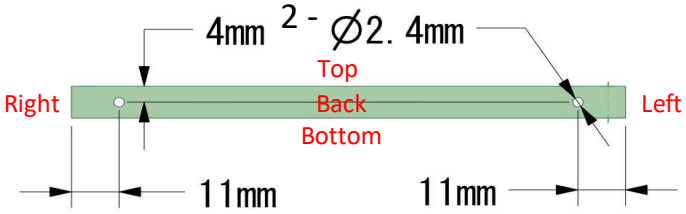
SB3
Front





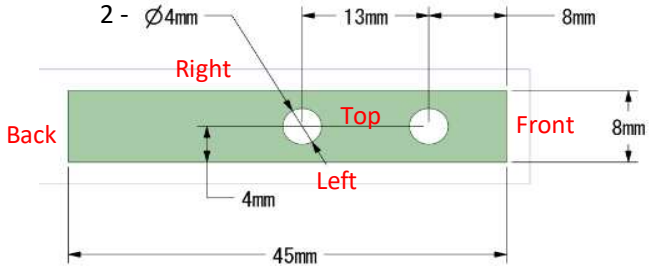
SB4
Back





SB5
Left upper

SB6
Right upper



*** Tapping**

The phi2.4 holes of SB1, SB2, SB3, SB4 are to tapped with M3 tap.

The phi4.1 holes of SB3 are to tapped with M5 tap.

Tools: M3 tap, M5 tap, tapping handle

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