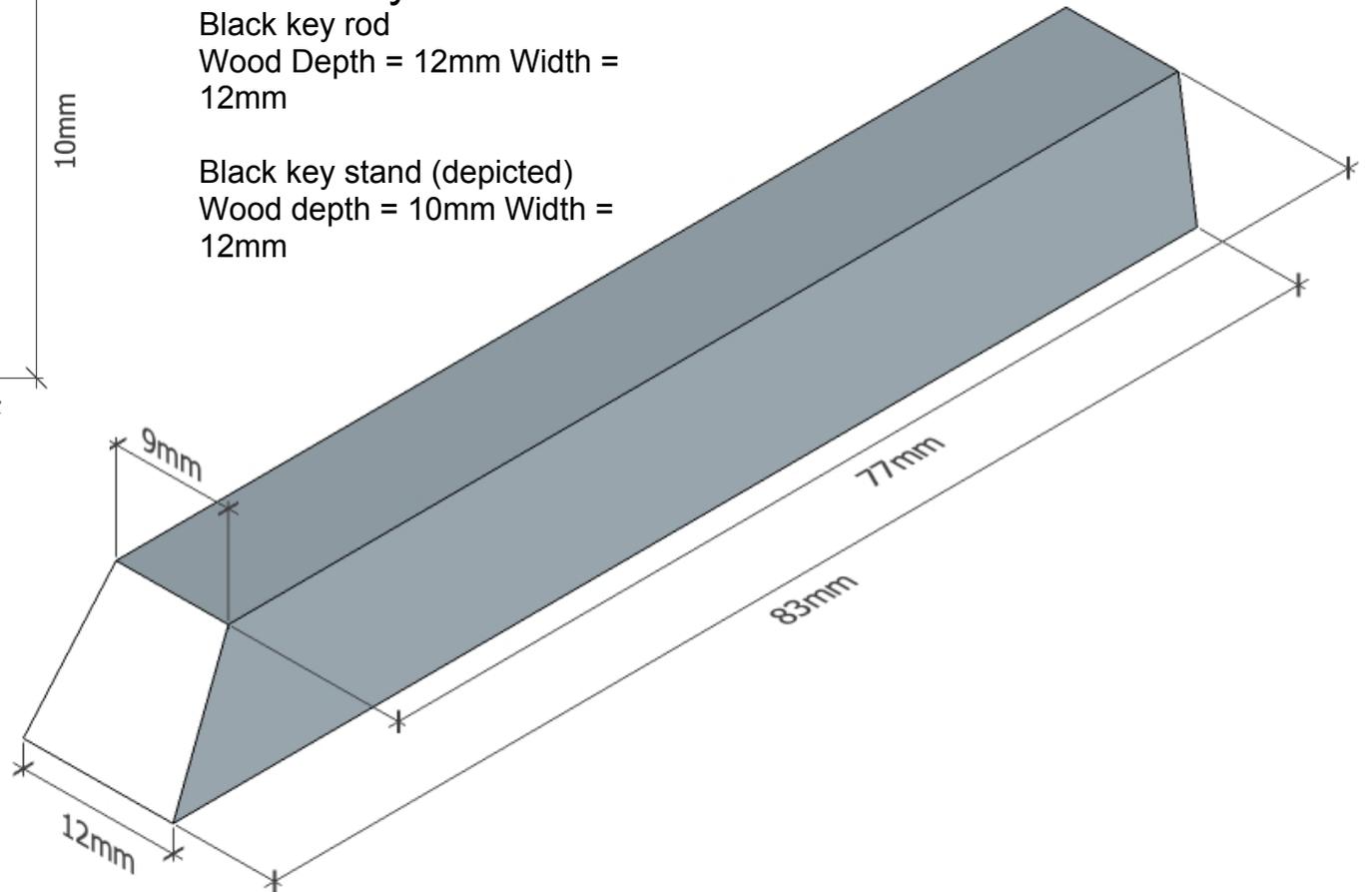


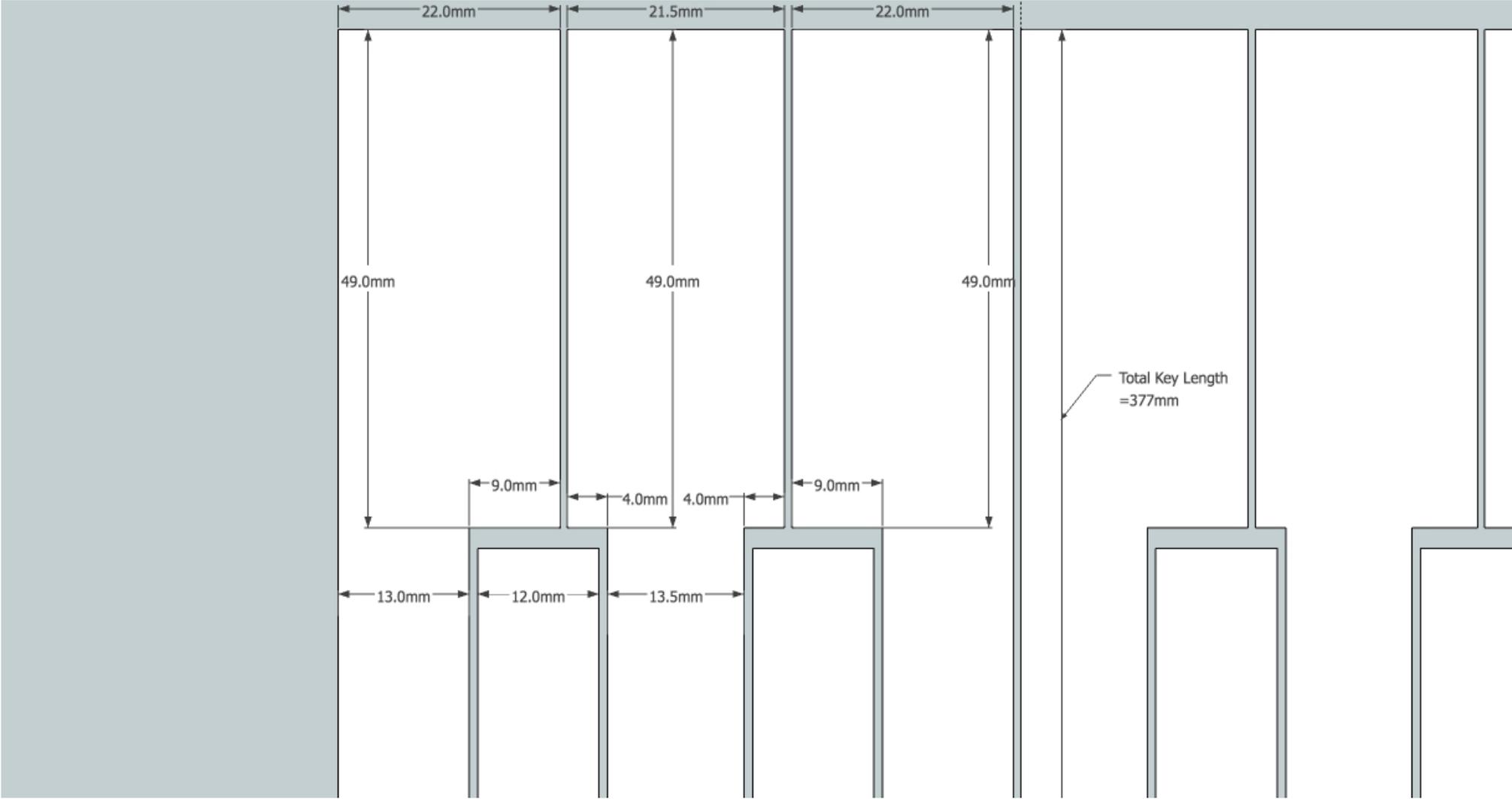
### Black Key

Black key rod  
 Wood Depth = 12mm Width = 12mm

Black key stand (depicted)  
 Wood depth = 10mm Width = 12mm



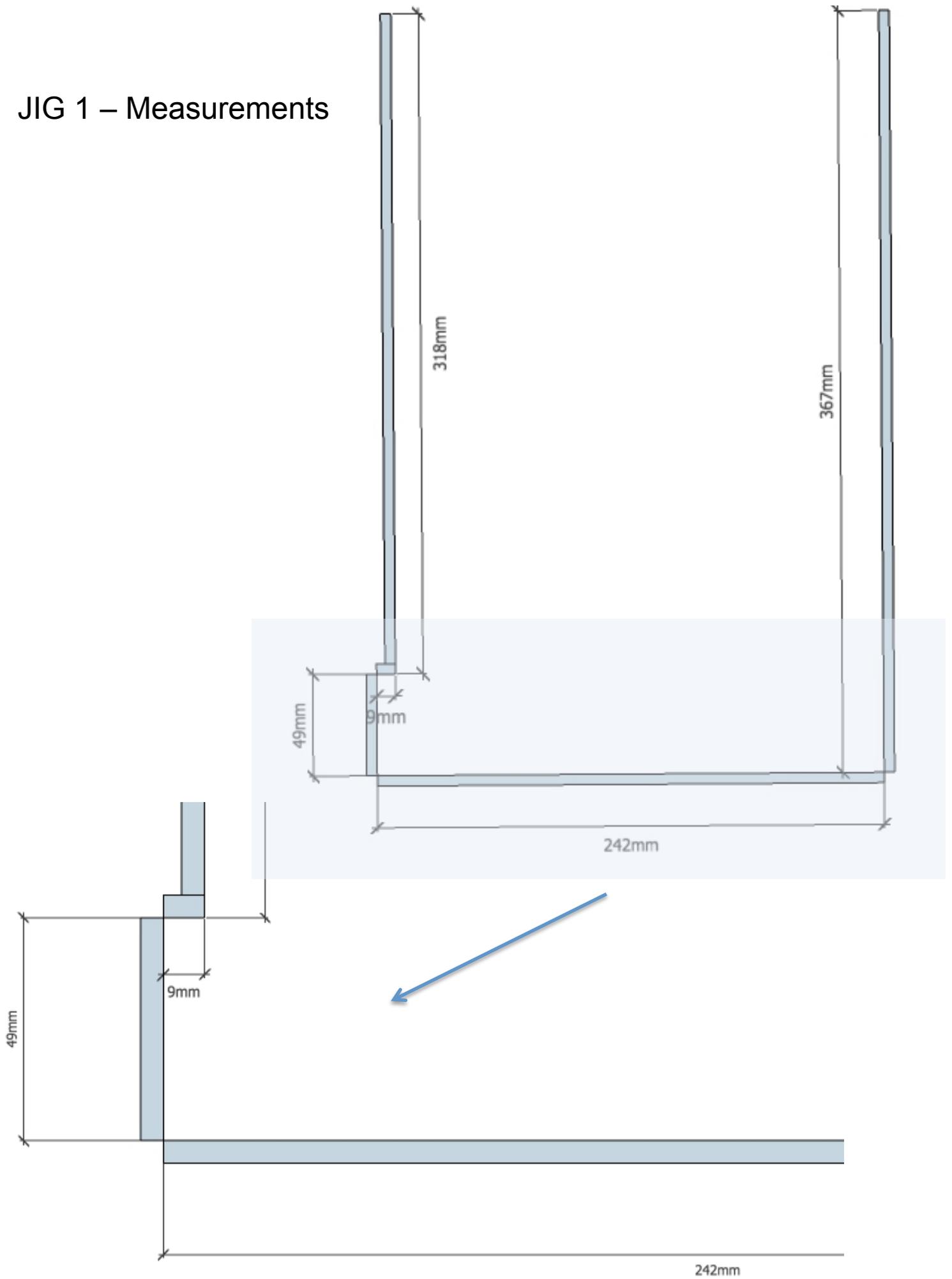
# C To E White Key Measurements



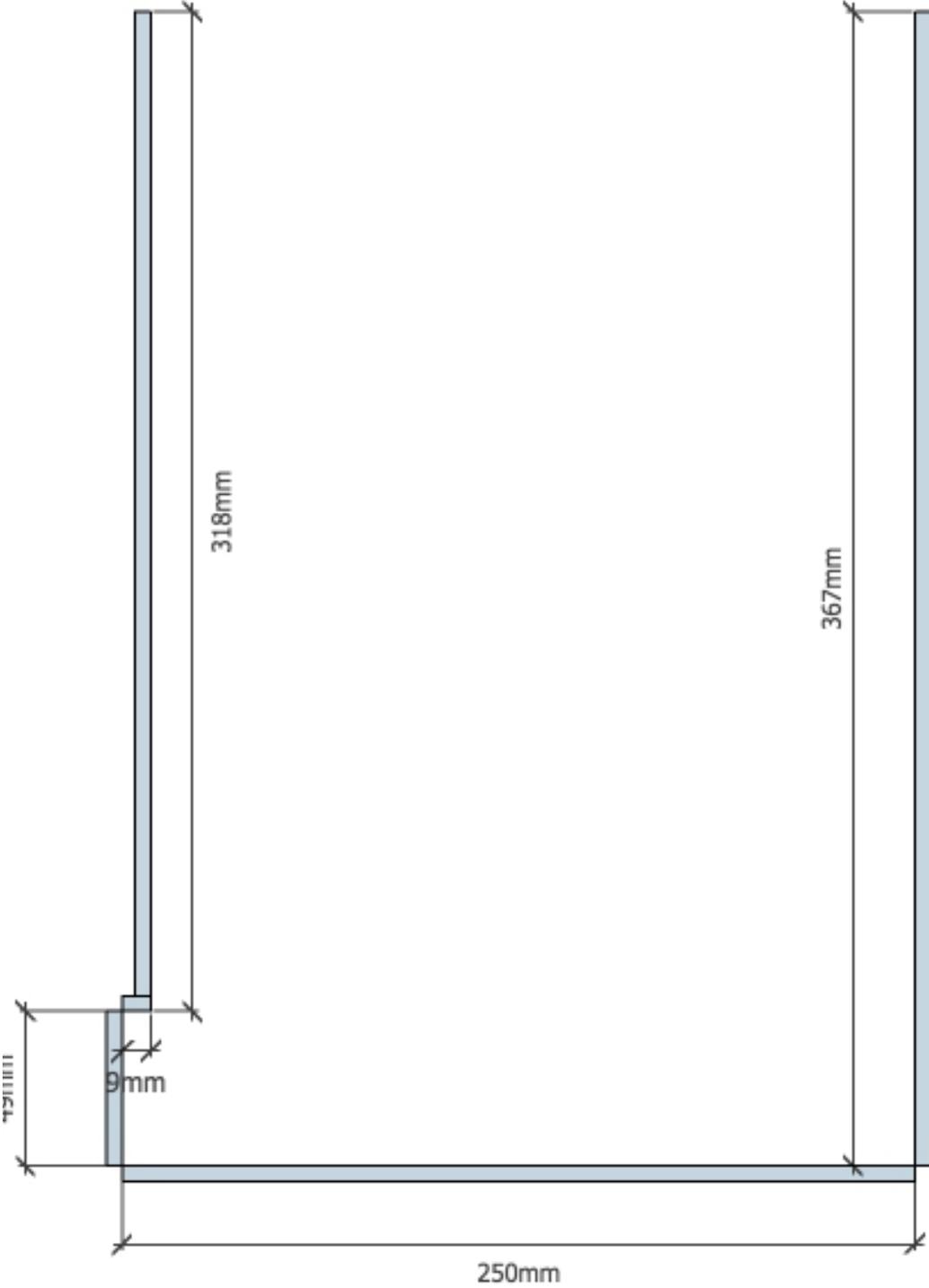
Wood Depth = 9mm, Max width = B/F, 22.5mm

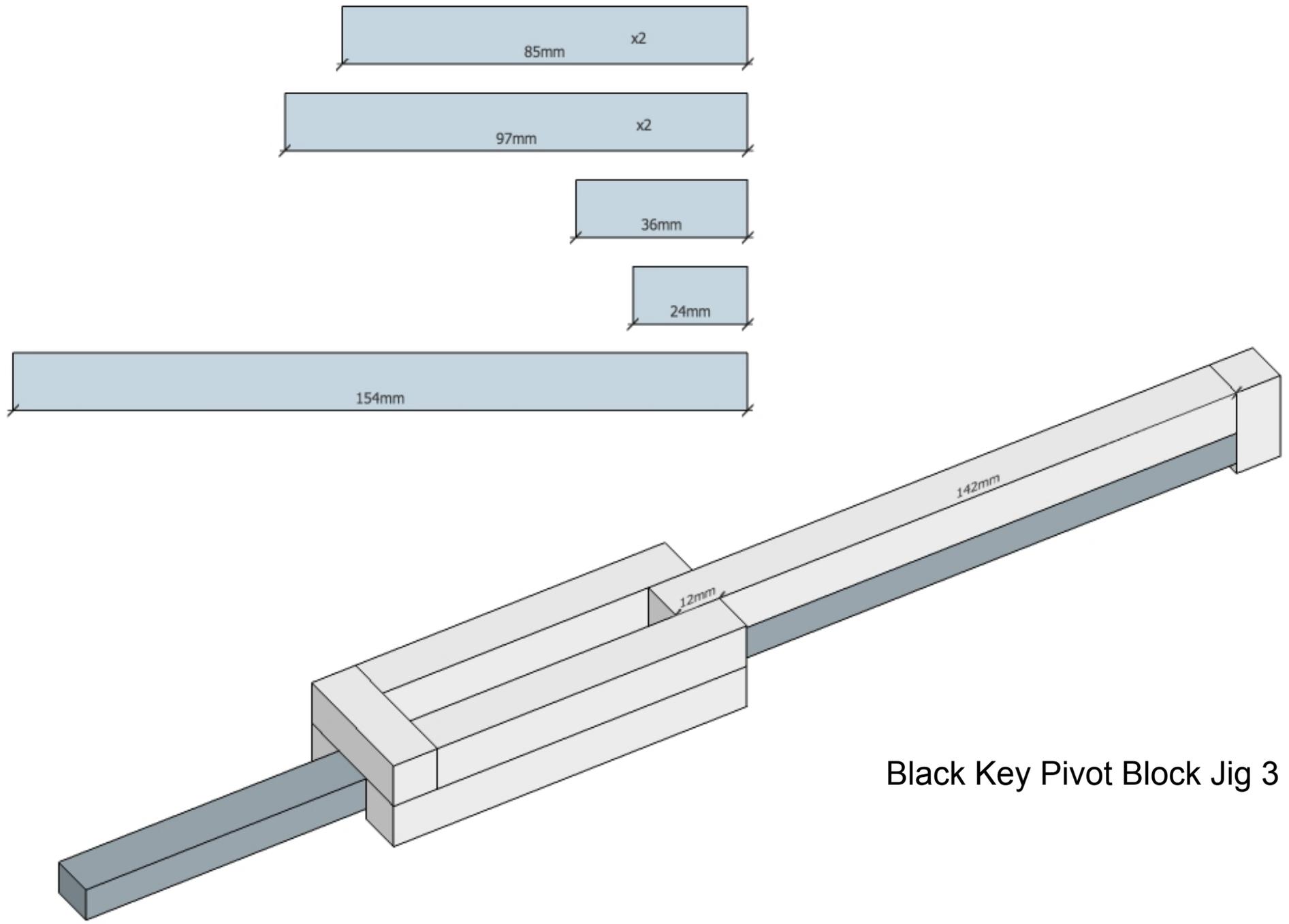


# JIG 1 – Measurements

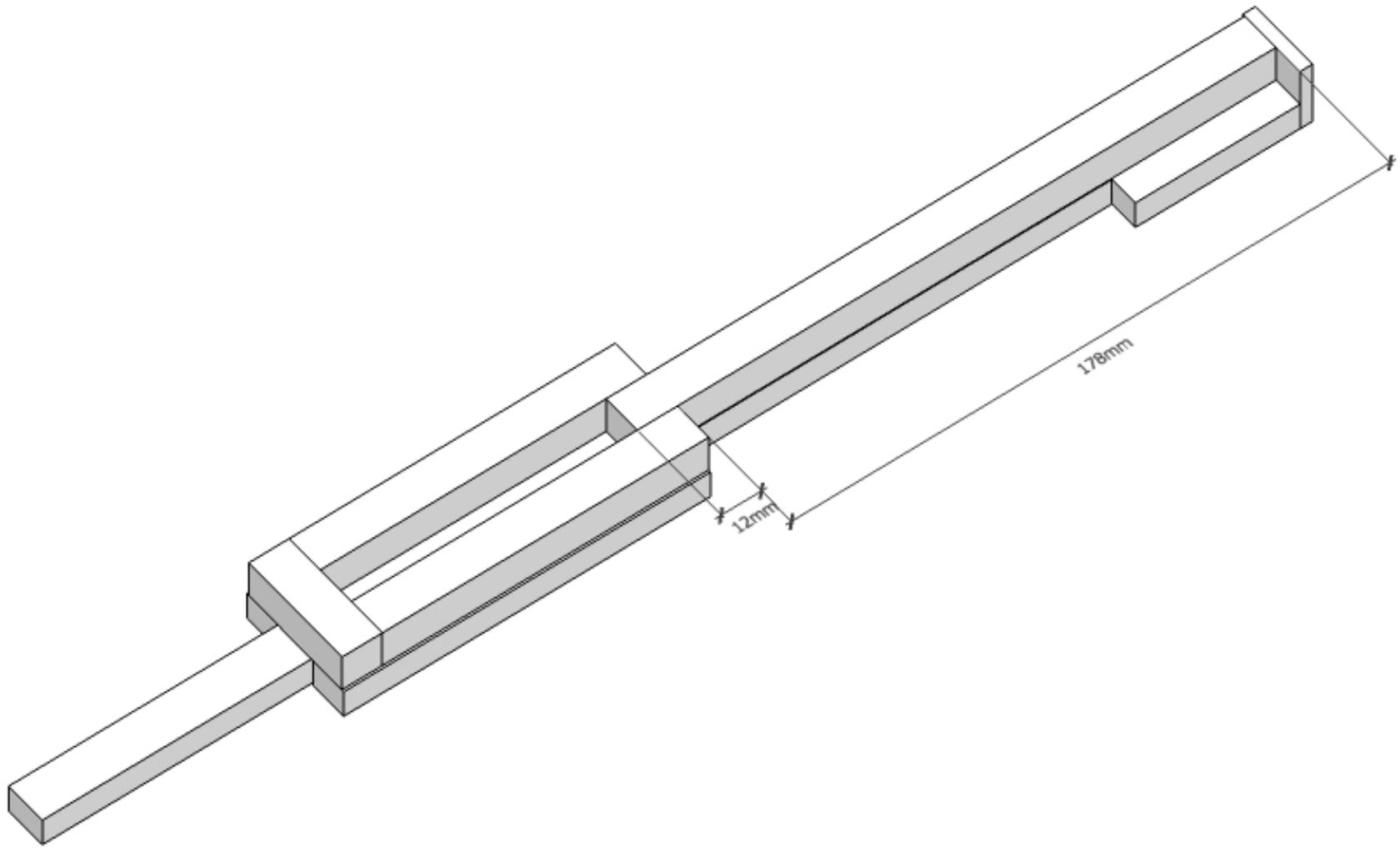


# JIG 2 – Measurements



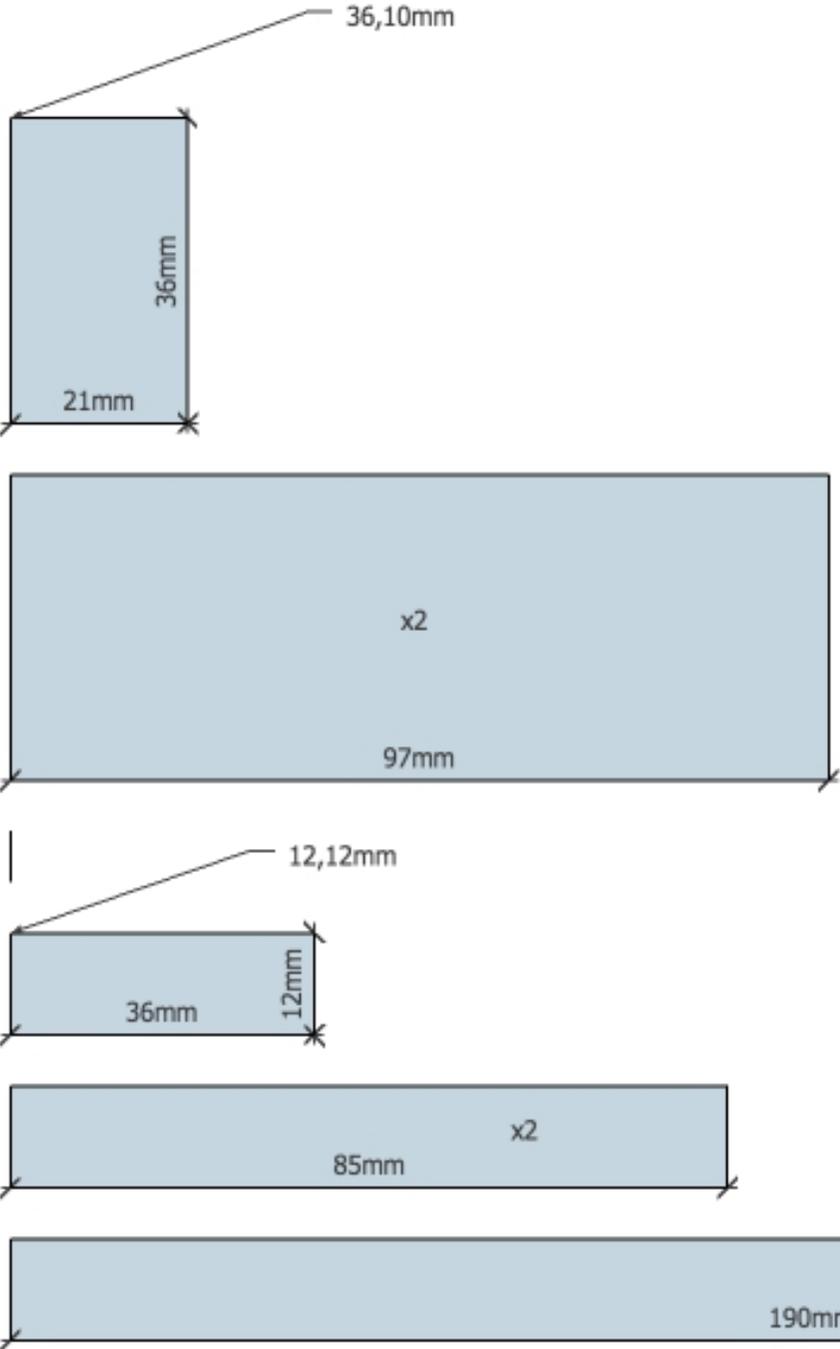


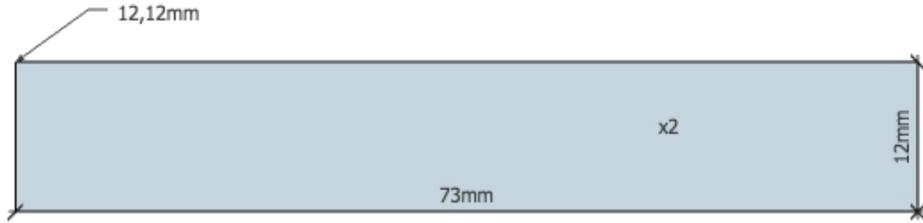
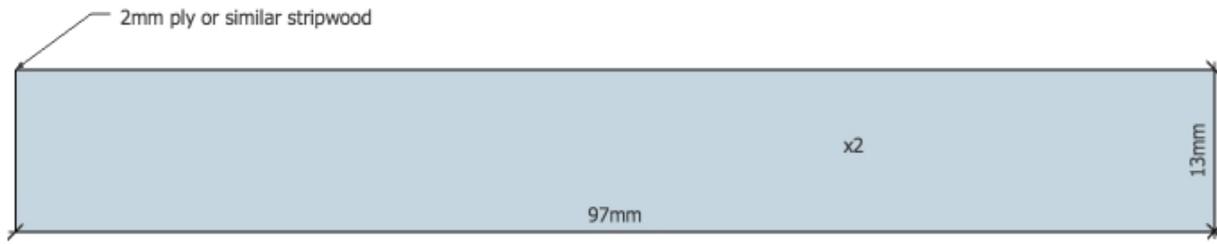
Black Key Pivot Block Jig 3



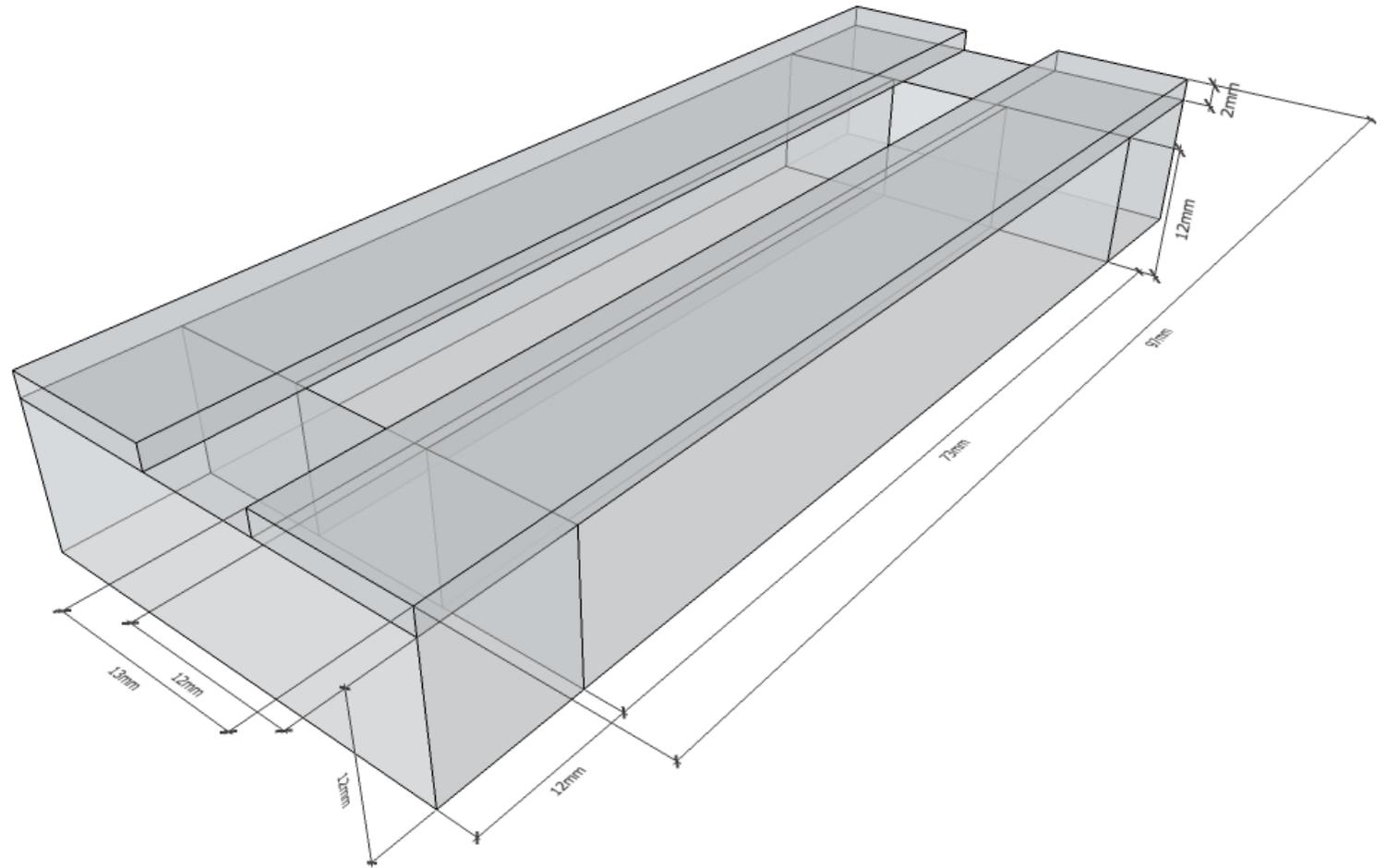
White Key Pivot Block Jig 4  
1.

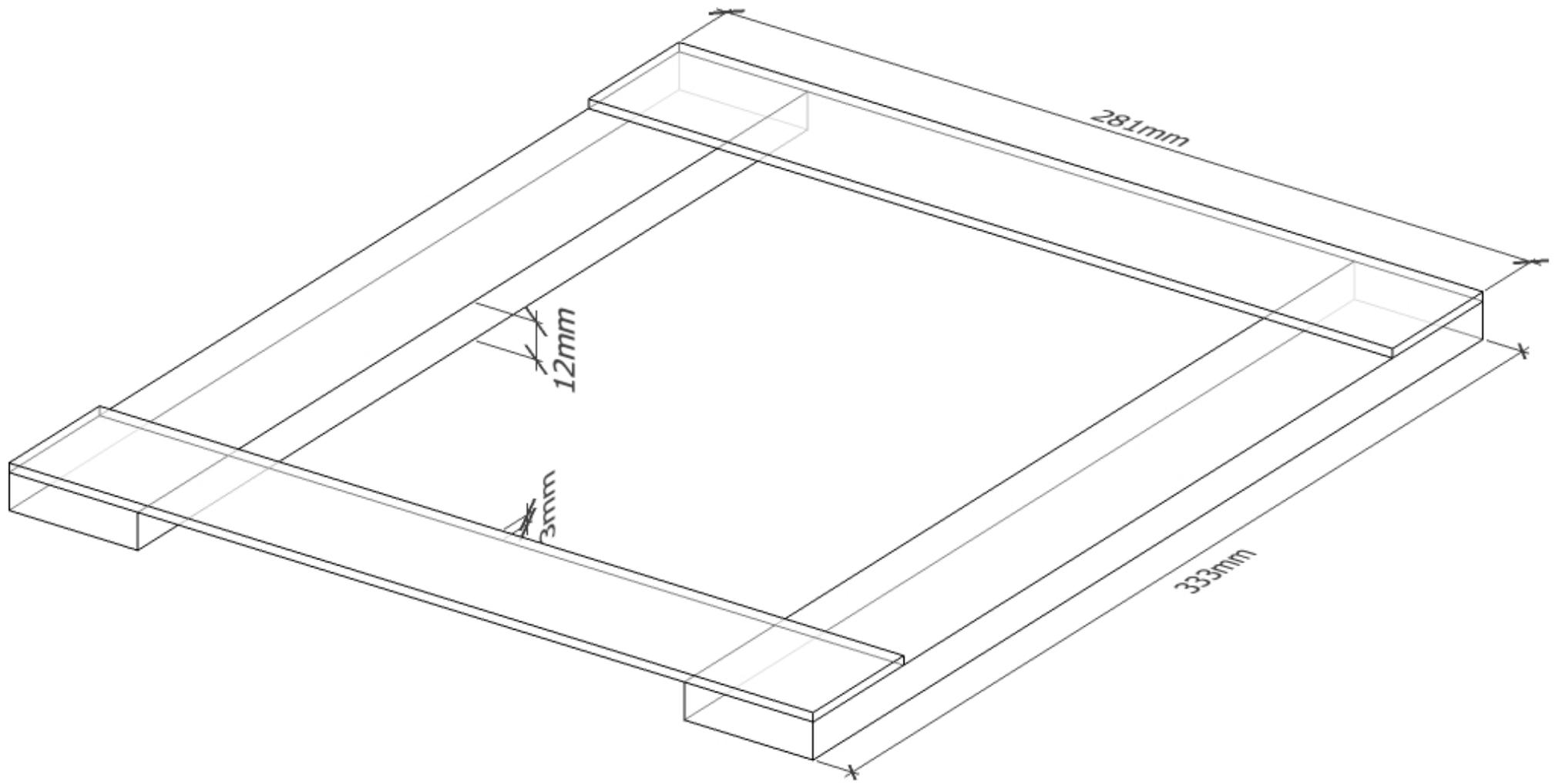
White Key Pivot Block Jig 4  
2.





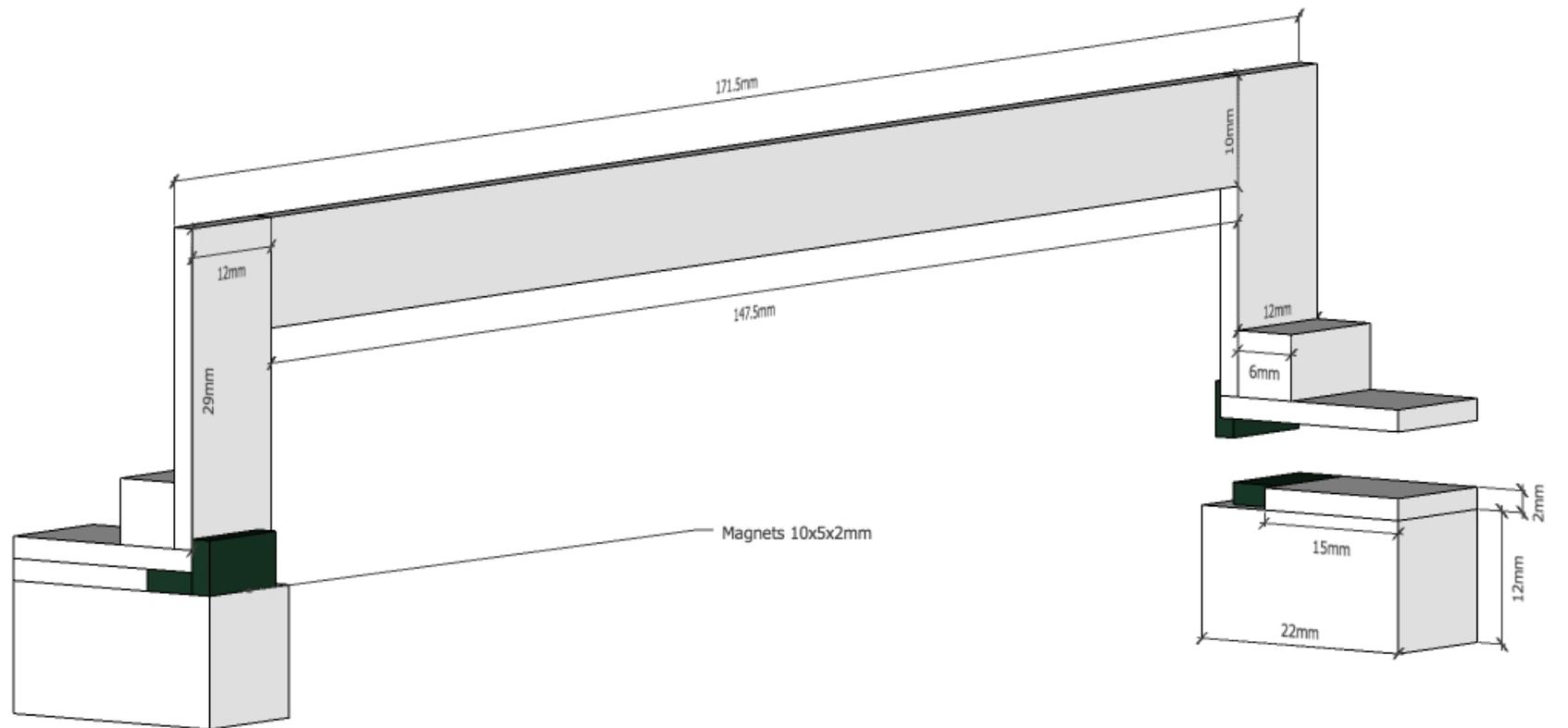
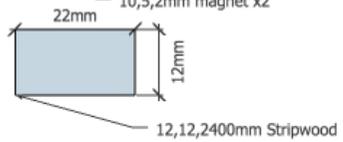
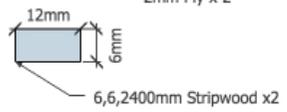
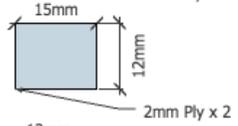
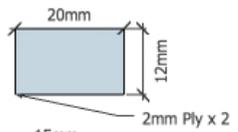
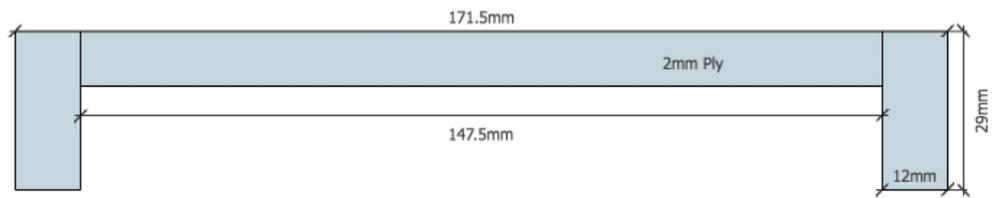
## Peg Jig – Jig 5





Keyboard Base Layer Jig 6

# Key Join



# Keyboard Assembly Instructions Including Creation of Jigs

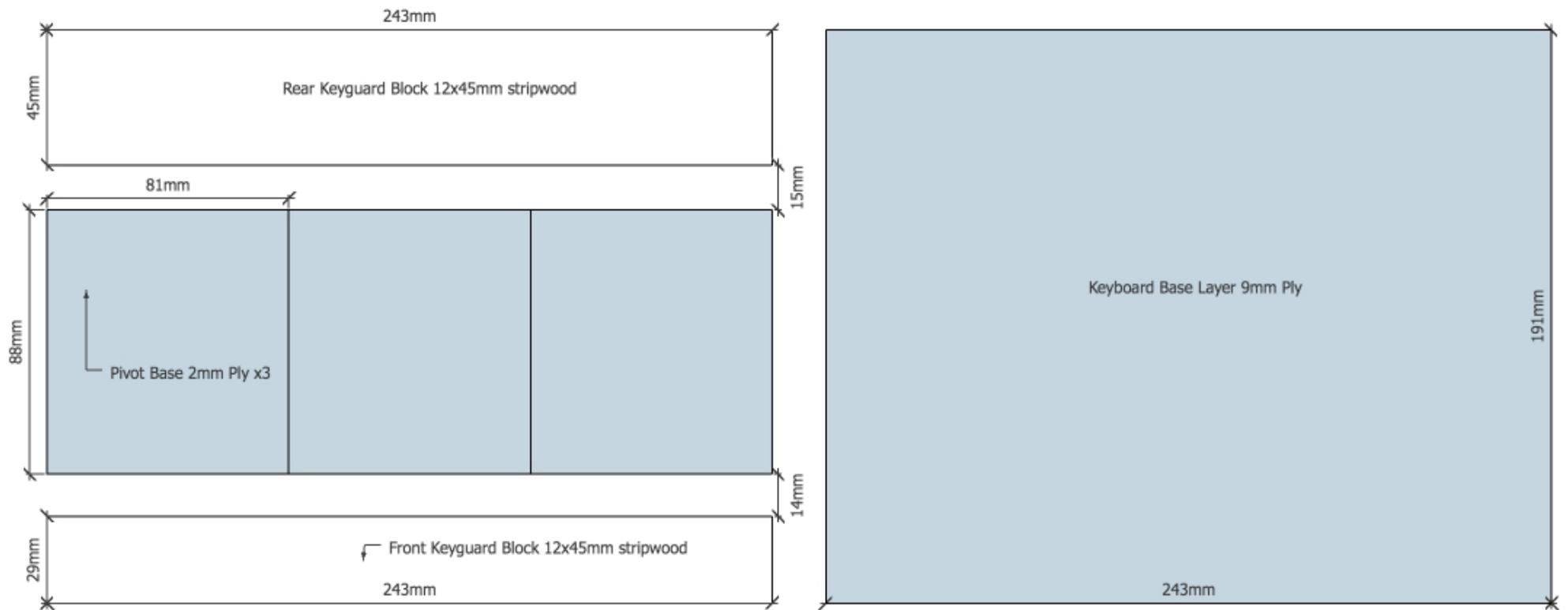
1. Make Keyboard Base Layer and components as depicted.
2. Light glue into place on keyboard base layer in turn according to measurements depicted, screw join then separate to unglue.  
Keyguard blocks screwed from underside (4 screws each).  
Pivot bases screwed from above (4 screws each).
3. Make Pivot blocks 12x12x73mm x18.
4. Mark all distances on keys.
5. Make Pivot Block Jigs 3 & 4 as depicted for black and white keys.
  - a. Black Key Pivot Block Jig 3: five components Use 12x12mm stripwood.
  - b. White Key Pivot Block Jig 4: five components use 12x12mm stripwood and 36,10mm stripwood. Make Jig using D key – this will give 13.5mm spacing to the lower components. Assemble 12mm components, together with the 9mm schedule end piece (glue), then place on D key – eyeball the 12mm component to the centre of the 13.5mm D key rod. Place the remaining 9mm components against the D key in correct 13.5 spacing. Glue in 9mm components.
6. Mark and drill 4mm holes through each key in turn assembled against its pivot block. Use light glue method if Jig is not stable enough, unglue after drilling. Label pivot block to appropriate key as it comes out of the jig with original orientation.
7. Enlarge drill points to 7mm and fit bolt retainers. When tapping turn equally half turn forward and back before advancing. Regularly check right angle using bolt and square.

8. Weaken the springs on 6 pegs using 2 winds of shearing elastic and cutting spring retention arms.
9. Assemble Peg Jig 5 as depicted (1 peg can be sacrificed to give accurate width for a single endpoint. Experiment with two endpoints)  
Glue pegs to pivot blocks.
10. Now the Pivot assemblies can be attached to the keys and removed to check. Check all labeling through disassembly.
11. Drill Key Guard points in keys – 4mm.
12. Place keyboard in Keyboard Jig 2.
13. Make Keyboard Base Jig 6 as depicted. Ensure right angles using square and check that assembled keyboard base layer fits into jig.  
Glue parts permanently.
14. Attach Keyboard Base Layer Jig 6 to Keyboard Jig 2. Use the glue, screw and separate method. Use one screw in each corner initially. When dry and separate, reassemble using screws and drill a second set of 4mm holes in each corner. Separate, then enlarge holes in jig 2 to 7mm and fit bolt retainers. When tapping turn equally half turn forward and back before advancing. Regularly check right angle using bolt and square. Reassemble using original screws to ensure square. Add bolts. Check square and fit of keyboard base layer. If desired repeat the process to change the original wood screws to bolts.
15. Place Keyboard Base Layer inside Jig 6, attach Jig 6 to Jig 2 using bolts. Place keyboard inside Jig 2 with Pivot blocks removed.
16. Keys now rest on Key Guard Blocks and 4mm holes can be drilled right through the Keyboard Base layer in line with previously drilled Key Guard 4.5mm bored through keys. Depending on fit to pillar drill this can either be done in the Jig 2 & 6 assembly or pilot drilled with a hand

drill, separated and then drilled through.

17. Separate Keyboard Base Layer Assembly from Jigs. Separate Keyguard Blocks from Keyboard Base Layer. Enlarge 4mm holes in Keyguard Blocks to 7mm and fit bolt retainers as before. Test alignment in Jig 2 & 6 and alter alignment if necessary to ensure fit.
18. Make 12mm raisers for Jig 6 by doubling 12mm depth pieces. Attach to Jig 6. Attach Jig 6 to Jig 2
19. Attach Pivot Blocks to keys and test against Keyboard Base Layer in Jig 2. If fit is good attach four corner Keyguard bolts. If fit is good detach and apply glue to feet of pivot block (peg) and apply glue to Pivot Block Base on Keyboard base layer. Reassemble as before this time adding all the keyboard bolts after fitting the four corners. Leave to glue.
20. Drill and secure pulley pins.
21. Drill pulley hole.
22. Finish keys individually with Shellac.
23. First finish each key in turn for movement. Always enlarge the bore towards the rear of the key.
24. Fashion Keyboard Joins as depicted X 12.
25. Place keys flat in Jig 2 and make clamping jig to clamp entire keyboard to Jig 2 if necessary. Glue Key Joins to keys and leave to cure.
26. Remove from Jig 2 and glue dust masks to each key.

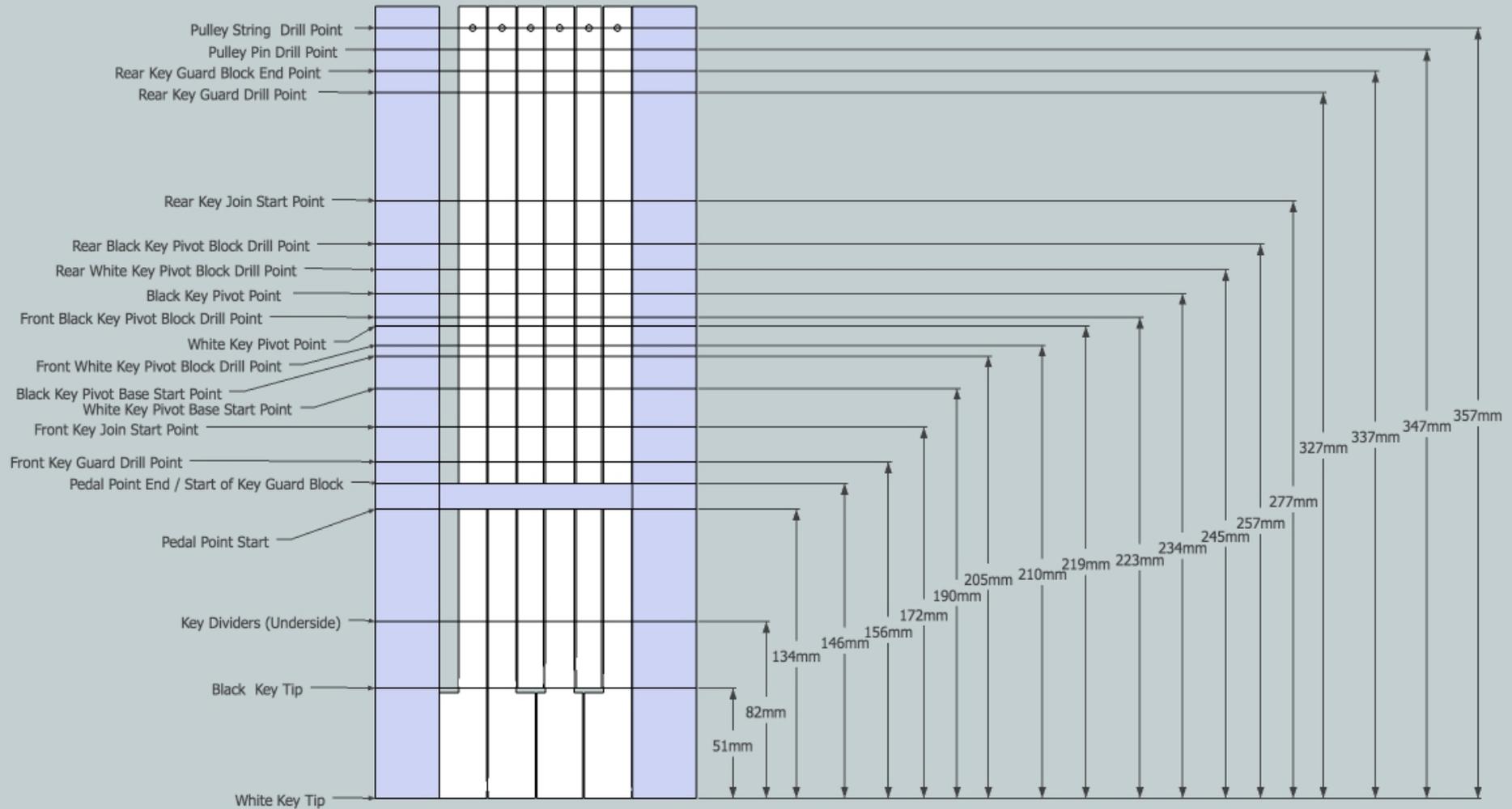
27. Reattach Keys to Keyboard Base layer and re-finish each key in turn for movement for each key and key combination. Add plywood & felt washers to the bolt. Always enlarge the bore towards the rear of the key. Regulate the keyboard for Height and drop.



Keyboard Base Layer

	A	B	C	D
1	<b>Measurement Name</b>	<b>White Key Tip</b>	<b>Black Key Tip</b>	<b>Action/Bore</b>
2	Pulley String Drill Point	357	306	4mm
3	Pulley Pin Drill Point	347	296	4mm
4	Rear Keyguard Block End Point	337	286	UNDERSIDE
5	Rear Key Guard Drill Point	327	276	4.5mm
6	Rear Key Join Start Point	277	226	GLUE 4mm Spaced
7	[Rear Keyguard Block Start Point]	292	241	UNDERSIDE
8	Rear Black Key Pivot Block Drill Point	257	206	4mm
9	Rear White Key Pivot Block Drill Point	245		4mm
10	Black Key Pivot Point	234	183	NO ACTION
11	Front Black Key Pivot Block Drill Point	223	172	4mm
12	White Key Pivot Point	219		NO ACTION
13	Front White Key Pivot Block Drill Point	210		4mm
14	Black Key Pivot Base Start Point	205	154	UNDERSIDE
15	White Key Pivot Base Start Point	190	139	UNDERSIDE
16	Front Key Join Start Point	172	121	GLUE 4mm Spaced
17	[End of Front Key Guard Block]	175	124	UNDERSIDE
18	Front Key Guard Drill Point	156	105	4.5mm
19	Start of Key Guard Block	146	102	UNDERSIDE
20	Pedal Point End	146	95	NO ACTION
21	Pedal Point Start	134	83	NO ACTION
22	Key Dividers (Underside)	82	31	GLUE - UNDERSIDE
23	Black Key Tip	51	0	NO ACTION
24	[ ] - <i>not shown in depiction</i>			

Measurements - Master



Measurements - Master