

Metal-Working for Dummies, part 2. Bottom panel, continued.

Wall of Sound.ca DIY all tube phono preamp project

Tools required:

Same as: Metal-Working for Dummies, part 1.

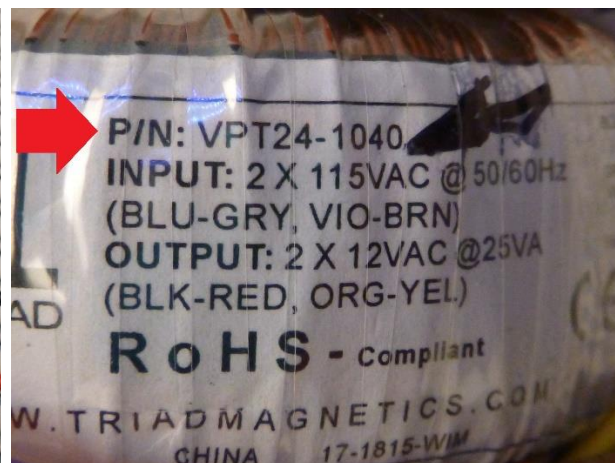
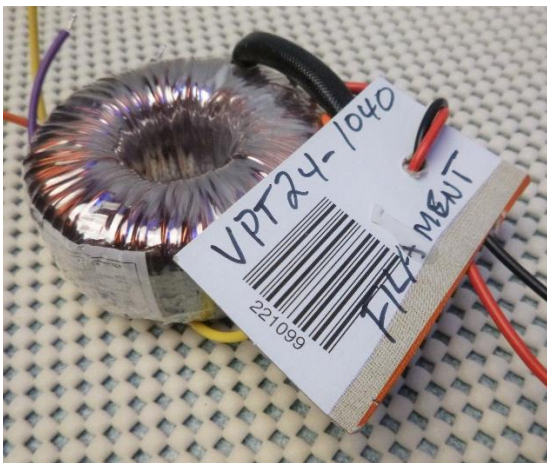
Layout:

Find the circuit board for the power supply. Don't mix up the sets of parts from the amplifier and power supply kits.

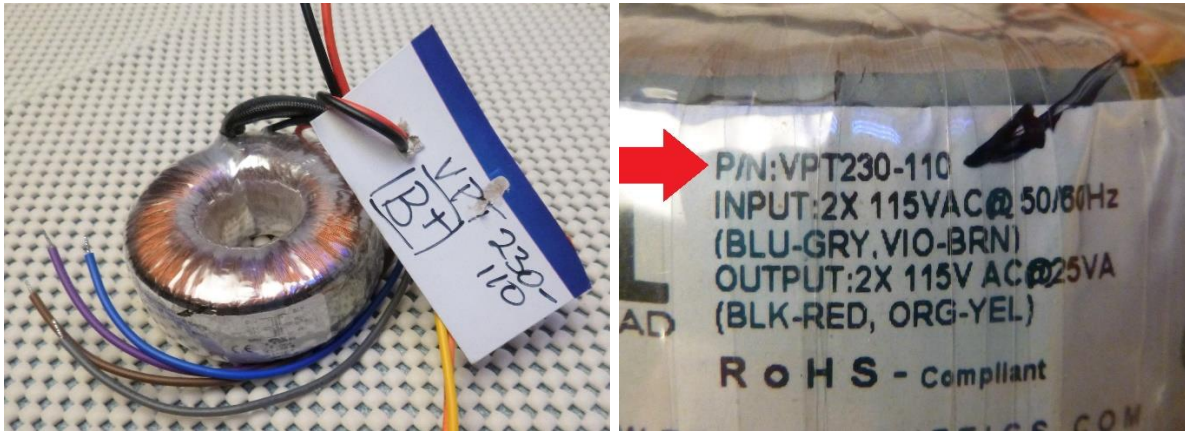
The power supply (board and two transformers) will be placed on the right side of the chassis, as viewed from the front.

IMPORTANT: Don't mix up the transformers.

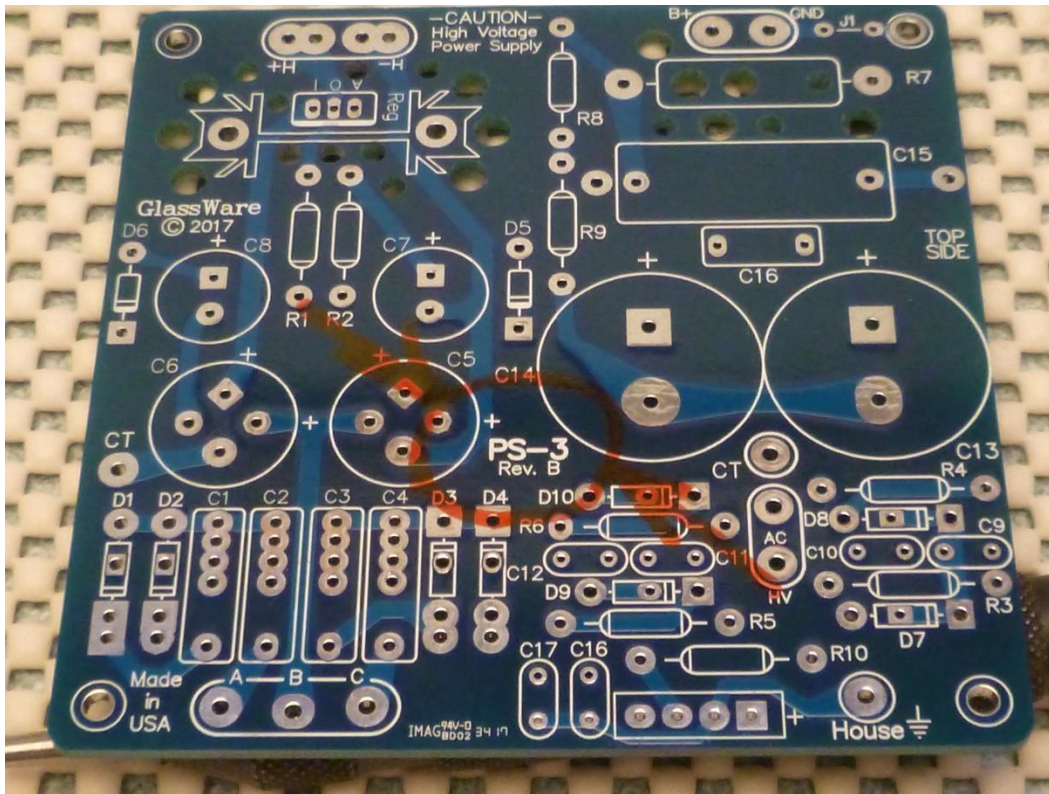
Unpack the filament transformer, part number 553-VPT24-1040. Make a label as shown below and secure it to the transformer wires.



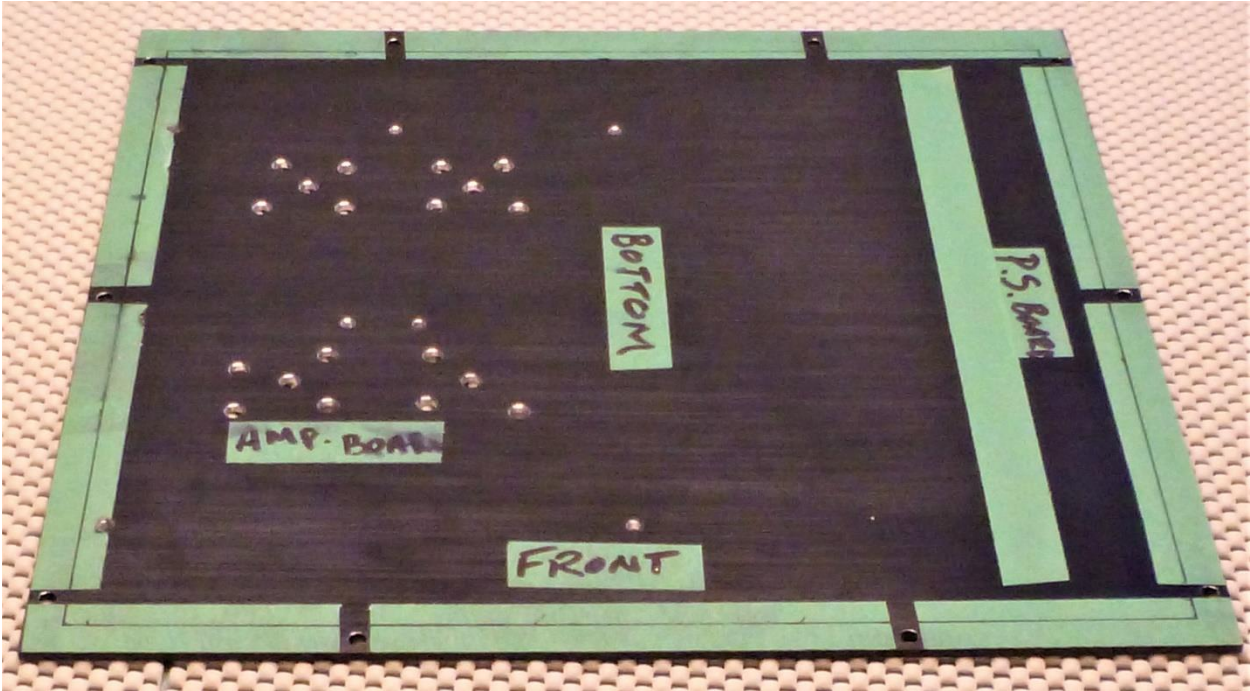
Unpack the B+ (high voltage) transformer, part number 553-VPT230-110. Make a label as shown below and secure it to the transformer wires.



With a red marker circle the "PS-3" designation on the top side of the power supply circuit board as shown below. If you happen to get the board upside down you'll hate yourself later. If you have one of the more recent red boards use a black marker. The top doesn't say "top" but the bottom does say "bottom".



Apply a piece of tape to the right side of the bottom panel as shown below.



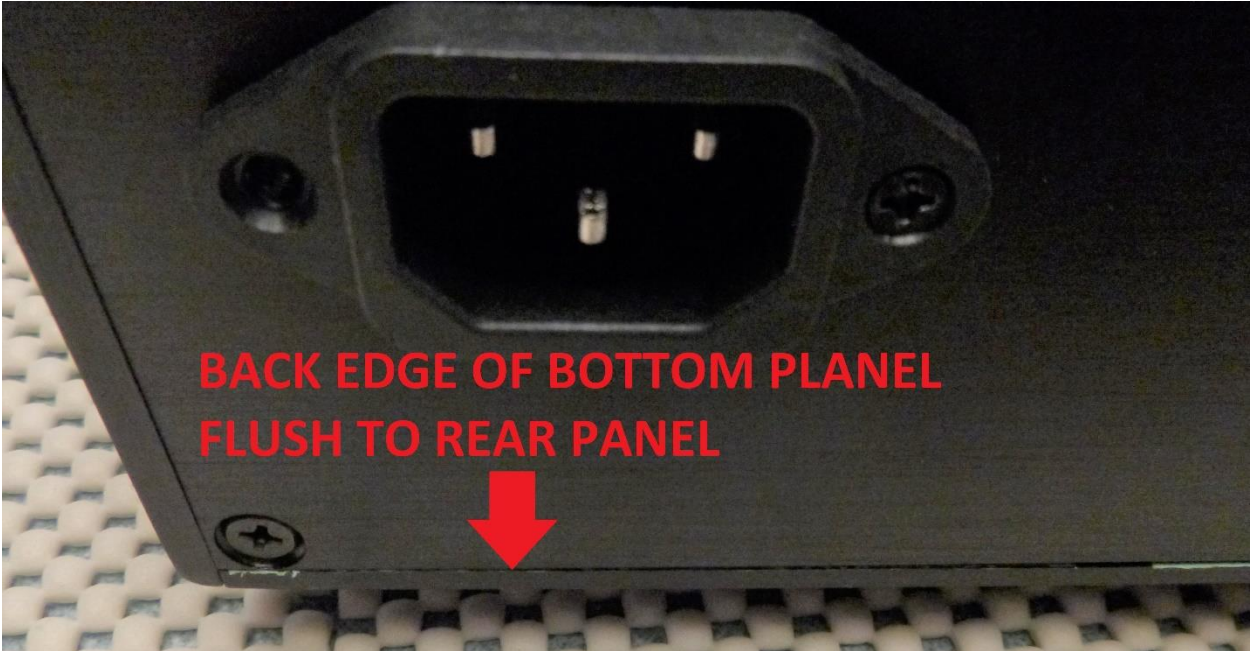
Install the AC inlet on the back panel with the ground pin closest to the bottom as secure with one screw.



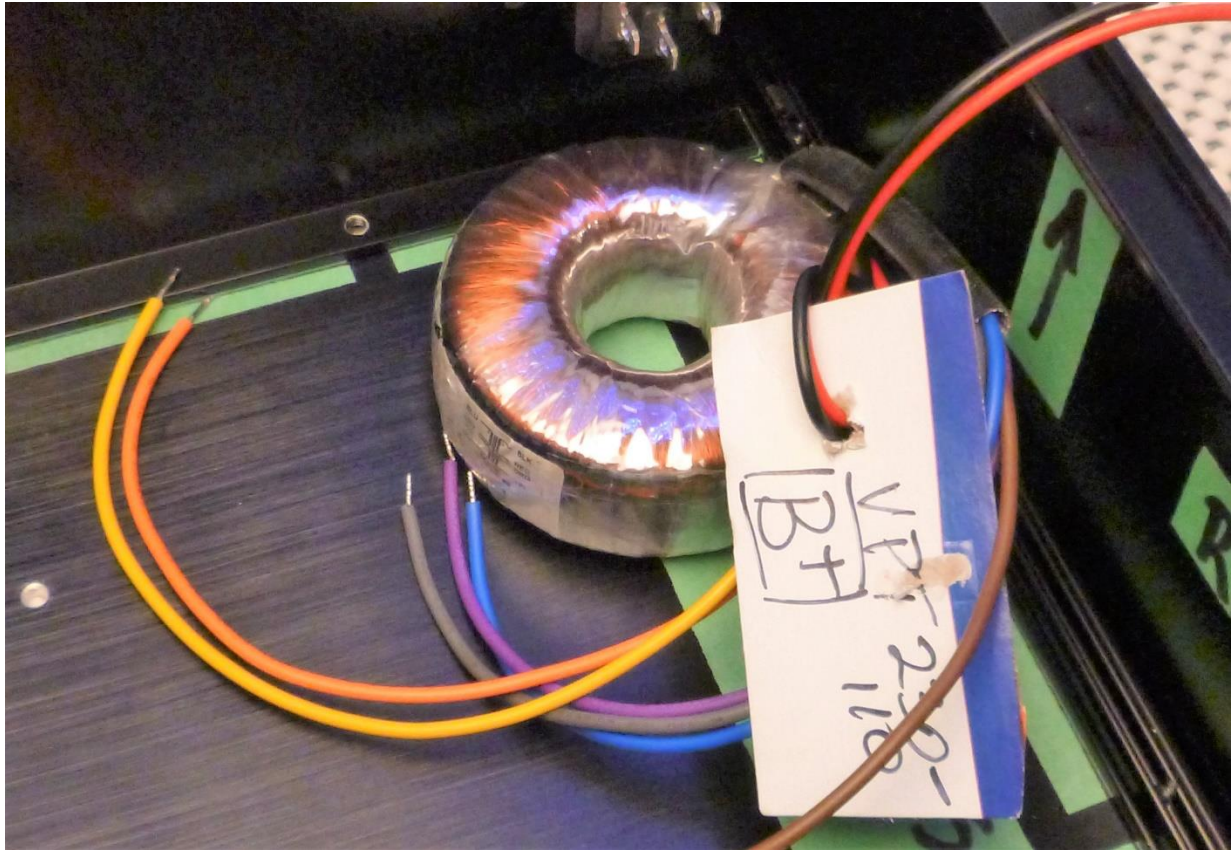
Drop the sides, front and back over the bottom plate making sure that the front of the bottom plate is adjacent to the front panel.



Also check that the back of the bottom panel is flush with the lower edge of the back panel.

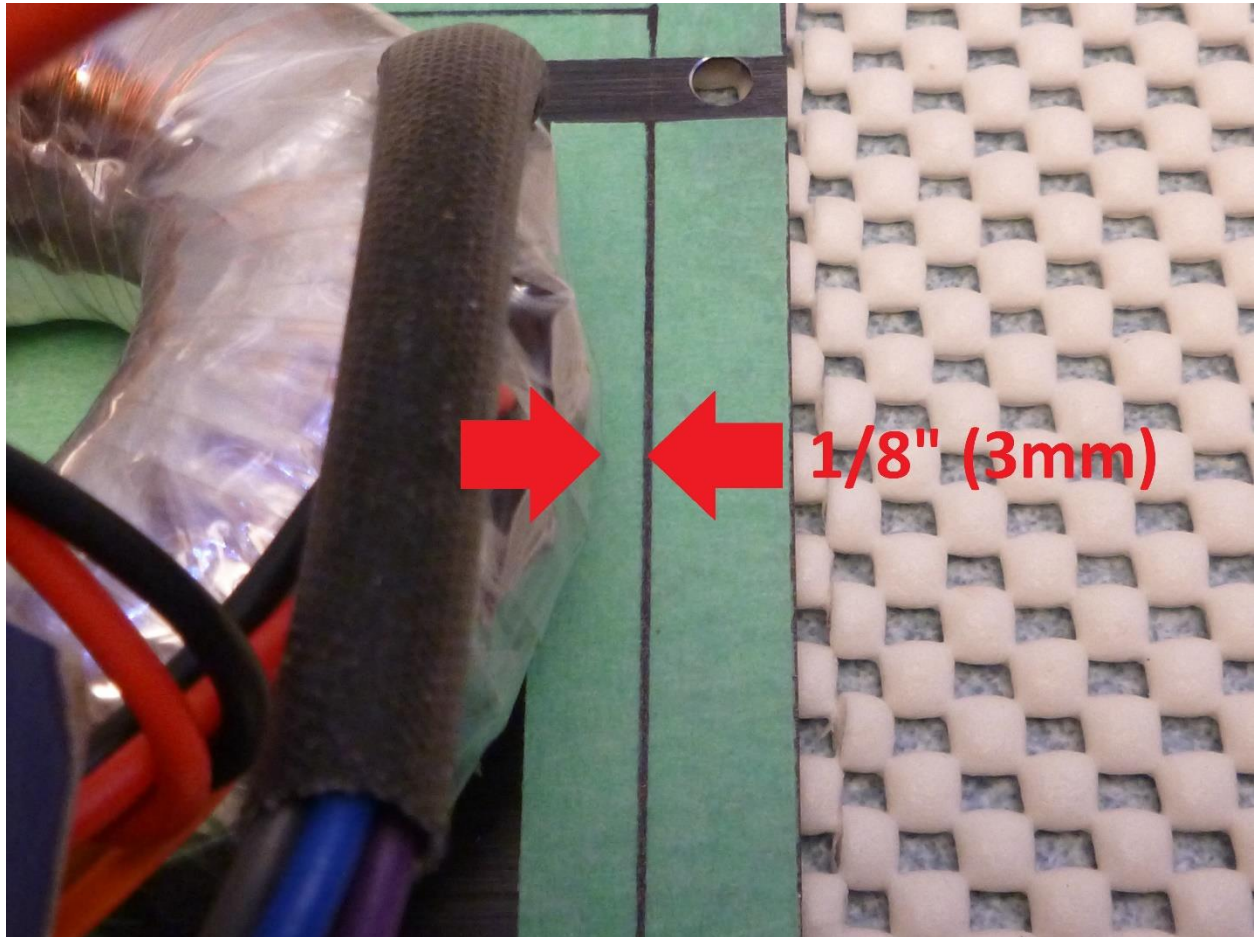


Place the B+ transformer close to the back panel but clearing the AC inlet by about 1/2" (13mm) as shown below. Position the transformer approximately 1/8" (3mm) from the line on the tape at the side of the bottom panel.

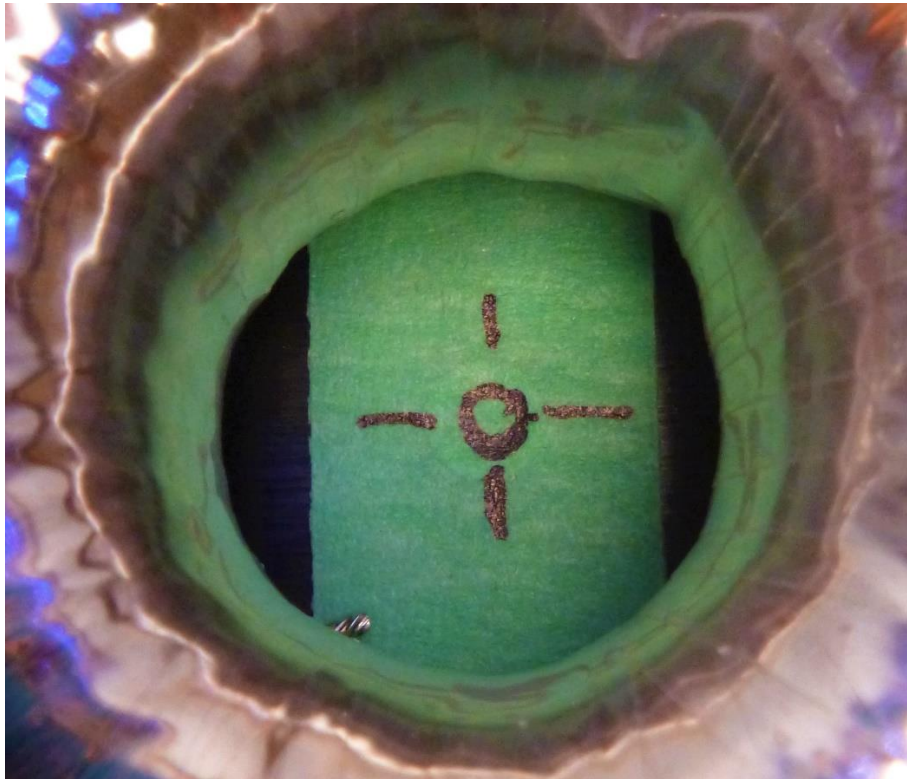


Carefully lift the sides, front and back away from the bottom panel.

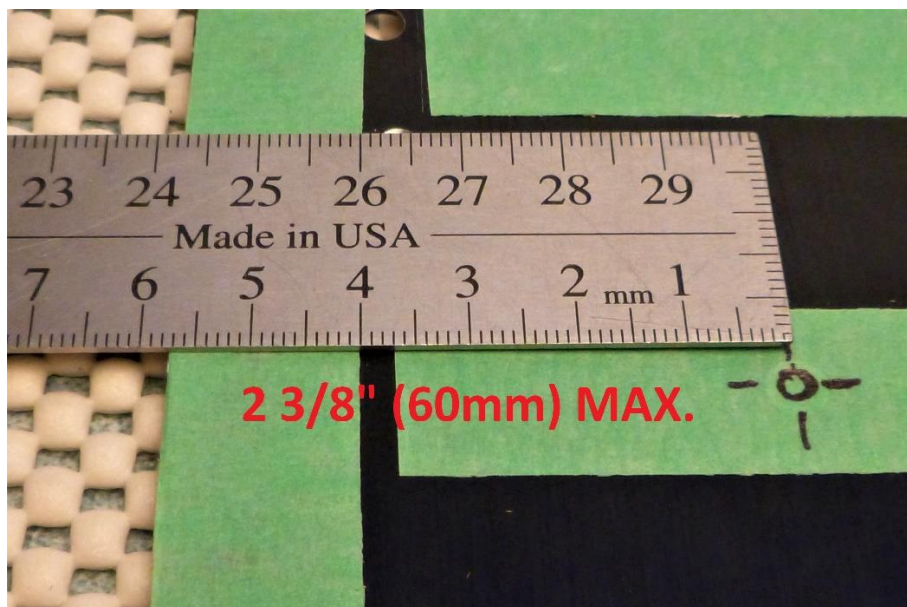
If necessary slide the transformer side to side so that it is 1/8" (3mm) away from the line on the tape at the right-hand side of the bottom panel.



In the approximate centre of the transformer (position not that critical, try to get within 1/8" or 3mm) put a mark on the tape.

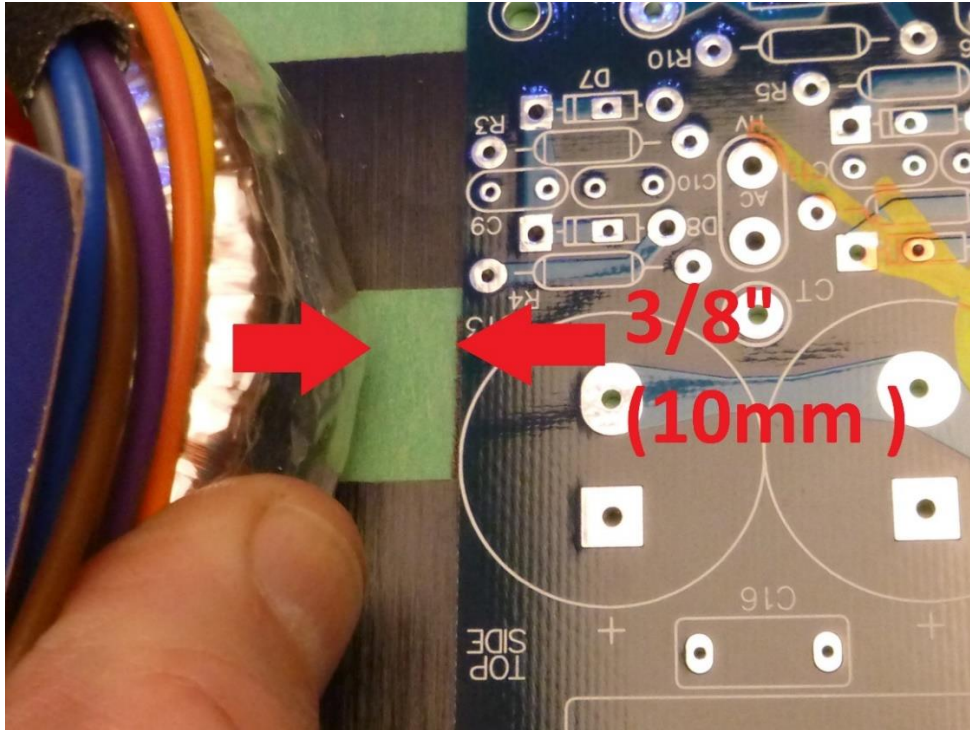


Remove the transformer and measure the distance from the mark to the rear edge of the panel as shown below. It must not be more than 2 3/8" (60mm) or there won't be room for the filament transformer placed later.

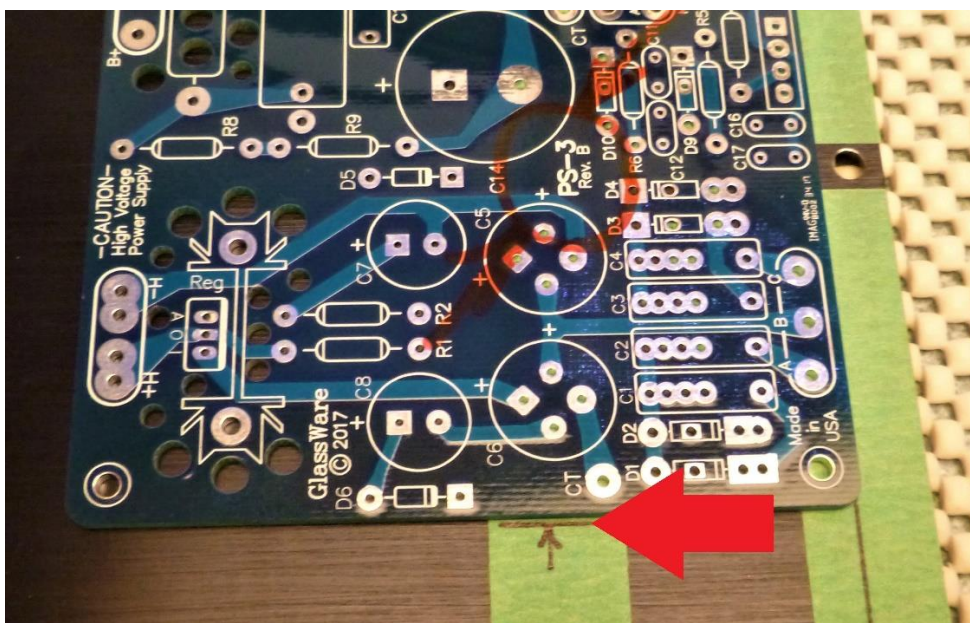


Return the B+ transformer to the marked position on the bottom panel.

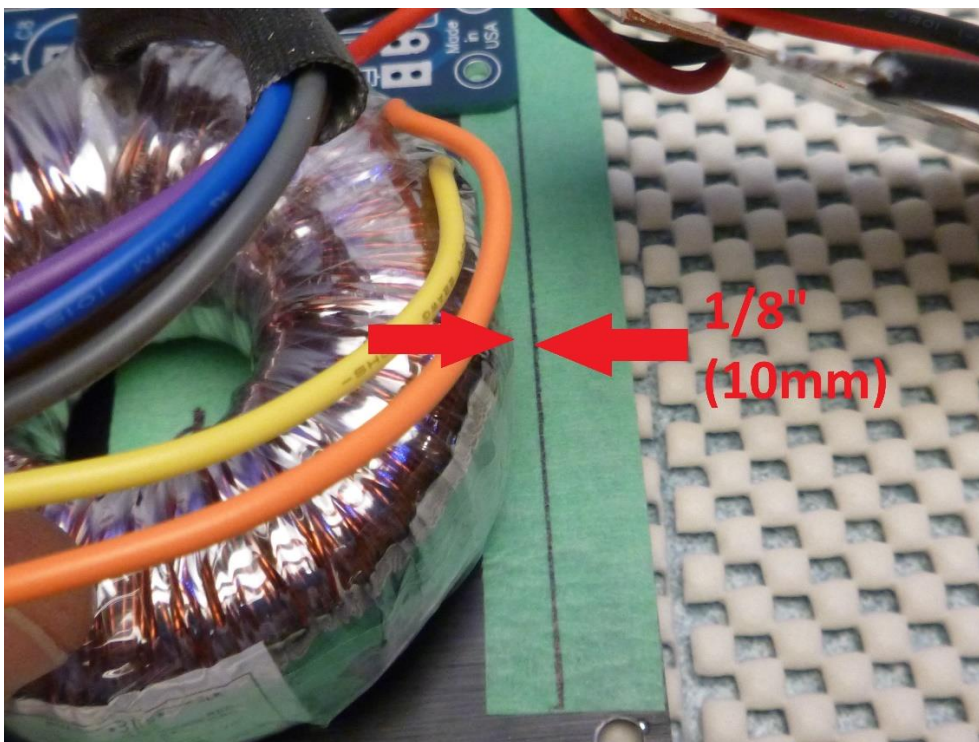
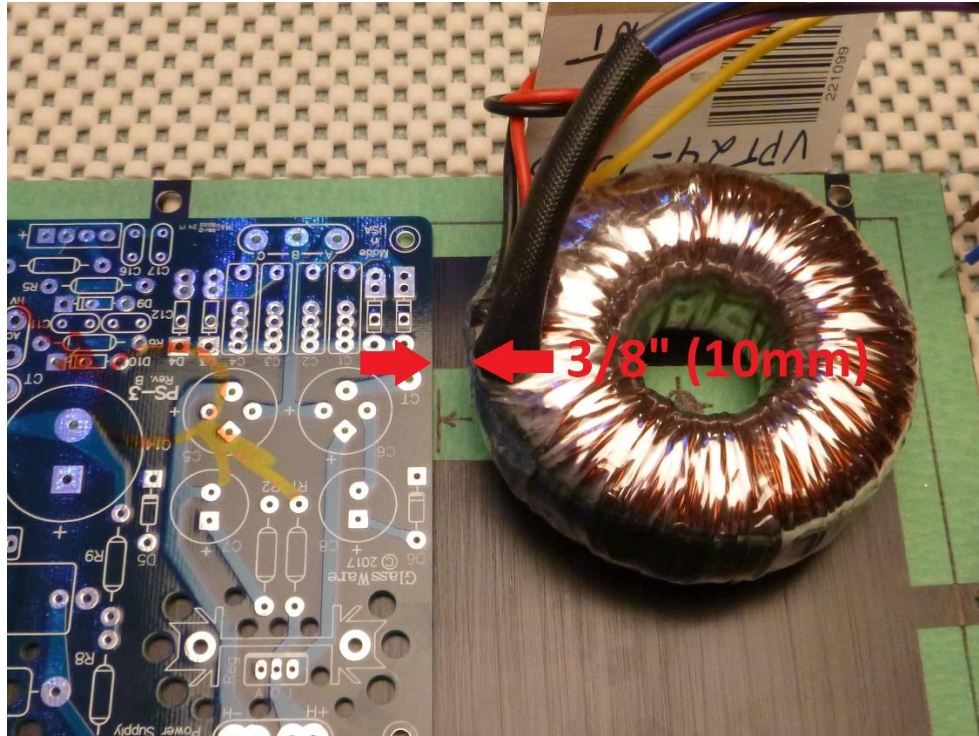
Place the power supply board, with the B+ and H+ outputs facing the centre of the bottom panel, I.E. towards amplifier board position. Slide the board front to back until it is 3/8" (10mm) away from the B+ transformer as shown below.



With a marker pen mark the tape on either side of the board.

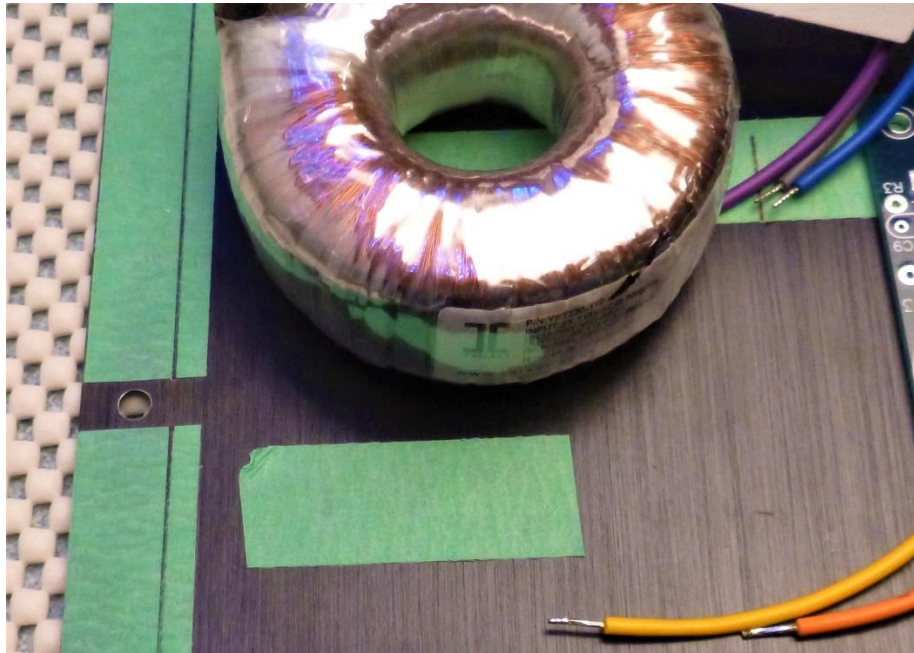


Place the Filament transformer 3/8" (10mm) away from the power board and 1/8" (3mm) from the line on the tape at the side of the bottom panel. In the approximate centre of the transformer (position not that critical, try to get within 1/8" or 3mm) put a mark on the tape.

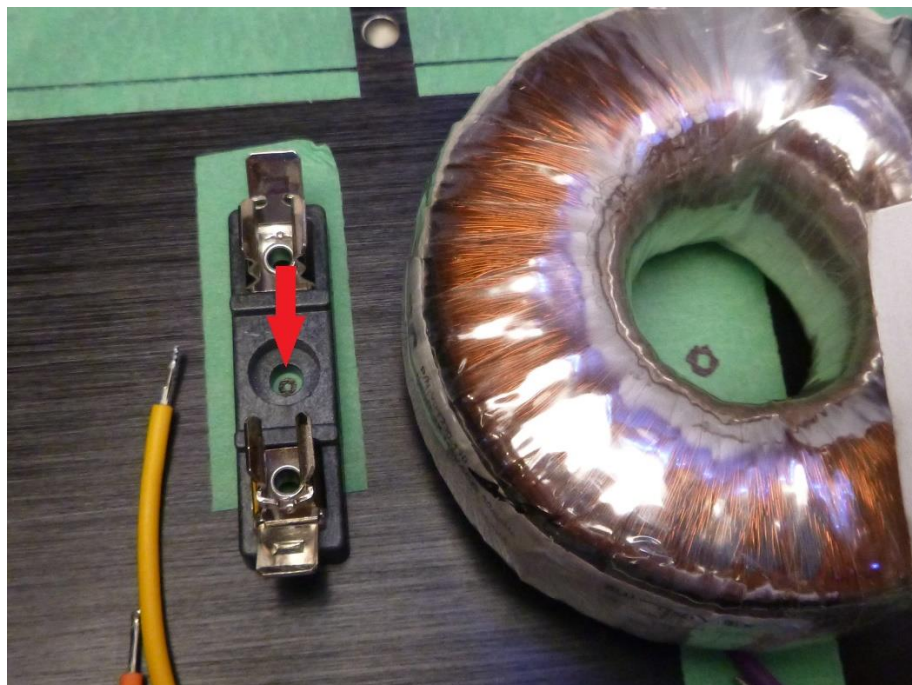


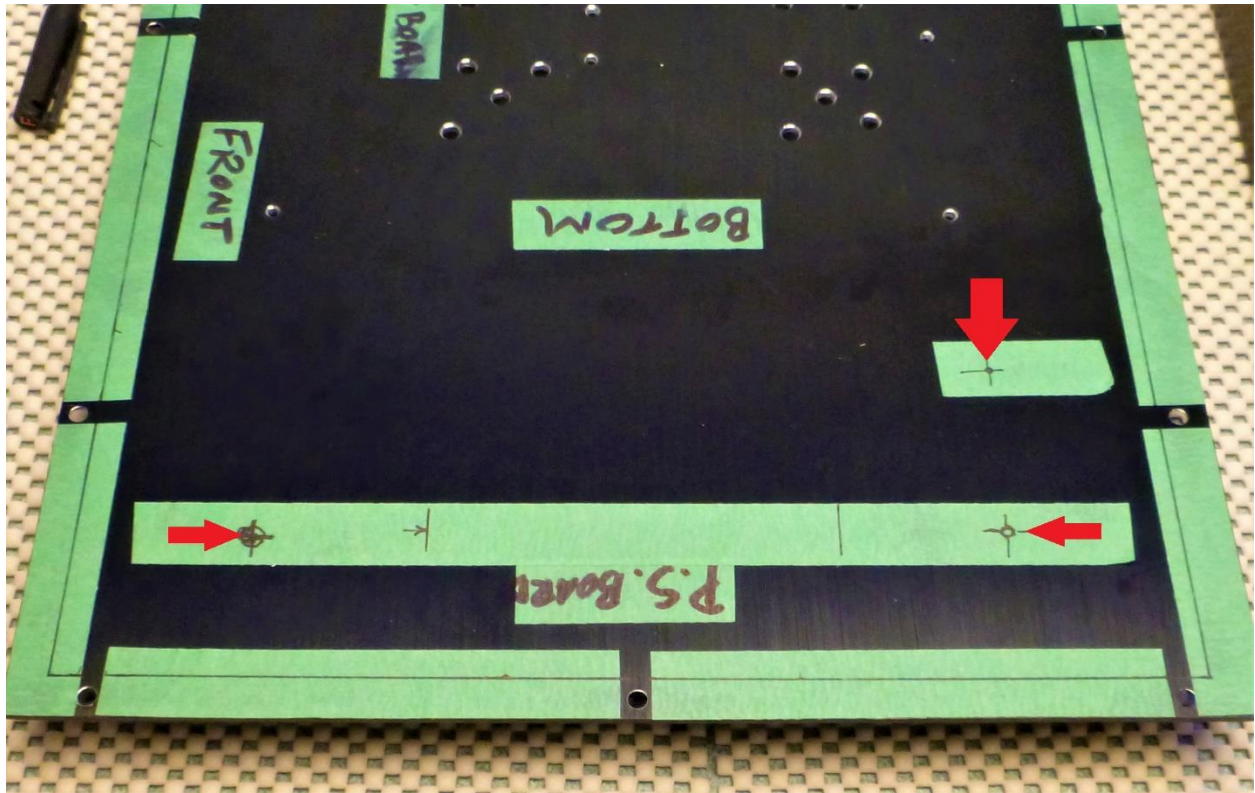
Note: The steps outlined below in *italics* **won't** be required if your AC inlet is the type with a built-in fuse drawer.

Apply a piece of tape near the B+ transformer as shown below.



Place the fuse holder about 3/8" (10mm) away from the B+ transformer oriented as shown in the picture below. Roughly align the centre of the fuse holder with the centre of the transformer. Through the mounting hole mark the position of the fuse holder on the chassis bottom.





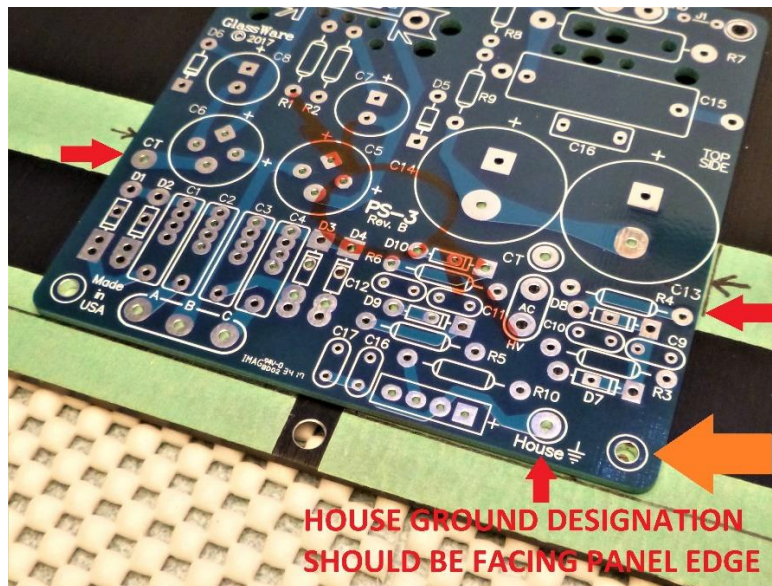
Remove the transformers and power supply board. *Remove the fuse holder if used.*

IF REQUIRED: Center punch the fuse holder locating mark. Centre drill, drill with 1/8" or 3.2mm bit and deburr the hole.

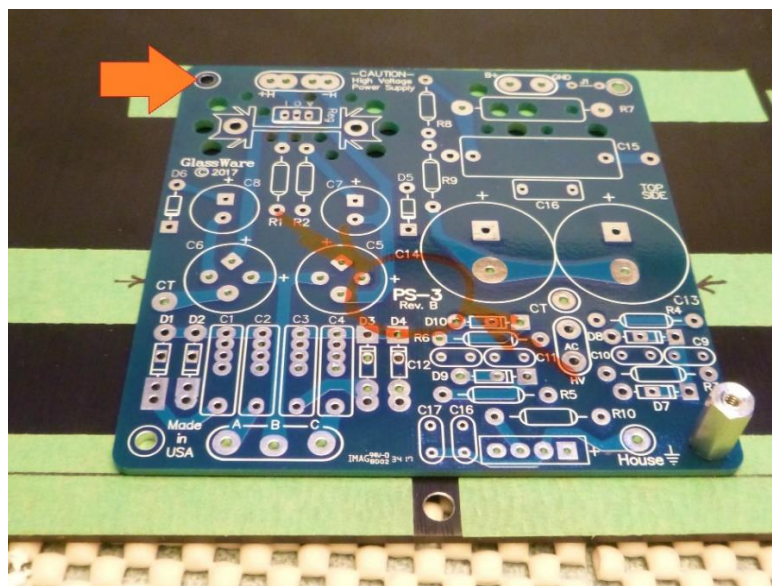
Centre punch the two transformer locations, drill with a 13/64" or 5.1mm bit and deburr the holes.

Place the power supply board, with the B+ and H+ outputs facing the centre of the bottom panel, I.E. facing the amplifier board location. Centre the board between the pen marks on the tape made earlier. Set the edge of the board along the line made on the tape at the edge of the panel.

As was done with the amplifier board mark the position of one hole, remove the board, centre punch the mark, centre drill, drill with 1/8" or 3.2mm bit and deburr the hole.



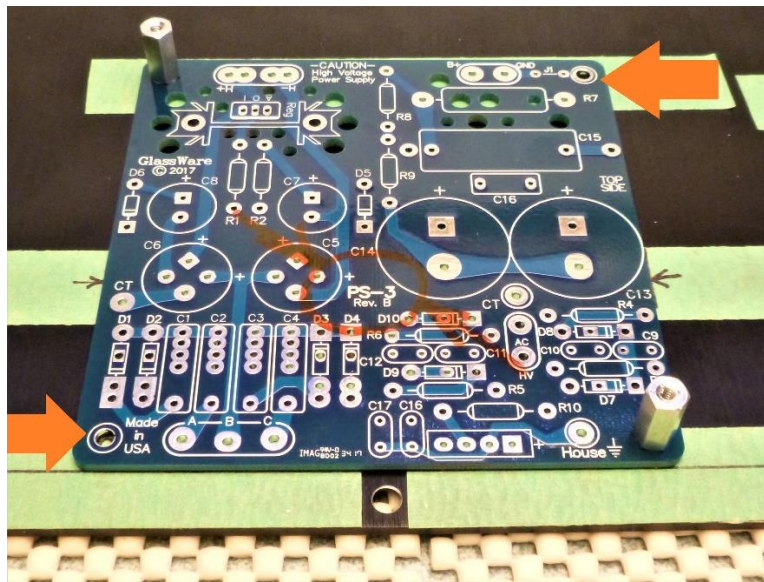
If desired put a piece of tape under the far edge of the board. Put a screw up through the bottom of the panel, place the board over it and a hex spacer on the screw. Align the board to the line on the edge tape. Mark the hole in the opposite corner, remove the board and centre punch.



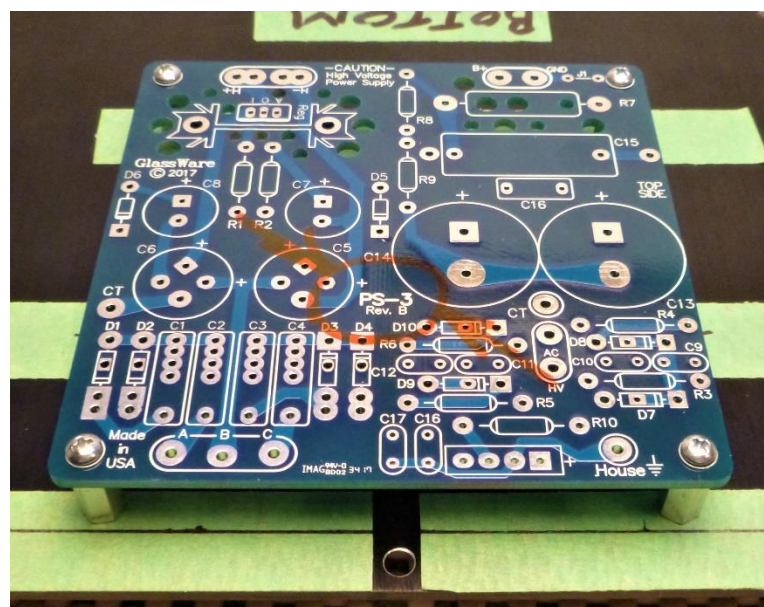
Assemble the board back to the bottom with screw and hex spacer. Check the centre punch location as was done with the amplifier board. If needed, "adjust" the centre punch location as described in Metal-Working for Dummies, part 1.

Remove the board. Centre drill, drill with a 1/8" or 3.2mm bit and deburr.

Reassemble the board once more with two screws and hex spacers, mark the two remaining holes, remove the board, centre punch, centre drill, drill with 1/8" or 3.2mm bit and deburr.

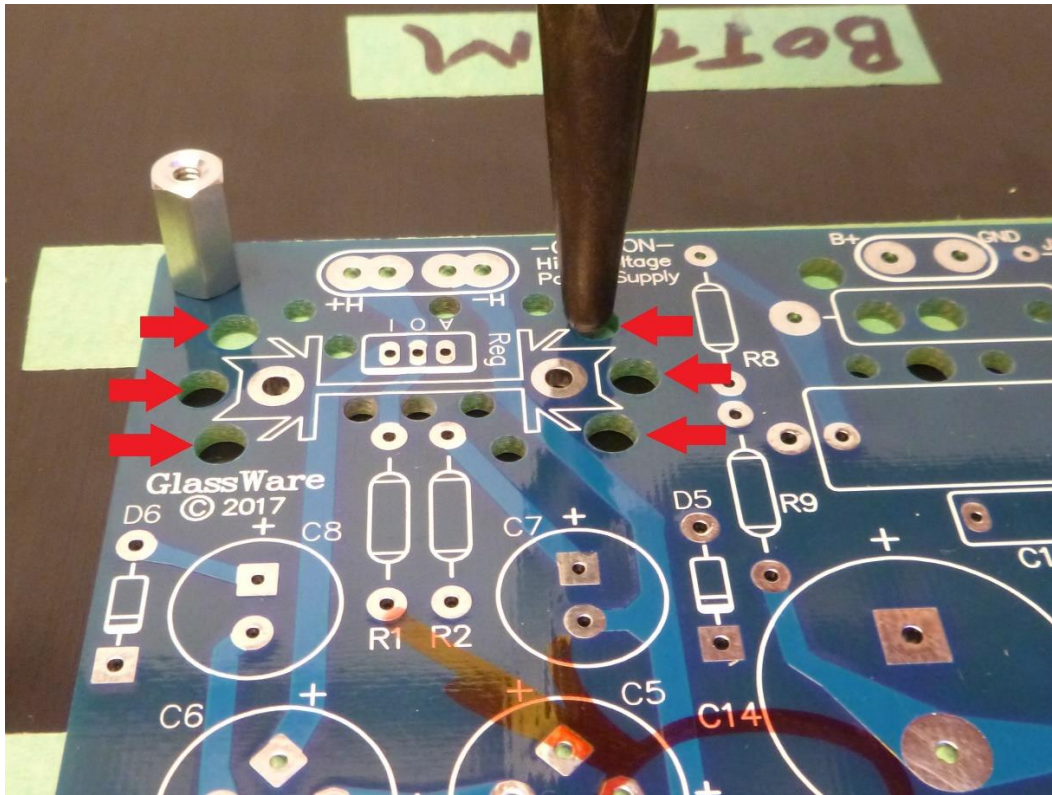


Assemble the four hex spacers to the bottom with the screws finger tight. Place the board on the spacers and secure with four screws to ensure the drilled holes are in the proper place.

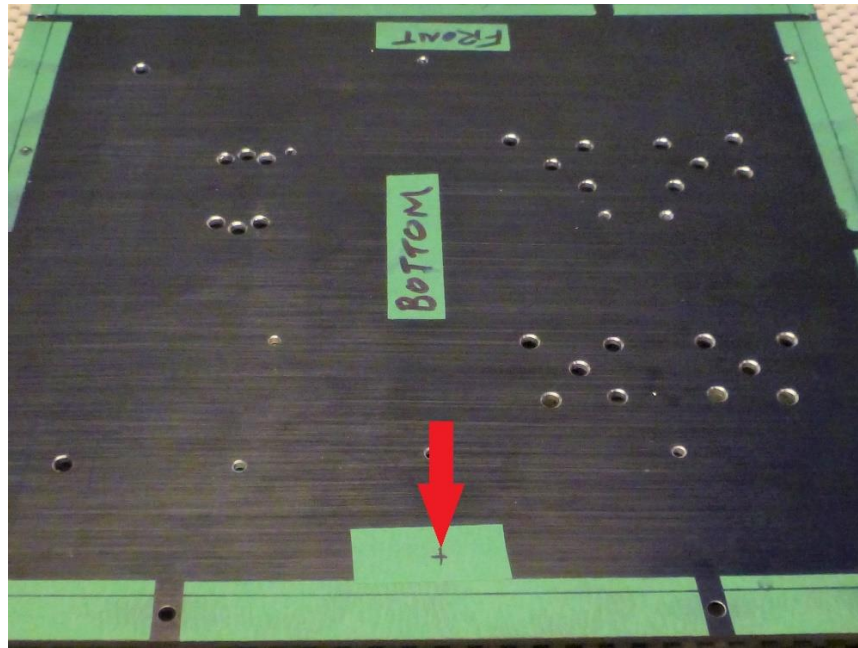


One last time place the power board on the bottom panel over two screws. Note the two sets of three holes each, 3/16" (4.7mm) in diameter, 6 holes in total near the H- and H+ pads on the far left corner of the board as seen in the picture below. Mark these or centre punch them directly, position not that critical as holes are for ventilation. Remove the board and screws, centre punch the 6 marked holes.

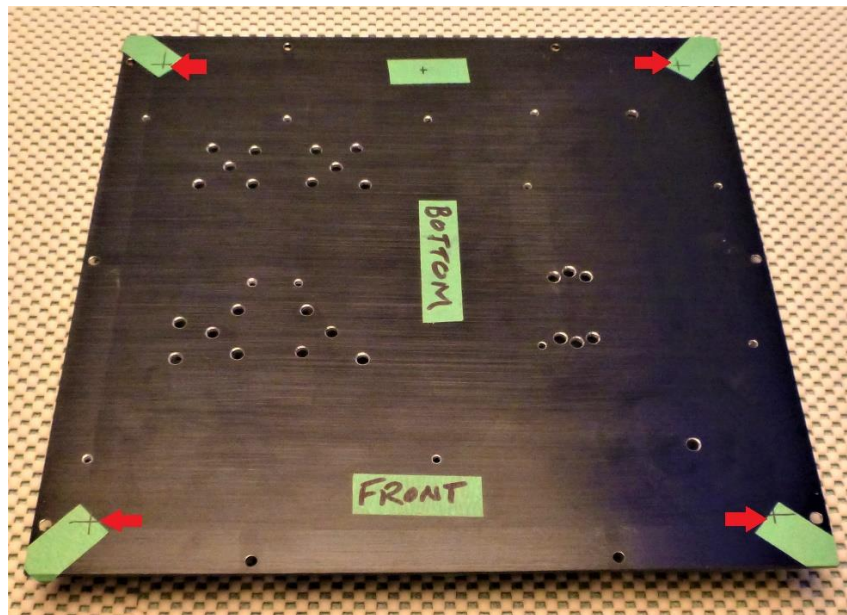
Clamp the panel to your work bench, centre drill, drill with 13/64" or 5.1mm bit and deburr.



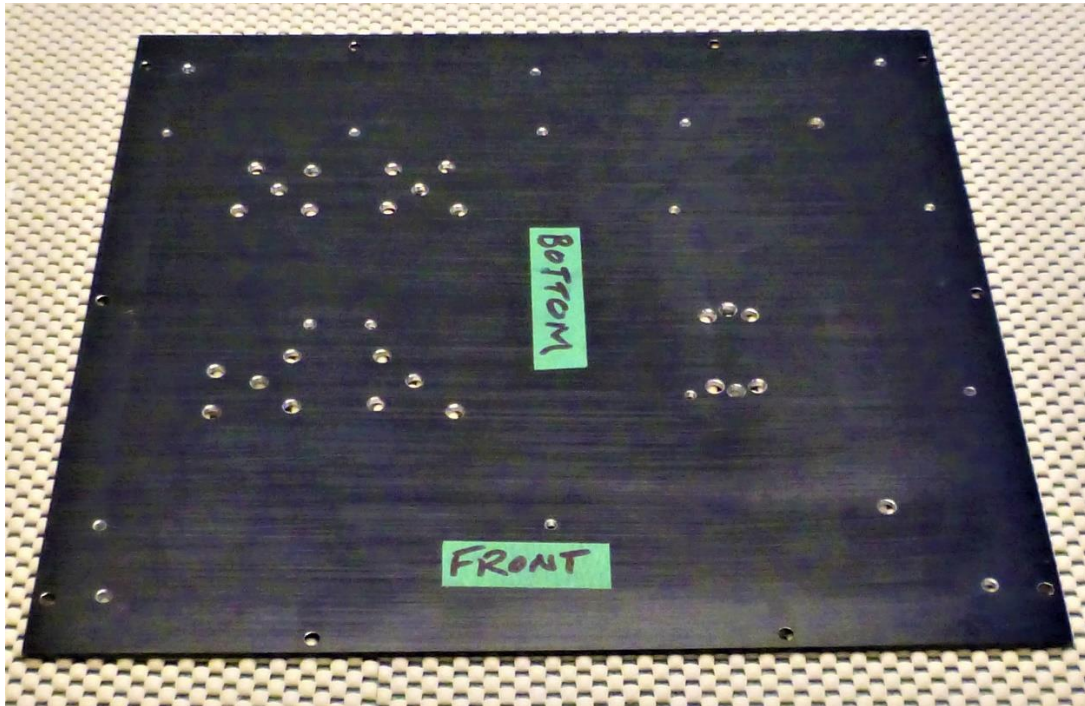
Measure along the back edge and mark the centre within 1/8" (3.2mm). Measure in from the back edge 1" (25mm) and centre punch. Centre drill, drill a 1/8" (3.2mm) hole and deburr.



Remove the tape from the edges of the panel. Apply a piece of tape to each corner as shown below. Measure in 7/8" (22mm) from each edge and mark. Centre punch, centre drill, drill a 5/32" (4mm) hole and deburr all four. These are for attaching the rubber feet included with the chassis.



Remove the tape in the corners and the other locations as shown below.



This (finally) completes the metal working on the bottom panel. Set it aside where it won't get damaged.

Proceed to, **Metal-Working for Dummies, part 3**. This will detail the layout of the holes in the top panel.