LA-2A pcb manual

Section 2 : building the case

Attention|disclaimer

This project is presented as artwork and is solely intended as such.

Although this board can be assembled and built into a functioning LA-2a compressor.

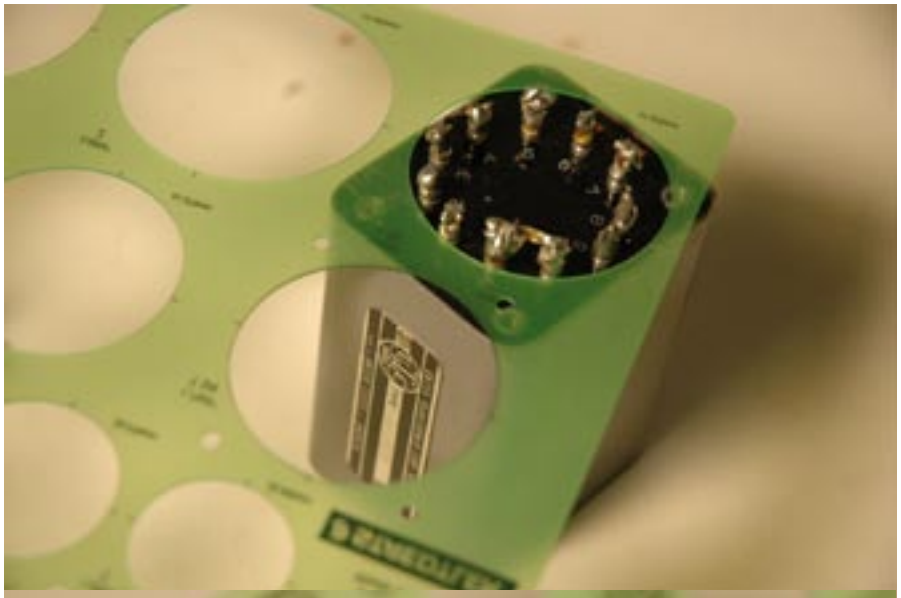
due to the high voltages and possibilities of human error , drip electronics | gregory lomayesva hereby assumes no liability for injury/damage/loss which might unintentionally occur.

chapter 1 | sizing the parts

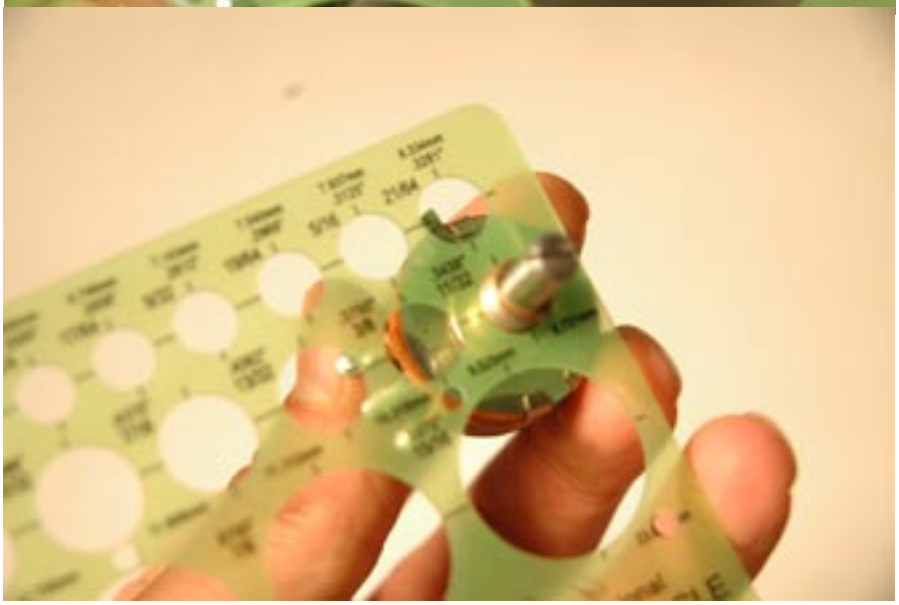
Since it is neccicary to drill many different holes into the case, you will need to measure the diameter of your parts (potentiometers,switches,x-formers,vu-meter,fuse holder etc.). This is best achieved with a circle template(available at any Art store or office supply retailer)

With this , it is easier to accurately log the dimensions of the holes you will need to drill in to the case.

Taking each component and placing them in to the circle template you can simply write down the hole size each one will need.




7/16
11,112mm
7/8
22,225



Some of the hardware will need additional holes drilled for mounting screws , such as the XLR sockets or the X-formers.

An easy method is to go ahead and mark the holes on the circle template , and then drill the hole into the plastic circle template itself.

This will make aligning and marking the holes later alot easier.

If you are using the original a-24/ha-100x xformers , This method will come in very handy since they each have 4 mounting screws.

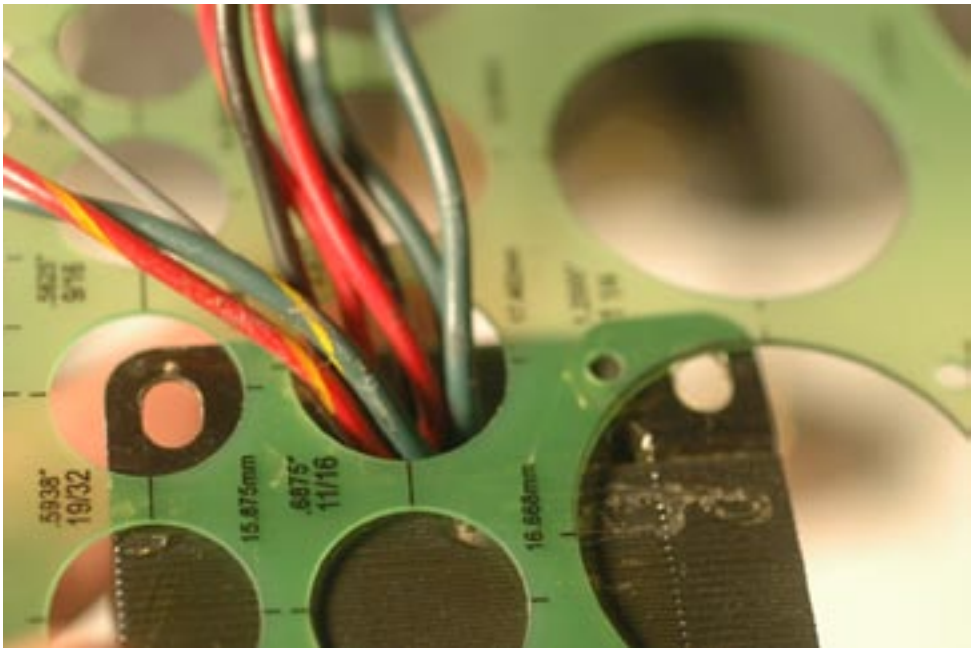
By doing this , you can simply place the circle template on the case and mark not only the hole for the hardware , but also the holes for the mounting screws.

Once you have complied your list of hole sizes needed,

Now it is time to make a layout on your case.

The front of the case seems to allow much more freedom to organize your places for knobs and switches,

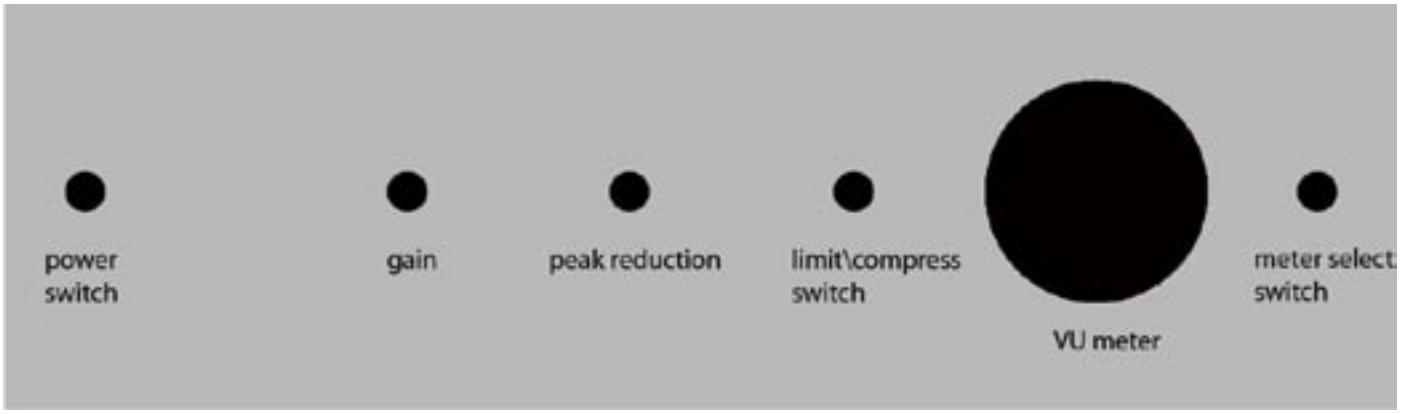
As where the back of the case will have a more Standardized layout due to the layout of the pcb itself.

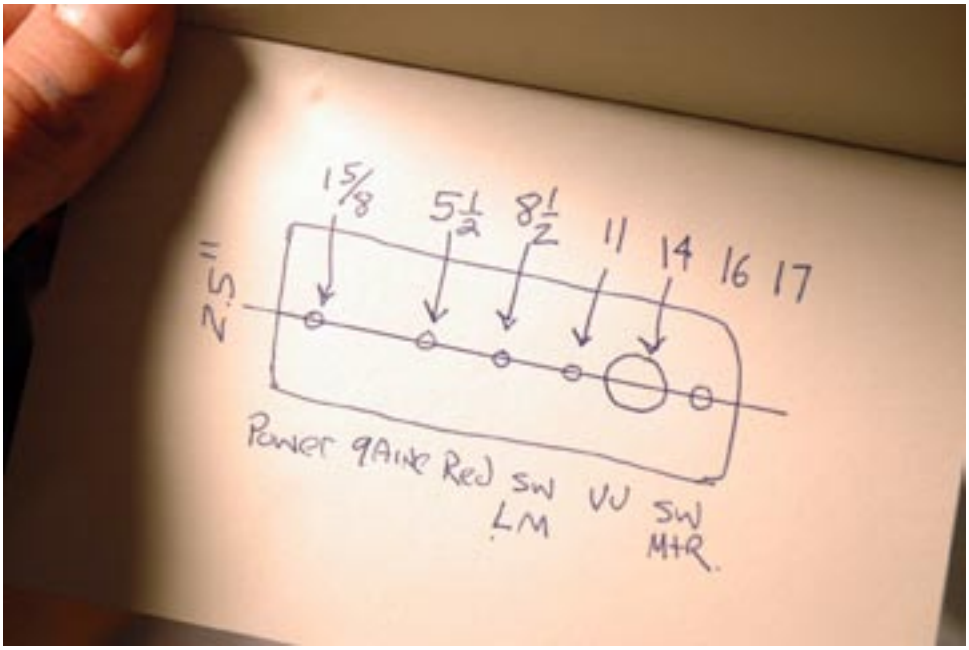


chapter 2 | case layout

Depending on the size of case you use , you will need have a layout of where to drill the holes.

Here is an example of a typical front panel layout.





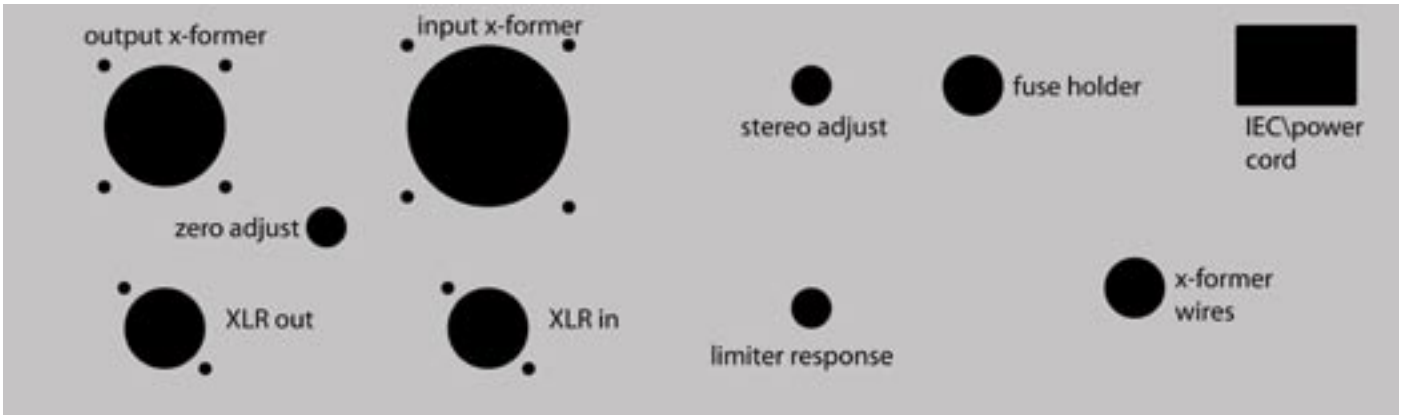
A rough sketch will help the layout process.

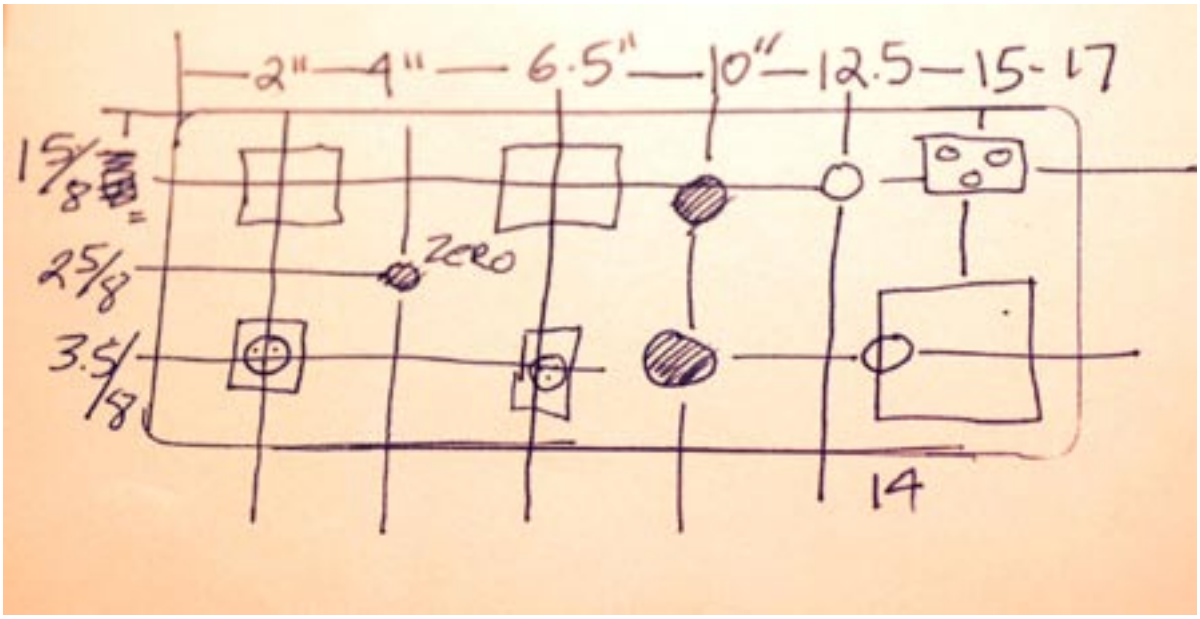
as said before , on the front panel you can be more liberal with where you have your pots/switches and VU meter.

If you would like to have the zero adjust pot on the front panel instead of the rear of the case , Simply add the hole for it on the front.

Here is a layout for the back of the case.

This is a more standardized format to use and will work well with the pcb layout.



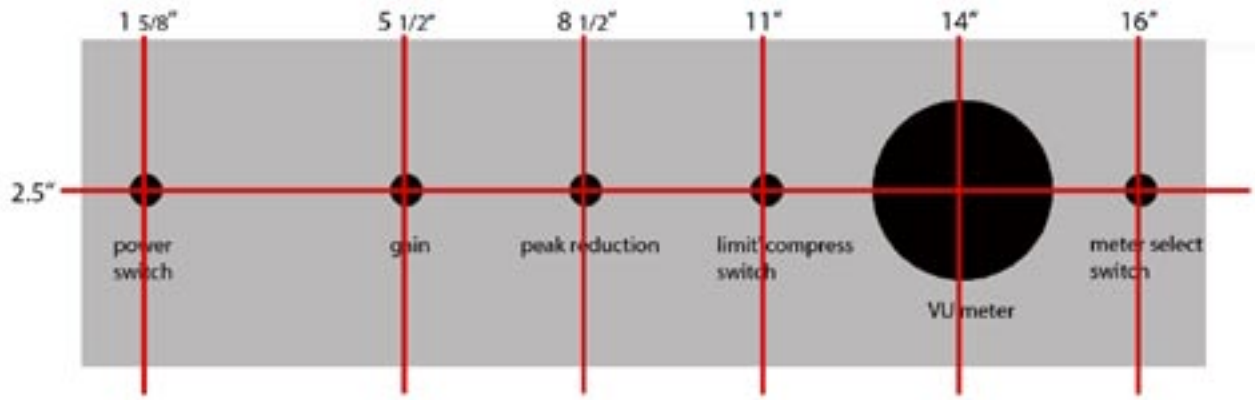


Depending on the dimensions of the case you use , You can alter the spacing of the holes.

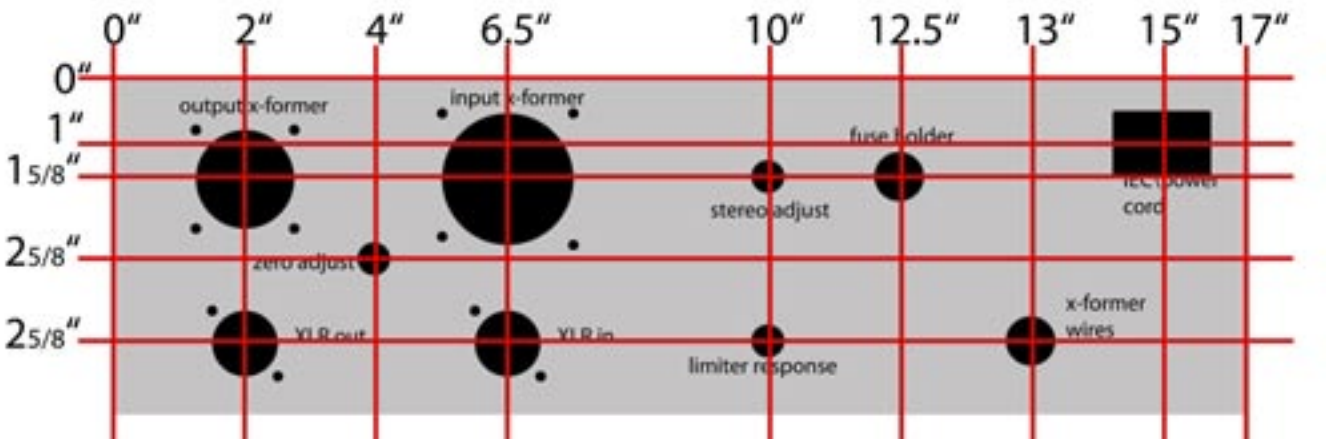
In the rough sketches a 5” X 17” X 10” aluminium case is used.

It is recommended to use a case at least 5 inches high , This will give enough room for the tubes and the added Elevation of the standoffs under the pcb.

FRONT



BACK



Here is an example of the rear lay out with dimensions. Depending on the type of in and out audio X-formers, weather they are the circular ha-100x and a-24 or if they are the leaded jensen type, you will have to adjust the hole sizes and positions.

The layouts are examples and will be used to help guide you through the process , you will have to make adjustments and reposition things as needed.

Using the layout example , it is time to mark your case.

Some people like to first apply tape to the front and back of the case ,

This helps avoid scratches and nicks on the finish of the case.

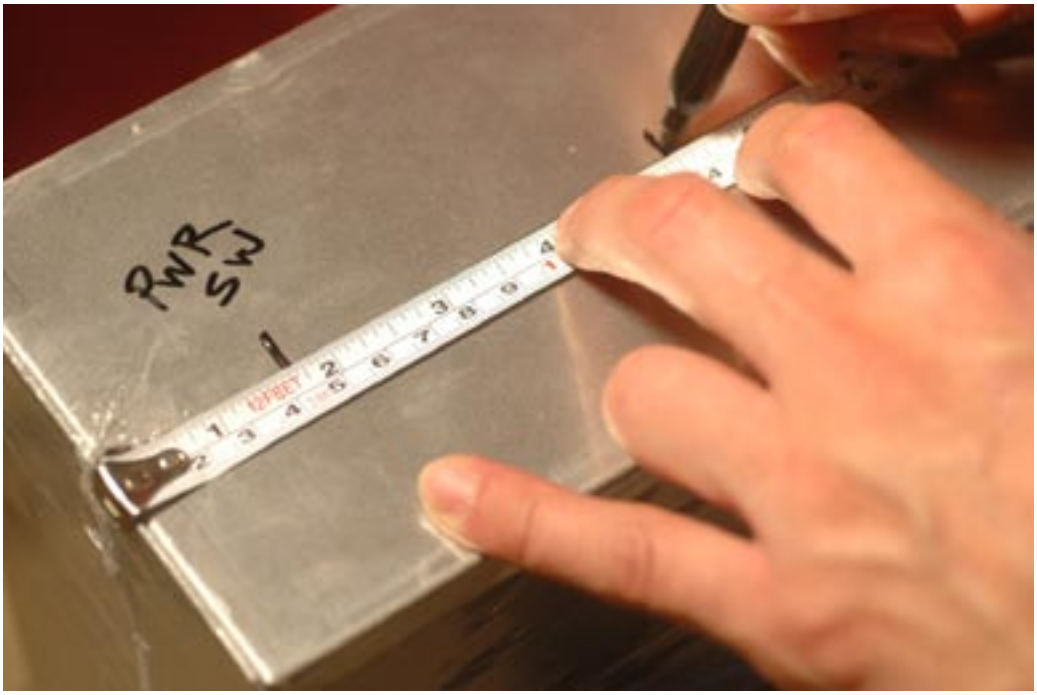
If your case comes shrink wrapped , go ahead and leave the shrink wrap on ,

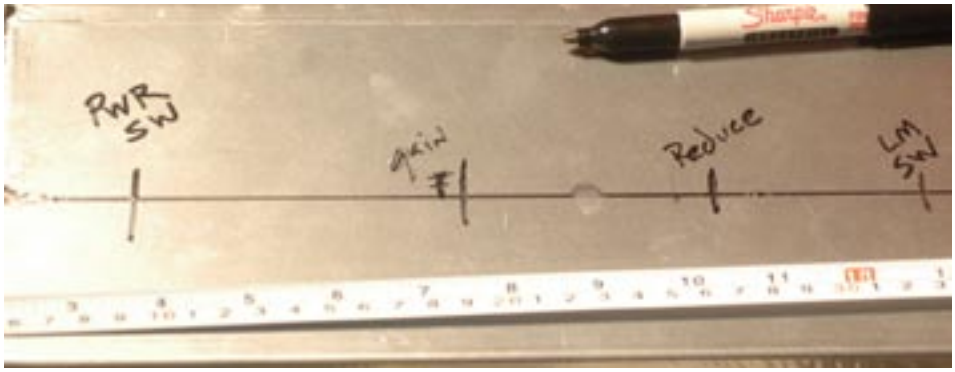
Using a marker and a tape measure you will now mark the hole positions on your box.

One way of marking the front is to place a line centred horizontally across the face of the case.

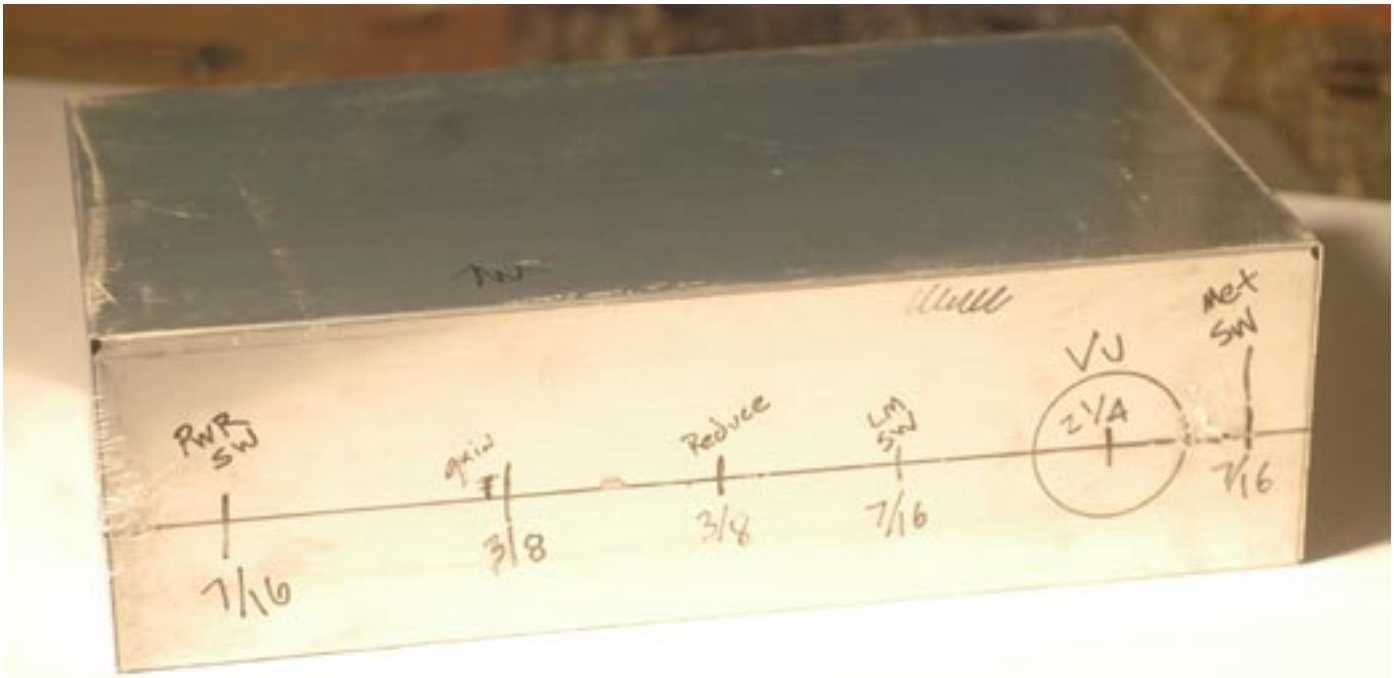
This will keep all the holes lined up.

Now simply measure and mark each hole across the line.



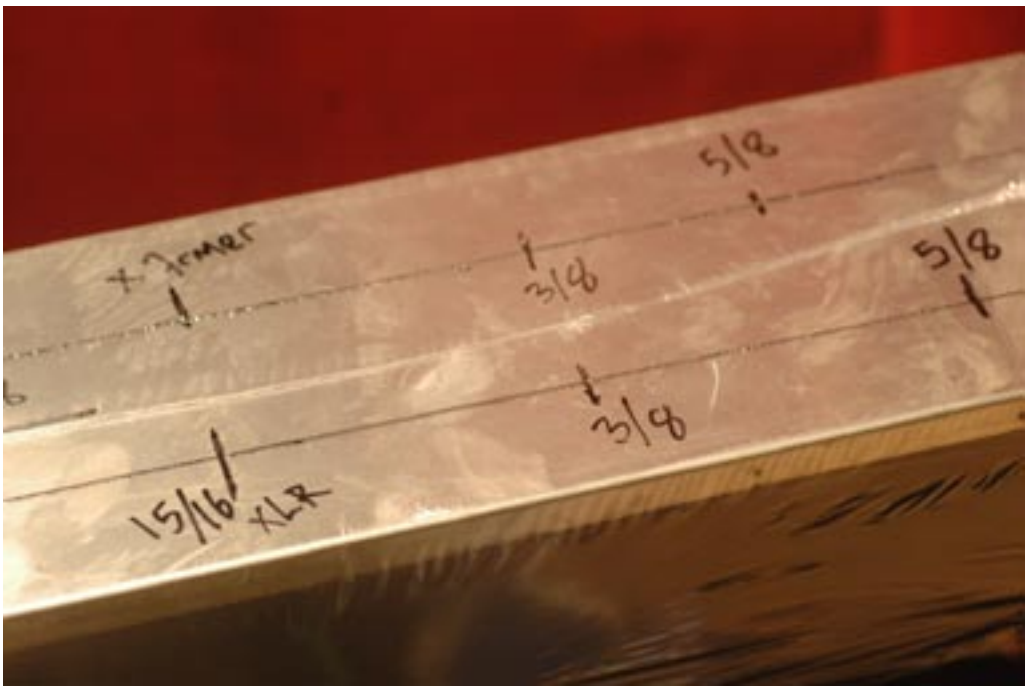


After you have marked all the hole positions ,
Go ahead and write down the hole size needed for each one.
This will make drilling move along much faster.



Once you have completed the front ,

Now turn the case over and begin marking the back. Following the diagram for the back , it is easiest to draw two horizontal lines and then mark each position on them.



chapter 3 | drilling the case

After you have finished marking the hole positions on your case , double check your work , making sure everything has enough space and clearance from other parts.

Also make sure you have not marked all the holes on a case that is upside down , i have done this and would like to save you the trouble.

simply it just puts the power x-former on the right of the case instead of the left and adding to the Length of wires in the box.

After double checking your work, using a center-punch or a sharp punch , you should mark the center of each hole to be drilled.

This will help keep your drilling on target and help avoid the drill bit from skating around and Marring your case.

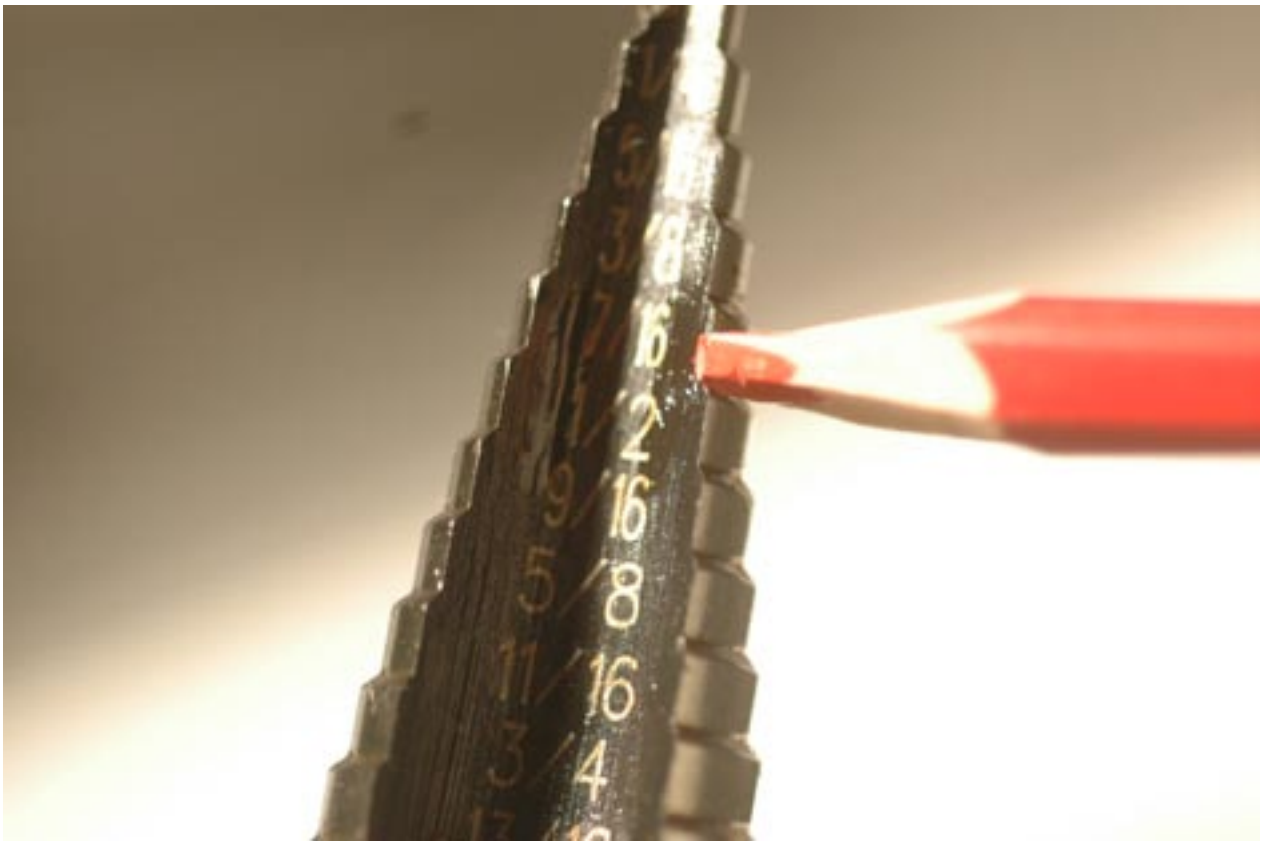
The next step is to use a drill with a 1/8” bit and drill pilot holes for each marked position.

After you have drilled the pilot holes ,
Now is time to select what type of drill bits you will use.
One of the best drill bits for drilling cases is a Stepped drill bit , you can almost drill all the holes with this.

If you have access to a drill press , you might consider using it for this .

For all the smaller holes it is ok to just use a hand held drill providing the bit can fit into the drill.

An easy way to mark the depth of how deep to drill is with a china marker or piece of tape .

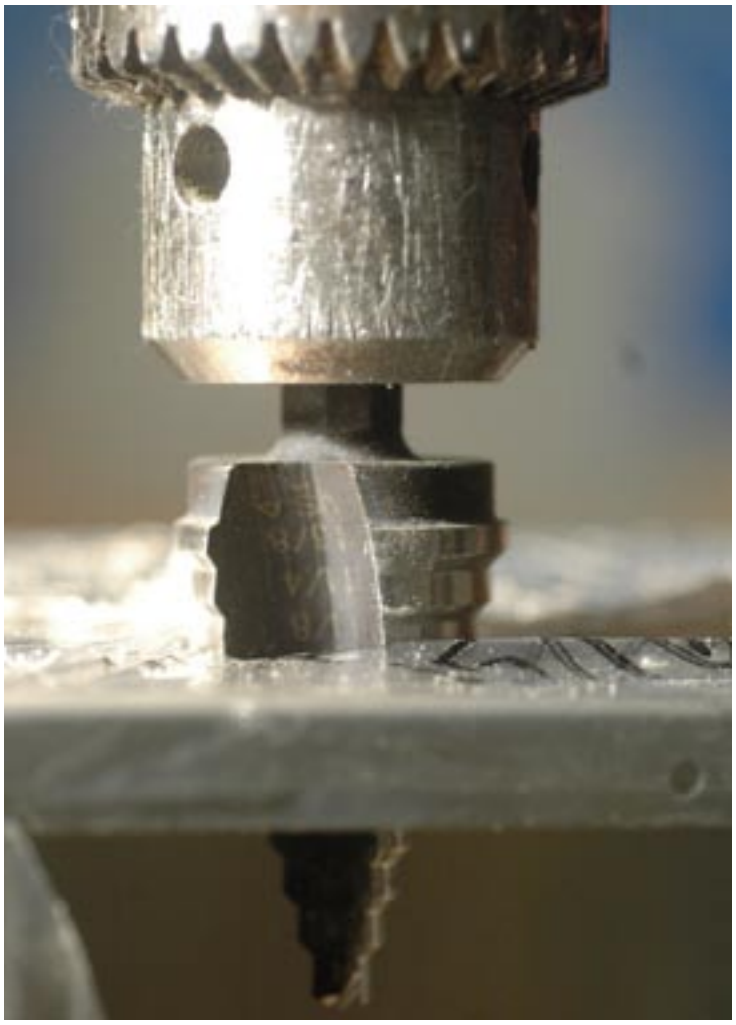


This mark should be visible enough , so when the drill bit is spinning , you can accurately see the mark.

Once you have marked your bit , you can now begin drilling the holes in the case .

the already drilled pilot holes will greatly help this process.

Proceed to drill all holes according to their needed sizes.



For the larger holes , depending on what x-formers you use and what size of VU meter .

It is probable that you will need some quiet larger holes drilled , for this you can use the larger plug removing bits used for making holes in metal doors ect.

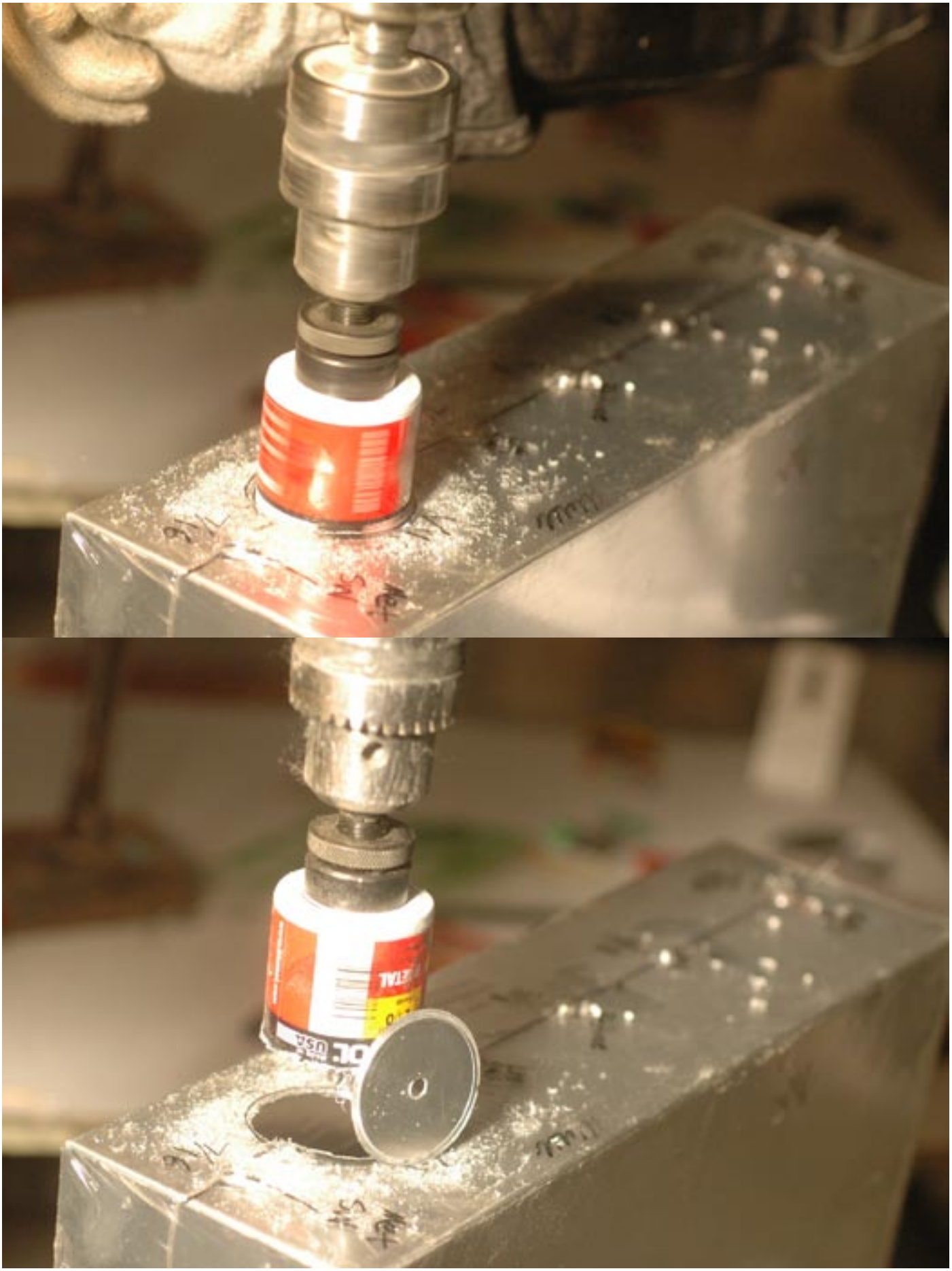
It is possible to use these bits in hand held drills,

But a drill press is preferred.

If using a drill press , one essential thing is to clamp your work. if the case accidentally binds or moves , it can grab the case spinning it around and break your arm or worse.

A small piece of 2x4 will help protect the case from Indentation and also give the clamps a good surface to bite into.

Once the case is aligned and clamped , turn the drill press on and slowly begin to apply even Pressure until the bit has cut through.



After you have finished cutting all of your holes up ,

Especially if you used an aluminium case ,

It is time to clean up the holes .

A cone shaped drill bit rasp or stone is good for this.

chapter 3A | IEC socket.

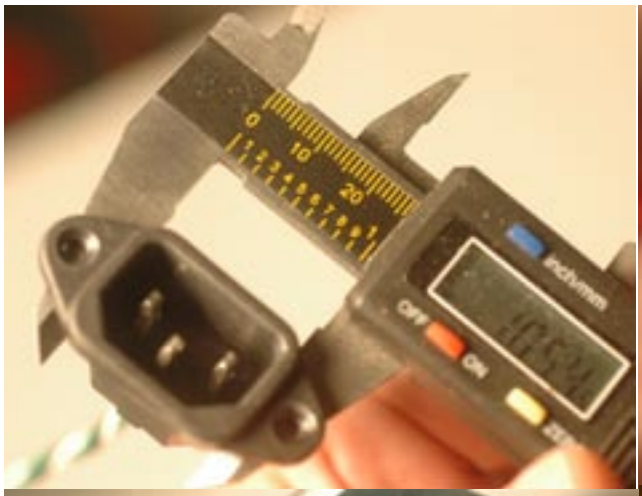
IEC socket (square power cord connector)

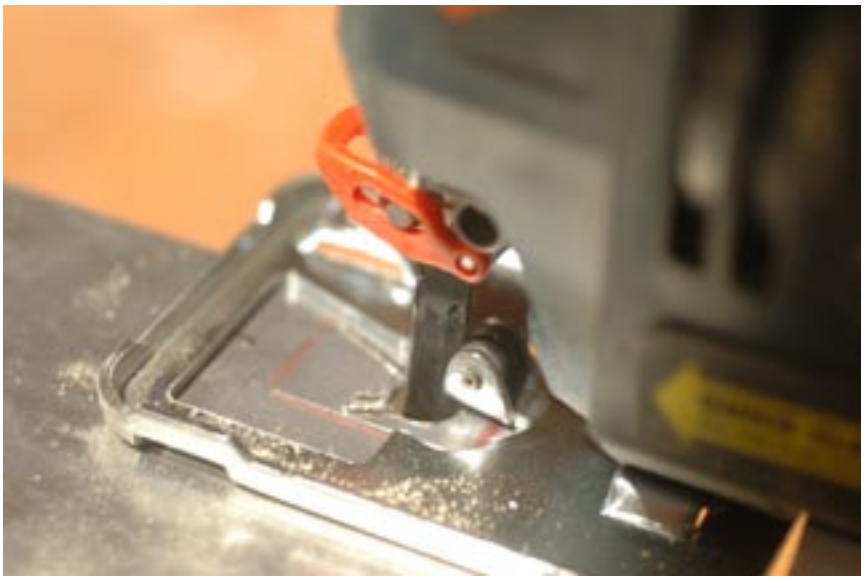
Depending on if you are going to use a power cord or if you us an IEC socket(reccomended).

If using a socket you will need to cut a square hole.

You will need to measure the size of the socket.

A good idea is to make a template out of cardboard , and then trace the template onto the case with a marker. .

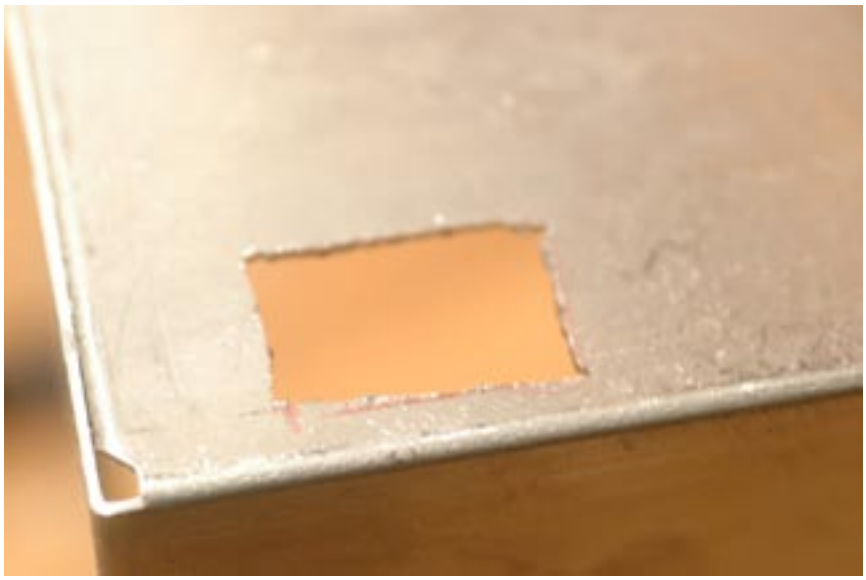




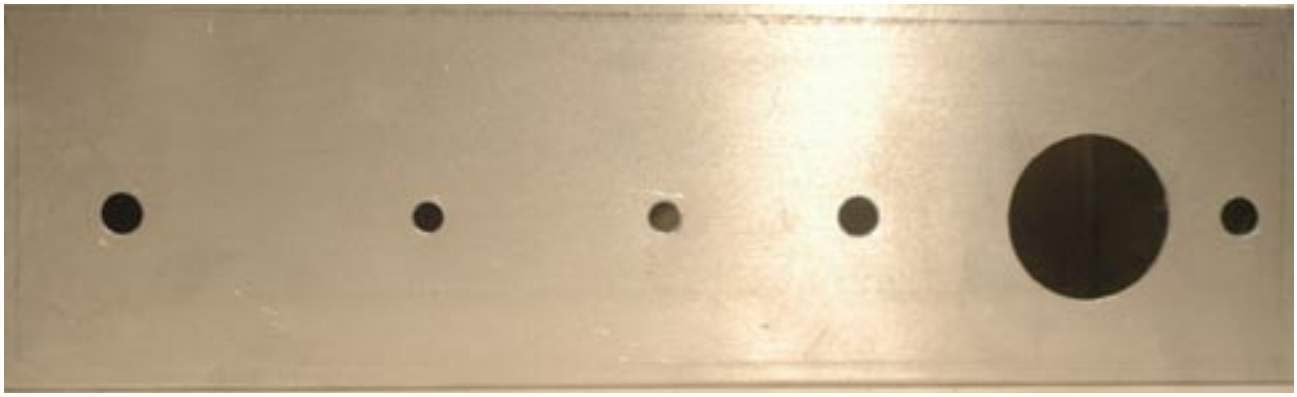
After you make a template .

You will need to drill a hole in the middle of the rectangle Pattern you just traced on to the case.

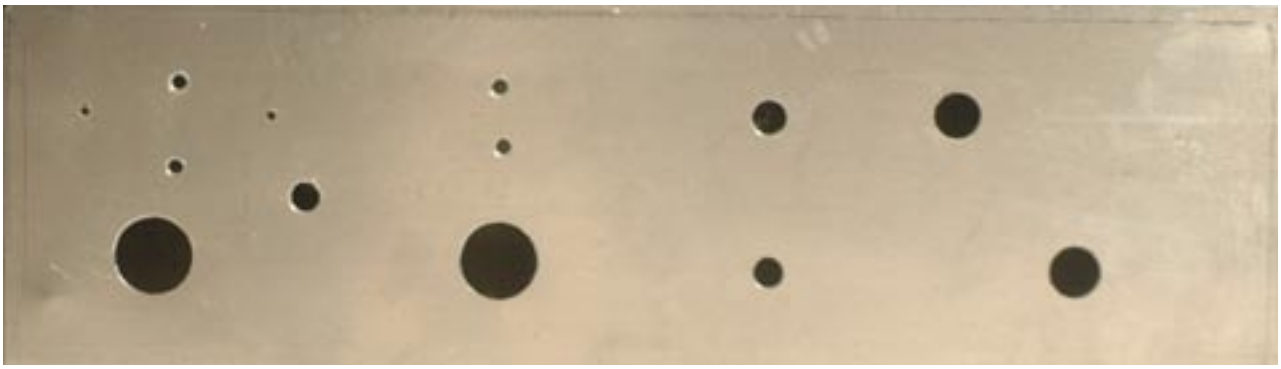
Use a jig saw with a metal cutting blade and begin cutting out the space for the IEC socket.



FRONT



BACK



Now with your case drilled ,

You may move on to placing all the parts into each hole and cut outs.