

Accounting for roughly a third of the time it takes to make the casing, the molds have to be considered a finished project of their own. As mentioned before, the smallest details show up when you vacuum form, including the grains of wooden molds, so the surfaces have to be flawless! Remember that the more time you spend making your mold look good, the better your finished product is going to look. Quality in, quality out!

Getting Started:

By this point, you should have your work station and your vacuum table built. The next step is to consult with the plan of attack and find out just what you're working with. Once you have determined the best course of action and acquired your materials, you can begin work on your mold. Techniques in this area can vary depending on the tools you have at your disposal, but the general premise is the same.

Here are a few techniques and tips to help you along.

1. The outside dimensions (o.d.) of your mould are always going to be the inside dimensions (i.d.) of your case. With that said, the thickness of the plastic itself plays a role. For example when making a case half 3"W x 5"L, the actual outside dimensions should roughly be 3.16" x 5.16" (ex .080 x 2 = .160 wider and longer). The same process goes for the thickness of the half as well. Though this usually isn't an issue, when doing precision work it is important not to forget that fact and to compensate as needed.
2. Keep the mold to as few ad-on pieces as possible. If you're forming your screen bezel right into the case for example, remember every additional piece adds to the overall coverage the plastic needs to span and wrap. Keep this in mind and refer to the coverage chart.
3. Wood Filler is a must for any cracks, gaps or screw heads that are present and you wish not to be seen in the case! Fill, sand, repeat as needed.

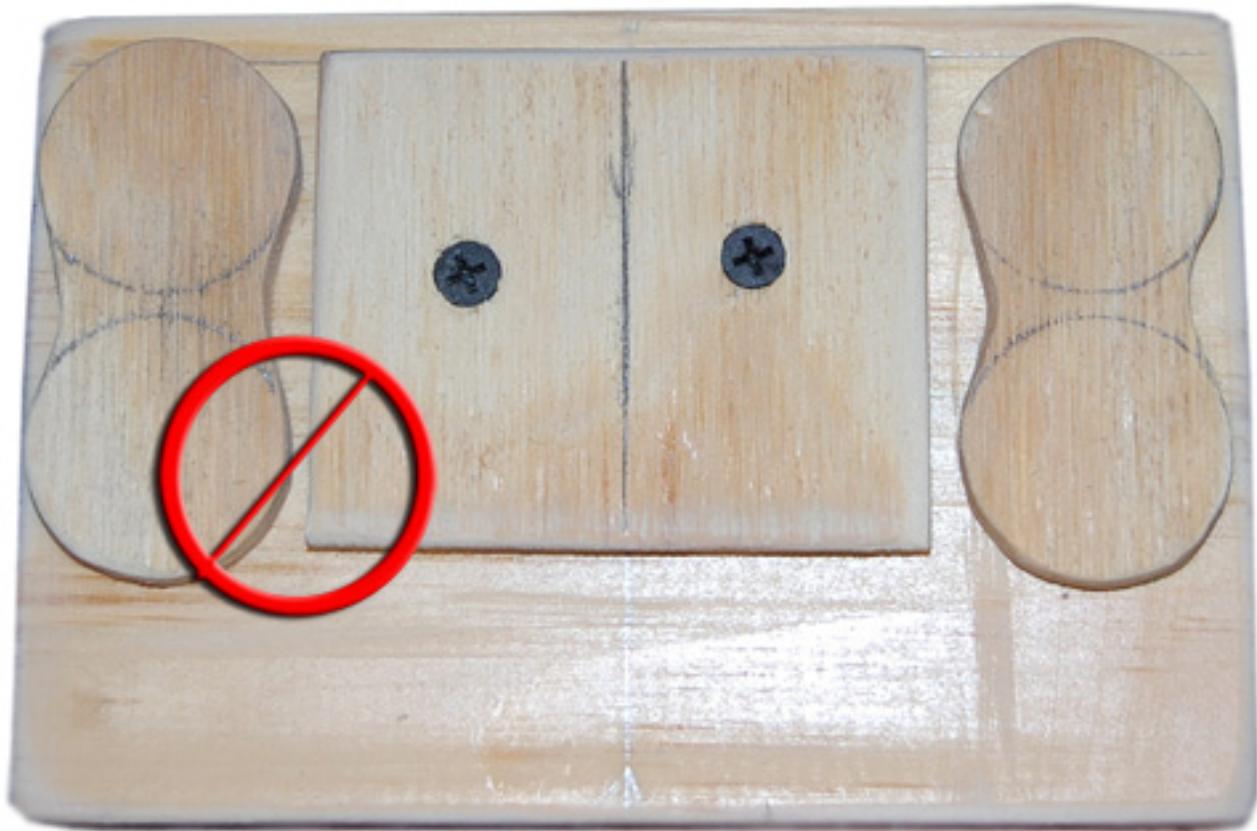
Part Five

Making Your Mold

4. Allow space between components.

If for example you have three raised portions on your case, one for controls, one for the screen and one for the buttons, you have to allow for ample space between one and its neighbor.

If they are too close, the plastic will not be able to get down into the space because it will be folding over on itself, blocking its own path.



As you can see, the space between these two components would not be enough for the plastic to sink into, on top of the fact there is no place for the suction to even get to the component.

(Figure 5-1)

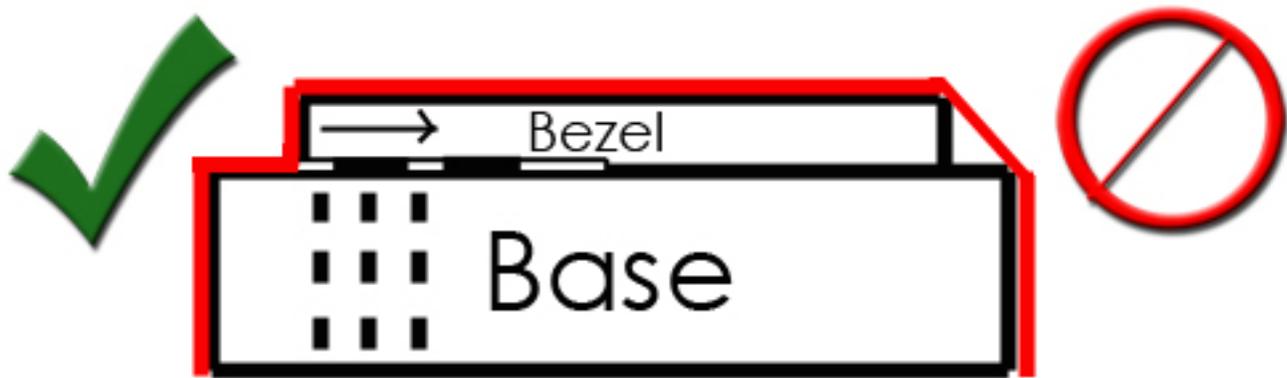
Part Five

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5. When adding parts of the case like a screen bezel, you have to remember that the suction is going to pull straight down. This is important to note because say for example you have less than 1/8th of an inch from where the raised bezel ends to the edge of the base mold.

There is a big chance that plastic is not going to cover the edge of the bezel uniformly because there is little room for it and no suction to the top of the base. (See Figure 5-2)

This is why spacing underneath the bezel or other add-on components is important because you can then drill holes through the mold, but under the component's plate. Spacers about a 1/16th of an inch thick will allow for the air to flow underneath the component plate, but not enough room for the plastic to get sucked underneath it, thus making your component tight to the base portion of the casing.



Without the proper spacing between the top bezel and the base piece the plastic will have a tendency to pull right over the base corner instead of pulling down around the bezel then around the base as it should. Placing thin 1/16th thick spacers underneath the bezel and drilling holes through the base will allow for the suction to get through, but not suck the plastic under the bezel.



(Figure 5-2)

Part Five

Making Your Mold

6. Sand Sand Sand! You'd better get used to the idea and start right off the bat because there is a lot of it and it really makes the difference! Doing so makes for a guaranteed smooth finish and can help with the releasing process of the plastic from the mold. If you're using clay, that's not much of an issue. Also, when using wood, sand the edges and round the corners as best you can. This helps with releasing the molds as well.



7. Leaving some space underneath your mould when on the vacuum table is a bit of a controversial subject. Personally in the past I've taken strips of $\frac{3}{4}$ " pine and screwed it to the bottom of my mould half which allows for the plastic to fully wrap around the mold. I've found this to be the best way to get an even wrap all the way around, and simply making the mold a bit thicker allows for a tolerance that you can cut down after forming. Admittedly it does make the releasing stage a bit more complicated and some say that placing the mould flush with the table is the best way to go. It boils down to personal preference really and how many cases you plan to make in a period of time.