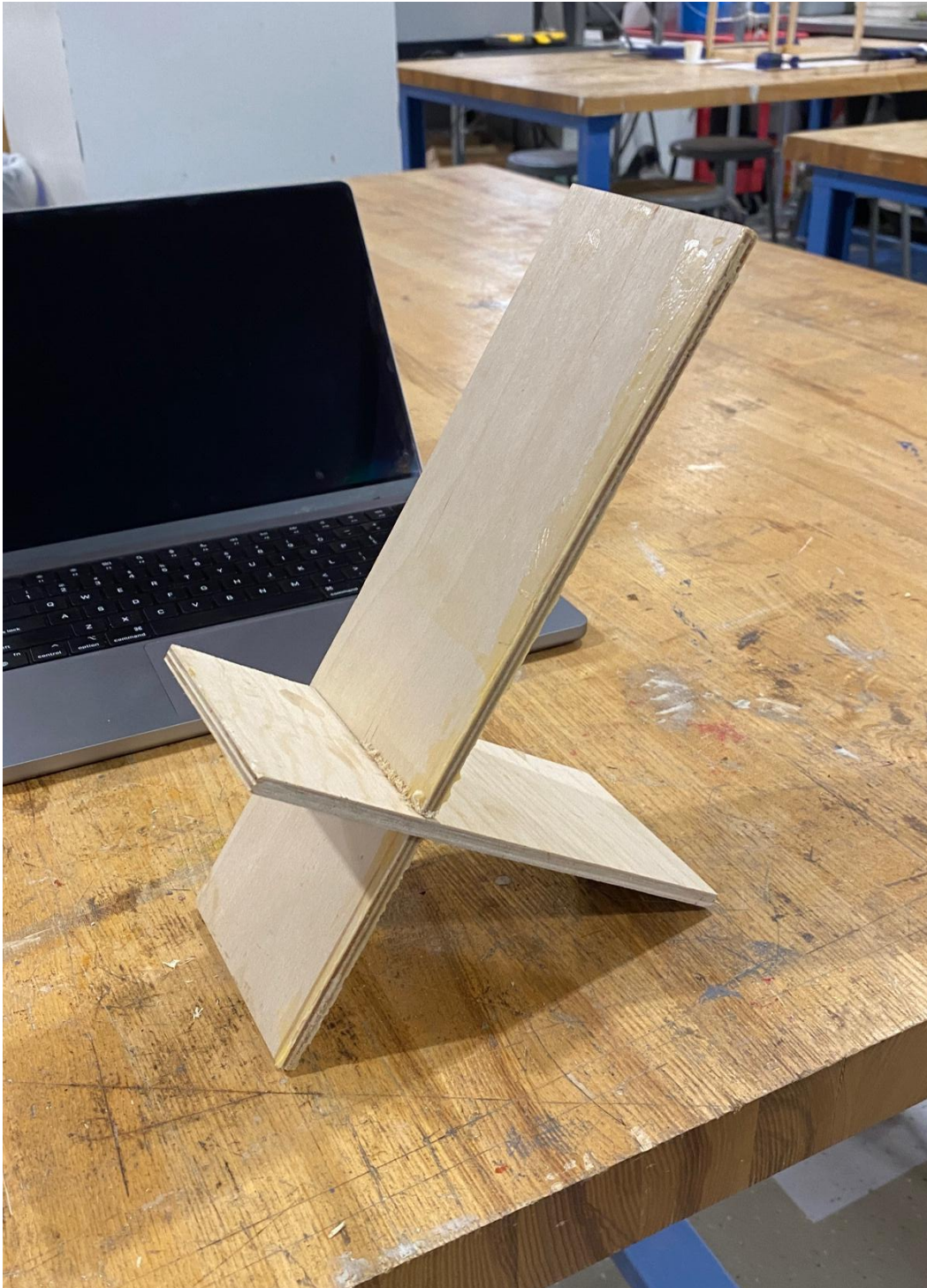


How to Build a Custom Phone Stand:



By: Todd Lee-Millstein

Materials:

- 2 flat pieces of wood! (that's it!) The length, thickness and width can vary depending on your preference.

Tools Used:

- NC Mill
- Band Saw
- Sander

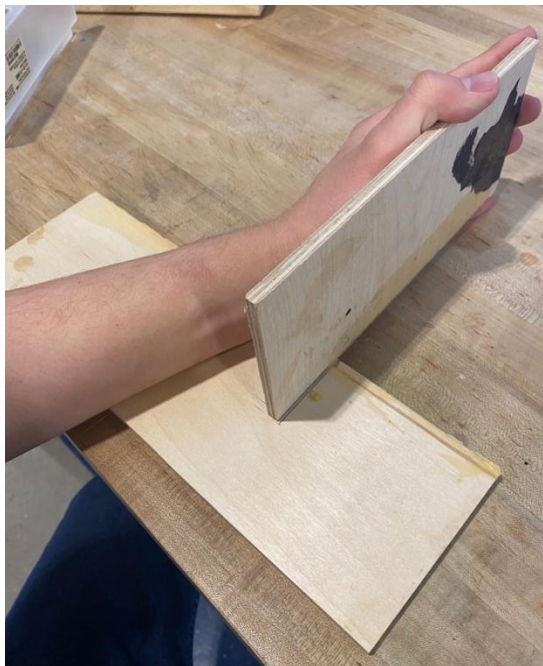
Instructions:

Plan: To begin, choose two pieces of wood you would like to use. One piece will become the main phone stand and the other will be the supporting piece. Don't worry too much about the dimensions yet because you'll have a chance to cut down and adjust the sizes to fit your device.



Choosing two pieces of wood

Decide how you want to slot them together to form a cross shape. Mark your cuts for the mill with a pencil on both pieces. Make sure the notches are aligned and have the same width and depth as the thickness of your wood.



Aligning pieces to draw cutting holes.



The two pieces with the sketched cut lines

Mill: Attach one piece of wood into the mill using the clamps in the orientation in the photo. Set up the cutting tool to match your pencil marks. Use the manual controls to move the tool along the marks and cut out a notch on one end of the wood. Repeat this process for the other piece of wood on the opposite end.



Inserting the wood into the clamps



Select the end mill bit that is as close as the size to the width of your cut out as possible. If necessary, use a smaller bit and plan on making two passes to fully remove any material in your drawn out area.



After selecting your bit, find the correctly sized collet for your bit. Find the collet that fits your bit the most snugly.



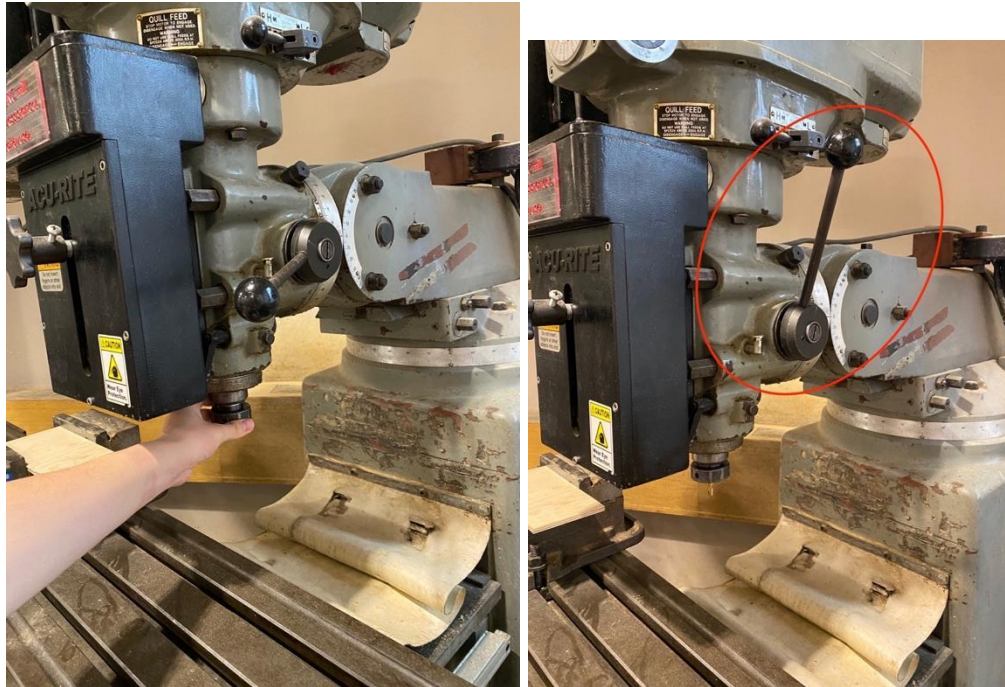
After that, attach the collet sleeve onto the collet by sliding it on up from the bottom of the collet.



Then, insert the end mill bit, and screw on the collet collar. Don't worry about fully securing the collet collar yet because in the next step you will use a collet wrench to fully tighten it.



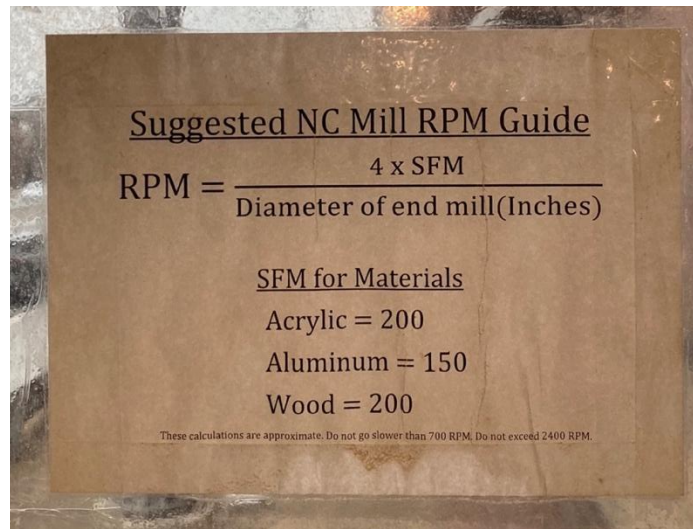
Next, insert the collet into the slot on the NC Mill, find the collet wrench in the red drawer, and tighten as shown in the last photo. Make sure the collet collar is fully secure, as this is what will ensure the end mill bit does not come loose while operating the machine.



When your collet is fully assembled, you can insert into the NC mill by holding it place with slight upwards force, then pull the handle (circled in red) upwards until the collet moves upwards, then release the handle gently. If all goes well, the collet should be securely in the NC Mill.



Before turning on the NC Mill, use the knobs to align the end mill bit with where your sketched out cut is located.



Before cutting your material, refer to the Suggested NC Mill RPM Guide to get an estimate of what your speed should be, round to the nearest 100. Turn the mill on before adjusting the speed using the dial at the top of the machine.



Trim: Now that you have two pieces that fit together, consider what angle you want your phone stand to be at and what height your phone is. Mark lines on both pieces where you want to cut them to make them shorter or slanted. Use the band saw to cut along these lines. Feel free to experiment with different angles and heights until you find one that suits your needs. free to experiment.

Sand: Sand down any corners and rough edges using the sander until they are smooth and even. You can also sand down any surfaces that will be visible or touch your phone.



Optional Features:

- Add a phone charging slot: Consider if you want to use the NC mill to cut out a slot or maybe drill a hole. Use your imagination!
- Hard challenge: Integrate a wireless charger into the design. Consider the dimensions and use the NC mill to cut a hole and slot for the charger.
- Laser engrave a design on the wood!