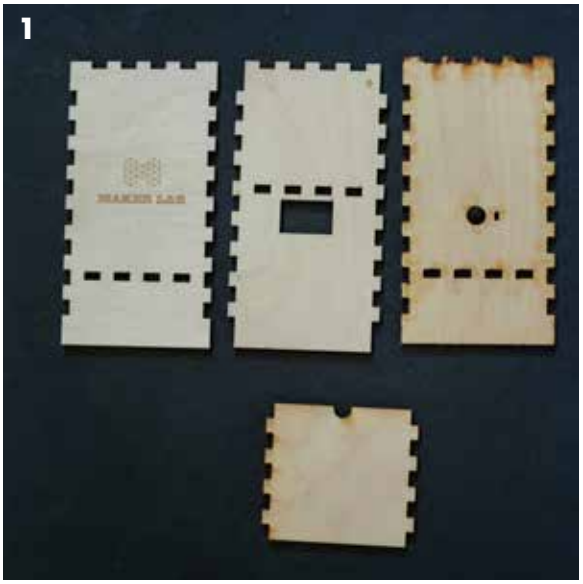
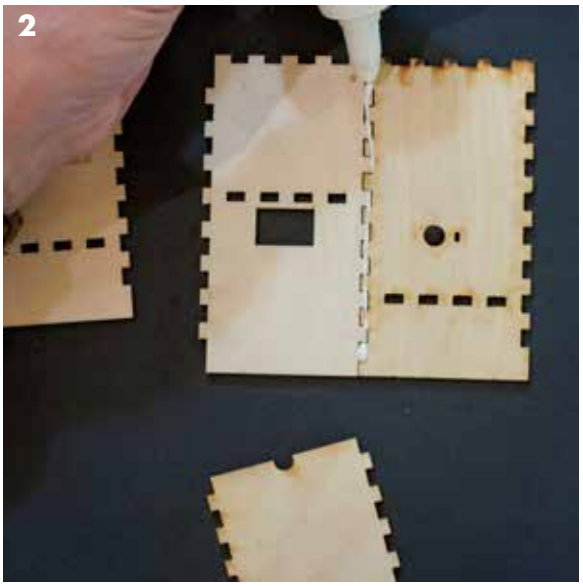
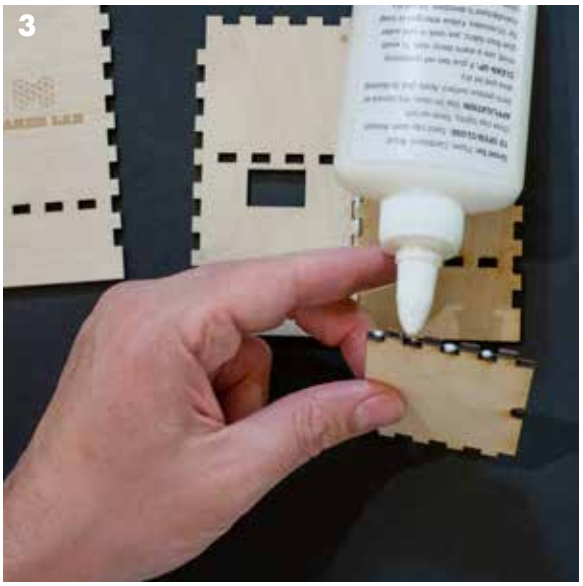
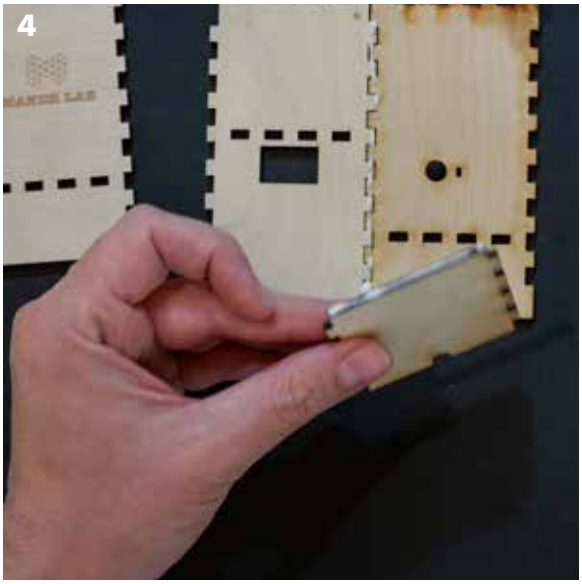


Lay out the large wood pieces with the piece with the small circular hole to the right of

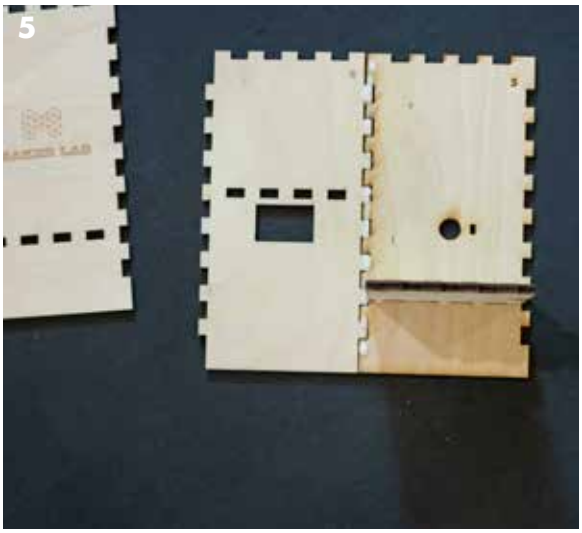


the rectangle hole piece. The tiny rectangular hole should be farthest to the right.

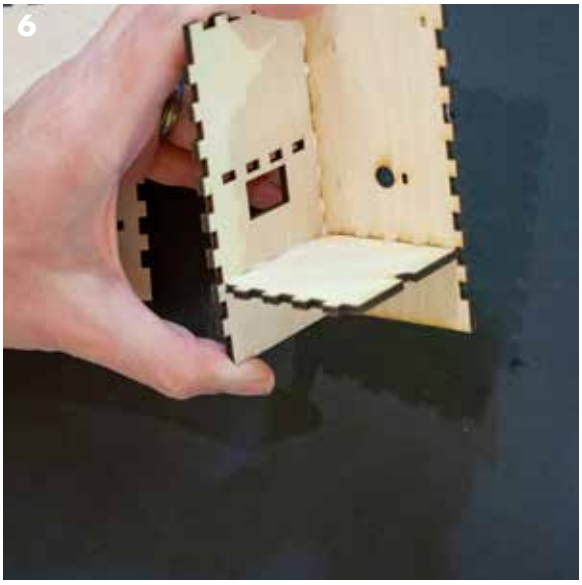


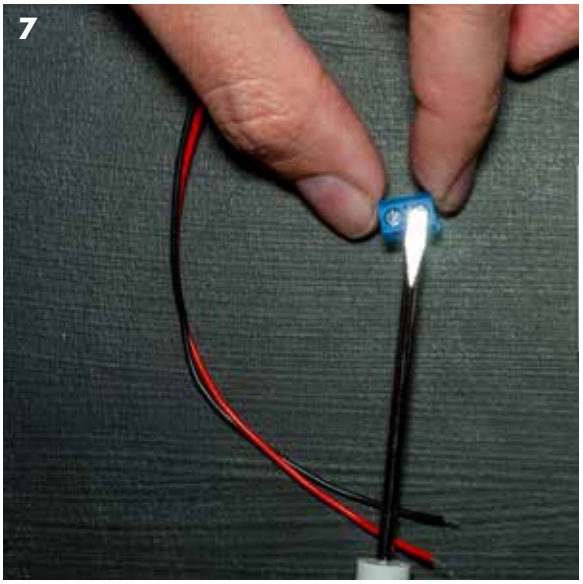


Run a bead of glue down the center of the overlapping seams and between joints.

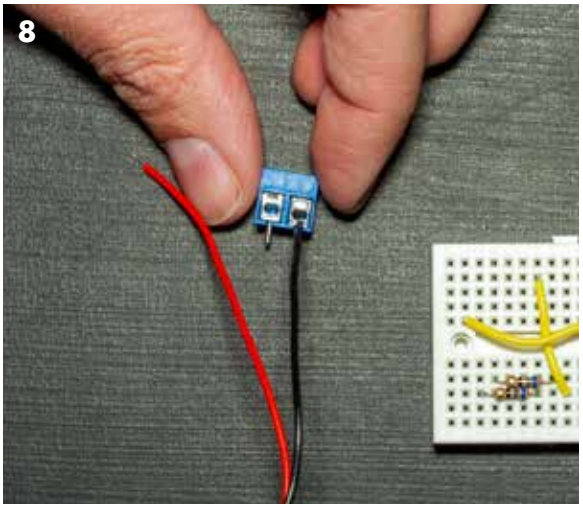


Also glue in the rectangular piece with a small notch cut out of one side - notch to the right.

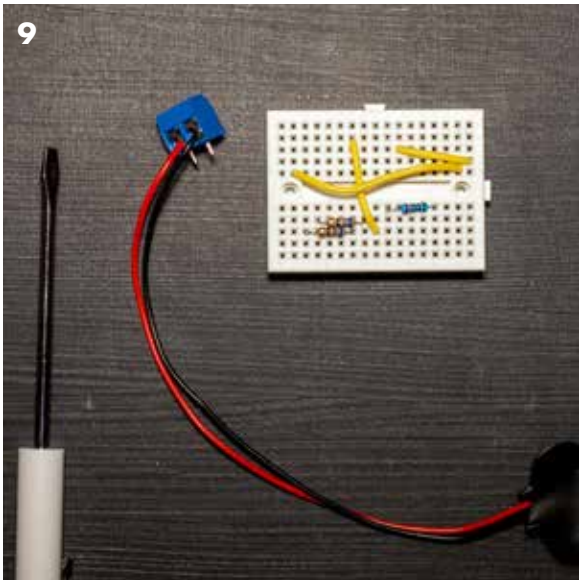


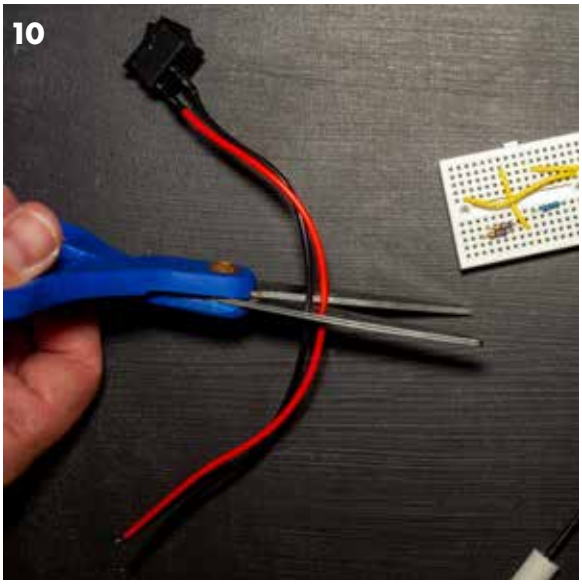


Unscrew the screws in the terminal block a few turns to open the holes on the front.

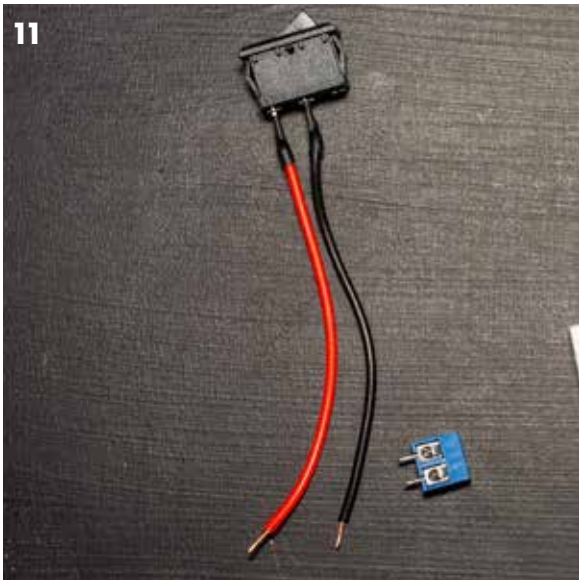


Place the bare wire ends into the terminal block red on the left black on the right and re-tighten the screws. They should be tight enough not pull out of the block.

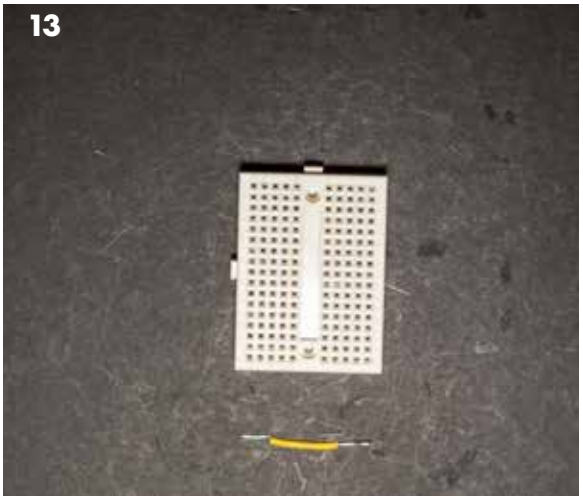




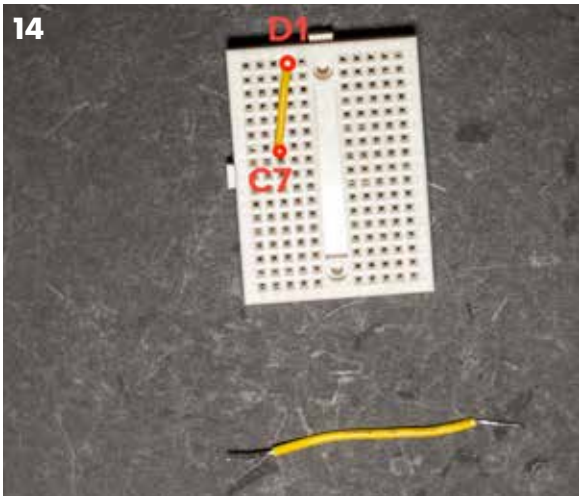
Cut about half the wire off the switch leads. Strip the last 3/16” of the wire.



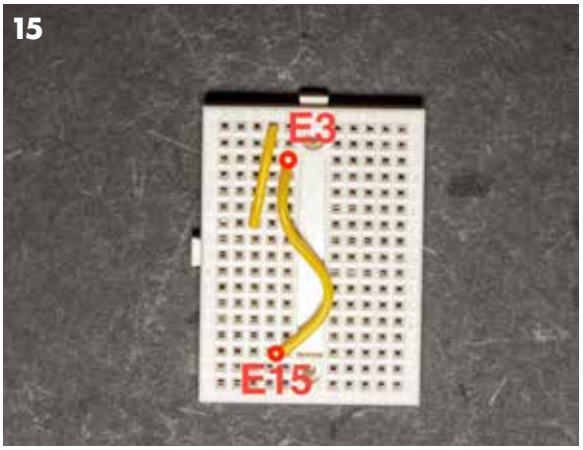
Unscrew the terminal block a couple of turns. Place the bare wires in the block and tighten.



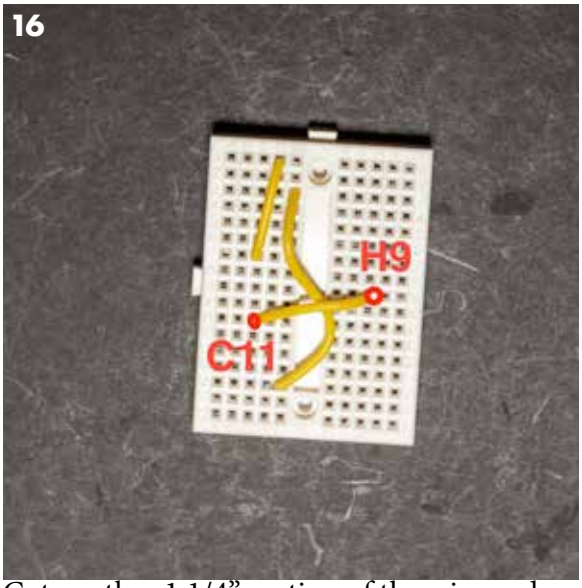
Lay the box aside to dry and get out the electronics. Cut a roughly 1 1/4" piece of the solid core wire. (There is only one in the kit color does not matter.) Use a pair of scissors



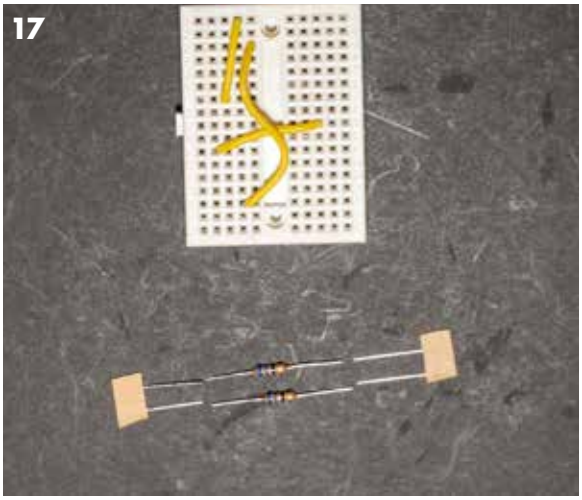
or wire strippers to remove the sheath from 3/16" of the wire. Push one bare end of the wire into D1 on the breadboard and the other end into C7.



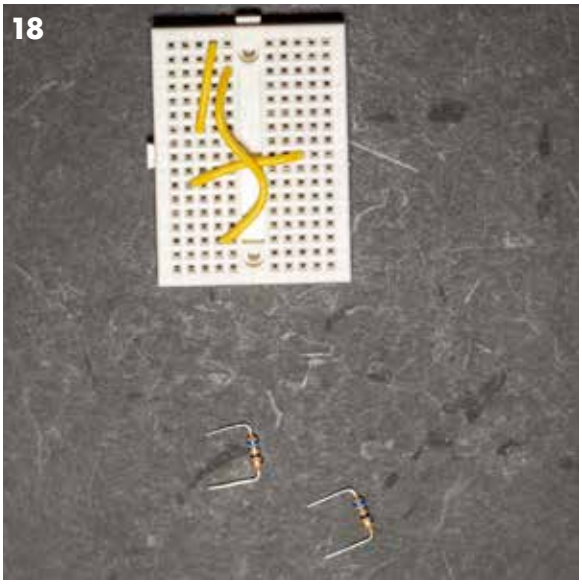
Cut a 1 3/4" section from the same wire and strip its ends. Push those ends into E3 and E15 on the breadboard.

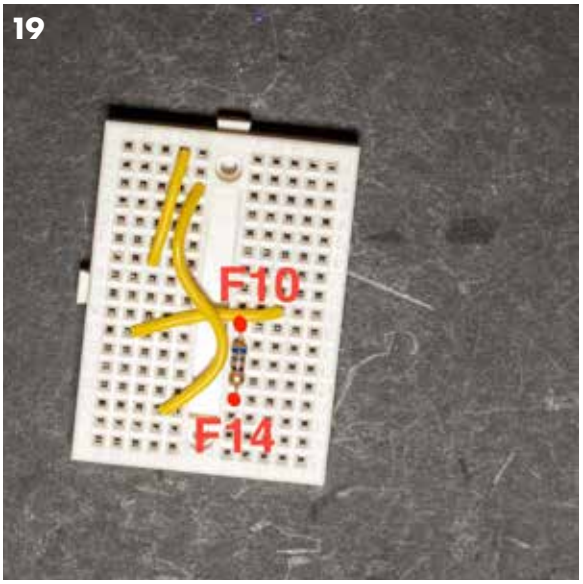


Cut another 1 1/4" section of the wire and strip its ends. Push this one into H9 and C11.

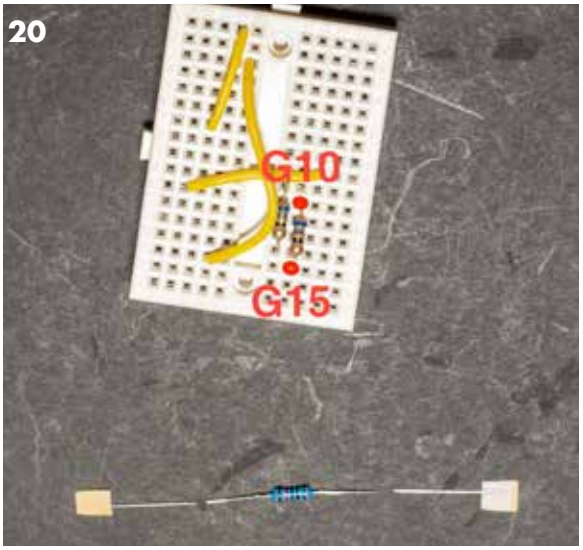


Take the two resistors that are connected and cut them down to about a 1/4" from each side of the resistor. Bend the ends at a 90 degree angle.

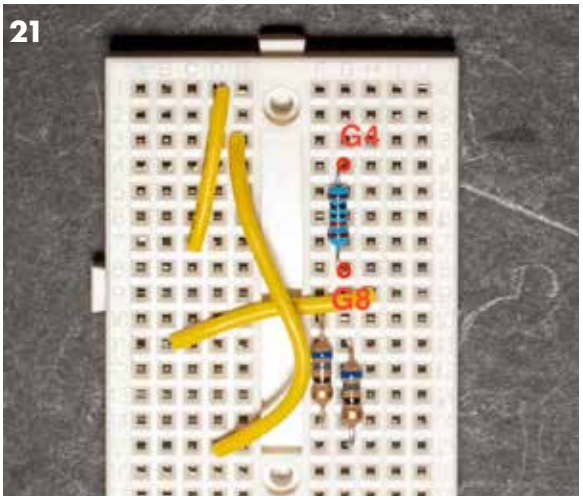




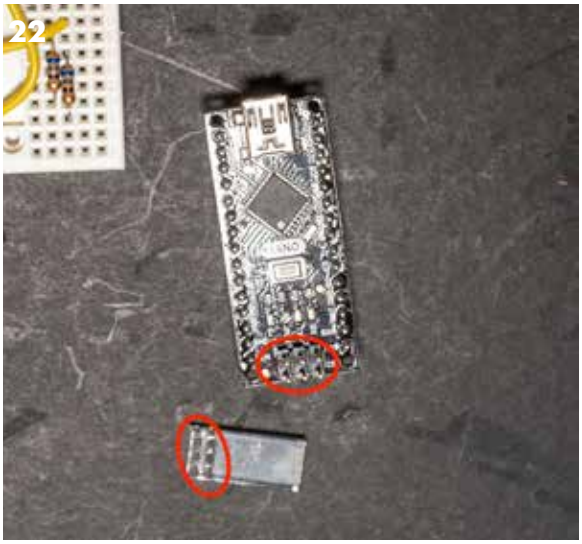
Push one end of one resistor into F10 on the breadboard and the other end into F14.



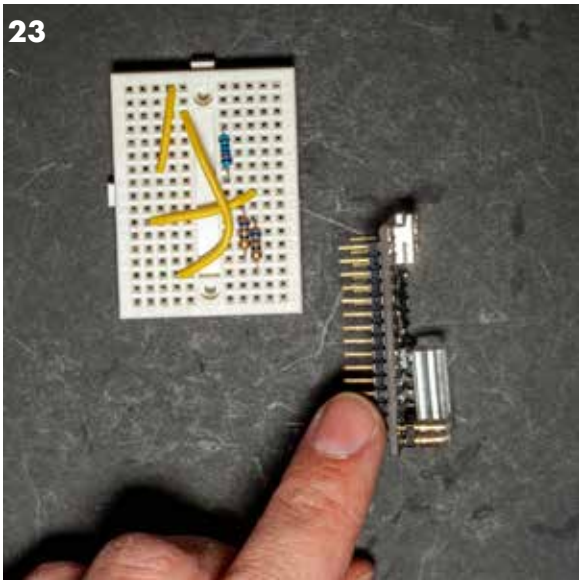
Put the other resistor into G10 and G15 on the Breadboard and cut the single resistor like the other two.



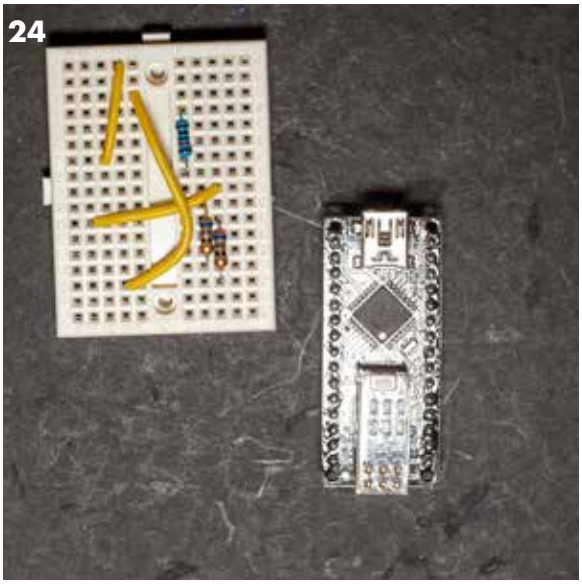
Push the last resistor into G4 and G8 on the breadboard.

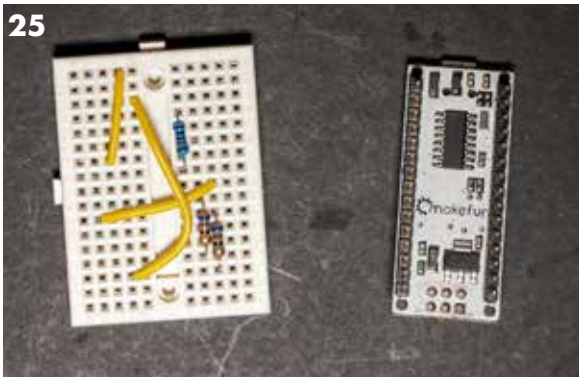


Take out the Arduino Nano an the small piece of acrylic. Press the 6 pins on the back of the nano into the 6 holes in the acrylic.

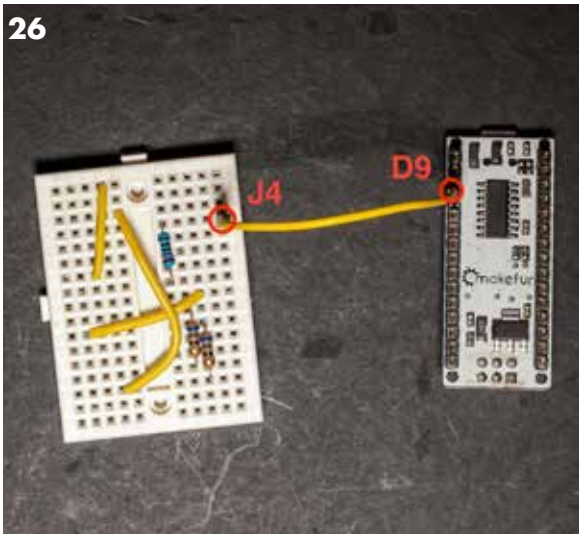


The acrylic will act as a base for the nano as we are installing it upside down.

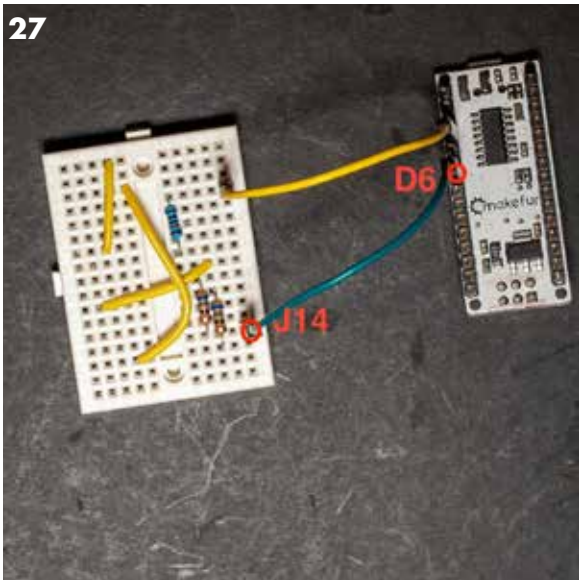


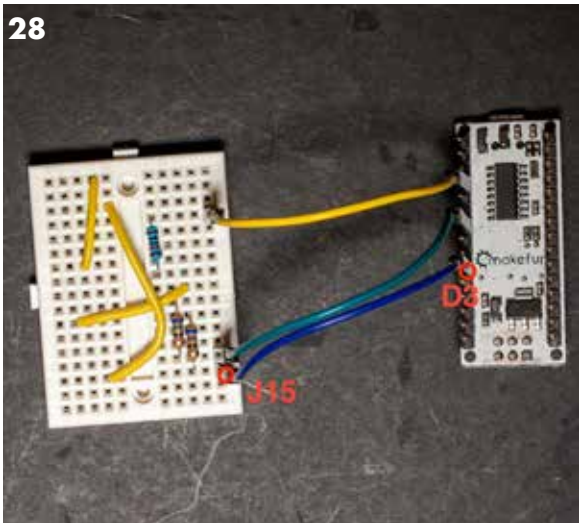


Flip over the nano so the majority of its pins stick up. Use the female end of a jumper wire to connect pin D9 on the nano, the fourth down on from the USB port on the left. Connect the male end of the same wire to J4 on the breadboard. This will be the red RGB LED connection but colors don't mater.

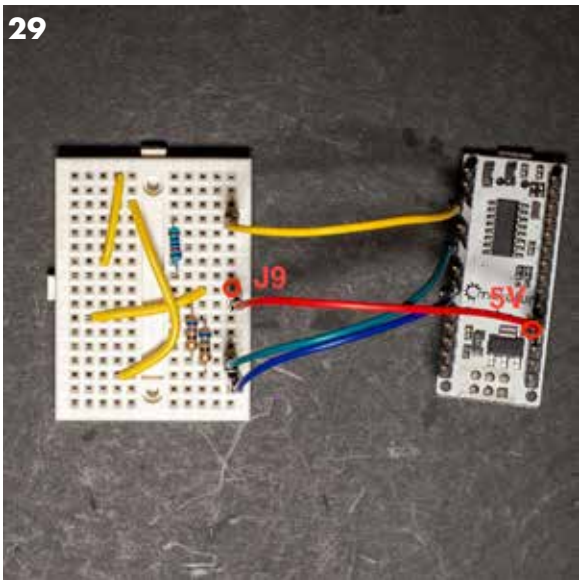


Use another jumper wire to connect D6 (3 pins down from D9) on the nano to J14 on the breadboard. This is the green LED pin.

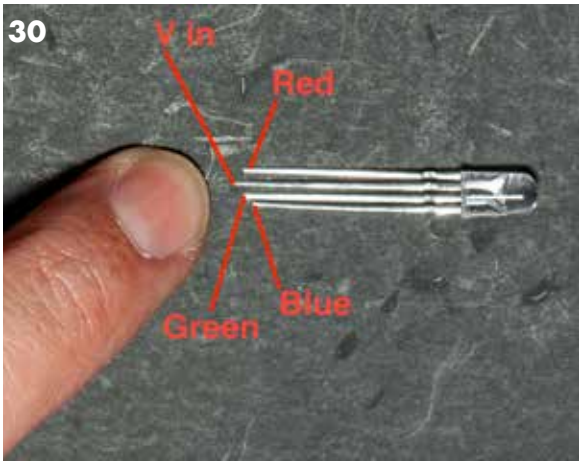




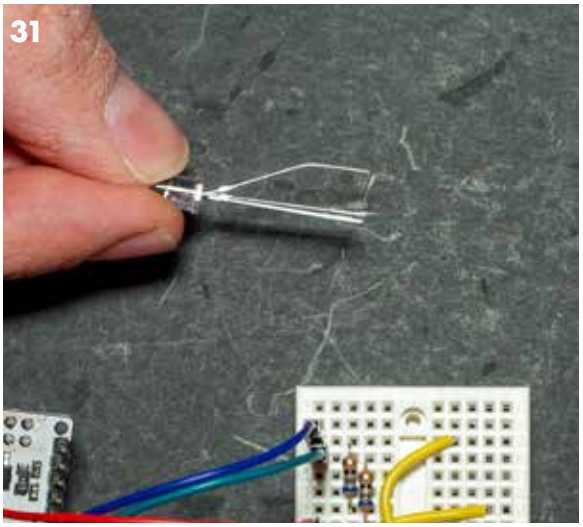
Use another jumper wire to connect D3 (3 pins down from D6) on the nano to J15 on the breadboard. This is the blue LED pin.



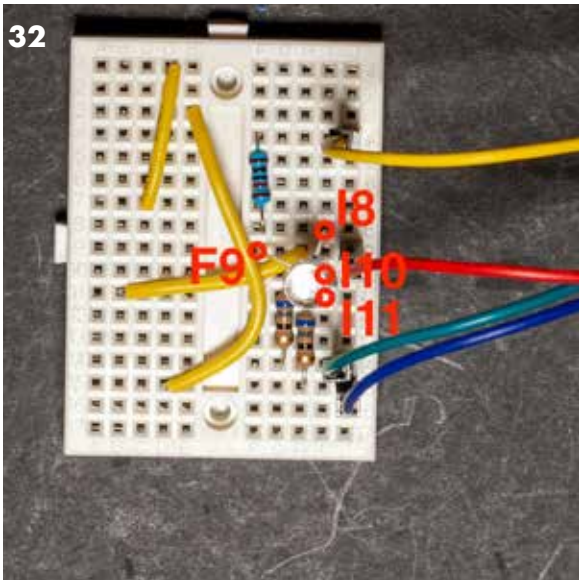
Use a fourth jumper wire to connect the 5v power from the nano to the LED. This will go from the 5V pin, fourth up from the acrylic on the right of the nano, to the J9 hole on the breadboard.

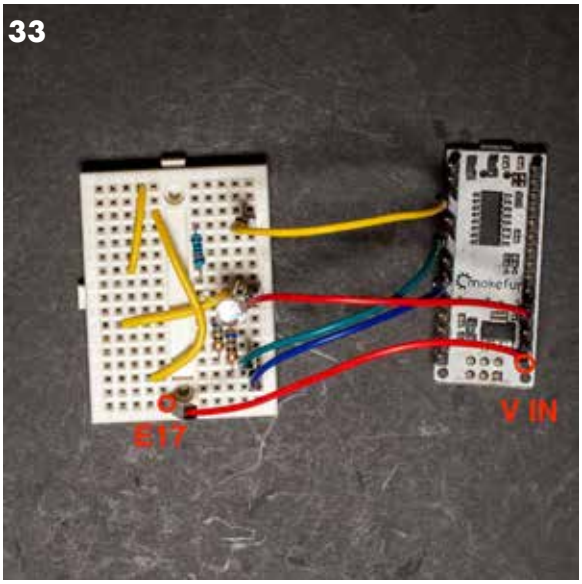


The long pin on the LED is the power (V)the one above it is red the two below are green and blue. Bend the long pin so that it matches the length of the others. All four pins go into the breadboard at once.

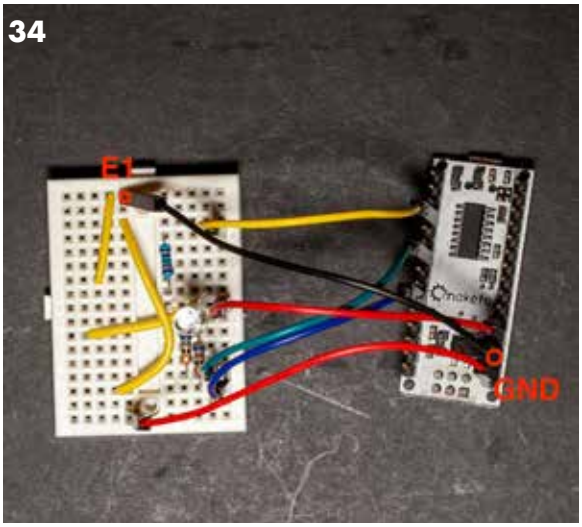


Red goes into I8. The long power pin goes into F9. Green goes into I10 and blue goes into hole I11.

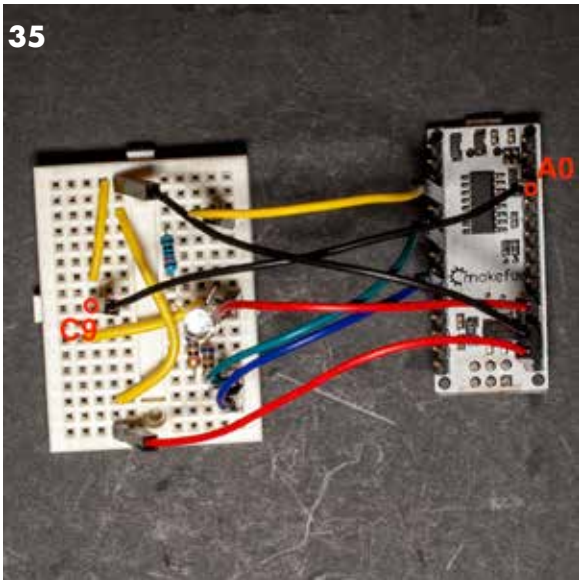


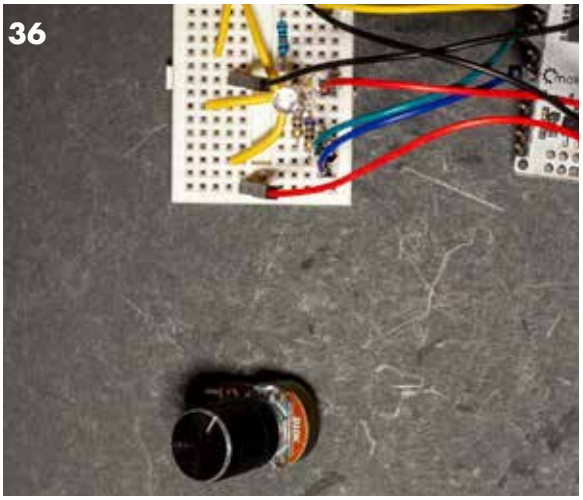


Use a jumper wire to connect the power in V IN on the nano to E17 on the breadboard.



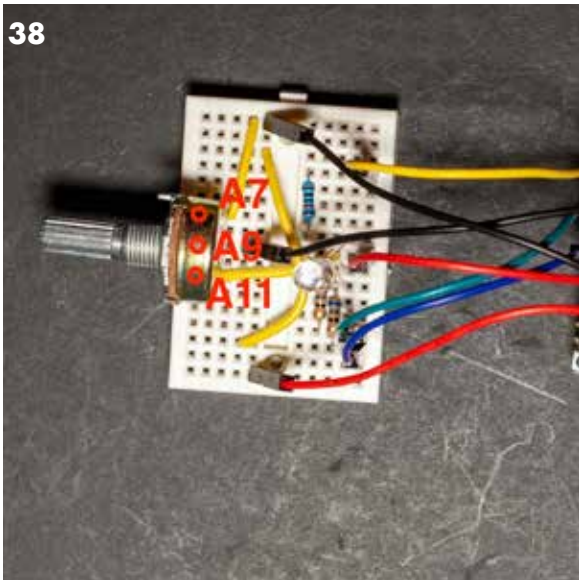
Connect the ground GND on the nano to E1 on the breadboard and A0 on the nano to C9 on the breadboard.

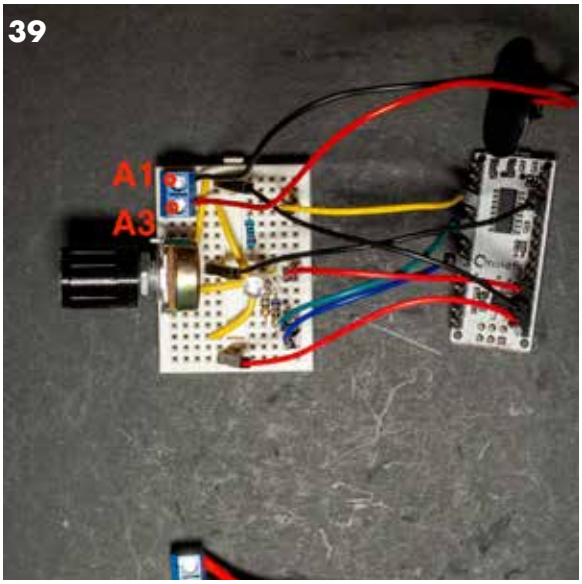




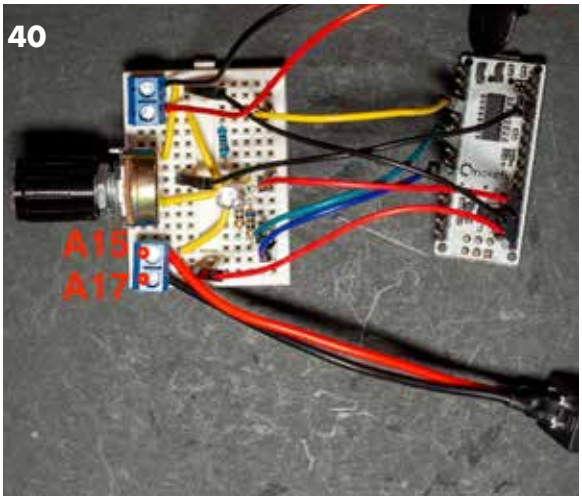
Take the potentiometer and remove the knob. It pulls off with effort. Then unscrew the nut and remove the washer.

Plug the three pins into A7, A9, and A11.

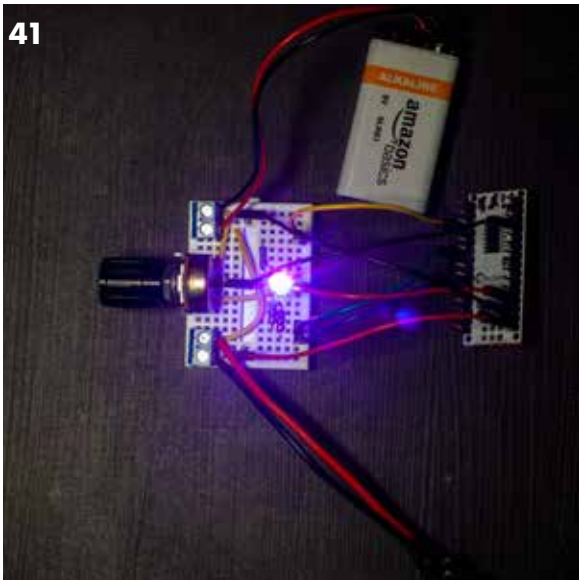


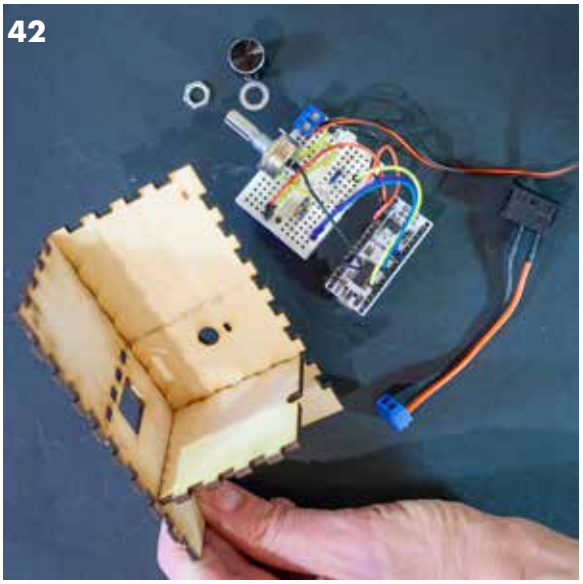


Plug the 9v battery adapter terminal block into holes A1 and A3 on the breadboard.

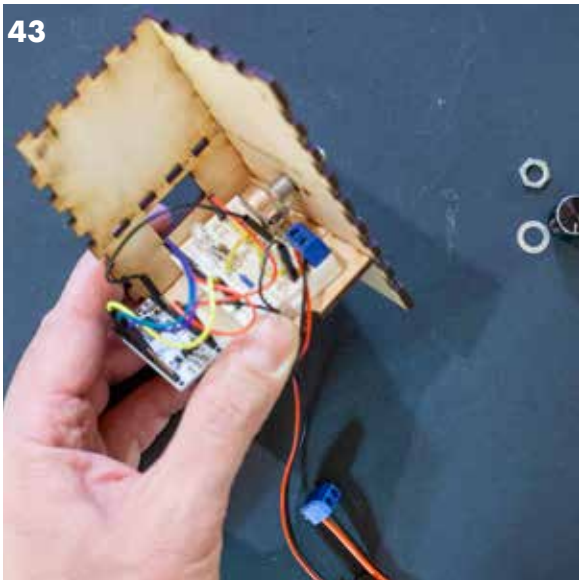


Plug the Switch terminal block into holes A15 and A17. Connect a 9v battery and test before continuing to put the electronics in the box.

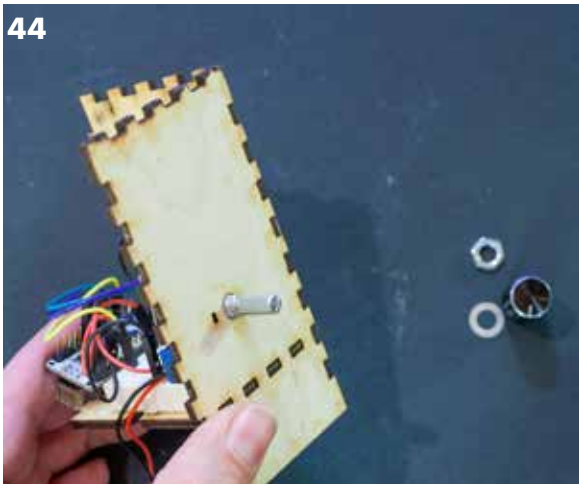




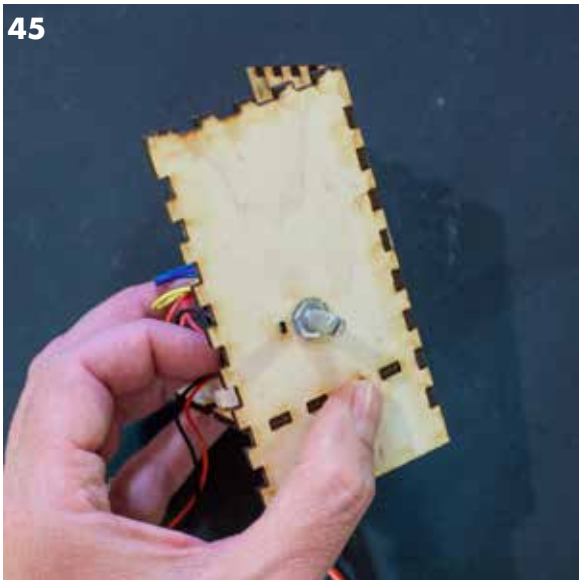
Get the box that was glued up earlier. Remove the switch terminal block form the



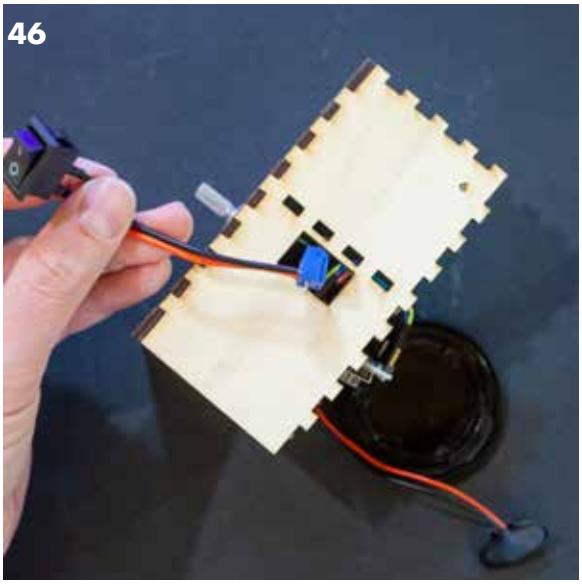
breadboard. Slide the post of the potentiometer through the circular hole the small pin



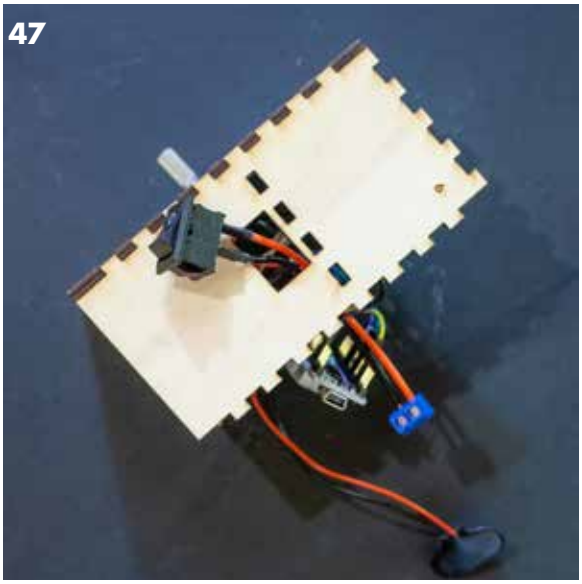
on the right should go into the small rectangular hole.

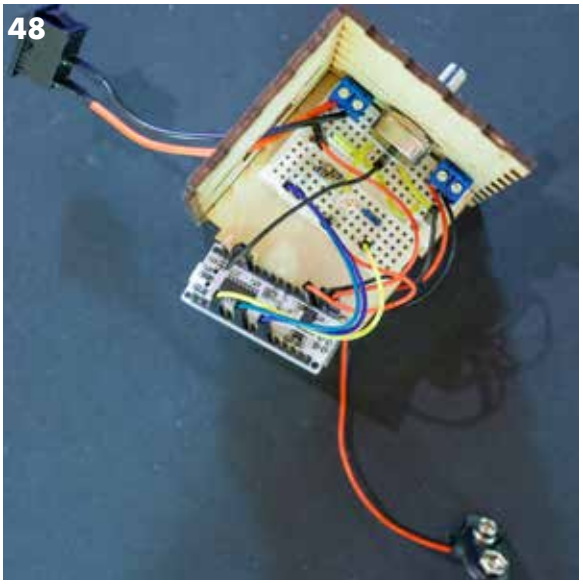


Place the washer on the post from the outside then tighten the nut onto the post also.

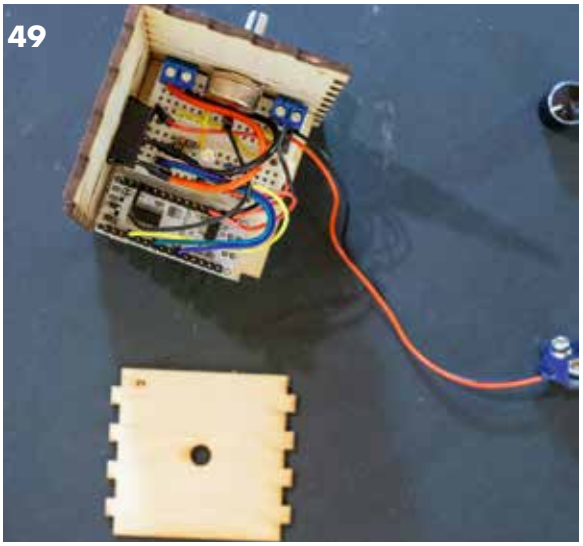


Slide the switch terminal block through the large rectangular hole.

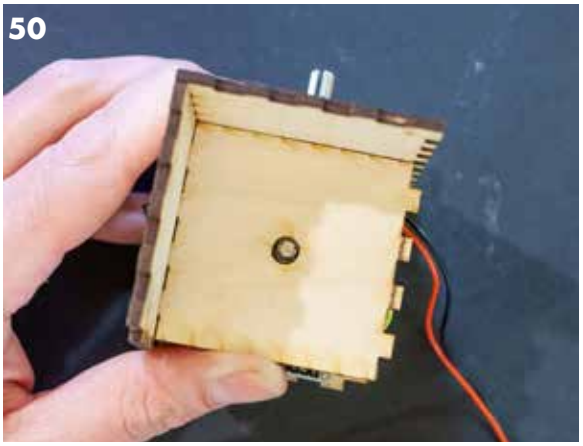




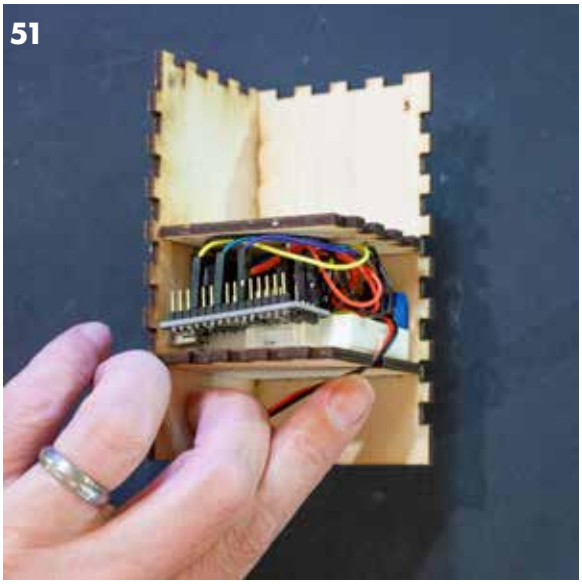
Reconnect the switch terminal block to A15 and A17 on the breadboard. Then press the



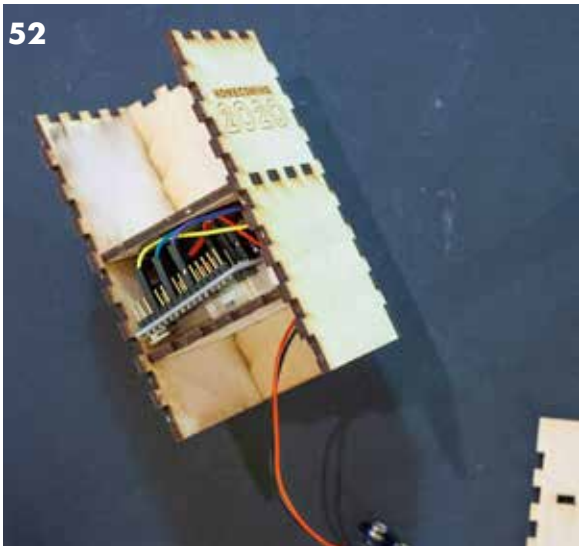
switch into the rectangular hole. It should click into place. The square piece of wood



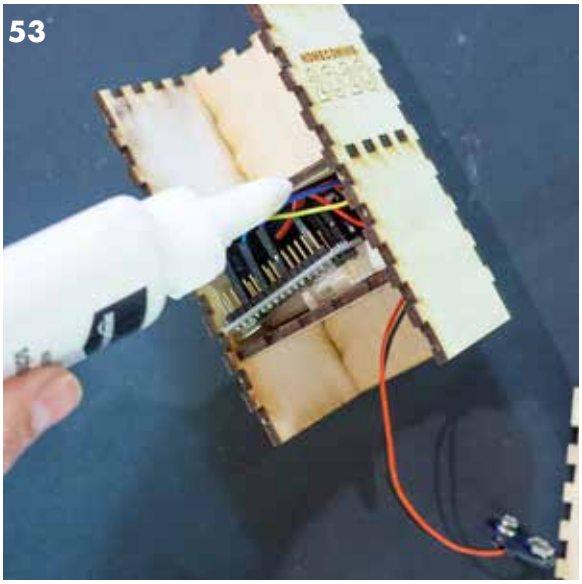
with a hole in the middle then plugs into the holes above the switch. The LED should poke into the hole in the center.

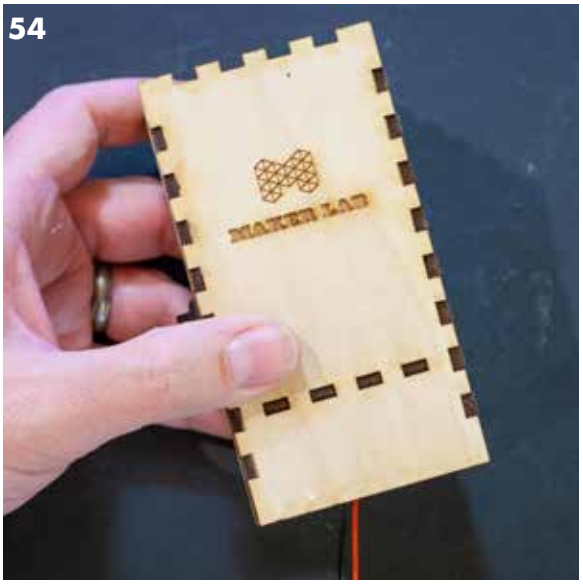


Place a dot of glue between each of the finger joints and put the Homecoming piece on.

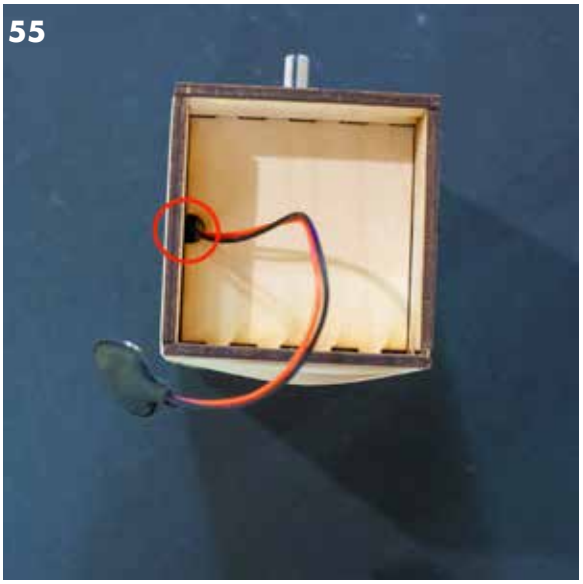


Place a dot of glue between each of the finger joints and along the spine. Attach the Maker Lab piece.

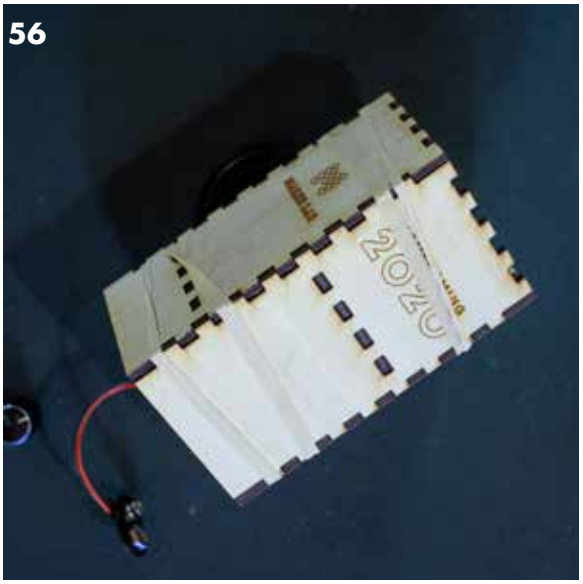


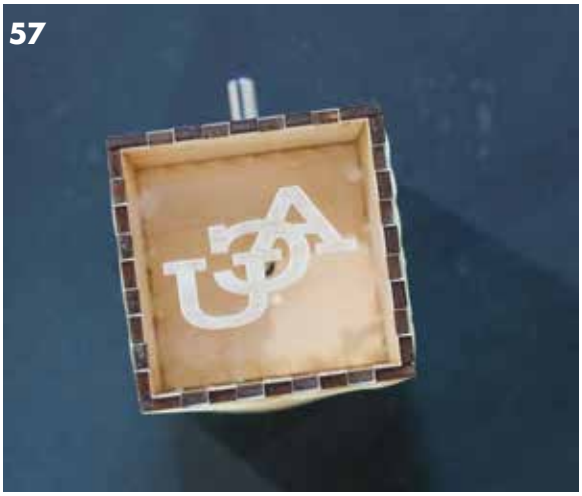


Make sure the 9v battery lead wires are not pinched by the wood pieces.

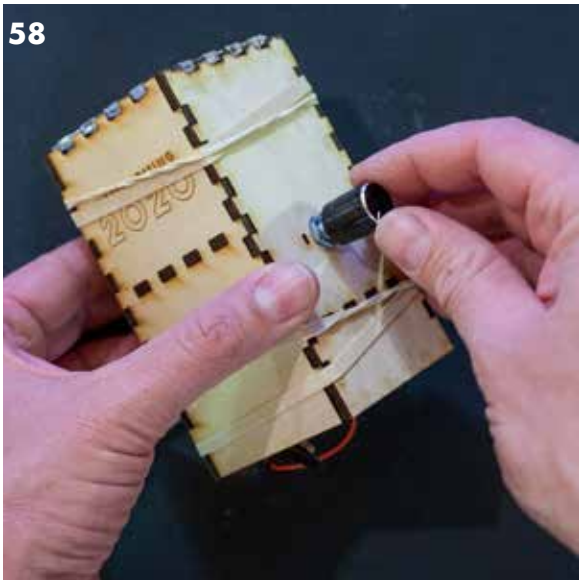


Some rubber bands or tape will help to hold the box together while it dries.

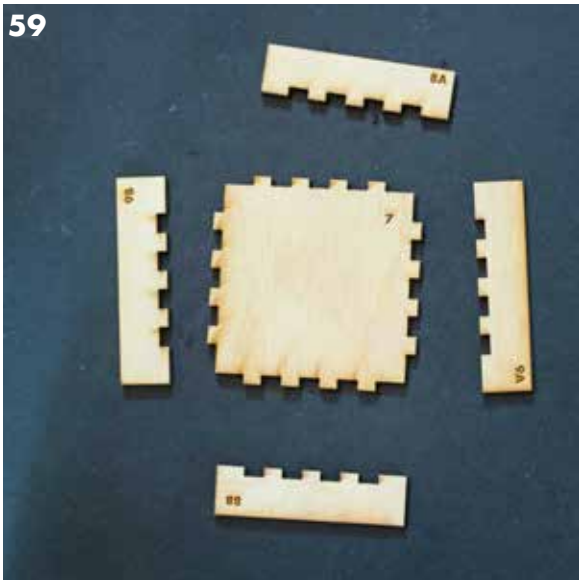




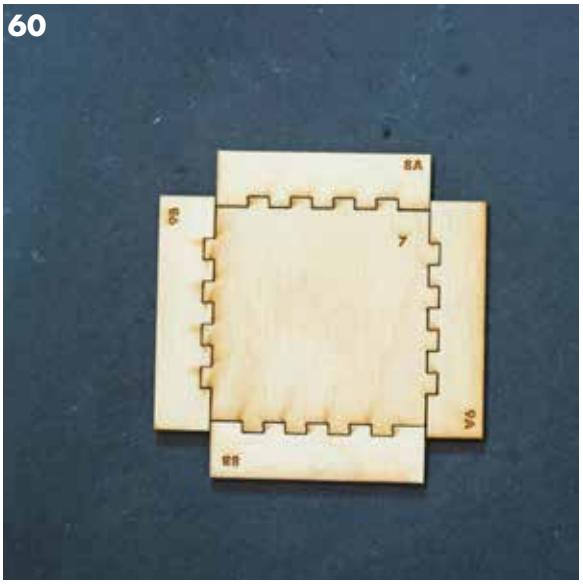
The ACU logo acrylic should be put on backwards so that it casts a shadow the correct direction. This can be glued between the finger joints.



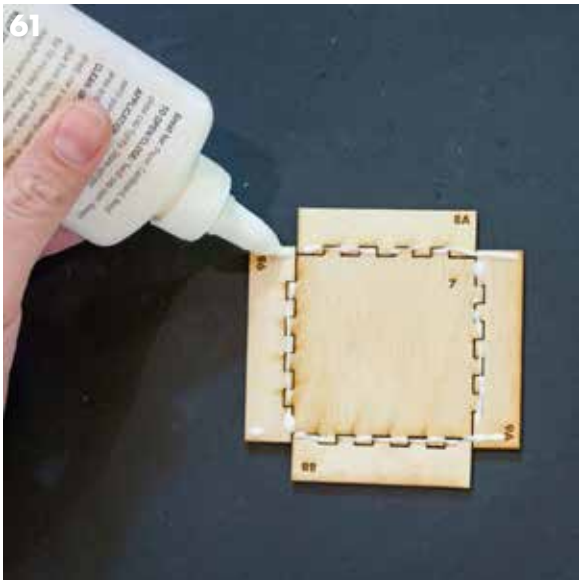
Push the knob back onto the potentiometer post.

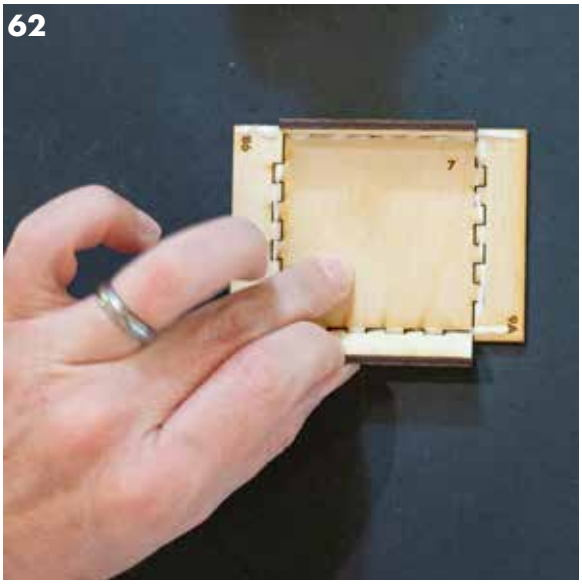


To make the end cap arrange pieces 8A and 8B above and below pies 7 with 9A and 9B

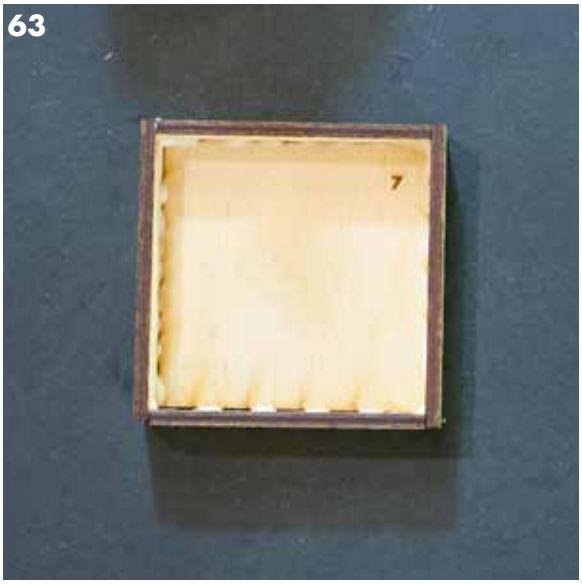


left and right. Run a bead of glue along the finger joints. .





Fold pieces 8 and 9 up to form a box.



Test fit the end cap around the box. But do not leave it there or it will glue itself to the box.