Online Extra

Calibrating the CNC Clock

If you have the clock to the point where all the parts interact smoothly, and the weight is moving the parts — congratulations, you're just two steps away from having a clock that will keep time as well as being a visual treat. One thing to note here, your wood clock has more of an organic temperament than its fancy cousins that are made of metal. So to make your clock work you might have to rub a little more graphite on one part, sand the corners of the leaves on some pinions — that sort of thing. It reminds me more of the delicate pruning and pinching that you might do on a bonsai tree.

Depending on the environment your clock lives in you might have to make these adjustments seasonally. You might want to hold off on gluing the escapement to the arbor until your clock has weathered a few seasons. Once you go through the process though, you should start to understand your clock's temperament.

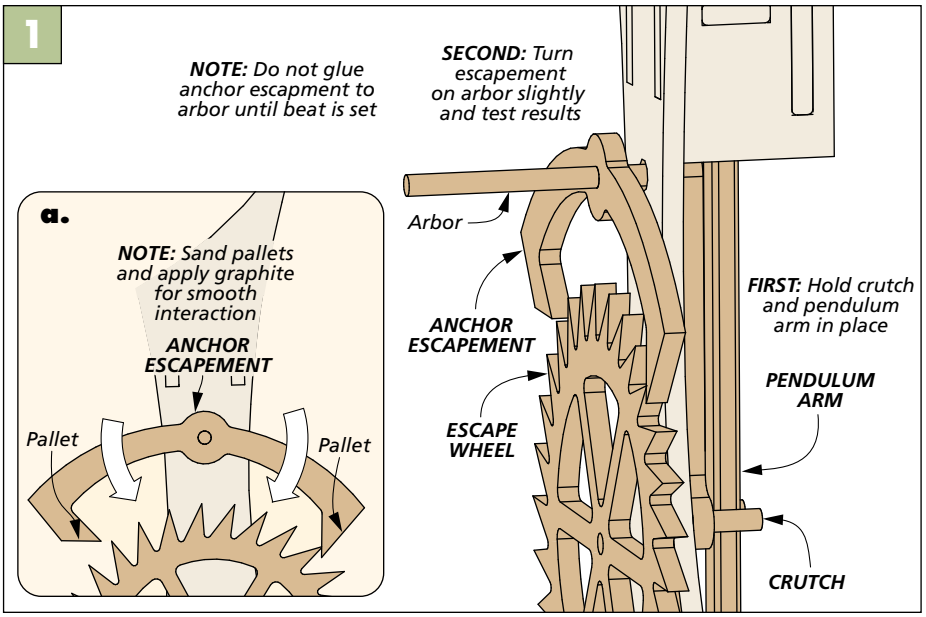
TICK-TOCK. The first step in getting your clock to run smooth and accurately is to set the beat. The beat is simply the tick and tock sound your clock makes when it's releasing the energy that the weight stores. Figure 1 shows you how to start the process. Unless you're a lucky soul, the distance between the tick and the tock sound probably is compressed — not enough time between the two.

So hold the pendulum arm and the crutch firmly in one hand and ever-so-slightly turn the anchor escapement on its arbor. Now set the clock in motion and listen to the results. After doing this a few times you'll get the feel for which direction you need to go to arrive at an even beat.

KEEPING TIME

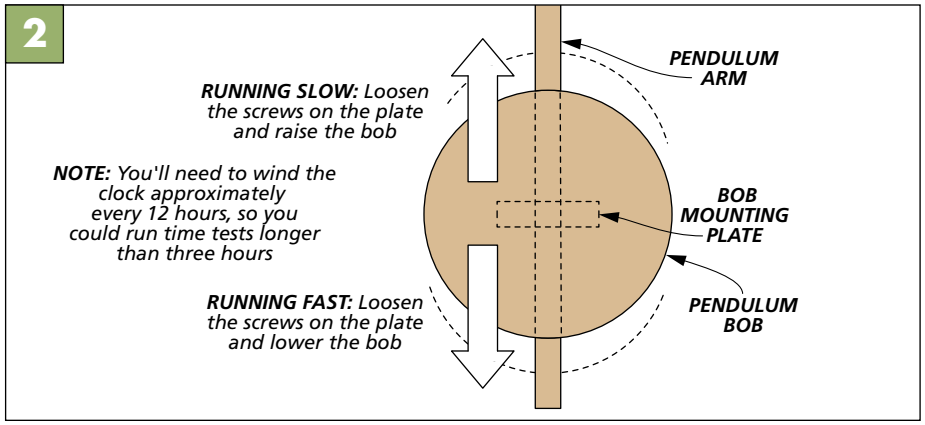
Figure 2 shows the simple steps required to make the clock keep time accurately. The minute and hour hands are a friction-fit on their mounts, so they can be turned to reflect the proper time. As I mentioned earlier, this clock has an organic soul, so be patient with the process of bringing it to life.

SETTING THE BEAT



Fuss & Fiddle. The goal is to arrive at an even interval between the tick and tock of the clock. It's a trial and error process that involves slight adjustments along the way.

KEEPING TIME



Speed Up or Slow Down. A simple way to check the speed of you clock's movements is to do a test run of three hours. At the end of the test, adjust the pendulum bob on the arm as shown in the drawing above.