# Resolution Calibration in SCAL

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- If you were to cut out any particular shape, for example, a 10" x 10" square, you might find that it actually measures 9-15/16" x 10-1/32". It will be <u>very close</u> to 10" x 10" but perhaps just slightly smaller or larger in either or both dimensions. Now this might be perfectly acceptable for the type of cutting you do. Therefore, it may not even be necessary to do this particular calibration. However, if you do want to make sure your shapes are cut precisely, the following procedure will allow you to calibrate your cutter.

- Go to the **Library** and select the square shape:
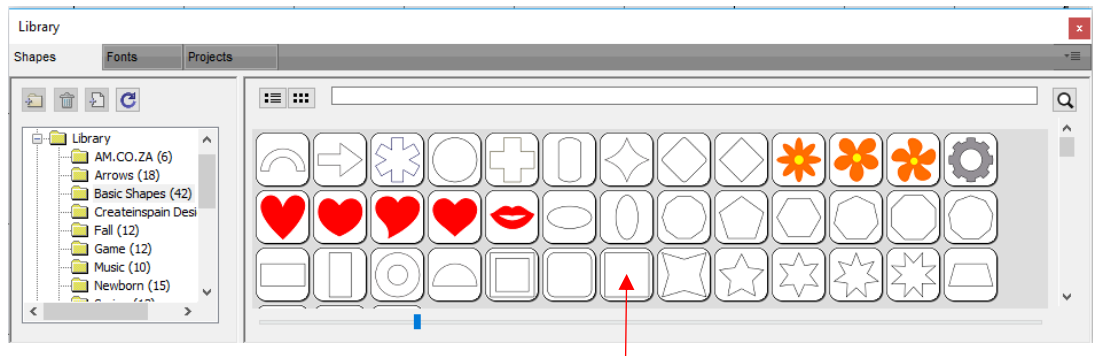
- Make sure you have selected the square and not the rounded square to the left of it because you will be measuring this square with a ruler after drawing it.

- To resize the square, select it and then click on the **Position & Size** icon to display that panel. The square will be 1" x 1". Change the size (**W** and **H**) to the largest size that will fit on the paper you have available. It is recommended that at least 10" x10" be used:
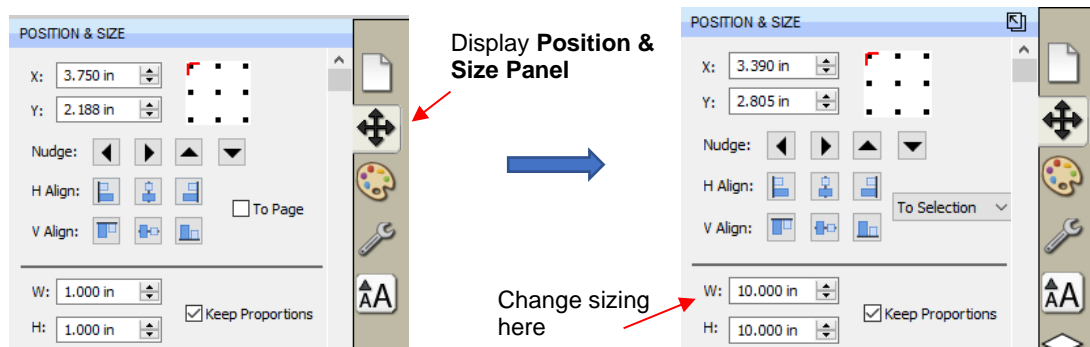

- Draw the square on your paper using the test pen or some other thin line pen. Then carefully measure the **Width** (the left-to-right length that drew) and the **Height** (the top-to-bottom length that drew:

Feed the mat or paper this direction into the cutter

Height

Width

KLIC-N-KUT
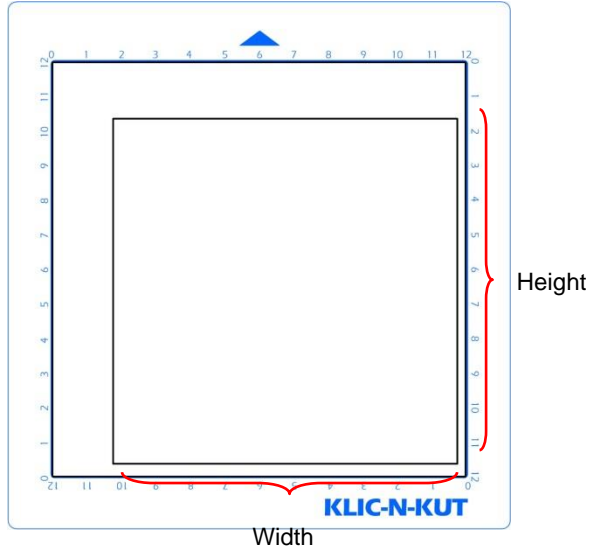
- Because some cutters are so very accurate, only take note if the sides are slightly larger than 10" or slightly smaller than 10" because it will probably be so close that you cannot even measure how much larger or smaller than 10 inches it might be. Instead, let's say the **Height** is just the tiniest bit over 10". Mark that side as being 10.01". Let's say the **Width** is just a tiny bit less than 10." Mark that side as 9.99". Now, if you feel you can measure accurately, with a ruler, then do so. But just estimating should work fine, too. Write those measurements onto your sheet:

Height = 10.01

Width = 9.99
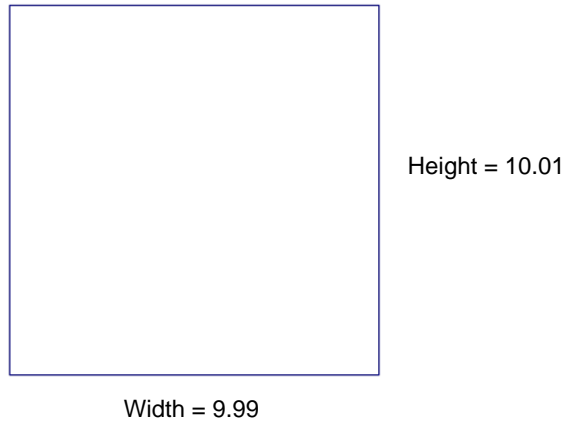
- Go to **Cutter>Cutter Settings**. In the top left corner of that window you will see the calibration settings:

Calibration settings
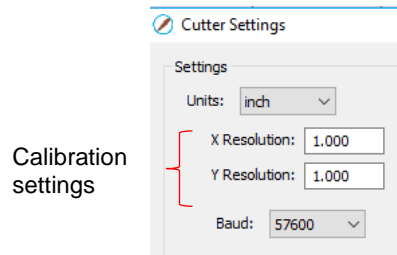
- Use a calculator to calculate the **X Resolution** and **Y Resolution** based on the measurements you obtained versus the size in SCAL. Note that it doesn't matter if you used **Portrait** or **Landscape** mode, the **X Resolution** is based on left-to-right (width) and the **Y Resolution** is based on top-to-bottom (height):

  > New **X Resolution** = Current X **Resolution** multiplied by the desired value divided by the actual value
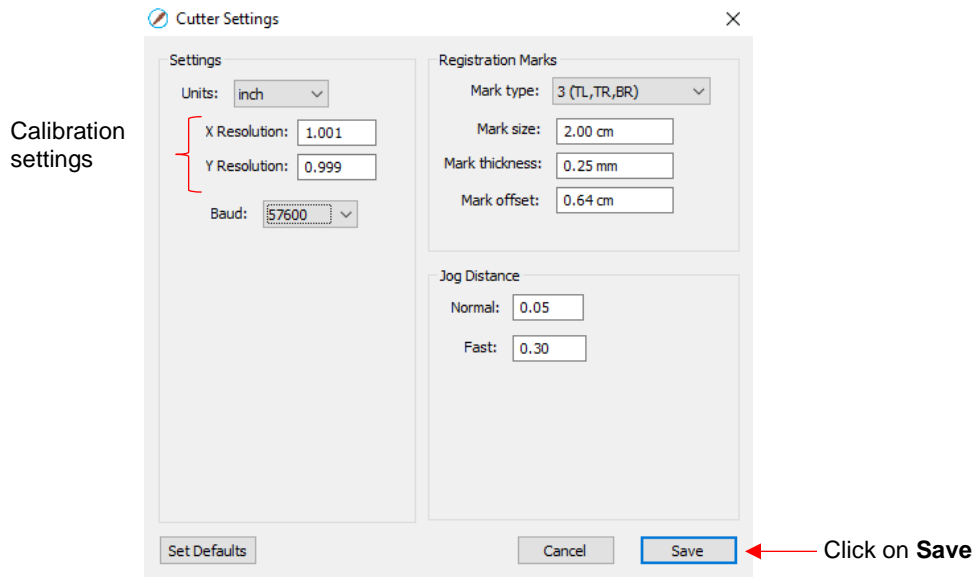 >
  > $$= 1.0 * 10 / 9.99$$
  >
  > $$= 1.001$$
  >
  > New **Y Resolution** = Current **Y Resolution** multiplied by the desired value divided by the actual value
  >
  > $$= 1.0 * 10.00 / 10.01$$
  >
  > $$= 0.999$$

- Enter those new values into the **Cutter Settings** window and click on **Save**:

- If, after testing again, you find that the sizing is still slightly off, then just repeat again. Note that in the calculations the second time, instead of using 1.00 for the **Current X Resolution** and/or **Y Resolution**, you will use whatever values you entered into the **Cutter Settings** window prior to drawing the square the second time.

- Finally, write these numbers down! SCAL updates are known to reset calibration settings. Thus, both these values and your cutter's print and cut calibration values (for the laser, optic eye, camera, etc.) need to be re-entered after installing updates.