

The first step in calibration is to set the STOP EXTENSION. Home the RazorGage positioner and adjust the stop extension to the appropriate distance from the blade.

If you are using the
RazorGage as a STOP ONLY

Adjust the STOP EXTENSION only close enough to cut the SHORTEST finished part you ever intend to cut. For example, if you'll never cut a part shorter than 4", set the stop 3.5" away from the saw.

If you are using the
RazorGage as a PUSHER
but it is NOT a RazorGage
RazorOptimal or APS.

Adjust the STOP EXTENSION about 1/2" outside any clamps that might clamp the stop extension when the pusher positions the material for the last few cuts. You don't want the pusher crashing into the clamps during homing and you don't want the clamps to clamp the pusher during the last few cuts.

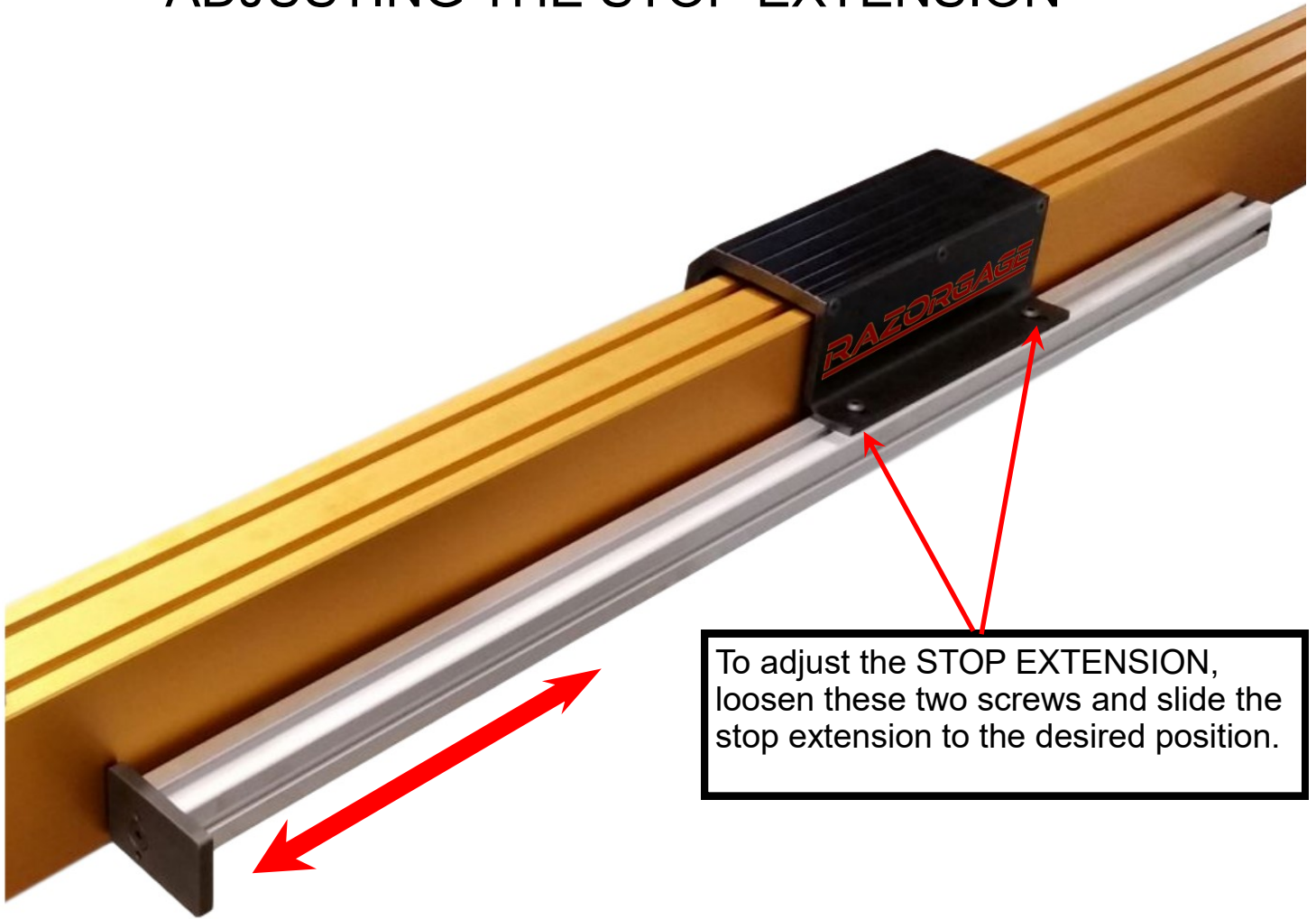
If you are setting the
stop extension on a
RazorOptimal

Adjust the STOP EXTENSION so that it is about 1/4" away from the TOP CLAMP. You don't want the top clamp to come down on the pusher when the saw is making the final cut. You don't have to worry about the FRONT CLAMPS clamping the pusher on a RazorOptimal.

If you are setting the
stop extension on a
RazorGage APS

If your material is EVER thinner than the STOP EXTENSION, adjust the STOP EXTENSION so that it is about 1/4" away from the TOP CLAMP. If your material is ALWAYS thicker than the top clamp you can adjust it so that it comes right up to the blade. You don't have to worry about the FRONT CLAMPS clamping the pusher on an APS.

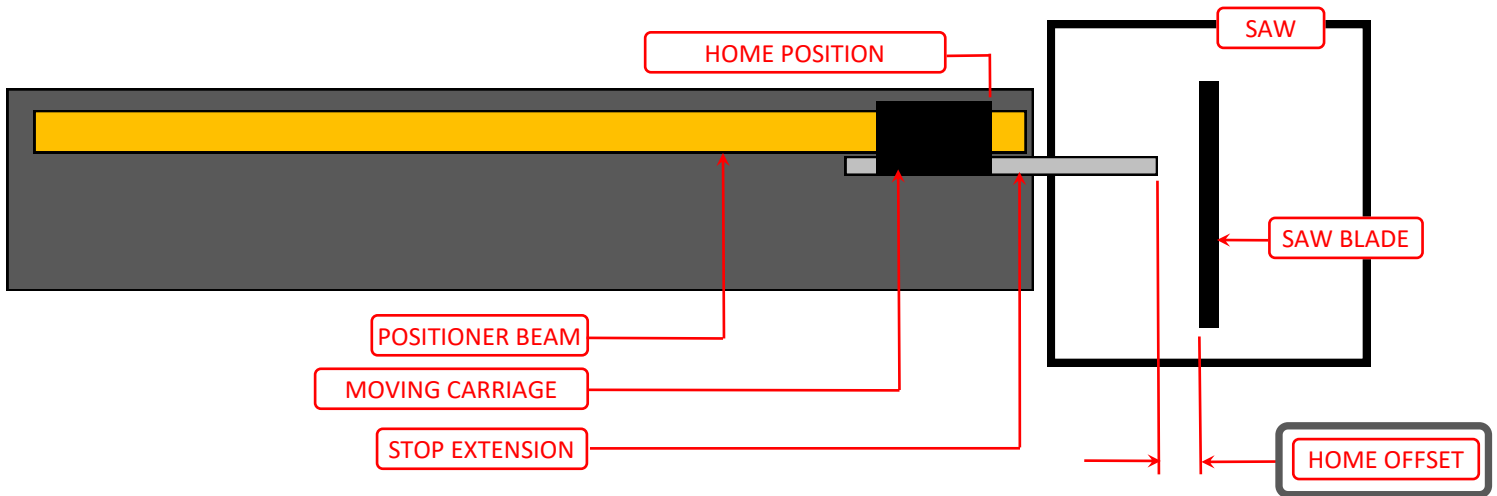
ADJUSTING THE STOP EXTENSION



To adjust the STOP EXTENSION, loosen these two screws and slide the stop extension to the desired position.

Do not proceed to the next step of setting the HOME OFFSET until you are satisfied with the location of the STOP EXTENSION. If you change the location of the STOP EXTENSION, you must re-calibrate the HOME OFFSET. Once you're satisfied with the location of the STOP EXTENSION, proceed to the next step, Calibrating the Home Offset.

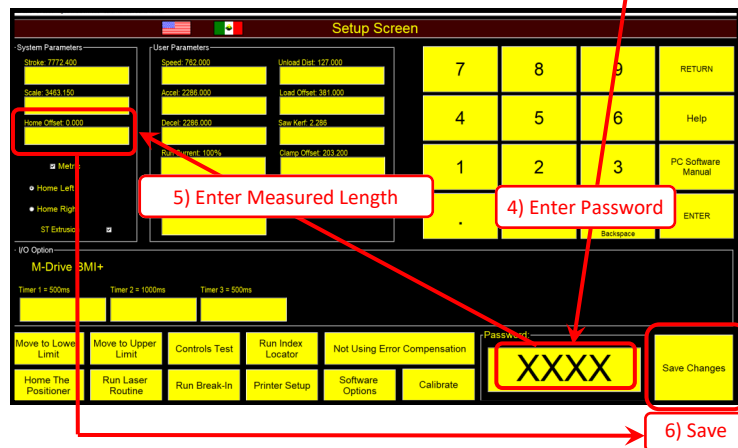
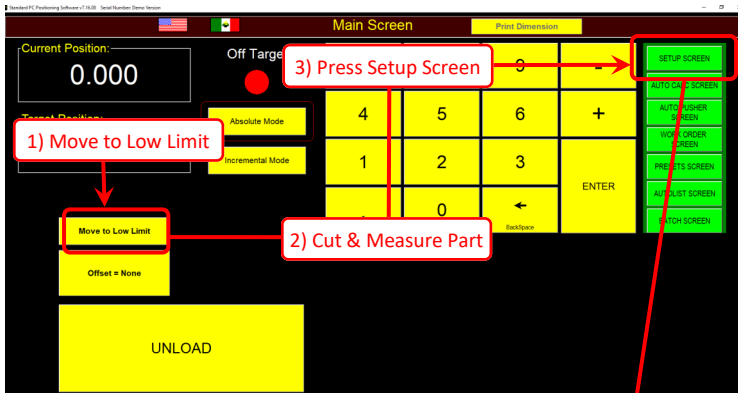
Setting the HOME OFFSET



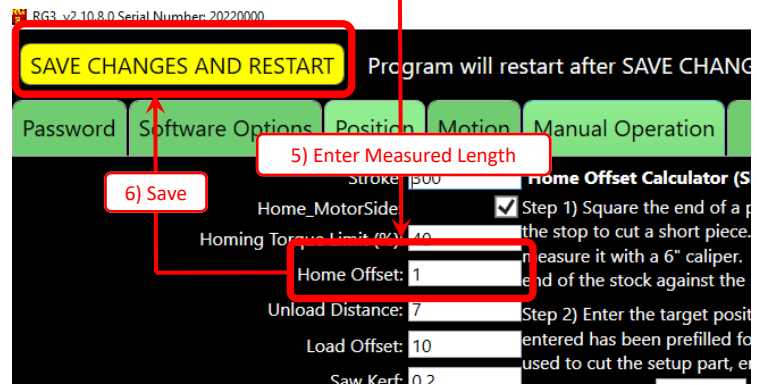
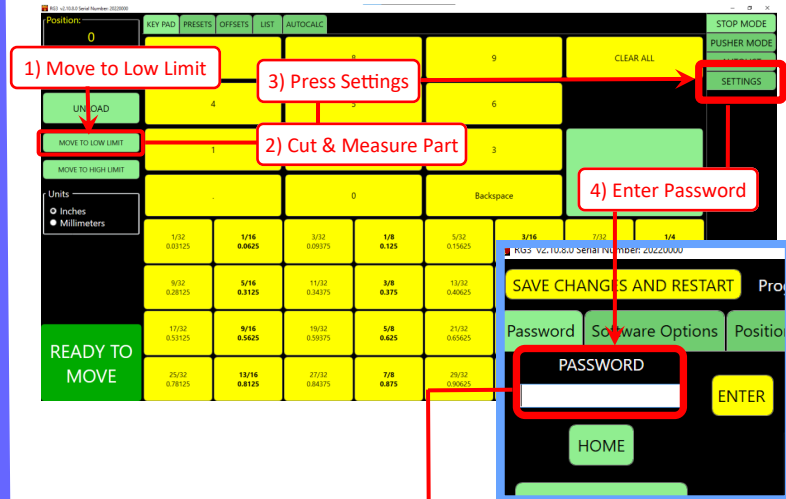
When the positioner is at HOME (LOW LIMIT), the software needs to know where the saw blade is relative to the end of the stop extension. We call that distance the HOME OFFSET.

To determine the HOME OFFSET, square the end of a piece of stock, press the LOW LIMIT button in the RazorGage software, place the square end of the stock against the RazorGage stop, and cycle the saw. Measure the resulting part and enter its length as the HOME OFFSET

RGST Screens



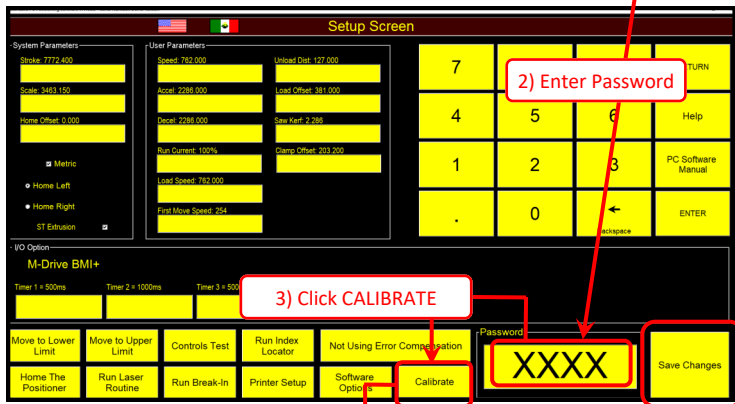
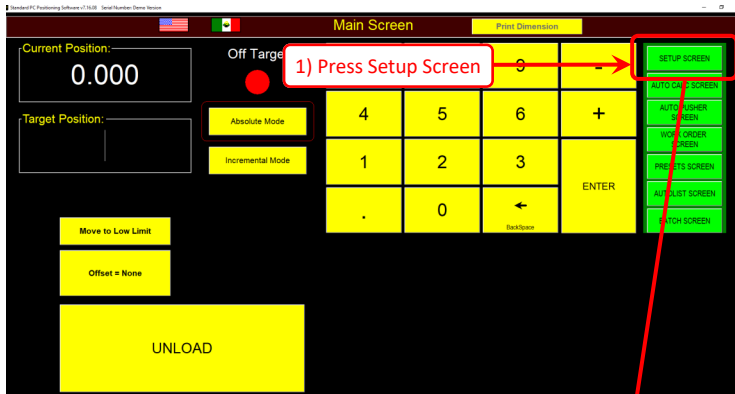
RG3 Screens



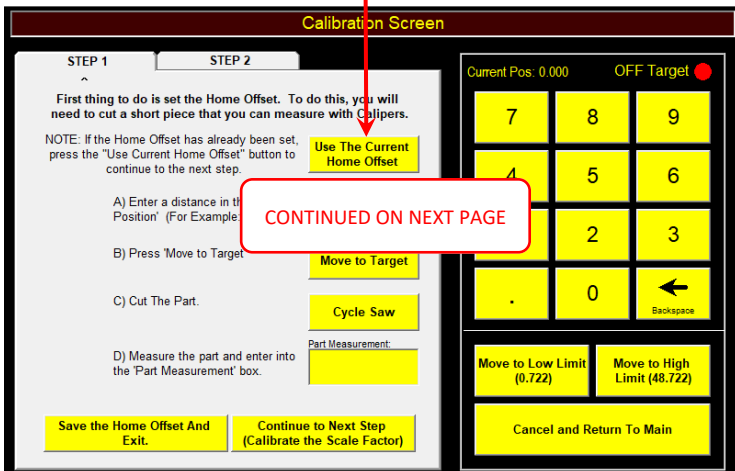
Setting the SCALE FACTOR

Once the HOME OFFSET is defined correctly, short parts will be accurate. To make sure long parts are accurate, we calibrate the SCALE FACTOR. The SCALE FACTOR represents the number of motor counts per inch of travel. Let's say that the current scale factor is 5000. That means that the motion controller is going to assume that if it turns the motor until 5000 counts ARE returned, the carriage has moved 1 inch. If the SCALE FACTOR is off by an amount that results in a .001" error, then a one inch part will only be off by .001", a 2 inch part will be off by .002", and a 100 inch part will be off by .100". To set the SCALE FACTOR, cut and measure the longest part you can. That's why SCALE FACTOR error results in increasing inaccuracy as you cut longer and longer parts. Follow the steps below to set the SCALE FACTOR.

RGST Screens

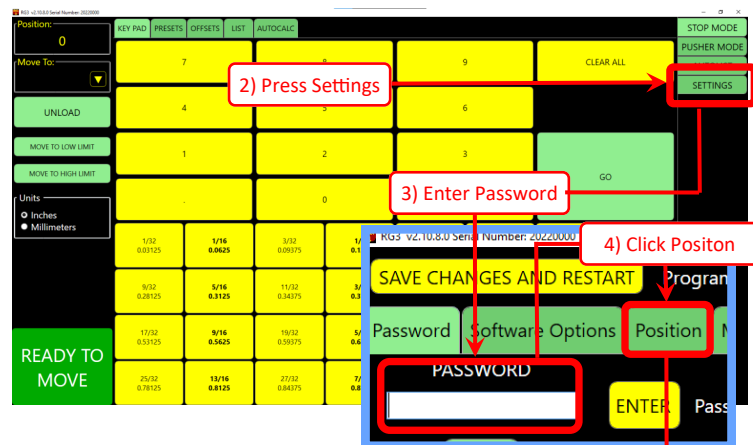


4) If you have already set the HOME OFFSET, click USE THE CURRENT HOME OFFSET. On later machines, you will be prompted to enter the password again.

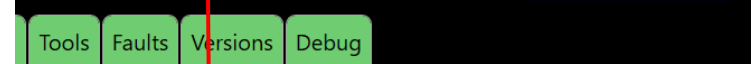


RG3 Screens

1) Use the positioner as a STOP to cut the LONGEST part you can and measure that part as ACCURATELY as you can with a tape measure. Make note of the position you typed in. You'll need it in step 5.



5) ON THE RIGHT SIDE OF THE SCREEN enter the position you entered when you cut the long part in STEP 1.



Scale Factor Calculator (Long Part Accuracy)

Step 1) DO NOT CALCULATE SCALE UNTIL SHORT PARTS ARE ACCURATE. Square the end of a piece of clean stock & enter a target position that will move the stop to cut the longest piece possible. Put the squared end of the stock against the stop and make a cut.

Step 2) Enter the target position you entered for the long setup part. The last target entered has been pre-filled for your convenience. If the last target entered is not the one used to cut the setup part, enter the correct target position.

Target Position: 5.123

Step 3) Measure the long setup part as accurately as possible. Measure:

Measured: []

CALCULATE SCALE FACTOR

NEW SCALE FACTOR: [] USE-SAVE CHANGES

8) Click USE-SAVE CHANGES

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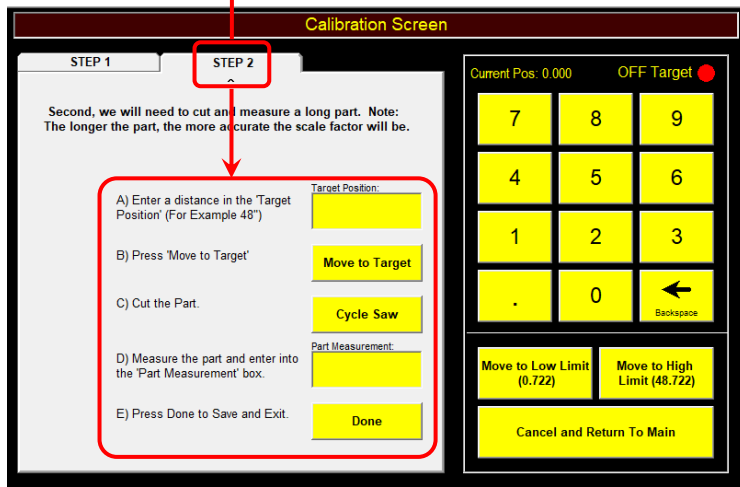
6) Enter the MEASURED LENGTH of the long part you cut in STEP 1

7) Click CALCULATE SCALE FACTOR

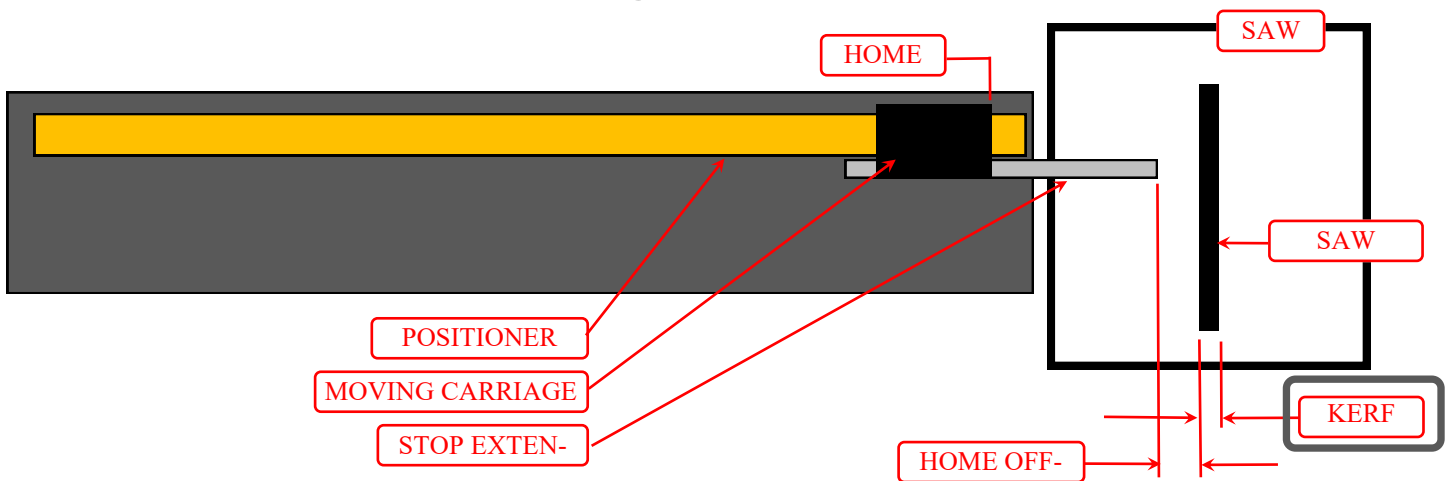
Setting the SCALE FACTOR (continued)

RGST Screens

5) Make sure you're on the STEP 2 TAB. Follow the prompts.



Setting the KERF



If you are using your RazorGage as a STOP ONLY, you are finished with calibration. If you plan to use the RazorGage as a PUSHER, you'll need to set the kerf. The KERF is the material that is removed by the saw blade. When the RazorGage is pushing material, the finished part is produced on the side of the blade opposite the pusher itself. Therefore, when advancing a stick to cut a 10 inch part, the pusher must move 10 inches plus the thickness of the blade so that there is 10 inches of length on the side of the blade opposite the pusher after the saw cycles. There are a few ways to identify the kerf. My favorite is so simply create a cut list full of 5 inch parts and run a few using one of the RazorGage pusher screens. All the parts should be the same length. They may not be the right length, but they should all be the same. Adjust the kerf value to make them not only be the same length, but the correct length.