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## Measuring Calibration

If you suspect or have evidence that your machine is not measuring accurately, please perform the tests shown below to determine the cause of the inaccuracy. The “Encoder Test” and the “Measuring Test” will determine if the problem is with the hardware or with the calibration. Before beginning the tests, please ensure that the following conditions have been met;

- 1) Refer to the **Operating Manual** for your machine (available on our web site [www.ezcut.com](http://www.ezcut.com)) to ensure that the correct operating procedures are being followed.
- 2) Ensure all operators are using the machine in the same manner and fashion.
- 3) Make sure the counter is in the correct mode.
- 4) Before measuring, make sure the top pressure wheel located above the measuring wheel is in the down position and pressing down on the measuring wheel with adequate pressure.
- 5) Ensure the rubber o-rings on the measuring wheel are present and not dry, hard or cracking.
- 6) Line up the material with the cutting track and reset the counter to “0.00” before attempting to measure.
- 7) Always measure the material with the pile side facing up.
- 8) If you are correct measuring a roll, be sure to be in the “Measure Only” screen. This screen automatically adds 7” to include the tail end of the material that does not get measured by the counter (this is the distance between the center of the measuring wheel and the cutting track). If your machine is not equipped with a counter that has this feature, you will need to manually add this amount.
- 9) Your counter may react differently to the various material backing types (i.e. action back, foam, enhancer, unitary, etc.). If your machine is equipped with a counter that allows you to select the material type, ensure that the type selected on the screen matches the type of material being measured. If a greater degree of accuracy is required, the four “User Configurable Options” can be programmed for a specific material. If your machine does not have this feature, the “Scale Factor” will need to be adjusted for a specific material.



## Encoder Test

Note: The encoder is an electronic device connected to the measuring wheel, it converts rotation of the measuring wheel into an electrical signal and is connected to the counter.

- 1) Make a mark on both the measuring wheel and the table, and line them up. Reset the counter to “0.00”.
- 2) Move the measuring wheel back and forth by hand vigorously several times, then line up the marks again, the count should read “0.00”. Repeat several times. If the count is consistently “0.00” or very close, then the measuring wheel is not slipping on the encoder shaft. If the count is inconsistent, then ensure that the measuring wheel is securely fastened to the encoder shaft and repeat the test. If the count is still inconsistent, then the encoder may be defective.
- 3) Line up the marks again and reset the counter to “0.00”. Turn the measuring wheel by hand one complete rotation in the forward direction so that the marks line up again. Record the reading of the counter in the chart below. Reset the counter to “0.00” and repeat several times. This will determine if the count is consistent for every full rotation. If the count is consistent then the encoder is likely functioning correctly. If not, then the encoder may be defective.

1)	2)	3)	4)	5)
6)	7)	8)	9)	10)

- 4) Line up the marks again and reset the counter to “0.00”. Turn the measuring wheel by hand one complete rotation in the forward direction so that the marks line up again. Record the reading of the counter in the chart below. This time, do not reset the counter, turn the measuring wheel another full rotation and record the reading of the counter. Repeat until the chart is full. This will determine if the count accumulates consistently. For example, if the first rotation is 2’-0”, then the second should be 4’-0”, and so on. If the count is consistently increasing by an equal amount, then the encoder is functioning correctly. The counter needs to be calibrated. If the count is inconsistent or erratic, then the encoder or counter is defective.

1)	2)	3)	4)	5)
6)	7)	8)	9)	10)



## Measuring Test

- 1) Select a roll of material (at least 30' in length) that you use most often, and unroll it on the floor pile side up.
- 2) Using a tape measure, start at the leading edge (this will be your start point when measuring on the machine) and make a mark on the backing at exactly 5' increments all the way to 30' (make sure the edge you start from is square).
- 3) Roll up the material and load onto the load side of the machine.
- 4) Position the starting edge of the material exactly on the cutting track.
- 5) Reset the counter to "0.00".
- 6) Advance the material and stop the 5' mark you made exactly at the cutting track, record the counter reading in the table below. Continue for every 5' increment up to and including 30' (make sure the material is rolling up straight). This will determine degree of accuracy. If the readings are consistently out by the same amount (long or short), or are progressively out (long or short) by a consistent amount, then recalibration is all that is required.

Mark on Carpet	Counter Reading
5' mark	_____ feet _____ inches
10' mark	_____ feet _____ inches
15' mark	_____ feet _____ inches
20' mark	_____ feet _____ inches
25' mark	_____ feet _____ inches
30' mark	_____ feet _____ inches

- 7) Roll up the material, and position the starting edge exactly on the cutting track again.
- 8) Reset the counter to "0.00".
- 9) This time, advance the material but do not stop until the 30' mark, record the counter reading in the table below.
- 10) Repeat several times to determine consistency. If the readings are consistent, even if they are out, then calibration is all that is required. Minor variations in the readings is acceptable, but if you get different results each time then there may not be a hardware problem, check to make sure the pressure wheel is staying on the material and that buckling is not causing it to lift off the measuring wheel. Also make sure the material is not walking significantly.