

# Roll Length Counter Model RLC - 2013

Version 1

## Operation Manual

Kershaw Instrumentation Inc  
517 Auburn Ave  
Swedesboro, New Jersey USA  
08085

[www.kershawinst.com](http://www.kershawinst.com)  
p. 856-467-5482  
f. 856-467-2341

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## 1.0 Introduction

The model RLC - 2013 footage counter is an instrument designed to measure the length of tissue paper rolls. It will accommodate standard 4 inch wide tissue rolls or 11 inch paper towel rolls having a 1 ½ inch core. In addition the instrument will accept jumbo tissue rolls up to 15 inch diameter when using the optional jumbo roll adaptors.

The machine consists of a top roller which includes a sensor that measures the speed and length of the test sample. A front drive roll is provided that is driven directly from a variable speed motor. This front drive roll has a face width of 9 inches and will either wind up the paper onto the windup spindle or simply feed the paper into a recycle bin. See the photos below that illustrate these features.

The drive motor features controls that allow for automatic operation. The operator simply threads the paper through the rollers and presses the start button. The motor will now run at a preset speed (variable) while the digital meter displays the footage being fed through the system. When the roll expires the instrument will automatically shut off and the total footage will remain on the display. The footage counter will reset to 0.0 at the beginning of the next test.

This machine is designed to be used both in the laboratory or directly on the production floor. All of the electronic controls are housed in an industrial cabinet.

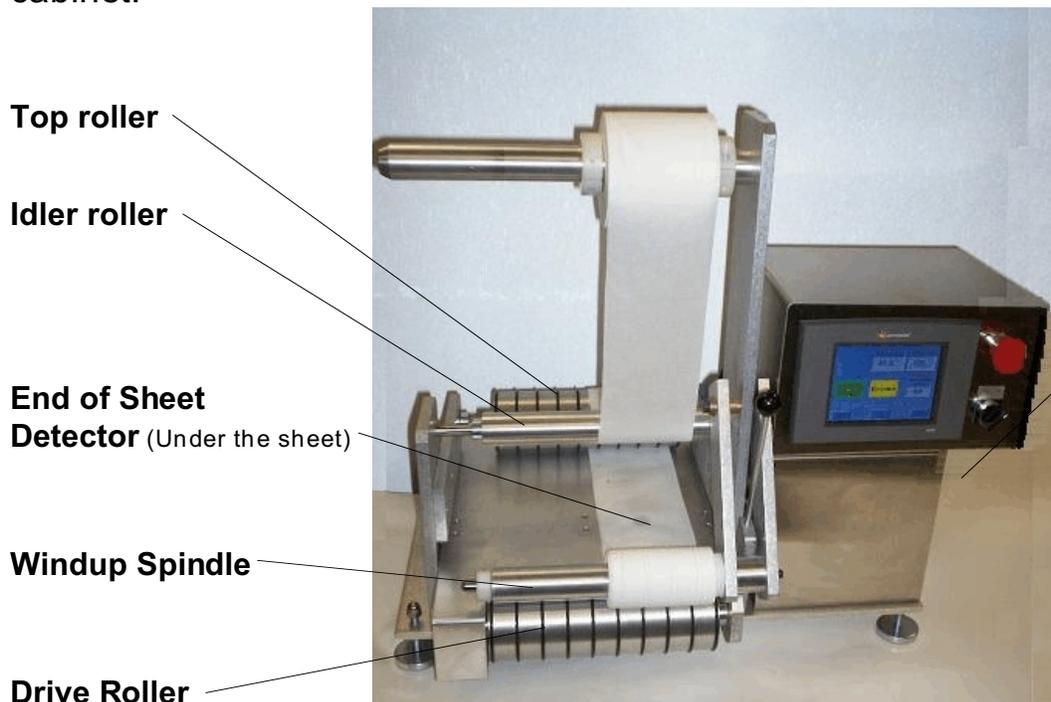


Figure 1: Components

## 2.0 Main Screen

All of the controls associated with this tester are provided within a touch screen PLC. Upon start up the PLC will display the following screen. This screen will also appear when a test is complete.

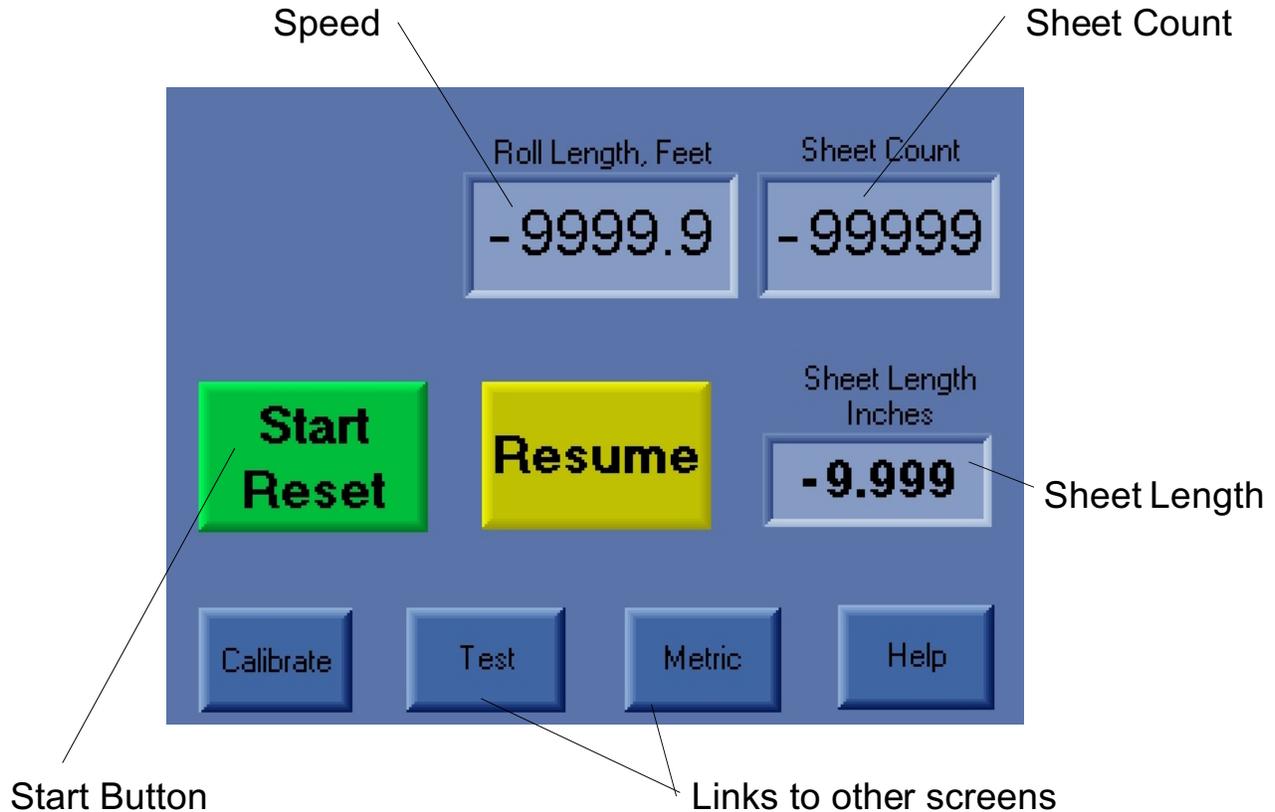


Figure 2

### 2.1 Start Button

Starts the test and resets the counters

### 2.2 Resume Button

Starts the test without resetting the counters. Used to restart a test.

### 2.3 Length Display

Indicates the length of the roll.

### 2.4 Sheet Length

Touching this display will generate a virtual key pad allowing the operator to enter the length of a single sheet.

### 2.5 Sheet Count

Indicates the number of sheets. This is the length measurement divided by the length of the sheet.

### 3.0 Calibration Screen

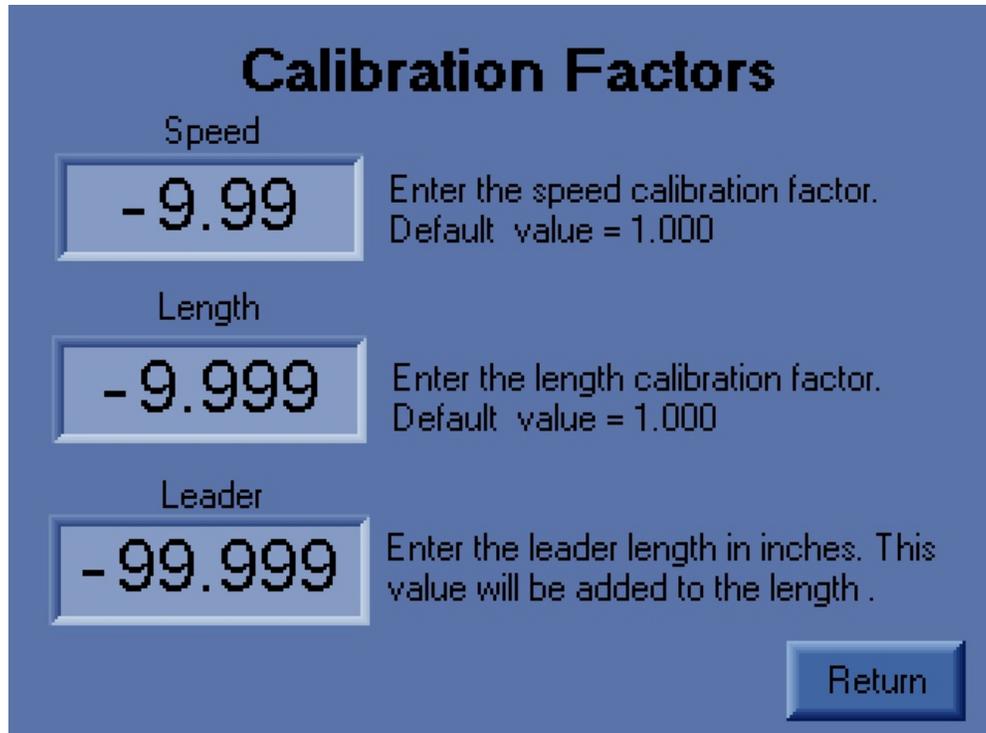


Figure 3

#### 3.1 Password

Upon pressing the Calibrate button from the main screen the operator will see a virtual keypad requesting a password. The password is "1 2 3 4". Once the password is entered the above Calibration screen will appear.

#### 3.2 Speed

A factor installed multiplication factor is built into the software to achieve the proper speed reading on the main display when the calibration factor on this display reads 1.000. If the speed reading on the main display is in error, one can adjust the Calibration factor here to adjust. Touching the Speed display will activate a virtual keyboard. Enter a number smaller than 1.000 will yield a lower speed value.

#### 3.3 Length

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### 3.4 Leader Length

This feature allows the instrument to compensate for the “leading” material that is used at the beginning of the test . Upon treading up the web simply measure the amount of leading material needed to start the wide up. You want to make this measurement from the end of the web back to the end of sheet sensor. Enter this leader length by touching the Leader display on this screen and entering the length into the virtual keypad.

### **IMPORTANT NOTE ABOUT CALIBRATION**

It is important that the calibration be checked and adjusted with the actual product that you wish to test. The stretch of the paper and the stretch of the perforations (if the product is perforated) may affect the results. It is recommended that a full roll of the desired product with a known length be run on this tester before it is put into use. Now the calibration should be checked and adjusted if needed to allow for these factors.

### 4.0 Test Panel

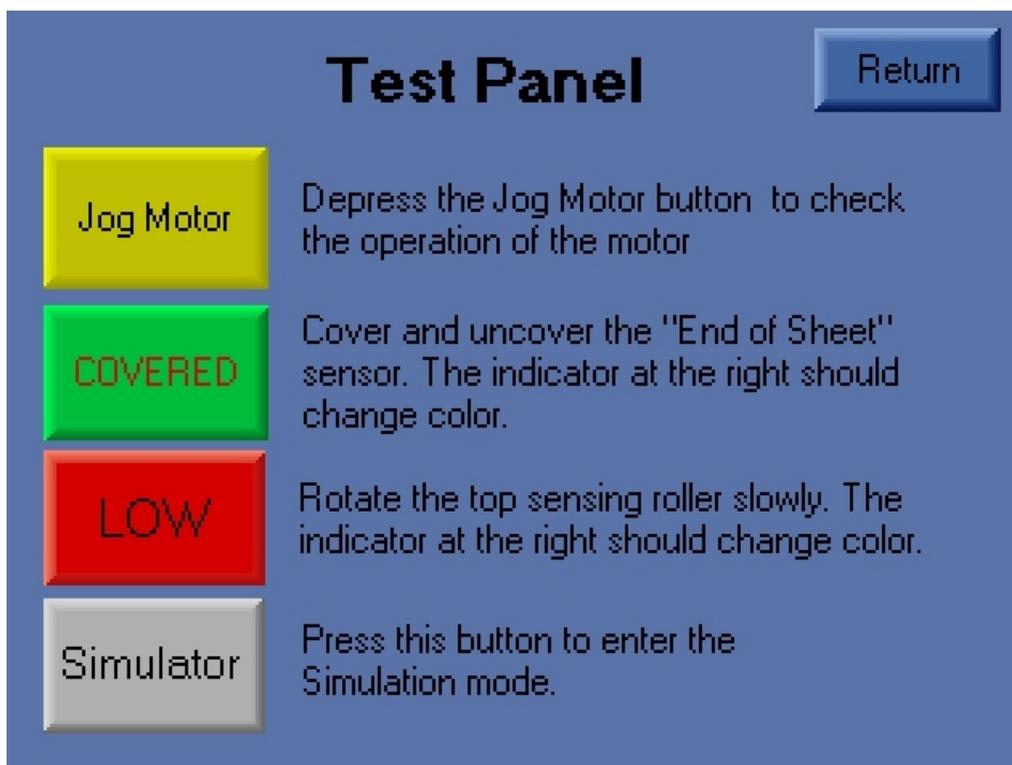


Figure 4

The test panel enables the operator to troubleshoot the components within this instrument. Each item is described above.

5.0 Help Screen

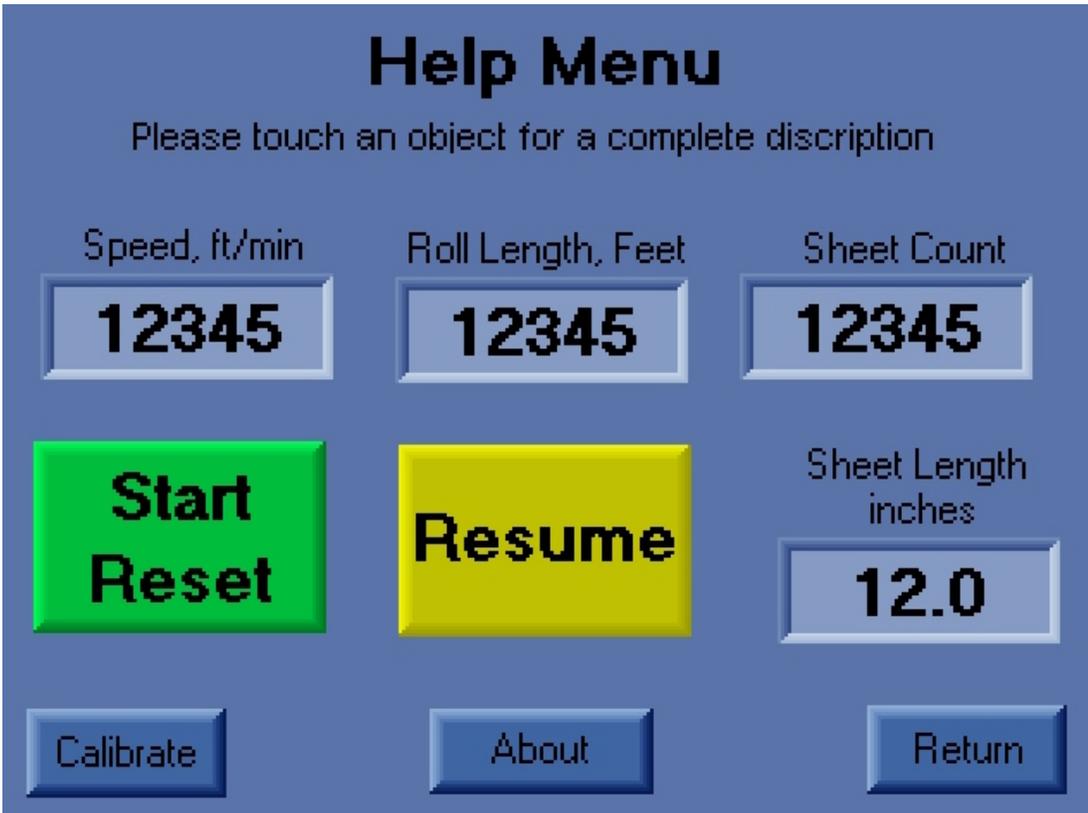


Figure 5

The Help screen provides a complete description of all of the buttons and icons included in this instrument.

## 6.0 Operation

### 6.1 Loading a Standard Roll

Slide the roll onto the 1 ½ inch spindle as shown in figure 6. Secure the shaft collar close to the roll core to act as an edge guide during the test.



Figure 6: Standard Roll

### 6.2 Loading a Jumbo Roll

Slide the jumbo roll onto the 1 ½ inch spindle using the jumbo roll adaptors (optional) as shown in figure 7. The jumbo roll adaptors convert the 1 ½ inch diameter spindle to 3 inches to accommodate these larger rolls.



Figure 7: Jumbo Roll

### 6.3 Paper feed

Raise the rewind spindle and set it on the lifter block as shown in figure 8.



Figure 8: Lifter Block Handle

Unwind about 18 inches of tissue and wrap it around the idler roller (about a 90° wrap) and then pass it around the top roller (about a 180° wrap), over the “end of sheet detector” and lay it over the front drive roller as shown in Figure 1. Now lower the rewind spindle onto the front drive roller using the lifter block handle as shown in Figure 4.

Now you will choose to rewind the paper onto the rewind spindle (see Figure 9) or to feed it into the recycle bin (see Figure 10).

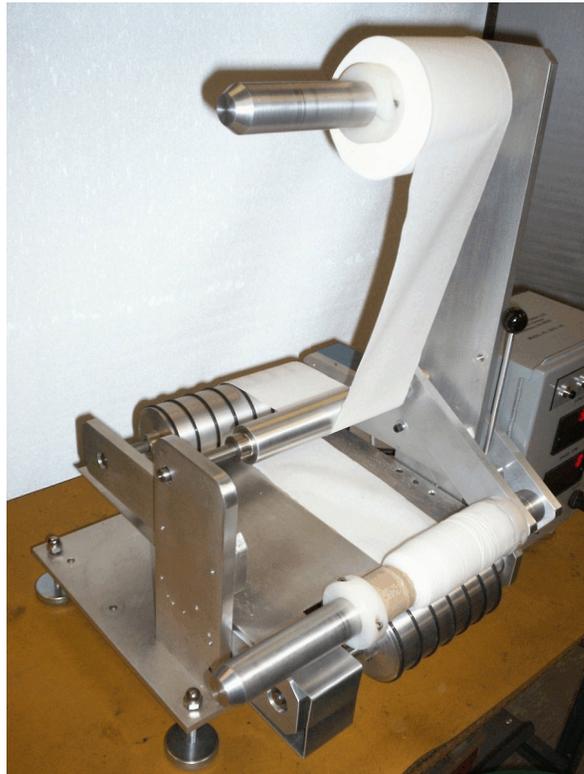


Figure 9: Rewind the Paper Sample



Figure 10: fed sample into recycle bin

Please note that there is a limit to how large the rewind rolls can be. We have found that the large “Hard Roll Towels” and the jumbo tissue rolls are too large to wind on a single roll. For these larger rollers simply press the stop button when the rewind roller gets about 6 - 8 inches in diameter, allow the machine to come to a stop. Tear the sample at the front drive roller. Remove the rewind roll, install a new cardboard core and attach the free end. Now press the “resume” button and the tester will continue the test without resetting the “length” value.

Please note that a cardboard core should be placed on the rewind spindle to act as a “nip” on the front drive roller as shown in Figure 6. When you start the test, watch the end of the tissue sample to insure it feeds into the recycle bin located at floor level in front of the machine.

#### 6.4 Running a test

Press the start button to start the motor and reset the length meter to 0.0. The instrument will now unwind the entire roller while displaying the length as it feeds. When the end of the tissue passes the “end of sheet” detector the motor will stop turning and the length of this test will remain on the digital display.

### **7.0 Specification**

Size: 28" wide x 20" deep x 25" high

Weight: 70 pounds

Power: 115 VAC @ 5 amps

Speed: 150 Feet/min

Roll Diameter: 15 " maximum diameter

Roll Width: 4" - 9"