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**Operating Instructions**  
**CWT-150**  
**Cable Tension Meter**

Model CWT-150				Ser. No.:	
IF CABLE SIZE IS:					
5 CWT USE ↓ RISER 5	10 CWT USE ↓ RISER 10	15 CWT USE ↓ RISER 15	ACTUAL TENSION LBS.	20 CWT USE ↓ RISER 20	25 CWT USE ↓ RISER 20
			10		
			20		
			30		
			40		
			50		
			60		
			70		
			80		
			90		
			100		
N/A	N/A		110		
N/A	N/A		120		
N/A	N/A		130		
N/A	N/A		140		
N/A	N/A		150		
DATE: SEE CAL. STICKER					
CAL. BY: _____					
<b>TENSITRON, INC.</b> 733 S. Bowen St., Longmont, CO 80501 TEL: (303) 702-1980 FAX: (303) 702-1982					

**Figure 2**

If service is required, return to:

Tensitron, Inc.  
 733 South Bowen Street  
 Longmont, CO 80501

Telephone: (303) 702-1980  
 Fax: (303) 702-1982  
 E-Mail: repairs@tensitron.com

**The CWT-150 is shipped calibrated and ready to use on 5 CWT, 10 CWT, 15 CWT, 20 CWT and 25 CWT cables.**

## **RECALIBRATION**

Tensitron, Inc. is a N.I.S.T. certified calibration lab, and can provide immediate turnaround for recalibration services. If recalibration is done in the field, follow the procedure below.

1. Photocopy the blank calibration chart, Figure 2.
2. If pointer is not resting at 0, open access cover located on the bottom left of the instrument case. With a small screwdriver, reach in and gently turn the zero adjust screw clockwise to lower the pointer; counterclockwise to raise the pointer. **IMPORTANT -- DO NOT PUSH WITH THE SCREWDRIVER.**
3. Suspend a 5' length of cable from overhead. Referring to the calibration chart, determine correct riser for the cable diameter being used. Rotate correct riser into place. Add known weights to the end of the cable in increments indicated on the calibration chart.
4. Clip meter onto cable and take a reading. Take several readings at different locations. Write the averaged dial reading on the chart in the column of the cable diameter you are measuring, across from the lb weight used.
5. Repeat Steps 3 and 4 for each diameter cable and weight.
6. On the calibration chart, enter the CWT-150 Aircraft Cable Tension Meter's serial number, date, and sign it. Remove screws holding back covers. Insert new chart between covers and screw back into place.
7. If tension measure is considered critical, remove cable from the aircraft and perform a dead weight calibration. Note reference dial readings and reinstall cable.

NOTE: If calibration results differ greatly from the original calibration, the instrument needs repair and should not be used.

### **Before each use:**

- Verify that the serial number on the instrument and the calibration chart match, as readings may vary among instruments.
- The pointer must be resting at 0 on the dial. If the pointer is not resting at 0, the calibration should be checked.
- **Check that the calibration and certification are current.**

## **OPERATION**

1. Memory lock system must be "off." Set in "off" position by pushing memory lock button down fully, so the red flag is not showing (Figure 1).
2. Determine the cable diameter to be checked. Select correct riser by referring to the calibration chart on the back of the instrument. For example, in Figure 1 the cable diameter to be tested is 15CWT. Referring to the calibration chart, locate the column marked 15CWT. Note that Riser 15 is required.
3. Rotate the riser assembly until the number of the riser to be used faces you. This places the correct riser at the back and aligned with the two flanged reference pivots.
4. Open closure bar by squeezing through the handle to raise the reference pivots. Insert the cable under the flanges of the two reference pivots and over the top of the riser. Squeeze handle to close position as shown in Figure 1.
5. With meter locked in place, note reference dial reading, and refer to the calibration chart to determine the tension.

6. In Figure 1, the instrument pointer indicates 30 while engaged onto a tensioned 15 CWT cable. Determine the true tension of the cable by locating 30 under the 15 CWT column. Keeping on the same level of the chart, read over to the right column to get the actual lb tension. In this example, the 15 CWT cable is tensioned to 30 lb. Generally however, the reference numbers will not be the same as the actual tension.

OPERATING INSTRUCTIONS FOR  
CWT-150 CABLE TENSION METER

**MEMORY/POINTER LOCK FEATURE**

1. Use the memory lock to make a tension reading where the reference dial cannot be seen. Insert the ACM in the hidden area. Open meter and clip flanges over cable. Close meter securely. Push the memory lock button UP as far as possible, exposing the red flag. Remove the ACM from the cable and take a reading. To clear reading and return pointer to zero, push memory lock button on top of the instrument fully down.
2. Tension on aircraft cables may vary substantially with differences in temperature, stretching or manufacture. For greater accuracy it is recommended that several readings be taken at different locations on the cable, and the readings averaged to compensate for varying cable thickness.

Model CWT-150			Ser. No.:		
IF CABLE SIZE IS:					
5 CWT USE	10 CWT USE	15 CWT USE	ACTUAL TENSION LBS.	20 CWT RISER 20	25 CWT RISER 20
RISER 5	RISER 10	RISER 15	10		
			20		
			30		
			40		
			50		
			60		
			70		
			80		
			90		
			100		
N/A	N/A		110		
N/A	N/A		120		
N/A	N/A		130		
N/A	N/A		140		
N/A	N/A		150		
CAL. BY:			DATE: SEE CAL. STICKER		
			Tensitron, Inc. 733 S. Bowen St. - Longmont, CO 80501 Tel: (303) 702-1980 www.tensitron.com		

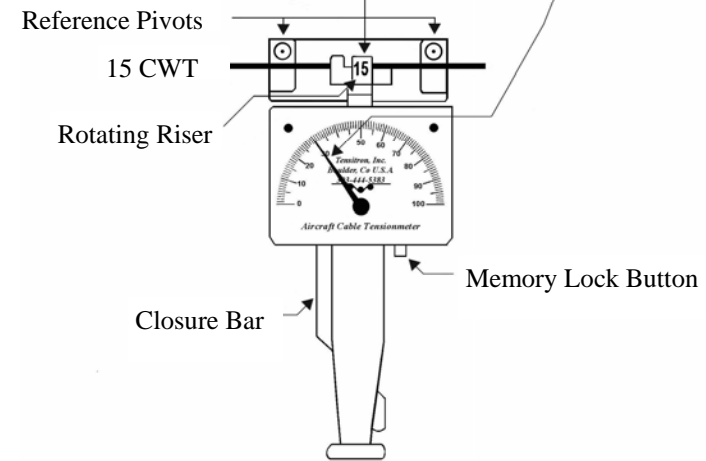


Figure 1

**When to recalibrate:**

- a. Pointer does not reset at 0 with memory lock "off."
- b. Instrument has been dropped.
- c. For use on aircraft, the CWT-150 must be calibrated at intervals not to exceed 12 months. Check that the calibration and certification are current.