Owner's Manual and Guide to Operations

MODEL WT-25
ROLL LABEL
REWIND MACHINES

IMPORTANT: Read all instructions before using.

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SAFETY INSTRUCTIONS

RULES FOR SAFE OPERATION

1. Know your machine. Read and understand the owner's manual and labels affixed to the machine. Learn its applications and limitations as well as the specific potential hazards peculiar to this machine.
2. Grounding. This machine should be grounded while in use to protect the operator from electric shock. Machines which are designed to run on less than 150 volts are equipped with a 3 conductor cord and 3 prong grounding type plug to fit the proper grounding type receptacle. The cord is long enough that it should not be necessary to use extension cords. Temporary extension cords and receptacle adapters should be used only until a properly grounded outlet can be installed by a qualified electrician. Use only a 3 wire extension cord of adequate size to handle the rated full load current of the machine as indicated on the machine nameplate. If an adapter is used to accommodate a 2 hole receptacle, the grounding ear must be attached to a known ground. Never remove the 3rd prong (grounding blade) from the plug on the machine electrical cord.
3. Keep the machine guards in place and in good working order.
4. Avoid dangerous environments. Do not use the machine in a damp or wet location. Keep the work area well lit.
5. Wear proper apparel. No loose clothing (i.e. neckties) or jewelry to get caught in moving parts. Wear protective covering to contain long hair.
6. Stay alert. Watch what you are doing. Use common sense. Do not operate the machine when you are tired. Do not use the machine after taking drugs, alcohol or medications.

READ ALL INSTRUCTIONS AND SAVE THEM FOR FUTURE REFERENCE.

PURPOSE (GENERAL OVERVIEW)

WT-25LC and WT-25LCI series rewind machines are made for the purpose of rewinding rolls of narrow web products. In general, these are paper, film or foil products which are stiff enough to stand on edge (vertically) throughout the web path of the machine. Cloth and other woven materials generally do not rewind well (if at all) on vertical spindle rewind machines. Abrasive materials (sandpaper rolls, etc.) will damage the machine and should not be used. It is suggested that you take a few minutes to become familiar with the controls and operating characteristics before attempting to rewind actual rolls.

WARNING
AS WITH ANY MACHINE, CAUTION MUST BE EXERCISED TO PREVENT INJURY. NEVER OPERATE THE MACHINE WITH GUARDS REMOVED. THE CONTROL CABINET DOOR MUST BE KEPT CLOSED (SECURED BY SCREWS) EXCEPT WHILE INTERNAL ADJUSTMENTS ARE BEING MADE. ALWAYS EXPECT THE MOTOR TO TURN ON WHEN THE START PUSHBUTTON IS OPERATED.

CAUTION
BEFORE CONNECTING THE MACHINE TO A SOURCE OF ELECTRICAL POWER, OPEN THE CONTROL CABINET AND VISUALLY INSPECT THE CONTROL PANEL TO BE SURE THAT NO COMPONENTS OR WIRE CONNECTIONS HAVE WORKED LOOSE IN SHIPMENT. WHEN INSPECTION IS COMPLETE, CLOSE AND SECURE THE CABINET DOOR.

OPERATOR CONTROLS (WEB TRANSPORT SYSTEM)

REWIND DIRECTION SWITCH

This switch determines the direction of rotation of the rewind coreholder. When in the "PRINTING OUT" position, the coreholder will turn in a counterclockwise direction for winding with the labels on the outside of the roll. In the "PRINTING IN" position, the rewind coreholder will turn clockwise for winding labels on the inside of the roll.

MAIN SPEED CONTROL KNOB

Located next to the start pushbutton, the main speed control knob is used to set the running speed before the deceleration count is reached. Turning the knob clockwise will increase the speed. Rapid speed increases can cause telescoping of the rewind roll and web breakage. Therefore, the motor control has been pre-adjusted to accelerate at an appropriate rate.

START PUSHBUTTON

Pressing of the START pushbutton will perform two tasks. Most importantly, the motor control is enabled,

permitting the motor to run at the set speed. In addition, the START pushbutton will also reset the counter to zero if the counter stop setting (Preset B) has been reached

STOP PUSHBUTTON

The STOP pushbutton provides rapid stopping of the machine. When pushed, the main drive motor is turned off and dynamic motor braking is applied. Although it is also possible to stop the machine by turning the speed control down to zero, it is recommended that the STOP pushbutton be used to insure that the machine will not start again until desired.

IDLE SPEED CONTROL KNOB

The idle speed control knob is located on the control cabinet on the far right hand side of the machine. When the deceleration preset number (Preset A on the counter) is reached, provided you have the COUNT/STAND-BY switch in the "COUNT" mode, the motor control will automatically switch from the main speed control knob to the idle speed control knob to the idle speed control knob. The speed range of this knob is restricted to only the lower twenty percent of the speed range. Once the counter has been reset, the main speed control knob is reactivated.

POWER ON/OFF SWITCH (AND POWER INDICATOR)

The POWER ON/OFF switch is used to turn the main power to the machine on and off. The switch has an indicator light that illuminates when power is on.

UNWIND TENSION CONTROL

The unwind brake is a mechanical friction type consisting of a brake band wrapped around a drum. An adjusting knob on the front of the machine provides a means of tightening the brake band. Turning the knob clockwise increases the unwind brake tension. To set the brake initially, turn the unwind coreholder manually and adjust the brake tension until a slight amount of drag can be felt when turning the coreholder. When the machine is running, make small adjustments as required to obtain the desired web tension.

COREHOLDERS

Web Techniques rewind machines are available with various types of coreholders. Lift-off cam-lock coreholders are supplied as standard equipment. Air inflatable coreholders are available as an option. In addition, some machines are configured with a combination of both systems (usually a lift-off cam-lock coreholder on the unwind and an air inflatable coreholder on the rewind). An air inflatable coreholder is required on the rewind position in order to use an optional slitting attachment.

LIFT-OFF CAM-LOCK COREHOLDERS

As the name implies, these coreholders can be removed from the machine by simply lifting them straight up from the table top and out of their sockets. The advantage of this type of coreholder is that heavy rolls can be installed and removed by sliding them onto and off the machine. If your machine is equipped with lift-off cam-lock coreholders, they will be packaged separately and must be installed on the machine.

A) Locate the package containing the coreholders. Observe that there is a slotted shaft protruding from the lower end of the coreholder.

B) GENTLY lower the shaft into the socket in the unwind and rewind spindle. The shaft will probably come to rest on top of the drive pin inside the spindle and the bottom of the coreholder will be approximately ⅜ inch above the table top. Simply rotate the coreholder until the drive pin and slot align and the coreholder drops the rest of the way into its socket.

C) Remove and install the coreholder several times so that you become familiar with the "feel" of proper coreholder engagement. This is important because when the coreholder is installed by inserting it through the core of a roll of material, you will not be able to see that it is fully engaged and will have to rely on feel.

CAUTION!!

DO NOT lay the coreholder on its side on the table top when it is removed to change rolls or it may roll off and become damaged. There is a hole in the table top immediately to the right side of the pedestal mounted counter. The purpose of this hole is to provide a place to store coreholders when changing rolls.

D) Tightening and loosening of the cores is accomplished by turning the core on the coreholder. This causes the cam to rotate and wedge against the inside of the core. To install a core, rotate the cam until it is flush with the body of the coreholder. Slide the core over the coreholder until it is resting

flat on the table. Twist the core until it locks on the coreholder.

In actual operation the cores will usually lock themselves once the rewind starts to turn. However, locking them by hand is preferred because the web can be drawn tight before starting the machine, thus reducing the chance of web breakage. Since the cams will lock regardless of which way they are turned, it is important that they be turned the right way or they will again loosen once web tension is developed. There are two basic rules for determining which way to rotate the cams to lock the cores:

(1) On the unwind, the cam should be rotated in the direction the roll will be turning (usually counter-clockwise).

(2) On the rewind, the cam should be turned opposite to the direction of rotation (usually clockwise).

Until you become familiar with this operation, it may be desirable to mark the top of the coreholder with an arrow to indicate the lock and unlock directions.

When a full roll is wound it can be difficult to determine which direction it should be rotated to release it from the coreholder. The two rules to remember to loosen a core are:

(1) On the rewind, turn the core in the direction in which the roll was wound (normally counter-clockwise).

(2) On the unwind, turn the core in a direction opposite to the direction in which the roll was turning (normally clockwise)

NOTE
An alternate method of loosening the roll on the rewind is to hold the roll tight against the top of the table and turn the coreholder in the direction opposite to the way it was running.

AIR INFLATABLE COREHOLDERS (OPTIONAL)

Air inflatable coreholders offer the advantage of expanding concentrically over their full length simply by flipping a switch. Machines which are equipped with a slitting attachment require this type of coreholder system on the rewind. That is so that ganged cores (one for each slit web) can be individually gripped and driven. Machines that have been equipped with air inflatable coreholders require connection to a supply of air pressure. A quick disconnect fitting has been provided for this purpose (located on the back of the machine just to the rear of the main drive motor). A mating female disconnect is supplied as a convenience in hooking up air. The machine should be connected to an air source capable of supplying at least 50 psi. Individual regulators on the machine allow the operator to adjust the pressure between zero and 50 psi. Very narrow cores require only a small amount of pressure as excessive pressure may burst the core. The coreholders can then be inflated and deflated by means of toggle switches located next to the pressure regulators.

CHANGING FROM 3-INCH TO 1-INCH AIR INFLATABLE COREHOLDERS

A) Make sure that the coreholder is deflated.

B) Grasp the coreholder with one hand while loosening the socket head bolt in the center of the top of the coreholder.

C) Lift the coreholder from the reroll table.

D) Loosen the four screws and remove the three-inch coreholder adapter from the rewind spindle.

E) To insure that the adapter and retaining screws are not lost, assemble the adapter onto the three-inch coreholder.

F) Insert the one-inch coreholder into the hole in the rewind spindle and align the mounting holes with the holes in the flange.

G) Place the one-inch coreholder retaining ring on top of the coreholder flange and install the four retaining screws.

H) Check the operation of the coreholder by inflating and deflating.

REWINDING

Learning to use the rewind machine should be accomplished in steps. Each step will build upon the previous step. This will be more efficient than trying to learn how to do everything at once. The first step will be learning to thread the machine and operate the motor control to wind rolls. Once you understand how to do that, you can move on to setting up the counting system to measure roll length.

A) Set the COUNT/STAND-BY switch to the “STAND-BY”. This will make it possible to operate the machine regardless of how the counter system is set up.

B) Turn the main power ON/OFF switch to the "ON" position.

C) Install a roll of labels on the unwind. Pull the free end of the material off the roll until the coreholder locks. Thread the material as shown in Figure 1.

D) Install a fresh core on the rewind and fasten the free end of the web to the core with tape.

E) Check the position of the following switches:

SWITCH	POSITION
STOP/BYPASS PRESET	BYPASS
REWIND DIRECTION SWITCH	AS REQUIRED
MAIN SPEED CONTROL	MINIMUM
IDLE SPEED CONTROL	MID RANGE

WEB PATH ILLUSTRATION

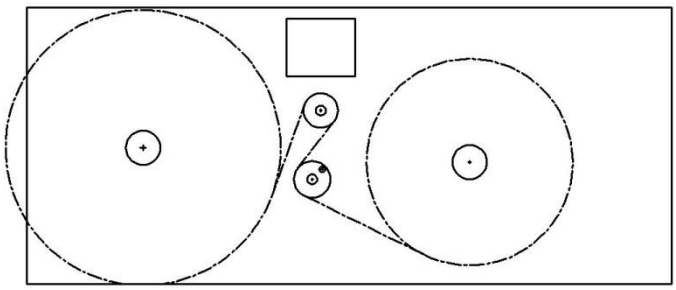

Figure 1 Web Path for WT-25

F) Press the START button. Gradually increase the speed setting until the web begins moving.

G) With the machine running slowly, push against the face of the web between the last idler roll and the rewind to determine the web tension. Adjust the unwind brake tension as necessary to produce the desired rewind tension.

H) Continue to increase the speed setting until the machine is running full speed. Then try reducing the speed. If the web begins to go slack and form a loop on the top of the machine, the unwind tension is set too low. Increase the tension to a point where the web remains stable during acceleration and deceleration cycles.

I) Press the STOP button to stop the machine.

STRAIGHTENING

If the rewound roll is not straight due to splices or any other cause, it may be straightened easily as follows:

A) Place the REWIND DIRECTION switch in the opposite position.

B) Grasp the outer wrap of material on the rewind and start the machine running very slowly.

C) Allow the roll to expand as it turns in the reverse direction.

D) Once the roll is loosened all the way to the defect, stop the motor.

E) Reverse the DIRECTION SWITCH and re-tighten the roll.

COUNTING SYSTEM

The rewind machine incorporates a bi-directional dual preset counter. This permits the operator to set separate deceleration (Preset A) and stop (Preset B) points. The counter is driven by means of two magnetically operated reed switches located in the table top beneath the counter drive roll. A magnet in the lower end of the counter drive roll operates the reed switches. The combined signals from each reed switch allow the counter to automatically count up or down depending on the direction of rotation of the counter drive roll. This is primarily used when pulling defective material backwards off the rewind roll. Be sure the web is held against the counter drive roll when it is pulled backwards.

PROGRAMMING DECELERATION AND STOP POINTS

To set the final count, press the PRE B button on the counter once. In approximately two seconds the current value will be displayed. To change the value, simply press the button under the digit that you wish to change. Each time the button is pressed, the digit will increment by one. When the desired value has been set, push ENTER once to store the value into memory. To set the count at which you wish the machine to go into the deceleration mode, push PRE A and follow the same procedure as described above. If you do not wish to have a deceleration period, simply set the final count Preset B as normal and set Preset A to any number larger than Preset B.

NOTE
All Rewind Machines are equipped with an electronic programmable counter. This counter is quite sophisticated and is capable of performing certain functions not applicable to our usage. While programming the counter, you will notice "LoC" will appear. This is to let you know the manufacturer has programmed the counter to deny access to the functions not required for our application.

While it is possible for the counter to become unlocked (possibly due to line noise, electrical storms, etc.), it is important to note that this will disable the counter from performing as it should. In order to correct the situation, the counter will need to be re-programmed.

For your convenience, we have provided re-programming instructions located in the final section of this manual in the event that this occurs

DETERMINING PRESET B (STOP POINT)

The counter registers one count per ten inches of web travel when using the standard ten-inch circumference counter drive roll. This makes it easy to calculate the appropriate number to enter into the counter in order to wind a roll of a given number of labels. The number is calculated as follows:

$$\mathbf{Count} = \frac{(\boldsymbol{No.of\ desired\ labels})(\boldsymbol{repeat\ length})}{\mathbf{10}}$$

EXAMPLE: To wind a roll of 1000 labels of 3 inch repeat length, the number 300 would be entered as the final count (Preset B).

$$\mathbf{Count} = \frac{(\mathbf{1000})(\mathbf{3})}{\mathbf{10}} = \mathbf{300}$$

Figure 2 Counter Package

DETERMINING PRESET A (DECELERATION COUNT SETTING)

The point at which deceleration should begin depends on many factors (rewind speed, finished roll diameter, etc.). Therefore you probably will need to test your deceleration count setting each time you rewind a new type of label. The desired technique is to have the machine stop shortly after it decelerates fully and has stabilized at the lower speed. For the first attempt try a setting that is fifty counts less than the final count. This means that the counter will begin to decelerate the machine 50 counts before the end of the roll.

EXAMPLE: If the final count (Preset B) is 300, then the deceleration count (Preset A) should be set at 250.

AUTOMATIC RESET

After winding a roll (and reaching the final preset number), the counter will reset to zero automatically when the start pushbutton is pressed to start a new roll. This is the only time automatic resetting can occur. Counting will proceed normally each time the machine is stopped and started (without resetting) until Preset B has been reached. You may reset the counter to zero at any time by pushing the “RST” button on the counter.

ELECTRICAL CONTROL ADJUSTMENTS

The following list of settings has been pre-adjusted by Web Techniques, Inc. to cover most applications. If these settings are not optimal for your requirements, adjustments may be made with discretion. These settings are located on the printed circuit board closest to the terminal blocks on the motor control. The motor control is located inside the control cabinet.

MINIMUM SPEED

If a higher than zero minimum speed is desired, readjust the minimum speed by turning the main speed control knob on the front of the machine to zero setting (full counterclockwise position). Then adjust the trim potentiometer marked MIN to the desired setting.

DECELERATION RATE

If your labels become loose during the deceleration period with the web tension set at the necessary level, you should increase the deceleration rate by turning the trim potentiometer marked DECEL clockwise. If you feel that the deceleration period is too long, turn the deceleration trim potentiometer counterclockwise to reduce the deceleration rate.

ACCELERATION RATE

Turning the trim potentiometer marked ACCEL clockwise increases the amount of time required for the motor to reach full speed. The setting should be such that the web does not break when the motor is started.

PROCEDURE FOR RE-PROGRAMMING KEP MC2A9 COUNTERS

UNLOCKING THE COUNTER

1. Press LOCK. The display will show “CodE” for a few seconds.
2. When “CodE” disappears, enter the code 13579 and press ENTER.
3. The counter will then show “un LoC” for a few seconds. You are now ready to reprogram the counter.

SETTING SCALE FACTORS

1. Press PRGM.
2. When “FACtor” appears, press ENTER.
3. When “dP F A” appears, press PRGM. Then press ENTER.
4. Set “dP F A” to 1 if it is not already set to 1 and press ENTER.
5. When “dP F b” appears, press PRGM. Then press ENTER.
6. Set “dP F b” to 1 if it is not already set to 1 and press ENTER.
7. Press ENTER again.

SETTING COUNT MODE

1. Press PRGM twice.
2. When “Count” appears, press ENTER. Then (if necessary) press PRGM until “rSt 0” appears.
3. Press ENTER.
4. When “dP LoC” appears, press PRGM. Then press ENTER.
5. If necessary, press PRGM until “A nEtb” appears.
6. Press ENTER.
7. If necessary, press PRGM until “ASub b” appears.
8. Press ENTER.
9. If necessary, press PRGM until “Hi CPS” appears.
10. Press ENTER.

SETTING THE RELAY OPERATION

1. Press PRGM 4 times (until “rELAY” appears).
2. Press ENTER.
3. Set “A XX.X” to “A 00.0” and press Enter.
4. Set “b XX.X” to “b 00.0” and press Enter.

SETTING THE COUNTER LOCK CODE

1. Press PRGM 3 times (until “LoC” appears).
2. Press ENTER.
3. If necessary, press PRGM until “LC Pr9” appears.
4. Press ENTER.
5. The display will show “CodE” for a few seconds. When “CodE” disappears, enter the code 13579 and press ENTER.

LOCKING THE COUNTER

1. Press LOCK. The display will show “CodE” for a few seconds.
2. When “CodE” disappears, enter the code 13579 and press ENTER.
3. To verify that the counter is locked, press the PRGM key. The “LoC” message should appear on the counter.

NOTE
When locking and unlocking the counter, the procedure is the same. Each time the Lock code is entered, it will either lock or unlock the counter