



## **BRADYMARKER™ XC Plus Printer**

### **Introduction**

Features and capabilities  
PermaSleeve adaptation

### **Basic Operations**

Setup, menu, keyboard, memory

### **Tutorial**

Installation of labels and ribbons, working with the menu, printing and serializing labels

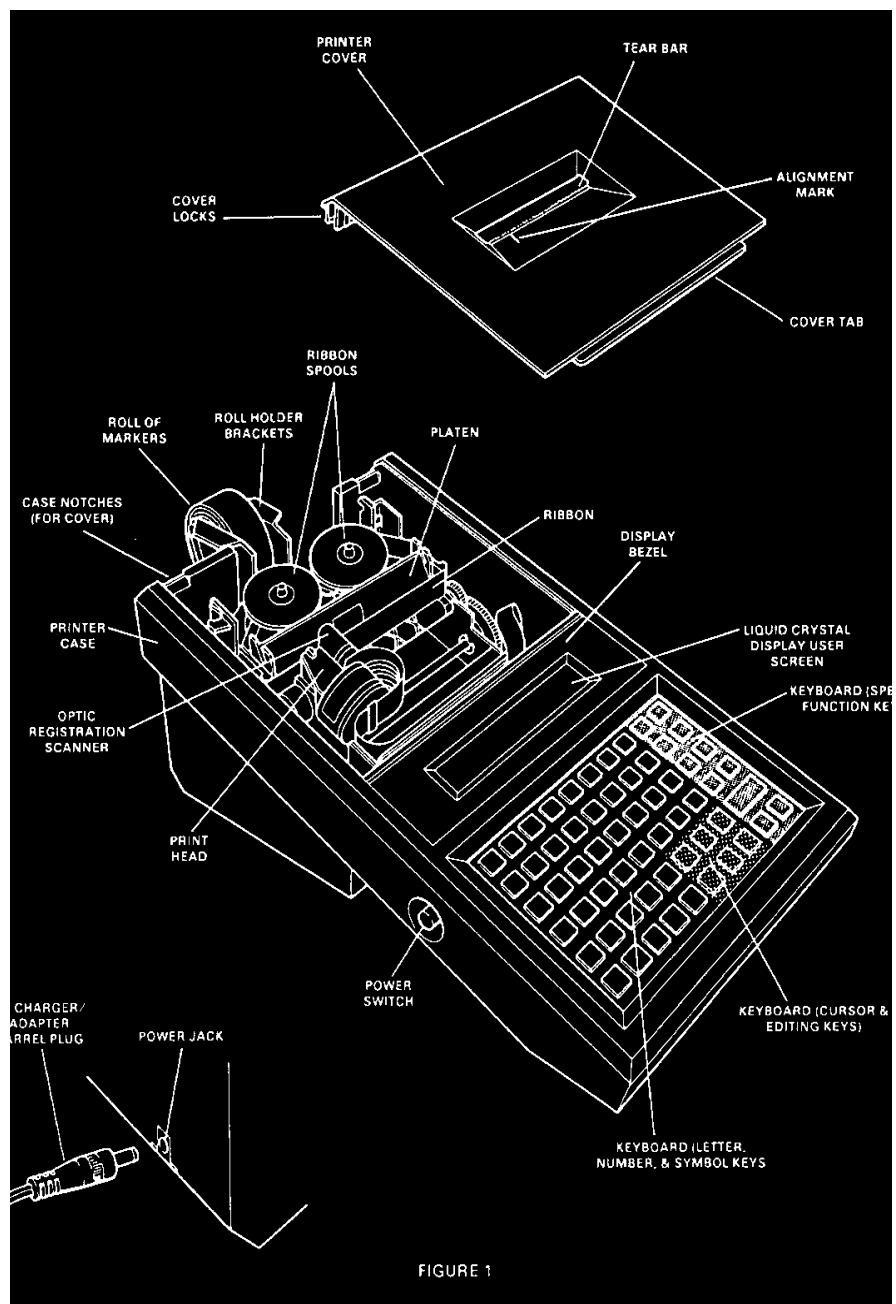
### **Cleaning and maintenance**

Basic cleaning instructions, removal and reinstallation of paper shoot

### **Troubleshooting**

Most commonly asked questions

### **Operational exercise**





## Introduction to BMXC+

- The BMXC+ is a nine pin dot matrix portable printer capable of printing wire markers, electronic component labels, and general identification labels.
- Label registration is accomplished by optically sensing labels insuring proper label alignment.
- It is capable of printing eight lines per inch and 23 characters per line. There are three text sizes and three formats available. Full justification is another feature on the BMXC+.
- The display is a two line 24 character liquid crystal display.
- Standard memory is 8K and can be expanded to 32K.
- Files can be created and stored in the BMXC+ for later usage.
- Print functions include multiple copies and automatic numeric or alphabetic serialization. The BMXC+ can be run on battery or AC power. The battery charger is a UL listed 120V, 60Hz input/12VAC, 2A output adapter. It will print 500 labels before recharging.
- PermaSleeve printing is available on the BMXC+-PS. The BMXC+ can be adapted to handle this type of printing.

## Legend entry screen

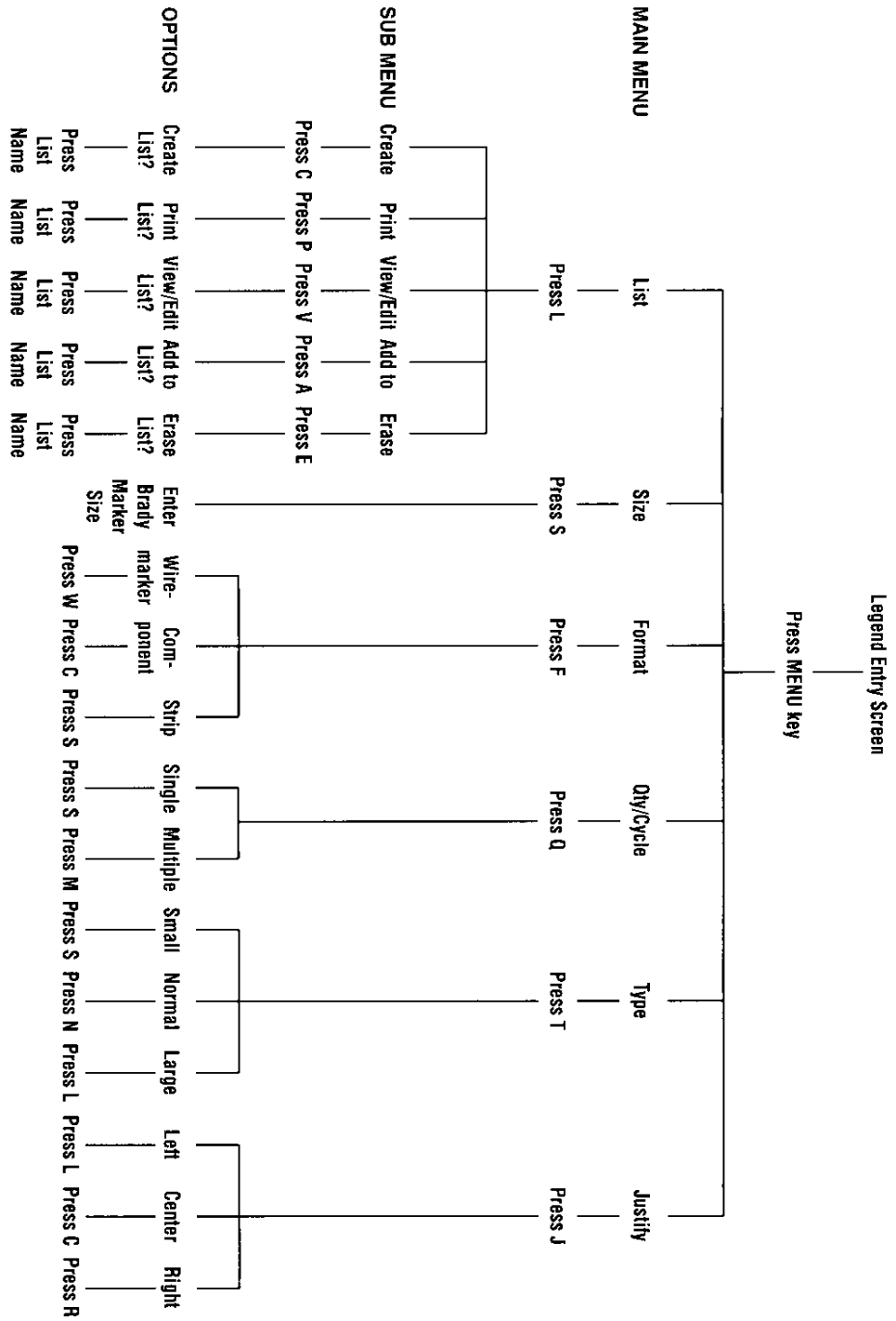


FIGURE 3



## Basic Operations

### Menu

<u>Size</u>	This is the material size code. It can be obtained from the box or from the inner core of the label. The parameters for the legend is determined by this size code.
<u>Format</u>	There are three formats on the BMXC+: wiremarker, component, and strip. <b>Wiremarker</b> mode automatically repeats the line of text in the legend down the length of the marker. <b>Component</b> mode will print all of your legend a single time. It will automatically center your text vertically. <b>Strip</b> ( <i>wiremarker</i> ) mode is identical to the wiremarker format except that it allows you to print duplicate markers on a multiple across label (a butt cut label). This format will always print the same text in each strip of label. It is considered a single label for printing and serialization.
<u>Quantity</u>	This mode will print either in the <b>Single Marker mode</b> and print one marker for each print command or print in the <b>Multiple Marker mode</b> and print more than one marker from the print mode. You will be prompted for the number of markers to print.
<u>Justify</u>	This will allow center, left or right justification on your marker. All text must be printed using the same justification. This setting is NOT held in memory with your legend list.
<u>Type</u>	Normal = 12 cpi; Small = 16 cpi; Large = 8 cpi and half height = 16 cpi. A single size text is selected and will remain until a new type size is selected. Changing the type size will erase any test on the legend screen.
<u>List</u>	This is the area in which files are stored in memory. The BMXC+ can store up to 26 unique legend lists. It can store up to 6500 characters of legend information in its standard 8k memory. The memory can be expanded to 32k. The LIST part of the MENU has a submenu which includes <i>Create</i> , <i>Print</i> , <i>View/Edit</i> , <i>Add to</i> , and <i>Erase</i> . Each of the selections deal with the List (saved) files.



## Keyboard

<u>Help</u>	You can press this key any time. It will direct you to the appropriate section of the user manual for further information.
<u>Clear Display</u>	Clears all characters from the Legend Entry Screen.
<u>Save</u>	This works in conjunction with the LIST selection in the MENU. It will store the current legend into the list that you are creating.
<u>Enter</u>	This key can act like a carriage return to add another line to the legend. It also acts to select options from any part of the menu when it is highlighted.
<u>Exit/Stop</u>	This key will move from a submenu to the menu screen or from the menu screen to the Legend Entry Screen. It will also terminate the printing of markers.
<u>Serial</u>	Press this key to define an individual character to be serialized.
<u>Recall</u>	Allows sequential viewing of legends in a created list.
<u>Arrows</u>	Moves the cursor in the direction of the arrow.
<u>Insert</u>	This toggles the text to type- over a character or insert a character. If the cursor is flashing, it will type over the character. If it isn't it will insert a character.
<u>Delete</u>	Erases the character currently at the cursor.
<u>Menu</u>	Moves from the legend entry screen to the main menu. Hold this key down to display your current main menu settings.
<u>Print</u>	Prints the legend currently displayed or to begin printing markers from a legend list.
<u>Reprint</u>	Duplicates the last marker printed.
<u>Feed</u>	Advances the marker roll to the next marker. Use this to initially load the markers.



### **Paper shoot & material guide assembly**

This is a three piece mechanical assembly through which the material (labels) pass before being printed. This section can be taken apart for easy removal of labels that may have gotten stuck in the unit.

### **Optic eye**

The optic eye is the material sensing device on the BMXC's. It senses the "cut-out" on the material to align the marker for proper print positioning.

### **Ribbon**

The BMXC+ uses the R2200 ribbon. The BMXC+-PS uses the R5200 ribbon.

### **Battery pack**

The battery pack must be charged for 16 hours with the AC adapter/charger prior to usage for optimal performance. To ensure proper charging, the barrel plug must be fully inserted inside the power jack. Only the molded housing should be visible. The battery pack will last through 2-3 years of chargings. A fully charged unit should last through a few days of continual usage. Any nicad battery should be run until the "battery low" warning is displayed before recharging.

## BMXC+ marker size codes

Characters per line				
Marker Width (inches)	Label Size	Normal Size	Small Size	Large Size
.17	x01	1	1	0
.25	x02	2	3	1
.33	x03	3	4	1
.42	x04	4	5	2
.50	x05	5	7	3
.58	x06	6	8	3
.67	x07	7	9	4
.75	x08	8	11	5
.83	x09	9	12	5
.92	x10	10	13	6
1.00	x11	11	15	7
1.08	x12	12	16	7
1.17	x13	13	17	8
1.25	x14	14	19	9
1.33	x15	15	20	9
1.42	x16	16	21	10
1.50	x17	17	23	11

## BRADYMARKER<sup>®</sup> PS printer

### A. General unit description

The Bradymarker PS printer is a Bradymarker XC Plus printer which has been modified to allow it to print PermaSleeve wire marking sleeves, in addition to all other Bradymarker consumables. This section will address changes and additions found in the PS model. Differences between the two versions of printer include the following (refer to Fig. 1, pg. 1).

1. The “print head” features a gap adjuster mechanism on the PS version (see Section B).
2. A “print cover” with no tear bar is needed when using PSBX sleeves (two different covers are included with a PS unit).
3. The “roll holder brackets” are replaced with a “roll unwind assembly” for PSBX sleeves.

When PermaSleeve markers are to be printed with the unit, make sure the roll unwind assembly and “PS” printer cover (no tear bar) are installed on the unit. Set the print head gap as in Section B. Store the roll holder brackets and “Plus” printer cover (with tear bar) in the Bradymarker carrying case for future use (see Section E, pg. 8).

### B. Setting the print head gap

The Bradymarker PS printer features a print head gap adjuster mechanism, which allows it to compensate for material thickness.

The gap is adjusted as follows (refer to Fig. A):

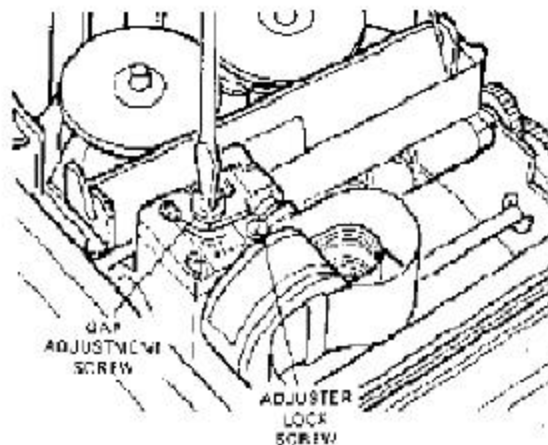


FIGURE A

1. Remove the print cover.
2. Using a slotted screwdriver, loosen the “adjuster lock screw” by turning it one revolution counter-clockwise.



## **BRADYMARKER<sup>®</sup> PS printer**

3. With screwdriver, turn the plastic “gap adjustment screw” (turn clockwise only!) To the desired setting. The smallest gap (locator dots at 12 o’clock) is used for all non-PermaSleeve consumables. The next smallest gap (4 o’clock) is the standard setting for PermaSleeve markers. The final position (7 o’clock) should only be used if the printer smears with the 4 o’clock setting.
4. With screwdriver, re-tighten adjuster lock screw. Be careful not to over-tighten screw!
5. Replace printer cover.

When adjusting the print head gap, be careful not to move the optic scanner within its plastic holder. The scanner position is critical to proper machine operation. If scanner is accidentally moved, refer to (Section F, pg. 10) for instructions on resetting the scanner gap.

### **C. Setting the unit for sleeve size**

Follow the instructions on page 11 in the tutorial section “Press the MENU key...”. Like other Bradymarker labels, PermaSleeve markers have the marker size code shown on the package and on the inside of the roll core.

After entering the marker size code and the appropriate format option, you will be asked the question.

Printing PSBX sleeves?  
Press Y or N.

Select Y in using PermaSleeve markers; select N in all other cases. This will set the proper margin for the printer. This is necessary due to PermaSleeve marker’s different location (left-to-right) on its carrier than other Bradymarker labels.

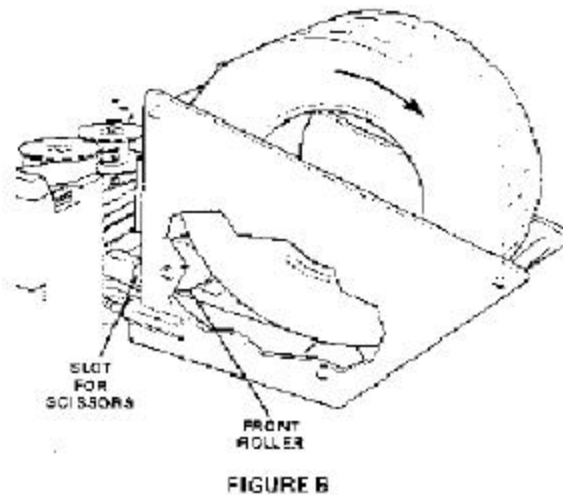
### **D. Loading PermaSleeve wire marker sleeves**

Before attempting to load PermaSleeve markers, make sure that unwind assembly and proper printer cover are in place, material guide is set to widest position, and correct marker size information had been entered. Load PermaSleeve markers as follows (refer to Fig. B).

1. Make sure power in ON.
2. With the leading end approximately on top of the roll, set the roll of sleeves into the unwind assembly so that they will unwind in the direction shown in Fig. B on the next page.
3. Turn the roll “backwards” (opposite the arrow in Fig. B) until the leading edge “pops” under the front roller in the unwind assembly.

## BRADYMARKER™ PS printer (continued)

4. Reverse direction and turn the roll “forward”. Feed material into printer until it stops. The leading edge will now be positioned against the drive roller.
5. While continuing to hold the roll so that the leading edge is pushed tightly against the drive roll, press and hold the FEED key. The drive roller will begin to pull markers into the printer. Continue to hold the FEED key until the leading edge of the roll becomes visible through the slot in the top of the printer cover.



6. Release the FEED key. The printer should advance to the top of the first available PermaSleeve marker. You are now ready to enter legends and print sleeves.

**WARNING - NEVER** try to remove any Bradymarker label or sleeve by pulling them out of the rear of the printer. The printer drive is one-way only. To remove markers, insert a scissors in the “slot for scissors” in the unwind assembly (see Fig. B), cut through the carrier between sleeves, and pull the sleeve out though the top of the printer.



## **BRADYMARKER™ PS printer**

(continued)

### **E. Printing other markers**

To print Bradymaker labels other than PermaSleeve marker.

1. Replace the unwind assembly with the roll holder brackets  
(See Fig. 1, pg.1).
2. Replace the printer cover with the standard “Plus” cover (with tear bar). Store the unused items in the Bradymaker carrying case for future use. Set the print gap to its smallest setting, as described in Section B, pg. 7. Then follow the instructions in the tutorial section.

### **F. Maintenance & Troubleshooting**

In general, follow the instructions in the cleaning & maintenance and troubleshooting sections. Pay particular attention to the following items.

1. The drive roller and nip roller o-ring need to be cleaned occasionally to ensure proper feeding through the printer. Refer to “A stuck label removal”, for instructions on removing and installing the material chute assembly. Clean both the drive roller and nip roller o-rings with isopropyl alcohol.
2. The position of the optic scanner within the print head gap adjuster mechanism is critical. If bumped, the scanner may move inside its holder, resulting in one of the following \*error messages. The front end of the metal optic scanner should be aligned with the bottom front edge of the plastic holding clip. Gently slide the scanner inside the holding clip to re-align, if necessary.

\* Please verify size  
Scanning error  
Out of markers



## Tutorial

- Before using, charge the internal battery pack by plugging it into the AC adapter/charger and allowing it to charge for 16 hours or more.
- Install the ribbon onto the ribbon spool shaft with the spool drive pins pointing down. Push the ribbon detector lever away from the spool shaft, press down on the ribbon spool until it clicks into place, then release the ribbon detecting lever. Repeat the process for the other side. Tighten the ribbon by turning the right spool in a clockwise direction.

- Move the material guide (on the paper shoot) to the appropriate size for the material selected. Insert the material into the shoot.

Turn the unit on and press *Feed*. This will advance the material into the printer.

- Press the *MENU* key and Press "*S*" for *Size*. Enter the size code of the material being used. This should be on the inside of the material core and on the outside of the material box. Press *Enter*. Next select the label format (*Wiremarker, Component, Strip*) Press *Enter*. (Enter acknowledges acceptance of the selection)
- Next go through the *Menu* and select the *Type size, Quantity Cycle, and Justification* needed for your application. Remember to press *Enter* to accept each entry.
- Enter the legend to be printed. Press the *Print* key. If you are in *Multiple* mode it will prompt you as to the quantity of each marker to print.
- To serialize enter your legend and place the cursor under the character to be serialized. Press the *Serial* key. The character block will be blinking. If more than one number will be incremented, each character must be serialized (blinking). Example - the starting number is 1234 and the final number is 1250, the last two characters must be selected and serialized (by pressing the *Serial* key) for them to increment. Serialized characters are always incremented by one number or one letter. Press *Print* and enter the number of each identical labels to be printed (this is usually 1), press *Enter*. You will be prompted for the "*Number of Times to Increment a Serial #*". Enter the total number to incremented labels you want (not the number you want the unit to increment to). The BMXC+ will increment the character furthest to the right first. When it reaches 0 or Z the next character will start incrementing.
- To save a legend in memory, first select *Menu* and press *L* for *List*, select *Create* (press *Enter*) and select any of the lower case letters. Type in your legend and press *Save*. This will add the legend to the memory. The LCD will display the "*Legend will be added to List 'X'*" message. Press *Clear Display* and type in the next legend to be saved. Press *Save*. It is possible to add to this List at a later date by selecting the *Add To* feature in the *Menu* and enter legends as before. A *List* can be edited by using the *View/Edit* command. If you know the letter of the *List* you want to print, you can select *Print* from the *List Menu* and enter the number of each label to be printed.

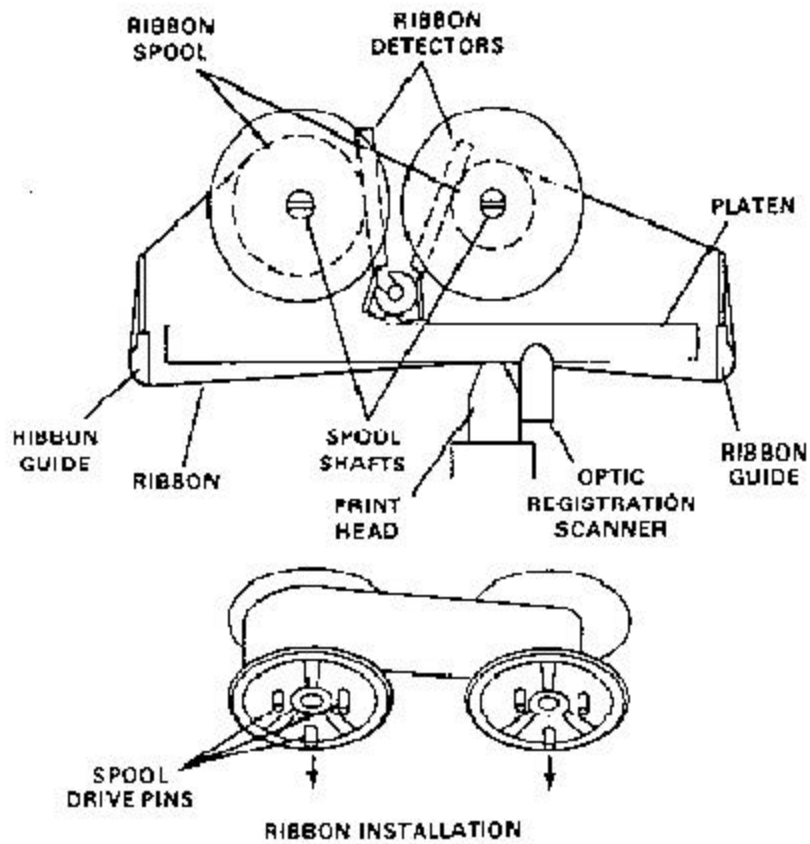


## **Tutorial** (continued)

### **IMPORTANT**

Be sure to choose the label size, font size, and justification before going into the List feature. These settings will be saved with the file saved. To *Erase* a *List* from memory, select *Menu, List*, the name of the file, and press *Erase*. You will be prompted "*Erase List* 'X'", press Y or N.

## Ribbon Installation





## Cleaning and maintenance

### A. Cleaning and lubrication

The printer is a rugged mechanism. It should be cleaned and lubricated as indicated below, to keep it in top operating condition.

1. Cleaning:

Several areas need occasional cleaning. See Figure 5 on the next page.

- a) First is the platen. White paper lint collects on the black tape attached to the platen causing the optic registration system to misread the notch on the label liner. Clean this at least once every month using alcohol on a cotton swab.
- b) Second is the ink ribbon guide path. The ink has a tendency to build a thick paste-like material on the two outside ribbon guides. This increases the driving friction of the ink ribbon, which causes the drive pins on the ink ribbon spool to fail. Clean these ribbon guides with a small amount of alcohol on a cotton swab each time you install a new ribbon.
- c) Third is the print head. Poor print quality or missing print dots may be an indication that your print head requires cleaning. A Brady printer cleaning kit is available from your W. H. Brady Co. Distributor (catalog # PCK-1). Use the cleaning kit and follow the instructions below:
  1. While holding down the H key, turn the printer on.
  2. Follow the instructions as displayed on the user screen.

### IMPORTANT

Be sure to remove the ribbon before you try to clean the print head.

The print head should be cleaned using a strip of print element cleaning material that is 1 3/4" wide by approximately 6" long.

Saturate the first 4" of the strip with cleaning solution before feeding into the printer. Feed the strip so that the wet side is facing the print head.

Loose cleaning material can severely damage the printer. If you tear material along perforations, be sure to trim all the edges of the cleaning strip.

Be sure to thoroughly clean the print head. You may need to run more than one cleaning material strip through the printer to completely clean the print head.

If your printing quality does not improve, you may have a worn ribbon. Replacement ribbons (catalog # R2100) are available from your W. H. Brady Co. Distributor.

## 2. Lubrication

Figure 5 also indicates those points on the printer mechanism that require periodic lubrication. Oil points are noted by an “O” grease points by a “G”.

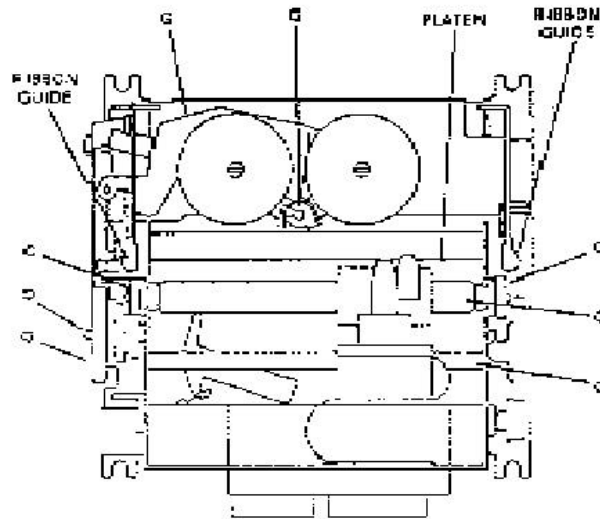


FIGURE 5

Before lubricating any location, make sure that it is wiped clean of any dirt and old lubricant. Always apply a minimum amount of lubricant.

- a) Apply a good quality grade of #40 lubricating oil to all oil points every six months.
- b) Apply a good quality #1 grease to all grease points every 12 months.

**Note:** The shaft that the print head travels across must be lubricated with #1 grease. Lubricating with oil will damage this shaft.



## **B. Battery pack replacement**

Battery pack life will depend upon usage and operating conditions. When recharging the battery pack, always recharge at least 16 hours to restore full power to the pack. This will result in longer battery pack life.

If you find that your battery pack is no longer holding a sufficient charge, you should replace it with a new battery pack assembly (part # 29415).

To replace the battery pack assembly follow these instructions .

1. Remove the bottom rear cover and the bottom front cover.
2. Slide the battery pack power jack from the slot in the edge of the printer body.
3. Disconnect the battery pack connector from the printed circuit board. Carefully slide the connector through the opening at the center of the printer.
4. Remove the screw holding the battery pack assembly clamp to the bottom rear cover. Note the proper position of the battery pack wire leads.
5. Clamp the new battery pack assembly to the bottom rear cover, making sure that the wire leads are in the correct position.
6. Push the battery pack connector through the opening at the center of the printer body. Make sure that the terminals are located on the correct side to provide clearance from the printer case.
7. Slide the battery pack power jack into the slot in the edge of the printer body. Make sure that the terminals are located on the correct side to provide clearance from the printer case.
8. Replace the bottom rear cover and bottom front cover.

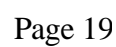
## **C. Lithium battery replacement**

The printed circuit board has a lithium backup battery. This battery prevents the loss of stored legend lists in cases where the battery pack has been completely drained and the printer is not connected to a 120V power source.

**Clean the unit OFTEN.** Even if not in use, the environment will leave dust in the unit which may obstruct the optic sensor. Included in the cleaning should be the white ribbon rewind tape on the right and left side of the platen (remove the ribbon to see this tape)

The black platen tape cannot be replaced with electrical tape. The reflective qualities of this tape is different than factory tape. The optic sensor should be flush with the front most part of the housing. A silver section will protrude from the back of the housing.

The optic sensor is factory set and does not need adjustment.





#### **D. Stuck label removal (continued)**

If a label becomes stuck inside the printer and can not be seen from outside the printer, it is probably stuck to the rubber feed roller.

1. To remove the label, first remove the bottom rear cover, the marker roll and roll holders. (See Figure 1, pg. 1 and Figure 7, this page).
2. Remove the material chute assembly by gently pressing the locking tabs away from the material chute assembly, then lift the material chute assembly out of the printer case.
3. The rubber feed roller is now visible. Remove the label and clean any adhesive residue off the roller using isopropyl alcohol.
4. Replace the material chute assembly. It is important that the two sets of key tabs are properly inserted into the key slots. One set of key tabs and slots is not visible. To engage the key tabs, push paper chute assembly down while pulling it toward the back of the printer. You should feel the key tabs snap into place.
5. Be sure that the material guide is properly positioned between the alignment slots, then push the material chute assembly down so that the alignment tabs push through the alignment slots.
6. Work the material chute assembly under one of the locking tabs. Then insert a screwdriver or other pointed instrument through the material path opening. Push the other locking tab while pushing down on the material chute assembly. The material chute assembly will snap into place under the locking tab.
7. Test the position of the material chute assembly by turning the idler roller. You should feel some resistance. If not, the hidden set of key tabs are probably not installed properly. Re-install the material chute assembly and again turn the idler roller.
8. Replace the bottom cover.



## Additional tips

(continued)

If the unit must come in for repair:

1. An RMA must be obtained from Brady's Tech Support Center at 800\643-8766
2. When ready to ship the unit in, write up a short note stating the symptoms and enclose any samples that show the problem.
3. Send the unit in it's protective case, if available, or wrap the unit in 2" - 3" of plastic bubble wrap. Secure the bubble wrap around the unit. This will protect it from damage in shipment.  
  
\*\* **DO NOT** use styrofoam or biodegradable peanuts. They break down during shipment and get into the unit causing extensive cleaning and possible damage.
4. Write the RMA number on the outside of the box.



## Troubleshooting & most commonly asked questions

- Error Messages  
"Please Verify Size" - Incorrect material size code entered. Improper *Format* selected (strip mode may be selected). Check the optic scanner to be sure it is clean and in it's housing properly.  
"Scanning Error" - Clean the optic sensor. Check the optic scanner to be sure it is in it's housing properly.
- Labels are not advancing - The material roll holding brackets are too tight against the roll. Adjust them gently. The paper shoot may not be installed correctly. Remove it and reinstall it. Check that there is no label stuck in the material path. The rollers may have debris on them. Clean with isopropyl alcohol.
- If the customer gets the unit back and it is in a setup mode (this may happen if they cleared the RAM or if a new chip was installed at the factory) have them follow the prompted messages and answer them accordingly. When they get to the motor speed, press the E key (eye) and Enter so that the Optic Eye can scan. Continue answering the prompted messages.
- How long will the ribbon last? At normal usage and operation, the ribbon should last 3 to 6 months.
- How long is the warranty? 1 year



## Optional exercise

- Select a WML-202-292-4S label. Set the BMXC+ to run 10 labels in serialization mode.
- Install a different material. Create a List and enter 5 legends. Then print this List using the List/Print mode.
- Remove the paper shoot and clean the unit. Remember to clean the Ribbon Guides and the platen. Reinstall the paper shoot and use the cleaning kit to clean the print head...