



# **AstroJet™ M1C HIGH SPEED COLOR LABEL AND TAG PRINTER**



## **OPERATOR MANUAL**

(For Firmware Version R15.1 or higher)

Powered by  
**memjet**®

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## SAFETY PRECAUTIONS

THIS EQUIPMENT PRESENTS NO PROBLEM WHEN USED PROPERLY.  
OBSERVE SAFETY RULES WHEN OPERATING MIC LABEL PRINTER.

BEFORE USING PRINTER, READ THIS MANUAL CAREFULLY AND FOLLOW  
RECOMMENDED PROCEDURES, SAFETY WARNINGS, AND INSTRUCTIONS:

- ✓ Keep hands, hair, and clothing clear of rollers and other moving parts.
- ✓ Avoid touching moving parts or materials while machine is in use. Before clearing a jam, be sure machine mechanisms come to a stop.
- ✓ Always turn machine off before making adjustments, cleaning machine, or performing any maintenance covered in this manual.
- ✓ Power cord and power supply supplied with machine. Plug it into a properly grounded, easily accessible wall outlet located near machine. Failure to properly ground machine can result in severe personal injury and/or fire.
- ✓ Power cord and wall plug are primary means of disconnecting machine from power supply.
- ✓ **DO NOT** use an adapter plug on line cord or wall outlet.
- ✓ **DO NOT** remove ground pin from line cord.
- ✓ **DO NOT** route power cord over sharp edges or trap it between furniture.
- ✓ Avoid using wall outlets that are controlled by wall switches or shared with other equipment.
- ✓ Make sure there is no strain on power cord caused by jamming it between equipment, walls or furniture.
- ✓ **DO NOT** remove covers. Covers enclose hazardous parts that should only be accessed by a qualified service representative. Report any cover damage to your service representative.
- ✓ This machine requires periodic maintenance. Contact your authorized service representative for required service schedules.
- ✓ To prevent overheating, do not cover vent openings.
- ✓ Use this equipment only for its intended purpose.

In addition, follow any specific occupational safety and health standards for your workplace or area.

This manual is intended solely for the use and information of Astro Machine Corp., its designated agents, customers, and their employees. The information in this guide was obtained from several different sources that are deemed reliable by all industry standards. To the best of our knowledge, that information is accurate in all respects. However, neither Astro Machine Corp. nor any of its agents or employees shall be responsible for any inaccuracies contained herein.

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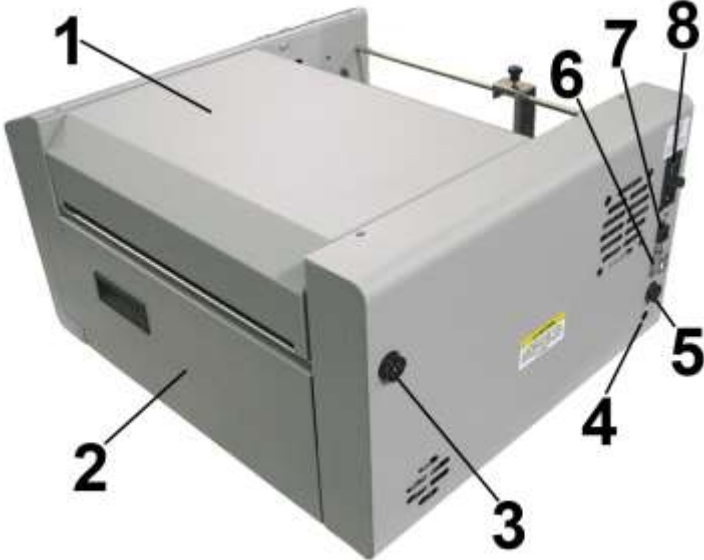
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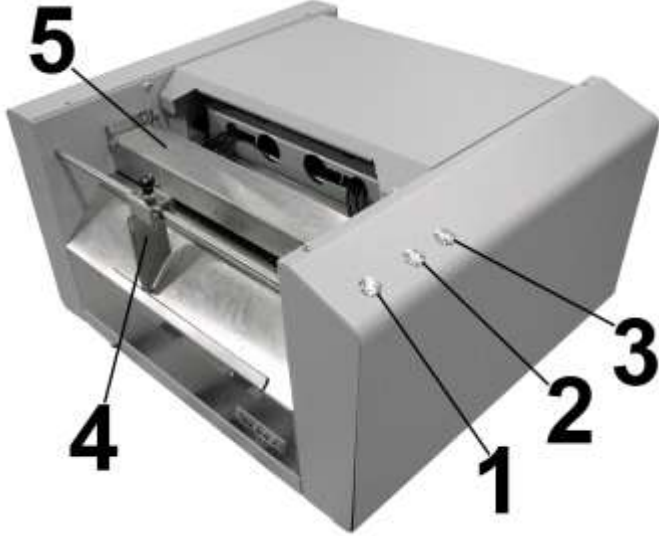


# SECTION 1 – *Getting Acquainted*



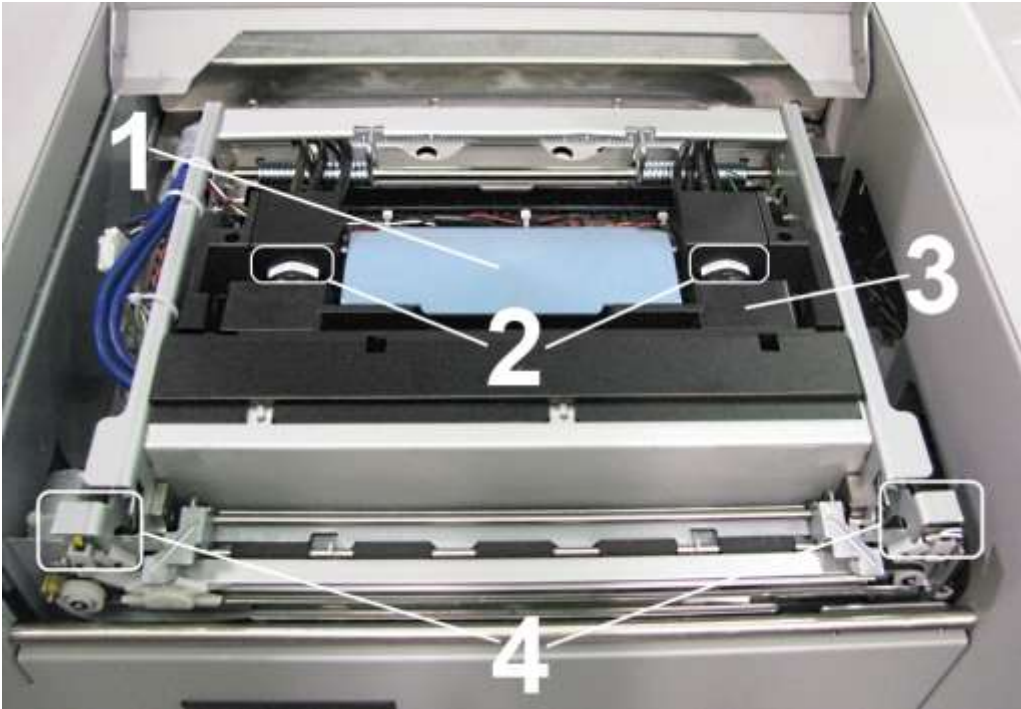
**Front View**

1.	<b>Top Cover</b> – Provides access to Print Engine.
2.	<b>Ink Tank Door</b> – Access to Ink Tanks. When open, disconnects Printer communication to Ink Tanks and allows safe installation and replacement.
3.	<b>Winder Interface Connection</b> – Winder Interface Cable plugs in here.
4.	<b>Service Port</b> – Provides advanced diagnostic access for service technicians.
5.	<b>Unwinder Interface Connection</b> – Unwinder Interface Cable plugs in here.
6.	<b>USB Port Connection</b> – Attach USB cable to Printer here.
7.	<b>Network Connection</b> – Attach network cable here.
8.	<b>Main Power Switch, Receptacle and Fuse</b> – <b>Receptacle:</b> Power cord plugs in here. <b>Power Switch:</b> Turns main power ON/OFF. ( <i>Use Control Panel LED Power switch to turn machine OFF for cleaning and maintenance</i> ). <b>Fuse:</b> Protects Printer's electronic circuits.



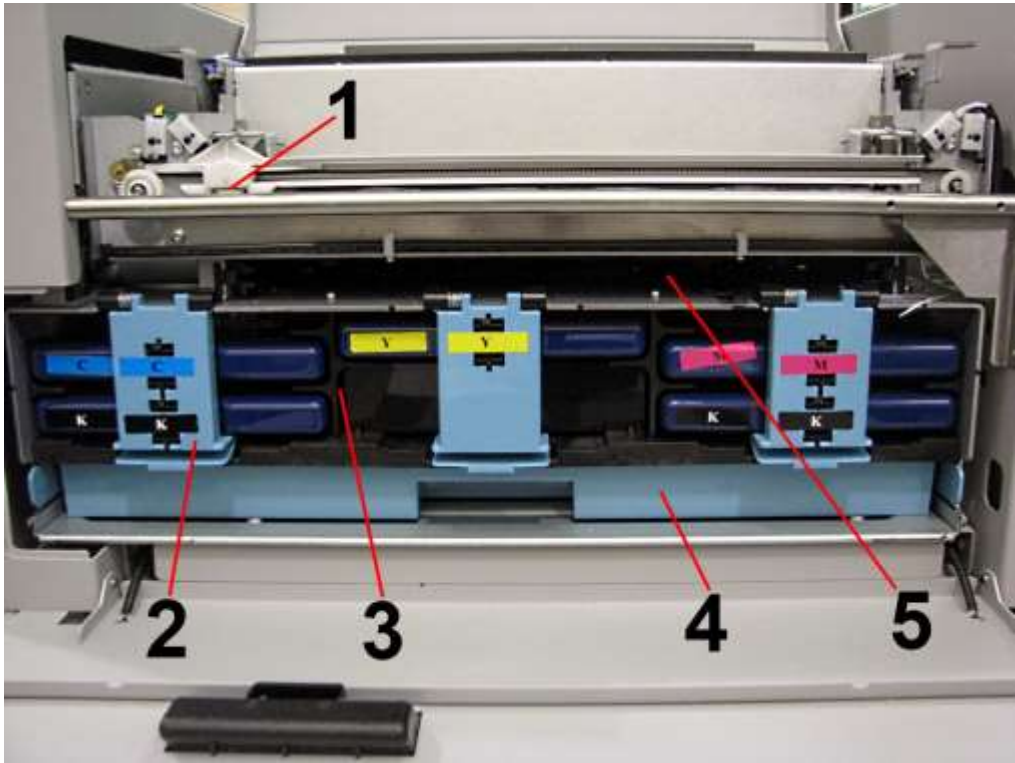
**Rear View**

1.	<b>ON/OFF LED Button</b> – Use to turn power ON or OFF during idle time and maintenance.
2.	<b>Print/Pause LED Button</b> – Press to stop printing, press to restart printing. Press switch to continue printing.
3.	<b>Cancel/Cut LED Button</b> – Press switch to cancel the job being printed. Also activates cutter to cut labels or roll at point desired.
4.	<b>Adjustable Media Guide</b> – Adjusts to hold paper/media against Alignment Guides.
5.	<b>Top Center Chamber Assembly (Brush Assembly)</b> – Keeps media flat as it feeds into Printer. Brushes remove debris and reduce static. Lift Assembly to load or clear media.



**Print Engine View**

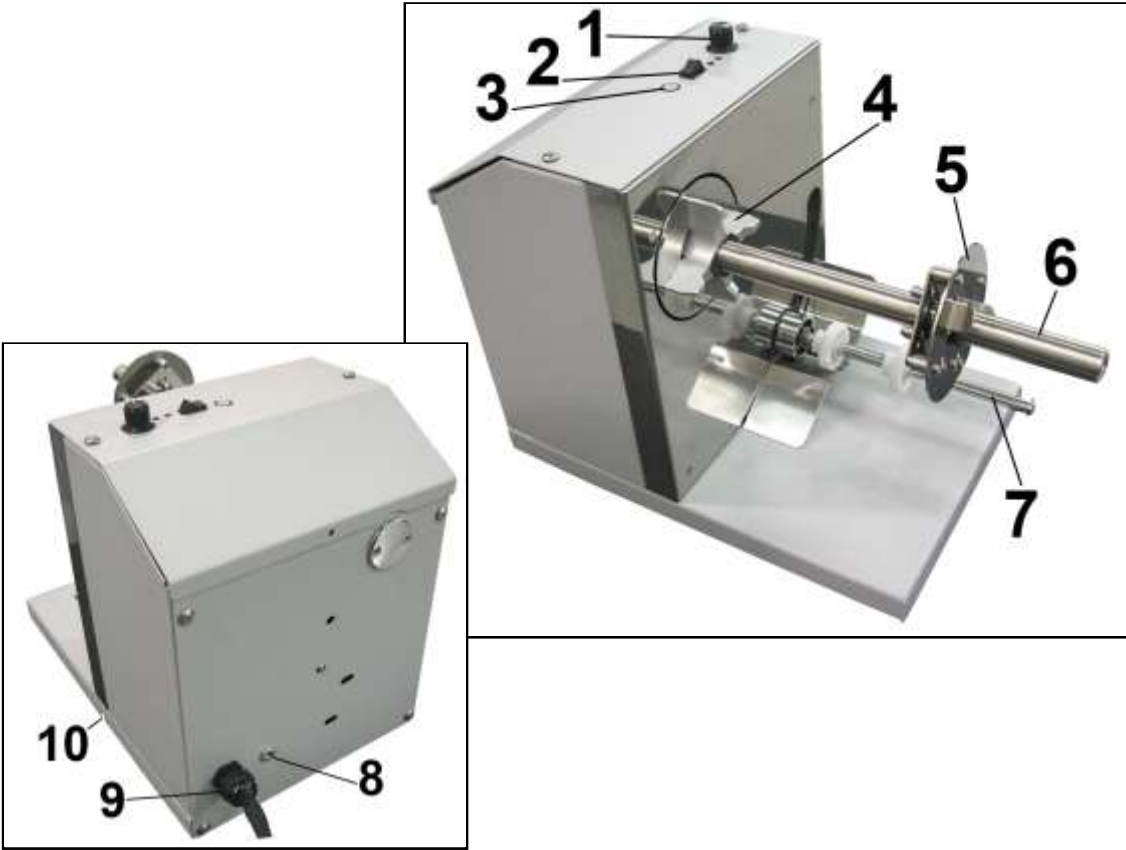
1.	<b>Printhead Latch</b> – When closed, connects Ink Revolver Couplings with Printhead Cartridge. When opened, retracts Ink Couplings from Printhead Cartridge and provides access to Printhead Cartridge for cleaning and replacement. <b>WARNING!</b> Never attempt to open Printhead Latch manually, severe damage will result. Use Printhead Release function in Toolbox on your PC.
2.	<b>Ink Revolver Couplings</b> – Connect ink hoses to Printhead Cartridge. Printhead Latch extends and retracts couplings from Printhead.
3.	<b>Printhead Cartridge</b> – Memjet® Printhead produces an 8.5" wide full color print area.
4.	<b>Clamshell Latches</b> – Lift both latches at same time to open top half of Print Engine. <b>DO NOT</b> open while Printer is operating. <b>DO NOT</b> lift assembly more than 60 degrees. <b>DO NOT</b> let assembly drop, close it gently.



**Ink Tank View**

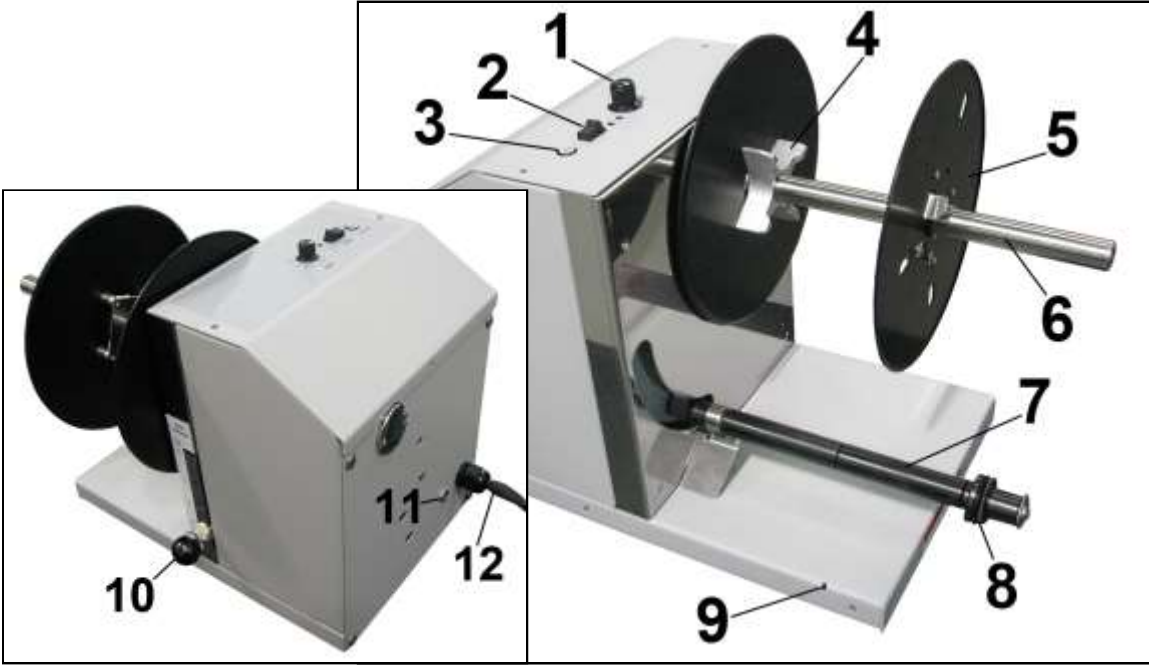
1.	<b>Cutting Blade Assembly</b> – Cuts media after each piece or at end of a job.
2.	<b>Ink Tank Latches</b> – Hold Ink Tanks in place.
3.	<b>Ink Tank Dock</b> – Holds 5 Ink Tanks. ( <i>Ink Tanks shown installed</i> ).
4.	<b>Ink Waste Tray</b> – Absorbs excess ink and drips that may occur during Printer operation and maintenance. Release Tabs located on both sides.
5.	<b>Service Station Dock</b> – Service Station is located here. Service Station keeps Printhead clean and hydrated during operation and maintenance cycles.





**UW-1C Unwinder/Roll Feeder (Optional)**

1.	<b>Speed Control</b> – Turn clockwise to speed up, counterclockwise to slow down.
2.	<b>AUTO/Manual Mode Switch</b> – Use to set Unwinder in <b>Automatic</b> or <b>Manual</b> Mode.
3.	<b>Fuse</b> – Unwinder fuse is located here.
4.	<b>Hub Assembly</b> – Reversible to fit 1-1/2" and 3" cores.
5.	<b>Spindle Lock</b> – Holds Label Roll on Spindle.
6.	<b>Label Roll Spindle</b> – Holds Label Roll.
7.	<b>Label Tension Guide Shaft</b> – Spring-loaded shaft controls starting and stopping as tension is maintained or released by media.
8.	<b>24V, 2.5A External Power Connector*</b> – For connecting printers or equipment other than M1C. <b>NOTE:</b> External power supply must be a UL Listed power supply. *Requires disconnecting wire from Unwinder circuit board and connecting wire from External Power Connector.
9.	<b>Unwinder Interconnect Cord</b> – Connects Feeder/Unwinder to Printer.
10.	<b>Alignment Notch</b> – Fits over Alignment Screw on Printer to keep Printer and Unwinder aligned.



**RW-1C Winder (Optional)**

1.	<b>Speed Control</b> – Turn clockwise to speed up, counterclockwise to slow down.
2.	<b>ON/OFF Switch</b> – Use to turn Winder power ON or OFF.
3.	<b>Fuse</b> – Winder fuse is located here.
4.	<b>Hub Assembly/Guide</b> – Fits 3" cores.
5.	<b>Spindle Lock/Guide</b> – Holds Label Roll in place on Spindle.
6.	<b>Label Roll Spindle</b> – Used to wind Printed Labels around an empty core.
7.	<b>Label Tension Arm</b> – Spring-loaded shaft controls starting and stopping as tension is maintained or released by media.
8.	<b>Adjustable Media Guide Ring</b> – Slides to fit width of media exiting Printer.
9.	<b>Winder Alignment Notch</b> – Aligns with notch on Spacer Plate mounted on Printer. Plate is then attached to Winder to keep Printer and Winder properly aligned and spaced apart.
10.	<b>Tension Control Selector</b> – Increases or decreases spring tension on Label Tension Arm to accommodate different media widths.
11.	<b>24V, 2.5A External Power Connector*</b> – For connecting printers or equipment other than Label Printer. <b>NOTE:</b> External power supply must be a UL Listed power supply. *Requires disconnecting wire from Winder circuit board and connecting wire from External Power Connector.
12.	<b>Winder Interconnect Cord</b> – Connects Winder to Printer.

**Control Panel Button/LED Indicators:**

3 Control Panel buttons with LED indicators.

**POWER (ON/OFF)** – Turns Printer power ON and OFF. Turns off power for cleaning and maintenance.

**PRINT/PAUSE (PAUSE JOB/RESUME)** – Temporarily stops Feed or Resumes Printing.



- **Press to Pause Job Temporarily.** Printer finishes printing media in progress, then stops and holds. Press once to pause jobs for up to 30 seconds to clear jams or other quick maintenance. *(Does not cap printhead).*
- **Press to Resume Printing.** Restart printing after a feed error *(media jams or out of labels).*

**CANCEL/CUT (CANCEL JOB)** – Stops a Job indefinitely *(for maintenance or problems that take longer to resolve.)* Caps Printhead to prevent dehydration and damage. Also Cancels a Job or Cuts the media.

- **Press to Stop Media Feeding.** Press a second time to cancel job.  
**NOTE:** Cancelled Jobs must be reloaded before printing can resume.
- **Press to Cut the Roll.** Once job is finished, pressing this button advances last printed label to cutter, cuts the roll and retracts media to start position.

LED Sequence	Printer Status	Recommended	Control Panel Options
	Power cord plugged in, Power Switch ON/OFF		<ul style="list-style-type: none"> <li>○ - Power Up</li> <li>○ - Inactive</li> <li>○ - Inactive</li> </ul>
	<b>Normal operation:</b> Downloading firmware. Power up. Power down.	Wait for process to finish.	<ul style="list-style-type: none"> <li>○ - Inactive</li> <li>○ - Inactive</li> <li>○ - Inactive</li> </ul>
	Unit powered up. No job loaded.	Power down. Load media.	<ul style="list-style-type: none"> <li>○ - Power Down</li> <li>○ - Load media</li> <li>○ - Inactive</li> </ul>
	Media loaded, No job pending	Load job or forward media to attach to Winder reel <i>(when loading roll-to-roll)</i>	<ul style="list-style-type: none"> <li>○ - Power Down</li> <li>○ - 3 sec – Forward media to Winder</li> <li>○ - 3 sec – Retracts media</li> </ul>

LED Sequence	Printer Status	Recommended	Control Panel Options
 <p>ON, Steady    Flashing SLOW, simultaneously</p>	<p><b>Busy Signal:</b> Maintenance running Job loading</p>	<p>Wait for process to finish.</p>	<p>○ - Inactive</p> <p>○ - Inactive</p> <p>○ - Inactive</p>
 <p>ON, Steady    Flashing, alternating</p>	<p>Job submitted, printing</p>	<p>Wait for process to finish. Power down. <b>Pause:</b> Printer stops &amp; holds. (<i>Printhead not capped.</i>) <b>Cancel:</b> Forwards, cuts last label, retracts to start position. (<i>Printhead capped.</i>)</p>	<p>○ - Power Down</p> <p>○ - Pause Printing</p> <p>○ - Pause Printing, Cancel Job</p>
 <p>ON, Steady    Flashing SLOW</p>	<p>Paused, job pending</p>	<p><b>Print/Resume:</b> Press to resume printing. <b>Cancel/Cut:</b> Press to cancel job.</p>	<p>○ - Power Down</p> <p>○ - Resume printing</p> <p>○ - Cancel Job</p>
 <p>ON, Steady    Flashing FAST</p>	<p><b>EOR – End of Roll</b> (Paper Out)</p>	<p>Load new media.</p>	<p>○ - Power Down</p> <p>○ - Reload media</p> <p>○ - Cancel Job</p>
 <p>ON, Steady    Flashing FAST, simultaneously</p>	<p><b>Hardware Error:</b> Tilt Error Door Open Service Station Error Ink Valve Error Lifter Motor Error</p>	<p>Find and fix error(s).</p>	<p>○ - Power Down</p> <p>○ - Clear Error, Resume Job</p> <p>○ - Clear Error, Cancel Job</p>
 <p>ON, Steady    ON, Steady</p>	<p><b>IDS Error:</b> Ink Out Ink Tank missing Printhead missing</p>	<p>Replace Ink Tank(s) and/or Printhead. Reseat Ink Tank(s) and/or Printhead. Press “Refresh Ink Tanks” or “Circulate” in Toolbox.</p>	<p>○ - Power Down</p> <p>○ - Clear Error, Resume Job</p> <p>○ - Clear Error, Cancel Job</p>
 <p>ON, Steady    Flashing FAST</p>	<p><b>Any other errors</b></p>	<p>Find and fix error(s)</p>	<p>○ - Power Down</p> <p>○ - Pause Printing</p> <p>○ - Pause Printing</p>

***Printer Default Printing Modes***

Printer has three default **Printing Modes** “*Roll-to-Roll*”, “*Roll-to-Cut*”, and “*Fanfold*”. What is connected or disconnected from Printer determines what mode Printer will operate in and disables or enables automatic function of Cutter.

**NOTE: These defaults will override any presets built into job being run.** Before starting to print a job make sure Printer, Unwinder and Winder are set up correctly for that particular job.

<b>PRINT MODE</b>	<b>UNWINDER</b>	<b>WINDER</b>	<b>CUTTER</b>
<b>Roll-to-Roll</b>	Powered ON/Connected to Printer	Powered ON/Connected to Printer	Disabled. ( <i>Still cuts manually by pressing 'CANCEL' button.</i> )
<b>Roll-to-Cut</b>	Powered ON/Connected to Printer	Powered OFF or Disconnected from Printer	Enabled for automatic cutting
<b>Fanfold</b>	Powered OFF or Disconnected from Printer	Powered OFF or Disconnected from Printer	Enabled for automatic cutting

See Section 2 – Installing Printer, “Loading Labels” for how to load Roll and Fanfold Labels

## SECTION 2 – *Installing Printer*

### *Contents of Packaging*

1.	M1C Printer
2.	UW-1C Unwinder ( <i>Optional</i> )
3.	RW-1C Winder ( <i>Optional</i> ) Includes Printer/Winder Spacer Plate, 2 shims
4.	Ink Tanks – Cyan, Magenta, Yellow, Black, Black
5.	Printhead
6.	Adjustable Media Guide
7.	AC Power Cord
8.	USB Cable
9.	Operator Manual
10.	Driver Software CD

#### **Before using Printer:**

- Choose a location for Printer (*plus optional UW-1C Unwinder and RW-1C Winder if used*)
- Unpack Printer (*plus optional UW-1C Unwinder and RW-1C Winder if used*)
- Pull Transport Tab from Service Station and remove Shipping Tape
- Install Printer/Winder Spacer Plate on Printer (*if RW-1C Winder used*)
- Plug in Printer and connect it to computer
- Install Printer Driver
- Install Ink Tanks
- Install Printhead
- Align Printer with UW-1C Unwinder and RW-1C Winder (*If used*)
- Connect UW-1C Unwinder and RW-1C Winder to Printer (*If used*)
- Load Labels (*Roll or Fanfold*) and Set Up Feed on Printer

### ***Choose a Location***

Place Printer on a sturdy level worktable or cabinet at least 9" from any walls. Use Bubble Gauge mounted on Print Engine (*or a small level*) to make sure Printer is level. Surface should be large enough to accommodate Printer, and UW-1C Unwinder and RW-1C Winder if used, in a line together. Protect Printer and optional Unwinder/Winder from excessive heat, dust, and moisture. Avoid placing it in direct sunlight.

### ***Unpacking and Setup***

Remove Printer, and optional UW-1C Unwinder and RW-1C Winder if used, and all parts from cartons. Remove all packing tape.

### ***Remove Service Station Transport Tab***

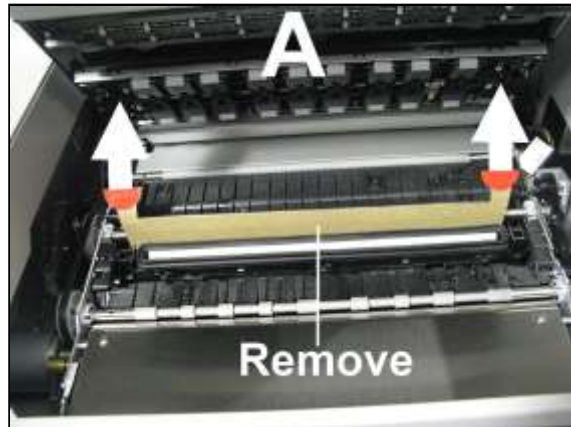
1. Open Top Cover.
2. Release two latches (*one on either side of Print Engine*). Open top half of Clamshell by lifting both levers at same time.



### **CAUTION**

**HOLD ONTO BOTH LATCHES WHEN OPENING AND CLOSING PRINT ENGINE CLAMSHELL COVER TO PREVENT DAMAGE.  
DO NOT ALLOW CLAMSHELL TO DROP OR SLAM CLOSED.  
TO PREVENT DAMAGE TO INK LINES, A STOP LIMITS RAISING CLAMSHELL MORE THAN 60°.**

3. Remove cardboard Transport Tab [A] from Service Station.



### *Install Printer/Winder Spacer Plate (Optional Winder):*

1. Remove all four Printer feet.  
**NOTE: To prevent ink from spilling or leaking, lift Printer only as high as needed to remove/replace feet. Move Printer to edge of bench or table to remove feet.**
2. Install long edge of Spacer Plate under Exit End of Printer. Reinstall 2 feet to secure Plate to Printer.
3. Install 1 washer/spacer on both remaining feet and reinstall on Printer. *(This will keep Printer level.)* See “Position Winder” in “Aligning Unwinder and Winder”.



### *Connecting Printer*

#### **Plugging in Printer**

Plug power cord into receptacle [1] on non-operator side of Label Printer. Internal power supply in Printer is rated 115 to 240VAC, 50/60 Hz.

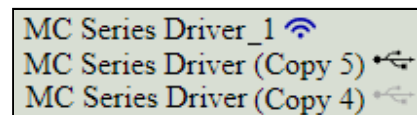
<b>CAUTION</b>
<p><b>DO NOT USE ADAPTER PLUGS OR EXTENSION CORDS TO CONNECT LABEL PRINTER TO WALL RECEPTACLE.</b></p> <p><b>DO NOT USE OUTLETS CONTROLLED BY WALL SWITCHES.</b></p> <p><b>DO NOT USE OUTLETS THAT SHARE THE SAME CIRCUIT WITH LARGE ELECTRICAL MACHINES OR APPLIANCES.</b></p>



#### **Connecting to Computer**

Label Printer connects to computer through **USB port [3]**. **Network port [2]** is provided for operating in a network environment. **Unwinder Interconnect port [4]** is located just below USB port.

Once Printer is connected and set up, opening the Printer Toolbox displays the Printer(s) available and whether they are connected to the network or by USB cable. You can then select the desired Printer to open its Toolbox screens. **NOTE:** If the symbol is grayed out or blank, that Printer is not currently connected.



#### **Turning Power ON and OFF**

##### **Powering Up Printer:**

1. Press Main Power Switch on Side Panel.
2. Press Power Button on Control Panel.

##### **Powering Down Printer:**

<b>CAUTION</b>
<p><b>WHENEVER POWERING DOWN UNIT, ALWAYS:</b></p> <ol style="list-style-type: none"> <li>1. PRESS POWER BUTTON ON CONTROL PANEL.</li> <li>2. WAIT FOR PRINTER TO STOP PROCESSING.</li> <li>3. THEN PRESS MAIN POWER SWITCH ON SIDE PANEL.</li> </ol>



## Install Printer Driver

For Printer software to operate properly, check that computer system meets these **minimum requirements**:

- **Operating System:** Windows 8/8.1, Windows 10 (*Desktop Mode only*). Windows XP, Windows Vista, Windows 7. Supports 32 and 64 bit systems. (*You must have administrative privileges on system.*) **NOTE:** Win 8, 8.1 and Windows 10 will only work in desktop mode. No Win 8 or 10 metro apps will be supported (*applications that work in a Windows 8 or 10 only environment*).
- **Microprocessor:** Pentium II, 2 GHz minimum (*Pentium Dual Core, 2.5 GHz or better, is optimal*)
- **System memory:** 2 GB minimum; or as recommended for your operating system.
- **Free hard-disk space:** At least 10 GB.
- **Web Browser:** Firefox recommended; Chrome, Safari, and Opera also supported.
- CD/DVD drive.
- **USB port (2.0/3.0):** (*Ports will be identified as “USB” or “Enhanced” in Device Manager*)
- Microsoft .Net Framework version 3.5 (*for 32 bit systems*) or Microsoft .Net Framework version 4 (*for 64 bit systems*) must be installed. **NOTE:** Even if you have a higher .NET Framework version installed; version 3.5 or 4 must also be installed, or Toolbox will not open.

**IMPORTANT:** Before installing Printer software (*Toolbox and Driver*), **temporarily disable all antivirus programs and firewalls**. In addition, you must be logged onto system with full administrative privileges (*admin rights*).

**NOTE:** If installing over USB, **do not plug in USB cable until prompted**.

## Install Over USB Connection

This is the procedure for installing the Print Driver over the USB connection. The procedures for installing the Print Driver over a network connection follow.

1. Check that Printer is plugged in and turned OFF. **Disconnect USB connection if already plugged in.** Install disk (*supplied*) in your CD drive to download driver.

**Install Printer Software.** Click “Install Printer Software” to start.



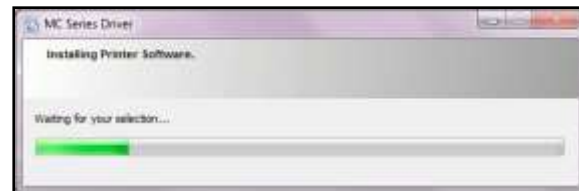
2. **License Agreement.** Check “I accept...” then click “Next>”.



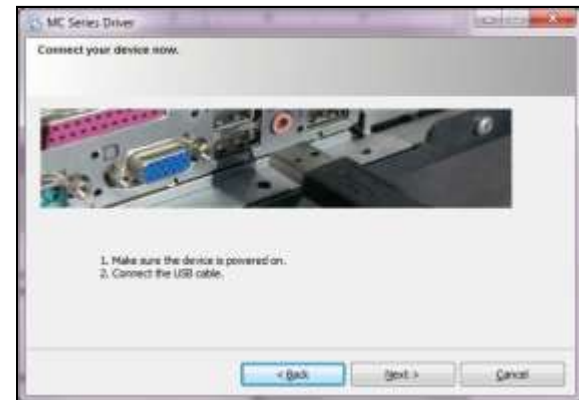
3. **Printer Connections.** Click “Configure to print using USB”. Click “Next>”.



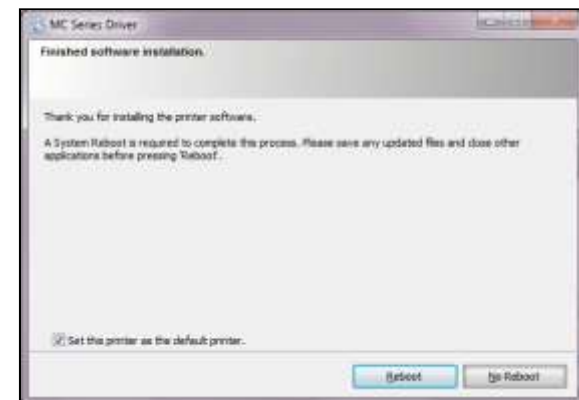
4. **Installing Printer Software.**



5. **Connect Device Now.**  
Switch Printer ON and connect USB cable. **Don't click on either button.** Software will then finish installing.



6. **Finished software installation.** Do not check **Print Test Page** as Printer is not set up yet. You can also set printer to be default printer. To complete process, restart computer. Click “Reboot”.



## Install Over Network Connection, Version A

Use this procedure to install the Print Driver over the Network connection. This procedure works for almost all networks that allow automatic assignment of the IP address (*factory default*). **NOTE: Copy the 12-digit Hardware ID number listed on the Printer(s) on the label located just below the Ethernet port so you can identify the Printer(s) in a later step.**

1. Check that Printer is plugged in and turned ON. **Make sure the Ethernet (*network*) cable is plugged into the Ethernet port on the Printer.** Install disk supplied with Printer in your CD drive. When **AutoPlay** Window opens, click **“Run Setup.exe”** to start.



2. **Install Printer Software.** Make sure computer system meets **minimum requirements** and you followed other instructions listed on screen. Click **“Install Printer Software”**.



3. **License Agreement.** Check **“I accept...”** then click **“Next>”**.

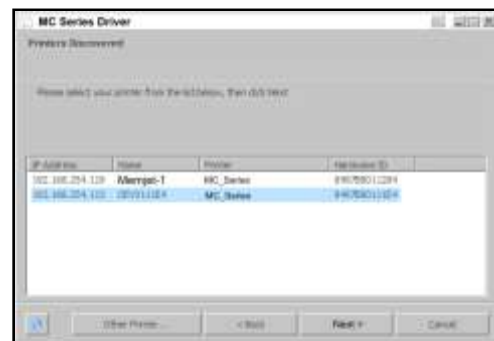


4. **Printer Connections.** Click “Configure to print using the Network”. Make sure the Printer is connected to the Network. Then click “Next>”.

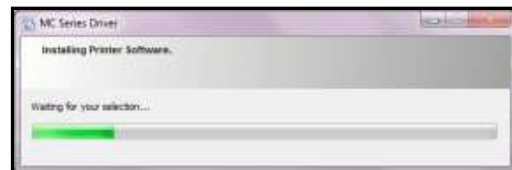


5. **Printers Discovered.** A list of available Printers opens. Check the **Printer** column to verify you have an **MC-Series** printer. Check the **Hardware ID** column and match the number listed to the number you copied previously from the Printer label. Select that Printer. Click “Next>”.

**NOTE: If the Printer does not appear on the list, the IP address may have to be assigned manually. See “Install Over Network Connection, Version B”.**



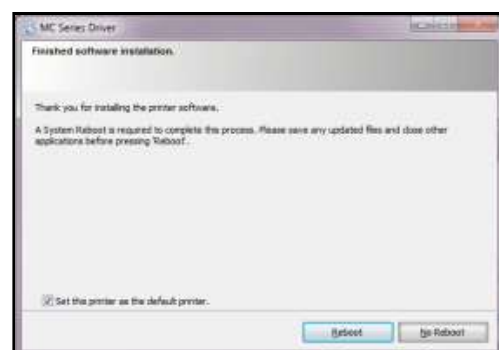
6. **Installing Printer Software.** Software download begins.



7. **Would You Like to Install This Device Software?** Click “Install”.



8. **Finished software installation.** Do not check the **Print Test Page** as Printer is not set up yet. You can check “Set this printer as the default printer” at this time. Click “Next>”.

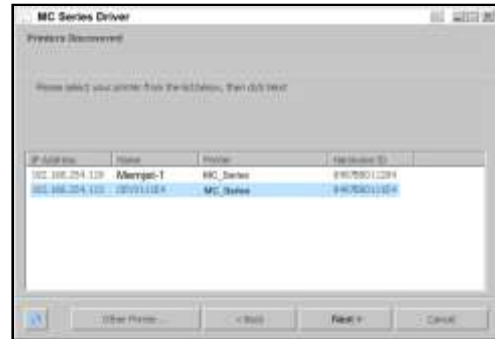


**Tip:** To help distinguish between multiple MC-Series Drivers on your system; open the **“Printers and Faxes”** (*Devices and Printers*) folder and rename the Printers. **For example**, rename a network-configured printer **“MC Series (Network-1)”** and a USB-configured printer **“MC Series (USB)”**.

**To open the “Toolbox” utility over an Ethernet (network) connection:**

Click **Start, All Programs, Memjet, MC Series Driver, Toolbox**.

If more than one copy of the MC-Series Driver is installed, you will have to choose which device you want the **Toolbox** to connect to. To help choose the proper device, you can identify the Printer(s) using the **Hardware ID** you copied earlier or you can rename the Printer(s) as outlined in the **Tip** above.



**Example:**

MC-Series Driver configured for USB: suggested name **“MC Series (USB)”**

MC-Series Driver (Copy 1) configured for Network: suggested name **“MC Series (Network-1)”**.

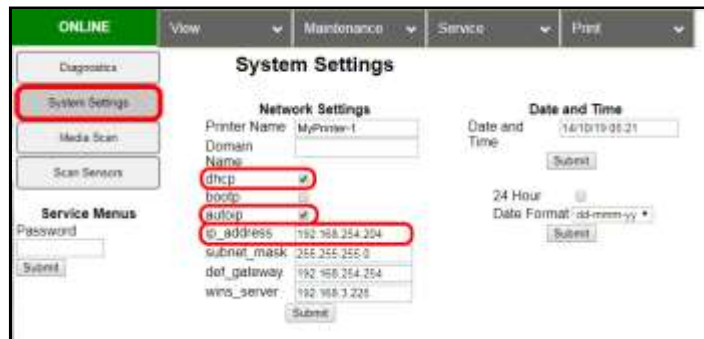
MC-Series Driver (Copy 2) configured for Network: suggested name **“MC Series (Network-2)”**.

### Install Over Network Connection, Version B

Use this procedure to install the Print Driver over the Network connection on **Static IP** systems requiring that an IP address is assigned manually. **NOTE: Copy the 12-digit Hardware ID number listed on the Printer(s) on the label just below the Ethernet port so you can identify the Printer(s) in a later step.**

1. Install the Printer Software over a USB connection. This can be done using a nearby computer or laptop. Once the Driver and Firmware are installed on the Printer, use that same computer to open the **Printer Toolbox**.

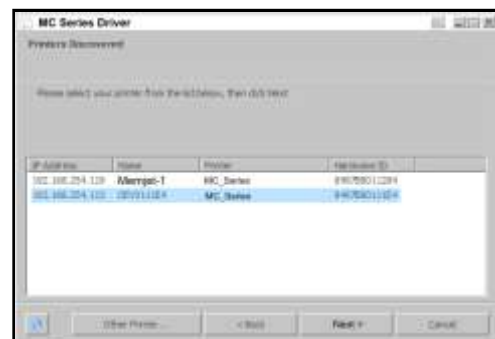
2. Open the **“View”** drop-down menu. Click **“Service Menu”**. Click **“System Settings”**. Click **“System Settings”** button. The **System Settings** window opens. Your IT support person can fill in the necessary information under **Network Settings** (or you can get it from them.)



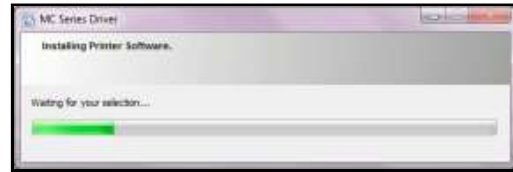
**NOTE: Make sure the “dhcp” and “autoip” boxes are unchecked.** Enter an **ip\_address**. Click **“Submit”**.

3. **If using the USB connection;** disconnect the USB from the local computer or laptop. If not using that computer for printing, the MC-Series Software can be uninstalled.

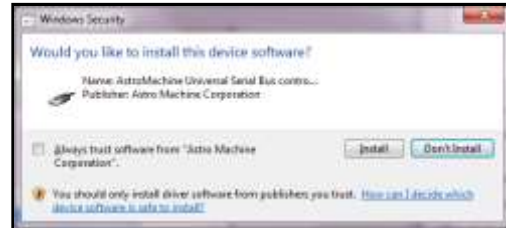
4. Connect the Ethernet cable to the Ethernet port and rerun the **“Install Over Network Connection, Version A”** procedure again. The Printer should now appear on the **“Printers Discovered”** window. The Printer can still be identified by its **“Hardware ID”**, but the new IP address entered by your IT support person (or operator) is shown. Select the desired Printer and click **“Next>”**. Follow the remaining steps.



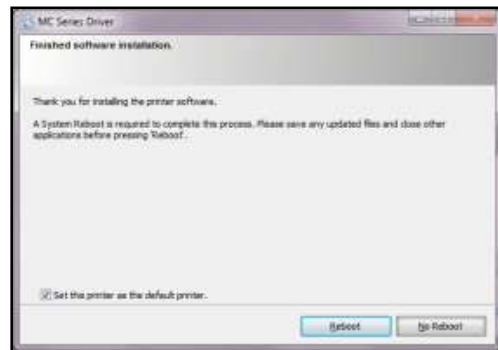
5. **Installing Printer Software.**  
Software download begins.



6. **Would You Like to Install This Device Software?** Click “Install”.



7. **Finished software installation.** Do not check the **Print Test Page** as Printer is not set up yet. You can check “Set this printer as the default printer” at this time. Click “Reboot”.



**Tip:** To help distinguish between multiple MC-Series Drivers on your system; open the “**Printers and Faxes**” (*Devices and Printers*) folder and rename the Printers. **For example**, rename a network-configured printer “**MC Series (Network-1)**” and a USB-configured printer “**MC Series (USB)**”.

**To open the “Toolbox” utility over an Ethernet (network) connection:**  
Click **Start, All Programs, Memjet, MC Series Driver, Toolbox**.

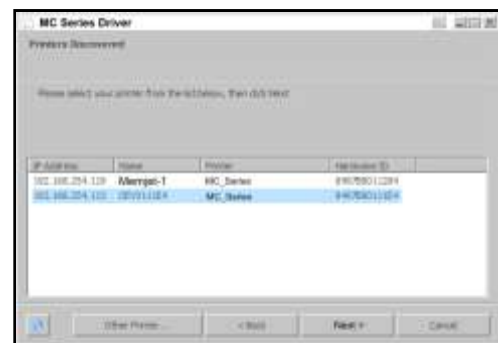
If more than one copy of the MC-Series Driver is installed, you will have to choose which device you want the **Toolbox** to connect to. To help choose the proper device, you can identify the Printer(s) using the **Hardware ID** you copied earlier or you can rename the Printer(s) as outlined in the **Tip** above.

**Example:**

MC-Series Driver configured for USB: suggested name “**MC Series (USB)**”

MC-Series Driver (Copy 1) configured for Network: suggested name “**MC Series (Network-1)**”

MC-Series Driver (Copy 2) configured for Network: suggested name “**MC Series (Network-2)**”



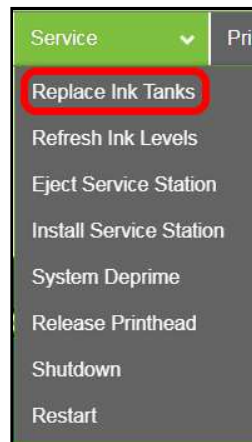
## Install Ink Tanks

Printer uses one Printhead Cartridge and five Ink Tanks (two Black, one Cyan, one Magenta, and one Yellow).

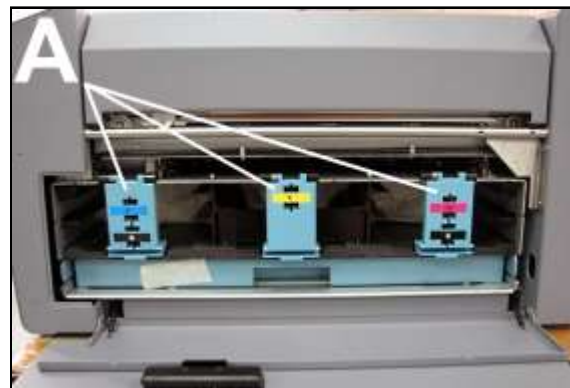
1. **Open Printer Toolbox.** Go to **Start Menu** and open **“Toolbox”**. System Status information appears in upper left corner of **System Status** window. Note that **“C, K2, M, Y, K1”** boxes are empty.



2. **Select “Replace Ink Tanks” from the “Service” drop-down menu.** (Disconnects Printer communication with Ink Tanks and allows safe installation and replacement.) Once **“Confirm”** screen displays, it is safe to install Ink Tanks. **IMPORTANT: DO NOT press “Continue” until after installing the Ink Tank(s) and closing the Ink Tank Latches.**

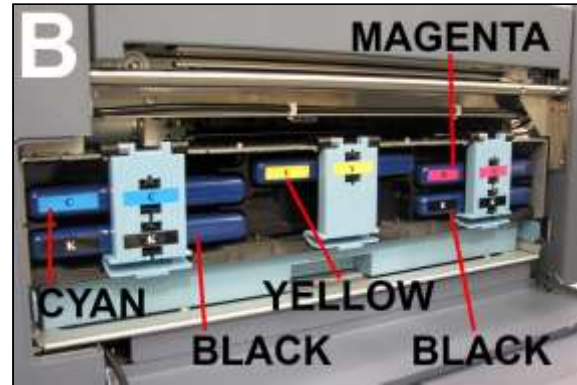


3. **Open Front Cover** (hinged at bottom). Open three Latches [A].
4. Remove new Ink Tank(s) from packaging.



5. Insert new Ink Tanks (*labels up*) into appropriate color slots [B].  
Close Latches.

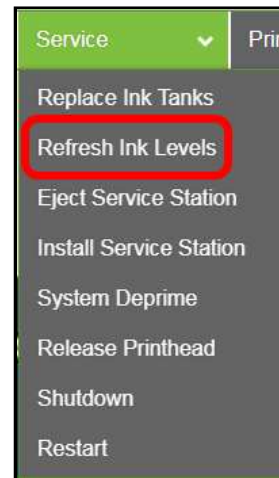
**INSTALLATION TIP:** Make sure Ink Tanks seat properly. Insert Ink Tank into appropriate Ink Station, then pull Ink Tank back about an inch and push forward firmly to insure that Ink Nozzles penetrate seals on Ink Tanks.



6. Click “Continue” on Confirm screen. Click on the “Service” drop-down menu in the **Toolbox**, then “Refresh Ink Levels”. Ink colors fill in as Ink Tanks are installed. If ink colors do not fill in after a few seconds, click “Replace Ink Tanks” again and reinstall Ink Tank(s).



7. Close Front Cover.



**WARNING!**

Ink in Ink Tanks may be harmful if swallowed. Keep new and used Ink Tanks out of reach of children. Discard empty Ink Tanks immediately.



### *Install Printhead Cartridge*

Printhead Cartridge is a delicate precision device. Handle with extreme care to avoid damage and issues that could degrade print quality.

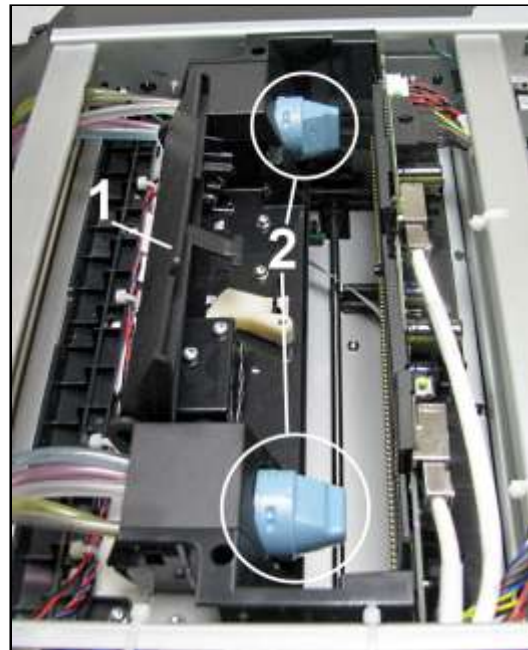
#### CAUTION

- Use electrostatic discharge (ESD) protection when handling.
- Hold Printhead Cartridge by handles **ONLY**.
- **DO NOT** touch ink couplings, nozzle surface or electrical contacts.
- **DO NOT** unpack Printhead Cartridge until Printer is ready for installation. Once unwrapped, delay in installing Printhead can compromise print quality due to dehydration.
- **DO NOT** place an unwrapped Printhead on any surface before installing. Protect Printhead from scratches, dust, fibers, dirt and other contaminants at all times.

1. With Printer power ON, open Top Cover. Printhead Latch [1] should be already opened.

**NOTE:** If Latch is closed, open it using **Printhead Release** button in Printer Toolbox.

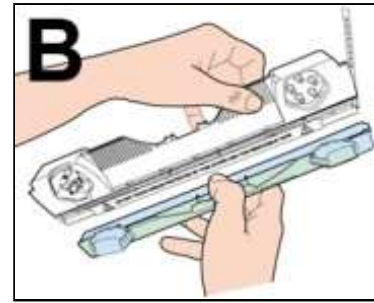
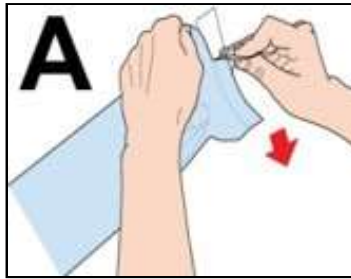
Remove Cap Protectors on Ink Nozzles [2].  
Open Latch fully to retract Ink Nozzles.



#### CAUTION

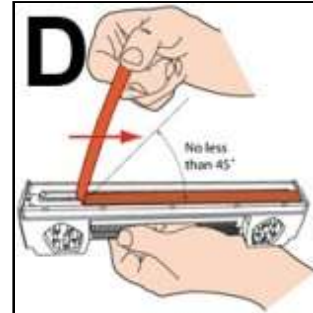
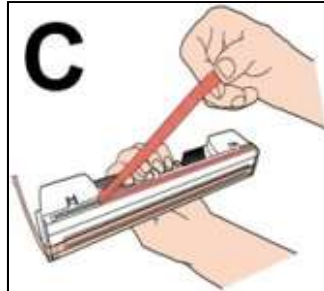
**DO NOT PRY OR MANUALLY LIFT PRINTHEAD LATCH OR LATCH MAY BREAK. ONLY OPEN LATCH USING PRINTHEAD RELEASE COMMAND IN PRINTER TOOLBOX.**

2. [A] Carefully remove Printhead Cartridge from foil packaging. Tear foil at notch or cut the end with scissors.



- [B] Remove protective plastic cover. Hold Printhead by handle and unclip cover from Printhead.

- [C] Remove protective strip from Printhead Electrical Contacts. Once removed, DO NOT allow strip to touch electrical contacts.

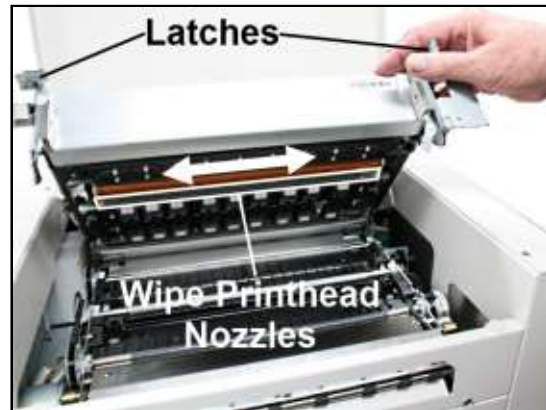


- [D] Remove protective strip from Printhead Nozzles. Hold Printhead by handle. Pull strip tab and slowly peel strip from Printhead. DO NOT pull strip at less than a 45° angle from Printhead surface. DO NOT allow removed strip to touch Printhead Nozzles.

3. Carefully insert Cartridge into compartment at an angle [1], with Printhead surface facing down and Ink Nozzles facing Ink Hoses. Once seated, gently tilt Cartridge back until it snaps into an upright position [2]. DO NOT FORCE Cartridge into position.



4. **Wet Printhead Surface.** (*Ensures Printhead will prime correctly.*) Open Top Cover. Release and lift two latches **at same time** to raise Print Engine Clamshell. **Moisten Printhead nozzles using distilled water and a damp, lint-free cloth, wiping end to end.** (*Gray strip located below orange strip.*) Close and latch Print Engine Clamshell.



**CAUTION**

**HOLD ONTO BOTH LATCHES WHEN OPENING AND CLOSING PRINT ENGINE CLAMSHELL TO PREVENT DAMAGE.**

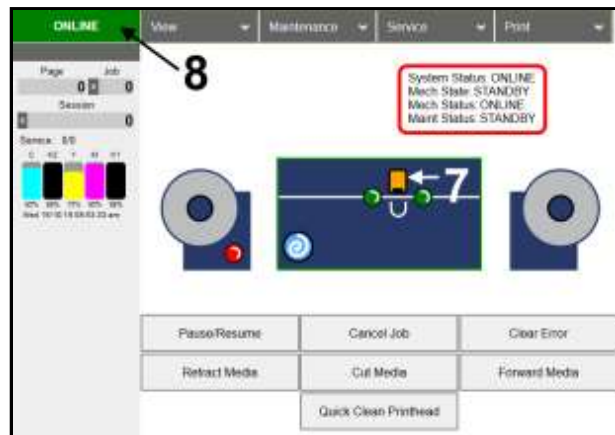
**DO NOT ALLOW CLAMSHELL TO DROP OR SLAM CLOSED.**

**TO PREVENT DAMAGE TO INK LINES, A STOP LIMITS RAISING CLAMSHELL MORE THAN 60°.**



5. **Close Printhead Latch [1].** Printer will start up and prime ink into Printhead. (*May take a few minutes.*) Make sure that ink is flowing through hoses.

6. **Open the Toolbox System Status screen.** Notice some information is in *red*. As Printer circulates ink and primes system, these fields should turn *black*. Check that the Printhead icon [7] in Printer image is primed (*solid color*)



7. When **ONLINE [8]** appears, the Printer is ready for use. **NOTE:** If the Printhead icon continues to display an outline or a question mark (?) try the following procedures:

**[1] Printhead icon shows an outline (*Printhead unprimed*):**

Click **“Circulate Ink”** under **“Maintenance”** drop-down in Printer Toolbox. If issue persists, try the **“Install Printhead”** procedure again. If the issue continues, contact technical support.

**[2] Printhead icon displays a question mark (*Printhead not recognized*):** Try the **“Install Printhead”** procedure again. If the issue continues, contact technical support.

**NOTE: Printer may take up to 12 minutes to set itself up during initial startup. This is normal.**

### *Removing Media Guide*

Plastic Media Guide helps prevent smearing by holding down media such as roll-fed, die-cut, matrix-removed and perforated label stock. If necessary, it is easily removable by hand.

1. Open Top Cover
2. Open Print Engine Clamshell.

#### **CAUTION**

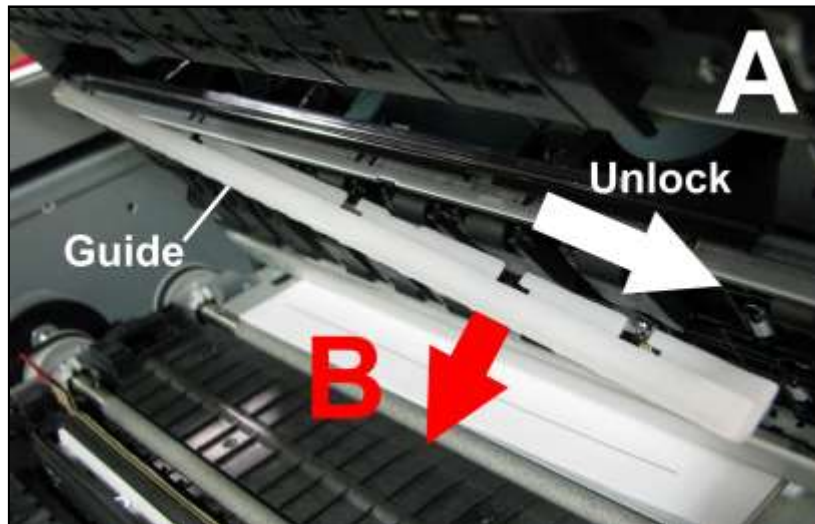
**HOLD ONTO BOTH LATCHES WHEN OPENING AND CLOSING PRINT ENGINE CLAMSHELL TO PREVENT DAMAGE.**

**DO NOT ALLOW CLAMSHELL TO DROP OR SLAM CLOSED.**

**TO PREVENT DAMAGE TO INK LINES, A STOP LIMITS RAISING CLAMSHELL MORE THAN 60°.**

3. [A] & [B] Slide Media Guide to the right and pull down on Guide to release it from metal support.

[C] Remove Guide from Printer. **Save for later use.**



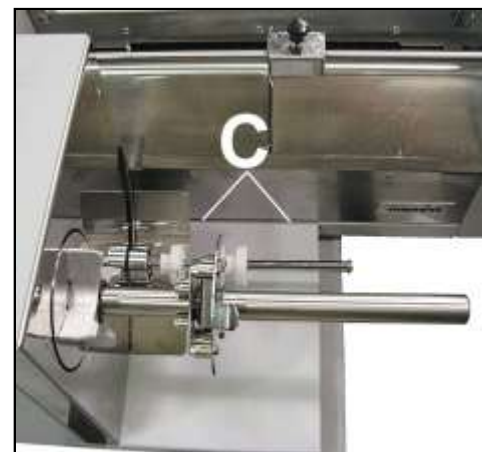
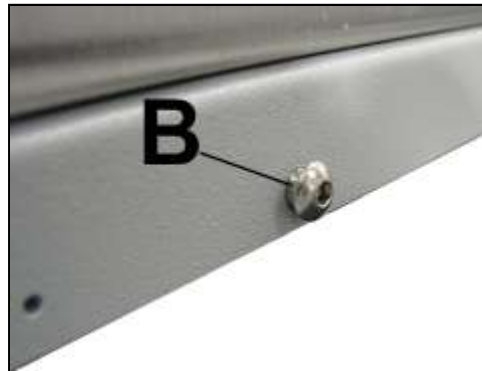
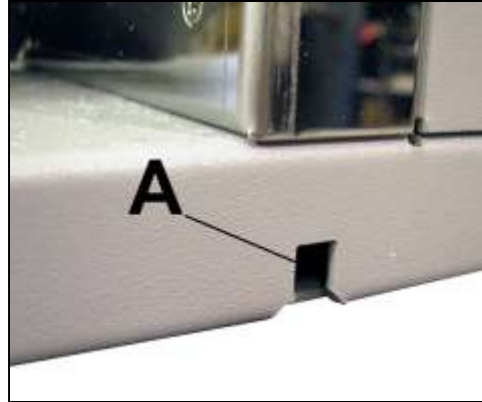
## *Aligning Printer with UW-1C Unwinder and RW-1C Winder*

### **Roll-to-Roll Label Printing**

Make sure Unwinder and Winder are properly connected to Printer and turned ON, this will disable automatic function of Cutter. (*Cutter still operates manually by pressing CANCEL button*). Proper alignment of Unwinder, Printer and Winder is critical to operation of Label Printer. Position Printer on a sturdy, stable level work surface with enough room to place Unwinder and Winder at either end.

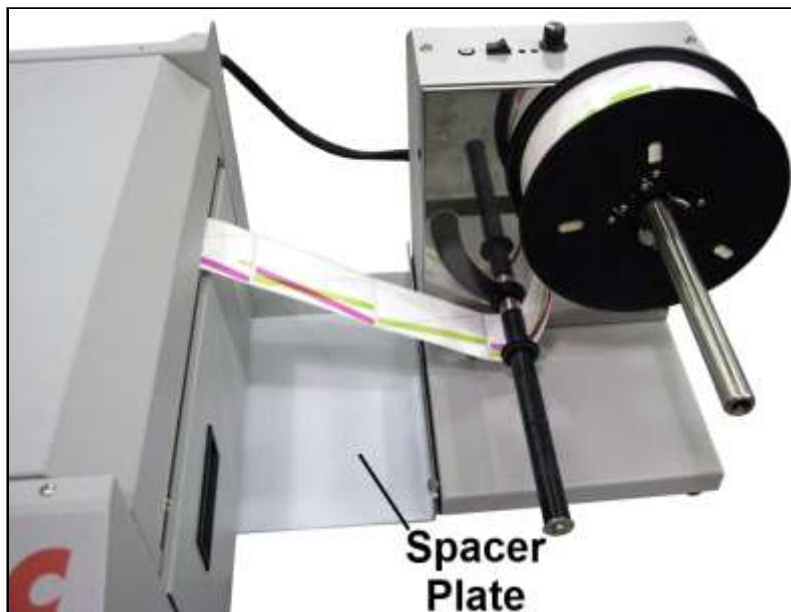
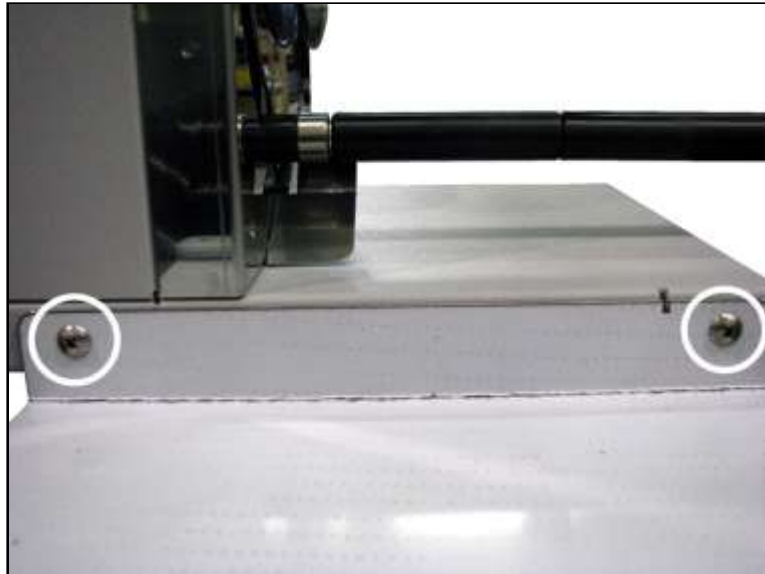
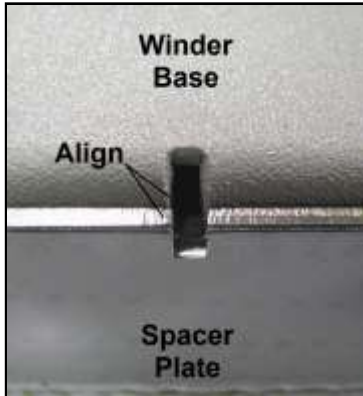
#### **Position the Unwinder:**

1. Fit square notch cut into Unwinder Base [A] over pin located along base of feed end of Printer [B].
2. Make sure base of Unwinder and base of Label Printer are flush [C].



**Position Winder:**

1. Align notch on Printer Spacer Plate with corresponding notch on Winder Base (*as shown*). When aligned, attach Spacer Plate to Winder Base with two screws (*included*).



2. **Test Alignment.** Run a job. If extreme web drifting is observed or web runs to one side, readjust Winder alignment. Loosen two Spacer Plate mounting screws. Slide Winder forward or backward as needed, then tighten screws.

## Roll-to-Cut Label Printing

Make sure Unwinder is properly connected to Printer and turned ON. Winder should be turned OFF or disconnected to enable automatic operation of Cutter. Proper alignment of Unwinder and Printer is critical to operation of Label Printer. Position Printer on a sturdy, stable level work surface with enough room to place Unwinder at feed end of Printer.

See “Position Unwinder” Steps 1-2 above.

## Connecting Printer to Optional Unwinder and Winder

### WARNING!

HAZARDOUS MOVING PARTS!  
KEEP FINGERS AND OTHER BODY PARTS AWAY!

### CAUTION

MAKE SURE THAT PRINTER IS TURNED OFF BEFORE  
CONNECTING UNWINDER AND WINDER.

#### Connecting to UW-1C Unwinder:

Connect one interconnect cable into 7-pin connector port on Printer [1] (located just below USB port).



#### Connecting to RW-1C Winder:

Connect other 7-pin interconnect cable into 7-pin connector port (located on exit end of Printer's non-operator side panel) [1].



## Unwinder Mode Switch

Unwinder has a Mode Switch for “Auto” or “Manual” operation. When used with M1C, Unwinder can be left in “Auto” position.

**Auto** – Unwinder is OFF. Unwinder is controlled by Printer (or other external device) thru interface cable. Allows easy roll loading since Unwinder will not start turning when Drive Press Roller is lifted, only when Printer is running a job.

**Manual** – Unwinder is always ON. When Drive Press Roller is balanced (in center position of its arc), unit is OFF. If tension from media increases (Roller raises), unit turns clockwise to relieve tension. If tension from media decreases (Roller drops), unit turns counterclockwise to increase tension. This is useful if using Unwinder with a non-interface external device.



## Loading Labels

### Roll-to-Roll Printing

**IMPORTANT! Make sure Unwinder and Winder are connected to Printer. This ensures that Cutter's automatic cut function is disabled. (Cutter can still be engaged manually by pressing Cancel button).**

Printer is equipped with one Adjustable Side Media Guide. Make sure Unwinder is set to “Auto” and Winder (if used) is turned OFF and that both are connected to Printer via appropriate ports.

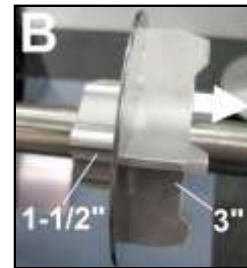
1. **Adjust Core Size (Unwinder only):** Unwinder can fit 1-1/2" or 3" cores using reversible Hub Assembly. **To change core sizes:**

[A] Carefully remove retaining-clip holding Hub Assembly in place.

[B] Slide Hub Assembly off Shaft. **NOTE: Do not lose key in shaft.** Each side of Hub fits a different size core. (Larger side fits 3" cores; smaller side fits 1-1/2" cores.)

[C] Turn Hub so desired core size is facing out. Slide Hub Assembly back into place over key in Shaft.

[D] Reinstall retaining-clip into groove cut in Shaft.



2. **Load Label Roll:**

[A] Slide Roll onto Unwinder Shaft, labels facing up with Roll End facing Printer.

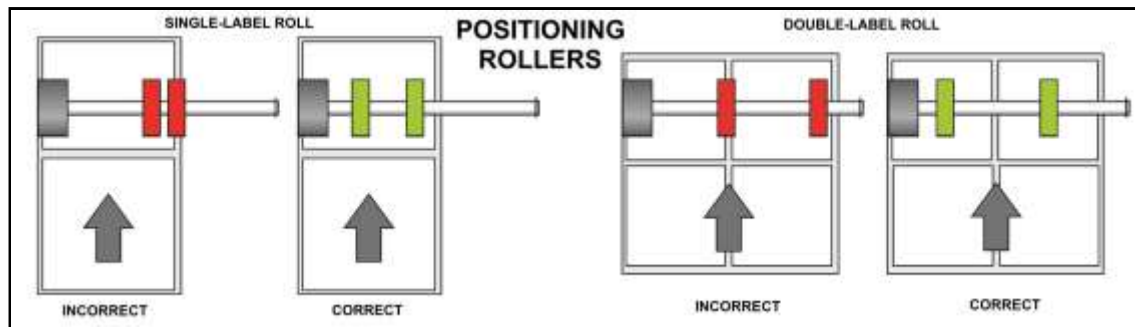
[B] Slide Roll Lock onto Unwinder Shaft until 4 pins fit into roll core.

[C] Pull roll leader under Drive Press Roller, under crossbar, raise Brush Assembly and push leader to entry of Print Engine. Lower Brush Assembly.

**NOTE:** Position Drive Press Rollers evenly on label or labels, **NOT** on label backing. (See illustration below.)







[D] Align side edge of roll with two alignment pins on Printer and feed roll end into Print Engine.

[E] Slide Adjustable Side Guide until it just touches labels.  
Tighten locking knob on Adjustable Side Guide.

3. Press the **Print** button momentarily and the Printer aligns and pulls the labels into the Printer.  
Holding the **Print** button down feeds about 30" (75 cm) of media through Printer to provide enough leader to attach it to the Winder.

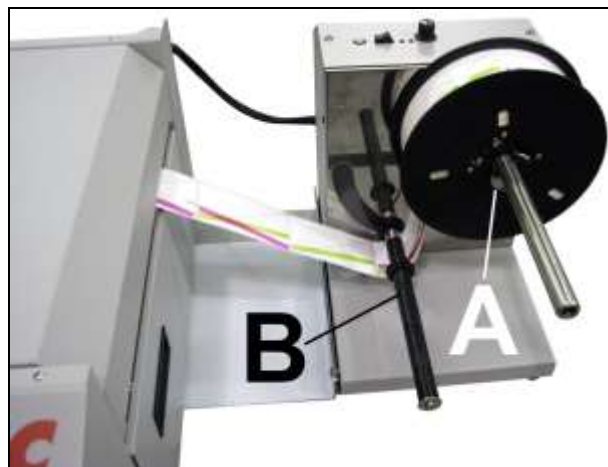
4. [A] Load an empty 3" core on Winder Spindle. Slide Spindle Lock on shaft until 4 pins fit into roll core.

[B] Take leader end and pull it under Label Tension Arm on Winder.

[C] Tape or glue roll end (*label side up*) to top side of empty core.

**NOTE: Make sure edge is secured straight on core for proper winding.**

[D] Slide Adjustable Media Ring Guide on Label Tension Arm to edge of media.



### Adjusting Speed on UW-1C Unwinder and RW-1C Winder

For proper media feeding and printing, adjust speed on Unwinder and Winder depending on type of media and job you are running.

To speed up Unwinder and Winder, turn Speed Controls clockwise.

To slow the speed, turn Control counterclockwise.



#### CAUTION

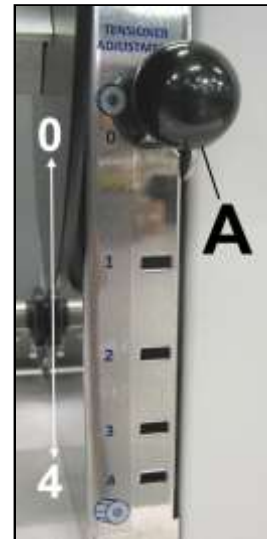
**SETTING UNWINDER SPEED TOO HIGH CAN CAUSE MEDIA TO HESITATE AS IT UNWINDS AND AFFECT PRINT REGISTRATION.**

### Adjusting Winder Tension

Use “Tension Control Selector” [A] to adjust spring tension on “Label Tension Arm” for different label stock widths.

Use “0” setting (*least tension*) for narrow label stock and “4” setting (*highest tension*) for widest label stock.

**NOTE:** Setting tension improperly can cause print to misregister due to label stock being pulled with too much force. If this occurs, try decreasing tension (*set at a lower number*). If tension is set too low, roll may not be rewound properly.



## Roll-to-Cut Labels

### IMPORTANT!

Winder must be turned OFF or disconnected from Printer and moved out of the way. This ensures that automatic cut function is enabled.

Load Label Roll on Unwinder and Printer using **Steps 1-2** in “**Roll-to-Roll Printing**” above. Then press **Print** button momentarily so Printer will align and pull in labels.

## Printing Fanfold Labels

### IMPORTANT!

Make sure both Unwinder and Winder are turned OFF or disconnected from Printer and moved out of the way. This ensures that automatic cut function is enabled.

### Loading Fanfold Labels:

1. Place Fanfold Labels label-side up next to feed end of Printer.
2. Feed Labels under Brush and into Printer, aligning left-side edge with alignment pins on Printer. Feed Label end into Print Engine.
3. Slide Adjustable Side Guide so it just touches right-side edge of labels.
4. Press the **Print** button momentarily and the Printer will align and pull in labels. Hold the **Print** Button down to feed about 30" (75 cm) of media through the Printer.



## Bleeds

**Bleeds** – See “**Appendix C – Borderless Printing: Overspray vs. Oversize**”.

## SECTION 3 – *Operating Printer*

Once Printer Driver is installed and Printhead is primed, you are ready to start printing. Set up your job and send it to Printer. Printer will start up and print. The Printer Driver installed in **Section 2** should be set as default driver. It is then accessible through your applications (*such as Microsoft Word*). Other types of applications and database management software will work in a similar manner when using this Driver. This Section further assumes that feed is set up and Printer is connected to your computer.

### *Printer Driver Properties*

Printer Driver works the same as any other Printer Driver for Windows. It has enhancements to help maximize Printer's ability to print variable addressed pieces quickly and efficiently.

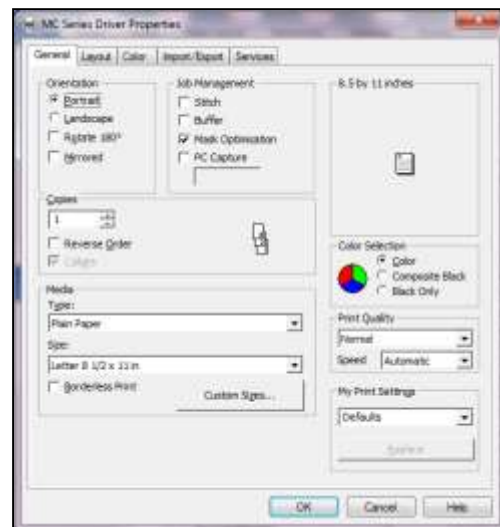
Once job is set up, click **Print**. Window at right opens. Make sure **MC Series Driver** is selected Printer. Clicking on **Properties** opens “**Properties**” window.



### General Tab

**General** tab lets you select:

- **Orientation** – Portrait (*default*), Landscape, Rotate 180° and Mirrored.
- **Page Management:**
  - Stitch** is for printing on continuous media (*no gaps*).
  - Buffer** loads the entire print job before printing starts.
  - Mask Optimization** (*checked is default*) optimizes images for printing in most applications. **NOTE:** Some applications (*like FlexMail*) may display image boundaries when printed, unchecking **Mask Optimization** box eliminates these lines. (*Remember to check box when changing applications.*)
  - PC Capture** – When checked, saves a Print File (\*.prn) on the PC (C:\Windows\Temp) for later use. (*Unchecked is default.*)
  - NOTE:** Use the box below the selection to name the file, otherwise the Printer assigns the current date and a numerical name.
- **Copies** – Enter number of copies to be printed.



- **Media** – Adjusts Printer for media being used for a job.  
**Type:** Choose type of media to be used.  
**Size:** Set a different size media than document was originally designed for. Document is automatically resized to fit new media.  
**Overspray:** Checking this box allows printing to edge of media (*borderless*). See “**Appendix C – Borderless Printing: Overspray vs. Oversize**”.
- Create and save a **Custom Size** to suit your needs.
- **Color Selection** – Set Printing for Color, Composite Black (*uses all colors to print Black*), or Black Only (*uses only Black ink*).
- **Print Quality** – Select **Normal** or **Best**. **Normal** is 1600 x 800 dpi. **Best** setting is 1600 x 1600 dpi, for use when high quality images are required. “**Speed**” allows you to adjust the Printer speed for the media being used (*i.e., slow the printing speed for higher quality on glossy stock*).
- **My Print Settings** – Access saved custom print settings for various jobs.

## Layout Tab

**Layout** allows you change how document prints without changing original document.

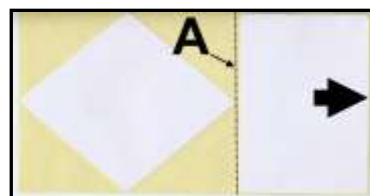
- **Resizing** – Specify **Original Size** or **Custom Resize**: Resizes original as a % of normal size. Printer prints document in size you selected regardless of paper size selected.  
**Print on:** Specify particular size of paper that you want to print on regardless of size of original document. Checking “**Scale to Fit**” automatically resizes document to fit on new page size.
- **Printing Adjustments** – Make minor positioning changes to print area in relation to media if needed. Also set measurements to be in Inches, Millimeters or Pixels.  
**NOTE: Printing Adjustments only works when Print Area is less than full print width (less than 8.5”/ 215.9mm wide).**



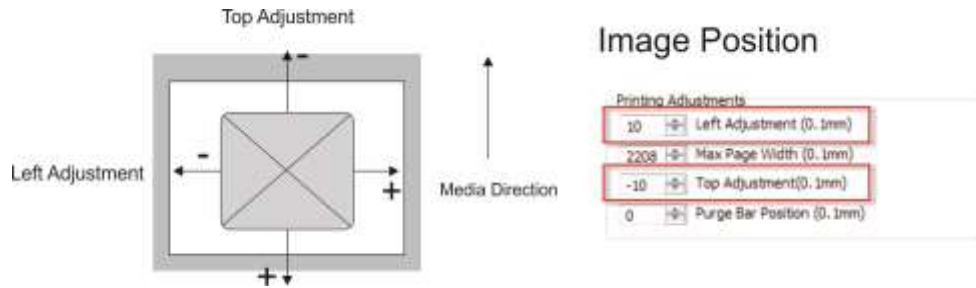
See “Using Layout Tab Printing Adjustments” on next page.

- **Label Frequency** – Allows Printer to ignore a set number of gaps between labels. This is particularly useful when the labels are different shapes and the Printer sensor may not sense the edge of second label correctly. (*For example, printing both front and back bottle labels in one pass.*) A label frequency of “1” reads the gap between every label. A setting of “2” will ignore the gap between the two labels [A]. (*In effect, the Printer “sees” the two labels as one label.*) The **Label Frequency** can be set from 1-8. **NOTE: Using this feature requires that the job be set up as one label in the layout software, so dimensions (including gap) must be accurate.**

Example of a Label Frequency of “2”

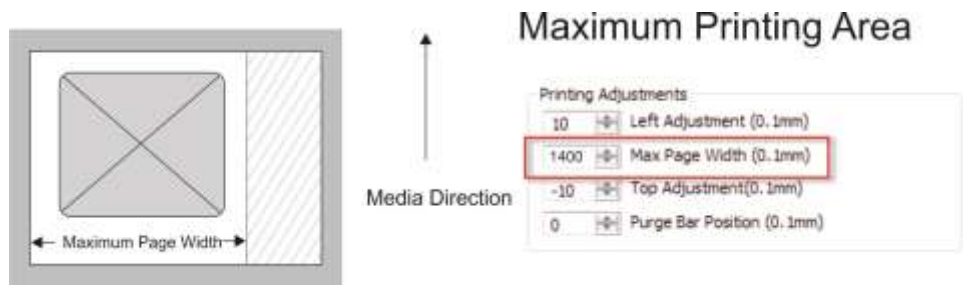


### Using Layout Tab Printing Adjustments

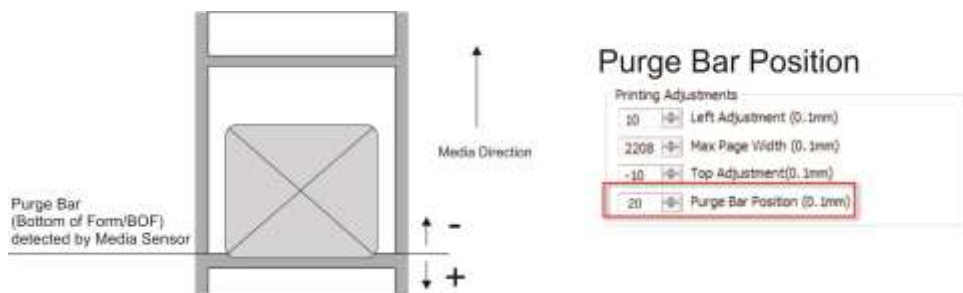


**Image Position – Left Adjustment** moves image area away (-3mm left to +200mm right) from left edge of media.

**Top Adjustment** moves image up or down (-5mm up to +200mm down) from top left corner of media used. (0.1mm increments)



**Max Page Width** – Sets width of actual print area. (0.1mm increments) This shuts off nozzles in non-printing area (not used for printing) and saves ink. **NOTE: Can be no larger than maximum print width for Printer (8.5"/215.9mm).**



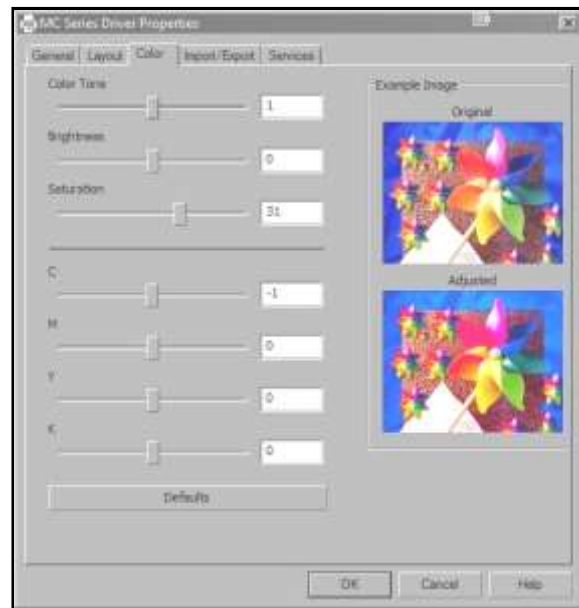
**Purge Bar Position/Bottom of Form (BOF)** – Extends BOF (in 0.1mm increments) to allow printing over edge of a label (full bleed label printing).

**Cutter Offset** – Fine tune cut line position after making image positioning adjustments.

- **Watermark** – Prints a light background watermark in paper while printing original document. When selected, **“First page only”** option prints watermark on first page, but not subsequent pages, unchecking prints watermark on all pages. **Custom** button lets you create a new watermark or edit an existing watermark, including font selection, color, size and printing angle.

## Color Tab

**Color** is used to adjust the color output of the Printer. Use the sliders to adjust **Color Tone**, **Brightness** and **Saturation**. The **C, M, Y, K** sliders adjust individual colors. Use **Defaults** to reset to **0** settings.

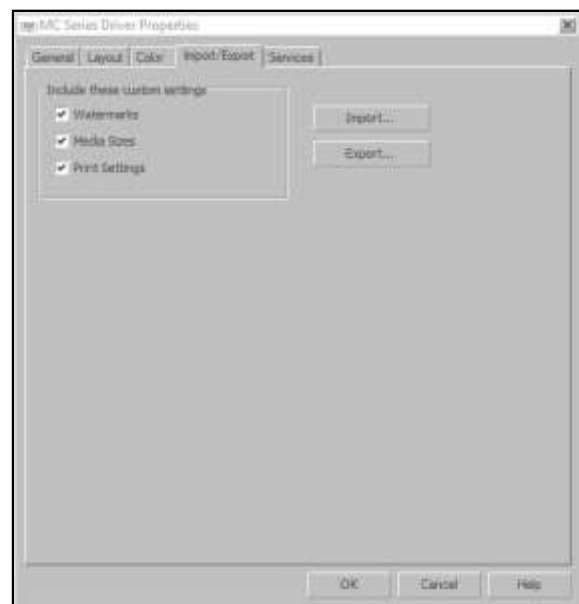


## Import/Export Tab

**Import/Export** is used to preserve any custom Media Sizes, Watermarks and/or Print Settings you may have developed and saved for various jobs when you update the Printer firmware.

- **Export** – Send custom settings to a holding file before downloading new firmware.
- **Import** – Return custom settings after firmware installation is complete.

Import/Export tab is also used to import custom media size packages or watermarks from your dealer (*if available*).



### IMPORTANT!

**BEFORE UPDATING ANY PRINTER FIRMWARE, REMEMBER TO FIRST EXPORT ANY CUSTOM MEDIA SIZES, WATERMARKS OR PRINT SETTINGS YOU HAVE ADDED TO AN OUTSIDE HOLDING FILE. THIS PREVENTS LOSS OF YOUR CUSTOM SETTINGS.**

## Services Tab

Services allows you to:

- **Print Configuration Page** – Prints out current configuration of Printer including current Firmware Version, Network Connection, printer Serial Number and more.
- **Print Colorbar Page** – Prints type and color bands to check print quality.
- **Print Diagnostic Page** – Displays basic Printer information, memory, Network Settings, Event Log and RAM partitions.

- **Clean Printhead Buttons:**  
Provide 3 levels of cleaning for Printhead Cartridge.

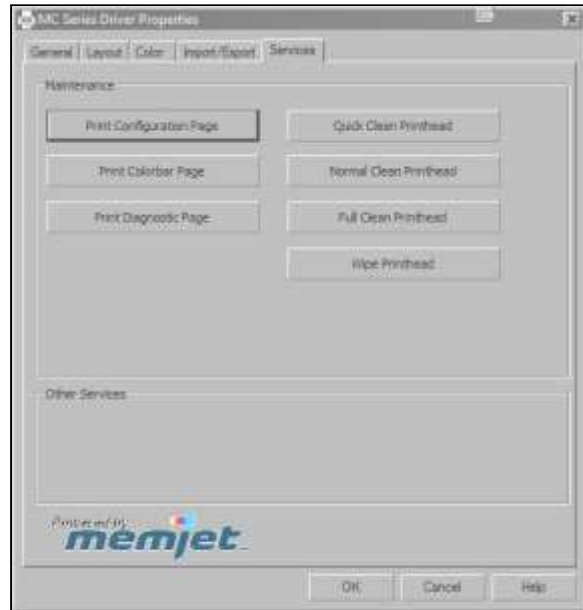
**Quick Clean Printhead** – Circulates ink; wipes and cleans Printhead Cartridge.

**Normal Clean Printhead** – Runs cleaning and wiping routine twice for better flushing and cleaning.

**Full Clean Printhead** – Runs cleaning routine multiple times for the most thorough flushing and cleaning of Printhead.

**NOTE: If Printer is connected to a network and Driver buttons fail to activate cleaning process, perform same functions from Toolbox User Interface.**

- **Wipe Printhead** – Wipes and cleans excess ink from Printhead Cartridge.





## Using Printer Toolbox

Once the Printer Driver is installed, you can access the **Printer Toolbox**. You can check Printer status, monitor ink usage, perform diagnostic checks, print reports and run maintenance tasks on the Printer from your computer. **The Toolbox works with both conventional and touchscreen computer screens.**

### To open Toolbox:

Open **Start Menu**, then click on **Toolbox**. **NOTE: Conventional Screens:** Use your cursor.

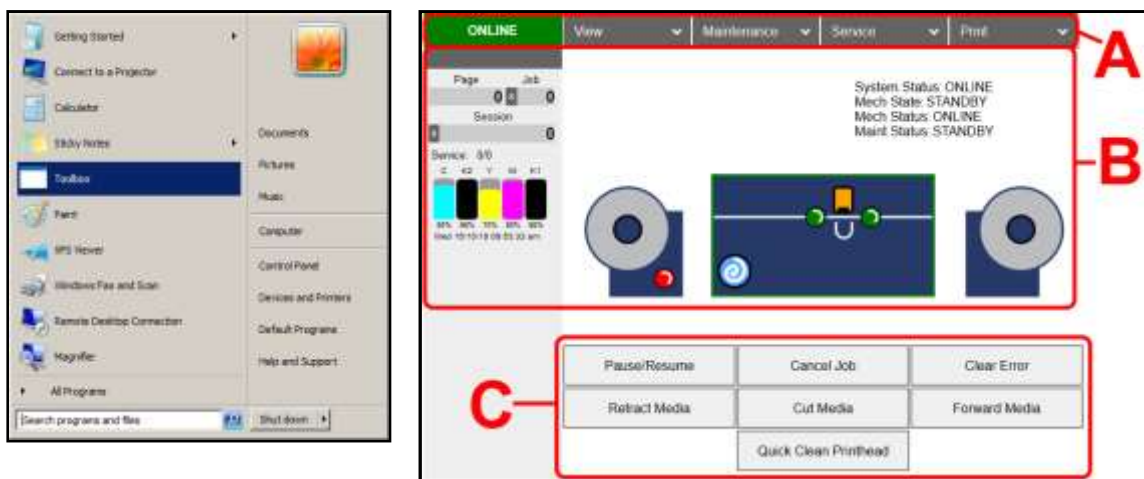
**Touchscreens:** Tap buttons or selections or use your cursor.

When **System Status** window opens:

[A] System Status Indicator and Drop-Down Menu Options (*at top of screen*).

[B] Check Printer Status (*across middle of screen*).

[C] Seven often-used control buttons (*at bottom of screen*).



## Drop-Down Menu Options

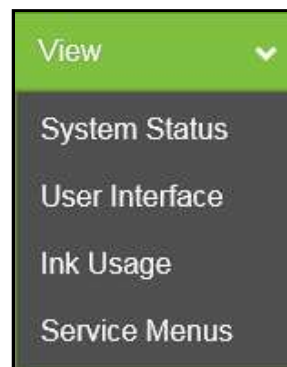


There are four **Drop-Down Menus**:

**View, Maintenance, Service and Print.** The drop-down menus are available on every Toolbox screen allowing you to toggle between menus and select different Printer features and functions.

### View Drop-Down

The **View** drop-down gives you four choices:  
**System Status, User Interface, Ink Usage and Service Menus.**



## System Status

This screen opens when you access the Toolbox. It provides information about the Printer.

### Left side:

**Status Indicator** shows Printer activity as **ONLINE**, **ERROR**, **MAINTENANCE**, **PRINTING** or **PAUSED**. The gray box (*below Status Indicator*) shows the name of the job being processed.

**Page** displays the page count for a given job.

**Job** shows number of jobs printed (*resettable*), **Session** shows the total number of pages printed by the Printer (*resettable*) over the length of a Session (*shift, day, week, etc*).

**Service** shows the number of pages printed (*first number*) up to the next mid-job servicing (*second number*). The second number is set in **Mid-Job Servicing** on **User Interface** screen.

**Ink Levels** displays percentage of ink remaining in each of the Ink Tanks in the Printer.

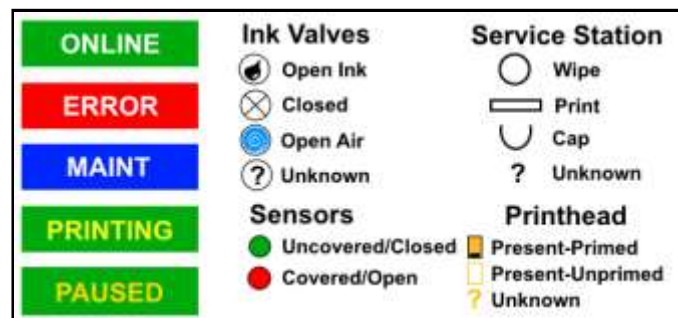
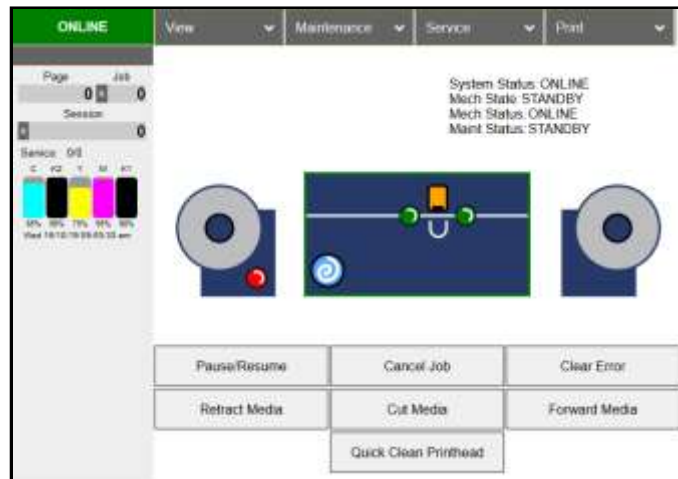
**Date and Time** are configured and set using **Date and Time** on the **System Settings** screen.

**Printer Icon:** Shows status of the Media Sensors located in the media feed path of the Printer. Also shows status of Ink Valves, Service Station, and Printhead. These can alert the operator to the type and location of a problem.

**NOTE:** Tapping or rolling over any of the status icons with your cursor pops up a description of that icon.

### Right side:

Shows basic operating information about the Printer.



**CONTROL BUTTONS** (*located along bottom of the screen*):

Pause/Resume	Cancel Job	Clear Error
Retract Media	Cut Media	Forward Media
Quick Clean Printhead		

**Pause/Resume:** Tap to temporarily stop printing. Tap again to resume printing.

**Cancel Job:** Cancels a paused job from the printing queue. **Cancel** is unavailable unless the **Pause** button has been pressed first. **NOTE: Cancelled jobs must be reloaded before printing can resume.**

**Clear Error:** Click the button to clear error messages after you have resolved Printer problem (*ie, after clearing a paper jam*).

**Retract Media:** Retracts media from Printer.

**Cut Media:** Cuts media any time button is pressed without retracting or resetting media.

**Forward Media:** Moves media forward into Printer when loading media.

**Quick Clean Printhead:** Circulates ink, wipes and cleans Printhead Cartridge.

## User Interface

### BASIC PRINTER SETTINGS:

Adjust Printer for different types of media, automated service and cleaning intervals, and feeder speed for a job.

**Media Feed** – Sets Printer Sensors to read type of media and/or gaps between media: **continuous, diecut or blackmark**.

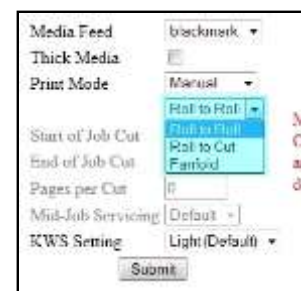
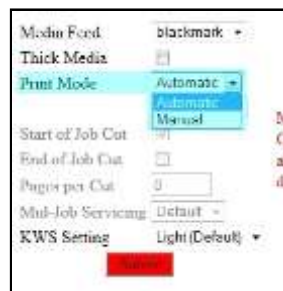
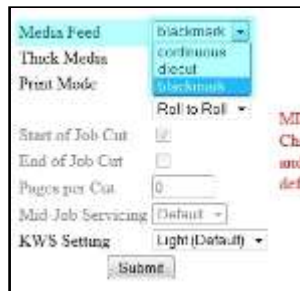
**Thick Media** – Check this box to allow sensors to read gaps in heavier media

(for example, when normal setting may not be able to differentiate between media and backing/gap).

**Print Mode** – Two selections to make.

1. Set to **Automatic** (when used with UW-1C Unwinder and/or RW-1C Winder). Set to **Manual** when using Printer with another brand Unwinder and/or Winder or for manual control of certain Printer functions.
2. Set Printer to run media Roll-to-Roll, Roll-to-Cut or Fanfold. Printer icon changes with selection to show Printer with Unwinder and Winder; Printer with Unwinder; Printer only.

**NOTE: Depending on selection, certain other settings may be disabled (Start of Job Cut, End of Job Cut, Pages per Cut, Mid-Job Servicing).**



**Start of Job Cut** – Cuts leading edge of media at start of job to provide a clean edge.  
(This occurs at exit end of Printer.)

**End of Job Cut** – Cuts end of media after job finishes printing.

**Pages per Cut** – Set number of labels (*pages*) between cuts. **Example:** 1 = cut after every label. 5 = cut after every fifth label. **NOTE:** Since **End of Job Cut** will also be active, last cut may have fewer labels than set **Pages per Cut** number depending on total number of labels you are printing (i.e. you print a total of 23 labels set to cut after every fifth label, you will have 4 sets of 5 labels, 1 set of 3.)

**Mid Job Servicing** – Sets frequency of automatic maintenance cycles run during a job after a set amount of media is run. **Settings are: Default (14m), Level 4 (100m), Level 3 (250m), Level 2 (375m), Level 1 (500m) and Off (∞).** **NOTE: Changing setting from “Default” may cause print quality issues and reduce Printhead life.**

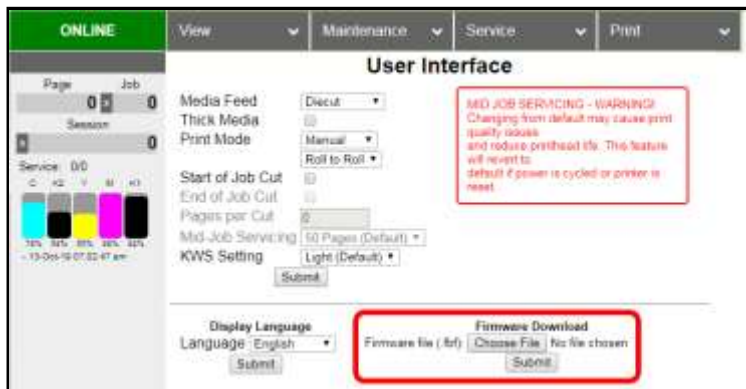
**KWS Setting** – (*Keep Wet Spitting*) Keeps Printhead hydrated while running a job. **Select from 3 settings: None, Light (default), Heavy**, to determine how much ink will “spit” from Printhead Nozzles. Set in conjunction with “**Mid Job Servicing**” which determines frequency of Printer stopping for self-servicing during a job.

Click “**Submit**” to apply settings.

**DISPLAY LANGUAGE:** Selects language EWS (*Toolbox*) will display. Click “Submit” after selecting language.



**FIRMWARE DOWNLOAD:** You can find and load the latest firmware (“**.fbf**”) files for your Printer using the **Printer Toolbox**.  
**WARNING:** This procedure should only be performed by qualified service personnel. In some cases firmware must be loaded using “Firmware Migration Tool”. If this process is not performed properly, Printer is rendered inoperable.



## Ink Usage

Displays the amount of ink used and other information for each job sent to the Printer. Also tracks estimated **Page** and **Job Costs** if information is entered in **Job Cost Settings**.

**Upload Table** – Creates and opens a linkable tabular data file using programs such as Microsoft Excel (*default is Excel*).

**INK ESTIMATION MODE** – Lets you predetermine how much ink a given job may use prior to printing a job. This is useful for determining per piece costs. Job is sent to Printer and loads, but does not print. Once the job is loaded, click **“Refresh”** to show the amount of ink (*by color*) that the job will use.

### Mode selection:

**Off** – Feature is disabled.

**Continuous** – Ink Estimation Mode continues running (*Printer will not print*) until feature is turned **“OFF”**.

**Single Pass** – Ink Estimation Mode runs once, then turns off. Printer will then be ready to print.

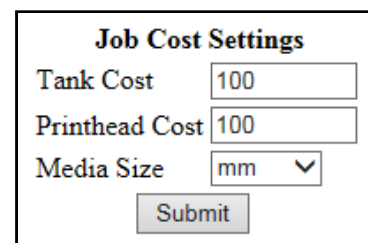
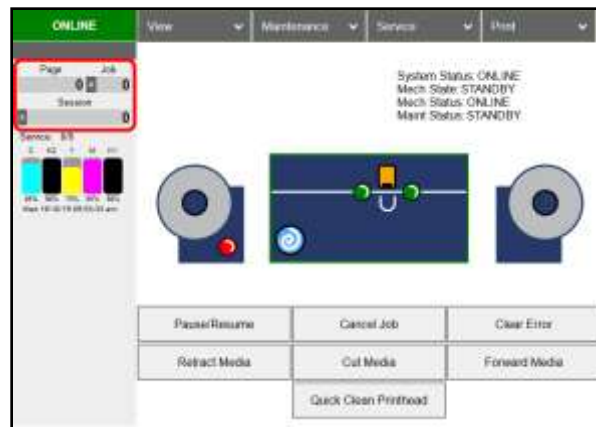
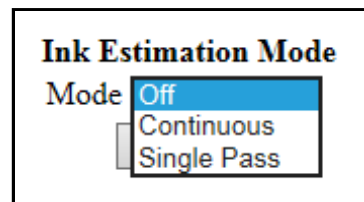
Click **“Submit”** to activate **Mode** setting selected.

**NOTE: Estimating process takes as long as job would take to print (i.e., if job would take 1 hour to print, estimate will take 1 hour to display. Track progress on the Counter located in the System Status window.)**

**JOB COST SETTINGS** – Enter your ink cost and printhead cost and media size preference (*inches or mm*).

Set a minimum of at least 100 pcs. to ensure a large enough sample size. Click **“Submit”**. In **Ink Estimation Mode**, this feature estimates per page cost and job cost without printing job. With **Ink Estimation Mode** disabled, Printer still tracks estimated per page cost and estimated job cost as job is being printed. Once costs are entered, they will remain until changed again, even if Printer is turned OFF.

**NOTE: This is only an estimate and does not include other factors such as Printer maintenance routines, (printhead wiping and cleaning, power up/down, etc.) that may affect overall result.**





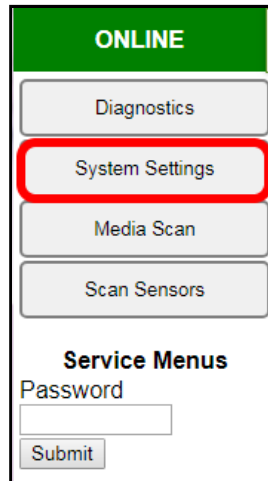
## System Settings

Set up a network connection for the Printer. Also set and configure Printer Date and Time.

**Network Settings** – Permits you to view, enter or change settings to connect Printer to your network.

### Network Connection Set Up:

- Printer is still connected to computer via USB cable. **To connect the Printer to a network:** From the **Toolbox**, select “**View**” drop-down menu, click “**Service Menus**”, then click “**System Settings**”.
- “**System Settings**” screen opens. Use **Network Settings** to enter correct settings for your network.  
**NOTE:** If manually changing the **ip\_address**, make sure the “**dhcp**” and “**autoip**” boxes are **unchecked**. (*Default is checked.*) Enter changes in the appropriate boxes.
- Click “**Submit**”.
- Connect Ethernet cable to Network Port on Rear Panel of Printer.

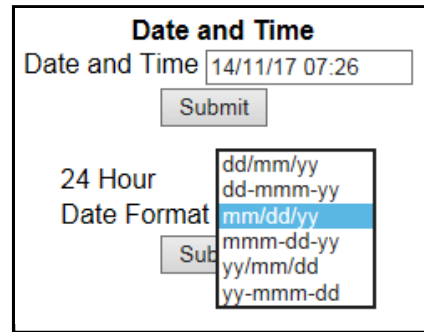
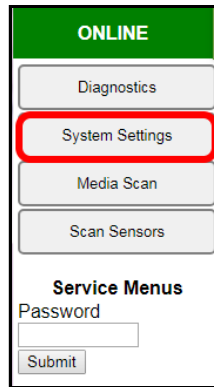





**Date and Time** – Enter or change the way the date and time will appear in the Printer Status section of the **Toolbox** screens.

**Enter or change Date and Time:**

1. Select “**View**”, then select “**Service Menus**”. Click or tap “**System Settings**”.
2. “**System Settings**” screen opens. Use **Date and Time options** to enter, edit and configure the Date and Time for the Printer.
3. Click “**Submit**”.



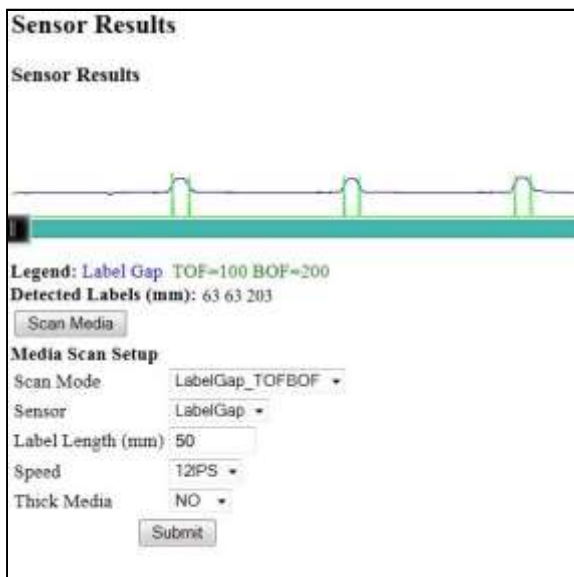
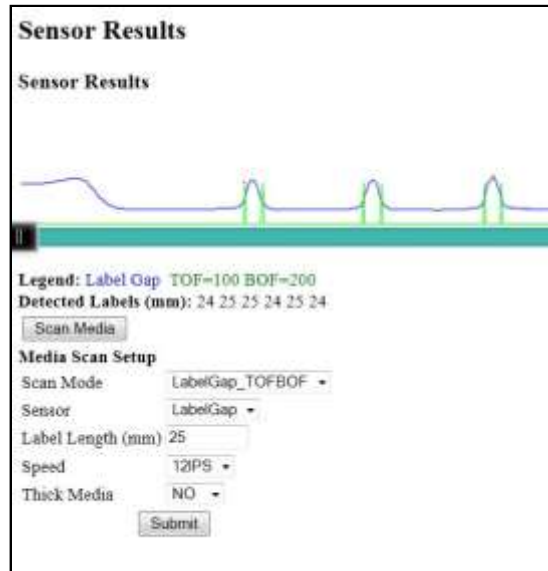
**Media Scan**

Use **Media Scan** if media is not printing correctly, you can scan media to determine if you need to use **Thick Media** setting (see *Basic Printer Settings* in “*User Interface*” section). You can also determine if a type of media is going to have problems printing, generally due to sensors having trouble differentiating between label surface and backing/gap.  
**NOTE: For Advanced Users Only.** See “**Media Scan Procedure**” on next page.

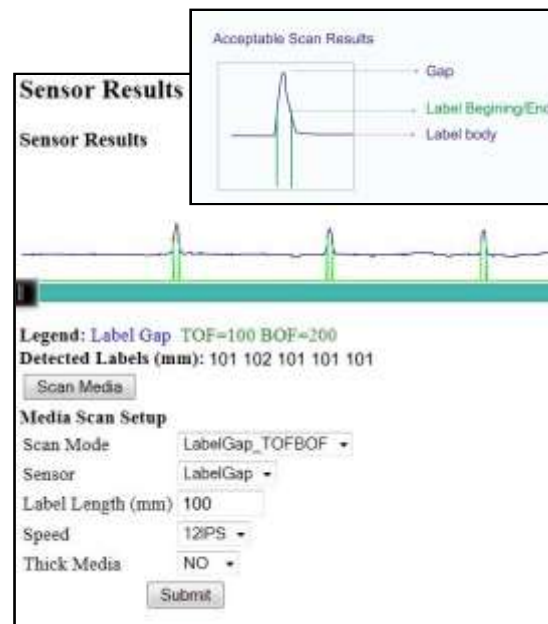


**Media Scan Procedure:**

1. Load media in Printer as if printing a job.
2. **From the Toolbox**, select the “**View**” drop-down menu, click “**Service Menus**”. Click “**Media Scan**”.
3. Under “**Media Scan Setup**”, set “**Scan Mode**”: **LabelGap\_Tickmark**; **LabelGap\_TOFBOF**; or **Tickmark\_TOFBOF**. **NOTE: LabelGap (diecut). TOFBOF = Top of Form/Bottom of Form.**
4. Set “**Sensor**”: Select which sensor is active. **LabelGap** (diecut) or **Tickmark**.
5. Set “**Label Length mm**”: Enter length of label to be measured.
6. Set “**Speed**”: Enter printer speed – 6 IPS (Slow) or 12 IPS (Fast).
7. Set for “**Thick Media**”: NO or YES (*NO is the default*).
8. Click “**Submit**” to enter selections, then click “**Scan Media**”. Blank media moves across sensors to create graph shown on the screen. (*Rolling cursor over graph provides readouts of points on graph.*) See examples below: Generally, use Thick Media setting on User Interface screen when there is little difference between high points (*gaps/backing*) and flats (*label media*).



**Use Thick Media Setting**



**Do Not Use Thick Media Setting**

### Scan Sensors

Provides status and log on Sensors located throughout both Printers.  
(See chart at right.)  
Click **“Stop”** button to stop scanning or click out of **“Scan Sensors”**.

	9	8	7	6	5	4	3	2	1
Entry Sensor	255	255	255	255	255	255	255	255	255
Blackmark Sensor	208	211	207	211	212	211	210	212	211
Exit Sensor	0	0	0	0	0	0	0	0	0
Clamshell Switch	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Printhead Latch	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Lifter Arm	1	1	1	1	1	1	1	1	1
Sled Index	0	0	0	0	0	0	0	0	0
Sled Home	0	0	0	0	0	0	0	0	0
Valve Position	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed

SENSOR	DESCRIPTION
<b>Entry Sensor (Paper Path Entry)</b>	Interrupted ( <i>media present</i> ) = 0-60 Uninterrupted ( <i>no media</i> ) = 255
<b>Blackmark Sensor</b>	<b>NOTE: Not applicable for this model.</b> Blackmark Sensor's output is for printers designed to run a "continuous" web of media ( <i>i.e. labels</i> ).
<b>Exit Sensor (Paper Path Exit)</b>	Uninterrupted = 0 Interrupted ( <i>blocked</i> ) = 1 <b>Tip:</b> If media has dark colors on underside, you may experience "paper jam" conditions when there is no physical media in machine. If Exit Sensor appears to be operating normally, select <b>“Ignore Exit Sensor”</b> then click <b>“Submit”</b> in <b>User Interface</b> screen to bypass Exit Sensor.
<b>Clamshell Switch</b>	Clamshell Open = 1 Clamshell Closed = 0
<b>Printhead Latch</b>	Closed = 0 Open = 1
<b>Lifter Arm</b>	Up = 1 Down = 0
<b>Sled Index</b>	Cap Position = 0 Print/Wipe Positions = 1
<b>Sled Home</b>	False = 0 True = 1
<b>Valve Position</b>	<b>Displays operating positions of Dual Pinch Valve:</b> "OpenAir," "OpenInk," and "Closed". "Unknown" will display as Valve transitions between positions. <b>NOTE: If "Unknown" displays for more than a few seconds, it may indicate a problem.</b>

### Service Menus

**For authorized service personnel only.** Provides password protected access to more advanced Printer control and maintenance menus.



## Maintenance Drop-Down

Perform maintenance tasks.

**Circulate Ink** – Purges air from lines and primes system after replacing Ink Tanks or Printhead Cartridge.

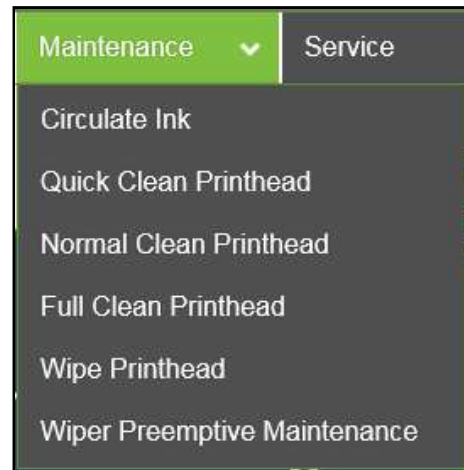
**Quick Clean Printhead** – Circulates ink; wipes and cleans Printhead Cartridge. *(Also available in the System Status window.)*

**Normal Clean Printhead** – Runs cleaning and wiping routine twice for better flushing and cleaning.

**Full Clean Printhead** – Runs cleaning routine multiple times for the most thorough flushing and cleaning.

**Wipe Printhead** – Activates Service Station to wipe Printhead.

**Wiper Preemptive Maintenance** – Resaturates Wiper with ink to remove dried residue if Printer is inactive for long periods of time.



## Service Drop-Down

Control functions that require the Printer to be out of service for extended periods of time while they are being performed.

**Replace Ink Tanks** – Disconnects Printer communication with Ink Tank Sensor. Allows safe removal of Ink Tanks.

**Refresh Ink Levels** – Updates or confirms ink levels *(shown at left of screen.)*

**Eject Service Station** – Releases Service Station for removal for cleaning, repair or replacement.

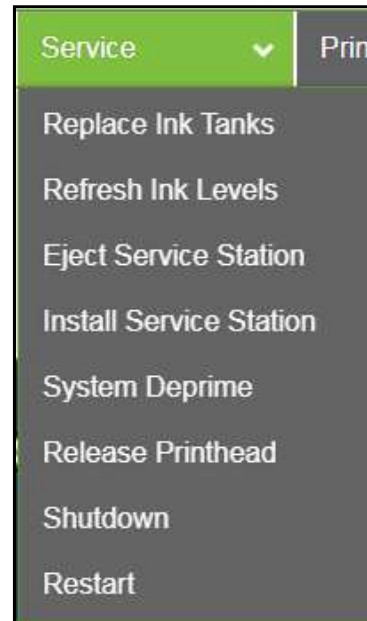
**Install Service Station** – Pulls Service Station back into place after cleaning, repair or replacement.

**System Deprime** – Pumps ink back into Ink Tanks prior to replacing the Printhead Cartridge or transporting the Printer.

**Release Printhead** – Pumps ink back into Ink Tanks and opens Printhead Latch to remove or install Printhead Cartridge. **NOTE: Function can also be performed by pressing Printhead Release button on Print Engine.**

**Shutdown** – Turns specified Printer OFF. For best system performance, it is recommended to keep Print Engine powered-up *(ON/OFF light illuminated)* at all times. If turning Printer off, first power-down Print Engine using “**Shutdown**” button in **Toolbox** or ON/OFF button on Control Panel. Wait until all Control Panel buttons go out before turning off Main Power Switch.

**Restart** – Restarts the specified Printer without having to perform the startup routine *(purging ink tanks, priming, etc.)*



## Print Drop-Down

Print various reports and Printer tests.

**Each printout displays information about the Printer.**

**Print Setup** – Prints a printing pattern used for positioning image on the page.

**Print Configuration** – Prints current Printer configuration including Firmware Version, Network Connection, Printer Serial Number and more for the Printer.

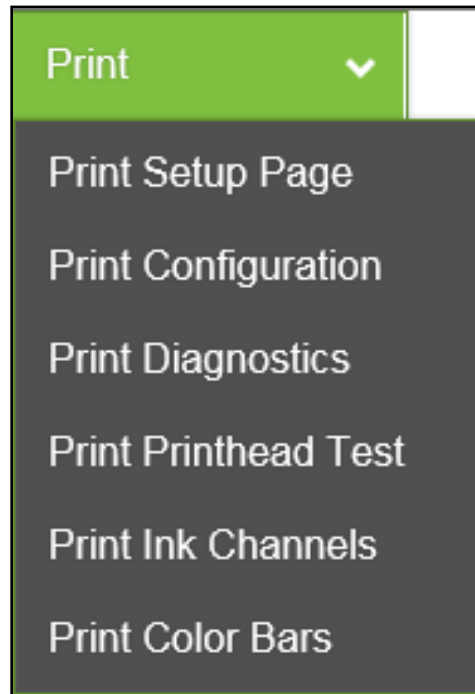
**Print Diagnostics** – Prints basic Printer information, memory, Network Settings, Event Log and RAM partitions.

**Print Printhead Test** – Prints color bands, text and patterns to check condition of Printhead's ink nozzles.

**NOTE: Uses less ink than Print Ink Channels or Print Color Bars.**

**Print Ink Channels** – Prints 5 bars per Printer (*1 bar from each ink tank*) to indicate how well Printhead Nozzles are working. **NOTE: Function can also be accessed by pressing “Print Ink Channels” button on right side of Print Engine.**

**Print Color Bars** – Prints a series of 7 color bars (*per Printhead*) to indicate how well Printheads are mixing colors and printing.



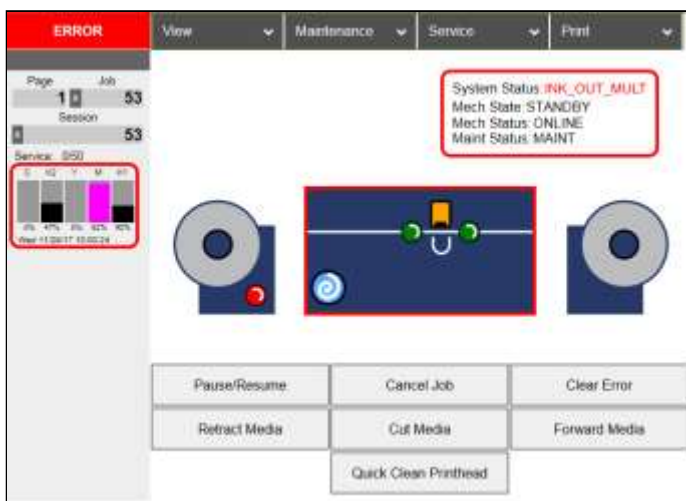
## SECTION 4 – Maintenance

This section covers how to care for Ink Tanks, Printhead Cartridge, and Service Station, how to clear paper jams and replace Sheet Separators.

### Replacing Ink Tanks

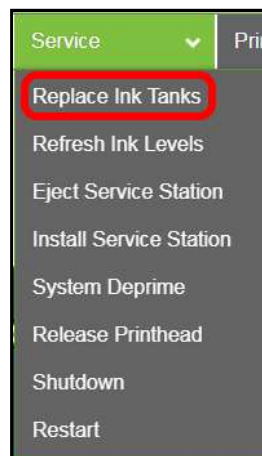
Replace Ink Tanks when ink runs out.

1. **Open Printer Toolbox.**  
System Status information appears on the right side of the **System Status** window. Ink Cartridge status boxes “C, K2, Y, M, K1” are on the left. The boxes may be low or empty.



2. Click “**Service**” drop-down menu. Select “**Replace Ink Tanks**”. (*Disconnects Printer communication with Ink Tanks and allows safe installation and replacement.*) Once “**Confirm**” screen displays, it is safe to remove Ink Tanks.

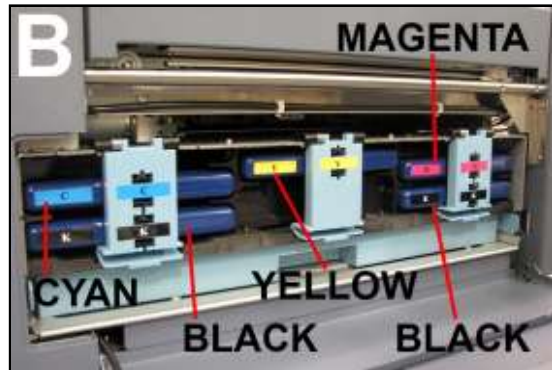
**IMPORTANT: DO NOT** press “**Continue**” until after you have removed and replaced the Ink Tank(s) and closed the Ink Tank Latches.



3. Open Front Cover (*hinged at bottom*). Open three Latches [A] and pull Ink Tank(s) out of Printer.
4. Remove new Ink Tank(s) from packaging.



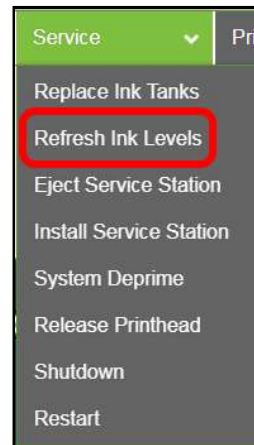
5. Insert new Ink Tanks (*labels up*) into appropriate color slots [B]. Close three Ink Tank Latches.  
**INSTALLATION TIP: Make sure Ink Tanks seat properly. Insert Ink Tank into appropriate Ink Station, then pull Ink Tank back about an inch and push forward firmly to insure that Ink Nozzles penetrate seals on Ink Tanks.**



6. Click “Continue” on Confirm screen. Then select the “Service” drop-down menu, and select “Refresh Ink Levels”. Ink colors fill in as Ink Tanks are installed.

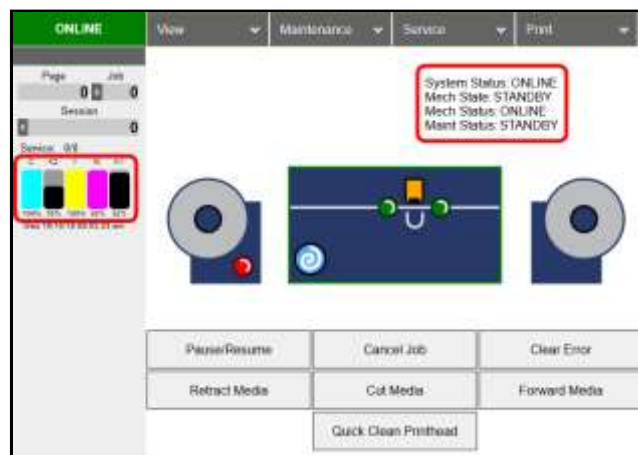


If ink colors do not fill in after a few seconds, click “Replace Ink Tanks” again and reinstall the Ink Tank(s).



**NOTE: If the Ink Tank is installed, but Ink Tank indicator still does not refresh, see “Cleaning Ink Tank Contacts” on next page.**

7. When Printer stops processing and all fields in System Status are *black*, Printer is ready for use.



8. Close Front Cover.

### WARNING!

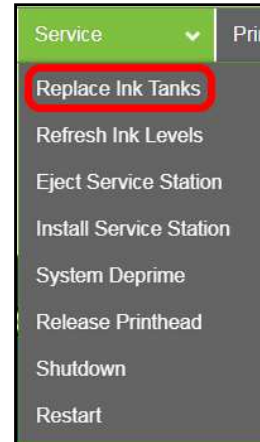
Ink in Ink Tanks may be harmful if swallowed. Keep new and used Ink Tanks out of reach of children. Discard empty Ink Tanks immediately.

## *Cleaning Ink Tank Contacts*

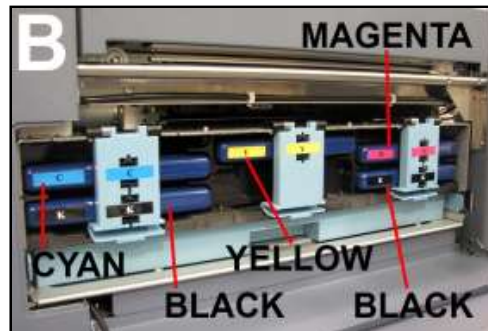
When reinstalling or replacing Ink Tanks, the Ink Level indicator in the **Toolbox** may not refresh. This may be due to a dirty Ink Tank Level Prism and/or QA Chip contacts on that Ink Tank(s).

Clean contacts as follows:

1. **Remove Ink Tank(s).** Open **Toolbox**. Select the “**Service**” drop-down menu, then select “**Replace Ink Tanks**”. Once the “**Confirm**” window opens, it is safe to remove Ink Tanks. **IMPORTANT: DO NOT press “Continue” until after removing and replacing the Ink Tank(s) and closing the Ink Tank Latches.**



2. Open Front Cover, release Ink Tank Latch(es) [A] required and remove Ink Tank(s) [B] with levels that did not refresh.



3. Clean Ink Level Prism [A] and QA Chip contacts [B] with a clean, dry, lint-free cloth. **NOTE: Dampen cloth with distilled water to wipe Prism, but DO NOT get QA Chip contacts wet.**

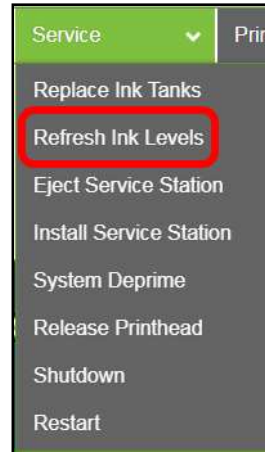




4. Reinstall Ink Tank(s) (*labels up*), close Ink Tank Latch(es). Click “Continue” on Confirm screen. Select the “Service” drop-down menu, then select “Refresh Ink Levels”.



5. Close the Front Cover.



## Storage

New Ink Tanks should be stored in original packaging and kept away from heat.

Opened Ink Tanks should remain in Printer.

**Nominal Ink expiration date:** 24 months following date of manufacture (*ink fill date*).

## Disposal

Safely dispose of Ink and Ink Tanks in accordance with local/national regulations.

Clean up spills with soap and water. Abrasive soap is effective in cleaning ink off your hands.

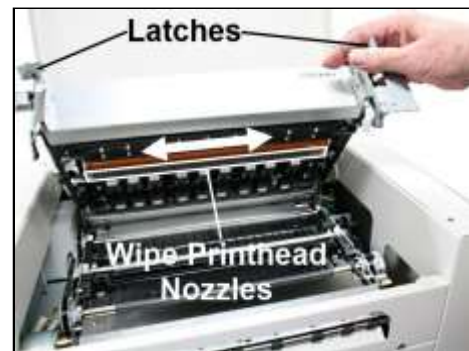
## *Cleaning/Replacing Printhead Cartridge*

### **Cleaning**

The Printhead is cleaned automatically each time Printer is turned on or when “**Quick Clean Printhead**” routine is performed. This can be found under **Service Tab**, “**Quick Clean Printhead**” in **Printer Driver** or the “**Maintenance**” drop-down menu in **Printer Toolbox**. “**Normal Clean Printhead**” and “**Full Clean Printhead**” can be used to more thoroughly clean or clear Printhead.

**NOTE:** If running “**Clean Printheads**” doesn’t help improve print quality, Printhead Cartridge can be cleaned manually.

1. Open Top Cover.
2. Release and lift two latches **at same time** to raise Print Engine Clamshell.
3. Moisten Printhead nozzles using deionized/distilled water (*reference ASTM D5127-90 Type E-II Electronic Grade Water*) and a damp, lint-free cloth, wiping end to end. (*Gray strip located below orange strip.*) **Take care not to damage copper contacts, metal plate, or gold Printhead surface.**
4. **Close and relatch Print Engine Clamshell.**



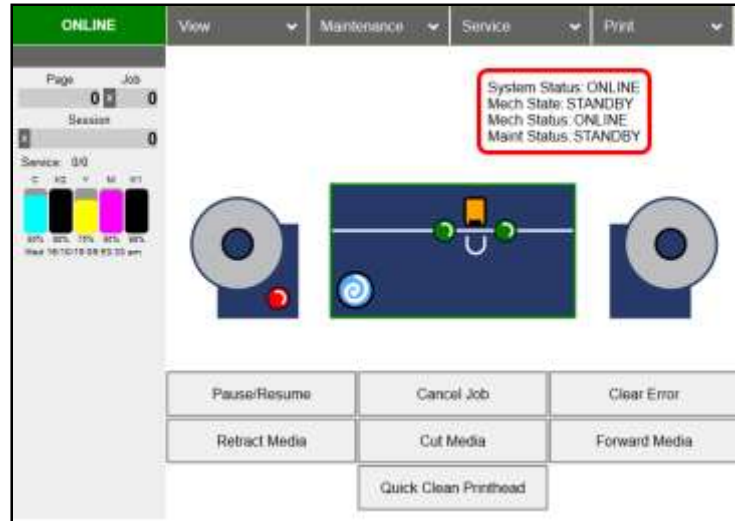
Generally, when ink supply is adequate and print quality remains poor, or when automated cleaning processes or manually cleaning Printhead has not helped image quality, replace Printhead.

### **CAUTION**

- **Use electrostatic discharge (ESD) protection when handling.**
- **Hold Printhead Cartridge by handles ONLY.**
- **DO NOT touch ink couplings, nozzle surface or electrical contacts.**
- **DO NOT unpack Printhead Cartridge until Printer is ready for installation. Once unwrapped, delay in installing Printhead can compromise print quality due to dehydration.**
- **DO NOT place an unwrapped Printhead on any surface before installing. Protect Printhead from scratches, dust, fibers, dirt and other contaminants at all times.**

## Replacing Printhead Cartridge

1. **Open Toolbox.** On the **System Status** screen, System Status information appears on the right side.



2. **Open Top Cover.** Open Printhead Latch [1] using **Printhead Release** button in Printer Toolbox. Printer pumps any ink in system back into Ink Tanks. Then Printhead Latch pops open.

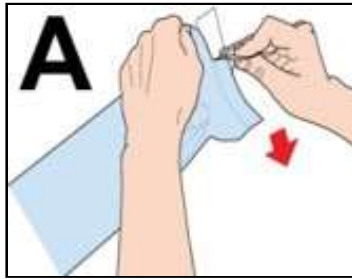
### CAUTION

**DO NOT PRY OR MANUALLY LIFT PRINTHEAD LATCH OR LATCH MAY BREAK. ONLY OPEN LATCH USING PRINTHEAD RELEASE COMMAND IN PRINTER TOOLBOX.**

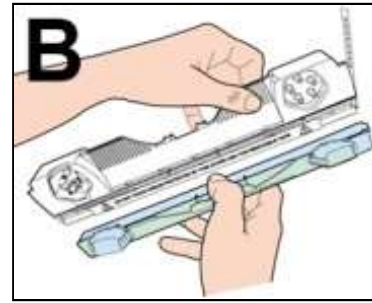
3. Open Printhead Latch fully to retract ink lines. Remove used Printhead Cartridge by tilting it toward ink lines [2], then carefully lifting it out of Printhead Compartment.



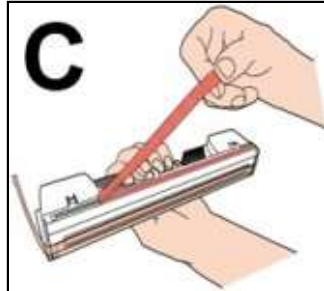
4. [A] Carefully remove Printhead Cartridge from foil packaging. Tear foil at notch or cut the end with scissors.



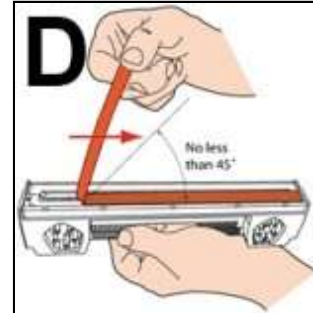
[B] Remove protective plastic cover. Hold Printhead by handle and unclip cover from Printhead.



[C] Remove protective strip from Printhead electrical contacts. Once removed, DO NOT allow strip to touch electrical contacts.



[D] Remove protective strip from Printhead Nozzles. Hold Printhead by handle. Pull strip tab and slowly peel strip from Printhead.

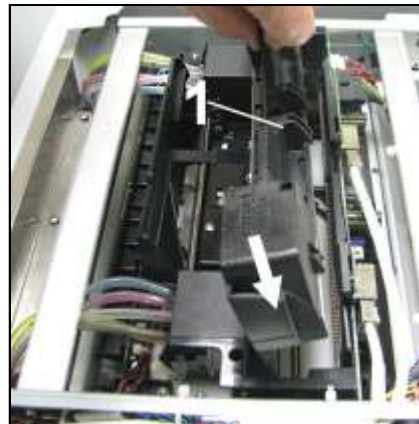


**DO NOT pull strip at less than a 45° angle from Printhead surface.**

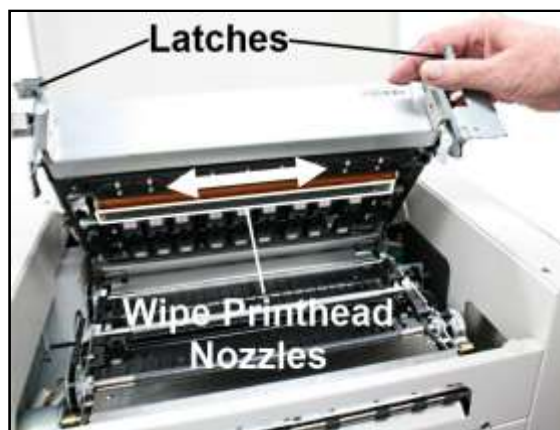
**DO NOT allow removed strip to touch Printhead Nozzles.**

**NOTE: Keep foil packaging to store/dispose of old Printhead Cartridge.**

5. Carefully insert Cartridge into compartment at an angle [1], with Printhead surface facing down and Ink Nozzles facing Ink Hoses. Once seated, gently tilt Cartridge back until it snaps into an upright position [2].  
**DO NOT FORCE Cartridge into position.**



6. **Wet Printhead Surface.** (*Ensures that Printhead will prime correctly.*) Open Top Cover. Release and lift two latches at **same time** to raise Print Engine Clamshell. Moisten Printhead nozzles using distilled water and a damp, lint-free cloth, wiping end to end. (*Gray strip located below orange strip.*) Close and latch Print Engine Clamshell.



**CAUTION**

**HOLD ONTO BOTH LATCHES WHEN OPENING AND CLOSING PRINT ENGINE CLAMSHELL TO PREVENT DAMAGE.**

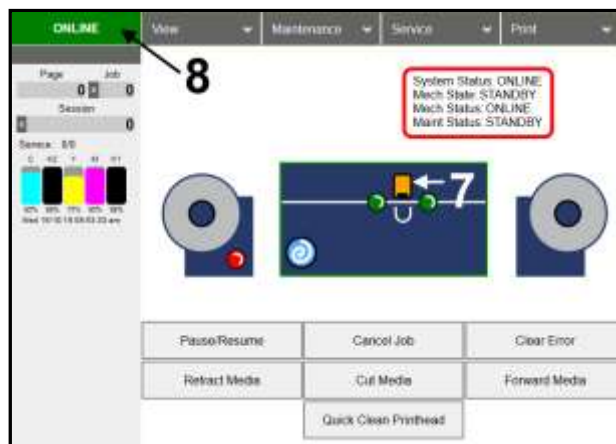
**DO NOT ALLOW CLAMSHELL TO DROP OR SLAM CLOSED.**

**TO PREVENT DAMAGE TO INK LINES, A STOP LIMITS RAISING CLAMSHELL MORE THAN 60°.**



7. **Close Printhead Latch [1].** Printer starts up and primes ink into Printhead. (*This may take a few minutes.*) Make sure ink is flowing through hoses. If air bubbles appear, you may have to tap lines or click “Circulate Ink” in Printer Toolbox under “Maintenance” to clear them.

8. **Watch System Status screen.** Notice that some information is in *red*. As Printer circulates ink and primes system these fields should all turn *black*. Check that the Printhead icon [7] in Printer image is primed (*solid color*).



9. When **ONLINE [8]** appears, Printer is ready for use. **NOTE:** If the Printhead icon continues to display an outline or a question mark (?) try the following procedures:

[1] **Printhead icon shows an outline (*Printhead unprimed*):** Click “Circulate Ink” under “Maintenance” drop-down in the Printer Toolbox. If issue persists, try the “Install Printhead” procedure again. If the issue continues, contact technical support.

[2] **Printhead icon displays a question mark (*Printhead not recognized*):** Try the “Install Printhead” procedure again. If the issue continues, contact technical support.

**NOTE: Printer may take up to 12 minutes to set itself up during initial startup. This is normal.**

**IMPORTANT!**

**CHECK INK TANKS. PRINTER MAY NOT FULLY REPRIME IF TANKS ARE LESS THAN 1/3 FULL.**

## Printhead Storage

Store and transport cartridge as indicated by “**this side up**” arrow symbol on packaging.

Cartridge and ink supply must be within operating temperature range before attempting to prime cartridge with ink and starting to print. When stored at temperatures below operating range it may take up to 3 hours for a cartridge in its packaging to reach operating temperature. **NOTE: Additional packaging will increase time needed to reach operating temperature.**



**Storage Life:** 12 months from date of manufacture (*printed on shipping box*).

<b>Storage Temperature Range:</b>	<b>Long Term:</b> 14° F to 86° F (-10° C to 30° C) <b>Short Term:</b> -11° F to 140° F (-25° C to 60° C) <b>NOTE:</b> Cumulative storage duration above 86° F (30° C) must not exceed 72 hours.
<b>Humidity Range:</b>	5% to 95% Relative Humidity, non-condensing
<b>Atmospheric Pressure Range:</b>	70 kPa to 106 kPa
<b>Electrostatic Discharge:</b>	8 kV air discharges or 4 kV contact discharges* <b>*When tested in accordance with IEC 61000-4-2</b>

## Printhead Service Life

**Projected: 50,000,000 ejections per nozzle.** Printhead has a total of 70,400 nozzles (*14,080 per color channel*.) Since printing does not use entire length of Printhead, some nozzles do not fire as often. The most often used Nozzles will degrade more quickly. Noticing the effects of failing nozzles depends partly on the relative position of those nozzles to each other. In simple terms, the number of images printed and the amount of ink that will pass through the printhead prior to printhead degradation depends on make-up of images printed, operating environment, servicing, media characteristics (*including cleanliness*) and other factors.

## M-Series Printhead Return Policy

### Return Policy and Return Procedure for Memjet Printheads for M-Series Printers:

**Limited Printhead Replacement Policy:** M-Series Printheads are manufactured to be free from defects in materials and workmanship. However, should an M-Series Printhead display an obvious defect or exhibit a significant degradation of print quality prematurely, Printhead may be returned for replacement. **Returns for these conditions can be made:**

- Up to 12 months after the shipping date from Astro Machine Corp. *and*
- Printhead's “**Total pages printed**” = 40,000 or fewer pages (*at 15% page coverage*), whichever comes first.

**This return policy excludes damage due to mishandling, tampering or misuse, improper storage or transport, or material incompatibility\*.**

**\*See “Printhead Installation” and “Replacement” sections of this manual.**

**Return Procedure:**

1. Make sure Printer is powered up and connected via USB or network.

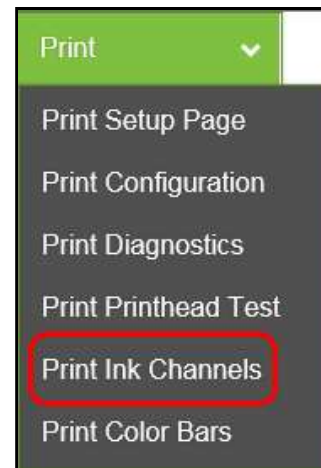
**To check Printhead Page count:** Open “View” drop-down menu in the computer's **Toolbox**. Select “Service Menus”. The “Diagnostics” screen opens. Select “Upload Debug Log”. Open and print the file [A] to include with your return.



2. **Open Printer Toolbox.** Open “Print” drop-down menu and tap or click the “Print Ink Channels”.



**Ink Channels Printout**



3. Remove Printhead Cartridge from Printer per replacement instructions found in Operator's Manual.
4. Snap Printhead back into orange plastic protective cover it was shipped in. **IMPORTANT! Make sure all foam pads that came with protective cover are installed and in place (two versions shown at right).**
5. Reseal Printhead and Cover in a plastic bag (reuse and reseal original packaging if possible).
6. Place Printhead, Printhead Page Count printout and Ink Channels printout in a shipping box. Remember to include your company name, contact information and return address as well.
7. Return to your Astro Machine distributor.



## Replacing Service Station

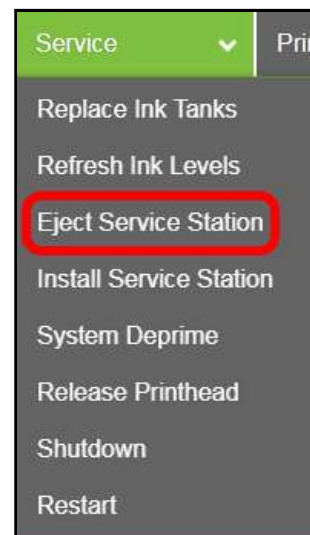
Service Station is designed provide a long service life. However, should it need to be cleaned, repaired or replaced, follow these steps. Service Station is located above Ink Tank Station.

1. **Open Front Cover (hinged at bottom).**  
Open Top Cover.

Release two latches and open Print Engine Clamshell. Service Station will not fully eject with Clamshell closed.



2. Open the “Service” drop-down menu. Select “Eject Service Station”. Once Printer pushes the Service Station out, turn Printer OFF.



**TURN PRINTER POWER OFF.**

### CAUTION

**WHENEVER POWERING DOWN UNIT, ALWAYS:**

1. PRESS POWER BUTTON ON CONTROL PANEL.
2. WAIT FOR PRINTER TO STOP PROCESSING.
3. THEN PRESS MAIN POWER SWITCH ON REAR PANEL.

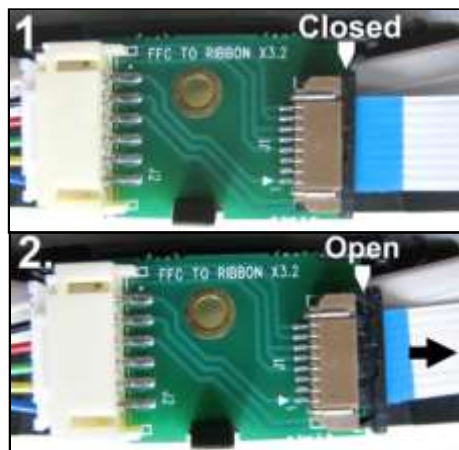


- Slide Service Station out of Service Station Dock.  
**NOTE: DO NOT pull Station all the way out until you disconnect Ribbon Cable.**

**USEFUL TIP:** Place an absorbent towel under Service Station before you remove it to catch any drips or leaks.



- Disconnect Ribbon Cable.** Slide Latch open on Service Station Circuit Board to release Ribbon Cable. **Remove Service Station.**



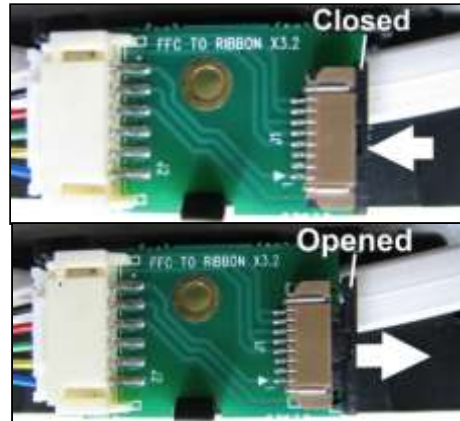
- Carefully unwrap new Service Station.  
**NOTE: Loose parts may fall out. Keep roller side facing up when removing packaging.**

**CAUTION**

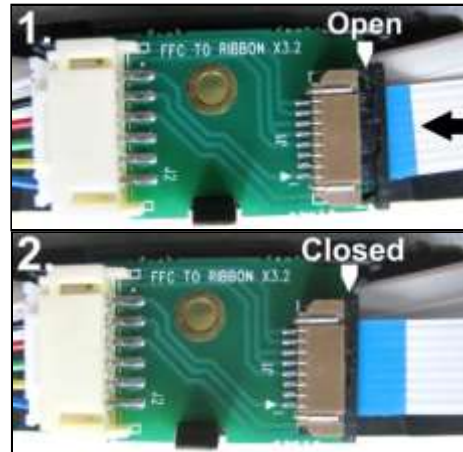
**MAKE SURE LATCHES ON WIPER ROLLER ARE FULLY CLOSED BEFORE INSTALLING SERVICE STATION.**



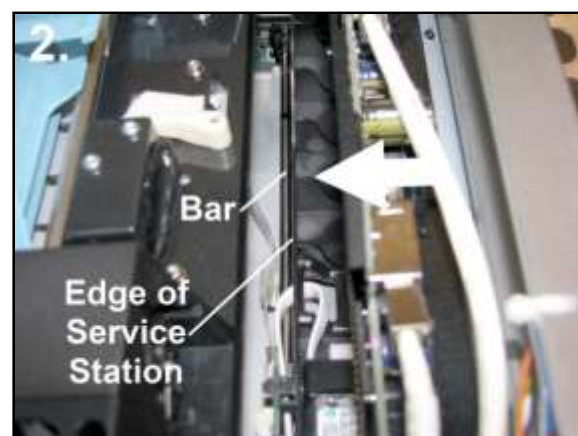
5. Slide Latch open on Service Station Circuit Board.



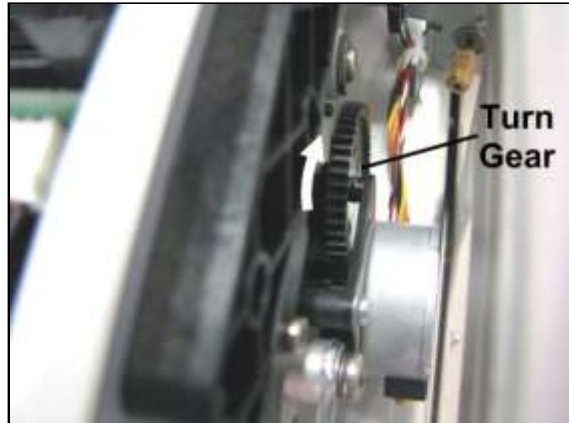
6. [1] Plug Ribbon Connector (*blue side up*) into space under Latch.  
[2] Close Latch.



7. [1] Slide Service Station into Service Station Dock until it touches bar. Align with tracks along sides and Guide on Service Station dock floor.  
[2] Look down through Top Cover to make sure Service Station is aligned with bar.  
**IMPORTANT! Service Station must be perfectly aligned with bar to prevent misalignment and operating problems.**



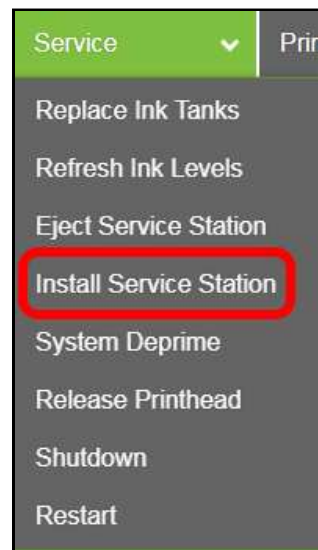
8. **GENTLY** push Service Station while turning large Gear on right side of Print Engine clockwise. Gear should engage gear on Service Station Roller and pull it in. Once Service Station starts moving, stop turning gear.



9. Power up the Printer. Open the **Toolbox**. Select the **“Service”** drop-down menu. Select **“Install Service Station”** to pull the Service Station in.

**NOTE:** Make sure wick hanging below Service Station is inside plastic trough (*inside Ink Tank Station*) to prevent ink seepage.

**NOTE:** Service Station should operate smoothly. If it binds, chatters or grinds, reinstall Service Station. Lubricate Side Tracks and Guide if necessary.



10. **Close Clamshell Cover. Close Front Cover.**

**CAUTION**  
HOLD ONTO BOTH LATCHES WHEN OPENING AND CLOSING CLAMSHELL TO PREVENT DAMAGE. DO NOT ALLOW CLAMSHELL TO DROP OR SLAM CLOSED.



## Replacing Ink Waste Tray

Ink Waste Tray soaks up any excess ink that may drip from Print Engine during operation. After a period of time it may become saturated and need replacement.

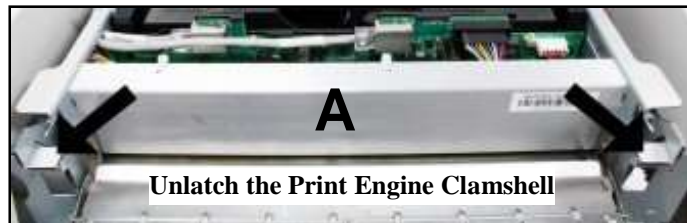
1. Open Ink Tank Door.
2. Push in on Tabs to release Ink Waste Tray.  
Remove it from unit.
3. Replace with a new Ink Waste Tray.



## Removing Jams in Printer

Clearing a jam depends on where jam occurred.

**Print Engine Area:** Open Top Cover. Release and lift up two latches [A] (*one on each side of Printhead Clamshell*) **at same time** to raise Printhead Clamshell [B]. Clear jam, then carefully lower and relatch Printhead Clamshell. Close Top Cover.



CAUTION
<b>HOLD ONTO BOTH LATCHES WHEN OPENING AND CLOSING PRINTHEAD CLAMSHELL TO PREVENT DAMAGE.</b>
<b>DO NOT ALLOW CLAMSHELL TO DROP OR SLAM CLOSED.</b>
<b>TO PREVENT DAMAGE TO INK LINES, A STOP LIMITS RAISING CLAMSHELL MORE THAN 60°.</b>



## Misfeeds

**To correct misfeeds:**

- Roll Feed** – Unwinder/Winder may be moving too fast or slow for job being printed.  
Readjust Speed Controls on Unwinder and Winder.
- Fanfold** – Straighten stack.

## *Cleaning*

### **WARNING!**

**PRINTER IS A PRECISION MACHINE. CLEAN REGULARLY TO INSURE MANY YEARS OF SERVICE. BEFORE PERFORMING ANY MAINTENANCE, DISCONNECT MACHINE FROM ITS POWER SOURCE!**

**DO NOT REMOVE SIDE COVERS! HIGH VOLTAGES PRESENT.**

Clean Printer regularly to remove accumulated paper dust and ink. Depending on types of media run, paper dust may accumulate inside Printer and on Transport.

1. Turn Printer OFF and unplug it from power receptacle. Then open or remove Covers.
2. **Interior:** Use a vacuum with a soft brush attachment or a can of compressed air to help loosen dust particles. **NOTE: Be careful around ink tray and capping station** in Print Engine area as accumulated ink may splash onto other parts of Printer. Take care not to damage PC Boards or electrical wiring.
3. **Exterior:** Wipe clean with a lint-free cloth using any standard nonabrasive household cleaner that does not contain plastic-harming solvents.

### **CAUTION**

**NEVER SPRAY OR POUR CLEANERS DIRECTLY ON OR INTO PRINTER. EXCESS LIQUID COULD HARM ELECTRONIC PARTS. DAMPEN A LINT-FREE CLOTH WITH THE CLEANER AND APPLY IT TO PARTS TO BE CLEANED.**

## **Print Engine**

Areas in Print Engine can become glazed with a buildup of dust, paper lint and accumulated ink and have to be cleaned regularly. Open Top Cover. Open Clamshell Assembly by releasing two latches. Use a vacuum to pick up any loose debris.

**NOTE:** Be careful around Ink Tray and Capping Station in Print Engine area as accumulated ink may splash onto other parts of Printer. Take care not to damage PC Boards or electrical wiring.

### **CAUTION**

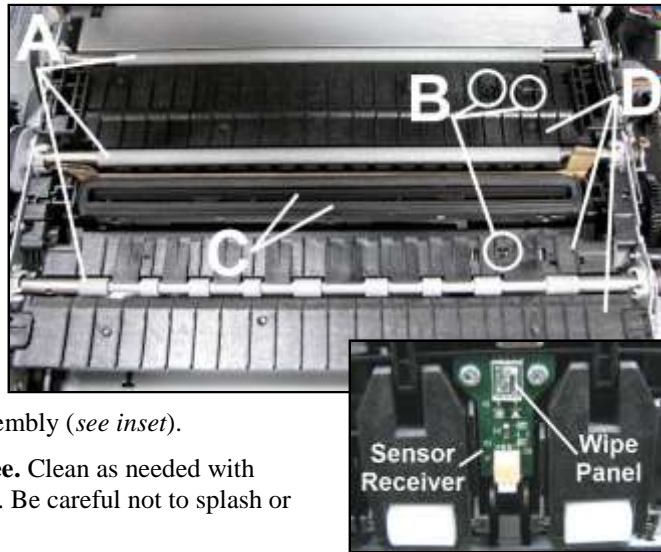
**USE ONLY DEIONIZED/DISTILLED WATER TO CLEAN PRINT ENGINE COMPONENTS. AVOID CONTAMINATING PRINTHEAD WITH CLEANERS, LUBRICANTS OR OTHER CHEMICALS.**

**[A] Grit Rollers:** Clean as needed by moistening a small hard-bristled brush or toothbrush with distilled water. **DO NOT** use anything other than distilled water to clean Rollers.

**[B] Media Sensors:** Paper lint and dust may build up on Media Sensors. Use a can of compressed air or a damp (*not wet*) foam or lint-free cotton swab to gently swab Sensors. Take care not to drip water into Circuit Boards. Use a clean, dry swab to dab surfaces dry. Remember to wipe clear panel over Sensor Receiver in upper Printhead Assembly (*see inset*).

**[C] Capping Station Seal and Squeegee.** Clean as needed with distilled water on a damp, lint-free cloth. Be careful not to splash or drip ink on other parts of Printer.

**[D] Printing Platen.** Wipe with distilled water on a damp, lint-free cloth. Pat dry with a lint-free cloth.



### Cleaning Ink Revolver Couplings

1. First Depriime system and remove Printhead Cartridge.
2. Moisten a foam swab in distilled water.
3. Insert swab into an ink channel and rotate swab to clean chamber.
4. Use a new swab for each remaining ink channel until all 10 openings are clean. (*5 on each side.*)



## Shipping or Transporting MIC Printer

If you have to ship or transport Printer for any reason, unit will have to be prepared. Once Printer is prepared, carefully package Printer, Printhead Cartridge, Service Station and Ink Tanks in original packaging.

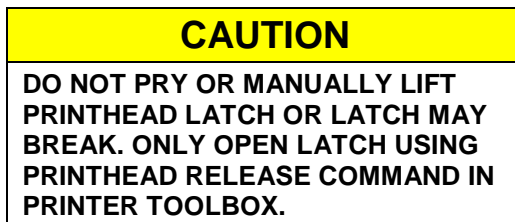
### Deprime System

1. Open **Toolbox**. Select the “**Service**” drop-down menu. Select “**System Deprime**”.  
(*Depriming forces all ink to return to Ink Tanks.*)



### Remove Printhead Cartridge

1. **Open Top Cover.** Open Printhead Latch [1] using **Printhead Release** button in Printer Toolbox. Printer pumps any ink in system back into Ink Tanks. Then Printhead Latch pops open.



2. Make sure Printhead Latch is fully opened to retract ink lines. Remove Printhead Cartridge by tilting it toward ink lines [2], then carefully lift it out of Printhead compartment.
3. Pack Printhead Cartridge area with absorbent towels to catch any ink drips or spills. Carefully pack Printhead Cartridge using original packaging.



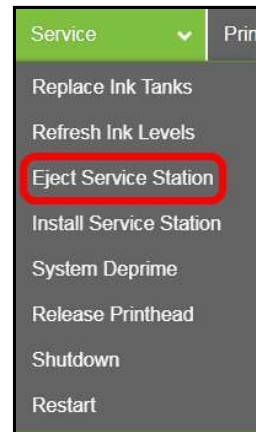
## Remove Service Station

1. **Open Ink Tank Cover (hinged at bottom).** Open Top Cover.

Release two latches and open Print Engine Clamshell. Service Station will not fully eject with Clamshell closed.



2. **Open Printer Toolbox.** Open “Service” drop-down menu. Select “Eject Service Station”. Once Printer pushes Service Station out, turn the Printer OFF.



**TURN PRINTER POWER OFF.**

### CAUTION

**WHENEVER POWERING DOWN UNIT, ALWAYS:**

1. **PRESS POWER BUTTON ON CONTROL PANEL.**
2. **WAIT FOR PRINTER TO STOP PROCESSING.**
3. **THEN PRESS MAIN POWER SWITCH ON REAR PANEL.**



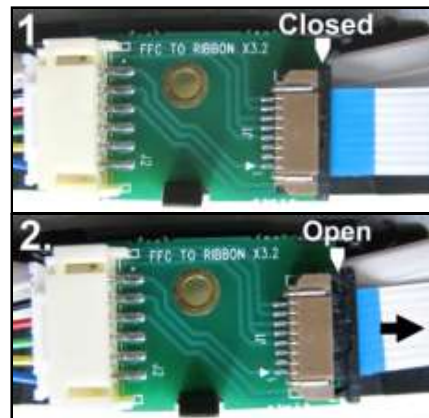
3. Slide Service Station out of Service Station port. **NOTE: DO NOT pull Service Station all the way out until you disconnect Ribbon Cable.**

**USEFUL TIP:** Place an absorbent towel under Service Station before you remove it to catch any drips or leaks.



4. **Disconnect Ribbon Cable.** Slide Latch open on Service Station Circuit Board to release Ribbon Cable. **Remove Service Station.**

5. Pack Service Station Area with absorbent towels to catch any excess ink.



## Remove Ink Tanks

1. **Open Front Cover** (*hinged at bottom*). Unlatch three Latches [A]. Pull Ink Tank(s) out of Printer.
2. Carefully package Ink Tanks in original packaging. **IMPORTANT:** Make sure ink seals on Ink Tanks are facing up and covered with absorbent wipes to prevent leaks and spills.
3. Pack Ink Tank bays with absorbent towels to catch any ink drips or spills.



## SECTION 5 – *Troubleshooting Guide*

Troubleshooting Guides are provided to assist you in solving any problems that might occur with the M1C Label Printer. We have tried to make them as complete as possible. The best advice we can offer is to make sure that system is set up properly, plugged in, and has an adequate supply of ink before attempting to troubleshoot any problem.


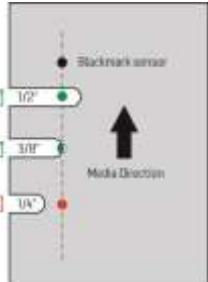
### *Memjet Printhead*

CONDITION	PROBLEM	SOLUTION
<b>Missing parts of letters or text.</b>	Air and bubbles blocking Nozzles.	Clean Printhead using recirculation, priming or cycles of depriming and priming found in <b>Driver</b> or <b>Toolbox</b> . Rehydrate Printhead using distilled water and a wet, clean, lint-free cloth. Bubbles often disappear with Printer use.
<b>Print shows regularly missing or misdirected nozzles or ink color mixing.</b>	Debris on Printhead.	Perform startup routine. Clean Printhead using <b>Cleaning Levels</b> in <b>Driver</b> or <b>Toolbox</b> . Wipe Printhead manually with distilled water and a wet, clean, lint-free cloth. Replace Printhead.
<b>Ink mixing – Mixed or muddy colors.</b>	<b>Causes:</b> Ink flooding, air in the Printhead or a dirty Printhead.	Clean Printhead using o <b>Cleaning Levels</b> in <b>Driver</b> or <b>Toolbox</b> . Wipe Printhead manually with distilled water and a wet, clean, lint-free cloth.
<b>No print or crisp blocks of missing drops.</b>	Electrical failure or poor electrical connection.	Reseat Printhead. Replace Printhead.
<b>System will not reprime ink after replacing Printhead Cartridge</b>	Printhead nozzles dry.  Ink Tanks may be 1/3 full or less.	Wipe Printhead manually with distilled water and a wet, clean, lint-free cloth.  Replace Ink Tanks.

**WARNING!**

**DO NOT REMOVE PRINTER'S SIDE COVERS!  
HIGH VOLTAGES PRESENT!**

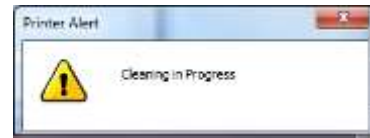
*Printer*

CONDITION	PROBLEM	SOLUTION
<b>Ink Tank installed, no Ink Level indication in Toolbox</b>	Ink Tank contacts dirty, preventing Printer/Ink Tank communication.	Remove Ink Tank(s). Clean prism and QA Chip contacts, see <i>Maintenance, Cleaning Ink Tank Contacts</i> .
<b>Extra lines; losing data</b>	Database problem.	Check data in database program.
<b>Improper output (address information out of order, misfeeding, etc.)</b>	Wrong Interface settings. Static electricity. Dirty Media Sensor.	Check software or database on PC. Close software, then turn Printer OFF and ON. Clean Media Sensor.
<b>No communication</b>	Improper cabling / connector. Unit not receiving power.	Use proper USB cable (see <i>Operator Manual</i> ). Check plug connections, ON/OFF button and fuse on side panel.
<b>Print too light or missing character dots</b>	Clogged or dirty Printhead. Running out of ink.	Check Printhead. Check Ink Tanks.
<b>Blurry address</b> 	Image is not sharp.	Clean Printhead using <b>Cleaning Levels</b> in <b>Driver</b> or <b>Toolbox</b> . Clean Printhead manually using distilled water and a wet, clean, lint-free cloth.
<b>Feeding problems</b>	Misfeeds.	Adjust Speed on Unwinder and Winder.
<b>Job is sent to print but does not print.</b>	Printer not turned ON. Printer not connected to computer. Media Sensor is covered in Print Engine.	Check that Printer is ON. Connect printer cable to computer and resend job. Open Print Engine and remove media.
<b>At start of job, media runs and stops without printing.</b>	Printer not set for type of media being used. Blackmark sensor not reading blackmark on media ( <i>too light</i> ) or notches on media not deep enough ( <i>less than 3/8" deep</i> ).	Reset Printer for type of media used. <b>Blackmark:</b> Set Printer for Thicker Media in <b>Toolbox</b> . <b>Notched Media:</b> Check notch depth. 

## *Errors and Warnings*

### **Printer Alert Window Messages**

Messages sent from the driver and displayed on PC screen in a small popup window.



<b>MESSAGE</b>	<b>SOLUTION</b>
<b>Cleaning in Progress</b>	Wait until the message disappears. The Printer will start printing your job once the cleaning process is complete.
<b>Incompatible Printhead</b>	Remove and reinstall your Printhead Cartridge. Replace Printhead. Printhead Cartridges must be purchased from authorized supplier for this printer model.
<b>Incorrect ... Ink Tank</b>	Replace Ink Tank. Ink Tanks must be purchased from authorized supplier for this printer model.
<b>.... Ink Low</b> Example: Black Ink Low	Reorder Ink
<b>.... Out of Ink</b> Example: Cyan Ink Out	Replace empty Ink Tank
<b>Load Paper</b>	Out of Paper. Load paper into Printer and press the PRINT/PAUSE button.
<b>Mechanical Jam</b>	Check for and remove obstruction, then press PRINT/PAUSE button. Check/Clean sensors. If problem persists contact technical support.
<b>Missing Printhead</b>	Remove Printhead Partridge. Check/clean electrical contacts. Reinstall Printhead. Replace Printhead. If problem persists contact technical support.
<b>Multiple Inks Low</b>	Reorder Ink
<b>Multiple Ink Tanks Out</b>	Replace empty Ink Tanks
<b>Multiple Ink Tanks are missing</b>	Insert missing Ink Tanks. Clean electrical contacts and reseal Ink Tanks.
<b>Multiple Unauthorized Ink Tanks</b>	Remove and reinsert Ink Tank. Replace Ink Tank. Ink Tanks must be purchased from authorized supplier for this printer model.
<b>Paper Jam</b>	Remove jammed media. Check for proper feed setup, then press PRINT/PAUSE button. Check/Clean sensors. If problem persists contact technical support.
<b>Printhead Latch Open</b>	Ensure Printhead Cartridge has been inserted properly then close and lock the Printhead Latch.
<b>Print Zone Assembly (Clamshell) Open</b>	Check to be sure the Clamshell is completely closed and latched. Make sure Print Engine Latches are secure.
<b>The ... Ink Tank is missing</b>	Insert missing Ink Tank. Clean electrical contacts and reseal Ink Tank.
<b>Unauthorized ... Ink Tank Installed</b>	Ink Tanks must be purchased from an authorized supplier for this printer model.
<b>Unauthorized Printhead</b>	Printhead Cartridges must be purchased from an authorized supplier for this printer model.

## Toolbox System Status Messages

*Valid for printers with firmware version R15.1 or higher installed.)*

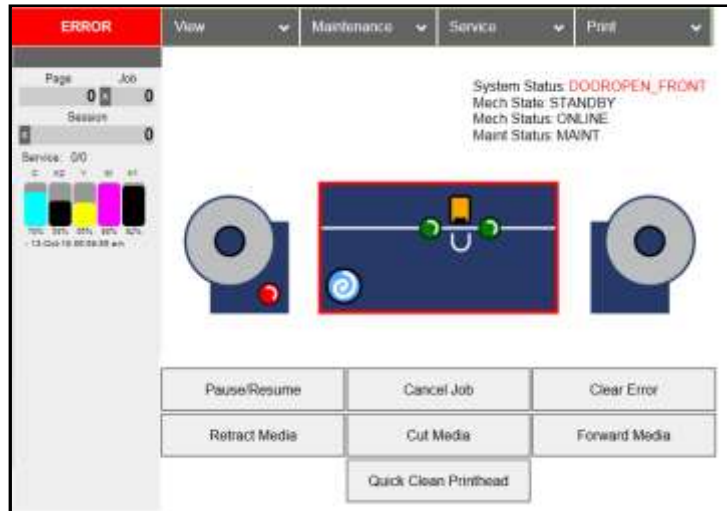
Use the **Toolbox System Status** screen to quickly determine and locate a problem in the Printers.

The **Status Indicator ERROR** shows in the red box.

The **Printer Graphic Icon** highlights which area of the Printer and system is affected.

The **System Status** information on the right displays the basic problem (*in red*).

**Ink Levels** displays ink status in the Printer. **Control Buttons** (*at screen bottom*) let you perform often used tasks without leaving the screen.



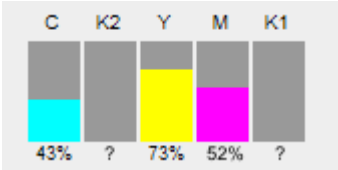
Listed below are some of the messages that may appear in **System Status**.

SYSTEM STATUS	PROBLEM	SOLUTION
<b>PAPERPATH_END_OF_ROLL</b>	Out of media. Unwinder Label Tension Arm has hit its upper or lower limit.  End of media did not release from roll core. Tape too strong.	Add new roll of media to Unwinder. Load media into Printer and press <b>PAUSE/RESUME</b> button to continue. Verify that Unwinder is threaded correctly and speed is set correctly.  Try to use stock that has soft-release tape holding the media to the cardboard core.
<b>System Status: PAPERPATH_PAPERJAM</b> <b>Mech State: STANDBY</b> <b>Mech Status: PAPERPATH_PAPERJAM</b> <b>Maint Status: MAINT</b>  <b>NOTE:</b> Depending on where the media stops/jams; it is also possible for the Printer to display: <b>PAPERPATH_FEED_TIMEOUT</b>	Media jam detected. Printer has detected that one of the Media Sensors is blocked ( <i>interrupted</i> ).  Dusty/dirty Sensors	Carefully remove jammed media from Printer and close Print Engine. System Status message in <b>red</b> should go away. <b>Toolbox Paperpath Sensor indicators</b> should change from red to green. <b>After jam is cleared, you can;</b> Press <b>PAUSE/RESUME</b> button to continue printing. Press the <b>CANCEL</b> button to cancel the job, and then manually clear the job from the computer's print queue.  Clean the Paperpath sensors.

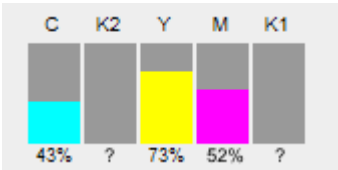
*Toolbox System Status Messages (continued)*

SYSTEM STATUS	PROBLEM	SOLUTION
<p><b>System Status: DOOROPEN_FRONT</b>                      Mech State: STANDBY                      Mech Status: ONLINE                      Maint Status: MAINT</p>	<p>Indicates that “Clamshell” is open.                      Sensor cable unplugged P202.</p>	<p>Verify that Clamshell is closed and securely latched on both sides. Make sure that Clamshell switch (<i>located on opposite side</i>) is activated by Clamshell Lever.                      Use <b>Scan Sensors</b> in Toolbox to check that Clamshell switch is functioning.</p>
<p><b>DATA_PATH_UNDERRUN</b></p>	<p>Media is not getting from the Entry Sensor to the Exit Sensor in the allotted time.                      Slow data transmission.                      Dirty Encoder Wheel or problem with transport.                      If error occurs before system tries to feed; possible issue with format, orientation or complexity of job being sent.</p>	<p>Check/clean tTransport Rollers.                      Check/clean Sensors.                      Select <b>“Buffer”</b> from <b>MC Series Driver</b>.                      Contact technical support                      Try changing the orientation setting in the software/driver or setting a different media size. Test a job that is less complex. If software has a “data compression” feature, set it for higher compression.</p>
<p><b>INK_LOW</b></p>	<p>X = Color.                      One or more Ink Tanks are low on ink.</p>	<p>Ink Tank replacement will be necessary soon. Reorder Ink.</p>
<p><b>System Status: INK_OUT_YELLOW</b>                      Mech State: STANDBY                      Mech Status: ONLINE                      Maint Status: MAINT</p> <p>The image shows an ink level indicator with five columns labeled C, K2, Y, M, and K1. Each column has a colored bar representing the ink level and a percentage below it: C (43%), K2 (53%), Y (0%), M (99%), and K1 (46%).</p>	<p>X = Color                      One or more Ink Tanks are out of ink</p>	<p>Replace empty Ink Tank(s). <b>WARNING!</b> Use proper procedure to replace Ink Tank(s) to avoid damage. See <b>“Replacing Ink Tanks”</b>.                      Press the <b>“Replace Ink Tanks”</b> button, then verify that Ink Tanks are seated firmly and latches are fully closed.                      Verify that the printer is on a stable, level surface.                      Try to clear the error by pressing the <b>“Refresh Ink Levels”</b> button, located in the <b>Toolbox</b>.</p>
<p><b>System Status: MAINTENANCE_BUSY</b>                      Mech State: STANDBY                      Mech Status: ONLINE                      Maint Status: MAINT</p>	<p>Printer is performing maintenance.</p>	<p>No action is required.                      Wait for Printer to finish maintenance.</p>

*Toolbox System Status Messages (continued)*

SYSTEM STATUS	PROBLEM	SOLUTION
<p><b>System Status: CARTRIDGE_MISSING_MULT</b>            Mech State: STANDBY            Mech Status: ONLINE            Maint Status: MAINT</p>  <p>The image shows an ink level gauge with five columns labeled C, K2, Y, M, and K1. Below each column is a colored bar representing the ink level and a percentage or question mark. C is cyan with 43%, K2 is grey with a question mark, Y is yellow with 73%, M is magenta with 52%, and K1 is grey with a question mark.</p>	<p>Ink Tank is missing or not recognized (<i>obtained from an unauthorized reseller</i>).            If correct ink, check contacts.</p>	<p>Insert missing Ink Tank or pop Ink Tank in and out to improve connection.            Clear error using “<b>Refresh Ink Levels</b>” command in <b>Toolbox</b> or just press <b>Pause/Resume</b> to refresh ink levels and continue printing.</p>
<p><b>System Status: TILT_ERROR</b>            Mech State: STANDBY            Mech Status: ONLINE            Maint Status: STANDBY</p>	<p>Printer is not level*.            Printer’s electronics have detected that Print Engine is too far out of level.            Tilt Sensor needs to be recalibrated.            P2005 unplugged.  <b>*NOTE: Tilt should be less than ±2 degrees. If Tilt warning indicates more than ±2 degrees FB or LR, (even if Printer continues to run) Printer must be leveled again to prevent damage or print issues.</b></p>	<p>Make sure that Printer is placed on level surface. Failure to do so may result in severe ink mixing and cause an inaccurate ink level reading in Ink Tanks.            If just powered on, wait a few minutes; error may clear by itself. Open the <b>Diagnostics</b> screen in the <b>Printer Toolbox</b> to see <b>Tilt</b>. Once <b>Tilt Level</b> drops to 1.99 or less, clear error using “<b>Clear Error</b>” button on the <b>System Status</b> screen in the <b>Toolbox</b>.            Make sure Printer is placed on a sturdy, level worktable. <b>DO NOT</b> move Printer while power is on.            If Tilt Level is 1.99 or less, you can clear this error using “<b>Clear Error</b>” feature in M Series Toolbox.            Contact technical support person to have them check level and possibly “Zero” Tilt Sensor.</p>

*Toolbox System Status Messages (continued)*

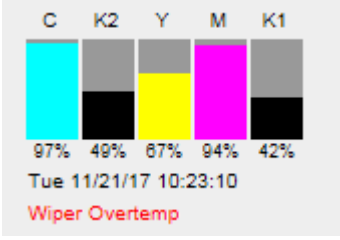
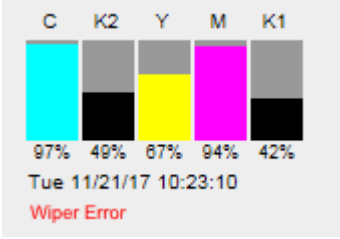
SYSTEM STATUS	PROBLEM	SOLUTION
<p><b>System Status: MECH_FAIL_PERMANENT</b>            Mech State: STANDBY  <b>Mech Status: MECH_FAIL_PERMANENT</b>            Maint Status: MAINT</p> <p><b>ERROR</b> on <b>System Status</b> screen.            Check the <b>Printer Graphic</b> to determine what component has a problem or failed: <b>Service Station, Ink Valve</b> or <b>Printhead</b>, (usually indicated with a steady “?”)</p>	<p>Mechanical error            One of Printer's mechanical components was not properly registered at expected position.            Mechanical failure or Sensor failure.</p>	<p>Visually inspect component stated as a “Reason” for failure. Using <b>Scan Sensors</b> screen in <b>Toolbox</b>, perform toggle test on Sensor responsible for registration of failed mechanical component position.  <b>Lifter Arm Sensor</b> is dirty or damaged, <b>Lifter Motor Cable</b> is unplugged, operator's side <b>Lifting Arm</b> is damaged, or <b>Lifting Arm</b> mechanism is stuck.  <b>Dual Pinch Valve problem:</b>            Check Sensor board connector and flag/sensors alignment. Check Valve motor connector. Check P2005 cable on MPCA.            At this point, this error may represent an <b>Ink Pump</b> error, since there is no return signal from pump and therefore, a separate message describing an Ink Pump error.</p>
<p><b>System Status: [Crit 63 03-phead offline cancelpage restart]</b>            Mech State: STANDBY  <b>Mech Status: [Crit 63 03-phead offline cancelpage restart]</b>            Maint Status: MAINT</p>	<p>Data Cables unplugged, dirty            Printhead contacts, dirty PPCA contacts.</p>	<p>Check data cables (P250, P260), clean Printhead contacts, and/or clean PPCA contacts.</p>
<p>System Status: ONLINE            Mech State: STANDBY            Mech Status: ONLINE            Maint Status: MAINT</p> <p><b>ERROR</b> on <b>System Status</b> screen. <b>Printer Graphic</b> shows Printer Service Station as “?”.</p>	<p>Service Station is ejected, Service Station position sensors are damaged or malfunctioning.</p>	<p>Check Service Station position. Using <b>Scan Sensors</b> screen in <b>Toolbox</b>, perform toggle test on two Sensors responsible for registration of Service Station position.</p>
<p><b>System Status: PRINTHEAD_MISSINGQA</b>            Mech State: STANDBY            Mech Status: ONLINE            Maint Status: STANDBY</p>  <p>The graphic shows five ink tanks labeled C, K2, Y, M, and K1. Below each tank is a colored bar representing the ink level and a percentage or question mark. C has a cyan bar at 43%. K2 has a grey bar with a question mark. Y has a yellow bar at 73%. M has a magenta bar at 52%. K1 has a grey bar with a question mark.</p>	<p>Printhead missing and one or more Ink Tanks are missing, When this error occurs, Multiple EWS monitoring is disabled.</p>	<p>Printhead missing and one or more Ink Tanks are missing, When this error occurs, Multiple EWS monitoring is disabled.</p>



*Toolbox System Status Messages (continued)*

SYSTEM STATUS	PROBLEM	SOLUTION
<p><b>System Status: PRINthead_MISSING</b>            Mech State: STANDBY            Mech Status: ONLINE            Maint Status: MAINT</p> <p><b>ERROR</b> on <b>System Status</b> screen.  <b>Printer Graphic</b> shows the Printer Printhead as “?”.</p>	<p>No Printhead installed or Printhead not making proper connections.            J2001 cable unplugged.            Printhead Latch is open.</p>	<p>If Printer was just powered on, wait a minute; error may clear by itself.            Install Printhead Cartridge.            Remove and reinstall Printhead.            Replace Printhead. Refer to appropriate sections in this manual for removing and installing Printhead Cartridge.</p>
<p><b>PRINthead_UNPRIMED</b></p>	<p>Printhead priming process has failed.            Ink delivery issue.</p>	<p>If just powered on, or Tanks/Printhead just installed, wait a few minutes; error may clear by itself.            Replace missing/empty Ink Tanks or Tanks that are reading less than 30%.            Check for kinked or pinched ink tubes .            Release Printhead and reinstall; using proper techniques.</p>
<p><b>MECH_CANCELPAGE</b></p>	<p>Job was canceled by user pressing the <b>CANCEL/CUT</b> button.            Job was interrupted by “Clamshell” being momentarily opened.</p>	<p>Wait until print job has cleared from Printer. Then manually clear job from computer’s print queue. Then send new print job.            Check to be sure Clamshell is securely latched, and then press “<b>Clear Error</b>” button to continue. If problem continues contact service support.</p>

*Toolbox System Status Messages (continued)*

SYSTEM STATUS	PROBLEM	SOLUTION
<p><b>WIPER OVERTEMP</b></p>  <p>Wiper Overtemp</p>	<p>Wiper Motor is overheated due to performing a Wiper Transfer (<i>removing excess ink off Service Station Wiper</i>) too often or for multiple or extended periods. Printer will continue maintenance after Wiper Motor cools down. Message will disappear once the temperature returns to operating range.</p>	<p><b>Wait for Wiper Motor to cool down</b>, Printer will automatically resume operation. <b>NOTE:</b> If running a number of short jobs or jobs on smaller media, reset the <b>Mid-Job Servicing</b> interval to a higher number of pages.</p>
<p><b>WIPER ERROR</b></p>  <p>Wiper Error</p>	<p><b>Wiper Roller is not turning. This can be due to:</b></p> <ol style="list-style-type: none"> <li>1. White flex cable is dirty, broken or not connected.</li> <li>2. Wiper Module (motor) failure.</li> <li>3. DPCA failed at J17 terminal.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check white flex cable and connections.</li> <li>2. Replace Wiper Module.</li> <li>3. Check and/or replace DPCA board.</li> </ol>

## Appendix A – M1C Specifications

PRINT RESOLUTION	<b>Best:</b> 1600 x 1600 DPI <b>Normal:</b> 1600 x 800 DPI
PRINT SPEED	<b>High Quality Mode:</b> 6" (15 cm)/second <b>Normal Quality Mode:</b> 12" (30 cm)/second
UNWINDER/WINDER SPEED	0-125 RPM
MAX. PRINT SIZE	8.5" (215.9 mm) W x Continuous Length
MEDIA TYPES	Roll or Fanfold (Label, Tag, Paper, Envelope)
MEDIA SIZE	<b>Minimum:</b> 2" W x 2.25" L (50.8 mm x 57 mm) <b>Maximum:</b> 9" (228.6 mm) W x Continuous Length
MEDIA THICKNESS	<b>Minimum:</b> 3 points (0.1 mm) <b>Maximum:</b> 12 points (0.3 mm)
MIN. LABEL GAP (Space between Labels)	<b>No Bleed:</b> 3 mm <b>Full Bleed:</b> 5 mm
ROLL SIZE (3" CORE) (Opt. Unwinder/Winder)	<b>Minimum:</b> 2" W x 10" Dia. (50.8 mm x 254 mm) <b>Maximum:</b> 9" W x 10" Dia. (228.6 mm x 254 mm)
ROLL CORE SIZES	<b>UNWINDER Reversible Hub:</b> 1.5" & 3" Dia. (38 mm x 76.2 mm) <b>WINDER Hub:</b> 3" Dia. (76.2 mm)
MEDIA SENSING	Label gap, notch, tick mark
INK	Water-based ink. 5 individual 250 ml ink tanks (CMYKK)
PRINT CARTRIDGE	One Memjet® Replaceable Printhead
INTERFACE	USB 2.0 and Ethernet
ELECTRICAL	115-240 VAC, 50/60 Hz
DIMENSIONS	<b>PRINTER:</b> 21" W x 21" L x 11" H (53 cm x 53 cm x 27 cm) <b>UNWINDER/WINDER:</b> 17" L x 9" W x 11" H (43 cm x 22 cm x 27 cm)
PRINTER WEIGHT	70 lbs. (31.8 kg)

**All Specifications Subject To Change Without Notice**

## Appendix B – Supplies and Optional Hardware

Available from your Astro Machine Corp. Distributor:

SUPPLIES	
Black Ink Tank	123-2412
Cyan Ink Tank	123-2413
Magenta Ink Tank	123-2414
Yellow Ink Tank	123-2415
OPTIONAL HARDWARE	
UW-1C Unwinder	
RW-1C Winder	

## Appendix C – Borderless Printing: Borderless Print vs. Oversize

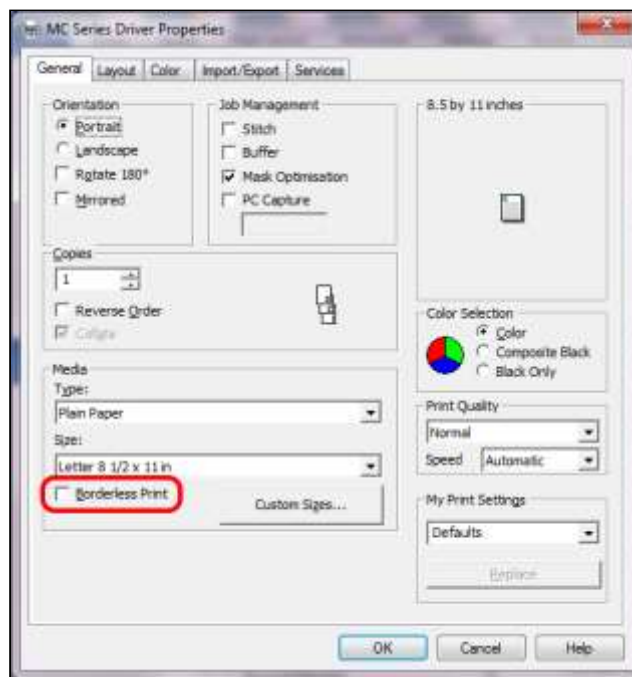
**MC-Series Print Driver** (under *Printing Preferences*) offers two ways for printing to edge of media, sometimes called “**borderless**” or “**full-bleed**” printing. Each option adjusts relationship between target image, selected media size and actual media on which is it printed, but in different ways. Each option has advantages and disadvantages, especially for certain types of images.

- **Borderless Print checkbox:** In **General Tab**, under **Media** section.
- **Oversize checkbox:** In **Custom Sizes** dialog box, under **Size** section in **General Tab** of **Print Preferences**.

**Details about each option:** when to use each, prerequisite setup and other tips for getting the best result.

### BORDERLESS PRINT CHECKBOX

**Borderless Print Checkbox** is located in **Printers Printing Preferences**, in the **Media** section under the **General Tab**.



**Borderless Print Checkbox on General Tab in Printing Preferences**

### Impact of Using Borderless Print

Selecting **Borderless Print checkbox** scales target image beyond the size of selected media, by adding **Borderless** default resolution value set in Driver. Image is stretched to print larger than actual size.

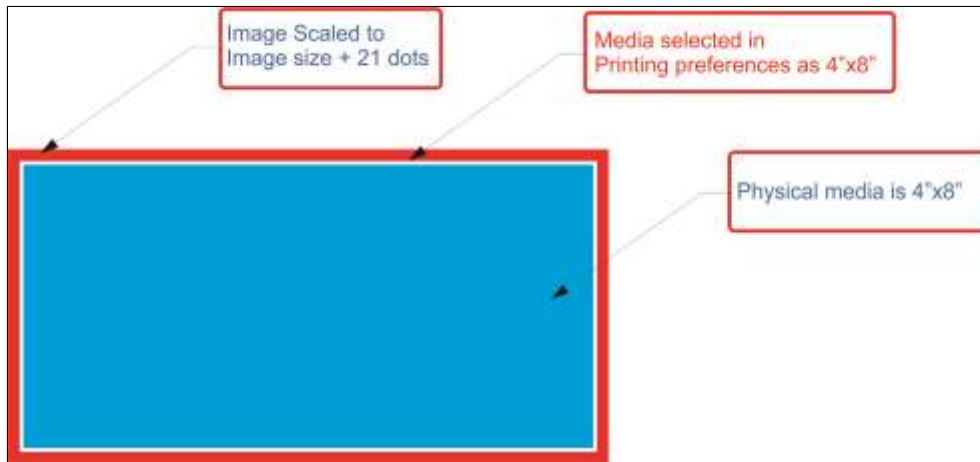
For example, if **Borderless** default setting is *21 (dots)*, then the resultant **Borderless Print** selection will have a resolution of *821 dpi*, (when printing with normal resolution of *800*). Although this might stretch image beyond edges of media, (and is quick and easy to select), it may be too distorted to use.

### Prerequisites for Borderless Print

Since scaling can distort the image, do not use **Borderless Print** for targets that have barcodes or text because this setting could render them unreadable. If the target image is a photograph or other graphical image, scaling may not be noticeable or objectionable. Make test runs and check the effect of choosing **Borderless Print**.

For example, **Borderless Print** for a 4" x 8" label would actually be:

$$4'' (800 \text{ dpi}) + 21 \text{ dots} = 3221 \text{ dots} \times 8'' (800 \text{ dpi}) + 21 \text{ dots} = 6421 \text{ dots}$$



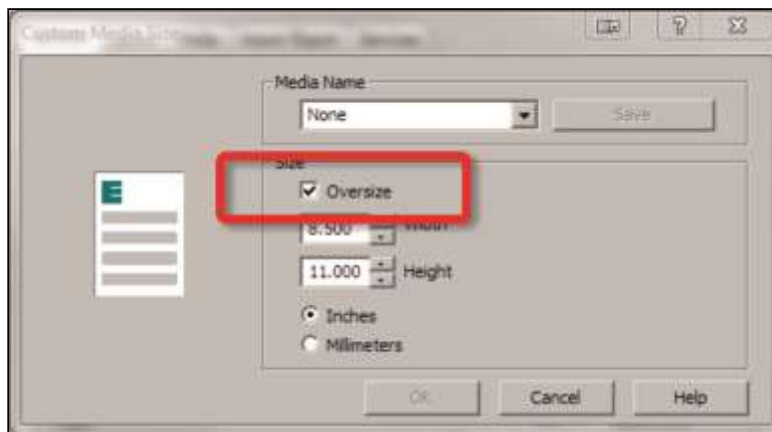
**Borderless Print Example: Measurements and Relationships**

For barcodes and text, use **Oversize** instead **Borderless Print**.

Required preparation for **Oversize** is explained below.

### OVERSIZE SETTINGS

**Oversize** checkbox is in **Custom Sizes** dialog box, located in **Printing Preferences** under **General Tab**.

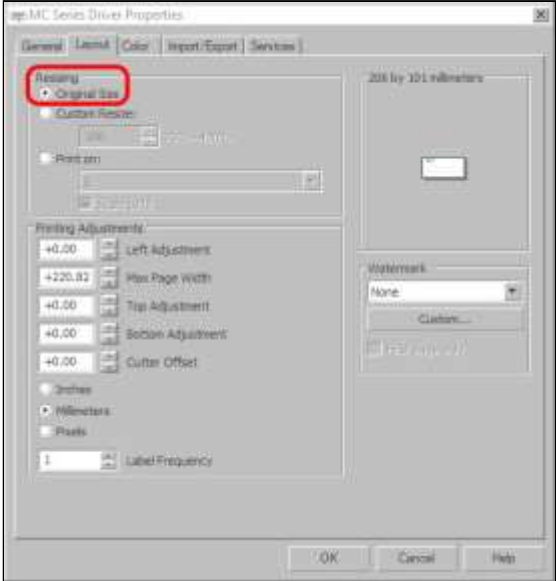


**Oversize Checkbox on Custom Media Size Dialog Box**

- Select **Oversize** checkbox.
- Enter measurements of physical media in Width and Height fields, selecting units (*inches or millimeters*).

**Page Setup for Oversize**

When using **Oversize** option, **Resizing** (located in *Layout Tab of Driver*) needs to be set to **“Original Size”**.



**Page Setup for Oversize Option**

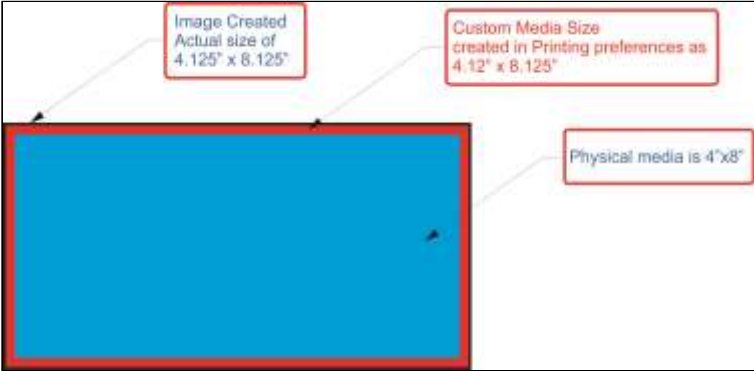
**Impact of Using Oversize**

Selecting **Oversize** extends **Custom Sizes** dimensions beyond that of actual media being printed on. Since this size extension is equal in both X- and Y- axes, there is no distortion of target image. Instead, choosing **Oversize** opens up more of target image for printing, so that it can print beyond size of physical media. However, target image also needs to be created as oversized, not size of physical media; otherwise, there is likely to be a white border between image and media.

**Prerequisites for Oversize**

To make **Oversize** an applicable option:

- Target image needs to be greater in size than size of actual media. Image needs to be same size as custom media size selected in **Custom Sizes** window, corresponding to additional amount set as default in Driver.



**Oversize Example: Measurements and Relationships**

## ADDITIONAL CONSIDERATIONS AND TIPS

Some additional considerations apply to both **Borderless Print** and **Oversize** in certain circumstances.

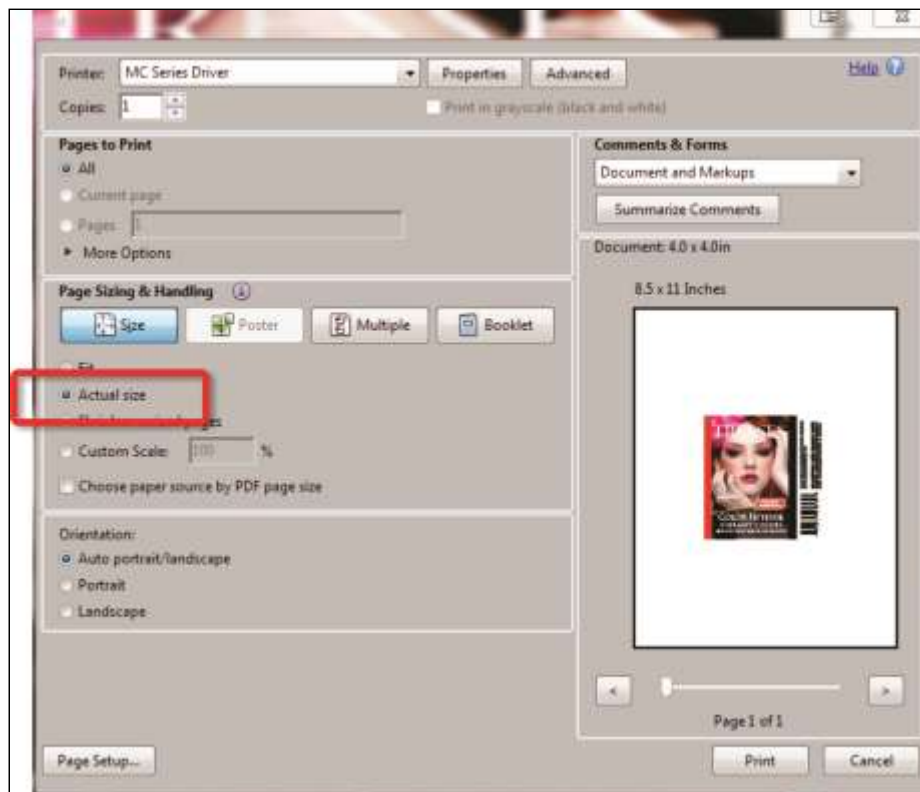
### Minimum Label Gap and Maximum Width

For both **Borderless Print** and **Oversize**, additional consideration and testing are required when approaching limitations for minimum label gap and maximum label width.

- **Minimum label gap is 3mm.** If media used has only a 3mm gap between labels, borderless printing (*either **Borderless Print** or **Oversize***) may not work without skipping a label between printed labels. An image that goes beyond physical media size effectively reduces label gap, possibly below 3mm minimum. This may also be beyond **top of form (TOF)** and **bottom of form (BOF)**. If gap is less than minimum label gap, labels are skipped since **TOF** and **BOF** are undetectable for next label.
- **Maximum print width is 8.69"**, including physical media width + **Borderless Print/Oversize** additional width. If borderless printing is required, physical media needs to be narrow enough to include additional width for **Borderless Print** or **Oversize** expansion.

### Page Sizing and Handling with Adobe Acrobat

Many target images are in PDF format. When printing from Adobe Acrobat, be sure to select only **Actual Size** under **Page Sizing & Handling**. Other options will affect settings already made for **Borderless Print** and **Oversize**, producing undesirable results.



**Printing Borderless Print/Oversize from Adobe Acrobat: Select “Actual Size”**

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# PRINTER MAINTENANCE SCHEDULE

General, periodic maintenance is needed to keep the Printer in good working order. Many tasks can be performed by operators with basic supplies, no special tools needed. Other tasks should only be performed by trained service personnel. **NOTE:** High volume usage may require more frequent maintenance.

**Maintenance Supplies & Equipment:** Flashlight, small telescoping mirror, hard-bristled toothbrush or equivalent, powder-free nitrile gloves, protective clothing and eyewear, small flathead screwdriver, tweezers, vacuum with wand, deionized distilled water, Super Lube 21030 synthetic grease (*or equivalent*), Loctite 38650 copper anti-seize (*or equivalent*), can of compressed air, foam or lint-free cotton swabs, lint-free wipes, disposable shop towels.

COMPONENTS/TASKS	MAINTENANCE TYPE				
	DAILY	BI-WEEKLY	MONTHLY	YEARLY	AS NEEDED
<b>PERFORMED BY OPERATOR</b>					
Printhead (Manual Wiping)					WIPE
Ink Revolver Couplings and Connections: Inspection/Cleaning					EVERY PRINTHEAD REMOVAL
Residue and Debris Removal	CLEAN	CLEAN	CLEAN	CLEAN	CLEAN
Optical Sensors (Media Path)		CLEAN	CLEAN	CLEAN	
Wiper Assembly: Inspection		INSPECT	INSPECT	INSPECT	
Grit Rollers (Media Path)			INSPECT	CLEAN	
Ink Tank Latches/Ink Bay				INSPECT	
Ink Tubing, Couplings, Components			INSPECT	INSPECT	
Ink Waste Tray			INSPECT	INSPECT	REPLACE
Lift Motor Gear			INSPECT	INSPECT	
<b>PERFORMED BY SERVICE TECHNICIAN</b>					
Cutter: Inspection/Cleaning				INSPECT/ CLEAN	
Lubrication				APPLY	
Pen Driver PCA Contacts: Cleaning					EVERY PRINTHEAD REMOVAL
Moving Parts/Motor				TEST	
Service Station Sled Assembly				CLEAN	
Wiper Assembly: Cleaning				CLEAN	

## WARNING!

ALWAYS POWER DOWN PRINTER BEFORE CONNECTING OR DISCONNECTING ANY WIRING HARNESSSES OR CABLE CONNECTIONS TO AVOID SERIOUS SHOCK OR INJURY.

## CAUTION

- ALWAYS USE APPROPRIATE PERSONAL PROTECTION EQUIPMENT (PPE).
- USE ELECTROSTATIC DISCHARGE (ESD) PROTECTION WHEN MAINTAINING EQUIPMENT.
- DISPOSE OF ALL MAINTENANCE WASTE IN ACCORDANCE WITH LOCAL REGULATIONS.

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**Part Number: 200-M1C Rev. L**

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