FORMAX®

# ColorMaxLP2
# Digital Color Label Printer

7/2020

OPERATOR MANUAL

# SAFETY PRECAUTIONS

THIS EQUIPMENT PRESENTS NO PROBLEM WHEN USED PROPERLY. OBSERVE SAFETY RULES WHEN OPERATING THE COLORMAXLP2 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 the 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 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 Formax, 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 Formax nor any of its agents or employees shall be responsible for any inaccuracies contained herein.

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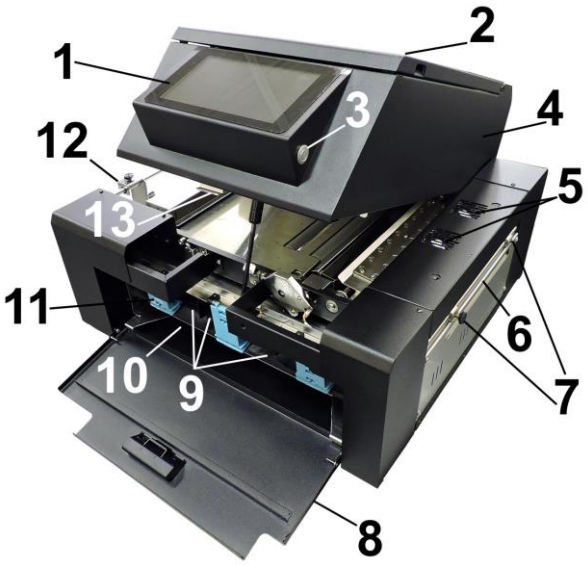
# NOTES

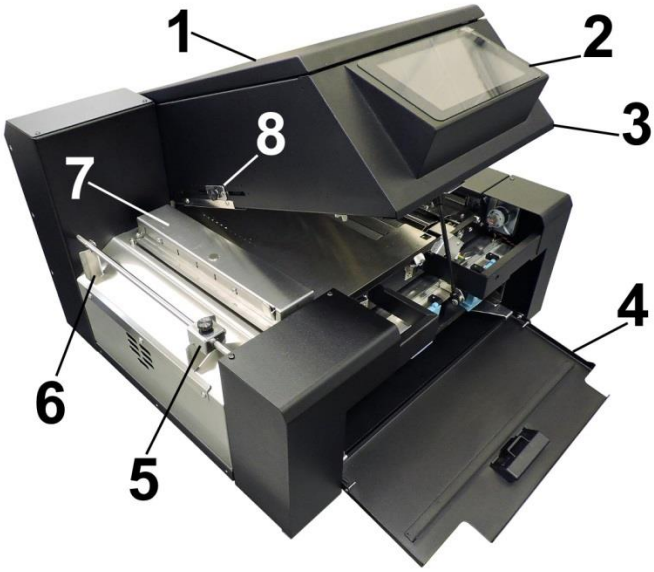
# SECTION 1 – *Getting Acquainted*

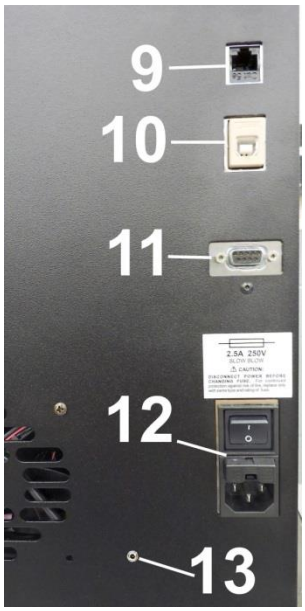



## Parts of the Printer

### Front View and Right Side

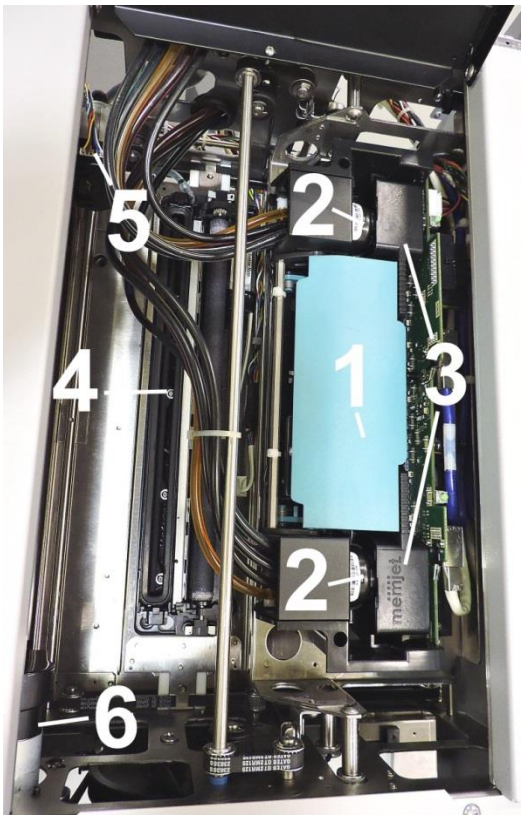
| | |
|---|---|
| **1.** | **Control Panel Touchscreen** – Displays **Menu** and information about Printer status. Controls Printer functions and setup. |
| **2.** | **Top Cover** – Provides access to Print Engine, Printhead and Service Station. |
| **3.** | **ON/OFF LED Button** – Turn power ON or OFF during idle time and maintenance. |
| **4.** | **Top Assembly ("Clamshell")** – Holds upper section of Print Engine including Printhead and Service Station. Lifts up to clear media path. |
| **5.** | **Ink Vapor Exhaust Fan** – Draws ink vapor out of the Print Area and away from the Exit Sensor. |
| **6.** | **Cutter Assembly** – Cuts media after each piece or at end of job. |
| **7.** | **Fixed and Adjustable Exit Media Guides** – Loosen and tighten knob to slide Adjustable Exit Guide to accommodate different media widths and keep media aligned as it exits the Printer. |
| **8.** | **Ink Tank Door** – Access to Ink Tanks. When open, disconnects Printer communication to Ink Tanks and allows safe installation and replacement. |
| **9.** | **Ink Tanks** – Printer has five Ink Tanks: Cyan, Yellow, Magenta, and two Black. |
| **10.** | **Ink Waste Tray** – Catches any waste ink produced by system. Tray is filled with absorbent material. Pull on tabs to remove Tray. |
| **11.** | **Ink Tank Latches** – Used to hold Ink Tanks in slots.<br>***NOTE***: Make sure both sides at bottom part of latch are engaged. |
| **12.** | **Adjustable Media Guide** – Adjusts to hold media against Media and Alignment Guides. |
| **13.** | **Top Assembly Latch** – Release to raise Printhead Assembly to clear media jams or for other maintenance. |



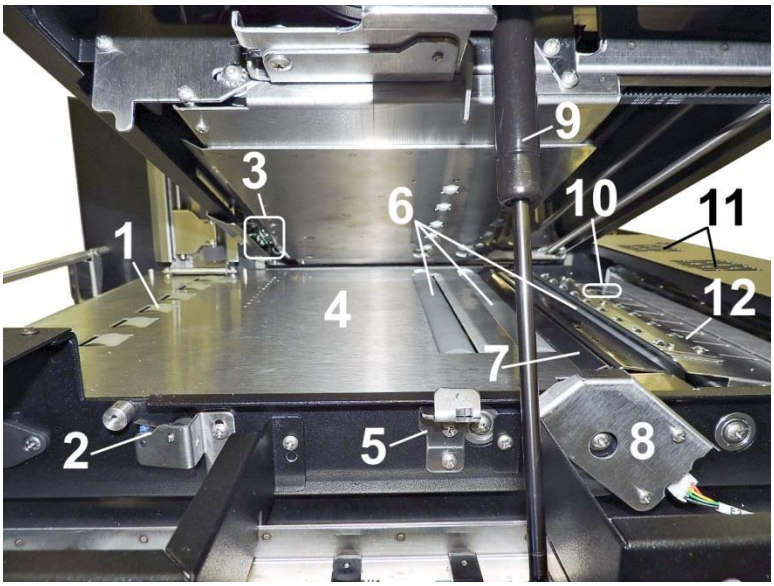

## Left Side and Rear View

| | |
|---|---|
| **1.** | **Top Cover** – Provides access to Print Engine, Printhead and Service Station. |
| **2.** | **Control Panel Touchscreen** – Displays **Menu** and information about Printer status. Controls Printer functions and setup. |
| **3.** | **Top Assembly ("Clamshell")** – Holds upper section of Print Engine including Printhead and Service Station. Lifts up to clear media path. |
| **4.** | **Ink Tank Door** – Access to Ink Tanks. When open, a switch disconnects Printer communication to Ink Tanks and allows safe Ink Tank installation and replacement. |
| **5.** | **Adjustable Media Guide** – Adjusts to hold media against Stationary Media and Alignment Guides. |
| **6.** | **Fixed Media Guide** – Keeps media aligned as it enters the Printer. |
| **7.** | **Top Forwarding Wheels Assembly and Forwarding Rollers**– Move media smoothly into the Printer. |
| **8.** | **Adjustable Media (Entry) Sensor** – Aligns the Media Sensor to accurately read irregular-shaped media (*such as die-cut ovals or circles*). |
| **9.** | **Network Port** – Ethernet cable plugs in here. |
| **10.** | **USB Port** – USB cable attaches to Printer here. |
| **11.** | **Interface Port** – Connect an external device, like the Unwinder/Rewinder unit. |
| **12.** | **Main Power Switch, Receptacle and Fuse** – Plug in power cord here. Switch turns main power ON/OFF. (*Use Control Panel LED Power switch to turn off machine for cleaning and maintenance*). Fuse protects Printer's electronic circuits. |
| **13.** | **Service Port** – Provides advanced diagnostic access for service technicians. |



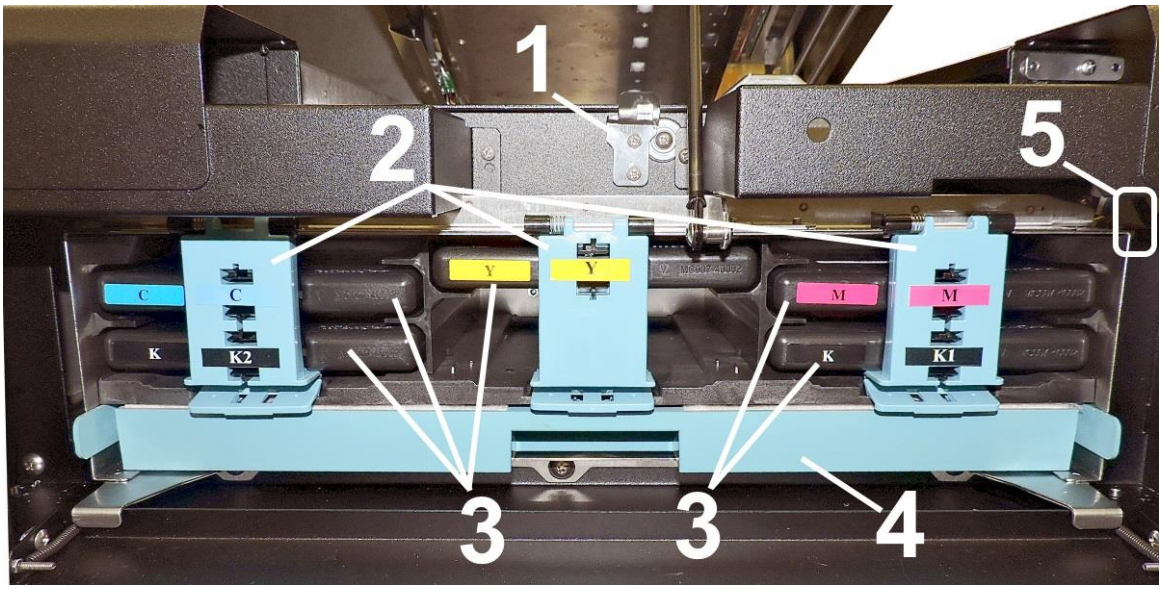

## Print Engine View

| | |
|---|---|
| 1. | **Printhead Latch** – When closed, connects Ink Revolver Couplings with Printhead. When opened, retracts Ink Couplings from Printhead and provides access to Printhead for cleaning and replacement.<br>**WARNING!** Never attempt to open Printhead Latch manually, severe damage will result. Use the **Printhead Release** in the **Touchscreen "Service"** drop-down menu when no ink is in system. Use **System Deprime** when ink is in system. |
| 2. | **Ink Revolver Couplings** – Connect ink hoses to Printhead. Printhead Latch extends and retracts couplings from Printhead. |
| 3. | **Printhead** – Memjet® Printhead produces an 8.5" wide full color print area. |
| 4. | **Service Station** – Cleans Printhead of excess ink and debris, keeps Printhead hydrated and protected when not in use, captures and removes ink used to keep nozzles clear, and moves out of the way of the Printhead during printing. |
| 5. | **Service Station Inspection Motor** – Moves the Service Station in and out from under the Printhead Assembly for inspection, cleaning or service. |
| 6. | **Printhead Assembly Lifter Motor** – Lifts and lowers the Printhead Assembly over the Service Station for Service Station access and Printing. |




## Print Area View (Under Top Assembly)

| | |
|---|---|
| **1.** | **Forwarding Rollers** – Move media into Printer. |
| **2.** | **Top Assembly "Open" Switch** – Signals Printer when the Top Assembly Latch is released and Top Assembly is opened. Shows on Touchscreen display and in Toolbox System Status icon. |
| **3.** | **Adjustable Media (Entry) Sensor** – Aligns the Media Sensor to accurately read irregular-shaped media (*such as die-cut ovals or circles*). |
| **4.** | **Print Platen** – Flat surface helps media transport smoothly through Print Area. |
| **5.** | **Top Assembly Latch** – Release to raise Top Assembly to clear media jams or for cleaning and other maintenance. |
| **6.** | **Transport Rollers** – Keep media moving through Print Area. |
| **7.** | **Ink Drip Cover and Tray** – Located under Printhead. Catches any excess ink coming from Service Station and Printhead. |
| **8.** | **Encoder Assembly and Guard.** |
| **9.** | **Support Strut** – Supports Top Assembly when raised. |
| **10.** | **Media (Exit) Sensor** – Signals Printer that media has exited the Printer. |
| **11.** | **Ink Vapor Exhaust Fans** – Draw ink vapor out of the Print Area and away from the Exit Sensor. |
| **12.** | **Exit Starwheel Assembly** – Helps media exit smoothly from Printer. |



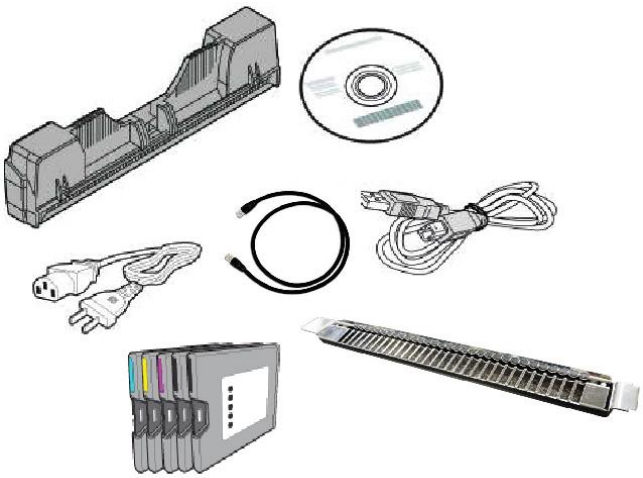

**Ink Tank Door View**

| | |
|---|---|
| 1. | **Print Engine Assembly Latch** – Release to raise Printhead Assembly to clear media jams or for other maintenance. |
| 2. | **Ink Tank Latches** – Used to hold Ink Tanks in slots.<br>***NOTE***: Make sure both sides at bottom part of latch are engaged. |
| 3. | **Ink Tanks** – Printer has 5 Ink Tanks: Cyan, Yellow, Magenta, and two Black |
| 4. | **Ink Waste Tray** – Catches any waste ink produced by system. Tray is filled with absorbent material. Pull on tabs to remove Tray. |
| 5. | **Ink Tank Disconnect Switch** – When Ink Door is opened, switch shuts down communication between Printer and Ink Tanks for safe removal and replacement. |

# SECTION 2 – *Installing Printer*

## *Contents of Packaging*

| | |
|---|---|
| 1 | Label Printer |
| 2 | Ink Drip Tray Assembly |
| 3 | AC Power Cord |
| 4 | USB Cable |
| 5 | Network Cable |
| 6 | Print head |
| 7 | Quick start guide |
| 8 | Driver Software CD |



### Before using Label Printer:

- Choose a location for Printer
- Unpack Printer
- Install Printer Driver
- Plug in Printer and connect it to computer or network
- Install Ink Tanks
- Install Printhead
- Align Printer with Unwinder & Rewinder
- Connect other in-line devices to Printer
- Set up feed on Printer

## *Choose a Location*

**Place the Printer on a sturdy level worktable or cabinet at least 9" from any walls.** Use a level to make sure the Printer is level. Protect the Printer from excessive heat, dust, and moisture. Avoid placing the Printer in direct sunlight.

## *Unpack and Set-up*

Remove Printer and its parts from carton. Remove all packing tape.

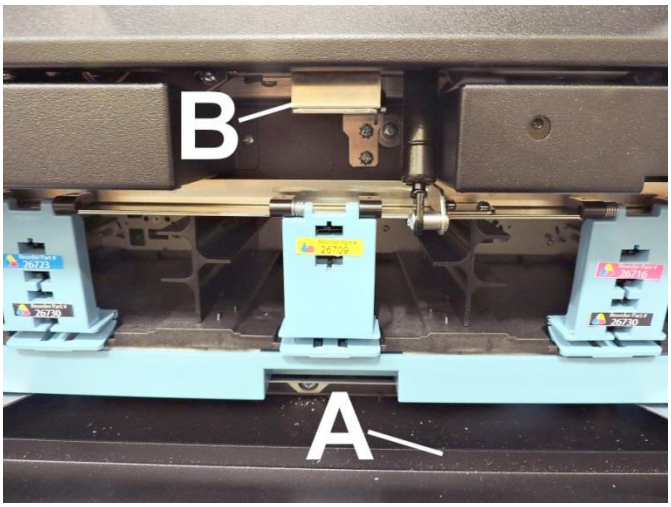
## *Attachments*

**Install Ink Drip Tray Assembly before operating Printer!**

Install alignment plates for use with external equipment such as Unwinders and Winders.

## *Install Ink Drip Tray Assembly*

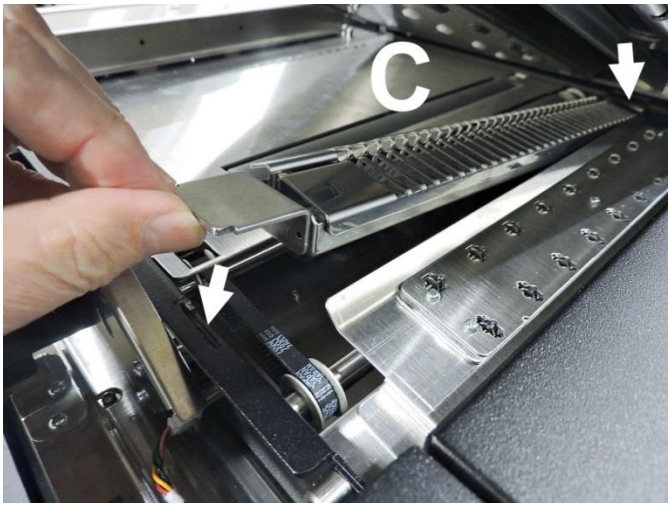
**Do not run the printer without the Ink Drip Tray in place!**




1. Open Ink Tank Door **[A]**.

2. Release Latch **[B]** to raise the Top Assembly.

3. Insert tabs on Ink Drip Tray into frame slots **[C]** as shown.




4. Close Top Assembly.

# *Connect Printer*

## Plugging in Printer

Plug power cord into receptacle **[1]** located on the rear panel of the Printer.

Internal power supply in Printer is rated 115 to 240VAC, 50/60 Hz.

**CAUTION**

**DO NOT USE ADAPTER PLUGS OR EXTENSION CORDS TO CONNECT PRINTER TO WALL RECEPTACLE.**

**DO NOT USE OUTLETS CONTROLLED BY WALL SWITCHES.**

**DO NOT USE OUTLETS THAT SHARE SAME CIRCUIT WITH LARGE ELECTRICAL MACHINES OR APPLIANCES.**

## Connect to Computer

Printer connects to computer through **USB Port [2]**.

**Network Port [3]** for operating in a network environment.

See **"Install Over Network Connection"** on page 11.

## Turning Power ON and OFF

**Powering Up Printer:**

1. **Press Main Power Switch on Rear Panel.**
2. **Press Power Button on Control Panel.**

**Powering Down Printer:**

**CAUTION**

**WHENEVER POWERING DOWN UNIT, ALWAYS:**

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

# *Install Printer Driver*

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

- **Operating System:** Windows 8/8.1, Windows 10 (*Desktop Mode only*). Windows 7. Supports 32 and 64 bit systems.

  **NOTE:** Windows 8, 8.1 and Windows 10 will only work in desktop mode. No Windows 8 or 10 metro apps (*applications that work ONLY in Windows 8 or 10 environments*) are supported.
- ***You must have administrative privileges on system*.**
- **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 drive space:** At least 10 GB.
- **Web Browser:** Firefox recommended; Chrome, Safari, and Opera also supported.
- CD/DVD drive (Installer can also be downloaded from formax.com)
- **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 a higher .NET Framework version is 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*).

The Printer can be installed using a USB connection or over a network connection.

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

## Install Over USB Connection

1. Check that the Printer is plugged in and turned OFF. **Disconnect USB connection if already plugged in.** Install disc supplied with Printer in your CD drive. When **AutoPlay** Window opens, click **"Run WinSetup.exe"** to start.

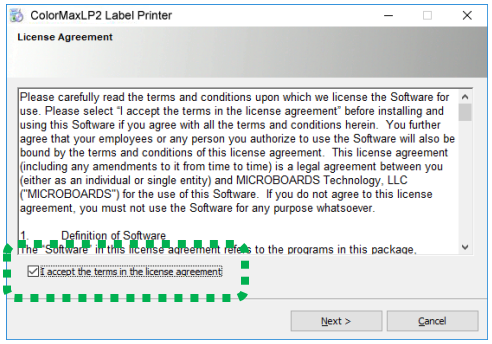
2. **Install Driver.**

   Make sure computer system meets **minimum requirements** and you followed other instructions listed on screen.

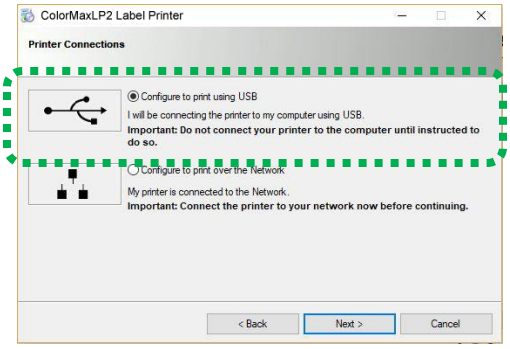
   Click **"Install Driver"**.

3. **License Agreement.**

   Check "I accept…" then click **"Next>"**.

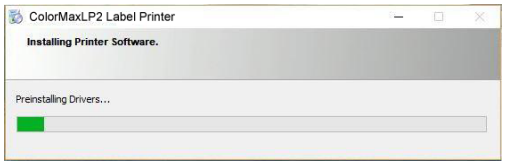



4. **Printer Connections.** Click **"Configure to print using USB"**. Then click **"Next>"**.




5. **Installing Printer Software.**

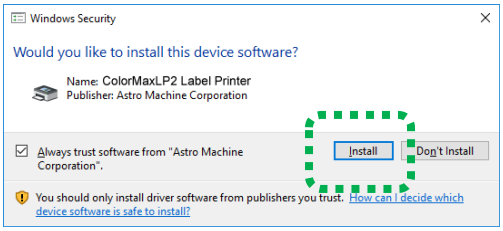
   Driver pre-installation begins.




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

   Click **"Install"**.

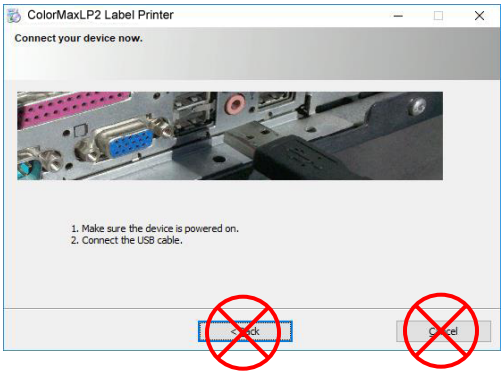
   You may see this message more than once as the drivers are installed.




7. **Connect Device Now.** Turn Printer ON and connect USB cable.

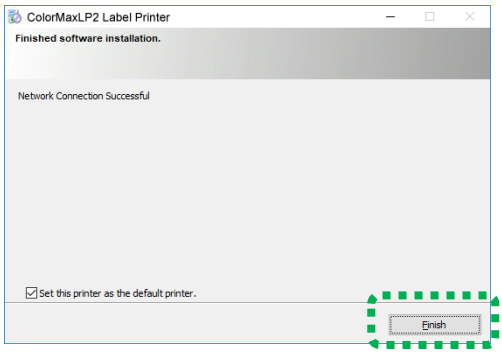
   **Do not click the Back or Cancel buttons.**

   The Printer will be recognized and the drivers will finish installing.



8. **Finish software installation.** You can check "Set this printer as the default printer" at this time.

   Click **"Finish"**.




9. **Install Driver window**

   Click Install Driver again to add another printer, or close Installer.

10. Restart computer to complete installation.

## Install Over Network Connection

There are two methods of installing over a network connection.

## Method A

This procedure works for almost all networks that allow automatic assignment of the IP address (*factory default*).

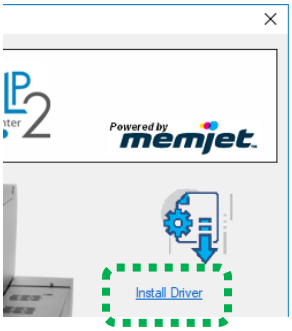
**NOTE: Copy the 12-digit Hardware ID number listed on the Printer(s) on the label located below the Ethernet port so you can identify the Printer(s) in a later step.**

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 disc supplied with Printer in your CD drive. When **AutoPlay** Window opens, click **"Run WinSetup.exe"** to start.

2. **Install Driver.**

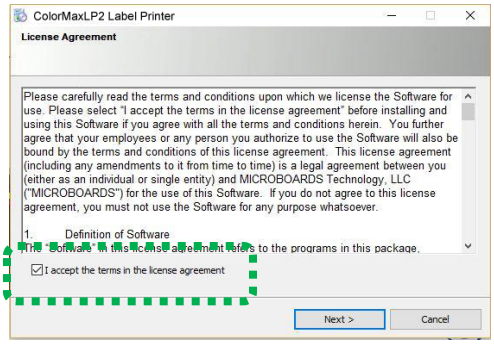
   Make sure computer system meets **minimum requirements**. Follow all other instructions listed on screen.

   Click **"Install Driver"**.

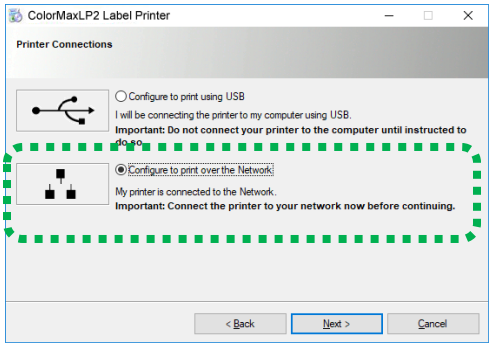


3. **License Agreement.**

   Check "I accept…" then click **"Next>"**.

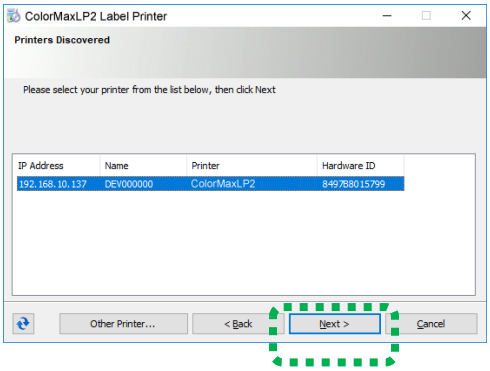



4. **Printer Connections.** Click **"Configure to print using the Network"**. Make sure the Printer is connected to the Network and has been assigned an IP Address. Then click **"Next>"**.



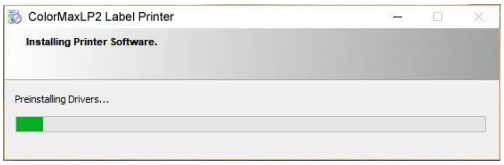

5. **Printers Discovered.** A list of available Printers opens. Check the **Printer** column to verify you have a ColorMaxLP2 printer. Check the **Hardware ID** column and match the number listed to the number you copied previously from the Printer label. Select that Printer. Click **"Next>".**

   **NOTE: If the Printer does not appear on the list, the IP address may have to be assigned manually. See "Install Over Network Connection, Method B" on page 14.**




6. **Installing Printer Software.**

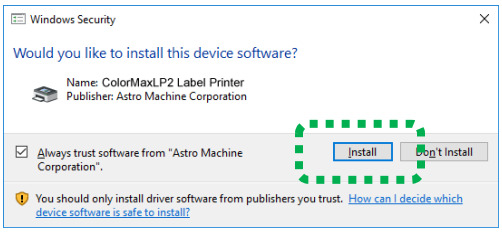
   Driver pre-installation begins.




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

   Click **"Install"**.

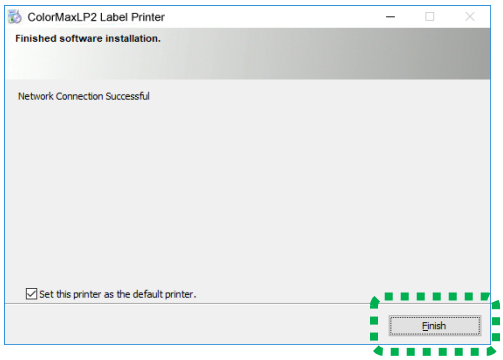
   You may see this message more than once as the drivers are installed.



8. **Finished software installation.**

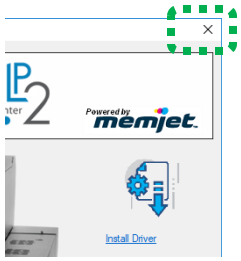
   You can check "Set this printer as the default printer" at this time.

   Click **"Finish"**.




9. **Install Driver window.**

   Click **"Install Driver"** again to install another Printer, or close the Installer.




**Tip:** To help distinguish between multiple ColorMaxLP2 Drivers on your system; open the **"Printers and Faxes"** (*Devices and Printers*) folder and rename the Printers. **For example,** rename a network-configured printer **"ColorMaxLP2 (Network-1)"** and a USB-configured printer **"ColorMaxLP2 (USB)"**.

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

Click **Start**, **All Programs**, ColorMaxLP2 **Driver**, **Toolbox**.

If more than one copy of the ColorMaxLP2 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:**

ColorMaxLP2 Driver configured for USB:

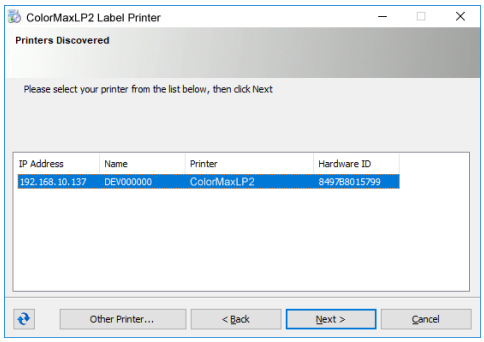
- Suggested name **"ColorMaxLP2 (USB)"**

ColorMaxLP2 Driver (Copy 1) configured for Network:

- Suggested name **"ColorMaxLP2 (Network-1)"**.

ColorMaxLP2 Driver (Copy 2) configured for Network:

- Suggested name **"ColorMaxLP2 (Network-2)"**.



## Method B

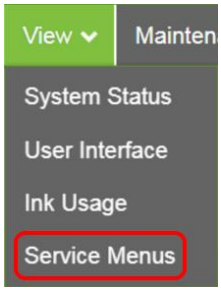
Use this procedure to install the Print Driver over the Network connection on **Static IP** systems requiring that an IP address is assigned manually.

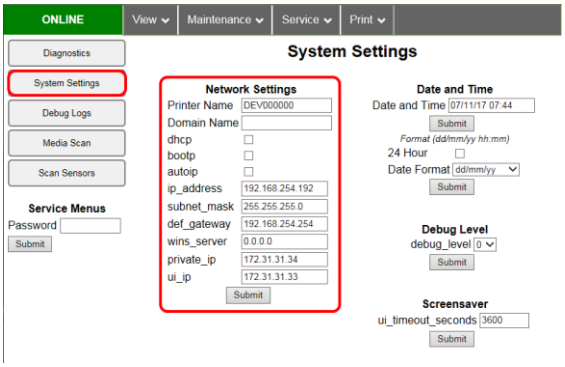
**NOTE: Copy the 12-digit Hardware ID number listed on the Printer(s) on the label just below Ethernet port so you can identify the Printer(s) in a later step.**

1. Install the Printer Software over a USB connection.

   This can be done using a nearby computer or laptop. Once the Driver is installed on the Printer, use that same computer to open the **Printer Toolbox**.

2. In the **"View"** drop-down, click **"Service Menus"**. The **Service/Diagnostics** screen opens. Click the **"System Settings"** button. The **"System Settings"** screen opens. Under **"Network Settings"** your IT support person can fill in the necessary information (*or you can get it from them*). Click **"Submit"**.

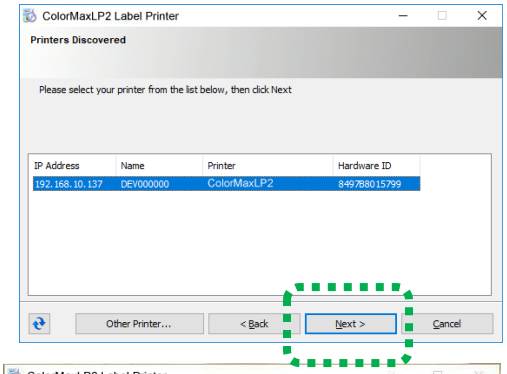



3. Disconnect the USB from the local computer or laptop. If not using that computer for printing, the ColorMaxLP2 Software can be uninstalled.

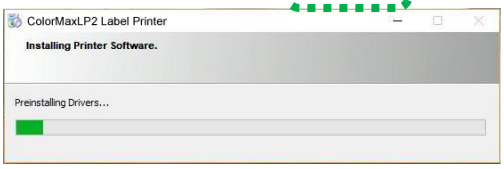
4. Connect the Ethernet cable to the Ethernet port and rerun the **"Install Over Network Connection, Version A"** procedure. The Printer should now appear on the **"Printers Discovered"** window. The Printer can still be identified by its **"Hardware ID"**, but the new IP address entered by your IT support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

   Select the desired Printer and click **"Next>"**. Follow the remaining steps.




5. **Installing Printer Software.**

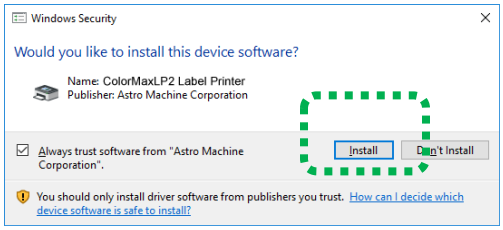
   Driver pre-installation begins.




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

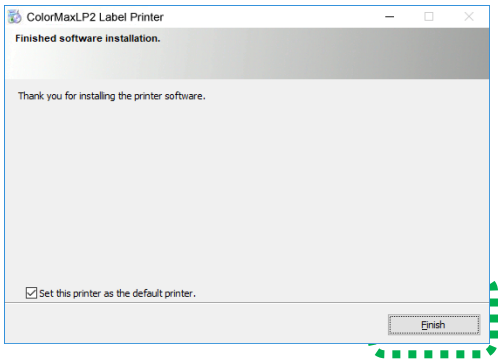
   Click **"Install"**.

   You may see this message more than once as the drivers are installed.

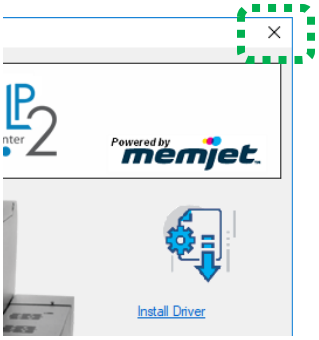


7. **Finished software installation.** You can check "Set this printer as the default printer" at this time.

   Click **"Finish"**.




8. Close Installer.




**Tip:** To help distinguish between multiple ColorMaxLP2 Drivers on your system; open the **"Printers and Faxes"** (*Devices and Printers*) folder and rename the Printers. **For example,** rename a network-configured printer **"ColorMaxLP2 (Network-1)"** and a USB-configured printer **"ColorMaxLP2 (USB)"**.

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

Click **Start**, **All Programs**, ColorMaxLP2 **Driver**, **Toolbox**.

If more than one copy of the ColorMaxLP2 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:**

ColorMaxLP2 Driver configured for USB:

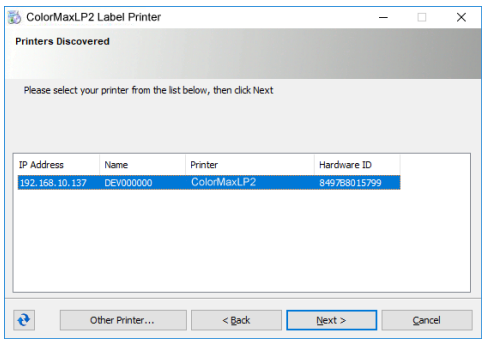
- Suggested name **"ColorMaxLP2 (USB)"**

ColorMaxLP2 Driver (Copy 1) configured for Network:

- Suggested name **"ColorMaxLP2 (Network-1)"**.

ColorMaxLP2 Driver (Copy 2) configured for Network:

- Suggested name **"ColorMaxLP2 (Network-2)"**.

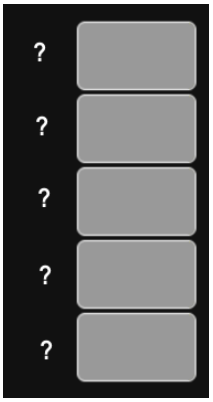


## *Install Ink Tanks*

Printer uses one Printhead and five Ink Tanks: *two Black, one Cyan, one Magenta, and one Yellow*.

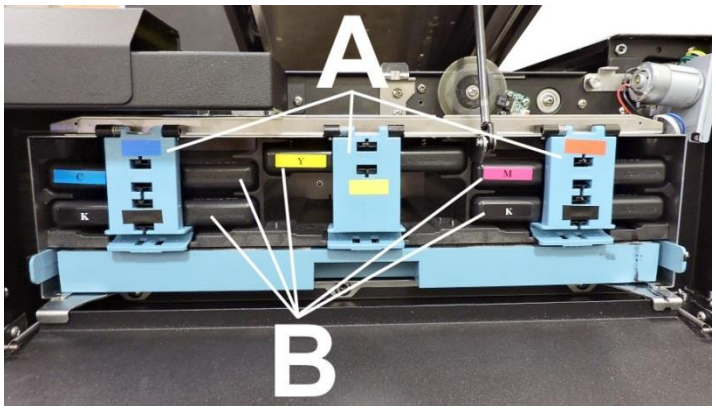
1. **Look at the Control Panel Touchscreen.**

   Ink Tank status information appears in right side of the Touchscreen. Note that the **Ink Tank** indicator boxes are empty. **NOTE:** The question marks indicate that no Ink Tanks are detected by the Printer.




2. **Open the Ink Tank Door** (*hinged at bottom*). (*Disconnects Printer communication with Ink Tanks and allows safe installation and replacement*.)

   Open Ink Tank Latches **[A]**.

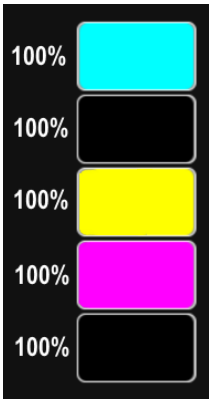



3. Remove new Ink Tank(s) from packaging.

4. Insert Ink Tanks (*labels up*) into appropriate color slots **[B]**. Close Ink Tank Latches – be sure the latches lock in place.

   **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.

5. **Close Ink Tank Door.** Ink colors fill in as Ink Tanks are installed. If ink colors do not fill in after a few seconds, open Ink Tank Door again and reinstall Ink Tank(s).




**WARNING!**

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

## *First Time Install Printhead*

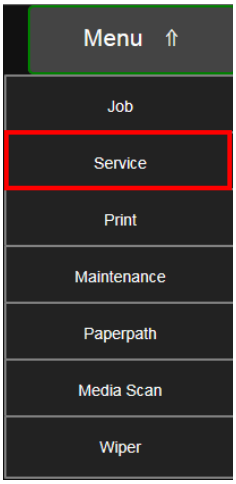
The printhead is a delicate precision device. Handle with extreme care to avoid damage and issues that could degrade print quality.

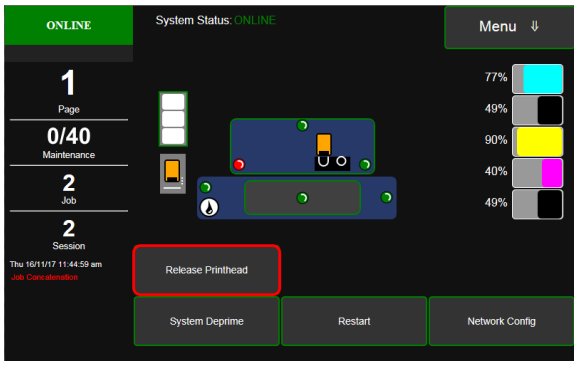
**CAUTION**

- **Use electrostatic discharge (ESD) protection when handling.**
- **Hold Printhead by handles ONLY.**
- **DO NOT touch ink couplings, nozzle surface or electrical contacts.**
- **DO NOT unpack Printhead 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. **Open Top Cover.** The printhead latch should be in the open position. If not, on the Touchscreen, open the **Service** dropdown from **Menu**. Press **Release Printhead**. Printer runs, then Latch **[1]** pops open.

   **NOTE: Remove Cap Protectors [2] on Ink Nozzles. Be sure to open the Latch fully to retract the Ink Nozzles.**

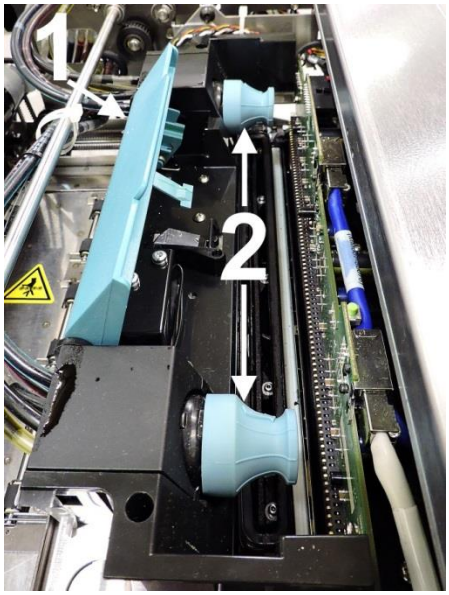



**CAUTION**

**DO NOT PRY OR MANUALLY LIFT THE PRINTHEAD LATCH OR THE LATCH MAY BREAK.**

**ONLY OPEN THE LATCH USING THE RELEASE PRINTHEAD BUTTON ON THE TOUCHSCREEN OR IN THE PRINTER TOOLBOX.**



2. **[A] Carefully remove Printhead from foil packaging**.

   Tear foil at notch or cut the end with scissors.

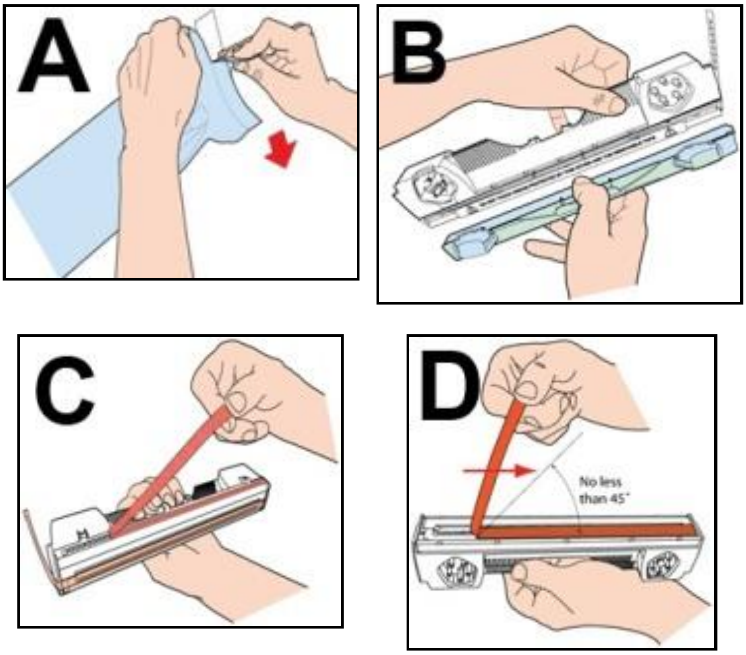
   **[B] Remove protective plastic cover.** Hold Printhead by handle and unclip cover from Printhead.

   **[C] Remove protective strip from Printhead Electrical Contacts**.

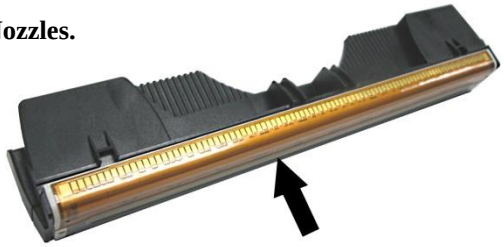
   **Once removed, DO NOT allow strip to touch electrical contacts.**

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

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

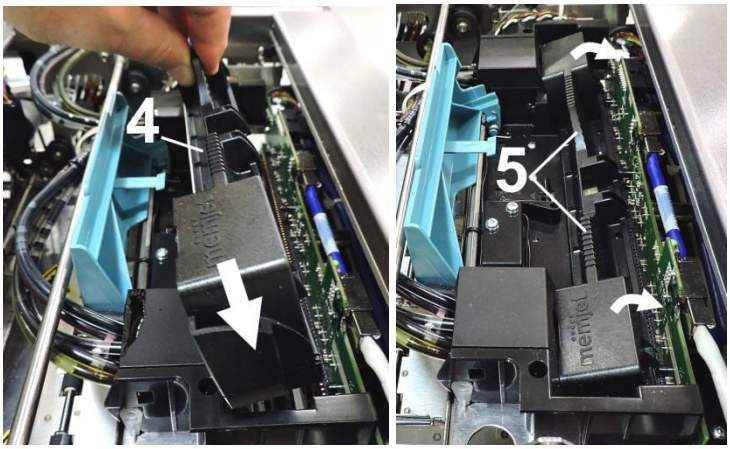



**DO NOT allow removed strip to touch Printhead Nozzles.**



3. Carefully insert Cartridge into compartment at an angle **[4]**, with Printhead surface facing down and Ink Nozzles facing Ink Hoses. Once seated, gently tilt the printhead back until it snaps into an upright position **[5]**.

   **DO NOT FORCE printhead into position.**

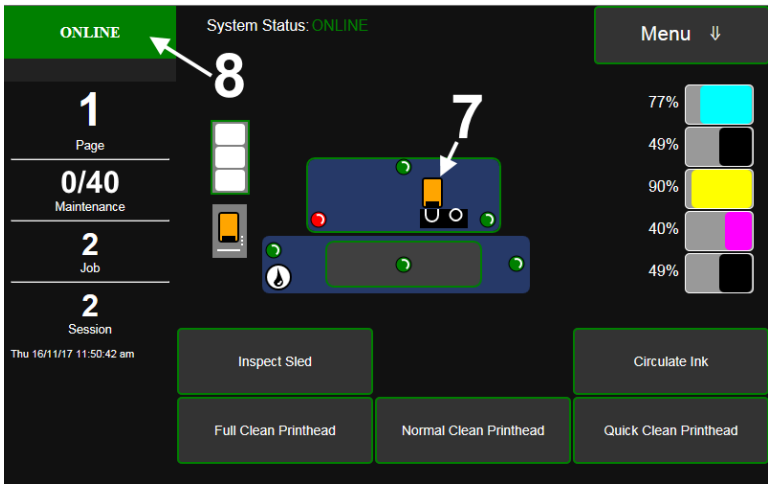


4. **Close Printhead Latch [6] and Top Door**. Printer starts up and primes ink into Printhead (*this may take a few minutes*). Make sure ink is flowing through hoses.

5. Confirm the missing printhead message is cleared from the touchscreen Status area. Select **Clear Error** if an Ink Cartridge error message appears

6. **Watch the Control Panel Touchscreen.** 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 this does not clear up the issue, 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.**

## *Connect Printer to External Device*

**WARNING!**

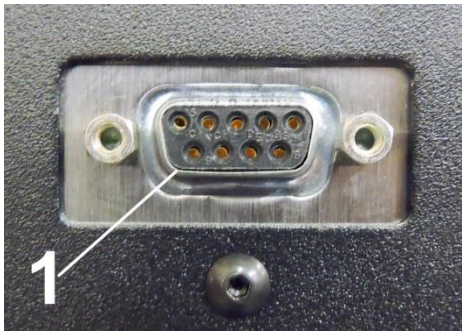
**HAZARDOUS MOVING PARTS!
KEEP FINGERS AND OTHER BODY PARTS AWAY!**

**CAUTION**

**MAKE SURE THAT PRINTER IS TURNED OFF
BEFORE CONNECTING EXTERNAL DEVICE.**

**Connecting to External Device (Winder, Laminator, etc.):**

Connect one end of the interconnect cable into 9-pin connector port on Printer **[1]** (*located just below USB port*).




## *Align External Devices to Printer*

Use the included plates to align the ColorMaxLP2 with the Unwinder and Rewinder.

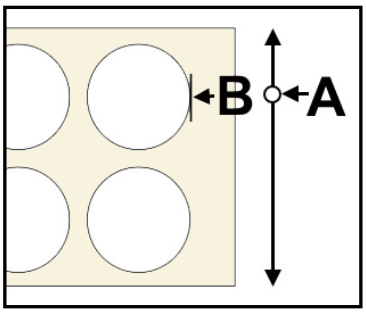
The plates should be positioned so the feet of the printer are seated in the plate holes.

The label path must be straight to ensure consistent results.

## Load Media

**Setting the Adjustable Media Sensor.**

For irregular-shaped media (*such as a circle*), loosen Sensor Reflector knob. Slide the Sensor Reflector along track so the straight edge of the Sensor **[A]** aligns with the leading tip of the media **[B]**. Tighten the knob to lock the Sensor Reflector in place.



# SECTION 3 – *Operating Printer*

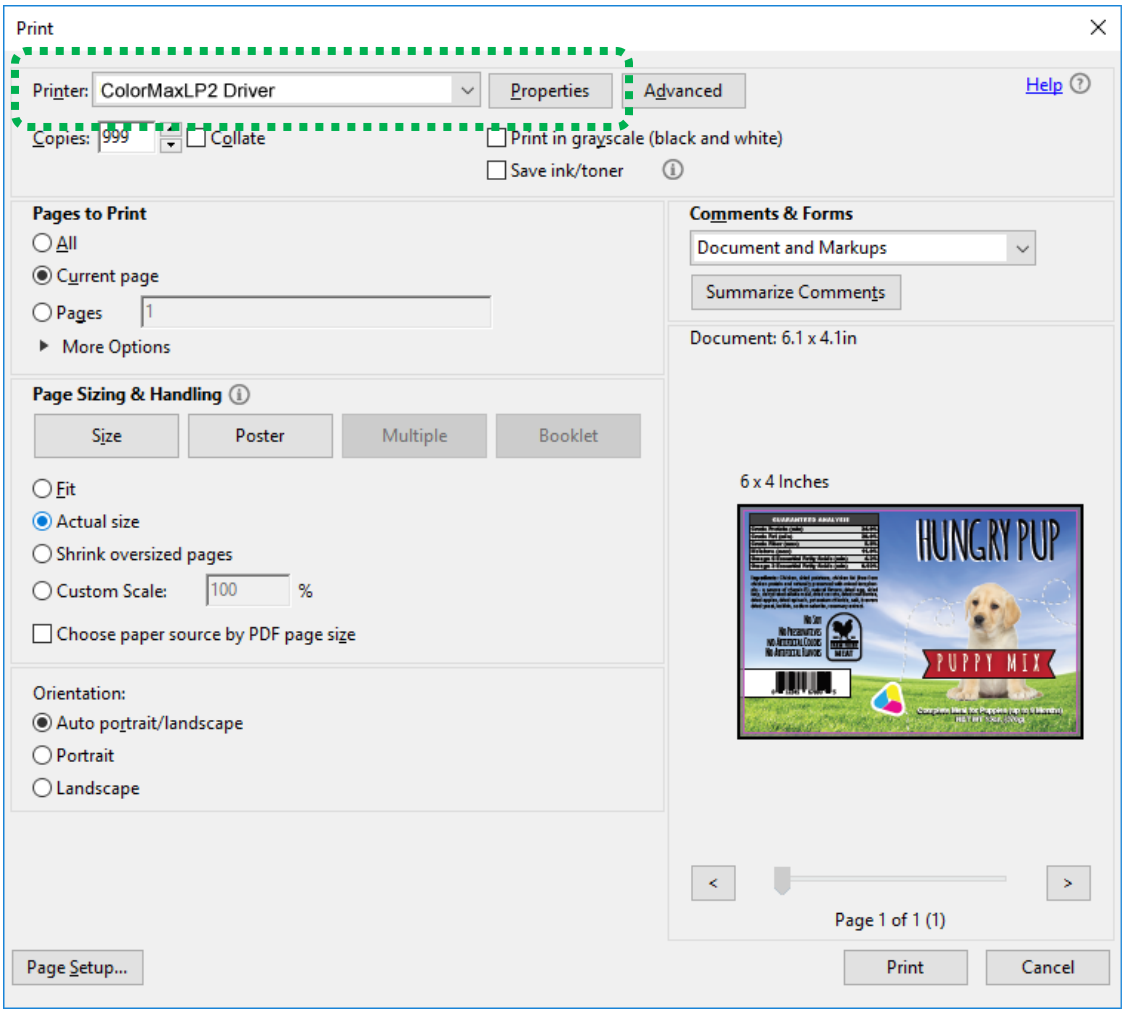
Once the Printer Driver is installed and the Printhead is primed, you are ready to start printing. Set up your job and send it to the Printer. The Printer will start and print.

Set the **Printer Driver** installed in Section 2 as the default driver. It is then accessible through your applications (*such as Adobe Reader*). Other types of applications and database management software will work in a similar manner when using this Driver.

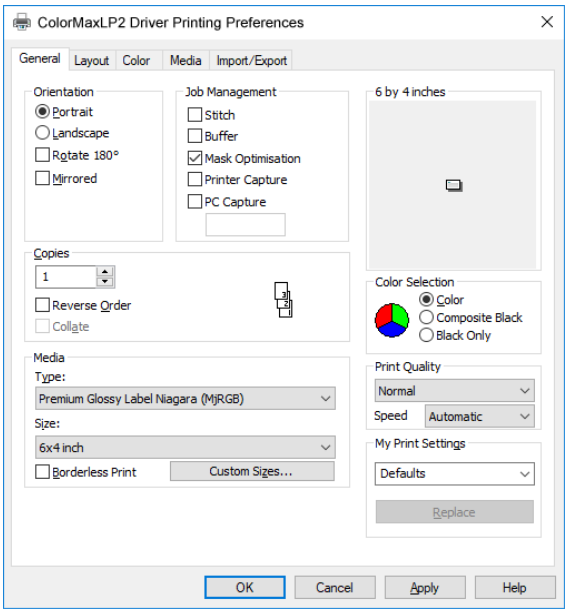
## *Printer Driver Properties*

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

**Windows 8, 8.1, and 10:** Once job is set up, click **File**, then **Print**. Window at right opens. Make sure the ColorMaxLP2 **Driver** is the selected Printer. Click **Properties** to open the **"General" Tab** window.



## General Tab




**General** tab lets you select:

- **Orientation** – Set print direction as Portrait (*default*), Landscape, Rotate 180° and Mirrored.
- **Job Management** – **Stitch** is for printing on continuous media (*no gaps*).

  **Buffer** loads 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 (r*emember to check box when changing applications*).

  **Printer Capture** – When selected, the Printer stores the print job in the Printer Job Library after the job is printed. Use the **Reprint** button on the printer touchscreen to access the Job Library.

  **PC Capture** – When selected, 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. **Reverse Order:** When box is checked, the job will start printing from the last page of a document and end on the first page.

  **Collate:** When printing multiple copies of multi-page documents, checking the box allows all pages of the document to be printed in proper order before printing the next copy.

- **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.

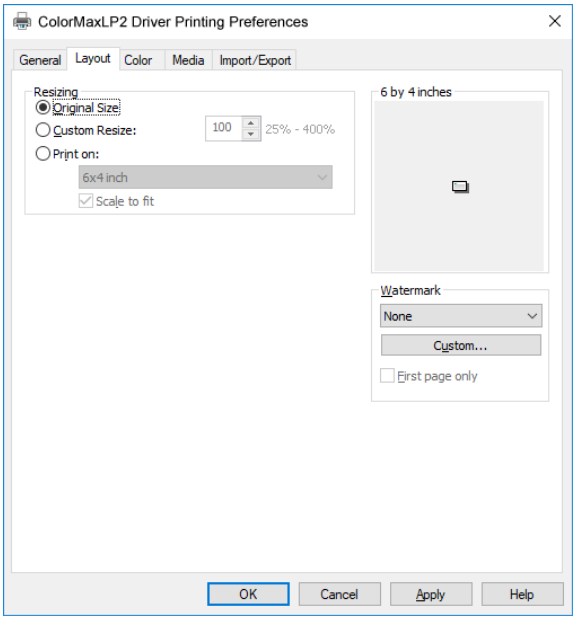
  **Borderless Printing:** Checking this box allows printing to edge of media (*borderless*).

  See "**Appendix C – Borderless Printing: Borderless Print vs. Oversize**" on page 74.

- **Custom Size** lets you 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 the document prints without changing the 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 a particular size of paper to print on regardless of size of original document. Checking **"Scale to Fit"** automatically resizes document to fit on new page size.

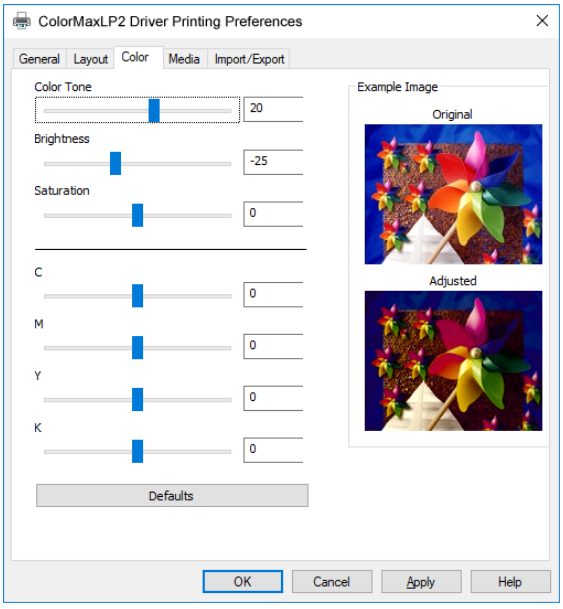
- **Watermark** – Prints a light background watermark in paper while printing original document. When selected, **"First page only"** option prints watermark on first page, but not subsequent pages, unchecking prints watermark on all pages. **Custom** button lets you create a new watermark or edit an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

## Color Tab

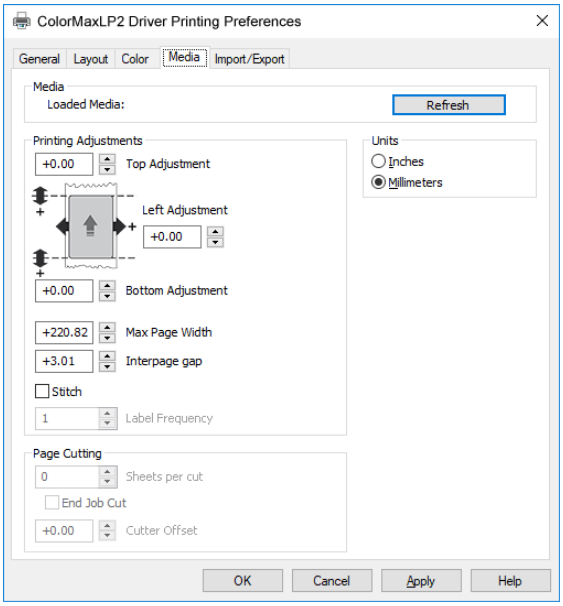
**Color** is used to adjust the color output of the Printer.

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.



## Media Tab




**Media Tab** shows the the type of media the Printer is configured to run and allows minor changes to the positioning and cutting of the media.

- **Media** – Displays the type of media currently selected for the Printer. Press **Refresh** to update the display.
- **Printing Adjustments** – (*Top, Left and Bottom Adjustments plus Max Page Width and Interpage Gap.*) Make minor positioning changes to the print area in relation to the media if needed.

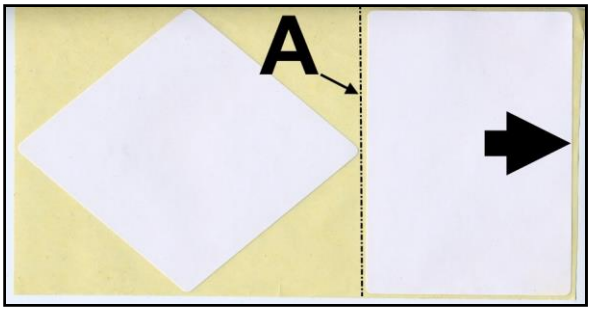
  **NOTE: Printing Adjustments only works when Print Area is less than full print width (*less than 8.5"/215.9mm wide*). See "Using Media Tab Printing Adjustments" on next page.**

  **Stitch** – When selected, prints the entire document as a single page (*no gaps*).

**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"**



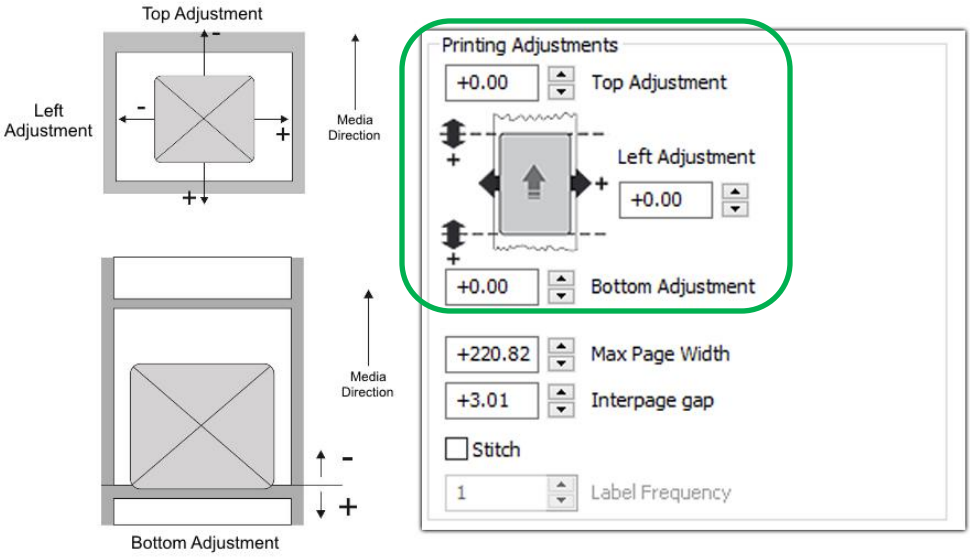

- **Page Cutting – Sheets per Cut:** Set the number of labels (*sheets*) between cuts. **Example:** 1 = cut after every label. 5 = cut after every fifth label. **NOTE:** Since **End of Job Cut** will also be active, last cut may have fewer labels than set **Pages per Cut** number depending on total number 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.*)

  **End Job Cut:** When checked, cuts the end of the media after the job finishes printing.

  **Cutter Offset:** Allows fine tuning of the cut line position after making image positioning adjustments.

- **Units –** Set measurements to be in Inches or Millimeters.

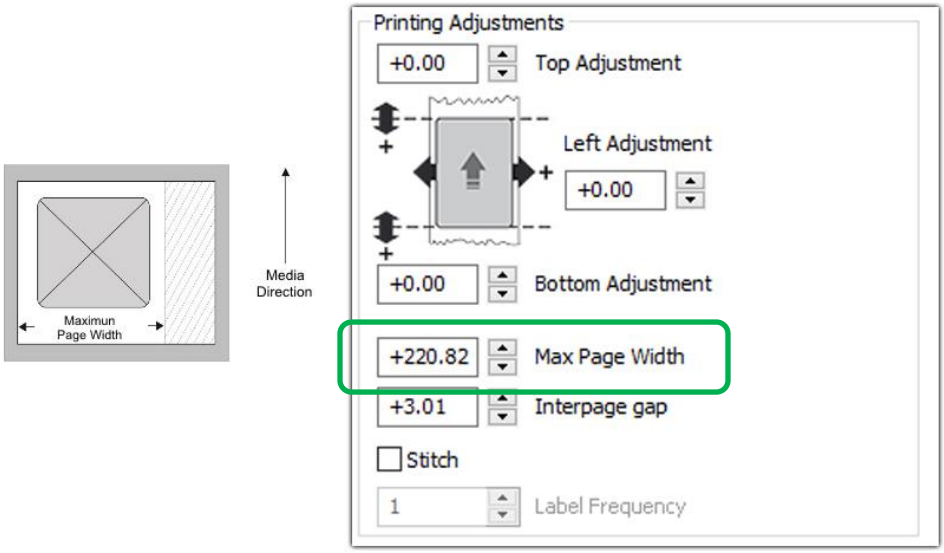
## Using Media Tab Printing Adjustments




**Top Adjustment/Top of Form (TOF) –** Moves image up or down (*-5mm up to +200mm down*) from top left corner of media used.

**Left Adjustment** moves image area away (*-3mm left to +200mm right*) from left edge of media. (*0.1mm increments*)

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




**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).**

**Interpage Gap –** Sets a gap between labels (*pages*) when using continuous media. **NOTE: Minimum gap (*default*) is 3mm**.

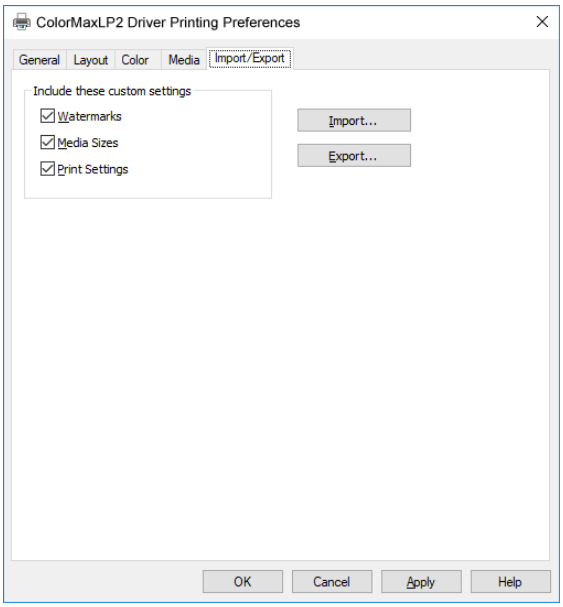
## Import/Export Tab

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

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

**IMPORTANT!**

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



## *Using Printer Touchscreen*

Once the Printer Driver is installed, and the Printer is turned ON, you can use the **Printer's Touchscreen**. You can check Printer status, monitor ink usage, perform diagnostic checks, print reports and run maintenance tasks on the Printer from the Touchscreen. **NOTE:** These functions and more can also be operated remotely from a computer using the **Printer Toolbox**. See **"Using Printer Toolbox"** on page 38.

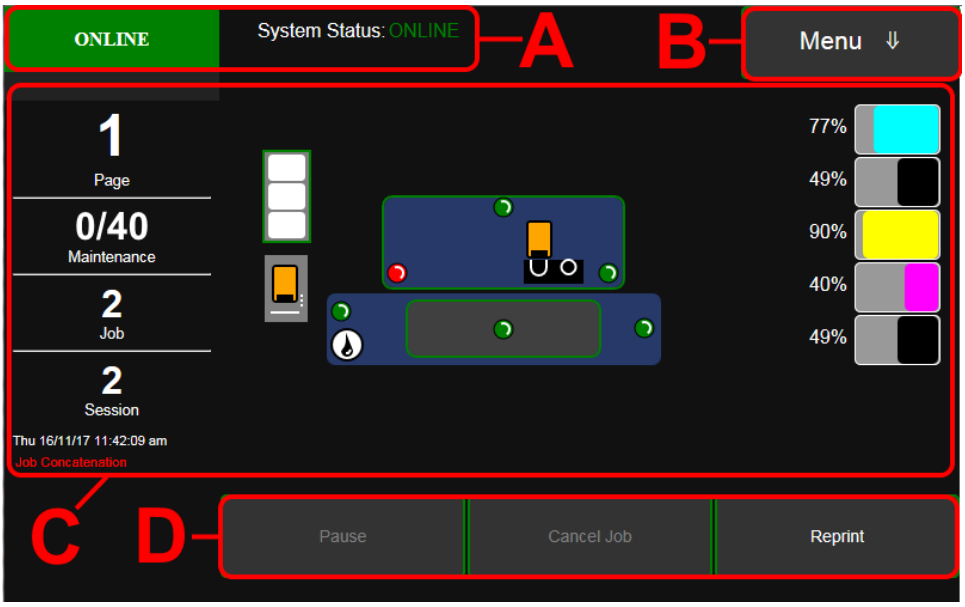
Tap the screen to view the **Printer Touchscreen.**

**[A]** System Status Indicator (*at top of screen*)

**[B]** Drop-Down Menu Options (*at top of screen*)

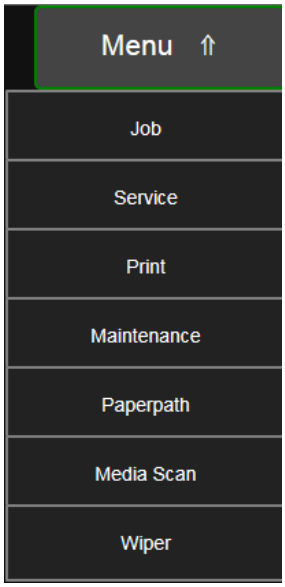
**[C]** Check Printer Status (*across middle of screen*)

**[D]** Three often-used control buttons (*at bottom of screen*)



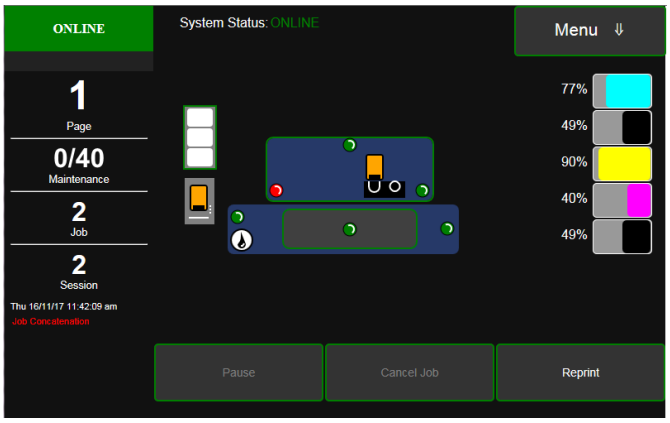

### Drop-Down Menu Options

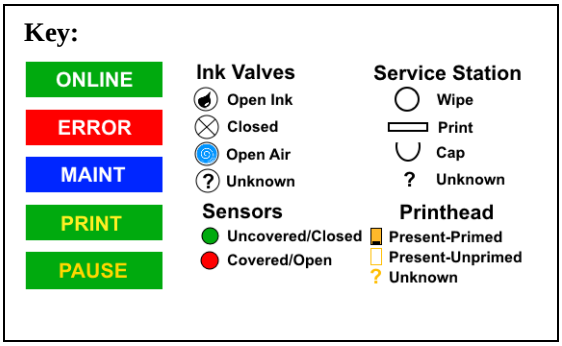
The **Menu** drop-down gives you seven selections: **Job, Service, Print, Maintenance, Paperpath, Media Scan** and **Wiper.**



## Job (Status Screen)

The opening screen provides information about the status of the Printer.




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

**System Status** displays current status of Printer and/or error message.

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

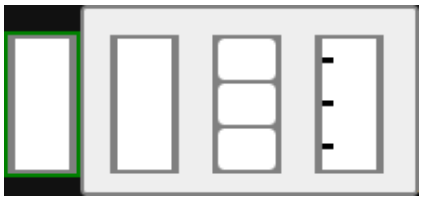
**Maintenance** counts down from a specified preset length of printed media until the next automatic Printhead maintenance is performed by the Service Station. **NOTE:** Select the length by opening the Printer Toolbox **User Interface** screen, **Mid-Job Servicing**. In this example, service is performed every 40 meters (131-ft.).

**Job** shows number of jobs printed (*resettable*).

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

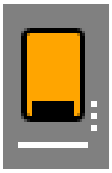
**Date and Time** shows current date and time. These can be configured and set by opening the **Service** screen, then **Network Config**, then **Date and Time**.

**Printer Messages** may appear under **Date and Time.**

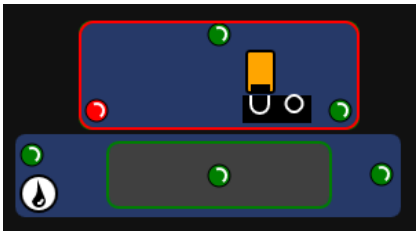


**Media Icon:** Displays the type of media the Printer is currently configured for – **Continuous, Diecut** or **Black Mark**. Set the type of media by tapping the icon and selecting the appropriate media type or using the **Media Scan** function after selecting **Service** from the **Menu** dropdown.

**Printhead Height Icon:** Shows current Printhead printing height setting (*3 dots = Low, Normal, High settings;* Set in Toolbox **User Interface** screen, **Print Height**)

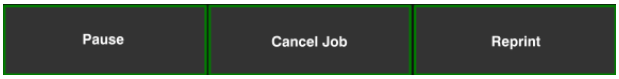


**Printer Icon:** Shows status of Media Sensors located in the media feed path of the Printer. Also shows status of Ink Valves, Service Station, and Printhead. These can alert the operator to the type and location of a problem (*see icon key above*). Tapping any of the status icons pops up a description of that icon.



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

**CONTROL BUTTONS** (*located along the bottom of the screen*): Provide quick access to often-used functions.




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

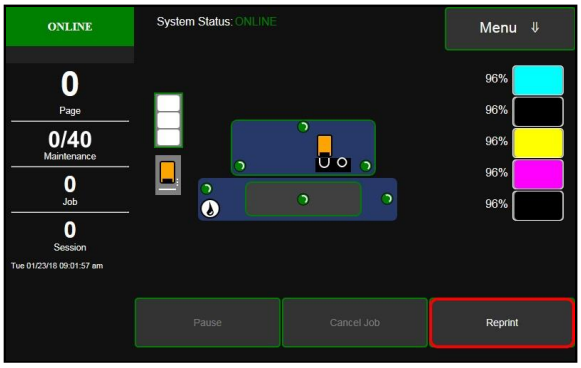
**Cancel Job:** Cancels a job from the printing queue.

**NOTE: Cancelled jobs must be reloaded before printing can resume.**

**Reprint:** Opens the Printer's Job Library to access print jobs saved in the Printer's memory. You can also make changes to the job specifications and delete jobs as needed.

## Using Reprint (Print Job Library)

Print jobs can be saved to the Printer's **Job Library** by selecting the **Printer Capture** option under **Job Management** on the **General Tab** of the **Printer Driver**. You can access jobs saved in the Printer's **Job Library** using the **Reprint** button on the **Jobs Screen**. **NOTE: If no jobs are saved on the Printer, this button will be inactive.**




To view the Printer's **Job Library**, press **Reprint** on the **Jobs** Touchscreen. The **Jobs Library** opens.

Use the **View** button **[A]** to toggle the Library view between Thumbnail and List.

Use the **Search** icon **[B]** to search for a particular print job.

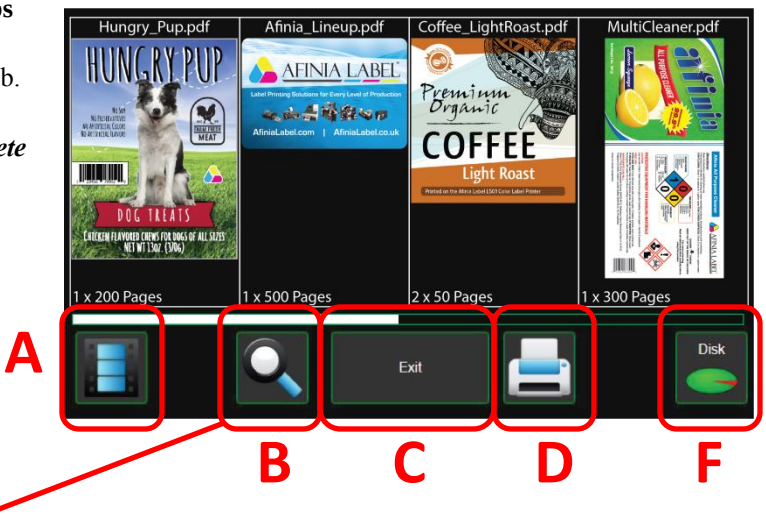
The **Exit** button **[C]** returns you to the **Jobs** (*Status*) screen.

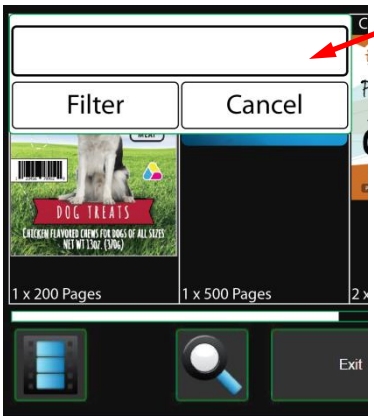
The **Printer** icon **[D]** prints the selected job.

The **Trashcan** icon **[E]** (*List view only*) deletes selected job(s) (*checked in the **Delete** column in the Jobs List*) from the Library.

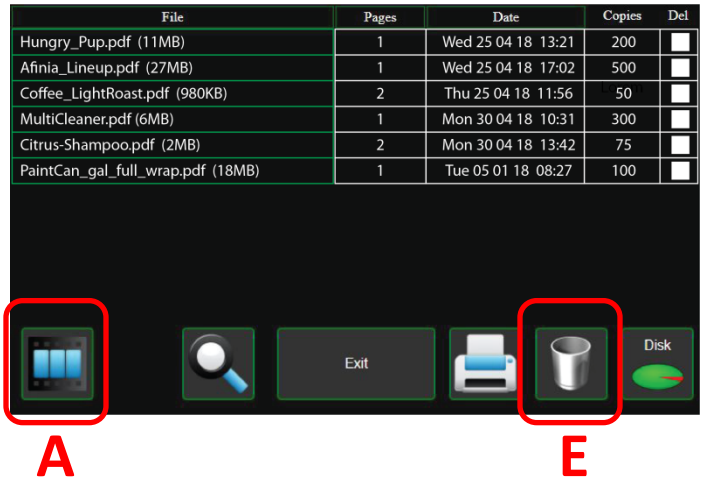
The **Disk** icon **[F]** displays the available space left in the Printer's Job Library memory.

**Thumbnail View**



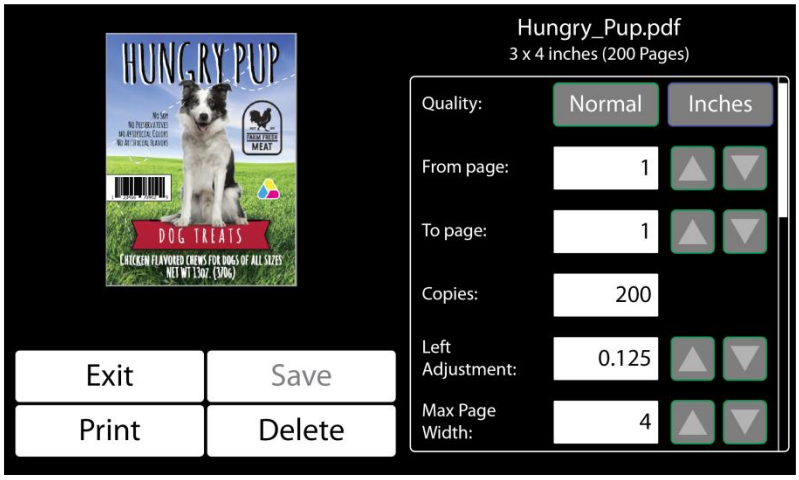

**List View**



Select a job by tapping the job icon or the list name. The **Job Print Options** screen opens.

The (4) **Control** buttons let you **Exit**, **Print**, **Save** or **Delete** the print job. The **Save** button saves any changes you make to the job specifications in the **Print Options** on the right side of the screen. If you do not tap **Save**, the print job reverts to its original settings when you **Exit**.

The **Print Options** allow you to change or adjust print specifications for the print job. Scroll down the screen to access all options.




**Quality** – Tap the button to select **Normal** or **Best**. **Normal** is 1600 x 800 dpi. **Best** setting is 1600 x 1600 dpi.

**mm** or **inches** – Tap the button to change measurements to millimeters or inches.

**From page** and **To page** – Select the first and last pages of a job (*or part of a job*) to print using the Up or Down arrows.

**Copies** – Enter the number of copies to be printed.

**Left Adjustment** – Moves the image area away (*-3mm left to +200mm right*) from the left edge of the media. (*Up or down arrows move in 0.1mm increments*)

**Max. Page Width** – Sets the width of the actual print area. (*Up or Down arrows move in 0.1mm increments*) This shuts off nozzles in the 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)**

***SCROLL DOWN USING THE BAR ON THE RIGHT TO SEE MORE SETTINGS***

**Top Adjustment** – Moves Top of Form (TOF) image up or down (*-5mm up to +200mm down*) from top left corner of media used.

**Bottom Adjustment** – Extends Bottom of Form (BOF) (*in 0.1mm increments*) to allow printing over the edge of a label (*full bleed label printing*).

**Interpage Gap –** Sets a gap between labels (*pages*) when using continuous media. **NOTE: Minimum gap (*default*) is 3mm**.

**End Job Cut –** When checked, cuts the end of the media after the job finishes printing.

**Sheets Per Cut –** Set the number of labels (*sheets*) 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.*)

**Normal Speed –** Adjust the Printer speed for the **Normal Quality** setting and for the media being used (*i.e., slow the printing speed for higher quality on glossy stock*).

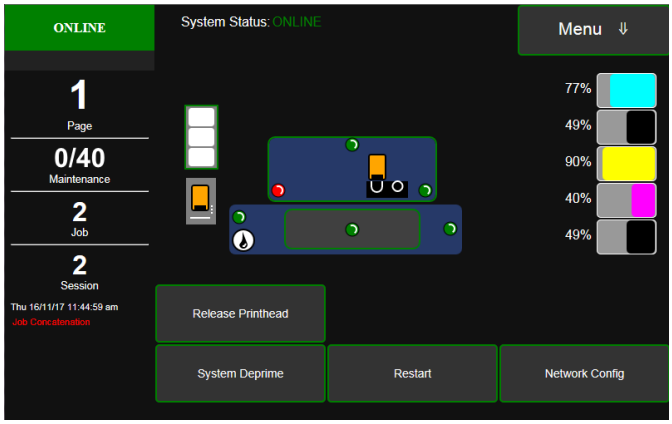
**Best Speed --** Adjust the Printer speed for the **Best Quality** setting and the media being used (*i.e., slow the printing speed for higher quality on glossy stock*).

**Cutter Offset –** Allows fine tuning of the cut line position after making image positioning adjustments.

**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**.

## Service Screen

Tap the **Menu button**, then **Service** button to open the **Service** screen.

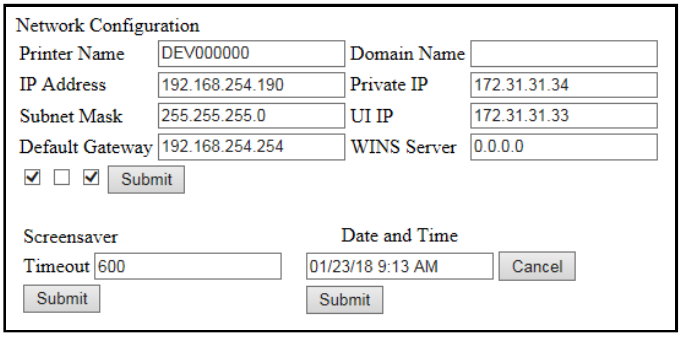



**Release Printhead** – Pumps ink back into Ink Tanks and opens Printhead Latch to remove or install Printhead.

**NOTE: Button is only active if the system is deprimed first.**

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

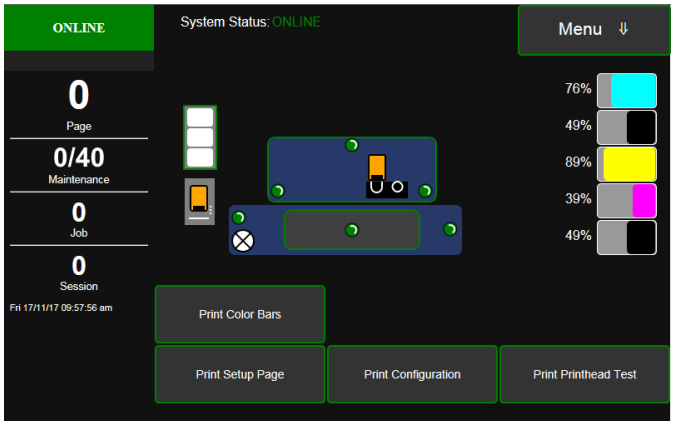
**Network Config** button. Click to view, enter or change settings to connect the Printer to your network. You can also set the **Screensaver Timeout** (*sleep delay*) and **Printer Date and Time** (*see* ***System Settings*** *in* ***Using Printer Toolbox*** *on page* ***46***).




**Restart** – Restarts the Printer without having to perform the normal shutdown routine.

## Print Screen

Tapping **Menu**, then **Print** opens the **Print** screen options for printing different reports.




**NOTE: 8.5" wide continuous stock required for these four prints.**

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

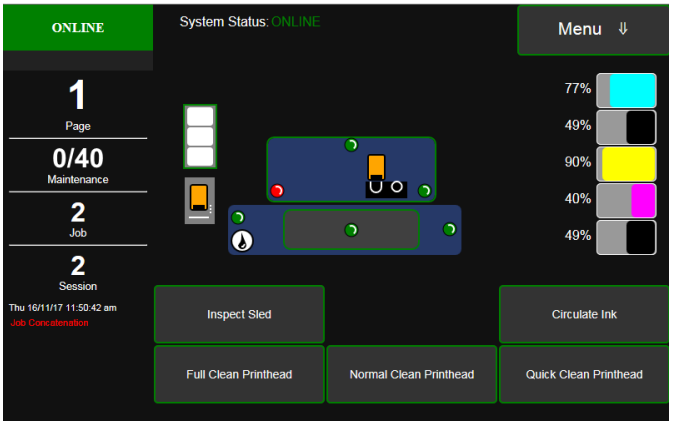
**Print Setup page** – Prints a printing pattern used for positioning image on the page.

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

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

**NOTE: Uses less ink than Print Color Bars.**

## Maintenance Screen




Tapping **Menu**, then **Maintenance** opens the **Maintenance** screen. These buttons operate functions for Printer and Printhead maintenance.

**Inspect Sled** – Moves Service Station out from under the Printhead Assembly for inspection, cleaning or service.

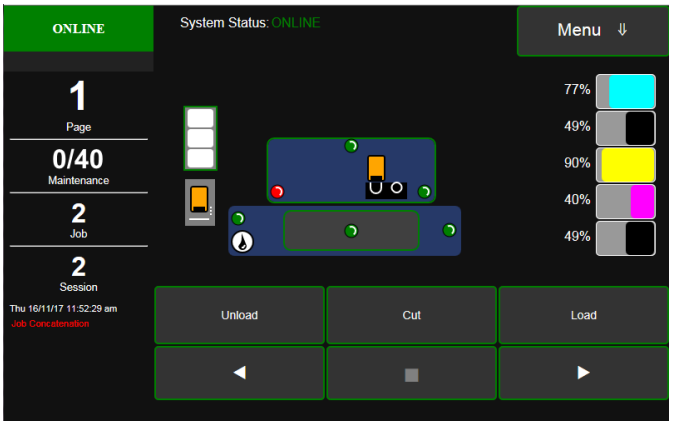
**Circulate Ink** – Purges air from ink lines and primes system after replacing the Ink Tanks or the Printhead.

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

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

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

## Paperpath Screen




Tapping **Menu**, then **Paperpath** opens the **Paperpath** screen. These buttons are used to move media through the Printer when loading or unloading the Printer.

**Unload** – Rewinds the media back onto the Unwinder and into the Start position on the Printer.

**NOTE: For Diecut and Black Mark media, Unload will rewind stock one label at a time; may need to press Unload more than once.**

**Cut** – Tap to cut the roll. The **Cut** button may change to **Cut Position** – In this instance, pressing the button advances the last printed label past the Cutter, then roll is cut and the media retracts to the Start position.

**Load** – Moves the media from the Unwinder and into the Start position.

**Reverse Arrow** – Moves media back onto the Unwinder. Pressing once moves media at slow speed, pressing again moves media at faster speed.

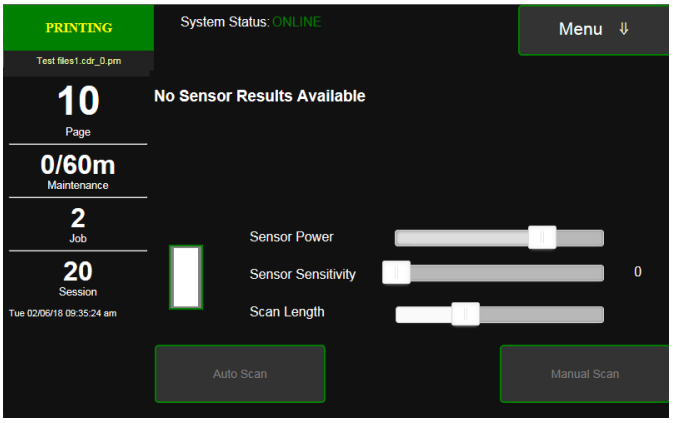
**Stop** – Stops the media from either advancing or rewinding.

**Forward Arrow** – Moves media forward through the Printer and onto the Winder. Pressing once moves media at slow speed, pressing again moves media at faster speed.

## Media Scan Screen

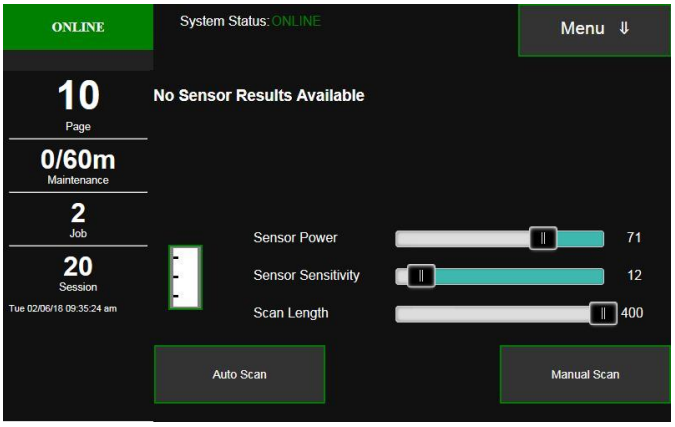
Tapping **Menu**, then **Media Scan** opens the **Media Scan** screen.

Use **Media Scan** to fine tune sensor sensitivity and/or adjust scan length if media is not printing correctly, or to determine if a type of media is going to have problems printing. This is generally due to the sensors having trouble differentiating between the label surface and backing/gap. (*See **Using Media Scan** below).*




## Using Media Scan

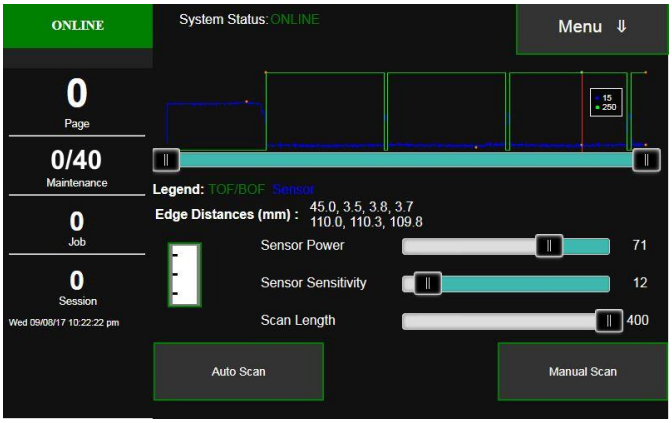
1. Tap **Menu**, then **Media Scan**. **Media Scan** screen opens.
2. Tap the **Label Icon** to select the type of label being used (*diecut or black mark*).
3. Set the **Scan Length** bar slider (*set in mm in this example*) so the length would include at least 4 or 5 labels.
4. Load media in the Printer.

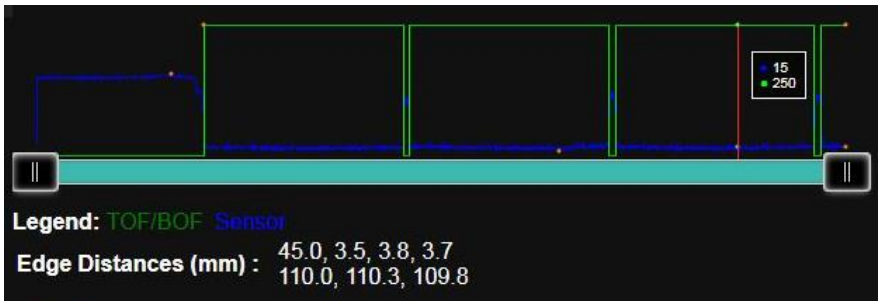



5. Tap **Auto Scan**. The Printer will feed media in both directions a few times.

   When the scan is complete, the Touchscreen will show the best Sensor Power determined by the scan and display a graph of the scan, with results marked **Legend** and **Edge Distances**.

   The **graph** shows the difference between the high points (*gaps/backing*) and flats (*label media*). If there is little difference between the highs and the flats, the Printer may have trouble differentiating the labels from the gaps.






**Legend** explains what the graph is showing. **Media** (*TOF/BOF-Green line*) and **Sensor** (*Sensor-Blue line*).

**Edge Distances:**

- **Top line** shows the average gap distance reading.
- **Bottom line** shows the length of the label reading.

**This example** uses a 1/8" (3.5mm) black mark or gap with a 4" (101.6mm) long label.

6. If the scan doesn't return any results, manually increase the Sensor Power by small increments and press **Auto Scan** again. You can continue to make adjustments and rescan until the readings closely match the desired media gap and length.

7. **Manual Scan** is an advanced user method, with the Sensor Power being set by the end user to make fine adjustments to the sensors. Unlike Auto Scan, Manual Scan will not change the Sensor Power based on the scans of the label stock. Setting ranges are:

   **Sensor Power: 0** to **100**

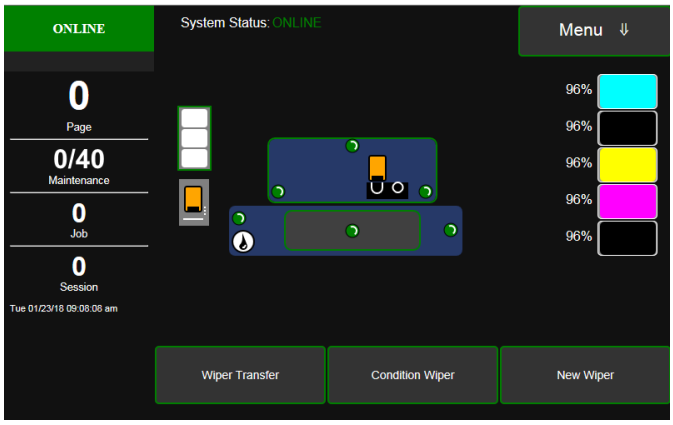
   **Sensor Sensitivity: 0** to **100**

   **Scan Length: 0** to **400mm**

   Change the **Sensor Power** and **Sensitivity** by very small increments.

   **NOTE: Media Scan** is also available in the **Toolbox** on the computer. (*See **Media Scan** in **Using the Toolbox** on page 47*).

## Wiper Screen




Tapping **Menu**, then **Wiper** opens the **Wiper** options screen. Selections are **Wiper Transfer**, **Condition Wiper** and **New Wiper**.

**Wiper Transfer** – Manually initiates a Wiper Transfer instead of waiting for a Transfer to automatically occur during normal operating cycles. Squeegees excess ink off of the Service Station Wiper Roller.

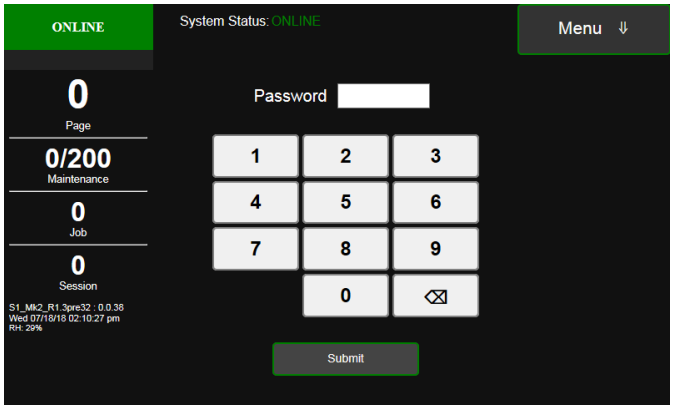
**Condition Wiper** – Re-saturates, conditions, and cleans the Wiper Roller with ink to remove dried residue if the Printer has been left inactive for long periods of time.

**New Wiper** – Initiates a **System Deprime**. Moves Service Station out to remove and replace the Service Station Wiper Roller. Once the new Wiper is installed, the Printer primes the system with ink and conditions the Wiper to optimal operating condition.

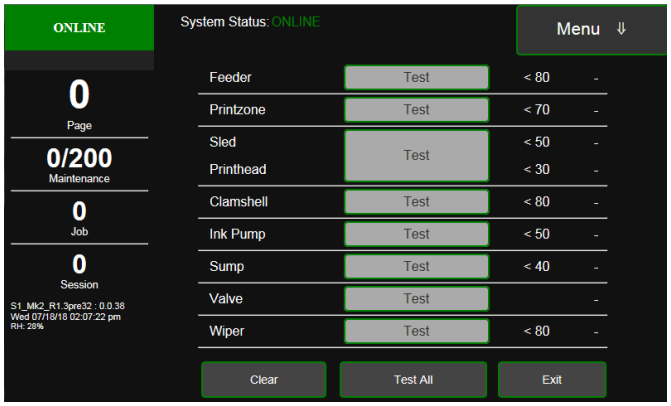
1. Printer runs a **System Deprime**
2. Replace Wiper Roller or Wiper Module
3. **Finish button:** System primes with ink and **Condition Wiper** runs

## System Test

**NOTE: These tests should only be performed by authorized service personnel.**




1. **System Test** allows testing individual or all Printer systems listed to check that they are operating within specifications. It also allows service people to check the Printer after servicing or replacing parts, particularly belts.
2. Tap **Menu**, then **System Test** to open the **Password** screen. Enter the password and tap **"Submit"** to open the **System Test** screen.
3. **NOTE: Prior to running the System Test make sure no media is loaded in the Printer and there are no obstructions in the media path.**

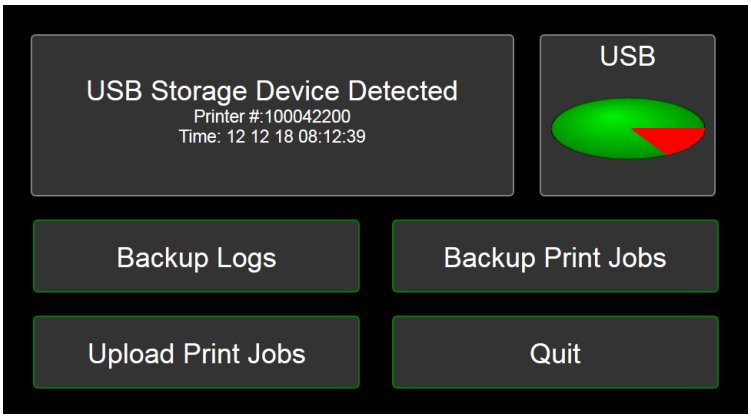


## *Using the USB Back-Up Port*

The USB Back-up Port can be used to back stored print jobs, upload print jobs directly to the Printer, or backup any debug logs currently on the Printer.

When a FAT 32 formatted USB Flash Drive is plugged into the USB port **[A]** located on left side of the Touchscreen Control Panel, the **USB Backup** screen opens:

| IMPORTANT |
| --- |
| **CONNECT ONLY A FAT32 FORMATTED FLASH DRIVE WITH THE PRINTER.** |




**USB Storage Device Detected**. Lists the Printer you are connected to, date and time.

**USB:** Graph shows the amount of usable memory left on the USB Flash Drive plugged into the Printer.

**Backup Logs:** Backs up all of the **Debug Log** files currently on the Printer.

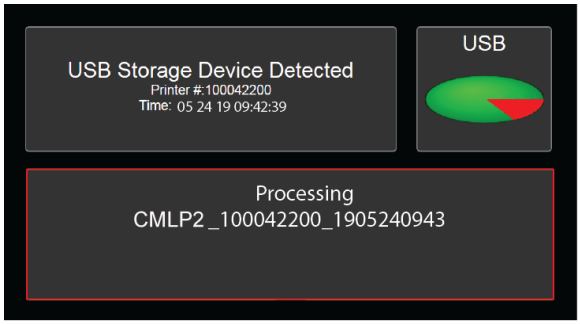
**Backup Print Jobs:** Backs up all of the **Print Jobs** saved in the Printer's **Print Job Library**.

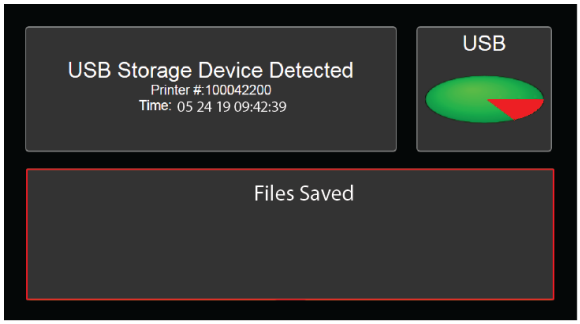
**Upload Print Jobs:** Allows you to copy/transfer print jobs from other Printers and sources to this Printer.

**Quit:** Press to exit the backup screen and safely eject the USB Flash Drive.

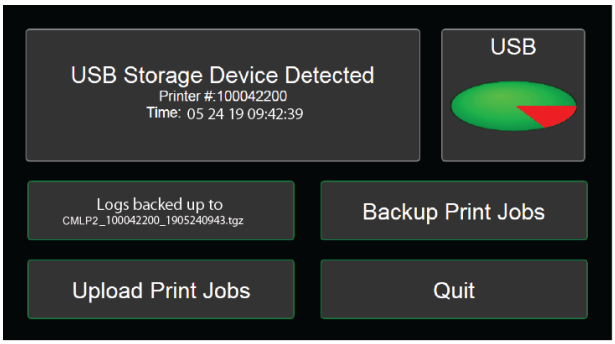
## Backup Logs

Touch the **Backup Logs** button to copy all current log files from the printer. The screens below will appear




All available system and operations logs will be saved to two files using a compressed file format (.tgz) The file names will include the printer model (CMLP2), the printer Serial Number (100042200, in this example), a date stamp (YYMMDD), and a timestamp (HHMMSS) based on when the logs were backed up. The Backup Logs button will show that the files were saved and what the file names are.

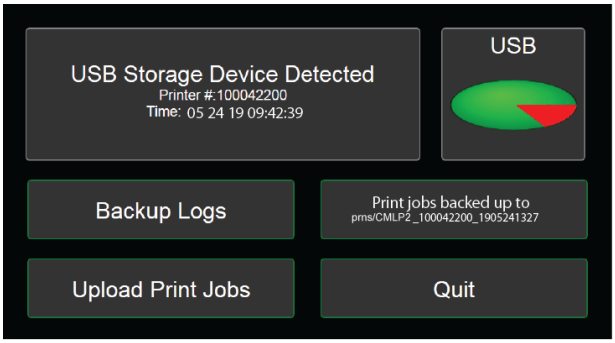



## Backup Print Jobs

Touch the **Backup Print Jobs** button to make backup copies of all stored jobs on the printer. The Processing and Files Saved messages will appear and the Backup button will show the location of the files on the USB drive.

The files will be saved to the **prns\{*name displayed*}** folder on the root of the USB drive as .prn files with the same name as the saved print job. It will also save the named thumbnail images in **prns\{*name displayed*}\thumbs**.

While these files can be moved from one CMLP2 to another, they are formatted for printing only from the CMLP2 saved jobs library.




## Upload Print Jobs

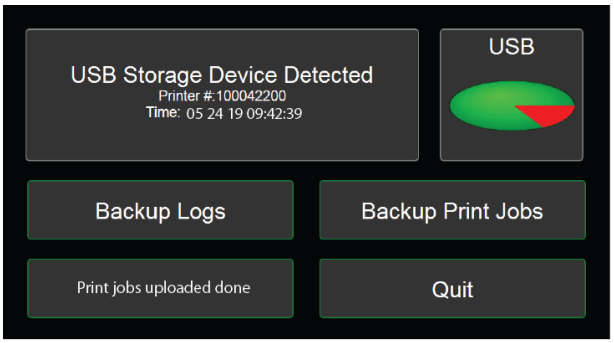
You can restore or upload backed up print jobs back to the CMLP2 using the **Upload Print Jobs** button.

If you have more than one backup set on the USB drive, you can pick which backup set to upload.

The Processing and Files Saved messages will appear and the Upload button will indicate that the upload is complete.

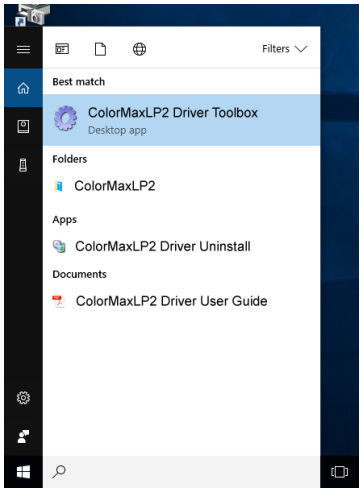
If you have print jobs on the printer with the same names as those in the backup, those print jobs on the printer will be overwritten with the jobs from the USB drive.

Print jobs on the printer that don't match the names of the backed up jobs will not be affected. They will still be on the printer after the upload.



# *Using Printer Toolbox*

Once Printer Driver is installed, you can access the **Printer Toolbox** remotely from a computer. You can check Printer status, monitor ink usage, perform diagnostic checks, print reports and run maintenance tasks on Printer from your computer. The **Toolbox** also has a more extensive list of functions not available on the **Touchscreen** and a password protected access to a range of options for qualified service personnel. For **Touchscreen** functions, see **"Using Printer Touchscreen"** preceding this section. **The Toolbox works with both conventional and touchscreen computer monitors.**




**To open the Printer Toolbox (*from a computer*):**

Enter for "ColorMaxLP2 **Driver Toolbox**" in the Program Search Window.

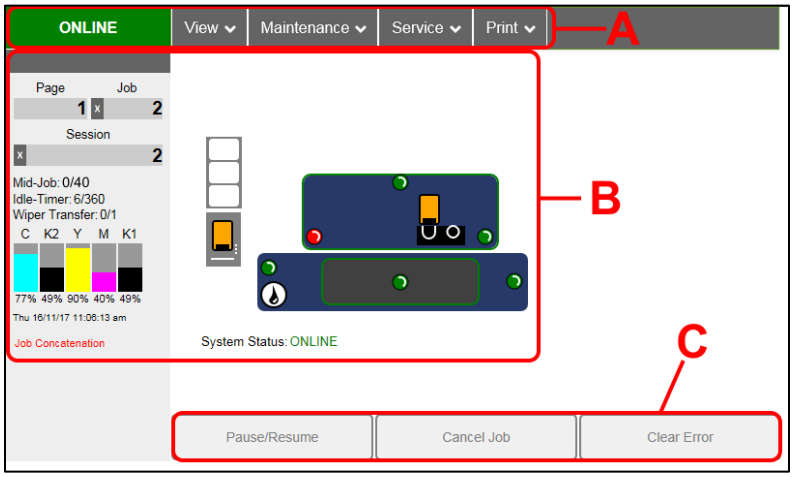
For Windows 7, click **Start Button**, select ColorMaxLP2 **Label** folder, select **ColorMaxLP2 Driver**, the select **Toolbox**

**NOTE: Conventional Screens:** Use your cursor. **Touchscreens:** Tap buttons or selections or use your cursor.

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

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

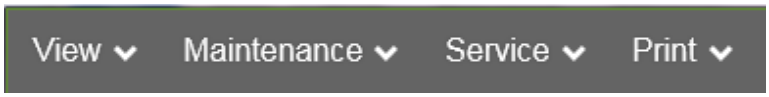
**[C]** Three often-used control buttons (*at bottom of screen*)




## Drop-Down Menu Options

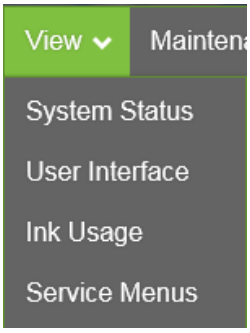
There are four **Drop-Down Menus**:

- **View**
- **Maintenance**
- **Service**



- **Print**.

The drop-down menus are available on every Toolbox screen allowing you to toggle between menus and select different Printer features and functions.



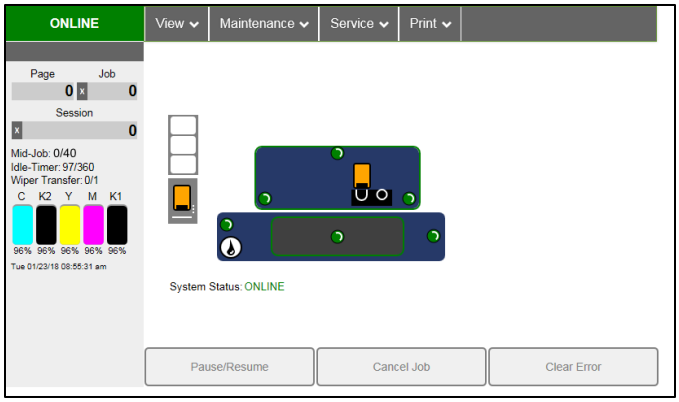

## View Drop-Down

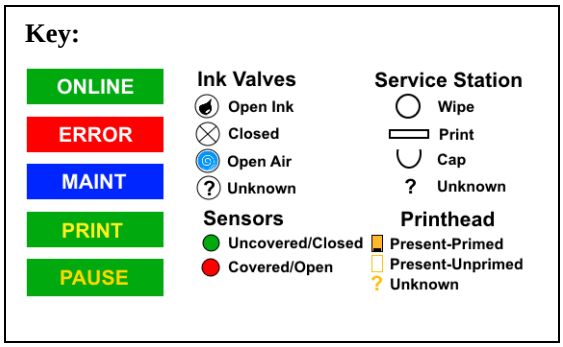
The **View** drop-down gives you four choices:

- **System Status**
- **User Interface**
- **Ink Usage**
- **Service Menus**

## System Status

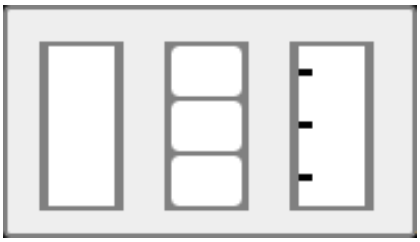
This screen opens when you access the Toolbox. It provides information about the Printer.



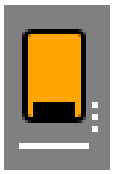




1. **Status Indicator** shows Printer activity as **ONLINE**, **ERROR**, **MAINTENANCE**, **PRINTING** or **PAUSED**. The gray box (*below Status Indicator*) shows the name of the job being processed.
2. **Page** shows the page count for a given job.
3. **Job** shows number of jobs printed (*resettable*)
4. **Session** shows the total number of pages printed (*resettable*) over the length of a Session (*shift, day, week, etc*).
5. **Mid-Job** counts down from a specified preset length of printed media until the next automatic Printhead maintenance is performed by the Service Station.

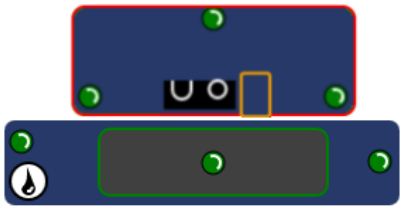
   **NOTE:** Select the length by opening the Printer Toolbox **User Interface** screen, **Mid-Job Servicing**. In this example, service is performed every 40 meters (131-ft.).
6. **Idle Timer** shows in minutes how often maintenance will run when Printer is not running. Minutes are set in the **User Interface** screen, **Idle Timeout (min)**.
7. **Wiper Transfer** shows how often a Wiper Transfer (*cleaning excess ink from the Service Station roller*) will be performed in relation to when Wipe Printhead or Printhead Cleaning is performed.
8. **Ink Levels** displays percentage of ink remaining in each of the Ink Tanks.
9. **Date and Time** shows current date and time. These can be configured and set by opening the **Service** dropdown screen, **System Settings**, **Date and Time**.



10. **Printer Messages** may appear under **Date and Time.**
11. **Media Icon:** Displays the type of media the Printer is currently configured for – **Continuous, Diecut** or **Black Mark**. Set the type of media by tapping the icon on the touchpanel and selecting the appropriate media type or using the **Media Scan** function after selecting **Service Menus** from the **View** dropdown.
12. **Printhead Height Icon:** Shows current Printhead printing height setting. (*3 dots = Low, Normal, High settings;* Set in **User Interface** screen, **Print Height**)



13. **Printer Icon:** Shows status of Media Sensors located in the media feed path of the Printer. Also shows status of Ink Valves, Service Station, Printhead and auxiliary devices (*such as Unwinders and Winders*). These can alert the operator to the type and location of a problem. (*See icon key above*.) Rolling over any of the status icons with your cursor pops up a description of that icon.



14. **System Status** displays current status of the Printer and/or an error message.

**CONTROL BUTTONS** (*located along bottom of screen*): Provide quick access to often-used functions.

| Pause/Resume | Cancel Job | Clear Error |
|---|---|---|

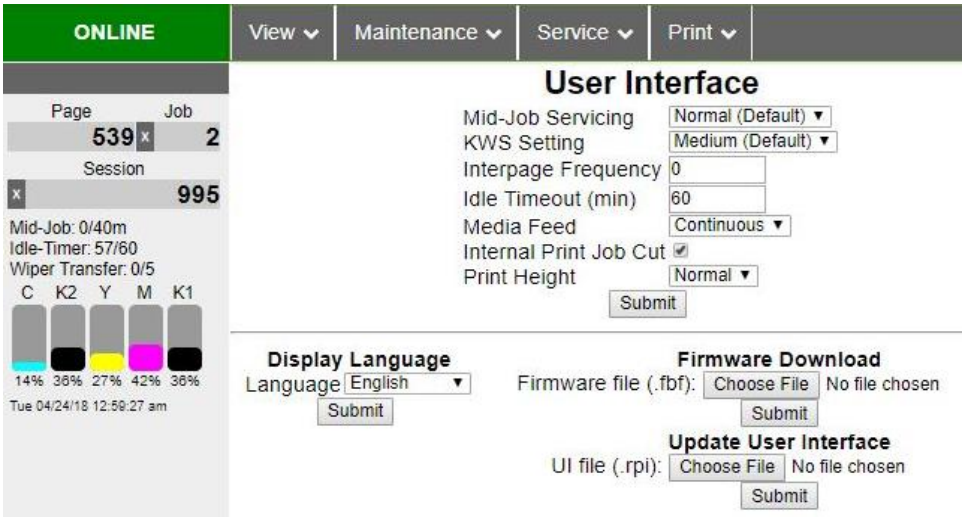
**Pause/Resume:** Tap to temporarily stop printing. Tap again to resume printing.

**Cancel Job:** Cancels a job from the printing queue.

**NOTE: Cancelled jobs must be reloaded before printing can resume.**

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

## User Interface




**SET-UP SETTINGS:**

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

**Mid-Job Servicing** – Sets how frequently an automatic maintenance cycle is performed by selecting the length of printed media (*in meters*) that is run between cycles.

**Minimum:** 60m/197-ft.

**Normal (*Default*):** 40m/131-ft.

**Maximum:** 15m /49.25-ft.

**NOTE: Mid-Job Servicing can only be set when the Printer is stopped or paused.**

**KWS Setting** – (*Keep Wet Spitting*) Keeps Printhead hydrated while running a job.

**Select from 4 settings:** None, Light, Medium (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.

**Interpage Frequency** – On roll-to-cut jobs, set when the Printer spits between labels (*to keep the Printhead nozzles hydrated and unclogged*). **For example:** 3 = after every 3rd label; 5 = after every 5th label, etc.

**Idle Timeout (min)** – Set in minutes how often idle maintenance will run when the Printer is not running.

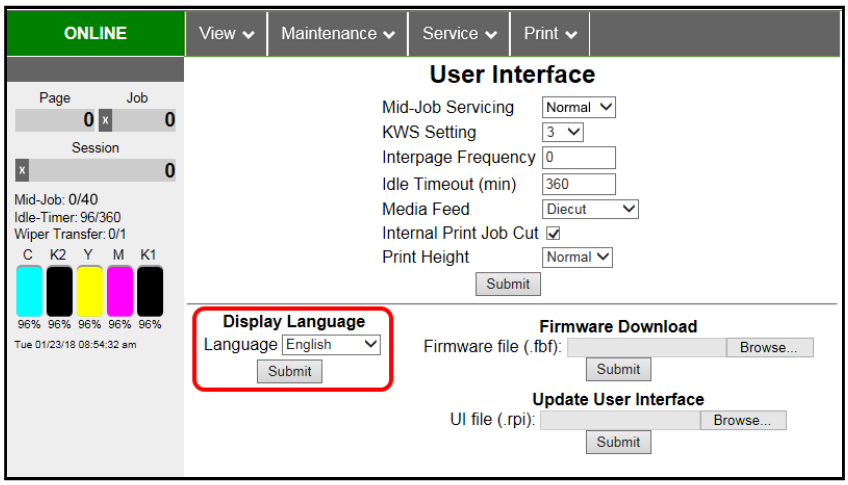
**Media Feed** – Sets the Printer Sensors to read the type of media and/or the gaps between media when you select **Continuous, Diecut or Blackmark**.

**Internal Print Job Cut** – Checking this box allows you to print and cut one of the reports or test pages listed in the **Print** dropdown menu.

**Print Height** – Set the height of the Printhead to adjust for printing on different media thicknesses. Select one of three settings: **High, Normal,** or **Low**. An indicator appears on the **Status** Toolbox screen and Touchscreen.

Click **"Submit"** to apply settings.

**DISPLAY LANGUAGE:** Selects language EWS (*Toolbox*) and Touchscreen will display. Click **"Submit"** after selecting language.

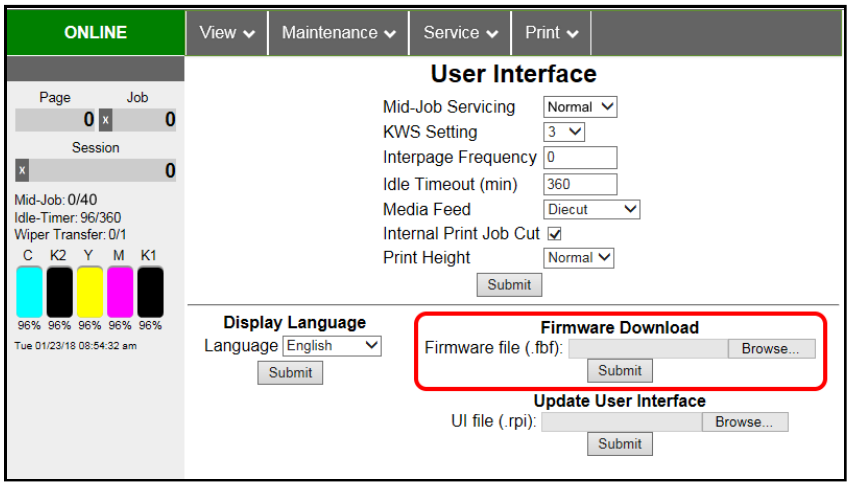



**FIRMWARE DOWNLOAD:** Get the latest version of firmware for your Printer. **Two types of firmware files are normally provided: ".bin"** files and **".fbf"** files. **".fbf"** files are loaded using the **Printer Toolbox.**

Browse for the firmware file and click **Submit**.

**Firmware updates can take 10 minutes or more to complete.**

**DO NOT power down printer during this process!**

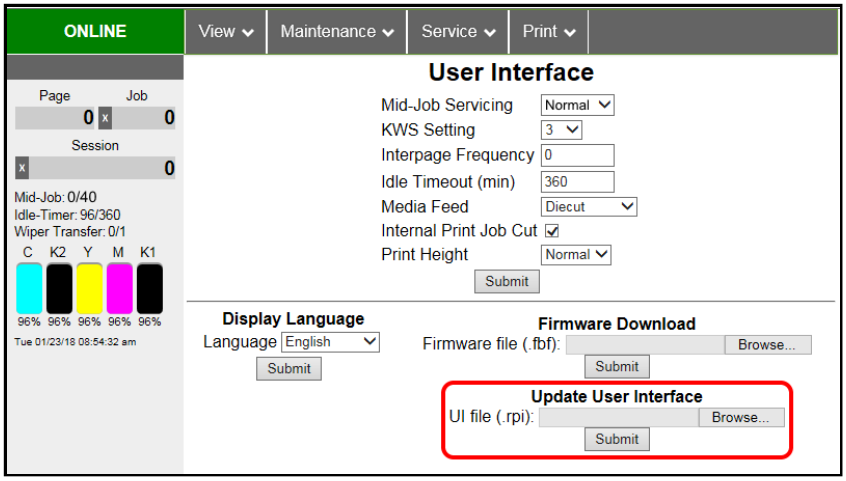



**WARNING!**

Updating the firmware should only be performed by qualified service personnel. If this process is not performed properly, the printer can be rendered non-operational.

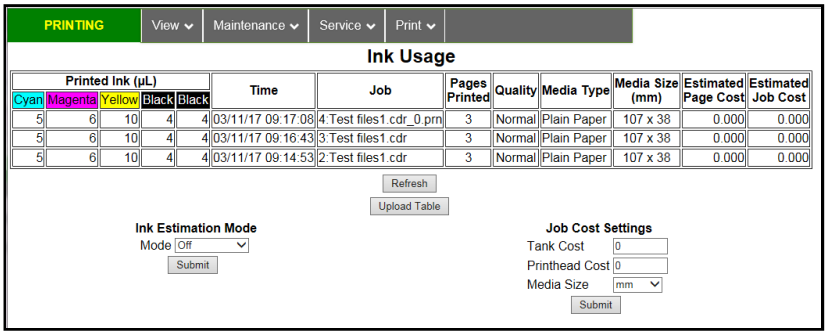
**UPDATE USER INTERFACE:** Download and install the latest User Interface UI (.rpi) file for the Printer Touchscreen.

**NOTE:** Updating this file does not require shutting down or rebooting the Printer.



## Ink Usage

**Ink Usage** displays the amount of each ink used per print job, as well as job information, estimated cost per label, and estimated cost for the entire job.




**NOTE: Ink Usage only works when a new Ink Tank is installed and left in the Printer.**

**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 job is loaded, click **"Refresh"** to show amount of ink (*by color*) that job will use.

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

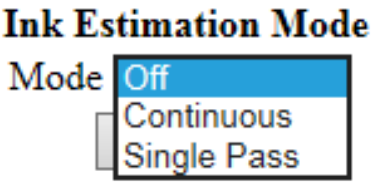
**Mode selection:**

**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.

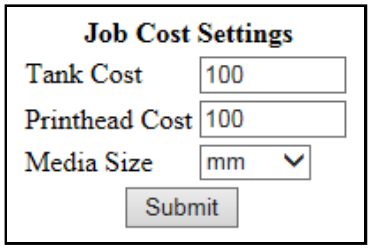
Click **"Submit"** to activate **Mode** setting selected.




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

**Reset Page Counter –** Tap or click this button to reset the Printer page count to 0 (**Page** on the Printer Toolbox and Touchscreen).

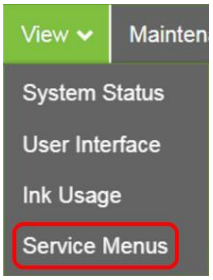
**JOB COST SETTINGS** – Enter your **Ink Tank Cost**, **Printhead Cost** and **Media Size** preference (*inches or mm*).

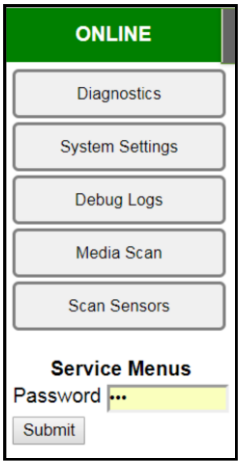



Set a minimum of at least 100 pcs. to ensure a large enough sample size. Click **"Submit"**. In **Ink Estimation Mode**, this feature estimates per page cost and job cost without printing job. With **Ink Estimation Mode** disabled, Printer still tracks estimated per page cost and estimated job cost as 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.**

## Service Menus




Clicking **Service Menus** opens the **Service Menus** (*Diagnostics*) screen and service menu buttons.

**Diagnostics** button. Click to check the status of the Printer (*see **Diagnostics** below*).

**System Settings** button. Click to view, enter or change settings to connect Printer to your network (*see **Network Settings** on page 43*). Also configure and set the Printer's **Date and Time**. And set the level of detail desired for **Debug Logs**.

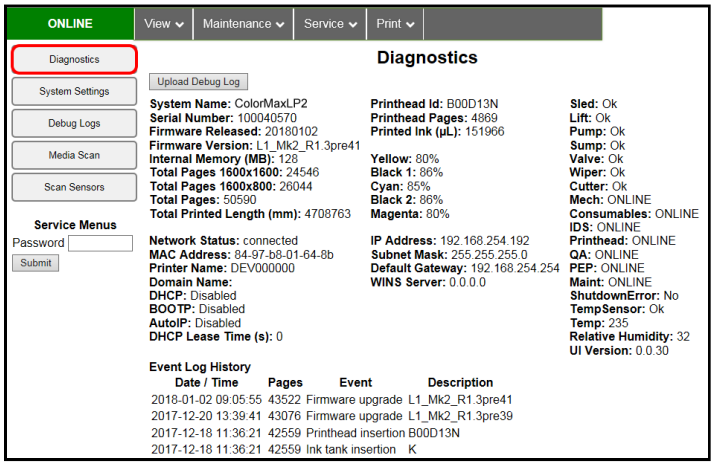
**Debug Logs.** Click to display a list of available Debug Logs that can be opened or uploaded. Then select the Log or Logs to be uploaded.

**Media Scan.** Use **Media Scan** to fine tune sensor sensitivity and/or adjust scan length if media is not printing correctly, or to determine if a type of media is going to have problems printing. This is generally due to the sensors having trouble differentiating between the label surface and backing/gap (*see **Media Scan** on page 47*).

**Scan Sensors** button. Provides status and a log of sensor activity on sensors located throughout the Printer (*see **Scan Sensors** on page 48*).

**Service Menus, Password:** Entering the **Service Menu password** provides access to more advanced Printer control and maintenance menus. For authorized service personnel only.

## Diagnostics

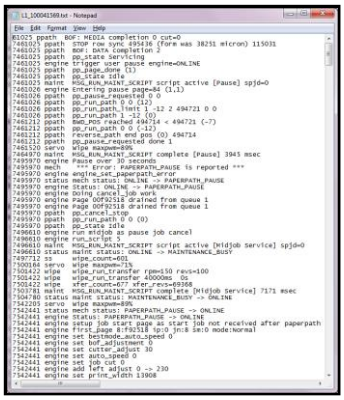



This is the screen that opens when you select **"Service Menus"**. From this screen you can see current status of the Printer.

**Other features:**

**Upload Debug Log** – Upload and save a log of the Printer status to send to a technician to help diagnose a problem. Clicking this button creates a snapshot log showing everything going on with the Printer since powering up (*see Sample Log at right*).

**NOTE:** If a problem arises, try to recreate the problem, then press the **Upload Debug Log** button without performing any other actions. This may make it easier for the technician to determine the problem. If this is not possible, include any actions you may have taken after the problem began.



**Other information provided in the Diagnostics window:**

**Event Log History** – Displays significant events occurring on the Printer (*such as firmware updates, errors, power off, etc.*). This log is useful for troubleshooting Printer problems.

**NVM Settings** – Displays Printer's current NVM (*Non-Volatile Memory*) settings.

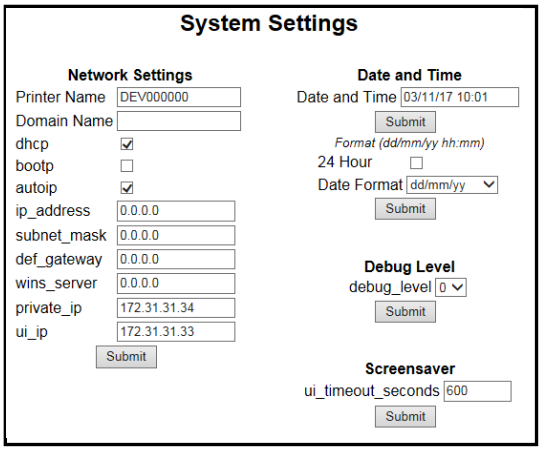
*Once settings are saved, they remain even when Printer is turned off, until they are manually changed.*

**VARS Settings** – Displays Printer's current VARs (*Variable*) settings.

*Settings that are set for a particular job that automatically revert to the default settings when the Printer is turned off or rebooted.*

## System Settings

Set up a network connection for the Printer. You can also configure and set the Printer **Date and Time**, set the **Debug Log Level** and **Screensaver** Timeout (*sleep delay*).

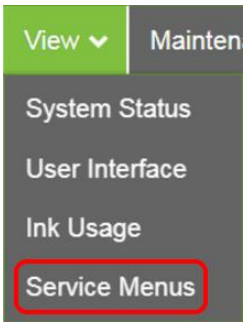


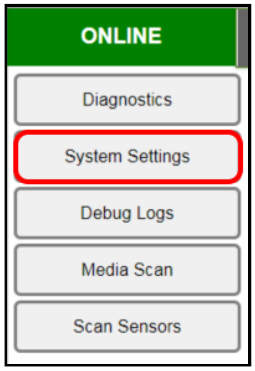

**Network Settings** – Permits you to view, enter or change settings to connect the Printer to your network.

**Network Connection Set Up:**

1. 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"**.

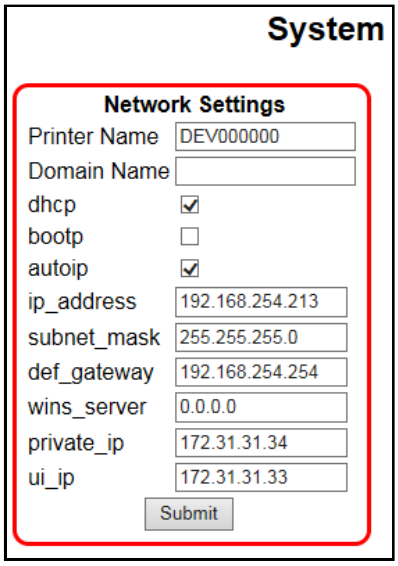



2. **"System Settings"** screen opens. Use **Network Settings** to enter correct settings for your network.

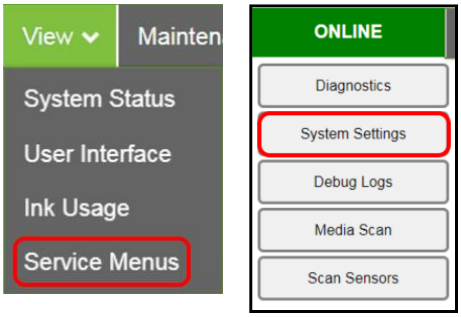
   **NOTE:** If manually changing the **ip_address**, make sure the **"dhcp" and "autoip"** boxes are **unchecked**. (*Default is checked*.) Enter changes in the appropriate boxes. Click **"Submit"**.

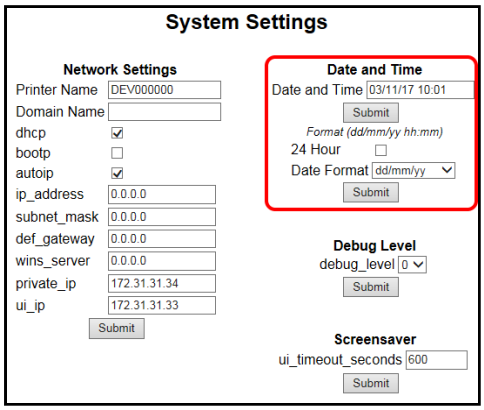
3. Connect Ethernet cable to Network Port on Rear Panel of Printer.



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

1. **From the Toolbox,** select **"View"** drop-down menu, click **"Service Menus"**, then click **"System Settings"**.
2. **"System Settings"** page opens. Use **Date and Time options** to enter, edit and format the Date and Time for the Printer.
3. Click **"Submit".**

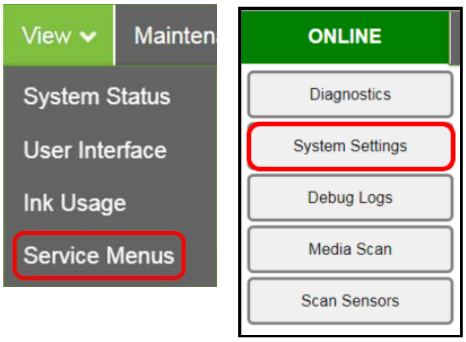


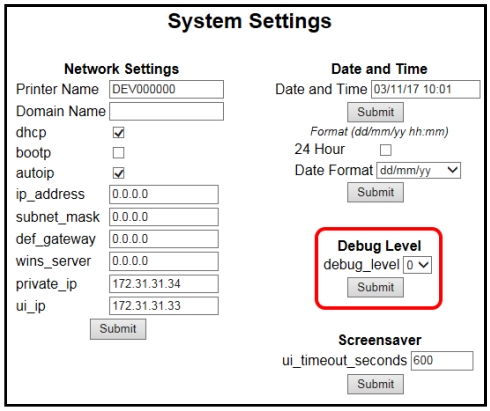




**Debug Level** – Set the detail level of the Debug Logs. **To change the Debug Level:**

1. **From the Toolbox,** select **"View"** drop-down menu, click **"Service Menus"**, and then click **"System Settings"**.
2. **"System Settings"** page opens. Go to **Debug Level options** and select 0, 1, or 2 to set the desired detail level for the Printer. (0 = least detailed, 2 = most detailed).

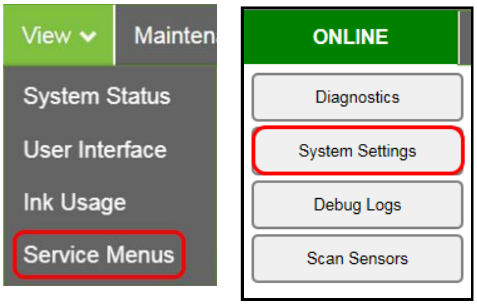
   **NOTE:** Because of the amount of data collected and stored, it is recommended that you not set the **Debug Level** over 1 unless asked by a service technician.
3. Click **"Submit".**

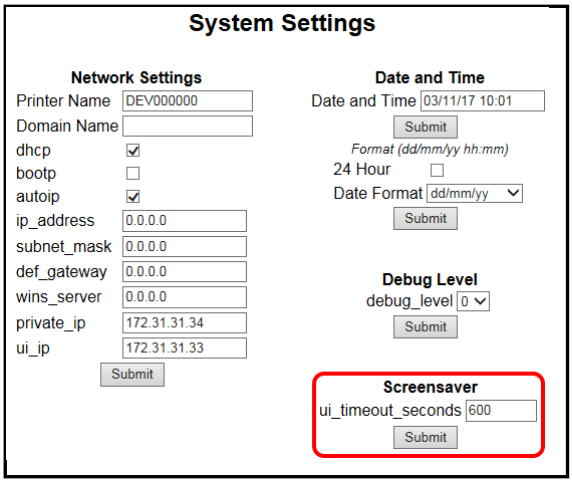


**Screensaver** – Set the amount of time the Touchscreen will remain idle before automatically going to Sleep Mode.

1. **From the Toolbox,** select **"View"** drop-down menu, click **"Service Menus"**, and then click **"System Settings"**.
2. **"System Settings"** page opens. Go to **Screensaver**. Enter the number of seconds the Touchscreen will remain idle before going to Sleep Mode.
3. Click **"Submit".**



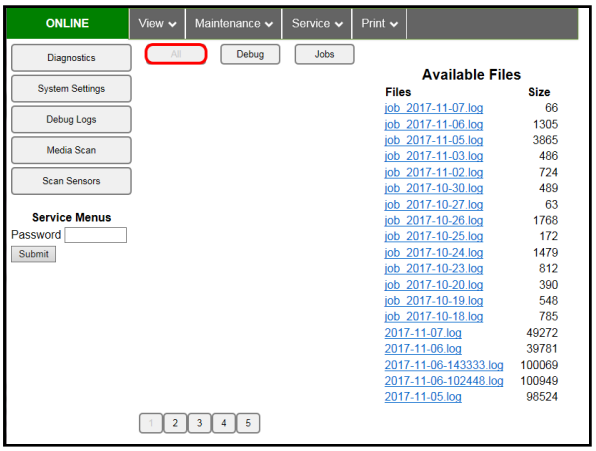
## Debug Logs

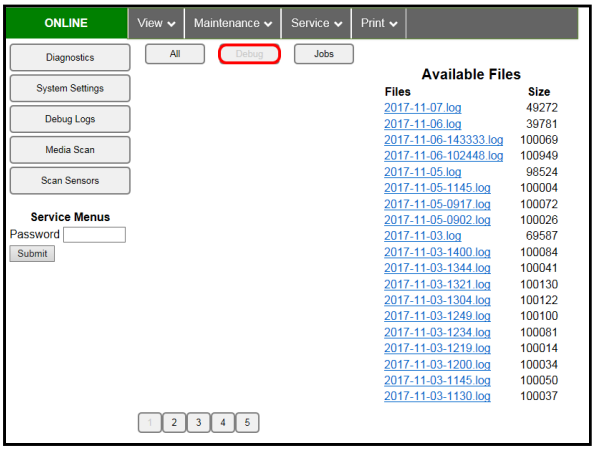
Access, print or send activity logs for the Printer and for jobs run on the Printer. These files are valuable for diagnosing and servicing problems.

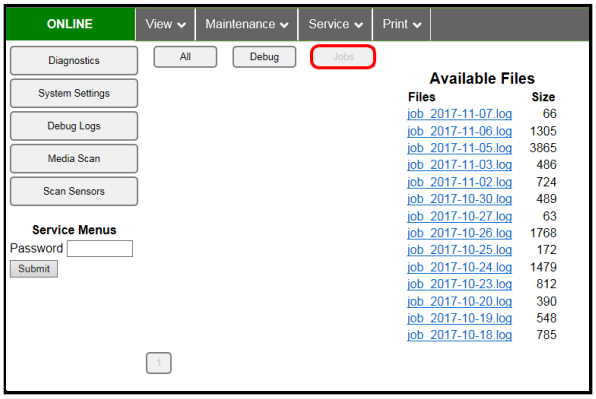
**All** – Shows all log files available.

**Debug** – Shows only **Debug** log files.

**Jobs** – Shows only **Jobs** printed log files.

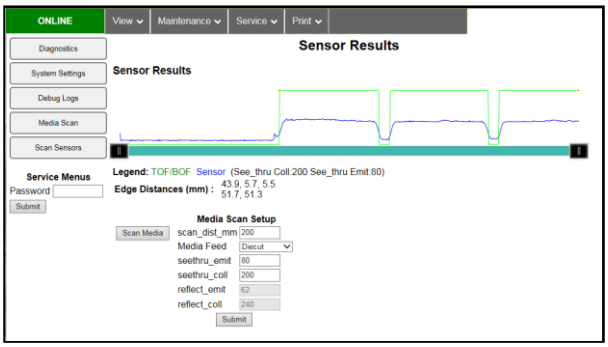


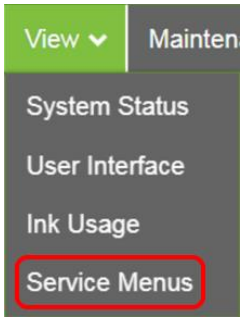
## Media Scan

Use **Media Scan** to fine tune sensor sensitivity and/or adjust scan length if media is not printing correctly, or to determine if a type of media is going to have problems printing. This is generally due to the sensors having trouble differentiating between the label surface and backing/gap.

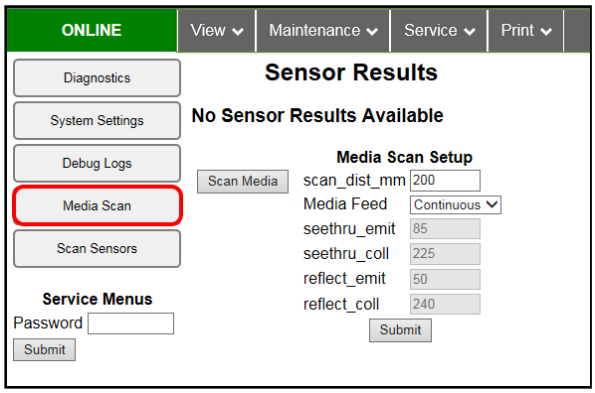



**Media Scan** cannot be used with Continuous media.

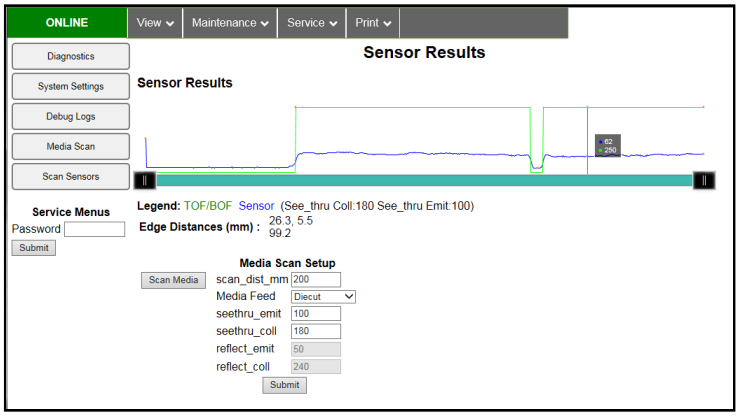
**Media Scan Procedure:**




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_dist_mm":**
   The media length for the scan in millimeters. Set length at least 4-5 labels long.
4. Set **"Media Feed":** Select what type of media is being fed; **Continuous, Diecut** or **Blackmark**.
5. For **Diecut** or **Blackmark** media, (*some or all of the Sensors may be inactive for different types of media*), set Sensor sensitivities:
   a. **<u>For Diecut:</u>**
      i. Set **"seethru_emit": 0** to **100.**
      ii. Set **"seethru_coll": 0** to **100.**
   b. **<u>For Blackmark:</u>**
      i. Set **"reflect_emit": 0** to **100.**
      ii. Set **"reflect_coll": 0** to **100.**



6. Click **"Submit"** to enter your selections, then click the **"Scan Media"** button. Blank media moves across sensors to create the graph shown on the screen.




   *NOTE: Rolling the cursor over the blue graph line provides readouts of the points on the graph.*

   **Legend:** Explains what the graph is showing. **Media** (*TOF/BOF-Green line*). **Sensor** (*Sensor-Blue line*).

   **Edge Distances: Top line** shows the average gap distance reading in millimeters. **Bottom line** shows the length of the label reading in millimeters.

7. If the graph and/or results require adjusting, you can increase or decrease the Sensor sensitivity by changing the Sensor sensitivity values. You can also increase or decrease the length of media to be scanned by changing the **scan_dist_mm** value. Press the **Scan Media** button again to obtain a new result.

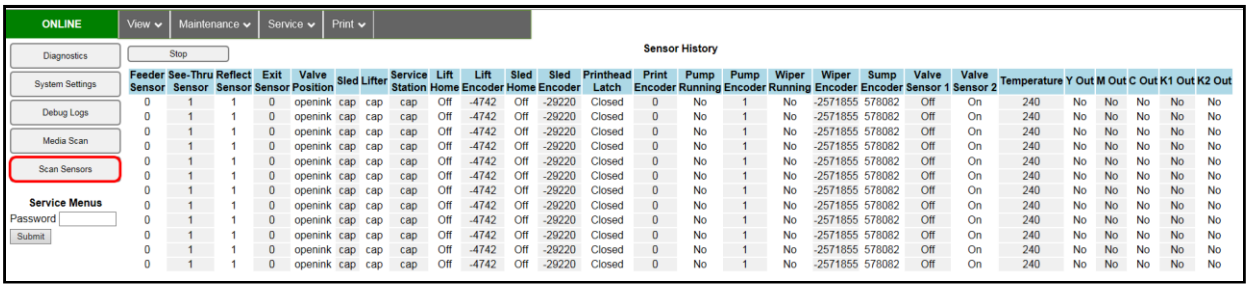
   **NOTE:** Make sure that the label type and the Toolbox **Media Feed** type selection match. Only the sensors for that type of media will be active. If the label type is different, an **Error** will show in the System Status box.

   **NOTE: Media Scan** is also available on the Printer Touchscreen (*See **Media Scan** in **Using the Touchscreen** on page 33*).

## Scan Sensors

Provides status updates and an activity log on the Sensors located throughout the Printer (*see chart below.*)

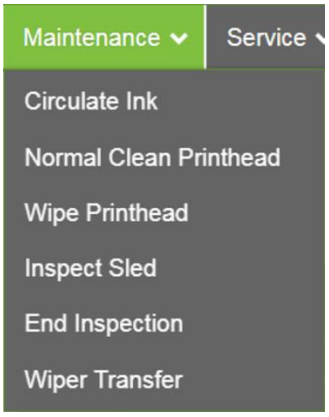
Click **"Stop"** button to stop scanning or click out of **"Scan Sensors"**.




| Feeder Sensor | See-Thru Sensor | Reflect Sensor | Exit Sensor | Valve Position | Sled | Lifter | Service Station | Lift Home | Lift Encoder | Sled Home | Sled Encoder | Printhead Latch | Print Encoder | Pump Running | Pump Encoder | Wiper Running | Wiper Encoder | Sump Encoder | Valve Sensor 1 | Valve Sensor 2 | Temperature | Y Out | M Out | C Out | K1 Out | K2 Out |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 1 | 0 | openink | cap | cap | cap | Off | -4742 | Off | -29220 | Closed | 0 | No | 1 | No | -2571855 | 578082 | Off | On | 240 | No | No | No | No | No |
| 0 | 1 | 1 | 0 | openink | cap | cap | cap | Off | -4742 | Off | -29220 | Closed | 0 | No | 1 | No | -2571855 | 578082 | Off | On | 240 | No | No | No | No | No |
| 0 | 1 | 1 | 0 | openink | cap | cap | cap | Off | -4742 | Off | -29220 | Closed | 0 | No | 1 | No | -2571855 | 578082 | Off | On | 240 | No | No | No | No | No |
| 0 | 1 | 1 | 0 | openink | cap | cap | cap | Off | -4742 | Off | -29220 | Closed | 0 | No | 1 | No | -2571855 | 578082 | Off | On | 240 | No | No | No | No | No |
| 0 | 1 | 1 | 0 | openink | cap | cap | cap | Off | -4742 | Off | -29220 | Closed | 0 | No | 1 | No | -2571855 | 578082 | Off | On | 240 | No | No | No | No | No |
| 0 | 1 | 1 | 0 | openink | cap | cap | cap | Off | -4742 | Off | -29220 | Closed | 0 | No | 1 | No | -2571855 | 578082 | Off | On | 240 | No | No | No | No | No |
| 0 | 1 | 1 | 0 | openink | cap | cap | cap | Off | -4742 | Off | -29220 | Closed | 0 | No | 1 | No | -2571855 | 578082 | Off | On | 240 | No | No | No | No | No |
| 0 | 1 | 1 | 0 | openink | cap | cap | cap | Off | -4742 | Off | -29220 | Closed | 0 | No | 1 | No | -2571855 | 578082 | Off | On | 240 | No | No | No | No | No |
| 0 | 1 | 1 | 0 | openink | cap | cap | cap | Off | -4742 | Off | -29220 | Closed | 0 | No | 1 | No | -2571855 | 578082 | Off | On | 240 | No | No | No | No | No |
| 0 | 1 | 1 | 0 | openink | cap | cap | cap | Off | -4742 | Off | -29220 | Closed | 0 | No | 1 | No | -2571855 | 578082 | Off | On | 240 | No | No | No | No | No |
| 0 | 1 | 1 | 0 | openink | cap | cap | cap | Off | -4742 | Off | -29220 | Closed | 0 | No | 1 | No | -2571855 | 578082 | Off | On | 240 | No | No | No | No | No |

| SENSOR | DESCRIPTION |
|---|---|
| **See-Thru Sensor (*Paper Path Entry*)** | Interrupted (*media present*) = 0-60<br>Uninterrupted (*no media*) = 255 |
| **Reflect Sensor** | Uninterrupted = 0<br>Interrupted (*blocked*) = 1 |
| **Exit Sensor (*Paper Path Exit*)** | Uninterrupted = 0<br>Interrupted (*blocked*) = 1 |
| **Valve Position** | **Displays operating positions of Dual Pinch Valve:** "OpenAir," "OpenInk," and "Closed". "Unknown" will display as Valve transitions between positions. **NOTE: If "Unknown" displays for more than a few seconds, it may indicate a problem.** |

## Maintenance Drop-Down




Perform maintenance tasks on the Printer.

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

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

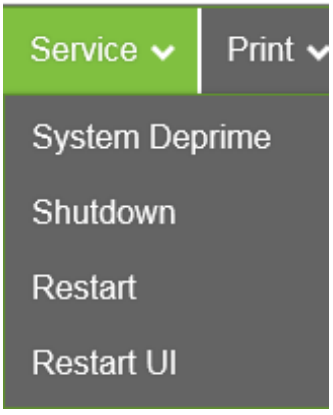
**Wipe Printhead** – Wipes and cleans excess ink from Printhead.

**Inspect Sled** – Moves Service Station out for inspection, cleaning or service.

**End Inspection** – Moves Service Station back into position under the Printhead. Closing the top door will also end the inspection.

**Wiper Transfer** – Squeegees excess ink off of Service Station Wiper Roller.

## Service Drop-Down




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

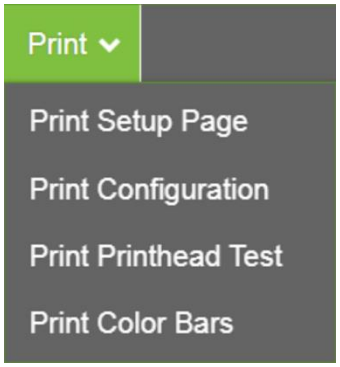
**System Deprime** – Pumps ink back into Ink Tanks prior to replacing the Printhead or transporting the Printer.

**Shutdown** – Turns Printer OFF. For best system performance, it is recommended to keep Print Engine powered-up (*ON/OFF light illuminated*) at all times. If turning the Printer off, first power-down the Print Engine using **"Shutdown"** button in **Toolbox** or ON/OFF button on Control Panel. Wait until the Touchscreen ***AND*** green power LED turn off before turning off the Main Power Switch.

**Restart** – Restarts the Printer without having to perform the normal shutdown routine.

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

## Print Drop-Down




Print various reports and Printer tests. Each printout displays information about the Printer.

**NOTE: 8.5" wide continuous stock required for these four prints.**

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

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

**Print Printhead Test** – Prints color bands, text and patterns to check condition of Printhead ink nozzles. **NOTE: Uses less ink than Print Color Bars.**

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

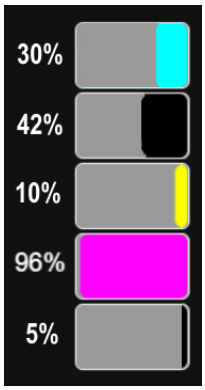
# SECTION 4 – *Maintenance*

General, periodic maintenance is needed to keep Printer in good working order. This section covers how to care for Ink Tanks, Printhead, Service Station, and clear paper jams.

In addition, a maintenance reminder will appear at 500,000 printed inches:

**Maintenance/Cleaning Recommended**

**Refer to user manual for detailed steps.**



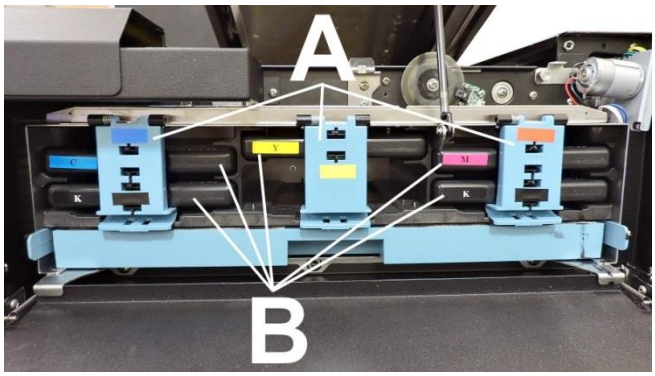

## *Replace Ink Tanks*

Replace Ink Tanks when ink runs out.

1. **Look at the Control Panel Touchscreen.** Ink Tank Status information appears left side of the Touchscreen.

   Note that more than one of Ink Tank indicators may be low or empty.

2. **Open Ink Tank Door** (*hinged at bottom*)**.** (*Disconnects Printer communication with Ink Tanks and allows safe installation and replacement*.) Open Ink Tank Latches **[A]** and pull Ink Tank(s) **[B]** out of Printer.

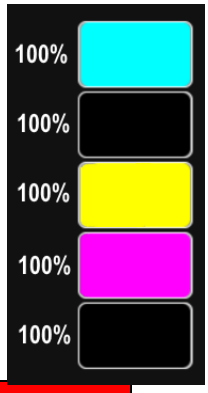



3. Remove new Ink Tank(s) from packaging.

4. Slide new Ink Tanks (*labels up*) into appropriate color slots **[B]**. Close 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.**




5. **Close the Ink Tank Door.** Ink colors fill in as Ink Tanks are installed. If ink colors do not fill in after a few seconds, open the Ink Tank Door and reinstall Ink Tank(s).

   **NOTE:** If Ink Tank is installed, but Ink Tank indicator still does not refresh, see **"Clean Ink Tank Contacts"** below.

6. When Printer stops processing and no errors appear on the System Status screen, Printer is ready for use.

**WARNING!**

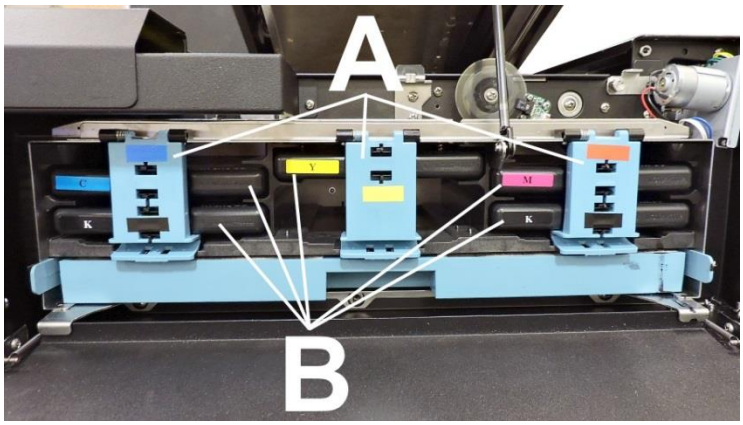
**Ink in Ink Tanks may be harmful if swallowed. Keep new and used Ink Tanks out of reach of children. Discard empty Ink Tanks immediately.**

## *Clean Ink Tank Contacts*

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

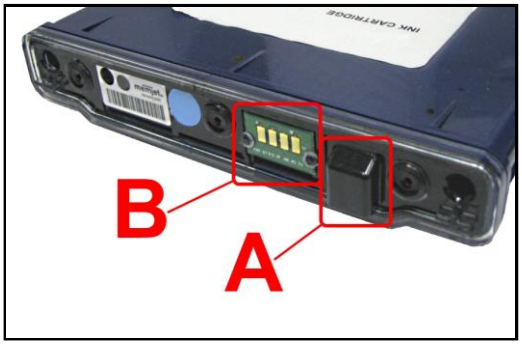
**Clean contacts as follows:**

1. **Remove Ink Tank(s).** Open Ink Tank Door. Release Ink Tank Latch(es) **[A].** Remove Ink Tank(s) **[B]** that did not refresh.




2. 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.**




3. Reinstall Ink Tank(s) (*labels up*), close Ink Tank Latch(es). Close Ink Tank Door.

### 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.

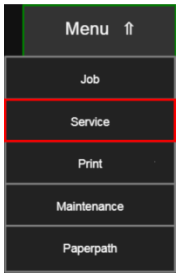
Clean up spills with soap and water. Abrasive soap is effective in cleaning ink off your hands.

# *Clean/Replace Printhead*

## Cleaning

The Printhead is cleaned automatically each time the Printer is turned on or when the **"Quick Clean Printhead"** routine is performed. This can be found under the **"Maintenance"** drop-down menu on **Touchscreen**. If running automated Cleaning Levels doesn't help improve print quality, the Printhead can be cleaned manually.

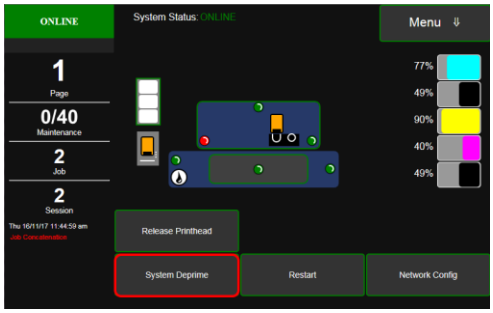
1. **Open Top Cover.** From the Touchscreen, tap **"Service"** in the **Menu** drop-down, then tap **"System Deprime"**. The Printer pumps any ink in system back into Tanks. Then the Printhead Latch pops open.




**CAUTION**

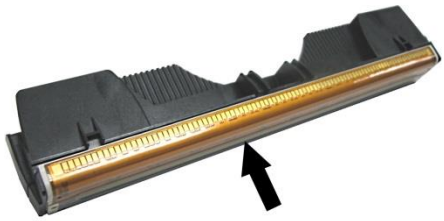
**DO NOT PRY OR MANUALLY LIFT PRINTHEAD LATCH OR LATCH MAY BREAK. ONLY OPEN LATCH USING THE RELEASE PRINTHEAD BUTTON ON THE TOUCHSCREEN OR IN THE PRINTER TOOLBOX.**

2. Make sure Printhead Latch is fully opened to retract ink lines. Remove used Printhead by tilting it toward ink lines, then carefully lifting it out of the Printhead Compartment.




3. Moisten Printhead nozzles by slowly running deionized/distilled water (*reference ASTM D5127-90 Type E-II Electronic Grade Water*) over the nozzles, end to end (*gray strip located below orange strip*).

   **Take care not to damage copper contacts, metal plate, or gold Printhead surface.**



4. Reinstall Printhead, close Printhead Latch and close Top Cover**.**

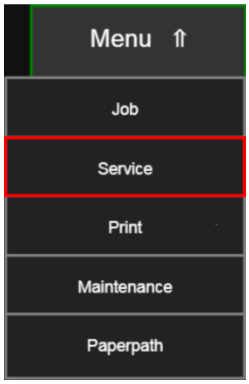
Generally, when ink supply is adequate and print quality remains poor or when automated cleaning processes or manually cleaning Printhead does not help image quality, replace Printhead.

**CAUTION**

- **Use electrostatic discharge (ESD) protection when handling.**
- **Hold Printhead by handles ONLY.**
- **DO NOT touch ink couplings, nozzle surface or electrical contacts.**
- **DO NOT unpack Printhead 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.**

## Replace Printhead

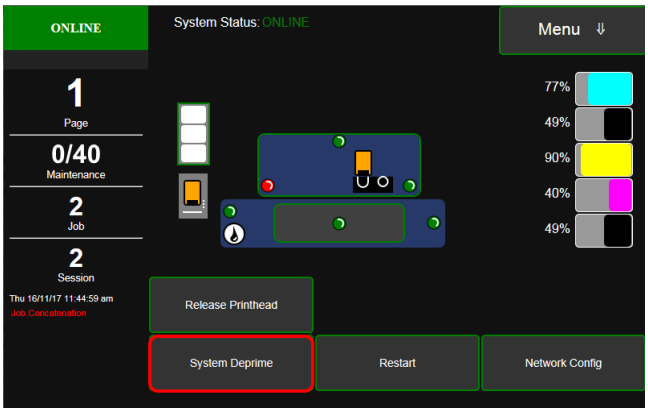
1. **Open Top Cover.** From the Touchscreen, tap **"Service"** in the **Menu** drop-down, then tap **"System Deprime"**. The Printer pumps any ink in system back into Tanks. Then the Printhead Latch pops open.



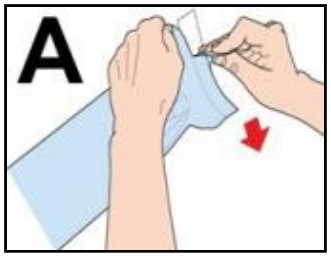

**CAUTION**

**DO NOT PRY OR MANUALLY LIFT PRINTHEAD LATCH OR LATCH MAY BREAK. ONLY OPEN LATCH USING THE RELEASE PRINTHEAD COMMAND ON THE TOUCHSCREEN OR IN THE COMPUTER TOOLBOX.**

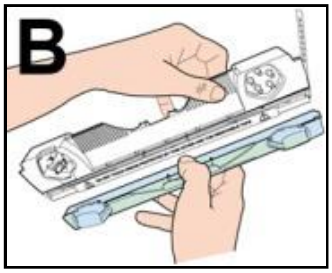
2. Make sure the Printhead Latch is fully opened to retract ink lines. Remove used Printhead by tilting it toward ink lines, then carefully lifting it out of the Printhead Compartment.



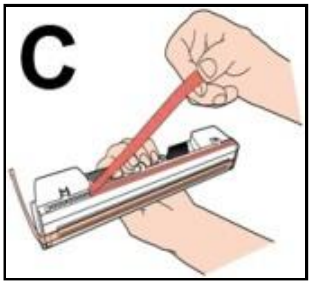

3. **[A] Carefully remove Printhead from foil packaging**. Tear foil at notch or cut the end with scissors.



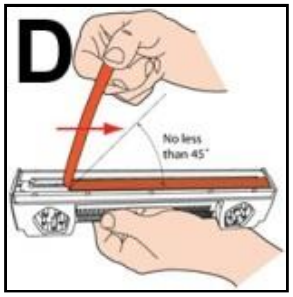

**[B] Remove protective plastic cover.** Hold Printhead by handle and unclip cover from Printhead.




**[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.



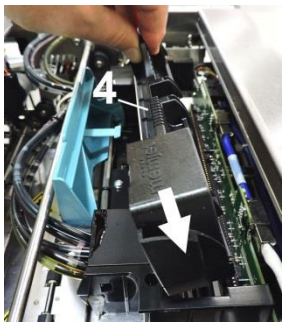

**DO NOT pull strip at less than a 45° angle from Printhead surface.**

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

**NOTE:** Keep foil packaging and plastic cover to store or dispose of old Printhead.

4. Carefully insert printhead into compartment at an angle **[4]**, with Printhead surface facing down and Ink Nozzles facing Ink Hoses. Once seated, gently tilt printhead back until it snaps into an upright position **[5]**.

   **DO NOT FORCE the Printhead into position.**

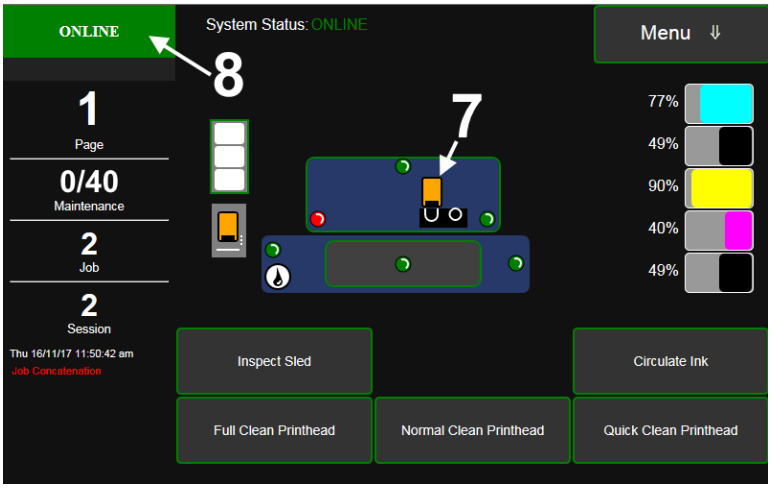


7. **Close Printhead Latch [6]**. Close top cover. Printer starts up and primes ink into Printhead (t*his may take a few minutes*). Make sure ink is flowing through hoses. If air bubbles appear, tap lines or click **"Circulate Ink"** on Touchscreen to clear them.

8. **Watch Control Panel Touchscreen.** Check that Printhead icon **[7]** in Printer image is primed (*solid color*).

   9. 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 this does not clear up the issue, call for technical support.

**[2] Printhead icon displays a question mark (*Printhead not recognized*):** Try the **"Install Printhead"** procedure again. If the issue continues, call for 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 INK TANKS ARE LESS THAN 1/3 FULL. |

## Printhead Storage

Store and transport cartridge in original packaging, positioned 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.**

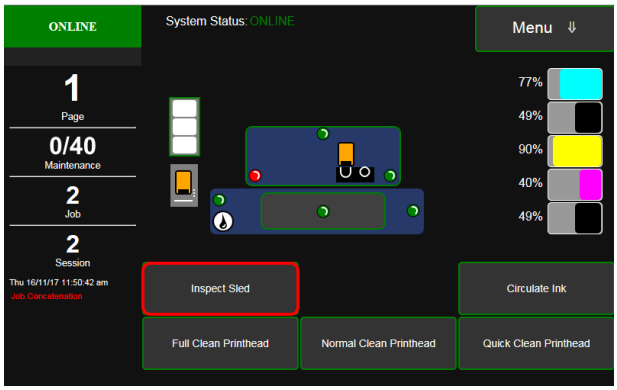
**Storage Life:** 12 months from date of manufacture (*printed on shipping box*).

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

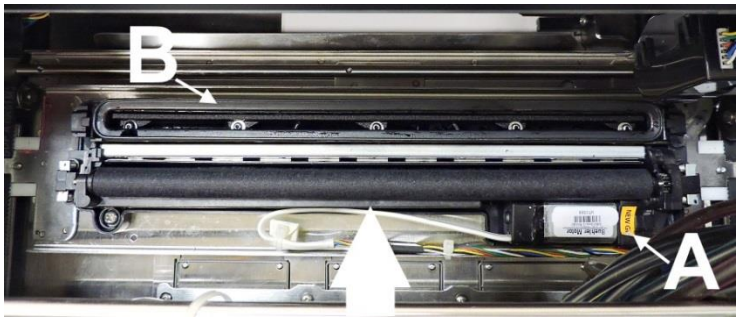
## *Inspect the Service Station*

The Service Station (*located directly under the Printhead Assembly*) cleans Printhead of excess ink and debris, keeps Printhead hydrated and protected when not in use, captures and removes ink used to keep nozzles clear. It moves out of the way of the Printhead during printing. It is designed to provide a long service life.

**To access the Service Station for inspection and cleaning:**

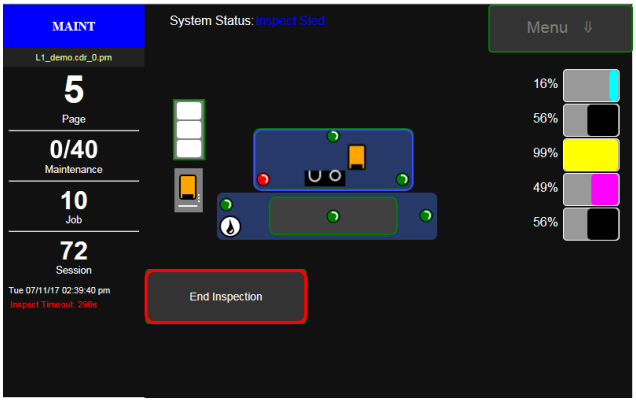



1. Using the **Touchscreen**, select **"Menu,"** then tap **"Maintenance"** from the drop-down menu. Tap **"Inspect Sled"**. The Service Station **[A]** moves out from under the Printhead Assembly.
2. Open the Top Cover.




3. Visually inspect the Service Station for cleaning or service.

   Use a dry, lint-free cloth to soak up any excess ink from the Capping Station **[B]**.



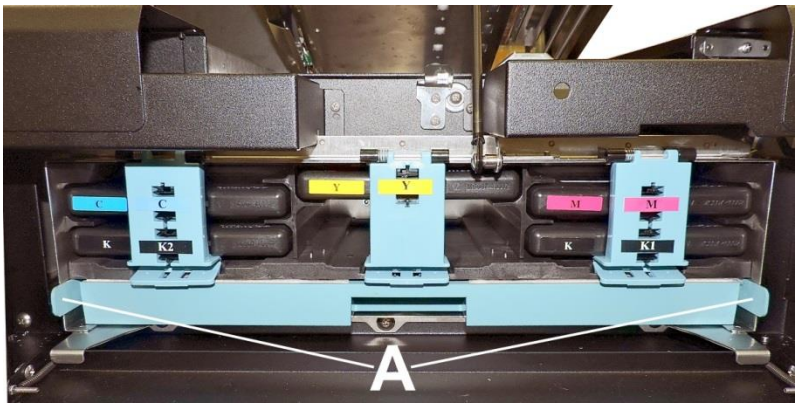

4. Tap **"End Inspection"** on the Touchscreen to move the Service Station back under the Printhead Assembly.
5. Close the Top Cover.

   **NOTE:** Closing the Top Cover will also end the Inspection. If you don't need to visually verify the Service Station moving back into position, step 4 can be skipped.

## *Replace 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. Pull on tabs to slide Ink Waste Tray **[A]** out of Printer.
3. Replace with a clean or new Ink Waste Tray.

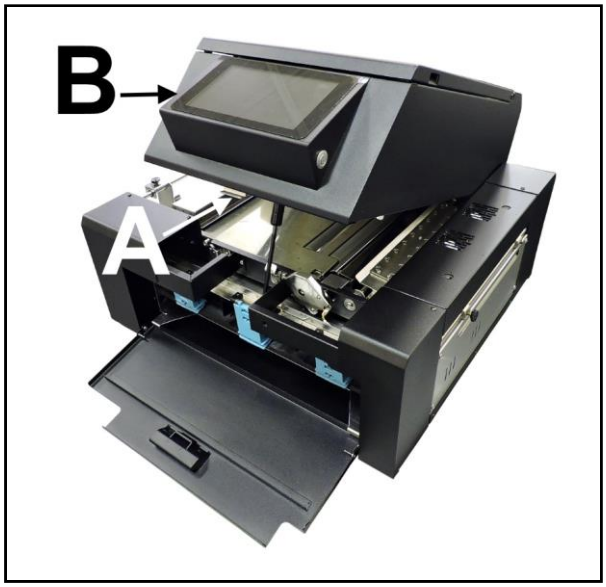



## *Remove Jammed Media*

Clearing a jam depends on where jam occurred.

**Print Area:**

- Open Ink Tank Door.
- Pull Top Assembly Latch **[A]** toward you to unlatch Top Assembly.
- Raise Top Assembly **[B]**.
- Clear jam, then carefully lower Top Assembly.




| CAUTION |
| --- |
| **DO NOT ALLOW THE TOP ASSEMBLY TO DROP OR SLAM CLOSED.** |

### *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.**

### Feed Rollers and Forwarding Rollers

Feed, Forwarding and Transport Rollers can become glazed with paper lint and ink from media.

Clean regularly with a mild abrasive household cleaner on a damp lint-free cloth.

**NOTE:** Avoid using solvents on Rubber Rollers.

## 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 latch. Use a vacuum to pick up any loose debris.

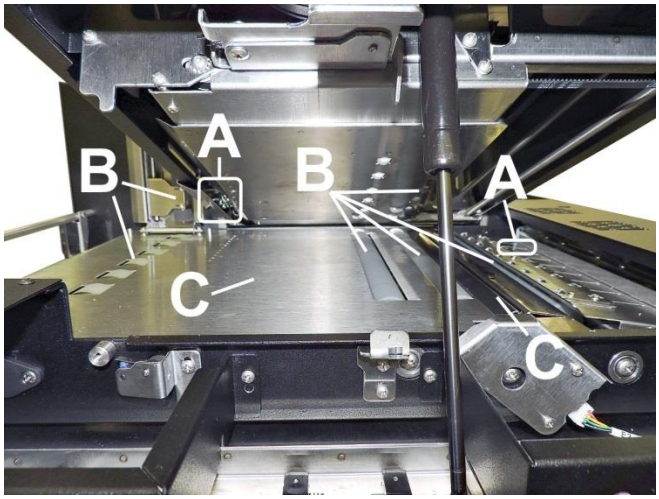
**NOTE:** Be careful around Ink Tray and Capping Station in Print Engine area as accumulated ink may splash onto other parts of Printer. Take care not to damage PC Boards or electrical wiring.

**CAUTION**

**USE ONLY DEIONIZED/DISTILLED WATER TO CLEAN PRINT ENGINE COMPONENTS.**

**AVOID CONTAMINATING PRINTHEAD WITH CLEANERS, LUBRICANTS OR OTHER CHEMICALS.**

**[A] 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.



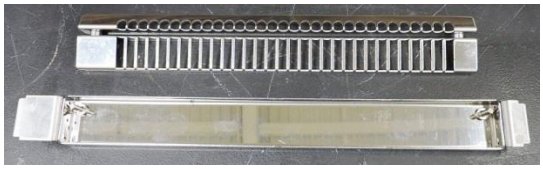

**[B] Rubber Rollers.** Clean as needed using distilled water with a damp, lint-free cloth.

Be careful not to splash or drip ink on other parts of Printer.

**[C] Printing Surfaces, Ink Drip Tray.** Wipe using distilled water and a damp, lint-free cloth. Pat dry with a lint-free cloth.

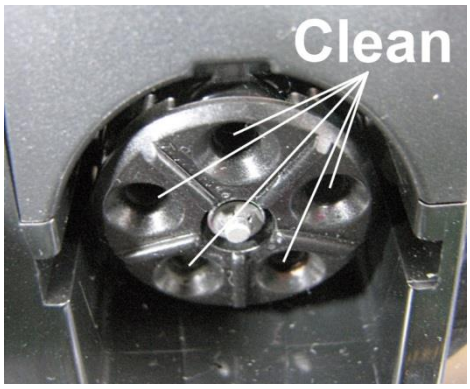
**Media Bridge and Ink Drip Tray:** Carefully remove Ink Drip Tray Cover and Ink Drip Tray.

**DO NOT tip the Tray or ink may spill.** Wipe off excess ink then clean using distilled water and a damp, lint-free cloth.



## Clean Ink Revolver Couplings

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



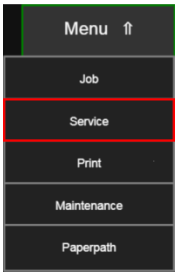
## *Shipping or Transporting Printer*

If you have to ship or transport Printer for any reason, the unit will have to be prepared.

Once the Printer is prepared, carefully package the Printer, Printhead, Service Station and Ink Tanks in the original packaging.

### Remove Printhead

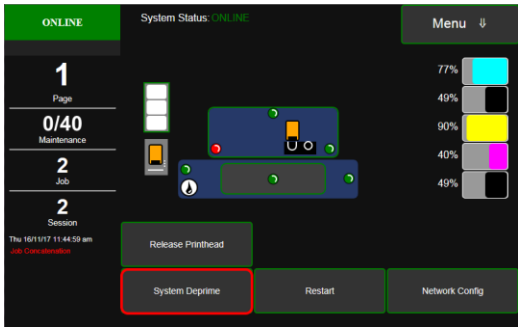
1. From the Touchscreen, tap **"Service"** in the **Menu** drop-down, then tap **"System Deprime"**. The Printer pumps any ink in system back into Tanks. Then the Printhead Latch pops open. Then Printhead Latch pops open. Open top cover.




**CAUTION**

**DO NOT PRY OR MANUALLY LIFT PRINTHEAD LATCH OR LATCH MAY BREAK. ONLY OPEN LATCH USING RELEASE PRINTHEAD BUTTON ON THE TOUCHSCREEN OR IN THE PRINTER TOOLBOX.**

2. Make sure Printhead Latch is fully opened to retract ink lines. Remove used Printhead by tilting it toward ink lines, then carefully lifting it out of the Printhead Compartment.

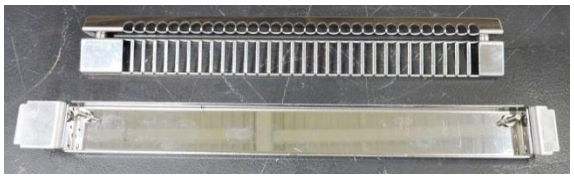



3. Pack Printhead area with absorbent towels to catch any ink drips or spills. Carefully pack Cartridge using original packaging.

### Empty and Clean Ink Drip Tray

1. **Open Top Assembly.**
2. Carefully lift the two tabs out of the slots in the Print Engine Frame and remove Ink Drip Tray Assembly **[A]**.

   **DO NOT tip the Tray or ink may spill.** Empty the Tray if necessary and wipe off excess ink. Clean using distilled water and a damp, lint-free cloth.



3. Reinstall the Ink Drip Tray Assembly.

**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.**

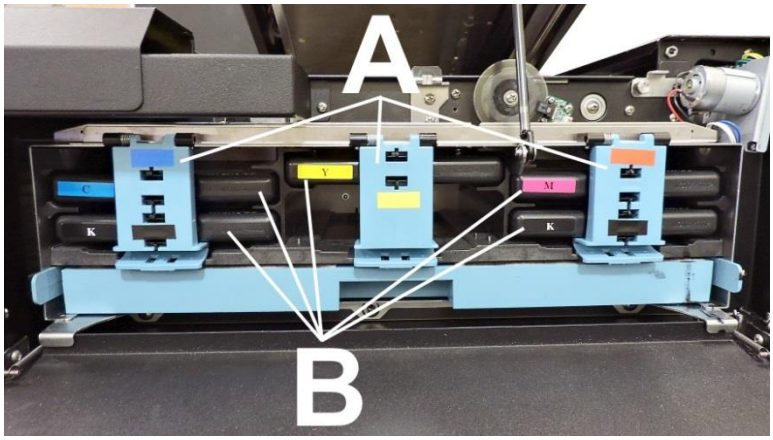
## Remove Ink Tanks

1. **After de-priming the system.** Open Front Cover (*hinged at bottom*). Open the Ink Tank Latches **[A]** and pull Ink Tank(s) **[B]** out of Printer.

2. Carefully package Ink Tanks in original packaging.

   **IMPORTANT:** Make sure ink seals on Ink Tanks face up to prevent leakage.

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

**WARNING!**

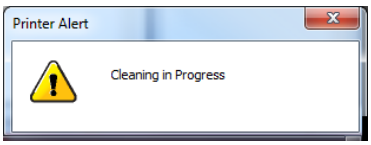
**DO NOT REMOVE SIDE COVERS OF PRINTER!**
**HIGH VOLTAGES PRESENT BEHIND COVERS!**

## *Printer*

| CONDITION | PROBLEM | SOLUTION |
|---|---|---|
| **Ink Tank installed, no Ink Level indication in Toolbox** | Ink Tank contacts dirty, preventing Printer/Ink Tank communication. | Remove Ink Tank(s).<br>Clean prism and QA Chip contacts, see **Maintenance**, *Cleaning Ink Tank Contacts*. |
| **Extra lines; losing data** | Database problem. | Check data in database program. |
| **Improper output** | Wrong interface settings.<br>Static electricity.<br>Dirty Media Sensor. | Check software or database on PC.<br>Close software, then turn Printer OFF and ON.<br>Clean Media Sensor. |
| **Media jams** | Media is curled or bent.<br>Media is too thin. | Uncurl media.<br>Minimum media thickness is 0.1mm (0.004"). |
| **No communication** | Improper cabling / connector.<br><br>Unit not receiving power. | Use proper USB cable.<br>Check plug connections, ON/OFF button and fuse on back panel. |
| **Print too light or missing character dots** | Clogged or dirty Printhead.<br>Running out of ink. | Check Printhead.<br>Check Ink Tanks. |
| **Blurry text/image**<br> | Image is not sharp. | Clean Printhead using Cleaning Levels in **Driver** or **Toolbox**.<br>Clean Printhead manually using distilled water and a wet, clean, lint-free cloth. |
| **Job is sent to print but does not print.** | Printer not turned ON.<br>Printer not connected to computer.<br>Media Sensor is covered in Print Engine. | Check that Printer is ON.<br>Connect printer cable to computer and resend job.<br>Open Print Engine and remove media. |

# *Errors and Warnings*

## Printer Alert Window Messages

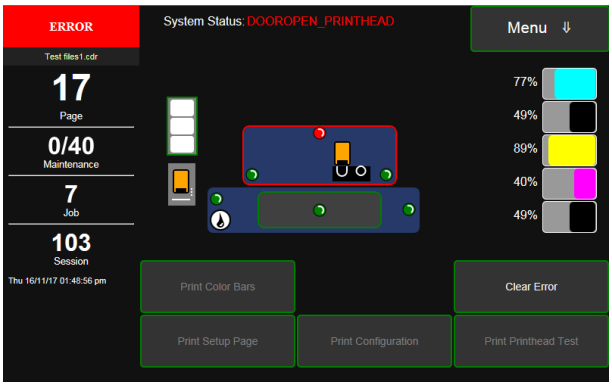


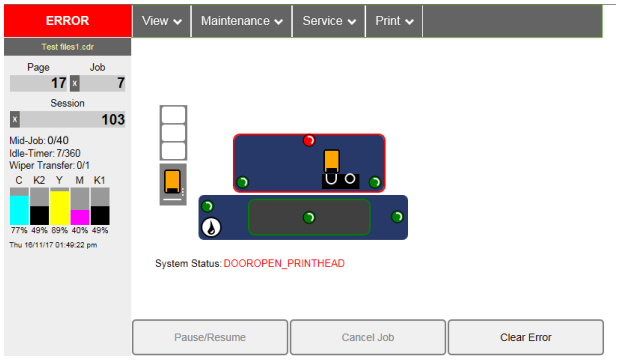

Messages sent from Driver and displayed on PC screen in a small popup window.

| MESSAGE | SOLUTION |
|---|---|
| **Cleaning in Progress** | Wait until message disappears. Printer will start printing your job once cleaning process is complete. |
| **Incompatible Printhead** | Remove and reinsert your Printhead. Replace Printhead. Printheads must be purchased from authorized supplier for this printer model. |
| **Incorrect … Ink Tank** | Replace Ink Tank. Ink Tanks must be purchased from authorized supplier for this printer model. |
| **…. Ink Low**<br>Example: Black Ink Low | Reorder Ink. |
| **…. Out of Ink**<br>Example: Cyan Out of Ink | Replace empty Ink Tank. |
| **Load Paper** | Out of Paper. Load media into Printer and press **PAUSE/RESUME** button to resume printing. |
| **Mechanical Jam** | Check for and remove obstruction, then press **PAUSE/RESUME** button to resume printing.<br>Check/Clean Sensors. If problem persists, contact technical support. |
| **Missing Printhead** | Remove Printhead. Check/clean electrical contacts. Reinsert Printhead. Replace Printhead. If problem persists, contact technical support. |
| **Multiple Inks Low** | Reorder Ink. |
| **Multiple Ink Tanks Out** | Replace empty Ink Tanks. |
| **Multiple Ink Tanks are missing** | Insert missing Ink Tanks.<br>Clean electrical contacts and reseat Ink Tanks. |
| **Multiple Unauthorized Ink Tanks** | Remove and reinsert Ink Tank. Replace Ink Tank. Ink Tanks must be purchased from authorized supplier for this printer model. |
| **Paper Jam** | Remove jammed media. Check for proper feed setup then press **PAUSE/RESUME** button to resume printing.<br>Check/Clean Sensors. If problem persists, contact technical support. |
| **Printhead Latch Open** | Ensure that Printhead is inserted properly, then close Printhead Latch so that it locks. |
| **Print Zone Assembly (Top Assembly) Open** | Check to be sure Top Assembly is completely closed and latched.<br>Make sure Print Engine Latches are secure. |
| **The … Ink Tank is missing** | Insert missing Ink Tank.<br>Clean electrical contacts and reseat Ink Tank. |
| **Unauthorized … Ink Tank Installed** | Replace Ink Tank. Ink Tanks must be purchased from authorized supplier for this printer model. |
| **Unauthorized Printhead** | Replace Printhead. Printheads must be purchased from authorized supplier for this printer model. |

## Toolbox System Status Messages

Use the **Touchscreen** or **Toolbox** screen to quickly determine and locate a problem in the Printer. **Status Indicator** shows **ERROR** in red box. **Printer Graphic Icon** highlights Printer and system affected.



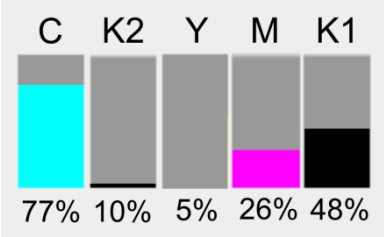
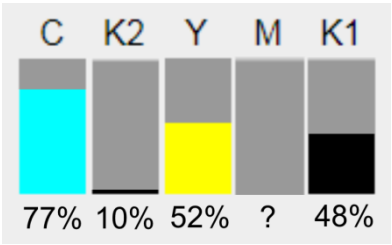




The **System Status** information displays the basic problem (*in red*). **Ink Levels** displays ink status. **Control Buttons** (*at screen bottom*) let you perform often used tasks without leaving the screen.

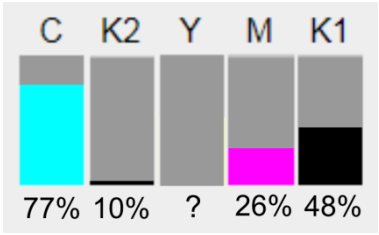
Listed below are some of the messages that may appear in **System Status**.

| SYSTEM STATUS | SOURCE | SOLUTION |
|---|---|---|
| **System Status:** **PAPERPATH_FEED_TIMEOUT** | Out of Paper<br>Media is not reaching Print Engine. Hesitation in media feed. | Load media into Printer and press **Pause/Resume** button to resume printing.<br>If media is present; check/adjust Guides. |
| **System Status:** **PAPERPATH_FEED_TIMEOUT** *or* **System Status:** **PAPERPATH_PAPERJAM** | Paper/Media jam detected.<br>Printer has detected that one (*or both*) Media Sensors are blocked (*interrupted*). | Carefully remove jammed media from Printer and close Print Engine. System Status message in **red** should go away.<br>Toolbox **Paperpath Sensor indicators** should change from red to green.<br>**After jam is cleared, you can:**<br>Press **Pause/Resume** to resume printing.<br>Press **Cancel Job** to cancel job, then manually clear job from computer's print queue. |
| **System Status: DOOROPEN_FRONT** | Indicates that the Top Assembly is open.<br>Sensor cable unplugged. | Verify that Top Assembly is closed and securely latched. Make sure that Top Assembly switch (*located to the left of the Top Assembly latch catch*) is activated by the tab on the Top Assembly.<br>Use **Scan Sensors** in **Toolbox** to check that Top Assembly switch is functioning. |
| **System Status:** **DATA_PATH_UNDERRUN** | Media is not moving from Entry Sensor to Exit Sensor within a specified time.<br>Possible issue with format or orientation of job being sent.<br>Dirty Encoder Wheel. | Check/clean Transport Rollers. Check/clean Sensors.<br>Try changing orientation setting in software/driver or setting a different media size.<br>Check/clean Encoder Wheel.<br>If problem persists contact technical support. |

## Toolbox System Status Messages (*Continued*)

| SYSTEM STATUS | SOURCE | SOLUTION |
|---|---|---|
| **System Status: INK_LOW** | X = Color.<br>One or more Ink Tanks are low on ink. | Ink Tank replacement will be necessary soon. Reorder Ink. |
| **System Status: INK_OUT_YELLOW**<br>  | X = Color.<br>One or more Ink Tanks are out of ink. | Open the Ink Tank Door. Replace empty Ink Tank(s).<br>Verify that Ink Tanks are seated firmly and latches are fully closed.<br>Close Ink Tank Door and ink levels should fill in. |
| **System Status: MAINTENANCE_BUSY** | Machine is performing a maintenance procedure. | No action required. |
| **System Status: CARTRIDGE_MISSING_MULT**<br>  | Ink Tank is missing or not recognized (*obtained from an unauthorized reseller*).<br>If correct ink, check contacts. | Insert missing Ink Tank or pop Ink Tank in and out to improve connection.<br>Press **Pause/Resume** button to refresh ink levels and continue printing. |
| **System Status: MECH_FAIL_PERMANENT**<br>**ERROR** on **System Status** screen.<br>Check the **Printer** Graphic to determine what component has a problem or failed: **Service Station, Ink Valve,** or **Printhead** (usually indicated with a steady "**?**") | Mechanical error<br>One of Printer's mechanical components was not properly registered at expected position.<br>Mechanical failure or Sensor failure. | Visually inspect component indicated as a "Reason" for failure.<br>Using **Scan Sensors** screen on the Touchscreen or **Toolbox**, perform toggle test on Sensor responsible for registration of failed mechanical component position.<br>Lifter Arm Sensor is dirty or damaged, Lifter Motor Cable is unplugged, operator's side Lifting Arm is damaged, or Lifting Arm mechanism is stuck.<br>**Dual Pinch Valve problem**: Check Sensor board connector and flag/sensors alignment. Check Valve motor connector. Check the **P2005** cable on MPCA.<br>At this point, this error may represent an Ink Pump error, since there is no return signal from pump and therefore, a separate message describing an Ink Pump error. |

## Toolbox System Status Messages (*Continued*)

| SYSTEM STATUS | SOURCE | SOLUTION |
|---|---|---|
| **System Status: ONLINE**<br>**ERROR** on **System Status** screen. **Printer Graphic** shows Printer Service Station as **"?"**. | Service Station is ejected, Service Station position sensors are damaged or malfunctioning. | Check Service Station position. Using **Scan Sensors** page in **Touchscreen** or **Toolbox**, perform toggle test on two Sensors responsible for registration of Service Station position. |
| **System Status: PRINTHEAD_MISSINGQA**<br>  | Printhead missing and one or more of Ink Tanks are missing, When this error occurs, Multiple EWS monitoring is disabled. | Check **Printer Graphic** and **Ink Levels** displaying **"?"**.<br>Install Printhead.<br>Install Ink Tanks. |
| **System Status: PRINTHEAD MISSING**<br>**ERROR** on **System Status screen.**<br>**Printer Graphic** shows Printer Printhead as **"?".** | No Printhead installed or Printhead not making proper connections.<br>J2001 cable unplugged.<br>Printhead Latch is open. | If Printer was just powered on, wait a minute; error may clear by itself.<br>Install Printhead.<br>Remove and reinstall Printhead.<br>Replace Printhead. Refer to appropriate sections in this manual for removing and installing Printhead. |
| **System Status: PRINTHEAD_UNPRIMED** | Printhead priming process has failed. | If Printer was just powered on, wait a minute; error may clear by itself.<br>Remove Printhead, wet print nozzles using deionized or distilled water and reinstall Printhead. Refer to appropriate sections in this manual for removing and installing Printhead. If you continue to have trouble priming Printhead; check for kinked or pinched color tubes. |
| **System Status: MECH_CANCELPAGE** | Job was cancelled by user pressing Cancel Job button. | Wait until print job has cleared from Printer. Then manually clear job from computer's print queue. Then send new print job.<br>If problem persists, contact service support. |

## Toolbox System Status Messages (*Continued*)

| SYSTEM STATUS | SOURCE | SOLUTION |
|---|---|---|
| **System Status: WIPER OVERTEMP** | Wiper Motor is overheated due to performing a Wiper Transfer (*removing excess ink off Service Station Wiper*) 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. | **Wait for Wiper Motor to cool down,** Printer will automatically resume operation. **NOTE:** If running a number of short jobs or jobs on smaller media, reset **Mid-Job Servicing** interval to a higher number of pages. |
| **System Status: WIPER ERROR** | **Wiper Roller is not turning. This can be due to:**<br>1. White flex cable is dirty, broken or not connected.<br>2. Wiper Module (motor) failure.<br>3. DPCA failed at J17 terminal. | 1. Check white flex cable and connections.<br>2. Replace Wiper Module.<br>3. Check and/or replace DPCA board. |

# Appendices

## *Appendix A – Printer Specifications*

| | |
|---|---|
| **PRINT RESOLUTION** | **Best:** 1600 x 1600 DPI<br>**Normal:** 1600 x 800 DPI |
| **PRINT SPEED** | **High Quality Mode:** 6" (15 cm)/second<br>**Normal Quality Mode:** 12" (30 cm)/second |
| **MEDIA PRINTSIZE** | 8.5" (215.9 mm) W x Continuous Length |
| **MEDIA TYPES** | Roll or Fanfold (*Label, Tag*) |
| **MEDIA SIZE** | **Minimum:** 2" W x 2" L (50.8 mm x 50.8 mm)<br>**Maximum:** 9" (228.6 mm) W x Continuous Length |
| **MEDIA THICKNESS** | **Minimum:** 3 points (0.1 mm)<br>**Maximum:** 12 points (0.3 mm) |
| **MIN. LABEL GAP (Space between Labels)** | **No Bleed:** 3 mm<br>**Full Bleed:** 5 mm |
| **MEDIA SENSING** | Label gap, notch, tick mark, (Continuous, blackmark, diecut) |
| **SOFTWARE** | Windows™ Printer Drivers for Windows™ 7, 8, 8.1, 10.<br>RIP available |
| **INK** | Water-based ink. 5 individual 250 ml ink tanks (CKMYK) |
| **PRINTHEAD** | Memjet® Replaceable Printhead |
| **INTERFACE** | USB 2.0 and Ethernet |
| **ELECTRICAL** | 115-240 VAC, 50/60 Hz |
| **DIMENSIONS** | 20.25" W x 22.25" L x 13.5" H (51.4 cm x 56.5 cm x 34.3 cm) |
| **WEIGHT** | 75 lbs. (34 kg) |
| **OPERATING TEMPERATURE** | 15ºC to 50ºC (59ºF to 86ºF). Maximum change ±0.5ºC (0.9ºF) |
| **OPERATING HUMIDITY** | 35% to 80% Relative Humidity, non-condensing |

**All specifications subject to change without notice**

# *Appendix B – Supplies*

The following supply items are available from your ColorMaxLP2 Dealer:

| SUPPLIES | |
|---|---|
| **Item** | **Formax Part #** |
| Black Ink Tank | LP2-24 |
| Cyan Ink Tank | LP2-21 |
| Yellow Ink Tank | LP2-22 |
| Magenta Ink Tank | LP2-23 |
| 1600 dpi Print Head | LP2-20 |
| | |

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

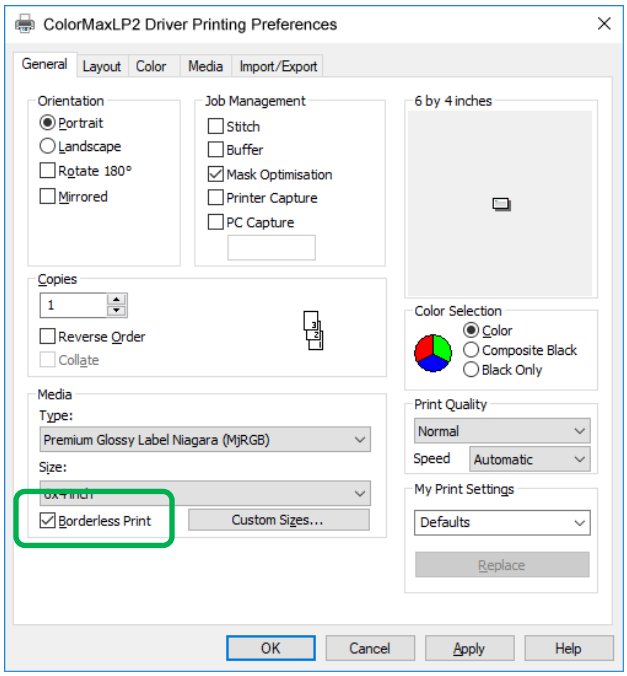
**ColorMaxLP2 Print Driver** (*under Printing Preferences*) offers two ways for printing to the edge of the media, sometimes called **"borderless"** or **"full-bleed"** printing. Each option adjusts the relationship between the target image, selected media size and the actual media on which is it printed, 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 **Media** section under **General Tab**




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

**Impact of Using Borderless Print**

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

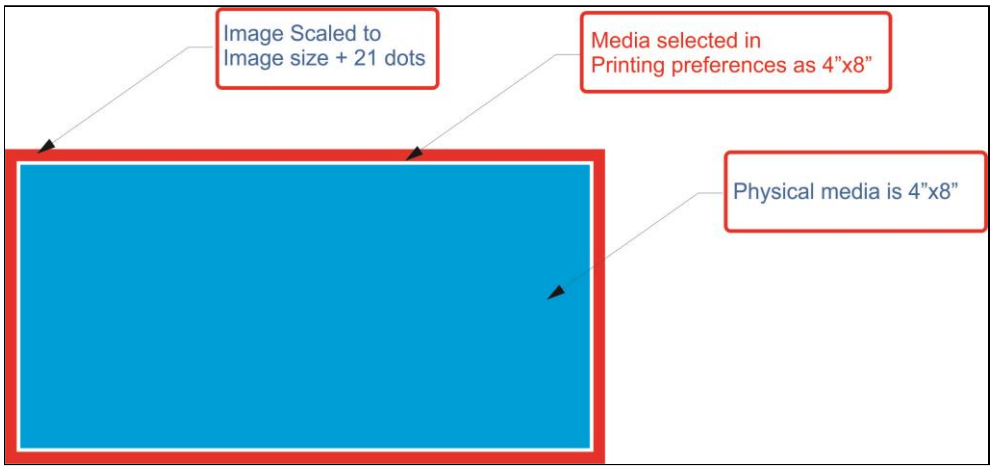
For example, if the **Borderless** default setting is *21 (dots)*, then resultant the **Borderless Print** selection will have a resolution of *821 dpi*, (*when printing with normal resolution of 800*). Although this might stretch the image beyond the edges of the media (*and is quick and easy to select*), the printed image may not have the same aspect ratio as the artwork and may be too distorted to use.

**Prerequisites for Borderless Print**

Since scaling without maintaining the aspect ratio can distort the image, do not use **Borderless Print** for targets that have barcodes or text because this setting could render them unreadable. If target image is a photograph or other graphical image, scaling may not be noticeable or objectionable. Make test runs and check effect of choosing **Borderless Print**.

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

**4" (800 dpi) + 21 dots = 3221 dots x 8" (800 dpi) + 21 dots = 6421 dots**



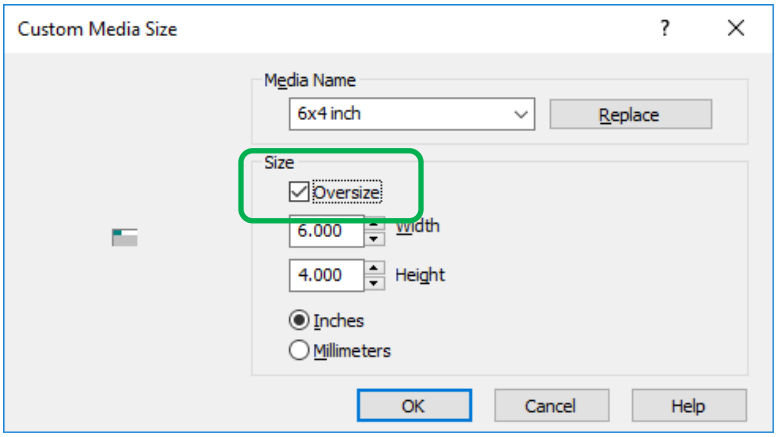

**Borderless Print Example: Measurements and Relationships**

**<u>For barcodes and text</u>,** use **Oversize** instead of **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**.

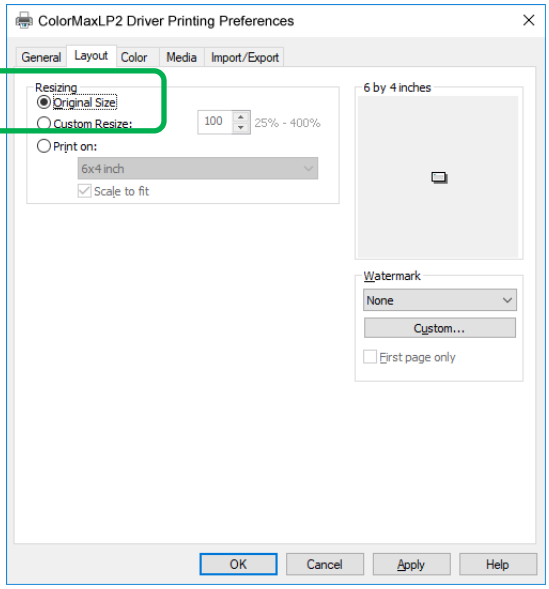



**Oversize Checkbox on Custom Media Size Dialog Box**

- 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**

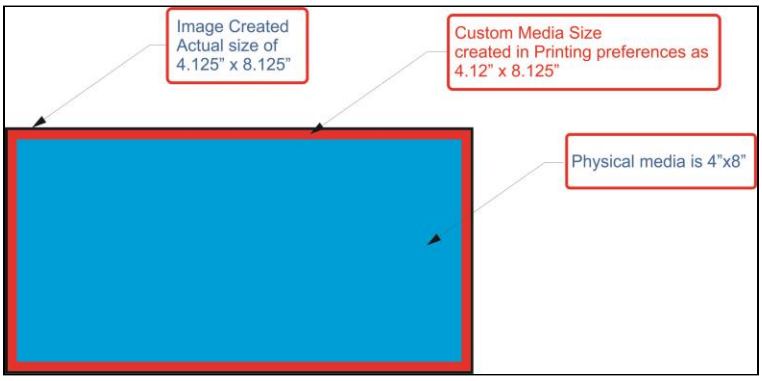
### Impact of Using Oversize

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.

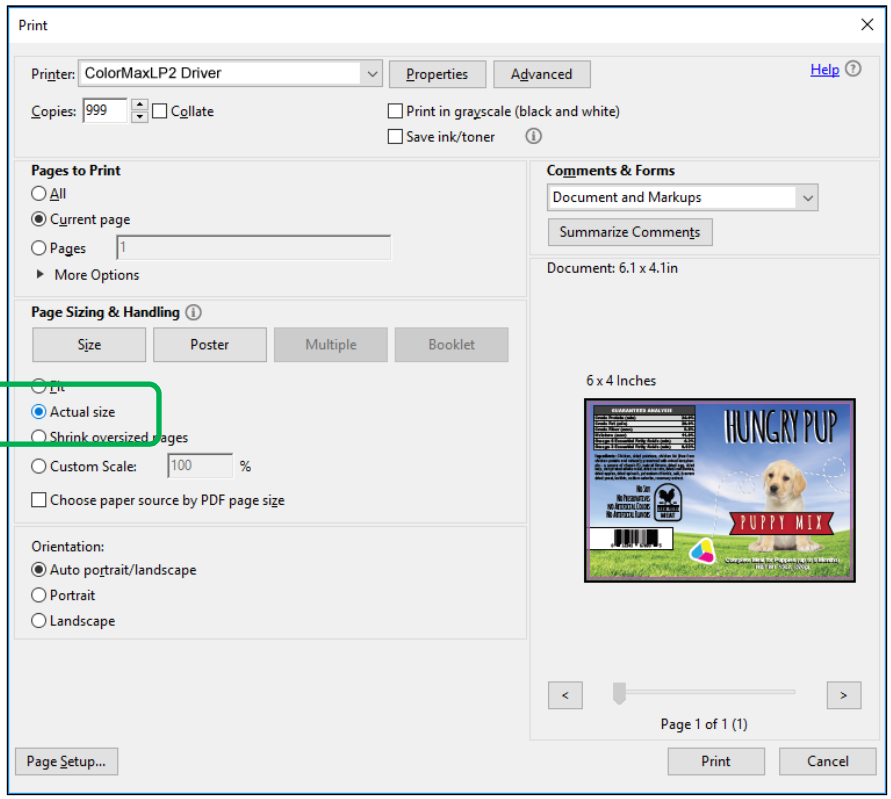
### Minimum Label Gap and Maximum Width

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"**

# *Appendix D – External Connections – GPIO details*

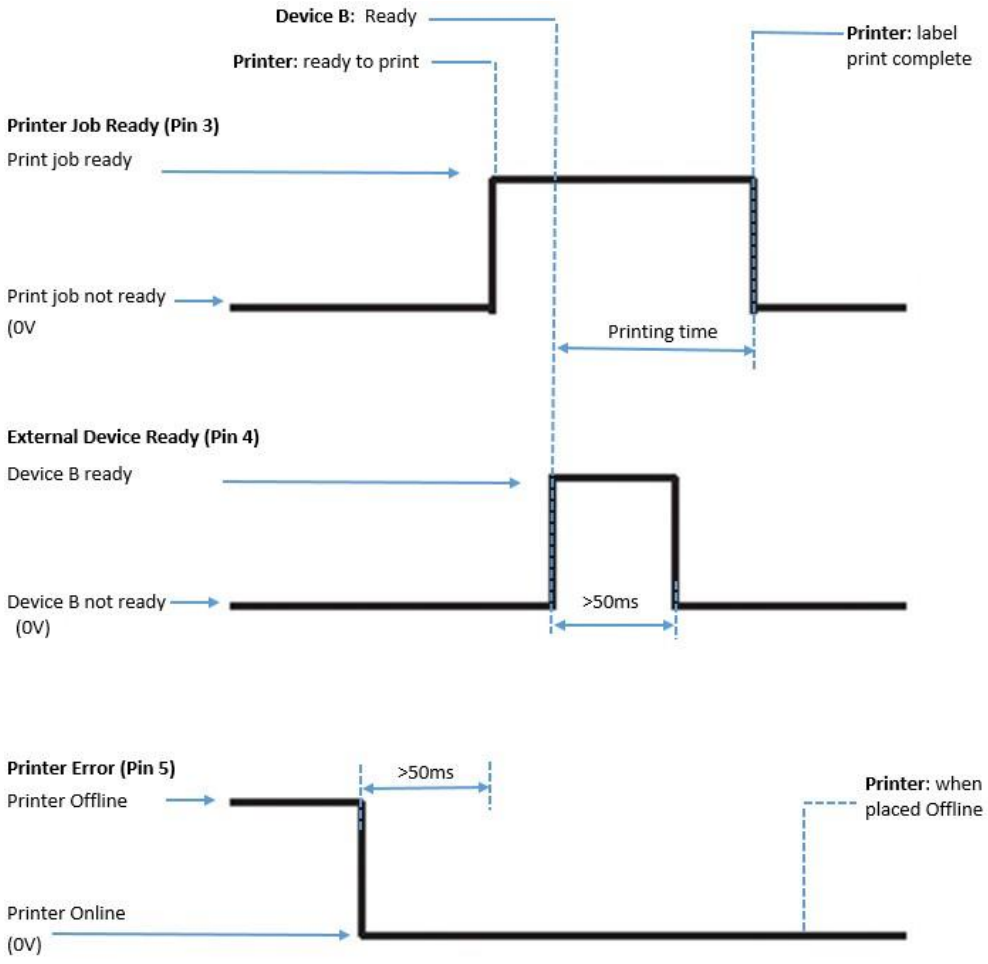
**Pinout Details:**

Pin 1 – 3.3v
Pin 2 – open
Pin 3 – Print job ready – output.
Pin 4 – External Device Ready – Input. Active Low
Pin 5 – Printer error – Output. Active High
Pin 6 – Ground
Pin 7 – Reverse paper path direction – Output
Pin 8 – End of Roll – Input. Active Low
Pin 9 – Open

Pin 4 can be used as a pause input. The pause input is an active low input (IAL). When it is not asserted the pin should be high (3v3) and when asserted, it is low (0v). Connect a 1k resistor to 3v3 (pins 4 and 1). A switch can be connected and when pressed (active), pin 4 is set to 0v and will pause the printer. Releasing the switch will set the signal to 3.3v and the printer goes back online.

Pin 5, printer error, will change from 0V to 3.3V when offline.

Timing Diagram:



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