



AstroJet™ M1 COLOR PAGE PRINTER



OPERATOR MANUAL

(For Firmware Version R15 or higher)

Powered by
memjet®

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SAFETY PRECAUTIONS

THIS EQUIPMENT PRESENTS NO PROBLEM WHEN USED PROPERLY.
OBSERVE SAFETY RULES WHEN OPERATING M1 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 Astro Machine Corp., its designated agents, customers, and their employees. The information in this guide was obtained from several different sources that are deemed reliable by all industry standards. To the best of our knowledge, that information is accurate in all respects. However, neither Astro Machine Corp. nor any of its agents or employees shall be responsible for any inaccuracies contained herein.

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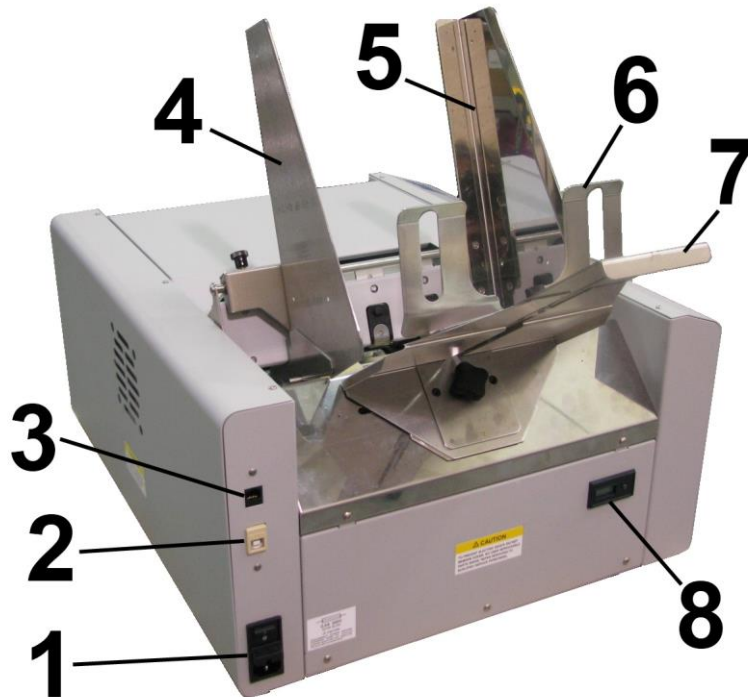
SECTION 1 – *Getting Acquainted*



Front View

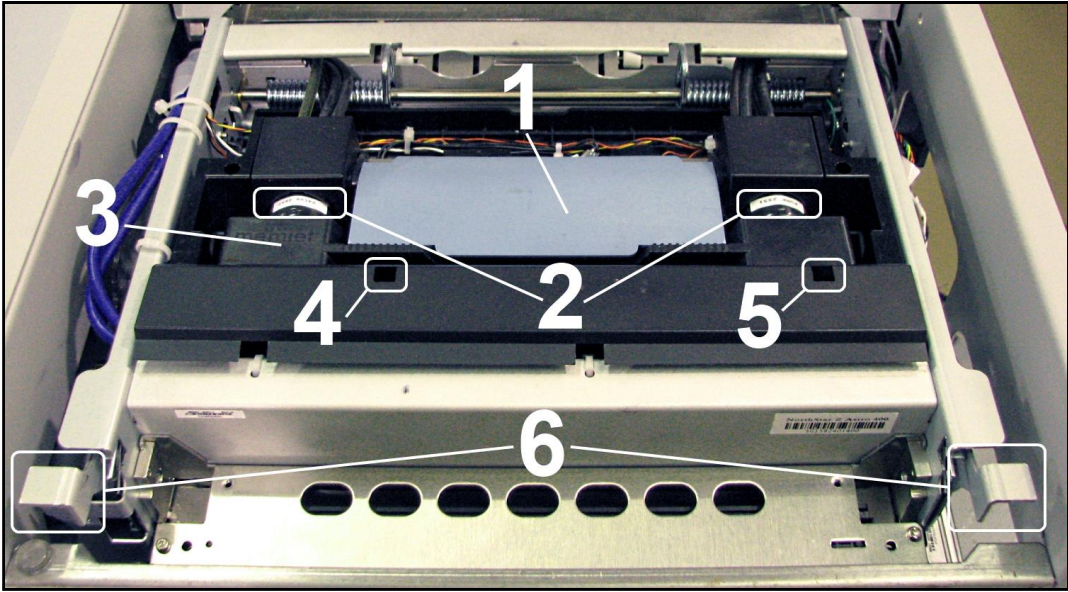
1.	Cancel LED Button – Cancels job being printed.
2.	Paper LED Button – Press to stop printing, press to restart printing. Press switch to continue printing.
3.	ON/OFF LED Button – Use to turn power ON or OFF during idle time and maintenance.
4.	Rear Guide – Holds media against Front Plate.
5.	Rear Guide Support – Supports the paper/media.
6.	Adjustable Media Guide – Adjusts to hold media against Envelope/Paper Register Guide.
7.	Envelope/Paper Media Guide – All printing is registered against this Guide. It has adjustable positions for envelopes and paper.
8.	Top Cover – Provides access to Print Engine.
9.	Front Cover – Provides access to Service Station and Ink Tanks.

SECTION 1
GETTING ACQUAINTED



Rear View

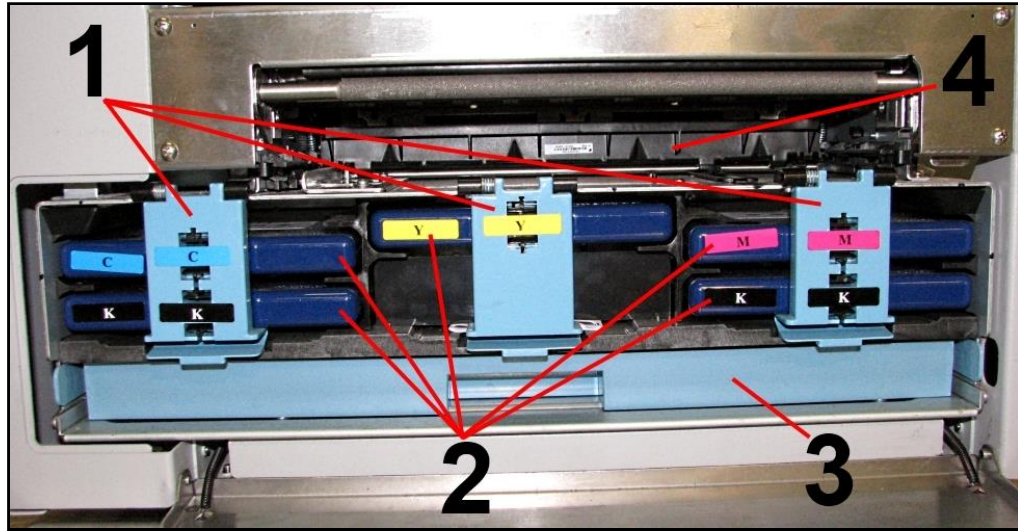
1.	Main Power Switch, Receptacle and Fuse – Plug in power cord here. Switch turns main power ON/OFF. (<i>Use Control Panel LED Power switch to turn off machine for cleaning and maintenance</i>). Fuse protects Printer's electronic circuits.
2.	USB Port Connection –USB cable attaches to Printer here.
3.	Network Connection – Network cable plugs in here.
4.	Envelope/Paper Media Guide – All printing is registered against this Guide. It has adjustable positions for envelopes and paper.
5.	Adjustable Media Guide – Adjusts to hold paper/media against Envelope/Paper Media Guide.
6.	Rear Guide – Holds paper/media against Front Plate.
7.	Rear Guide Support – Supports paper/media.
8.	Counter – LCD displays number of pieces run on Printer during its service lifetime. Non-resettable.



Print Engine View

1.	<p>Printhead Latch – When closed, connects Ink Revolver Couplings with Printhead Cartridge. When opened, retracts Ink Couplings from Printhead Cartridge and provides access to Printhead Cartridge for cleaning and replacement.</p> <p>WARNING! Never attempt to open Printhead Latch manually, severe damage will result. Use Printhead Release button function in Toolbox on your PC or press Printhead Latch Release Button (See #4 below).</p>
2.	<p>Ink Revolver Couplings – Connect ink hoses to Printhead Cartridge. Printhead Latch extends and retracts couplings from Printhead.</p>
3.	<p>Printhead Cartridge – Memjet® Printhead produces an 8.5" wide full color print area.</p>
4.	<p>Printhead Latch Release Button* – Button inside opening will initiate a Printhead Latch release cycle. If system is primed, runs a full system deprime cycle before Latch is released. Lightly press button with a non-conductive tool.</p> <p><i>*Same function can be accessed through Printer Toolbox User Interface screen on your computer.</i></p>
5.	<p>Print Ink Channels Button* – Prints 5 bars (1 bar from each ink tank) to indicate how well Printhead Nozzles are working. Press button with a non-conductive tool.</p> <p><i>*Same function can be accessed through Printer Toolbox Diagnostics screen on your computer.</i></p>
6.	<p>Clamshell Latches – Lift both latches at same time to open top half of Print Engine. DO NOT open while Printer is operating. DO NOT lift Clamshell more than 60 degrees. DO NOT let Clamshell drop, close it gently.</p>

SECTION 1
GETTING ACQUAINTED



Ink Tank Door View

1.	Ink Tank Securing Latches – Used to hold Ink Tanks in slots. NOTE: Make sure both sides at bottom part of latch are engaged.
2.	Ink Tanks – Printer has 5 Ink Tanks: Cyan, Yellow, Magenta, Black, Black
3.	Ink Waste Tray – Catches any waste ink produced by system. Tray is filled with absorbent material. Tabs located at left and right sides of tray secure tray to print engine frame. Please be sure tabs click in to secure tray.
4.	Service Station – Cleans Printhead Cartridge of excess ink and debris, keeps Printhead hydrated and protected when not in use, captures ink used to keep nozzles clear, and acts as a base to support media during printing.

Control Panel Button/LED Indicators

Control Panel has three buttons with LED indicators.

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

PAPER (STOP JOB/RESUME) – Stops Paper Feed or Resumes Printing.

- **Press to Stop Paper Feed Immediately.**
Printer will clear media in Printer and stop.
- **Press to Resume Printing.** Restart printing after a paper feed error
(such as a paper jam or running out of paper).

CANCEL (CANCEL JOB) – Cancels a Job.

- **Press to Cancel a Job.** Once Printer has stopped, pressing this button clears job from Printer and Print Queue in Driver. **NOTE:** Cancelled Jobs must be reloaded before printing can resume.



LED Sequence	Printer Status	Recommended Action
Flashing, simultaneously 	Powering up or Shutting down	Wait for process to finish
ON, Steady 	Printer powered up in Standby mode	Load Media
ON, Steady 	One of the printing sensors is covered or dirty	Open Clamshell, remove media or clean sensors
Flashing SLOW 	Printer Paused, (Data pending)	Press PAPER to Start/Resume printing or CANCEL to clear job
Flashing FAST 	Out Of Paper (Data pending, Media not present)	Reload Media, Press PAPER to Start/Resume printing, or CANCEL to clear job
ON, Steady 	Ink Supply error: Ink Out, Ink Missing, Printhead Unprimed...	Replace empty Ink Tank and press PAPER to resume, or Circulate ink
Flashing SLOW, simultaneously 	Busy Signal: Performing maintenance, Loading, Ejecting media	Wait for process to finish
Flashing FAST, simultaneously 	Hardware error: Door Open, Machine tilted, Service Station Error, Printhead missing...	Find and fix error
Flashing, alternating 	Downloading Data, Printing	Press PAPER to Pause printing

MORE TROUBLESHOOTING GUIDES IN SECTION 5.
FOR A LARGER CHART TO MOUNT ON THE PRINTER, SEE END OF THIS MANUAL.

SECTION 2 – *Installing Printer*

Contents of Packaging

1.	M1 Printer
2.	Ink Tanks – Cyan, Magenta, Yellow, Black, Black
3.	Printhead Cartridge
4.	Media Side Guides: Registration (<i>Fixed</i>) and Adjustable – mounting screws attached to Printer
5.	Rear Media Support Guide – thumbscrew attached to Printer
6.	Media Support Wedges: Narrow and Wide – mounting hardware attached to Rear Media Support Guide
7.	Envelope Media Guides (<i>3 Guides included: Plastic Guide, Thin Metal Guide, Medium Metal Guide – Medium Metal Guide preinstalled on Printer</i>) Envelope Attachment Spacers (<i>2 installed</i>)
8.	AC Power Cord
9.	USB Cable
10.	Operator Manual
11.	Driver Software CD

Before using Printer:

- Choose a location for Printer
- Unpack and assemble Printer
- Remove Service Station Transport Tab and Shipping Tape
- Plug in Printer and connect it to computer
- Install Printer Driver
- Install Ink Tanks
- Install Printhead
- Set up feed on Printer

Unpacking and Setup

Remove Printer and its parts from carton. Remove all packing tape. Find screws that attach various parts of Guides to Printer are under tape in their respective mounting positions.

Choose a Location

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

Remove Service Station Transport Tab and Shipping Tape

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



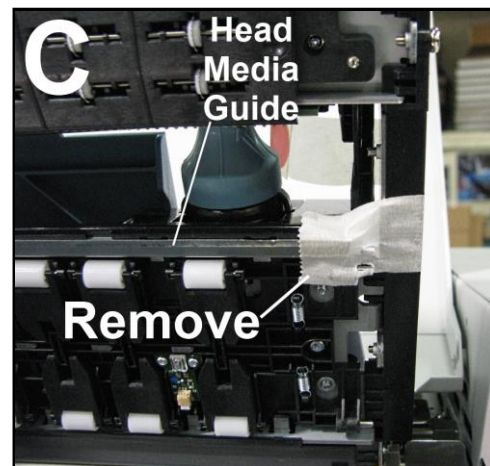
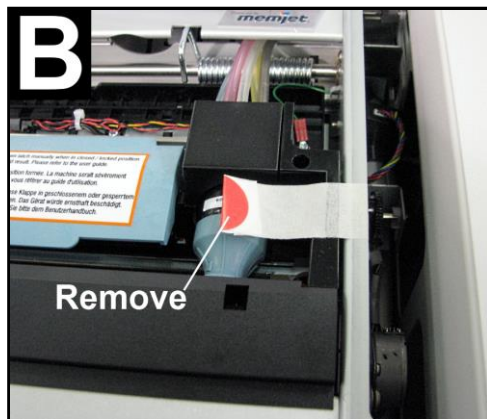
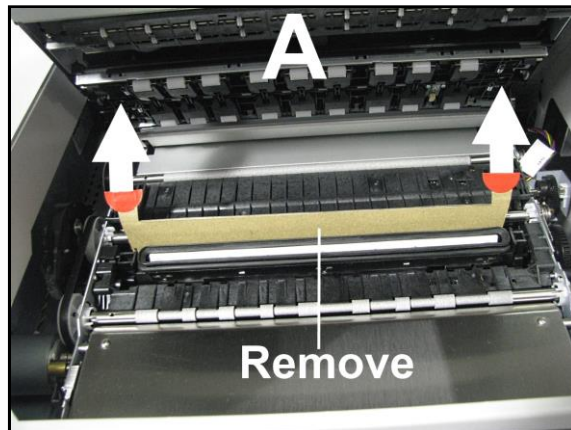
CAUTION

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

DO NOT ALLOW CLAMSHELL TO DROP OR SLAM CLOSED.

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

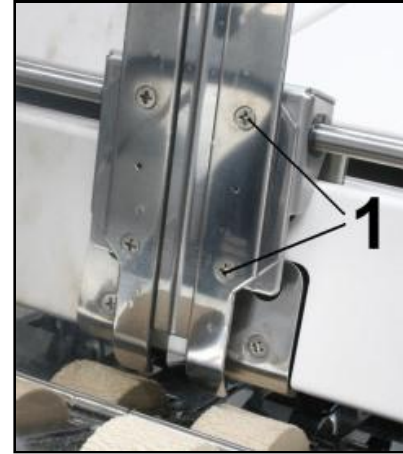
3. Remove cardboard Transport Tab [A] from Service Station.
4. Remove tape [B] securing Head Media Guide. (*If necessary, wipe tape residue off Head Media Guide surface [C].*)
5. Carefully close and latch Upper Clamshell. Close Top Cover.



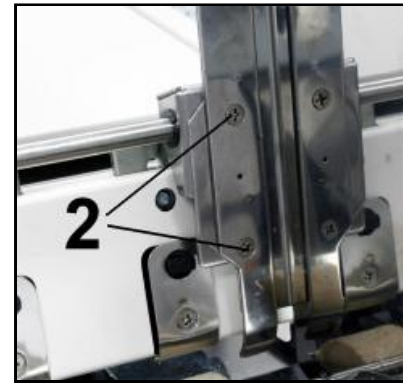
SECTION 2 INSTALLING PRINTER

Assembling Printer

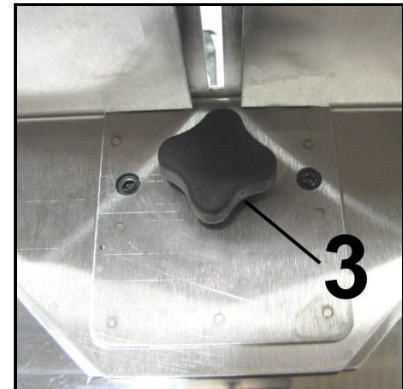
1. Install Adjustable Side Guide with two screws [1].



2. Install Envelope/Media Side Guide with two screws [2] (*included*).



3. Attach Rear Media Support using knob [3] provided.
NOTE: Two outside holes fit over socket head screws.



4. Install Rear Guide using thumbscrew and washer [4] (*included*). Washer goes between screw and Rear Media Support.



Connecting Printer

Plugging in Printer

Plug power cord into receptacle [1] at rear of Printer. Internal power supply in Printer is rated 115 to 240VAC, 50/60 Hz.

CAUTION

DO NOT USE AN 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.

Connecting to Computer

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

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

See “**Network Connection Setup**” in “**Using Printer Toolbox**” section.

Turning Power ON and OFF

Powering Up Printer:

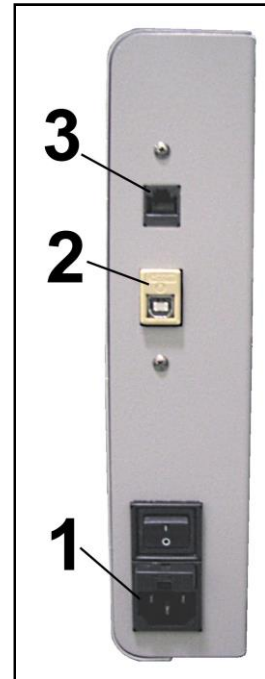
1. Press Main Power Switch on Rear Panel.
2. Press Power Button on Control Panel.

Powering Down Printer:

CAUTION

WHENEVER POWERING DOWN UNIT, ALWAYS:

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



SECTION 2 INSTALLING PRINTER

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 XP, Windows Vista, Windows 7. Supports 32 and 64 bit systems. (*You must have administrative privileges on system.*) **NOTE:** Win 8, 8.1 and Windows 10 will only work in desktop mode. No Win 8 or 10 metro apps will be supported (*applications that work in a Windows 8 or 10 only environment*).
- **Microprocessor:** Pentium II, 2 GHz minimum (*Pentium Dual Core, 2.5 GHz or better, is optimal*)
- **System memory:** 2 GB minimum; or as recommended for your operating system.
- **Free hard-disk space:** At least 10 GB.
- **Web Browser:** Firefox recommended; Chrome, Safari, and Opera also supported.
- CD/DVD drive.
- **USB port (2.0/3.0):** (*Ports will be identified as “USB” or “Enhanced” in Device Manager*)
- Microsoft .Net Framework version 3.5 (*for 32 bit systems*) or Microsoft .Net Framework version 4 (*for 64 bit systems*) must be installed. **NOTE:** Even if 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*).

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

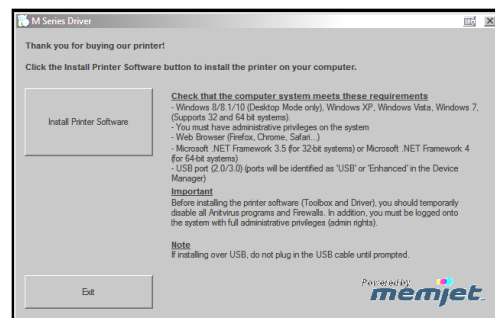
Install Over USB Connection

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

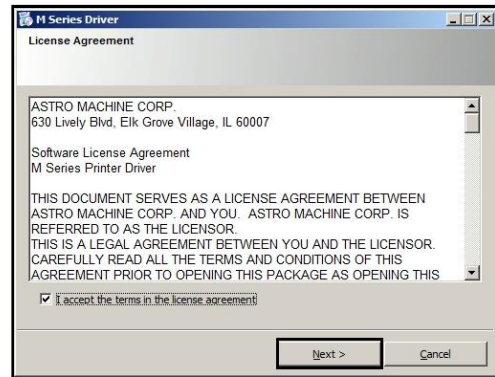
1. Check that Printer is plugged in and turned OFF.
Disconnect USB connection if already plugged in.
Install disk supplied with Printer in your CD drive.
When **AutoPlay** Window opens, click **“Run Setup.exe”** to start.



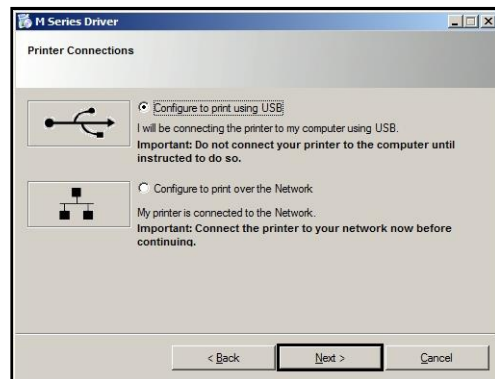
2. **Install Printer Software.** Make sure computer system meets **minimum requirements** and you followed other instructions listed on screen.
Click **“Install Printer Software”**.



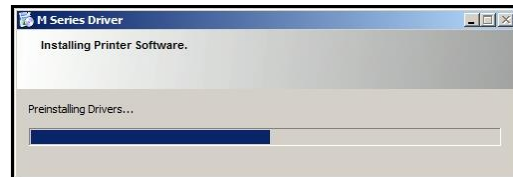
- License Agreement.**
Check “I accept...” then click “Next>”.



- Printer Connections.** Click “Configure to print using USB”. Then click “Next>”.



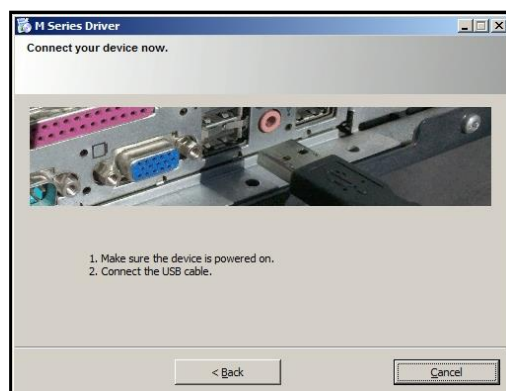
- Installing Printer Software.**
Software download begins.



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

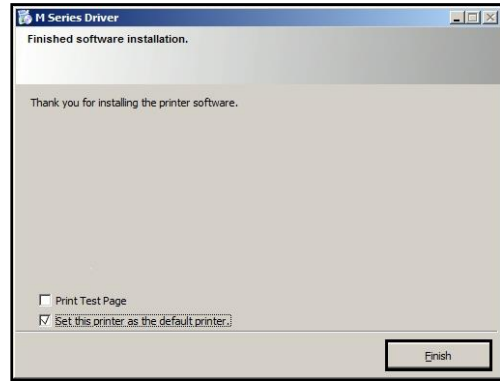


- Connect Device Now.** Turn Printer ON and connect USB cable. **Don't click on either button.** Software will finish installing.

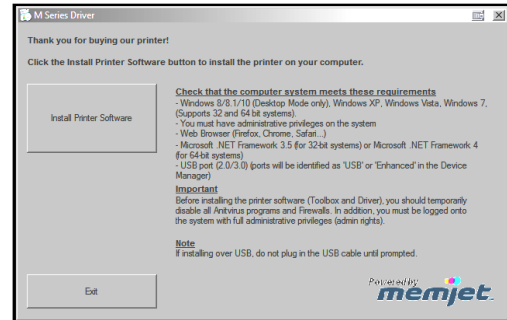


SECTION 2 INSTALLING PRINTER

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



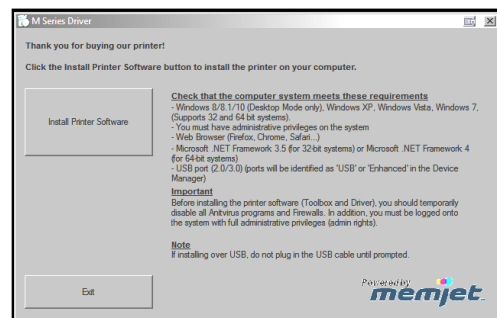
9. **Install Printer Software.**
Click “**Exit**” to close CD.
10. Restart computer to complete installation.



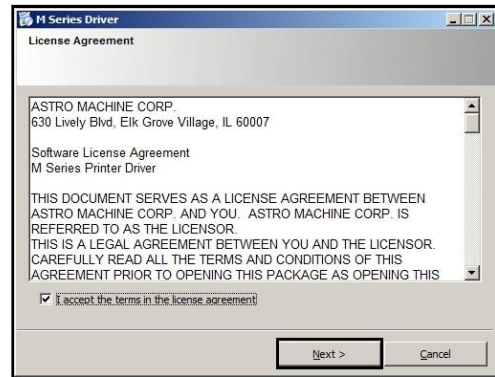
Install Over Network Connection, Version A

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

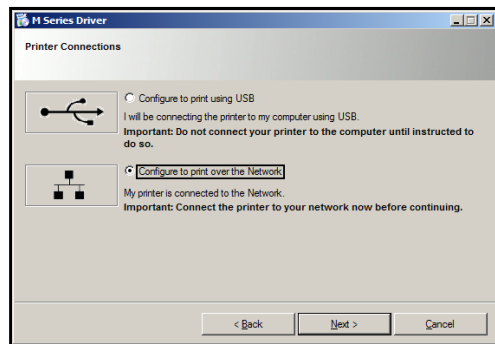
1. Check that Printer is plugged in and turned ON. **Make sure the Ethernet (network) cable is plugged into the Ethernet port on the Printer.** Install disk supplied with Printer in your CD drive. When **AutoPlay** Window opens, click “**Run Setup.exe**” to start.
2. **Install Printer Software.** Make sure computer system meets **minimum requirements** and you followed other instructions listed on screen. Click “**Install Printer Software**”.



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

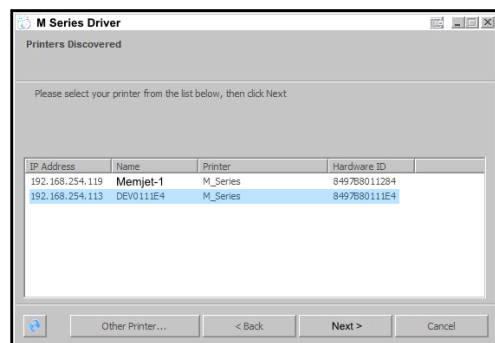


4. **Printer Connections.** Click “Configure to print using the Network”. Make sure the Printer is connected to the Network. Then click “Next>”.

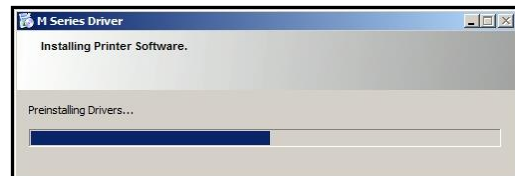


5. **Printers Discovered.** A list of available Printers opens. Check the **Printer** column to verify you have an **M-Series** printer. Check the **Hardware ID** column and match the number listed to the number you copied previously from the Printer label. Select that Printer. Click “Next>”.

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



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

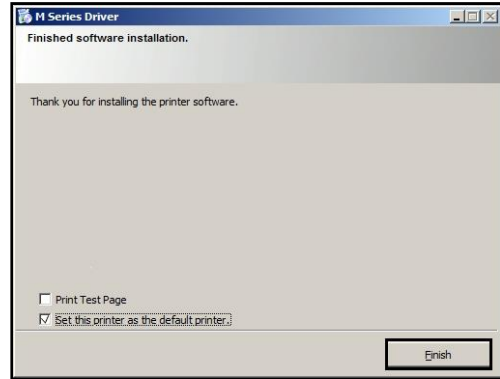


7. **Would You Like to Install This Device Software?** Click “Install”.

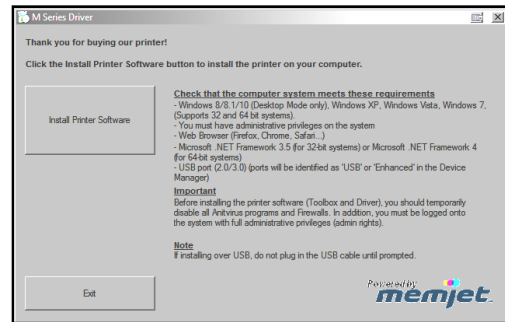


SECTION 2 INSTALLING PRINTER

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



9. **Install Printer Software window.** Click “**Install Print Software**” again to install software on another Printer, or click “**Exit**” to close the CD.



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

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

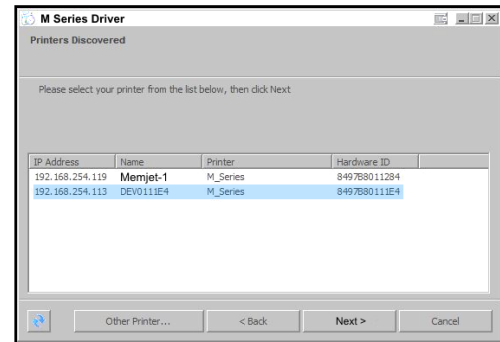
If more than one copy of the M-Series Driver is installed, you will have to choose which device you want the **Toolbox** to connect to. To help choose the proper device, you can identify the Printer(s) using the **Hardware ID** you copied earlier or you can rename the Printer(s) as outlined in the **Tip**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

Example:

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

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

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



Install Over Network Connection, Version B

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

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

2. Open the “**View**” drop-down menu. Click “**Service Menus**”. Click “**System Settings**” button. The **System Settings** window opens. Your IT support person can fill in the necessary information under **Network Settings** (or you can get it from them.) **NOTE: Make sure the “dhcp” and “autoip” boxes are unchecked.** Enter an **ip_address**. Click “**Submit**”.

3. **If using the USB connection;** disconnect the USB from the local computer or laptop. If not using that computer for printing, the M-Series 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 “**Printer s 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.

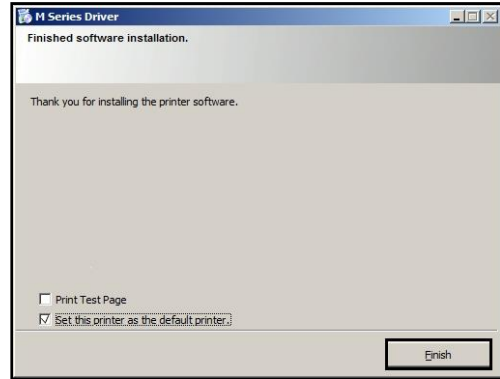
IP Address	Name	Printer	Hardware ID
192.168.254.119	Memjet-1	M_Series	849788011284
192.168.254.113	DEV011E4	M_Series	849788011E4

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

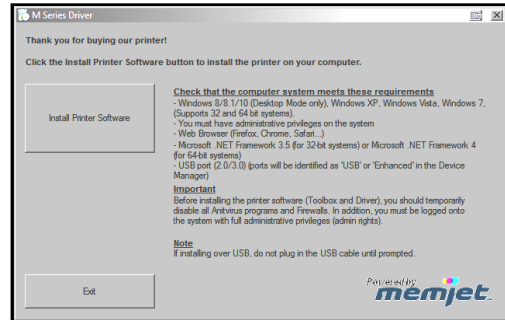
6. **Would You Like to Install This Device Software?** Click “**Install**”.

SECTION 2 INSTALLING PRINTER

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



8. **Install Printer Software window.** Click “**Exit**” to close the CD.



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

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

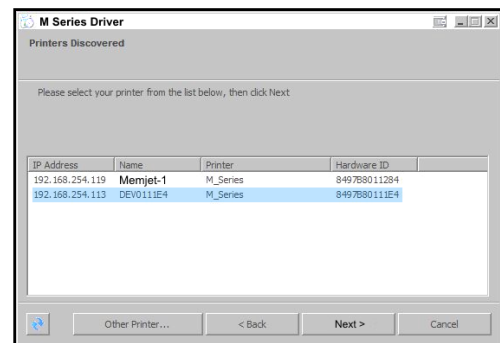
If more than one copy of the M-Series Driver is installed, you will have to choose which device you want the **Toolbox** to connect to. To help choose the proper device, you can identify the Printer(s) using the **Hardware ID** you copied earlier or you can rename the Printer(s) as outlined in the **Tip**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

Example:

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

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

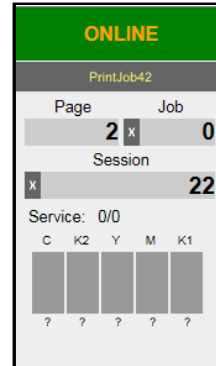
M-Series Driver (Copy 2) configured for Network:
suggested name “**M Series (Network-2)**”



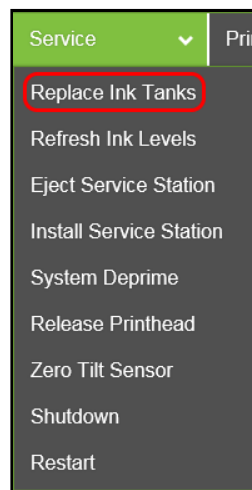
Install Ink Tanks

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

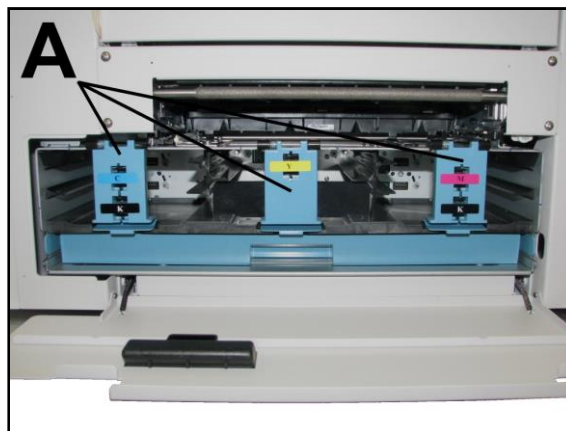
1. **Open Printer Toolbox.** Go to **Start Menu** and open **“Toolbox”**. System Status information appears in upper left corner of **System Status** window. Note that **“C, K2, M, Y, K1”** boxes are empty.



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

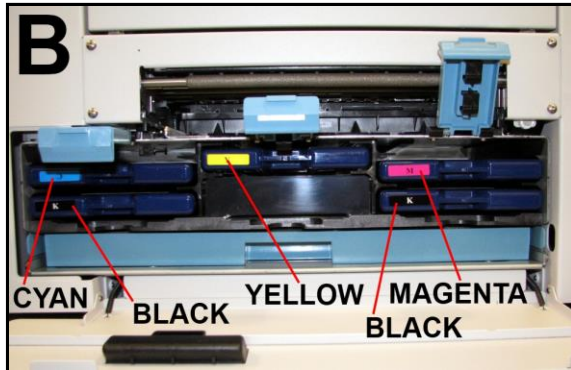


3. Open Ink Tank Door (*hinged at bottom*). Open three Latches [A].
4. Remove Ink Tank(s) from packaging.



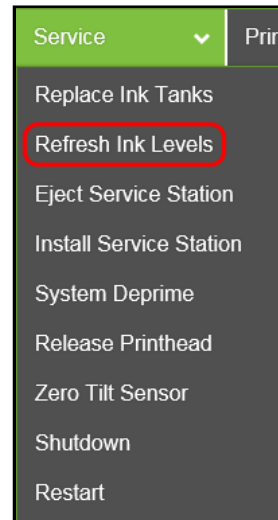
SECTION 2 INSTALLING PRINTER

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



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

7. Close Front Cover.



WARNING!

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

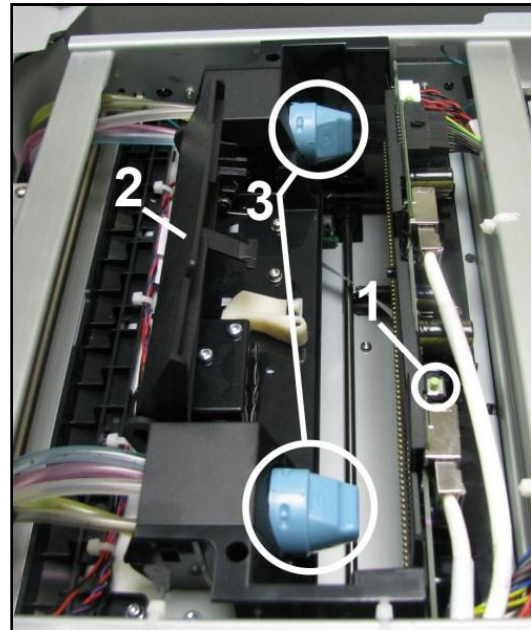
Install Printhead Cartridge

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

CAUTION

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

1. With Printer power ON, open Top Cover. Press Printhead Latch Release Button [1]. Printer runs, then Latch pops open [2]. **NOTE: Remove Cap Protectors on Ink Nozzles [3]. Be sure to open Latch fully to retract Ink Nozzles.**

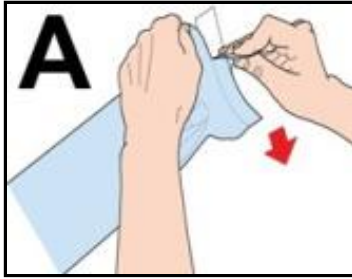


CAUTION

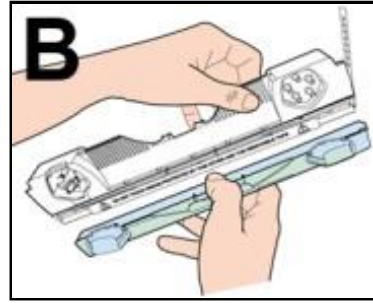
DO NOT PRY OR MANUALLY LIFT PRINTHEAD LATCH OR LATCH MAY BREAK. ONLY OPEN LATCH USING RELEASE BUTTON ON PRINTER OR PRINTHEAD RELEASE COMMAND IN PRINTER TOOLBOX.

SECTION 2 INSTALLING PRINTER

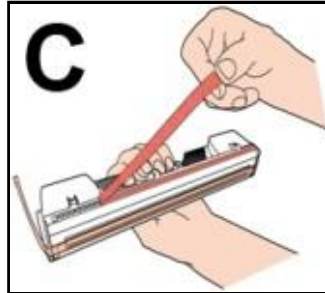
2. [A] Carefully remove Printhead Cartridge from foil packaging. Tear foil at notch or cut the end with scissors.



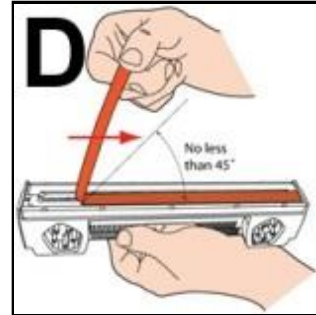
- [B] Remove protective plastic cover. Hold Printhead by handle and unclip cover from Printhead.



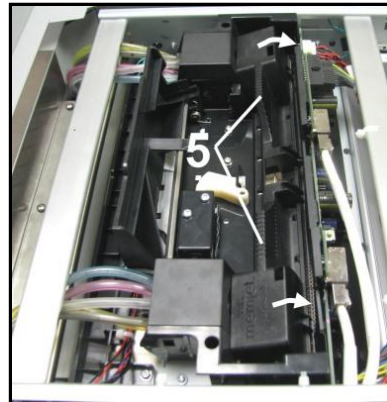
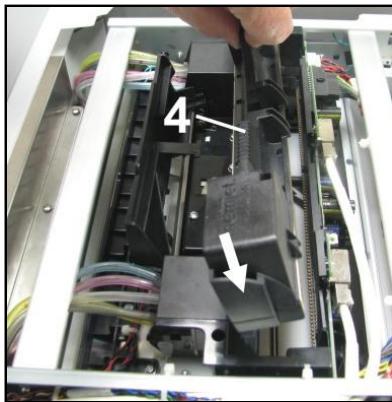
- [C] Remove protective strip from Printhead Electrical Contacts. Once removed, DO NOT allow strip to touch electrical contacts.



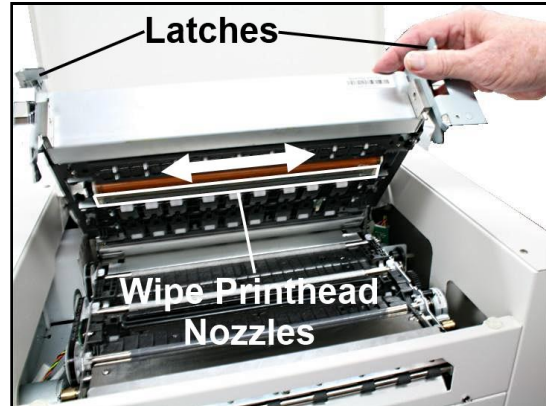
- [D] Remove protective strip from Printhead Nozzles. Hold Printhead by the handle. Pull strip tab and slowly peel strip from Printhead. DO NOT pull strip at less than a 45° angle from Printhead surface. DO NOT allow removed strip to touch Printhead Nozzles.



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 Cartridge back until it snaps into an upright position [5]. DO NOT FORCE Cartridge into position.



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



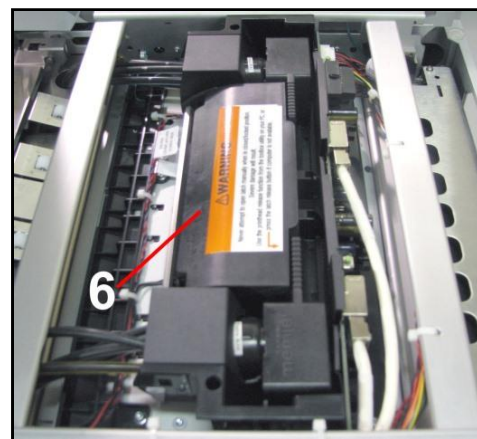
CAUTION

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

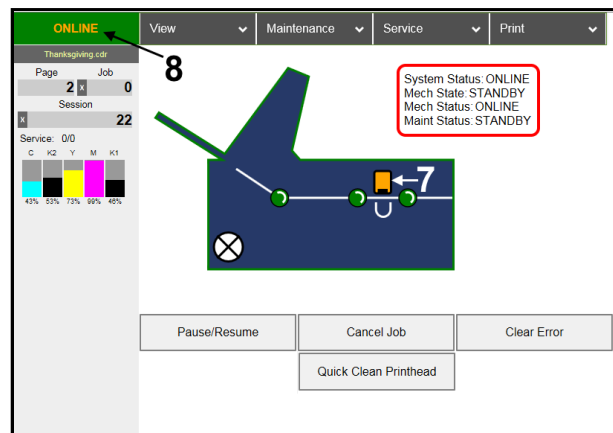
DO NOT ALLOW CLAMSHELL TO DROP OR SLAM CLOSED.

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

5. **Close Printhead Latch [6].** Printer starts up and primes ink into Printhead. (*May take a few minutes.*) Make sure ink is flowing through hoses.



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



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

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

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

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

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

SECTION 2 INSTALLING PRINTER

Removing Head Media Guide

Remove Head Media Guide if primarily printing on thin, flat stock (*that is, not printing large batches of envelopes*) and are encountering print quality issues. Attachment is used to flatten envelope flap for better print consistency. Three Guides are included with the Printer to handle different types and thicknesses of media. Plastic for flat sheet media; thin metal and medium metal for thin to thick envelopes. Medium metal Media Guide is preinstalled on Printer.

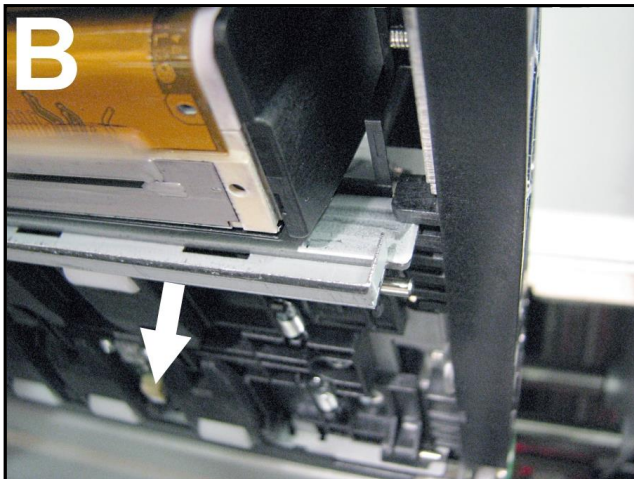
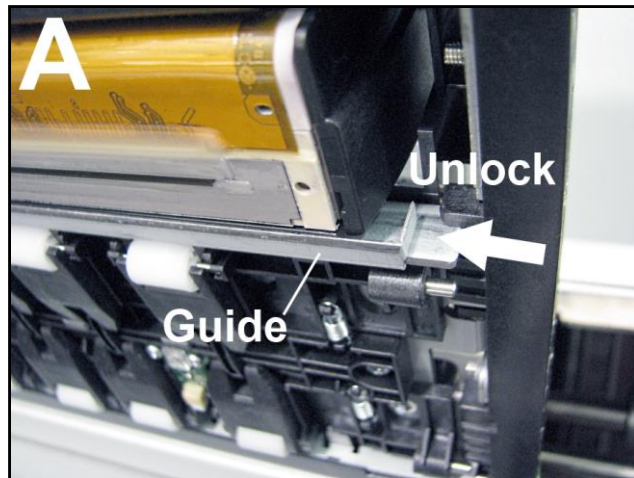
1. Open Top Cover
2. Open Print Engine Clamshell.

CAUTION

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

3. [A] & [B] Slide Envelope Printing Attachment to the left and pull down on Head Media Guide to release it from metal support.

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

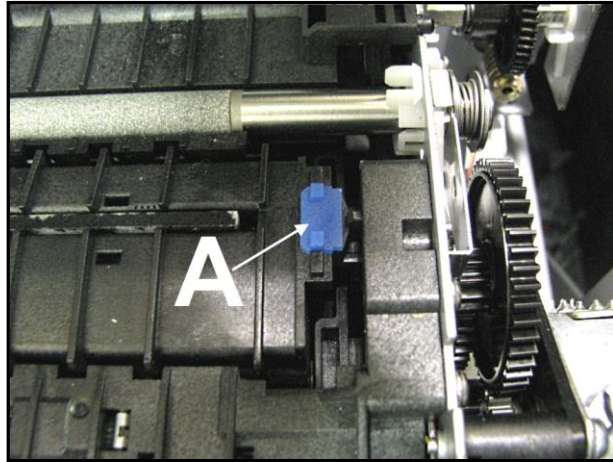


Install/Remove Envelope Attachment Spacers

Install Envelope Attachment Spacers if you are printing large volumes of envelopes.
Remove Spacers if you are primarily printing sheet stock. **NOTE: Spacers are preinstalled on Printer.**
DO NOT use spacers without Envelope Attachment (*Head Media Guide*).

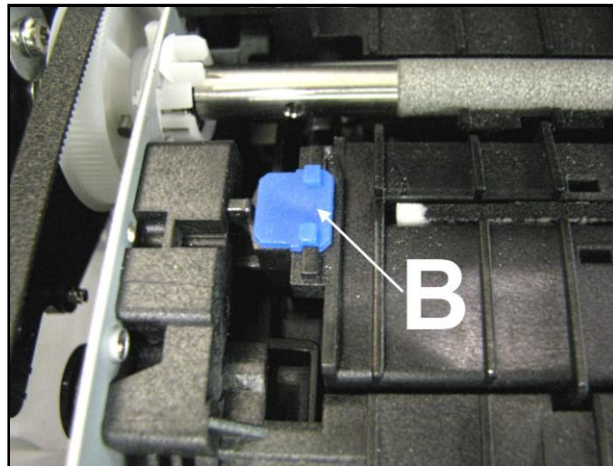
Install:

1. Insert right-hand Spacer (*smaller*) into hole in Service Station Platen [A].
2. Insert left-hand Spacer (*larger*) in hole on left end of Service Station Platen [B].
3. Wipe Printhead Nozzles end to end using distilled water and a damp lint-free cloth. Close and latch Printhead Clamshell. Close Top Cover.



Remove:

1. Carefully pull out right-hand Spacer (*smaller*) in hole in Service Station Platen [A].
2. Carefully pull out left-hand Spacer (*larger*) in hole on left end of Service Station Platen [B].
3. Wipe Printhead Nozzles end to end using distilled water and a damp lint-free cloth. Close and latch Printhead Clamshell. Close Top Cover.



NOTE: When removing Head Media Guide or servicing or replacing Service Station, DO NOT discard Spacers, remove and save or reuse.

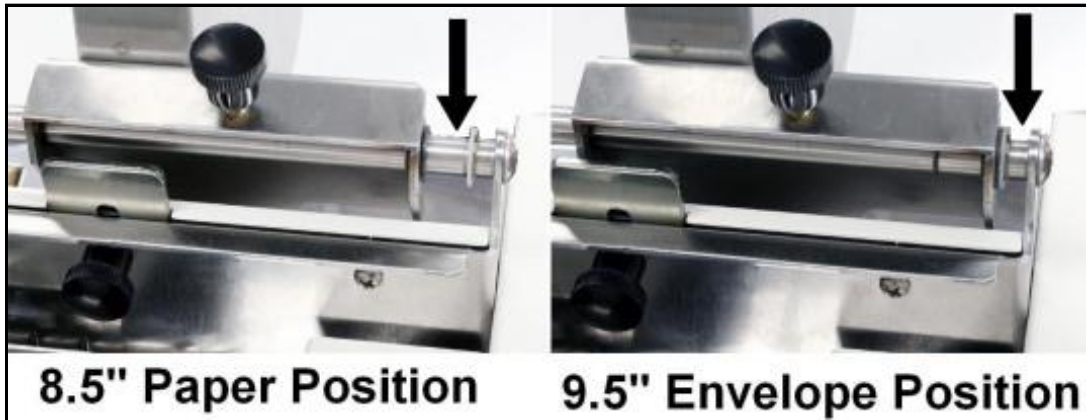
SECTION 2 INSTALLING PRINTER

Setting up Feed

Printer is equipped with four Sheet Separators, two Side Guides and a Rear Media Guide.

Adjust Sheet Separators individually:

1. Move Left-hand Side Guide into position. Guide has two positions.
Position closest to Side Frame is for 9.5" media.
Position closest to center of Printer is for printing 8.5" wide media edge to edge.



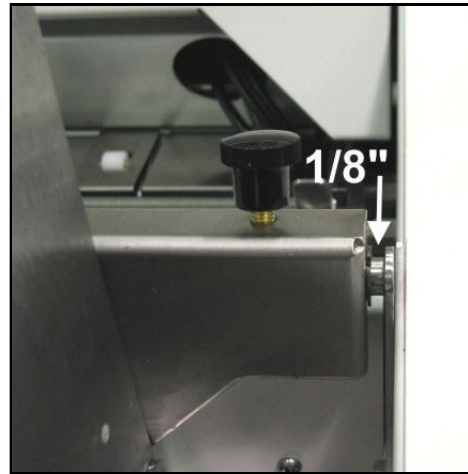
2. Loosen locking screws located behind Sheet Separators and raise Separators, then tighten locking screws to hold Separators in "Up" position.



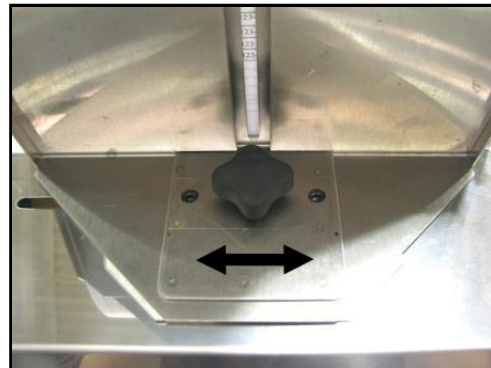
3. Place a single piece of media to be run under Separators. Always place media against Left-hand Media Guide. Loosen Separator locking screw and allow Separator to settle onto media. Then tighten locking screw. Repeat for each Separator.



4. Adjust Right-hand Side Guide so that it is about 1/32" from sides of media. Tighten locking knob on Side Guide. Place a stack of media in machine. Press and hold **Paper** key to feed one piece through Separator. **NOTE: To prevent misfeeds and tearing, keep Right-hand Side Guide at least 1/8" from Side Frame.**



5. Adjust Rear Guide Support by using knob to slide Guide right and left. If experiencing feeding problems, slide Rear Support Guide right or left to keep media aligned with Media Guides.



6. Adjust Rear Media Guide by loosening locking screw and moving Guide to raise media approximately 2" above Feed Table for paper and about 1/2" for envelopes.



NOTE: Amount of media that can be stacked on Printer is determined by weight of material. Feeder may not feed larger and heavier media when stack is full. If so, reduce amount of media in stack until Feeder functions properly.

SECTION 3 – *Operating Printer*

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

This section is divided into two parts:

1. How to set up a job to print from Microsoft Word.
2. Driver Properties and various options available when you run a job.

Set Printer Driver installed in Section 2 as default driver. It is then accessible through your applications (such as Microsoft Word). Other types of applications and database management software will work in a similar manner when using this Driver. This Section further assumes that feed is set up and Printer is connected to your computer.

Setting Up a Job in MS Word

When setting up a job to print in MS Word or any other application, first determine print area of Printer and paper sizes it can handle.

Maximum print area for Printer:
8.5" wide x 30" long.

Maximum media size Printer Media Support can hold:
9.5" wide x 17" long*. (See diagram at right.)

*(Up to 30" long if media is otherwise supported.)

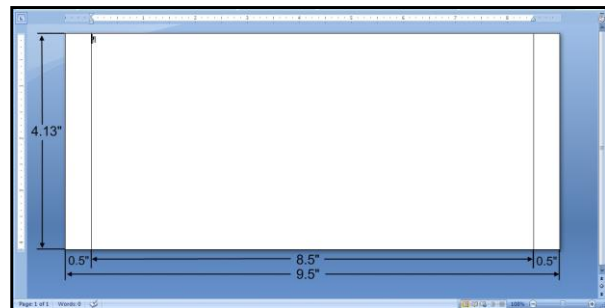
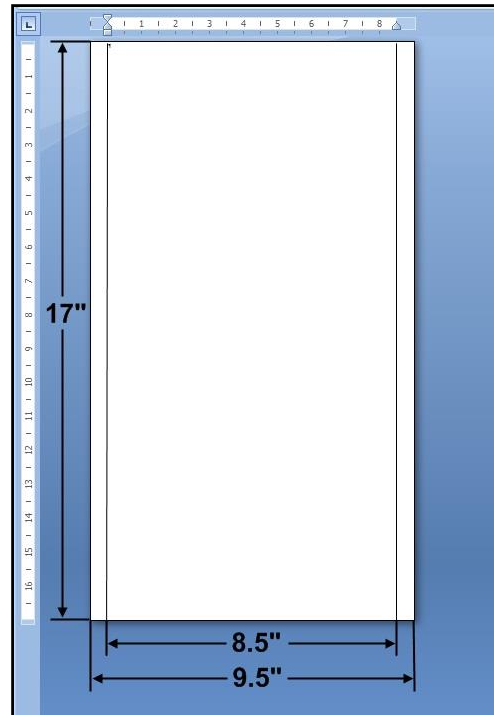
Minimum paper size Printer can feed:
3" wide x 4.2" long.

To set up maximum print area for a 9.5" x 30" document, set paper size to 9.5" wide by 30" long in **Custom Paper** setting. Set top and bottom margins to 0" (or any margin needed). Set right-hand and left hand margins to 0.5". You can now layout job and print maximum printing area.

For other page sizes such as 8.5" x 11" (standard letter) or 8.5" x 14" (legal size), set paper size to exact size and set margins as needed.

NOTE: Set Left-hand Side Guide to 9.5" position when running 9.5" wide media. Set Guide to 8.5" position with 8.5" or narrower media.

Envelopes: Select an envelope (example uses a #10 envelope) from **Page Setup** in MS Word. Feed envelope by 9.5" width, (fastest way to run envelopes, especially if addressing them with a **Mail Merge**). Set top and bottom margins to 0", left and right margins at 0.5" (as shown).

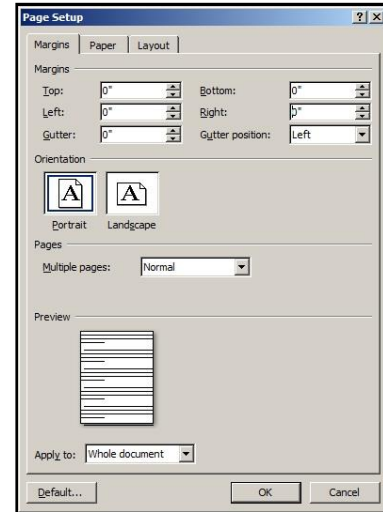


Printing a Typical Job on 8.5" x 5.5" Paper

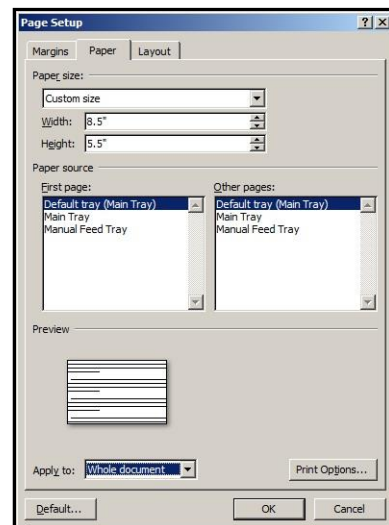
Printer can print edge-to-edge on an 8.5" x 5.5" document.

To set up a job:

1. Go to **File**, then **Page Setup** and select **0"** margins.

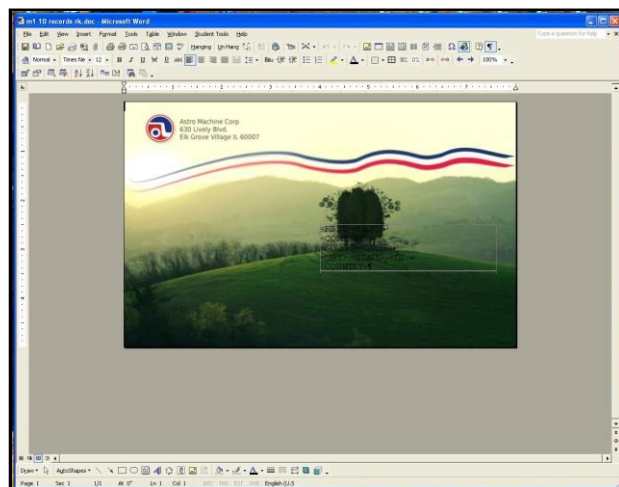


2. Select **Paper** tab, select Paper Size, "Custom size" then set paper Width to 8.5" and paper Height to 5.5". Click **OK**.



3. Screen at right is an example of a job to be printed. Once job is ready for printing, select "Print" from **File** menu and print job.

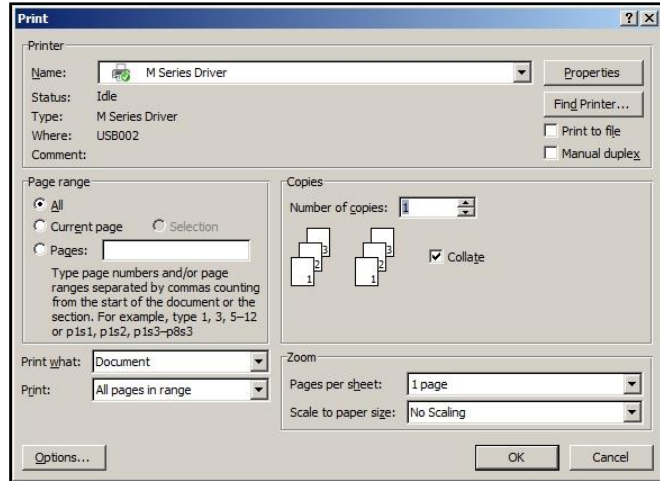
For more information about changes that can be made in **Driver**, see **Printer Driver** section.



Printer Driver Properties

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

Windows XP, Vista, Windows 7, Windows 8, Windows 10: Once job is set up, click **File**, then **Print**. Window at right opens. Make sure **M Series Driver** is selected Printer. Clicking **Properties** opens "Properties" window.



General Tab

General tab lets you select:

- **Orientation** – Portrait (*default*), Landscape, Rotate 180° and Mirrored.

- **Job Management:**
 - Page Buffering** – Loads entire print job before printing starts.
 - Mask Optimization** (*checked is default*) optimizes images for printing in most applications.

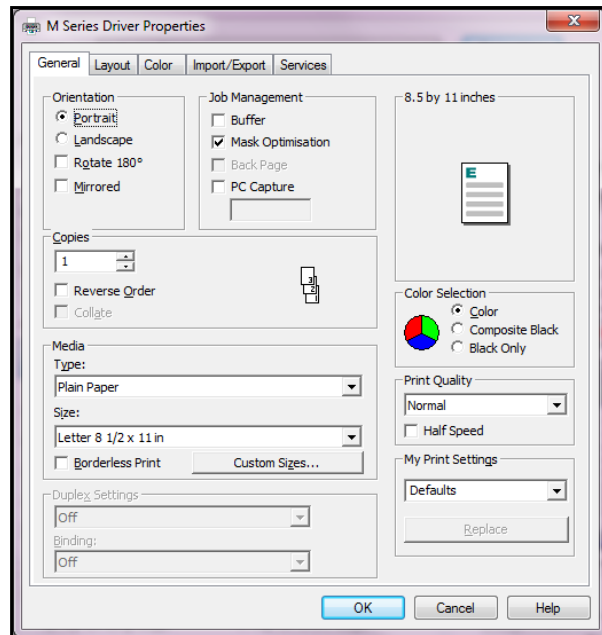
NOTE: Some applications (*like FlexMail*) may display image boundaries when printed, unchecking **Mask Optimization** box eliminates these lines. (*Remember to check box when changing applications.*)

Back Page – Unavailable unless Printer is attached to M1DX Duplex Printer.

PC Capture – When checked, saves a Print File (*.prn) on the PC (C:\Windows\Temp) for later use. (*Unchecked is default.*)

NOTE: Use the box below the selection to name the file, otherwise the Printer assigns the current date and a numerical name.

- **Copies** – Enter the number of copies to be printed. **NOTE: Default setting (Reverse Order unchecked)** prints job starting with first page. Printing starts as soon as first page loads. **Reverse Order** allows job to start printing from last page. Since entire job has to load into Printer before printing starts, large jobs may take longer to load.



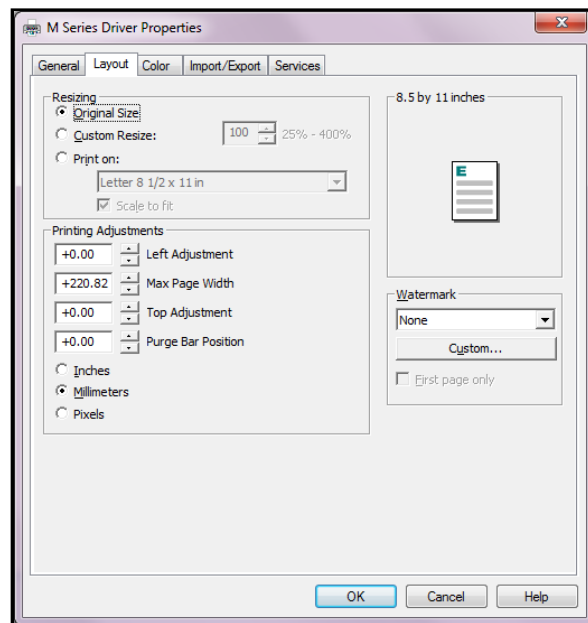
- Media** – Choose a type of media or different size media than document was originally designed for.
Type: Chart at right lists media profiles associated with type of media chosen. **Sizes:** 21 sizes are available. Document is automatically resized to fit new media. Also create and save a **Custom Size** to suit your needs.
NOTE: Do not exceed maximum paper size for Printer.
- Duplex Settings** – Unavailable unless Printer is attached to the **Duplex Printer.**
- 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. Checking **“Half Speed”** box slows printing for higher quality on glossy stock. **NOTE: Half Speed not available when using Best setting.**
- My Print Settings** – Access your saved custom print settings for various jobs.

MEDIA PROFILE	MEDIA TYPE
Plain Paper	Plain Paper Bright White Paper
Matte Paper	Presentation Paper Postcards Matte Brochure Matte Labels Matte Other Inkjet Paper Matte
Premium Matte Coated Paper	Premium Inkjet Paper Premium Photo Paper Matte
Glossy Paper	Photo Paper Semi-gloss Photo Paper Glossy Labels Glossy Postcards Glossy Brochure Glossy
Premium Glossy Paper	Premium Photo Paper Glossy

Layout Tab

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

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



Using Layout Tab Printing Adjustments

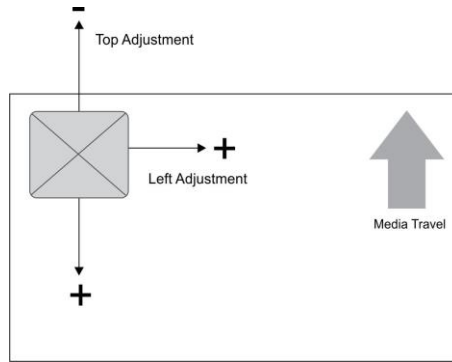
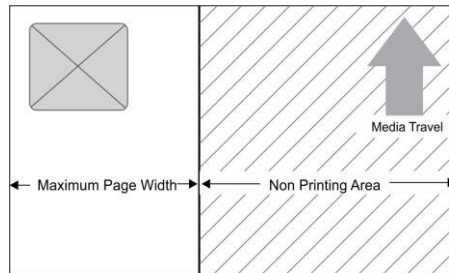


Image Position



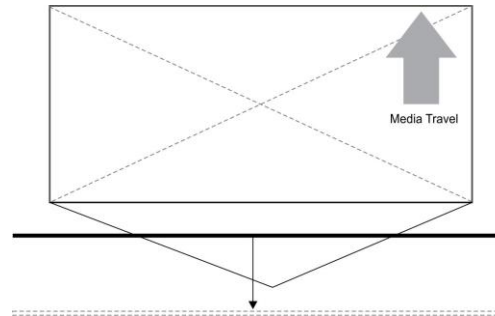
Image Position – Left Adjustment moves image area away (-3mm left to +200mm right) from left edge of media. **Top Adjustment** moves image up or down (-5mm up to +200mm down) from top left corner of media used. (0.1mm increments)



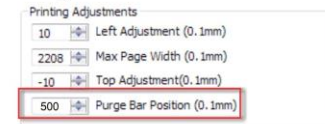
Maximum Printing Area



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



Purge Bar Position



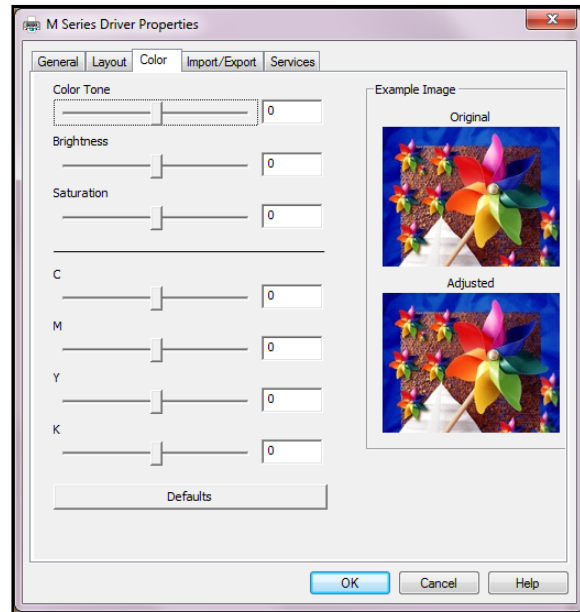
Purge Bar Position* – In operation, Printhead spits a small amount of ink in gap between pieces to keep nozzles refreshed. For irregular-shaped pieces (like an envelope flap), Sensor may “read” lower end as the edge and spray on the tip of the flap instead of actual gap between pieces. This feature allows you to manually set gap (in 0.1mm increments) to account for extra length needed to reach actual gap.

* See also “**Purge Bar Position**” in **Printer Toolbox** section.

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

Color Tab

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



Import/Export Tab

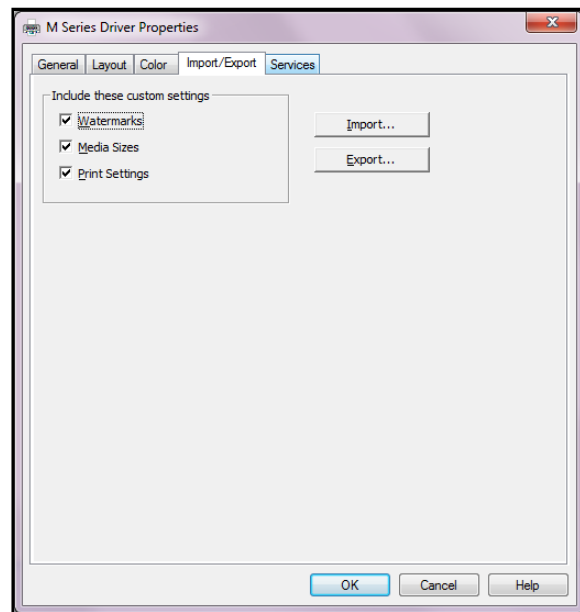
Import/Export is used to preserve any custom Media Sizes, Watermarks and/or Print Settings you may have developed and saved for various jobs when you update Printer firmware.

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

This tab is also used to import custom media size packages or watermarks from your dealer if they are available.

IMPORTANT!

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



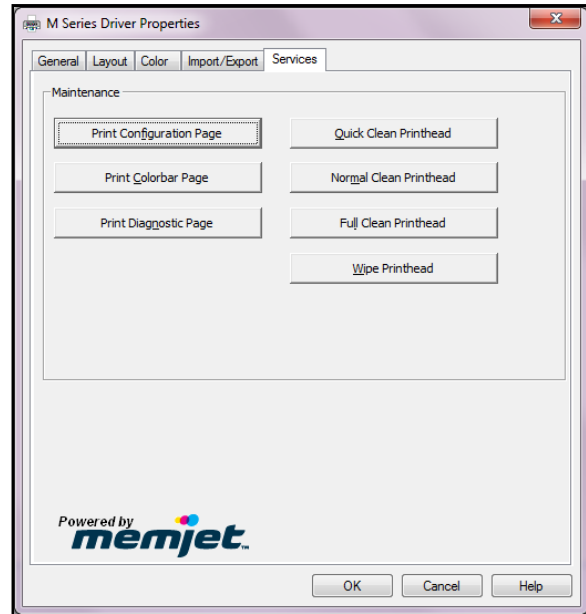
Services Tab

Services allows you to:

- **Print Configuration Page** – Prints out current configuration of Printer including current Firmware Version, Network Connection, Printer Serial Number and more.
- **Print Colorbar Page** – Prints type and color bands to check print quality.
- **Print Diagnostic Page** – Displays basic Printer information, memory, Network Settings, Event Log and RAM partitions.
- **Clean Printhead Buttons:** Provide 3 levels of cleaning for Printhead Cartridge.
 - Quick Clean Printhead** – Circulates ink, wipes and cleans Printhead Cartridge.
 - Normal Clean Printhead** – Runs cleaning and wiping routine twice for better flushing and cleaning.
 - Full Clean Printhead** – Runs cleaning routine multiple times for the most thorough flushing and cleaning of Printhead.

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

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



Using Printer Toolbox

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

To open Toolbox:

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

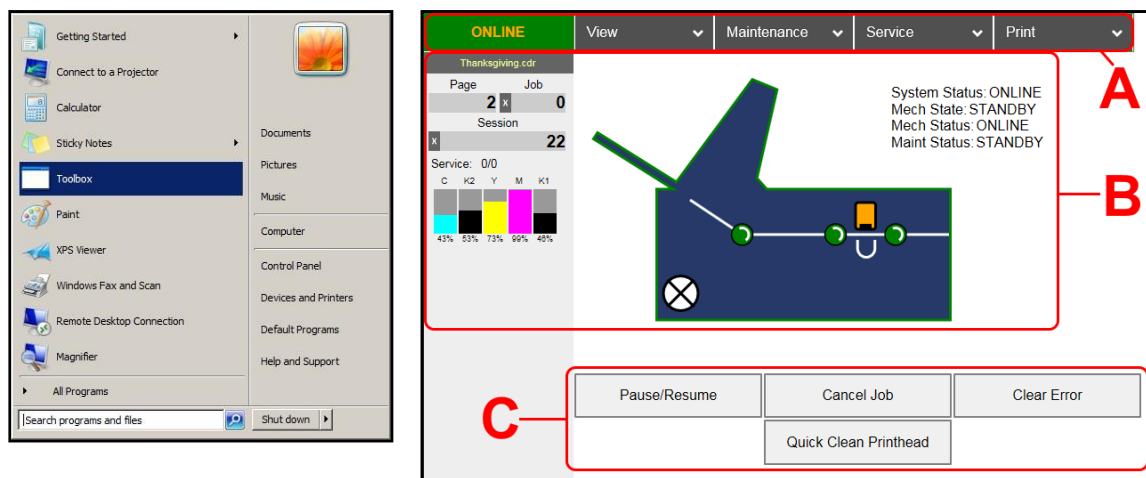
Touchscreens: Tap buttons or selections or use your cursor.

When **System Status** window opens:

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

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

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



Drop-Down Menu Options

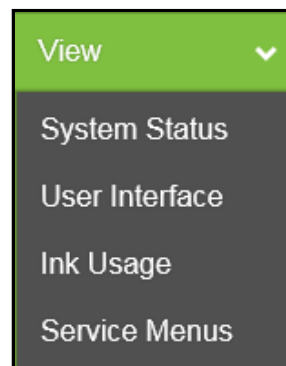


There are four **Drop-Down Menus**:

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

View Drop-Down

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



SECTION 3 OPERATING PRINTER

System Status

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

Left side:

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

Page shows the page count for a given job.

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

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

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

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

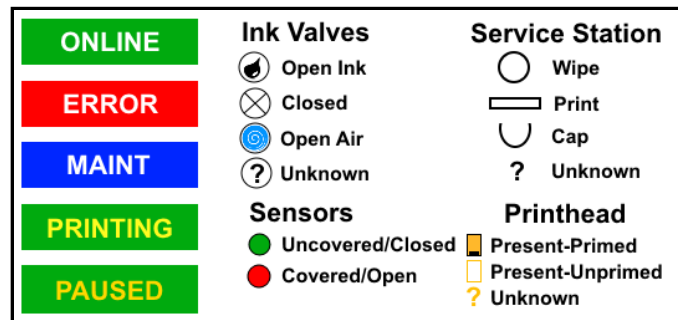
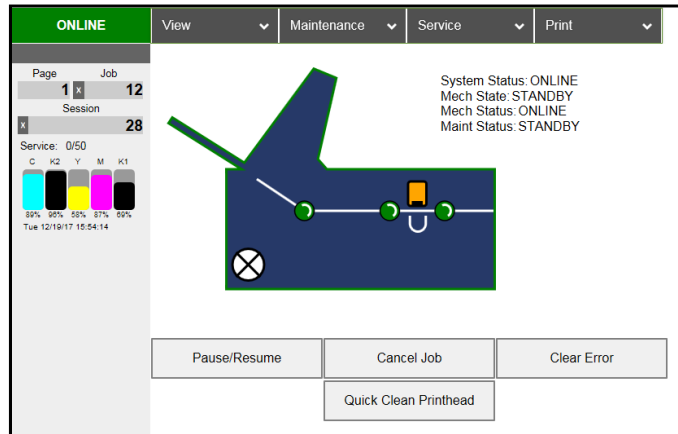
Printer Icon: Shows status of the Media Sensors located in the media feed path of the Printer. Also shows status of Ink Valves, Service Station, and Printhead. These can alert the operator to the type and location of a problem.

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

Right side:

Shows basic operating information about the Printer.

CONTROL BUTTONS (*located along bottom of the screen*): **Pause/Resume**, **Cancel a Job**, **Clear Error**, and **Quick Clean Printhead**. Provide quick access to often-used functions.



User Interface

SET-UP SETTINGS:

Adjust automated service and cleaning intervals, adjust feeder speed for a job, manually set gap between pieces and adjust the Printer for pre-printed media.

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

Select from 3 settings: **None**, **Light** (default), **Heavy**, to

determine how much ink will “spit” from the Printhead Nozzles. Set in conjunction with “**Mid-Job Servicing**” which determines frequency of the Printer stopping for self-servicing during a job.

Cutsheet Feeding Mode – Change how the Printer feeds media depending on type of job being run:

Safe Feed – Leaves a larger gap between pieces to reduce overprinting onto next piece. This setting is useful for more intricate printing jobs or jobs requiring the best print quality.

Max_Throughput – Allows fastest printing speed. Printer works like a stream feeder. This setting is useful for simple printing jobs. **NOTE:** A few extra blank pieces may run through at end of job.

NOTE: These two settings can be changed without stopping job. **Example:** While running a job in “**Max-Throughput**” you find that media is jamming excessively due to speed. Open **Toolbox**, check “**Safe Feed**” and click “**Submit**”. Printer automatically adjusts without having to pause or stop job.

Mid-Job Servicing – Sets frequency of automatic maintenance cycles run during a job after a set amount of media is run. Settings are: **50 Pages*** (Default), **100 Pages**, **250 Pages**, **500 Pages**, **1000 Pages** and **2500 Pages**. **NOTE:** Changing setting from “**Default**” may cause print quality issues and reduce Printhead life.

*Use 50 Pages (Default) setting only with media at least letter-sized or A4 length or longer.

Purge Bar Position (BoF) – In operation, Printhead spits a small amount of ink in gap between pieces to keep nozzles refreshed. For irregular-shaped pieces (*like an envelope flap*), the Sensor may “read” lower end as the edge and spray on the tip of flap instead of actual gap between pieces. This feature allows you to manually set gap (*1 micron increments*) to account for extra length needed to reach actual gap.

Ignore Exit Sensor – Checking this box turns Exit Sensor OFF. Sensor may not detect trailing edge of a piece of pre-printed media if back of that media is dark or black. (**Example:** adding addresses to a pre-printed postcard.) This may cause Sensor to react as if a jam has occurred. Turning Sensor OFF prevents these “false jams” from stopping job.

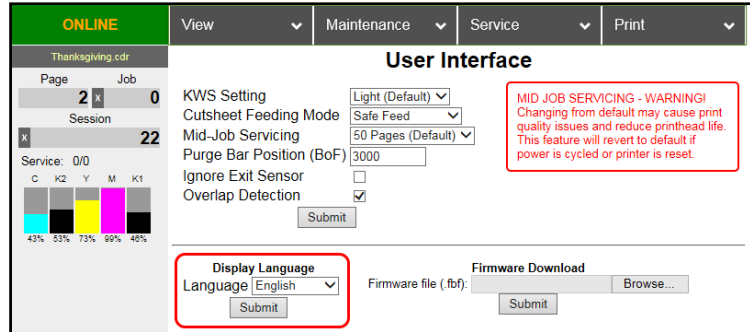
Overlap Detection – Detects differences in media thickness and stops the Printer if two or more single sheets pass through the sensor stacked on top of each other. Default is not activated (*box not checked*). If running envelopes or media with varying thickness (*such as folded*), turn this feature OFF (*uncheck box*). **NOTE:** Remember to turn feature back ON if running single sheets again.

Click “**Submit**” to apply settings.

The screenshot shows the printer's control panel interface. At the top, there are navigation tabs for 'View', 'Maintenance', 'Service', and 'Print'. The main area is titled 'User Interface'. On the left, there's a status bar showing 'ONLINE', 'Thanksgiving.cdr', 'Page 2 of 0', 'Job 0', and 'Session 22'. Below that is a 'Service' indicator showing '0/0' and a color calibration chart with values: C 43%, K2 53%, Y 73%, M 66%, K1 46%. The main settings area includes: 'KWS Setting' (Light (Default)), 'Cutsheet Feeding Mode' (Safe Feed), 'Mid-Job Servicing' (50 Pages (Default)), 'Purge Bar Position (BoF)' (3000), 'Ignore Exit Sensor' (unchecked), and 'Overlap Detection' (checked). A red box highlights a warning message: 'MID JOB SERVICING - WARNING! Changing from default may cause print quality issues and reduce printhead life. This feature will revert to default if power is cycled or printer is reset.' At the bottom, there are options for 'Display Language' (English) and 'Firmware Download' (Browse...).

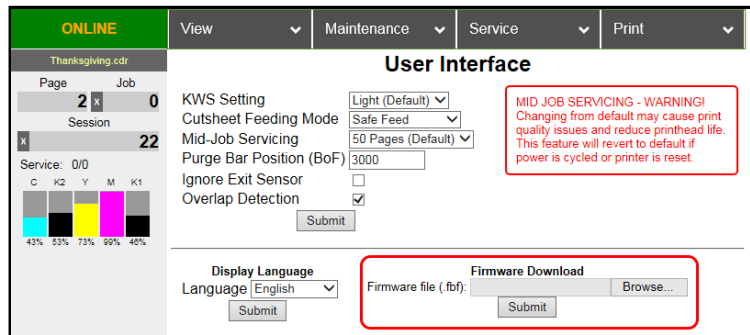
SECTION 3 OPERATING PRINTER

DISPLAY LANGUAGE: Selects language EWS (*Toolbox*) 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**.

NOTE: Using the “.fbf” file procedure is an alternative method for downloading firmware. See “Updating Firmware Using “.bin” File” for the recommended procedure using the “.bin” files.



WARNING: This procedure should only be performed by qualified service personnel. In some cases firmware must be loaded using “Firmware Migration Tool”. If this process is not performed properly, Printer is rendered inoperable.

Ink Usage

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

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

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

Mode selection:

Off – Feature is disabled.

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

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

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

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

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

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

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

Printed Ink (µL)		Job	Pages Printed	Quality	Media Type	Media Size (mm)	Estimated Page Cost	Estimated Job Cost			
Cyan	Black 2	Yellow	Magenta	Black 1							
6	1	70	26	1	Thanksgiving cdr	2	Normal	Plain Paper	215 x 280	0.048	0.097
29	3	146	75	3	Thanksgiving cdr	20	Normal	Plain Paper	215 x 280	0.011	0.230

SECTION 3 OPERATING PRINTER

Service Menus

Selecting “View”, then “Service Menus” opens the **Service Menus** screen.

Diagnostics button. Click to check the status of the Printer.

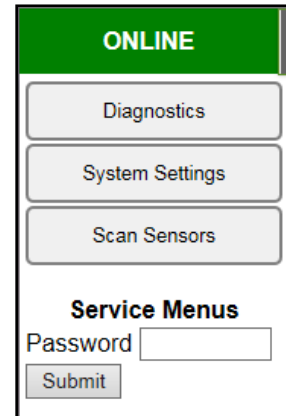
(See *Diagnostics* below.)

System Settings button. Click to view, enter or change settings to connect Printer to your network. Also set and configure Printer Date and Time.

(See *System Settings*.)

Scan Sensors button. Provides status and a log on Sensors located throughout the Printer. (See *Scan Sensors*.)

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



Diagnostics

From this screen you can see current status of the Printer. **You can also:**

Upload Debug Log – Download and save a log of the Printer status (for each Printer) 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* below.)

NOTE: If a problem arises, try to recreate the problem, then press **Upload Debug Log** without performing any other actions to 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 started.

System Name: M_Series
Serial Number: SG233Z401699
Firmware Released: 20171212
Firmware Version: R15 Opref14-AMC1
Internal Memory (MB): 128
Total Pages 1600x1600: 199
Total Pages 1600x800: 14180
Tilt: FB=0.6 LR=0.0

Network Status: connected
MAC Address: 84-97-b8-01-39-5e
Printer Name: MemJeff
Domain Name: astromachine.com
DHCP: Disabled
BOOTP: Disabled
AutoIP: Disabled
DHCP Lease Time (s): 0

IP Address: 192.168.254.119
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.254.254
WINS Server: 192.168.254.11

NVM Settings
mpcarev : 5
nomech : 0
pp_tof : media_gap
pages_per_cut : 0

_VARS Settings
recovery_mode : 0
tof_adjustment : 0
bof_adjustment : 0
bof_allowance : 0

Other information provided in the Diagnostics window:

Event Log – Displays significant events occurring on the Printer (such as firmware updates, errors, power off, etc.) 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.)

```
MJ-SG233Z401699 - MemJeff
File Edit Format View Help
0 INIT INIT memory size=13421728
0 mem mem version: 10 -> 22
109 DEFAULT default: TCL commands have been executed for userIc
118 DEFAULT default: TCL commands have been executed for sok
121 INIT version=20150923 ID=614.ipref14-AMC1
122 INIT user model: M_S
129 DEFAULT default: TCL commands have been executed for mech
1781 cm cm version: R15.25.3, QMS-D version: 1.10.0026
1781 cm schwa user license number = 20, version = 2.2
1801 DEFAULT default: TCL commands have been executed for maint
1801 maint rtc 01/23/2013 01:43:57
1807 maint maint enable 0-2
11154 ua enable qa.update 5000 msec polling
11287 status maint status: ONLINE -> MAINTENANCE_BUSY
11287 engine status: ONLINE -> MAINTENANCE_BUSY
1174 astro network up
11438 mech mech is at standby, system memory: 124452 kbytes
11706 status maint status: MAINTENANCE_BUSY -> ONLINE
11867 engine status: MAINTENANCE_BUSY -> ONLINE
112413 maint <standby_pfnch>
112413 maint <standby_pfnch>
112413 maint <standby_pfnch>

System Name: M_Series
Serial Number: SG233Z401699
Firmware Version: 20150923
Firmware Version: R15-Opref14-AMC1
Internal Memory (MB): 128
Total Pages 1600x800: 199
Total Pages 1600x1600: 14180
Printed Ink (uL): 200358
Printed Ink (uL): 200358
Cyan: 91% (S1701108430448)
Black 2: 98% (S171889260492)
Yellow: 80% (S1434209130086)
Magenta: 89% (S1500911250367)
Black 1: 71% (S1706711080398)

Network Status: connected
IP Address: 192.168.254.119
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.254.254
WINS Server: 192.168.254.11
Printer Name: MemJeff
Domain Name: astromachine.com
DHCP: Disabled
BOOTP: Disabled
AutoIP: Disabled
DHCP Lease Time (s): 0
```

System Settings

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

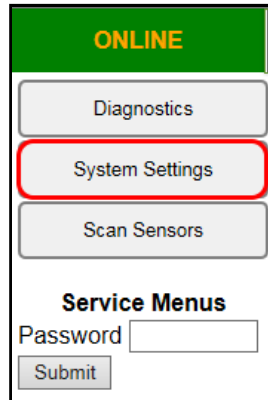
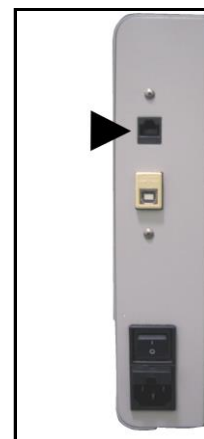
Network Settings – Permits you to view, enter or change settings to connect Printer to your network.

Network Connection Set Up:

1. Printer is still connected to computer via USB cable. **To connect Printer to a network, open the Toolbox.** Select “View”, then select “Service Menus”. Click or tap “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.

3. Click “Submit”.
4. Connect Ethernet cable to Network Port on Rear Panel of Printer.

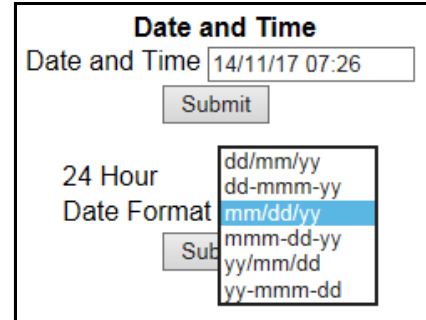
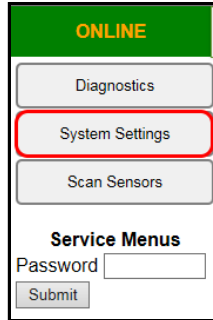



SECTION 3 OPERATING PRINTER

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

Enter or change Date and Time:

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



Scan Sensors

Provides status and log on Sensors located throughout both Printers.

(See chart at right.)

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

ONLINE									
View		Maintenance		Service		Print			
Diagnostics		Stop							
System Settings									
Scan Sensors									
Service Menus									
Password									
Submit									
#	1	2	3	4	5	6	7	8	9
Entry Sensor	255	255	255	255	255	255	255	255	255
Blackmark Sensor	215	221	215	217	212	215	216	216	216
Exit Sensor	0	0	0	0	0	0	0	0	0
Clamshell Switch	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Printhead Latch	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Lifter Arm	1	1	1	1	1	1	1	1	1
Sled Index	0	0	0	0	0	0	0	0	0
Sled Home	0	0	0	0	0	0	0	0	0
Valve Position	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed

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

Service Menus, Password

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

ONLINE

Diagnostics

System Settings

Scan Sensors

Service Menus

Password

Submit

Maintenance Drop-Down

Perform maintenance tasks.

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

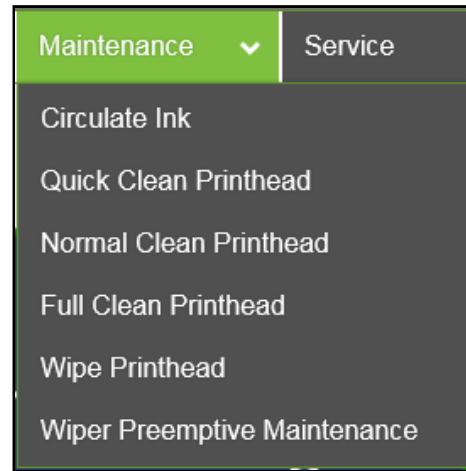
Quick Clean Printhead – Circulates ink; wipes and cleans Printhead Cartridge. *(Also available in the System Status window.)*

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

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

Wipe Printhead – Activates Service Station to wipe Printhead.

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



Service Drop-Down

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

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

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

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

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

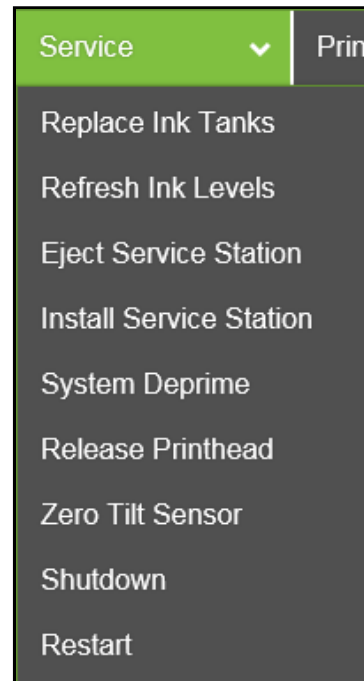
System Deprieme – Pumps ink back into Ink Tanks prior to replacing the Printhead Cartridge or transporting the Printer.

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

Zero Tilt Sensor – Allows you to reset the Tilt Sensor if the Printer is level within tolerances *(Tilt Level is 1.99 or less.)*

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

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



Print Drop-Down

Print various reports and Printer tests.

Each printout displays information about the Printer.

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

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

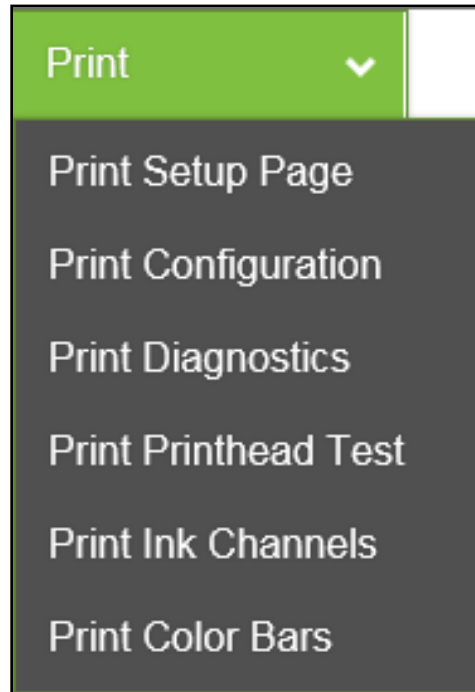
Print Diagnostics – Prints basic Printer information, memory, Network Settings, Event Log and RAM partitions.

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

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

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

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



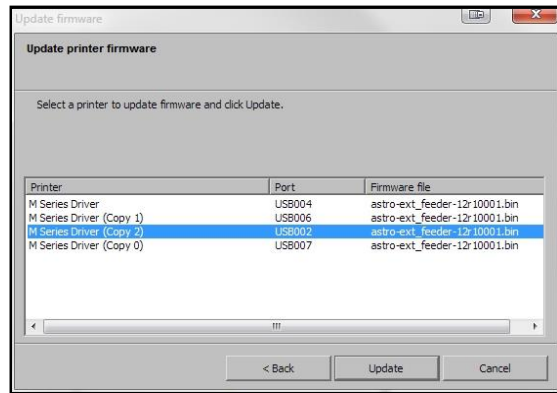
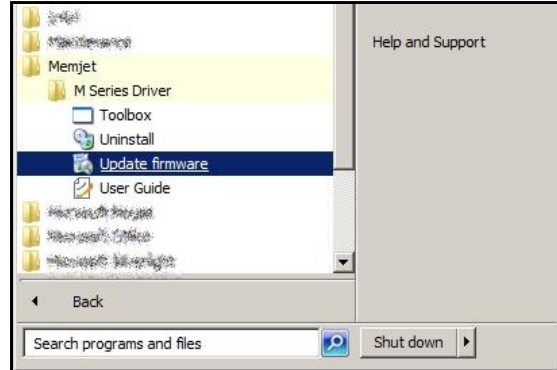
Updating Firmware

Get latest version of firmware for your Printer.

NOTE: Use this procedure to update firmware AFTER you have updated Printer Driver. Printer Driver update procedure is included with an “Update Package” which includes both updated Printer Drivers and firmware updates.

How to download new firmware:

1. When you are notified that new firmware is available for your Printer, download “*.bin” file and save it to your desktop.
2. From **Start Menu**, open **All Programs**. Open “**Memjet**” folder, then “**M Series Driver**”. Click “**Update Firmware**”.
3. Click “**Browse**” button. Find and select file just saved to your desktop. Click “**Open**”.
4. When “**Update printer firmware**” window opens, select M-Series Printer you want to update. **NOTE: You can only update one Printer at a time.**
5. Click “**Update**”. **DO NOT touch Printer until firmware is loaded!** A message appears on screen warning you not to unplug or shut off Printer.
6. Once firmware finishes loading (*about 5-10 minutes*), Control Panel lights and Printer shuts OFF, then restarts automatically to complete installation.



Updating Printer Firmware :

IMPORTANT: Updating the printer firmware, do not interrupt the connection.

DO NOT switch off the printer.

DO NOT disconnect the cable.

The printer will restart when finished.

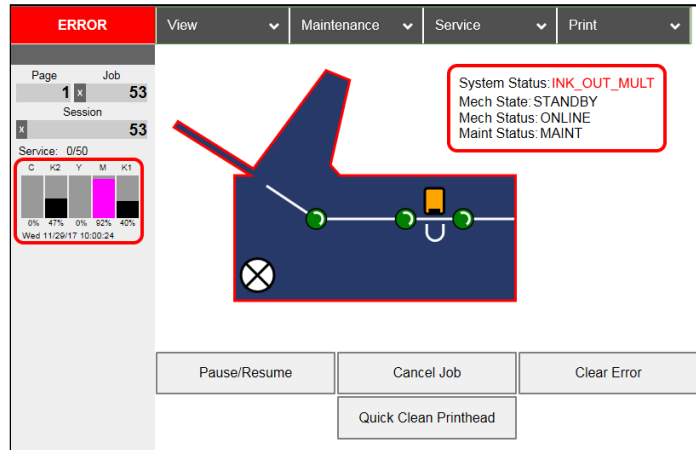
SECTION 4 – Maintenance

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

Replacing Ink Tanks

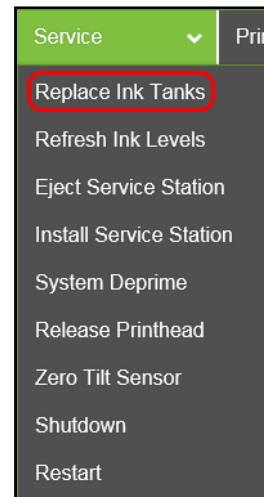
Replace Ink Tanks when ink runs out.

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

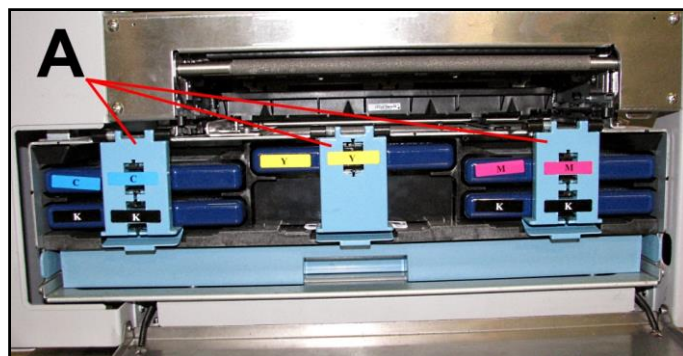


2. Click “**Service**” drop-down menu. Select “**Replace Ink Tanks**”. (*Disconnects Printer communication with Ink Tanks and allows safe installation and replacement.*) Once “**Confirm**” screen displays, it is safe to remove Ink Tanks.

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



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

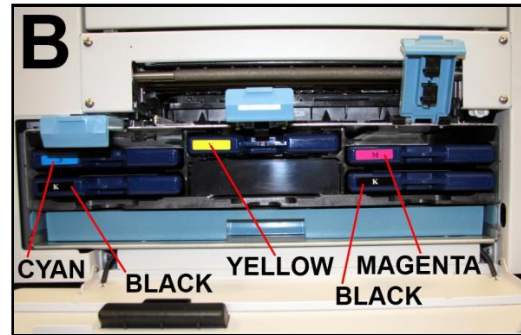


SECTION 4 MAINTENANCE

- Slide the new Ink Tanks (*labels up*) into the appropriate color slots [B]. Close the three Ink Tank Latches.

INSTALLATION TIP:

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



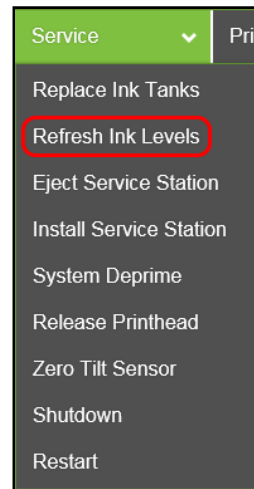
- Click “Continue” on Confirm screen. Then select the “Service” drop-down menu, and select “Refresh Ink Levels”. Ink colors fill in as Ink Tanks are installed.

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

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

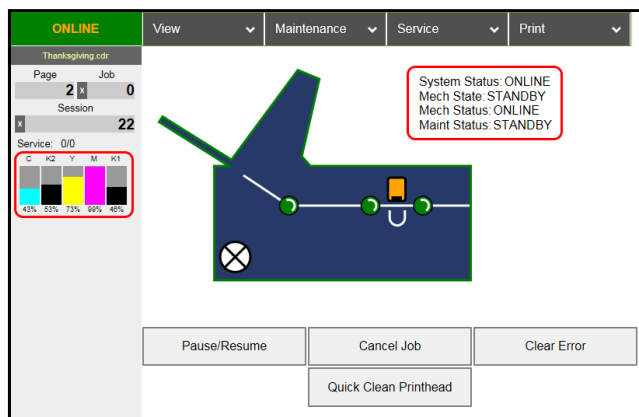
It is now safe to install/remove the Ink Tank(s).
Do not press "Continue" until Ink Tank replacement process is completed.

Continue



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

- Close Front Cover.



WARNING!

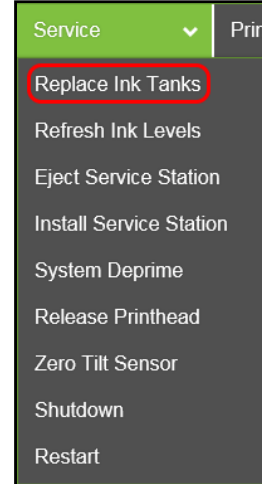
Ink in Ink Tanks may be harmful if swallowed. Keep new and used Ink Tanks out of reach of children. Discard empty Ink Tanks immediately.

Cleaning Ink Tank Contacts

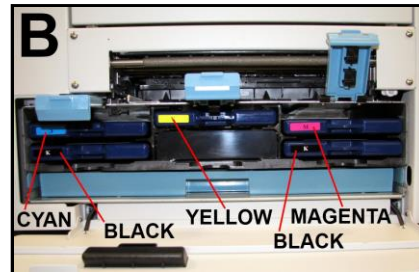
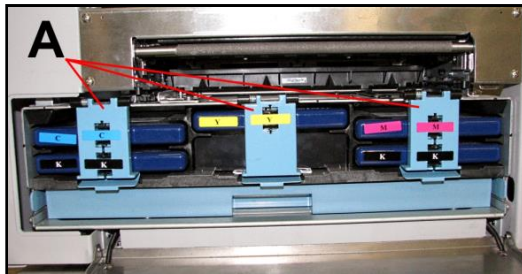
When reinstalling or replacing Ink Tanks, the Ink Level indicator in the **Toolbox** may not refresh. This may be due to a dirty Ink Tank Level Prism and/or QA Chip contacts on that Ink Tank(s).

Clean contacts as follows:

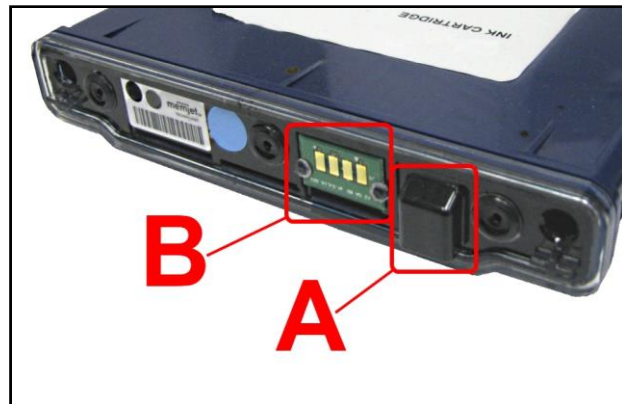
1. **Remove Ink Tank(s).** Open **Toolbox**. Select the “**Service**” drop-down menu, then select “**Replace Ink Tanks**”. Once the “**Confirm**” window opens, it is safe to remove Ink Tanks. **IMPORTANT: DO NOT press “Continue” until after removing and replacing the Ink Tank(s) and closing the Ink Tank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



2. Open Front Cover. Release Ink Tank Latch(es) [A]. Remove Ink Tank(s) [B] that did not refresh.



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



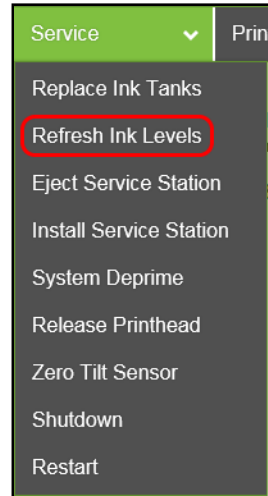
SECTION 4 MAINTENANCE

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

It is now safe to install/remove the Ink Tank(s).
Do not press "Continue" until Ink Tank replacement process is completed.

Continue

5. Close the Front Cover.



Storage

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

Opened Ink Tanks should remain in Printer.

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

Disposal

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

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

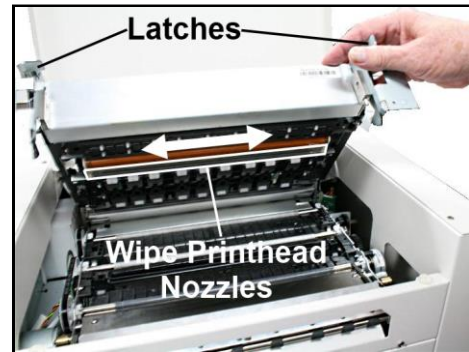
Cleaning/Replacing Printhead Cartridge

Cleaning

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

If running automated Cleaning Levels doesn’t help improve print quality, Printhead Cartridge can be cleaned manually.

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



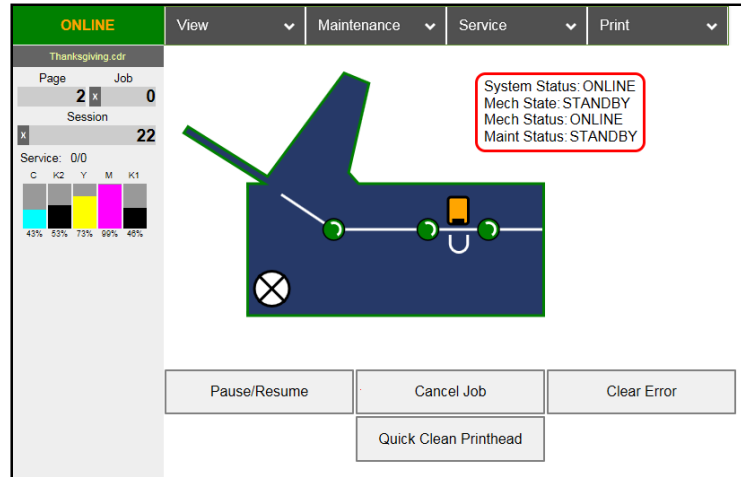
Generally, when ink supply is adequate and print quality remains poor, or when automated cleaning processes or manually cleaning Printhead does not help image quality, replace Printhead.

CAUTION

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

Replacing Printhead Cartridge

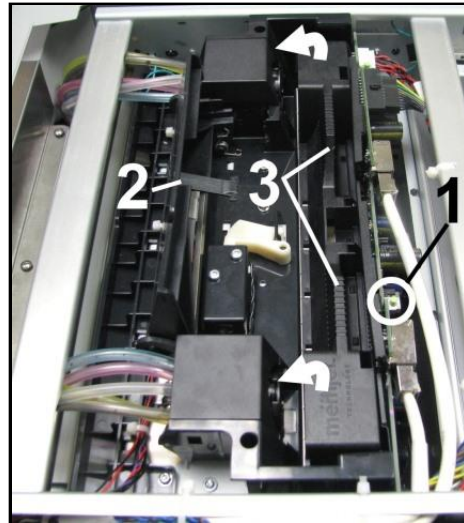
1. **Open Toolbox.** On the **System Status** screen, System Status information appears on the right side.



2. **Open Top Cover.** Press Printhead Latch Release button [1]. Printer pumps any ink in system back into Tanks. Then Printhead Latch pops open [2].
NOTE: Perform this same function from your computer by selecting the “Service” drop-down menu, then selecting “Release Printhead” in Printer Toolbox.

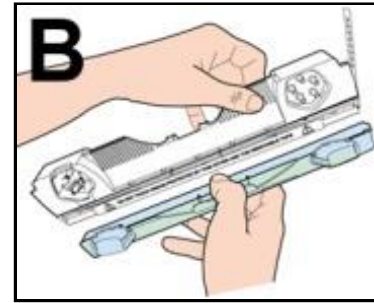
CAUTION

DO NOT PRY OR MANUALLY LIFT PRINthead LATCH OR LATCH MAY BREAK. ONLY OPEN LATCH USING PRINTER'S RELEASE BUTTON OR RELEASEPRINthead COMMAND IN PRINTER TOOLBOX.



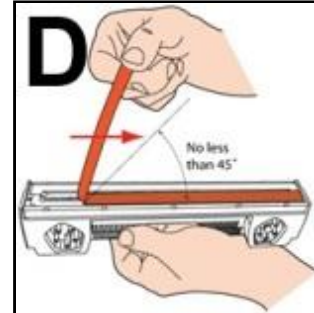
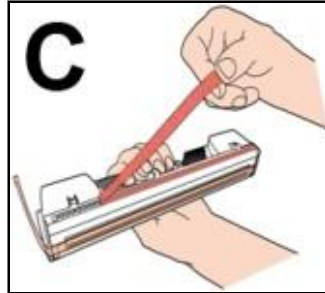
3. Make sure Printhead Latch is fully opened to retract ink lines. Remove used Printhead Cartridge by tilting it toward ink lines [3], then carefully lifting it out of Printhead Compartment.

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



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

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



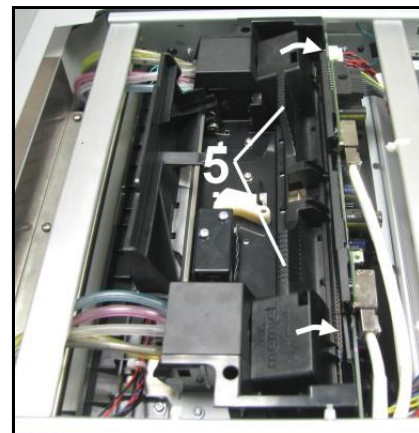
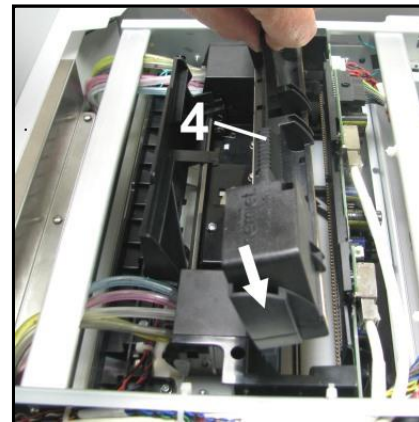
- [D] Remove protective strip from Printhead Nozzles. Hold Printhead by handle. Pull strip tab and slowly peel strip from Printhead.

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

DO NOT allow removed strip to touch Printhead Nozzles.

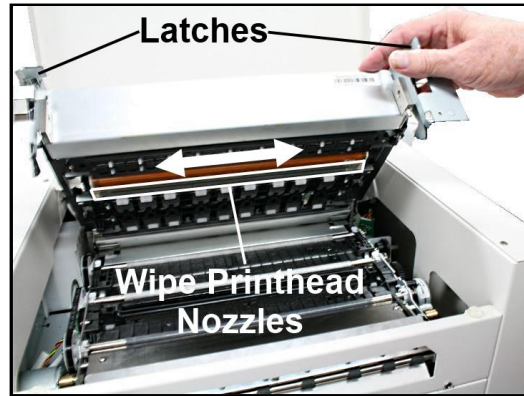
NOTE: Keep foil packaging to store/dispose of old Printhead Cartridge.

5. Carefully insert Cartridge into compartment at an angle [4], with Printhead surface facing down and Ink Nozzles facing Ink Hoses. Once seated, gently tilt Cartridge back until it snaps into an upright position [5]. **DO NOT FORCE Cartridge into position.**



**SECTION 4
MAINTENANCE**

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



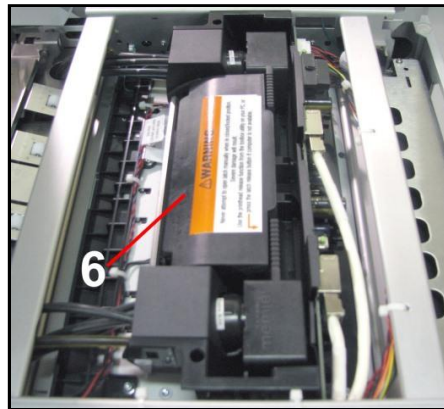
CAUTION

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

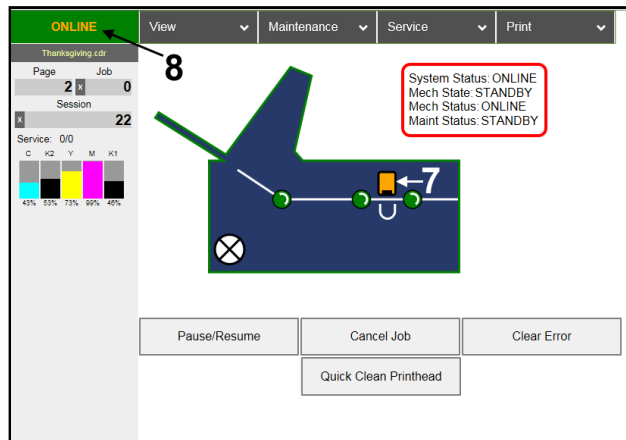
DO NOT ALLOW CLAMSHELL TO DROP OR SLAM CLOSED.

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

7. **Close Printhead Latch [6].** Printer starts up and primes ink into Printhead. (*This may take a few minutes.*) Make sure ink is flowing through hoses. If air bubbles appear, you may have to tap lines or click “Circulate Ink” in Printer Toolbox under “Maintenance” to clear them.



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



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

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

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

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

IMPORTANT!

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

Printhead Storage

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

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



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

Storage Temperature Range:	Long Term: 14° F to 86° F (-10° C to 30° C) Short Term: -11° F to 140° F (-25° C to 60° C) 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* *When tested in accordance with IEC 61000-4-2

Printhead Service Life

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

M-Series Printhead Return Policy

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

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

Returns for these conditions can be made:

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

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

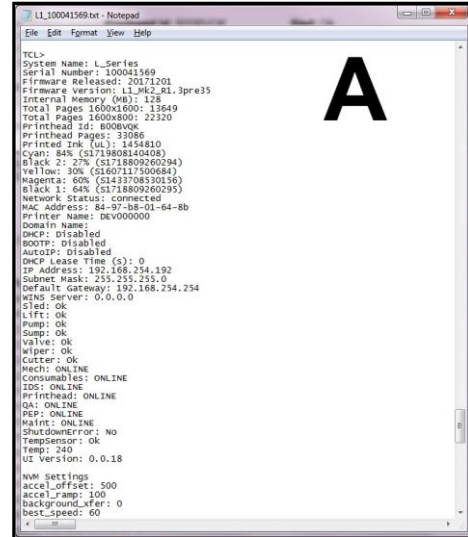
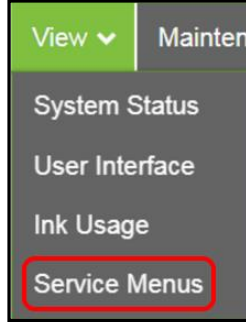
***See “Printhead Installation” and “Replacement” sections of this manual.**

SECTION 4 MAINTENANCE

Return Procedure:

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

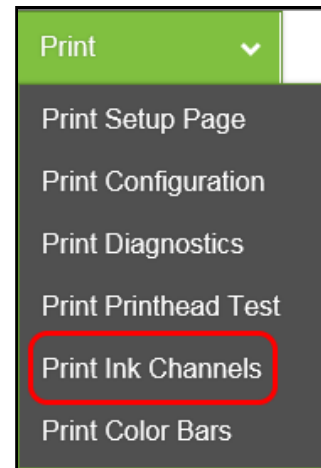
To check Printhead Page count: Open “View” drop-down menu in the computer's **Toolbox**. Select “Service Menus”. The “Diagnostics” screen opens. Select “Upload Debug Log”. Open and print the file [A] to include with your return.



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



Ink Channels Printout



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



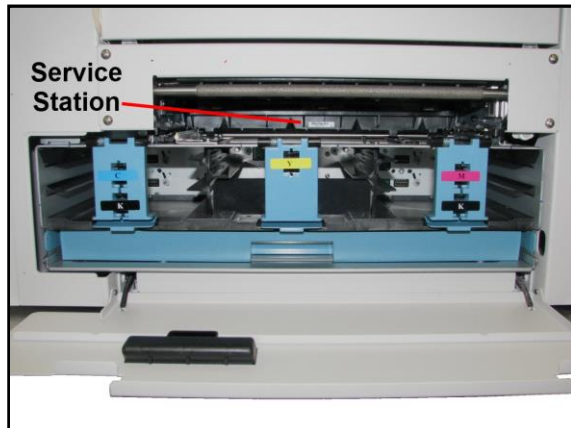
Replacing Service Station

Service Station (*located above Ink Tank Station*) cleans Printhead Cartridge of excess ink and debris, keeps Printhead hydrated and protected when not in use, captures ink used to keep nozzles clear, and acts as a base to support media during printing. It is designed to provide a long service life.

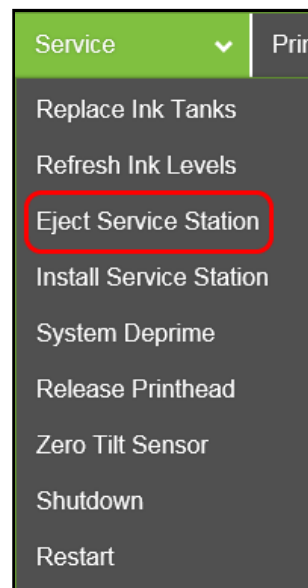
To remove Service Station for cleaning, servicing or replacement:

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

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



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



TURN PRINTER POWER OFF.

CAUTION

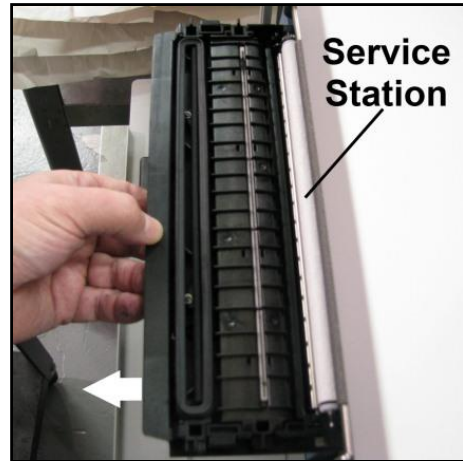
WHENEVER POWERING DOWN UNIT, ALWAYS:

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

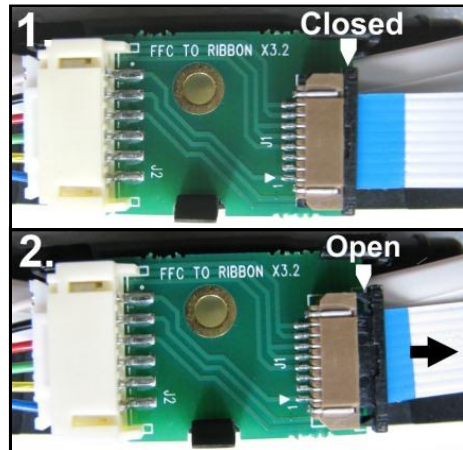
SECTION 4 MAINTENANCE

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

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



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



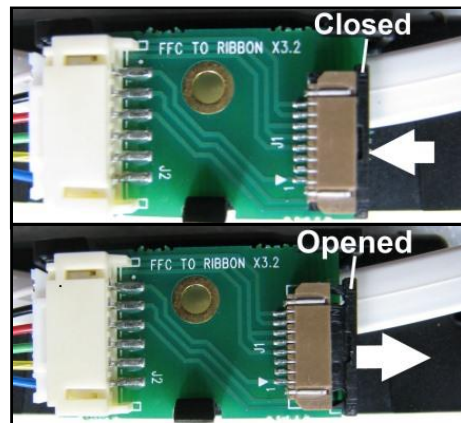
5. Carefully unwrap new Service Station. **NOTE: Loose parts may fall out. Keep roller side facing up when removing packaging.**

CAUTION

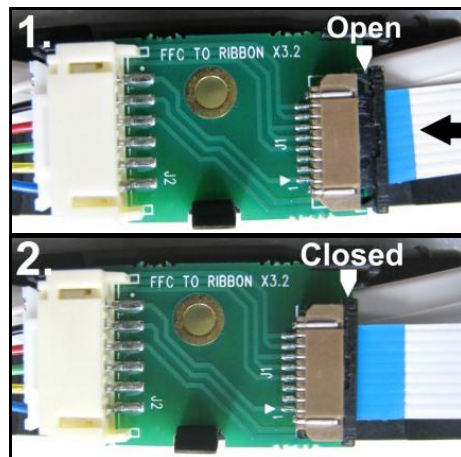
MAKE SURE LATCHES ON THE WIPER ROLLER ARE FULLY LOCKED BEFORE INSTALLING SERVICE STATION.



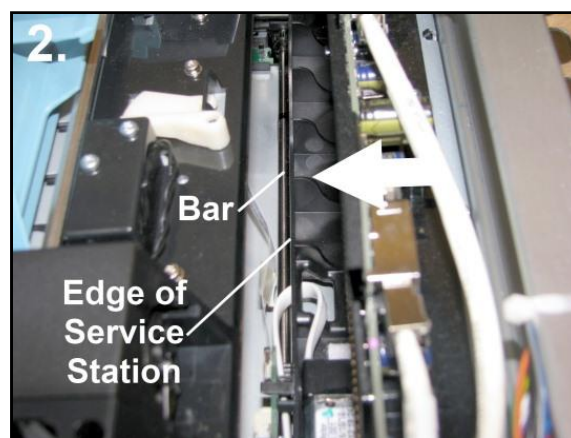
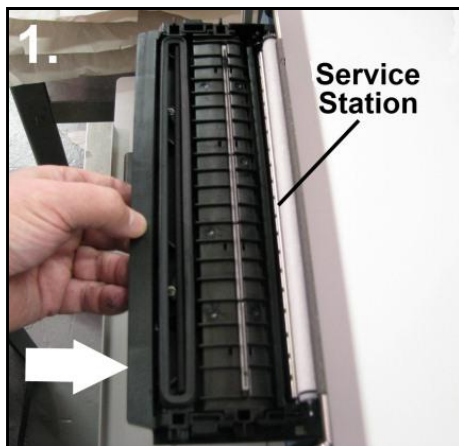
6. Slide Latch open on Service Station Circuit Board.



7. [1] Plug Ribbon Connector (*blue side up*) into space under Latch.
[2] Close Latch.

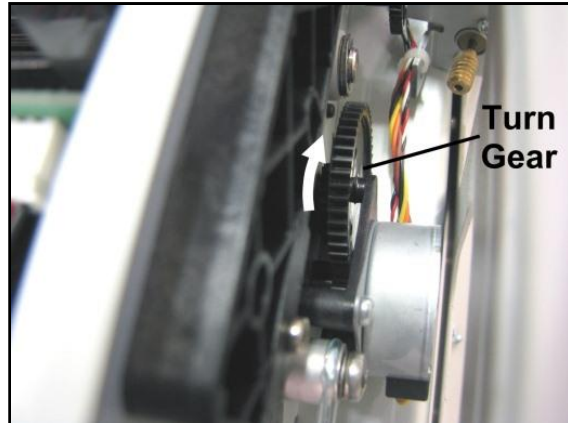


8. [1] Slide Service Station into Service Station port until it touches bar.
Align with tracks along sides and Guide on Service Station dock floor.
[2] Look down through Top Cover to make sure Service Station is aligned with bar.
IMPORTANT! Service Station must be perfectly aligned with bar to prevent misalignment and operating problems.



SECTION 4 MAINTENANCE

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



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

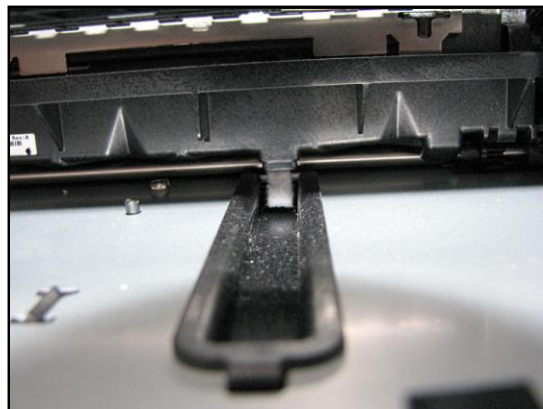
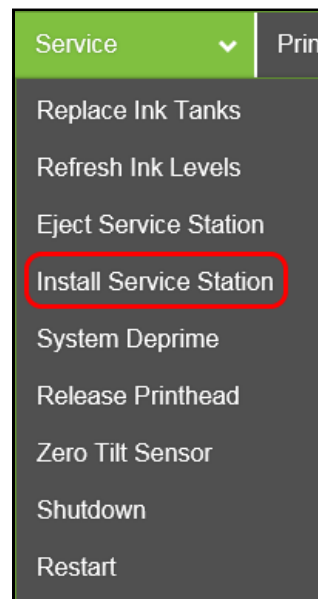
NOTE: Make sure wick hanging below Service Station is inside plastic trough (*inside Ink Tank Station*) to prevent ink seepage.

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

11. **Close Clamshell Cover. Close Front Cover.**

CAUTION

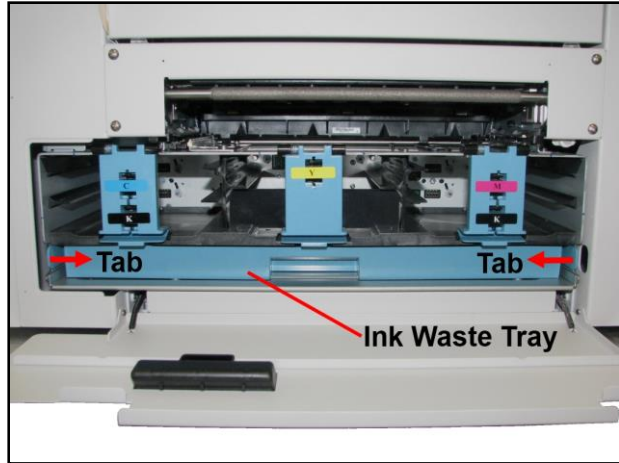
HOLD ONTO BOTH LATCHES WHEN OPENING AND CLOSING CLAMSHELL TO PREVENT DAMAGE. DO NOT ALLOW CLAMSHELL TO DROP OR SLAM CLOSED.



Replacing Ink Waste Tray

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

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

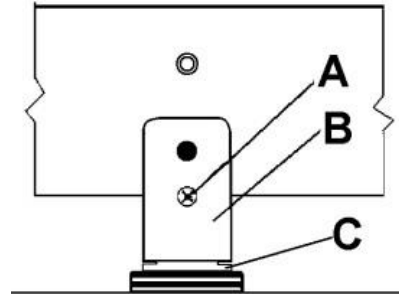


Replacing Sheet Separators

Sheet Separators ensure separation of pieces as they are being fed. If experiencing double sheet feeding and cannot adjust Separators to prevent it, replace Separators.

Replacing Sheet Separators is not difficult:

1. Turn Printer OFF and unplug it from power source.
2. Release Separator by loosening Locking Knob and moving Media Side Guides to maximum opened position.
3. Lower Separators so they touch Feed Roller.
4. Remove screw [A] and Separator Cover [B]. Remove Separator [C] by prying it out of Holder.
5. Install a new Separator and reinstall Separator Support and screw.
DO NOT overtighten screw to prevent distorting or damaging Separator.



SECTION 4 MAINTENANCE

Jams in Printer

If a jam occurs, **STOP the Printer**. Some possible causes for jamming are:

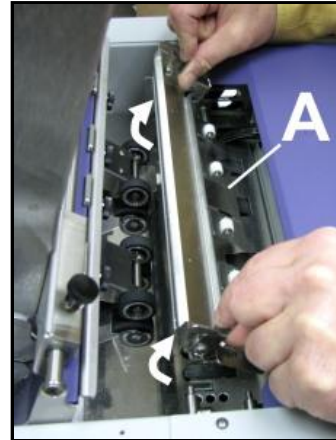
1. Feeding more than one piece of media (*double-feeding*).
2. Damaged media, such as dog-eared (*turned down corners*).
3. Media that is not stiff enough may not be usable. Media that meets Postal stiffness requirements for automated feeding is acceptable in Printer
4. Envelopes caught under flap of another envelope or stick to one another.

Removing Jammed Media

Clearing a jam depends on where jam occurred.

Feed Section: Clear by pulling media out of Separators.

Antistatic Brush Assembly: If necessary, remove Antistatic Brush Assembly [A] to access jammed material. Unlatch two latches (*one on either side of Assembly*) and lift Assembly off four mounting pins (*as shown*). **Do not bend brushes!** Clear jam, then carefully reinstall Brush Assembly.

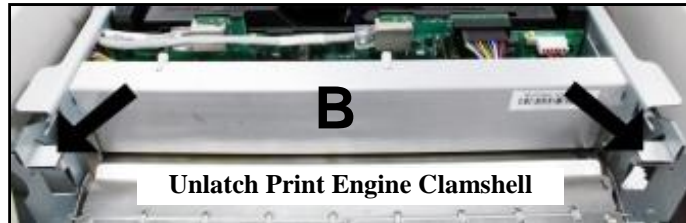


CAUTION

DO NOT BEND, PINCH OR CUT INK LINES LOCATED DIRECTLY IN FRONT OF BRUSH ASSEMBLY.

NOTE: Make sure Brush Assembly is correctly reinstalled and aligned before starting to print. Assembly should sit flat on transport area surface.

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



CAUTION

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



Misfeeds

Misfeeds can be corrected by readjusting Sheet Separators to media or replacing them. See **“Replacing Sheet Separators”** on previous page.

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 and Forwarding 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.

Encoder Wheel

If your machine has this type of Encoder Wheel in Print Engine Area (*see picture at right*), excess ink spray or splashes may accumulate on disk. This may disable Printer and issue a “**DATA_PATH_UNDERRUN**” error in Toolbox. It is necessary to wipe off any excess ink spray or splashes to continue optimum performance.

Clean with distilled water on a damp, lint-free cloth by grasping wheel lightly with cloth and turning shaft.

Take care not to damage Encoder Wheel.

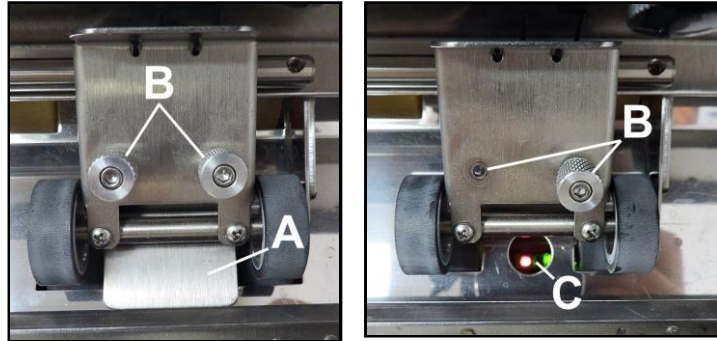


SECTION 4 MAINTENANCE

Feed Sensor

The Feed Sensor is located under the Reflector Plate [A] mounted on the Wheel Assembly just behind the Sheet Separators.

1. Remove the Reflector Plate by removing the two thumbscrews [B]. Push Plate out of the way.
2. Use compressed air to blow paper dust and debris off of Sensor [C] (located below the opening under the Reflector Plate.)



NOTE: Can also use a damp cotton swab to wipe dust and debris.

3. Realign the mounting holes on the Reflector Plate with the mounting holes on the Wheel Assembly. Reinstall and tighten the two thumbscrews.

Print Engine

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

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

CAUTION

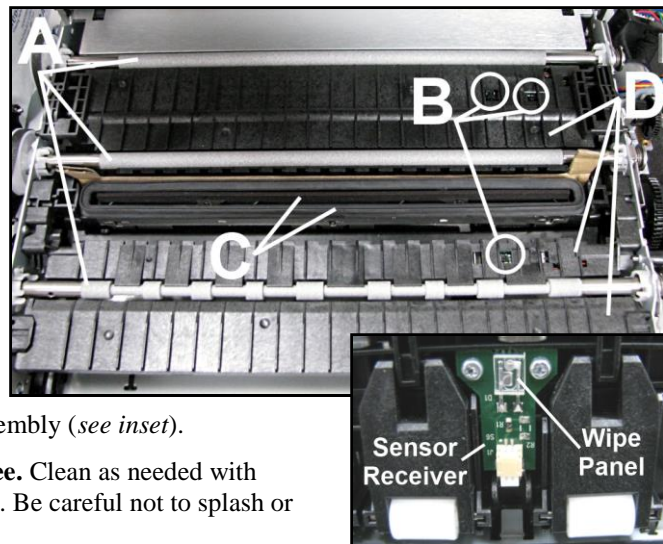
USE ONLY DEIONIZED/DISTILLED WATER TO CLEAN PRINT ENGINE COMPONENTS. AVOID CONTAMINATING PRINTHEAD WITH CLEANERS, LUBRICANTS OR OTHER CHEMICALS.

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

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

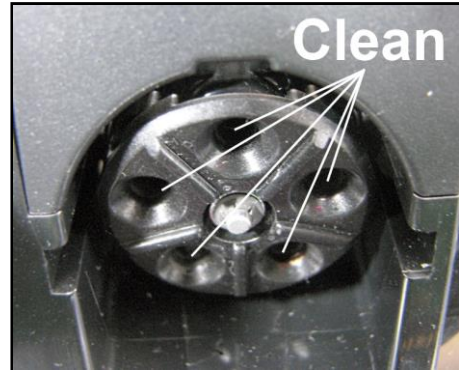
[C] Capping Station Seal and Squeegee. Clean as needed with distilled water on a damp, lint-free cloth. Be careful not to splash or drip ink on other parts of Printer.

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



Cleaning Ink Revolver Couplings

1. **First Deprime system and remove Printhead Cartridge.**
2. Moisten a foam swab in distilled water.
3. Insert swab into one of 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.)

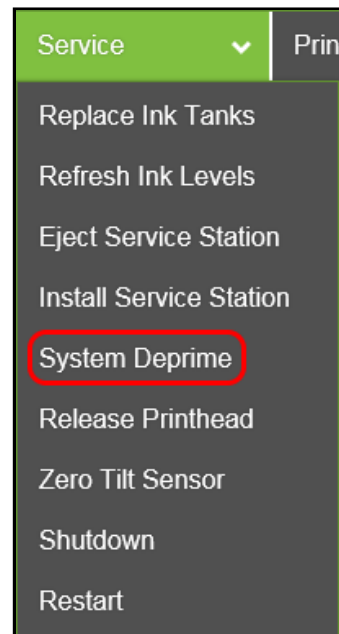


Shipping or Transporting Printer

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

Deprime System

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



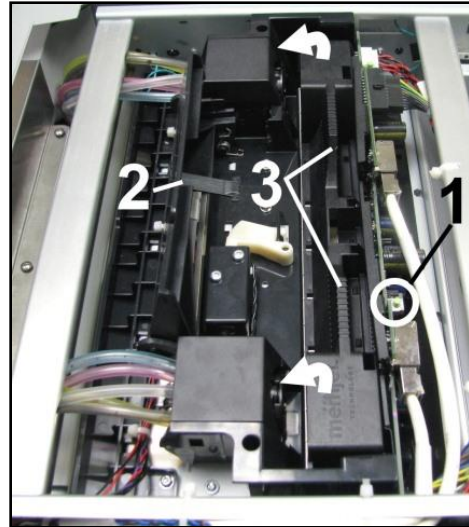
SECTION 4 MAINTENANCE

Remove Printhead Cartridge

1. **Open Top Cover.** Press Printhead Latch Release Button [1]. Printer pumps any ink in system back into Tanks. Then Printhead Latch pops open [2]. **NOTE: Perform this same function from your computer by opening the Printer Toolbox. Select the “Service” drop-down menu, then select “Release Printhead” in the Printer Toolbox.**

CAUTION

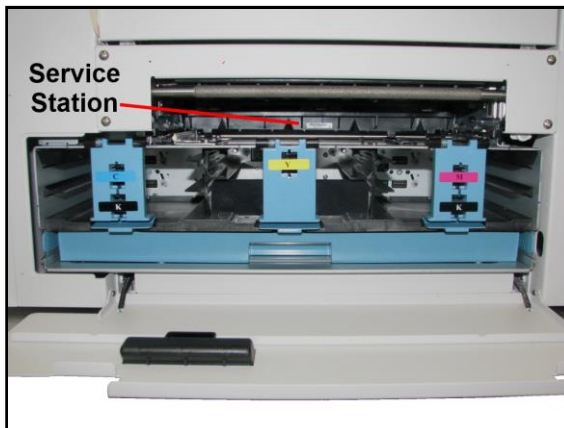
DO NOT PRY OR MANUALLY LIFT PRINthead LATCH OR LATCH MAY BREAK. ONLY OPEN LATCH USING PRINTER'S RELEASE BUTTON OR PRINthead RELEASE COMMAND IN PRINTER TOOLBOX.



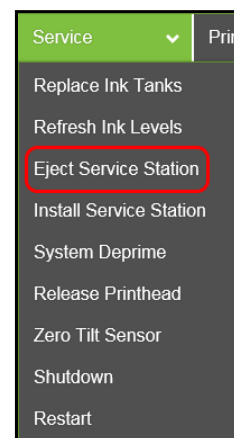
2. Make sure Printhead Latch is fully opened to retract ink lines. Remove Printhead Cartridge by tilting it toward ink lines [3], then carefully lift it out of Printhead Compartment.
3. Pack Printhead Cartridge area with absorbent towels to catch any ink drips or spills. Carefully pack Cartridge using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

Remove Service Station

1. **Open Front Cover (hinged at bottom).** Open Top Cover.
Release two latches and open Print Engine Clamshell. Service Station will not fully eject with Clamshell closed.



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



TURN PRINTER POWER OFF.

CAUTION

WHENEVER POWERING DOWN UNIT, ALWAYS:

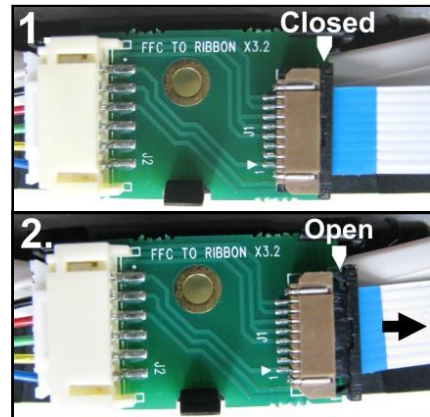
- 1. PRESS POWER BUTTON ON CONTROL PANEL.**
- 2. WAIT FOR PRINTER TO STOP PROCESSING.**
- 3. THEN PRESS MAIN POWER SWITCH ON REAR PANEL.**

- Carefully slide Service Station out of Service Station port.
NOTE: Do not pull Service Station all the way out until you disconnect Ribbon Cable.

NOTE: Place an absorbent towel under Service Station before removing it to catch any drips or leaks.

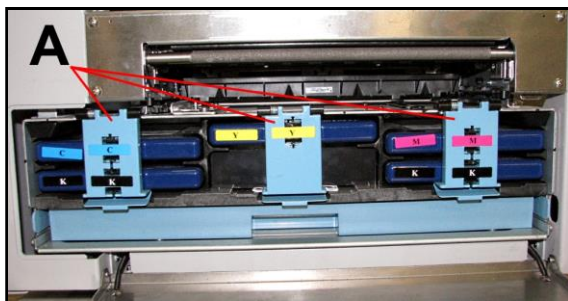


- Disconnect Ribbon Cable.**
Slide Latch open on Service Station Circuit Board to release Ribbon Cable. **Remove Service Station.**



Remove Ink Tanks

- Open Front Cover (*hinged at bottom*).
Unlatch three Locks [A] and pull Ink Tank(s) out of Printer.
- Carefully package Ink Tanks in original packaging.
IMPORTANT: Make sure ink seals on Ink Tanks face up to prevent leakage.
- 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 . Rehydrate Printhead using distilled water and a wet, clean, lint-free cloth. Bubbles often disappear with Printer use.
Print shows regularly missing or misdirected nozzles or ink color mixing.	Debris on Printhead.	Perform startup routine. Clean Printhead using Cleaning Levels in Driver or Toolbox . Wipe Printhead manually with distilled water and a wet, clean, lint-free cloth. 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 . 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. Replace Printhead.
System will not reprime ink after replacing Printhead Cartridge	Printhead nozzles dry. Ink Tanks may be 1/3 full or less.	Wipe Printhead manually with distilled water and a wet, clean, lint-free cloth. Replace Ink Tanks.

WARNING!

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

Printer

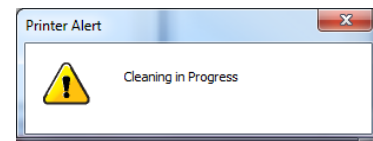
CONDITION	PROBLEM	SOLUTION
Ink Tank installed, no Ink Level indication in Toolbox	Ink Tank contacts dirty, preventing Printer/Ink Tank communication.	Remove Ink Tank(s). Clean prism and QA Chip contacts, see Maintenance , <i>Cleaning Ink Tank Contacts</i> .
Extra lines; losing data	Database problem.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

**SECTION 5
TROUBLESHOOTING**

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.
Excessive Tilt Error	See details under “ Toolbox System Status Messages ” section.
Incompatible Printhead	Remove and reinsert your Printhead Cartridge. Replace Printhead. Printhead Cartridges 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 Example: Black Ink Low	Reorder Ink.
... Out of Ink Example: Cyan Ink Out	Replace empty Ink Tank.
Load Paper	Out of Paper. Load media into Printer and press PAPER button to resume printing.
Mechanical Jam	Check for and remove obstruction, then press PAPER button to resume printing. Check/Clean Sensors. If problem persists, contact technical support.
Missing Printhead	Remove Printhead Cartridge. 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. Clean electrical contacts and reseal 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 PAPER button to resume printing. Check/Clean Sensors. If problem persists, contact technical support.
Printhead Latch Open	Ensure that Printhead Cartridge is inserted properly, then close Printhead Latch so it locks.
Print Zone Assembly (Clamshell) Open	Check to be sure Clamshell is completely closed and latched. Make sure Print Engine Latches are secure.
The ... Ink Tank is missing	Insert missing Ink Tank. Clean electrical contacts and reseal Ink Tank.
Unauthorized ... Ink Tank Installed	Ink Tanks must be purchased from authorized supplier for this printer model.
Unauthorized Printhead	Printhead Cartridges must be purchased from authorized supplier for this printer model.

Toolbox System Status Messages

Valid for printers with firmware version R15.0 or higher installed.)

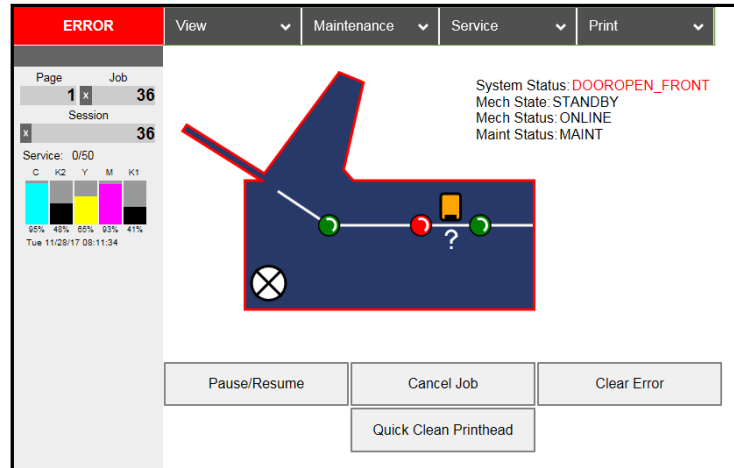
Use the **Toolbox System Status** screen to quickly determine and locate a problem in the Printers.

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

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

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

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

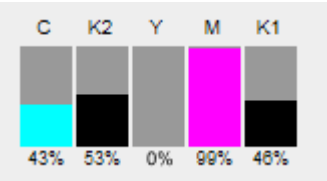


Listed below are some of the messages that may appear in **System Status**.

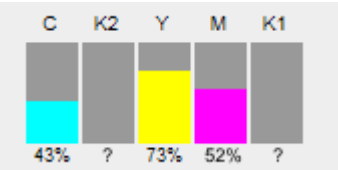
SYSTEM STATUS	SOURCE	SOLUTION
System Status: PAPERPATH_FEED_TIMEOUT Mech State: PRINTING Mech Status: PAPERPATH_FEED_TIMEOUT Maint Status: PRINTING	Out of Paper Media is not reaching Print Engine. Hesitation in media feed.	Load media into Printer and press Pause/Resume button to resume printing. If media is present; check/adjust Guides and Separators.
System Status: PAPERPATH_FEED_TIMEOUT Mech State: STANDBY Mech Status: PAPERPATH_FEED_TIMEOUT Maint Status: MAINT	Paper Jam When “ Out of Paper ” error is shown in combination with “ Uncapped Printhead ” or “ Clamshell open ” error, a paper jam is indicated.	See below
System Status: PAPERPATH_PAPERJAM Mech State: STANDBY Mech Status: PAPERPATH_PAPERJAM Maint Status: MAINT	Paper/Media jam detected. Printer has detected that one (<i>or both</i>) Media Sensors are blocked (<i>interrupted</i>).	Carefully remove jammed media from Printer and close Print Engine. System Status message in red should go away. Toolbox Paperpath Sensor indicators should change from red to green. After jam is cleared, you can: Press Pause/Resume to resume printing. Press Cancel Job to cancel job then manually clear t job from computer’s print queue.

**SECTION 5
TROUBLESHOOTING**

Toolbox System Status Messages (Continued)

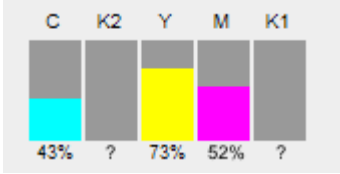
SYSTEM STATUS	SOURCE	SOLUTION
<p>System Status: PAPERPATH_PAGE_SEQUENCE Mech State: STANDBY Mech Status: PAPERPATH_PAGE_SEQUENCE Maint Status: STANDBY</p>	<p>Media thickness problem detected. Indicates one or more single sheets stuck together and fed through Printer.</p>	<p>Remove stuck together media from Printer. Press PAPER to resume printing.</p>
<p>System Status: DOOROPEN_FRONT Mech State: STANDBY Mech Status: ONLINE Maint Status: MAINT</p>	<p>Indicates that “Clamshell” is open. Sensor cable unplugged P202.</p>	<p>Verify that Clamshell is closed and securely latched on both sides. Make sure that Clamshell switch (<i>located on opposite side</i>) is activated by Clamshell Lever. Use Scan Sensors in Toolbox to check that Clamshell switch is functioning.</p>
<p>DATA_PATH_UNDERRUN</p>	<p>Media is not moving from Entry Sensor to Exit Sensor within a specified time. Possible issue with format or orientation of job being sent. Dirty Encoder Wheel.</p>	<p>Check/clean Transport Rollers. Check/clean Sensors. Try changing orientation setting in software/driver or setting a different media size. Check/clean Encoder Wheel. If problem persists contact technical support.</p>
<p>INK_LOW</p>	<p>X = Color. One or more Ink Tanks are low on ink.</p>	<p>Ink Tank replacement will be necessary soon. Reorder Ink.</p>
<p>System Status: INK_OUT_YELLOW Mech State: STANDBY Mech Status: ONLINE Maint Status: MAINT</p>  <p>The chart displays ink levels for five tanks: C (43%), K2 (53%), Y (0%), M (99%), and K1 (46%). The Y tank is empty, and the M tank is nearly full.</p>	<p>X = Color. One or more Ink Tanks are out of ink.</p>	<p>Replace empty Ink Tank(s), using “Replace Ink Tanks” command from EWS. Verify that Ink Tanks are seated firmly and latches are fully closed. Clear error using “Refresh Ink Levels” command in Toolbox or just press Pause/Resume to refresh ink levels and continue printing.</p>
<p>System Status: MAINTENANCE_BUSY Mech State: STANDBY Mech Status: ONLINE Maint Status: MAINT</p>	<p>Machine is performing a maintenance procedure.</p>	<p>No action required.</p>

Toolbox System Status Messages (*Continued*)

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

**SECTION 5
TROUBLESHOOTING**

Toolbox System Status Messages (Continued)

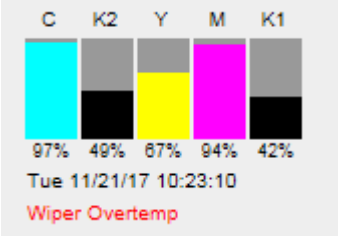
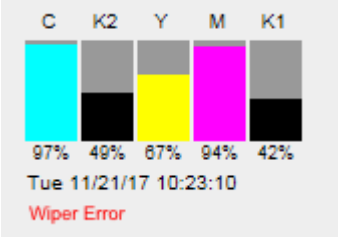
SYSTEM STATUS	SOURCE	SOLUTION
<p>System Status: MECH_FAIL_PERMANENT Mech State: STANDBY Mech Status: MECH_FAIL_PERMANENT Maint Status: MAINT</p> <p>ERROR on System Status screen. Check the Printer Graphic to determine what component has a problem or failed: Service Station, Ink Valve or Printhead, (usually indicated with a steady “?”)</p>	<p>Mechanical error One of Printer's mechanical components was not properly registered at expected position. Mechanical failure or Sensor failure.</p>	<p>Visually inspect component stated as a “Reason” for failure. Using Scan Sensors screen in Toolbox, perform toggle test on Sensor responsible for registration of failed mechanical component position. 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. Dual Pinch Valve problem: Check Sensor board connector and flag/sensors alignment. Check Valve motor connector. Check P2005 cable on MPCA. At this point, this error may represent an Ink Pump error, since there is no return signal from pump and therefore, a separate message describing an Ink Pump error.</p>
<p>System Status: [Crit 63 03-phead offline cancelpage restart] Mech State: STANDBY Mech Status: [Crit 63 03-phead offline cancelpage restart] Maint Status: MAINT</p>	<p>Data Cables unplugged, dirty Printhead contacts, dirty PPCA contacts.</p>	<p>Check data cables (P250, P260), clean Printhead contacts, and/or clean PPCA contacts.</p>
<p>System Status: ONLINE Mech State: STANDBY Mech Status: ONLINE Maint Status: MAINT</p> <p>ERROR on System Status screen. Printer Graphic shows Printer Service Station as “?”.</p>	<p>Service Station is ejected, Service Station position sensors are damaged or malfunctioning.</p>	<p>Check Service Station position. Using Scan Sensors screen in Toolbox, perform toggle test on two Sensors responsible for registration of Service Station position.</p>
<p>System Status: PRINTHEAD_MISSINGQA Mech State: STANDBY Mech Status: ONLINE Maint Status: STANDBY</p> 	<p>Printhead missing and one or more of Ink Tanks are missing, When this error occurs, Multiple EWS monitoring is disabled.</p>	<p>Check Printer Graphic and Printhead or Ink Levels displaying “?”. Install Printhead. Install Ink Tanks.</p>

Toolbox System Status Messages (Continued)

SYSTEM STATUS	SOURCE	SOLUTION
<p>System Status: PRINthead_MISSING Mech State: STANDBY Mech Status: ONLINE Maint Status: MAINT</p> <p>ERROR on System Status screen. Printer Graphic shows the Printer Printhead as “?”.</p>	<p>No Printhead installed or Printhead not making proper connections. J2001 cable unplugged. Printhead Latch is open.</p>	<p>If Printer was just powered on, wait a minute; error may clear by itself. Install Printhead Cartridge. Remove and reinstall Printhead. Replace Printhead. Refer to appropriate sections in this manual for removing and installing Printhead Cartridge.</p>
<p>PRINthead_UNPRIMED</p>	<p>Printhead priming process has failed.</p>	<p>If Printer was just powered on, wait a minute; error may clear by itself. Remove Printhead Cartridge, wet print nozzles using deionized or distilled water and reinstall Printhead Cartridge. Refer to appropriate sections in this manual for removing and installing Printhead Cartridge. If you continue to have trouble priming Printhead; check for kinked or pinched color tubes.</p>
<p>MECH_CANCELPAGE</p>	<p>Job was cancelled by user pressing Cancel Job button. Job was interrupted by “Clamshell” being momentarily opened.</p>	<p>Wait until print job has cleared from Printer. Then manually clear job from computer’s print queue. Then send new print job. Check to be sure “Clamshell” is securely latched, then press “Clear Error” button to continue. If problem persists, contact service support.</p>

**SECTION 5
TROUBLESHOOTING**

Toolbox System Status Messages (*Continued*)

SYSTEM STATUS	SOURCE	SOLUTION
<p>WIPER OVERTEMP</p> 	<p>Wiper Motor is overheated due to performing a Wiper Transfer (<i>removing excess ink off Service Station Wiper</i>) too often or for multiple or extended periods. Printer will continue maintenance after Wiper Motor cools down. Message will disappear once the temperature returns to operating range.</p>	<p>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.</p>
<p>WIPER ERROR</p> 	<p>Wiper Roller is not turning. This can be due to:</p> <ol style="list-style-type: none"> 1. White flex cable is dirty, broken or not connected. 2. Wiper Module (motor) failure. 3. DPCA failed at J17 terminal. 	<ol style="list-style-type: none"> 1. Check white flex cable and connections. 2. Replace Wiper Module. 3. Check and/or replace DPCA board.

Appendix A – Printer Specifications

PRINT RESOLUTION	Best: 1600 x 1600 DPI Normal: 1600 x 800 DPI
SPEED (color or mono)	Up to 3600 letter size pages or 9000 envelopes per hour
PRINT AREA	8.5" x 30" (215 mm x 762 mm)
MEDIA SIZE	Minimum: 3" x 4.2" (76 mm x 107 mm) Maximum (Fits Media Support): 9.5" x 17"* (241 mm x 431.8 mm) (*Up to 30" (762 mm) long if media is otherwise supported.)
MEDIA THICKNESS	Minimum: 0.004" (0.102 mm) Maximum: 0.020" (0.5 mm)
DUTY CYCLE	350,000 #10 Envelopes per month
INK	Water-based ink. 5 individual 250 ml ink tanks (CMYKK)
PRINT CARTRIDGE	Memjet® Replaceable Printhead
INTERFACE	USB 2.0 and Ethernet
ELECTRICAL	115-240 VAC, 50/60 Hz
DIMENSIONS	20" W x 24" L x 17-1/4" H (50.8 cm x 61 cm x 44.0 cm)
WEIGHT	75 lbs. (34 kg)

All Specifications Subject To Change Without Notice

Appendix B – Supplies and Optional Hardware

The following supply items and optional hardware are available from your Astro Machine Distributor:

SUPPLIES	
Black Ink Tank	123-2412
Cyan Ink Tank	123-2413
Magenta Ink Tank	123-2414
Yellow Ink Tank	123-2415
Printhead Cartridge	123-2393
OPTIONAL HARDWARE	
Small Media Guide Kit	42-900-65
Conveyor /Stacker	CD-700
Conveyor Leg Kit	57E-600-10
Conveyor Drop Tray	DTM-255
Drop Tray (Printer)	DT-420
Duplex Printer Upgrade	M1DX

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PRINTER MAINTENANCE SCHEDULE

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

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

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

WARNING!







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

CAUTION

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

Control Panel LED Sequences

Print and cut out this chart to mount on Printer if desired. **Suggested location:** Top Cover.

LED Sequence	Printer Status	Recommended Action
<p>Flashing, simultaneously</p> 	Powering up or Shutting down	Wait for process to finish
<p>ON, Steady</p> 	Printer powered up in Standby mode	Load Media
<p>ON, Steady</p> 	One of the printing sensors is covered or dirty	Open Clamshell, remove media or clean sensors
<p>Flashing SLOW</p> 	Printer Paused, (Data pending)	Press PAPER to Start/Resume printing or CANCEL to clear job
<p>Flashing FAST</p> 	Out Of Paper (Data pending, Media not present)	Reload Media, Press PAPER to Start/Resume printing, or CANCEL to clear job
<p>ON, Steady</p> 	<i>Ink Supply error:</i> Ink Out, Ink Missing, Printhead Unprimed...	Replace empty Ink Tank and press PAPER to resume, or Circulate ink
<p>Flashing SLOW, simultaneously</p> 	<i>Busy Signal:</i> Performing maintenance, Loading, Ejecting media	Wait for process to finish
<p>Flashing FAST, simultaneously</p> 	<i>Hardware error:</i> Door Open, Machine tilted, Service Station Error, Printhead missing...	Find and fix error
<p>Flashing, alternating</p> 	Downloading Data, Printing	Press PAPER to Pause printing

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Elk Grove Village, IL 60007
10/12/2018

Part Number: 200-M1, Rev. Y
