

Pen Maintenance



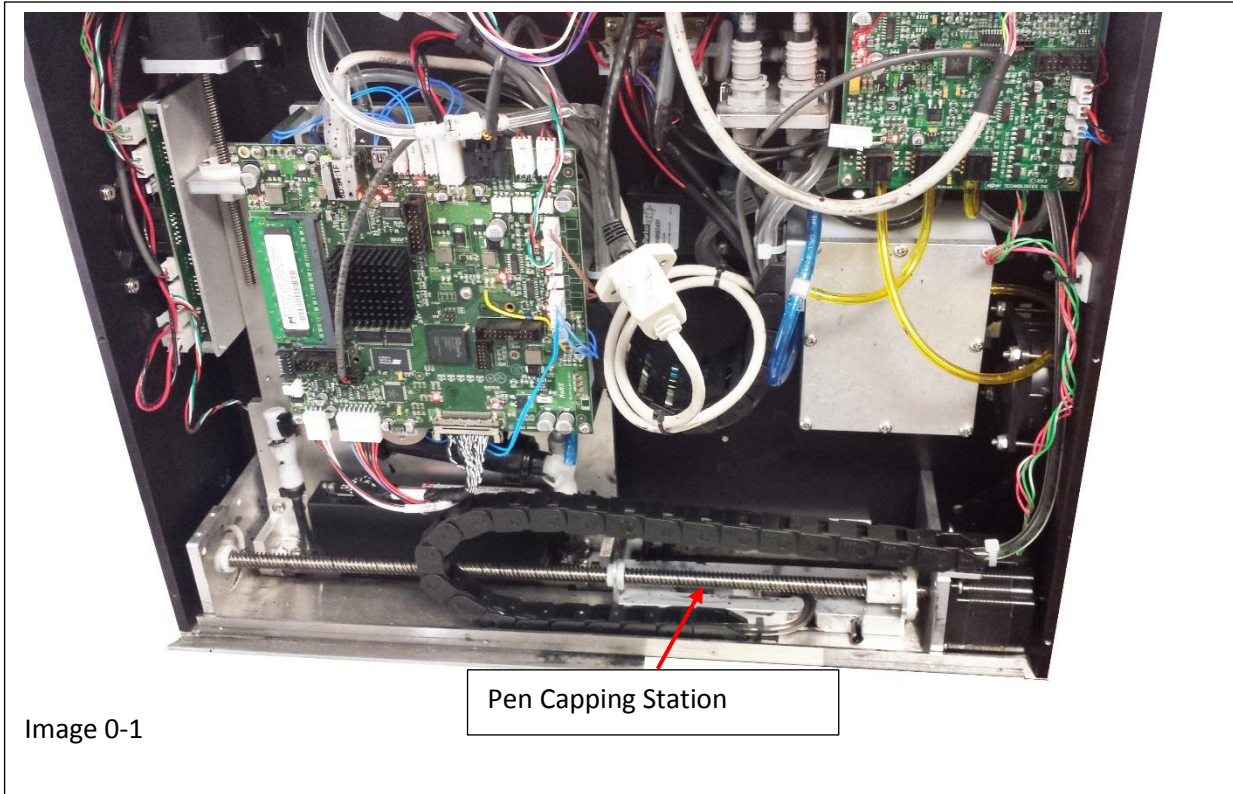
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Eagle AMS Orientation

The Eagle AMS Print Head was designed with a completely automated cleaning feature that can be setup to perform at times that have been predetermined by the operator. This system has a Purge Bottle built in the main cabinet as well as Flush and Ink bottles. There is also an automatic wiper and capping station built into the Eagle AMS Print Head.

Operator, or Service interaction will be required to change out the Ink and Flush solution when empty and also to empty the Purge bottle when full. All of these containers have automated detectors on them so the system will alert the Operator when needed.



Capping Station Detail

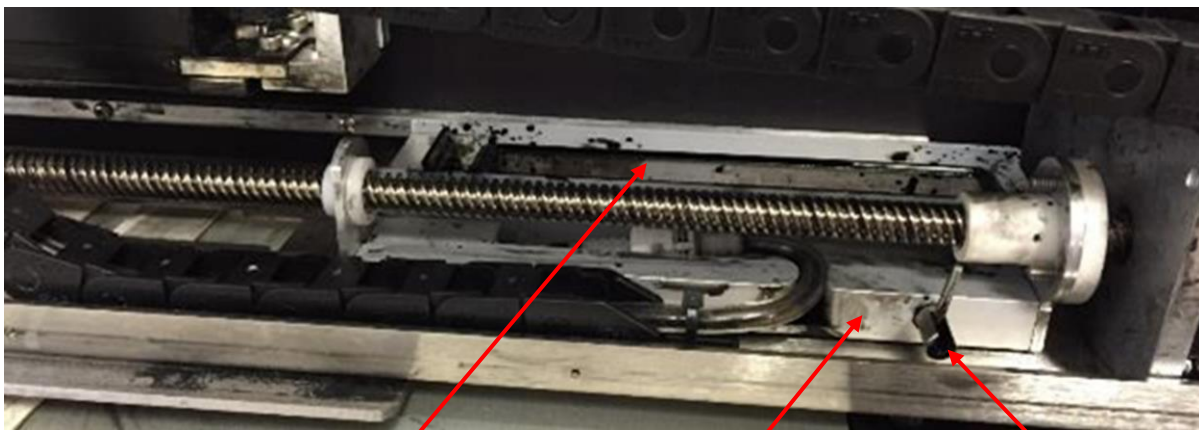
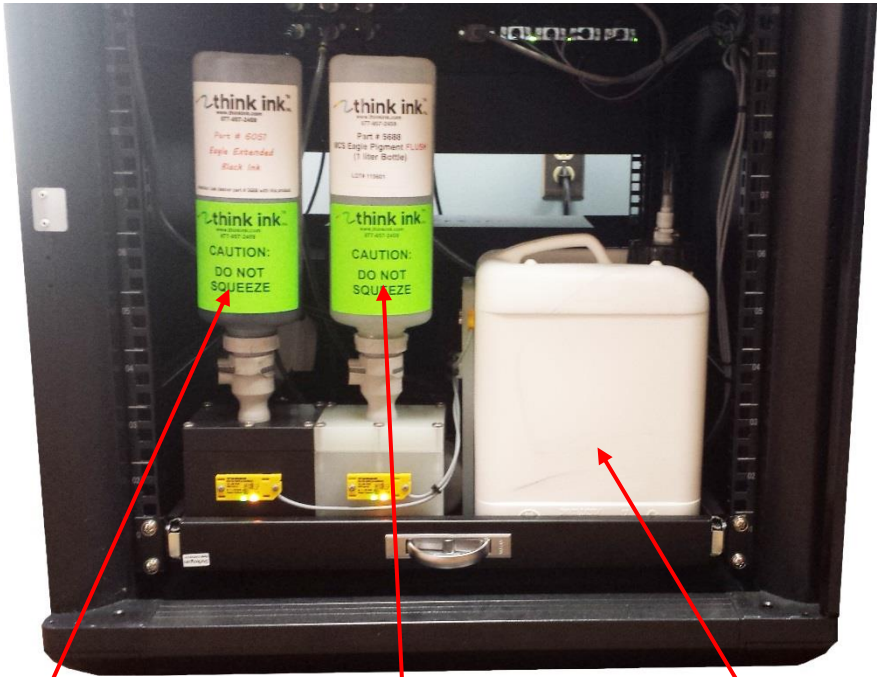


Image 0-2



Ink Bottle

Flush Bottle

Purge Bottle

Image 0-2

Section One



Section One

Setting Time Defaults

The Raptor AMS or “Automated Maintenance System” is by design a self-cleaning and self-maintaining system as the name implies. The Ink bottle, Flush bottle and Purge bottle are all in line and active inside the system control cabinet.

The Print Head Purging or “Cleaning” as it is referred to on this system will occur automatically at timed intervals you set and save to the system default. From that point on the system will automatically clean the Pens at the predetermined times. This system also allows you to manually interact and initiate a clean cycle at any time then automatically return to the beginning of the default time cycle.

To set the defaults you want your system to have, perform the following:

Step 1

Run the Raptor 6 Software and set the purge time by performing the following:

- Bring the Raptor 6 Software on line. (Auto Clean Time can be set in the “Eagle AMS Pen Maintenance Menu”)
- In the Main Menu press File > System Setup, to open the System Setup Menu see image 1-1
- In the “Maintenance” section of the System Setup Menu, Select “Eagle AMS” see image 1-1
- Press “Pen Maintenance” to open the maintenance menu shown in image 1-2

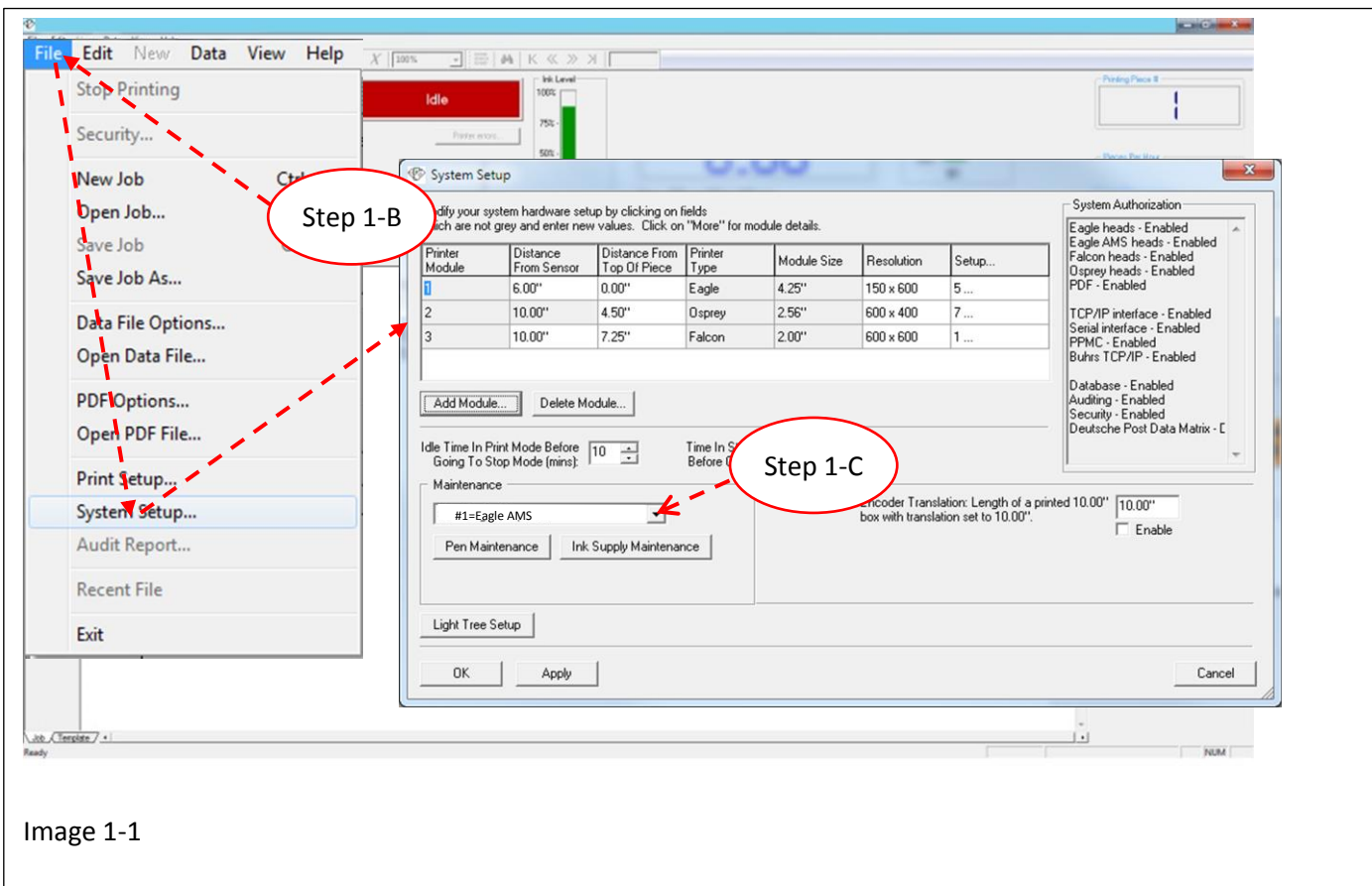


Image 1-1

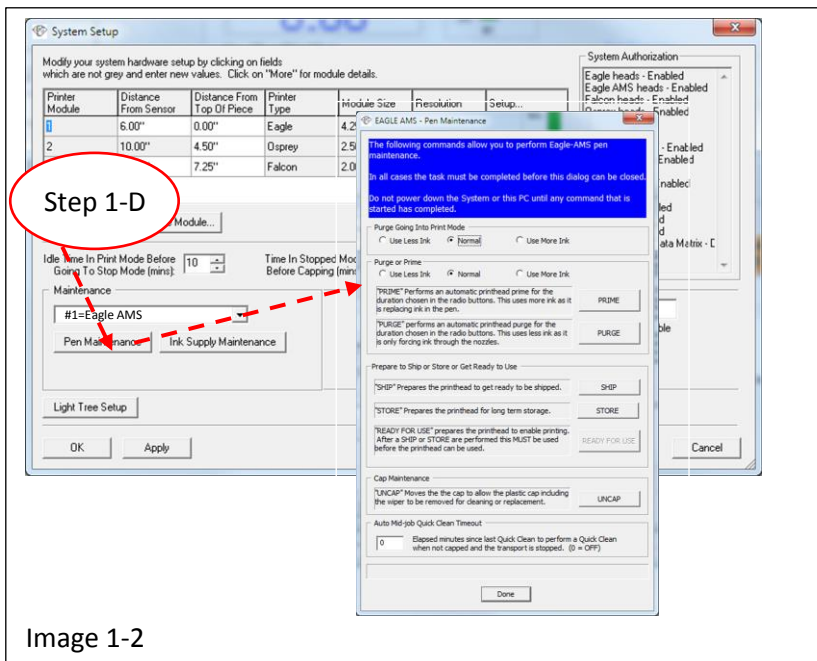


Image 1-2

- E. Set Quick Clean time in Minutes, the Default range is 10 to 600 minutes. In most cases a setting of 60 to 120 minutes is optimal. To set the time simply click on the “Auto Mid-job Quick Clean Timeout” box and type in the number of minutes you want the Clean cycle set, then press “enter” on the key board or the “Done” button on the Eagle AMS Pen Maintenance menu, see image 1-3. The system will not initiate a Quick Clean while printing, however once the time cycle has been met or exceeded the first time the systems stops printing a “Quick Clean” cycle will automatically begin.

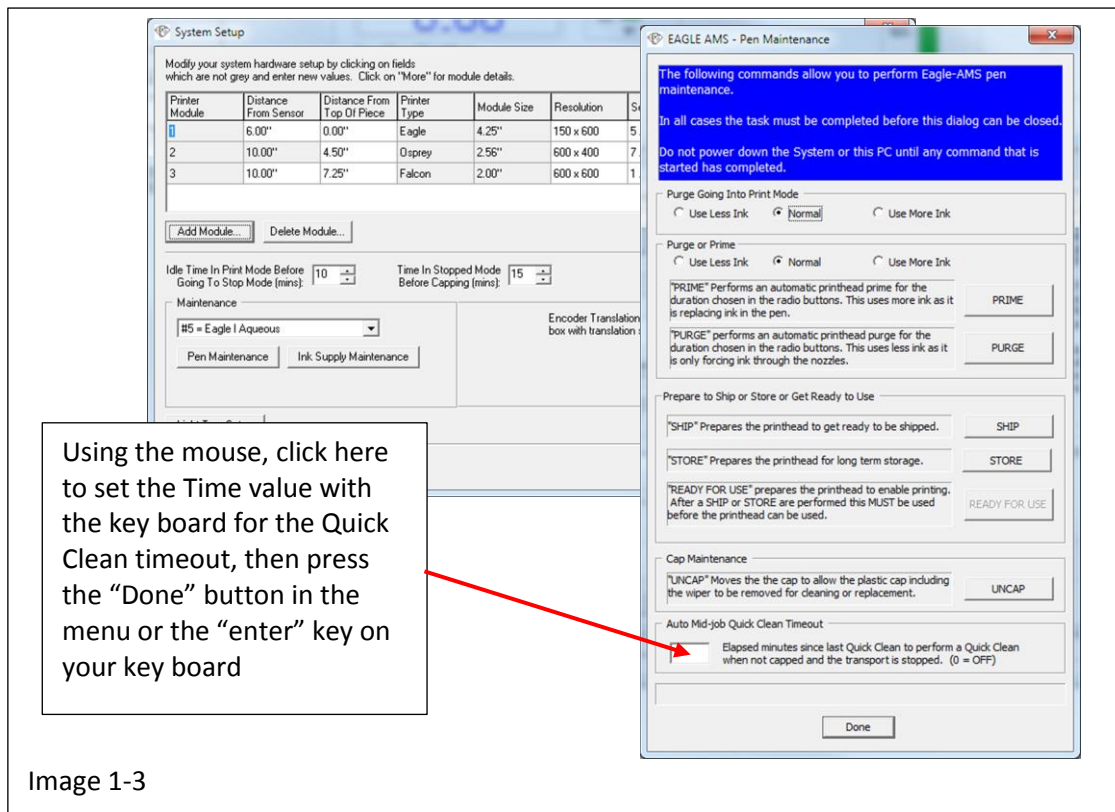


Image 1-3

Section Two



Setting Ink Volume

Used for Quick Cleaning

Section Two

Setting Ink Volume

The amount of ink used in each Quick Clean Cycle can be selected from three (3) preset defaults found in the Eagle AMS Pen Maintenance menu. The climate and altitude your system is operating in should be considered when making this selection. To choose between the three (3) presets found in the Eagle Pen Maintenance Menu for the automated quick clean cycle go to the "Purge Going into Print Mode" section, place the cursor over the selected default you wish to choose and left click on it. To set the ink amount used for manual Purges and Primes go to the "Purge / Prime" section, place the cursor over the selected default you wish to choose and left click on it, see image 2-1

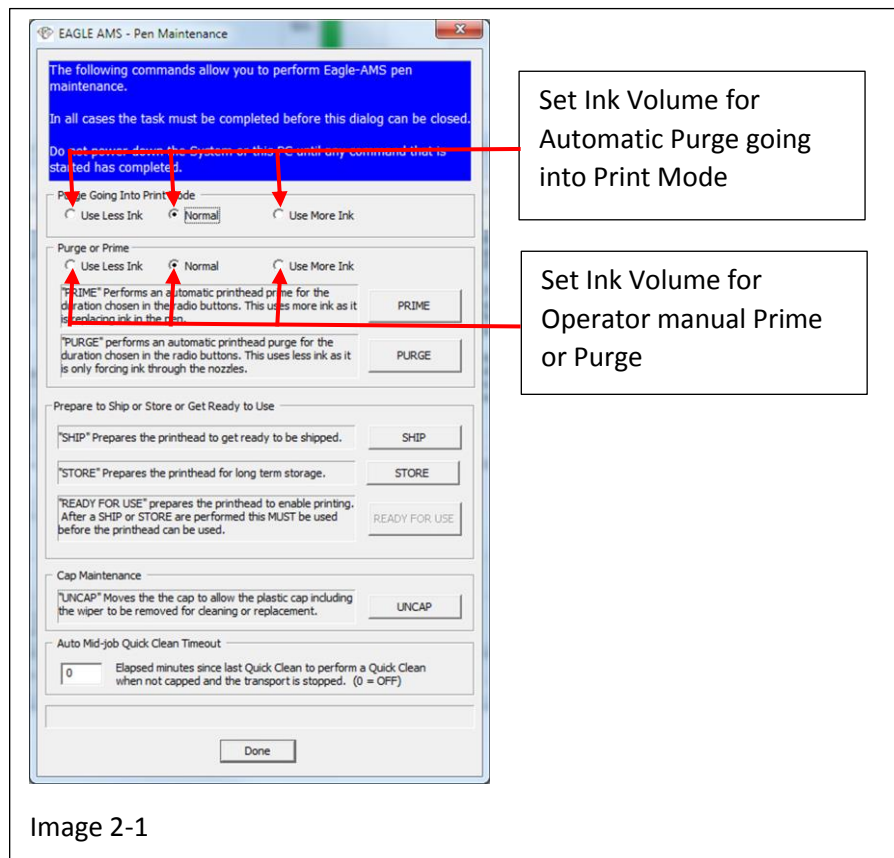


Image 2-1

Section Three



Cap Setting &

Maintenance

Section Three

Cap Setting & Maintenance

The Pen Cap of the Eagle AMS operates automatically for wiping the pens after purging or priming as well as capping the pens when printing has stopped. The actual time delay for when the pens are automatically capped depends on the default setting you enter.

First a time setting to automatically recognize "Idle" time in Print Mode must be established before the system will go into "Stop Mode". Then an elapse time for the duration of Stop Mode must be entered before the automatic quick clean cycle will begin.

To enter these times perform the following:

Step 1

Run the Raptor 6 Software and set the Cap time by:

- A. Bring the Raptor 6 Software on line. (Idle Time and Cap Time can be set for best performance in the "Eagle AMS System Menu")
- B. In the Main Menu press File > System Setup, to open the System Setup Menu see image 3-1
- C. In the "Idle Time In Print Mode" section of the System Setup Menu, set the time in minutes by pressing the Up / Down arrow buttons, see image 3-1
- D. In the "Time In Stopped Mode" section of the System Setup Menu, set the time in minutes by pressing the Up / Down arrow buttons, see image 3-1
(Note: The factory set default time of 15 minutes for "Idle" time and 15 minutes for "Stopped" time is ideal for normal operation in most climates.)

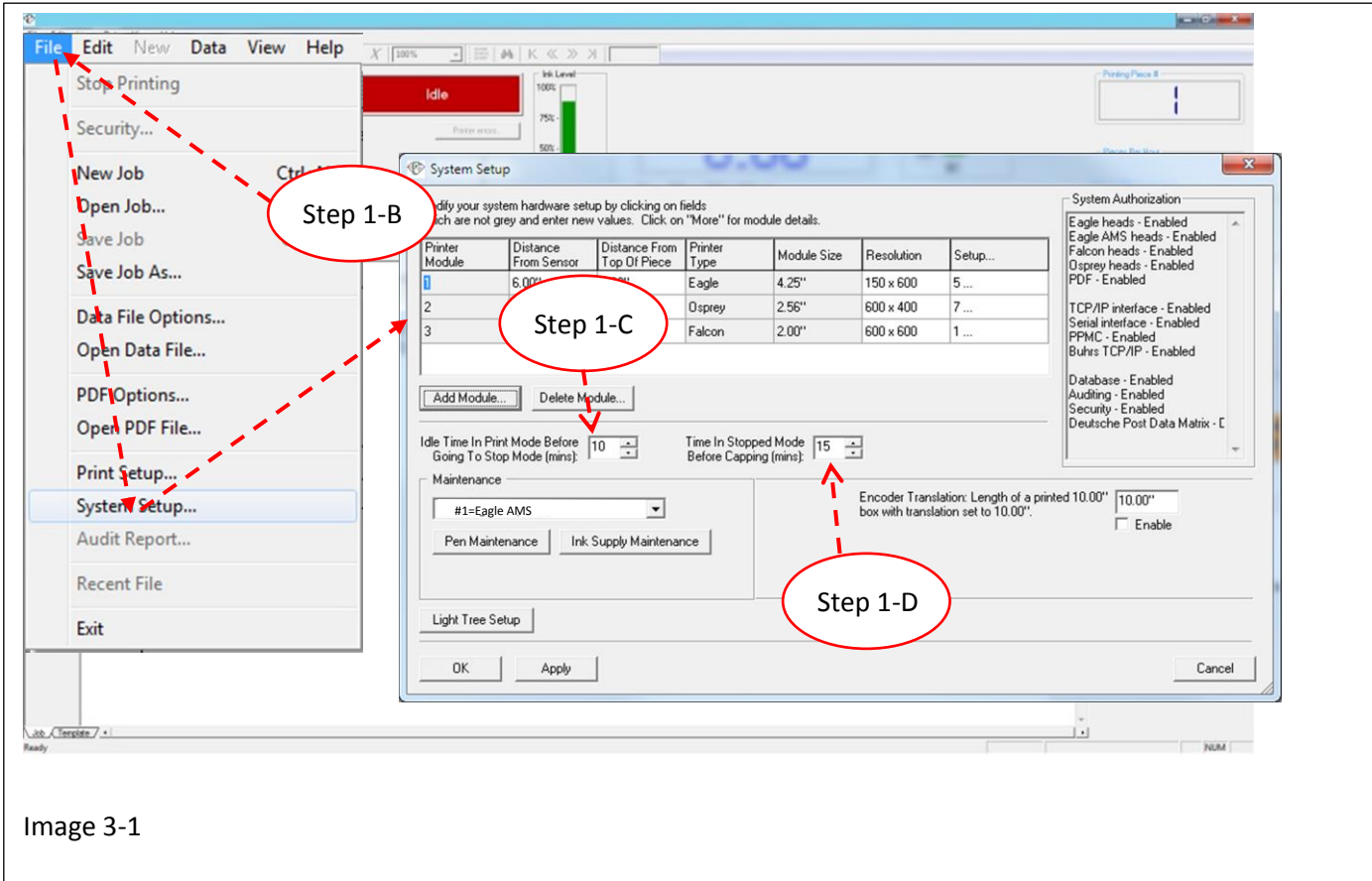
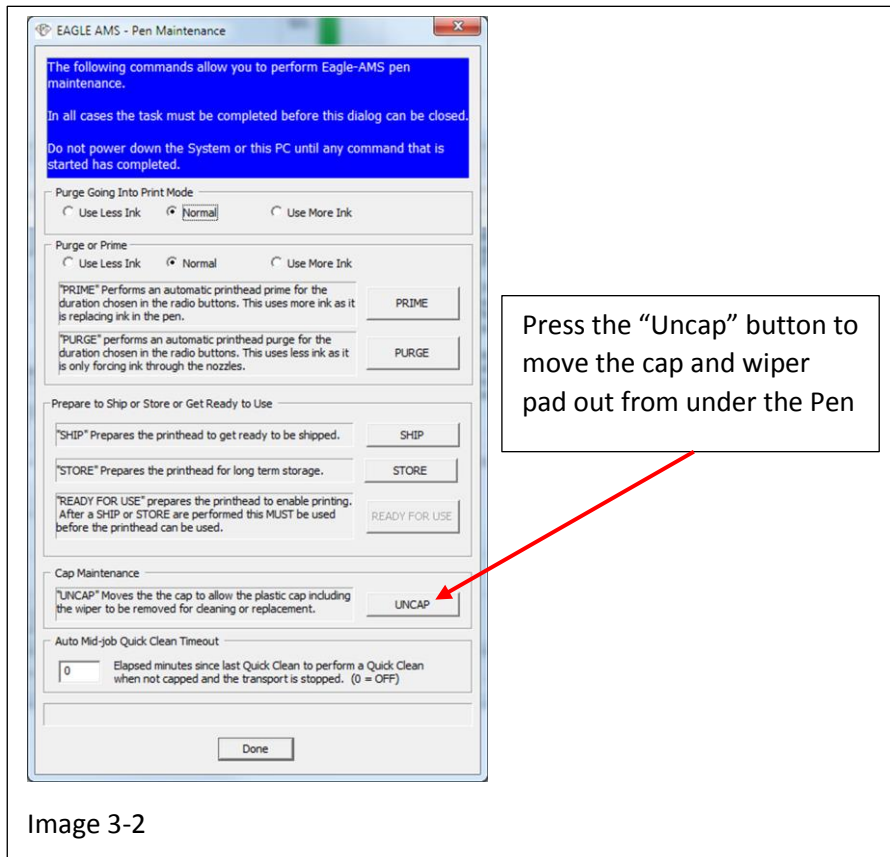


Image 3-1

When it becomes apparent, by diminished print quality, that the Capping Station needs to be replaced perform the following:

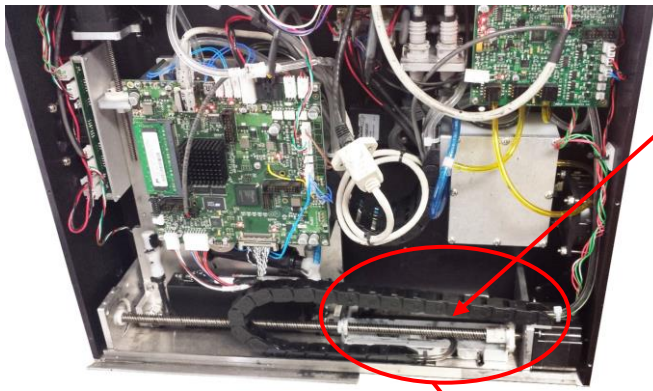
Step 1

- A. Run the Raptor 6 Software and open the Eagle AMS Pen Maintenance menu as discussed in Section One, Step 1 B through D.
- B. Press the “Uncap” button in the Pen Maintenance menu, see image 3-2. This will move the Capping Station to the far right.

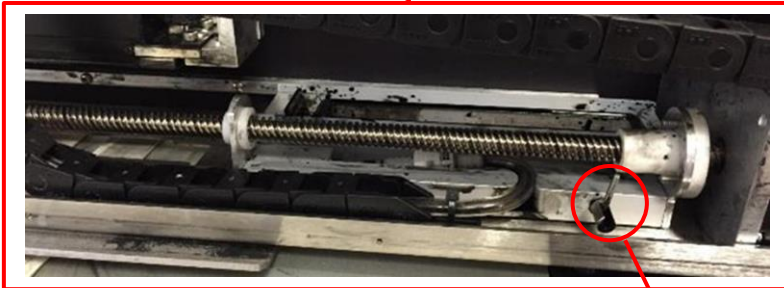


(⚠ Caution: As a safety precaution, wear latex gloves at this time)

- C. Pull the lock out until it clears the collar and turn it counter clockwise to unlock the cap from the sled, see image 3-3.
- D. Gently lift the capping station out of the sled just enough to gain access to the hose connection see image 3-4.
- E. Disconnect the “Purge” hose by turning the fitting counter clockwise while supporting the elbow side of the connection on the cap, see image 3-5
- F. Once the old capping station is removed the excess ink can be cleaned out of the sled using Isopropyl Alcohol or Denatured Alcohol, see image 3-6.



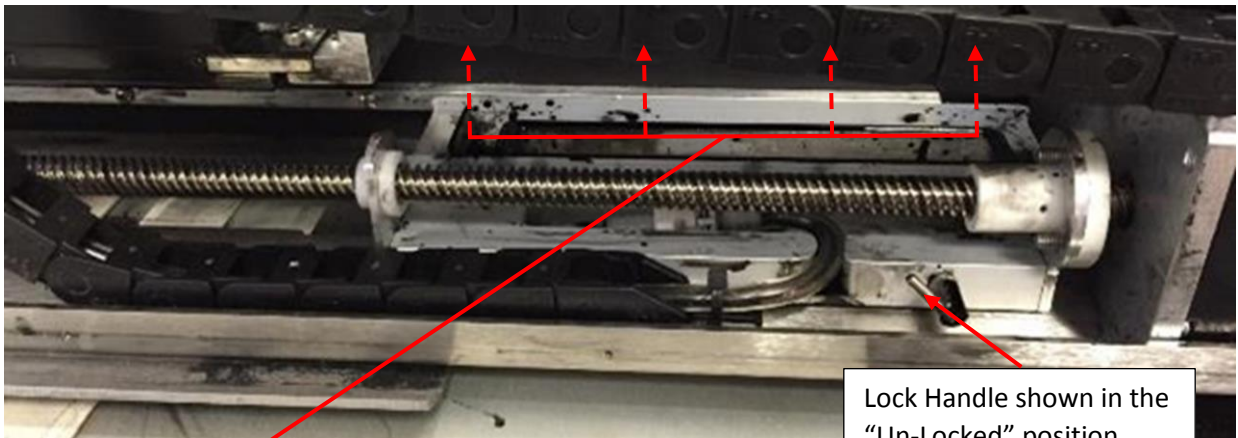
Pressing the "Uncap" Button as indicated in Step 1-B, will move the sled to the far right position



Pull the Lock Handel out just past the collar and turn it counter clockwise to un-lock



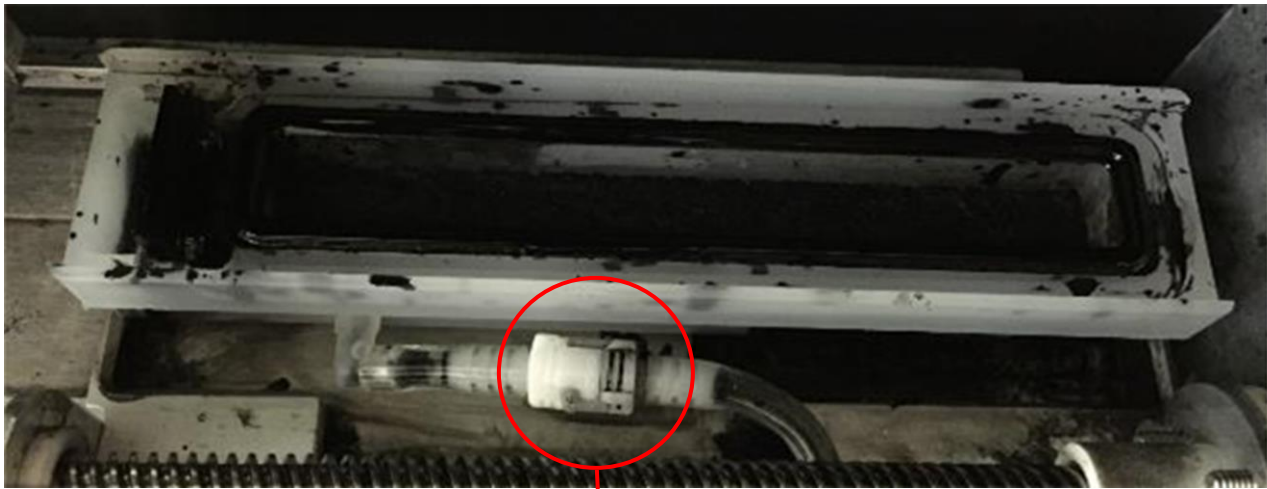
Image 3-3



Gently lift the Capping Station out of the Sled just enough to gain access to the hose fitting

Lock Handle shown in the "Un-Locked" position

Image 3-4

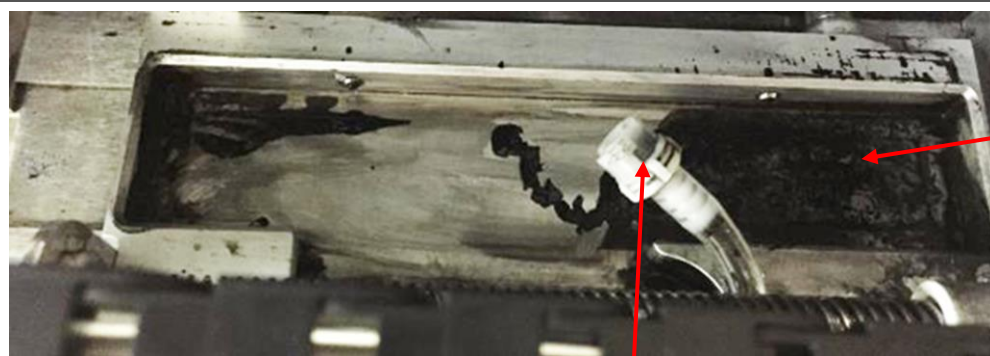


Hold and support the fitting on the "Elbow" side of the connection

Turn the lock side of the Purge hose fitting counter clockwise and pull the connection gently to disconnect it.

(Note: Wipe any access ink off the Pure hose fitting in preparation for installing the new Capping Station)

Image 3-5



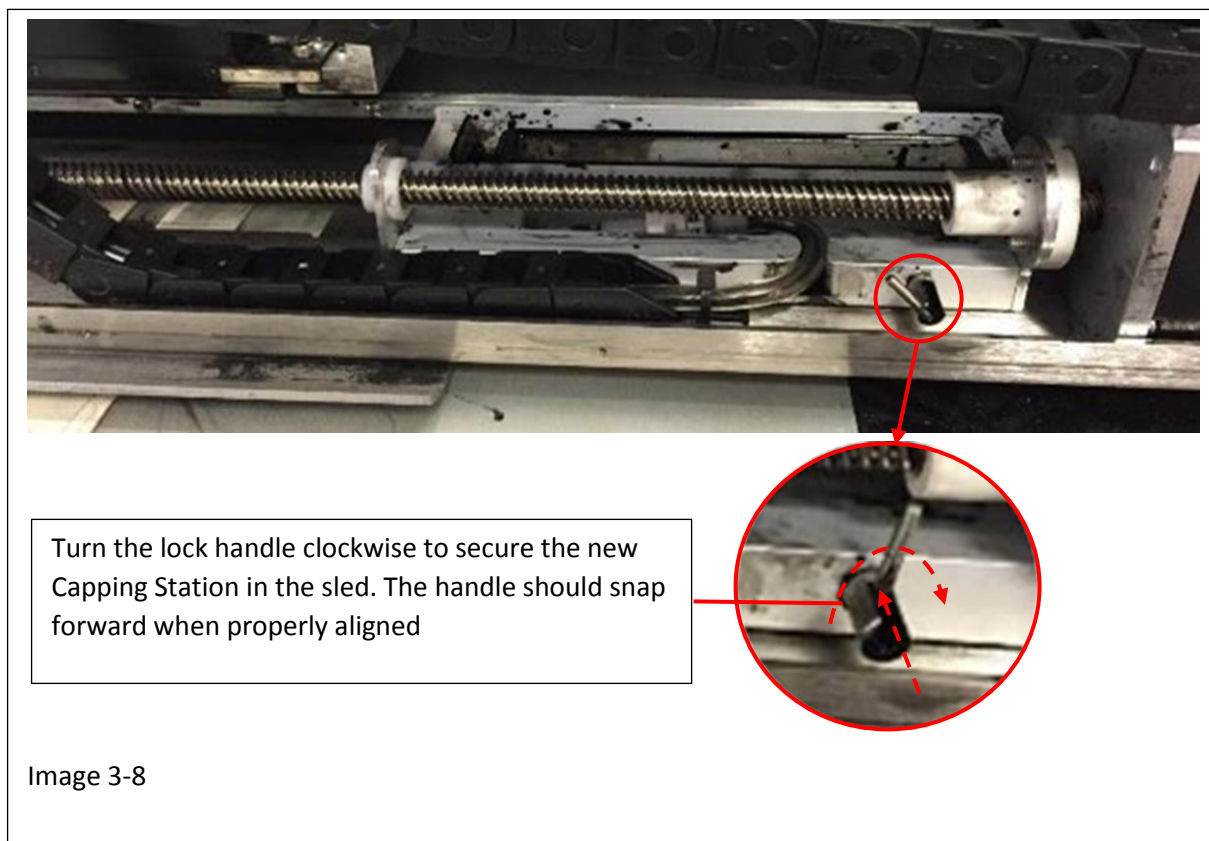
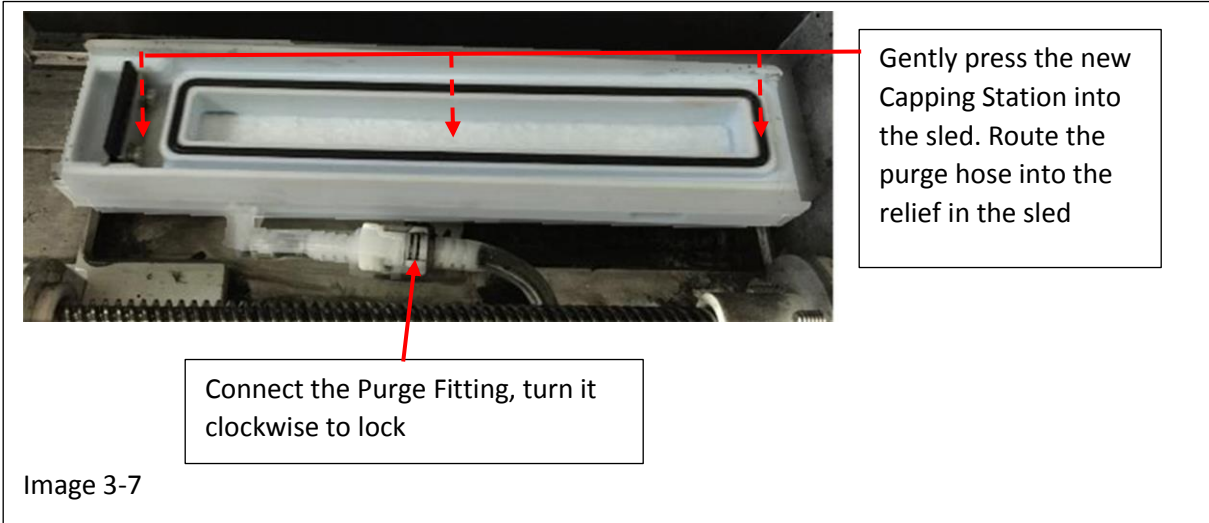
Clean out access ink before installing the new Capping Station

Image 3-6

Clean out old ink from the fitting to ensure a good seal to the new Capping Station

Install the new Capping Station in the reverse order the old one was removed.

- A. Connect the Capping Station Purge Fitting the Purge Hose Fitting. Make sure the hose is routed under the screw rod and pressed firmly into the relief in the sled, see image 3-7.
- B. Press the new Capping Station into the sled and turn the locking handle clockwise to secure it, see image 3-8.



Section Four



Eagle AMS Status

Notification

Section Four

Eagle AMS Status Notification

The Eagle AMS Print System will present different notifications indicating the print head status while in Quick Clean Mode as well as warnings. These are as follows:

Image 4-1 depicts an error warning box indicating to “Stop Printing” before Exiting Software

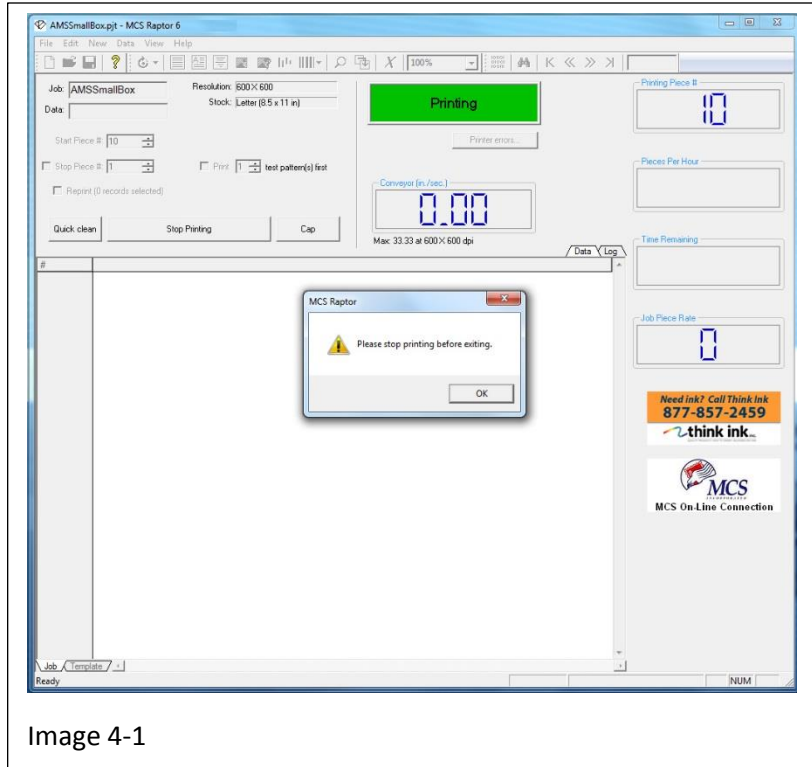


Image 4-1

Image 4-2 depicts Cleaning for an Operator Initiated Quick Clean command.

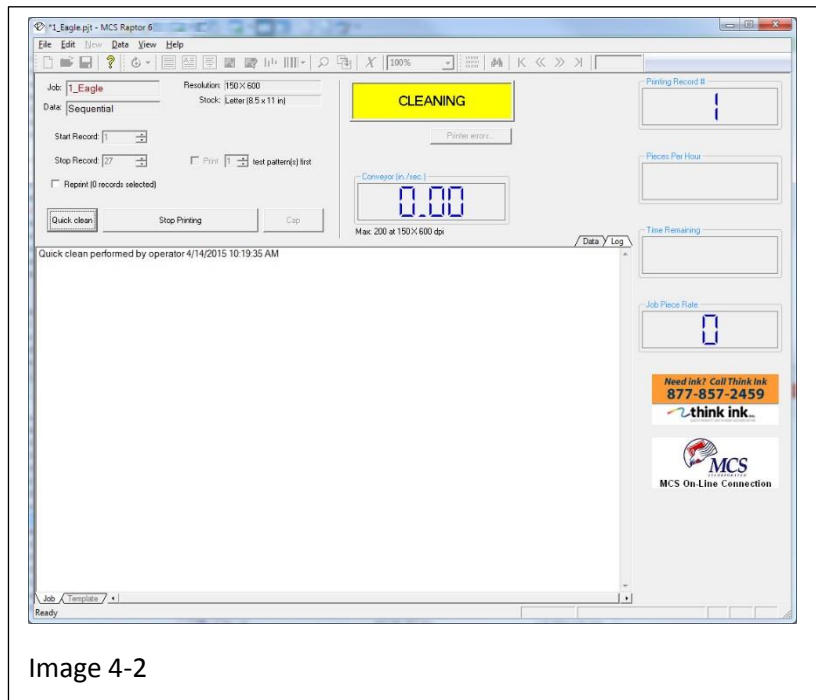


Image 4-2

Image 4-3 depicts the Eagle AMS is actively Capping the print head and warns “Do Not Turn Off Power”

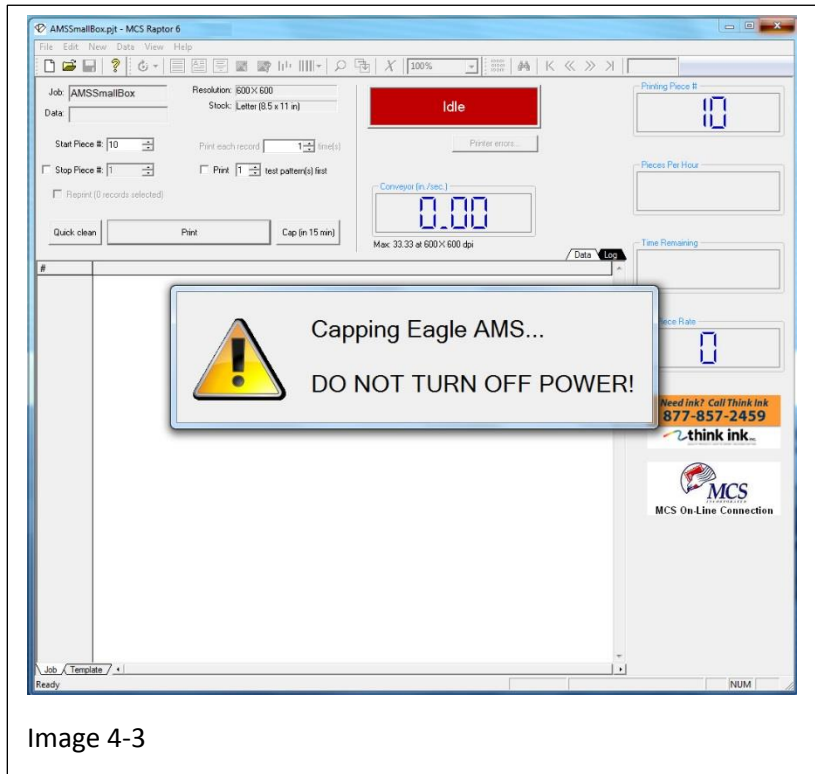


Image 4-3

Image 4-4 depicts the Eagle AMS print head is actively Capping

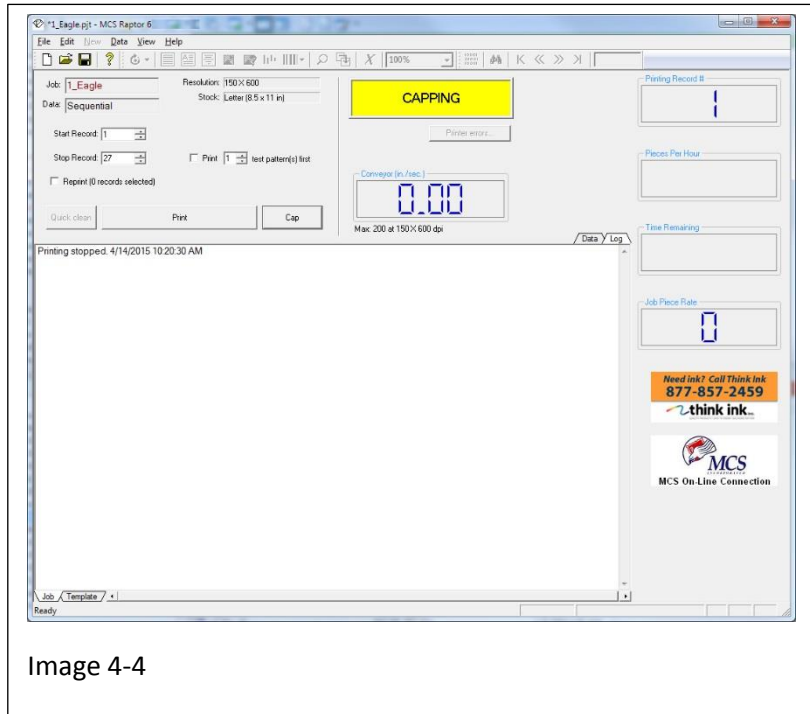


Image 4-4

Image 4-5 depicts an operator initiated "Quick Clean" command while a piece was under the print head

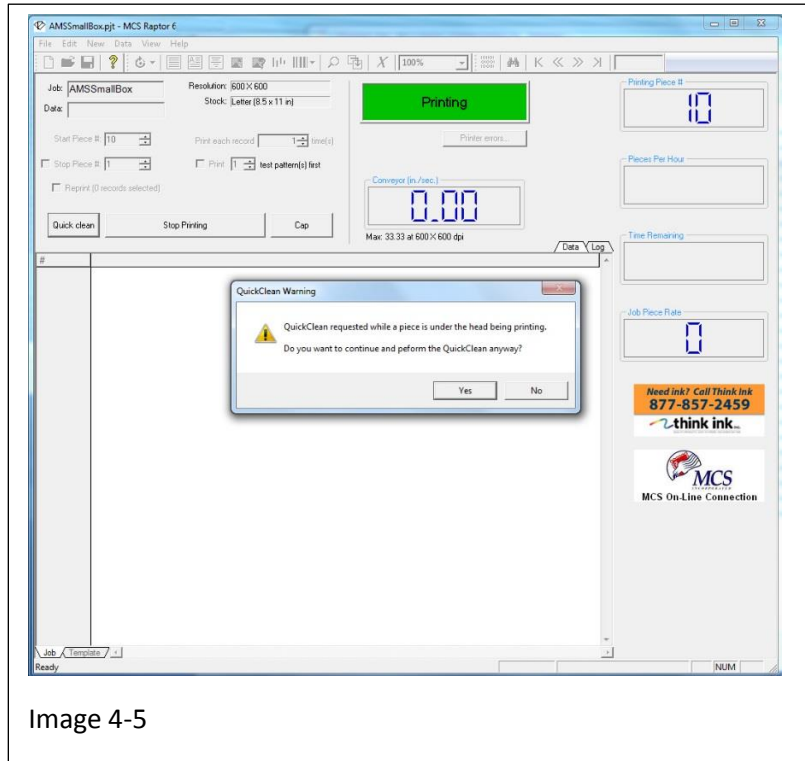


Image 4-5

Section Five



Section Five

Installing Ink & Flush Bottle

The system will indicate the level of ink in the main screen as shown in image 5-1. The system will also indicate when it's time to replace the Flush Bottle

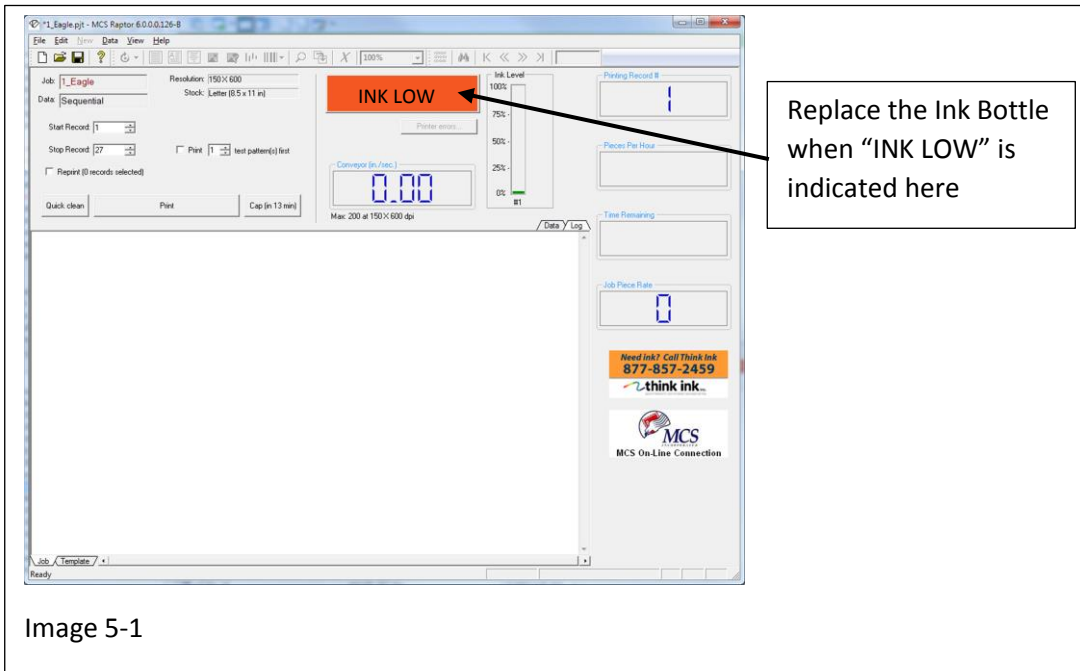


Image 5-1

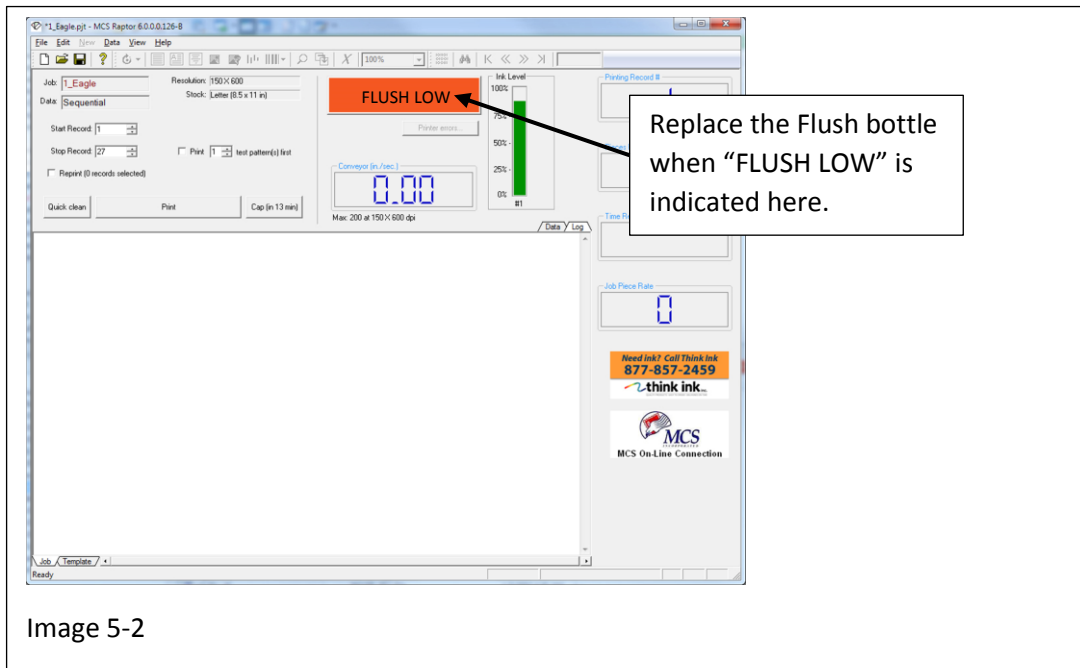
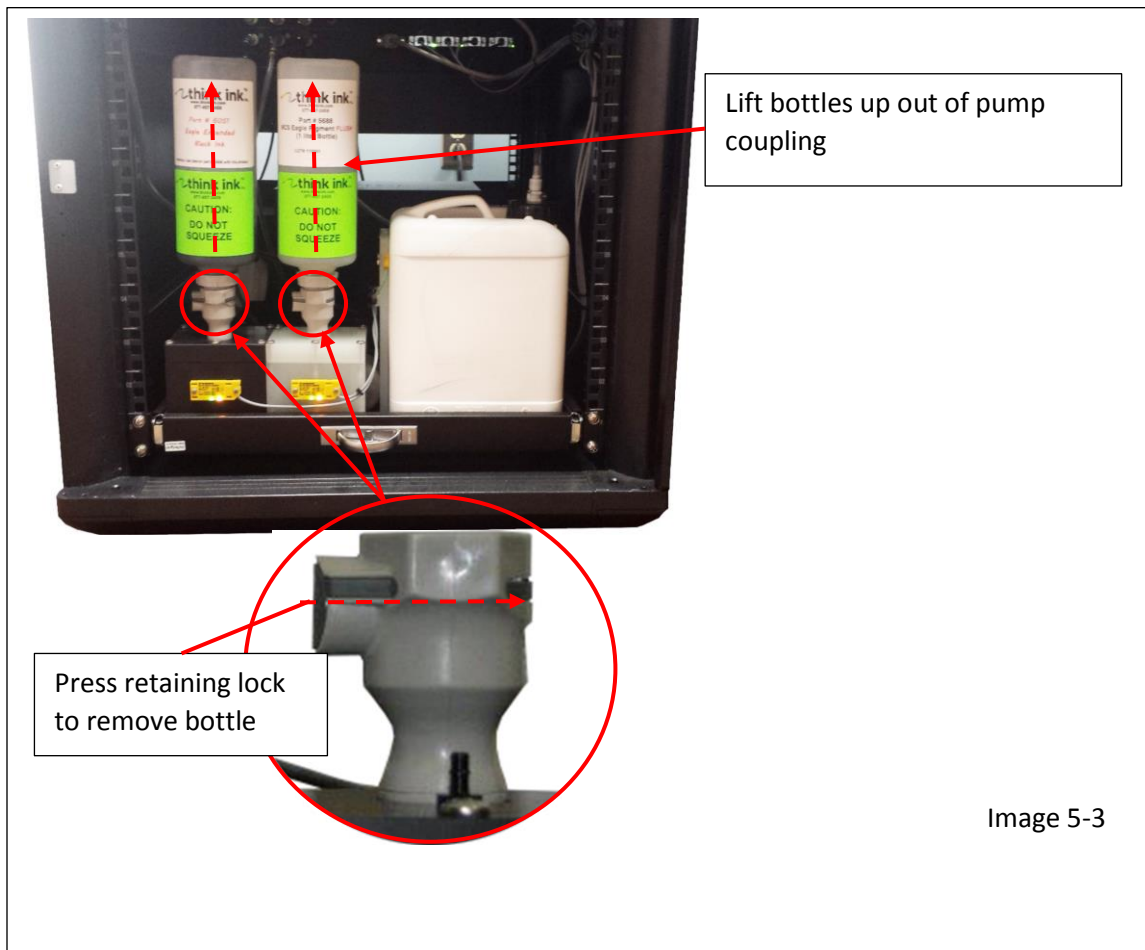


Image 5-2

To replace the ink bottle and / or Flush bottle when indicated by the system perform the following:

Step 1

- A. With the system in "Idle" mode open the door to the Main Control cabinet.
- B. Press the retaining lock at the pump coupling, see image 5-3.
- C. While the retaining lock is pressed lift up the empty bottle and remove it from the cabinet.
(⚠ Caution: Do not squeeze the empty bottle while removing it. Small amounts of fluid may still be present at the nozzle that could drip out into the cabinet.)





Press the retaining lock and insert the Ink / Flush Bottle while the retaining lock is open. It will return to the lock position automatically when the new bottle is properly seated

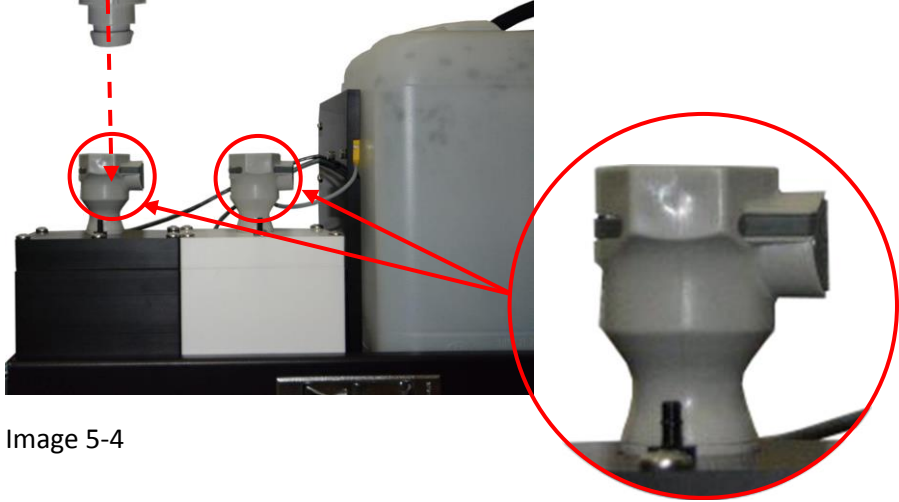


Image 5-4

Section Six

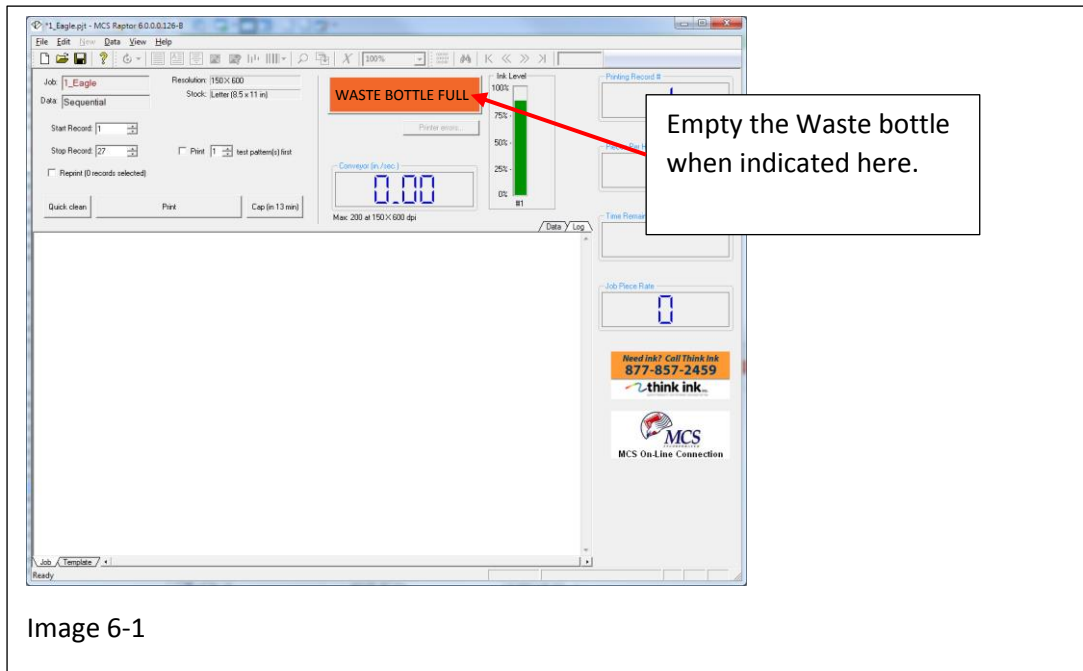
A stylized, light blue eagle logo with its wings spread, positioned behind the text.

Emptying the Waste Bottle
AMS

Section Six

Emptying the Waste Bottle

The Waste Bottle is monitored by sensors. The Eagle AMS system will display an indication on the main screen when the container is full, see image 6-1



To empty the Waste Bottle perform the following:

Step 1

- A. With the machine in "Idle" mode, open the door of the Control Cabinet.
- B. Disconnect the drain hose by pressing the retaining lock to release the hose fitting, see image 6-2. (Note: Fitting style may vary from straight to right angle. Both styles are shown in this publication)
- C. Position the drain hose out of the way. (Note: Place a Kimwipe around the fitting once removed to contain any drips that may occur)
- D. Lift the Waste Bottle out of the cabinet and empty it.

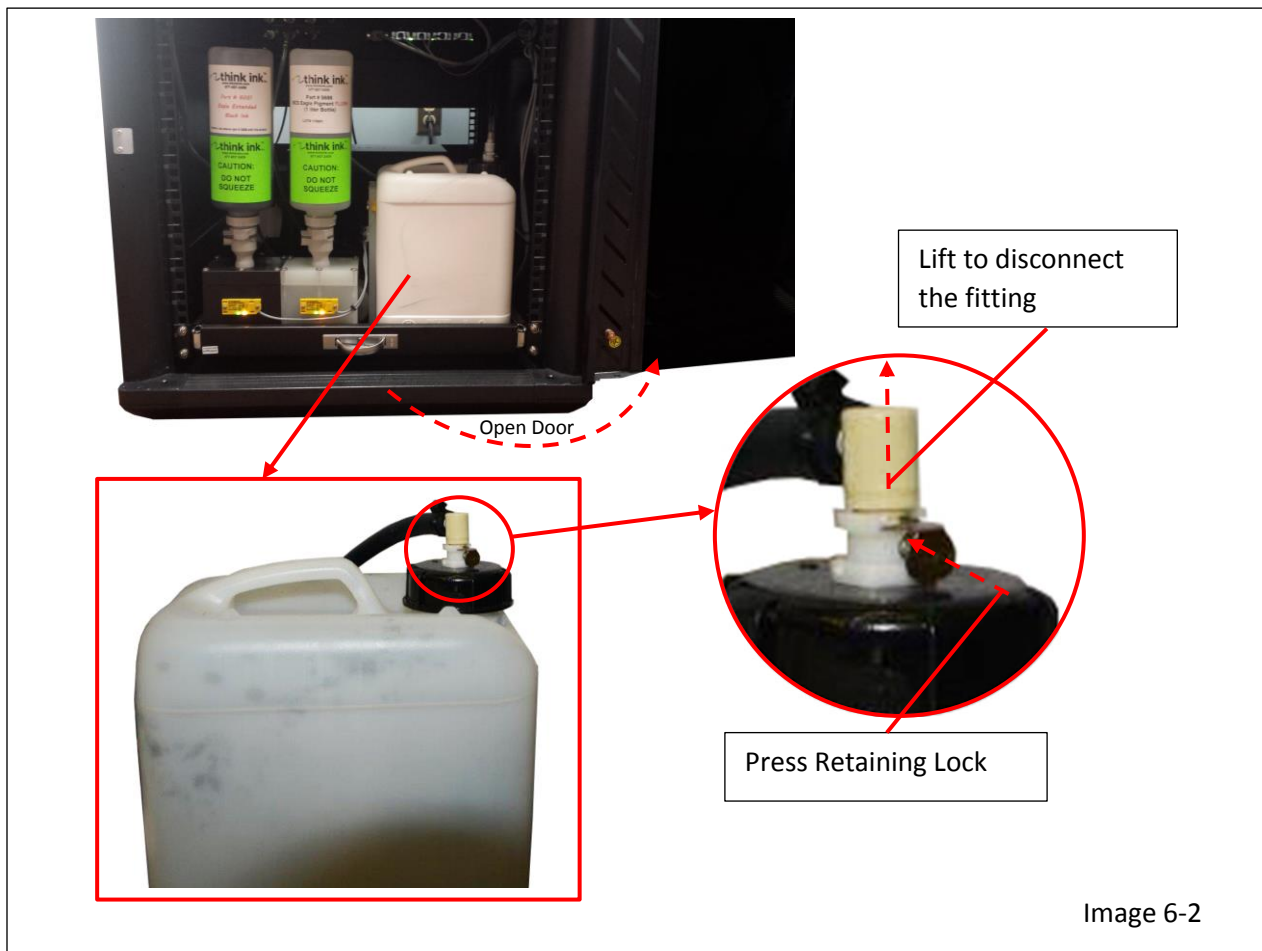


Image 6-2

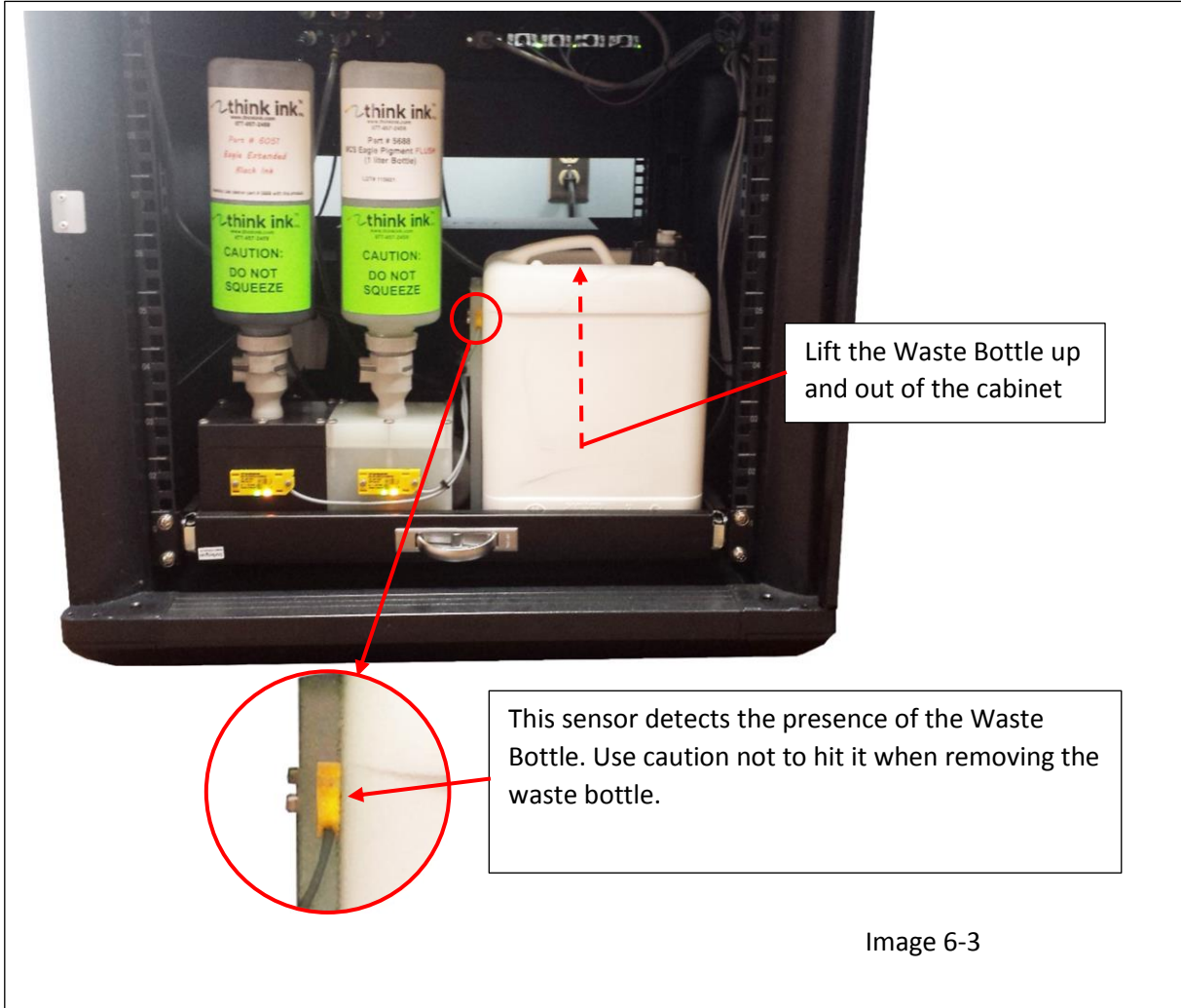
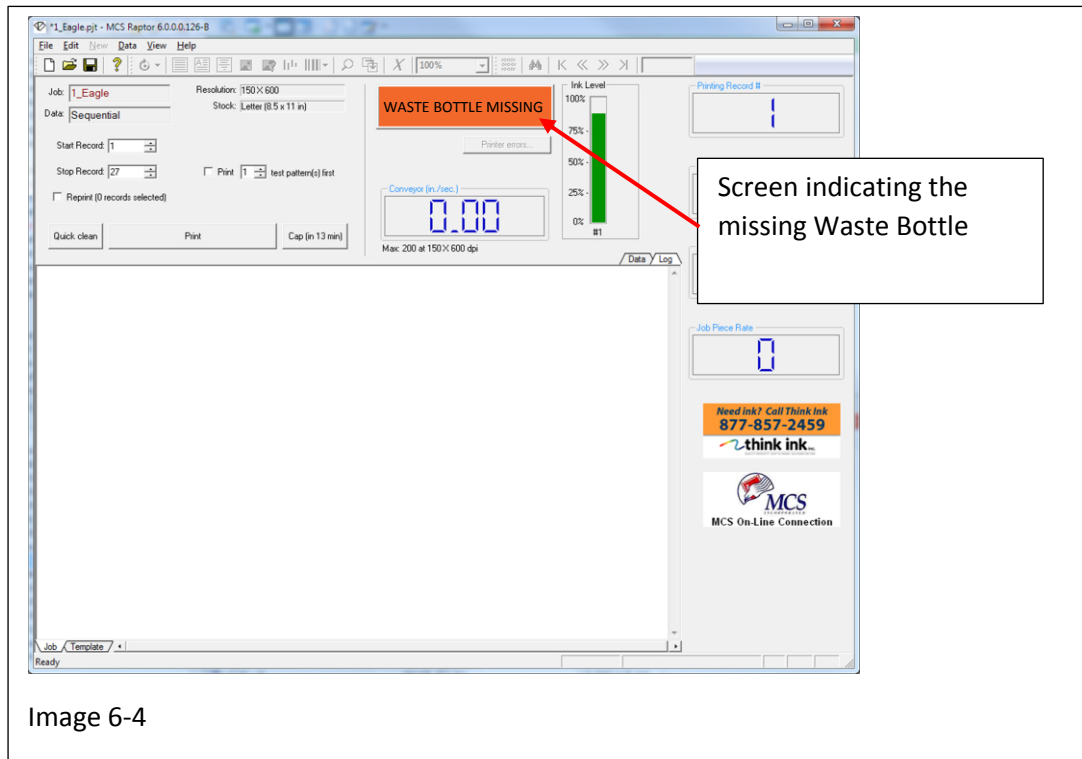


Image 6-3

Once the Waste bottle is out of the cabinet, the sensor, depicted in image 6-3 will no longer detect the waste bottle. The Missing Waste Bottle status will appear on the Main screen as shown in image 6-4.



Once the Waste Bottle has been emptied and returned to the carriage in the control cabinet, the sensor will once again detect the presence of the Waste Bottle and the status display will return to "Idle"

