

Smart-Jet



USER MANUAL

80100

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1. Introduction

Smart-Jet Industrial Inkjet Printer is provided and branded by MSSC, LLC. This compact and lightweight printer is designed for ease of operation in the packaging industry with multiple features:

- WIFI connection via smartphones and tablets using Android and iOS operating systems
- USB keyboard direct connection without PC
- SD card slot built in for easy upgrading of firmware and fonts
- Built in photo-sensor
- AUX I/O port for external sensor and photo-sensor connections
- Nozzle switching and self-cleaning capabilities to extend the lifetime of the printhead
- Auto system back-up and reset to secure data
- Plug and print with HP45 printhead technology licensed by Hewlett Packard
- Adjustable optical density (up to 5 levels)
- Accept both water based and solvent based inks

* Other interface languages available for download at www.mssclic.com including Finnish, Spanish, German, and French

Note: Smart-Jet can be controlled over Wi-Fi using Apple or Android devices. To download MSSC, LLC App on the Apple App store, search for keywords MSSC or SmartJet. For the Apple device the username to log into the app is **Administrator** and the password is **mssc@smartjet**. For Android devices, the username to log into the app is **Administrator** and the password is **mssc@smartjet2012**.

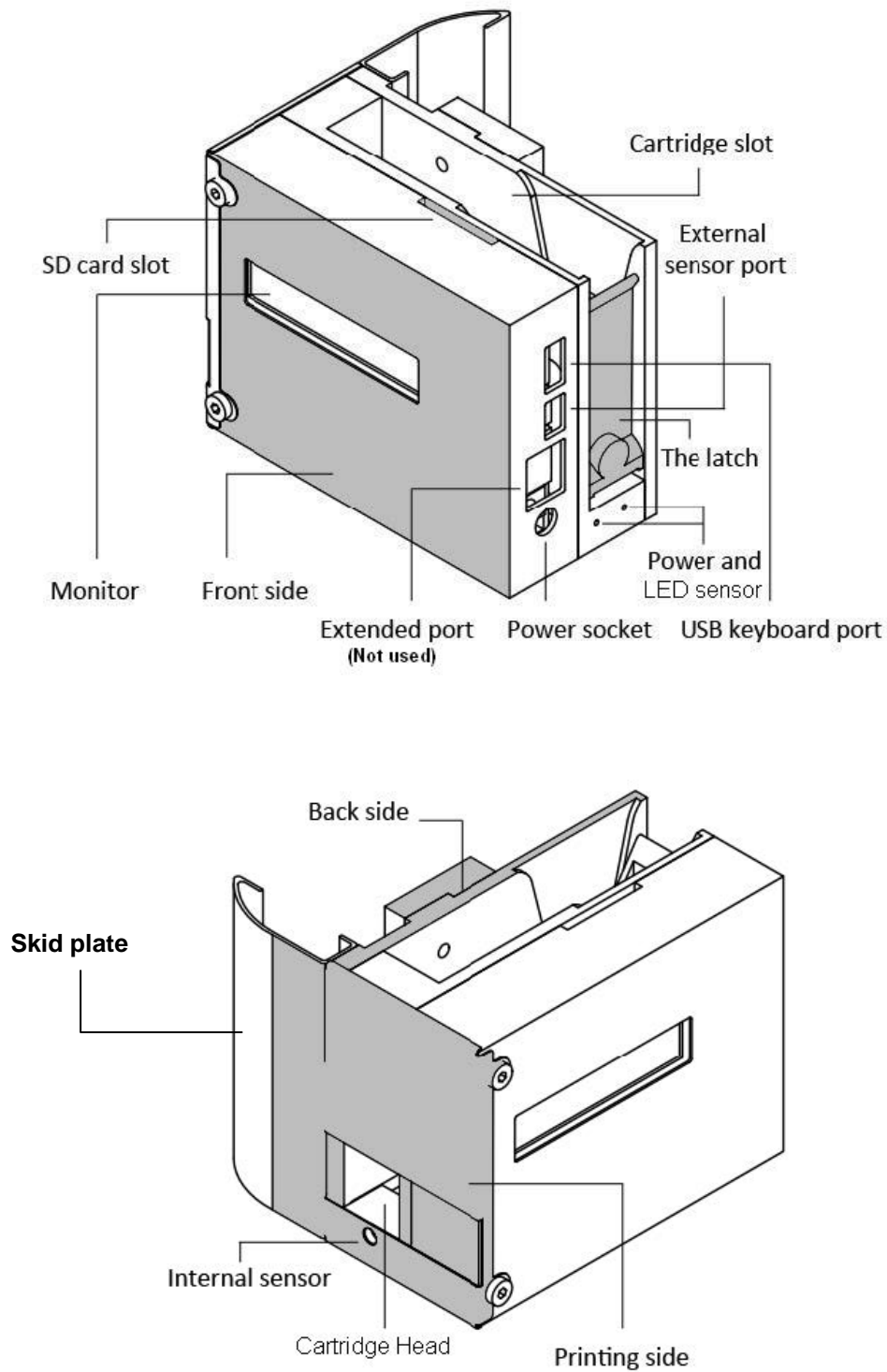
2. Specifications

No.	Description	Functions
1	Model	Smart-Jet
2	Printhead	Drop-On-Demand Thermal Inkjet: TIJ2.5
3	Printing Technology	Drop-On-Demand Thermal Inkjet
4	Resolution & Print Speed	300 dpi @ 75 m/min 150 dpi @ 150 m/min 100 dpi @ 230 m/min
5	Ink Type	Water-based and solvent-based inks
6	Dimension (L x W x H)	106 mm x 53 mm x 83 mm (4.17 inch x 2.09 inch x 3.27 inch)
7	Operation Condition	05 - 40°C (41 – 104°F)
8	Humidity	20 – 80%
9	Net Weight	530 g or 1.16 lbs (excluding printhead cartridge)
10	Power supply	AC: 100V - 240V, 50/60Hz, 1.6A
11	Maximum power consumption	30 watts

3. Keyboard Definition

No.	Key	Meaning
1	Enter	Confirm/ save
2	ESC	Turn back to previous menu
3	Left, Right	Move the menu forward or backward
4	Up, Down	Change value
5	Shift	Upper case
6	Ctrl	Insert: Date, Time, Counter, Shift Code, Expiration date, Advanced menu
7	Backspace	Delete character in message
8	Backspace	Reset Ink level

4. Layout

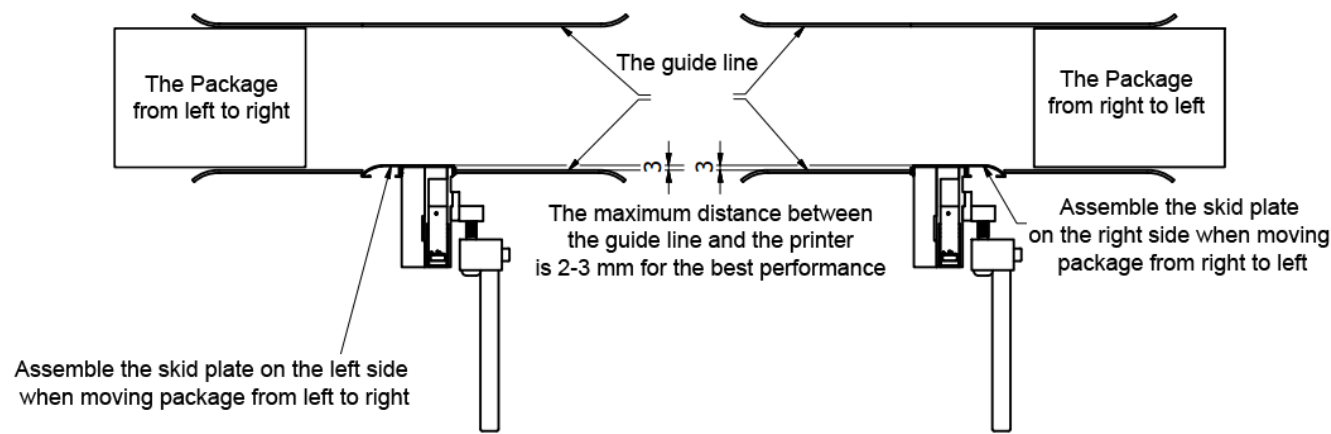


Note: For a detailed drawing including sizing, please see appendix of this manual

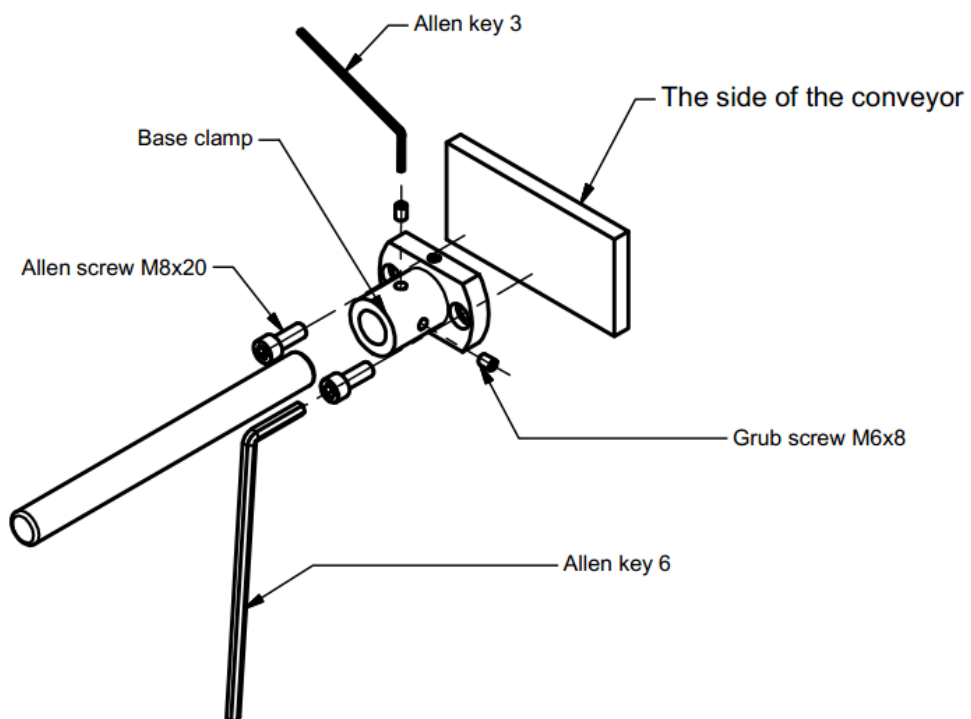
5. Installation

Parts List		
Number	Name	Quantity
1	Printer Smart Jet	1
2	Skid Plate	1
3	Clamp	2
4	Base Clamp	1
5	Round Bar 200mm	2
6	Round Bar 300mm	1
7	Allen Head Screw M8x20	4
	Allen Head Screw M8x15	2
8	Grub Screw M6x8	2

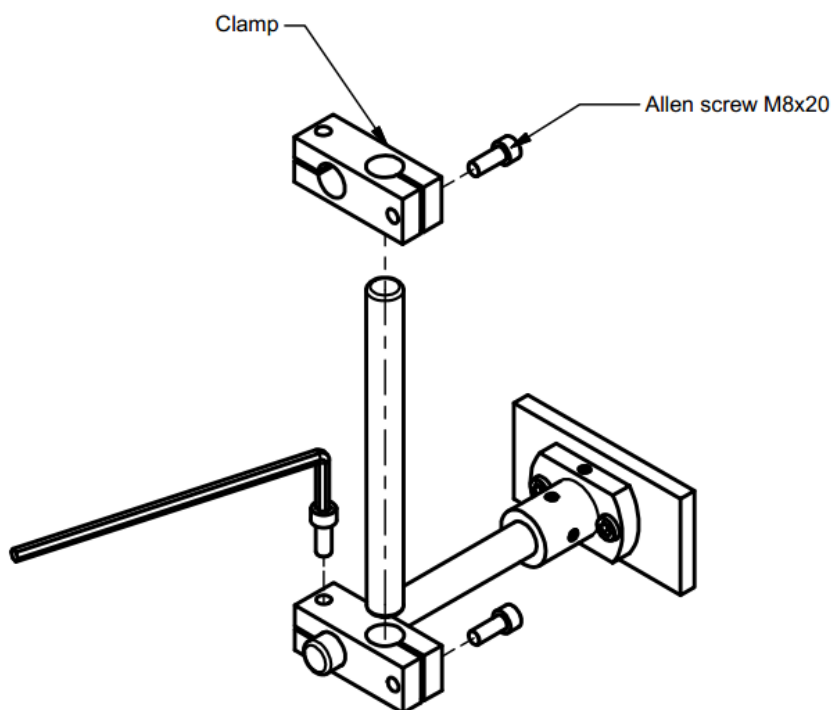
Step 1: The skid plate guide



Step 2: Install base clamp to the side of the conveyor

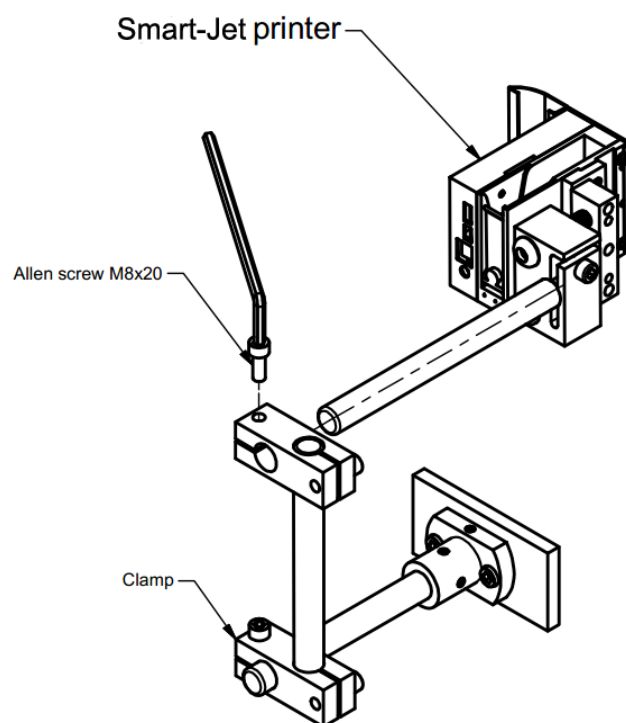


Step 3: Installing the clamps to the round bar

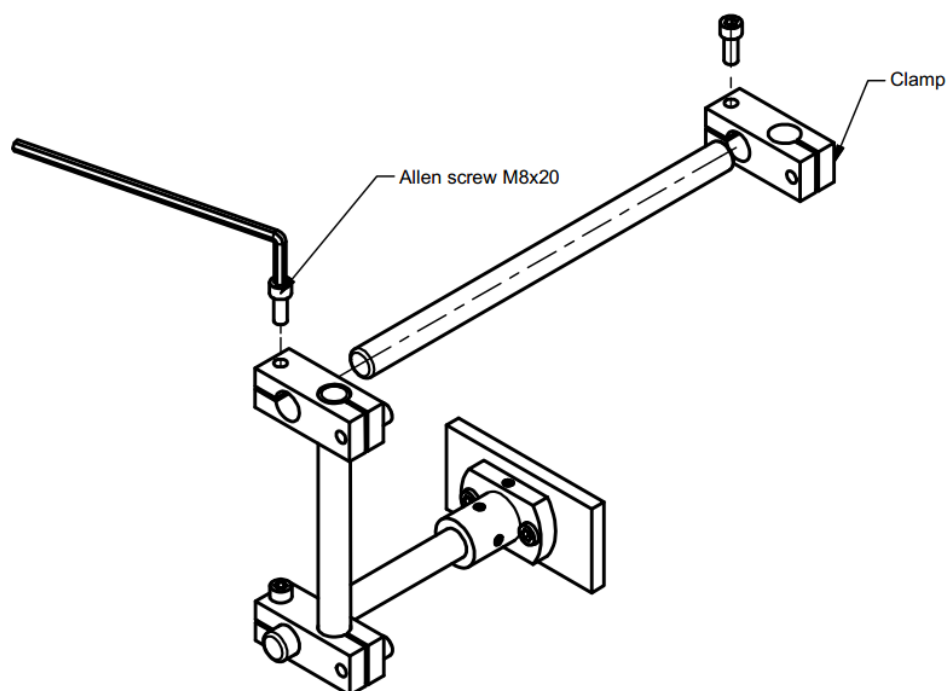


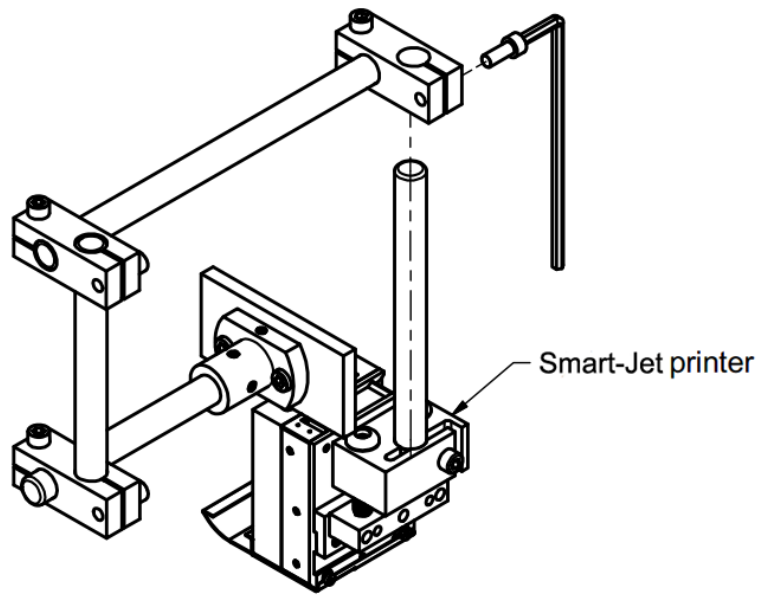
Step 4: Installing the printer, select the suitable bar length for each case

▪ **Case A**



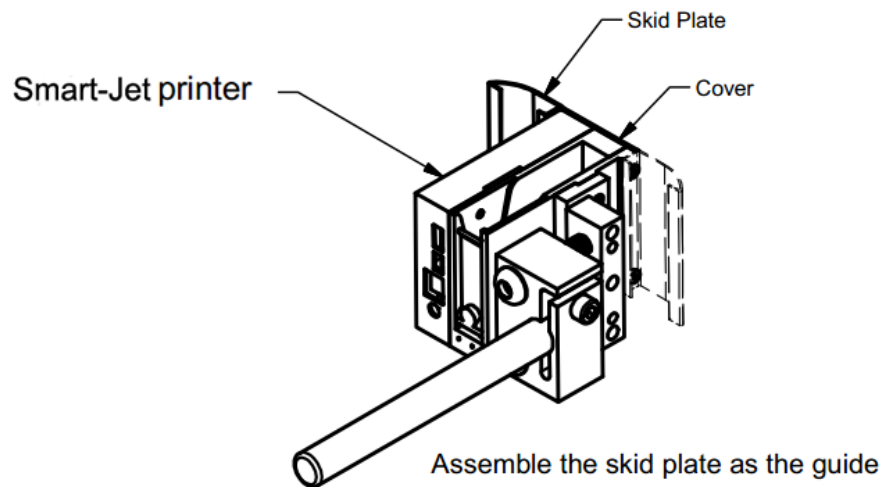
▪ **Case B**





Note: In addition to hardware included, "Print Down Kit" part # 80805 needs to be purchased separately. See page 31

Step 5: Installing the skid plate



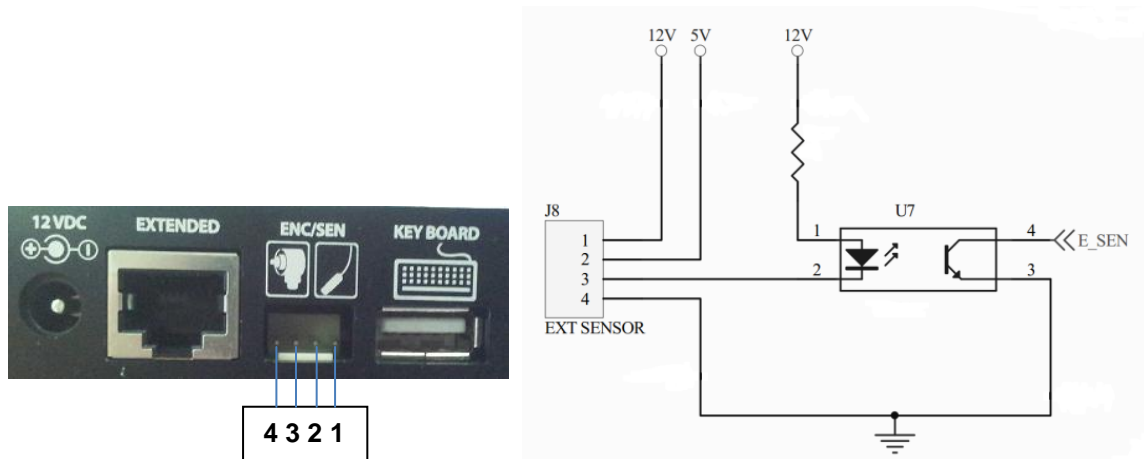
Notes:

Push the cover plate fit to the printer when assembling the skid plate

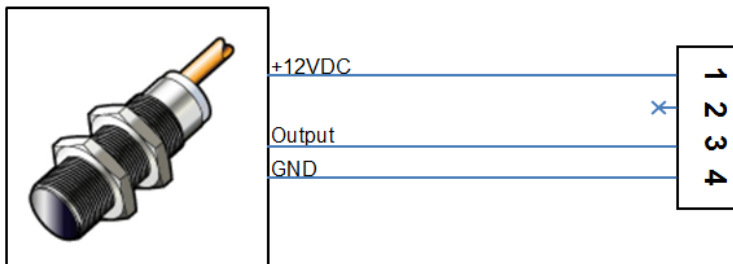
6. External sensor connection

- Support NPN type only
- Use onboard 12 VDC on pin 1, or 5 VDC on pin 2
- Any external power supply is compatible, just need to ground together.

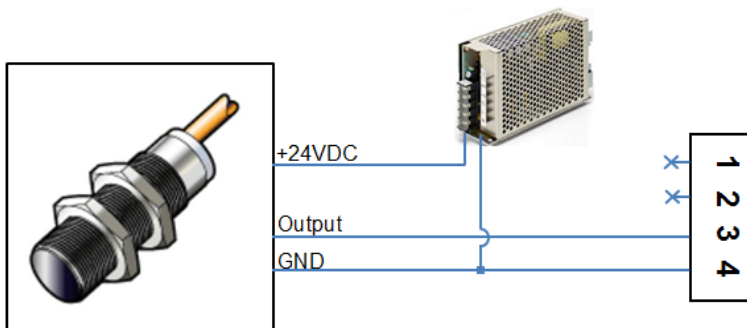
Appropriate power supply: 24 VDC



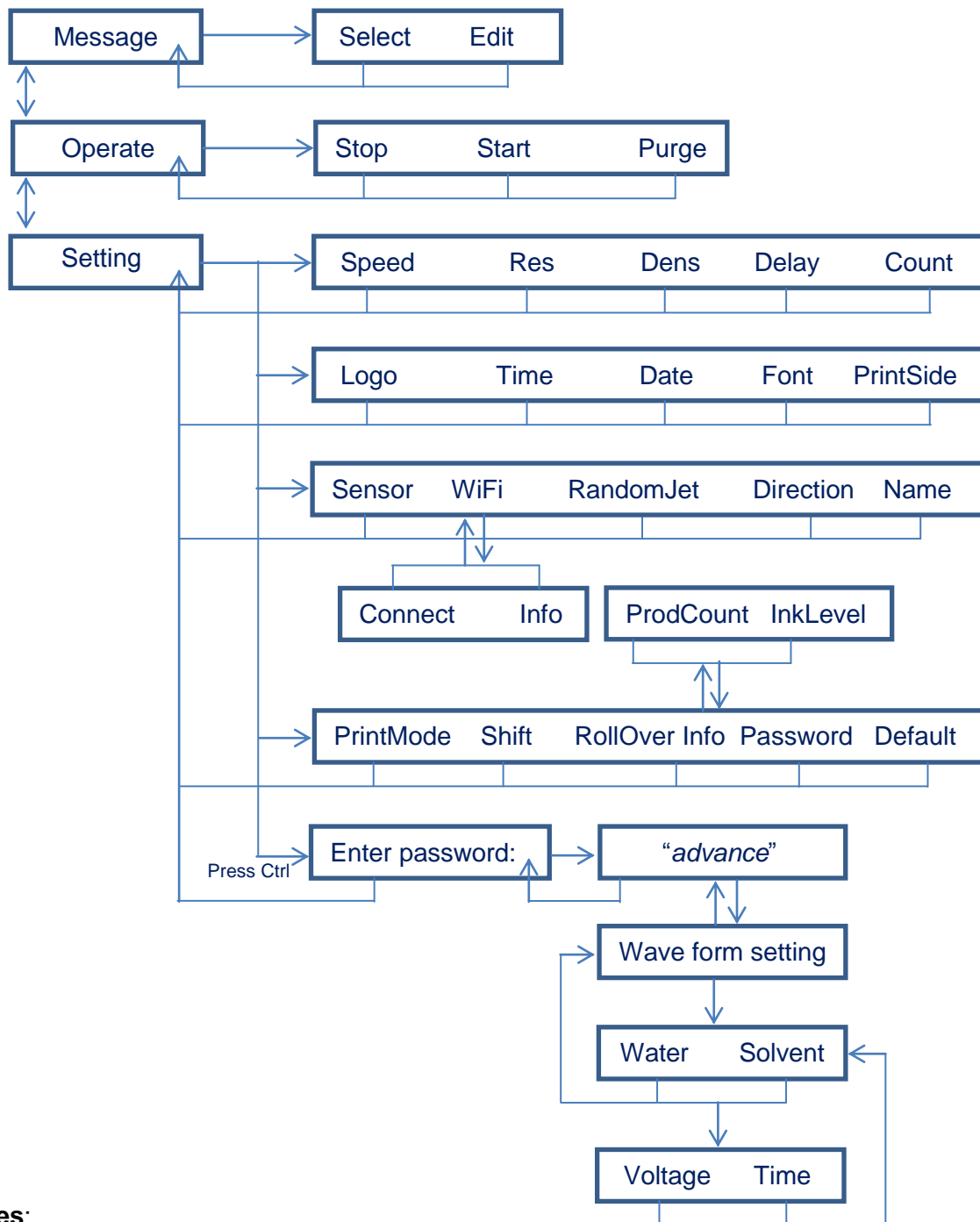
- Using onboard 12VDC (for 5VDC use pin 2 instead of pin 1)



- Using external power supply



7. Feature menu



Notes:

- **ContPrint:** Continuous print
- **Res:** Resolution
- **Dens:** Density
- **ProdCount:** Product count

8. First run of your Smart-Jet

A password will be required to start your Smart-Jet printer for the first time. Default password is **mssc**.

Upon entering the password provided by your supplier, press Enter to log in. Now you can change this password to your personal password with the following steps:

- From the main screen, select “**Setting**” and press Enter
- From the Setting screen, select “**Password**” by using the Left ◀ or Right ▶ arrow keys, press Enter
- Enter your old password (**mssc**), press Enter
- Enter your new password, press Enter
- Retype your new password, press Enter
- Change of password is complete. Press F4 to lock your printer screen and unlock with your new password.

Notes:

- The maximum password length is 15 characters
- Disable your printer's security feature by setting new password with no characters
- In case you forget your personal password, the Master password to reset version 1.4.2.1 is **hmplqt@031029nt**.

The Master Password for versions after 1.4.2.1 is **mssc@2012**.

9. Message

From the main screen, select “**Message**” and press Enter

Select

- Select available messages stored on the printer. There are 15 default messages.
- To Edit your message, go to the Edit screen and press enter. Select Line 1 or Line 2 to edit.
- Use **Backspace** key to delete the default message and input your own.
- To insert Date, Time, Shift Code, Counter, and Expiration Date, press Ctrl and use the Up ↑ or Down ↓ arrow key to select your desired insert item. Press Enter to select.

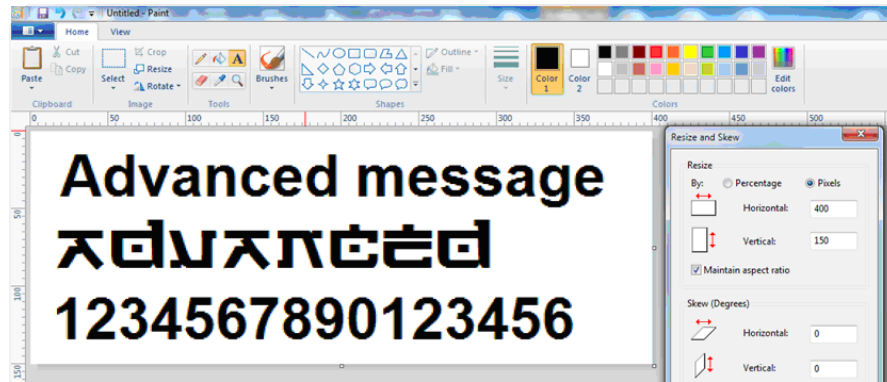
You are required to set up Date, Time, Counter and Expiration Date before running other operations on this printer. See Section 11 “**Setting**”

Notes:

- The Smart-Jet printer can print 2 lines for small fonts and 1 line (as Line 1) for big fonts.
- Each message contains up to 60 characters/ line for small fonts and up to 60 characters/line for big fonts (100x300), depending on the density and resolution of printer.

Tips to create message with more than 2 lines:

Step 1: Design your message (image) by using photoshop tools available on your Microsoft Window: Microsoft Paint, Photoshop ... with maximum size W x H 400 x 150 pixels.



Step 2: Save your image under these formats: PNG, JPG, JPEG, BMP, GIF.

Step 3: Copy this image to your smart devices

-**iOS devices:** Copy to Photo Library or Camera Roll.

-**Android devices:** Copy to folder "Smart Jet" on your device's SD card. This folder will be automatically generated when you installed Smart Jet Printer application for your device.

Step 4: Send this image to your printer by using Logo function.

10. Operate

On the main screen, move the cursor to "**Operate**" by using the Left ◀ or Right ▶ arrow keys, press Enter.

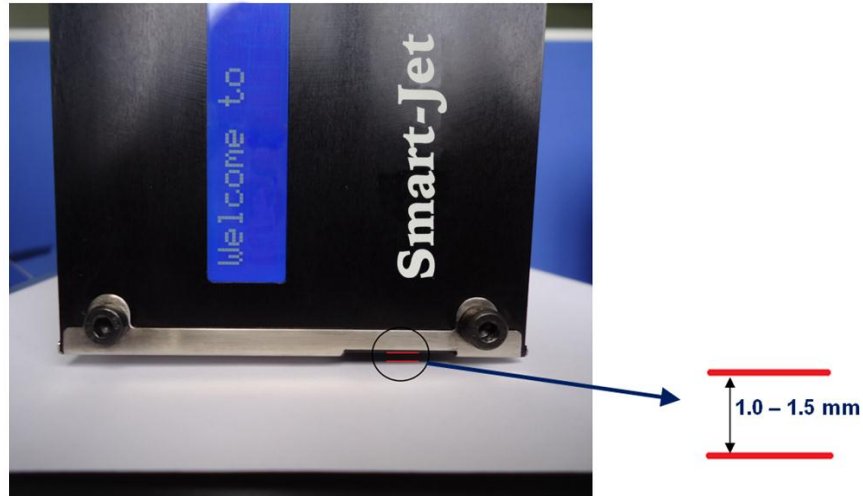
10.1. Install Inks Cartridge

Ink cartridge/Bulk set up:

- Step 1 to 5 and step 8 apply for ink cartridges - Step 1 to 8 apply for bulk system

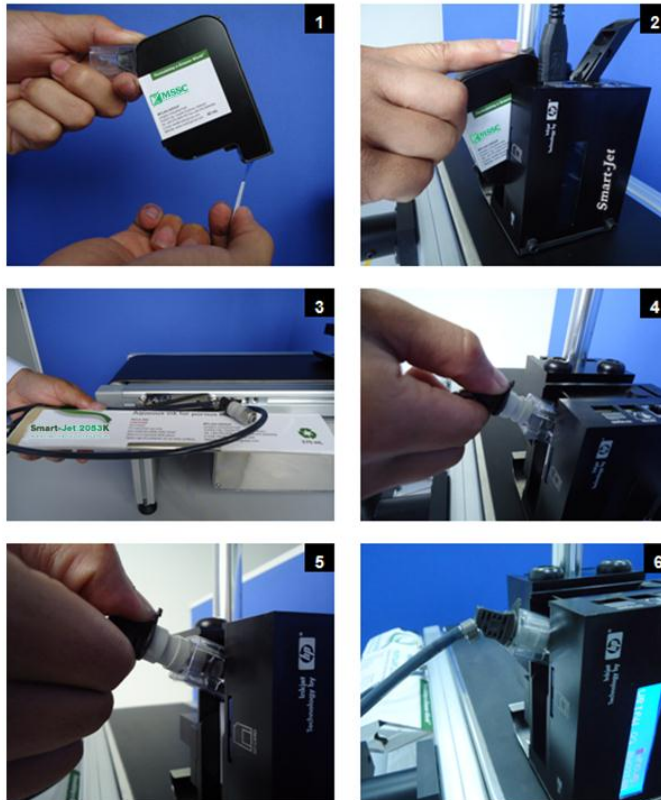
1. Be sure you turn off Smart-Jet printer before inserting.
2. Pull to open the latch
3. Remove the old/empty ink cartridge
4. Remove the tape from the printhead.
5. Install the ink cartridge into the printer.

For a crisp, sharp printed message, it is important to set the nozzle-to-paper distance properly. Too high nozzle-to-substrate spacing will degrade print quality (fuzzy text), because the ink droplet is less likely to hit the targeted position of the printed substrates. MSSC, LLC recommends a nozzle-to-substrate spacing of **1.0mm to 1.5mm** when using the water-based inks.



6. Place the ink reservoir on the ink tray. The ink tray must be located 4 inches below the printhead.
7. Insert valve into the plastic clip on the printhead.
8. Listen for a click indicating the valve has snapped into place.

The system after set up:



Important note

- It is best to place the print cartridge in the printer and locate the ink reservoir in the appropriate tray before connecting the valve.
- Once the print head is connected to the reservoir it **cannot** be taken apart without damaging the system.

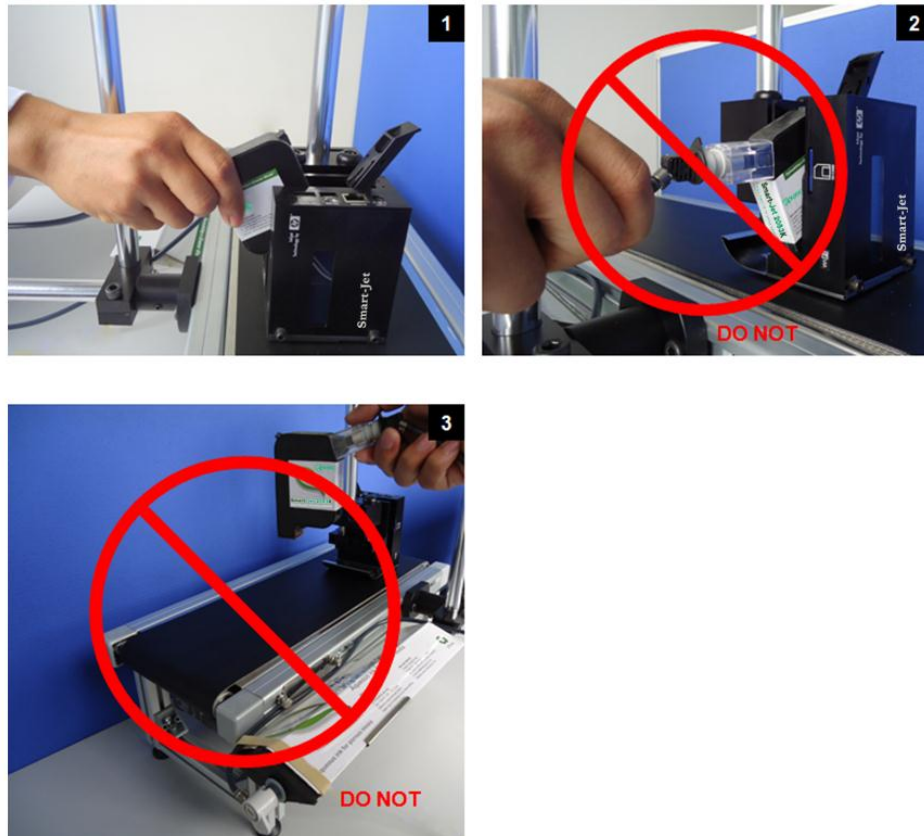
Printhead removal

The ink cartridge/bulk without ink

1. Be sure you turn off the Smart-Jet printer before inserting.
2. Pull to open the latch.
3. Grasp both sides of the print head to remove it from the printer stall. Do not pull on the tube or clip

Important note: if there is ink in the ink cartridge/bulk:

1. Do not raise printhead more than 10 inches above the ink reservoir or the air will be drawn into it, damage then will result to the print head.
2. Do not position the printhead below the ink reservoir to avoid ink leakage.



10.2. Stop printing

Select “**Stop**” to stop printing

10.3. Start printing

Select “**Start**” to start printing

10.4. Purge

If your printer remains inactive for a period of time, it might require a purge to clear out dust particles on the nozzles. This is required when there are missing dots in the print on the printed products.

- Place a piece of lint free wipe (or absorbent paper) in front of the printhead
- Select “**Purge**” and press Enter to push ink out from the nozzles
- Every time the Enter is pressed, a single purge is activated



11. Settings

On the main menu, move the cursor to “**Setting**” and press Enter

11.1. Speed

Speed is a way to set printing speed to synchronize with the conveyor speed

From the “**Setting**” menu, move the cursor to “**Speed**” and press Enter

Use the Up  and Down  arrow keys to change the value of the print speed, press Enter to apply and save the setting

Notes:

Minimum speed: 5 m/min (meter/minute)

Maximum speed:

- 75 m/min at 300 dpi resolution, density = 1
- 150 m/min at 150 dpi, density = 1
- 230 m/min at 100 dpi, density = 1

11.2. Resolution

Resolution is the number of dots per inch (Unit: DPI)

On the “**Setting**” menu, move the cursor to “**Res**” and press Enter

Use the Up ↑ or Down ↓ arrow keys to change the value of resolution, press Enter to apply and save the setting

Setting a higher value for resolution results in higher print DPI

Notes:

The maximum printing speed is affected by the resolution setting. The speed setting must be adjusted accordingly to correspond with the resolution setting.

11.3. Density

Density level is set to change the optical density of the print. Higher density level may result in bold font.

Smart-Jet supports 5 levels of density (from 1 to 5)

On the “**Setting**” menu, move the cursor to “**Dens**” and press Enter

Use the Up ↑ or Down ↓ arrow keys to change value of density, press Enter to apply and save the setting

Notes:

Every density has a maximum speed equivalent. If the maximum speed of your desired density is lower than the actual speed, you reduce your density and reset your speed.

Table 1: Maximum speed, resolution, and density correlation

Density Resolution	1	2	3	4	5
100	230.9	119.0	80.2	60.4	48.5
150	153.9	79.3	53.4	40.3	32.3
300	76.9	39.6	26.7	20.1	16.1



11.4. Printing Delay

Printing delay allows you to adjust the distance that the printhead delays after receiving the print signal to position a message at a desired location on the product.

On the “**Setting**” menu, move the cursor to “**Delay**” and press Enter

- **Delay before print:** The distance that your printer delays after receiving signal from the sensor.
Use the Up ↑ or Down ↓ arrow keys to change value, press Enter to go to the next setting
- **Delay after print:** After you finish printing each message, the printer will delay for a set distance before it allows the sensor to receive the next signal.

Be sure that you set the suitable delay distance, or the printer will miss the product

Use the Up  or Down  arrow keys to change value, press Enter to apply and save setting

Notes:











Delay before print ranges from 5 to 500 mm

Delay after print ranges from 50 to 500 mm

11.5. Counter

Calculate the total print counts during a production job

On the “**Setting**” menu, move the cursor to “**Count**” and press Enter

- **Start Count:** Start the value of the counter. Use the Up  or Down  arrow keys to change value, press Enter to go to the next setting
- **Count Up/Down:** Set the direction of the counter. Select Count Up or Count Down by using Left  or Right  arrow keys, press Enter to go to the next setting
- **Reset Count:** Ending value of the counter. Use the Up  or Down  arrow keys to change value, press Enter to go to the next setting
- **Count Step:** Set the step between counts. Use the Up  or Down  arrow keys to change value, press Enter to go to the next setting
- **Count Fill Zero:** Automatically add zero before the count. Select “**Enable**” or “**Disable**” by using Left  or Right  arrow keys, press Enter to apply and save setting

Example: 001, 003, 005... 101, 001, 003, 005...

- Start Count: 1
- Count Up/Down: Up
- Reset Count: 101
- Count Step: 2
- Count fill zero: Enable

Notes:

- The maximum value for **Reset Count** and **Start Count** is up to 4,200,000,000
- The maximum value for **Count Step** is 250
- Current Count will be automatically backed up in case of power failures
- To reset counter, go to the count setting and set again

11.6. Logo

On the “**Setting**” menu, move the cursor to “**Logo**” and press Enter

Select position of logo on the message by using ◀ or ▶ keys, press Enter to apply and save setting

- **None:** No logo in the message
- **Pref:** Add logo at the begin of the message
- **Suff:** Add logo at the end of the message

Notes:

- Logos are formatted by **Smart Jet v1.1** software available on your smartphone and tablet (Android and iOS) and sent to SD card in the Smart-Jet printer
- Maximum size of logo (W x H): 400 x 150 pixels

11.7. Time

Allow user to format, edit and display time.

On the “**Setting**” menu, move the cursor to “**Time**” and press Enter

Format: Select time format for the printer

- Move the cursor to “**Format**” and press Enter
- Use the Up ↑ or Down ↓ keys to change value, press Enter to apply and save setting

Edit: Edit Date & Time for the printer

- Move the cursor to “**Edit**” and press Enter
- Use Left ◀, Right ▶, Up ↑ or Down ↓ arrow keys to edit Time and Date
- Press Esc key to save and return to the “**Time**” menu

Show: View Date & Time of the printer

- Move the cursor to “**Show**” and press Enter to view
- Press Esc key to return to the “**Time**” menu

11.8. Date

Allow user to format, edit, and display date.

On the “**Setting**” menu, move the cursor to “**Date**” and press Enter

- **Format:** select date format for the printer.

Notes: These formats will be used for expiration date

Move the cursor to “**Format**” and press Enter

Date format: Select your desired date format by using Up ↑ or Down ↓ arrow keys, press Enter to go to the next setting.

Separator: Select your desired separator by using Up ↑ or Down ↓ arrow keys.

Available separators include: Slash (/), Dash (-), Dot (.), Space () and No separator

- **Expire:** Expiration date

Move the cursor to “**Expire**” and press Enter

Expire value: Use the Up ↑ or Down ↓ arrow keys to change value, press Enter to apply and save setting

Notes:

Minimum value: 1 day

Maximum value: 3,650 days

11.9. Font

Allows user to select the font size.

On the “**Setting**” menu, move the cursor to “**Font**” and press Enter

Select your font size by using Left ◀ or Right ▶ arrow keys, press Enter to apply and save setting.

Smart Jet printer supports various font sizes ranging from 1.6mm (0.062 inch) to 12.7 mm (0.5inch) for Arial, Times New Roman, and Tahoma fonts. Default font sizes are 3.3mm (2 lines) and 12.7mm (1 line). To print your message at other font sizes, please download your desired font group at <http://www.msscllc.com> and update to your printer (SD card). There are two fonts in each font group.

11.10. Print Side

Allows user to select the side of nozzles on the printhead to print: Odd or Even side.

Smart-Jet printer only prints on one side at a time.

On the “**Setting**” menu, move the cursor to “**PrintSide**” and press Enter

Select your print side by using Left ◀ or Right ▶ arrow keys, press Enter to apply and save setting

Notes:

- **Odd:** Smart-Jet prints on the right-hand side of the printhead
- **Even:** Smart-Jet prints on the left-hand side of the printhead

11.11. Sensor

Smart-Jet runs on two types of sensors:

- Internal sensor (built-in sensor): photo sensor
- External sensor: the external sensor is not included with the unit. Depending on the needs of the production line, an external sensor may need to be installed that can detect the product to trigger printing.
 - Smart-Jet printer only supports the NPN sensor.

On the “**Setting**” menu, move the cursor to “**Sensor**” and press Enter

Select your sensor by using Left ◀ or Right ▶ keys, press Enter to apply and save setting

11.12. Wi-Fi

Smart-Jet printer communicates with smart devices, such as a smartphone or a tablet, via Wi-Fi network to control the features.

On the “**Setting**” menu, move the cursor to “**WiFi**” and press Enter

Connect Smart-Jet to Wi-Fi network to operate it by the smartphone or tablet devices

Note: Smart-Jet Wi-Fi is case sensitive. Be sure to type in SSID **exactly** as it is set up on router

Connect

- Move the cursor to “**Connect**” and press Enter
- Select “**SSID**” to input your Wi-Fi network name, then press Enter.
- Select “**Password**” and press enter if your Wi-Fi network is password protected. Input password and press enter. Otherwise, select “**None**”.
- Smart-Jet will require your confirmation. Select “**Yes**” to immediately connect. Otherwise, select “**No**” to automatically connect after restarting the printer.

Notes:

- If Smart-Jet cannot be connected within 30 seconds, you are required to connect again.
- Smart-Jet works on WPA and WPA2 personal standard passwords only.

Info

Display the network name and IP address after Smart-Jet is connected successfully

- Move the cursor to “**Info**” and press Enter
- If Smart-Jet is connected successfully with your Wi-Fi network, it will show network name and IP address. Otherwise, it shows “**Not connect!**”

11.13. Random Jet

Random jet prevents the printhead from getting clogged due to the extended down time between printings. By enabling this feature and setting random jet time, Smart-Jet will automatically fire

ink to clear the nozzles when the sensor receives no signals. On the

“Setting” menu, move the cursor to **“RandomJet”** and press Enter

- Select **“Enable”** and use the Up **↑** or Down **↓** arrow keys to set the random jet time, press Enter to apply and save
- Or, select **“Disable”**, press Enter to apply and save

Notes:

- Minimum random jet time is 1 minute
- Maximum random jet time is up to 240 minutes
- We recommend enabling this feature to ensure the startup readiness of your ink cartridges and optimize the print quality.

11.14. Direction

Set the print direction for Smart-Jet printer correlating to the direction of the conveyor

On the **“Setting”** menu, move the cursor to **“Direction”** and press Enter

Select the print format for your message by using Left **←** or Right **→** arrow keys. Press enter to save your setting

11.15. Name

Name the printers on the production line.

The name of each printer will be displayed on DHCP (Dynamic Host Configuration Protocol) server once it is connected successfully.

On the **“Setting”** menu, move the cursor to **“Name”** and press Enter. Input name for each printer and press enter to apply and save

Notes:

- Maximum characters to name each printer is 12
- Default name of Smart-Jet is: **Smart Jet**

11.16. Print Mode

Smart-Jet supports two printing modes to facilitate your printing requirements: Sensor printing mode and Continuous printing mode.

- **Sensor Mode:** Smart-Jet printer will print when it receives a signal from sensors only, including internal or external sensor.
- **Continuous Mode:** Smart-Jet printer will print without receiving signals from a sensor. Instead, the Smart-Jet prints continuously after a specific distance (millimeter) set between the two print jobs

On the **“Setting”** menu, move the cursor to **“PrintMode”** and press Enter

- Select **“Sensor”** by using Left ◀ or Right ▶ arrow keys, press enter to apply the Sensor Mode
- Or, select **“Continue”** by using Left ◀ or Right ▶ keys, press enter.
Change delay distance by using Up ▲ or Down ▼ arrow keys, press Enter to apply the Continuous Mode and save setting

Notes:

- Minimum distance is 50 mm.
- Maximum distance is 200mm.

11.17. Shift Code

This feature is used to mark your products if you wish to name them by shifts.

You can set up to 5 shift codes within 1 day (*from 00:00 to 23:59*). One code can be input with any character available on the keyboard. There will be a specific start time for each shift code.

On the **“Setting”** menu, move the cursor to **“Shift”** and press Enter.

- Setting your shift code 1: move the cursor to **“Code”**, and then input code 1 with your desired character (default set as alphabetical order). Move the cursor to **“Time”**, then use Up ▲ or Down ▼ arrow keys to change values of time. Press Enter to go to the next shift code.
- Follow the same steps as you do for shift code 1 to create other codes.

11.18. Rollover hour

Allows you to print a different date depending on your production shift schedule

Example: Now, your printing date is **20/08/2012**. Set **Time to rollover** at 22:00. This means that when the system time reaches 22:00 on 20/08/2012, your printing date will be change to **21/08/2012**. When system time reaches 00:00 on 21/08/2012 your printing date is still **21/08/2012**.

From the **“Setting”** screen, move the cursor to **“Rollover”** and press Enter.

- Press **“Enable”** to activate the Rollover hour feature.
- Change value of the rollover time by using Up ▲ or Down ▼ arrow keys. Press enter to save your setting.

11.19. Printer Information

From the **“Setting”** screen, move the cursor to **“Info”** and press Enter.

11.19.1. Product Count

On the “**Info**” menu, move the cursor to “**ProdCount**” and press Enter.

This feature tells you the total number of prints that your printer has printed up to the period that you check.

To reset your product count number, press Backspace on your “**Product count**” menu. Select “**Yes**” and press Enter.

11.19.2. Ink Level

Updates the ink status in your cartridge

On the “**Info**” menu, move the cursor to “**InkLv**” and press Enter. Current amount of ink (mL) in your cartridge will show on the screen.

Notes:

- You need to set the starting amount in the printer when putting in a new cartridge. For 80300 and 80400, set this value at 42mL. For 80350 (Bulk Ink) set this value to 370mL.
- Alarm is triggered when 95% of the ink has been used. However, Smart-Jet printer will also print with only 5% of ink left.
- When inserting a new cartridge, you are required to reset the ink level from the last time it is removed from the printer.

Press the “**Backspace**” key, then press Up or Down on the arrow keys to change value of ink level that remains in the cartridge. Enter to save the value.

11.20. Default

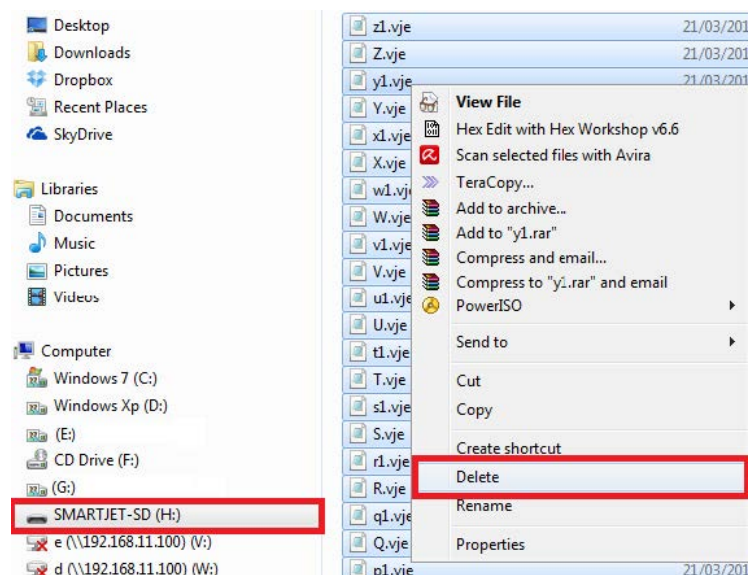
Reset your printer setting to the factory defaults

On the “**Setting**” menu, move the cursor to “**Default**” and press Enter

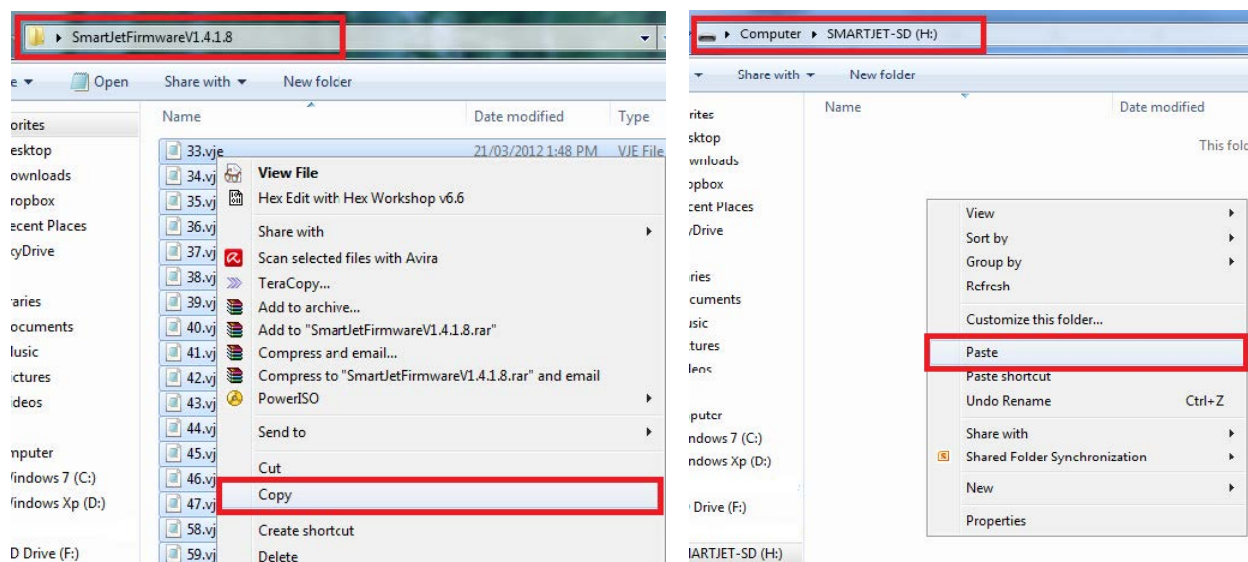
Select “**Yes**” to reset. Wait a second, and then restart your printer by unplugging the power to reset. Otherwise, select “**No**”

12. Update firmware

Step 1: From your PC, remove all data on your SD Card, or format it to FAT32 format. (Note: To update font group or change interface language, the following three steps are required.)

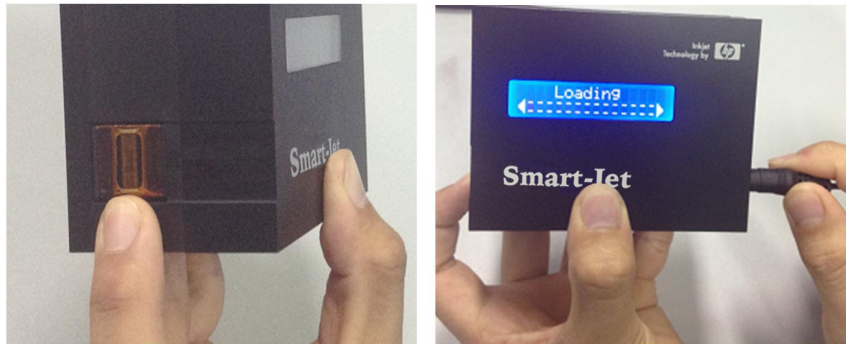


Step 2: Copy all data from “SmartJetFirmwareV1.4.1.8” to your SD Card (*This can be found at www.msscllc.com*).



Step 3:

- Unplug the power supply
- Insert the SD Card into your Smart-Jet printer
- Cover the sensor with your finger, then plugin the power supply



- After **Loading**...completed, Smart-Jet will automatically go to the main menu if a password protection was not set. Otherwise please input your password.
- Update firmware success.

13. Important handling cautions

- Always **disconnect the power** before inserting and removing an ink cartridge.
- Never drop, shake or hit the printhead to avoid damage the printhead.
- Never contact the sensor with hard objects. This may damage the printer and will VOID the warranty
- **For Porous ink cartridges:** Always wipe the nozzles with the lint free cloth moistened by de-ionized water. Paper towels are not recommended since they may cause the print quality to suffer.
- **For Non-Porous ink cartridges:** Gently place the lint free cloth against the printhead nozzles, allow the ink to soak through the wet lint free cloth, and wipe by slowly move the lint free cloth from the surface of the nozzles in one of the lengthwise position.
- Never disassemble Smart-Jet. This will automatically VOID the warranty

14. Product Warranty

The Product Warranty for Smart-Jet is effective for 12 months from delivery date. Brackets, keyboard, power supply, and anti-shock mechanism are excluded from the warranty.

Please retain these warranties, along with the shipping documents, for future reference.

The warranty is VOID if:

1. Any non-original parts and unapproved OEM inks are used.
2. The product has been altered, modified, or used without approval of MSSC, LLC
3. The damage of the printhead arises from improper installation.
4. The damage occurs from accident, dropping objects, spraying Smart-Jet with water or other liquids. Others result from weather conditions while stocking and trucking.
5. The use of unapproved, wrong or unstable power supply are used.

15. Ink Cartridges Maintenance

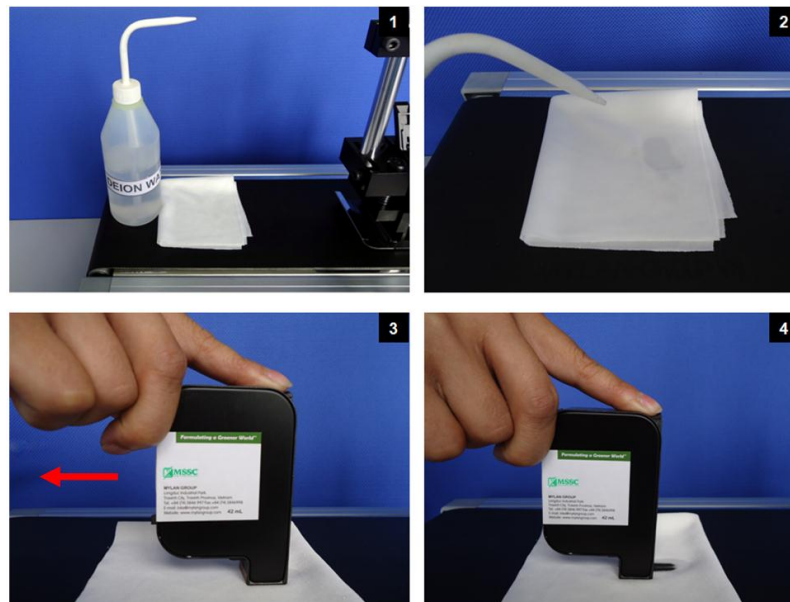
15.1. Printhead cleaning:

As Smart-Jet printer is working, if the print quality is degraded, please check on the ink level in the cartridge:

- If the cartridge is out of ink, change the new cartridge.
- If the cartridge isn't out of ink, the degraded print quality may be caused by the ink-spray, dust, or paper fiber being collected and built up on the surface of the nozzles plate. To maintain the print quality of the cartridge follow these wiping and purging tips.

Wiping

1. Prepare a lint-free, soft cloth, and de-ionized water.
2. Moisten the cloth with de-ionized water. Tap water also works but de-ionized water is recommended since the tap water contains impurities that can damage the printhead.
3. Wipe slowly across the long-axis with the cartridge facing down as shown.
4. There are two lines of ink on the moistened cloth after wiping.



Important notes:

- Do not apply excessive force or use a dry or abrasive cloth to avoid scratching the orifice plate.
- Do not use a cloth with lint and the water that contains high percentage of suspended particles to avoid clogging the nozzles.
- Do not shake the cartridge as ink pressure will damage the nozzles.



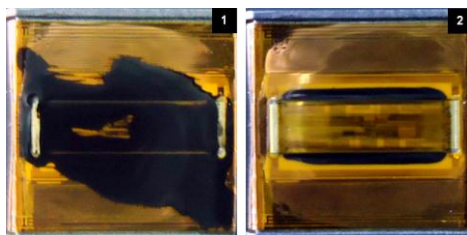
In some instances whole swathes of nozzles are missing. In such situations the electrical contacts sending firing pulses to the cartridge from the Controller are being impeded by some kind of contamination.

To clean: Remove the cartridge from the print head. Clean the gold contact foil with a gentle wipe across the contacts with a lint-free tissue and then clean the contacts on the print head. Rub with gentle pressure using a fresh lint-free tissue until contamination has been removed.

Purging

1. If the cartridge sits inactive and uncapped for a period of time, the ink may dry and form a viscous plug at the nozzles. The dried ink plug can cause misdirected drops and eventually block the nozzles. The white streaks will be visible in the printed text or graphic. To fix this problem, purge the ink plug out of the nozzles. Printing alone may not be sufficient to remove ink plugs from the nozzles. See the description above about how to run the Purge function in the printer (10.4).
2. Then wipe the cartridge with a moist cloth to remove the excess ink on the surface of nozzle plate.
3. After that print a few lines of text or graphics at high resolution to utilize more nozzles and push more ink out.
4. Finally, check the printed image. If the print quality can't be recovered, repeat this procedure several times. If it still doesn't work, change the print cartridge.

The cartridge before [1] and after [2] cleaning:



15.2. Storage procedure:

For short term storing (less than one day):

- Leave the cartridge in the printer, capped or uncapped. Capping the cartridge is always recommended to prevent the nozzles from drying out or becoming clogged due to inks solvent evaporation or dusting.
- Wipe and/ or purge the cartridge next time it is used until good print quality is achieved

For long term storing (more than one day):

- Remove the cartridge from the printer
- Remember that all inkjet print cartridges produce a small amount of ink residue that may build up on the cartridge nozzles during printing. We need to wipe the cartridge to remove these ink residues from the nozzles plate.
- Tightly cap the print cartridge by sealing tape.
- Leave the cartridge uncapped and place it in an airtight container with moist dust- free cloth or sponge to prevent cartridge's nozzles from drying out or becoming clogged. Close the container tightly.
- Wipe and/ or purge the print cartridge next time it is used until good print quality is achieved.

System disposal

- Keep the printhead connected to the ink reservoir when disposing of system.
- Place the entire system in a plastic bag to avoid ink leakage.

Important handling cautions

- The cartridge has to be stored in a nozzle-up position.
- Never squeeze the ink reservoir as this will push ink out of the printhead.
- Never shake, drop or hit the printhead to avoid getting air in it.
- Never hold the printhead more than 10 inches above the ink reservoir when removing the system for storage to avoid getting air in it.
- Never hold the printhead below the reservoir to avoid ink leakage.

16. Appendix

16.1. Accessories, Parts, and Inks

Smart-Jet Print Down Kit: 80805



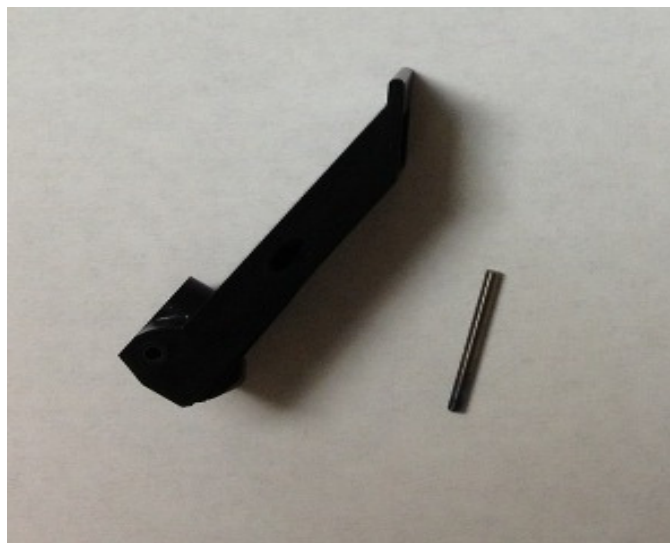
Smart-Jet Power Supply: 80810



Smart-Jet Skid Plate: 80815



Smart-Jet Latch & Pin: 80820

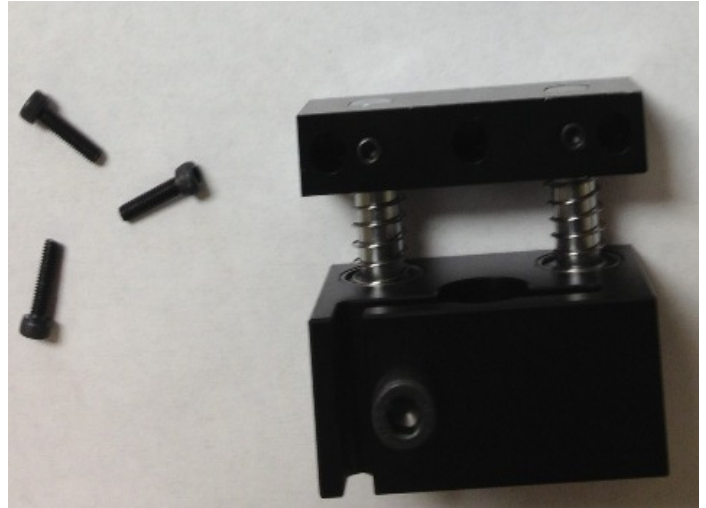


**Smart-Jet Conveyor
Mount Bracketry Kit:
80825**



2 Cross Blocks 1 Base Clamp
2 200mm (8" Bars) 1 300mm (12" Bar)

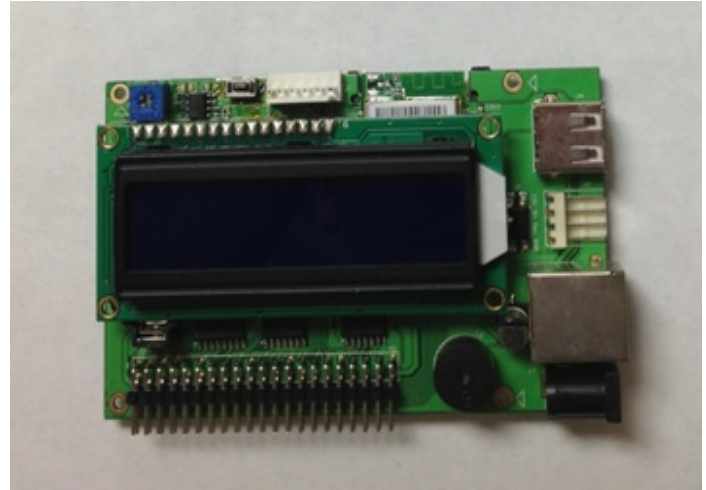
**Smart-Jet Spring Loaded
Mounting Assembly:
80830**



**Smart-Jet
Front Cover:
80835**

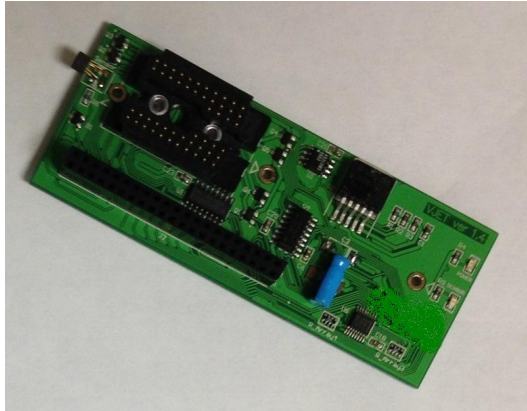


**Smart-Jet
Display and Board:
80840**



**Smart-Jet Pen Driver Board
with Photocell:**

80845



**Smart-Jet Bulk Ink
Restraint & Bracketry:**

80955



**Smart-Jet
Bulk Ink:
80350**



**Smart-Jet Remote Mount
Photocell with Bracket 2
Meter Integrated Cable:
80600**



**Smart-Jet Remote Mount Photocell with
Manual Potentiometer and 5 Meter
Quick Disconnect Cable and Bracket:**

80605



**Smart-Jet Remote Mount Photocell with
Digital Potentiometer and 10 Meter
Quick Disconnect Cable and Bracket:**

80610



Smart-Jet Keyboard with USB Cord End:

80850



Smart-Jet Spring, Slide Mechanism:

80855



TIJ Lint-Free Cloth for Wiping Cartridges: **55350**



Ink Cartridges

80300	Ink Cartridge (42cc) WB Black
80350	Bulk Ink (370cc) WB Black
80400	Ink Cartridge (42cc) Solvent Standard Black

16.2. Conversion Table

Feet/min. to meters/min

ft/min	m/min
5	1.5
10	3.0
15	4.6
20	6.1
25	7.6
30	9.1
35	10.7
40	12.2
45	13.7
50	15.2
55	16.8
60	18.3
65	19.8
70	21.3
75	22.9
80	24.4
85	25.9
90	27.4
95	29.0
100	30.5

ft/min	m/min
105	32.0
110	33.5
115	35.1
120	36.6
125	38.1
130	39.6
135	41.1
140	42.7
145	44.2
150	45.7
155	47.2
160	48.8
165	50.3
170	51.8
175	53.3
180	54.9
185	56.4
190	57.9
195	59.4
200	61.0

SMART JET

