

SOFTJET GRAND

USER MANUAL



Foreword

This user manual is briefly describing the operational aspects of the **SoftJet Grand** machine. In this document, the step-wise instructions for handling various aspects of the machine with visual screens are provided for easy and better understanding. It also describes the error messages encountered while working with the machine with appropriate remedial actions required to be taken by the user.

This manual serves as the reference tool which guides their customers how to use or operate the **SoftJet Grand** machine without anyone else assistance. The information provided in this document ensures its uniqueness and language quality. For safe and proper use of the product, please read this manual carefully and follow all the instructions.

Disclaimer

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The reference table is shown in the below table:

Doc Type	Doc Code	Version	Machine Name	Date of Issue
User Manual		1	SoftJet Grand	

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1. About Document

Purpose

The purpose of this document is to guide and educate the targeted audience about the Printer and its Printer Manager software so that they can easily and effectively handle as well as use it as per their requirements. Additionally, this document also provides step-wise instructions for handling various aspects of the printer and its related software with the help of graphical screens for easy and better understanding. Moreover, the document also describes commonly encountered problems while working with the printer and Printer Manager software with appropriate remedial actions.

Intended Audience

This document is meant for all the users who want to use the Printer for their printing business. Sometimes, the targeted audience has little knowledge about the printer but in most of the cases, targeted audience is much familiar with the terminologies of printer and printing business. Thus, this document is designed to facilitate both types of users.

2. Machine Overview

Front View

The **Front View** of the machine is shown in the image below:

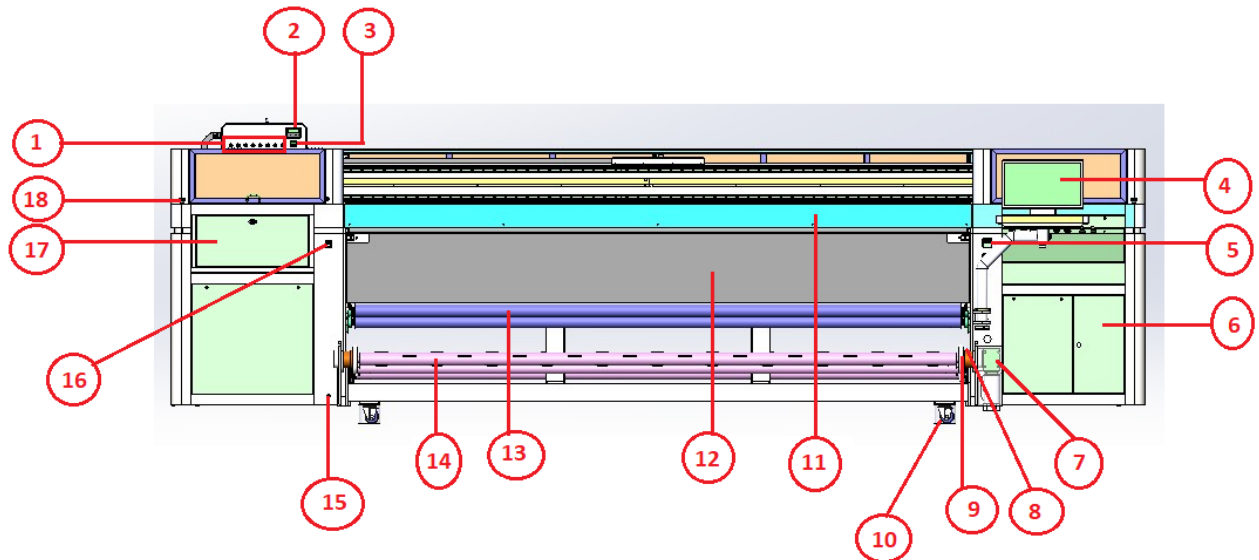


Fig 1: Displaying the Front View

Table 1: Different Parts of the Machine

1. Ink Valves	2. Head Height Meter
3. Negative Pressure Meter	4. LCD Panel
5. Print Dryer Controller	6. Electric Housing Cabinet
7. Take Up Motor	8. Take Up Sensor
9. Safety Chuk	10. Wheel
11. Front Panel	12. Print Dryer
13. Guiding Roller	14. Take Up/Air Shaft Roller
15. Air Outlet	16. Air Pressure
17. Meter Purging /Capping Station	18. Emergency Button

The IR Heater and Pre Heater are shown in the image below:

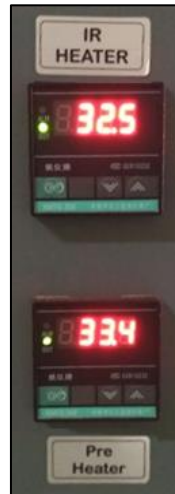


Fig 2: Displaying the IR Heater and Pre-Heater Controller

Back View

The **Back View** of the machine is shown in the image below:

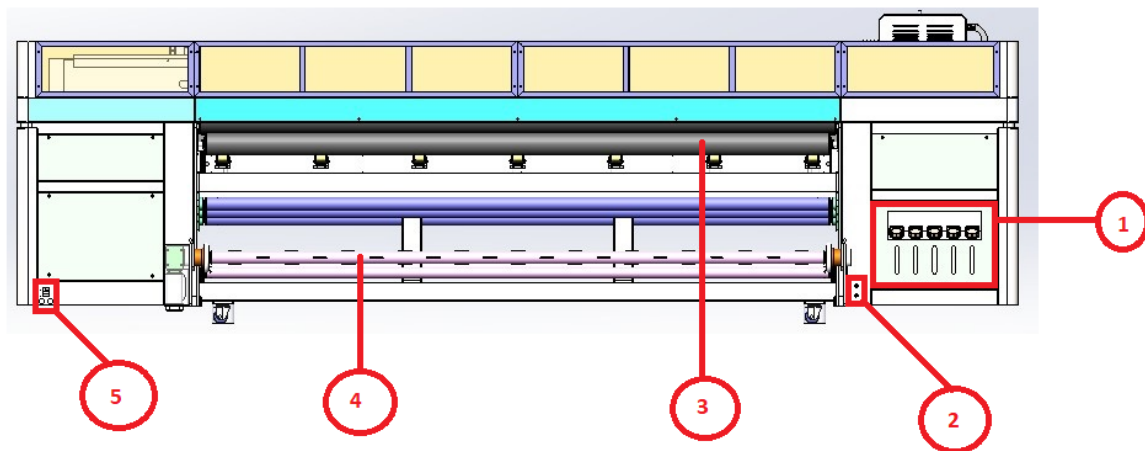


Fig 3: Displaying the Back View

Table 2: Different Parts of the Machine

1. Ink Tank Unit	2. A. Air Inlet (Compressor) B. Air Outlet (Air Gun)
3. Pinch Roller	4. Inflatable Supply Roller
5. Power Panel	

Control Panel Details

The **Control Panel** of the machine is shown as below:



Fig 4: Displaying the Control Panel Details

Description of the Control Panel is given as below:

- **Take-up Rev./FWD:** Set the take up direction reverse or forward.
- **Take-up Auto/Manual:** Set the take up mode auto or manual.
- **Supply Rev./Fwd:** Set supply direction reverse or forward.
- **Supply Auto/Manual:** Set the supply mode auto or manual.
- **Pinch Roller:** Switch ON/OFF the functioning of Pinch Roller.
- **Head Power:** Switch ON/OFF the head power.
- **M/c Power:** Switch ON/OFF the power of the machine.
- **IR Heater:** Switch ON/OFF the IR heater.

3. Getting Familiar with Printer Manager Interface

The User Interface of the Printer Manager software is shown as below:

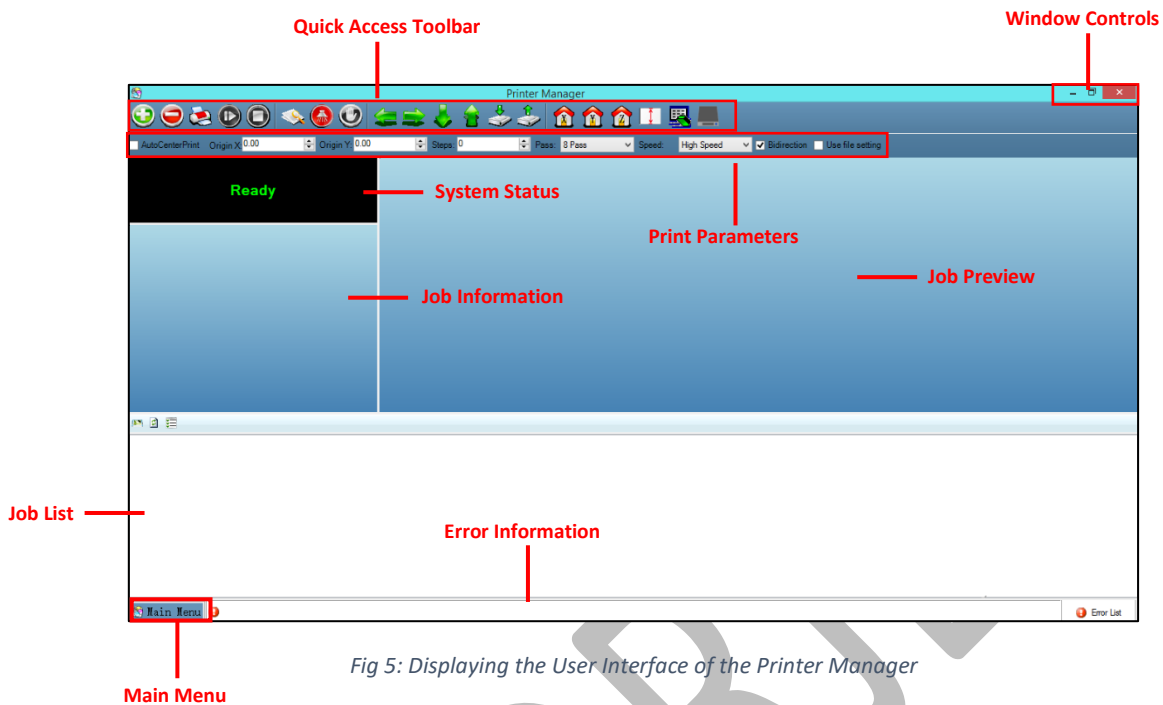


Fig 5: Displaying the User Interface of the Printer Manager

The description of the Printer Manager window is given as below:

- **Window Control:** Use to minimize, resize or close the Printer Manager window.
- **Main Menu:** Consist of several sub menu options viz. Settings, Tools, and also provide variety of functions in well organize manner.
- **Quick Access Toolbar:** Display frequently performed actions like Add Job, Delete Job, Print Job, Pause or resume, Abort job, Check nozzle, Move left, Move right, Move forward, Move backward, Z Move Down, Z Move Up, Move carriage to origin, Move carriage to origin Y, Move carriage to origin Z, Measure Paper Width, Edit job and Roll or Flat, are available as buttons on the Quick access toolbar.
- **Job Information:** Display the properties of the selected job like File Name and Path, Status, Print Size, Print Area, DPI, Pass, and more.
- **Job Preview:** Show the job preview as well as print progress in this area.
- **Job List:** Displays the thumbnail preview of added jobs.
- **Error message:** Displays the system generated error messages.

4. Getting Ready for Printing

Switch ON Process

Follow these steps to ready the machine:

Step 1: Switch ON the MCB from the back side, as shown below:

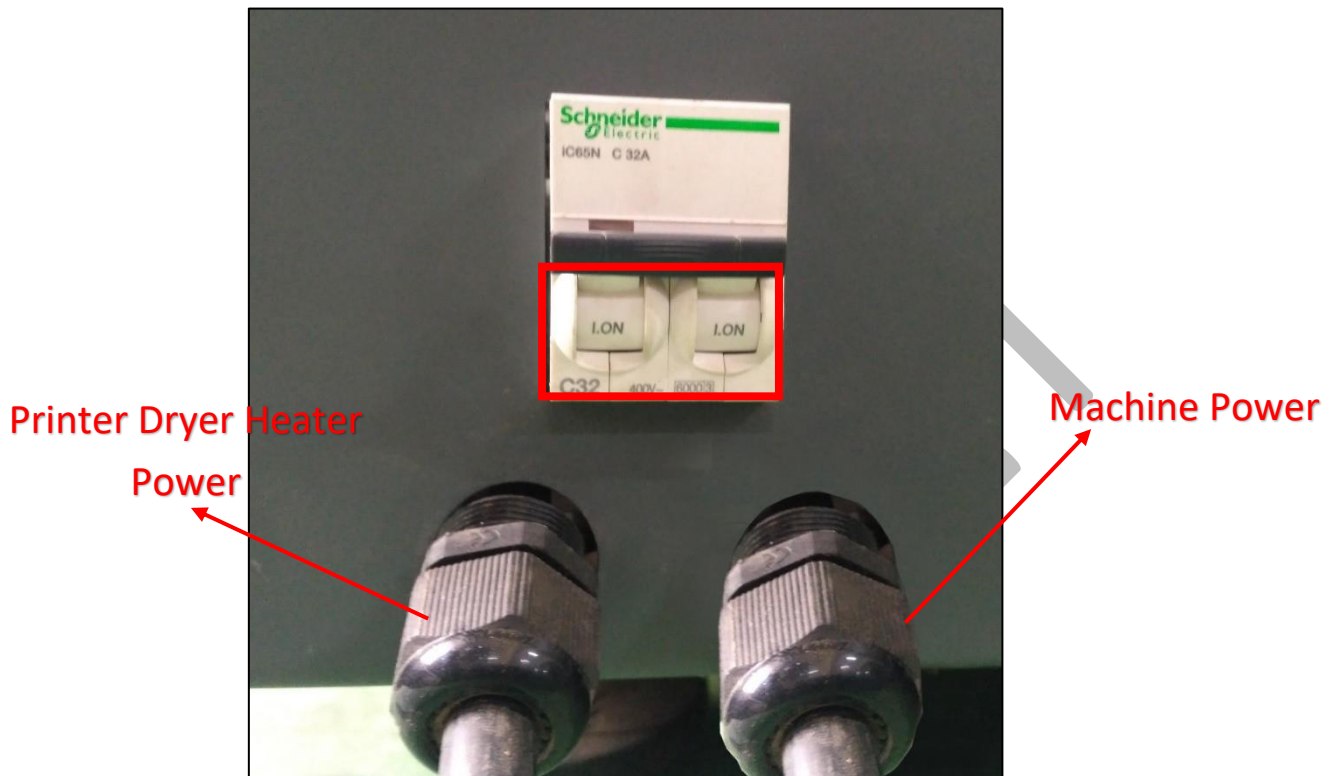


Fig 6: Switch ON the MCB

Step 2: Press the Head Power button from the Control Panel (Refer to Fig 6).

Step 3: After this, press the M/C Power button from the Control Panel of the machine, as shown below:



Fig 7: Switch ON the Power Button

Step 4: Load the fabric and engage the Pinch Roller (Refer Fig 7 (Yellow Button)).

Step 5: Take care about fabric handling from supply and take up sides.

Step 6: Check the take up power and set it as per requirement.

Step 7: Check Print Head Nozzles status by issuing the Nozzle Test command. If nozzle test result is not OK or nozzles are blocked, clean the Print Head by performing the steps given in the **Head Cleaning** section.

Step 8: Prepare the printable file using the Ripping Software provided with the machine.

Step 9: Set the print origin to specify the printing starting position.

Now, the printer is ready for printing.

Setting Menu

Setting window is shown in the image below:

The **Setting** window with the **Printer** tab is shown in the below image:

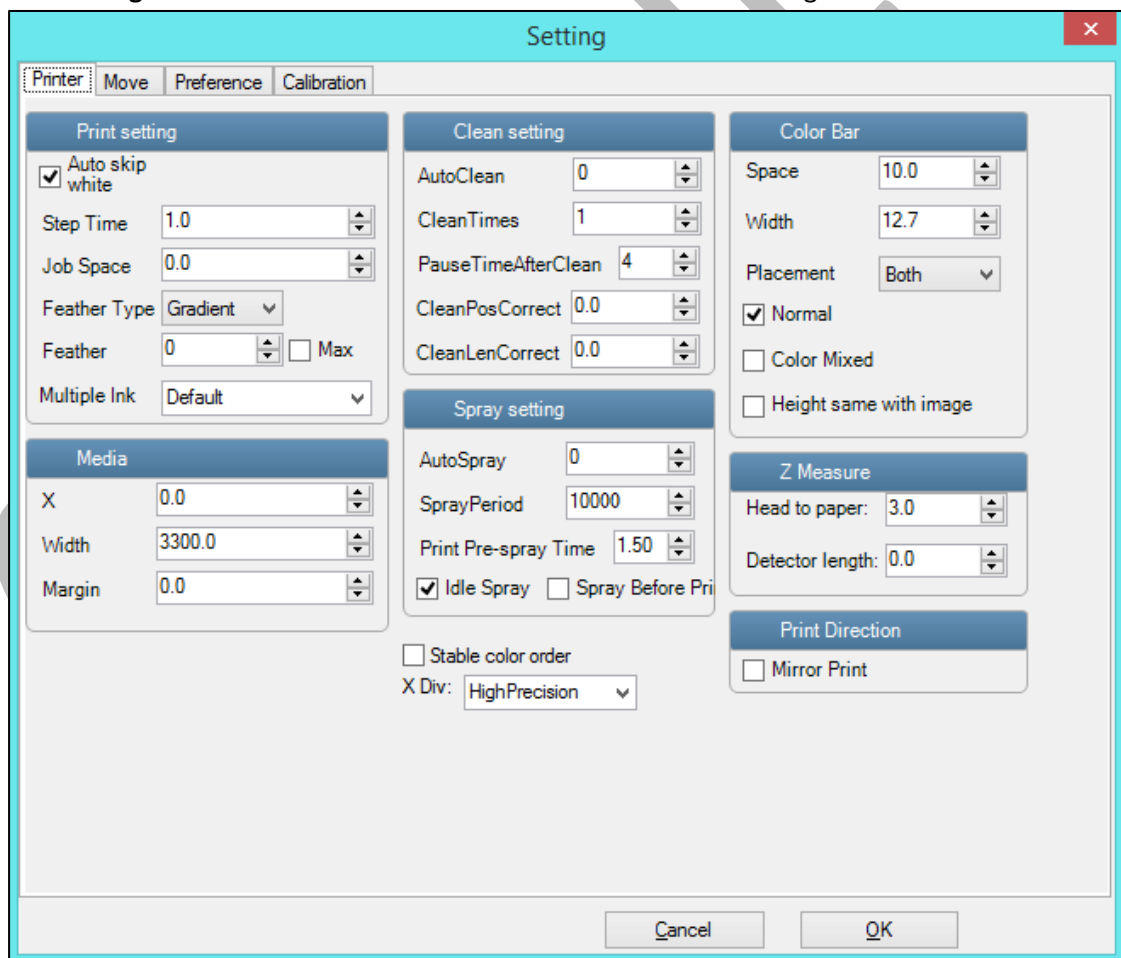


Fig 8: Displaying the Setting Window

The **Move** tab is shown in the image below:

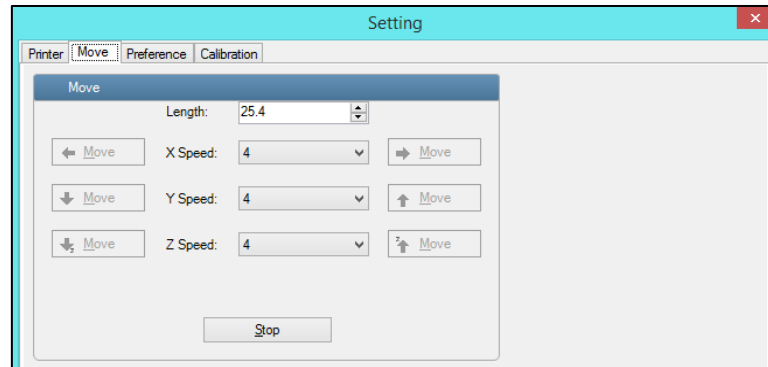


Fig 9: Displaying the Move Tab

The **Preference** Tab is shown in the image below:

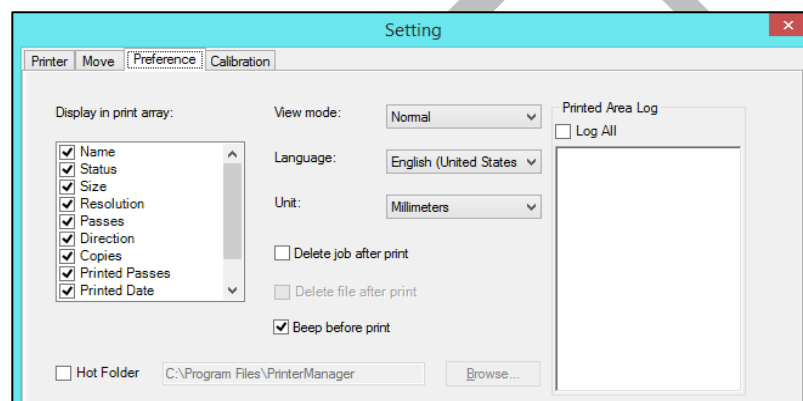


Fig 10: Displaying the Preference Tab

Note: Unit value can be changed using the Unit drop down list.

The **Calibration** tab is shown in the image below:

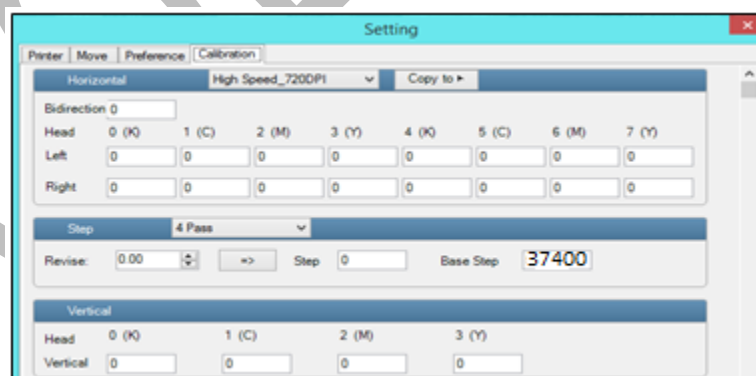


Fig 11: Displaying the Calibration Wizard

Loading Fabric

Follow these steps to load the fabric:

Step 1: Disengage the Safety Chuk and Shaft by matching the unlock position, as shown in the image below:

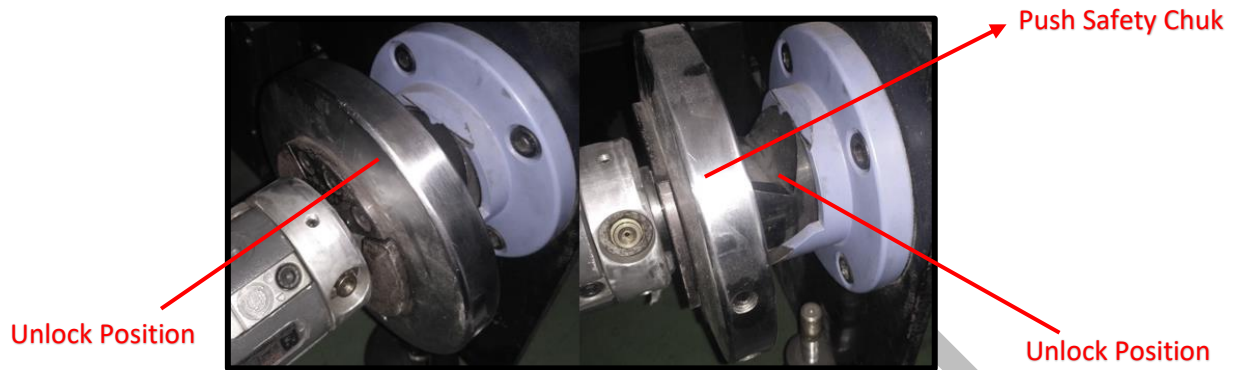


Fig 12: Displaying the Unlock Position

Step 2: Push the Safety Chuk to remove the shaft.

Step 3: Insert the shaft into the fabric roll.

Step 4: After inserting the fabric roll, fill air into the shaft using the Air Gun, as shown below:

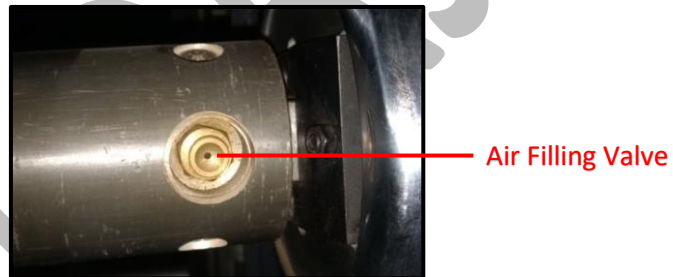


Fig 13: Displaying the Air Filling Valve

Step 5: Adjust the tensioning as per the GSM fabric using the dancing bar (tensioning bar), as shown in the below image:

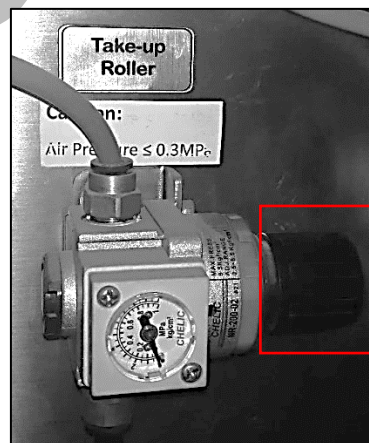


Fig 14: Adjusting the Dancing Bar Pressure

Note: The dancing roller pressure must be in between 1 to 3 bars.

After adjusting the dancing bar pressure adjusting the pinching roller pressure which must be 7 bars. In case, pressure goes up or down then use the pinching roller knob to adjust the pressure, as shown below:

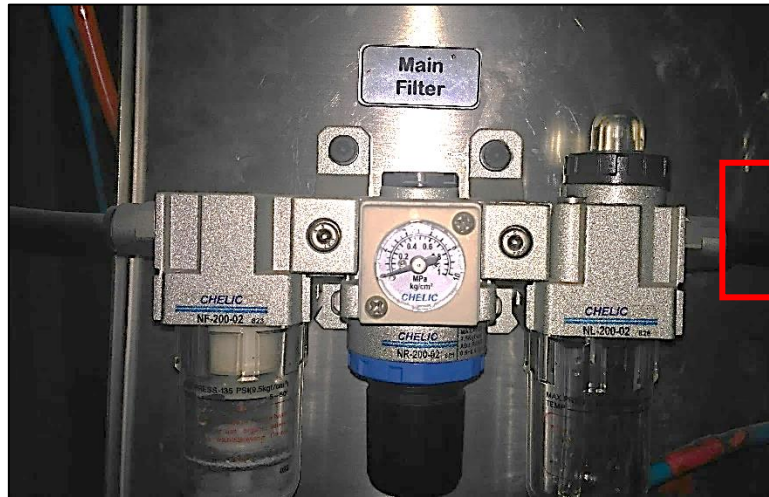


Fig 15: Adjusting the Pinching Roller Pressure

Step 6: Load the fabric as per the path given below:

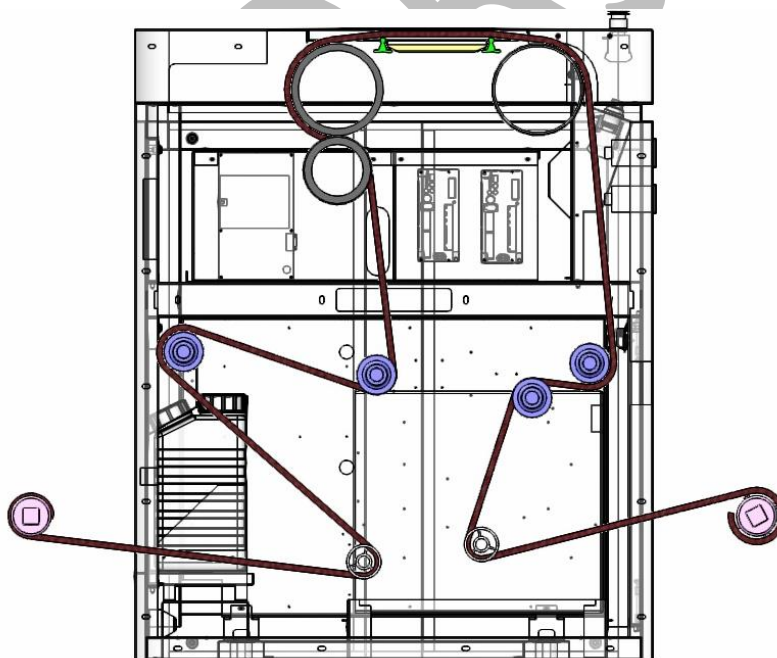


Fig 16: Defining the Fabric Path

The loaded fabric (from supply side) is shown in the image below:

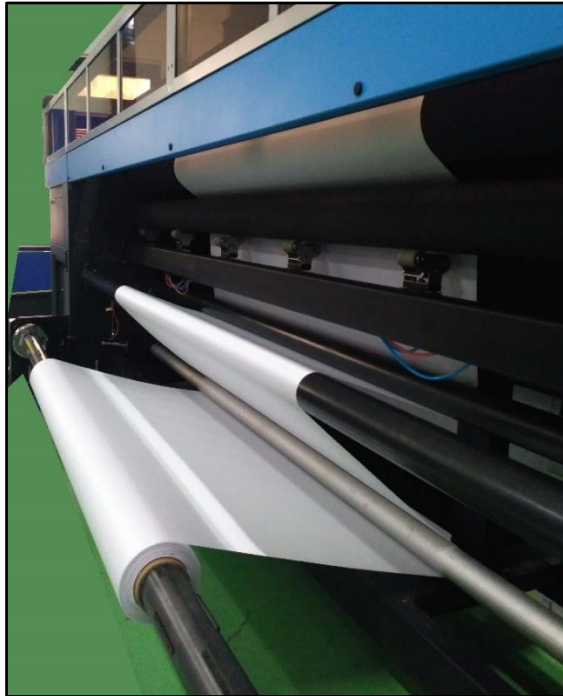


Fig 17: Displaying the Laded Fabric (From Supply Side)

Step 7: Press the **Push** button to unlock the Print Dryer Heater and pass the fabric through it, as shown below:



Passing Fabric through Print
Dryer Heater

Fig 18: Opening the Print Dryer Heater

Step 8: Stick the fabric on the Take-Up Core and move the Take-Up roller to wind the fabric.

Step 9: Set take-up in the Auto Mode.

The loaded fabric (from take-up side) is shown in the image below:

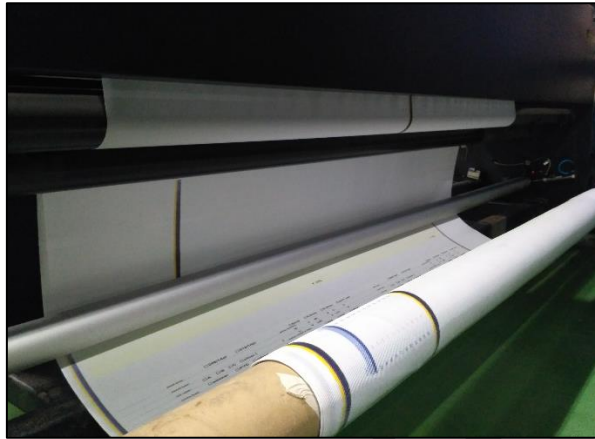


Fig 19: Displaying Loaded Fabric on the Take-Up Roller

Filling Ink

To refill ink, remove the Main Ink Tank cap and refill ink as per the color sticker. The **Main Ink Tank** is shown in the image below:



Fig 20: Displaying the Main Ink Tank

5. Head Height Adjustment

In SOFTJET GRAND, head height can be adjusted using the Head Height knob, as shown below:

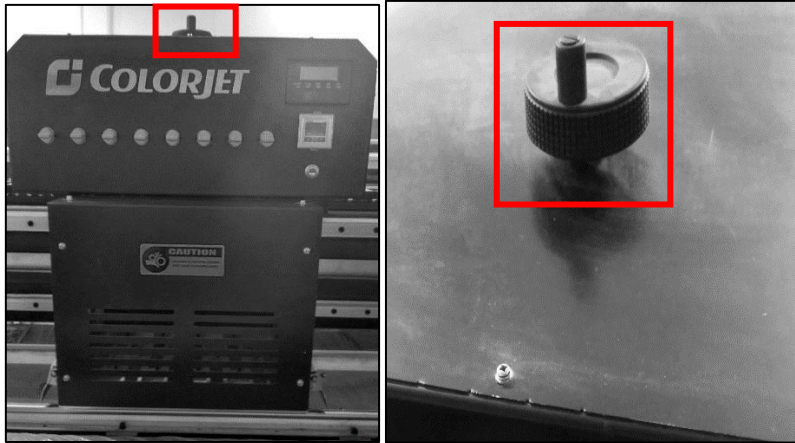


Fig 21: Adjusting the Head Height

To adjust the head height, move the knob in clock-wise or anti-clockwise direction as per the requirements or fabric thickness. The Head height is shown in the Head Height Adjustment panel, as given below:



Fig 22: Displaying the Head Height Adjustment Panel

6. Printer Software Operations

Setting the Print Origin

Print origin sets the print starting point with right most print head position as the reference point. It can be set by two ways; moving and positioning the carriage and typing the offset value directly in the given field.

Follow these steps to change the print origin:

Step 1: Move the carriage at the position from where you want to start the printing by *clicking* on the left and right buttons on the **Quick Access Toolbar**, as shown below:

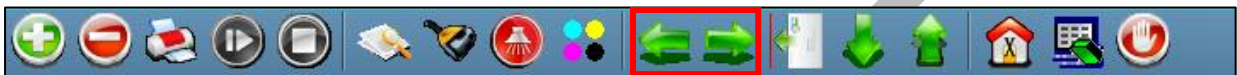


Fig 23: Adjusting the Carriage Position

Step 2: After positioning the carriage, *click* on the **Set print origin** icon on the **Quick Access Toolbar**, as shown below:



Fig 24: Selecting the Set Print Origin Option

On clicking the **Set print origin** icon, the current position of the carriage gets updated in the **Origin X** text box, as shown below:



Fig 25: Displaying the Origin Value

Now, the printing origin gets set. Additionally, you can also enter the print origin value manually in the Origin X field under the Print Parameter section.

Calibrating Wizard

Print Heads should be calibrated to ensure good printing quality. To open the Calibration Wizard, *click* on the **Main Menu**→**Tools**→**Calibration Wizard** path, as shown below:

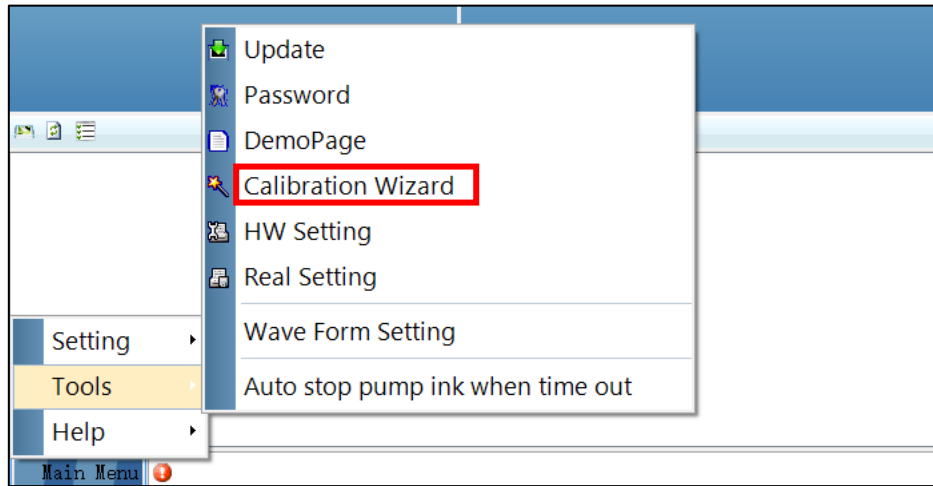


Fig 26: Selecting the Calibration Wizard Option

This should bring up the calibration wizard which is shown below:

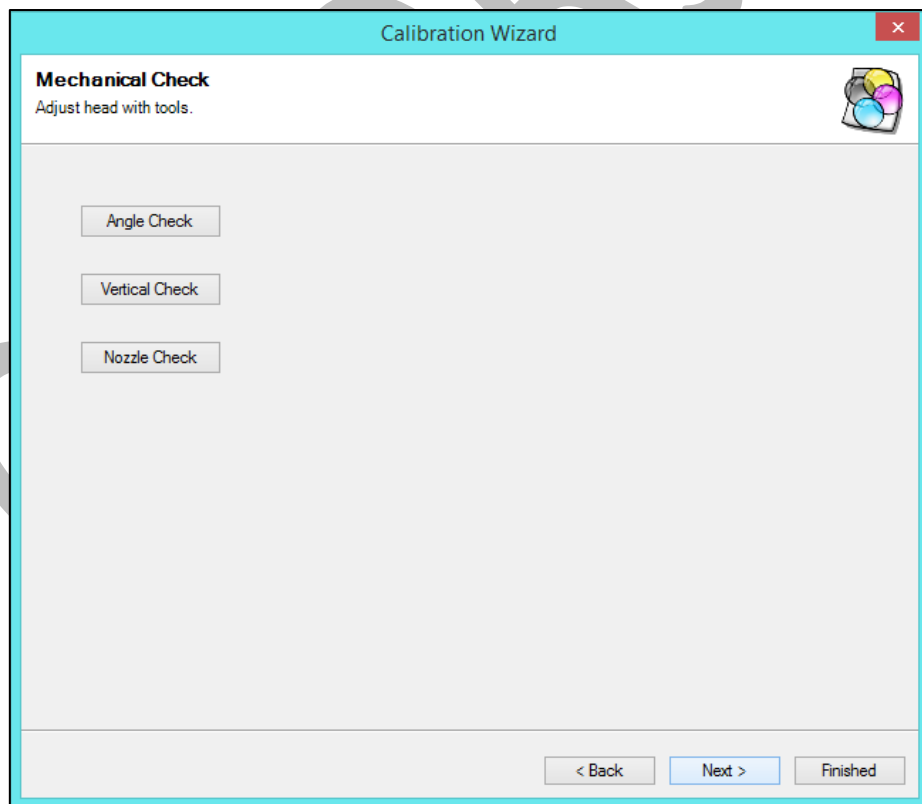


Fig 27: Displaying the Calibration Wizard

When you press the **Next** button, we redirect to the software calibration screen, as shown in the below images:

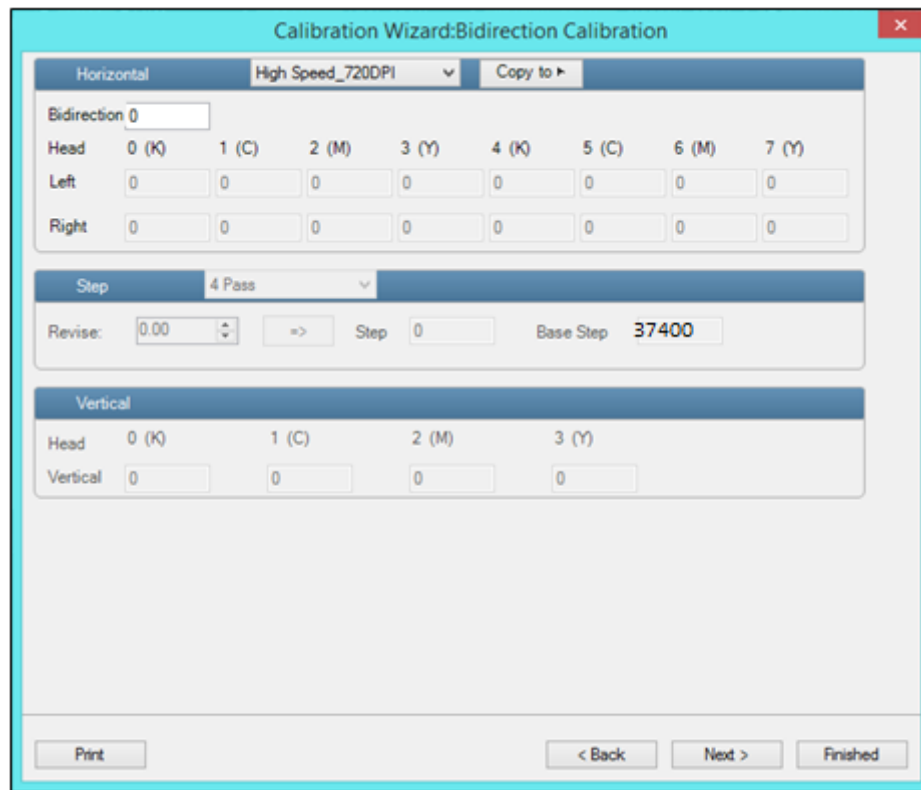


Fig 28: Displaying the Printer Calibration Options

Let's discuss each user related test and their result one by one in upcoming section.

Horizontal Calibration

Horizontal Calibration checks the bi-directional, left, and right alignment and corrects it by adding or subtracting the correction value from the default set value. It has to be performed for each print mode, whichever is required. Let's discuss each type of horizontal test one by one.

Bi-direction Calibration

Bi-directional calibration is performed to achieve dot placement accuracy between the "Left to Right" and "Right to Left" print sweeps. If the bi-direction offset value is correct, the Left to Right test print would align accurately with the Right to Left test print at "0" position. In case of error in the Bi-Direction offset, the Left to Right and Right to Left print would align at some other point on the scale.

The Bi-direction Calibration result is shown in the image below:

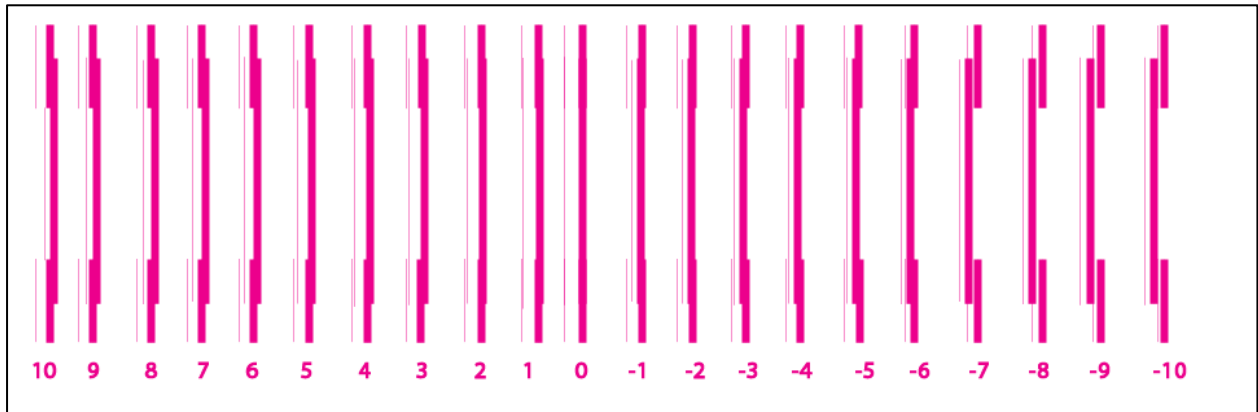


Fig 29: The Bi-Direction Calibration Output

Based on the above figure, you can notice that the Bi-direction calibration is good at “0” position. The correction value is “0” which means you need not to correct the bi-direction value. Sometimes, the correction value can either positive or negative. If the correction value is positive, then you need to add it in the current bi-direction adjust value or subtract the same if negative.

Left to Right and Right to Left Calibrations

Left to Right Calibration is performed to achieve dot placement accuracy of all colors (Black, Cyan, and Yellow) with respect to Magenta during the carriage’s left to right print sweep. Similarly, Right to Left calibration is used to achieve dot placement accuracy during the carriage’s right to left sweep.

When the position of the test head is correct, then it would align perfectly with the reference color at “0” position, indicating that the error position is “0”. If the test Print Head’s position saved in the system is inaccurate then it would not align at “0” position, but at some other point on the calibration scale. The position at which the test head aligns perfectly with the reference head, indicates the error in position.

The **Left Calibration** Result is shown in the image below:

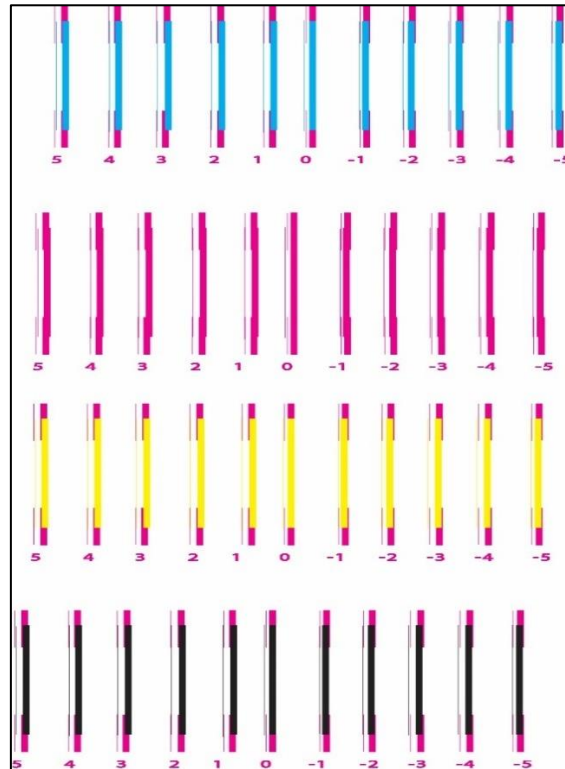


Fig 30: The Horizontal Left Check

The **Right Calibration** Result is shown in the image below:

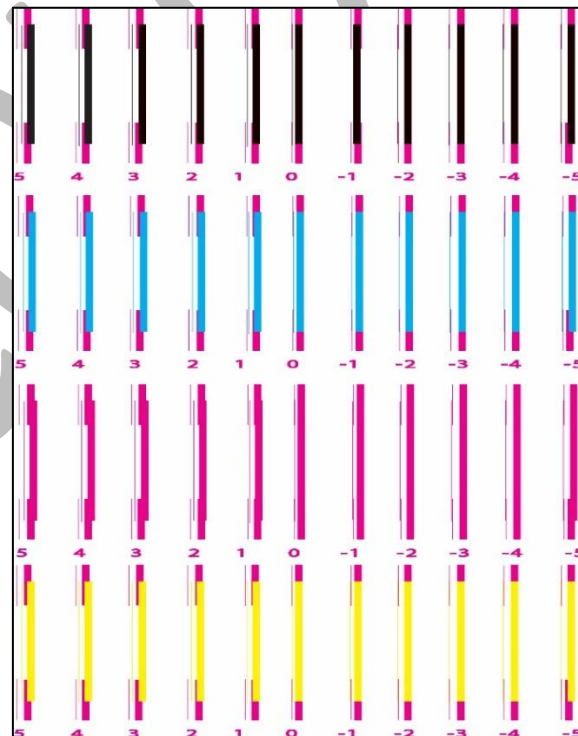


Fig 31: The Horizontal Right Check

Step Calibration

The printer step calibration is performed to verify and correct media feeding. The printer prints a complete image pass by pass. A pass is the horizontal carriage sweep perpendicular to the media movement. After each pass the printer moves the media forward for the next pass. This movement of media is called a step. The distance by which the media is moved is called the step size and it has to be accurate. Step size errors cause horizontal white or dark bands to appear in the print output.

Step size needs to be adjusted for multiple factors like thickness and roughness of the print media etc. Step calibration should be used to fine adjust the step size and has to be done for each desired pass. Step value can be adjusted using the Steps field, as shown below:



To view the Step Calibration result, click on the **Next** button (Refer to Fig 28) until the Step Calibration screen appears and then click on the **Print** button.

The Step Calibration result image is shown as below:

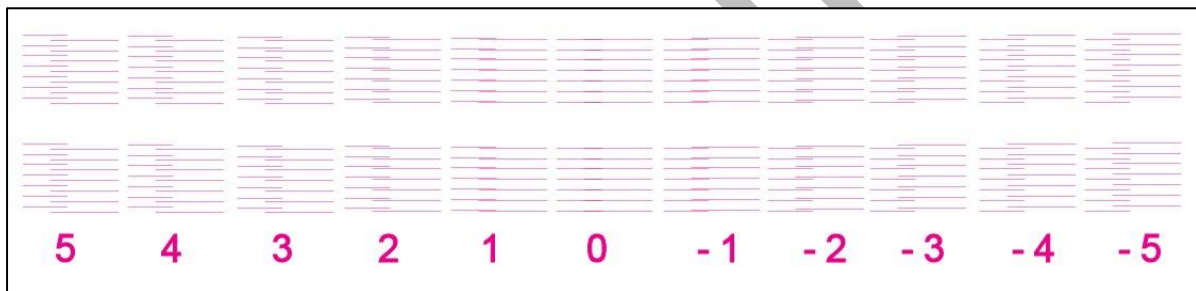


Fig 32: Displaying the Output of the Step Calibration

From the above figure, you get the accurate step adjust correction value. The correction value is either positive or negative. If the value is positive, then add it in the current step adjust value for the Print Head calibration. On the other hand, if the value is negative, then subtract the value from the current step adjust value. From the above, you can conclude that the pattern is corrected at "0" position.

The Step Calibration and its parameters are shown in the image below:

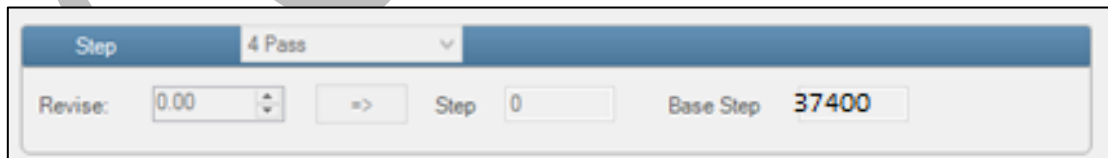


Fig 33: The Step Calibration Parameters

Follow these steps to perform step calibration:

Step 1: Select the desired pass from the list and click on the **Print** button (Refer to Fig 33).

Step 2: Feed the correction value in the **Revise** field (the correction value up to two decimal places) (Refer to Fig 33).

Step 3: Click on the => icon (Refer to Fig 33) on the Step Calibration window. The correction value result will be reflected in the **Step** field (Refer to Fig 33). The same step value will also be displayed in the **Steps** field on the **Quick Access Toolbar**.

Setting Print Parameters

Using the Printer Manager, you can manually change print preferences as per the printing requirements such as print origin, printing speed, no of steps, and more as shown below:

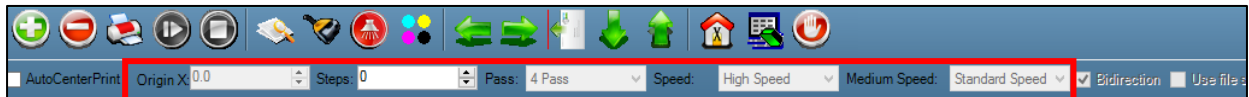


Fig 34: Setting Printing Parameters

The description of printing parameters is given as follows:

- **Origin X:** Directly enter the print origin value.
- **Steps:** Remove step size errors in the current print job by specifying number of steps.
- **Pass:** Choose the number of passes with which the print job should be printed. Increasing the number of passes improves the print quality but at the cost of printing time.
- **Speed:** Choose the printing speed like High Speed, Medium, and Low.
- **Medium Speed:** Set the Y printing speed viz. Standard Speed and Low.

Adding Jobs

There are two ways to add jobs in the Job List area viz. the Add Job button and right click on the Job List area. Let's discuss both the ways one by one.

Follow these steps to add jobs in the Job List area:

Step 1: Click on the **Add Job** button on the **Quick Access Toolbar**, as shown below:



Fig 35: Clicking on the Add Job Button

The **Open** window appears on the screen.

Step 2: Navigate to the location where the image file with extension **".prt"** and **".prn"** is stored (Refer to Fig 36).

Step 3: Click on the **Open** button to add the file into the **Job List** area, as shown below:

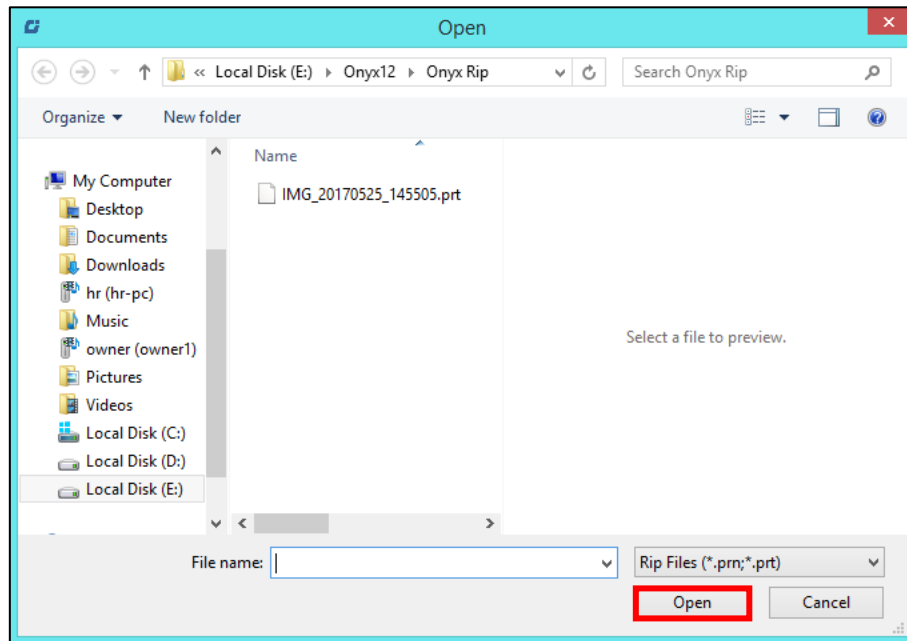


Fig 36: Adding the Job

Now, the selected image appears in the Job List area, as shown below:

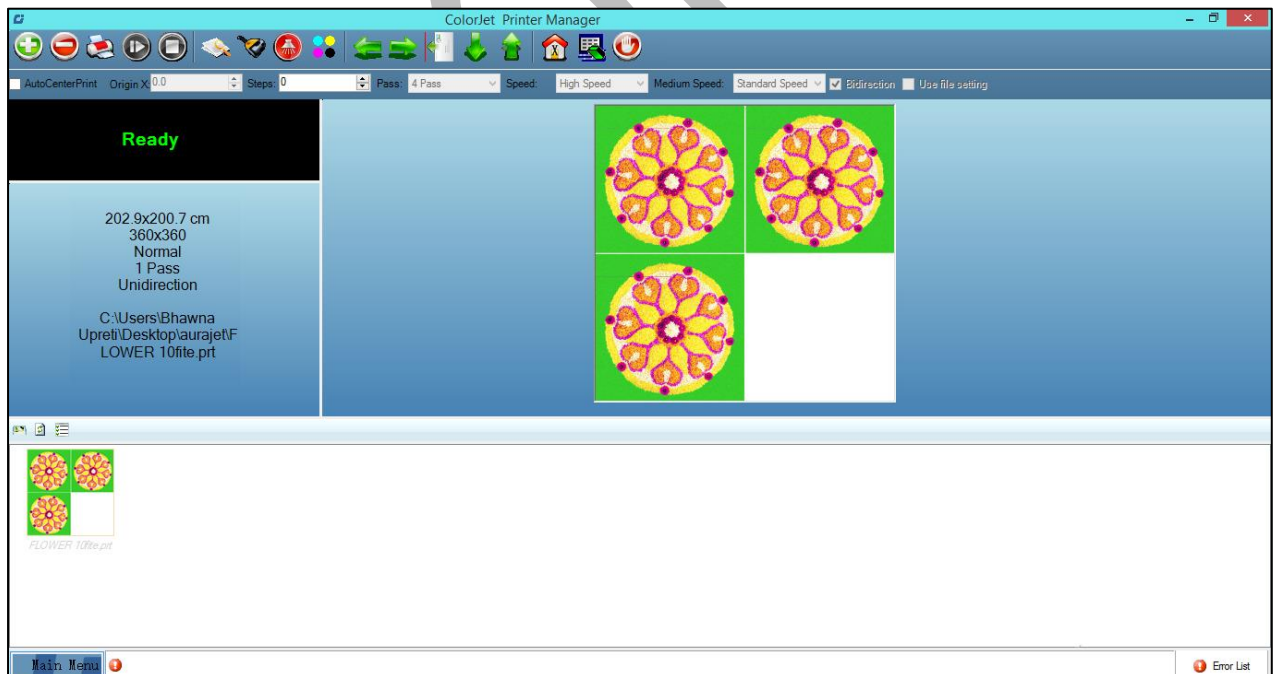


Fig 37: Displaying the Added Job and Their Details

Once a file has been added its information such as file path, size, resolution, and number of passes can be viewed in the Job Information area. User can also add a job simply by right clicking on the Job List area and selecting the **Add Job** option from the context menu, as shown below:

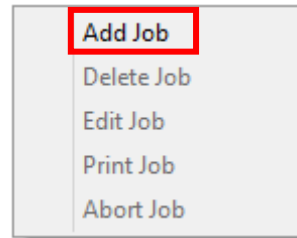


Fig 38: Displaying the Context Menu

On selecting the **Add Job** option, the **Open** window appears and follow the above-mentioned steps to add more jobs.

Note: To delete the selected job, *click* on the **Delete Job** icon on the **Quick Access Toolbar**.

Editing Job

Follow these steps to edit the selected job:

Step 1: Select the job for which details you want to edit from the **Job List** area.

Step 2: Right-click on the selected job. The context menu appears on the screen.

Step 3: Select on the **Edit** option from the context menu, as shown below:

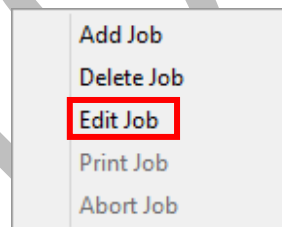


Fig 39: Selecting the Edit Job Option

The **Edit Job Form** appears with the list of options viz. Clip, Reverse Print, and Tile.

Step 4: Select the desired checkbox in front of the Clip, Reverse Print, and Tile options. On clicking to any option, its related parameters get appeared on the right pane and you can edit them as per the requirements. In our case, we have selected the **Clip** checkbox.

Step 5: After making the desired changes, *click* on the **OK** button to apply the settings, as shown below:

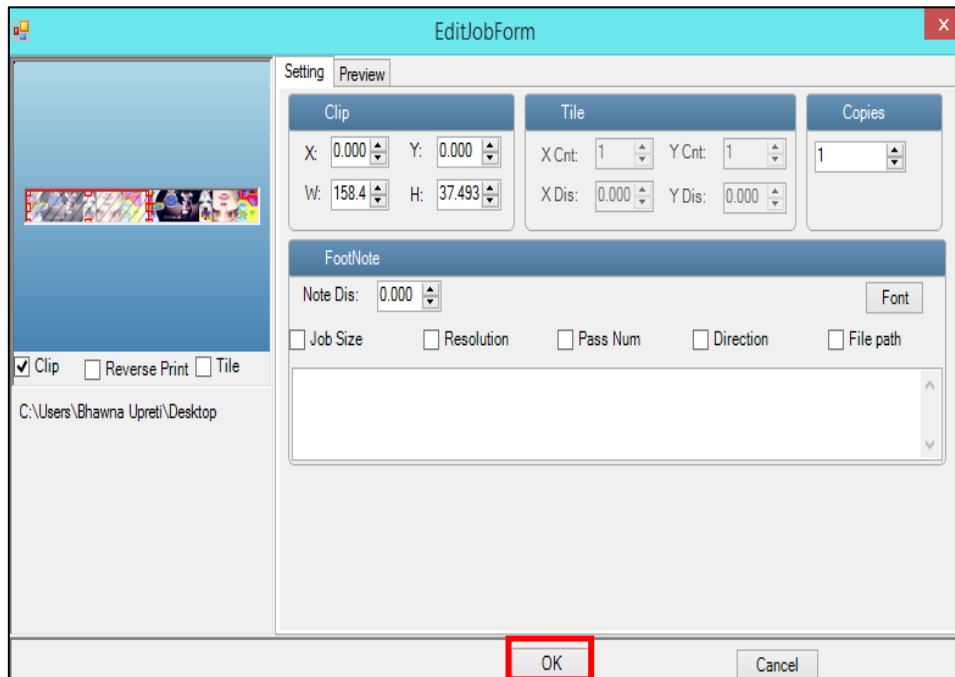


Fig 40: Displaying the Edit Job Form Window

Similarly, you can click on any other option and its related options get enabled in the right pane of the Edit Job form. In the above figure, some options are shown which are available only on the selected ripping software.

Ripping and Printing

Ripping is an independent process which converts a raw image file into the machine-readable format and get the file ready for printing. The Rip software supports the tiff, jpeg, eps, psd, bmp file formats. After ripping the image file, the output file will be in **“.prt”** or **“.prn”** file format. Thus, you should first rip the image file before printing and then issue the Print command. While ripping, the color profiles are used to automatically perform the color corrections in the image. There are different combination of print modes and resources, as shown through the table:

Modes	Print Passes	Print DPI
Mode 1	2	540X720
Mode 2	3	540X1080
Mode 3	4	540X1440
Mode 4	6	540X1080
Mode 5	8	540X1440

You can print an image on the selected fabric simply by clicking on the **Print Job** button available on the **Quick Access Toolbar**, as shown below:

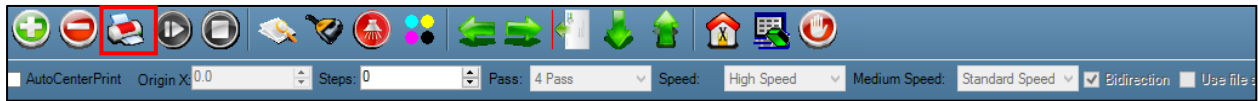


Fig 41: Issuing the Print Job Command

'Printer Manager' is the operating software for this printer which will be bundled with machine. For printing, there are two ways:

- If 'Print to file' is selected in the Rip Software, ripped files will be stored in the particular folder which has to be selected by clicking 'Add Job' in Printer Manager by locating the path. 'Use file setting' has be disabled in this case.

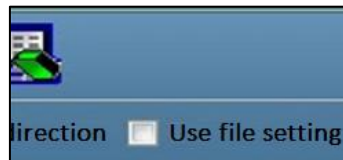


Fig 42: Selecting the Use File Setting

- Printing command can be given directly from Rip software, if the Rip software supports printer driver to simultaneously rip and print. 'Use file setting' has be enabled from the Printer Manager software.

After issuing the Print command, the printing gets started and its progress details displays in the Job Information area, as shown below:

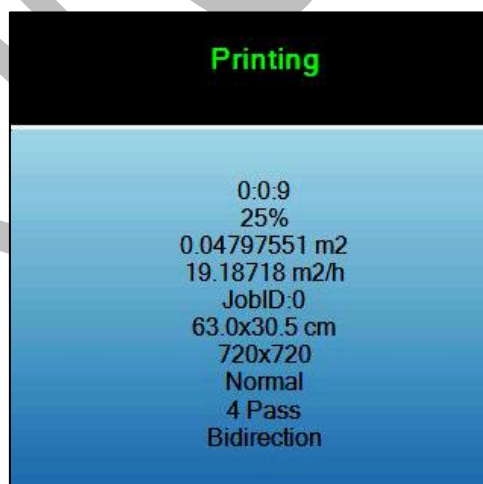


Fig 43: Displaying the Printing Details

Pausing and Canceling Printing

If you find any defect during the printing process, you can immediately pause or cancel the current printing job using the Pause or resume and Abort Job buttons available on the **Quick Access Toolbar** as shown below:

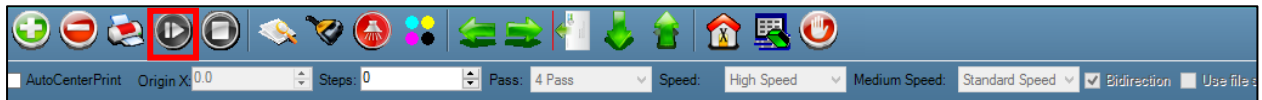


Fig 44: Issuing the Pause or resume Command

Similarly, you can abort the process by right clicking on the selected Job in the Job List area and select the **Abort Job** option from the context menu. The CTRL + TAB keys combination is used for the pausing or resuming service.

Feeding Password

The Password option enables operator to feed or change password of the printer. On clicking **Password** option under the **Tools** menu, the **Password** window appears with two options viz. Time Password and Language Password. Let's learn to feed password in the machine.

Follow these steps to change the passwords of the printer:

Step 1: Click on the **Main Menu**→**Tools**→**Password** path, as shown below:

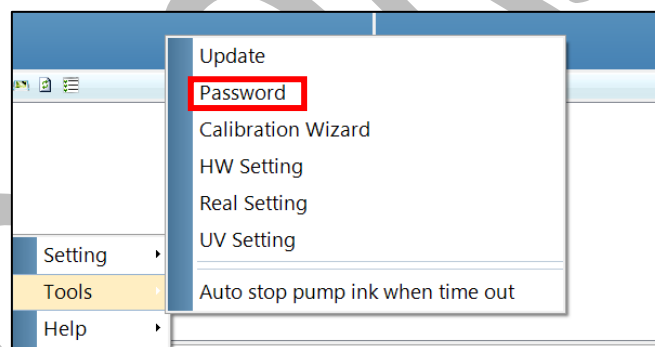


Fig 45: Selecting the Password Option

The **Password** window appears on the screen as shown below:

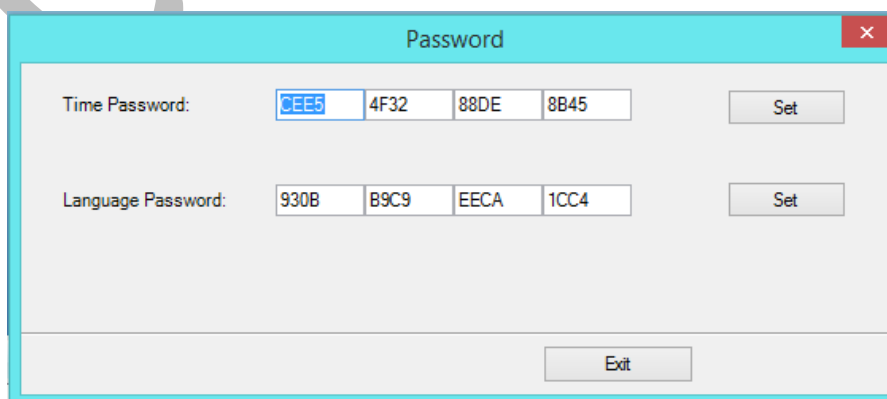


Fig 46: The Password Window

Step 2: Set values in the **Time Password** field as per the requirements (Refer to Fig 46).

Note: The length of the password field must be of 16 digits.

Step 3: After feeding the passwords, *click* on the **Set** button in front of both the options (Refer to Fig 46).

Step 4: *Click* on the **Exit** button to close the **Password** window (Refer to Fig 46).

Note: When “**First Warning**” appears, kindly contact Head Office with the following screen:

- Password Screen (Refer to Fig 46)
- About Screen

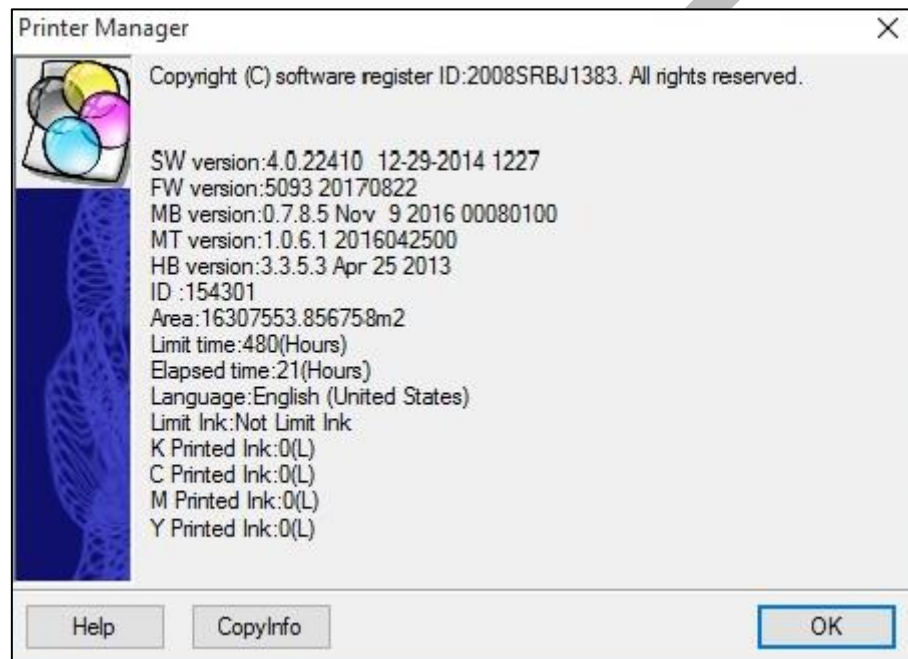


Fig 47: Displaying the About Screen

7. Head Cleaning

Print Head is a delicate part which needs to be cleaned as per the recommended methods to have long life and to ensure consistent print quality. Below sections give recommended steps to clean the Print Heads.

Head Purging

Head purging refers to the method in which heads are cleaned by forcing pressurized ink through the nozzles. In the printer, the **Purging** button is available on the carriage, as shown in the below figure:

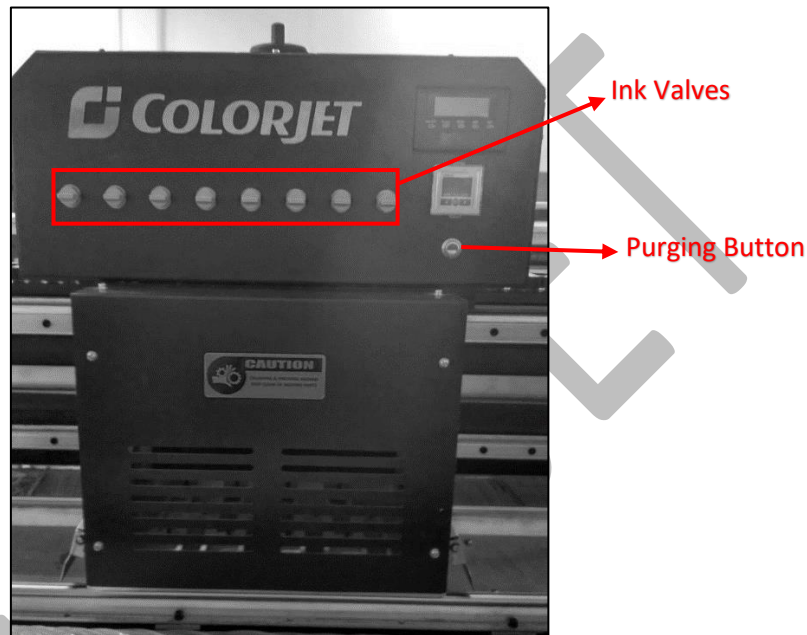


Fig 48: Performing Purging

Follow these steps to perform purging:

Step 1: Switch ON the Ink Valve of a color in which user wants to perform purging (Refer to Fig 48) and switch OFF the rest color Ink Valves.

Step 2: Press the **Purge** button to perform purging.

Head Wiping

In Head Wiping, extra ink below the Print Heads is to be soaked using the Head Cleaning Wiper. The Head Wiping option is displayed in the image below:

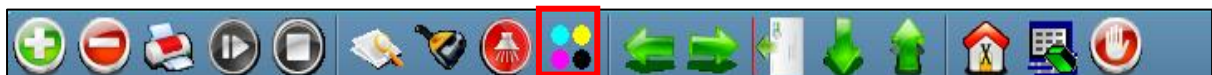


Fig 49: Performing the Automatic Head Wiping Process

On clicking the above option, the **Manual Clean Form** appears as shown below:

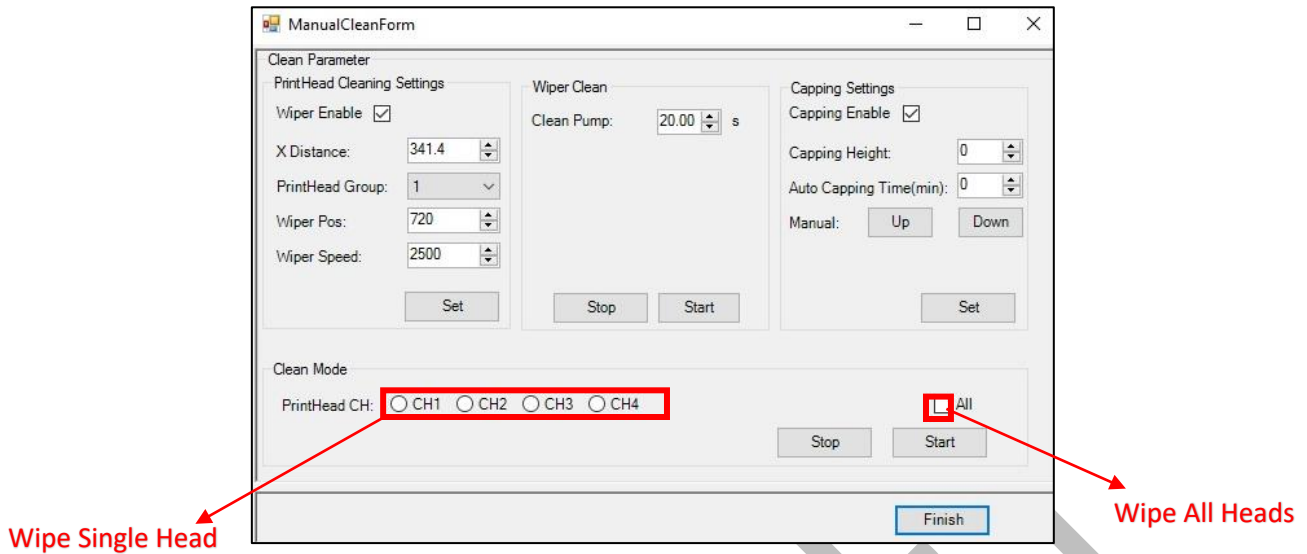


Fig 50: Displaying the Manual Clean Form

Using the above window, user can clean a particular color head or all heads by selecting the given options. The Head Wiper starts the head wiping process, as shown in the image below:

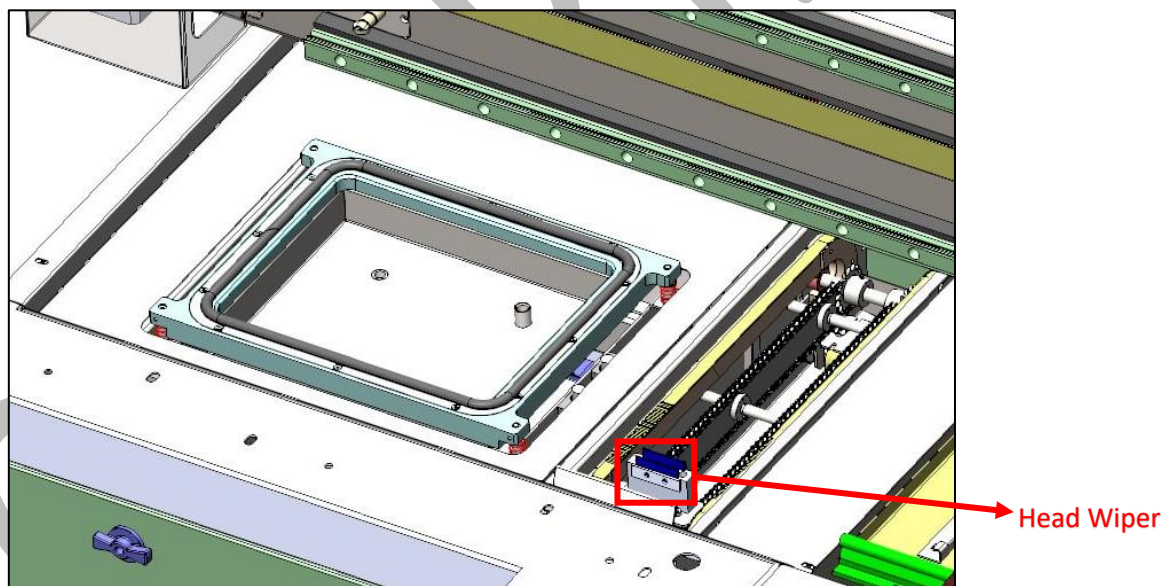


Fig 51: Displaying the Head Wiper

Head Spraying

Head spraying should be performed only when small percentage of nozzles are blocked. This method is used to avoid mixing of colors. When heads are sprayed all the nozzles are actuated at a high rate which helps in opening up dry nozzles of the printer. To perform head spraying, *click* on the **Spray** button available under the **Quick Access Toolbar**, as shown below:



Fig 52: Displaying the Spray Button

8. Switch OFF Procedure

Follow these steps to switch OFF the machine:

Step 1: Perform the Nozzle Test to check the status of head nozzles. If test result is not OK, then clean the head by referring the Head Cleaning section of this manual.

Step 2: Remove the fabric from the machine.

Step 3: Turn OFF the ink valves by moving the knob in the clockwise direction, as shown below:



Fig 53: Turning OFF the Ink Valves

Step 4: Ensure the capping process (Refer to the **Capping Procedure** section) has been done properly to protect the print head.

Step 5: Turn OFF the main power.

Step 6: Close all the covers of the printer.

Settings Capping Parameters

Follow these steps to lock the carriage and capping station:

Step 1: Move the carriage to the capping area using the Printer Manager software. The Capping Station is shown in the image below:

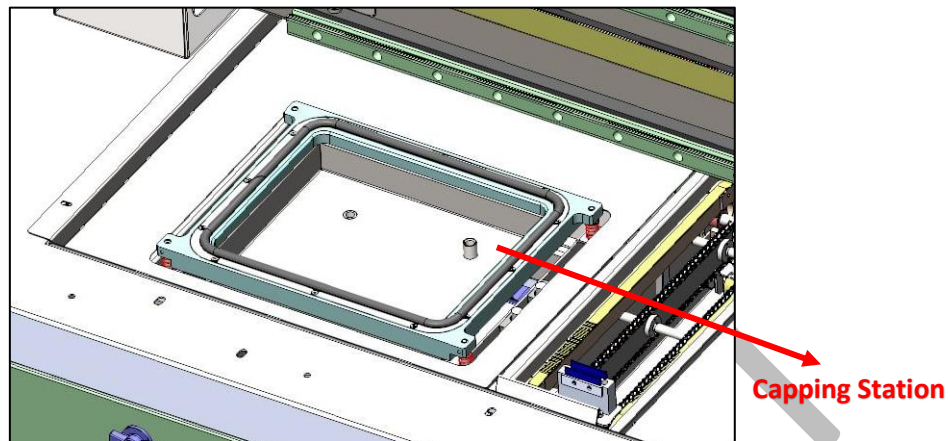


Fig 54: Displaying the Capping Station

Step 2: Press the Head Wiping option. The Manual Clean Form window appears, as shown below:

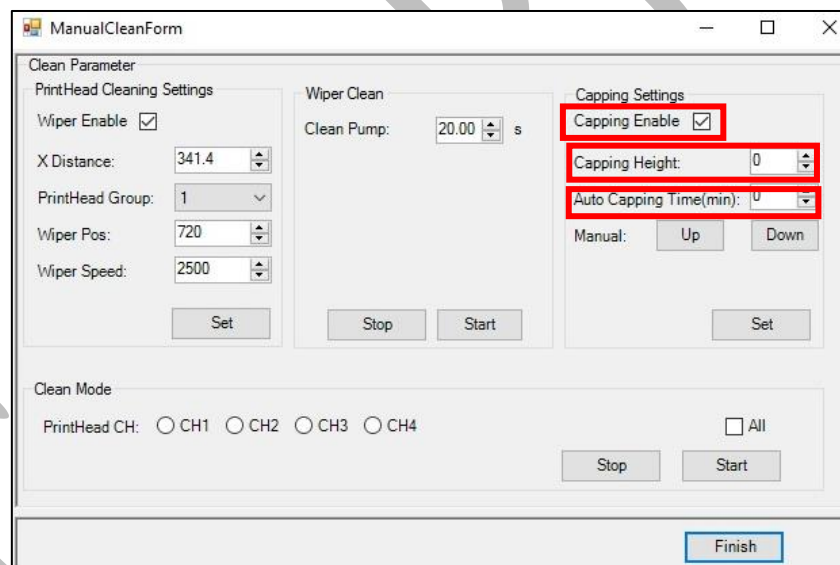


Fig 55: Displaying the Capping Station Settings

Step 3: To enable automatic capping process, select the **Capping Enable** option under the Capping Setting section (Refer to Fig 55).

Step 4: Enter the capping height in the **Capping Height** list box as per the requirements (Refer to Fig 55).

Step 5: Enter the auto capping timing in the **Auto Capping Time(mm)** list box (Refer to Fig 55).

Step 6: After making the desire changes, click on the **Set** button and also press the **Finish** button to complete the process (Refer to Fig 55).

9. Do's and Don't

Do's

- Keep the room dust free and maintain the temperature between 18°C and 28°C
- Perform Nozzle test daily before using the machine
- Use only the recommended ink in the machine
- Check and refill the ink main tank regularly to avoid air lock
- Clean the head wiper after wiping
- Keep the capping station cleaned
- Always care about the wrinkles on fabric, it may damage the Print Heads
- To avoid air in head pipes, always maintain the ink level more than 1 Litre in the main tank and wipe the Print Heads immediately after purging
- Feed Adjust value has to be adjusted in decimal format up-to two decimal places
- Maintain the head negative air pressure between – 3.8 to -4.0. Adjust slightly, if required
- Always monitor the Air Pressure for trouble free printing. In case, air pressure in the core holder and pinch roller is not enough then proper tensioning is not applied and print gets destroyed.

Don'ts

- Avoid ink spilling on the Print Head and head cables
- Don't use expiry ink and store the ink at favorable environment
- Avoid printing without Colorbar
- Don't move the carriage over the Capping Station when printer is OFF and capping is in UP position
- Don't allow the Capping station to dry
- Don't print without Media Clamp
- Don't handle Print Head without anti-static protection
- Don't leave the Print Head without capping
- Avoid head damage due to fabric and Print Head confliction

10. Maintenance

Print Head Maintenance

Print Head is an important and delicate part of the printer. Thus, it must be handled with care to ensure the long life of the machine. Pay attention to potential problems caused by environment, heat and moisture, collision, cleaning etc. For print head maintenance, the following instructions should be taken care:

- Perform the nozzle test daily 2-3 times before printing to monitor the blockage in the head nozzles.
- Use the print head in specified environmental conditions viz. Temperature 18~28, humidity 35%~80%, dust-free and exhaust condition.
- Don't turn on electricity under ink shortage in the print head, or the heat in print head can't be taken away by ink, will make print head easily damaged.
- Cooling hole on the head carriage can't be jammed, keep the carriage exhausted to ensure the print head with optimum heat abstraction.
- Prevent print head from severe shock, otherwise it will damage the piezoelectric ceramic oscillation in the head.
- Avoid ink spilling on the print head and head cables and if there is ink in the print head, it must be cleaned with flush water.
- Avoid head damage due to fabric and Print Head confliction.
- fabric clamps should be used during printing.
- Color bar should be ON.
- Don't use expiry ink and store the ink at favorable environment.
- If the printer won't be used for a long time, before pack it, engage the Capping with head plate to avoid head dry condition.
- Capping Station should be cleaned.
- Fill cleaning liquid before engaging Capping Plate with the Head plate.
- Prevent the object or human body with static contact to the print head.
- Print head nozzles should be kept clean, dust free, and also prevent from oxidation.

Maintenance of Machine Motion Parts

- Clean and lubricate guide rail at least once a week and brush enough low-fat lubricating oil onto junction of motion parts.
- Clean and lubricate carriage slider, bearing and gear of withdrawing and feeding cloth system at least once a week.
- Regularly check whether carriage belt is loose or not.

Equipment Cleaning

- Turn OFF all power switches to machine while cleaning the machine equipment.
- Avoid splashing liquid and dropping on/in the circuit board or the power line.
- When clean the sensitive devices, like sensors and raster, should wipe.
- Use clean cloth to clean up the dust and residual oil on the tracks.

Power System Maintenance

- Ground wire should always be checked whether loose or disconnection.
- Towlines (containing power lines) and data lines should be inspected regularly.
- Operators should monitor the power supply system regularly like output voltage of power-supplying, the power potential overheating temperature, ageing of wires, etc.
- Monitor different parts of the machine that generates high heat regularly. For these parts, one should provide and arrange proper ventilation for the same.

Control System Maintenance

a. Static discharge

- The operator must discharge his own electrostatic before touch the electronic components and parts.
- Don't touch the pin connectors and welded joints on circuit boards, integrated circuit boards at pleasure.

b. Control wiring maintenance

- Check the control wiring system whether loose or disconnected.
- Check high-power output terminals whether loose or disconnected, such as the input and output terminals of air switches, contactors and relays, if loose or poor connection can easily cause damage of control devices and switches.
- Check the power system whether can provide the rated voltage to all parts of the machine.

Encoder System Maintenance

- Before plugging or unplugging Encoder sensor from the interface board, should keep the machine power off.
- Cleared up the ink and dust from the Encoder ruler.
- Ensure the Encoder Sensor is working normally and clean the surface of Encoder Ruler regularly.
- Encoder sensors should avoid shaking and hitting.
- Don't try to replace or separate the Encoder Sensor by yourself and also never change the relative distance.
- Should keep water, ink, oil away from the Encoder ruler.

- Encoder Sensor shouldn't work in corrosion environment, in order to avoid Encoder chromium layer damaged and destroy Encoder Ruler sensitivity.

Ink Supply System Maintenance

- Check for leakage between joint & ink tank and joint & valve settings.
- Check for damages on ink tubes.
- Check Ink impurities in the ink pumps as this will affect the ink supplying.
- Operator shall clean ink sub tanks them regularly.

COLORJET

11. Troubleshooting

Printer Not Initializing

- Emergency button is pressed
- Capping knob is in up position
- Head Power is not ON
- Servo driver is not powered ON/faulty
- Main Board is faulty
- Encoder sensor is not connected to HB
- Jumper is removed from MB
- Limit switch is disconnected

Printer Manager Not Showing “Ready”

- USB is disconnected from computer or loosely connected
- Print engine is OFF
- Main board is faulty
- USB cable is faulty

Print Not Drying/Ink Marks on Back of the Fabric

- Print dryer is not ON or not working
- Dryer temperature is not sufficient
- Coating of fabric is not correct
- Fabric supporting bar and Take Up roller is stained with ink

Ink Not Filling

- Main tank is empty
- Ink pipe is having cut/bend
- Ink pump is not working/connector loose/open
- Sub tank float connector is loosely connected to the headboard
- Sub tank float is not working

Print Stops in Between Printing

- USB cable is loose / faulty
- Image files are heavy in size
- Ground wire is disconnected
- Encoder scale is having ink stains/scratches
- Pulley or belt is slipping
- Ripped file is having error

Print is Shifting wrt Fabric/ Junk Printing

- Encoder scale is having ink stains (print shows vertical color bands)
- Encoder sensor is not clean
- Pulley or belt is loose or teeth wear out and slipping
- LVDS cable is faulty

Print is Blur

- No proper calibration viz. bi-direction and step
- Head height is disturbed and not calibrated for above
- Incorrect resolution is selected
- X div is selected "High Speed" instead of "High Precision"

Lines in Prints

- Nozzle blocked in heads (check nozzle test)
- Incorrect feed step (calibration required)
- Belt motor coupling loose

Heaters Not Working

- Check if inlet power cord is connected
- Check the set temperature in the controller

Take Up Not Working

- Take-up switch is not ON
- Take-up regulator is in OFF position

Fabric Supply Not Working

- Supply switch is not ON
- Fabric is not in sensor range

Negative Pressure Drop/Not Working

- Adjust through vacuum regulator, if value drop to some points
- Meniscus vacuum switch is OFF
- Negative Pressure switch program is disturbed
- Ink overflowed from sub tank and filled in the reservoir
- Vacuum is not generated by pump (pump failure)
- Any ink/air tube is having leakage/cut/loose on fitting joints
- Vacuum pump connector is loose/open from MMCB

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