X2

INSTALLATION AND TRAINING

DTG-C

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INSTALLATION AND START UP	IMPORTANT NEED TO KNOWS AND ENVIRONMENT SPECIFICATIONS	SUBSTRATES AND PRETREATING	GRAPHIC SPECIFICATIONS AND TURBORIP SOFTWARE	PRINTER OPERATION

TRAINING OUTLINE

INSTALLATION

FIRST THINGS FIRST:

- Put together waste ink tank & set bottle securely on the ground

- Insert CMYK ink into printer

- Shake W1 & W2 for 50 seconds before plugging into printer

- Connect power cord & switch back switch to | (ON)

- Press & hold sub power button for more than 2 seconds and let go

- Plug Ethernet cable or set up Wi Fi

- Turn heat press on & set to 330° F
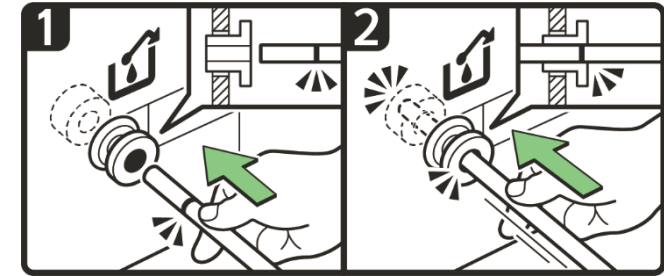
Heat Press Equipment

- **All garment inks are required to reach a certain temperature and time to be properly cured, if this temperature or time is not properly adjusted on your heat press you risk the possibility of the shirt washing out during the wash cycle. Keep Heat Press at least 10'ft from printer.**

- **Heat Press Setting:** White or light shirts using only CMYK: 356˚F (180˚C) for 30 seconds

-
  Anything using white ink: 330˚F (165˚C) for 90 seconds.

- All prints can be run at this longer/colder setting if you are alternating from light to dark.

- **Pressure** – Pressure should be set to a Medium to medium –high settings. If not enough pressure is applied the ink will not cure and will wash out. 40-50 PSI

- Location – Heat press should be set at least 10 feet away from the printer. Having the heat press too close can heat up electrical components and damage them.

- Heat press Protective sheets – Always use a heat press sheet to protect both the shirt and the heat platen. Below are some acceptable heat press sheets
  - DTG Connection Soft Touch paper / Parchment paper
  - Stahls Kraft Sheets
  - Teflon Sheets - creates a very shiny finish to the image.

- Good heat ensures the ink cures into the shirt and good washability

IMPORTANT NEED TO KNOWS

- **Always leave your printer on** to allow the machine to perform the necessary automatic maintenance.

- Any time white ink is loaded into the X2 the printer MUST run the auto maintenance to avoid issues. If you know you will be away from the printer for more than 7 days, contact Technical Support for flush instructions.

- Remember, if the printer cannot clean itself while white ink is loaded for long periods of time and the print head carriage warranty may be voided.

- **Do not run the printer dry.**

- The printer will stop performing the auto maintenance if any of the ink carts reads 0%.

- It is recommended you replace your ink carts at 5% to avoid the possibility of your machine running dry and stopping the auto maintenance cycle.

- Remember, if the printer cannot clean itself without ink loaded and the print head carriage warranty may be voided.

- **Perform daily and weekly maintenance.**

- Each **DAY** it is recommended that you run a nozzle check.

- This will help you understand how your print heads are firing and will help you to see potential issues before they become problems that can't be solved.

- Each week, if white ink is loaded, you **MUST** clean the heads and the maintenance station, **EVEN IF** you're not printing with the machine.
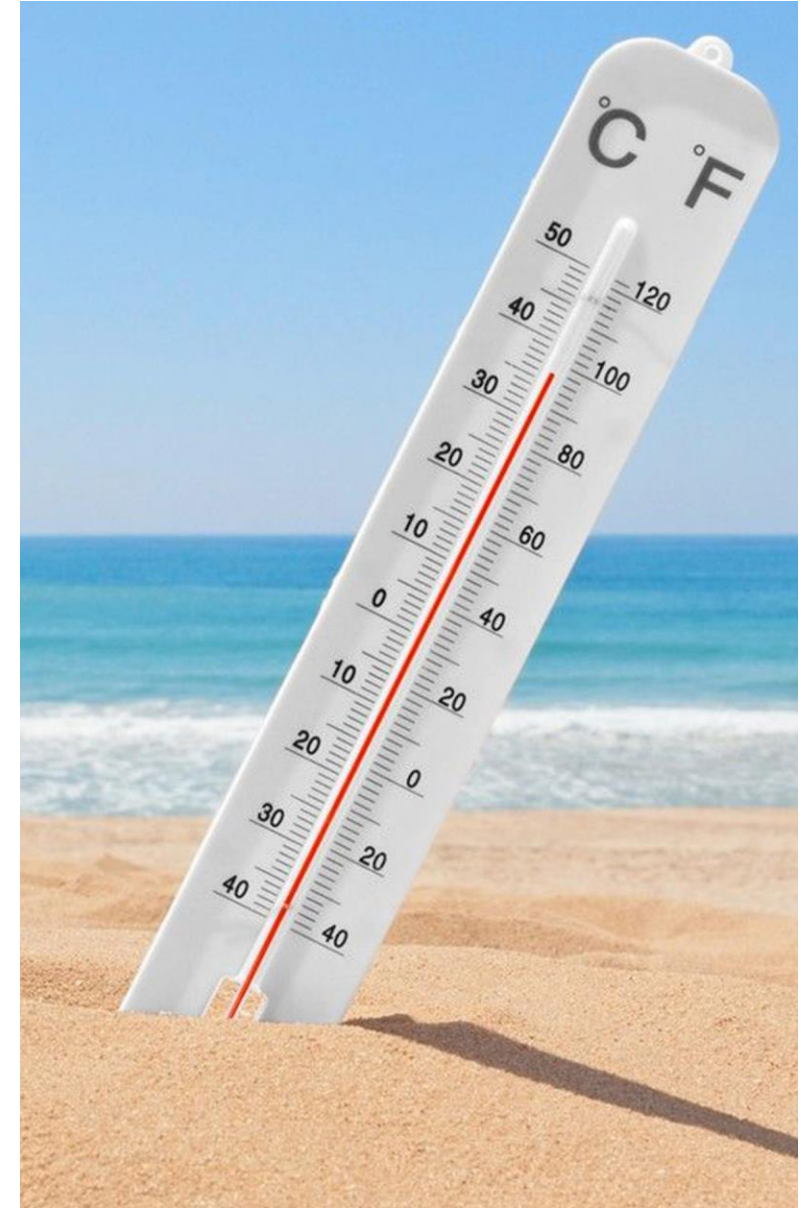
ENVIRONMENT SPECIFICATIONS

Temperature (inks)
50˚F to 90˚F (10˚C to 32˚C).

Humidity Range:
45% to 80% RH

Humidifiers must be EVAPORATIVE (no vapors)

SUBSTRATES

- DTG uses aqueous (water-based ink) and works best with cotton fabrics.

- The quality of the garment can affect the outcome of your print!

- **For BEST results, we recommend 100% Combed Ringspun Cotton**

- Its always recommend to test the fabric first to see what kind of color result you get, in some cases different fabrics will require different ink settings.

- For high poly blends or 100% Poly, we recommend to do DTF (Direct to film)

PRETREATING (DARK GARMENTS)

- Pretreat is a liquid primer that is necessary for the white ink to adhere onto a colored garment.

- You MUST use pretreat if you are using white ink on your print

- Pretreatment can be hand sprayed or applied with a pretreatment machine

- Pretreat must be applied evenly and consistently onto a garment for best print results.

- A higher quality garment will require less pretreat, while a low quality one will require more

- Not all shirts are the same and testing may be required to find the correct amount to apply.

- You can buy shirts that are already pretreated and skip the step of spraying them yourself.

PRETREATING (LIGHT GARMENTS)

- Pretreating light garments using CMYK inks is optional

- You need to use a treatment dedicated for lights only, dark treatment will not work for CMYK without white ink

- You can achieve brighter, sharper prints using a light pretreatment

- Light treatment works with white poly as well!

UNTREATED

PRETREATED WITH IMAGE ARMOR
LIGHT SHIRT FORMULA

GRAPHIC SPECIFICATIONS

- True to size

- 300 dpi resolution

- Transparent background

- Create images in RGB

- Cropped to exact size of graphic (no dead space)

- Save/Export as .png

- If you have black in going onto a black shirt, omit the black in the graphic, you will get a nicer print!
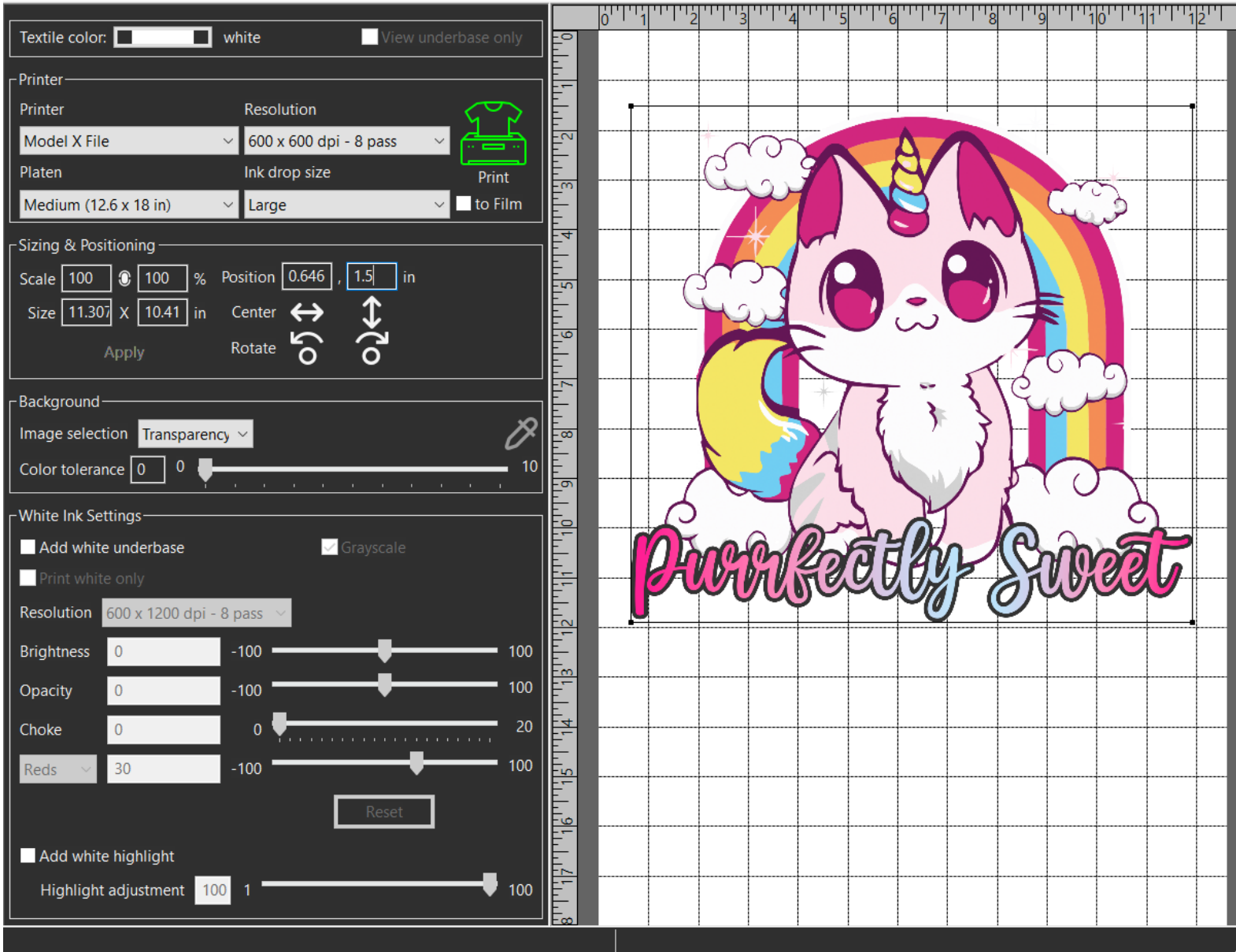
TURBORIP

- Images MUST be placed into TurboRIP before sending the job via Wi-Fi, Ethernet to the printer.

- You CANNOT just plug an image onto a USB directly into printer

- TurboRIP is NOT a graphics program.
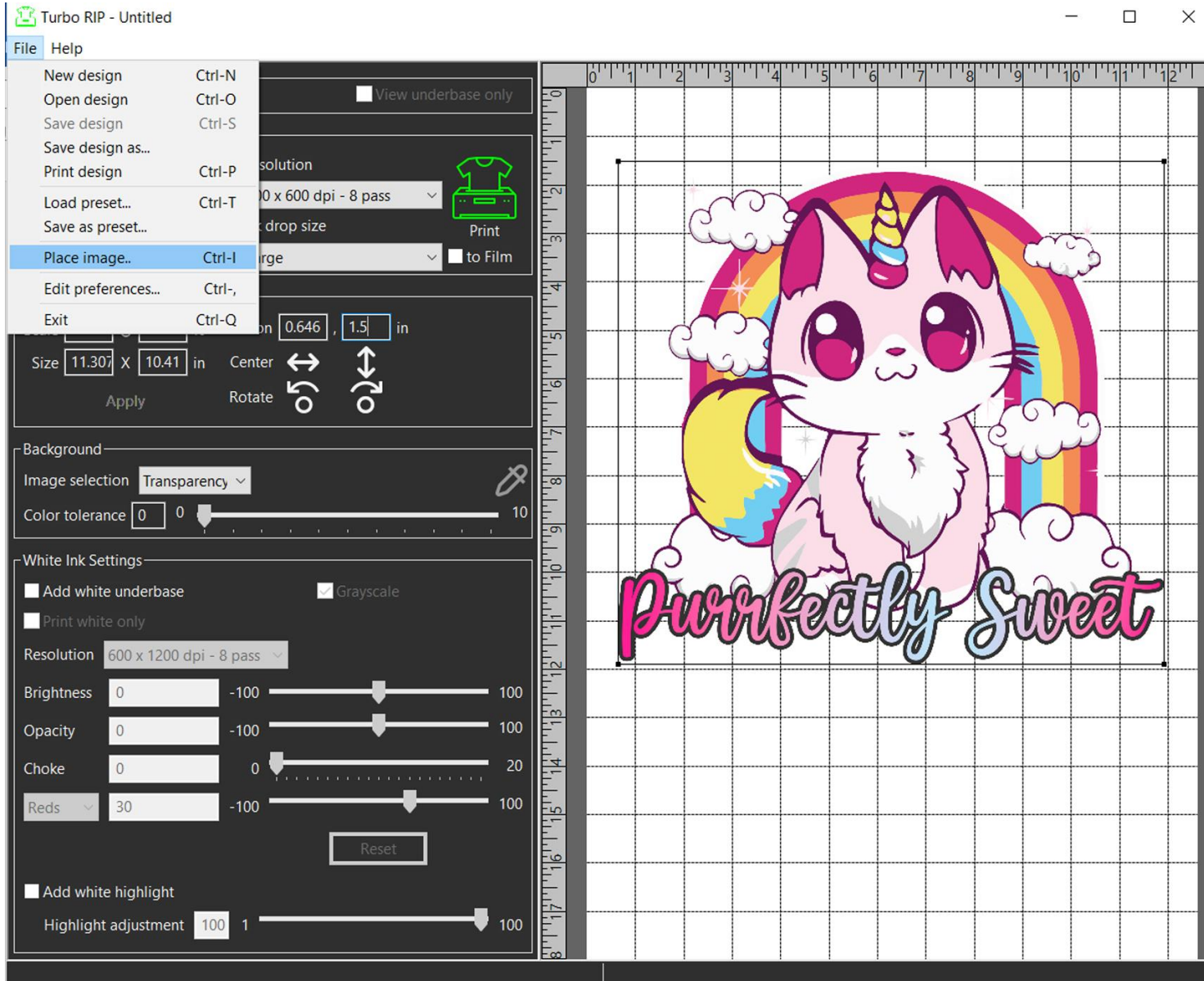
PLACING AN IMAGE

You can drag and drop an image into the white grid area of TURBORIP

Or

go to FILE – PLACE IMAGE – then open the image you want to insert into the program

Printer
- Model X2 File : File saves to PC then transfer to USB
- Model X2: Send job via Ethernet

Resolution (Quality Modes)
- 4 pass (Speed)
- 8 pass (Fine)
- 16 pass (Superfine)

Platen
- Ability to change the platen templates to match what you are using on your printer (Medium is default)

Ink Drop Size
- Ability to change drop sizes. (rarely used)

Print to Film
- Check this box to reverse the print order for DTF
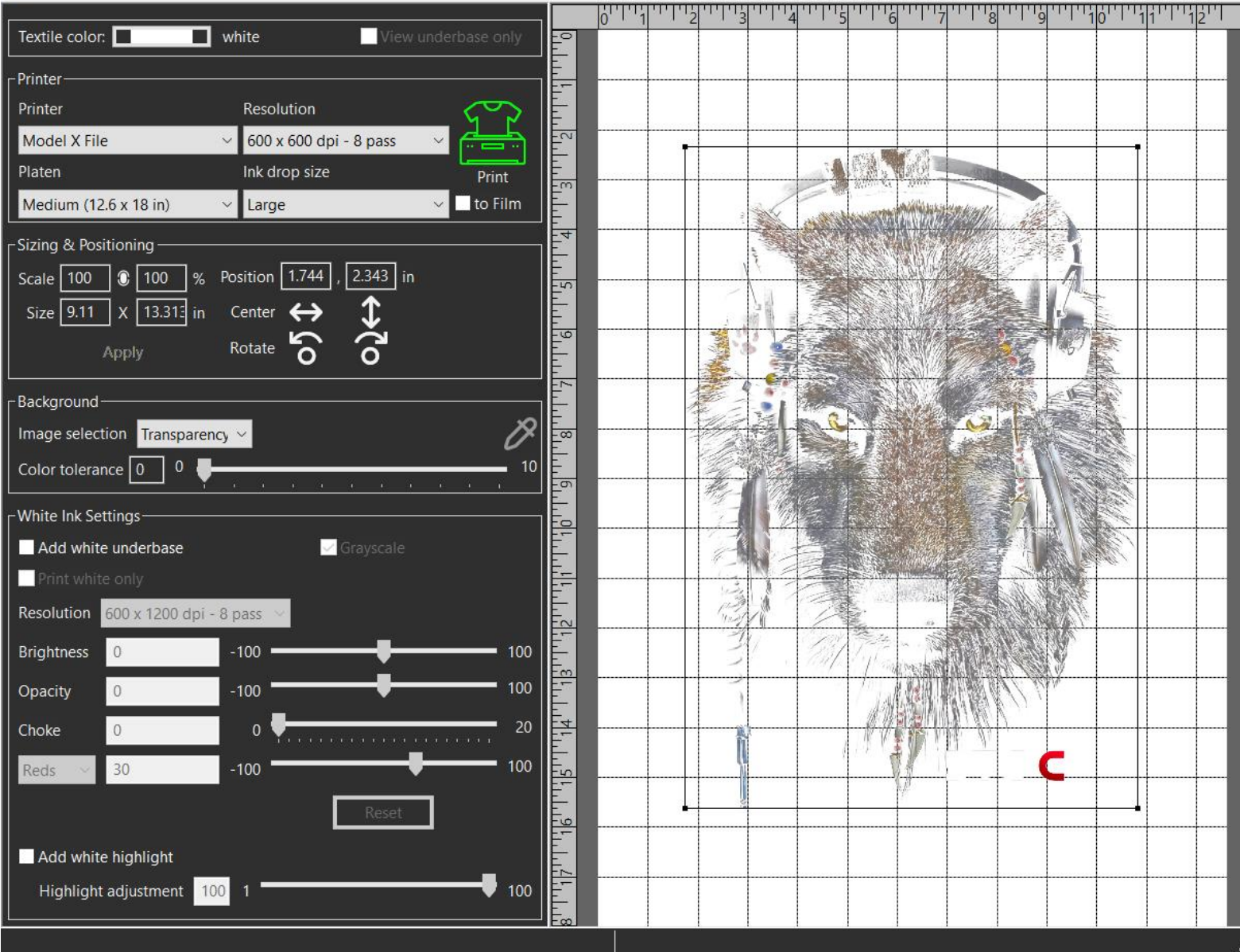
Sizing
- Scale (Size by percentage) Leave the oval checked to keep aspect ratio of image
- Size (You can type in size by inches here)
- **Must hit APPLY to confirm the changes**

Position
- X offset (left to right)
- Y offset (top offset)
- You can center or rotate graphics simply by hitting the according buttons

Turbo RIP - Untitled

File   Help

Textile color: [____] white   ☐ View underbase only

Printer

Printer   Resolution
[Model X File   ▾]   [600 x 600 dpi - 8 pass   ▾]

Platen   Ink drop size   Print
[Medium (12.6 x 18 in) ▾]   [Large   ▾] ☐ to Film

Sizing & Positioning

Scale [100] 🔘 [100] %   Position [1.744] , [2.343] in

Size [9.11] X [13.313] in   Center ⟷ ↕

Apply   Rotate ↺ ↻

Background

Image selection [Transparency ▾]   🖉

Color tolerance [0]   0 ▬▬▬○▬▬▬▬ 10

White Ink Settings

☐ Add white underbase   ☑ Grayscale

☐ Print white only

Resolution [600 x 1200 dpi - 8 pass ▾]

Brightness [0]   -100 ▬▬▬○▬▬▬ 100

Opacity [0]   -100 ▬▬▬○▬▬▬ 100

Choke [0]   0 ○▬▬▬▬▬▬▬ 20

[Reds ▾] [30]   -100 ▬▬▬▬▬○▬ 100

                     [Reset]

☐ Add white highlight

Highlight adjustment [100]   1 ▬▬▬▬▬▬○ 100

Background
- Gives you capability to remove solid background off a graphic. Take the eyedropper tool and select the color you want to remove then move the Color Tolerance slider up to 10 to remove it cleanly.
- Doesn't work with all backgrounds, best to do it beforehand in graphics program

White Ink Settings
- Check the **ADD WHITE UNDERBASE** box to activate the white ink
- Leave **GREYSCALE** checked to save on ink cost
- Select **PRINT WHITE ONLY** if you don't want a color pass on a graphic

Resolution
- Option to choose between 4 pass or 8 pass white
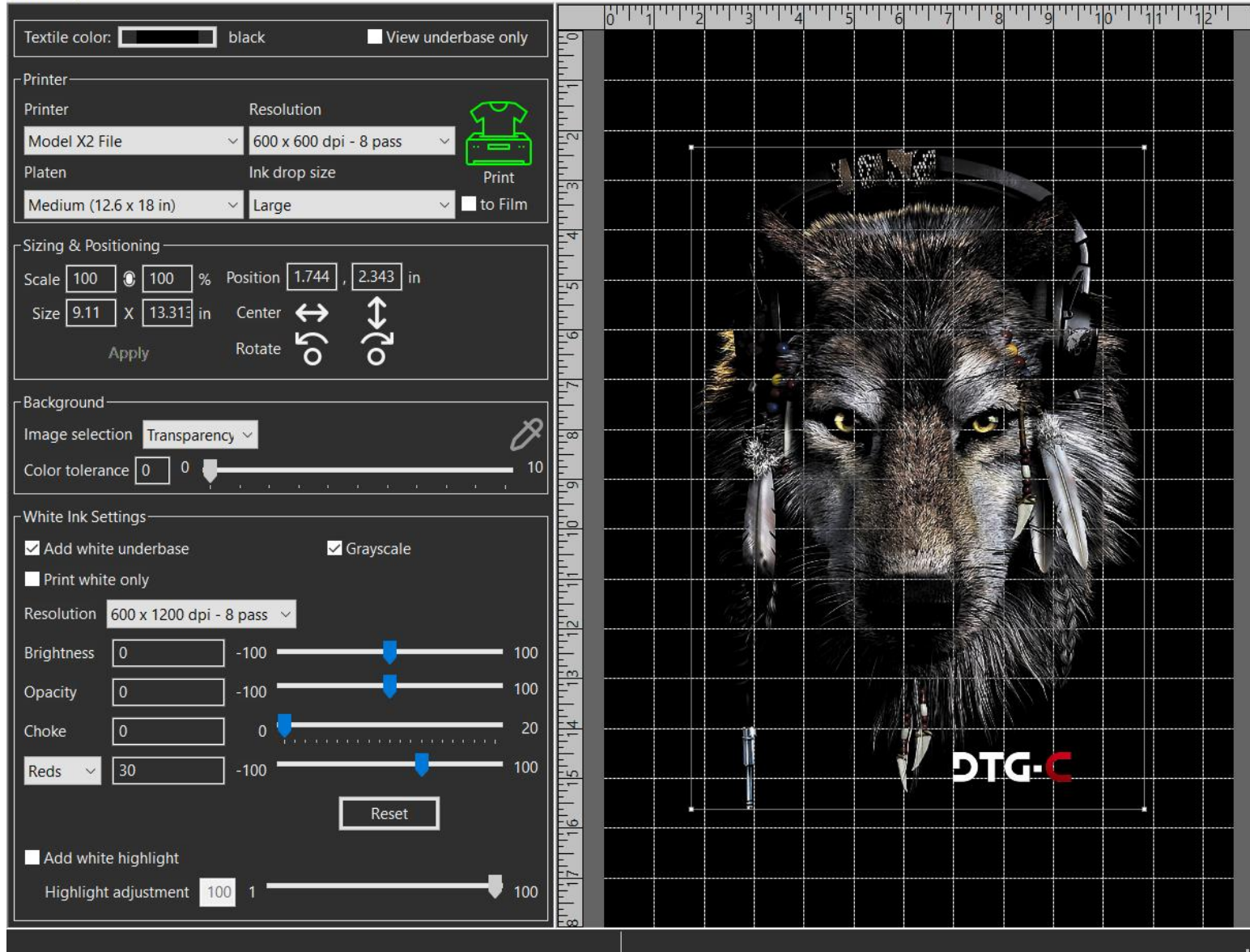- 8 pass is recommended for high quality white

White Ink Adjustments
- **Opacity**: If you have an image that has feathered edges, move the slider to -20 so the white will have a soft edge like the color
- **Choke:** If you are getting an unintended white stroke around your entire image, you can reduce the white ink by raising the choke.
- **The drop down menu** allows you to increase or decrease the amount of white beneath those color channels.

Background
- Check **ADD WHITE HIGHLIGHT** if you want to add a 2nd layer of white onto 100% white areas of your print
- Use the adjustment slider to customize how much highlight you want. (I suggest starting at 30)

Turbo RIP - Untitled

File   Help

Textile color: ▓▓▓ black   ☐ View underbase only

Printer

Printer   Resolution
Model X2 File   600 x 600 dpi - 8 pass
Platen   Ink drop size   Print
Medium (12.6 x 18 in)   Large   ☐ to Film

Sizing & Positioning

Scale [100] [100] %   Position [1.744] , [2.343] in
Size [9.11] X [13.313] in   Center ↔ ↕
Apply   Rotate ↺ ↻

Background

Image selection [Transparency ▾]
Color tolerance [0] 0 ━━●━━━━━━ 10

White Ink Settings

☑ Add white underbase   ☑ Grayscale
☐ Print white only

Resolution [600 x 1200 dpi - 8 pass ▾]

Brightness [0] -100 ━━━━●━━━━ 100
Opacity   [0] -100 ━━━━●━━━━ 100
Choke   [0]   0 ●━━━━━━━━ 20
[Reds ▾] [30] -100 ━━━━━━●━━ 100

Reset

☐ Add white highlight
Highlight adjustment [100] 1 ━━━━━━━━━● 100

Operation Display

1. Status bar

Press/Drag down the status bar to open the status screen menu.

2. Machine status

There are 4 possible colors.

Green: The printer is fully functional.
Yellow: The printer is fully functional, but there is a warning on the status screen.
Red: The printer is in an error state where printing and auto maintenance
are not functional, which may lead to damage of the printer.
White: The printer is busy with some function such as printing or maintenance.
Displays the print progress during printing

3. Printing the image preview

Displays the printing image preview.

4. Number of prints

When printing the same image multiple times, specify the
number of prints. Displays the number of prints if it has been
specified on Turbo RIP.

5. Machine information

Displays the printer temperature and humidity, the amount of ink in ink cartridges, and
the waste ink bottle capacity level.

6. [STORED JOB]

You can check the recent images used for printing and print directly from the stored
folder or from jobs sent via network cable.

7. [USB]

You can choose a print job from a
USB device. Supported file type:
Files with the extension ".prn"

8. [SET]

Press to move the platen to the printable position.
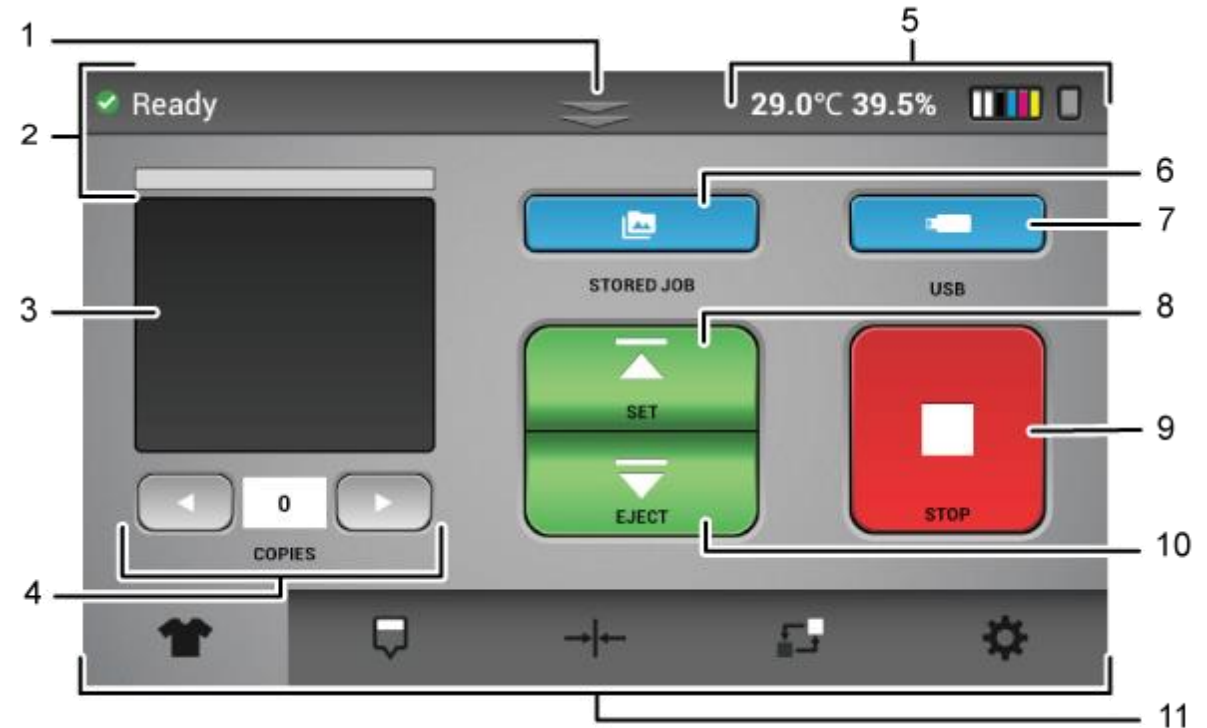
9. [STOP]

Stops any current movement of the platen and allows you to cancel the print job.

10. [EJECT]

Press to eject the platen from the printable position so that the media can be placed on
the platen.

11. Function Tabs

Switches the menu displayed on the touch screen.

EGU033

Status Display

1. Status details

Displays the printer status in detail and shows any warnings or errors.

2. Ink status

Displays the current ink percentage levels in each installed cartridge. Each ink appears as their respective colors. Cleaner cartridges are displayed as clear. If no cartridge is installed, X and NC appear.

3. Waste ink bottle status

Displays the status and fill percentage of the waste ink bottle.

4. [WASTE INK RESET]

Reset the counts of the waste ink bottle. Press [WASTE INK RESET] to reset the percentage back to 0% after the waste ink bottle is manually drained/emptied.
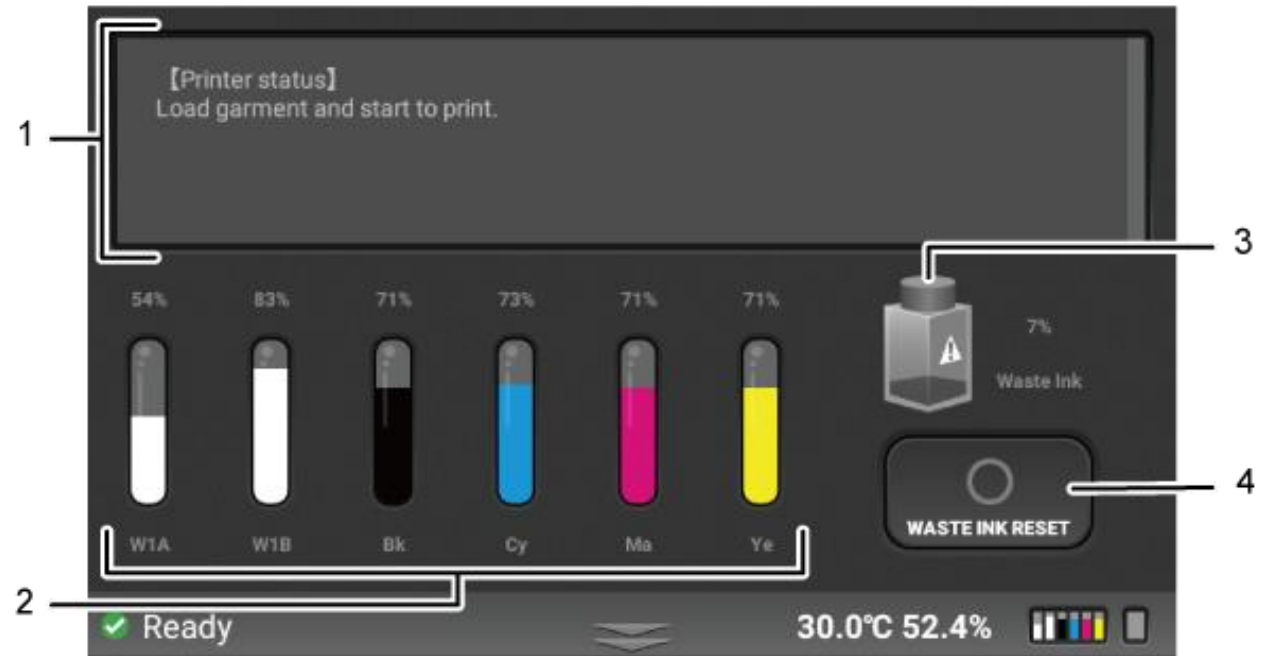
IMPORTANT!

Resetting the waste ink without actually emptying the waste ink bottle can result in the ink overflowing from the waste ink bottle. Also, if the waste ink bottle is full (100%), the machine will be in an error state, and the auto maintenance will not be performed. This could cause damage to the machine.

Maintenance Screen

1. [NOZZLE CHECK]

Prints a nozzle check pattern result. It is recommended that this is performed daily to monitor the printer.

2. [AUTO HEAD CLEAN]

Performs head cleaning automatically using systems components.

3. [REGULAR MAINTENANCE]

Allows the carriage to be released. The front cover can be opened in order to manually clean the print heads (during maintenance or troubleshooting) and the maintenance station.

EGU034

Settings Tab

1. [INK PATH CONTROL]

Performs the ink path control. If you press this button, you can flush the printer.

2. [OPTION]

You can change the following settings via the Option screen.

-Set IP Address
-Drying Time
-White Amount Adjustment

3. [INFORMATION]

Displays the general information of the printer such as Serial #, Control panel firmware version, Engine (CTL) firmware version, and Sub control board firmware version.

How to Perform a Nozzle Check

Place transparency sheet onto the table platen
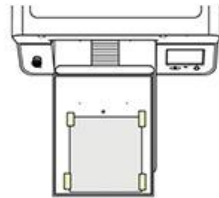
1. Prepare the A4 transparent media to check nozzle condition (to check white nozzle, transparent media is required).
2. Prepare medium-size platen. Nozzle check pattern is based on medium platen, aligned on top-center. (Additionally, all built-in patterns are based on this platen).
3. Attach media on the platen aligned top center using masking tape or sticky spray.
4. Move the platen to the printing position, press [Nozzle Check] button.
5. And check the results of printed nozzle check pattern.

Press the Maintenance tab

Press [Set]

Press [NOZZLE CHECK]

Press [YES] and check results of printed pattern

If there is a problem with the nozzle check pattern, check the head number. Then, perform AUTO CLEAN for the head.

You are looking for major breaks or gaps within the pattern to help determine whether you need to do an AUTO HEAD CLEAN

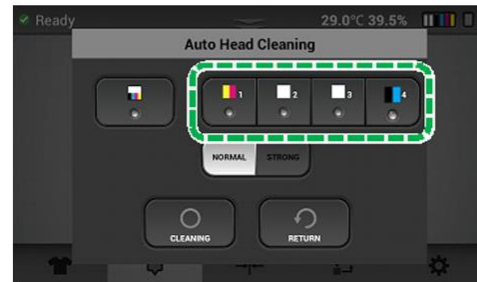# Auto Head Cleaning

Press the Maintenance tab

Press [AUTO HEAD CLEAN]

Press the head number to clean

Press [NORMAL] or [STRONG]

NORMAL: For small or minor missing nozzles in the nozzle check
STRONG - For large missing nozzles in the nozzle check

Press [CLEANING]
Perform another nozzle check

In accordance with Steps 1 to 5,
select the head still affected by nozzle clogging
and perform the cleaning again.
If the problem persists even by using [NORMAL],
execute [STRONG] cleaning. If nozzle clogging
persists even after executing [STRONG] cleaning
multiple times (3 to 5 times), wait for 6 hours or
longer and then retry the [STRONG] cleaning

Adjusting Table Height

Adjust the height of the platen by turning the height adjustment knob under the platen.

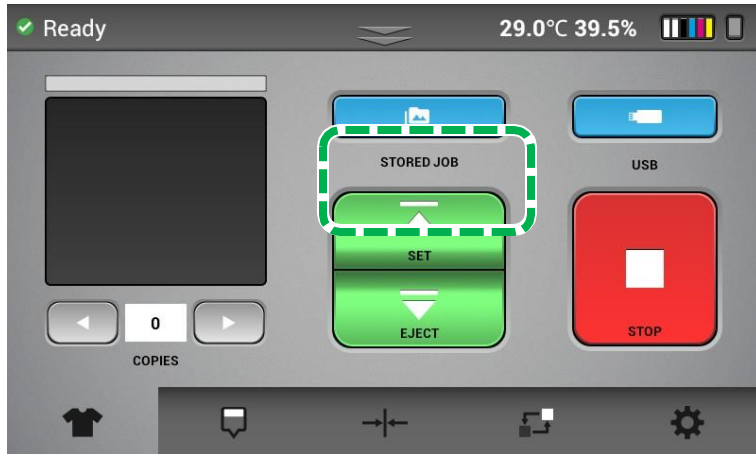-To lower the platen, turn the height adjustment knob clockwise
-To lift the platen, turn the height adjustment knob counterclockwise.

Important!
If the garment is not flat, the platen height will not be set properly and will not print properly. Be sure to flatten the garment.
Having the head too far away from the printing surface can cause poor prints in addition to interfereing with the encoder function, causing an error due to excessive ink mist. This can also cause damage to other components. It is important when changing from a thicker fabric to a thinner fabric that the height adjustment of the platen must be peformed.
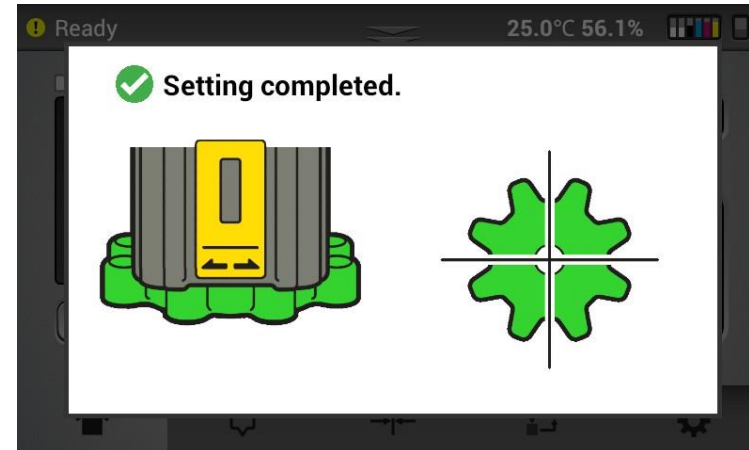
1. Press the [SET] button to send platen in with flattened garment loaded

2. If there is a problem with the height, the screen below will appear and prompt you to turn the height adjustment knob
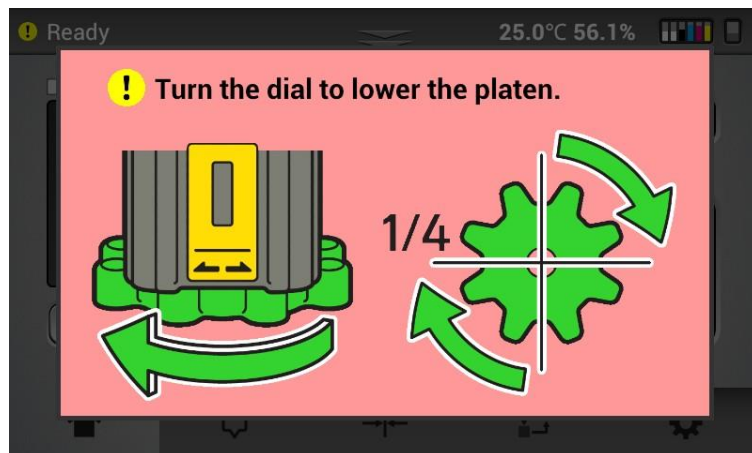
3. Keep turning the height adjustment knob until the following screen appears

4. Press the [SET] button to send platen in with flattened garment loaded

If the red screen appears again, turn the height adjustment until the white screen appears.

Repeat Step 4 until the platen is fully accepted into the machine.

PRINTING - BEST PRACTICES

Always press the shirt 5-10 seconds before printing. This will remove the moisture and lay down all fibers on the shirt.

Be sure not to touch the area where the print will go after you press. If you do, the fibers of the shirt will stick back up.

Lay the shirt on the platen with the collar on closest edge to you. Make sure the collar falls off the edge of the platen.

After you put the hoop on, look at the shirt to see if there are any raised bumps. If so, gently pull the sides and corners of the shirt to flatten it.

Make sure the print area is always raised above the seams of the shirt by using the correct platen or placing something underneath.

THANK YOU!

FOR MAINTENANCE VIDEOS / TIPS & TRICKS / VISIT OUR YOUTUBE CHANNEL

HTTPS://WWW.YOUTUBE.COM/@DTGCONNECTION2584