

# VJ-405GT

## Layout and Print Tool White Printing Guide

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# 1. Introduction

This manual explains the white printing procedure using Layout and Print Tool (referred to as “Layout Tool”) in VJ-405GT.

The supported application version is Ver.3.4.0 or later.

For the condition of use, see the Layout Tool Operation Manual.

## 2. White Printing Settings

### 2.1 Image Data

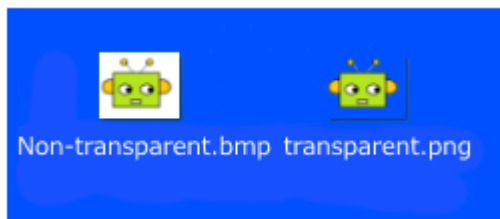
Following two types of image data are commonly used:

- Image data with transparency
- Image data without transparency

The image format (extension) supported by Layout Tool is as below:

Image type	Image format (extension)
Image data with transparency	PNG, TIF
Image data without transparency	BMP, JPG

If you want to check whether your image contains the transparent objects or not, copy it to your desktop.

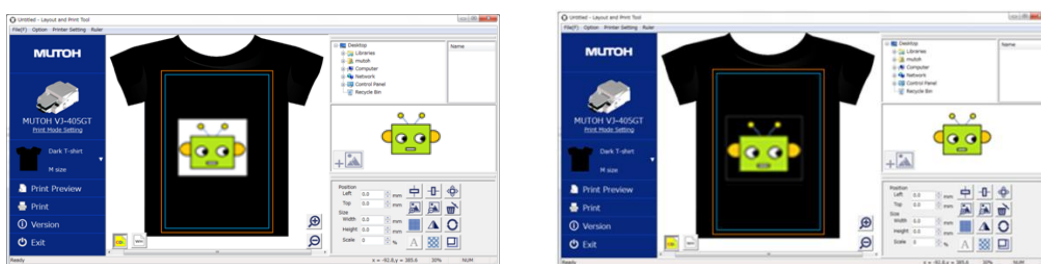


#### Note

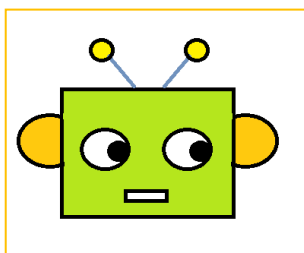
If the image contains small transparent objects, you cannot find it with above method.

- Use 24-bit RGB color model for color data and 32-bit RGBA color model for transparent data.
- Convert a CMYK file into a RGB file.
- For more details, read Layout Tool Operation Manual.

Layout Tool views the image preview as below to allow users to easily determine the image type.



The image is displayed as below example. The light orange frame indicates the outer frame of the image which is not printed in the actual printing.



## 2.2 Layout Tool Operation

### Platen Templates

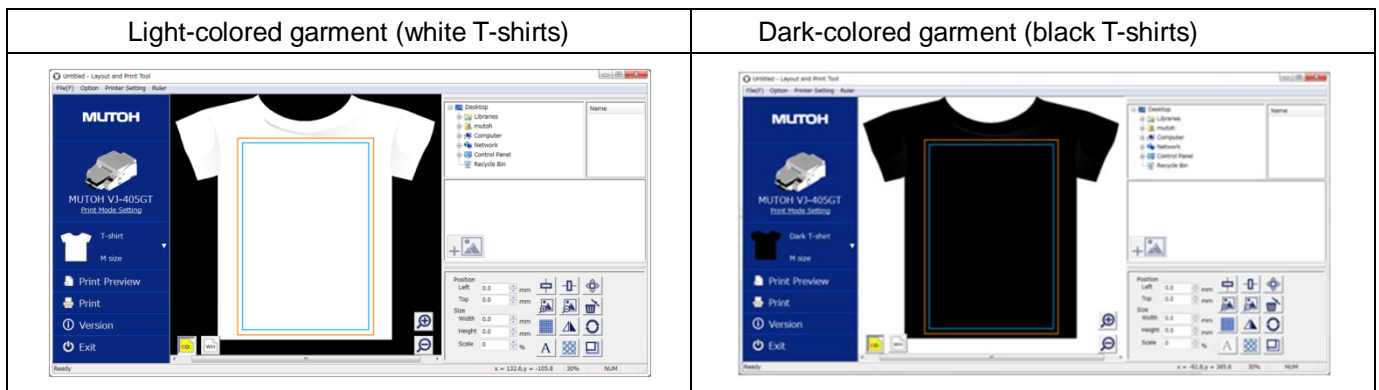
Layout Tool offers two types of the platen template. For color printing, choose the template for light-colored garment. For white printing, choose the template for dark-colored garment.

In each procedure below, the appropriate platen template to choose is described in the Print Setting as below.

\*In this document, we will use the platen template for dark-colored T-shirts.

#### Print Setting:

Platen Template	Dark-colored garment (Light-colored garment)
-----------------	---



### Edit Areas

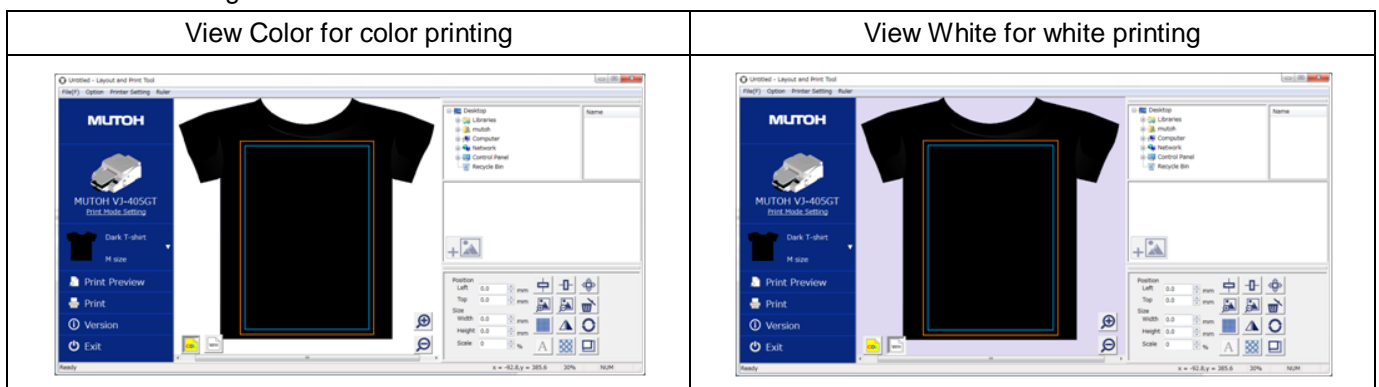
Layout Tool has two types of edit area.

In each procedure, the appropriate edit area is described in the Print Setting as below.

#### Print Setting:

Edit Area	View Color (View White)
-----------	-------------------------

For dark-colored garment:



## 2.3 Layout Tool Settings

### Choose fabric type:

For white printing, make sure to select Dark-Colored Garment.

Fabric Dark-Colored Garment

**Print Mode**

**Color Printing**

☐ Fast ☒ Fine ☐ Super Fine

Ink Adjustment - 0

**Color Balance**

Cyan: - 0 +

Magenta: - 0 +

Yellow: - 0 +

Saturation: - 0 +

Contrast: - 0 +

Brightness: - 0 +

Gamma: 0.1 1.0 2.2

**White Printing**

☐ Fast ☒ Fine ☐ Super Fine

Ink Adjustment - 3

☐ Choke edges 0.10 mm

**Printing method** Underbase Image

**Fabric** Light-Colored Garment

**Head Gap** ☒ Normal ☐ Large

**Layer Handling**

☐ By Touch Screen ☐ Double Color ☐ Double White Advanced Settings

☒ By Delay Timer Dry Time 0 0 Sec

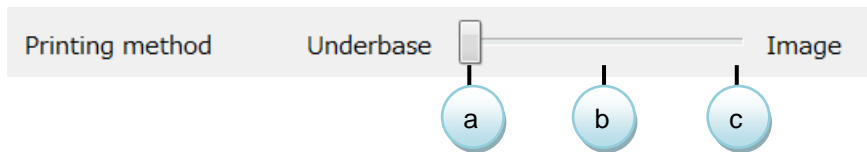
**Default**

Save Open/Delete Restore Defaults

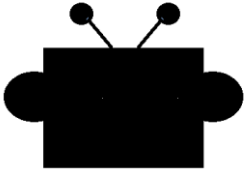
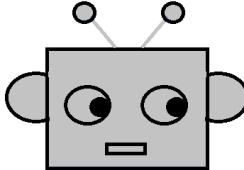
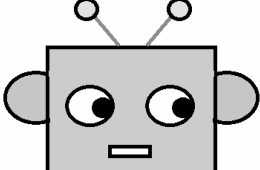
Apply Cancel

## Printing Method

In white printing, choose between Underbase and Image to adjust white ink density and gradient of image.



Using the slider control, you can choose from following three settings:

	a) Underbase	b) Light underbase	c) Image
			
White Printing	Print solid white underbase without a gradient of image.	Print white underbase with less ink density. Not appropriate for white printing only.	Print white ink with a gradient of image. Appropriate for Black & White printing.
Color-on-White Printing	Color printed on top appears brighter. Since the printed area becomes thicker, it may affect the garment texture or impression.	Color printed on top appears lighter. The garment texture or impression can be remained.	Adjust contrast setting for your design.

### Note







For the image preview, see **Print Image Examples** or **White Preview Examples** in the next page.

In each procedure, the appropriate printing method is described in the Print Setting as below.

### Print Setting:

Printing Method	Underbase, Light underbase, Image
-----------------	-----------------------------------

Print Image Examples

	Underbase	(Light underbase)	Image
White Printing			
Color-on-White Printing			

Note

Output result depends on an image data, type of fabric or ink density setting.

White Preview Examples

Underbase	(Light underbase)	Image
		

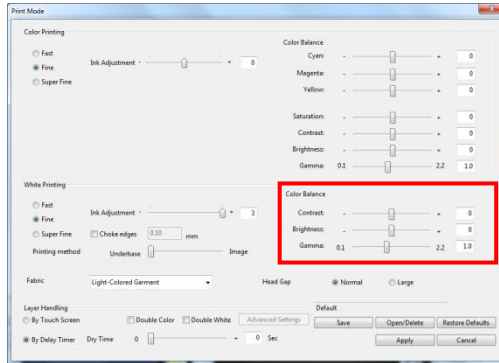
Note

- The Printing method setting is only reflected to the white image preview.  
The following settings are not reflected to the preview: print quality, ink density, choke edges, color balance and media profile.
- Output result may differ from preview. Please use it as reference.

## Note

With the Image printing, the black or dark color object may be difficult to see due to automatically reducing the white ink density. In this case, adjust the contrast setting with the following methods.

- Lower the contrast value from Color Balance.



If you choose 'Image' from Printing method, the contrast value is automatically set to +20.



The optimal contrast value depends on image data.

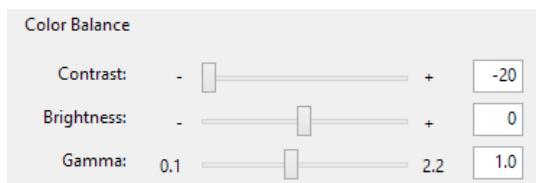
1. Slightly adjust the contrast value from +15 to +20.

If you want to keep the gradient of the image, follow this step.

2. Lower the contrast value by -20.

The black or dark color object can be more visible or brighter.

The white underbase will be thicker than those of 'Light underbase'.

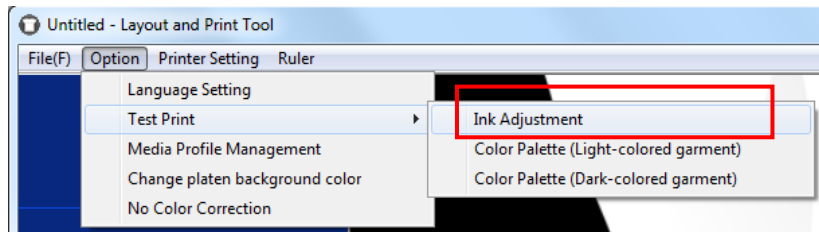


- Adjust the image or transparent color from your graphic application.  
\* Other option: Create the different image for Underbase and Image (requires effort to prepare 2 different images for white underbase).

## 2.4 Ink Adjustment

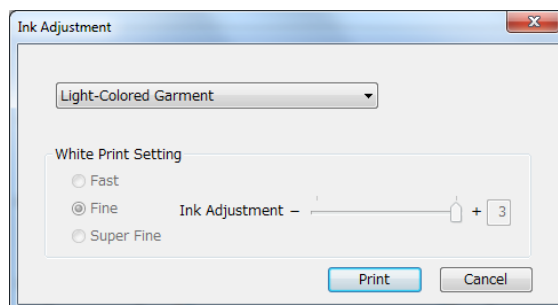
To determine optimum ink density for the garment, perform test printing of the ink adjustment patch pattern onto a new garment.

Select Option > Test Print > Ink Adjustment.



Select a type of fabric and then click **Print**.

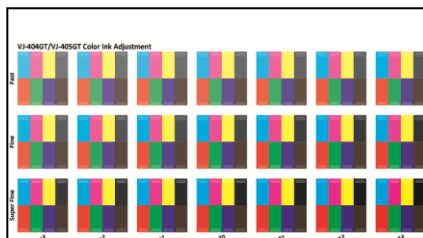
For details, see the VJ-404GT/405GT Operation Manual “Adjusting density of white (VJ-405GT)”.



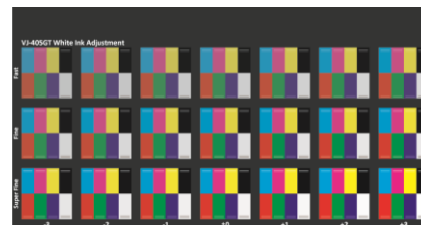
### Print Image

Light-Colored Garment

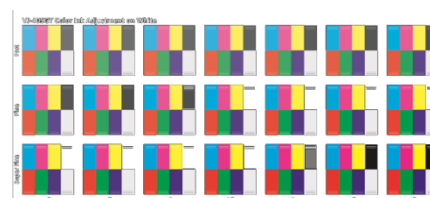
Light-Colored Polyester



Dark-Colored Garment (White Ink Adjustment)



Dark-Colored Garment (Color-on-White Ink Adjustment)



### Note

The size of this patch pattern is 266mm x 120mm. Use the Mutoh Platen M or larger one.

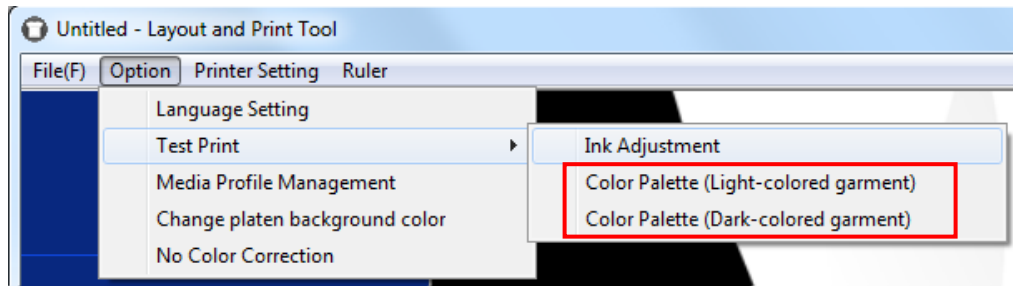
The patch pattern is printed with all ink density levels per print mode. Depending on a type of garment being used, ink may stain on the platen through the garment. In that case, wipe off the ink stains on the platen.

## 2.5 Color Palette Printing

To see how the RGB color on your monitor appears on the garment, perform the color palette printing after the ink adjustment.

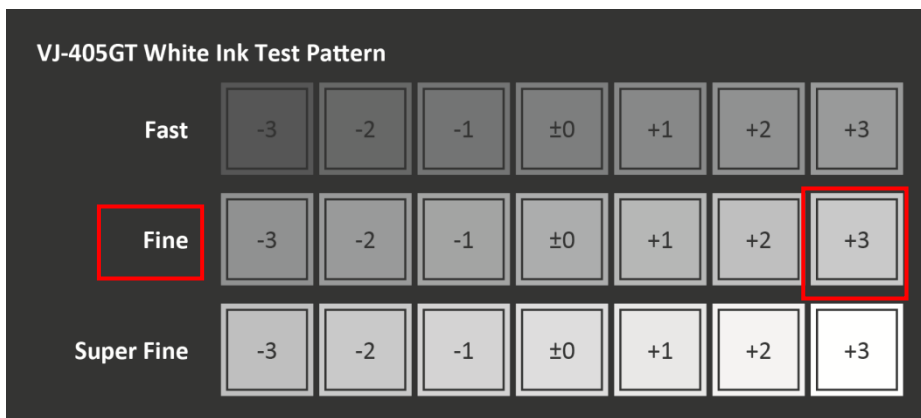
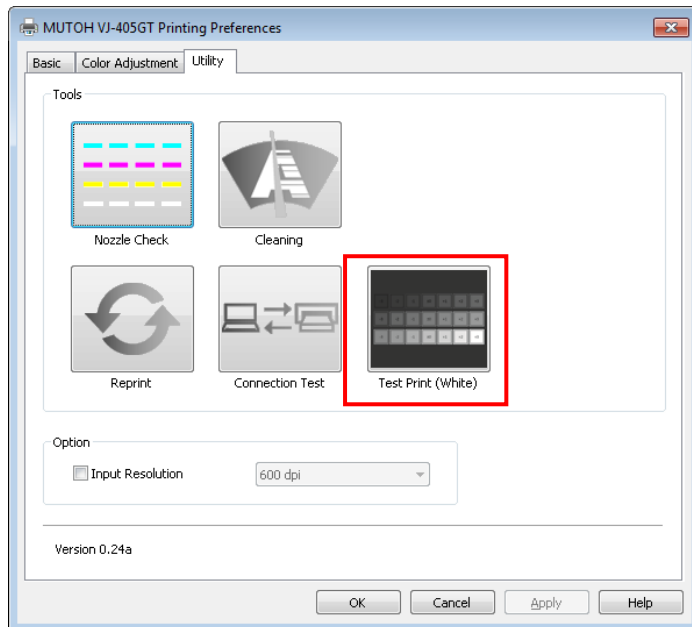
For the procedures, see *7-2 Color Palette* in Layout Tool Operation Manual.

For white printing, choose the color palette for Dark-colored garment.



## 2.6 White Ink Adjustment (Printer Driver)

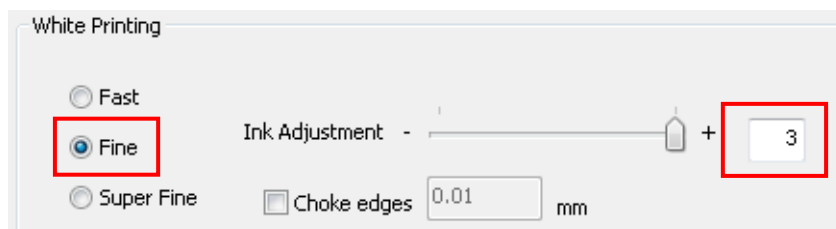
To determine the optimum white ink density, perform test printing when using a new type of garment.



The test printing area: 141x58mm, the center front in the platen

Check the actual test sample to determine the optimum density.

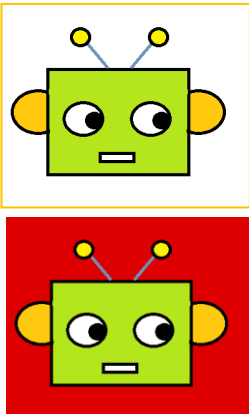
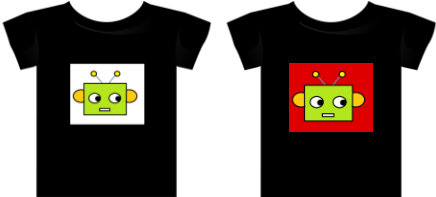
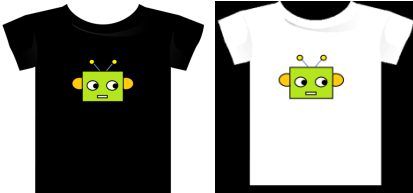
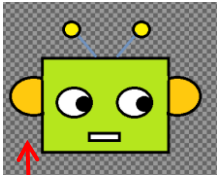




Then, adjust the ink density in the menu below.



## 3. Basic White Printing

### 3.1 Image Data and Print Image

Depending on an image data you have and a print image you want, refer to the appropriate chapter of this manual as below.

Image Data	Print Image	Refer to
Data WITHOUT transparency 	Print the subject with the background color. 	3.2 Basic Color-on-White Printing Method
	Make background transparent 	Printing Image without Transparency Make Specific Color Transparent
Data WITH transparency  <div data-bbox="255 1417 461 1547" style="border: 1px solid red; padding: 5px; margin-top: 10px;">             Grey checker board pattern (Transparent area)           </div>	Print the subject with the background color. 	See Note in Make Specific Color Transparent
	Make background transparent 	3.2 Basic Color-on-White Printing Method Printing Image with Transparency
Text data  MUTOH MUTOH MUTOH		Printing Text
		Printing Text in White or Color

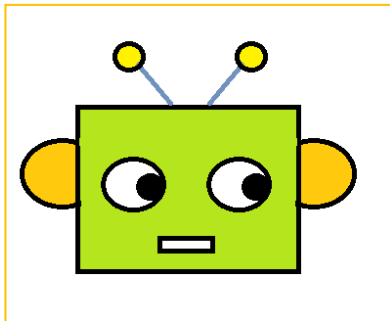
## 3.2 Basic Color-on-White Printing Method

This chapter explains the basic operations of Layout Tool.

For the advanced operations, see the Layout Tool Operation Manual.

### Example:

Image



Print Image

Image data with transparency



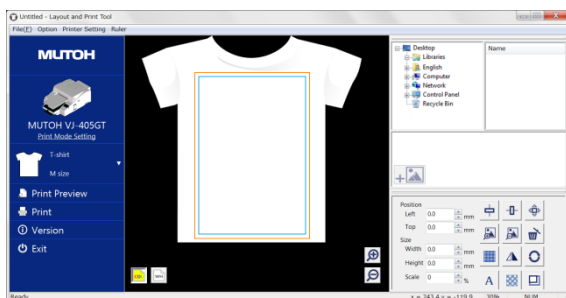
Image data without transparency



### Print Settings:

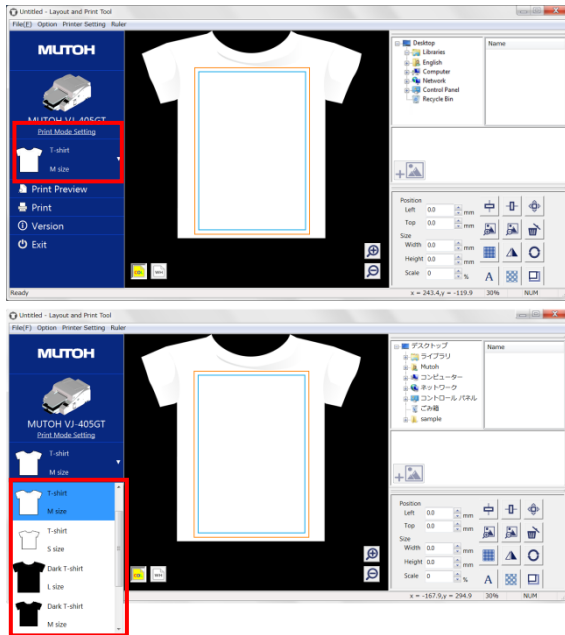
Platen Template	Dark-colored garment
Printing Method	Underbase, Light underbase, Image
Edit Area	View Color

[1]



Start Layout Tool.

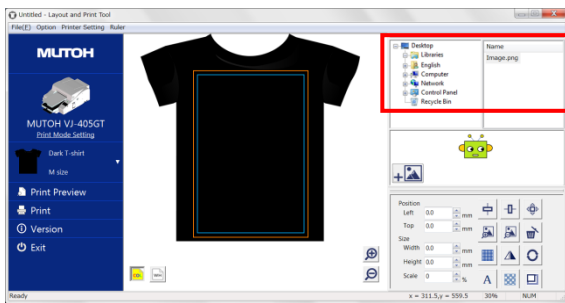
[2]



Choose the platen template from the menu on the left.

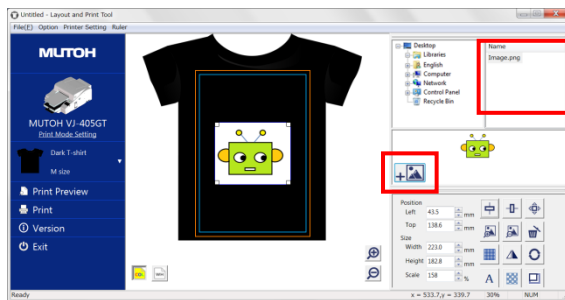
In this chapter, choose **Dark T-shirt M size**.

[3]



Search the image file from the folder tool.

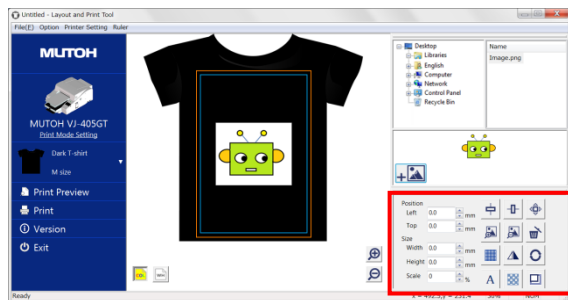
[4]



Select the image file to insert into the edit area.

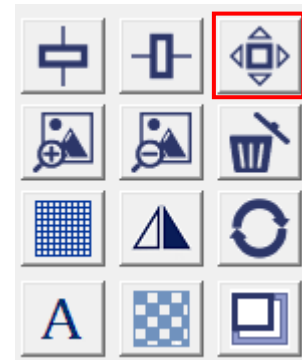


[5]

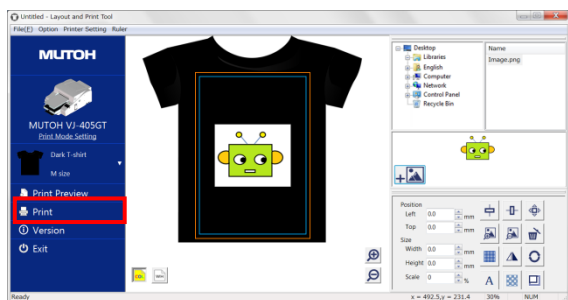


The image is inserted into the center of the edit area.  
Align the image placement with the edit buttons on the lower right.

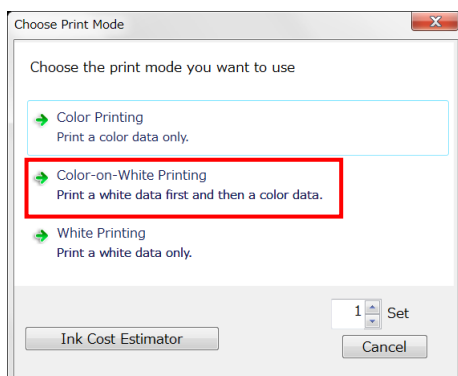
Click the button below to optimize the image to the largest size such that fits entirely within the printable area and centers the image.



[6]

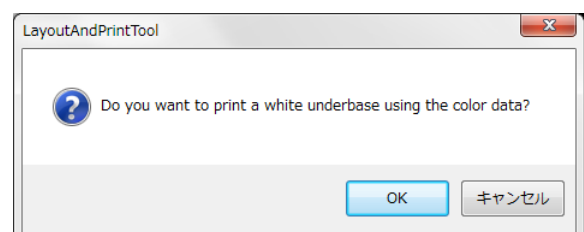


Click **Print**.



Choose **Color-on-White Printing**.

The following dialog appears. Click **OK**.

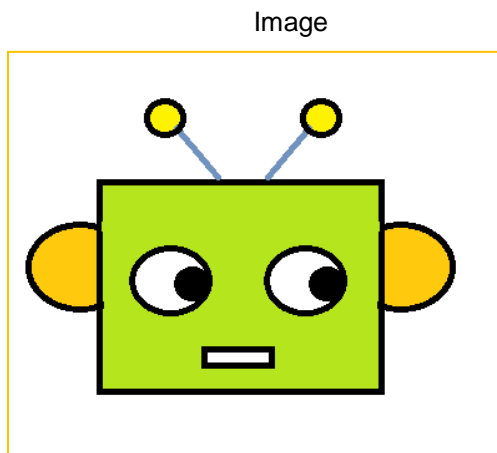


## 4. Printing Image without Transparency

### 4.1 Background Transparency (Procedure 1)

Follow the procedure below to achieve the background transparency using an image data without transparency.

#### Good example:



Print Image



#### Bad example:

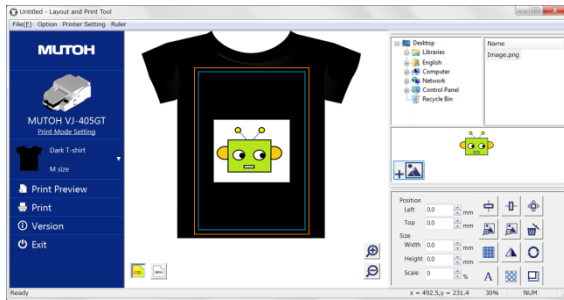
Background transparency is failed.



#### Print Settings:

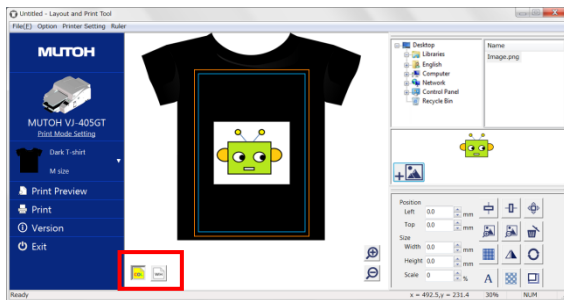
Platen Template	Dark-colored T-shirt
Printing Method	Underbase (Super Fine)
Edit Area	View Color and View White

[1]



Insert the image data into the edit area according to the above basic operation procedure.

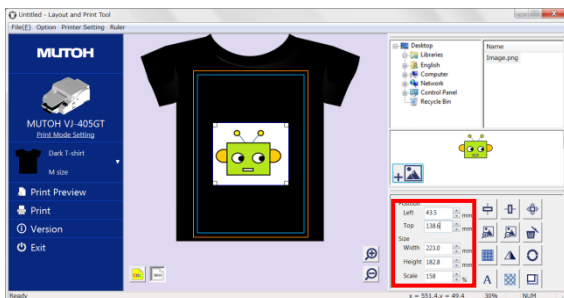
[2]



Click **View White** to switch the edit area to View White.



[3]

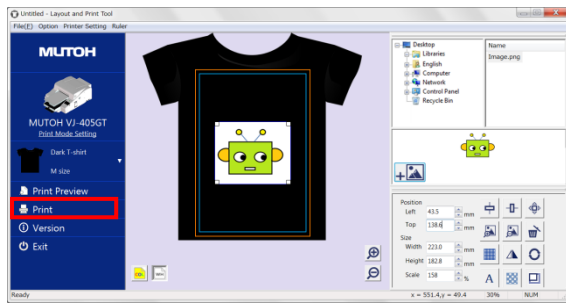


Follow the Step 1 to insert the same image data into the edit area.

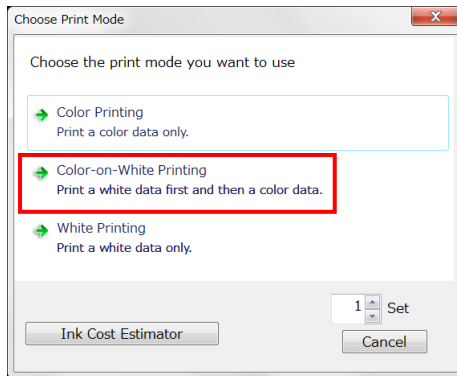
Adjust position and size below to make sure both data are placed on the exact same position with same size.

Position	
Left	43.5 mm
Top	138.6 mm
Size	
Width	223.0 mm
Height	182.8 mm
Scale	158 %

[4]



Click **Print**.

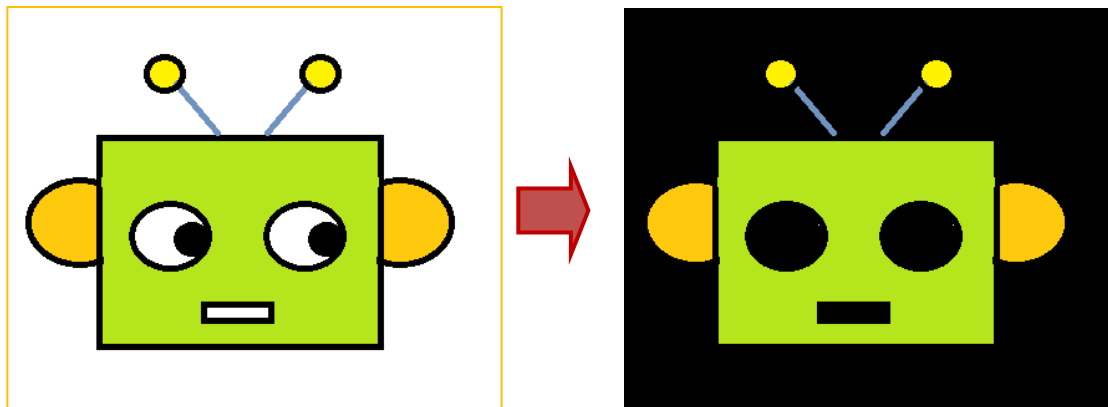


Choose **Color-on-White Printing**.

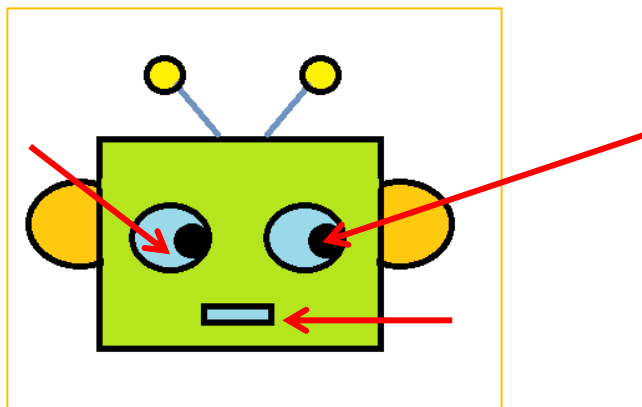
## 4.2 Background Transparency (Procedure 2)

When using an image data without transparency, background transparency may not be achieved with above Procedure 1.

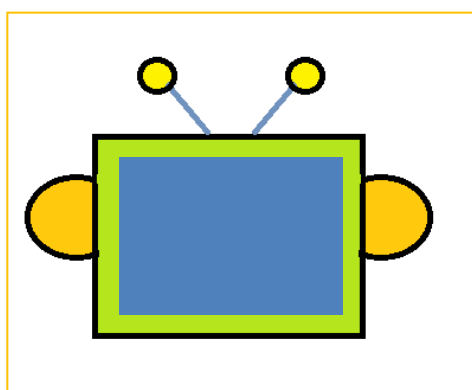
In the Procedure 1, since only color objects are printed with white underbase and color ink on the top, white objects in eyes and mouth are not printed with white ink as shown below.



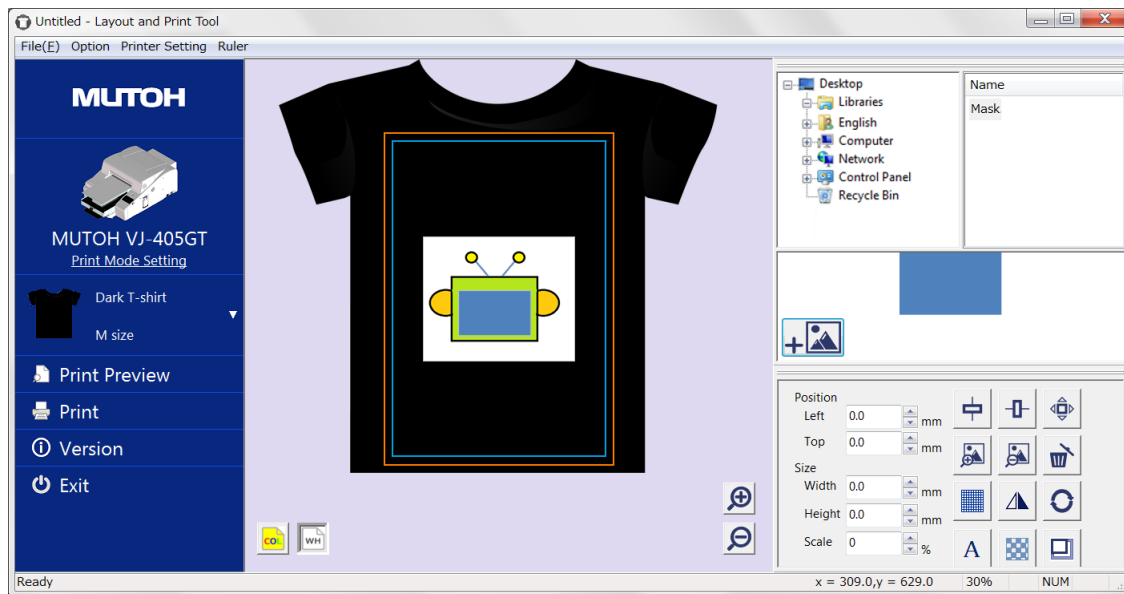
In this case, copy the image data and fill the white objects with other color (as show below). Insert this image data into the View White.



If it is difficult to fill the white objects, create a solid colored image to overlay on the white objects of the image data in View White.

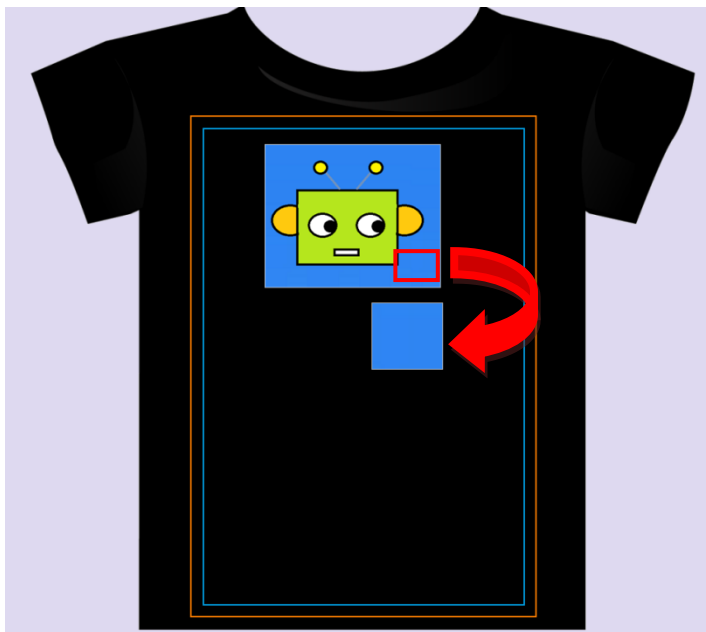


Or you can just insert any picture which does not contain white objects to overlay on the top of white objects of the image data in View White.



You can also crop the image to overlay on the white objects.

For the cropping function, see 8-16 Crop Image in Layout Tool Operation Manual.



#### Note

Any objects with RGB value other than 255,255,255 are printed with white ink.

## 4.3 White Logo Printing

To print a white logo on a garment, follow the procedure below.

### Example:

Image



Print Image



### Print Setting:

Platen Template	Dark-colored T-shirt
Printing Method	Underbase
Edit Area	View White

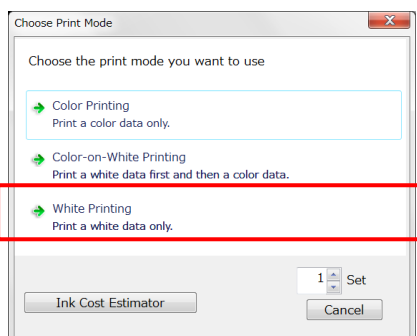
[1]



Switch the edit area to View White.

Select a logo data from the folder on the right and insert it into the edit area.

[2]



Click **Print**.



Choose **White Printing** to start printing.

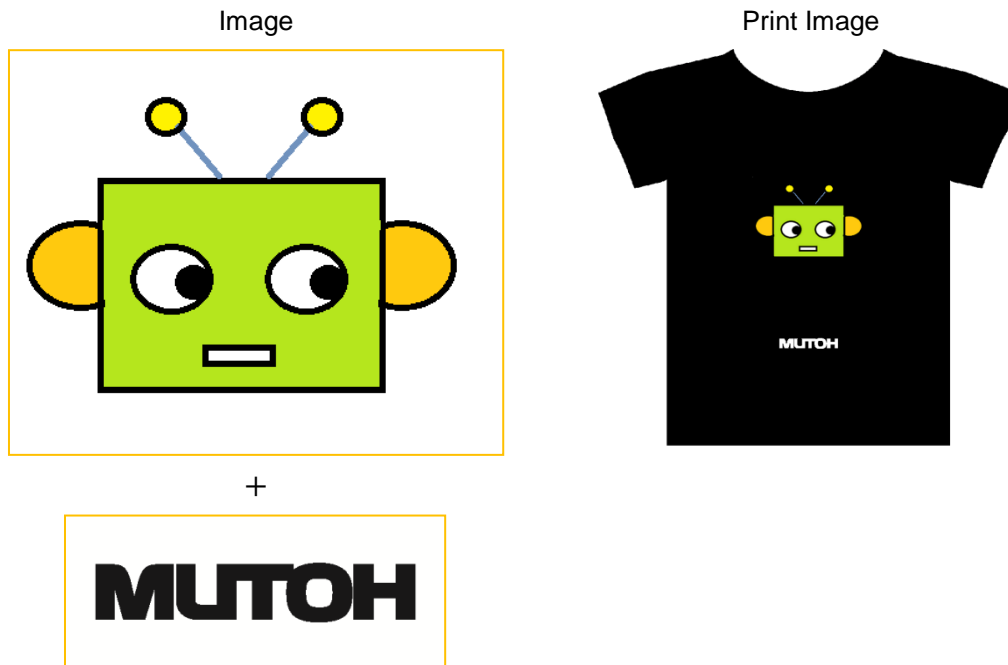
### Note

Any objects with RGB value other than 255,255,255 are printed with white ink.

## 4.4 Image & Logo Printing

To print an image data and a white logo on a garment, follow the procedure below.

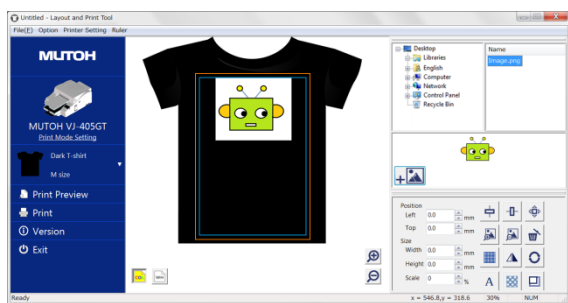
### Example:



### Print Settings:

Platen Template	Dark-colored garment
Printing Method	Underbase
Edit Area	View Color and View White

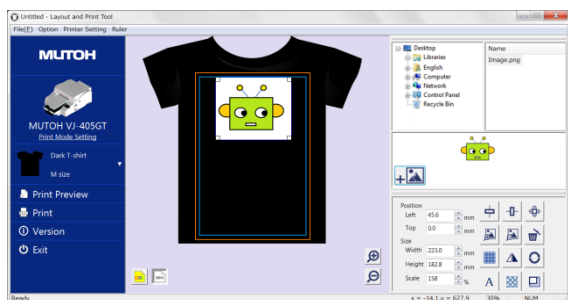
[1]



Switch the edit area to View Color.

Select an image data from the folder on the right and insert it into the edit area.

[2]

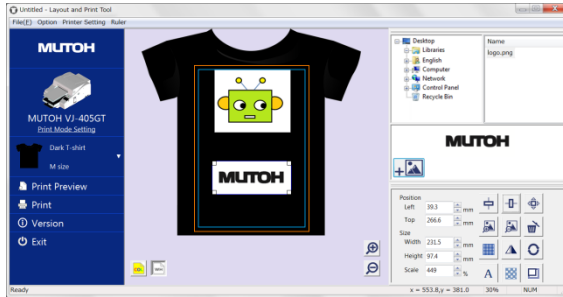


Click on View White from the menu on the left to switch the edit area to View White.

Insert the same image data into the edit area.

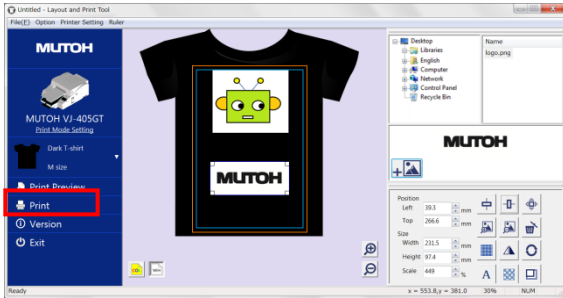
Using the Position and Size settings, make sure both data are placed on the exact same position with same size.

[3]

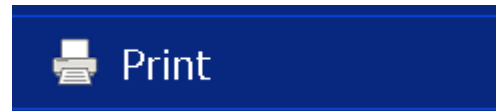


In the View White, insert a logo data into the edit area.

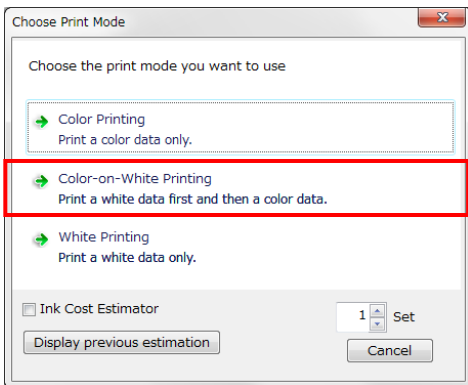
[4]



Click **Print**.



Choose **Color-on-White Printing**.



# 5. Printing Text

## 5.1 Printing Text in White or Color

To print text in white or color on dark-colored garment, follow the procedure below.

For details of how to insert text, see the Layout Tool Operation Manual.

### Example:

Image

MUTOH

MUTOH

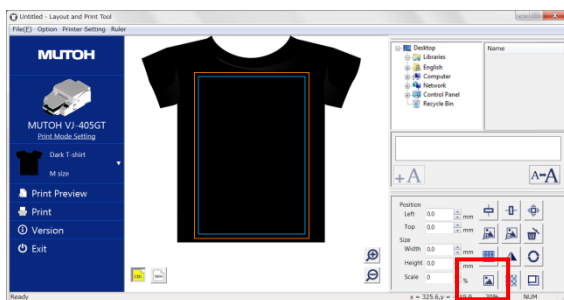
Print Image



### Print Settings:

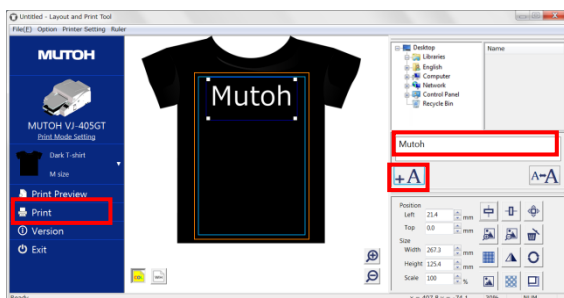
Platen Template	Dark-colored garment
Printing Method	Underbase, Light underbase, Image
Edit Area	View Color

[1]



Click the Image Preview/ Text Edit Window button to switch the pane to Text Edit Window.

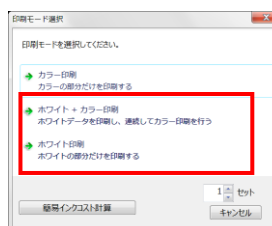
[2]



Enter your text and then click the Insert/Update button to insert it into the edit area. Change the position and font style of the text as you want.

Click **Print**.

- To print text in color, choose **Color-on-White Printing**.
- To print text in white, choose **White Printing**.



## 5.2 Printing Text with White Background

When you print a dark-colored text on a dark-colored garment, sometimes the text is not clearly visible on the garment. In that case, you can add white background to make it more visible.

Dark-colored text on dark-colored garment



Dark-colored text with white background on dark-colored garment



If you want to add text effects, create the text effect data with transparency using graphic software and then follow the steps in 6. Printing Image with Transparency to print on your garment.

### Example:

Image

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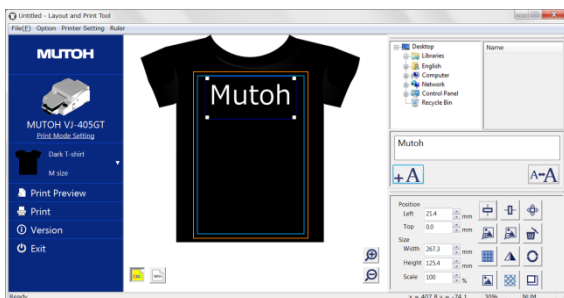
Print Image



### Print Settings:

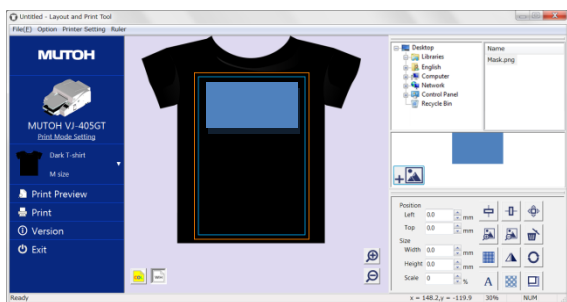
Platen Template	Dark-colored garment
Printing Method	Underbase, Light underbase, Image
Edit Area	View White and View Color

[1]



Using the same procedure in 5.1 Printing Text in White or Color, insert your text into the edit area and adjust position and font style.

[2]

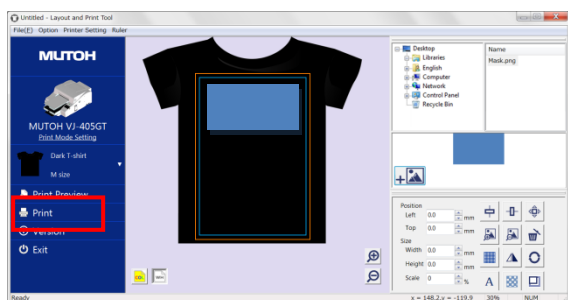


Click the View White icon and insert the background image.

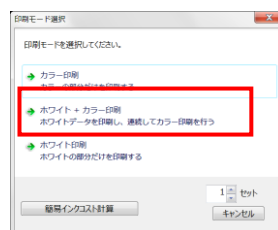
Any image data without transparency can be used for a background data.

Adjust the position and size of the background image so that the text is fitted into the background.

[3]



Click **Print** and choose **Color-on-White Printing**.

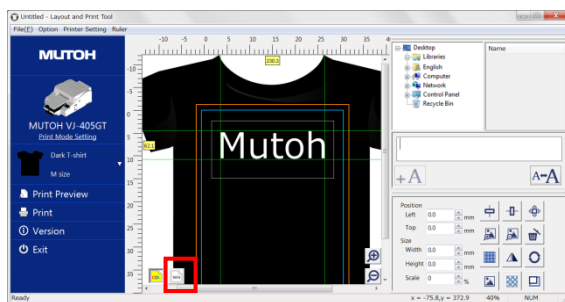


## Note

When the text is inserted into the edit area with the white frame, some blank space may be added around the text.

To see the exact position of the text, use Ruler and Guides options.

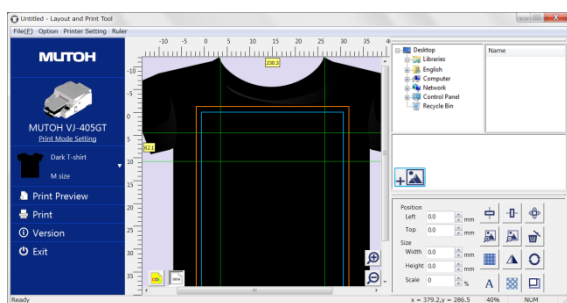
For details of ruler functions, see the Layout Tool Operation Manual.



Click the View Color icon. Go to the Ruler menu and check Ruler. Left-click on the rulers and drag guides to the outline of the text.



Click the View White icon to switch to the View White preview.

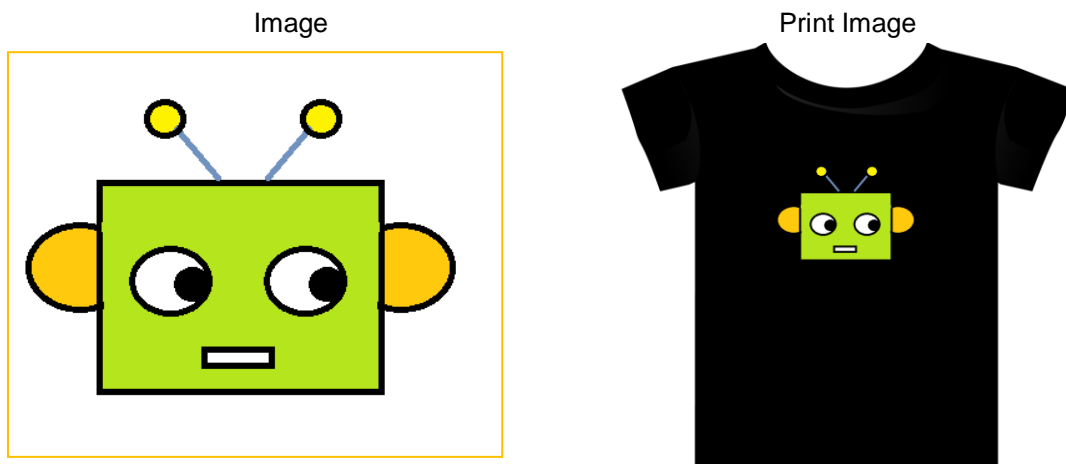


Using the guides as a mark of the text position, insert the background image to the appropriate position.

## 6. Printing Image with Transparency

If an image data contains transparency, follow the basic white printing procedure to print on a garment.

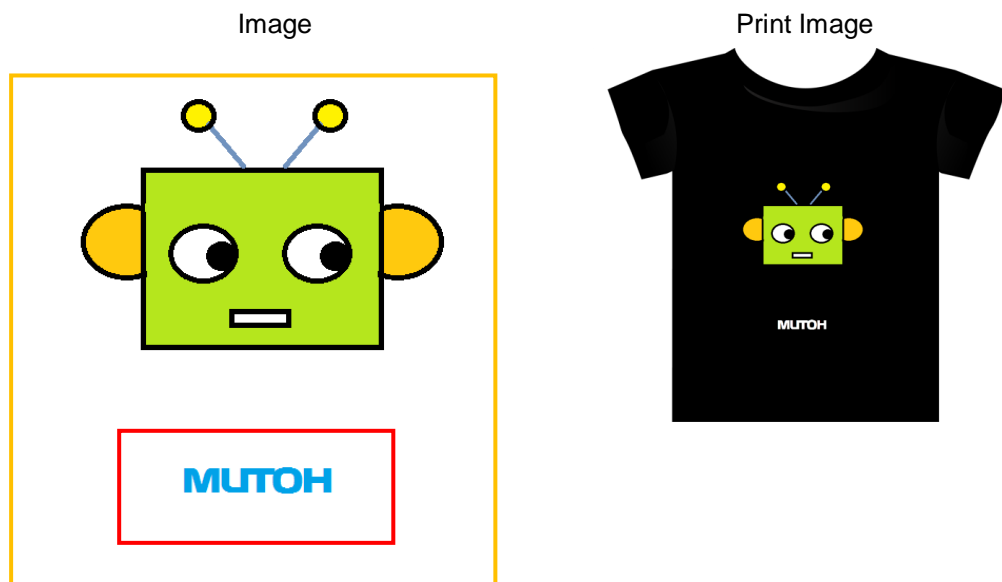
### Example:



### Print Settings:

Platen Template	Dark-colored garment
Printing Method	Underbase, Light underbase, Image
Edit Area	View Color

If you print an image data containing a logo, the data should contain transparency.



The logo marked in the red box should be embedded into the image data with transparency.

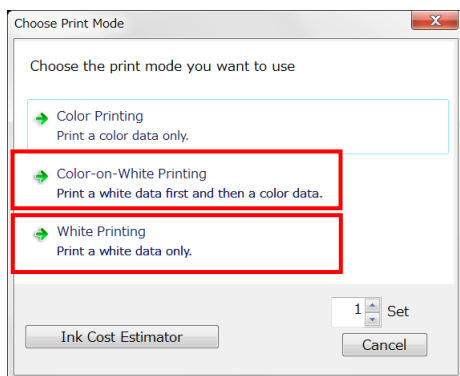
You can also use two data: image data and logo data, but it is hard to recognize the outer frame of logo data.

[1]



Prepare a file for printing.

[2]

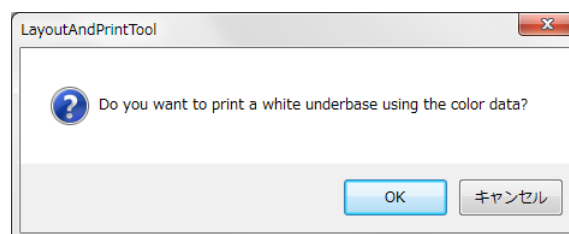


Click **Print**.



Choose White Printing or Color-on-White Printing.

The following dialog appears. Click **OK**.



## 7. Make Specific Color Transparent

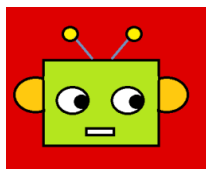
This function works both Color-on-White Printing and Color Printing.

### 7.1 Remove Solid Color

If you want to remove a solid color from the entire image, follow the steps below to make it transparent.

#### Example:

Image



Color-on-White Printing  
Print Image



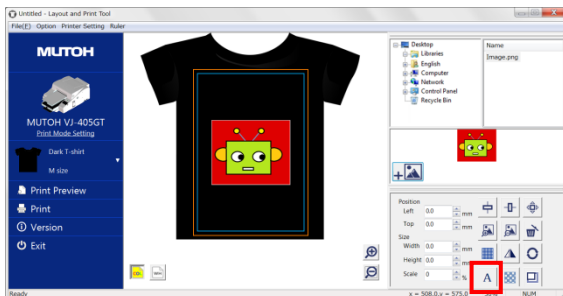
Color Printing  
Print Image



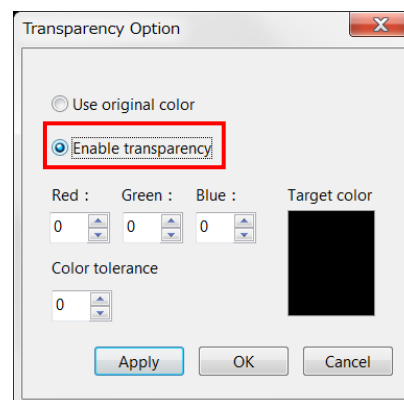
#### Print Settings:

Platen Template	Dark-colored garment, Light-colored garment
Printing Method	Underbase, Light underbase, Image
Edit Area	View Color, View White

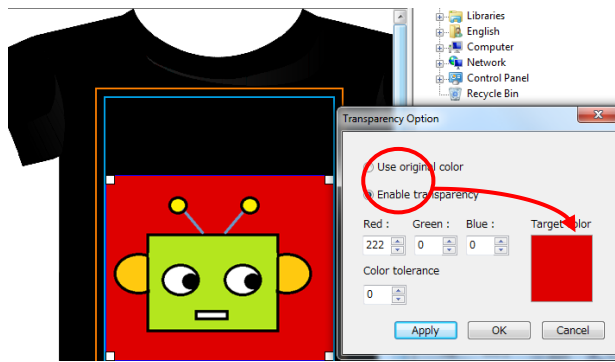
[1]



Click the Transparency button. In Transparency Option, check **Enable transparency**. This check box is enabled while selecting the image.

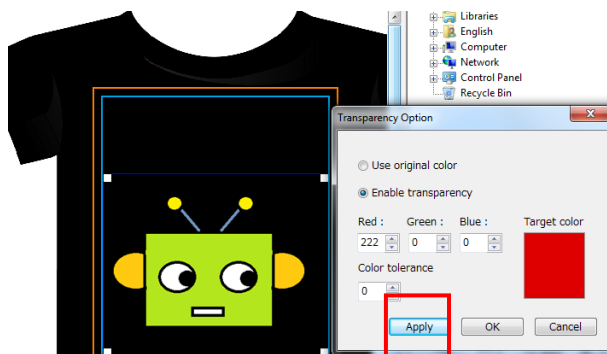


[2]



Click on the color that you want to make transparent.

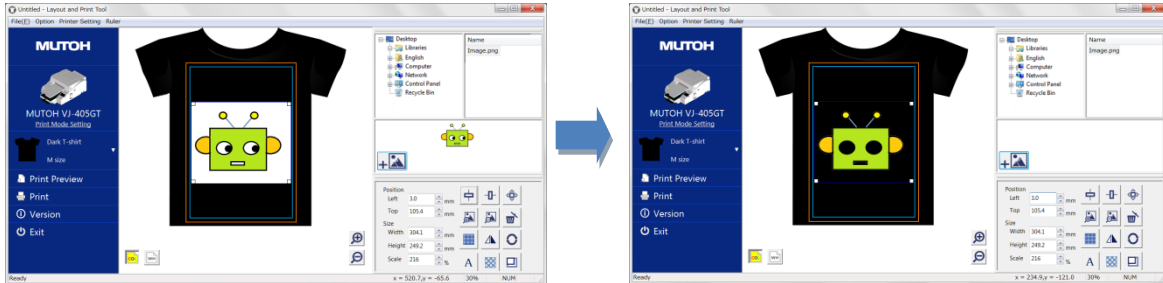
[3]



Click **Apply** and see the preview how it looks. If you want to change the setting after clicking OK, click the Transparency button again and change the setting.

## Note

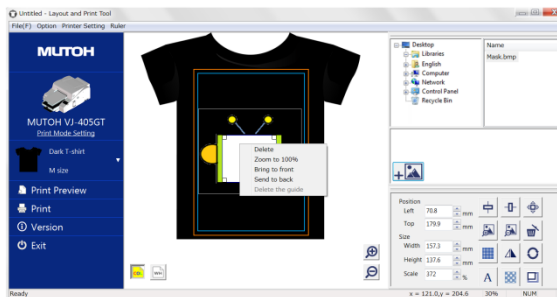
When using this option, make sure the color you specified is only used in the area you want to remove. The image below shows that when selecting white to make white background transparency, but white in eyes and mouth are also removed.



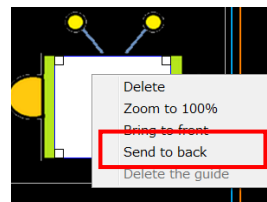
In this case, try either of followings:

- Follow the steps in 4.2 Background Transparency (Procedure 2) to insert the image data into the View White.
- Follow the steps below to insert white image data into the View Color and send it to back.

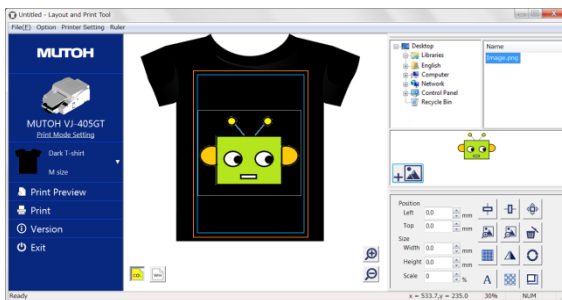
[1]



In View Color, insert the white image into the exactly same position as the original image data. Right-click on the white image and click **Send to back**.

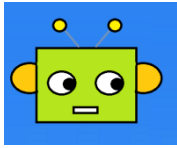


[2]

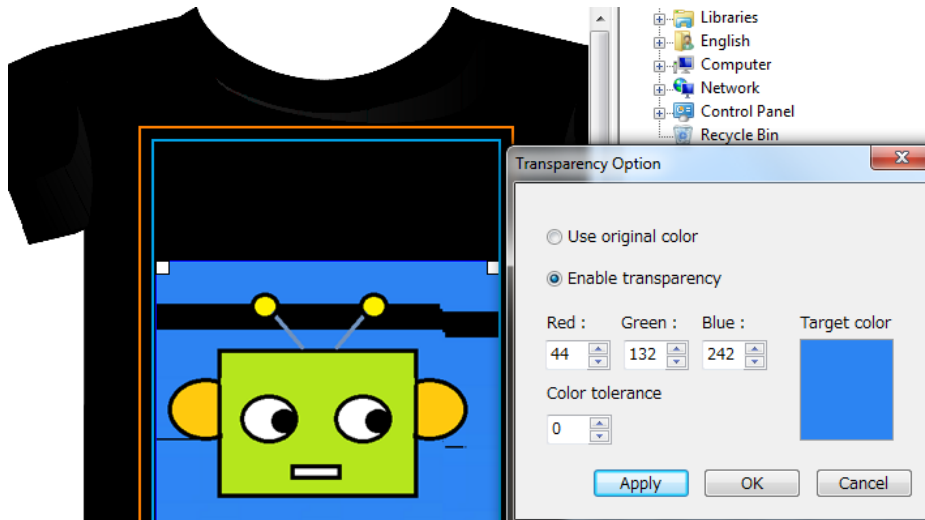


## 7.2 Remove Solid Color + Tolerance

The image below has the blue background. It appears to be solid blue, but has gradation.

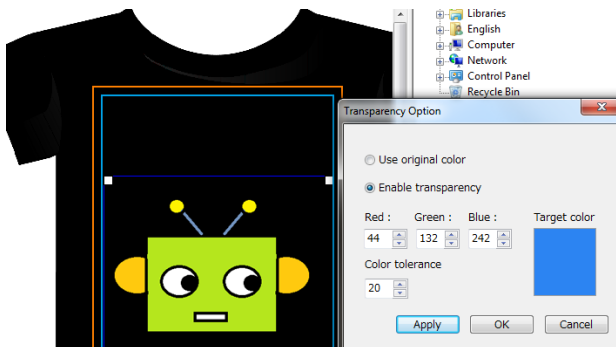


If you select a solid blue in this option, you cannot remove the entire background.

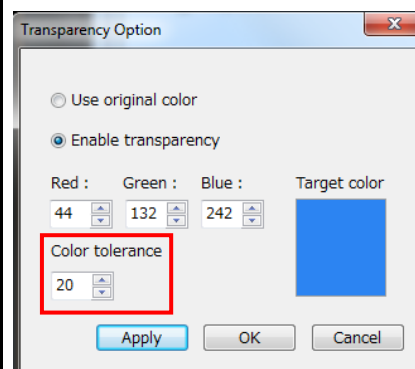


In this case, select a color and color tolerance that is used in the background.

[1]



Color tolerance can be specified from 0 to 255.



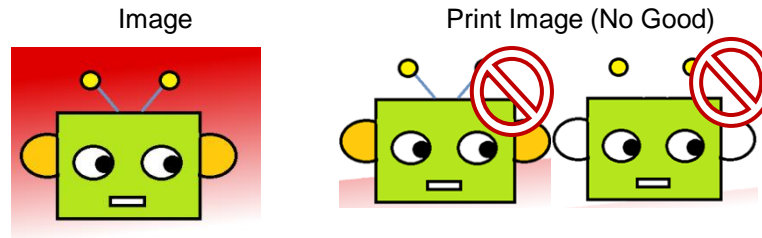
Click **Apply** and see how it looks.

When using this option, you have to be careful that it can also make other object transparent that you do not want to remove.

In this case, use graphic software to edit the color of original image data.

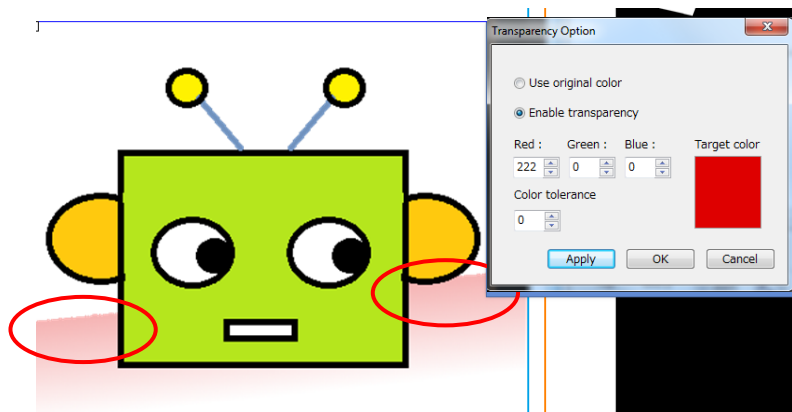
Also see the note in 7.1 Remove Solid Color.

### **Bad Example**



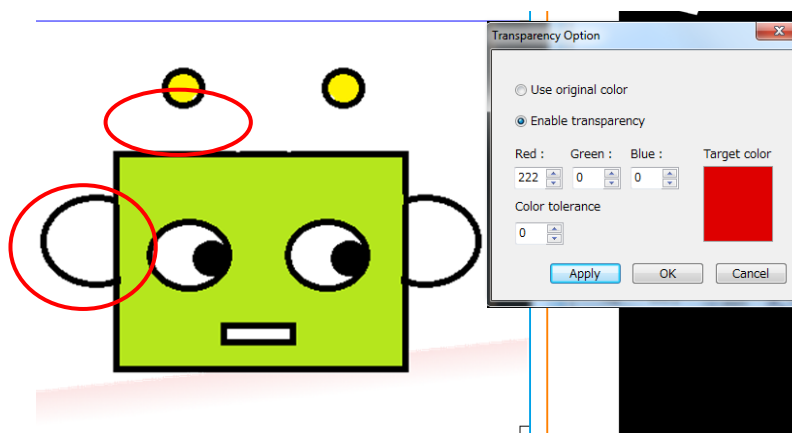
Color tolerance: 100

Still not enough to completely remove the background color.



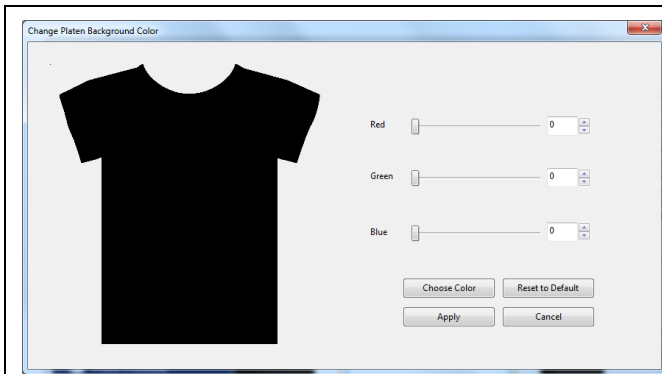
Color tolerance: 150

Enough to remove the background color, but it also knocks out the color that you do not want to remove.

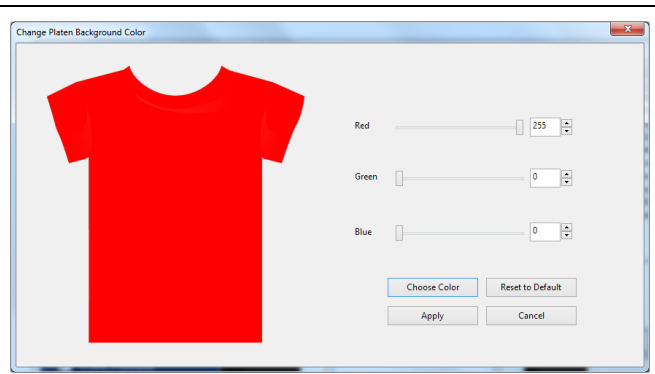


## 7.3 Check Transparent Color

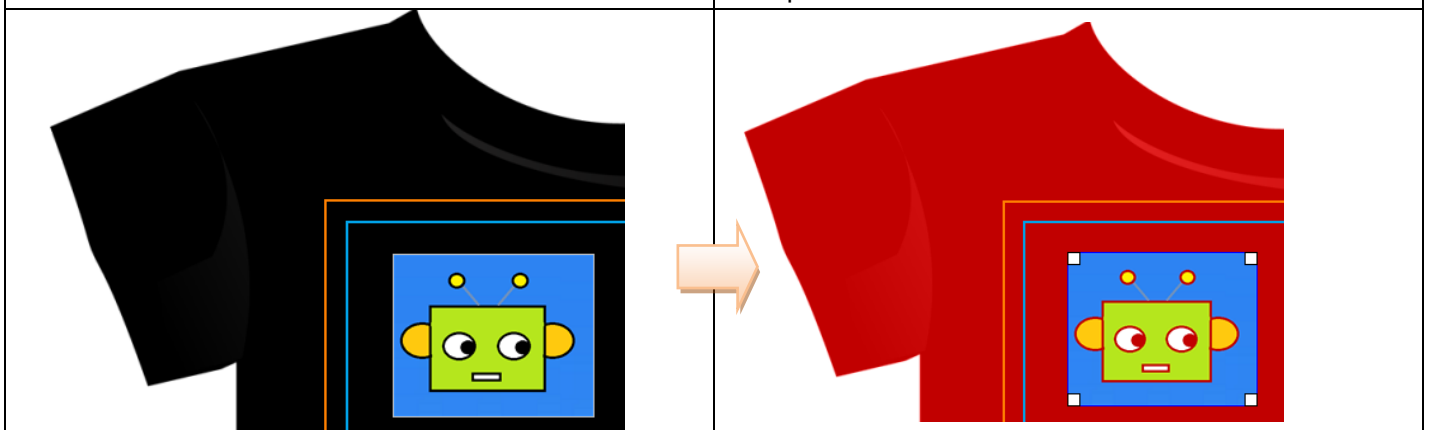
If you want to check how the color is removed, you may need to change the platen background color.  
For the procedures, see 8-24 *Change platen background color* in Layout Tool Operation Manual.



If you remove the 'black' color, it is difficult to check its transparency with the same platen background color.



Example) Change the platen background color to red.  
It will be easier to check which object becomes transparent.



## 8. White Printing from View Color or View White





In White Printing, you can achieve different output results depending on which edit area you insert your image data. Here are examples of print image from View Color and View White.

### Print Settings:





Platen Template	Dark-colored garment
Printing Method	Underbase
Edit Area	View Color, View White

### White Printing from View Color

When the Transparency Option in Layout Tool is disabled





Data with transparency	Data without transparency
	
	

When the Transparency Option in Layout Tool is enabled (make the color of logo transparent)





Data with transparency	Data without transparency
	
	

White Printing from View White

When the Transparency Option in Layout Tool is disabled

Data with transparency	Data without transparency
	
	

When the Transparency Option in Layout Tool is enabled (make the color of logo transparent)

Data with transparency	Data without transparency
	
	

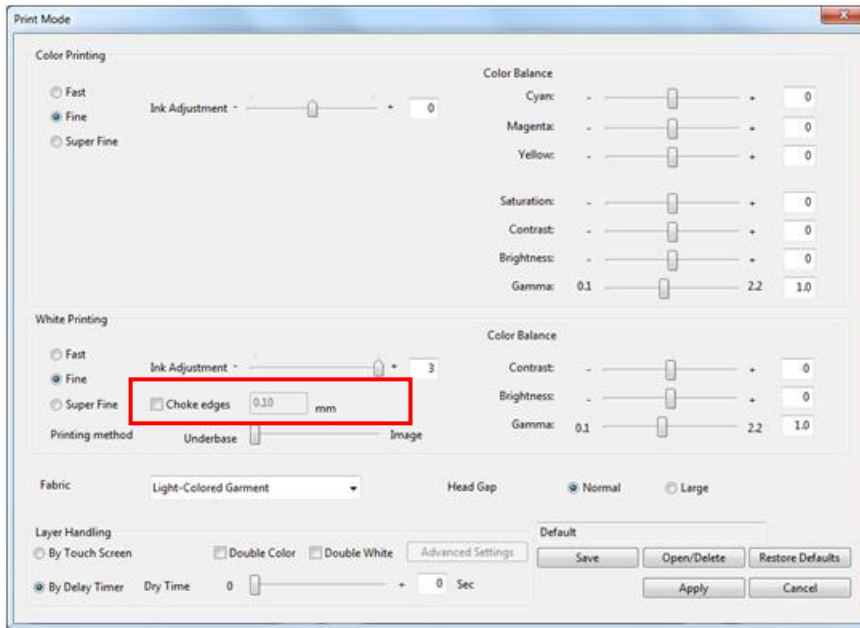
Note

See 2-3 Layout Tool Settings.

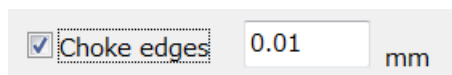
## 9. Choke White Underbase Edge

When printing any color on top of the white underbase, sometimes you will see the white peeking out around the color image. This happens when the white ink swells fabric.

To avoid white underbase being visible from the image overlaid, choke the outline of the white underbase.



Check Choke edges and enter the choke value.



Appropriate choke value varies depending on a garment and image data being used.

### Note

This choke value is converted to pixel count to choke the edge. When specifying 0.01mm, the actual choking amount depends on the image resolution, scaling on the screen or swelling rate of printed area by ink absorption.

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