



FIELD TECHNICAL PROCEDURE

Document #: **FTP-00276, Rev. B**
Issue Date: **June 11, 2012**
Printers Affected: **VUTEk QS, GS5000r, GS3250, GS3250LX, GS3250r, GS3200, GS2000, PV200 +White; Rastek H650, H652, H700, T600, T1000**

File Preparation for White Ink

This document provides comprehensive instruction on file preparation for the use of white ink. White ink can be used in a variety of useful and creative ways—it can be printed as a solid area, or applied as a tint or gradation. While some intended uses require no prepress intervention, some preparation is necessary for spot and shape white printing. The prepress procedures are not complicated, but they must be done in a specific manner to ensure success at the printer.

Before Starting

Follow the instructions in this document prior to attempting the White_Ink file preparation procedures.

- Read through this **entire document** before beginning any of the procedures.
- You should be familiar with the entire file preparation process before continuing.

File Preparation for White Ink Overview

This section outlines the general installation steps.

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Understanding White Ink: White in 3 Categories

*The application of white ink can be divided into 3 categories for easier understanding. Following is a brief description of each category. **Shape** and **Spot White** categories have been combined below due to similarity in file preparation.*

Flood

The dimensions of the area to be coated are determined by the dimensions of the file itself. This mode does not require prepress intervention because the operator applies the flood at the printer.

Note: When printing a flood, the flood area is larger than the image file.

Shape/Spot White

These modes of white are applied to the substrate with some prepress work ahead of time. File preparation is the same for shape or spot white. Whether the white is applied under the CMYK or on top of it is determined at the printer.

It is essential to note that Spot White mode prints CMYK ink and white ink simultaneously. In any areas where white intersects CMYK data, white and CMYK inks will blend together when printed.

Prepress Procedures for Creating White Ink Data

In normal printing processes, white data areas in image files are translated as <none> or the absence of ink. The white paper, or ground, serves as white in process printing.

*The white ink prepress process will require typing the name **White_Ink**. Using this correct naming convention, including upper and underscore usage is important to ensure success. XF will automatically recognize spot channels called **White_Ink** as data used for white ink printing.*

Adobe Photoshop CS Series – Shape/Spot White

To utilize the white ink function in a Photoshop file, a spot color channel must be created. To accomplish this, make and save a selection as a spot channel. RGB and CMYK files are acceptable.

1. Using normal selection tools (Wand, Lasso, Quick Mask, Color Range, etc.) select the areas of the document that you want to contain white.
2. Go to **Select > Save Selection (Figure 1)**, and name the new channel **White_Ink (Figure 2)**.
3. Open the Channel Palette under **Window > Channels**.
4. Double-click on the name of the new channel to open the **Channel Options** dialog box, as shown in Error! Reference source not found..
5. Change the channel options to indicate **Spot Color** channel.

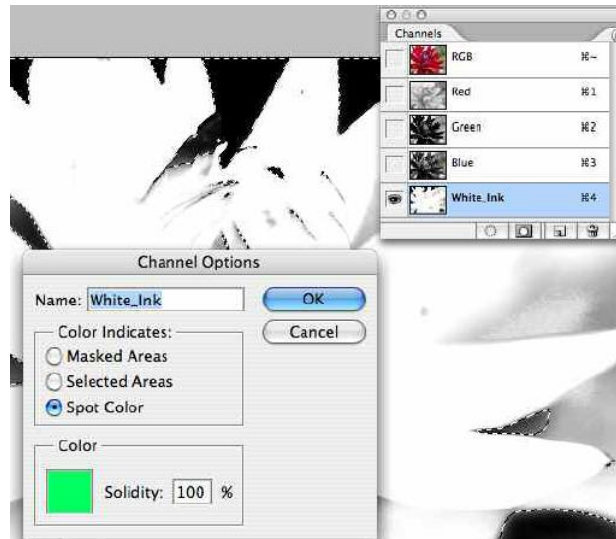
Figure 1: Select > Save Selection Screen



Figure 2: New Channel – White_Ink Screen



Figure 3: Channel Options – Spot Color



6. Save the document as a PDF file with spot colors checked **ON** (See **File Preparation and PDF Saving/Exporting Instructions**).

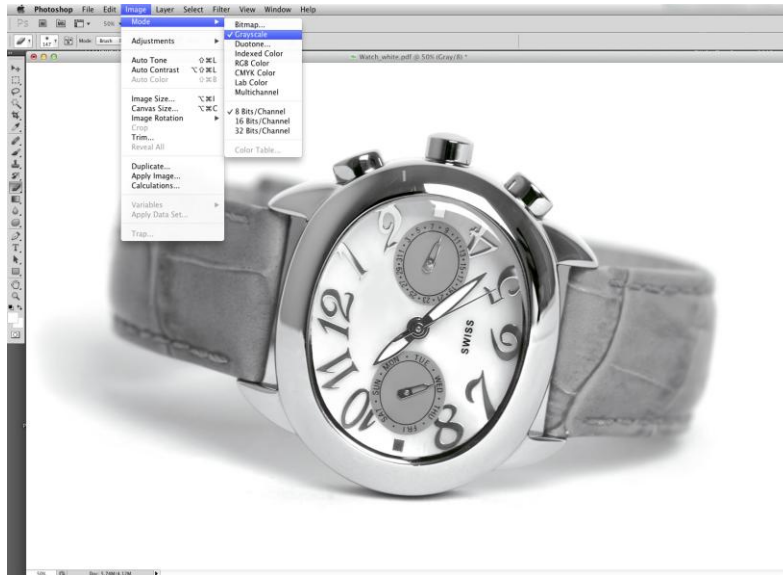
Adobe Photoshop CS Series – White Only Image

The preparation steps for creating a white-only image are much different from the previous Shape/Spot White section.

These steps are as follows:

1. Open an image. RGB and CMYK files are acceptable.
2. Go to **Image>Mode>Grayscale**, **Figure 4**.

Figure 4: Choose grayscale mode



3. Open the **Channel Palette** under **Window>Channels**. There is a single channel called **Gray**.
4. Under the palette menu, select **Duplicate channel**, as shown in **Figure 5**. Name the new Spot Channel **White_Ink**, shown in **Figure 6**.

Figure 5: Duplicate channel

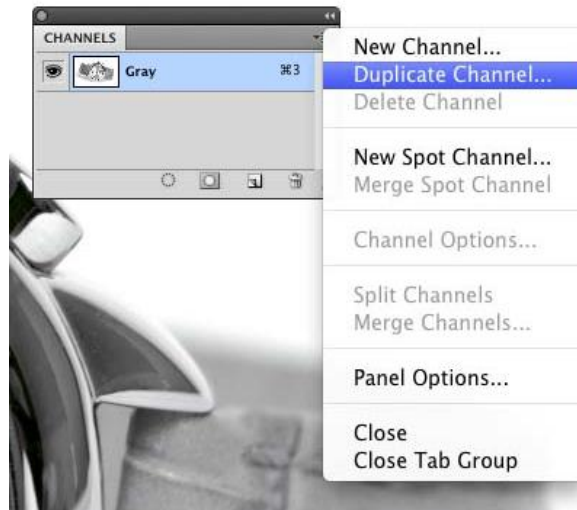
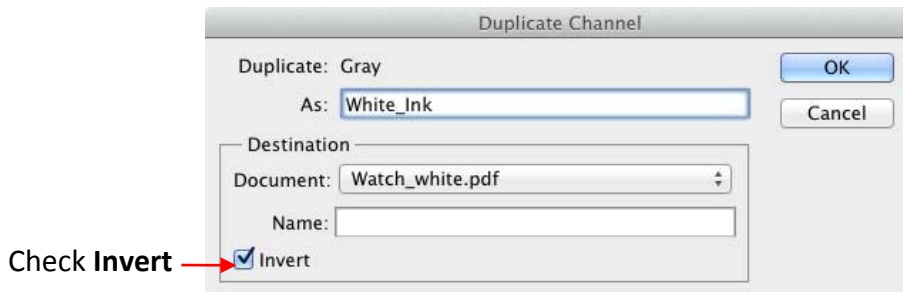


Figure 6: Name spot channel White_Ink



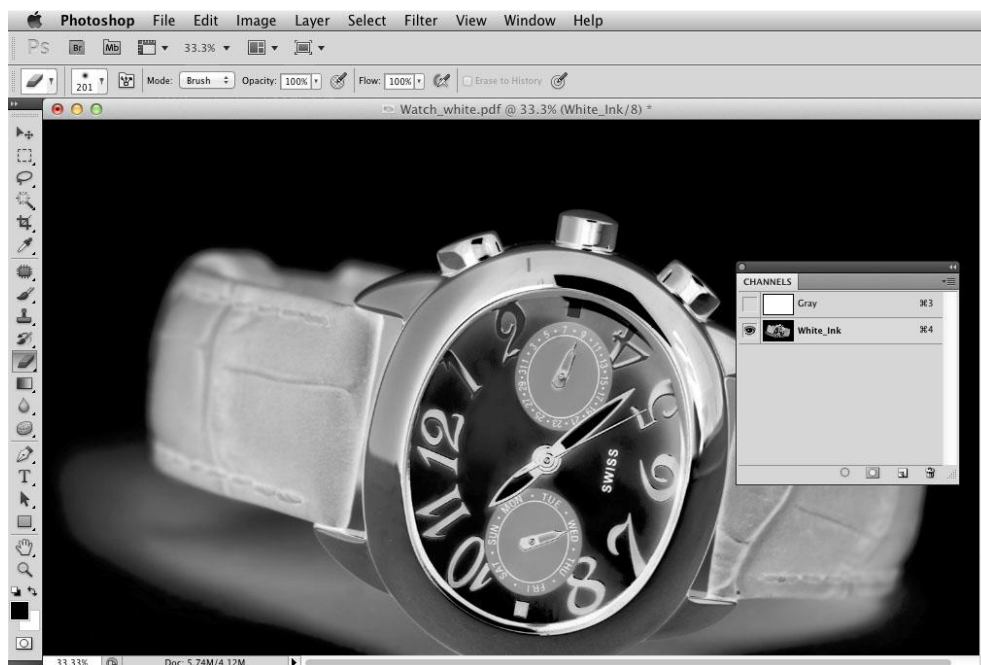
- Click on the check box that says **Invert**, then check **OK**. Remember the black/gray area of the image will print white.
- Double click on the name of the new channel to open the **Channel Options** dialog box. Change the channel options to indicate **Spot Color** channel. See **Figure 7**.

Figure 7: Channel Options



- From the Channel Palette, select the **Gray** channel. Go to **Select>Select All**.
- Navigate to **Edit>Clear**. This will remove the data from the Gray channel. See **Figure 8**.

Figure 8: Clear the data



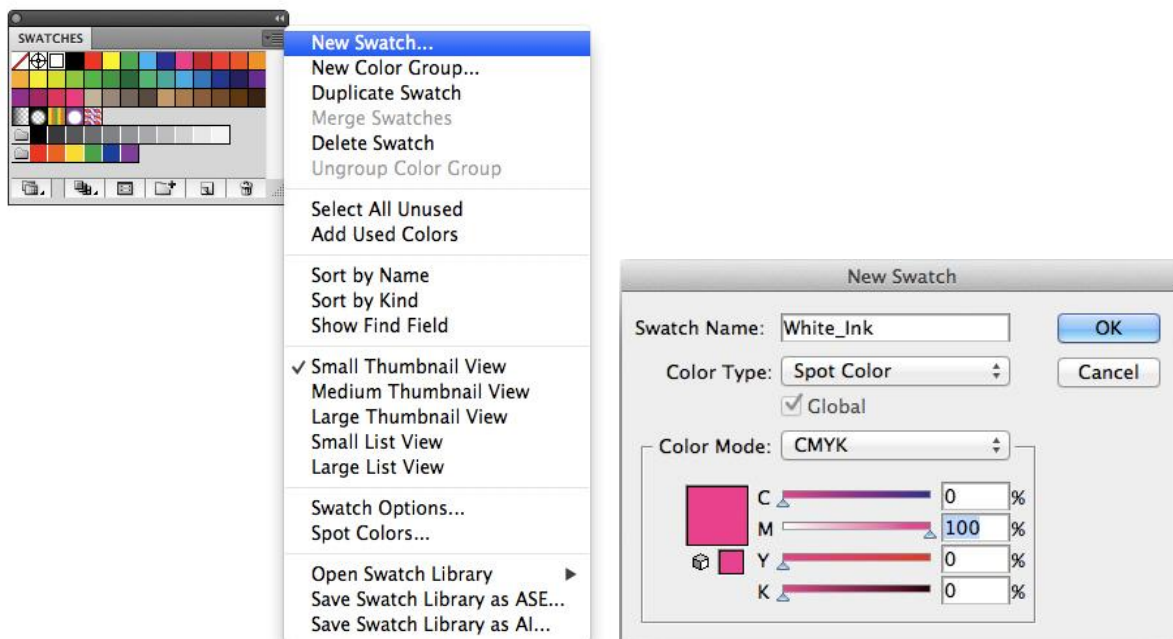
9. Save the file as a PDF. Make sure that **Spot Colors** is checked ON.

Adobe Illustrator CS Series – Shape / Spot White

To use the white ink function in Illustrator, the areas of white ink need to be defined in the file. Follow the steps provided to create a spot color named **White_Ink**.

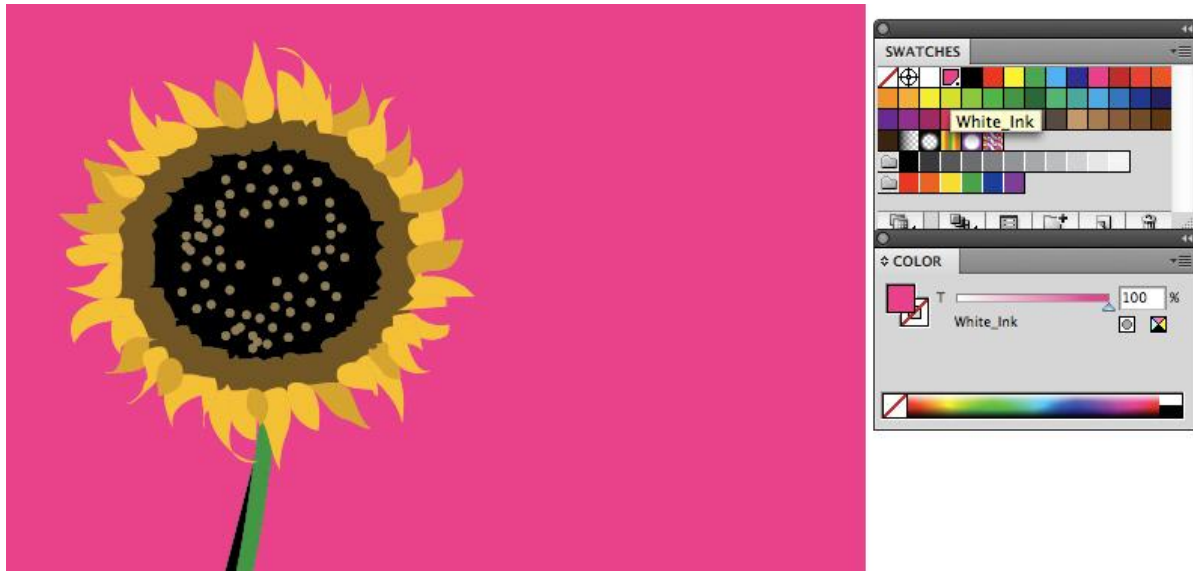
1. Open the **Swatches** palette (**Window>Swatches**).
2. From the swatches palette menu, select **New Swatch**. See **Figure 9**.
3. Set the Color Type to **Spot Color**, and the Mode to **CMYK**.
4. Name the new swatch **White_Ink**.
5. For easy identification, set the swatch color to a color not used in the file.
6. In this example we will use 100% Magenta. This color will translate as white ink at the RIP.

Figure 9: New Swatch - White_Ink



7. In the file, select the shapes and elements to be white ink coverage (see **Figure 10**).

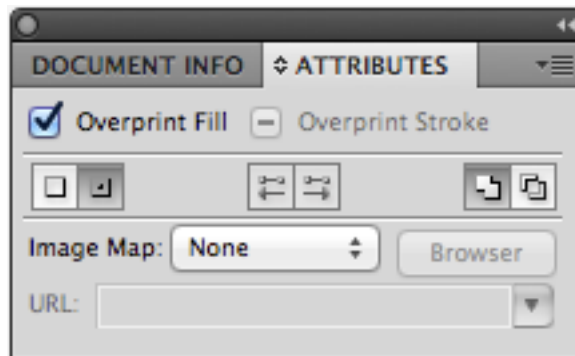
Figure 10: Apply Spot Color - White_Ink



8. With the element selected, change the fill to the **White_ink** spot color.

Important: White_Ink data must often be set to **Overprint Fill** in **Attributes**, as shown in **Figure 11**.

Figure 11: Attributes set to Overprint Fill



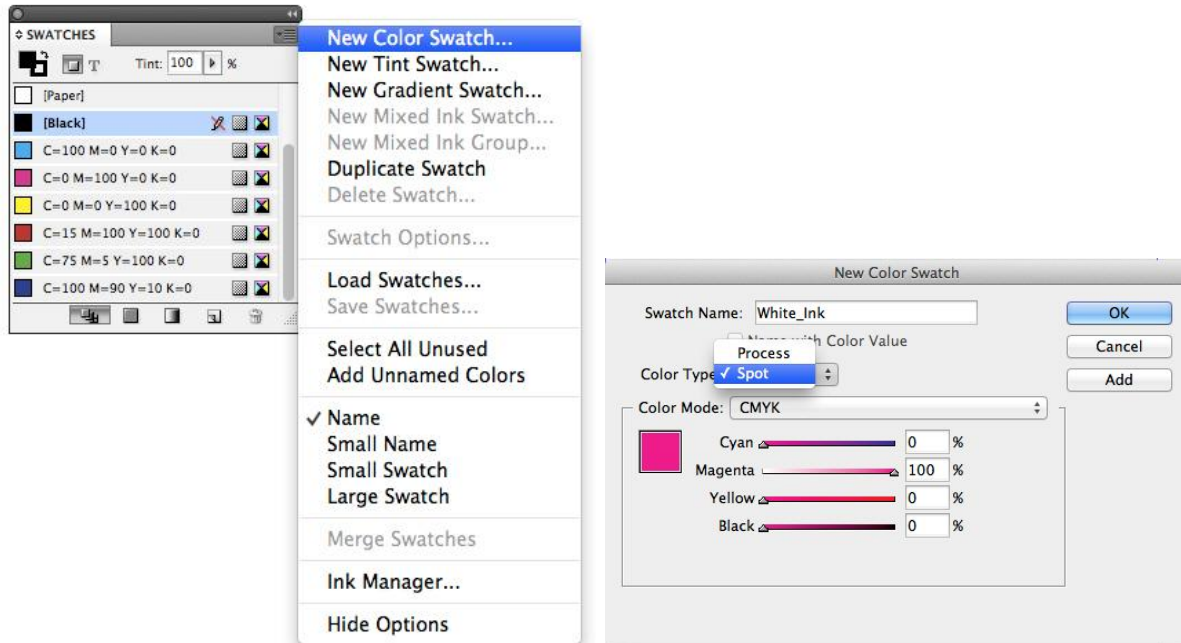
9. Save the file as a PDF file (see **File Preparation and PDF Saving/Exporting Instructions**).

Adobe InDesign CS Series – White

In most cases, White art should be created in Illustrator or Photoshop, saved as a PDF file, and then placed into InDesign. If a **White_Ink** swatch has not been created yet, the **White_Ink** swatch created in the Illustrator file will import with the file. In that instance, use the imported **White_Ink** swatch instead of creating a new one. When exporting the final PDF file for printing see the **File Preparation and PDF Saving/Exporting Instructions** section of this document.

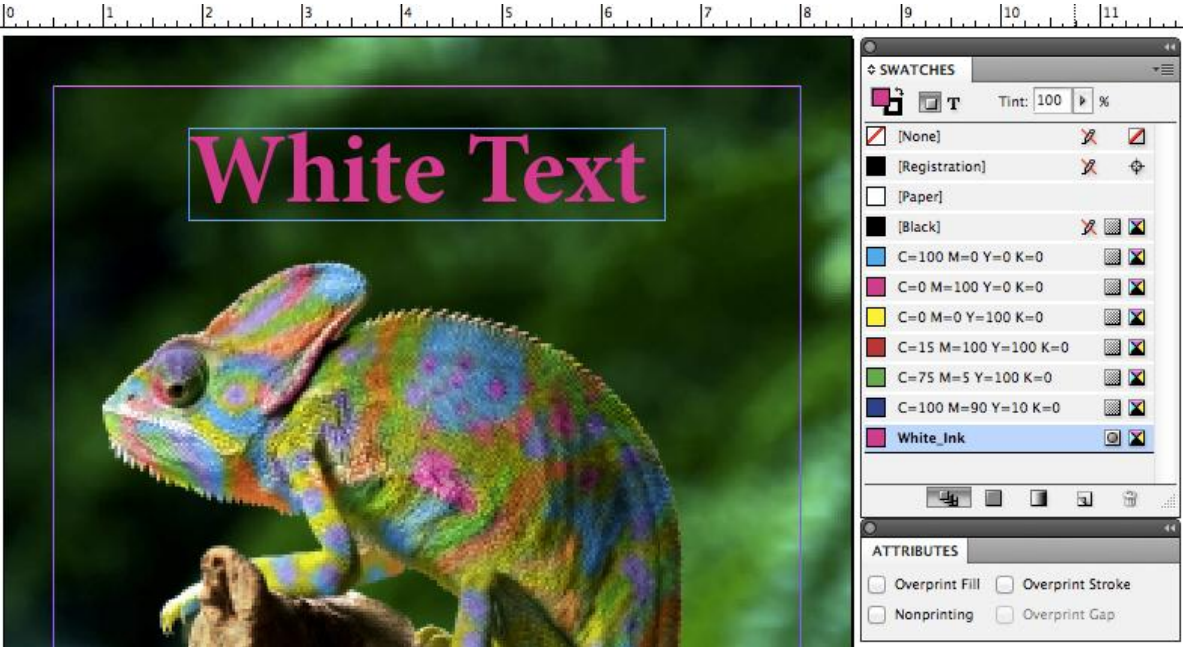
To utilize the white ink function in InDesign, the areas of white ink need to be defined in the file. Follow the steps provided to create a spot color named **White_Ink**.

Figure 12: New Swatch - White_Ink



1. Open the **Swatches** palette (Window>Color>Swatches). See **Figure 12**.
2. From the Swatches Palette menu, select **New Color Swatch**.
3. Set the Color Type to **Spot Color** and the Mode to **CMYK**.
4. Name the new swatch **White_Ink**.
5. For easy identification, set the swatch color to a color not used in the file.
6. In this example we will use 100% Magenta. This color will translate as white at the RIP.
7. In the file, select the shapes and elements to be white ink coverage.

Figure 13: Apply Spot Color - White_Ink



Important: **White_Ink** data must often be set to **Overprint Fill** in **Attributes**, as shown in **Figure 13**.

8. Export the file as a PDF (see **File Preparation and PDF Saving/Exporting Instructions**).

Choking White Ink

It is recommended to choke white ink that is to be printed under graphics to avoid seeing the white ink show around the edges.

Adobe Photoshop CS Series

1. Begin by making a selection of the image that will be printed with white. See **Figure 14**.

Figure 14: Select the image

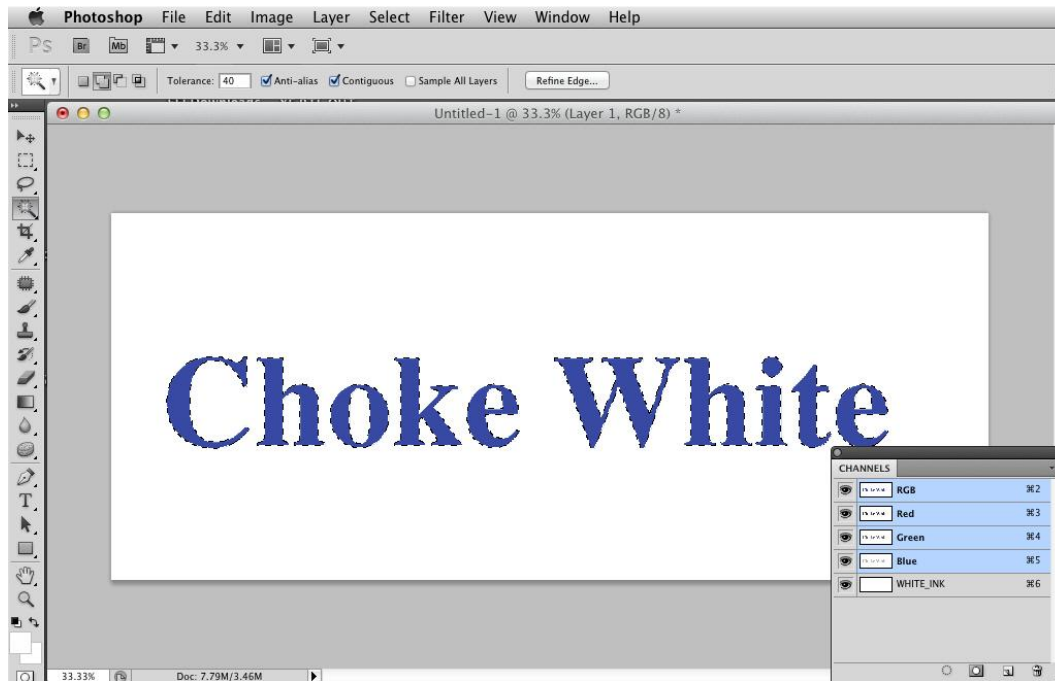
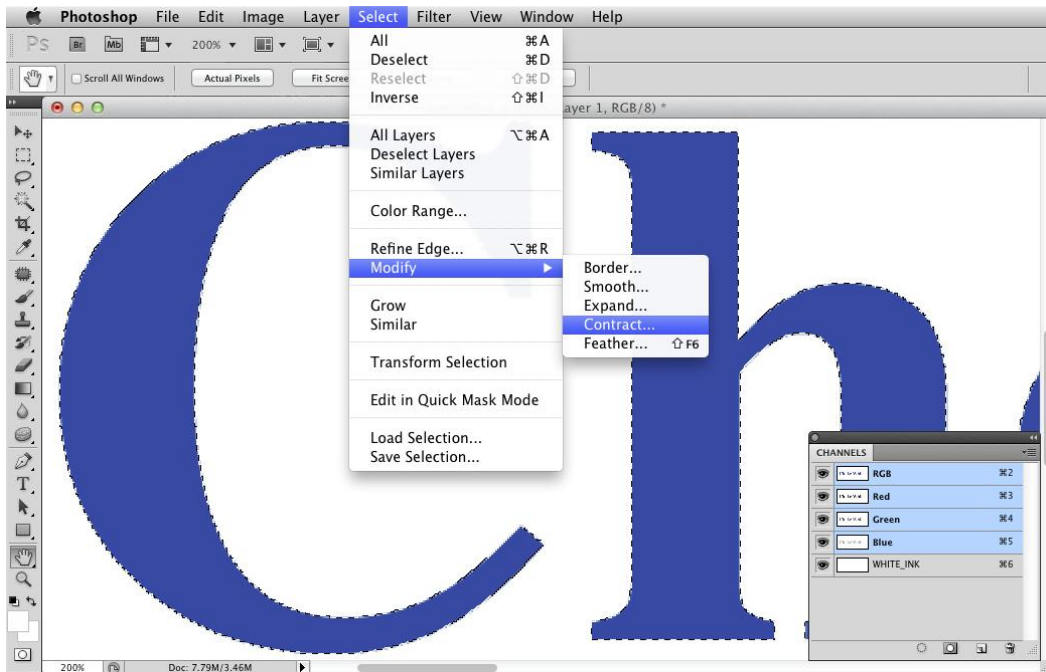
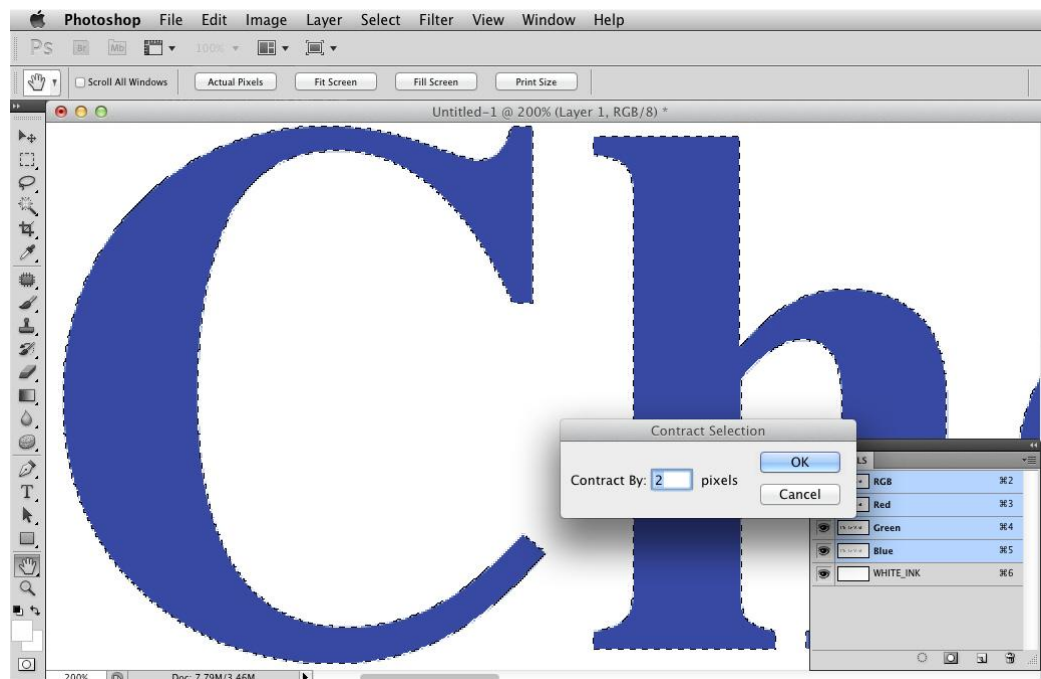


Figure 15: Contract



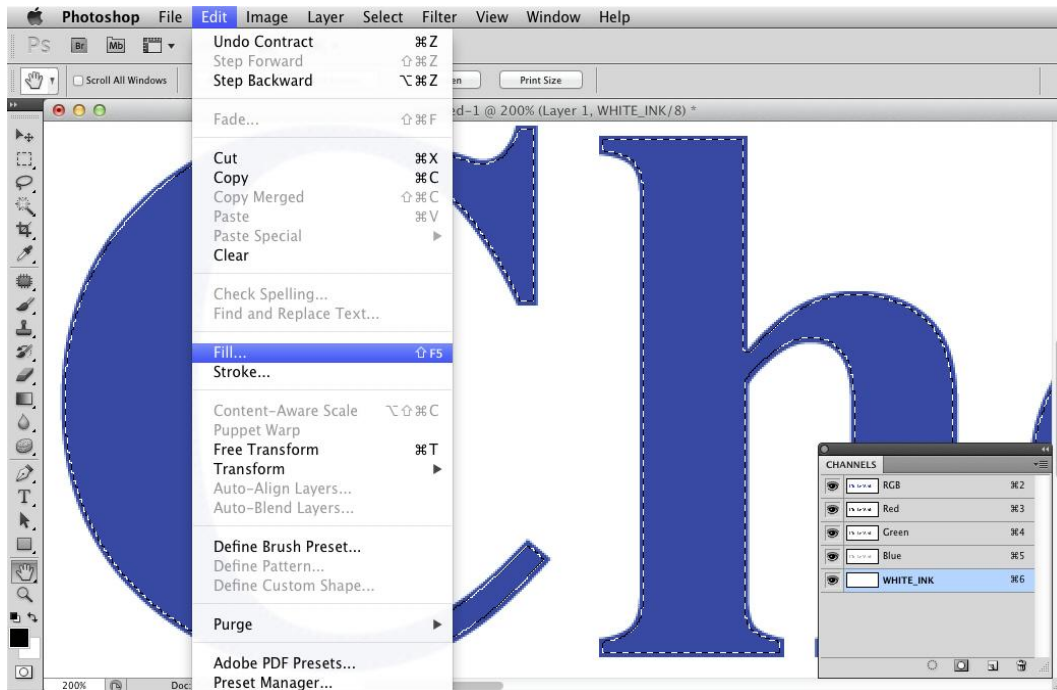
2. Go to **Select>Modify>Contract** as shown in **Figure 15**.
3. Contract by two pixels, **Figure 16**.

Figure 16: Contract by two pixels



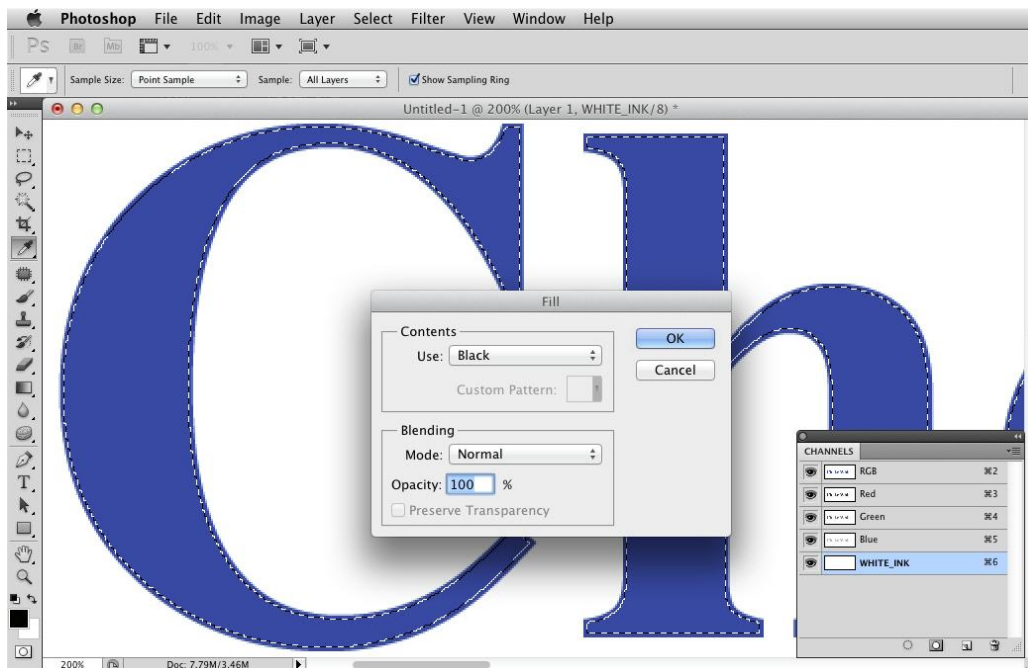
4. With the **White_Ink** layer selected in the channel menu, navigate to **Edit>Fill**, **Figure 17**.

Figure 17: Edit>Fill



5. Choose **Black** from Fill options, shown in **Figure 18**.

Figure 18: Choose black fill



6. The result of the fill is shown in **Figure 19**.

Figure 19: Fill result

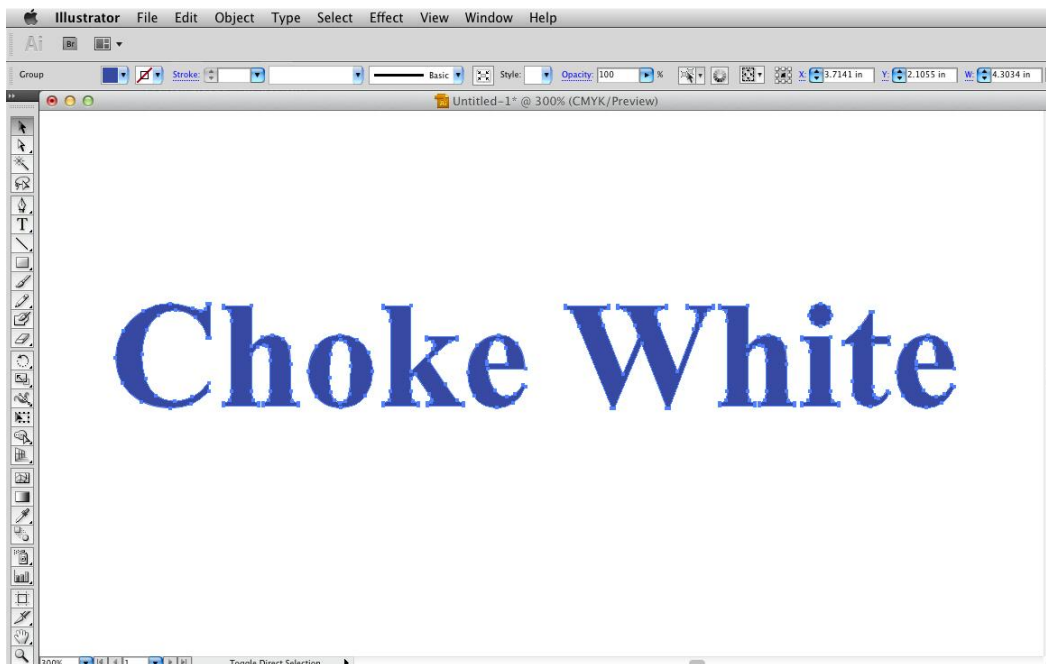


7. Save the image as a PDF (see **File Preparation and PDF Saving/Exporting Instructions**).

Adobe Illustrator

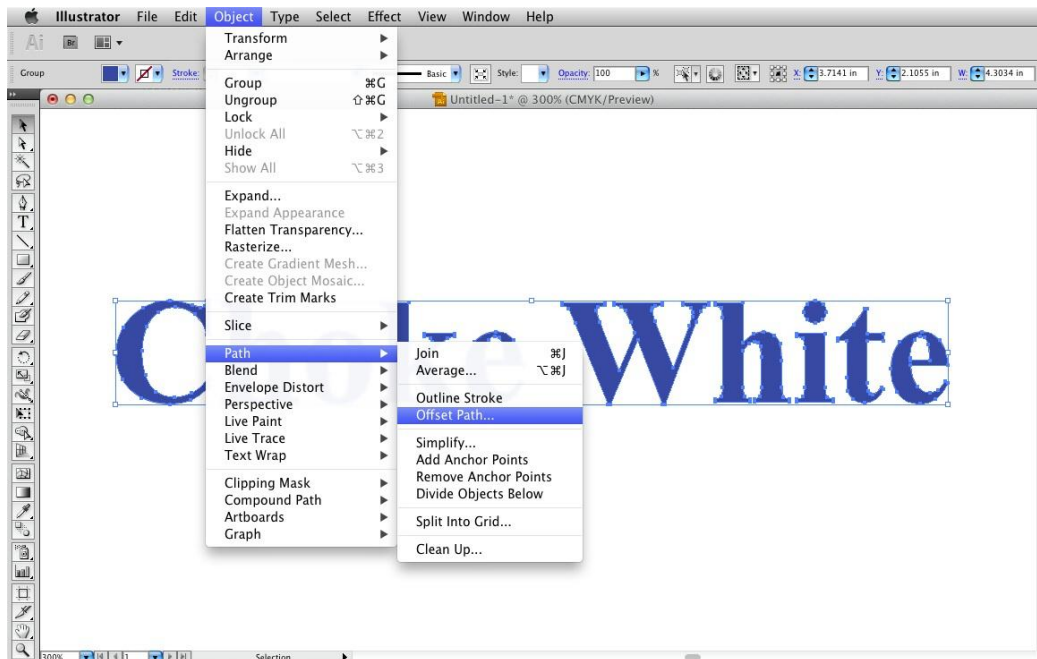
1. Make a selection of the image to be printed with white, **Figure 20**.

Figure 20: Select image



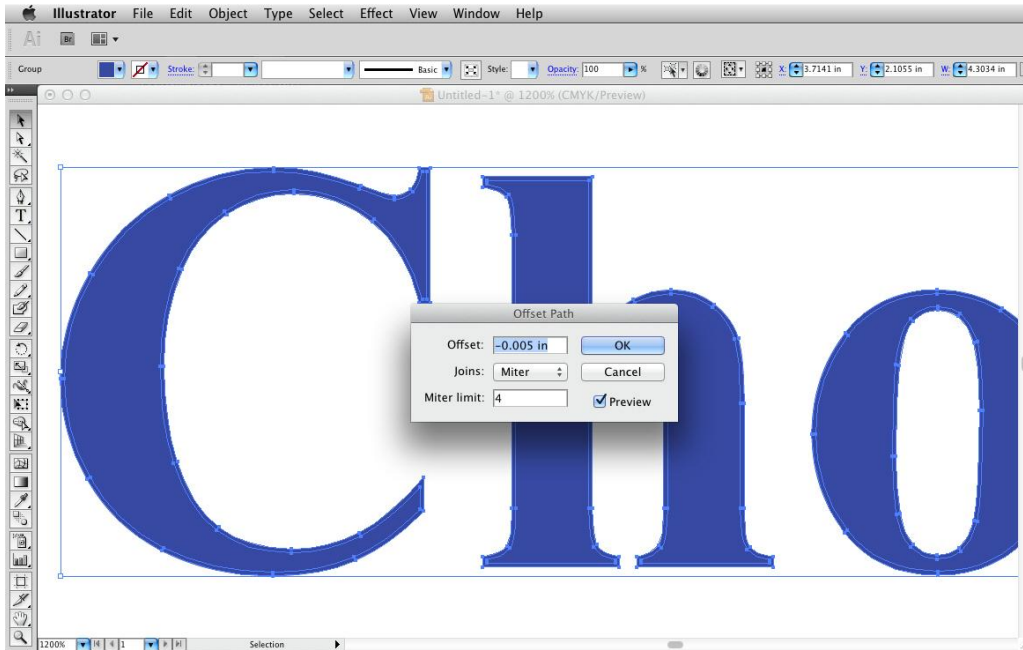
2. Go to **Object>Path>Offset Path**, shown in **Figure 21**.

Figure 21: Offset Path



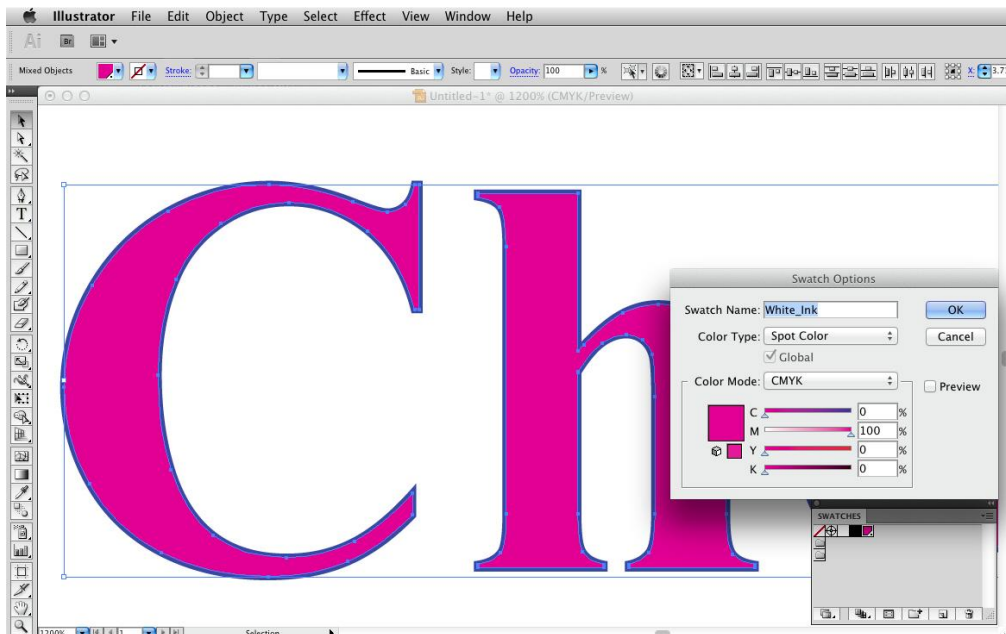
3. Set amount of path offset. This can vary depending on size and scale of artwork. See **Figure 22**.

Figure 22: Set amount of path offset



4. Apply **White_ink** spot color swatch, shown in **Figure 23**.

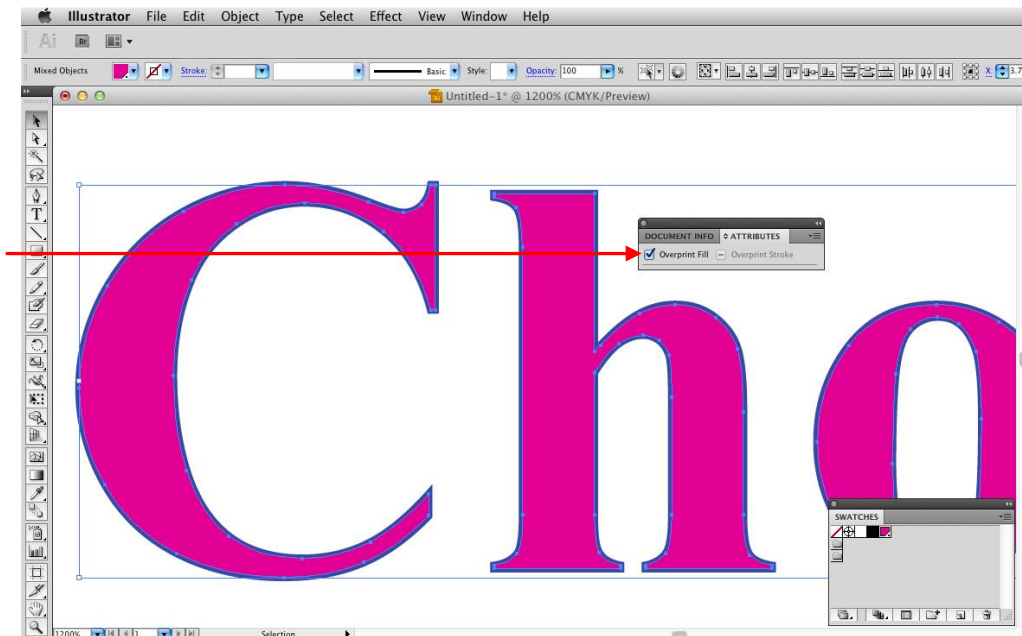
Figure 23: Apply White_ink spot color swatch



5. In the **Attributes** tab, check **Overprint Fill**. See **Figure 24**.

Figure 24: Check Overprint Fill

Check
**Overprint
Fill**



6. Save the image as a PDF (see **File Preparation and PDF Saving/Exporting Instructions**).

File Preparation and PDF Saving/Exporting Instructions

Please follow the program guidelines below before saving a file as a PDF.

Photoshop CS Series

- For best image quality, the suggested image dpi range at 100% of scale is 100 to 300, regardless of printer resolution. Below 100 dpi, the image quality degrades. Above 300 dpi the quality is not enhanced, but the file size is substantially larger.
- Do not convert Pantone spot colors (channels) to process CMYK.
- Save file as a PDF.

Illustrator CS Series

- Include all embedded/placed/linked images.
- Optional: Convert all fonts to outlines.
- Do not convert Pantone spot colors to process CMYK.
- Save file as a PDF.

InDesign CS Series

- Optional: Convert all fonts to outlines.
- *Export file as a PDF.*

Saving/Exporting a PDF

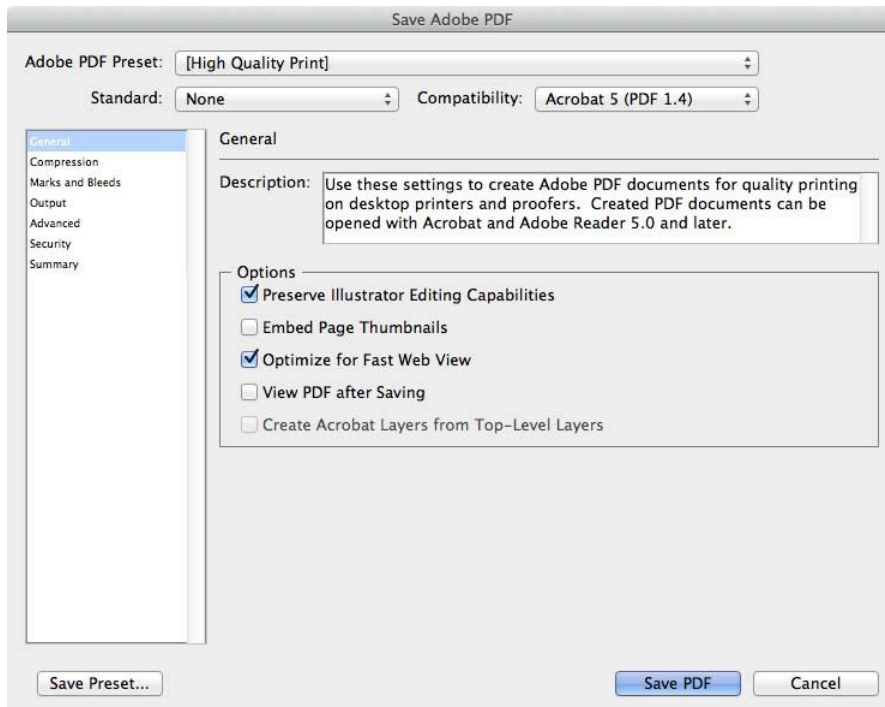
These settings are intended to save a 'RIP ready' PDF. This PDF format should not be used for editing the art after it is saved. Changes should be made to the *original* art and re-saved using these settings. These settings will hold information regarding fonts, working color spaces and spot colors.

This procedure outlines creating the **Adobe PDF Preset** to avoid having to change these settings every time you save a PDF.

When setting a preset for the first time, it is best to do it from Illustrator. This preset will then be available from the entire Adobe suite.

1. Begin by saving a file and selecting the **High Quality Print** preset, shown in **Figure 25**.

Figure 25: Save Adobe PDF

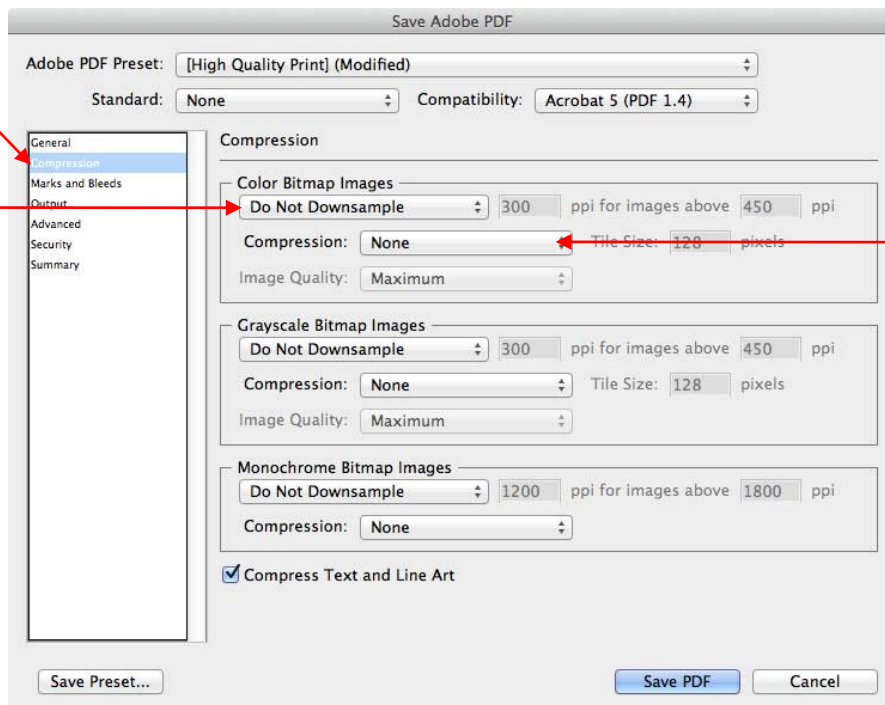


2. Select **Compression** from the left menu. Disable Downsampling and Compression as shown in **Figure 26**. This will ensure you are saving the highest quality PDF.

Figure 26: Disable downsampling and compression

Select
Compression

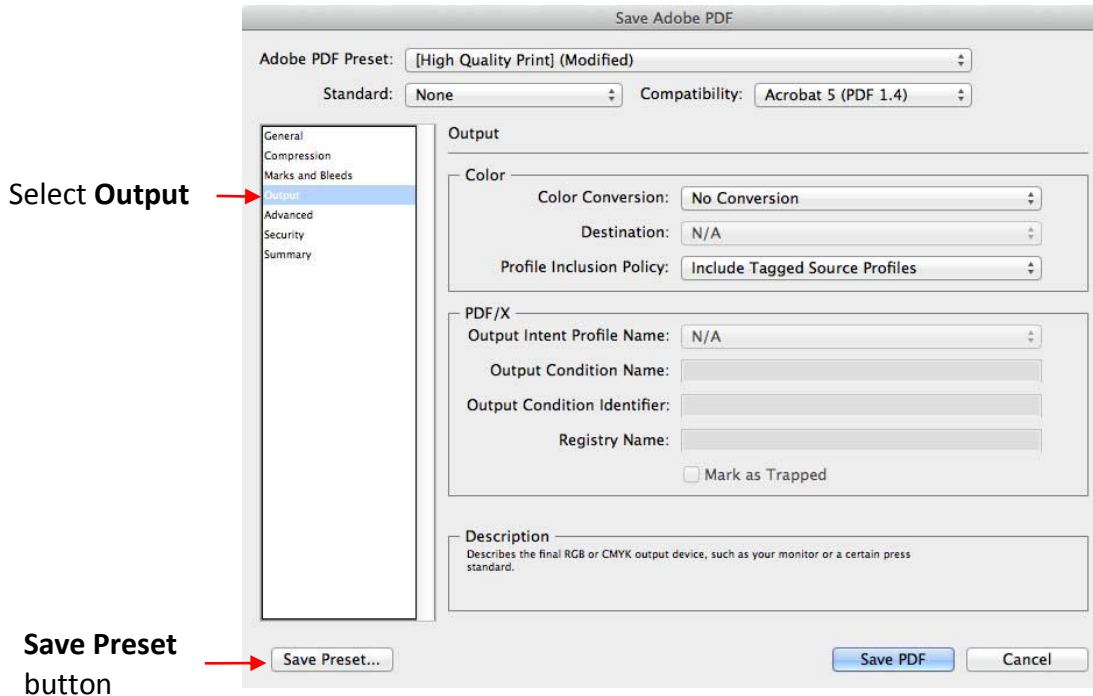
Set to Do Not
Downsample



Set to None

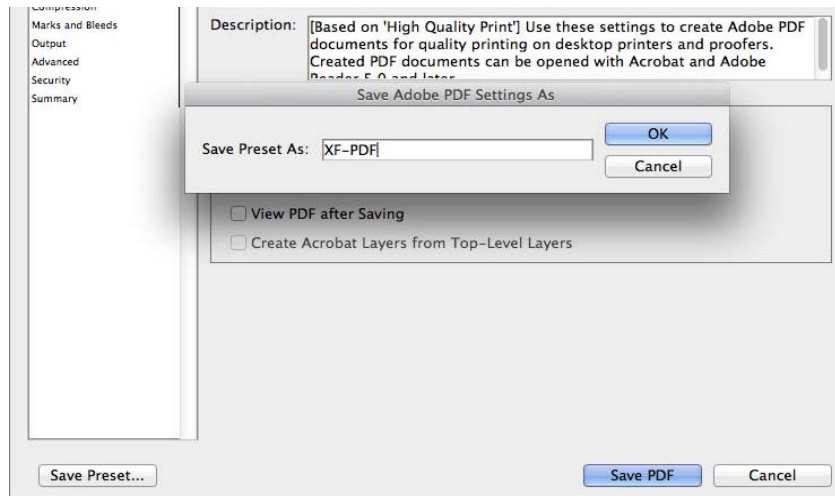
3. Select **Output** from the left menu as shown in **Figure 27**. Note that **Include Tagged Source Profiles** is selected. This will embed the working space and/or image files.

Figure 27: Select Output



4. Click on the Save Preset button in the lower left corner, shown in **Figure 27**.
5. Name preset **XF-PDF**, and click OK. See **Figure 28**.

Figure 28: Save as XF-PDF



6. Click **Save PDF**.
7. This preset will now be available as an option in the **Adobe PDF Preset** pull down menu in all Adobe programs.