

Inkjet Intelligence

Presented by



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Introduction to Inkjet Inks

Dye Inks – Dye ink is still the most prominent type of ink used in today's printers. Dyes dry fast, work with all inkjet papers, and have the best color gamut. Dye inks are not designed primarily with fade resistance in mind. Prints can begin fading in a few months to a few years depending on the media and display conditions. Red River recommends a dye inkjet printer when long term display and fade resistance is not critical.

Pigment Ink – These inks are designed to resist fading. Pigment ink can resist fade over 100 years depending on display conditions and media type. You would choose a pigment ink based printer if you want prints that resist fade for many decades.

Papers, Ink, and Compatibility

Here are some tips and warnings regarding paper and ink compatibility:

- Not all papers are compatible with pigment inks. Check on compatibility before you buy
- RC glossy papers (see below) are likely to exhibit some gloss differential and bronzing with pigment inks. Printer applied gloss optimizer or spray coatings will minimize the effect.
- With pigment inks, matte and fine art papers can scuff easily in dark areas of a print. If you intend on making a portfolio or book with this combination you might consider spraying prints or using interleaving sheets to minimize the problem.
- Dye inks will work with virtually any paper. If your needs don't call for fade resistant prints, consider a dye ink machine first. The wider color gamut and compatibility might be best for your needs.

Cost of Inkjet Printing

Red River Paper conducted a series of print tests to determine the cost in dollars of a typical photo print. A series of reports were written (and more are being completed) to address the concerns and arguments about the true cost of ink in desktop photo printing. Using the Epson and Canon desktop printers, we conducted a series of print tests to determine how much ink is used in a full coverage 8"x10" print. From that figure we extrapolated ink usage per square inch. The objective is to share a realistic cost per print vision with inkjet users. The choice to pursue photo inkjet printing is in the end an individual economic choice.

Current reports available:

Epson	Canon
Pro 3800 / 3880	Pro-100
R3000	PRO-10
R2000	PRO-1
R2880	Pro9500
R2400	Pro9000
R1900	iP4820
1400	

Selected Results

Printer	4x6	5x7	8x10	11x14	13x19
EPSON					
R2000 PK	\$0.20	\$0.29	\$0.67	\$1.29	\$2.07
R2400 MK	\$0.23	\$0.33	\$0.76	\$1.45	\$2.33
3880 PK	\$0.14	\$0.21	\$0.48	\$0.92	\$1.48
CANON					
PRO 9000	\$0.19	\$0.28	\$0.64	\$1.23	\$1.98
PRO 9500 PK	\$0.23	\$0.35	\$0.80	\$1.54	\$2.46

You can read all of the available reports by [clicking here](#)

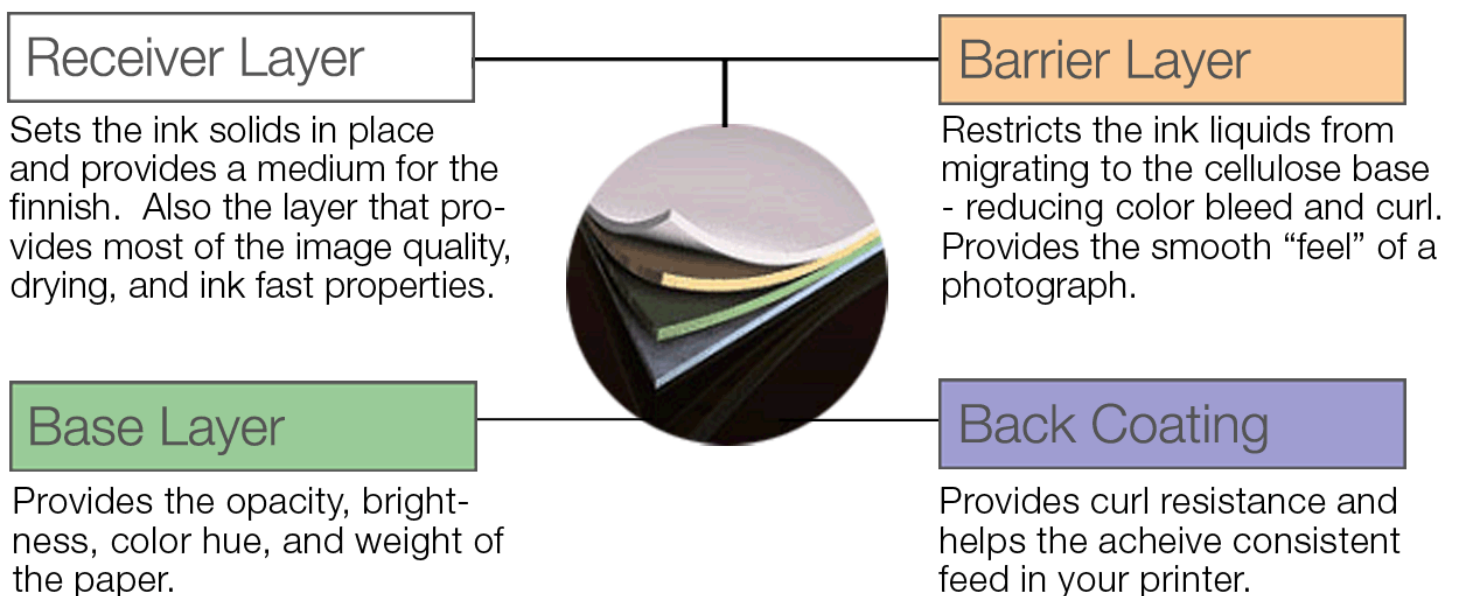
Introduction to Inkjet Paper Types

RC (resin coated) - This type of paper is referred to as micro-porous, nano-porous, or photobase. RC papers both look and feel like traditional photo lab paper and are the best selling inkjet media today.

In this category are three sub-categories:

- **Glossy** - traditionally called "F-surface". An Example is Red River UltraPro Gloss.
- **Luster / Satin** – traditionally called "E-surface". They have a bumpy, repeating surface that can vary in depth. An Example is Arctic Polar Satin.
- **Semimatte** – might be called "N-surface" by a photo lab. These are luster papers without any surface texture.

RC papers are compatible with all printer and ink types. You cannot usually print on the back of RC media. They accept some types of writing pen inks.



Matte – These are coated papers with no gloss or reflective sheen. The base stock is usually alpha cellulose (virgin wood pulp). Today's matte paper is capable of ultra-high photo quality and deep saturated colors. Matte is available in many weights, and may come in double sided versions. Examples are Red River 50lb. Premium Matte 2-sided, Red River 60lb. Polar Matte, River Linen, and GreenPix Warm Tone.

Fine Art – Fine art inkjet papers are usually 100% cotton or partial cotton content papers with inkjet receptive coating. This class of paper offers an elegant look, moderate to rough texture,

and a higher perceived value to the images printed thereupon. Art paper can be divided into two subcategories:

- A) Vellum finish / Hot Press - these are smooth finish papers
- B) Velvet finish / Cold Press - these feature a bumpy textured surface

Specialty – In this category are all sorts of fun and exotic stocks. Silver and gold metallic, translucent, clear, fabrics, glow-in-the-dark, and even tattoo material are just some of the choices available.

Fibre Base / Baryta – This class of inkjet paper is relatively new and is designed to mimic air-dried darkroom paper. The surfaces range from smooth to semi-smooth, glossy to semi-matte in appearance. The base stock is alpha-cellulose. Paper brightness comes from a layer of barium sulfate instead of the typical optical brighteners seen in RC and Matte inkjet media.

Cast Coated - These papers have a smooth glossy surface and a plain paper or matte coated back. You will find this type of paper used in graphic design comps, proofs, and Red River's unique line of inkjet greeting cards.

Cool Tone vs. Warm Tone Papers

All papers have a shade, or tonality. The majority of papers are cool tone and bright white because that is what the majority of users demand. However, more papers are becoming available that feature a more neutral, warm white tonality.

Knowing that shade differences exist, and having a choice of cool or warm tone adds greater flexibility to our creative toolkit. Your subject may look best reproduced with warmer, more natural color. Or it may need that colder, higher contrast look.

If you're not sure what tone paper you have, compare it to a sheet of plain copy paper. Standard plain paper is going to be cool toned and hence brighter white. Place your inkjet paper next to it in shaded sun light for a comparison.

Paper Shade and Contrast

Contrast is the difference between the maximum whites and blacks in an image. The greater the difference, the higher your image contrast will be. If you're looking for the most contrast from your inkjet prints, use cool tone papers. The cooler tone causes our brain to see a brighter white. This brighter white then causes the difference between whites and blacks to be greater giving more contrast.

Optical Brighteners in Paper

Optical brighteners are additives that paper manufacturers put into paper in order to help a paper look "whiter." They are also called optical brightening agents (OBA), or sometimes "artificial whiteners."

In order to make paper appear brighter, it is common for most paper manufacturers to add certain chemicals to the paper which can take invisible ultraviolet light and cause it to re-emit in the blue spectrum - or "fluoresce" - at a point that is just barely within our ability to see.

While our eyes see this as a brighter, bluer white - a light measuring instrument will only see this as a different form of blue. That is why printer profiles made with paper using a lot of optical brighteners can end up printing out images that have a yellow tint to them. The profile is trying to correct for what it sees as too much blue in the paper. [Learn much more here](#)

Choosing a paper surface for your images

This may seem obvious, but your choice of inkjet paper makes a big impact on the look of your print. It is important to know that different types of inkjet paper exist, and that the surface look and texture are important factors to consider when making a purchase. Here are the main types of photo inkjet paper:

RC (resin coated) - This type of paper is referred to as micro-porous, nano-porous, or photobase and represents the vast proportion of photo inkjet paper sold. RC papers look and feel like traditional photo lab paper. In this category are three sub-categories: Glossy, Luster / Satin, and Semi-matte.

Reasons to choose: Excellent color saturation, sharp details, resistant to handling, the look and feel of a lab photo, cost vs. top quality output.

Matte – These are coated papers with no gloss or sheen. The base stock is usually alpha cellulose (virgin wood pulp). Today's matte paper is capable of reproducing accurate colors and sharp detail. However, because it is a non-reflective surface matte prints will always appear more muted and subtle than prints on glossy, or luster.

Reasons to choose: Subtle look, focus on detail in the image (no distracting texture or reflections), low cost, variety of weights, many choices in double sided, extended fade resistance.

Fine Art – Usually 100% or partial cotton content papers with inkjet receptive chemical coating. This class of paper offers a more elegant look as well as the added dimension of a surface texture. Art paper comes in two surface types. Vellum, or Hot Press papers have a fairly smooth finish while Velvet or Cold Press media have a textured / bumpy surface.

Reasons to choose: Fine art look and feel, added value to a printed image, base material offers long term archival quality.

Fibre Base / Baryta – This class of inkjet paper is relatively new and is designed to mimic air-dried darkroom paper. The surfaces range from smooth to semi-smooth, glossy to semi-matte in appearance. The base stock is alpha-cellulose. Paper brightness comes from a layer of barium sulfate instead of the typical optical brighteners seen in RC and Matte inkjet media.

Reasons to choose: Subtle look, focus on detail in the image (no distracting texture or reflections), low cost, variety of weights, many choices in double sided.

Cast Coated - These papers have a smooth glossy surface and a plain paper or matte coated back. You will find this type of paper used in graphic design comps, proofs, and Red River’s unique line of inkjet greeting cards.

Introduction to Paper Weights & Measures

Paper weight is measured on a number of scales:

- **Pound Weight** – This is the familiar scale measurement such as 20lb. bond paper. A typical photo paper is 65lb.
- **GSM** – grams per square meter is the metric scale used by all paper mills. Red River Paper, and any other reputable supplier, will give the GSM for each paper. A typical photo paper is 260gsm.

Thickness is important because the scale offers you a mental picture of the paper in question. Thickness can also be used as a guide to quickly sort out media for different project needs.

Thickness is usually denoted in *mil*, or thousandths of an inch.

5 mil	10.4 mil	15 mil
Copy paper	Typical photo gloss	Cotton fine art paper

Inkjet paper is offered in many different sizes. In your inkjet printer properties, you will see the compatible size options including many European and metric equivalents. A list of sizes you might find when shopping for photo inkjet papers:

4x6 5x7 8x10 8.5x11 11x14	11x17 13x19 16x20 17x22	A4 – 8.3x11.7 Super A3/B – 13x19 US C – 17x22 Custom sizes can be defined for sizes like 17x25 and note cards
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Color Management – The Essential Knowledge

Profiles are data files that describe the way a particular device (camera, monitor, printer) reproduces color. You can think of profiles as “color translators” that explain how to reproduce color from one device like Photoshop to another like your inkjet printer.



You will use three distinctive types of profiles every day in your digital darkroom workflow.

1. **Input Profile (Camera and editing software)** An example is the profile used by your editing software. We call it the Working Space.
2. **Display Profile (Your monitor’s profile)** – A display profile tells your monitor how to accurately reproduce the colors of your image. Never use a monitor profile in Photoshop or during the printing process.
3. **Printer Profile (Also called Output Profile)**
A printer profile is specific to a printer, paper, and ink combination. It provides photo software with the range of colors that a printer, paper, and ink can reproduce. Using a paper profile will yield more consistent results that are accurate to your image file.

Installing Printer Profiles

Where You Get Printer Profiles

Most inkjet paper companies will provide profiles for their papers. You'll download these profiles from the paper company's website (ex. www.redriverpaper.com/profiles). You can also have them created for you by an independent specialist such as Chromix www.chromix.com. Finally, you can make the profiles yourself using specialized hardware and software from Datacolor or XRIte.

What Happens Once You Download These Profiles?

The first step is to “install” the profiles. Keep in mind profiles are not programs. They are just small data files. You will not “run” these files - only put them in specific locations on your hard drive:

Windows

Windows 98 - windows \ system \ color

Windows 2000 - WINNT \ system32 \ spool \ drivers \ color

Windows 7 and up - WINDOWS \ system32 \ spool \ drivers \ color

Mac

Hard Drive \ Library \ ColorSync \ Profiles

Storing profiles in /Library/ColorSync/Profiles allows all users to use them. An alternative area, for users without Admin privileges, is /Users/<username>/Library/ColorSync/Profiles. Profiles stored here are available only to the current user. The ColorSync Utility gives access to the details of individual profiles, shows gamut plots, can rename profiles, validates profile structure, among other useful tasks.

Detailed Help for Profile Installation

Go to www.redriverpaper.com/installprofiles for step-by-step instructions.

Using Printer Profiles

Profiles Installed – Now How Do I Use Them?

You'll call on printer profiles from the print dialog of your photo editing software. You'll perform two steps when using printer profiles:

- 1) Tell your photo software that it is in-charge of color management and then select the printer profile
- 2) Turn your printer's color management system off and choose the right media setting

It's really that simple. For details and step-by-step instructions go to www.redriverpaper.com/useprofiles

Matching Your Monitor to Your Print

There are two truths which will help when evaluating your prints.

Print Matching Truth #1 – The default brightness setting of your monitor is likely too high. This means it displays images brighter than they really are as defined by the file. Put bluntly, your monitor is lying to you! When you make a print, it will often look too dark when compared to the monitor.

Print Matching Truth #2 – With each step in the digital photography process you will lose some quality. From camera, to photo software, to printed image you should expect some loss in clarity and saturation. You should not expect ink on paper to completely reproduce the depth and color saturation originally captured by your digital camera or displayed on your monitor.

Calibrate Your Monitor

You will need hardware and software from Datacolor or X-Rite to build an ICC profile for your monitor. It is a simple process where you'll set your monitor's brightness, contrast, and make measurements that will build a custom profile.

Tip: Run the profiling software in advanced mode for the most control and best results. When prompted by the software, set your White Point to D65 and Gamma to 2.2.

Illustrated Look at Using Printer Profiles

Below are three examples of your “workflow” for using profiles in Photoshop, Lightroom, and Photoshop Elements

Note: Your printer controls may look different, but the process is the same. Check our detailed help files here: <http://www.redriverpaper.com/useprofiles>

PHOTOSHOP

1. Photoshop set to manage colors

Color Handling:

Photoshop Manages Colors ▼



Remember to disable the printer's color management in the print settings dialog box.

2. Select the profile for your paper and printer

Printer Profile:

RR Paper Canvas Ep3880.icc ▼

3. Choose rendering intent

Rendering Intent:

Relative Colorimetric ▼

☒ Black Point Compensation

4. Set media type, print quality, and TURN OFF COLOR MANAGEMENT

Media Settings

Media Type : Premium Presentation Paper Matte ▼

Color : Color ▼

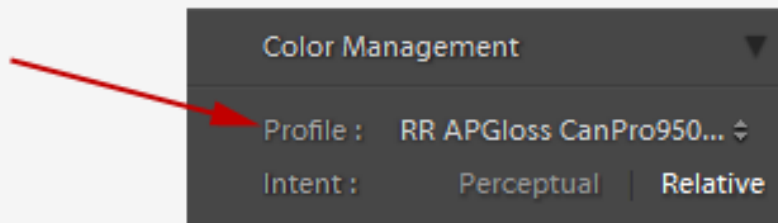
Print Quality : Quality Options ▼

Mode : ☐ Automatic ☒ Custom

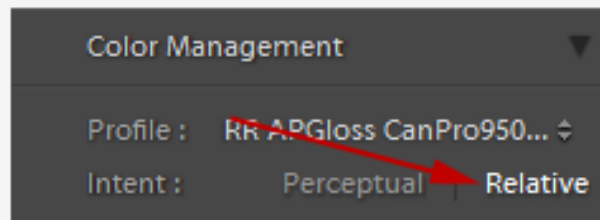
Off (No Color Adjustment) ▼

LIGHTROOM

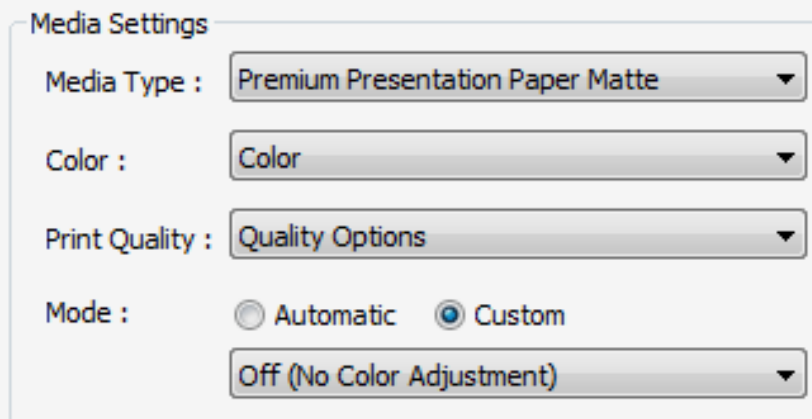
1. In Print Module - Choose your printer profile



2. Choose rendering intent

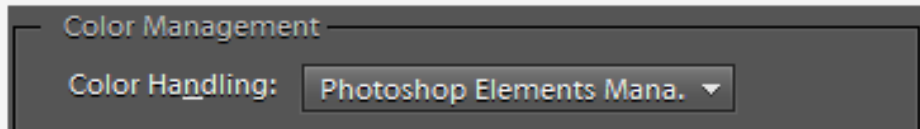


3. Set your printer's media type, quality, and turn off color management

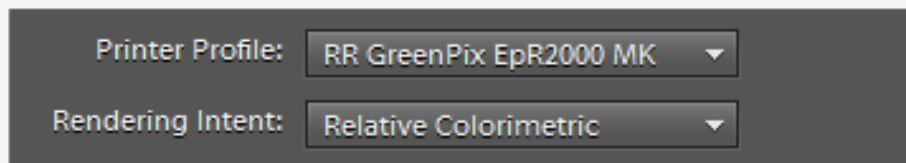


PHOTOSHOP ELEMENTS

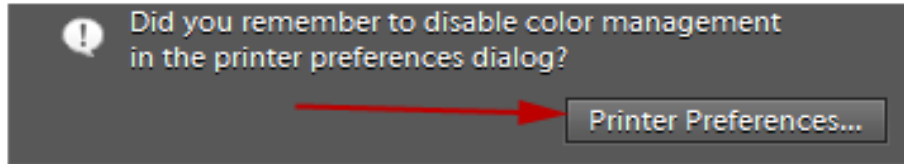
1. Photoshop Elements set to manage colors



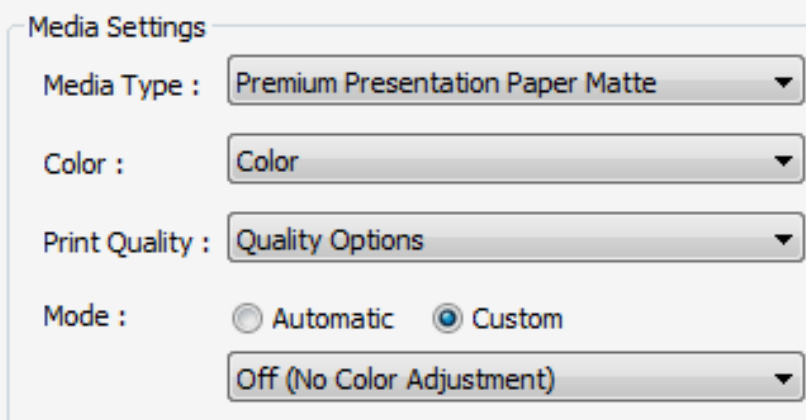
2. Select the printer profile and set rendering intent



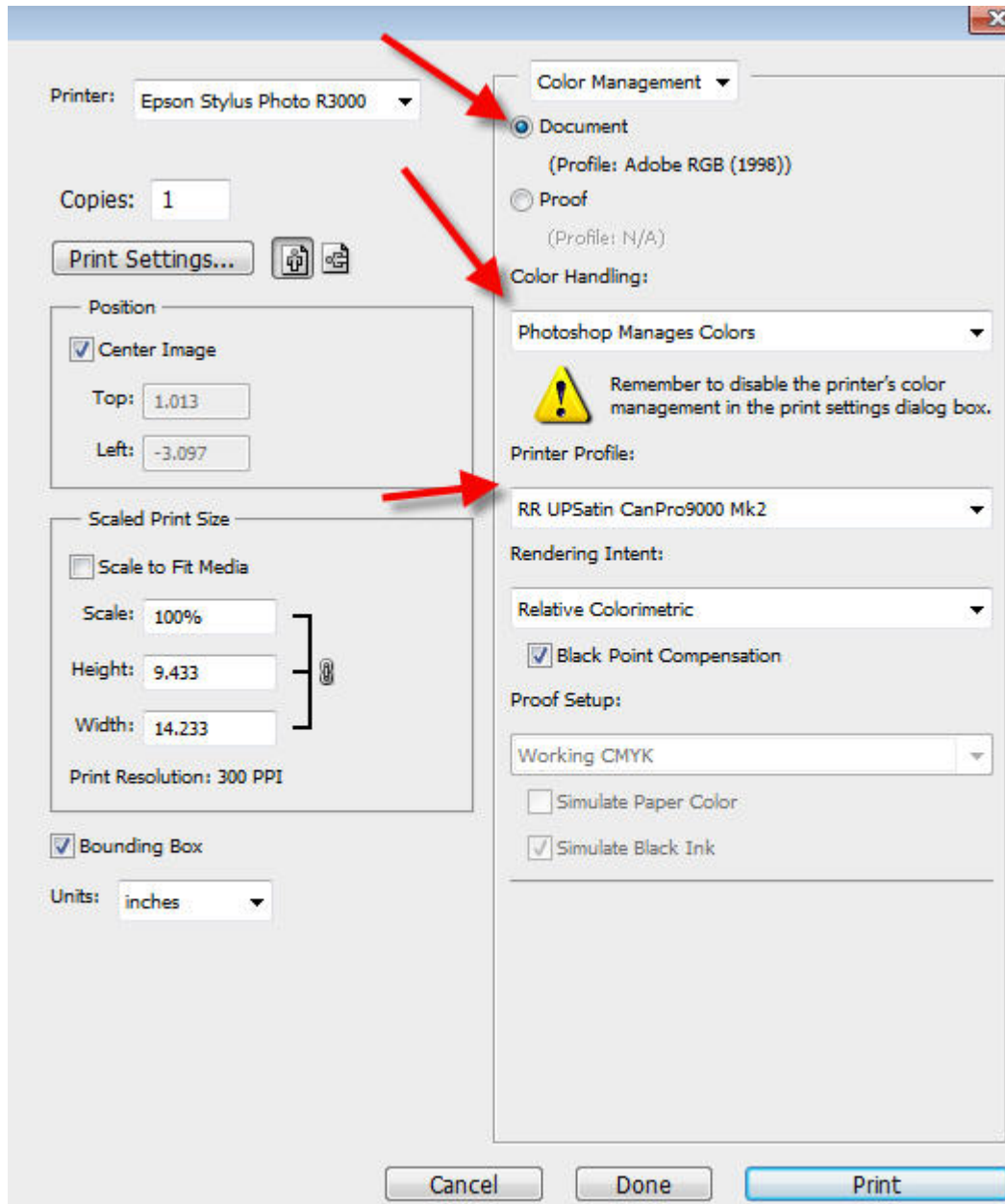
3. Open your printer's preferences



4. Set media type, print quality, and turn off color management



Using Profiles in Photoshop

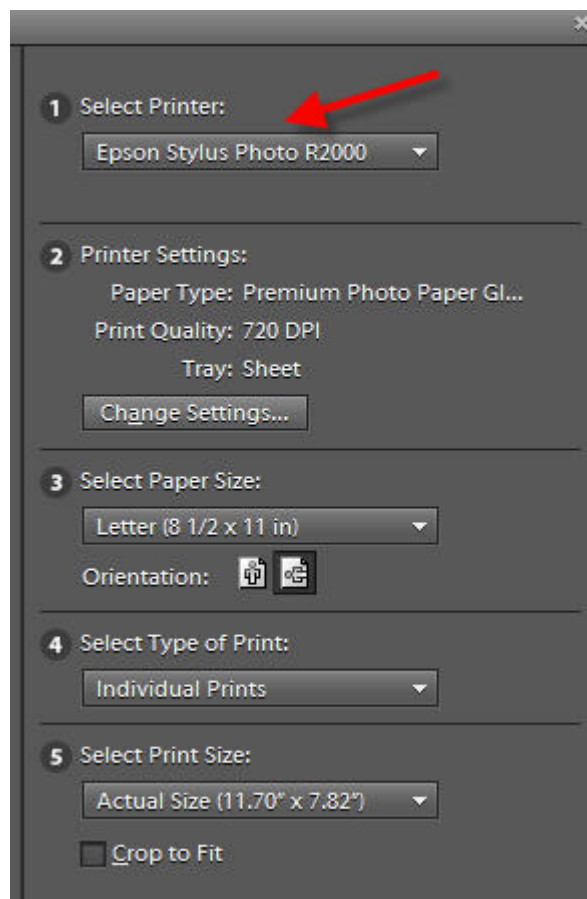


File > Print in Photoshop

- 1) Verify your document is using the correct profile**
- 2) Set Color Handling – Photoshop Manages Color**
- 3) Choose the paper profile for your printer**
- 4) Rendering Intent – Relative Colorimetric or Perceptual (see above and experiment)**
- 5) Black Point Compensation – Always checked**

Click the Print Settings button to launch your printer's driver dialog.

Using Profiles in Photoshop Elements

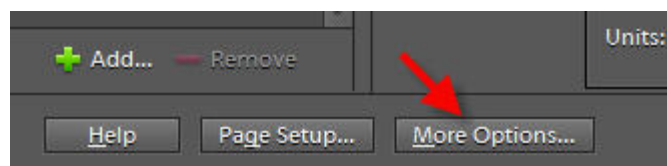


Go to the File > Print

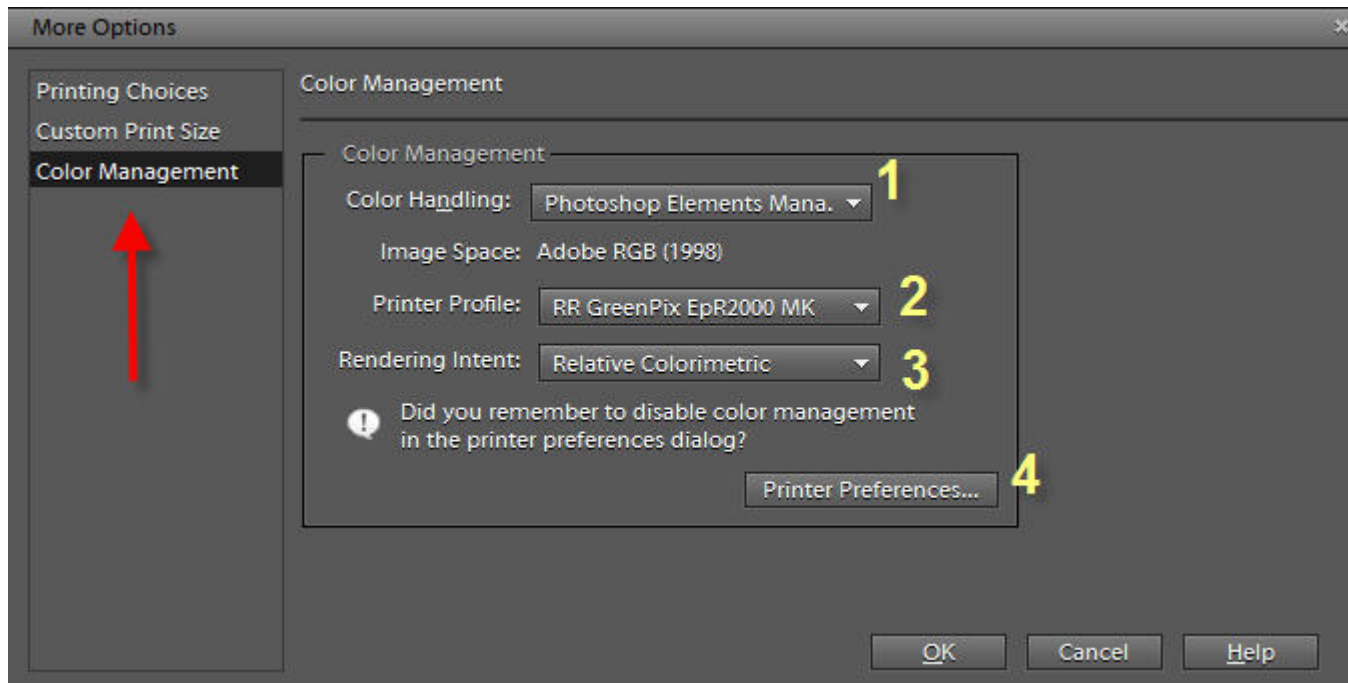
Start by selecting your printer from the top drop down menu.

It's a good idea to look at menu 3 and 5 now. Set your paper size AND verify that the print size matches what you want.

Next look for and click the More Options button at the bottom left of the Print menu.



Once the “More Options” dialog appears, click on the Color Management option.



- 1) Choose “Photoshop Elements Manages Color” from the Color Handling drop down
- 2) Choose the printer profile for your paper
- 3) Rendering Intent – We recommend Relative Colorimetric for most images
- 4) Now click the PRINTER PREFERENCES button which will launch your printer’s driver dialog. When you finish with the printer settings you will return to this menu. Click OK until you are back at the main Print menu. Then click Print to send your job to the printer.

Using Profiles in Lightroom

Using profiles in Lightroom is the same for Windows and Mac.

You will be in the Print module. Look to the right menu area, near the bottom under the “Print Job” section.

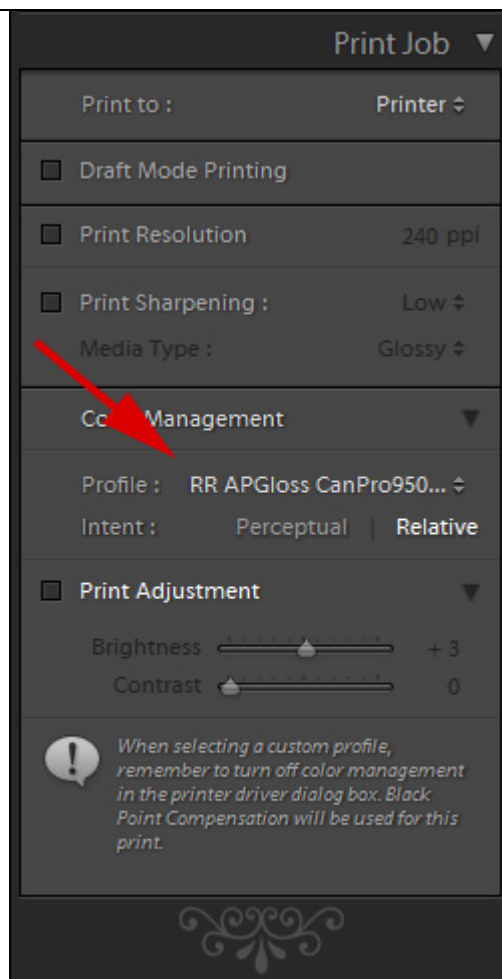
After you have activated a profile in Lightroom, see above, then that profile will appear in the “Profile” drop down menu. The arrow at right shows the menu.

Choose the profile for the paper and printer you’re using.

You will also choose the Rendering Intent. We recommend Relative for most jobs.

We recommend leaving Print Resolution and Print Sharpening turned off.

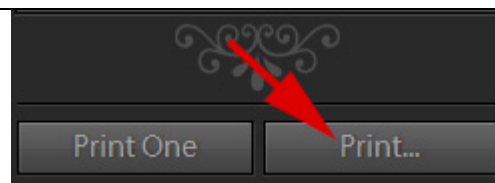
For sharpening, it’s best to do that yourself using the Develop module, or a tool such as Nik Sharpener Pro or Topaz InFocus.



Setting your printer’s preferences and media type

Windows

Click the Print button at the bottom right of your screen. You can then access your printer’s preferences for the next steps.



Mac

Click on the Print Settings button at the bottom right of your screen. From there you can access your printer’s settings for the next steps.



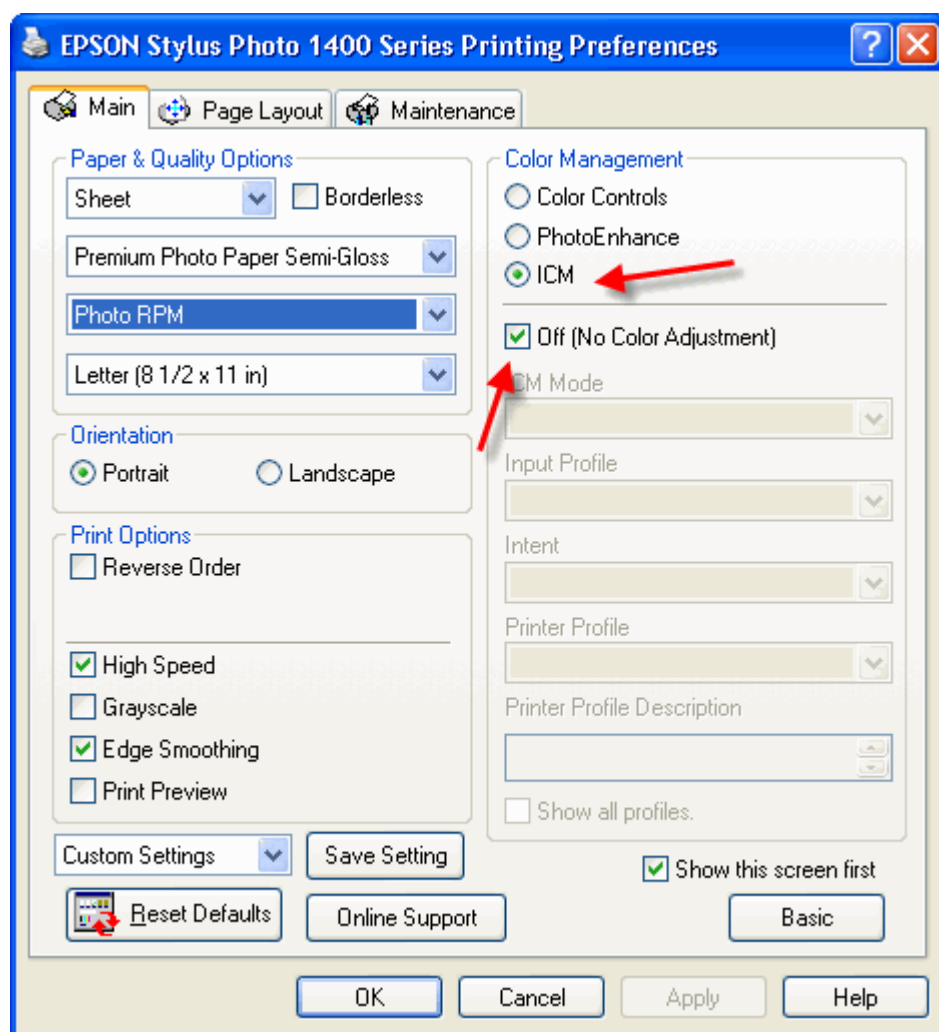
SETTING YOUR PRINTER CORRECTLY - Windows

Now that your photo software is set correctly you need to set the media type, print quality, and turn off printer color management. Epson, Canon, and HP are all slightly different. Consult your printer manual for specific help. The following screens are for general guidance. Remember, full help files for using profiles are at <http://www.redriverpaper.com/useprofiles>

Epson Printer Settings / Windows

- 1) Choose the paper setting (media type) per the profile's instructions.
- 2) Set print quality – Your profile instructions should tell you the suggested quality setting
- 3) Turn off color management – Most Epson drivers are the same. Choose ICM under Color Management then click “Off (No Color Adjustment)”

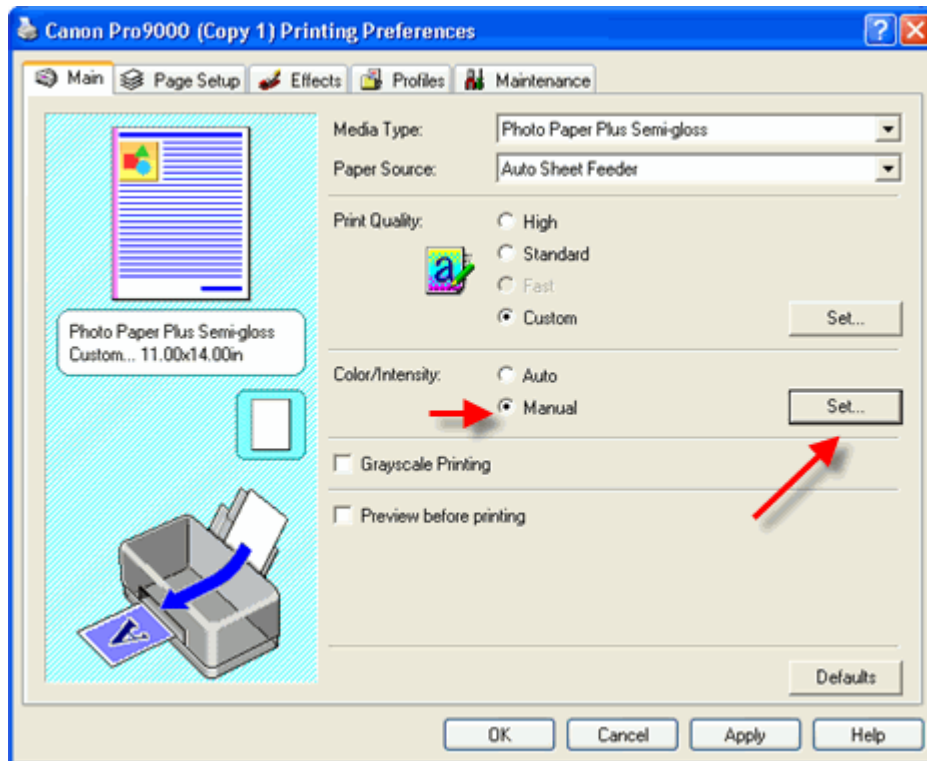
You may click OK and send the print job to the printer.



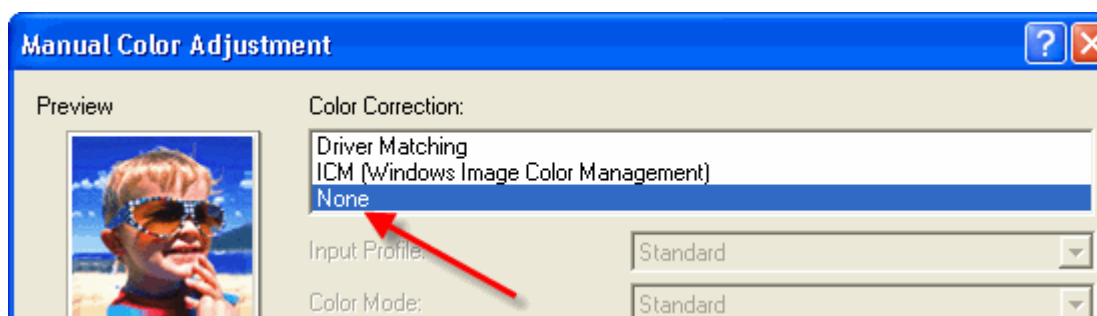
Canon Printer Settings / Windows

- 1) Choose the media type per the profile's instructions Set print quality – Your profile instructions should tell you the suggested quality setting
- 2) Turn off color management –Under Color/Intensity click Manual then Set. On the next screen choose None in the Color Correction dialog. Click OK to get back to the properties menu.

You may click OK and send the print job to the printer.



Then...

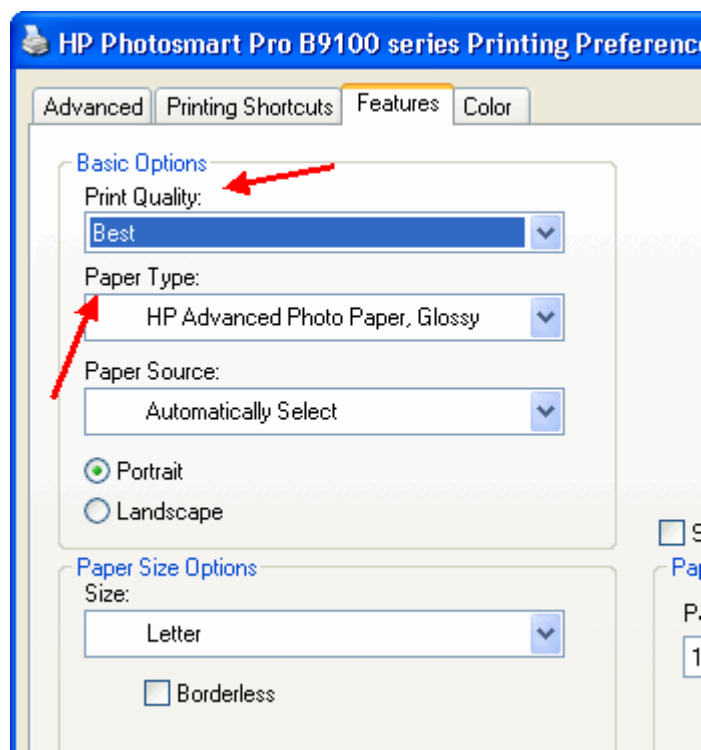
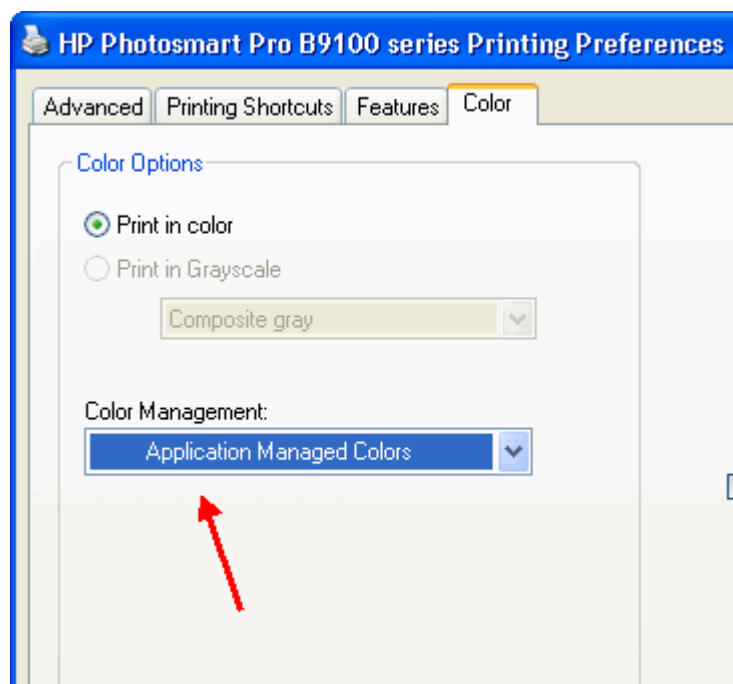


HP Printer Settings / Windows

- 1) Choose the Print Quality and Paper Type as recommended in your profile instructions
- 2) Go to the Color tab (or equivalent) and under Color Management select “Application Managed Colors”

You may click OK and send the print job to the printer.

You're now printing with in a color managed workflow.



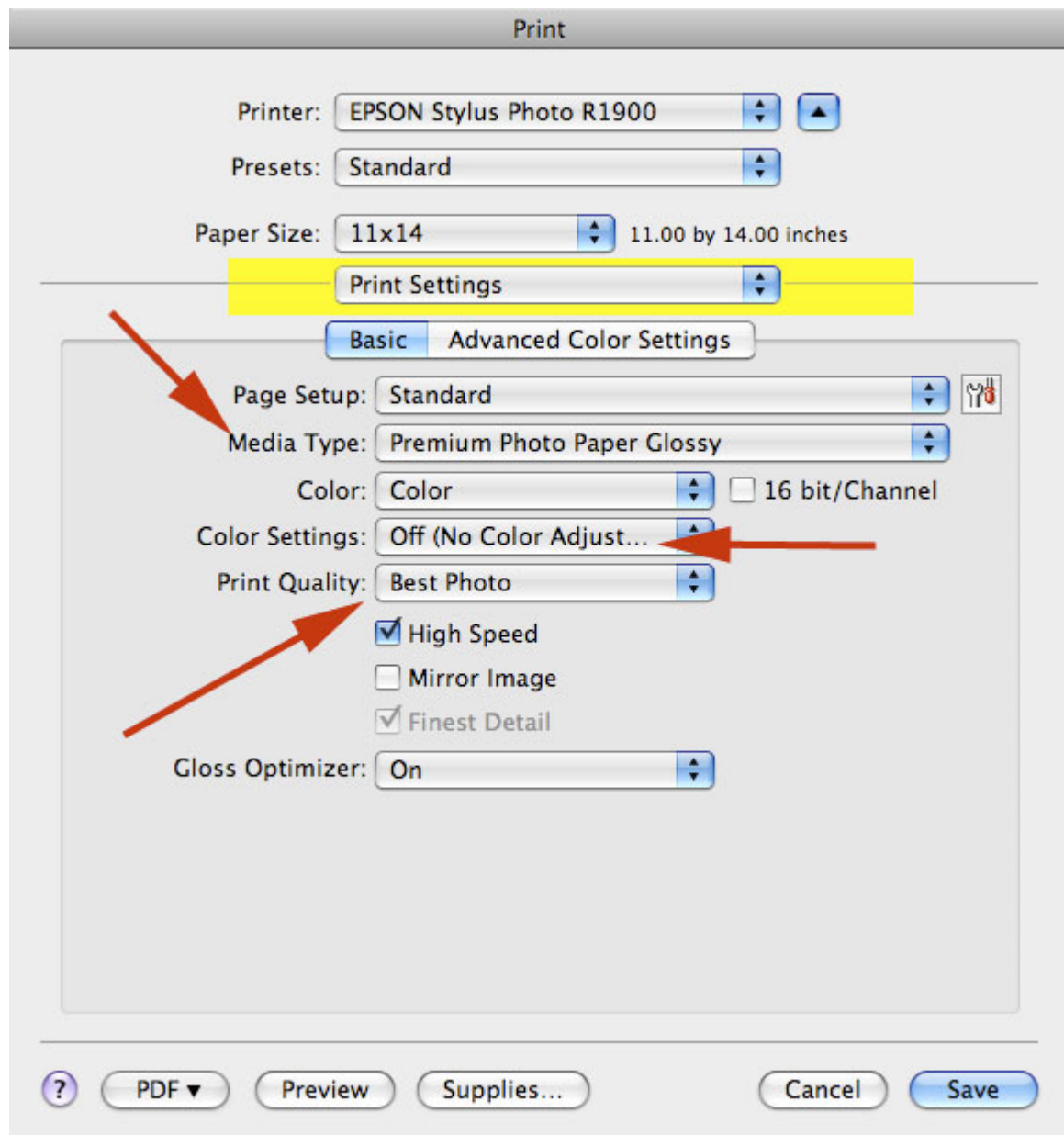
SETTING YOUR PRINTER CORRECTLY – Mac

Epson Printer Settings / Mac

Once in the Print dialog you'll need to set and verify some controls. Choose the Print Settings drop down menu:

- 1) Set the media type per the profile instructions
- 2) Set print quality according to your preference. We recommend Best Photo or 1440dpi.
- 3) Under Color Management verify it is set to Off (No Color Adjustment).

You may now click Save to return to the print dialog. Then you can click Print.

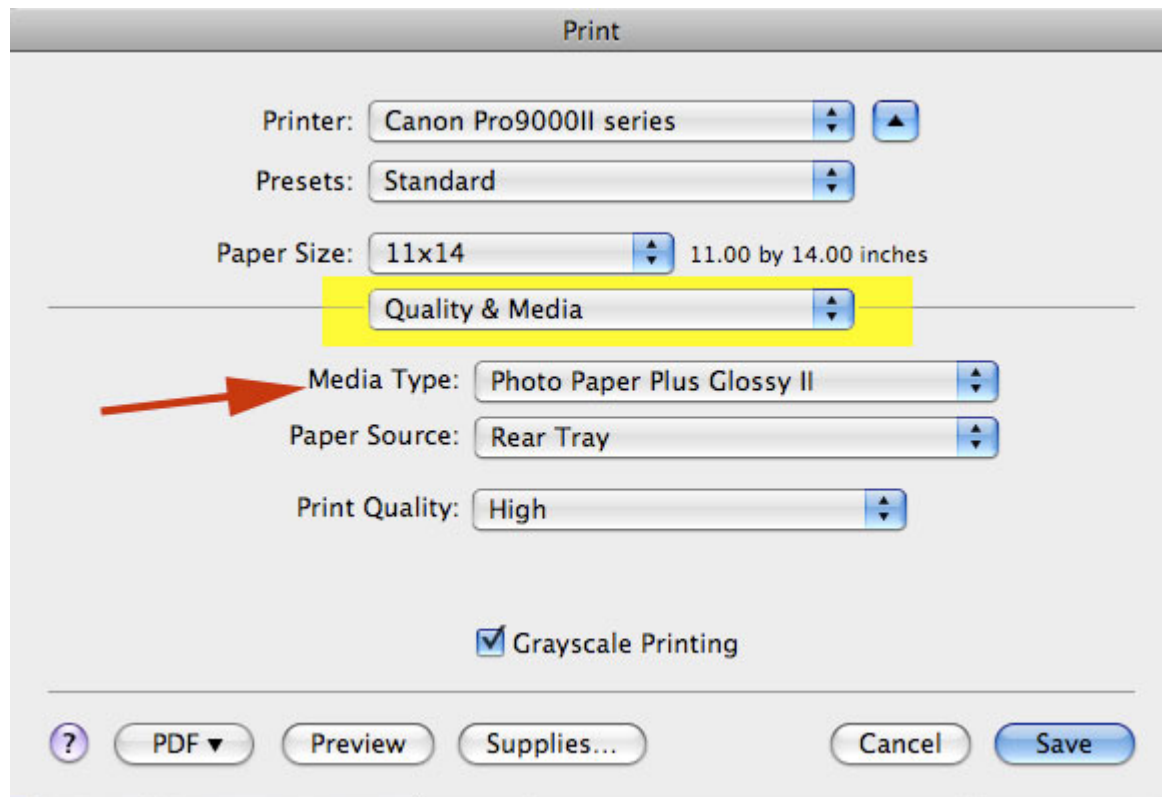


Canon Printer Settings / Mac

Under the Quality & Media tab you will

- 1) Set the media type per the profile instructions
- 2) Choose Print Quality. We recommend High for most print jobs

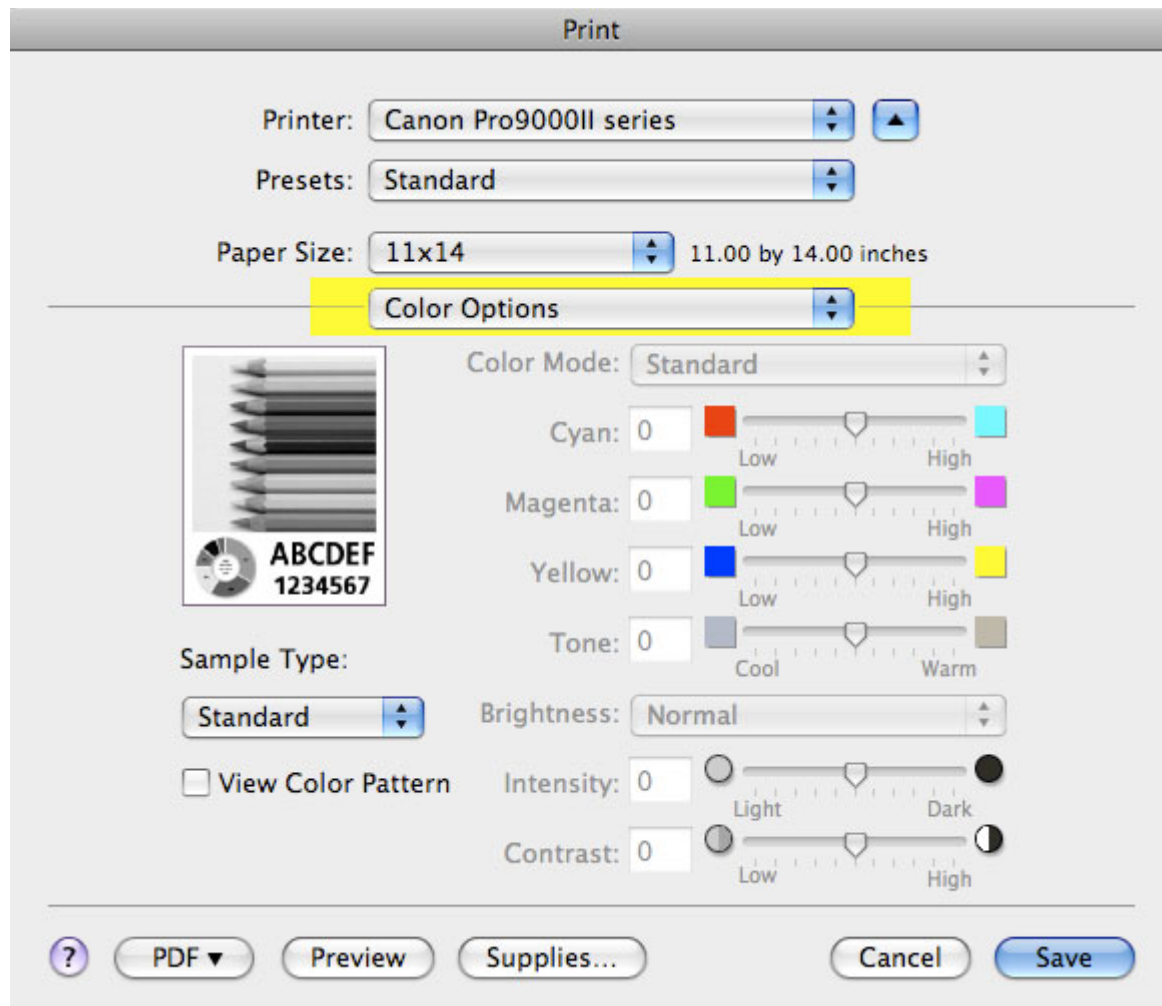
Now choose the Color Options tab.



Canon Printer Settings / Mac Continued

When you arrive at the Color Options tab, the controls should be grayed out. This indicates that Photoshop has taken charge of the color management process.

You can now click Save to return to the print dialog. You can then click Print.

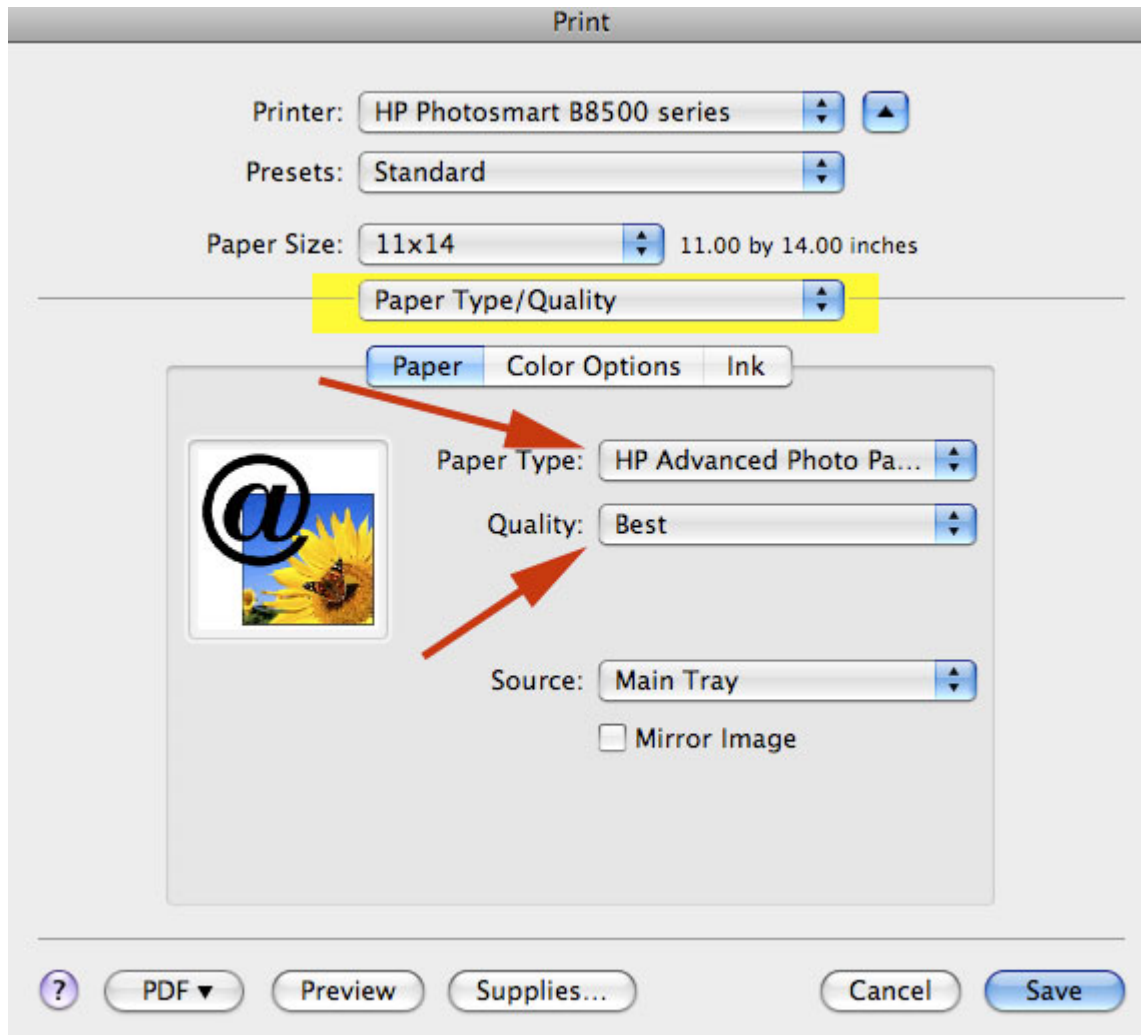


HP Printer Settings / Mac

Once in the Print dialog you'll need to set and verify some controls. Choose the Paper Type / Quality drop down menu:

- 1) Choose your paper type per the profile instructions
- 2) Set quality, usually to Best

Now choose the Color Options tab.

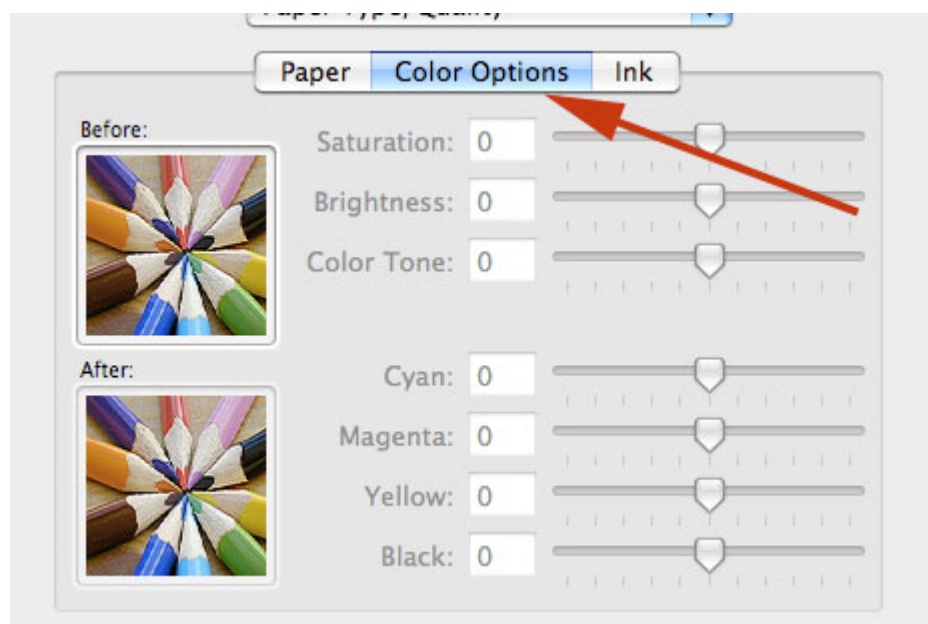


HP Printer Settings / Mac Continued

On the Color Options tab, the controls should be grayed out. This indicates that Photoshop has taken charge of the color management process.

An alternative setup is to look for and select “Application Managed Colors” which will turn off the printer’s color management. You’ll see then with older printers or Photoshop before CS4.

You can now click Save to return to the Photoshop print dialog. You can then click Print.



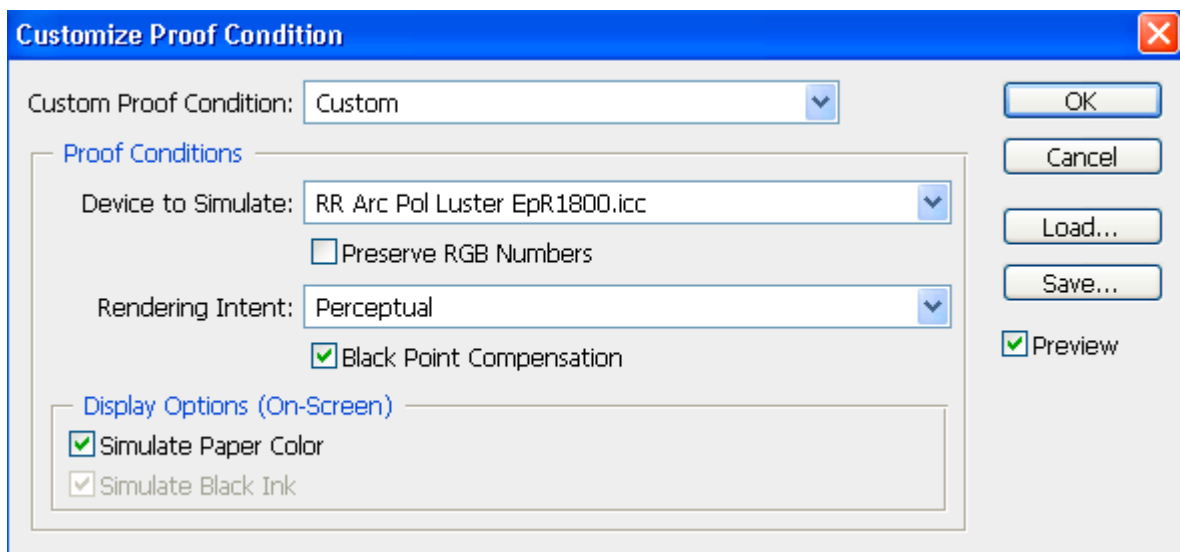
Soft Proofing in Photoshop

Soft proofing is a fun way to get a good idea of output quality before you click the Print button. It is **VERY IMPORTANT** to note that that the you should only use a properly calibrated and profiled monitor when attempting a soft proof. You should compare the final print to the softproofed version of the image after the print has dried completely.

To begin the soft proof process, go to Photoshop menu: **View > Proof Setup > Custom**

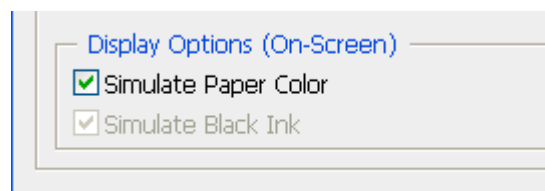
Under **Device to Simulate**, choose the printer profile, under **Rendering Intent** choose **Perceptual**.

You can experiment with the **Relative Colorimetric** rendering intent. The results depend on the paper, printer, and ink that you are using.



The **Simulate Paper Color** can be turned **ON** or **OFF**. This feature maps the **White Point Tag** in your profile. When this option is left off, the maximum white (RGB=255) in the file is mapped to the maximum white of the monitor (MonitorRGB=255). So the white you will see is the white point of your monitor, not the print. If you want to eliminate this discrepancy you can turn the **Paper Color Simulation ON**.

Simulate Black Ink maps the **Black Point Tag** inside the your profile to the monitor display in an attempt to reproduce the actual black density of your print. It is defaulted **ON** if you choose **Simulate Paper Color**.



Take care when using these display option simulators. The results can often look odd at first blush. It is true that the simulations work well in general. One good tip from Giorgio Trucco at

TERMINOLOGY

Black Point Compensation

This helps to preserve the tonal range during a color conversion. It is best used when converting between RGB and CMYK modes. In many cases this option can result in improved shadow detail when used in combination with the “Relative Colorimetric” rendering intent and an output profile.

Bronzing

Generic term for the reflective “bronzed” look in dark areas of a print when viewed at an angle. This results from dark ink buildup on glossy or satin papers when using pigment ink.

Color Gamut

This is simply the range of colors that can be reproduced. A large number of variables come into play when dictating how large a color gamut can be produced. The same ink set and printer will produce different color gamuts depending on which media it is being printed on to. Gloss and Satin coatings usually produce the largest color gamuts, while matte coatings offer the smallest.

Vibrancy is often confused with color gamut. A vibrant dye-based ink set may produce more vibrant colors compared to a pigment-based ink. However the color gamut of that pigment-based ink may well be wider. Most color gamut models do not take into account the vibrancy or visual quality of an ink/media combination.

Embedding Profiles

When saving your RGB image file, Photoshop can “tag” the file with the RGB working space it was created in. It is important to recognize the how these embedded profiles or profile “tags” can affect your work. By embedding an RGB working space with your image when saving it in Photoshop you are recording how your images appear on your monitor as well as the raw data in your image file. As you see later in this document, you can set Photoshop to look for embedded profiles, and give you options for how to handle them when opening files.

Engine

When color values are translated or converted from one color space to another the calculations involved are handled by an “Engine”. This is the short name for the Color Management Module (CMM). The Adobe Ace Engine is recommended and is the default on any Photoshop installation.

Gloss Differential

When light is reflected directly toward the viewer from a print. Normally associated with prints using pigment ink on glossy and satin papers. Gloss Differential primarily occurs on highlight areas of an image.

Rendering Intent

This tells the Engine how to convert one color value to another when mapping color values from a source space to a destination space.

The “Relative Colorimetric” intent provides the truest, most accurate conversion possible as individual color values are mapped directly to their equivalent. However, colors that lie outside the reproducible range of the destination source space are clipped. This results in “blocked in” colors where areas of high color intensity cannot be reproduced with any detail.

The “Perceptual” intent is often known as the Photographic intent because it provides a punchy high contrast conversion. Tonal values may be shifted around to accommodate as wide a tonal range as possible but the relationship between color values is maintained; this means that the detail contained in areas of high intensity color is preserved. The need for this type of conversion is greater when converting from a wide color gamut (RGB) to a smaller color gamut (CMYK) or vice versa. It is often recommended for photographic printing.

Other rendering intents such as “Absolute Colorimetric” or “Saturation” should be avoided for desktop photo printing.

Relative Colorimetric is preferred when using a printer with a large color gamut as it produces a more accurate printout. Many modern desktop and wide format printers are capable of producing a very wide color gamut, especially on satin and gloss papers.

Cleaning Your Printer

Printers need care and should be taken care of to get consistent print quality, paper feed, and longer print life.

Part 1: Software based maintenance

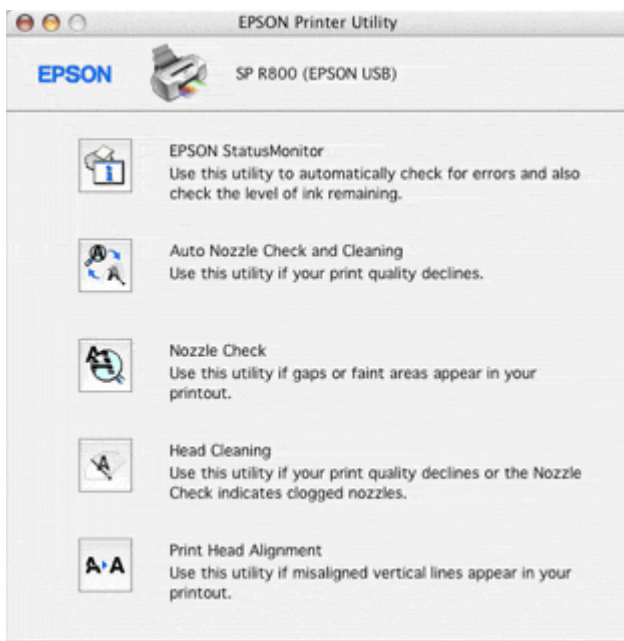
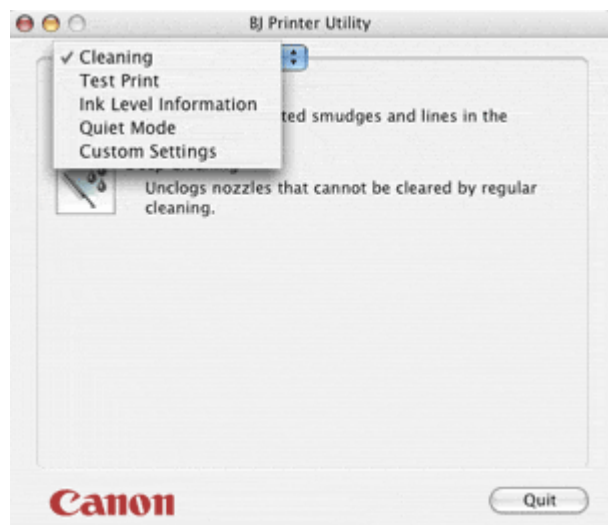
Virtually all inkjet printers have functions called head cleaning and head alignment.

The head cleaning cycle insures all ink nozzle are clear and free of any obstructions. What to look for: You heads need to be cleaned if you start seeing a color shift in prints or faint areas. This usually means a particular color is not being put on the paper. Make sure to run a nozzle check periodically to see if any heads are blocked. Always run a cleaning if your printer has set for more than a month between printings.

Head alignment is a function that requires some involvement on your part. You will need a couple of sheets of plain paper for the process. Alignment insures all the nozzles are pointing the right directing and firing ink in the right place. What to look for: White repeating lines or a grid like pattern on your print can indicate misalignment of heads. Perform this function when needed.

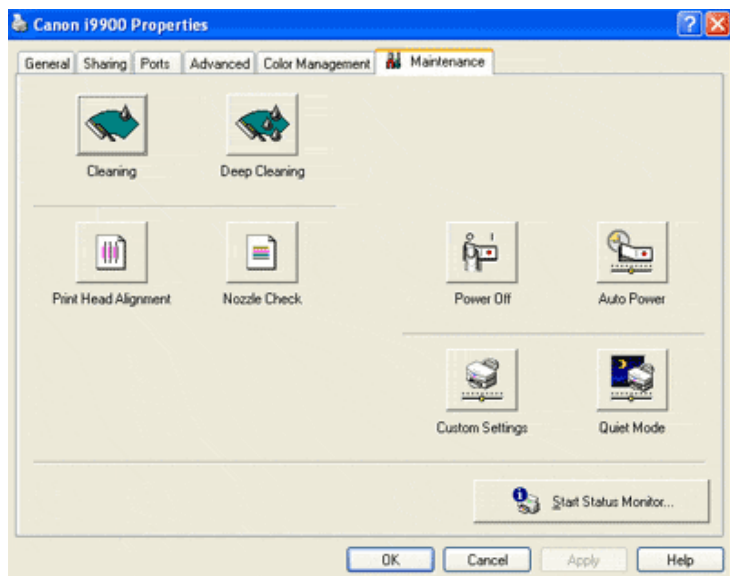
Maintenance screen shots Mac

Go to System Preferences » Print & Fax » Set Up Printers. Then, choose your printer in the printer list and click Utility near the top of the screen.



Maintenance screen shots PC

From the printer properties dialog click on the Maintenance tab for your printer cleaning functions



Feed Roller Cleaning

If you use your printer often, and especially if you use 2-sided inkjet papers, proper maintenance of the feed rollers is important. Paper leaves behind dust as it runs through your printer. 2-sided papers leave inkjet coating behind, which can be slick. You will eventually notice inconsistent feeding or sometimes your printer will not feed at all.

Also, ink overspray can build up on the rollers below the print head. This results in black streaks, usually on the back of your paper.

Follow the steps below and any feed or streaking issues should disappear.

NOTE! Red River Paper assumes no liability if you follow these cleaning steps. If you are careless in cleaning your printer, damage could occur. We have been cleaning our printers in this manner for 7 years with no problems to date.

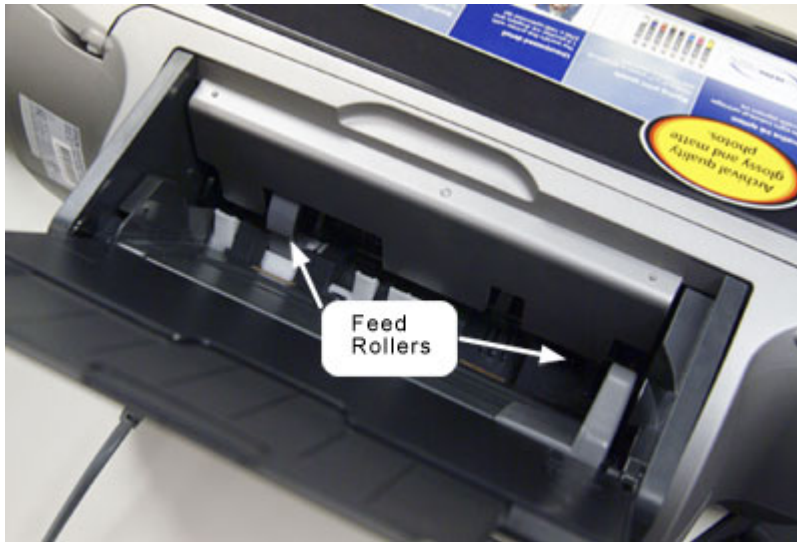
What you will need:



Alcohol pads

Bottle of rubbing alcohol

First, look down the feed tray of your printer - see image below.



Canon printer note!

Because Canon printers do not have an on demand paper feed button, you will not be able to reach the entire roller.

When running the alcohol soaked sheet through, you will have to make a print - we suggest a text document with only one line or character.

If you put your fingers in the feed path, you will feel rubber-coated rollers. Take your alcohol swab and hold it on a roller with your finger. Now, push the paper feed button on your printer - the rollers will move. Don't be alarmed if your finger gets tugged a bit. It will NOT get pulled into the mechanism! Cycle the paper feed a few times and make sure you clean each roller.

If you are having trouble with ink streaks on your paper, try this:

Take an 8.5x11 sheet of plain paper. Soak the interior of the sheet with rubbing alcohol, leaving all four edges completely dry. Run this sheet through your printer 2-3 times front and back. This will clean all of the internal rollers of debris and any ink.

Finally

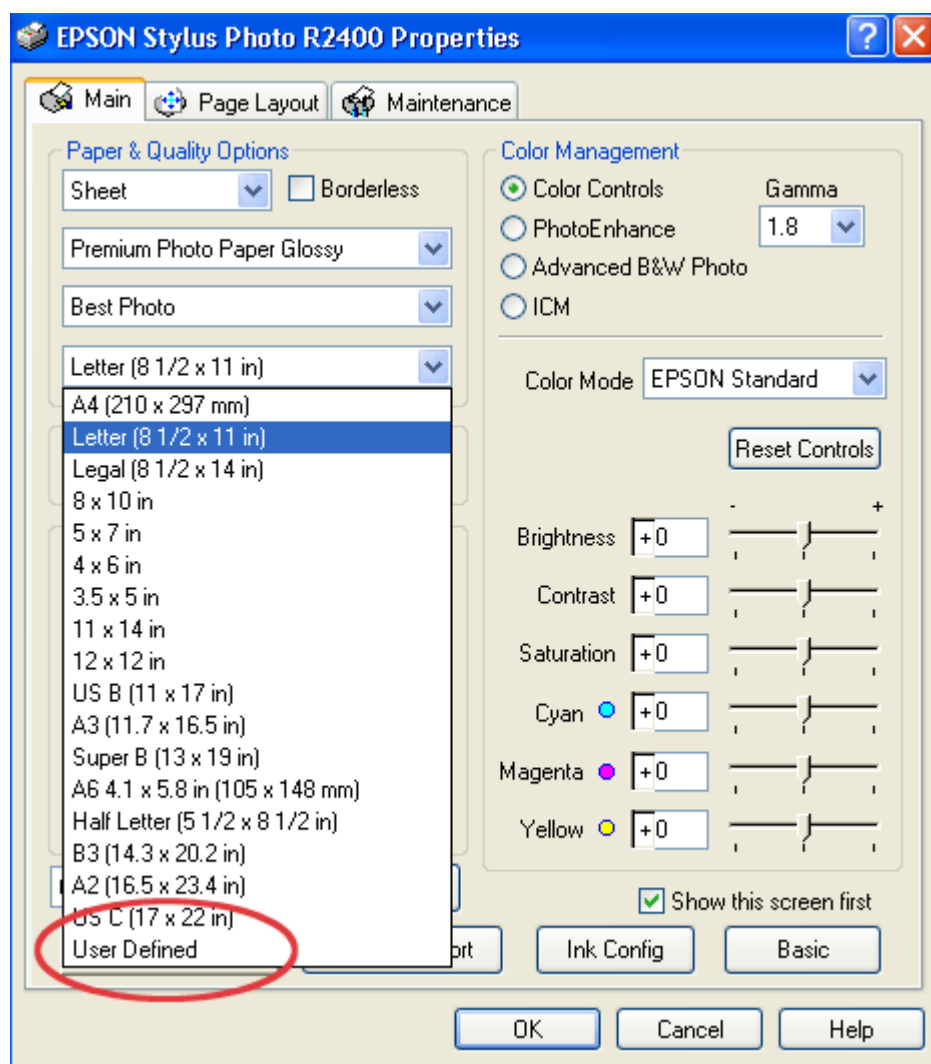
Use canned air to blow any remaining dust and debris from the print feed path and inside the printer. Be gentle with the air and do not get it too close to any delicate parts.

Red River now sells [cleaning sheets and packs](#) that make this process easier and quicker.

Custom Media Size Management

There are a number of projects where you will need to make a custom paper size. Many sizes like 12x12, 13x38, and greeting cards are not included with your printer software. Making a custom size is easy. Below are tutorials for Epson, Canon, and HP printers for PC and Mac platforms.

Epson / PC



From the media size drop menu choose **USER DEFINED**

User Defined Paper Size

Paper Size : User Defined

Paper Size Name : 7x10

Paper Width : 700
[350 ... 1295]

Paper Height : 1000
[350 ... 129001]

Unit:
☐ 0.01 cm ☒ 0.01 inch

Save Delete OK Cancel Help

SPECIAL NOTE:

When defining width and height, ALWAYS set your smaller sheet dimension to width and larger to height.

Example - on a 7x10 greeting card 7 is the width and 10 the height regardless of the print orientation.

Set your paper width and height. Notice how Epson defines the dimensions - the numbers are .01 inches. So for a 7x10 card you would assign width as 700 and height as 1000.

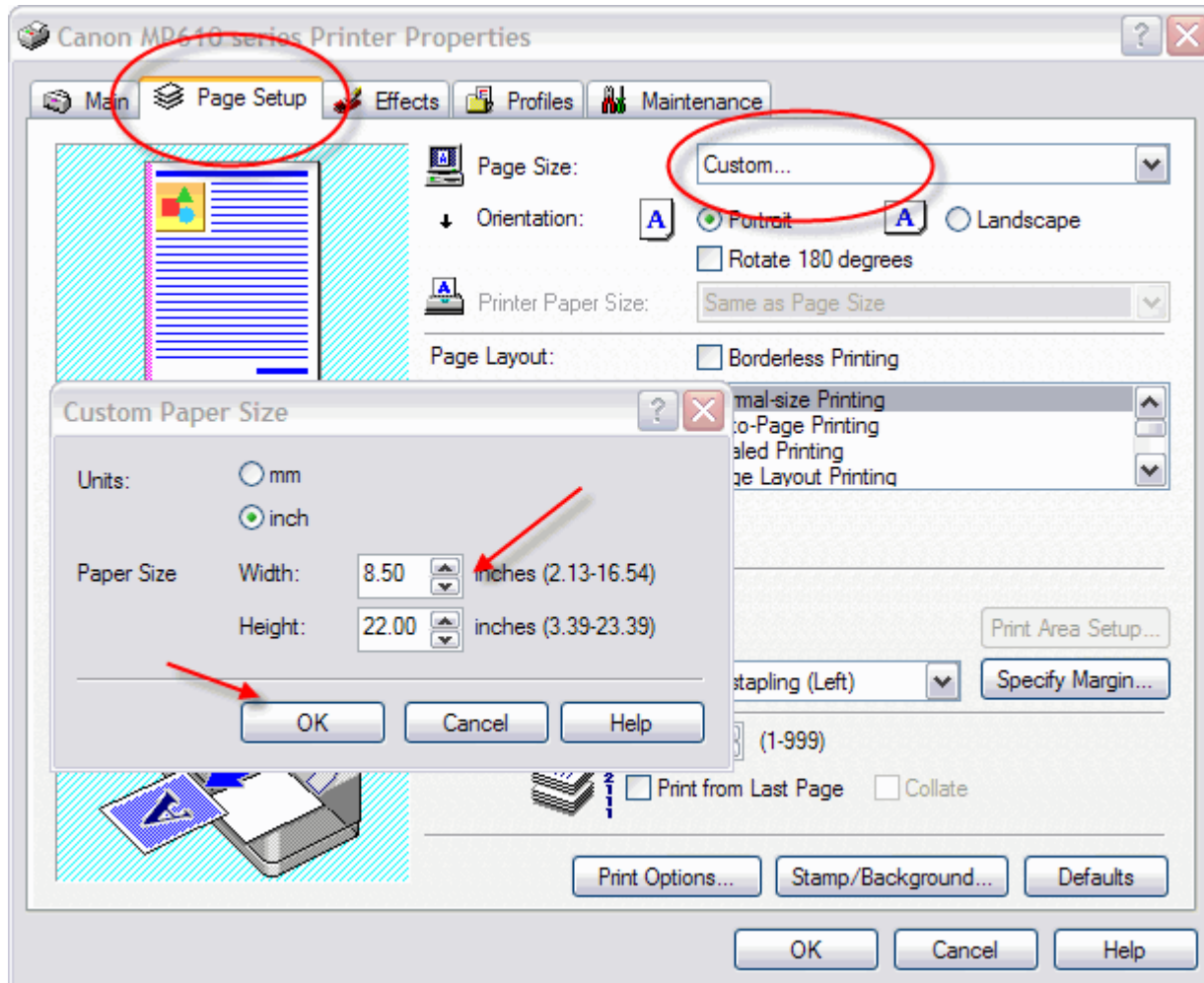
Note for 13x38 panorama users - the max paper width will be set to 1295.

NAME your new size in the PAPER SIZE NAME box and click SAVE. The new paper will be saved for future use in the media size drop menu seen above.

Canon / PC

Go to the Canon printer properties dialog.

You will choose "Custom..." from the Page Size drop menu. A small dialog will appear labeled "Custom Paper Size". Here is where you define the dimensions of your paper.



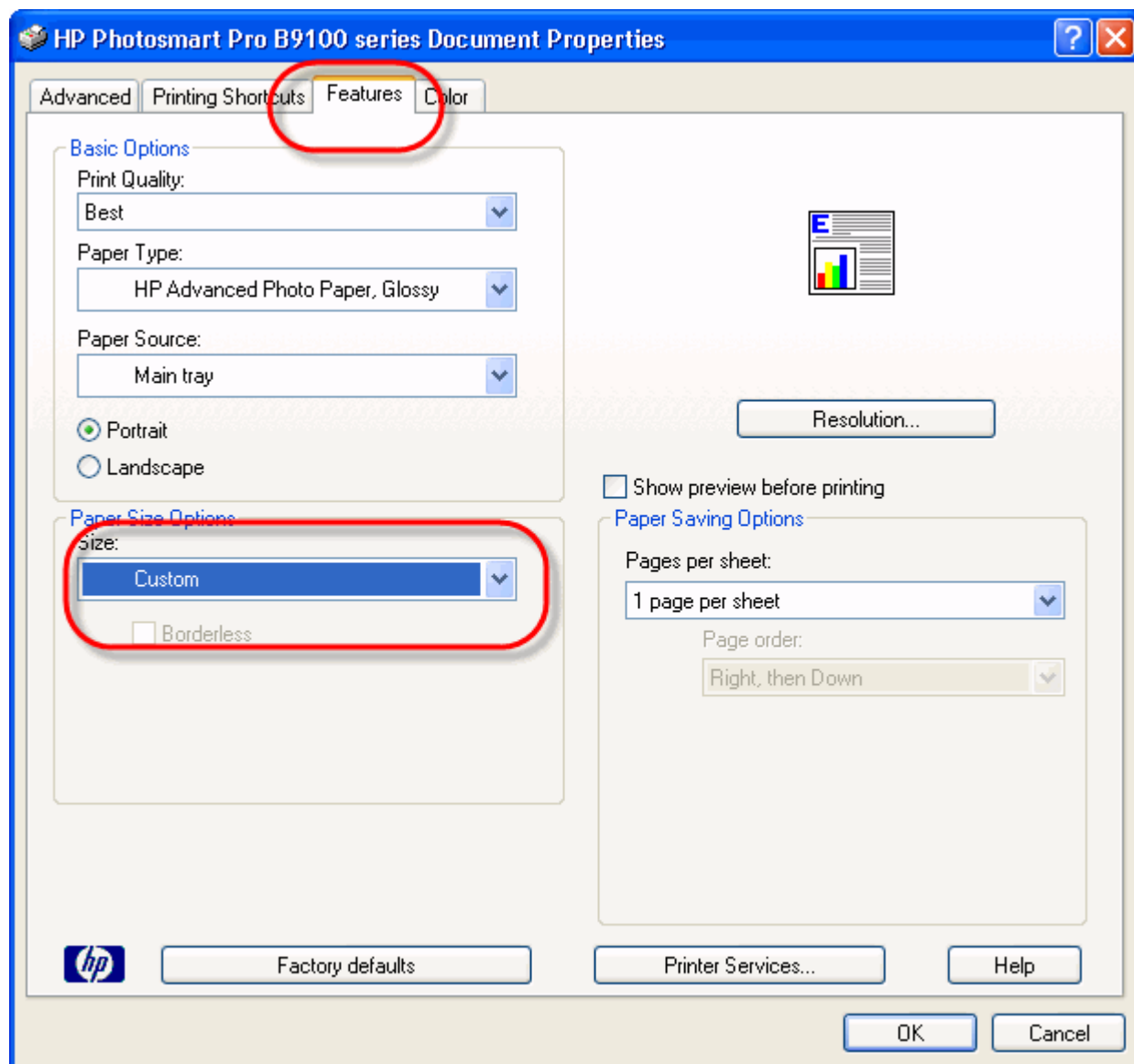
SPECIAL NOTES:

- 1) ALWAYS set your smaller sheet dimension to width and larger to height.
- 2) Most Canon printers cannot remember custom paper size settings. You will need to do this process each time you print a custom paper size.

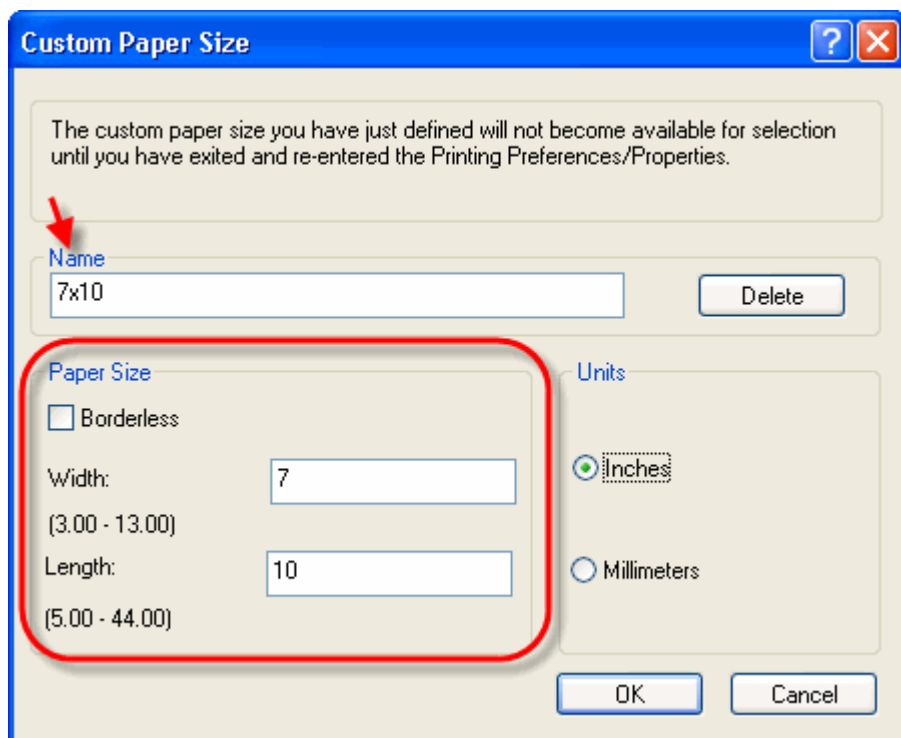
HP / PC

In the printer properties, click on the Features tab. Under the Paper Size Options, choose

Custom



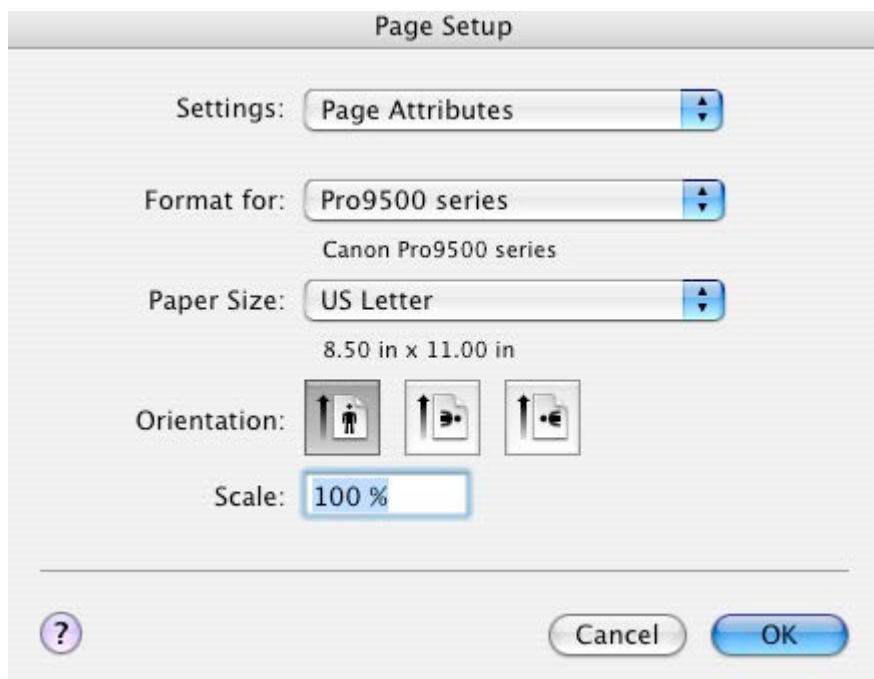
Set the width and height of your custom paper size. Name the size and click OK. It will be available in the Paper Size listing above for future print jobs.

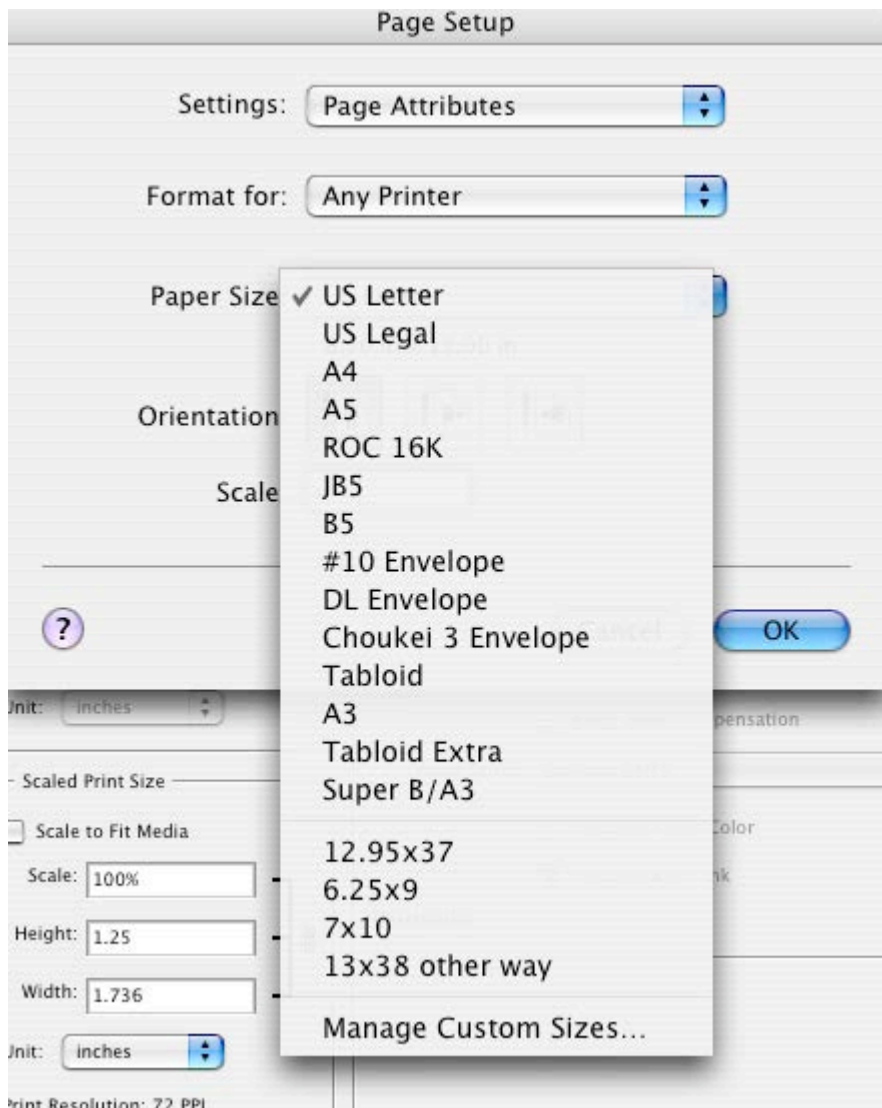


*** Important Tip - the smaller paper dimension is ALWAYS the width. The larger dimension is always the height.**

Custom Media Setup on a Mac

Go to the **PAGE SETUP** dialog and choose your printer from the "Format For" drop down menu





Next:

Under "Paper Size" choose "Manage Custom Sizes". The below dialog will appear

(Be sure to choose the right paper orientation for image layout)

Define a custom paper size.

Important Tip - the smaller paper dimension is ALWAYS the width. The larger dimension is always the height.

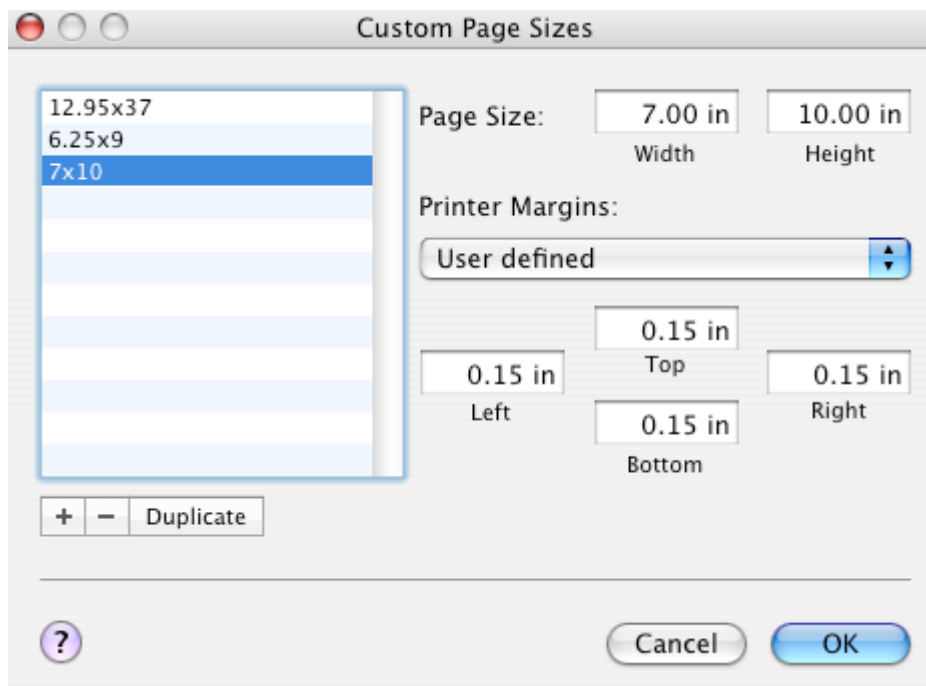
MARGINS - Read Carefully!

Start by setting all margins to 0.15" at minimum. You can come back and adjust if necessary, but do not go below that number.

Now name and save the new paper size for later use.

*** Canon Note**

Most Canon printers can only print up to 23.39" long. Setting your paper size over this maximum will likely cause random print errors from OSX



Feeding double sided, heavy, or thick papers

Please note that inkjet printers (even the same models) are not all the same. One may feed better than another. Don't expect every printer you buy to perform the same.

Double Sided Paper Note - Both sides of double sided paper can be photo printed as they are both coated. The coating makes each side very smooth and for an inkjet printer, this may present misfeeds in some printer models. It is important that you keep your printer maintained by cleaning the feed rollers after each box of matte paper you use! Start with tip #1.

Tip #1 - Clean Your Printer

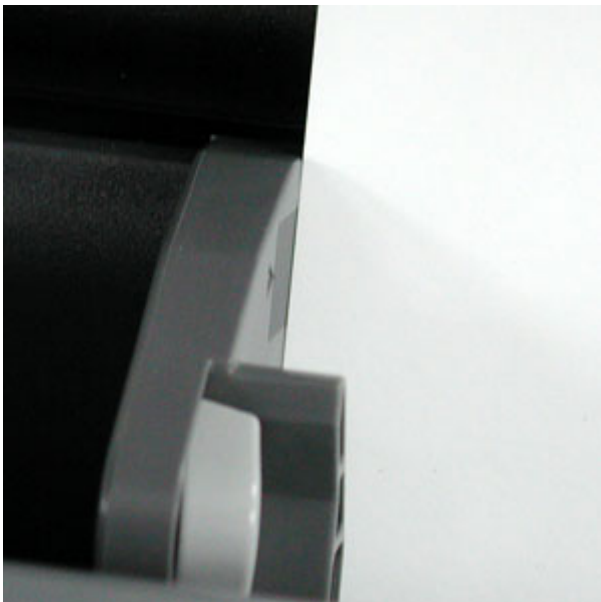
Properly maintain your printer. If you use the printer often, use cotton art papers, and especially 2-sided inkjet papers, you should clean the feed mechanism often.

To keep your printer clean you can do the following:

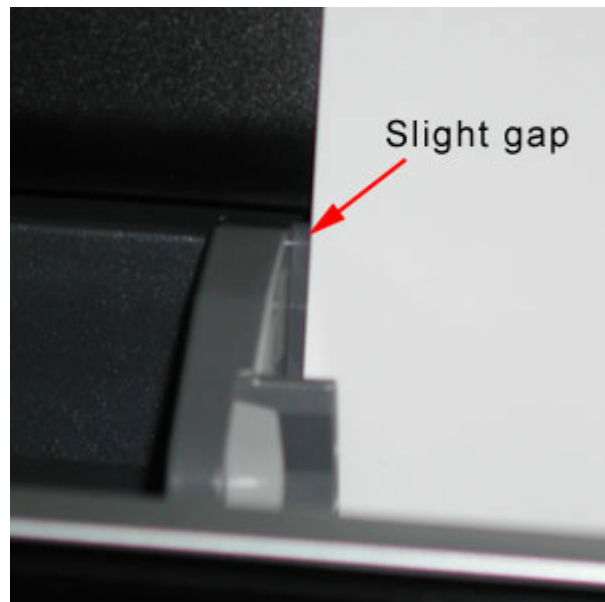
- Follow the [do-it-yourself instructions](#)
- [Order a cleaning pack from Red River](#)

Tip # 2

Do not push the paper tray guide up against the paper. Leave no more than 1/4" gap between the guide and the paper.



Incorrect



Correct!

Tip # 3

Place a stiff card stock or chip board as the bottom sheet in the feed tray. This helps keep your paper upright and closer to the feed rollers.

Note: Make sure to set your print count so that the printer does not feed the board.



Tip # 4

When using card stock, put no more than about 5 sheets in the feed tray at a time. You should experiment with the number between 1 and 5 to see what your printer likes best.



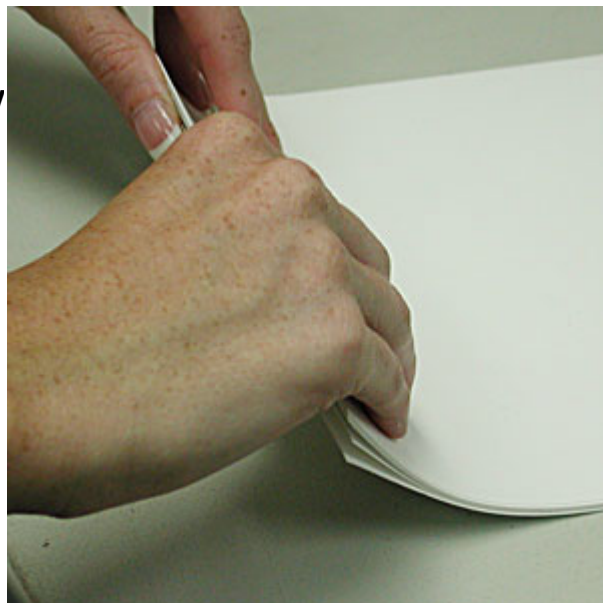
Tip # 5

Fan your paper before feeding placing in the printer. Simply fanning the paper will better separate the sheets, release any excess coating or paper dust, and introduces a little air in between each sheet.

Tip #6

Curl the edge of the paper paper that feeds first *upward slightly* just before feeding.

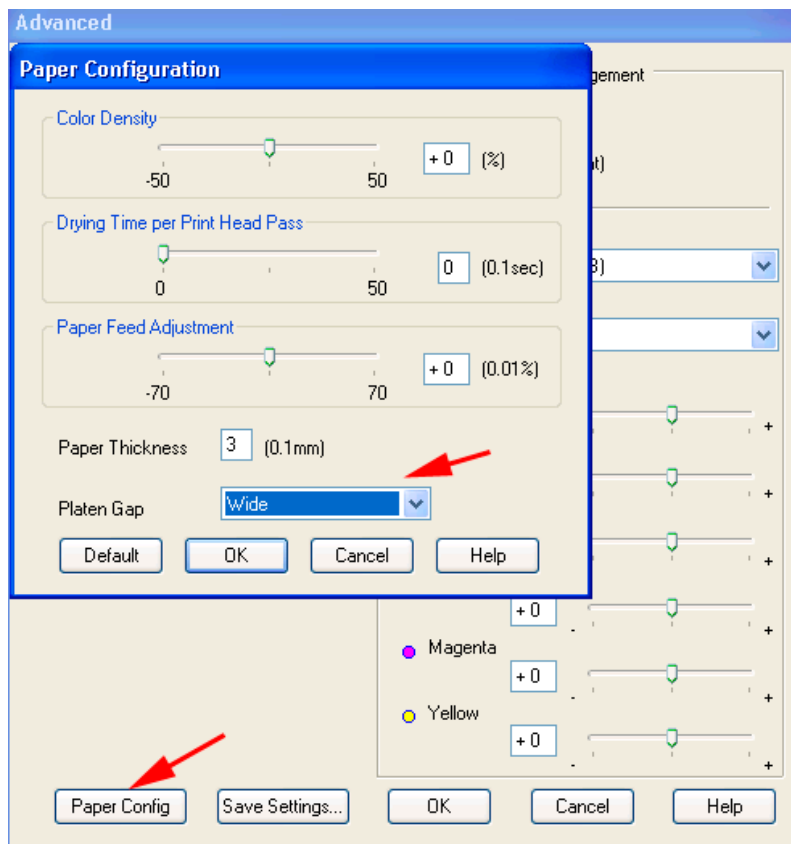
The slight curl will press the paper upwards toward the feed rollers and may make the process easier.



Tip #7 - Use your Printer's Heavy Paper Features

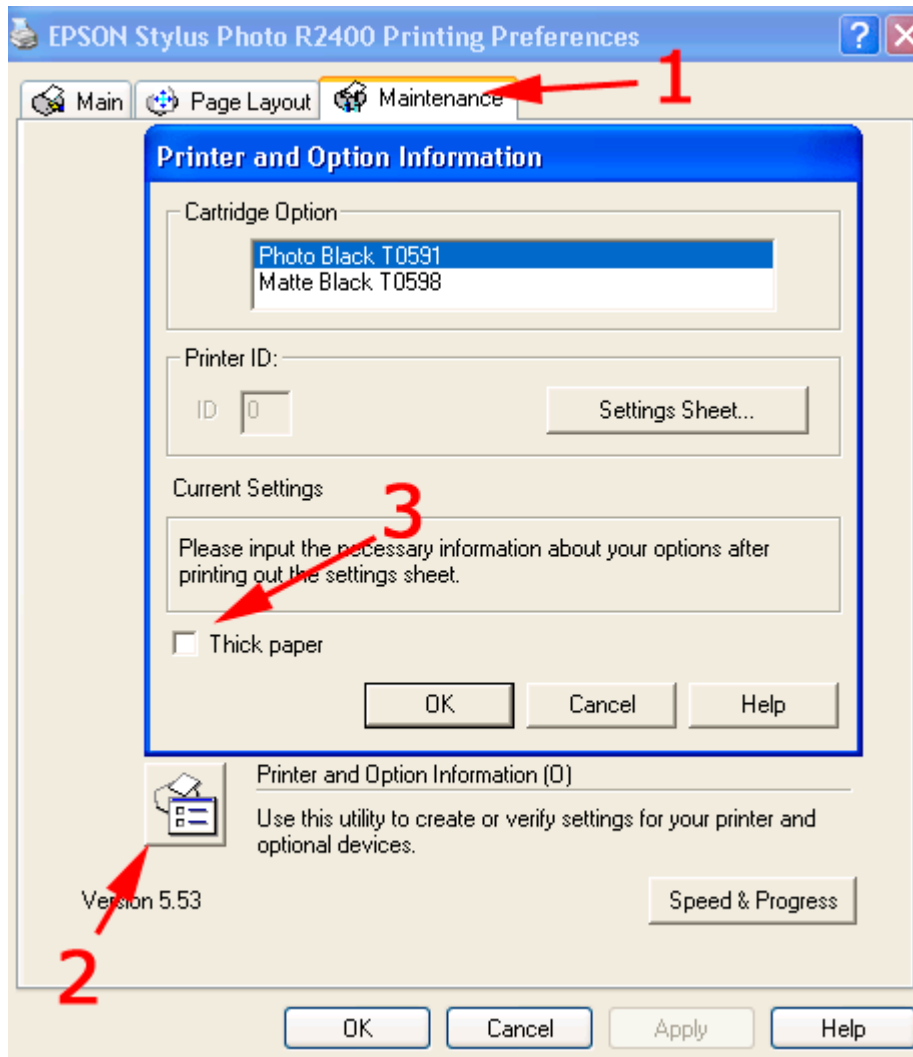
If your printer has features to help with extra thick paper printing, please use them with thick papers (over 12mil thick) Please refer to your printer manual for more information.

Epson Pro Printers - Set the Set the PLATEN GAP to Wide or Wider. See your printer manual for more about the settings.



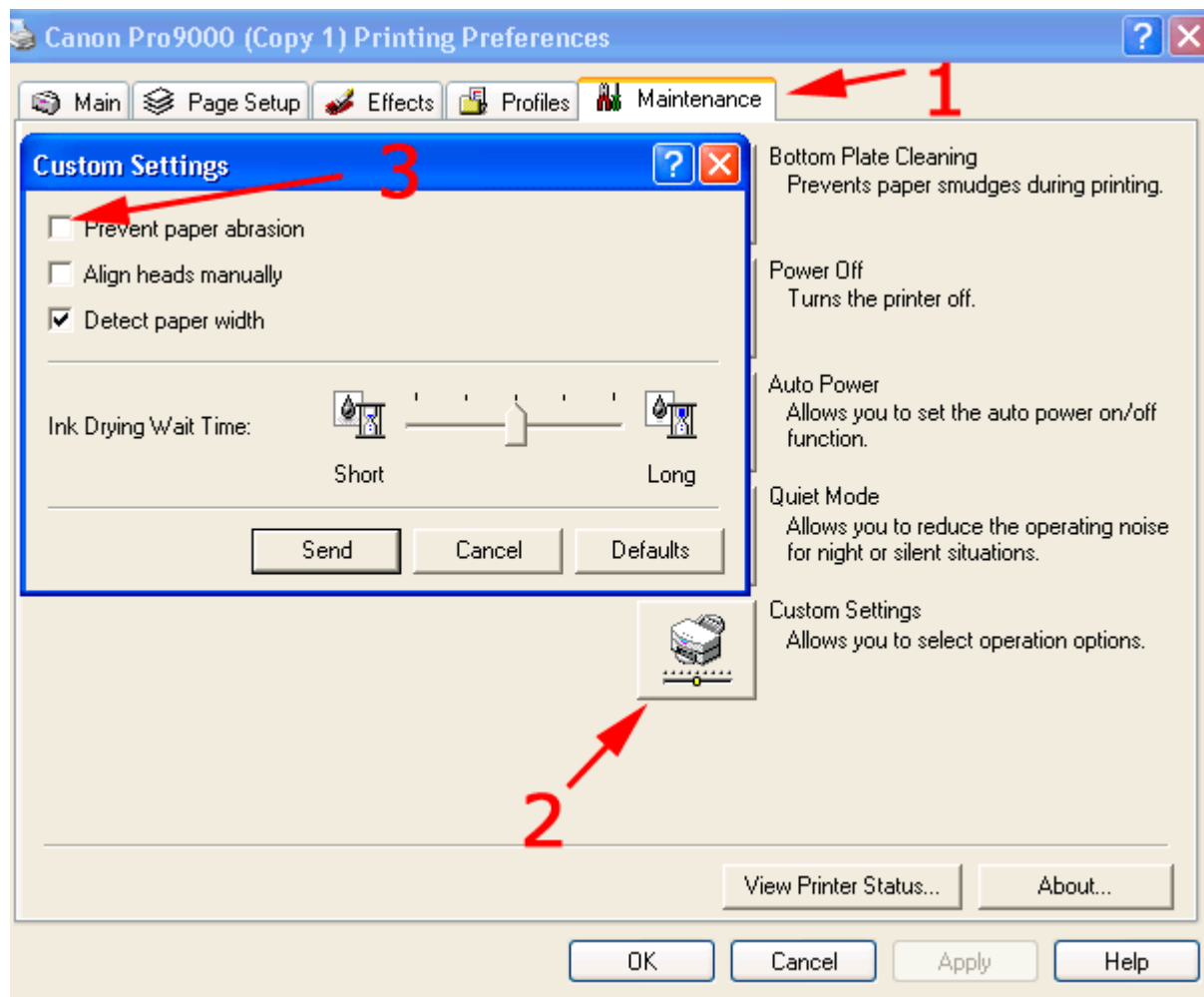
Epson Desktop Printers

Set the printer to Thick Paper. Go to the Maintenance tab in printer properties, click the Printer and Option Information button, then click the Thick Paper checkbox. Turn this off when you go back to standard thickness paper.



Canon Desktop Printers

Set printer to Prevent Paper Abrasion. Go to the Maintenance Tab and click on Custom Settings. In the next menu, choose the Prevent Paper Abrasion option. Turn this off when you go back to standard thickness paper.



RESOURCES

Color Management

Color Wiki - www.colorwiki.com

Chromix - www.chromix.com

Cathy's Profiles - www.cathysprofiles.com

X-Rite: www.xrite.com

Article on ProPhoto RGB - <http://www.luminous-landscape.com/tutorials/prophoto-rgb.shtml>

Guides & Learning

National Association of Photoshop Professionals - www.photoshopuser.com

Digital Photography Tutorials - www.cambridgeincolour.com/tutorials.htm

Photoshop Elements User Website - www.photoshopelementsuser.com/

Basic Monitor Calibration

<http://www.northlight-images.co.uk/viewing.html>

<http://www.pawprint.net/designresources/monitorcalibration.php>

SSC Service Utility

A program that allows certain Epson users to better control head cleaning

<http://www.ssclg.com/epsone.shtml>

Discussion on Soft Proofing

<http://www.redrivercatalog.com/infocenter/tips/soft-proofing-explained.html>

Video Library

Red River Paper offers a number of videos that cover:

- Installing printer profiles
- Using printer profiles
- Setup and printing greeting cards
- Creating custom paper sizes

Many more helpful videos are on the way.

Get started at the InfoCenter: <http://www.redriverpaper.com/infocenter>

RRP TV can be found at: www.youtube.com/redriverpaper