BETTER NEWSPAPERS

AN EXPERT GUIDE TO NEWSPAPER DESIGN

A PRODUCT OF
CNHI LLC

We Can Help You With...

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Understanding Newspaper Printing

A fundamental element of any graphic design is to unite the medium and the message. For example, a well designed direct-mail item may translate poorly to a billboard.

Designing for a newspaper is much different than designing a glossy brochure or a web page. The key differences on the right highlight some of the unique elements that make newspaper design different. Being aware of these distinctions will help to avoid some common pitfalls of amateur publications.

KEY DIFFERENCES

HIGHLY ABSORPTIVE PAPER

Unlike a glossy stock used for magazines or postcards, ink more readily absorbs into newsprint stock. One might visualize this concept by trying to write on a paper towel with a magic marker, the ink spreads on contact. In commercial printing, this is called “dot gain” and it is an important factor to consider in the design process.

GRAYISH TINT

Newsprint is not a bright white color stock, it tends to look a little gray. Standard newsprint is typically produced with recycled fiber, which contributes to the sheet’s darker color. When choosing photos or creating graphics, it is important to choose high contrast images which will print best on newsprint. Images with a lot of gray or midtone color often look “muddy” on newsprint.

OFFSET PRINTING

Newspapers are printed very quickly. Finished products often appear on newsstands within an hour of the editor finishing their last story. The rapid turnaround is accomplished by using offset inks that do not require any special dryers or coating during the printing process. This method, may however, result in the inks rubbing off or “offsetting” onto other pages. Designers who understand total ink limits and dot gain can avoid any such issues of offsetting.

LINE SCREENING

The line screen is a number reflecting the amount of tiny dots that are printed per linear inch. This number is very different depending on the substrate. The line screen is the biggest difference between an image on a billboard, a newspaper or a coated sheet. While an image may look fine for a website or word processing program, it may produce very poorly in a newspaper. Failing to understand the line screen and its relationship to resolution is the number one novice design mistake.

(See page 5 for more information on topics discussed here)

**This publication was designed to help you create better newspapers.*
If you are also designing web or magazine ads, please contact your salesperson for additional information specific to your needs.

Files From Your Desk to the Press

DESIGN

PREFLIGHT

PLATE MAKING

PRESS

COURTESY PHOTOS / Ann Hermes

A commercial print customer should create files using professional desktop publishing software. A designer commonly does this work in Adobe InDesign or Quark XPress. You may have a designer of your own, or you may work with us to do the composition.

The publication the designer creates is then made into a PDF (Portable Document Format). This print-ready PDF file requires proper formatting and settings. Our Prepress Department will be able to guide you to “High Quality Print” settings if you have any questions.

When the file is received, a member of our Prepress Department conducts a multi-point inspection of the PDF to ensure the specifications match the intended output. This inspection includes size, color positions, color separations, resolution and margins.

The completed file is then sent to another computer called a RIP (Raster Image Processer) which converts the pages into printable postscript files. The processed RIP file is defined at this point for identical output to any device.

Printing plates are made from the RIP files. Each color separation and page are imaged onto press-ready plates. The plates are then mounted to the press. Our experienced operators then carefully control and monitor the registration and ink densities in correlation with the color squares throughout the publication.

Eight Steps to Better Newspaper Photos

Adobe Photoshop continues to be the best tool for working with photos, but there are cheaper and free alternatives available. The most important feature that your photo software should have is native support for CMYK, which is the set of process colors most commonly used in offset printing. Most of your favorite photo apps are capable of doing these eight steps to improve photo reproduction.

1. COLOR SETTINGS:

Make sure Photoshop is set for North America Newspaper photo toning. Color Settings will be found on the Edit menu. RGB should be set to Adobe RGB. CMYK should be set to US Newsprint OR Web Uncoated. Dot Gains should be set to 25%. Color management should be turned off.

2. CHECK RESOLUTION:

Open the photo file up and check the resolution. At the size you plan to publish the photo, you should have a minimum of 170 pixels per inch. 200–300 pixels per inch is an ideal resolution. Anything higher will not improve quality and will only slow down page production. If you just “force” the resolution to a higher number, there will be no improvement in quality.

3. CHOOSE THE COLOR MODE:

Go to the Image Menu and select Mode. If the photo will be black and white in print, choose grayscale. If the photo will be color, choose CMYK. Failure to complete this step can result in very dark photos in print.

4. SET THE HIGHLIGHT POINT:

Go to the Image Menu, choose Adjust, and then select Curves. Click once on the white eyedropper, then click on the whitest part of the image. (Note: if you double click on the white eyedropper, the reading should be C-2, M-1, Y-1, K-0). This will help make things like clouds, paper or clothing appear more vibrant and improve contrast.

5. SET THE SHADOW POINT:

Using the black eyedropper in Photoshop, select the darkest point in the image. Your shadow point should be a combination of CMYK colors that does not exceed 240% ink coverage. In a black and white image, the darkest point in grayscale should be 95% black. (Note: if you double click on the black eyedropper, the reading should be, C-60, M-50, Y-50, K-80.)

6. ADJUST FOR DOT GAIN:

Ink absorbs into newsprint as part of the regular printing process. The midtone of a photo will darken by 25–30%. You can compensate for this by using the levels or curves tools in Photoshop and lowering the midtones by 20%. On a computer screen this may appear a bit washed out, but remember it will darken when printed on newsprint.

7. SHARPEN:

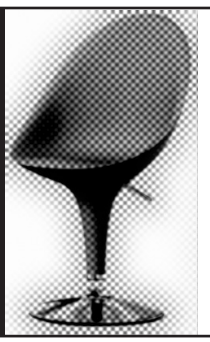
There is no hard and fast rule for sharpening, but typically it is more than you would expect. You will want to see a clear sharp outline of all objects in an image, knowing that it will soften when printed on heavily absorptive newsprint. The Photoshop “Unsharp Mask” tool is perfect for this. The amount should be around 100%, but it may be adjusted between 50–200%. Make an adjustment until you can see the outline of the objects in the photo stand out from the background. It is important to be viewing the photo at 100% when you do this step. The radius setting should be near 1 pixel, and the threshold should be likely set at 1 level.

8. SAVE CORRECTLY:

Save your photo as an uncompressed (best quality) JPEG image. The default setting in most applications is to compress the image, but that will affect quality and is not advised.

THINGS TO AVOID:

1. Screened or printed halftone materials
2. Faxes and photocopies
3. Laser or inkjet prints
4. Artwork taken from websites



This is an example of an image that was scanned from a printed brochure. The odd pattern of dots is called “moiré”.

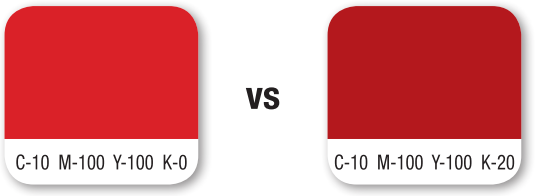
NOTE: There are countless other ways to improve photo quality including working with press profiles or embedding a SWOP profile in your color images. However, if you don’t know much about color profiles, it is best to save without these options selected. There are also a number of automated photo toning software products (Intellitune, Claro, etc.) that work great for high volumes of photos.

Understanding Newspaper Color

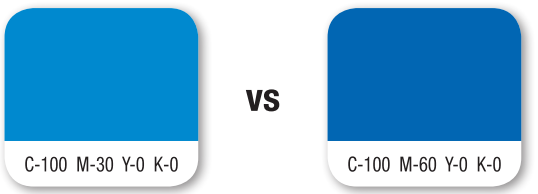
Color adds a dimension to newspapers that may attract extra attention, generate excitement and enhance the appeal of a page. Studies have consistently shown that, on average, adding color to an advertisement sells more merchandise.

Process color allows for the creation of nearly any possible color using a combination of cyan, magenta, yellow and black inks. Process colors are usually described by the percentage of each ink used, in the order listed. Below you will find some tips for selecting colors and managing tones.

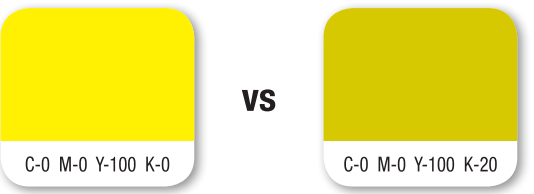
Better Reds: *Too much black ink mixed with magenta will turn a maroon or burgundy color brown.*



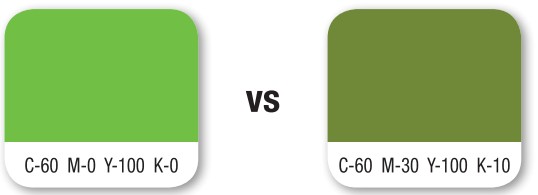
Better Blues: *Too much magenta mixed with cyan will create a purple. It's best to be conservative with magenta.*



Better Yellows: *Yellow is a very weak ink. In most cases, avoid using less than 100% yellow. Never mix black with yellow as it tends to look dirty.*



Better Greens: *Lighter greens have higher contrast and grab the reader's eye. Dark greens can quickly become muddy.*



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CMYK Color Combinations o

CYAN

100% CYAN | 90% CYAN | 80% CYAN | 70% CYAN | 60% CYAN

MAGENTA

100% MAGENTA | 90% MAGENTA | 80% MAGENTA | 70% MAGENTA | 60% MAGENT

YELLOW

100% YELLOW | 90% YELLOW | 80% YELLOW | 70% YELLOW | 60% YELLOW

BLACK

100% BLACK | 90% BLACK | 80% BLACK | 70% BLACK | 60% BLACK

OUR RECOMMENDED COLORS FOR NEWSPAPERS

CYAN C-100 M-0 Y-0 K-0	**MAGENTA** C-0 M-100 Y-0 K-0	**YELLOW** C-0 M-0 Y-100 K-0	**CERISE** C-30 M-100 Y-0 K-0	**PURPLE** C-90 M-90 Y-0 K-0
ACE RED C-0 M-100 Y-80 K-7	**GREEN** C-100 M-0 Y-80 K-0	**TAN** C-5 M-30 Y-60 K-0	**PINK** C-10 M-40 Y-0 K-0	**BURGUNDY** C-20 M-100 Y-100 K-13
LIME GREEN C-20 M-0 Y-100 K-0	**E-T GOLD** C-0 M-25 Y-100 K-0	**BROWN** C-50 M-80 Y-100 K-30	**ORANGE** C-0 M-60 Y-100 K-0	**BLUE** C-100 M-50 Y-0 K-5

Thousands of colors can be created using the four process colors. The recommended color combinations on the left were used for the cover of this publication. On page 9, you will see some of the more effective uses of process color. Within the frames are some of our other suggested choices.

Important Note: Color samples shown here closely represent actual printed colors but may vary due to fluctuations from ink and newsprint manufacturers.

n an Offset Newspaper Press

50% CYAN | 40% CYAN | 30% CYAN | 20% CYAN | 10% CYAN

50% MAGENTA | 40% MAGENTA | 30% MAGENTA | 20% MAGENTA | 10% MAGENTA

50% YELLOW | 40% YELLOW | 30% YELLOW | 20% YELLOW | 10% YELLOW

50% BLACK | 40% BLACK | 30% BLACK | 20% BLACK | 10% BLACK

Screened Color

The samples on the left show screened CMYK ink values from 100% down to 10%.

You will notice there is not much difference between the furthest points on the scale.

Most of the color variation happens between the 60% and 20% screens.

More Recommended Colors

C - 16 M - 100 Y - 100 K - 8	C - 0 M - 100 Y - 100 K - 0	C - 0 M - 69 Y - 39 K - 0	C - 0 M - 40 Y - 18 K - 0	C - 88 M - 33 Y - 63 K - 16	C - 74 M - 3 Y - 42 K - 0	C - 57 M - 0 Y - 28 K - 0	C - 33 M - 0 Y - 15 K - 0		
C - 18 M - 90 Y - 100 K - 8	C - 0 M - 85 Y - 100 K - 0	C - 0 M - 45 Y - 52 K - 0	C - 0 M - 23 Y - 27 K - 0	C - 86 M - 51 Y - 0 K - 0	C - 59 M - 16 Y - 0 K - 0	C - 45 M - 4 Y - 0 K - 0	C - 27 M - 0 Y - 1 K - 0		
C - 27 M - 35 Y - 100 K - 2	C - 1 M - 16 Y - 100 K - 0	C - 3 M - 1 Y - 73 K - 0	C - 3 M - 0 Y - 44 K - 0	C - 100 M - 94 Y - 6 K - 1	C - 69 M - 59 Y - 0 K - 0	C - 44 M - 35 Y - 0 K - 0	C - 22 M - 18 Y - 0 K - 0		
C - 30 M - 14 Y - 100 K - 0	C - 6 M - 0 Y - 91 K - 0	C - 4 M - 0 Y - 55 K - 0	C - 2 M - 0 Y - 32 K - 0	C - 88 M - 100 Y - 2 K - 1	C - 60 M - 72 Y - 0 K - 0	C - 37 M - 47 Y - 0 K - 0	C - 17 M - 26 Y - 0 K - 0		
C - 64 M - 15 Y - 100 K - 2	C - 48 M - 0 Y - 100 K - 0	C - 23 M - 0 Y - 58 K - 0	C - 10 M - 0 Y - 32 K - 0	C - 65 M - 100 Y - 6 K - 1	C - 40 M - 80 Y - 0 K - 0	C - 25 M - 57 Y - 0 K - 0	C - 11 M - 32 Y - 0 K - 0		
C - 82 M - 22 Y - 100 K - 8	C - 73 M - 0 Y - 100 K - 0	C - 39 M - 0 Y - 51 K - 0	C - 21 M - 0 Y - 29 K - 0	C - 21 M - 100 Y - 48 K - 4	C - 0 M - 88 Y - 2 K - 0	C - 0 M - 68 Y - 0 K - 0	C - 1 M - 39 Y - 0 K - 0		

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Photo Toning Example

Digital photography has made it easier than ever to capture excellent artwork for your advertisement. It is important to read your owner's manual to get the most of out of your equipment.

Raw RGB File

This photo was taken directly from a camera and placed on the page.

Sharpened and Toned CMYK File

This photo had adjustments made to the highlights and shadows to improve reproduction and also shows how sharpening can further improve quality.

Photo Resolution Examples

72 dpi looks blurry when printed. Web graphics use this resolution.

200 dpi is perfect for newspapers. The fine detail and color are reproduced well.

300 dpi is good for magazines, but prints much the same as 200 dpi on newsprint. These file sizes are also very large.

Photo Examples

THINGS TO NOTE:

1. Set your camera to the highest resolution possible. This is sometimes called super-high quality or largest file size.
2. Make sure to always use your flash.
3. Include enough of the background to allow for cropping later.
4. Headshots are always more flattering with professional lighting. If you don't have special lights, natural outdoor lighting works very well.
5. Your final output should be a high resolution JPEG.
6. Take several photos and choose the best one when you get back to your computer. It is a lot easier than retaking photos later.

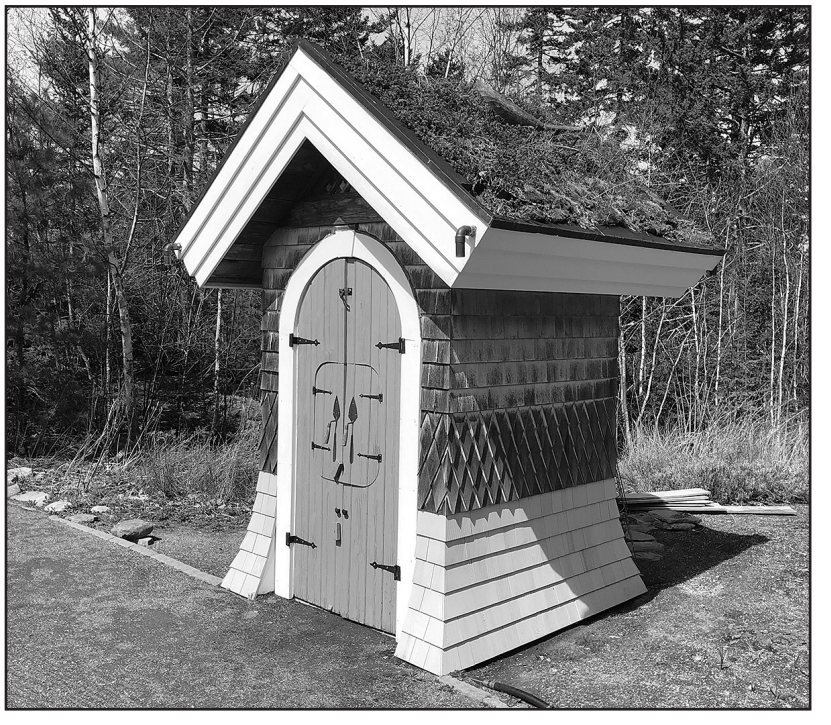
THINGS TO AVOID:

1. Do not make digital images by scanning or laser printing physical originals.
2. "Soft" photos or Glamour-Shot type photos do not reproduce well in the newspaper. The higher the contrast the better.
3. Don't take photos from web sites; these will print poorly because they are low resolution.
4. Do not force change the resolution in Photoshop and expect quality improvement. A photo only has a given amount of information. Image size and resolution are mutually dependent: as resolution increases, size must decrease, and vice versa. When you change resolution without changing size, the extra information is filled in with generic pixels, causing blurriness.

Raw B&W File

This photo was taken directly from the camera and placed on the page.

Toned B&W File



This photo had adjustments made to the highlights and shadows to improve reproduction.

Graphics and Artwork

GRAPHIC ELEMENTS AND RESOLUTION

The resolution of an image refers to the number of tiny dots contained within it. The number is a measurement of dots per inch (DPI) and pertains only to raster images. Vector images are created by complicated computer geometry rather than dots and will reproduce identically at any size. Higher resolution elements reproduce crisp, clean graphics. Single color graphics (or line art) should have a resolution of 300 dpi. On the examples below, pay particular attention to the ® in the logo.

72 dpi looks jagged and blurry when printed. This is the most common resolution for on-screen graphics.

200 dpi looks a bit better, but still shows jagged edges on the text.

300 dpi is ideal for newspapers. The fine details are crisp.

DOT GAIN AND WHY IT MATTERS TO YOU...

All offset printing is subject to dot gain, meaning that the tiny dots that make up a photo will enlarge as they absorb into the substrate. Photos will print darker on newsprint stock than they appear on a computer screen. This is due to the fact that a monitor is a source of emitted light with a much more expansive color gamut than can be reproduced on a physical substrate.

You should work in CMYK or Grayscale color spaces and use Adobe Photoshop to compensate for dot gain.

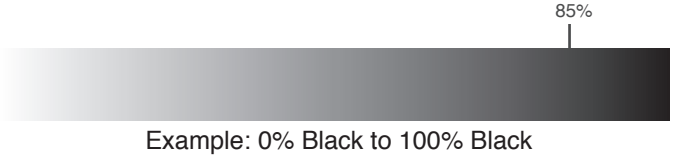
Newsprint is not a bright white stock so images without strong highlights will appear muddy or dull when printed. Saturated images or images with heavy shadows will appear muddy and dark. The best images will look slightly over-exposed or washed out on screen, allowing for the natural dot gain on paper to compensate.

This is an untoned photo directly from a digital camera. It appears very dark in the newspaper.

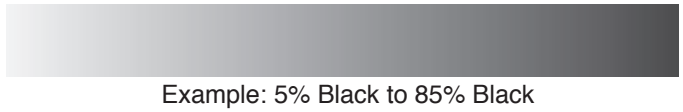
This is a toned photo that has been lightened in the midtone area. This looks good when printed.

This photo has been lightened too much and now appears washed out. Always make sure there is some contrast in your photo.

Dot gain affects all dots on the page. Gradients can “plug up” (or fill in) the intended color transition on a newspaper press, because of dot gain and the porous substrate. As you may see on the example an 85% screen may not be distinguishable from a 100% solid when printed. *A better result can be achieved by using a gradient that moves from 5% to 85%.*



Example: 0% Black to 100% Black



Example: 5% Black to 85% Black

Design an Effective Ad (Examples)

Before

- Too many fonts and colors
- Too busy (ad does not flow)
- Improperly knocked out images
- Too many design "tricks" (drop shadow, outer glow)
- Uses process color black for text
- All text blocks are centered. Justified text is easier to read.
- Boxes/items not lined up
- Use of poor quality artwork
- Text is stretched and distorted
- Too much text in all caps

After

- Only two font families presents a cleaner look
- Better use of a defined color scheme
- Realistic art (photo instead of line art) makes the ad look more modern
- Bold image grabs attention
- Extraneous information removed makes ad more reader-friendly
- $5 offer is the main focal point
- Ad includes the elements of an effective ad (see page 15)

Elements of an Effective Ad

Most newspapers rely on advertisements for revenue. If you design advertisements for your publications, these are some helpful tips for effective advertising. Remember the good or bad quality of your ads is reflective on the overall effect of your publication. The most effective print advertisements follow the same simple formula. Make sure that your ads contain these seven elements.

1. BENEFIT HEADLINE

Your headline should immediately tell the reader why they should read the rest of your ad. The headline should let them know why they should go to your location.

2. EYE-CATCHING ELEMENT

Include a large graphic or very bold headline, preferably set off with some white space, that will make your ad leap off the page and attract the reader's eye. Ads that contain too much text tend to blend into the page. Headlines and photographs draw attention to your ad.

3. COMPLETE COPY

No matter what you are selling, provide as many relevant details as possible to inform the consumer. Consider including brand names, color, size, materials, price, etc. You'll provide a shopper service and draw targeted consumers to your company.

4. PRICE

Studies show that readers are less likely to respond to advertising that fails to include a price. Listing a price will build trust with readers and allow them to make a purchasing decision they may act upon quickly. The price may be in the range they are willing to pay and they will buy your item today.

5. LOGO AND PHYSICAL ADDRESS

Brand awareness is critically important, and your logo becomes a symbol that represents the value, quality and service of your company. Your logo helps establish your identity in the marketplace, and will help your customers immediately recognize your ads when they see them. Your logo and complete contact information give your customers the information they need to find you and make a purchasing decision today.

6. PHONE NUMBER, EMAIL OR WEB ADDRESS

Just in case you have left something out of your ad that a consumer might use to make their buying decision, or if they have other questions about your merchandise, ALWAYS give the consumer a way to contact you for more information.

7. HOURS OF OPERATION

Few things are more frustrating to a consumer than responding to an ad by going to a business and finding out that it is closed. If your operational hours are at all variable, be sure to let your customers know before they head out to your place of business. Knowing that a business is open earlier or later on a particular day may be seen as a great benefit to your next potential customer.

SOME ELEMENTS OF INEFFECTIVE ADS

Too many fonts in your ad is considered poor or amateur design.
Additonally, it can make your ad more difficult to accurately print.

There are too many fonts in this paragraph.
***It is distracting to the eye* and just looks too busy.**
It is best to stick to just ONE OR TWO FONTS.
This will make your ads look simple and clean.

Avoid TYPE SIZES BELOW 6 POINTS. You may be able to read it on a laser print, but it will be less readable on newsprint.

This 6 point type was readable on the computer screen and laser print out. But not very readable on newsprint.

HAIRLINE RULES will disappear — they may look good on your laser printer, but will likely be invisible in the newspaper. If you want a thin line, use a 1 point rule as seen below.

1pt Line

Design Tips & Tricks

REVERSE TYPE smaller than 12 points may become difficult to read when printed on newsprint. Serif and thin-typefaces 10 points or smaller may become choppy.

10 Point Reverse Helvetica plain

10 Point Reverse Helvetica plain

10 Point Reverse Goudy (Old Style)

10 Point Reverse Goudy (Old Style)

TOO MANY CAPITAL LETTERS make it difficult for people to read your ad. The human mind is trained to recognize words more quickly using lower case letters.

DO YOU SEE HOW MUCH MORE DIFFICULT THIS IS TO READ WHEN YOU HAVE A LOT OF CAPITAL LETTERS IN A ROW? USE ALL CAPITAL LETTERS SPARINGLY.

Fine process color type can be difficult to read because it requires perfect registration. Even the slightest registration issue, which is common of all newspaper presses, will make the text unreadable. It's acceptable to use color text on headlines and other large type, but avoid using process color text smaller than 12 pt. for best results.

Avoid Small Color Text

10 Point Type with slight misregistration

Avoid Small Color Text

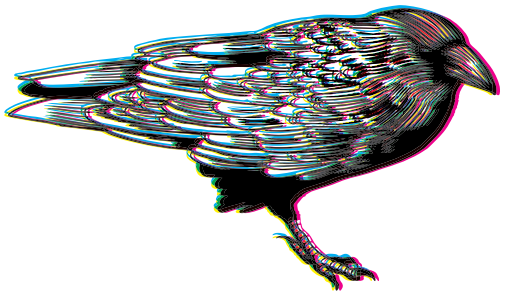
18 Point Type with slight misregistration

Text over images can sometimes be unreadable. Be sure the image is VERY light because it will darken on press and become unreadable. When in doubt, it's better to lighten more than not lighten enough.

FONT MENU STYLES such as bold and italics may be lost when sent to an imagesetter. To guarantee best results select the font family and style from your font list instead of using the “b” or “i” buttons in the application.

PROCESS COLOR BLACK is created when a file contains a combination of 100% Cyan, 100% Magenta, 100% Yellow, and 100% Black. This can create blurry or muddy text and graphics. With offset newspaper printing, you’ll get better results converting this artwork to 100% black only.

Process Black Text



Process Black Graphic

100% Black Text

100% Black Graphic

Don't Build Ads in word processing programs. Microsoft Word, Microsoft Works, WordPerfect, and other writing programs do not handle graphics, fonts, and page layout well. What you see on the screen may not be what appears on press because these programs often have trouble printing graphics and fonts consistently to PostScript printers.