

Trapping

A D D E N D U M

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A “trap” is a method of overlapping abutting colored objects to compensate for the imperfect registration of printing presses. Because registration, even on good presses with good operators, can be off by a quarter point or more, abutting elements in your publication may not end up abutting perfectly when the publication is printed by your commercial printer. What happens then? The paper shows through where you don’t want it to (see Figures 2 and 3 on the Color Pages).

Do we need to tell you what happens when you take your work to a press that’s badly out of register or run by turkeys? Disaster. Before this happens to you, talk with your commercial printer regarding the tolerances of their presses and/or operators. Don’t ask them if they’re turkeys—it’s considered rude.

In the “good ol’ days” printers handled all your trapping for you. Then came the “bad ol’ days” when designers had to do most of it themselves. The basic method of creating manual traps involves adding additional strokes to objects and then setting those strokes to overprint using the Attributes panel (see Figures 1, 2, and 3 in the Color Pages—at the end of this chapter—for examples).

But in the past few years, output providers have taken to doing it all “in-RIP”—this is far, far better than you trying to do it yourself. And, in many cases (especially with digital printing) no trapping may be required anyway. So check with your printer first.

Manual Trapping

If you can’t (or don’t want to) use InDesign’s automatic trapping methods (In-RIP or built-in), you can still trap your publication—you’ll just have to do it yourself. We describe this process first because we believe that you should know how to add and subtract, multiply and divide before you ever use a calculator.

However, before we start describing manual trapping techniques, we need to state that InDesign’s automatic trapping methods can almost always trap your publications better than you can (assuming that you have both deadlines to meet and a finite amount of patience), and if you use them, you usually won’t even have to *think* about trapping. Also, most output providers prefer to use post-process trapping software; in this case, they’ll want you to leave trapping turned off (it’s off by default). After all, if they trap your already-trapped document, it ain’t gonna’ be pretty. As always, check with your service provider before doing anything rash.

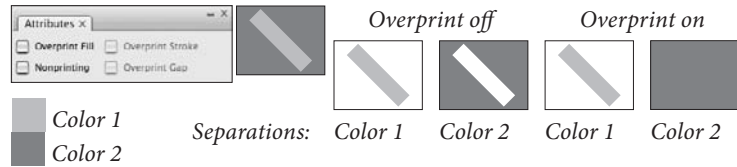
Object-Level Overprinting. The key to trapping, in InDesign and any other software, is in controlling which objects—or which parts of objects—print on top of other objects as the printing press prints your publication. The only way to make manual trapping work is to control the overprinting characteristics of individual objects (see Figures 1, 2, and 3 on the Color Pages).

Luckily, you can. Any InDesign path can be specified as an overprinting object (that is, it won’t knock a hole in any objects behind it when you print), regardless of the object’s color. The controls for object-level overprinting are the Overprint Fill and Overprint Stroke options found in the Attributes panel (see Figure A-1). These controls, used in combination with InDesign’s Paste Into command, can be used to create virtually any trap.

We have to stress the importance of the Weight Changes Binding Box option on the Stroke panel menu. You cannot create traps when this option is turned off, so you’ll have to make sure it’s turned on as you follow any of the procedures in this section. (We don’t usually have this turned on, which is one reason we prefer to use auto trapping rather than manual trapping.)

When you’re working with trapping, you’ll be creating *spreads* (outlines of objects, in the same color as the object, that are slightly larger than the object itself) and *chokes* (outlines of the object that

FIGURE A-1
Attributes Panel



are the same color as the underlying object's color). Spreads make the object larger so that the edges of the object print over the underlying object; chokes make the area knocked out of the underlying object smaller than the outline of the foreground object.

Use chokes when the foreground object is a darker color than the background object; use spreads when the foreground object is lighter. In other words, trap from light colors into darker colors. Sound subjective? It is. We use chokes when we're trapping type—text characters often look distorted when you use spreads (the eye is very critical when it comes to text). Some folks ask why you don't just always overprint every color on top of every other color. The answer is that inks are almost never fully opaque, so if you print solid cyan on top of solid magenta, you'll get purple—probably not the effect you were looking for. With trapping, you'll still get purple, but only in a tiny stripe along the edge between the cyan and magenta objects.

Overprint Preview. InDesign has a powerful feature called Overprint Preview (in the View menu), which gives you an onscreen preview of the strokes and fills that you set to overprint. You may not want to work with Overprint Preview turned on all the time because there is a slight performance hit, but it's certainly worth leaving it on when trapping, or when zooming in to 2000% or more to see if something is trapping correctly.

Overprinting Black. By default, all objects on an InDesign page knock out of all objects behind them—unless they're black. InDesign, by default, overprints black ink. Most of the time, this is a good thing. To turn off black overprinting, display the General panel of the Preferences dialog box and turn off the Overprint Black option.

Remember, however, that black ink isn't really fully opaque, even if it looks like it is on screen. Overprinting solid areas of black on an image or other page objects can look mottled, and unfortunately even Overprint Preview won't display this problem unless you have color management enabled (which we discuss later in this chapter). If you need larger areas of solid black in a full-color document, consider making a *rich black*, a CMYK black that is made of 100 percent

black plus perhaps 25 percent each of cyan, magenta, and yellow (see Figure 4 in the Color Pages for an example).

Solid Color Trapping. It's more important to trap abutting color fields in publications when you're printing using spot colors or areas of single process colors (like where 100 percent cyan text sits on top of 50-percent magenta background) than it is in most process color publications. Usually when you're working with process colors, you'll almost always see some ink between abutting objects, so you're less likely to see paper-colored gaps showing a poor trap.

The easiest way to demonstrate how spot-color trapping works is to show you some examples. As you work through these examples, you'll trap an ellipse into a rectangle by manipulating the color, width, and overprinting specifications of the path that surrounds the ellipse. First, draw the colored objects.

1. Create a rectangle. Fill the rectangle with a spot color ("Color 1"). Set the rectangle's stroke color to None.
2. Draw an ellipse on top of the rectangle. Make sure that the ellipse is entirely inside the rectangle. Fill the ellipse with a different color from that of the rectangle ("Color 2"). Set the stroke of the ellipse to None.
3. Save the file.

The ellipse needs to be trapped, or you'll run the risk of having paper-colored lines appear up around the ellipse when you print the publication. You can either spread or choke the ellipse, or both.

To spread the ellipse, use these steps (see Color Pages Figure 3).

1. Select the ellipse.
2. Press F10 to display the Stroke panel.
3. Turn on the Weight Changes Bounding Box option from the Stroke panel menu, then enter a new line width in the Weight field. The line width you enter in the Weight field should be equal to twice the trap amount—if you enter "2", you'll get a stroke of one point on either side of the path. If your commercial printer has asked for a trap of .5 points, enter "1" in the Weight field.
4. While the object is still selected, turn on Overprint Stroke in the Attributes panel.

When you print, the fill of the ellipse knocks out the background, but the stroke overprints. That means the ellipse is larger than the hole that's been knocked out of the background rectangle. You've just created a spread.

To choke the ellipse, change the stroke color of the ellipse to the same as the background color. Now when you print, the hole that's knocked out of the background rectangle is slightly smaller than the original ellipse.

Choose Revert from the File menu to get the file ready for the next procedure.

Trapping Across Color Boundaries. The techniques described above work well as long as objects don't cross color boundaries. If the objects do cross color boundaries (especially going from a color background to a white background), it's too obvious that you've changed the shapes of the objects. What do you do?

1. Drag the ellipse so that it's partially outside of the rectangle, and then press Command-Shift-[/Ctrl-Shift-[to send it to the back (behind the rectangle).
2. Press Command-C/Ctrl-C to copy the ellipse.
3. Now select the rectangle and select Paste Into from the Edit menu (or press Command-Option-V/Ctrl-Alt-V). This duplicate should appear in exactly the same place as the original, but nested inside the rectangle.

If for some reason it doesn't show up in the same place, then select the original ellipse, and note the values in the X and Y fields of the Transform panel. Then use the Direct Selection tool to select the nested ellipse, turn off Show Content Offset in the Transform panel menu, and enter the X and Y values into the Transform panel fields. InDesign moves the copy of the ellipse into the same position as the original ellipse.

4. Without deselecting the duplicate ellipse, enter a stroke weight for the trap in the Weight field of the Stroke panel. Make sure that the fill and stroke colors are the same in the Swatches panel.
5. Turn on the Overprint Stroke option in the Attributes panel.

At this point, the ellipse you pasted inside the rectangle spreads slightly, while the part of the ellipse outside the rectangle remains the same size and shape. If you want the rectangle's color to choke into the ellipse, then change the color of the nested ellipse's stroke to match the rectangle's fill color.

What happens when the object you need to trap overlaps more than one other, differently colored object? In this case, you can run into trouble. The trap you use for one background color might not be the trap you want to use for the other. You might want to spread one and choke the other, depending on the colors you're using. In these cases, you can use the same basic techniques described above for the overlapping and/or abutting objects. But, at this point, we have to urge you to save yourself some trouble and use either of InDesign's automatic trapping methods.

Trapping Lines. The trapping techniques above work well for filled paths, but what of open paths? After all, you can't apply two different stroke properties to a single path. Instead, you clone the path and make the width of the clone larger or smaller for the spread or choke you want. One of the strokes overprints; the other line knocks out.

Follow these steps to spread an open path.

1. Draw a rectangle and fill it with a spot color.
2. Draw a path inside the rectangle. Create another spot color and apply it to the path. Do not set this path to overprint.
3. Select the path and clone it with Step and Repeat.
4. Increase the stroke weight of this duplicate path by twice the amount of spread you need (remember, PostScript strokes grow out from their centers) and turn on the Overprint Stroke option in the Attributes panel to make the stroke overprint.

That's all there is to it. The original path knocks a hole in the background rectangle, and the clone of the path spreads to just a little bit beyond the edges of the knockout. Of course, this doesn't create a trap around the ends of the line, just the sides.

To choke the path, follow these steps.

1. Draw a rectangle. Create a spot color and fill the rectangle with it.
2. Draw a path inside the rectangle. Create another spot color and apply it to the line. Set this path to overprint.
3. Select the path and clone it.

4. Decrease the weight of the path by twice the amount of choke you need in the Stroke panel. Turn off the Overprint Stroke option in the Attributes panel.

This time, the cloned path is narrower than the original and knocks out an area that's slightly smaller than the original path, creating a choke.

Trapping Text. Text is usually the element in a publication that needs trapping the most. For whatever reason, it's easier to notice poor trapping around text than around other elements. At the same time, traps that are too large distort the shapes of the characters you're trapping. It tends to be a problem with small type, especially serif type.

Here's how to create a spread for text (see Figure 3 on the Color Pages).

1. Draw a rectangle, create a spot color ("Color 1"), and apply it to the rectangle.
2. Enter text in a text frame. Position the text frame on top of the rectangle so that the text is entirely within the area occupied by the rectangle.
3. Create a second spot color ("Color 2") and apply it to the text in the text frame.
4. While the text is still selected, display the Stroke panel. Enter the stroke weight you want (remember, it's two times the amount of trap you want) in the Weight field. Turn on the Overprint Stroke option in the Attributes panel.

The next example shows how you can choke text by making the shape the characters knock out of the background a bit smaller than the characters themselves.

1. Draw a rectangle, create a spot color ("Color 1"), and apply it to the rectangle.
2. Create a text frame. Position the text frame on top of the rectangle so that it's entirely within the rectangle.
3. Create a second spot color ("Color 2"). Select all the text in the text frame and apply "Color 2" to the fill of the text.
4. Clone the text frame using Step and Repeat with zero offsets.

5. Select the text in the duplicate frame, set its fill color to None and give it a stroke color the same as the background rectangle (“Color 1”).
6. Enter the stroke weight you want for the trap in the Weight field of the Stroke panel. Turn on the Overprint Stroke option in the Attributes panel.

If text crosses color boundaries, use the techniques described earlier for trapping overlapping paths.

Process-Color Trapping. Process-color trapping is a bit simpler than spot-color trapping, because it’s usually less critical that process-colored elements have traps (because many of these colors are built of multiple process colors, so there are shared colors—if one color shifts on press, then the other colors are still there to cover the white paper). However, it can be far harder to figure out exactly what color to make the stroke for a process-colored object. When you’re talking about trapping two process-colored graduated fills, watch out!

The main thing to keep in mind, however, is that for each of the process inks the ink percentage used in the topmost object in any stack of objects always wins—they knock out all percentages of that ink behind them, regardless of any overprinting settings.

Unless, that is, the ink percentage is zero. If, for example, the percentage of cyan used in the fill color of the topmost object in a stack of objects is zero, turning Overprint off makes the path knock out any other cyan in the area covered by the path. Overprinting the fill, in this case, means that the area taken up by the fill disappears from the cyan plates—the percentage of cyan in the next object in the stack shows through the area where the objects overlap. If your head is spinning at this point, just go see Figures 1 and 2 on the Color Pages for a visual explanation.

Another way to think of this is to think of each ink in a process color as behaving like a separate spot ink.

Simple Process-Color Trapping. In process-color trapping, you’ve got to make your overprinting strokes different colors from either the background or foreground objects. Why? Because process colors have a way of creating new colors when you print them over each other. It’s what they do best.

As in the spot-color trapping section earlier, we’ll demonstrate process-color trapping techniques by example.

1. Create a rectangle that's filled with "Color 1," which is specified as 20C 100M 0Y 10K.
2. On top of this rectangle, draw an ellipse and fill it with "Color 2," which is specified as 0C 100M 50Y 0K.
3. Select both objects and set their stroke to None.
4. Save the file.

The ellipse needs to be trapped, or you run the risk of having cyan-colored lines appearing around the ellipse when the publication is printed—which could happen if the cyan and yellow plates aren't in good register, or if your paper stretches. Whether you spread or choke the ellipse depends on its color. If the ellipse is darker than the background rectangle, choke the ellipse. If the ellipse is a lighter color than the background rectangle, spread the ellipse. In this case, the ellipse is a lighter color, so you'll use a spread. To spread the ellipse, follow these steps.

1. Create a new process color in the Swatches panel containing only those colors in "Color 2" having higher values than "Color 1." Quick quiz: what component colors in "Color 2" have higher values than their counterparts in "Color 1"? If you said 50Y, you're the lucky winner. Specify a new color: 0C 0M 50Y 0K (we'll call this "Color 3").
2. Select the ellipse.
3. Press F10 to display the Stroke panel, if it's not already visible. Enter the stroke weight you want for your stroke in the Weight field. It should be twice the width of your desired trap.
4. Apply the color swatch "Color 3" to the stroke of the ellipse and set it to overprint.

When you print, all the areas around the ellipse have some dot value inside them, and the new colors created where the objects abut won't be too obvious. Choose Revert from the File menu to get ready for the next example.

What if the ellipse is the darker color? If it were, we'd have to choke it. To choke the ellipse, follow these steps.

1. Select the ellipse and fill it with "Color 1." Select the rectangle and fill it with "Color 2."

2. Create a new color (“Color 3”) that contains only the largest color component in “Color 1.” That’s 100M, so “Color 3” should be specified as 0C 100M 0Y 0K.
3. Use the Weight field in the Stroke panel to specify the weight of the trap you want.
4. Set the stroke color to “Color 3.”
5. Turn on the Overprint Stroke option in the Attributes panel.

When you print, the stroke you applied to the ellipse guarantees that there’s no gap around the ellipse, even if you run into registration problems when you print the publication.

Automatic Trapping

At this point, you’ve read your way through the manual trapping techniques and are seriously considering hiring 20 house elves to take care of your trapping needs. But wait—InDesign includes two powerful automatic trapping methods: In-RIP trapping and InDesign built-in trapping.

What are the differences between the two automatic trapping methods? InDesign’s built-in trapping cannot do the following things (all of which can be accomplished by in-RIP trapping).

- ▶ Trap gradients created in InDesign.
- ▶ Use trap widths greater than 4 points.
- ▶ Be used with in-RIP separations.
- ▶ Be used with most OPI or DCS workflows.
- ▶ Create traps inside color images, or trap InDesign objects to images contained in DCS, EPS, or PDF files.
- ▶ Trap imported vector graphics or type within PDF or EPS files. See “Built-in Trapping and Imported Graphics,” later in this chapter.

Don’t let the length of the above list discourage you—InDesign’s built-in trapping can take care of the trapping needs of most publications and printing processes. If, however, you see an item in the above list that is crucial to your publication, then you’d probably better use in-RIP trapping.

Of course, in-RIP trapping only works with PostScript printers that have trapping built in. All PostScript 3 devices should be able to handle this, but if you have a PostScript Level 2 printer, check with the manufacturer to see if it has this feature. In-RIP trapping

also only works when you're also using in-RIP color separations. Most people don't use in-RIP separations (they separate on a host machine), so they can't use in-RIP trapping either. In that case, we recommend third-party post-process trapping software that creates traps for you.

Note that both forms of automatic trapping work best with PostScript and OpenType fonts; this is another instance where TrueType fonts may cause problems.

Built-in Trapping and Imported Graphics. When InDesign elements overlap an imported EPS or PDF graphic, InDesign won't be able to trap the InDesign elements properly and you can get odd trapping results. If the elements don't touch each other, or don't need to be trapped, this isn't a problem. If the InDesign object does touch the graphic, however, you can sometimes work around the problem by adjusting the frame that contains the graphic. If the InDesign elements overlap an empty area in the graphic, edit the shape of the frame containing the graphic so that it doesn't touch the elements.

Alternatively, you can copy and paste paths from Illustrator or FreeHand (or any other application capable of putting data on the system Clipboard in Illustrator format), thereby converting the paths into InDesign objects—but this will only work for very simple graphics.

Specifying Trapping Settings. While InDesign's default trap settings are reasonably good for most sheetfed print jobs, you will likely have to change the trap settings for different jobs or for different pages within a job (InDesign does not let you adjust the trap preset for individual objects on your page). You can do all of this with the Trap Presets panel (see Figure A-2). Note that this is different from InDesign 1.x, which hid trapping settings in the Print dialog box.

All documents start with two trap presets: Default and No Trap Preset. We'll see how you can use No Trap Preset later when we talk about assigning trap presets to pages. If you just want to change the trapping values for the entire document, edit Default by double-clicking on it in the Trap Presets panel. Or, to create a new trap preset, Option/Alt-click on the New Trap Preset button at the bottom of the panel (or select New Trap Preset from the panel menu).

The New Trap Preset and the Modify Trap Preset dialog boxes are functionally equivalent. Here's a quick rundown of what all these cryptic features are for.

Trap Width. The value you enter in the Default field sets the trap width for all inks except solid black—you set that trap width using the nearby Black field. If you’re using InDesign’s built-in trapping, the trapping width is never greater than four points (regardless of the value you enter in these two fields).

If you’re working with a rich black (that is, a color containing other process inks in addition to black), the value you enter in the Black Width field also sets a kind of “margin” of black ink at the edges of a rich black object. This margin is known as the “holdback” or “holdback area.”

The holdback area comes in handy at the edges of a rich black object. If, for example, you’ve placed white text over a rich black area, the holdback area prevents the non-black inks from appearing around the edges of the white characters.

Trap Appearance. Those of you who *really* care about how your traps appear can adjust the look and feel of trap lines with the Join Style and End Style pop-up menus. Join Style determines how corner points in trap segments will appear (mitered, rounded, or beveled). End Style determines how the trap lines act at their end points (the default, Mitered, keeps the trap lines slightly away from each other, while Overlap lets the trap lines... well, overlap). We typically just leave both of these set to their default values.

Trap Thresholds. Imagine that you have two process colors in your publication. Color 1 is defined as 60C 20M 0Y 0K, and Color 2 is 65C 15M 0Y 5K. Do these two colors need to be trapped if they happen to end up next to each other on your InDesign pages? That depends on you, your publication, and your commercial printer. The fields in the Trapping Thresholds section of the New Trap Preset dialog box control when and how InDesign traps the boundaries between colors in a publication.

The Step field sets the percentage of difference between each color component to trigger automatic trapping. In the above example of Color 1 and Color 2, using the default value of 10 percent in the Step field means that InDesign would not trap the two colors—there’s not enough difference between the inks that make up the two colors. If you lowered the value in the Step field to 5 percent, InDesign would trap the objects (because the C, M, and K ink components vary by that percentage).

Black Color. How much black ink has to be used in a color before InDesign applies the holdback defined by the value you entered in

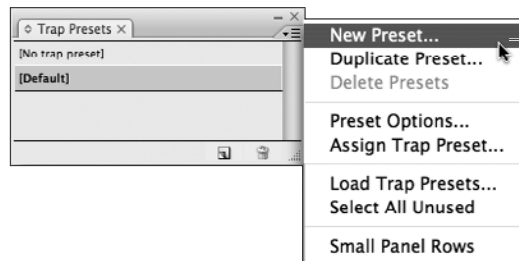
the Black field? That depends on what you enter in the Black Color Limit field. Enter 100 percent when you want to apply a holdback to colors containing 100 percent black ink, or lower the percentage to apply a holdback to colors containing less black ink.

Black Density. InDesign traps colors in a publication based on their ink neutral densities (see “Editing Ink Neutral Densities,” later in this chapter). Lighter colors typically spread into areas of darker colors, which usually produces a less obvious trap. You can manipulate the way that InDesign traps objects by changing the neutral densities in the Ink Manager dialog box. Or you can use the Black Density field to redefine the density InDesign thinks of as black. By default, black ink is set to an ink neutral density of 1.6.

The value you enter in the Black Density Limit field also affects InDesign’s application of the Black holdback area. By reducing the value in the Black Density Limit field, you instruct InDesign to apply the holdback to inks other than black.

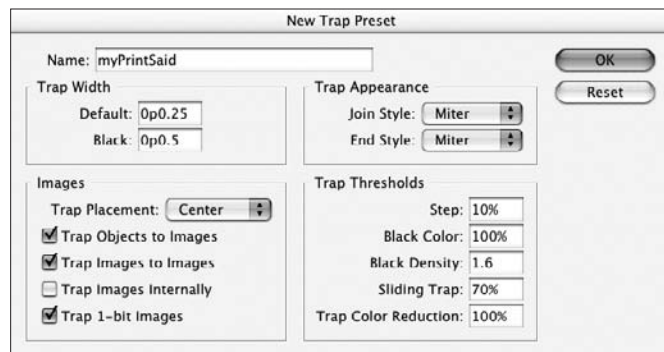
Sliding Trap. When gradients abut, the colors at the edges of the gradients vary along the border between the two gradients. You can’t use a simple spread or choke for the entire length of the boundary

FIGURE A-2
Trapping Settings



To create a trapping preset, select New Preset from the menu or Option/Alt-click the New Preset button.

InDesign displays the New Trap Preset dialog box.



between gradients—at some point, the trap will just become too obvious.

One way to solve this problem is to use a centerline trap—a trap that extends equally on either side of the boundary between the gradients. Another method is to use a sliding trap—which changes from a spread to a centerline trap, and then to a choke, depending on the ink neutral densities of the colors used in the gradients.

The value you enter in the Sliding Trap Limit field defines the point (or points) at which the trap switches from a spread to a centerline trap, and from a centerline trap to a choke. This value is a percentage of the difference between ink neutral densities (note that this is unlike the percentage in the Step field, which is the difference between the color components making up a color). Enter 0% (zero percent) to force InDesign to use a centerline trap for the entire length of the trap, or enter 100% to make InDesign apply a spread along the length of the boundary between the two gradients. Other values (such as the default 70 percent) apply sliding traps.

Trap Color Reduction. The value you enter in this field defines the colors InDesign creates as it builds traps. When the value in this field is 100 percent, some color combinations can result in a trapping color (or colors) that is darker than either of the original colors. To avoid this, enter a smaller value in this field. Enter 0 (zero) to set the neutral density of the objects created by the trapping system to the neutral density of the darkest color (note that this doesn't necessarily mean it's the same color).

Image Settings. The controls in the Images section of the New Trap Preset dialog box define the way that InDesign traps InDesign page items to imported graphics. Note that “image,” in the context of this dialog box, means any imported graphic—not just bitmaps.

Trap Placement. Choose Center to apply a centerline trap (see “Sliding Trap,” earlier) to the boundary between the InDesign object and the imported graphic. Choose Choke to extend the InDesign objects into the area inside the imported graphic. Choose Neutral Density to apply the trap based on the ink neutral density of the abutting colors. Choose Spread to spread the colors from the image into the InDesign object.

Trap Objects to Images. Turn this option on to apply automatic trapping to areas where InDesign objects abut imported images.

InDesign uses the trapping method you chose from the Image Trap Placement pop-up menu to trap the objects (see above).

Trap Images to Images. This feature lets InDesign build traps where two bitmapped images abut each other.

Trap Images Internally. Turn this option on to apply in-RIP trapping to areas of color inside imported bitmap images. Most scanned images (photographs) don't need trapping—this option is for synthetic images (such as screen shots) containing abutting areas of flat color. Turn this option off for faster trapping.

Trap 1-bit Images. Turn this option on to trap bilevel (black and white) images to InDesign objects. This affects images to which you've applied colors in InDesign.

Trapping Ranges

If the pages in your publication have differing trapping needs, you can use trapping ranges to vary the trapping presets used to trap the publication. For instance, if one or more pages don't require trapping at all (perhaps they include only black text or objects don't overlap at all), your document will print faster if you turn off trapping for those pages. To change one or more page's trap preset, select Assign Trap Preset from the Trap Presets panel menu.

In the Assign Trap Preset dialog box, select a trapping preset from the Trap Preset pop-up menu, then enter the page range you want to trap using the style (separate individual pages with commas and page ranges with hyphens). Make sure you click the Assign button before clicking Done, or else InDesign ignores your change. To turn off trapping for a page or range of pages, select [No Trap Preset] from the Trap Preset pop-up menu.

Editing Ink Neutral Densities

When you use either automatic trapping method, the trapping system (whether in InDesign or in a PostScript RIP) bases its trapping decisions on the inks used in abutting objects on an InDesign page. In general, the trapping system tries to spread lighter inks into darker inks. How can the system tell which inks are lighter or darker? By comparing the ink *neutral density* values between the objects. A color's neutral density is sort of like "how dark would the color be if this were in grayscale."

In general, InDesign assigns ink neutral density values based on the CMYK values of the colors you've used in a publication. If you've

used spot colors (inks), or have created colors using the RGB or LAB color model, InDesign uses the process color equivalent of the color.

Most of the time, this approach works pretty well. But we can think of three cases in which you might want to edit the ink neutral density values.

- ▶ **Varnishes.** A varnish should almost always be the lightest ink on the page, so set its ink neutral density to 0 (zero). This way, the trapping system will spread the varnish into abutting objects.
- ▶ **Metallic Pantone inks.** Metallic inks are more opaque than other inks, and they're also somewhat reflective. Spreading a metallic ink into an abutting area of some other color is almost certain to create an obvious trap. Set the ink neutral density of metallic inks to 1.7 (the value of black ink) or higher—that way, they will be considered the darkest ink on the page by the trapping system (and all other inks will spread into them).
- ▶ **Pantone fluorescent inks.** Like metallic inks, fluorescent inks are more opaque than other inks, and they're also very bright. In general, you want every other ink to spread into an area of fluorescent ink, so you set the ink neutral density to a high value. We think that 1.6 makes a good setting for fluorescent inks—that way, they'll spread into black areas, but most other inks will spread into the fluorescent ink.
- ▶ **Pantone pastel inks.** These are very light colors and should be treated in much the same way as you'd treat a varnish. Set the ink neutral density value to .15—approximately the same value as that of process yellow ink.

To edit the neutral density value for an ink, follow these steps.

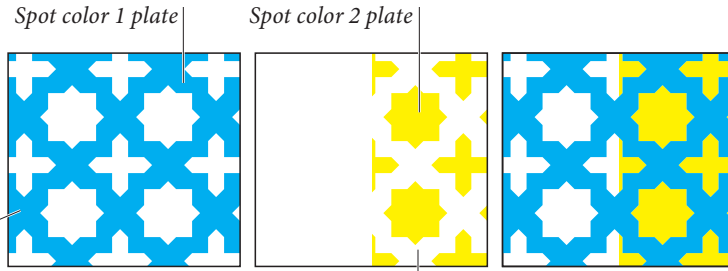
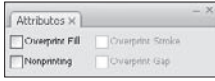
1. Open the Ink Manager dialog box from the Swatches panel menu or the Print dialog box.
2. Select the ink you want to edit.
3. To set the ink type, choose an option from the Type pop-up menu. You use these options to declare to the trapping system that a specific ink doesn't follow the usual trapping rules. This can come in handy when you're working with certain types of spot inks: varnishes, metallic colors, fluorescent colors, and pastel colors. You can also control the inks trapping behavior by manipulating its ink neutral density, as in Step 5.
 - ▶ Choose Normal for all process inks and for most spot colors.

- ▶ Choose Transparent for varnishes and very light spot inks (Pantone pastels, for example).
 - ▶ Choose Opaque for very opaque inks, such as Pantone metallic or fluorescent colors.
 - ▶ Choose OpaqueIgnore for inks you want to have the trapping system ignore entirely—for instance, nontransparent metallic inks or varnishes.
4. Enter a new value in the Neutral Density field. Do this only if you've set the Type pop-up menu to Normal. Use this approach if your publication contains "specialty inks" (the ink types listed in Step 4) and you need to define the ways these inks trap to each other.
 5. The Trapping Sequence field offers a way for you to tell InDesign the order in which the inks will be printed (this has no effect at all on the order in which the color separations will print). While it's rare that you'd need this, the Trapping Sequence feature can be useful if you're printing multiple opaque inks. For instance, InDesign can then know to spread other inks underneath the last-printed opaque ink.
 6. Click the OK button to close the Ink Manager dialog box and apply your changes.

Note that changing the neutral density values for an ink has no effect on how the color appears on screen, even when Overprint Preview is turned on. This only affects InDesign's trapping behavior.

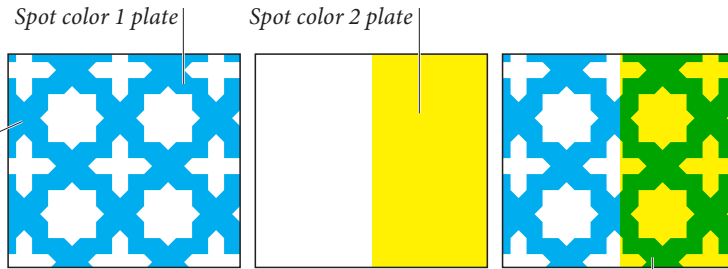
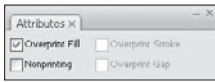
COLOR FIGURE 1
Overprint and Knockout

Objects colored with spot color 1 set to knock out (Overprint Fill option off)



Spot color 1 knocks out spot color 2

Objects colored with spot color 1 set to overprint (Overprint Fill option on)

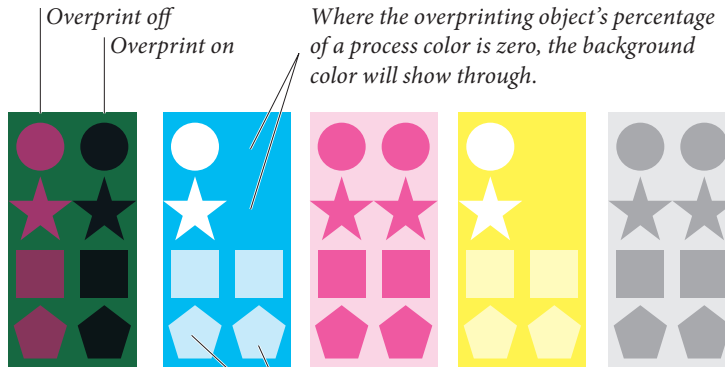


Spot color 1 overprints spot color 2

COLOR FIGURE 2
Overprinting and Process Colors

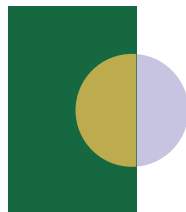
We've always wondered what it really means to say that you're overprinting process colors, so we created this figure to explain it to ourselves. We hope it works for you, too.

- Rectangle: 80C 20M 80Y 10K
- Circle ★ 0C 80M 0Y 40K
- Square ▣ 20C 80M 20Y 40K
- Circle ○ 20C 20M



Where the overprinting object's percentage of a process color is zero, the background color will show through.

These objects contain percentages of each process color, so overprinting and non-overprinting objects print identically on each plate.



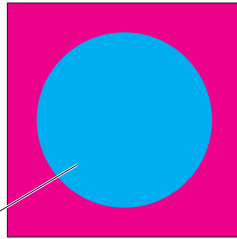
This lavender circle causes an unexpected effect when overprinted. The magenta, yellow, and black plates print as expected, but the 20-percent cyan in the circle overrides the cyan in the background.

COLOR FIGURE 3
Trapping Closed
Paths and Text

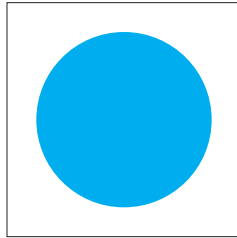
Unless we've been lucky, you'll see the paper showing through around the cyan circle in this example. To prevent the paper from showing, you need to trap the object.

If you could separate the fill and the stroke, you would see something like this.

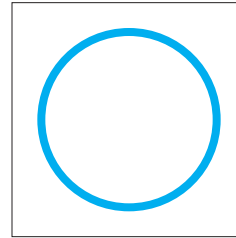
To create a choke, apply an overprinting stroke the color of the background rectangle to the ellipse.



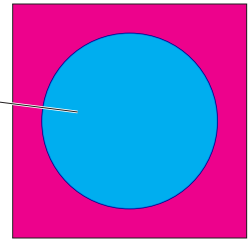
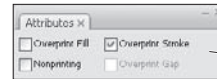
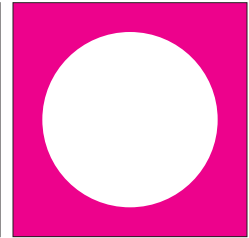
Select the path you want to trap and press F10 to display the Stroke palette. Add a stroke to the object that's twice the width of the spread you want, and turn on the Overprint option.



The fill is set to knock out...



...the stroke is set to overprint.



When you print, the the stroke of the circle overprints the background square, while the fill knocks out. This creates a spread.

This example has not been trapped, so you'll probably see paper showing through around the text characters.



The cyan stroke overprints the background objects, creating a spread. In general, you want to spread the lighter color (cyan, in this example) into the darker color (magenta).



Trapped using a spread.

Because InDesign prints the fill of text over the stroke, we had to create a duplicate text frame containing characters with a magenta stroke and a fill of "None"



Trapped using a choke.

When you choke lighter characters, the apparent shape of the characters changes (not a good thing).