

# **Achieving Reliable Print Output from Adobe Applications using Transparency**

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#### Achieving Reliable Print Output with Transparency

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# Achieving Reliable Print Output with Transparency, Revision 2

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A practical troubleshooting guide for prepress service providers and other graphic arts professionals who work with the new transparency features of Adobe® products.

## Purpose of this guide

This reference and troubleshooting guide gives you, a prepress service provider, the information you need to obtain consistent, high-quality output from files that contain objects created with the new transparency features in Adobe® professional publishing products. The information provided by this guide may also be of interest to design professionals, customer support specialists, and OEMs who may require a deeper understanding of transparency in the print production process.

This guide explains how transparency is processed (“flattened”) when documents are exported or printed, and it explains how flattening affects your workflow. It also tells you what controls Adobe applications provide for flattening transparency. It doesn’t explain the ways transparency may be used by a designer to achieve distinctive creative effects, nor how each application provides controls for design purposes. The user guide and on-line help for each specific application should be consulted for tips on how to design using transparency.

This guide has three sections:

**Section 1: General Guidelines for Reliable Output** Basic steps and information you should know when working with or processing files with transparency from Adobe professional publishing products.

**Section 2: Controlling Flattener Settings & Results** How to use the controls in Adobe professional publishing products for managing transparency and flattening.

**Section 3: Troubleshooting transparency** In-depth how-to information about specific print output issues you might encounter in jobs that have transparent content. This section also includes RIP specific information and a table of file formats as related to their transparency capabilities.

## Products covered in this guide

The second revision of this guide covers the following professional publishing products:

- Adobe Illustrator 10.x
- Adobe InDesign 2.x
- Acrobat 5.x
- Adobe Extreme 3<sup>1</sup>
- Adobe Level 3 RIPs with direct PDF printing support (release 3015+)<sup>2</sup>

Adobe will revise this document as more of its products are enhanced to support transparency workflows. Check [www.adobe.com](http://www.adobe.com) for software updates and up-to-dated versions of this document.

***Note:** Periodically, Adobe makes product updates available on its Web site at [www.adobe.com](http://www.adobe.com). Adobe recommends that you check the Web site to ensure that you have the most current versions of Adobe products.*

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1. Extreme 3 is a high-end printing component integrated into systems sold and supported by Adobe OEMs.

2. Level 3 RIPs are licensed by Adobe and integrated into systems sold and supported by Adobe OEMs.

# Section 1: General Guidelines for Reliable Output

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## Section overview

This section describes the basics of the new transparency model, how it can affect your work, and the general guidelines to follow for achieving reliable, quality output.

## New transparency options present new prepress challenges

The need to handle transparency and transparency-based effects (such as drop shadows) for images, text, and line art is standard practice in high-end prepress environments. In fact, you are already quite familiar with handling transparency in Adobe Photoshop® files.

Adobe has implemented a new transparency model that allows graphic designers to apply transparency and transparency-based effects to all objects in a file, including text, vectors, gradients, and imported graphics. Support for creating, proofing, and printing using transparency is provided by all the applications listed under “Products covered in this guide” on page 2.

The new transparency model allows users to optimize certain existing workflow practices. For instance, you probably use Photoshop to add drop shadows to type and vignettes to images. With a transparency-aware tool such as Adobe Illustrator 10.x or Adobe InDesign 2.x, you can apply transparency effects like these directly to the affected objects. In addition, these effects remain “live” so that when type is edited, for example, the applied drop shadow changes with it. It is not necessary to return to Photoshop to make simple changes like these nor to manage the results as a separate raster file.

Like any new technology, however, the upgraded transparency capability also exposes different and sometimes unfamiliar results across applications and file formats. You may already be receiving jobs with transparent design elements that you must output to match your customer’s expectations.

Much can be learned about Adobe’s new approach to transparency and how it in some cases changes existing workflow practices. Feedback from customers like yourself indicate that most output problems can be avoided by reviewing the information provided in this guide and making a few small changes to your workflow. The degree to which you may need to study this guide and deepen your understanding of transparency depends on a number of factors, including the following:

- The complexity of the jobs you receive.
- The prepress tools you use.
- The workflow techniques you employ.
- The kinds of devices for which you prepare output.

The rest of this section gives you information to understand the basic issues around transparency, address many common problems, and process most jobs successfully. Section 2 goes into greater detail about transparency settings and handling transparency in specific workflow scenarios. Section 3 provides troubleshooting resources.

## How transparency changes your workflow

Adobe's new transparency capabilities may affect your prepress workflow as follows:

**1** Files you typically receive could now contain content to which transparency has been applied. These files may include the following:

- Native files from Illustrator 10.x or InDesign 2.x.
- Adobe PDF or EPS files that were created with Illustrator 10.x or InDesign 2.x.
- Page layout files that contain links to artwork exported as PDF or EPS from Illustrator 10.x or InDesign 2.x<sup>3</sup>.

**2** The transparent design elements in these files may not have been optimally prepared (flattened) for printing or separations. Flattening is a necessary step that converts all transparent design elements into a format that PostScript devices can print. It should be done as late in the process as possible—preferably by you, the prepress service provider.

**3** Your ability to inspect and adjust for inadequate flattening depends on the format of the files you receive:

- **Native files from Illustrator 10.x and InDesign 2.x** can be inspected in the application that created them, and the application lets you adjust the flattening settings for optimal output and print these files directly.
- **PDF 1.4 files that were created with Illustrator 10.x or InDesign 2.x** can have live (unflattened) transparency and must be flattened like native files by opening them in Illustrator 10.x or by placing them in an InDesign 2.x spread.
- **EPS and PDF 1.3 files that were saved from Illustrator 10.x with the “Preserve Illustrator Editing Capabilities” option selected** (in the EPS or Adobe PDF Format Options dialog boxes) can be opened in Illustrator 10.x to edit live transparency and inspect and change the flattener settings. These same files placed into InDesign are considered flattened. [See the file format section at the end of Section 3](#) for more details.
- **Other formats** are flattened into a final form and transparency print results may vary on high-end equipment. Although you can't inspect or adjust the flattening settings for these files, you can resave them with more appropriate settings if you have the original native files. Formats that fall into this category include PostScript, Illustrator 8 EPS (or earlier), InDesign EPS, DCS, PDF 1.2 and 1.3, GIF, JPEG, BMP, and non-Photoshop 6.0 TIFF.

**Note:** When you save a file as PDF in Illustrator 10, PDF 1.3 is listed as “Acrobat 4” in the Save As dialog box, and PDF 1.4 is listed as “Acrobat 5.”

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3. InDesign files may also contain links to native Illustrator 9.x or 10.x files.

The more you understand flattening and the characteristics of the target output device (for example, its resolution and its ability to reproduce the colors chosen for a job), the easier it is to choose how and when you flatten customers' documents. Also, the later in your workflow the flattening occurs, the more likely you are to achieve acceptable, repeatable results.

**Note:** For a complete list of file formats that may contain transparent objects in either a live or flattened form, see the table "Table 1: Input File Formats and Transparency Compatibility by Application" on page 69.

#### **TRANSPARENCY CAN SHOW UP IN MANY WAYS—OPACITY, STYLES, BRUSHES, LIVE EFFECTS, AND BLENDING MODES.**

While many customers apply transparency directly to objects using the Transparency palette in Illustrator or InDesign, transparency can also show up in other, less obvious ways. Transparency might be introduced as a side effect of using some styles, brushes, or live effects, and it might also be introduced when a designer incorporates previously created content that contains live transparency—either by importing it directly or via the clipboard. The best way to determine if transparency is applied is to select the object and inspect its direct and indirect properties, or use the Flattening Preview palette (available in Illustrator 10). Also, in InDesign, look at the Pages palette - if a page has the transparency checkerboard pattern on it, then an object on that page has transparency applied to it.

Another way that transparency can be applied to objects is through blending modes—something you are probably familiar with from Photoshop. When a blending mode other than "normal" is applied to one or more overlapping objects, striking visual effects can be created—effects that require the use of flattening to be reproduced for printing.

You need to know two important things about blending modes and flattening. First, when a blend involves spot colors, what you see on-screen or in a composite proof may not match what the press reproduces. Second, certain blending modes—difference, exclusion, saturation and luminosity—may introduce or eliminate process colors when the resulting blend is flattened, and unexpected results may occur when separations are created. See "Section 3.1: Printing separations" on page 38 of this guide for information.

#### **WHAT IS A 'TRANSPARENCY INTERACTION'?**

Throughout this guide, we focus on objects and placed files to which transparency is directly applied (see the box above for details) and on objects and placed files that interact with transparency. Objects and placed files that interact with transparency may be affected by the transparency flattening process, resulting in changes in appearance or editability. Therefore, make sure that you understand the meaning when we say an object or a placed file "interacts with transparency."

In Illustrator 10.x, the best way to determine if an object is a source of transparency is to use the Flattening Preview in Illustrator 10 via the "Transparent Objects" preview choice. In InDesign, check the Pages palette for the transparency checkerboard. An object is a source of transparency if any of the following applies:

- it has transparency directly applied to it
- it has a non-normal blending mode
- it has an opacity mask
- it is set to overprint and "Preserve Overprint When Possible" in Illustrator 10 is not enabled or "Simulate Overprinting" in InDesign 2 is enabled.
- its fill or stroke has a style, a brush, a pattern or a filter effect that itself has any of the above properties.
- it is inside a group or a layer, or a placed file, that has any of the above properties.

The best way to determine whether an object is involved in transparency is to use the flattening preview palette in Illustrator 10, via the "All Affected Objects" preview choice. Determining reliably if an object is involved in transparency by visual inspection is not always possible, but the rule that almost always works is:

An object is involved in transparency if:

- it is a source of transparency.
- it is overlapped by a source of transparency
- it is very close (usually within 1/72 inch) of a source of transparency and before it in drawing order.

Illustrator 10.x includes a Flattening Preview palette, which lets you determine visually if objects and placed files interact with transparency, and it lets you preview the overall effect of flattening. This palette installs with Illustrator 10.x, but you must enable it by moving or copying it into the plug-ins folder. Section 2 of this guide provides more details on enabling and using the Flattening Preview palette.

## Transparency and print output

### All transparency must be flattened

The Adobe PostScript® language doesn't currently support Adobe's transparency in native device-independent format. For this reason, PostScript desktop printers, Adobe PostScript Level 2 RIPs, and most Adobe PostScript 3 RIPs (or printing systems based on these RIPs) cannot accept and process "live" transparency information - transparency must be flattened. Most RIPs that accept native PDF 1.4 files can process live transparency from the PDF file. Note that each RIP manufacturer will have their own methods of controlling the settings for flattening the transparency from the PDF to final PostScript output. See Section 3 for RIP specific information.

To print correctly, all transparent objects in a file—as well as any linked files that interact with transparency—must be flattened at some point in every workflow. Flattening converts the objects from a device-independent format into another format that is visually equivalent but doesn't contain transparency. This format can be represented in PostScript. In Adobe applications, flattening of transparent content occurs under the following conditions:

- A file is printed from its native application (for example, Illustrator 10.x or InDesign 2.x) or an application that supports the originating application's native format (for example, Illustrator 10.x art placed into InDesign 2.x)
- A file is saved in a non-native format so it can be placed in or linked to other application files in the design or prepress workflow. Typically, a file is saved in a non-native, flattened format using the Save As or Export command to make an EPS or Adobe PDF 1.3 file, or when the file is converted to PostScript by printing to disk. Flattened formats include PostScript, EPS, DCS, PDF 1.2 and 1.3, GIF, JPEG, BMP, and non-Photoshop 6.0 TIFF images.

***Note:** PDF 1.4, a format that can represent transparency directly, contains flattened objects only if the source PostScript file was first saved to disk, regardless of the application used.*

#### NOT ALL EPS FILES ARE CREATED EQUAL

Illustrator 10.x can save files in its own (Illustrator 10) EPS format, as well as in EPS formats that are compatible with earlier versions of Illustrator, such as Illustrator 8 or Illustrator 7. Only Illustrator 10 EPS is suitable for use in a high-end workflow though, because of the management of spot colors and overprinting. (Even though Illustrator 9.x also supports transparency, we recommend Illustrator 10.x because of its many performance improvements.)

Transparency is always flattened when a file is saved to EPS. An Illustrator 10.x EPS file, however, (unless resaved in another application) retains transparency information within its code, so the live transparency is restored if the file is reopened in Illustrator 10.x. When placed into InDesign, the same EPS file is considered flattened.

InDesign 2.x can export two different kinds of EPS files—only one of which is generally suitable for high-end printing workflows. By default, InDesign 2.x exports EPS files in which transparency is flattened and overprinting instructions are preserved wherever possible—in some limited cases, the flattening process will preprocess these. These default EPS files are suitable for output on printing presses. If you select Simulate Overprint in the Export dialog, InDesign 2.x can optionally export EPS files in which all overprinting instructions are preprocessed and the appearance of overprint is simulated for output on composite devices. As a rule, you shouldn't use this option for high-end printing workflows.

### ... AND NEITHER ARE ALL PDF FILES

Starting with PDF 1.4 (also known as Acrobat 5 PDF), PDF is able to accurately represent transparency created by any Adobe transparency-savvy authoring or layout application. Illustrator 10.x and InDesign 2.x, can both export and import live transparency as PDF 1.4. Among other benefits, this format preserves spot colors and overprinting without flattening. As a service provider who accepts PDF 1.4 (and newer) files, you have complete control over the flattening process that must eventually occur to output the files. This flattening can be done most easily by placing a PDF 1.4 file into a blank InDesign 2.x document, and then making separations directly or flattening the document into EPS or PostScript for further processing.

If you work with PDF 1.3 (also known as Acrobat 4 PDF), you should be aware that any transparency in the native document from which the PDF was created will already be flattened. PDF 1.3 files may not be acceptable for high-end prepress workflows, because overprinting and spot colors aren't always preserved. Illustrator 10.x, for example, doesn't preserve overprinting and spot colors when it exports to PDF 1.3. InDesign 2.x, however, does.

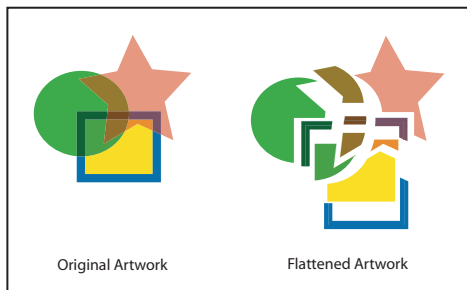
One final point: PDF 1.4 files that were created using Distiller 5.x will not contain live transparency. That's because Distiller operates on PostScript which only contains flattened transparency.

## How flattening changes objects in a design (The Basics)

At its simplest, the process of flattening converts all the overlapping elements in a stack of transparent objects into a format that captures the look of the original transparency for printing.

To achieve this effect, the Adobe flattening technology, which all Adobe's transparency-savvy applications implement, examines the interactions at every point of the transparency and does several things to the objects involved:

- The Flattener cuts the original transparent objects apart, and represents overlapping transparent regions by creating a new set of discrete, abutting objects called "atomic regions", each with its own color. (See the following example.)



*Flattening cuts transparent objects apart to represent overlapping areas as discrete pieces that are either vector objects or rasterized areas. The flattened view is an exploded diagram of how the objects are split into flattened atomic regions. This example involves vector objects only. As a design becomes more complex (mixing images, vectors, type, spot colors, overprinting, and so on), so does the flattening and its results.*

- The flattener retains the integrity of the original transparent objects whenever possible (for example, type remains type, vectors remain vectors). However, based on the complexity of a design and the flattener settings used, it may rasterize type or vector objects, convert type or strokes to outlines, or expand patterns.
- The flattener may need to process overprinting objects as it would process overlapping transparent objects, especially if those objects set to overprint are involved with transparency. Details of this situation are reviewed later in this section—see “Overprinting may not be preserved:” on page 9.

The flattening process is covered in much greater detail in Section 2 of this guide. Be sure to review that section carefully.

## How transparency and flattening affect workflow and print output

Flattening alters a file with transparency to enable prepress workflows, which may visibly reduce output quality. If the output is not what is expected, you can often correct the situation if the original files are available. Sections 2 and 3 discuss flattening and its side effects in detail.

**Transparency is no longer “live” and editable:** Although the result still looks transparent, the formerly transparent objects in flattened designs are opaque, and they won’t be transparent to other objects in other applications (that is, the transparency is no longer “live” to other objects). In addition, some of the original objects may be transformed into less editable formats. (For example, vectors can become rasterized and type can become outlines or be rasterized through flattening.)

Adjusting transparency attributes and objects after flattening requires making changes to the original file, and then exporting or printing (flattening) it as a new file. These steps are analogous to standard editing practices when placed or imported graphics need to be changed.

For more information, see the inset “Going Native—Keeping Transparency Live and Editable” on page 15.

**Rasterization may cause visible changes:** The flattener’s need to convert vectors to rasterized areas (or type to outlines) can sometimes produce undesirable visual results, such as jaggies (resolution mismatching between objects), color stitching<sup>4</sup>, or thickened stroke widths. These results can occur if the flattener rasterizes only a portion of a large, complex design. What the flattener rasterizes is based on the types of objects being flattened (type, gradients, spot colors, and so on), on the file’s complexity, and on the flattener settings that are in effect when you save-as, export or print.

**Resolution may not match the device:** Sometimes rasterization is needed as part of flattening. The resolution used for rasterization must be user-defined because the device resolution is not automatically available at the time of flattening. Also, the device resolution may be inappropriately high and may result in huge spool files and significant flattening time without a noticeable improvement in quality. Objects that remain in vector format remain device independent and will scale correctly to match the resolution of the output device. (See Section 2 for details about the resolution settings used by the flattener.)

**Fonts may not match:** Since flattening on your computer uses your computer’s fonts, not the RIP or printer’s fonts, there may be a mismatch between fonts within the flattened region & fonts processed at the RIP.

**Colors may change:** The use of transparency can change colors in several ways. First, certain blending modes, such as Multiply can result in generating ink on all process plates, even on those not originally specified. Be sure to use the Overprint Preview mode for previewing the appearance of spots and overprint.

Second, if ICC color management is used in the workflow, colors involved in transparency may be transformed earlier than expected and may not match the actual press conditions after being flattened. In applications like Illustrator 10.x, this transformation can happen if you haven’t carefully chosen the working space profile for the document. In InDesign 2.x—which supports working in multiple color spaces—the Transparency Blending Space profile must be chosen with the same care. This issue is explored more thoroughly in the section “Handling Color Conversions.”

Also be aware that in Illustrator 10.x, correct spot color separations are obtained only if a file is exported to specific formats: Illustrator 10 EPS (which has been flattened) or PDF 1.4 (in which transparency remains live). For other formats, such as Illustrator 8 EPS or PDF 1.3, the spot colors convert to process equivalents. InDesign 2.x always preserves spot colors as long as Simulate Overprinting isn’t selected on the Advanced panel of the Export dialog box. (This option isn’t selected by default and should be used for proof output only.)

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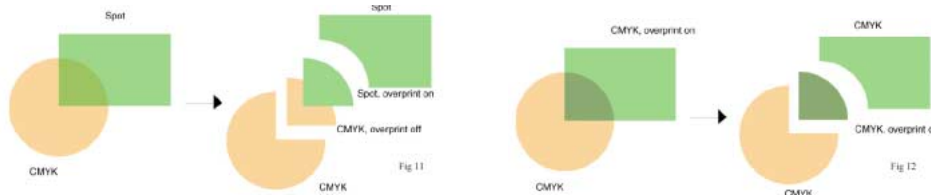
4. Color stitching is the visible color transition between objects whose coloring would otherwise be identical. It most commonly occurs when a portion of a vector object is rasterized by the flattener.

**Overprinting may not be preserved:** As long as a document contains no transparency (including non-normal blending modes), then overprinting is preserved by InDesign 2.x. If overprinting is mixed with transparency, flattening may cause overprinting to be preprocessed. In some cases, flattening may not provide the intended results on the press, especially when spot colors are involved. Below is a summary of the overprint handling behaviors in Illustrator 10.x and InDesign 2.x.

In Illustrator 10 there is no way to preserve the native overprint instructions when printing to a composite file - overprint can either get ignored or flattened. When printing to a composite printer, there is a checkbox "Ignore Overprinting in Composite Output." If this option is checked, overprint information is ignored (i.e. removed) from the file when printing. If the option is unchecked, overprint is flattened (i.e. the visual appearance of overprinting is preserved), similarly to InDesign's "Simulate Overprint" checkbox in the Print UI.

If an overprinted object is involved in transparency (as defined on page 5), the overprint is flattened (i.e. the overprinted object is broken down into atomic regions and their color is flattened, taking overprint into account.) Flattening of overprint does not change the visual appearance or the amount of ink per plate. However, it may result in removing some of the native overprint instructions and may cause potential problems with post-processing tools that might rely on those overprint instructions.

In other scenarios overprint instructions may be generated as a result of flattening, even if none are originally present. This can happen when flattening spot colors that are involved in transparency.



The effects of flattening on overprint and spot colors

If overprinting instructions are applied to objects in a file that also contains transparency, the flattener may be used to preprocess these objects. The flattener, in effect, executes the overprinting instructions and renders the results in the flattened output stream, much the same as a PostScript RIP. Below is a list of conditions under which overprinting instructions are preprocessed by the flattener:

- When overprinting objects have transparency applied directly to them (for example, they are less than 100% opaque)
- When overprinting objects are part of a group to which transparency is applied
- When overprinting objects overlap (that is, sit underneath or are within approximately 1/72" of) objects or groups that are transparent
- When overprinting objects are in a placed file to which transparency is then applied
- When overprinting objects are part of a "complexity region" and must be rasterized<sup>5</sup>
- When Simulate Overprinting is selected in the Advanced options of the Export dialog box (InDesign 2.x only).

**Note:** By default this checkbox is unselected and should remain unselected for high-end printing workflows. It should only be selected when proofing to low-end composite devices that cannot simulate overprinting.

- When the 'Preserve Overprinting When Possible' checkbox is unselected using the 'Transparency' options of the Document Setup dialog (Illustrator 10.x only).

**Note:** By default this checkbox is unselected but it should be selected for high-end printing workflows.

5. A complete discussion of complexity regions is in Section 2 of this guide.

In many cases, the results of pre-processing overprinting instructions by the flattener will be identical to what happens when a PostScript RIP interprets the same overprinting instructions and may not cause a problem in your workflow.

**Placed files that interact with transparency may be incorrectly processed by the Illustrator 10 flattener:** If a placed / linked file is involved in transparency (as defined on page 5) Illustrator 10 will render it at the bottom of the drawing order when flattening. Placed files that interact with transparency should be embedded in an Illustrator file in order to be properly flattened. The entire image can also be placed into an InDesign file and flattened.

**Transparency effects may be lost after image replacement:** If the flattener encounters a transparent region of a document that involves images (for example, transparent type and a drop shadow that falls over an image), it uses whatever image data is present during flattening to render the overall effect requested. So if the image involved is a low-resolution placeholder or OPI proxy image, that's the image information the flattener uses. If that proxy image is subsequently "swapped out" with a final, high-resolution image (using OPI, APR, or manual methods), the rendered transparency effect is lost—at a minimum. If the image is an FPO (low-resolution proxy image), the results may be more dramatic. You must fatten the file with high-resolution images before you flatten transparency - Fatten before you flatten."

Image Replacement Problems in Illustrator:  
Flattened, OPI performed

Results Partially Exploded



*Remember to fatten before you flatten if using an OPI or FPO workflow.*

Transparency effects applied to placeholder or proxy images are properly rendered only if image replacement occurs prior to flattening. The impact on workflow depends on what file formats you use, when flattening is performed, and what applications are involved. If the workflow is based on Adobe PDF and you use an OPI server that operates on PDF 1.4, you can keep transparency live by using PDF 1.4 until after performing image replacement. If the workflow is based on EPS, you must perform image replacement manually from within Illustrator or InDesign prior to flattening. (See "Section 3.4: Performing image replacement" on page 58).

## The cumulative effect

The variables listed above aren't the only ones that can affect flattening results. Others include the complexity of the design (for example, many overlapped objects using transparency make a design more complex with respect to flattening), whether fonts used in the design are available during flattening, and whether external files used in the design are linked or embedded. Even the file format and settings used during flattening can make a striking difference in the final printed piece.

As these and other flattening issues accumulate, you can better understand why some transparent elements and files might not flatten and print as well as others. Following are some recommendations for achieving successful print output for standard jobs.

## Recommendations for successful print output using transparency

The majority of files that use transparency can be output without any problems by following the recommendations made below. If customers send you native files only, you have complete control over final output when transparency is involved. If customers sending you PDF 1.3 or EPS files (formats that are flattened), you should review these recommendations with them beforehand:

- Whenever possible, use file formats that preserve live transparency—including native formats for Adobe applications (Illustrator 9.0-10.x and InDesign 2.x) or PDF 1.4—as hand-off files or source files for placement in layouts or other documents.

**Reason:** You have control over the flattener and resolution settings, up to the time you print or save the job in a non-native file format (such as PostScript for trapping).

**Reason:** InDesign 2.x allows you to link directly to Illustrator 10.x and PDF 1.4 files, preserving live transparency throughout the page layout workflow. You can then flatten all transparency in a job at once, directly from within InDesign.

- Save transparent artwork from Illustrator 10.x in Illustrator 10 EPS format if you use older applications for page layout, especially if spot colors are involved and you intend to make separations.

**Reason:** Currently, InDesign 2.x is the only page layout application that can interpret unflattened transparency in native Illustrator files and PDF 1.4 files.

**Reason:** Illustrator 10 EPS is the only flattened file format that can be exported from Illustrator 10.x with spot color plates preserved. Because spot colors are converted to process colors if you export to AI 8 EPS or PDF 1.3, Illustrator 10 EPS is the only flattened format suitable for separations in older page layout applications. More importantly, you can open Illustrator 10 EPS files in Illustrator 10.x and adjust flattener and resolution settings to match output conditions in your workflow.<sup>6</sup>

- Save page layouts with transparency from InDesign 2.x as PostScript files or PDF 1.3 files using the “High Resolution” flattener style if you use prepress tools that can't interpret PDF 1.4.

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6. An Illustrator 10 EPS file remains editable only if it retains the Illustrator 10-specific information that is embedded in the file. After the file is saved to a non-Illustrator 10 EPS format, this information is removed, and the file loses its ability to be flattened again. For instance, placing an Illustrator 10 EPS file into a page layout application, and then saving the resulting file as EPS removes the Illustrator 10 information. That EPS file can be reopened in Illustrator 10.x, but you cannot edit its transparency or adjust flattener properties. Many techniques described in this guide depend on the integrity of the exported Illustrator 10 EPS file.

**Reason:** PostScript and PDF 1.3 files created in this manner in InDesign 2.x provide high-quality results, preserve overprinting and spot colors where possible, and separate correctly.

- When using PDF 1.3 for separations, make sure that the resulting PDF file supports spot colors and overprinting. The easiest way is to use InDesign 2.x and the appropriate PDF style for this purpose. If you need to make a PDF 1.3 file from an Illustrator 10.x document, you must first export the document to Illustrator 10 EPS (or print PostScript to disk), and then use Adobe Acrobat Distiller® to make the PDF 1.3 file.

**Reason:** When you export to PDF 1.3 directly from Illustrator 10.x, spot colors and fonts aren't preserved in the flattening process.

- When applying drop shadows and feathering to objects in Illustrator, be sure to use effects rather than filters.

**Reason:** Illustrator effects have settings that can be dynamically changed / fixed at print / output / export. Filters create resolution-dependent raster objects, and their appearance is dependent on the Raster Effects Resolution in effect at the time the filter is used. For example, you can modify the resolution settings of a previously applied effect in order to make changes just before print, but a filter bakes the resolution into the image at the time the filter is used, making it impossible to change that setting later on.

**Reason:** The set of spots is fixed at flattening time and cannot be changed after flattening.

- If you flatten a document with spot colors, inspect it as follows:

Determine if spot colors are used (Illustrator only). If spot colors are used, the file must be exported to Illustrator 10 EPS or PDF 1.4. Spot colors are lost if you export from Illustrator 10.x to any other format. You can also place the unflattened native file directly into InDesign 2.x. (See “Problem 3.1.1: Spot colors convert to process.” on page 39.)

Make sure all spot colors correspond to actual plates. Convert spots to process if they don't have a corresponding plate (note: this may affect the appearance), or in InDesign 2.0, map spot colors to appropriate target plates using the Ink Manager in the Print UI.

Determine if overprinting and transparency are used together in the document (Illustrator only). During flattening, the overprinting might be simulated, and the overprinting instructions might be removed. (See “Problem 3.1.2: Overprinting instructions are lost.” on page 40.)

Determine whether Difference, Exclusion, Hue, Color, Saturation, or Luminosity blending modes are used in the document. To help you determine if blending modes are used, enable overprint preview mode. These blending modes may result in marking all process plates, even those not specified in the color of the object assigned the blending mode.

Make sure that all fonts are present and properly installed. Otherwise, the flattener substitutes them with fonts that may not fit the original text's bounding box, and this substitution cannot be corrected later.

Look for any low-resolution proxy images that interact with transparency. For proper results, such a document must be “fattened”—contain all high-resolution final images—before it is flattened. You must either perform image replacement manually before flattening a document or, if you use a PDF-based OPI server, you can keep transparency live using Adobe PDF 1.4 until files are fattened. If you flatten files in Illustrator 10.x, you must also place-embed rather than place-link EPS images that interact with transparency. (See “Section 3.4: Performing image replacement” on page 58.)

**Note:** The InDesign 2.x logic that generates OPI comments if *Omit Images* is selected doesn't process any placed images that interact with transparency. These images aren't replaced when OPI is performed.

If you use color management, be sure that the file's working color space—or transparency blending space in InDesign 2.x—is set to the intended output device before flattening. This procedure ensures that transparent objects are assigned suitable in-gamut colors. (See “Section 3.5: Handling color conversions” on page 60.)

If native Illustrator or PDF 1.4 files are placed in InDesign 2.x, and the files contain live transparency, make sure that they are in the same working color space as that being used for transparency blending. The same color space ensures that overprinting in placed files correctly interacts with objects over which they may be placed.

**Note:** To improve display performance, InDesign 2.x lets you disable the on-screen preview of transparency and transparency-based effects using the new Display Performance preference setting. Be sure to set Display Performance to High Quality before you inspect a document.

- Place-embed (don't place-link) EPS images that are part of an Illustrator 10.x design if they interact with transparency as described earlier in this document (See "What is a 'Transparency Interaction?'" on page 5.)<sup>7</sup>

**Reason:** The flattener in Illustrator 10.x cannot read the data inside a place-linked file. Therefore, place-linked files involved in transparency print first, beneath everything else on the page, as if they were in the background. Place-embedding the file in Illustrator 10.x enables the flattener to correctly process the file's contents for transparency-based effects.

**Note:** In Illustrator 9.x, a yellow 'warning triangle' appears next to the name of any linked files which, because of their interaction with transparency, need to be embedded to flatten properly. To improve performance in Illustrator 10.x, this feature is disabled by default. See Section 2 for details.

**Note:** The colors in place-embedded files automatically convert to match the color model in the Illustrator 10.x document in which they are placed if they don't already match.

- Review a document's current flattener settings and adjust them to best match final output conditions. (See "What are your points of control?" on page 17.)

**Reason:** The flattener settings you choose—especially Raster/Vector Balance—can greatly affect the quality of the printed piece. When you flatten with intent to separate the output, use the highest fidelity (rightmost) setting for the best results. For quicker proofing, lower fidelity settings may be acceptable.

**Note:** InDesign 2.x provides a set of flattener styles to make it easier to manage all flattener controls and settings. These styles are discussed in greater detail in Section 2.

**Note:** In InDesign 2.x, individual spreads can have their own flattener settings. To check these flattener settings, use the flyout menu of the Pages palette.

- Review the current Flattener, Rasterization, and Mesh Resolution settings, and adjust them as appropriate for the final output device's resolution and line screen. (See "Resolution settings and their interactions" on page 23.)

**Reason:** If a setting is too low, stitching artifacts may occur. Generally, the Flattener, Rasterization, and Mesh Resolution settings should be no less than twice the intended line screen (for example, 300 ppi rasterization for 150 lpi output) and no more than the full resolution of the intended output device (although the result can be significantly larger flattened files). Your shop's standard may vary.

- Review the current Raster Effects Resolution settings (if Illustrator filters are used), and adjust them as appropriate for the intended output device's resolution and line screen. Note that adjusting these settings changes the size and appearance of certain pixel-based raster effects in the file. (See "Resolution settings and their interactions" on page 23.)

**Reason:** If a setting is too low, stitching artifacts may appear. Typically, the resolution for raster effects should match the resolution you use for drop shadows created in Photoshop, and it might be lower than the resolution for images. Your shop's standard may vary.

**Note:** In Illustrator 10.x and InDesign 2.x, transparency effects, like drop shadows and feathered edges, are pixel-based, and their resolution is controlled by the gradient resolution flattener setting.

7. This technique doesn't work with DCS 2.0 (pre-separated), duotone, tritone, or quadtone files because Illustrator cannot embed these types of graphics. These file formats are often used when creating images in Photoshop for use in Illustrator.

- Install the Illustrator 10.x Flattening Preview palette plug-in to help you make better flattener choices from Illustrator.

**Reason:** The Flattening Preview palette plug-in provides immediate visual feedback, allowing you to evaluate the effects of the flattener settings you select. This plug-in is discussed further in Sections 2 and 3. See also the document “Flattening\_Preview.pdf,” which installs with Illustrator 10.x.

- If you are unsure about the effects that flattening will have on a document, run proofs at different flattener (and related rasterization) settings, and/or generate and preview separations on-screen to check the results before going to press.

**Reason:** Some files with transparency print just fine the first time out. Others require fine-tuning. Making a composite proof or previewing separations on-screen may be a less expensive way to verify any changes that may be needed before making actual film or plates.

#### HOW TO CONTROL FLATTENING IN ADOBE APPLICATIONS

Section 2 of this guide provides details about the settings that control variables during flattening. While the underlying technology to flatten transparency is the same in both Illustrator 10.x and InDesign 2.x, the controls have some important differences. Here is a brief review of those differences:

- The Raster/Vector Balance control is continuously variable in Illustrator, but it has only five settings in InDesign.
- The Raster/Vector Balance control scales from 1 to 100 in Illustrator and 1 to 5 in InDesign. Illustrator’s 1 and 100 are the same as InDesign’s 1 and 5.
- In Illustrator 9x and Acrobat 5.x, the Raster/Vector Balance control is labeled Quality/Speed. Previous versions of this guide also referred to it by that same name.
- In InDesign, the Gradient Resolution is used for ID drop shadows and feathers.
- Convert All Text to Outlines in Illustrator is called Force Text to Outlines in InDesign.
- Convert All Strokes to Outlines in Illustrator is called Convert Strokes to Outlines in InDesign.
- Preserve Overprints When Possible is a flattener option in Illustrator only; InDesign provides a different control—Simulate Overprint—for exporting EPS files or printing.
- Rasterization Resolution in Illustrator is called Flattener Resolution in InDesign.
- The Mesh Resolution in Illustrator is called the Gradient Resolution in InDesign.
- The Raster Effects Setting is in Illustrator only.

#### CHOOSING FILE FORMATS WISELY

When it comes to transparency, Illustrator 10.x and InDesign 2.x native file formats are the best choice for prepress because they aren’t flattened. This feature gives you complete control over that most critical aspect of the workflow. However, your existing investment in prepress tools and printing systems requires that these native files be converted to PostScript, EPS or Adobe PDF soon after you receive them. Here are some things to consider:

Illustrator 10.x artwork that is saved as Illustrator 10 EPS is flattened—allowing it to be placed in older layout applications—but it may be reflattened at any time to inspect and correct flattening problems, should they occur. This condition is because Illustrator 10 EPS format holds all the preflattened transparency information inside of it. You can open an Illustrator 10 EPS file in Illustrator 10.x, restore the “live” transparency objects for editing, and resave it with new flattener settings.

InDesign 2.x layouts saved as either EPS or PDF 1.3 are flattened, but they also retain overprinting and spot colors correctly—unless Simulate Overprinting is selected in the Export dialog box.

PDF 1.4 files created directly from either Illustrator 10.x or InDesign 2.x remain unflattened - much the same as native files. Printing systems based on Extreme 5 or Adobe Level 3 RIPs (3015+ with PDF printing extensions) may be used to flatten these files just prior to final output.

## Where to go next

The more you know about transparency and the effects of flattening, the better prepared you are to intercept and correct problems.

This section provided a high-level overview of what to expect when receiving and processing transparent files. We encourage you to read Sections 2 and 3 to understand the following:

- How to address the effect of flattening on specific workflow steps.
- How to use the flattener and related controls in Adobe applications.
- Specific known issues, workarounds, and solutions
- File formats and their compatibilities with transparency and overprint

### **GOING NATIVE—KEEPING TRANSPARENCY LIVE AND EDITABLE**

Adobe's transparency attributes stay "live" and fully editable while in their native application or in one that supports the native file formats:

They are "live" in that they can interact with other objects that are placed beneath them, allowing those objects to show through the transparency. These objects also retain a very high degree of (or complete) device independence.

They are editable in that the transparency attributes, the transparent objects, or both can be freely altered to the extent that the receiving application supports such editing. (For example, some applications allow you to reduce the opacity of type, alter the color or shape of a drop shadow, or edit transparent text.)

#### **Live and editable depends on format and application**

Transparent content is both live and editable within the application in which it is created. It can also be both live and editable when placed as a native file within another document. The extent to which it is editable in the receiving application depends on the editing features of that application.

Transparent content is neither live nor editable when placed as a non-native (i.e., flattened) file within another document. The notable exception to this is the Illustrator 10 EPS format. This format includes additional application-specific information that allows Illustrator only to "reconstitute" transparency in a live and editable form.

### **THE FUTURE OF PRINTING LIVE TRANSPARENCY: ADOBE POSTSCRIPT 3 RIPS**

PostScript 3 RIPS that support Adobe PDF 1.4 (Acrobat 5) files can accept and process "live" transparency. This capability is built into the Adobe PostScript version 3015 RIP, which was released to Adobe OEM partners in spring 2000. Check with the vendor of any Adobe PostScript-based high-end printing system to determine if PDF 1.4 or live transparency printing support is available.



# Section 2: Controlling Flattener Settings and Results

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## About this section

This section explains how to flatten art in specific Adobe products, so you can make the best choices for your workflow or transparency jobs.

Usually, you will do the flattening to optimize transparent files for your target press conditions. You have control over the flattening of the following types of files:

- Native Adobe Illustrator 10.x (transparency unflattened)
- Native Adobe InDesign 2.x (transparency unflattened)
- Illustrator 10 EPS (can be reflatened)
- Adobe PDF 1.4 files created from Illustrator 9.x, Illustrator 10.x, or InDesign 2.x (transparency unflattened)

PDF 1.4 files that contain live transparency (these files are not flattened<sup>8</sup>) can be flattened using Illustrator 10.x, InDesign 2.x, or Adobe Acrobat 5.x. Generally, however, Adobe recommends using InDesign 2.x or Illustrator 10.x because the flattening options in these products are more flexible and appropriate for high-end prepress workflows.

Ideally, all flattening should be done as close as possible to the point at which film or plates are made. Until all prepress tools are transparency-aware, however, flattening is likely to occur upstream of this point, when files are saved to PostScript, PDF, or EPS.

## What are your points of control?

All Adobe products use similar flattener technology, but flattening controls in each application may differ slightly. The flattener uses interrelated settings, as follows:

**1** The Raster/Vector balance controls the degree to which complex areas of transparency get rasterized. Flattening performance can be effected by the complexity of the objects and by the Raster/Vector setting. For complex documents, flattening in vector form requires more time and memory than rasterization. The opposite can be true for simple documents and high rasterization resolutions. In Illustrator 10.x you can use the Flattening Preview palette with the Complex Regions preview option to show which areas in the document would get rasterized for a given flattening level. Certain object intersections (atomic regions) can get rasterized also because they cannot be represented in native form in PostScript. Such rasterizations are independent of the Raster/Vector slider.

Note that some amount of rasterization may be unavoidable, even when this control is set to Vector (rightmost position).

***Note:** In Illustrator 10.x, this control has a scale of 0 to 100; in InDesign 2.x, this control has a scale of 1 to 5. Also note that in Illustrator the scale is gradual, while in InDesign 2.x the scale has five fixed positions. The scale is otherwise identical—for example, 100 in Illustrator is the same as 5 in InDesign. (In Illustrator 9.x and Acrobat 5.x, this control is labeled “Quality/Speed.”)*

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8. Only PDF 1.4 files that are produced directly from Illustrator 9.x, Illustrator 10.x, or InDesign 2.x remain unflattened and retain their live transparency. PDF 1.4 files created from flattened PostScript files and Adobe Acrobat Distiller never contain live transparency.

**2** Flattener options provide important controls that may improve the final appearance of transparency regions after flattening. The four possible flattener options include the following:

- **Force or Convert All Text to Outlines:** Controls the processing of type and causes all type to convert to outlines, whether it interacts with transparency or not. In some cases, this option eliminates flattening artifacts that are apparent on-screen and when printing to lower resolution output devices, such as a composite proof.
- **Convert Strokes to Outlines:** Controls the processing of strokes and causes all strokes to convert to outlines, whether they interact with transparency or not. In some cases, this option eliminates flattening artifacts that are apparent on-screen and when printing to lower resolution output devices, such as a composite proof.
- **Preserve Overprints When Possible:** Controls the flattener’s preprocessing of overprinting instructions applied to objects in a document.

*Note: InDesign 2.x does not have this control; it always acts as if "Preserve Overprints" is selected, unless "Simulate Overprinting" is selected at print/export time.*

- **Clip Complex Regions:** Controls the flattener’s analysis of *complexity regions* (discussed later in this section). When enabled, this option creates more accurate clipping paths around these portions of a transparent design.

**3 Resolution settings used during flattening:** Controls the resolution (in pixels per inch) that rasterized transparent areas receive during flattening. The three kinds of rasterization settings include the following:

- **Rasterization Resolution:** Determines the resolution applied to areas that need to be rasterized because they are too complex for the current Raster/Vector Balance setting. The Rasterization Resolution is intended primarily for vector objects, but in some cases, it may also be applied to type or images. Typically this resolution should be set to match your output device / RIP resolution.

*Note: In InDesign 2.x, this setting is labeled “Flattener Resolution.”*

- **Raster Effects Resolution:** Determines the resolution applied to all raster effects, such as drop shadows, vignettes or feathered edges, that are used in a file, whether or not the effects are involved in the transparency.

*Note: InDesign 2.x uses the Gradient Resolution for this purpose.*

- **Mesh Resolution:** Determines the resolution applied to any meshes and gradients that are involved in the transparency.<sup>9</sup>

*Note: InDesign 2.x, does not have this control; it always acts as if "Preserve Overprints" is selected, unless "Simulate Overprinting" is selected at print/export time.*

How the flattener applies these three settings is explained in this section under “Resolution settings and their interactions” on page 23.

*Note: In Illustrator 10.x, the precision—or flatness—of all vector objects during printing and PostScript export is controlled via the Output Resolution setting.*

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9. The Mesh (or Gradient) Resolution setting isn’t new with transparency. This setting manually controls the resolution of all meshes and gradients printed to PostScript Level 1 and Level 2 RIPs that don’t support the PostScript 3 “Smooth Shade” operator. This setting is ignored if mesh- or gradient-filled objects aren’t involved in transparency and are printed to a PostScript 3 RIP.

Your degree of control over flattening can also depend on the complexity of the original transparent content, and on which file format was used to save the flattened document. Similar to compressing a JPEG file, in which you find a balance between quality and compression, flattening often requires you to find a balance among the many settings to achieve the best quality output.

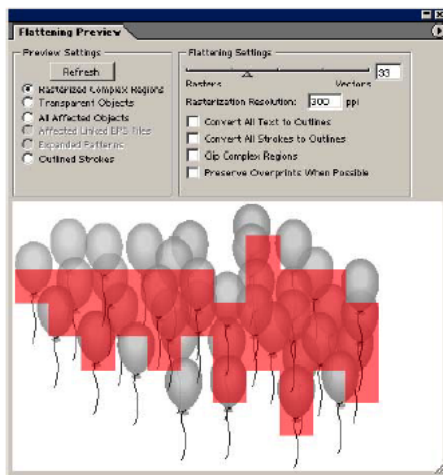
#### ADOBE PRODUCTS DIFFER IN THEIR SUPPORT FOR LIVE TRANSPARENCY

Adobe products support transparency at varying levels. Some applications can create, print, and save (flatten) transparency for use in other applications. Some merely accept flattened information as imported files and pass it along for printing. Others can both accept native files with live (unflattened) transparent objects and support their manipulation and adjustment within a layout.

Full support for live transparency exists only in Illustrator 10.x and InDesign 2.x. Adobe Acrobat 5.x also supports live transparency in the form of PDF 1.4, but it doesn't have several of the flattener controls and options—most importantly Rasterization Resolution—that Illustrator 10.x and InDesign 2.x provide.

## Raster/Vector Balance settings

During processing, the flattener subdivides a design into regions and examines each region for any transparent objects. For regions that contain transparency, the flattener assesses whether the objects involved can be kept in their original form (for example, vectors as vectors, type as type), whether they can be converted to a related form (for example, type to outlines), or whether the entire region must be rasterized because of its complexity.



*Illustrator 10 Flattener Preview shows the flattening results of your Raster/Vector Balance settings.*

The Raster/Vector Balance setting lets you determine how hard the flattener works to keep objects in their original form—that is, to maintain the fidelity of the objects used to represent the design after it is flattened. Generally, the Raster/Vector Balance setting works as follows:

- At the lowest-fidelity, leftmost position (labeled *Raster*), the flattener rasterizes all objects in the file.
- At the highest-fidelity, rightmost position (labeled *Vector*), the flattener tries to keep all objects in their original, highest-fidelity form. In a few cases, the flattener may not be able to represent all objects purely as vectors. For example, the fill required to represent a transparent vector shape may be rasterized though the clipping path remains so that the resulting object remains vector.
- Intermediate settings affect the degree to which the flattener rasterizes (or doesn't rasterize) areas of transparency, as determined by the number of paths, the number of objects, the degree of overlap between the objects, and the type of objects in that area.

The design complexity of a document is the primary influence on what happens during flattening. In many simple uses of transparency, the results may be no different at any setting above the lowest-fidelity position (that is, no rasterization will occur). However, Adobe recommends that you use only the lowest- or highest-fidelity setting. Lowest-fidelity is most appropriate for proofing to a low-resolution device, because the resulting rasterized file will not be excessively large. Highest-fidelity is best for final high-resolution work, because very little or no rasterization will occur.

For final high-resolution output, you shouldn't select anything other than the highest-fidelity setting unless you want to reduce the time or memory required to flatten a particularly complex transparent design. Take care, however, to lower the fidelity no more than necessary to avoid an unacceptable degree of rasterization.

*Note:* You can use the *Flattening Preview palette in Illustrator 10.x* to determine the effects of intermediate Raster/Vector Balance settings. See “*Flattening controls in Illustrator 10.x*” on page 26 for more details.

### Understanding flattening and printing performance trade-off

If Raster/Vector Balance is set to Vector (the rightmost position), the time and memory required to flatten a file may be quite noticeable if the file contains extensive transparency. The resulting flattened file, however, is usually smaller and take less time for spooling because it is rasterized as little as possible. If the Raster/Vector Balance is set to Raster (the leftmost position), the time and memory required to flatten this same file can be quite less. The resulting flattened file, however, may be much larger and take more time for spooling.

In both cases, the flattened file may take longer to print than expected because of memory demands placed on the RIP. These demands occur either because the Raster setting has created an excessively large rasterized file or because the Vector setting has created a file filled with a large number of small vector objects and clipping paths. Also note that the rasterization resolution in effect when a file is flattened also influences final file size. See “What resolution settings are correct?” on page 24.

## Flattener options

Illustrator 10.x and InDesign 2.x include the following options:

- **Convert All Text to Outlines (Illustrator 10.x) or Force Text to Outlines (InDesign 2.x):** If this option is selected, all type converts to outlines, whether it interacts with transparency or not. If this option is deselected, type converts to outlines only as necessary in transparent regions.

**Reason to enable:** Flattening may require that type involved in transparency be converted to outlines. Converted text can appear thicker or bold on-screen and when printed to lower-resolution output devices. Furthermore, stitching problems may occur when only a portion of the text is converted to outlines. You can often avoid this problem by converting all type to outlines.

**Side effects:** Converting all type to outlines may degrade its appearance (it may appear bolder) and may increase flattening time or memory requirements. You may therefore want to convert text manually to outlines in Illustrator or InDesign only where type interacts with transparency and this problem occurs.

*Note:* You can use the *Outlined Text preview option (available in Detailed Preview mode) of the Illustrator Flattening Preview palette in Illustrator 10.x to determine where text would be converted to outlines and whether to use this option.*

- **Convert All Strokes to Outlines (Illustrator 10.x) or Convert Strokes to Outlines (InDesign 2.x):** If this option is selected, all strokes convert to outlines whether they interact with transparency or not. If this option is deselected, the flattener converts strokes to outlines only as necessary in transparent regions.

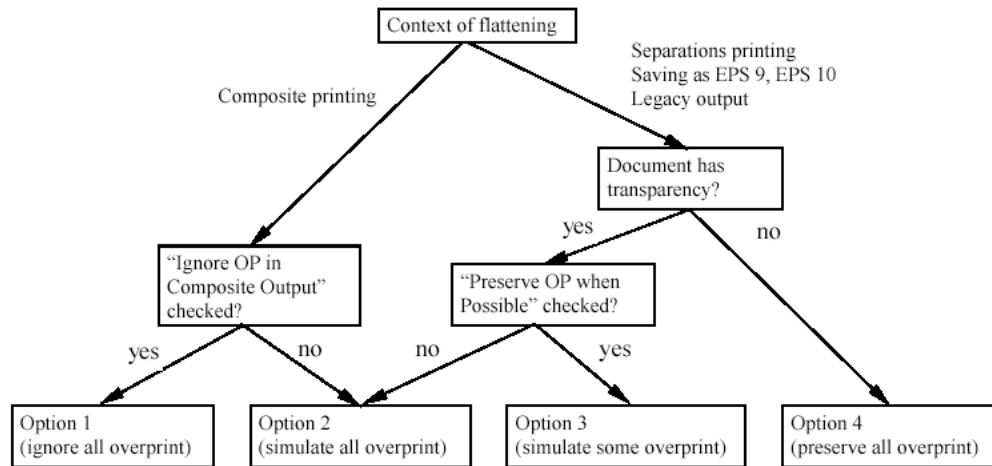
**Reason to enable:** Flattening may require that strokes involved in transparency are converted to outlines. Converted strokes can appear thicker and less precise on-screen and when printed to lower-resolution output devices. Stitching problems may occur when only a portion of a stroke is converted to outlines. You can avoid this problem by converting all strokes to outlines.

**Side effects:** Converting all strokes to outlines may degrade their appearance (they may appear thicker) and may increase flattening time or memory requirements. You may therefore want to convert strokes manually to outlines only where they interact with transparency and this problem occurs.

- **Preserve Overprints When Possible (Illustrator 10.x):** If this option is selected, overprinted objects that are not involved in transparency are not flattened. If this option is deselected, the flattener preprocesses all overprinting instructions, effectively simulating overprinting. Overprinting may be abbreviated as “OP.”

**Reason to enable:** The flattener retains as much overprinting as possible without preprocessing (simulating) during flattening. This results in retaining more of the document in native (editable) form and in using less computing resources while flattening

**Side effects:** Because you can't always preserve overprinting when transparency is involved, enabling this option may produce inconsistent results on press.

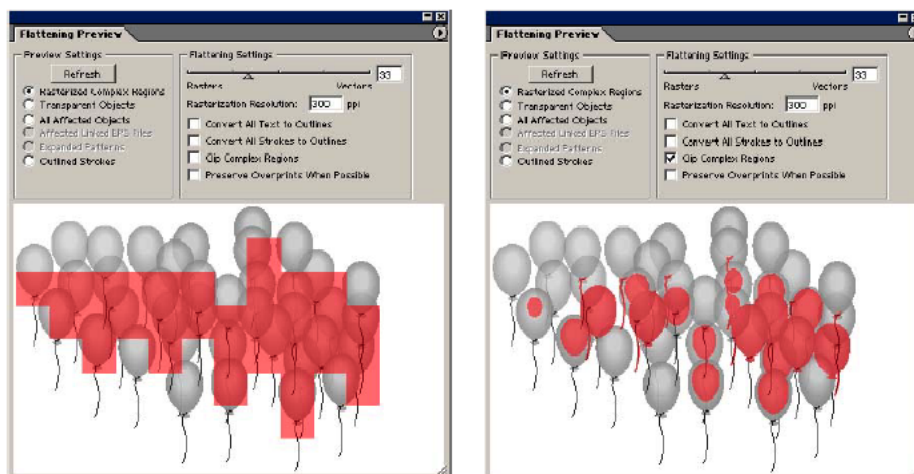


Transparency flattening effects on overprint.

**Note:** In InDesign 2.x, the default flattening behavior is to always preserve overprinting, so the Simulate Overprint option is deselected by default. Select this option when printing a proof, or to simulate overprinting when exporting flattened files like EPS. Such EPS files are most useful for creating composite proofs.

**Note:** In Illustrator 10.x, the default flattening behavior is to always simulate overprinting, so this option is deselected by default. Select this option to preserve overprinting in flattened files that are output on printing presses. Illustrator 10.x can properly preserve overprinting in flattened files only when exporting them to Illustrator 10 EPS format. Illustrator 10.x ignores this option for files printed to a composite device and instead uses the Ignore Overprinting in Composite Output option in the Print dialog box.

- **Clip Complex Regions:** If this option is selected, the flattener creates more accurate clipping paths around complexity regions—certain rasterized portions of a transparent design (see “Resolution settings and their interactions” on page 23). These regions are created only if the Raster/Vector Balance is set below Vector (the rightmost position).



The effects of different flattening settings and results in the Flattener Preview in Illustrator 10.

**Reason to enable:** If you must lower the Raster/Vector Balance setting to improve flattener performance or reduce memory usage, Clip Complex Regions decreases the possibility of stitching problems along the boundaries of the complexity region. It will also eliminate white boxes around the flattened file when placed in an aggregate application like InDesign 2.x (see the issue on page 35).

**Side effects:** The resulting clipping path may be so complex that older RIPs without sufficient RAM may be unable to print the resulting file (that is, the RIP will limitcheck).

*Note: This option is ignored if Raster/Vector Balance is set to Vector because complex regions, which require rasterization and clipping, are created. In Illustrator 10.x, this option is grayed out if Raster/Vector Balance is set to Vector.*

## Resolution settings and their interactions

*Note: Illustrator 10.x and InDesign 2.x use different terms for the primary parameter used to set the resolution of rasterized regions of a flattened document. In Illustrator 10.x, this parameter is Rasterization Resolution, and in InDesign 2.x, this parameter is Flattener Resolution.*

*For readability, this section uses Rasterization Resolution to include both terms and notes the differences with InDesign 2.x only as necessary.*

Previous pages of this guide discuss flattening and rasterization in broad terms. These next pages discuss rasterization in greater detail.

Rasterizing occurs primarily during flattening for two main reasons:

- **When rasterizing atomic regions:** Flattening divides the transparency of a document into a collection of discrete areas called *atomic regions*. If an atomic region contains an image or multiple gradient or mesh objects, the region is rasterized. The flattener usually applies the Mesh (or Gradient) Resolution to this region, unless the atomic region has one or more images, in which case it applies the maximum of their resolutions, up to the current Rasterization Resolution. The flattener also clips the resulting raster with the affected region's outline, thus preserving the shape of all vectors—but not their fills—in a resolution-independent form.

*Note: Rasterizing atomic regions happens only if the setting for Raster/Vector Balance is above Raster (otherwise the entire document is rasterized).*

- **When rasterizing a complexity region.** A complexity region is an area that isn't retained in vector form except at the highest-fidelity Raster/Vector Balance setting. These regions are typically a complex number of objects with transparency and flattening would take very long and or require much memory. Flattening a complexity region involves rasterizing all vector objects, images, and text inside it at the Rasterization Resolution. For this reason, make sure to set the Rasterization Resolution to a value that closely matches the characteristics of the chosen output device. See “What resolution settings are correct?” on page 24 for details.

*Note: Rasterizing complexity regions happens only if the setting for Raster/Vector Balance is above Raster (otherwise the entire document is rasterized) and below Vector (otherwise complexity regions aren't created).*

Following are some additional points about rasterization:

- If type that interacts with transparency must be converted to outlines, but the font is protected or bitmapped, the flattener rasterizes the type instead using the current Rasterization Resolution setting.
- In Illustrator 10.x, any pixel-based raster effects, such as Gaussian Blur, are rasterized with the Raster Effects Resolution before flattening and are treated by the flattener as regular images.

- When overprinted objects are rasterized, the effect of overprinting is preserved in the resultant image.
- When spot objects are rasterized, spot plates are preserved (unless, of course, flattening is done in a context in which spots are converted to process, such as PDF 1.3 export from Illustrator, or the Flatten Transparency command in Illustrator). In Illustrator 10.x, spot colors in rasterized regions are preserved correctly if they are saved as Illustrator 10 EPS or printed to disk as PostScript. (For more details on overprinting, see “Problem 3.1.2: Overprinting instructions are lost.” on page 40.)

### What resolution settings are correct?

Whenever possible, you should set the resolutions to accommodate target press conditions before flattening. If a file is in any of the following formats, you can set the resolutions used by the flattener to match target press conditions:

- Native Illustrator 10.x (transparency unflattened)
- Native InDesign 2.x (transparency unflattened)
- Illustrator 10 EPS (can be reflatened by Illustrator, but considered flattened by InDesign)
- Adobe PDF 1.4 files created from Illustrator 9.x, Illustrator 10.x, or InDesign 2.x (transparency unflattened)

Any other file format is already flattened, so the resolution for rasterized areas is locked and may not match target press conditions.

Although your workflow requirements may vary, you may want to follow these guidelines:

- **The Rasterization Resolution (Illustrator 10.x) or the Flattener Resolution (InDesign 2.x)** may be set according to two different approaches. The first approach uses a resolution that is close or equal to the output resolution of the device. InDesign 2.x, for example, uses a value of 1200 dpi for its highest fidelity flattening style. This resolution minimizes stitching problems that occur when type and vector objects are partially rasterized by the flattener, but it also increases the sizes of files that are heavily rasterized. The other approach uses a resolution based on the standard, “image resolution equals twice the line screen.” Either way, be careful to choose a value that doesn’t cause downsampling of an image in a transparency. This value is also used at the upper limit for rasterizing atomic regions in all transparency-savvy applications. See “Rasterizing atomic regions with gradients or image data” on page 25 for details.

*Note: A higher resolution may increase the size of the resulting flattened file—depending, of course, on how much artwork is rasterized.*

- **The Gradient (or Mesh) Resolution** should match what is commonly used for drop shadows created in Photoshop (for example, 150 dpi). InDesign 2.x uses this value when it flattens drop shadows and feather effects applied to page objects. This value is also used at the lower limit for rasterizing atomic regions in all transparency-savvy applications.

*Note: This value is the same value that applications already use for rasterizing meshes and gradients when printing documents to PostScript Level 1 or 2 RIPs that don’t support the Smooth Shade operator.*

- **The Raster Effects Resolution** (Illustrator 10.x only) should match what is commonly used for drop shadows created in Photoshop (for example, 150 dpi). This value applies to all raster effects used in Illustrator, including live raster effects and resolution-dependent filters, such as Gaussian Blur. Changing this value may radically change the appearance of some raster effects.

### Rasterizing atomic regions with gradients or image data

The Gradient Mesh Resolution (Illustrator) or the Gradient Resolution (InDesign) is generally used when rasterizing an atomic region. If the atomic region contains images, however, the resolution it is rasterized at is that of the highest resolution image involved, not exceeding the Rasterization Resolution (in Illustrator) or the Flattener Resolution (in InDesign).

Note that a rasterized atomic region is represented as an image clipped by the vector path of the atomic region. Therefore paths are preserved in vector form even when atomic regions are rasterized.

Here are some examples to clarify these relationships:

- If a region to be rasterized includes a gradient mesh object, and the Gradient (or Mesh) Resolution is set to 150 dpi, the region will be rasterized at 150 dpi.
- If a region to be rasterized includes image data at 300 dpi and 600 dpi, and the Rasterization Resolution is set to 1200 dpi, the region will be rasterized at 600 dpi. (Otherwise, the images would be incorrectly upsampled.)
- If a region to be rasterized includes image data at 600 dpi and 1200 dpi, and the Rasterization Resolution is set to 800 dpi, the region will be rasterized at 800 dpi, requiring downsampling of the 1200 dpi image data.

You can either make sure that the Rasterization Resolution is appropriate for the device before flattening, or you can make sure that image data starts at a resolution that has the least discrepancy with the Rasterization Resolution. For example, a 600 dpi drop shadow created in Photoshop that gets resampled at 300 dpi during flattening will look better than a drop shadow that started at 72 dpi. The best scenario is a close match between image resolution and Rasterization Resolution, both of which should be appropriate to the final output device. The Raster Effects Resolution (Illustrator 10.x only) and the Gradient (or Mesh) resolution should both be set to a value that is lower than and evenly divisible by the Rasterization Resolution (for example, 300 if the Rasterization Resolution is 2400).

In general, the higher the Rasterization Resolution setting, the better the results (especially if any type is rasterized). However, choosing a very high Rasterization Resolution, such as 2400 dpi, often generates significantly larger flattened files without providing any visible benefits in the final output. (You may need to experiment with Rasterization Resolution settings.)

One way to avoid this problem is to set the Rasterization Resolution to the same resolution as the final version of the image, and to replace all proxy / low resolution images with final high resolution images before flattening. (See “Section 3.4: Performing image replacement” on page 58.)

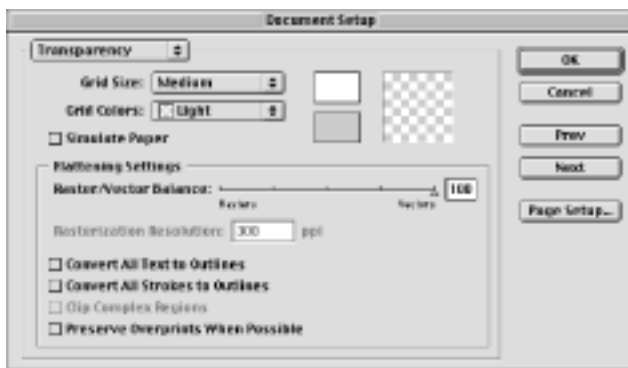
## The flattening controls in Adobe products

While Illustrator, InDesign, and Acrobat apply the same flattener technology, they differ in their flattener controls and how the controls are implemented. The following subsection provides a high-level overview of the relevant controls in each product. You may also find it useful to consult the on-line documentation provided with each product.

### Flattening controls in Illustrator 10.x

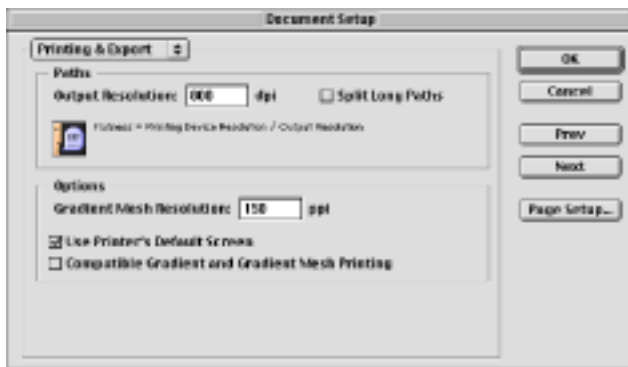
Illustrator 10.x has three locations for controlling the settings that affect transparency flattening:

- To access the Raster/Vector Balance control, the flattener options, and the Rasterization Resolution option, choose File > Document Setup, and select the Transparency panel:



The Transparency panel in the Document Setup dialog box provides a control for how much art gets rasterized during flattening, along with flattener options and the Rasterization Resolution option.

- To access Illustrator's Gradient Mesh Resolution option, choose File > Document Setup, and select the Printing & Export panel:



The Printing & Export panel provides access to the Gradient Mesh Resolution and Output Resolution.

- To access Illustrator's Raster Effects Resolution option, choose Effects > Raster Effects > Raster Effects Settings:



*The resolution value in Illustrator's Raster Effects Settings dialog box is applied to all rasterized effects in the file. In Illustrator 10.x, the default Raster Effects Resolution value is 72ppi.*

- To access Illustrator's Flattening Preview palette, choose View > Flattening Preview:



*Illustrator's Flattening Preview palette provides access to the most common flattening settings, plus visual feedback to help you determine how a document will be affected by the current settings.*

The Flattening Preview palette is an optional plug-in on the Adobe Illustrator 10 CD-ROM. This plug-in and installation instructions are in the Utilities/Flattening Preview folder located where you installed Illustrator 10.x. The basic options this palette provides include the following:

- **Rasterized Complex Regions** shows areas that will be rasterized for performance reasons (as determined by the Raster/Vector Balance control). Stitching problems are more likely to occur along the boundary of the complexity regions (depending on the print driver settings and the Rasterization Resolution). Use the Clip Complex Regions option to minimize the possibility of such stitching problems when the Raster/Vector Balance control isn't set to Vector (the rightmost position).

- **Transparent Objects** shows objects that are sources of transparency, including those to which non-normal blending modes, styles, and raster effects are applied, as defined on page 5. This option also highlights overprinting objects involved in transparency.
- **All Affected Objects** shows all objects that are involved in transparency.
- **Affected Linked EPS Files** shows of all placed-linked EPS files that are involved in transparency and that need to be manually converted into place-embedded files to flatten correctly.
- **Expanded Patterns** shows all pattern fills that would be expanded because they are involved in transparency.
- **Outlined Strokes** shows all strokes that would convert to outlines because they are involved in transparency or because Convert All Strokes to Outlines is selected.
- **All Rasterized Regions** shows all regions of the document that would be rasterized by the flattener. These include the complexity region, (previewed by the Rasterized Complex Regions preview option), as well as the rasterized atomic regions.

*Note: This option is available only if Detailed Preview is selected in the palette flyout menu.*

- **Outlined Text** shows all text that would be converted to outlines because it is involved in transparency or because the Convert All Text to Outlines option is selected.

*Note: This option is available only if Detailed Preview is selected in the palette flyout menu.*

## Flattening controls in InDesign 2.x

InDesign 2.x provides many of the same flattening controls as Illustrator 10.x. It also provides some additional controls for identifying spreads with transparency, improving display performance and defining flattener styles.

- To access the flattener Styles selection panel, choose Edit > Transparency Flattener Styles:

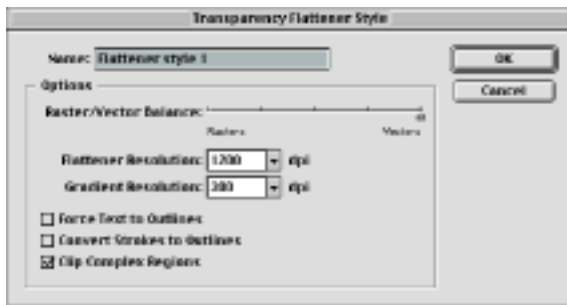


The flattener Styles selection panel lists currently loaded flattener styles—Adobe provides the three shown here—along with options for creating custom styles. Settings for the currently selected style are summarized on this panel also.

This panel provides access to predefined flattener styles. Use New and Edit to create and modify custom styles. From the Flattener Styles panel, you can also load flattener styles created by customers or save your own styles for distribution to other computers.

*Note: You cannot modify the predefined styles. You can select one and click New to create a new Style based on the settings of the selected style.*

- To access custom flattener styles, choose Edit > Transparency Flattener Styles > New



The Transparency Flattener Style panel lets you define and edit flattener styles that are used when printing or exporting. Name the flattener style according to the expected workflow or output.

This panel provides access to the Raster/Vector Balance control, flattener options, Flattener Resolution, and Gradient Resolution, and it lets you define custom flattening styles. New styles use the settings of the currently selected style as a starting place.

Flattener styles are used when printing or exporting from InDesign.

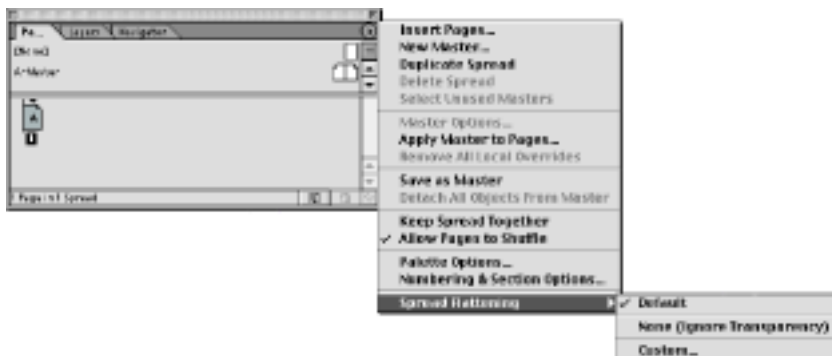
- To make use of an existing flattener Style, choose File > Print or File > Export, and click Advanced:



The flattener Style option of the Print and Export dialog boxes.

You can apply a flattener style to a document when it is printed or exported. A pull-down menu in either the Print or Export dialog box lets you select the appropriate style. A checkbox also lets you temporarily disable any spread flattening overrides applied via the Pages palette.

- To access the Spread Flattening Overrides option, choose Spread Flattening from the flyout menu on the Pages Palette:



Pages palette showing how to access spread flattening overrides via the flyout menu. Be sure to select the spread and then choose spread flattening options.

You may want to flatten one or more spreads in a larger document using a different style than the rest. A separate flattening style can be applied to specific spreads of an InDesign 2.x file. An example is if a placed Illustrator graphic contains a very complex piece of transparent artwork or a transparent gradient with many small steps. By applying a style that specifies a lower Raster/Vector Balance setting to such a spread, you can reduce flattening time and memory requirements without affecting the quality of other spreads.

The control for applying, or subsequently removing, a spread flattening override is on the options flyout menu of the Pages palette. When you print or export a document, you can temporarily disable any spread flattening overrides via a checkbox on the Advanced panel of the Print and Export dialog boxes.

### Transparency Display Performance in InDesign 2.x

- To access the Display Performance preferences, choose Edit > Preferences, and click Display Performance:

*Note: The Display Performance preferences affect whether transparency is previewed on-screen.*

The Display Performance preferences let you to change the way transparency in a document appears on-screen. It has no effect on transparency when it is printed. A slider lets you control the appearance of transparency in four gradations of quality, from fully simulated, allowing you to accurately position page items with drop shadows, for example, to completely disabled, allowing you to more quickly move page items and navigate spreads in a very large document.

Note that if transparency preview is completely disabled, you won't be able to tell if objects in a page or spread have transparency or transparency-based effects applied to them. You can use the Pages palette for this purpose. As shown below, pages and spreads with transparency appear with a checkerboard pattern, and those with no transparency appear in white.



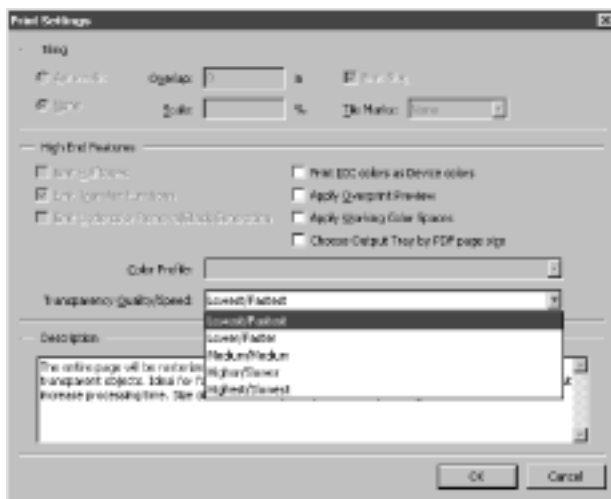
*The InDesign Pages palette shows pages or spreads that have objects with transparency applied using a checkerboard pattern, the same as Photoshop's transparency checkerboard pattern.*

## Controls in Acrobat 5.x

Acrobat 5.x supports the Adobe PDF 1.4 format, which retains live transparency for PDF files created directly from Illustrator 9.x, Illustrator 10.x, or InDesign 2.x<sup>10</sup>. However, Acrobat 5.x doesn't provide the most recent improvements in flattening controls as do Illustrator 10.x and InDesign 2.x. Moreover, the Rasterization Resolution is preset to 300 dpi, which may not be suitable for preparing files for higher resolution output devices. Instead, PDF 1.4 files can be placed into an InDesign 2.x file for flattening.

In Acrobat 5.x, the Quality/Speed pop-up menu, similar to the Raster/Vector Balance control, is the primary control over how much of a document is rasterized. It provides five choices, where Lowest/Fastest is equivalent to the Raster (leftmost) setting of the Raster/Vector Balance control, and Highest/Slowest is equivalent to the Vector (rightmost) setting of the Raster/Vector Balance control.

- To access the Quality/Speed pop-up menu, choose File > Print, and click Advanced:



To choose the flattener settings for PDF 1.4 files, use the Quality/Speed pop-up menu in Print Settings dialog box.

## Controls in Photoshop

Photoshop doesn't have transparency flattening controls, as found in other Adobe products. Instead, it automatically flattens and rasterizes all transparency at a document's current resolution and adds a transparency mask upon export to retain any alpha channel information. Most applications that can accept file formats with transparency masks (such as TIFF and PDF 1.4) can use this transparency information.

**Note:** *Illustrator 10.x and InDesign 2.x let you place native Photoshop files directly; however, all layers are effectively flattened, any remaining transparency is reduced to a single alpha channel.*

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10. Transparency from Photoshop is preserved when saved as Adobe PDF 1.4, but as a single alpha channel.



# Section 3: Troubleshooting Transparency

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## Section overview

This section describes what you can do to minimize or prevent problems in standard print production workflows. Each problem has corresponding descriptions and solutions. Note also the file format chart and list of RIP specific issues at the end of this section describing the capabilities of the various file formats in relationship to transparency and printing.

Following is a compilation of known issues, workarounds and recommendations for InDesign 2.x, Illustrator 10.x and Acrobat 5.x that relate to transparency and printing. This information is being provided to help ensure the successful output of your files for print production. Adobe continues to test and improve its software, however, there are situations where printing problems arise. Typically, and unless indicated, this information applies to using the software on both Macintosh and Windows operating systems.

### Best Practices:

- Install and use the latest Adobe software updates
- Install and use the latest RIP software updates
- Install and use the latest PPDs/printer drivers
- Dedicate sufficient RAM to all applications
- Read the Print Service Provider Toolkit
- Read the ReadMe.pdf files which accompany the installers for additional known issues, resolved issues and production and troubleshooting tips.

## Transparency-related issues to watch for

Despite your best efforts to eliminate transparency issues, some may still arise. Typical issues to be concerned about include the following, in order of likelihood of occurrence:

- 1 Spot colors may convert to process when transparency is applied to spots.
- 2 Overprinting instructions may not be preserved.
- 3 Vector objects may get rasterized at too low of a resolution.
- 4 Stitching or artifacts may appear between atomic regions (areas that are flattened).
- 5 Type may get merged into (“baked into”) low-resolution images.
- 6 Hairlines and strokes may fatten (generally only a problem on lower resolution output devices).
- 7 Type may be converted to filled strokes (that is, it may thicken).

## 8 Unexpected or missing plates may occur when you print color separations.

Some additional transparency interactions currently have no workarounds for optimal printing. Future versions of Adobe applications will likely address some of these interactions. Until then, however, be alert for the following elements when they are mixed with transparency:

- Preseparated content (DCS files)
- Duotone, tritone, or quadtone images place-linked into Illustrator files
- Images to be replaced after flattening occurs (for example, in workflows using an OPI server)

### Go with your own flow

The degree to which the effects of flattening affect your work often depends on whether the flattened results are appropriate for the next step of your workflow.

For instance, type that gets converted to outlines cannot be changed with a PDF touch-up tool. If a file is to be immediately color separated for printed output, and the flattener was set correctly, this issue is unlikely to occur. At other points in the workflow, however, it may cause a problem. Similarly, you may not be able to map one spot color to another color after flattening, but if the next workflow step is trapping, you may not need to map colors.

The goal of quality print output is to maximize the value of transparency and minimize the effects of the transformation to a flattened file.

#### TREAT FLATTENING LIKE PRESEPARATED CONTENT

You may want to think about workflows involving flattened art in the same way as those that involve preseparated content—something with which you are already familiar.

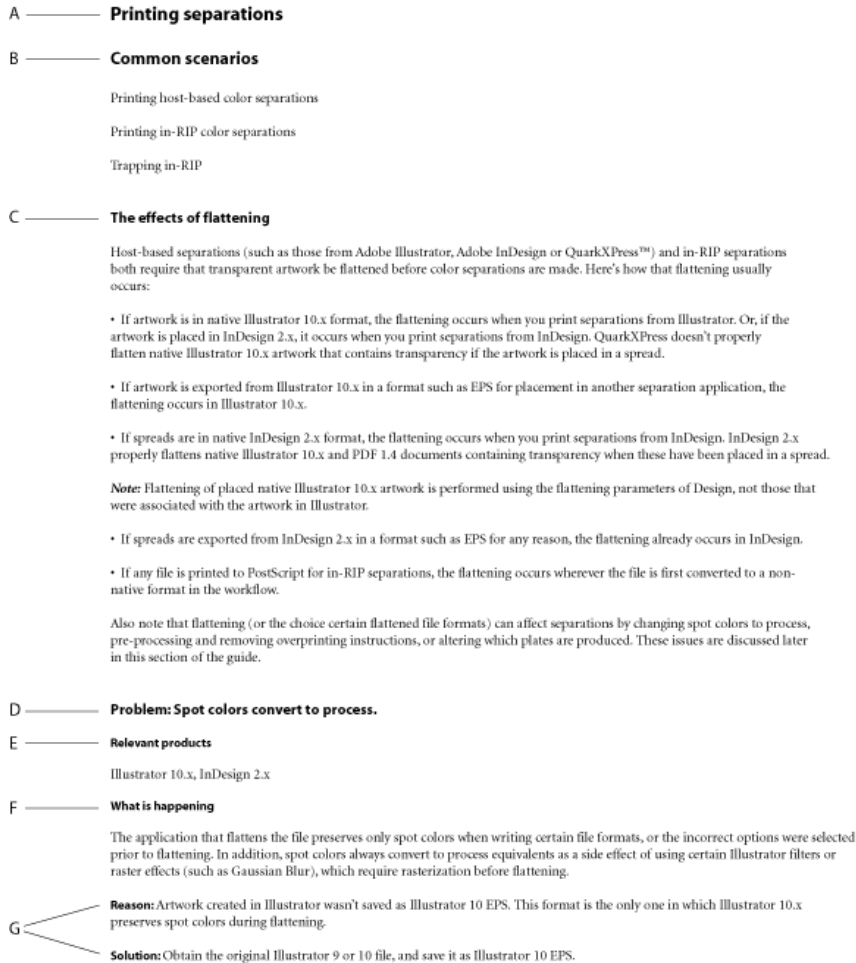
With preseparated files, corrections can be made only by going back to a composite format. You cannot convert a spot color to process, fix a trap, change image resolution, or replace an image after separations are done. Similarly, flattening binds artwork into a representation that precludes making certain changes unless you return to the original version.

For similar reasons, you should use file formats that preserve transparency without flattening—or those that can be reflattened—wherever possible. These file formats include the following:

- Illustrator 10.x native (transparency preserved)
- Illustrator 10 EPS (transparency can be reflattened in Illustrator 10.x)
- InDesign 2.x native (transparency preserved)
- PDF 1.4 from Illustrator 10.x or InDesign 2.x (transparency preserved).

## About these solutions

You are unlikely to encounter significant problems if you follow the recommendations in Sections 1 and 2. However, if a file requires special attention, you may find a solution here. The following diagram illustrates the conventions used in this section to present the problems and solutions.



*How the solutions are organized and presented.*

- A. Related Problems are organized by the Workflow Step at which they typically occur during prepress.
- B. Each Workflow Step lists specific Common Scenarios in which the Problem can be encountered.
- C. The Effects of Flattening explains how flattening can influence the expected output.
- D. Each Problem statement has its own subsection.
- E. Each Problem lists the relevant applications.
- F. "What is happening" gives a behind-the-scenes look at the flattening or printing process.
- G. Each Problem has one or more specific Reasons. Solutions are presented to correspond to each Reason.

The following table summarizes the Workflow Steps in this section, the most common Problems, and potential Solutions.

**Note:** This section covers some of the most important and common transparency workflow problems and solutions. Some of these problems will be addressed directly in future releases of Adobe applications. You may also encounter problems that have not yet been reported. If a problem isn't covered here, look for an update to this guide on Adobe's Web site, or contact Adobe Technical Support for further assistance. Support information is available on Adobe's Web site at <http://www.adobe.com/support/main.html>.

**Workflow Steps that can be affected by transparency**

<b>Workflow Step</b>	<b>Problems</b>	<b>Potential Solutions</b>
<b>3.1 Printing color separations</b>		
3.1.1	<ul style="list-style-type: none"> <li>Spot colors convert to process.</li> </ul>	See page 39.
3.1.2	<ul style="list-style-type: none"> <li>Overprinting instructions are lost.</li> </ul>	See page 40.
3.1.3	<ul style="list-style-type: none"> <li>Unexpected plates are created when separations are generated.</li> </ul>	See page 41.
3.1.4	<ul style="list-style-type: none"> <li>Black overprinting specified with a proprietary printing system doesn't work.</li> </ul>	See page 42.
3.1.5	<ul style="list-style-type: none"> <li>Type converts to outlines after you flatten objects via the Flatten Transparency command in an Illustrator file.</li> </ul>	See page 42.
3.1.6	<ul style="list-style-type: none"> <li>Spot colors, blending modes and Overprint Preview</li> </ul>	See page 43.
<b>3.2 Proofing (onscreen and printed)</b>		
3.2.1	<ul style="list-style-type: none"> <li>A composite printer or proofing system with special support for spot colors behaves unexpectedly.</li> </ul>	See page 44.
3.2.2	<ul style="list-style-type: none"> <li>The composite proof and on-screen preview of overprinting from Illustrator don't match.</li> </ul>	See page 44.
3.2.3	<ul style="list-style-type: none"> <li>PDF file exported from Illustrator or InDesign doesn't show overprinting when viewed in Acrobat.</li> </ul>	See page 45.
3.2.4	<ul style="list-style-type: none"> <li>The on-screen appearance of a flattened file shows small white lines in a design that is actually seamless.</li> </ul>	See page 45.
3.2.5	<ul style="list-style-type: none"> <li>Flattening a file takes an excessively long time, and the flattener may have eventually run out of memory.</li> </ul>	See page 46.
3.2.6	<ul style="list-style-type: none"> <li>Feathered text that spans two pages in a spread doesn't appear on the second page of an exported PDF file.</li> </ul>	See page 47.
3.2.7	<ul style="list-style-type: none"> <li>Drop shadows may shift position, break up, or both.</li> </ul>	See page 47.
3.2.8	<ul style="list-style-type: none"> <li>Drop shadows wider than 16,000 pixels cause InDesign to crash.</li> </ul>	See page 47.
<b>3.3 Graphics and images</b>		
3.3.1	<ul style="list-style-type: none"> <li>EPS graphics or images placed into Illustrator don't interact with transparent artwork when printed or exported.</li> </ul>	See page 49.
3.3.2	<ul style="list-style-type: none"> <li>Links in a native Illustrator file don't appear after you place the file into InDesign.</li> </ul>	See page 50.
3.3.3	<ul style="list-style-type: none"> <li>Placed EPS graphics print poorly.</li> </ul>	See page 50.
3.3.4	<ul style="list-style-type: none"> <li>A white box appears around the artwork in a placed EPS file, and it covers other objects in the layout.</li> </ul>	See page 51.
3.3.5	<ul style="list-style-type: none"> <li>Type appears jaggy, at low resolution, and/or possibly shows stitching problems when printing.</li> </ul>	See page 51.
3.3.6	<ul style="list-style-type: none"> <li>Effects applied to objects in an Illustrator file are coarse and visually unacceptable.</li> </ul>	See page 52.
3.3.7	<ul style="list-style-type: none"> <li>A native Illustrator file placed in a page layout application that does not support transparency produces unexpected results on-screen and in print.</li> </ul>	See page 52.

Workflow Step	Problems	Potential Solutions
3.3.8	<ul style="list-style-type: none"> <li>DCS files placed into Illustrator or InDesign don't print as part of a transparency.</li> </ul>	See page 53.
3.3.9	<ul style="list-style-type: none"> <li>Duotones, tritones, and quadtones placed into Illustrator artwork don't print as part of a transparency.</li> </ul>	See page 54.
3.3.10	<ul style="list-style-type: none"> <li>A PDF 1.3 file created using Illustrator or InDesign prints poorly. For example, resolution artifacts or color stitching occur.</li> </ul>	See page 55.
3.3.11	<ul style="list-style-type: none"> <li>A placed PDF 1.4 file fails to place, print, or separate.</li> </ul>	See page 56.
3.3.12	<ul style="list-style-type: none"> <li>Unable to place a native Illustrator 10.x file in InDesign.</li> </ul>	See page 57.
3.3.13	<ul style="list-style-type: none"> <li>Transparency effects do not display correctly when viewed in Acrobat 4.0.x</li> </ul>	See page 57.
3.3.14	<ul style="list-style-type: none"> <li>A placed PDF 1.3 file has lost spot colors and text and prints poorly (resolution artifacts or color stitching).</li> </ul>	See page 57.
3.3.15	<ul style="list-style-type: none"> <li>Objects with transparency view differently when exported to PDF 1.3 vs. 1.4</li> </ul>	See page 58.
<b>3.4 Image replacement</b>		
3.4.1	<ul style="list-style-type: none"> <li>Transparency effects are poor or lost after image replacement.</li> </ul>	See page 59.
3.4.2	<ul style="list-style-type: none"> <li>The low-resolution or proxy version of an image prints after OPI.</li> </ul>	See page 59.
3.4.3	<ul style="list-style-type: none"> <li>OPI and Simulate Overprint</li> </ul>	See page 59.
<b>3.5 Color conversions</b>		
3.5.1	<ul style="list-style-type: none"> <li>The output device cannot reproduce some colors in a flattened document.</li> </ul>	See page 60.
3.5.2	<ul style="list-style-type: none"> <li>The colors are unacceptable in a placed file that interacts with transparency.</li> </ul>	See page 61.
3.5.3	<ul style="list-style-type: none"> <li>Colors are jaggy and irregular (that is, color stitching occurs) in a flattened file.</li> </ul>	See page 61.
3.5.4	<ul style="list-style-type: none"> <li>Remapping spot colors is impossible or gives unexpected results after flattening a file.</li> </ul>	See page 63.
3.5.5	<ul style="list-style-type: none"> <li>All spot colors convert to process colors after flattening objects via the Flatten Transparency command in an Illustrator file.</li> </ul>	See page 63.
3.5.6	<ul style="list-style-type: none"> <li>The wrong spot colors appear in an InDesign document after flattening.</li> </ul>	See page 64.
<b>3.6 Trapping</b>		
3.6.1	<ul style="list-style-type: none"> <li>Flattened files are trapped incorrectly</li> </ul>	See page 64.
3.6.2	<ul style="list-style-type: none"> <li>Opaque objects touching objects with transparency effect trapping</li> </ul>	See page 65.

Workflow Step	Problems	Potential Solutions
3.7 Flattening		
3.7.1	<ul style="list-style-type: none"> <li>Strokes thicken after flattening</li> </ul>	See page 65.
3.7.2	<ul style="list-style-type: none"> <li>Artifacts appear onscreen after flattening</li> </ul>	See page 65.
3.7.3	<ul style="list-style-type: none"> <li>The output device cannot reproduce some colors in the flattened document because inappropriate color space was used when flattening.</li> </ul>	See page 66.
3.8 RIP specific information		
3.8.1	<ul style="list-style-type: none"> <li>PDF 1.4 and Apogee PDF RIP</li> </ul>	See page 66.
3.8.2	<ul style="list-style-type: none"> <li>Creo/Scitex Brisque 3.0, 4.0 setting for processing files with transparency</li> </ul>	See page 66.
3.8.3	<ul style="list-style-type: none"> <li>Creo Brisque 3.0 and 4.0, user must flatten PDF 1.4 files prior to RIPing</li> </ul>	See page 67.
3.8.4	<ul style="list-style-type: none"> <li>Creo Prinergy 2.0 and earlier and spot colors</li> </ul>	See page 67.
3.8.5	<ul style="list-style-type: none"> <li>Creo PS/M 7.0</li> </ul>	See page 67.
3.8.6	<ul style="list-style-type: none"> <li>Harlequin RIP v 5.3 r4 handles AI 10 with transparency</li> </ul>	See page 67.
3.8.7	<ul style="list-style-type: none"> <li>Heidelberg MetaDimension overprint not retained</li> </ul>	See page 67.
3.8.8	<ul style="list-style-type: none"> <li>Heidelberg Prinergy 2.0 and earlier and spot colors</li> </ul>	See page 67.
3.8.9	<ul style="list-style-type: none"> <li>Rampage information</li> </ul>	See page 68.
Input/Output file formats	<ul style="list-style-type: none"> <li>Comparison of input and output file formats and their capabilities for transparency, spot color, and overprint.</li> </ul>	

## Section 3.1: Printing separations

### Common scenarios

Printing host-based color separations

Printing in-RIP color separations

Trapping in-RIP

### The effects of flattening

Host-based separations (such as those from Adobe Illustrator, Adobe InDesign or QuarkXPress™) and in-RIP separations both require that transparent artwork be flattened before color separations are made. Here’s how that flattening usually occurs:

- If artwork is in native Illustrator 10.x format, flattening occurs when you print separations from Illustrator. Or, if the artwork is placed in InDesign 2.x, it occurs when you print separations from InDesign. QuarkXPress doesn’t properly flatten native Illustrator 10.x artwork that contains transparency.
- If artwork is exported from Illustrator 10.x to EPS for placement in another separation application, flattening occurs in Illustrator 10.x. Illustrator can still open this EPS and edit live transparency, however, the EPS is considered as flattened when placed into InDesign.

- If spreads are in native InDesign 2.x format, flattening occurs when you print separations from InDesign. InDesign 2.x properly flattens native Illustrator 10.x and PDF 1.4 documents containing transparency.

*Note: Flattening of placed native Illustrator 10.x artwork is performed using the flattening parameters of InDesign, not those that were associated with the artwork in Illustrator.*

- If spreads are exported from InDesign 2.x to EPS, flattening occurs in InDesign.
- If any file is printed to PostScript for in-RIP separations, flattening occurs wherever the file is first converted to a non-native format in the workflow.

Also note that flattening (or certain flattened file formats) can affect separations by changing spot colors to process, pre-processing and removing overprinting instructions, or altering which plates are produced. These issues are discussed later in this section of the guide.

### **Problem 3.1.1: Spot colors convert to process.**

#### **Relevant products**

Illustrator 10.x, InDesign 2.x

#### **What is happening**

The application that flattens the file preserves only spot colors when writing certain file formats, or the incorrect options were selected prior to flattening. In addition, spot colors always convert to process equivalents as a side effect of using certain Illustrator filters or raster effects (such as Gaussian Blur), which require rasterization before flattening.

**Reason:** Artwork created in Illustrator wasn't saved as Illustrator 10 EPS. This format is the only one in which Illustrator 10.x preserves spot colors during flattening.

**Solution:** Obtain the original Illustrator 9 or 10 file, and save it as Illustrator 10 EPS.

Another solution, if you use InDesign 2.x for page layout, is to place the unflattened native Illustrator 10.x file or an exported PDF 1.4 rendition of the file directly in the layout. In either case, transparency remains live and unflattened and spot colors are preserved.

*Note: Even if saved to Illustrator 10 EPS, some spot colors may still convert to process because there is no other way to represent the requested effect. See additional Reasons and Solutions below.*

**Reason:** Spreads created in InDesign 2.x were saved as PDF 1.3 (Acrobat 4) with Simulate Overprinting selected on the Advanced panel of the Export dialog box.

**Solution:** Obtain the original InDesign 2.x spread (along with all relevant fonts and placed files), open it in InDesign 2.x, and save it as PDF 1.4 (Acrobat 5) or EPS with Simulate Overprinting deselected. Or, save as PDF 1.4 (Acrobat 5) or as EPS.

**Reason:** Artwork was saved as Adobe PDF 1.3 directly from Illustrator 10.x (instead of using Adobe Acrobat Distiller). Illustrator 10.x doesn't preserve spot colors when flattening transparency into PDF 1.3 directly.

**Solution:** Obtain the original Illustrator 10.x file, create a PDF 1.3 file by first saving the original file as an Illustrator 10 EPS or PostScript file, and then use Acrobat Distiller to create a PDF 1.3 file.

Another solution, if you use InDesign 2.x for page layout, is to place the unflattened native Illustrator 10.x file or an exported PDF 1.4 rendition of the file directly in the layout. In either case, transparency remains live and unflattened, and spot colors are preserved.

**Reason:** An Illustrator 10.x filter or raster effect (such as a Gaussian Blur), which doesn't preserve spot colors, was applied to one or more spot colored objects.

**Solution:** Reproduce the effect in Adobe Photoshop, if possible, to preserve spot colors. Then save the file as EPS, and incorporate it into the design during page layout. However, see "Problem 3.3.9: Duotones, tritones, and quadtones placed into Illustrator artwork don't print as part of a transparency." on page 54 for related problems.

**Reason:** Artwork created in Illustrator 10.x uses a gradient or a mesh object that involves one or more spot colors and process color stops. Illustrator always converts spot colors in gradients to the process equivalents when the other spot color is process. Spot to spot gradients will not be converted to process.

**Solution:** Convert the process stop color into a spot swatch.

### Problem 3.1.2: Overprinting instructions are lost.

#### Relevant products

Illustrator 10.x, InDesign 2.x

#### What is happening

Overprinting instructions may be preprocessed along with transparency as a side effect of flattening. (The conditions are described in Section 1.) In many cases, the results of this preprocessing may be the same as the results of processing the instructions by a PostScript RIP. Results may vary, however, depending on which application you use to flatten transparency. You may need to adjust your workflow to preserve overprinting and achieve the effects required to print a document correctly.

Overprinting instructions may not survive flattening for three possible reasons:

- The application that flattens the file preserves overprinting only when writing certain file formats.
- Native overprint cannot be preserved and must be flattened for objects involved in transparency (as defined on page 5). All of these reasons apply if the file contains both transparency and overprinting. Files that contain only overprinting aren't flattened and retain overprinting instructions.

Exception: Composite printing from Illustrator 10 — it can either ignore or flatten overprint, but cannot preserve the native overprint instructions.

**Reason:** Artwork created in Illustrator 9.x or 10.x contained both transparency and overprinting, and it wasn't saved as Illustrator 10 EPS. EPS is the only format in which Illustrator 10.x preserves overprinting during flattening.

**Solution:** Obtain the original Illustrator 9.x or 10.x file, and save it as unflattened PDF 1.4 or Illustrator 10 EPS. Be sure to check Preserve Overprints When Possible on the Transparency panel.

**Reason:** Artwork created in Illustrator 9.x or 10.x contained both transparency and overprinting, and it was saved as Illustrator 10 EPS, but Preserve Overprints When Possible wasn't checked on the Transparency panel.

**Solution:** Open the EPS file using Illustrator 10.x, check Preserve Overprints When Possible on the Transparency panel, and resave the document.

**Reason:** A spread created in InDesign 2.x was exported as EPS or Adobe PDF 1.3 with Simulate Overprinting selected.

**Solution:** Obtain the original InDesign 2.x spread (along with all relevant fonts and placed files), open it in InDesign 2.x, and save it as EPS or PDF 1.3, making sure Simulate Overprinting is NOT checked in the Advanced panel of the Export dialog box.

**Reason:** Objects to which overprinting is involved interact with transparency in a way that requires preprocessing by the flattener. If the flattened file is placed over objects in another design or page layout, the expected overprinting effects aren't achieved.

**Solution:** If you use InDesign 2.x for page layout, obtain the unflattened native Illustrator 10.x file or an exported PDF 1.4 rendition of the file, and place it directly in the layout. When InDesign 2.x flattens the placed file, the overprinting instructions are correctly preprocessed to obtain the desired overprinting effects.

### Notes on Overprint Preview:

Use Overprint Preview for the most accurate onscreen preview of print output. Be sure to consider the following:

When in RGB Transparency Blend Space (InDesign) or RGB Document Color Mode (Illustrator), on-screen Overprint Preview will only simulate Spot ink overprints. Process ink overprints will not be simulated to screen, though they will be simulated if the user selects the Overprint Simulation option in the Print or PDF Export dialog boxes. Note that using a transparency blending space that differs from the output space may cause color shifts in the resulting output. [453586]

Overprint Preview is not correctly displayed in InDesign if a document containing a gradient object on top of a process color object is exported to PDF as Acrobat 5.0 compatible then placed in a new InDesign document. [476932]

If a Freehand EPS file containing a 'spot-to-spot' color gradient is placed in a document, and Overprint Preview is enabled on the View menu, and/or the document is printed with Simulate Overprint enabled in the Output panel of the Print dialog box, solid areas may appear in the gradient. Disabling the Overprint Preview and/or the Simulate Overprint option should resolve this issue. [490731]

When using Overprint Preview mode to display page items with CMYK color swatches applied, the Transparency Blend Space should be set to Document CMYK. The Transparency Blend Space can be changed from the Edit Menu. If the Transparency Blend Space is set to Document RGB, overprinting of CMYK colors will not be displayed in Overprint Preview mode. [453586]

### Problem 3.1.3: Unexpected plates are created when separations are generated.

#### Relevant products

Illustrator 10.x, InDesign 2.x

#### What is happening

If certain blending modes are applied overlapping objects, the effects created may change the process inks needed to reproduce a design—possibly introducing inks the designer didn't specify. For example, if a document that uses only cyan and black process inks includes objects to which the Difference blending mode is applied, the result introduces magenta and yellow process inks. When the document is separated, four rather than two plates are created.

**Reason:** The file uses a blending mode: Difference, Exclusion, Hue, Color, Saturation, or Luminosity.

**Solution:** Creating or removing a process color plate is a side effect of using these blending modes. Aside from consulting with the designer, no workaround is available for this problem. These blending modes, by design, may generate ink on all process plates. Do not use these blend modes if you do not output on all process plates.

### **Problem 3.1.4: Black overprinting specified with a proprietary printing system doesn't work.**

#### **Relevant products**

Illustrator 10.x, InDesign 2.x

#### **What is happening**

This problem may occur for three reasons:

- The application that flattened the file preserves overprinting only when writing to certain file formats.
- Application-specific options that control how overprinting instructions are interpreted during export were set incorrectly.
- Some or all of the type in a document was converted to outlines or was partially or completely rasterized. Proprietary systems that include options to set black type to overprint are therefore unable to recognize the type as type, so these options don't work. As a result, the converted type knocks out whatever it is placed over in the final design.

Solutions for the first two reasons are listed under "Overprinting instructions are lost." Solutions for the third reason include the following:

**Reason:** The Raster/Vector Balance setting is too low or the incorrect flattener option is selected.

**Solution:** Open the original file in its native application, make sure that Raster/Vector Balance is set to the highest fidelity (rightmost position), and make sure that Convert All Text to Outlines is deselected. Black type overprinting should be applied BEFORE flattening if at all possible. Then resave the file in an appropriate format (one that preserves overprinting), and overprint the black type again.

InDesign 2.x uses special flattener styles to record and reuse flattener settings more easily. The High Resolution style provides the best results for most output devices. You should also review any local flattener settings that were applied to spreads in the InDesign 2.x file. You may need to adjust or disable these settings, as appropriate. See "Flattening controls in InDesign 2.x" on page 28.

**Reason:** Type may be converted to outlines because of its interaction with gradients, images, spot colors, or because of a style applied to it.

**Solution:** .No workaround is currently available for this problem.

### **Problem 3.1.5: Type converts to outlines after you flatten objects via the Flatten Transparency command in an Illustrator file.**

#### **Relevant products**

Illustrator 10.x

#### **What is happening**

Illustrator 10.x allows you to select one or more objects in a design, and then manually flatten them using the Object > Flatten Transparency command. This feature can be used to work around other transparency-related problems. However, because it doesn't always provide the same results as flattening on export or printing, it must be used carefully.

**Reason:** Type always converts to outlines when it is flattened via the Flatten Transparency command in Illustrator 10.x, and it can no longer be edited as type.

**Solution:** Defer flattening to the print/export stage.

### **Problem 3.1.6: Spot colors, blending modes and Overprint Preview**

When using spots colors and the following blend modes — Hue, Saturation, Luminosity, Color, Difference and Exclusion — make sure that Overprint Preview (OPP) is enabled in InDesign. When OPP is disabled, InDesign/Illustrator/Acrobat use the CMYK definition of the spot color to produce the on-screen representation. However, when OPP is enabled, InDesign/Illustrator/Acrobat preserves the fact that the spot color will separate on its own plate. Since the above blend modes have little if any meaning with spot colors, the results are different than when viewed with OPP disabled. Note that the results via Overprint Preview are the results that will be obtained making separations.

## **Section 3.2: Proofing**

### **Common scenarios**

Creating composite desktop proofs

Creating composite digital contract proofs

Creating separation film-based digital contract proofs

Making soft proofs

Performance issues related to transparency and flattening

### **The effects of flattening**

Flattening has several side effects on proofing.

First, when spot colors are involved in transparency of any sort (for example, opacity change or use of blending modes other than normal), the correlation diminishes between a composite proof and the final printed piece. You should make the designer who uses spot colors and transparency together aware of this fact.

Second, some composite printing/proofing systems can improve the normal simulation of spot colors by using additional inks or colorants to extend the CMYK gamut. Many composite proofing devices rely on proprietary color conversion methods to convert custom spot colors into a color range or gamut that the proofing device can reproduce. The composite proof created on such devices usually matches on-press results better.

For either simulation system to work, the device's PostScript interpreter must be able to read the spot color names from the print stream. However, if flattening has converted spot colors to process color equivalents first, the spot color names and color values are stripped from the print stream, and the device's color engine cannot perform the proper optimization or transformation. Therefore, the results of a composite simulation may not be as good as those normally achieved with these special classes of composite printers.

***Note:** Spots cannot be converted to process after flattening.*

A related issue involves soft proofing documents. Illustrator 10.x, InDesign 2.x, and Adobe Acrobat 5.x can be configured to simulate overprinting both on-screen and when a document is printed to a composite printer. For documents that contain transparency and overprinting, these applications must be configured correctly to ensure the most consistent soft-proofing.

### **Problem 3.2.1: A composite printer or proofing system with special support for spot colors produces unexpected results.**

#### **Relevant products**

Illustrator 10.x, InDesign 2.x, Acrobat 5.x

#### **What is happening**

As was discussed earlier (see “Section 3.1: Printing separations” on page 38), the application that flattens the file preserves spot colors only when writing certain file formats and when the correct options are selected prior to flattening. If spot colors convert to process colors during flattening, the names of the spot colors aren’t present in the resulting file or print stream. Consequently, composite proofing systems that provide special spot color simulations behave unexpectedly.

Another possibility is that spot colors were converted to process because they are part of a transparency-based effect that could be represented only with process colors.

**Reason:** Artwork created in Illustrator wasn’t saved as Illustrator 10 EPS, the only format in which Illustrator 10.x preserves spot colors during flattening.

**Solution:** Obtain the original Illustrator 9 or 10.x file, and save it as Illustrator 10 EPS.

**Reason:** An option that controls overprinting when a file is printed or exported is configured incorrectly.

**Solution:** Open the native file, and review the options that control overprinting during flattening or printing. You may need to disable these options as appropriate. Relevant flattening options are described under “Overprinting is Not Preserved” in Section 2. Application-specific printing options, such as those provided by Illustrator 10.x, are described in the application’s on-line documentation.

*Note: These options are provided as a means of proofing overprinting on lower-end composite devices otherwise incapable of such simulations on their own.*

**Reason:** Spot colors were preserved in the exported file, but the printing device used the composite (non-separable) representation.

**Solution:** Although no workaround is available for this problem, the spot colors are preserved when the file is separated if separations are made from the native file or a file format that preserves spot colors: Illustrator 10 EPS, InDesign 2.x EPS, or Adobe PDF 1.4. See notes under “Section 3.3: Graphics and images” on page 48 for more details.

### **Problem 3.2.2: The composite proof and on-screen preview of overprinting from Illustrator don’t match.**

#### **Relevant products**

Illustrator 10.x

#### **What is happening**

Overprinting instructions that the flattener would normally process before printing a file are ignored because of options set in the Print dialog box.

**Reason:** This problem occurs when printing composites from Illustrator 10.x if Ignore Overprinting in Composite Output is enabled on the Illustrator panel in the Print dialog box.

**Solution:** Make a new composite proof from Illustrator 10.x with Ignore Overprinting in Composite Output disabled.

### **Problem 3.2.3: PDF file exported from Illustrator or InDesign doesn't show overprinting when viewed in Acrobat.**

#### **Relevant products**

Illustrator 10.x, Acrobat 5.x, Acrobat 4.x

#### **What is happening**

By default, Acrobat 5.x—which supports overprint preview—isn't configured to present this preview for performance reasons.

**Reason:** Acrobat 4.x doesn't support overprinting preview.

**Solution:** Upgrade to Acrobat 5.x, which supports overprinting preview.

**Reason:** Acrobat 5.x isn't configured to preview overprinting.

**Solution:** Enable preview overprinting in Acrobat 5.x from the View menu. Note that this option can impact the performance of Acrobat 5.x.

**Problem 3.2.4:** A placed EPS file printed as a composite proof doesn't show overprinting.

#### **Relevant products**

QuarkXPress, InDesign 1.x.

#### **What is happening**

The receiving application interprets the EPS in a way that ignores the precalculated overprinting preview color information in the file. Instead, the application uses the file's embedded color-separations information for printing the composite. Nothing is wrong with the exported EPS, and it will separate correctly. Only the preview and the composite proof are affected.

**Reason:** The receiving application cannot read the EPS file's overprinting preview information.

**Solution:** In effect, you can ignore the problem, since the file will separate correctly. Upgrading from InDesign 1.x to 2.x, however, will solve the composite preview problem.

### **Problem 3.2.4: The on-screen appearance of a flattened file shows small white seams between objects.**

#### **Relevant products**

Illustrator 10.x, InDesign 2.x, Acrobat 5.x.

#### **What is happening**

Flattening results in breaking up objects into small abutting pieces. The antialiasing algorithm used to preview the document onscreen is fast but has a side effect of showing white seams along abutting objects. Typically these artifacts do not appear in high resolution print output. If artifacts or stitching appears in printed output, check your flattener settings as previously described.

**Reason:** Antialiasing is enabled for screen preview.

To improve application performance, the code used to render a file to the screen may only approximate the dimensions of objects that otherwise fit tightly against one another.

**Solution:** You can ignore these artifacts, as they won't appear at the higher resolutions associated with desktop printers and high-resolution output devices.

Workarounds: (may not work for highly complex graphics or very transparent backgrounds) Either flatten with Highest Quality setting (towards Vector) and/or select Clip complex regions.

### **Problem 3.2.5: Flattening a file takes an excessively long time and/or requires too much memory**

#### **Relevant products**

Illustrator 10.x, InDesign 2.x

#### **What is happening**

Flattening can be both time and memory intensive, especially when a very complex design or large document is flattened at the highest fidelity (rightmost setting) of the Raster/Vector Balance control. In some extreme cases, flattening may even run out of memory and fail to complete. However, some steps can help you address these problems.

**Reason:** Spreads in an InDesign 2.x document contain objects that require excessive amounts of time or memory to flatten.

**Solution:** Use an alternative flattener style for the affected pages. To specify a spread flattening override, first select the affected spread from the Pages palette, and then use the options fly-out to access the Spread Flattening menu. Any existing flattener style can be used for the override, but you can design a custom style especially for this purpose.

After you apply a spread flattening override, you can cause it to be ignored when a document is printed or exported by selecting the checkbox for this purpose on the Advanced panel of the Print and Export dialog boxes.

**Reason:** The Raster/Vector Balance control is set to the highest fidelity (rightmost position).

**Solution:** Lower the Raster/Vector Balance control. While this solution can reduce the time and memory required for flattening, it can also lower the quality of the flattened file.

***Note:** Generally, Adobe recommends using the highest fidelity setting to minimize the conversion of vector and type objects to raster or outlines. Before you experiment with flattener settings, read Section 3, which provides details about the flattening process.*

In Illustrator 10.x, you can use the Flattening Preview palette to gauge the effect of any changes to the Raster/Vector Balance control before flattening the file. You should also be sure use to observe the effect of disabling the Clip Complex Regions option.

InDesign 2.x has no Flattening Preview, so changes to the Raster/Vector Balance control can be inferred only by observing the appearance of a proof and by experience with transparency over time.

**Problem 3.2.6: Feathered text that spans two pages in a spread doesn't appear on the second page of an exported PDF file.**

**Relevant products**

InDesign 2.x

**What is happening**

The InDesign 2.0 code that creates PDF files doesn't generate the correct drawing instructions for the portion of the text that appears on the second page.

**Reason:** This problem is a bug in InDesign 2.0.

**Solution:** Install the free InDesign 2.01 update, which you can download from Adobe's Web site.

**Problem 3.2.7: Drop shadows may shift position, break up, or both.**

**Relevant products**

InDesign 2.x

**What is happening**

The InDesign 2.0 code that processes the drop shadow effect doesn't manage memory correctly.

**Reason:** This problem is a bug in InDesign 2.0.

**Solution:** Install the free InDesign 2.01 update, which you can download from Adobe's Web site.

**Problem 3.2.8: Drop shadows wider than 16,000 pixels cause InDesign to crash.**

**Relevant products**

InDesign 2.x

**What is happening**

The InDesign 2.0 code that processes the drop shadow effect doesn't manage memory correctly.

**Reason:** This problem is a bug in InDesign 2.0.

**Solution:** Install the free InDesign 2.01 update, which you can download from Adobe's Web site.

## Section 3.3: Graphics and images

### Common scenarios

Placed graphics or images used as part of transparent art in Illustrator 10.x

Placed graphics or images used as part of a transparent design in InDesign 2.x

EPS, native Illustrator 10.x, and DCS/multi-tone graphics placed into other applications

Placed PDF 1.3 files

Placed PDF 1.4 files

### The effects of flattening

Several circumstances can create flattener-related issues with placed graphics and images. These issues arise whether the placed file interacts with transparency applied to objects over or under it, or if the placed file contains live transparency (such as a native Illustrator 10.x file placed in an InDesign 2.x spread). In this case the placed file may need to be embedded rather than simply linked to achieve the desired results.

Transparency related-issues can also occur if a graphic or image that contains transparency is saved as EPS for placement into an application that cannot interpret transparency (such as InDesign 1.5 or QuarkXPress). For example, if an EPS file is saved from Illustrator to be compatible with an earlier version (such as Illustrator 8) or with PostScript Level 1, flattening changes spot colors to process, can remove overprinting instructions, and can alter which plates are produced. It may also produce poor-quality output, such as shifts in resolution or color stitching.

***Note:** Illustrator 10 EPS files contain an EPS (PostScript) portion and a native Illustrator portion. When an Illustrator 10 EPS file is placed in any application other than Illustrator 10.x, only the EPS portion is used. Which Illustrator version you prefer to work with determines your control over flattening. If you request Illustrator 8 EPS files—which can be flattened only once when they are created—instruct your customers to adjust the Raster/Vector Balance control and resolution settings to suit your needs. You can’t adjust these settings after the file is saved as Illustrator 8 EPS (unless you have access to the original Illustrator 10.x file and can resave it). If you request Illustrator 10 EPS files, you can always reopen them, adjust flattener values, and resave them as required.*

***Note:** Illustrator 10 and InDesign 2 EPS files are encoded with two different PostScript descriptions of the colors used. One description is optimized for separations, in which spot colors are retained but flattened (that is, the plates cannot be changed). Another description is provided for composite output, in which overprinting is simulated and spot colors are converted to process to match what is on screen. Additional PostScript logic built into the file automatically determines which description—separations or composite—to use when the EPS file is RIPed. This logic is robust and correctly recognizes “composite separation” devices, such as Extreme and PostScript 3 RIPs, and chooses the color description that is suitable for making separations. High-end composite proofing devices also correctly use the separations description. For more information, see “Section 3.4: Performing image replacement” on page 58.*

### **Problem 3.3.1: EPS graphics or images placed into Illustrator don't interact with transparent artwork when printed or exported.**

#### **Relevant products**

Illustrator 10.x

#### **What is happening**

Illustrator 10.x supports two types of placed files: linked and embedded. EPS graphics and images in placed-linked files that are involved in transparency (as defined on page 5) are not accessible during flattening and print as if they are in the bottom-most layer of the file. They appear as if they were placed underneath all other objects in the design.

***Note:** By visually inspecting a document, you can't always tell if a placed EPS file interacts with transparency. In Illustrator 10.x, the Flattening Preview palette lets you make this determination. The plug-in for this palette and instructions for using it are in the Utilities/Flattening Preview folder where you installed Illustrator 10.x. You can also use the "Show Transparency Information" checkbox in the links palette.*

**Reason:** Placed-linked files can be flattened properly in Illustrator 10 only when they are not involved in transparency.

**Solution:** You can embed the placed file: Resave the Illustrator 10.x document by choosing Save As, and select Include Linked Files in the Save As dialog box. You can also manually change links to the embedded type by selecting the Embed Image option on the Links palette. If you use an EPS or PDF workflow, you also need to re-create the EPS or PDF file from the updated Illustrator file.

If this solution isn't an option, change the drawing order (for example, move the file up to another layer) or reposition the placed file so it doesn't interact with transparency, if you can do so and maintain the integrity of the design. You may need to work with the designer to ensure that the design isn't compromised.

***Note:** If an EPS file is preprepared (such as DCS artwork) or a multi-toned image (such as duotone, tritone, or quadtone), it won't place-embed in native Illustrator files. The solution above to embed an EPS file doesn't work with these kinds of EPS files. If the source file for a linked DCS is available, it may be possible to resave it in a composite format that Illustrator 10.x can place-embed. See "Problem 3.3.8: DCS files placed into Illustrator or InDesign don't print as part of a transparency." on page 53 for details. If the file is a multi-toned image, and it must interact with transparency, consider using InDesign 2.x to solve the problem. InDesign provides more complete support for placing multi-toned images.*

#### **Additional information**

If your customers' files include only placeholder (low-resolution or proxy) images, and final color and artwork are being prepared elsewhere, you need to obtain the images and embed them (that is, fatten the Illustrator 10.x file) before flattening.

Illustrator 10.x doesn't provide a warning when you attempt to link a graphic or image into a file that contains transparency.

### Problem 3.3.2: Links in a native Illustrator file don't appear after you place the file in InDesign.

#### Relevant products

Illustrator 10.x, InDesign 2.x

#### What is happening

Although Illustrator 10.x supports two types of placed files: linked and embedded, InDesign 2.x works properly with Illustrator 10.x files only if they use placed-embedded links.

*Note: This problem isn't specific to transparency.*

**Reason:** When a file was first placed in Illustrator 10.x, the Link was selected in the Place dialog box.

**Solution:** Resave the Illustrator 10.x file, making sure to select Include Links in the Save As dialog box. You can also manually convert a placed file by selecting Embed Image on the Links palette flyout menu.

### Problem 3.3.3: Placed EPS graphics print poorly.

#### Relevant products

Illustrator 10.x, InDesign 2.x

#### What is happening

EPS files created with Illustrator 10.x or InDesign 2.x contain rasterized regions or color information that is inappropriate for the final output device, resulting in problems such as resolution and color stitching artifacts within the transparent areas.

**Reason:** The Raster/Vector Balance, Rasterization Resolution, and overprinting settings during EPS export weren't optimized for the output device.

**Solution:** If the EPS files was created with Illustrator 10.x, open it in Illustrator 10.x and make sure that the flattener's Raster/Vector Balance is set to the highest fidelity (rightmost position). You may also want to increase the Rasterization Resolution if it seems excessively low. Also make sure that Preserve Overprints When Possible is selected in Document Setup. Then resave the file as EPS.

If the EPS file was created using InDesign 2.x, open the native InDesign 2.x file, and reexport it as EPS, making sure to select High Resolution as the flattener style on the Advanced panel of the Export dialog box. Also be sure that Simulate Overprints is not selected. Then export a new EPS file.

*Note: See "What are your points of control?" on page 17 for details on how to change all flattener settings.*

**Reason:** Linked files are not accessible during flattening in Illustrator 10.x.

**Solution:** Obtain the original Illustrator 9x. or 10.x file, embed the graphics via the Links palette or Embed Image command, and either print the file from Illustrator 10.x or resave it as Illustrator 10 EPS for placement in another application. If you use InDesign 2.x you can also simply place the native Illustrator 10.x file directly. See "Problem 3.3.1: EPS graphics or images placed into Illustrator don't interact with transparent artwork when printed or exported." on page 49 for additional recommendations.

### **Problem 3.3.4: A white box appears around the artwork in a placed EPS file, and it covers other objects in the layout.**

#### **Relevant products**

All applications that can place EPS files

#### **What is happening**

Certain areas in the document may get rasterized during flattening, depending on their complexity and the Raster/Vector slider level. The portions of the rasterized area that have no objects are rasterized in white. If the flattened document is subsequently placed in an aggregate application, those white areas will obstruct any objects in the background.

**Reason:** The rasterized areas in the flattened file obstruct objects in the background when the EPS file is placed in an aggregate application

**Solution:** Open the EPS file in Illustrator 10.x, and either set the Raster/Vector Balance control to the highest fidelity (rightmost position) or select Clip Complex Regions, and then resave the file. To preview the results immediately, use the Flattening Preview palette. See “Flattener options” on page 21 for details.

*Note:* These settings may cause the flattener to take longer and use more memory.

Optionally, if you use InDesign 2.x as the page layout application, you can place the native (unflattened) file directly. The advantage of this solution is that the feathered edges of special effects like drop shadows will be blended correctly with any objects over which they fall.

*Note:* In Illustrator 9.x, you can't avoid creating the matte during flattening. To correct the problem, reflatten files in Illustrator 10.x as described above, or place them into InDesign 2.x prior to flattening. In some cases, another solution is to re flattening the artwork in Illustrator 9.x using the highest Quality/Speed setting (level 5).

### **Problem 3.3.5: Type appears jaggy, at low resolution, and/or possibly shows stitching problems when printing.**

#### **Relevant products**

Illustrator 10.x, InDesign 2.x, Acrobat 5.x

#### **What is happening**

A region of a transparent design is too complex for the given Raster/Vector Balance setting, so the flattener rasterizes everything within it. If any type straddles this kind of region, stitches (a resolution mismatch) may appear between the portions of type left unchanged and type that was rasterized. Usually, this problem is evident only in high-resolution proofs and in the final output.

**Reason:** The setting for Raster/Vector Balance is too low (for example, significantly below the rightmost position).

**Solution:** Reflatten the file using the highest fidelity (rightmost position) for the Raster/Vector Balance control, and resave it. If the file is in Illustrator 10 EPS format, you can open it in Illustrator 10.x, and reflatten it directly. If the file is in another format (such as EPS created using InDesign 2.x or Adobe PDF 1.3 created using Distiller), then the native source file must be used to correct the problem.

**Reason:** Some Scitex RIPs may cause this problem - see the section on RIP known issues and solutions at the end of this section.

**Solution:** Increase the Rasterization Resolution (AI10) or the Flattening Resolution (ID10) to one appropriate for rasterizing the type.

In InDesign 2.x, you can use special flattener styles to record and reuse flattener settings more easily. The High Resolution style provides the best possible results for most output devices. You should also review any local flattener settings that may have been applied to spreads in the InDesign 2.x file. You may need to adjust or disable these settings, if appropriate. See “Flattening controls in InDesign 2.x” on page 28 for details.

**Reason:** The Raster/Vector Balance control is set to the highest fidelity, but type is still being rasterized.

**Solution:** In a few cases, rasterization is unavoidable. Be sure that the Rasterization Resolution (or Flattener Resolution in InDesign 2.x) is therefore set to a value that best reflects final output conditions.

Another reasonable solution may be to completely rasterize such a design. This solution is appropriate only if the design is relatively small (so the resulting file size isn’t an issue) and if the design isn’t incorporated into a page layout such that it overlaps with other page items (because they would be covered by the resulting raster image).

To completely rasterize a design, set Raster/Vector Balance to the leftmost position before flattening. Also be sure that the Rasterization Resolution is set to match final output conditions. See “What resolution settings are correct?” on page 24 for details.

### **Problem 3.3.6: Effects applied to objects in an Illustrator file are coarse and visually unacceptable.**

#### **Relevant products**

Illustrator 10.x

#### **What is happening**

Some effects available in Illustrator 10.x, such as Gaussian Blur, are represented using raster rather than vector data. The resolution chosen for these raster-based effects, controlled by the Raster Effects Resolution setting, must be sufficiently high to ensure that the final output results are visually acceptable.

**Reason:** By default, Illustrator 10.x renders raster-based effects at 72 dpi, which is generally acceptable for output on-screen or on very low resolution printing devices.

**Solution:** Increase the Raster Effects Resolution setting to higher than 72 dpi. For high-end output devices, a value between 150 and 300 dpi is more acceptable. Higher values may be used, but they increase the size of the resulting file, and the results may be indistinguishable from the results of a lower resolution.

### **Problem 3.3.7: A native Illustrator file placed in an application that doesn't support transparency produces unexpected results on-screen and in print.**

#### **Relevant products**

InDesign 1.5, Illustrator 8, PageMaker, QuarkXPress

**What is happening**

Through release 8.0, native Illustrator files are based on PostScript. These native files can therefore be parsed by any application that can read EPS. Starting with release 9.0, graphics in native Illustrator files are based on Adobe PDF 1.4, not PostScript. If you try to place a native Illustrator 9.0 or later graphic into an application that doesn't understand PDF 1.4, you may receive undesirable results. This issue has lessened as more applications support PDF 1.4.

Another consideration is that Illustrator 10.x allows you to create native files that use neither PostScript nor PDF. These files, which can be smaller than those that include PDF, can be read only by Illustrator 10.x.

**Reason:** The application cannot support the PDF 1.4, the format used for native Illustrator 10.x files.

**Solution:** Use InDesign 2.x, which supports the PDF 1.4 portion of native Illustrator 10.x files. You may also try saving Illustrator 10.x files as Illustrator 8 EPS, but this solution isn't recommended unless you are sure that the original files contain no transparency.

***Note:** You can use the Flattening Preview palette in Illustrator 10.x to determine if a file contains transparency. See "Flattening controls in Illustrator 10.x" on page 26 for more details.*

**Reason:** When the Illustrator 10.x native file was saved, Create PDF Compatible File wasn't selected.

**Solution:** Open the native Illustrator 10.x file, and resave it with Create PDF Compatible File selected.

**Problem 3.3.8: DCS files placed into Illustrator or InDesign don't print as part of a transparency.****Relevant products**

Illustrator 10.x

**What is happening**

At this time, no mechanism is available for passing pre-separated data to the flattener, and each application behaves a little differently when it encounters a placed DCS file that interacts with transparency. (See "What is a 'Transparency Interaction?'" on page 5 for details.) The logic in Illustrator 10.x causes the DCS file to be ignored during flattening, so it appears underneath all other artwork in the final output. The logic in InDesign 2.x passes the low-resolution composite representation created with the DCS file to the flattener.

***Note:** By visually inspecting a document, you can't always tell if a placed EPS file interacts with transparency. In Illustrator 10.x, the Flattening Preview palette lets you make this determination. The plug-in for this palette and instructions for using it are in the Utilities/Flattening Preview folder where you installed Illustrator 10.x.*

**Reason:** In Illustrator 10.x, a placed DCS file that interacts with transparency is rendered as if it is at the bottom of the drawing stack (that is, underneath everything else in the design).

**Solution:** If the DCS image uses only process inks, and the source file is available, reopen the source file in the application that created it, and resave it in a composite format that Illustrator 10.x can place-embed (for example, EPS or PDF). If you have the right software, you may also be able to recombine the DCS file data into a composite format, and then resave it in a composite format that Illustrator 10.x can place-embed.

If the DCS image uses one or more spot color channels and contains no raster data, and if the source file is available, reopen the source file in the application that created it, and resave it in a composite format that Illustrator 10.x can embed (such as EPS).

If the DCS image uses one or more spot color channels applied to raster data, note that Illustrator 10.x cannot represent spot colored raster data internally. However, in Illustrator 10.x, you can change the drawing order (for example, move the image up to another layer) or reposition the placed file so it is above or doesn't interact with transparency in the file. If you try this solution, you may need to work with the designer to ensure that the design isn't compromised.

***Note:** Illustrator 7.0 and later can separate linked DCS 1.0 files and multiple-file DCS 2.0 files that don't contain spot colors. Only Illustrator 8.0 and later can separate linked single-file DCS 2.0 files or multiple-file DCS 2.0 files that contain spot colors. Alternatively, if you can instead place the file in InDesign 2.x—which supports spot colored raster data—you may be able to use InDesign to work around the problem.*

**Reason:** In InDesign 2.x, a placed DCS file that is involved in transparency is rendered using the low-resolution composite representation.

**Solution:** If the source file for the linked DCS file is available, reopen the source file in the application that created it, and resave it in a composite format that InDesign 2.x can place (for example, EPS or PDF). If you have the right software, you may also be able to recombine the DCS file data into a composite format, and then resave it in a composite format that InDesign 2.x can place-embed.

### **Problem 3.3.9: Duotones, tritones, and quadtones placed into Illustrator artwork don't print as part of a transparency.**

#### **Relevant products**

Illustrator 10.x

#### **What is happening**

Illustrator 10.x supports two types of placed files: linked and embedded. EPS graphics and images in placed-linked files that are involved in transparency (as defined on page 5) appear under all other objects when flattening a file in Illustrator 10.x.

***Note:** By visually inspecting a document, you can't always tell if a placed EPS file interacts with transparency. In Illustrator 10.x, the Flattening Preview palette lets you make this determination. This plug-in for this palette and instructions for using it are in the Utilities/Flattening Preview folder where you installed Illustrator 10.x.*

You can usually correct this problem by changing placed files from place-linked to place-embedded. However, Illustrator 10.x doesn't support place-embedded links for content that can be represented only by spot colored rasters. If you try to place-embed such files, the spot colors convert to process equivalents.

**Reason:** Duotone, tritone, and quadtone files (typically EPS, although multi-tone images may also be Photoshop format or PDF) can be place-linked only into Illustrator artwork and be passed on to the printing device: They cannot be place-embedded. However, placed files that interact with transparency must be place-embedded for the flattener to process them correctly. When such files are place-embedded in Illustrator 10.x, the spot colors convert to process equivalents.

**Solution:** Illustrator 10.x doesn't offer a simple solution for place-embedding duotones, tritones, and quadtones, which are represented using spot-colored rasters. Instead, in Illustrator 10.x, you can change the drawing order (for example, move the image up to another layer) or reposition the placed file so it is above or doesn't interact with transparency in the file. If you try this solution, you may need to work with the designer to ensure that the design isn't compromised.

Alternatively, if you can instead place the file in InDesign 2.x—which supports spot colored raster data—you may be able to use InDesign to work around the problem.

**Problem 3.3.10:** Spot colors or overprinting don't print from PDF 1.3 files created with Illustrator.

#### Relevant products

Illustrator 10.x

#### What is happening

Spot colors and overprinting instructions aren't preserved in the PDF 1.3 file created by Illustrator 10.x. This is related to the PDF 1.3 exporting process in Illustrator, not to the flattener nor the PDF 1.3 file format.

**Reason:** The artwork was saved as PDF 1.3 directly from Illustrator 10.x.

**Solution:** Obtain the original Illustrator 10.x file, and create a PDF 1.3 file by first saving the file as an Illustrator 10 EPS or PostScript file. Then, use Acrobat Distiller to create a PDF 1.3 file, which retains spot colors and overprinting.

*Tip:* Acrobat 5.x can identify which application produced a PDF file if you choose File > Document Info.

*Note:* Spot inks used in a gradient mesh in a native Illustrator 9.x or later file or an Illustrator PDF file, may convert to process if the placed graphic is involved with transparency and the publication is printed using InDesign's built-in separations output mode. This can be avoided by using the In-RIP separations method, or by re-saving the Illustrator file as an EPS. [483567]

For more information on working with overprinting, see “Problem 3.1.2: Overprinting instructions are lost.” on page 40.

Related InDesign Note: When exporting to PDF with "Leave Unchanged" selected as the color space option, color space conversion may still occur if Simulate Overprint is enabled, or if the spread contains transparency. To use these features, the color space will need to be converted to the document's transparency blend color space. For best results in these cases, ensure that the PDF Export color space matches the Transparency blend space. If you require the color of the TIFF file to remain unchanged, you should choose Acrobat 5 Compatibility in the PDF Export dialog. [452783] (reference to 3.5.x color conversion)

**Problem 3.3.10: A PDF 1.3 file created using Illustrator or InDesign prints poorly. For example, resolution artifacts or color stitching occur.**

#### Relevant products

Illustrator 10.x, InDesign 2.x

#### What is happening

The resolution settings, the amount of rasterization on the flattened file, or both create abutting areas with different resolutions or color spaces.

**Reason:** The Raster/Vector Balance control or the Rasterization Resolution settings that were in effect for flattening are inappropriate for the intended output device.

**Solution:** If the PDF 1.3 file was created using Illustrator 10.x, open it in Illustrator 10.x, and adjust the Raster/Vector Balance control to the highest fidelity (rightmost position). You may also want to increase the settings for Rasterization Resolution if they seem excessively low. (See “What resolution settings are correct?” on page 24 for details.) Save the file as Illustrator 10.x EPS, and then use Acrobat Distiller to re-create the PDF 1.3 file.

Alternatively, if you intend to place the PDF 1.3 file into an InDesign 2.x document, and you have the native Illustrator file from which it was made, you can use the native Illustrator 10.x file directly without flattening first.

If the PDF 1.3 file was created using InDesign 2.x, obtain the original InDesign 2.x file, select the High Quality flattener style, and then reexport the PDF 1.3 file. You may also need to adjust or disable any local flattener settings that are applied to spreads in the InDesign 2.x file. See “Flattening controls in InDesign 2.x” on page 28 for details.

### **Problem 3.3.11: A PDF 1.4 file fails to place, print, or separate when placed in a non-transparency aware application**

#### **Relevant products**

InDesign 1.5, QuarkXPress, Acrobat 4.x, Adobe PageMaker 6.5

#### **What is happening**

Live transparency in the PDF 1.4 file is ignored because the receiving application doesn’t support live transparency (such as InDesign 1.5, QuarkXPress, Acrobat 4.x or PageMaker 6.5). Symptoms include an opaque version of the transparency, failure to print, or other unexpected results.

**Reason:** The file wasn’t saved in a flattened format that the application can display, import, print, or separate.

**Solution:** If the PDF 1.4 file was saved from Illustrator 10.x, reopen it in Illustrator 10.x, and save it as Illustrator 10 EPS for placement in the other application. If you prefer to place a PDF 1.3 file, first save the PDF 1.4 file as an Illustrator 10 EPS or PostScript file from Illustrator 10.x, and then use Acrobat Distiller to create a PDF 1.3 file.

If the PDF 1.4 file was saved from InDesign 2.x, reopen the native InDesign 2.x file from which it was created, and then export it to either PDF 1.3 or EPS.

If the receiving application is Acrobat 4.x, consider upgrading to Acrobat 5.x, which can interpret PDF 1.4 and transparency. For similar reasons, consider upgrading to InDesign 2.x if you use InDesign 1.5 for page layout.

***Note:** A PDF 1.4 file created using Acrobat Distiller 5.x doesn’t contain live transparency because PostScript or Illustrator 10 EPS files that are passed to Distiller are already flattened. For a PDF 1.4 file to retain live transparency, it must be created from Illustrator 10.x or InDesign 2.x. Acrobat 5.x can open, view, and print any PDF 1.4 file. When the file is printed from Acrobat 5.x, the file’s transparency is flattened according to the flattener settings in Acrobat—not those of the application used to create the file. See “Controls in Acrobat 5.x” on page 31 for details.*

### **Problem 3.3.12: Unable to place a native Illustrator 10.x file in InDesign.**

#### **Relevant products**

Illustrator 10.x, InDesign 2.x

#### **What is happening**

Native Illustrator 10.x files typically contain both a special Illustrator-only data section and a PDF 1.4 data section. InDesign 2.x uses the PDF 1.4 data section to render the contents of the file when it is placed. To reduce file size, Illustrator 10.x provides the option of omitting the PDF 1.4 data section. Without the PDF 1.4 data section, however, a file cannot be placed in InDesign 2.x spreads.

**Reason:** An Illustrator 10.x file was saved without the PDF 1.4 data section.

**Solution:** Regenerate the PDF 1.4 data section by opening the native Illustrator 10.x file and selecting Create PDF Compatible File in the Options dialog box.

### **Problem 3.3.13: Transparency effects do not display correctly when viewed in Acrobat 4.0.x**

#### **Relevant products**

Acrobat 4.x, 5.x

#### **What is happening**

The Acrobat 4.0.x viewers do not support PDF 1.4 or overprint preview. As a result, most transparency effects and any content that uses overprinting to achieve any given effect will not display correctly in Acrobat 4.0.x. Some examples are: drop shadows, feathers, opacity settings, blend modes and colored grayscale images.

**Solution:** For these objects to display correctly in Acrobat 4.0, export the content from InDesign as Acrobat 4.0 Compatible and select Simulate Overprint ON from the Advanced options. [427725]

### **Problem 3.3.14: A placed PDF 1.3 file has lost spot colors and text and prints poorly (resolution artifacts or color stitching).**

#### **Relevant products**

Illustrator 10.x, Acrobat 4.x, 5.x

#### **What is happening**

The file was flattened in Illustrator 10, which doesn't preserve spots and text. Inappropriate flattening settings might have been used to result in low quality output. PDF 1.3 format does not retain live transparency.

**Solution:** Open the original non-flattened file, resave it to EPS with appropriate flattener settings, then distill the EPS to PDF 1.3

**Problem:::** Graphics with live transparency are placed into non-transparency aware application, which produces unexpected results on screen and in print.

The non-transparency aware application ignores any live transparency when previewing/printing the file.

**Solution:** Open the file back in Illustrator and export in a format the non-transparency-aware app will understand (EPS) Must export flattened EPS file so amalgamated app can understand.

### **Problem 3.3.15: Objects with transparency view differently when exported to PDF 1.3 vs. 1.4**

Acrobat uses RGB to display transparency effects that have not been flattened. Consequently, any transparency effect exported as 4.0 Compatible, from a document whose blend space is CMYK or whose color has been converted to CMYK will look slightly different than the same content exported with Acrobat 5.0 selected. [426366]

Files exported from InDesign to PDF 1.3 should be viewed in Acrobat 5.0.5 with Overprint Preview enabled to display correctly. In order to simulate some transparency effects involving spot colors or spot colorized TIFF files in PDF, InDesign makes use of over-printing. By default, Acrobat 5.0.5 does not provide onscreen simulation of overprint, so the resulting PDF may look incorrect. Note that this is a display problem only and the PDF will separate correctly on printers that support overprint. Some examples of where this may occur are using spot colored objects involved in transparency.

## **Section 3.4: Performing image replacement**

### **Common scenarios**

Using manual methods

Using server-based OPI image replacement

Using RIP-based APR image replacement (part of Scitex printing systems)

### **The effects of flattening**

Imported images may be involved in transparency. Customers may provide artwork with placeholder or sample images, expecting you to replace them with the high-resolution versions prepared separately. Flattening, however, applies only to whatever is present in the document at the time of flattening, leading to three different issues:

- In Illustrator 10.x, the flattener doesn't follow place-linked files, so all placed files that interact with transparency must be place-embedded first to ensure the proper results. See "Section 3.3: Graphics and images" on page 48.
- In Illustrator 10.x, the flattener operates on whatever data is present at the time a document is exported or printed. Replacing images that interact with transparency (or to which transparency effects, such as feathered edges, were directly applied) after flattening results in partial or total loss of the desired effect, inappropriate inclusion of low-resolution or proxy image data in the final output, or both.
- In InDesign 2.x, the code that generates OPI comments if Omit Images is selected doesn't process any placed images that interact with transparency. Therefore, these images aren't replaced during OPI image replacement.

Image replacement usually happens automatically, using a system such as OPI or APR (part of Scitex Brisque) just before or as part of final output. Typically, these automatic methods occur after flattening unless they are part of a PDF 1.4-based workflow, since transparency isn't flattened in that file format. Therefore, if transparency is involved, image replacement must take place well before final output—a rule sometimes known as "fattening before flattening."

### **Problem 3.4.1: Transparency effects are poor or lost after image replacement.**

#### **Relevant products**

Illustrator 10.x

#### **What is happening**

In Illustrator 10.x, when placed images involved in transparency are flattened, new drawing objects are often created based on the existing image data. When image replacement is performed on such a file, both low-resolution and high-resolution image data is present, causing some effects to be lost or to appear “cut up” or “jaggy.”

**Reason:** The file was flattened using the low-resolution version of the image, and the image was subsequently replaced with a high-resolution version.

**Solution:** Obtain the Illustrator 10 EPS file or original Illustrator 10.x artwork and high-resolution image, manually place-embed the high-resolution image into the document (using the Links palette and the Embed Image command), and print the document from Illustrator 10.x or resave it as Illustrator 10 EPS. **Problem 3.4.x:** OPI and Simulate Overprint

The Omit for OPI options in the Advanced Print panel are ignored when Simulate Overprint is enabled in the Output Print panel despite the fact that you can select both Simulate Overprint and Omit for OPI. In order to enable the Omit for OPI, you must first disable the option Simulate Overprint in the Output Print panel.

### **Problem 3.4.2: The low-resolution or proxy version of an image prints after OPI.**

#### **Relevant products**

InDesign 2.x

#### **What is happening**

When an InDesign 2.x document is prepared for an “omit” OPI workflow, InDesign determines whether or not placed files interact with transparency. OPI comments are applied only to placed files that don’t interact with transparency (See “What is a ‘Transparency Interaction?’” on page 5).

**Reason:** OPI comments aren’t generated for placed files that interact with transparency.

**Solution:** IChange the drawing order (for example, move the file up to another layer) or reposition the placed file so it doesn’t interact with transparency, if you can do so and maintain the integrity of the design. You may need to work with the designer to ensure that the design isn’t compromised.

Another solution is to manually replace the affected placed low-resolution or proxy file with high-resolution image data prior to flattening.

### **Problem 3.4.3: OPI and Simulate Overprint**

The Omit for OPI options in the Advanced Print panel are ignored when Simulate Overprint is enabled in the Output Print panel despite the fact that you can select both Simulate Overprint and Omit for OPI. In order to enable the Omit for OPI, you must first disable the option Simulate Overprint in the Output Print panel.

## Section 3.5: Handling color conversions

### Common scenarios

- Dealing with color gamut
- Using ICC color management
- Mapping spot colors
- Flattening transparency via the Flatten Transparency command
- Proofing on composite devices
- Outputting on high-end printing systems

### The effects of flattening

The flattener causes colors to be converted in two ways that may be undesirable or unexpected:

- Color blending associated with transparency may be done in a color space that doesn't provide a good match with the color gamut of the intended output device. For example, colors may convert from SWOP CMYK to Adobe RGB—two gamuts that generally don't match very well.

Color stitching may also occur if portions of a vector object are rasterized in a flattened file, because some printer drivers and proprietary high-end printing systems use different color management algorithms for processing vectors and rasterized graphics. While this problem isn't new in print workflows, it may become more acute if transparency is involved.

For information on handling spot color conversions, see “Section 3.1: Printing separations” on page 38.

### Problem 3.5.1: The output device cannot reproduce some colors in a flattened document.

#### Relevant products

Illustrator 10.x, InDesign 2.x

#### What is happening

The blend between transparent objects is in a color space that doesn't completely match the color gamut of the intended output device. In Illustrator 10.x, the color space used for blending is the same as the document working space. In InDesign 2.x, the color space used for blending is specifically designated for transparency associated with the document<sup>11</sup>.

*Note: This problem occurs only if ICC color management is enabled.*

**Reason:** The color space used to blend transparent objects is different from that of the intended output device.

**Solution:** If you are flattening from Illustrator 10.x, obtain the Illustrator 10 EPS file or original Illustrator 10.x artwork, and then choose a CMYK working space profile for the file, making sure that the profile is better than or exactly matches final output conditions before flattening. Transparent objects will then be assigned suitable in-gamut colors. To change the CMYK working space, either select a different color management settings file or change the CMYK working space profile in your current settings.

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11. For details about color management concepts and controls, see the on-line help for Illustrator 10.x and InDesign 2.x.

If you are flattening from InDesign 2.x, obtain the original InDesign 2.x file, and review the transparency blending space by choosing File > Transparency Blending Space. For print workflows, set the blending space to Document CMYK to best match final output conditions.

If you already use the Document CMYK blending space, then you may also need to change the working space profile associated with it. This working space should match as closely as possible the color characteristics of the final output device. To change the CMYK working space, either select a different color management settings file or change the CMYK working space profile in your current settings. (See “Turning on and setting up color management” in the InDesign 2.x user guide).

### **Problem 3.5.2: The colors are unacceptable in a placed file that interacts with transparency.**

#### **Relevant products**

InDesign 2.x

#### **What is happening**

The flattener creates a new color to simulate the blend between transparent objects, some of which are in a placed file. However, because the color space (or spaces) of the objects in the placed file and the InDesign 2.x document don't match, the transparency blending space is used to create this new color. (InDesign 2.x doesn't provide a warning when this problem occurs.)

*Note: This problem occurs only if you ICC color management is enabled.*

**Reason:** A significant colorimetric difference occurs between the color working space (or spaces) of a placed file and the transparency blending space. The result is an unacceptable shift in the color of objects in the placed file.

**Solution:** Review the transparency blending space of the file by choosing File > Transparency Blending Space. For print workflows, set the blending space to Document CMYK to best match final output conditions.

If you already use the Document CMYK blending space, then you may also need to change the working space profile associated with it. This working space should match as closely as possible the color characteristics of the final output device. To change the CMYK working space, either select a different color management settings file or change the CMYK working space profile in your current settings. (See “Turning on and setting up color management” in the InDesign 2.x user guide).

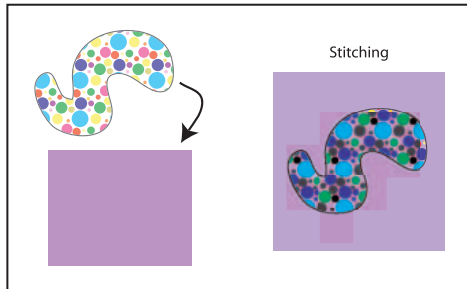
If the current transparency blending space is already well matched with the intended final output conditions, then you may need to consider using placed content that is better prepared to match these conditions. Check with the designer and consider modifying the color working space (or spaces) in the placed file itself.

### **Problem 3.5.3: Colors are jaggy and irregular (that is, color stitching occurs) in a flattened file.**

#### **What is happening**

Flattening results in subdividing objects into small pieces that share boundaries. Those small adjacent pieces are separate objects often with different types of fills (solid, gradients, images, etc.) necessary to represent the color of the intersections of objects. Different types of fills are likely to be processed differently by output devices, which would result in a problem called color stitching. The color areas appear jagged and may include unexpected color transitions between raster and vector objects.

For example, some devices have special color enhancements applied by default to raster fills with the intent to improve the quality of photos. As a result, a vector object that gets partially rasterized may undergo color transformations that create stitching artifacts where rasterized and unrasterized data abut.



If a vector object is placed over a raster background, the results (right) can include blocky color stitching artifacts.

**Reason:** The Raster/Vector Balance setting may be too low or the Clip Complex Regions option may need to be enabled.

**Solution:** In Illustrator 10.x, set the Raster/Vector Balance control to the highest fidelity (rightmost position) or select Clip Complex Regions (if the setting for Raster/Vector Balance is lower than the rightmost position), and then resave the file. To preview the results immediately in Illustrator 10.x, use the Flattening Preview palette. See “Flattening controls in Illustrator 10.x” on page 26 for details.

***Note:** The new settings may cause the flattener to take longer and use more memory. InDesign 2.x uses special flattener styles to record and reuse flattener settings more easily. The High Resolution style provides the best results for most output devices. You should also review any local flattener settings that were applied to spreads in the InDesign 2.x file. You may need to adjust or disable these settings, as appropriate. See “Flattening controls in InDesign 2.x” on page 28.*

**Reason:** The printing device makes special optimizations for color depending on the type of object—for example, image data is handled differently than vector data—or the printer has a particular color rendering dictionary enabled that causes unexpected color output for vector and raster data. It is common for composite printers to allow for “intelligent” or “vivid” color treatment of images.

**Solution:** If possible, disable these printer optimizations before printing. For desktop devices, you can usually disable this optimization through a device-specific panel in an application’s Print Setup dialog box. For a high-end printing system, review the system’s documentation to determine your options.

When printing transparent objects from InDesign, Acrobat or Illustrator to a desktop color printer, make sure that advanced color controls are disabled at the printer. The flattener may need to rasterize some transparent objects to represent them correctly. Some desktop printers offer “enhancements” that render images differently than vector objects. This can sometimes lead to visual differences between objects that appear the same in the original document.

If this solution doesn’t work, you can try to eliminate or minimize rasterization in the flattened or printed file. See the previous solution for details.

**Problem 3.5.4: Remapping spot inks is impossible or gives unexpected results after flattening a file.****Relevant products**

Illustrator 10.x, InDesign 2.x

**What is happening**

Spots may get converted to process in certain export formats (such as PDF 1.3 from Illustrator) or because certain raster-effects are used, but not because of flattening itself. Remapping spot colors in such flattened files may be impossible (if all the spot colors converted to process) or may produce unexpected results. The latter is especially noticeable if you try to make a radical change in a spot color, such as remap Pantone 116 C (a yellow ink) to Pantone 569 C (a greenish-blue ink).

**Reason:** A file containing spot colors and transparency was exported as EPS using Illustrator 10.x, causing some or all spot colors to convert to process colors.

**Solution:** If you use InDesign 2.x for page layout, you may be able to resolve the problem by using the unflattened native Illustrator 10.x file. InDesign 2.x preserves spot inks during flattening, and you can then remap them with the InDesign 2.x ink manager.

Another option is to remap the desired spot colors before you flatten the file in Illustrator 10.x, if you have either the existing Illustrator 10 EPS or the native Illustrator 10.x file.

**Problem 3.5.5: All spot colors convert to process colors after flattening objects via the Flatten Transparency command in an Illustrator file.****Relevant products**

Illustrator 10.x

**What is happening**

Illustrator 10.x lets you select one or more objects in a design, and then manually flatten them using the Object > Flatten Transparency command. This feature can be used to work around certain other transparency-related problems. However, it doesn't always provide the same results as flattening on export or printing, so it must be used carefully.

**Reason:** Spot colors always converted to process colors after flattening via the Flatten Transparency command, even if the spot colored objects don't interact with transparency

**Solution:** Defer flattening until the file is exported or printed, as these methods work to preserve spot colors wherever possible.

### Problem 3.5.6: The wrong spot colors appear in an InDesign document after flattening.

#### Relevant products

InDesign 2.0

#### What is happening

This problem occurs if you flatten multiple InDesign 2.0 documents that use spot colors and transparency. After you process one document that mixes spot colors and transparency, the logic that manages inks in InDesign 2.0 doesn't correctly reinitialize itself. If you then open and flatten a second document that also mixes spot colors and transparency, the spot colors from the first document are used.

**Reason:** This problem is a bug in InDesign 2.0.

**Solution:** Install the InDesign 2.01 update, which you can download from Adobe's Web site.

## Section 3.6: Trapping

### Problem 3.6.1: Flattened files are trapped incorrectly.

#### Relevant products

InDesign 2.x, PostScript in-RIP trapping engine

#### What is happening

Most trapping engines use different sets of rules for processing vector and image data. In fact, trapping is commonly disabled for image data entirely. Because flattening can cause vector and type objects to become rasterized, the traps generated for such files can be incorrect or incomplete.

: The trapper isn't configured to process internal raster data, so trapping is incomplete.

**Solution:** Make sure that Raster/Vector Balance is set to the highest fidelity (rightmost position) before flattening. Often, this change can completely eliminate rasterization and solve all resulting trapping problems.

Another solution is to enable the internal image trapping option, which traps the image data internally. This option isn't available when trapping from InDesign 2.x. Also, setting internal image trapping for the whole page causes all image data to be trapped internally, including natural image data that can cause other problems.

**Reason:** The trapper's rules for processing internal raster data don't match those use for vector data.

**Solution:** Set the image trap placement rules to Normal, so that image trapping uses the same rules as vector artwork. (The same result happens automatically when internal image trapping is first enabled.) Since this setting applies to all image data, including both natural image data and rasterized vector data, other trapping-related problems may still occur.

**Reason:** The trapper doesn't trap images to other images unless explicitly configured to do so.

**Solution:** While the trapping rules to generate image to image traps exist, this approach isn't recommended for flattened files that contain rasterized regions.

### Problem 3.6.2: Opaque objects touching objects with transparency effect trapping

#### Relevant products

InDesign 2.x

#### What is happening

Opaque objects that are touching objects with transparency are being affected or flattened.

Objects that do not have transparency applied to them can be affected by those adjacent transparent objects. This especially relates to overprinting objects or spot colors that sit on top of other objects that may have transparency applied to them.

**Solution:** Be sure that any opaque objects that are in a stack of objects with transparency are on the top of the stack of objects, or in the topmost stack of layers. This will keep the topmost objects from being included in the transparency flattening. Also, turn on Overprint Preview (under the View Menu) in order to see the actual mixing of the colors.

## Section 3.7: Flattening

### Problem 3.7.1: Strokes thicken after flattening

#### Relevant products

InDesign 2.x, Illustrator 9.x, 10.x

#### What is happening

Stroke weights may appear to be thicker for content that has been flattened (exported to PDF 1.3 or printed) due to the fact that the strokes have been converted to fills. On a high-resolution device this should not present a problem.

**Solution:** Select Convert Strokes to Outlines to make the strokes consistent.

### Problem 3.7.2: Artifacts appear on screen after flattening

#### Relevant products

InDesign 2.x, Illustrator 9.x, 10.x

#### What is happening

Artifacts appear onscreen when flattening overlapping transparent objects that have been exported to PDF

**Reason:** When overlapping objects have transparency applied to them, which is flattened upon print or conversion to PDF, there is the possibility of artifacts appearing onscreen - tiny dots of misplaced color or white on the edges of objects that were flattened. Many times these artifacts only appear onscreen, and do not appear in the final high-resolution print output.

**Solution:** If artifacts do appear in print, increase the flattener resolution.

### **Problem 3.7.3: The output device cannot reproduce some colors in the flattened document because inappropriate color space was used when flattening.**

#### **Relevant products**

InDesign 2.x

#### **What is happening**

Flattening results in merging objects into a single layer. The final merged color must be in the output color space.

**Solution:** Flattening must be done in the color space of the output device. Open the unflattened file and re-save (re-flatten) using the correct color space of the output device.

## **Section 3.8: RIP specific issues and solutions**

General recommendations

- Upgrade/update to the latest RIP version
- Test/Proof common files through any new software or RIP versions

Agfa information:

Latest RIP versions:

- Apogee Viper 3.04 and Apogee PDF RIP (From Apogee PDF RIP for Macintosh 1.0.1 Read Me First; Revision 1, October 25th, 2001 and also Apogee PDF RIP for Windows 2.0 Read Me First; Revision 2; September 14th, 2001)

### **3.8.1: PDF 1.4 and Apogee PDF RIP**

PDF 1.4 files that contain transparent objects will not output correctly when processed directly by Apogee PDF RIP (i.e. when PDFs are dropped in the Hot Folder). As a workaround, in the creating application, save the file as a PDF 1.3 file or as an EPS file. Alternatively, open these PDF files in Acrobat 5 or later and print them to the RIP from Acrobat. This will automatically "flatten" the transparent objects since transparency is not supported in PostScript or in PDF 1.3.

Creo information:

Latest RIP versions:

Brisque version 4.0.79 (transparency will be ignored and objects with transparency will be made opaque)

Creo Prinergy 2.0.7 and later RIPs will flatten PDF 1.4 files that contain transparency

Creo PS/M 7.1 and later RIPs will flatten PDF 1.4 files that contain transparency

### **3.8.2: Creo/Scitex Brisque 3.0, 4.0 setting for processing files with transparency**

Most CreoScitex RIPs have a PostScript Overprint setting, which is by default, turned off. This must be turned on in order to properly separate PostScript files that were generated from InDesign 2.0 files that include transparency. Overprinting is a fundamental component of flattening transparency and converting to PostScript. If this PostScript Overprint setting is turned OFF, the transparency information will not show through the CT layers properly, and areas may appear without the proper overprinting of objects that had transparency applied to them.

### 3.8.3: Creo Brisque 3.0 and 4.0, user must flatten PDF 1.4 files prior to RIPing

**Problem::** Abnormal termination on the Brisque can occur when processing files with a spot drop shadow or clipping path that touches text in registration color and printed Composite or to In-RIP separations.

Workaround: Move the registration text to the front, above the drop shadow and move the spot drop shadow away from the text, so it doesn't touch.

### 3.8.4: Creo Prinergy 2.0 and earlier and spot colors

: Prinergy 2.0 and earlier may convert spot colors to process colors if the spot color has transparency applied, is used in a duotone, or is used as a spot-to-process gradient.

**Solution:** These issues can be resolved by upgrading to Prinergy v.2.0.2 or later

### 3.8.5: Creo PS/M 7.0

User must flatten PDF 1.4 files prior to RIPping

Use Creo PDF2PS v2.0b2\* (with support for PDF 1.4) to convert back to PostScript 3

Harlequin information:

### 3.8.6: Harlequin RIP v 5.3 r4 handles AI 10 with transparency

**Problem::** PDF files exported from InDesign and then printed from Acrobat 5.0.5 to a Harlequin ScriptWorks RIP 5.5 r0 will produce a PostScript error.

**Solution:** A fix was made by Harlequin and is available as a patch in the ScriptWorks RIP 5.5 r1. Also use the latest print drivers available.

Heidelberg information:

Latest RIP versions:

Heidelberg Prinergy V 2.0.7.13

Heidelberg Delta RIP

Heidelberg MetaDimensions 2.6

### 3.8.7: Heidelberg MetaDimension overprint not retained (supports PostScript Level 1,2,3 / PDF 1.3)

**Problem::** Overprint settings on process colors will not be retained when processing composite PostScript files (this includes selecting PostScript File from the print dialog) to the Panther or Heidelberg MetaDimensions RIP.

**Solutions:** To retain overprint settings, print as either host-based separations or In-RIP separations. Upgrade to MetaDimensions 2.5 or higher

### 3.8.8: Heidelberg Prinergy 2.0 and earlier and spot colors

**Problem:** May convert spot colors to process colors if the spot color has transparency duotone, or is used as a spot-to-process gradient.

**Solution:** These issues can be resolved by upgrading to Prinergy v.2.0.7.

### **3.8.9: Rampage information**

Latest RIP version is 8.4b43 - earlier versions will not handle flattened transparency or native InDesign files.

The following two tables cover the capabilities of standard input and output file formats used in Adobe applications

**Table 1: Input File Formats and Transparency Compatibility by Application**

Application	Input Formats (place or open)	Transparency Capability	Spot Colors	Overprint Preserved	Suitable for Color Separations
InDesign 2.x	Illustrator Native	Live or preflattened	Yes	Yes	Yes
	Photoshop Native	Live (as alpha channel)	No	N/A	Yes
	PDF 1.4	Live or preflattened	Yes	Yes	Yes
	PDF 1.3	Flattened	Yes	Yes	Yes
	EPS (from AI, PSD)	Flattened**	Yes	Yes	Yes
	Other formats? GIF? (TIFF, JPEG, etc.)	Flattened*	Yes	N/A	Yes
Illustrator 10.x	Native Illustrator	Live or preflattened	Yes	Yes	Yes
	Native Photoshop	Live (as alpha channel)	No	N/A	Yes
	PDF 1.4	Live or preflattened divide?	Yes	Yes	Yes
	PDF 1.3	Flattened	No	Yes	Yes
	EPS (from Illustrator and Photoshop)	Flattened**	Yes	Yes	Yes
	Other formats? (TIFF, JPEG, etc.)	Flattened*	No	N/A	Yes
Acrobat 5.x	PDF 1.4	Live or preflattened	Yes	Yes	Yes
	PDF 1.3	Flattened	Yes	Yes	Yes
	EPS or PostScript Interpretation	Flattened	Yes	Yes	Yes
PageMaker, QuarkXPress and other non-transparency aware apps	All accepted place and open formats (EPS, TIFF, PDF 1.3, JPEG, etc.)	Flattened--no compatibility with transparency			

as they relate to transparency, spot colors, overprint, and color separations.

**Table 2: Output File Formats and Transparency Compatibility by Application**

Application	Output Formats	Transparency Capability	Spot Colors	Overprint Preserved	Suitable for Color Separations
InDesign 2.x	Native InDesign	Live.	Yes	Yes	Yes
	PostScript (for RIP or Distiller)	Flattened	Yes	Yes	Yes
	PDF 1.4	Live	Yes	Yes	Yes
	PDF 1.3	Flattened	Yes	Yes	Yes
	EPS	Flattened	Yes	Yes	Yes
Illustrator 10.x	Native Illustrator 10.x	Live or preflattened	Yes	Yes	Yes
	Native Illustrator 8.x	Flattened	No	Yes***	Yes
	PostScript (for RIP or Acrobat Distiller)	Flattened	Yes	Yes	Yes
	PDF 1.4	Live or Flattened	Yes	Yes***	Yes
	PDF 1.3	Flattened	No	No	Yes
	EPS	Flattened**	Yes	Yes***	Yes
	Other formats	Flattened*	No	No	No
Acrobat 5.x	PDF 1.4	Live or Flattened	Yes	Yes	Yes
	PDF 1.3	Flattened	Yes	Yes	Yes
	Other formats (EPS, JPEG PostScript, etc.)	Flattened*	Yes	Yes	Yes
PageMaker, QuarkXPress and other non-transparency aware apps	All output formats (EPS, TIFF, PostScript, JPEG, etc.)	Flattened			
<p>* Note that some of these formats (GIF, JPEG, etc.) can handle transparency in the graphical sense but they can't handle live transparency.</p>					
<p>** Illustrator can open AI EPS files, and the transparency can be edited. All other products can place and use the flattened portion of the EPS file. The file may need to be place-embedded.</p>					
<p>*** Turn on Preserve Overprints When Possible checkbox (in Document Setup&gt;Transparency).</p>					



## Adobe.com links

### [www.adobe.com](http://www.adobe.com)

Adobe's main website - chock full of information, downloads, training, and much more.

### [www.adobe.com/print](http://www.adobe.com/print)

Adobe Print Center - a specialized site for everything related to print production using Adobe products.

### [www.adobe.com/support](http://www.adobe.com/support)

Adobe Knowledge Base - Find answers from Adobe customer support experts! Enter a description of what you are looking for including product name, platform, and error messages.

### <http://partners.adobe.com/asn/partnerfinder>

Adobe Solutions Network - Designers looking for printers that support Adobe software? Printers can register to be listed in the online searchable database. Forget phone books and use the Adobe Partner Finder. Simply answer a few questions that pinpoint your needs and in seconds you'll know which companies or consultants can help.

### <http://partners.adobe.com/asn/service/indesign>

A variety of downloads and technical resources for printers, including the Print Service Provider Toolkit.

If you can't find what you need, email us at:  
[sp-resources@adobe.com](mailto:sp-resources@adobe.com)