

enfocus

PITSTOP PRO 2019

Preflight Checks Overview

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2. About this document

This documents gives an overview of the checks that can be enabled in a Preflight Profile. In this document, the checks are subdivided into a number of categories similar to the way they are represented in the Enfocus Preflight Profile Editor.

For more information about the configuration of Preflight checks (or the creation of Preflight Profiles in general), refer to the PitStop Pro/Server Reference Guide on the *Enfocus website*.

For more information on the messages resulting from these checks, refer to the PitStop Preflight Report Help, available as well on the *Enfocus website*.

3. New and improved checks in PitStop 2019

Improved check: Page size

The *Page size* check got an extra checkbox ("Ignore page orientation) allowing you to determine which side of the page should be considered the width and which should be considered the height.

Improved check: Number of separations

The *Number of separations* check has got individual checkboxes for C, M, Y, and K, wich gives you greater flexibility when checking jobs that have a K and a spot color, or black and white jobs.

Please note that Preflight Profiles that use these new options are not backwards compatible with older versions of PitStop.

4. Checks on PDF Standards

The **PDF Standards** category contains checks and fixes that are specific to one of the PDF/X or PDF/A standards. However, there are more criteria a PDF document should meet to comply with a PDF/X or PDF/A standard. These criteria are checks that you can find in the other categories of the **Enfocus Preflight Profile Editor**. Examples are the PDF version, which can be checked in the **Document** category, or the use of transparency (in the **Transparency** category).

To make it easier to verify PDF/X and PDF/A compliance, the **Enfocus Preflight Profile Editor** has two special checks called **PDF/X Compliancy** and **PDF/A Compliancy** (see below). You can use these checks to verify whether all the relevant properties of the PDF document comply with the selected PDF/X or PDF/A standard. You can also select the corresponding fixes, all collected in one single dialog.

Note that it is **not possible to restrict the checks** in this category, because the all-in-one checks (such as PDF/X compatibility) apply to the whole document and cannot be limited to a particular selection.

4.1. PDF/X Compliancy

Allows you to check if the document is conform to the PDF/X specification of your choice.



Note: This is a global check which resolves any need for other PDF/X checks **in this and other categories** of the Preflight Profile Editor. If you try to enable another check that is already covered by this check, a warning appears.

Supported versions

- PDF/X-1a:2001
- PDF/X-3:2002
- PDF/X-1a:2003
- PDF/X-3:2003
- PDF/X-4
- PDF/X-4p

Possible fixes

As the PDF/X Compliancy checks includes a number of different checks, several problems may be detected. You can choose which ones to fix automatically. Note that there are different fixes for different PDF/X versions.

To enable the appropriate fix(es)

1. Select the **Make PDF/X-(version) compliant** checkbox.
2. Click **Edit Fixes**.
3. In the right pane, double-click the fixes you want to enable.
4. Configure the fixes in the left pane.
5. Click **OK**.

4.2. PDF/A Compliancy

Allows you to check if the document is conform to the PDF/A specification of your choice.

Note: This is a global check which resolves any need for other PDF/A checks **in this and other categories** of the Preflight Profile Editor. If you try to enable another check that is already covered by this check, a warning appears.

Supported versions

- PDF/A-1b
- PDF/A-2b
- PDF/A-2u

Possible fixes

As the PDF/A Compliancy checks includes a number of different checks, several problems may be detected. You can choose which ones to fix automatically. There are different fixes for different PDF/A versions.

To enable the appropriate fix(es)

1. Select the **Make PDF/A-(version) compliant** checkbox.
2. Click **Edit Fixes**.
3. In the right pane, double-click the fixes you want to enable.
4. Configure the fixes in the left pane.
5. Click **OK**.

4.3. Embedded PostScript fragments

Allows you to find all fragments of embedded PostScript in the PDF document.

Embedded PostScript fragments do not show up in the screen preview, but could change the appearance of the printed document. They are generally undesirable in a print production environment.

Possible fixes

PitStop can remove the embedded PostScript fragments.

4.4. Trapnet annotation (PDF/X)

Allows you to check if the PDF document contains trapnet information conform to the PDF/X standard.

In printing, even the slightest misregistration of the plates can cause gaps or color shifts between colored objects to appear. **Trapping** is a technique that compensates for

misregistration by expanding adjacent colored objects so that they overlap. Trapping can be performed by the source application, in the PDF, by dedicated trapping tools, or during the RIP-process.

If the traps in a document were added before the PDF document was created, they are included in the PDF file as **trap networks**. A page may have more than one trap network, e.g. one for each intended output device, but all the different trap networks are stored in the same trap network, also called **trapnet annotation**. When printed, the trapnet annotation provides all the required trapping information for the page.

For more information, refer to *Trapnet annotations: PDF/X Requirements* on page 11.

Note: If you want to search for a particular trapped flag, you can enable another trapnet annotation check, i.e. in the Document category. See *Trapnet annotation (flag)* on page 15.

Possible fixes

There is no separate fix available. However, if you select the **PDF/X Compliancy** check and the corresponding fix (**Make PDF/X compliant**), you have the possibility to enable the **Trapped flag** fix.

4.4.1. Trapnet annotations: PDF/X Requirements

When trapnet annotations are found in the document, **PDF/X-1a:2001** requires that:

- The **trapped flag** in the document is set to either True or False (Unknown is not allowed).
- If the trapped flag is **False**, the document does not contain trapnet annotations.
- If the trapped flag is **True**, the document is completely trapped, and the document contains trapnet annotations.
- **Font substitution** is not used.
- The **CMYK** color space is used.

When trapnet annotations are found in the document, **PDF/X-3:2002** requires that:

- Trapping occurs only when all the **fonts in the document are embedded**.
- The **CMYK** color space is used.

4.5. Version Key

Allows you to check if the PDF/X version key is set to the version of your choice.

Supported versions

- PDF/X-1a:2001
- PDF/X-3:2002
- PDF/X-1a:2003
- PDF/X-3:2003
- PDF/X-4
- PDF/X-4p

Possible fixes

PitStop can set the PDF/X version key to the appropriate version.



Note: Remember that changing the version key does not in itself change the compliance of the document with one of the PDF/X standards. It will however allow you to continue and to certify your PDF.

4.6. Pre-separated pages

Allows you to check if the PDF document contains pages that already have been separated.

A pre-separated PDF contains pages that have been **separated into their CMYK components**. In offset printing each of these colors is printed with a separate plate. This means that each page in a PDF document is separated into its four constituent colors: cyan, magenta, yellow and black. For example, a pre-separated PDF file for a two-page CMYK print job, results in a PDF file with 8 pages.

This separation process is usually carried out by the RIP, and not in the source PDF document.

Possible fixes

No automatic fix provided. Problems will have to be fixed in the source application.

4.7. Unknown objects

Allows you to check if the document contains unknown objects.

Unknown objects in this context are objects that are not defined in the PDF 1.3 standard. The PDF/X standards require all objects in the document to be "known", or defined in the PDF 1.3 specification.

This avoids differences in output between older and newer RIPs, for example. Older RIPs may not be able to process certain objects, and produce blank pages, whereas a more recent RIP can deal with those objects correctly and will produce the intended output.

Possible fixes

No automatic fix provided.

4.8. Annotation in printable area

Allows you to check if the document contains annotations (other than trapnet annotations) inside the printable area.

The printable area is defined by the bleedbox if it is present; otherwise the trim box is used. The PDF/X standards do not allow annotations in the printable area of a document, because they may be printed on top of the page contents, which can lead to an undesirable output.

Possible fixes

PitStop can either remove the annotations inside the printable area, or move them outside the printable area.

4.9. Output intent

Allows you to verify that the Output Intent is present and valid according to the selected PDF/X standard.

According to the PDF/X standards, a PDF document must contain information on the intended output. The output intent identifies what the final output destination of the document is, enabling everybody involved in the workflow to take the output intent into account. For example, a color proof may take into account the type of paper on which the document will be printed.

Possible fixes

If the output intent of a PDF is not valid according to the PDF/X standards, the fix depends on the problem:

- If an ICC profile or an ICC characterization is defined, although it shouldn't, PitStop can remove it.
- If the ICC profile or the ICC characterization is defined, but does not match the required version, PitStop can replace it with a selected version.

4.10. Default color spaces

Allows you to verify whether the default color spaces conform to the PDF/X standard.

Objects in a PDF document, i.e. text, line art or images, can be tagged with an ICC profile. This is called using ICC profiles “at object level”, which is quite common. However, ICC profiles can also be defined at a “higher level”, such as pages. For example, a page in a PDF document can contain RGB images and it can have an RGB ICC profile assigned “at page level”. In this case, the RIP will apply the ICC profile to all RGB objects on that page. This mechanism is referred to as “default color spaces”.

There is a rule in the PDF/X-3:2002 standard saying that default color spaces must be present for all colors that are not covered by the output intent. This means that if the output intent is CMYK, for example, the following rules apply:

- CMYK and gray objects do not require default color space definitions.
- A default RGB ICC profile needs to be assigned to all pages on which RGB objects are used.

This check verifies that the default color spaces are present and valid according to PDF/X rules. If they are not, you will need to add default color spaces.

Possible fixes

If the color spaces do not comply, PitStop can set the color spaces using the ICC profiles (for Gray, RGB and CMYK) of your choice.

5. Checks on Document

5.1. PDF Version

Allows you to check if a particular Acrobat or PDF version is used in the PDF.

There is a difference between the version number of the PDF standard used by the document and the version number of Adobe Acrobat with which the document is compatible. For example, PDF 1.3 is supported by Adobe Acrobat 4.x and later. The Acrobat version is the sum of the two numbers that make up the PDF version, for example: PDF 1.7 = Acrobat 8.

If a PDF document uses an Adobe Acrobat or PDF version that is higher than supported by your workflow, problems may occur. For this reason, you should consider using versions which are earlier than the most recent one for documents that will be widely distributed.

Possible fixes
If the Acrobat or PDF version is different than expected, PitStop can change it to the desired version.

5.2. Compression not optimal

Checks if the latest and most efficient compression mechanisms have been applied in the PDF document.

Compression mechanisms are used to reduce the file size of a PDF. Previous versions of Adobe Acrobat (2.1, 3.0, 4.0) featured less advanced compression mechanisms; this check allows you to find and correct them.

If your document contains objects which were left uncompressed for a specific reason, for example to preserve metadata, select the option **Ignore non-compressed objects**.

Possible fixes

Enable the **Use ZIP compression where applicable** checkbox.

5.3. Compressed objects

Checks if the document has been compressed using the PDF Optimizer feature in Adobe Acrobat 6.x or later versions.

Compressing the document structure information (including tags, accessibility features and tagged PDF information) results in a smaller file size. However, this can cause version compatibility problems. A PDF file with document structure compression can be opened and printed in Adobe Acrobat 5.0, but any structure information will not be visible in Adobe Acrobat 5.0. Only Adobe Acrobat 6.x and later versions can use compressed structure information as if it were uncompressed.

Possible fixes

Remove object compression.

5.4. Encoding

Checks if the PDF file contains ASCII- or binary-encoded elements.

ASCII encoding was formerly required to ensure that PDF files could be safely transported via e-mail or the Internet. However, most e-mail software in use today handles non-ASCII documents normally, eliminating the need to ASCII-encode your document. The increase in file size when you use ASCII encoding can be substantial.

Possible fixes

Change the encoding to the desired format (ASCII or binary).

5.5. Damaged

Checks if the PDF file is damaged.

A PDF file can be damaged, for example, if you downloaded it from the Internet and the file transfer was incomplete.

Possible fixes

No automatic fix provided.

5.6. Trapnet annotation (flag)

Checks if the PDF's trapped flag is set to a specific status.

The **trapped flag** in a PDF document indicates whether the document has been "trapped", i.e. corrected for slight color misregistrations, or not. The trapped flag must be defined in PDF/X documents.

The flag can be set to:

- **True**: The document has been trapped, or the document creator has decided that it should not be trapped.
- **False**: The document has not been trapped.
- **Unknown**: The document status is not certain.



Note: The status **Unknown** leaves room for errors in the workflow and should be avoided, especially if you cannot contact the document creator for details on PDF document's trapping.

Note that you can also check if the trapnet annotation conforms to the PDF/X standard, by selecting the corresponding check in the PDF Standards category. See *Trapnet annotation (PDF/X)* on page 10.

Possible fixes

You can immediately change the trapped flag as required.

5.7. Binding

Checks if the PDF is bound on the left or on the right.

Left-edge or right-edge binding affects the way the pages of a PDF document are arranged when they are viewed in the Continuous-Facing page layout.

The binding should be set to match the reading direction of the text:

- Left-edge for text read from left to right. Use this setting for documents intended for a Western audience.
- Right-edge for text read from right to left.

Possible fixes

If you are searching for left-edge binding, you can immediately change it into right-edge binding and vice versa.

5.8. Fast Web View

Checks if the PDF is optimized for the Web.

A document that has been optimized for the Web often has a significantly smaller file size. This is achieved by replacing images that occur more than once in the document with pointers to the first instance of these images. Also, the PDF document is restructured to allow page-at-a-time downloading over the Internet: only the page viewed by the user is downloaded, thus avoiding long loading times for larger PDF documents.

This Adobe Acrobat feature is called **Fast Web View** and it enables page-at-a-time downloading of the PDF document. If you are planning to publish the PDF document on the Internet, you should make sure **Fast Web View** is enabled.

Possible fixes

No automatic fix provided.

5.9. PostScript device needs

Checks if the document contains PostScript Level 3-specific features such as transparency or smooth shadings. If this is the case, you need a PostScript Level 3 output device to obtain high-quality output, as older printer drivers and printers cannot interpret the feature found in PostScript Level 3.

Possible fixes

No automatic fix provided.

5.10. Security usage

Checks the PDF's security settings to see if the document is secured, and if so, which type of security (linked to the Adobe Acrobat version) is used.

You have the following options:

- An Acrobat version (4-7)
- "none" (if the document should have no security settings enabled)
- "any" (if the document should have security, but the exact type is not important)

Possible fixes

No automatic fix provided.

5.11. Security: Printing

Checks whether or not the PDF's security settings allow users to print the PDF.

Possible fixes

No automatic fix provided.

5.12. Security: High-resolution printing

Checks whether or not the PDF's security settings allow high-resolution printing.

Possible fixes

No automatic fix provided.

5.13. Security: Copying or extracting content

Checks whether or not the PDF's security settings allow copying or extracting content from the PDF.

Possible fixes

No automatic fix provided.

5.14. Security: Content accessibility

Checks whether or not the PDF's security settings allow accessibility software for the visually impaired (such as a screen reader) to use the content of the PDF.

Possible fixes

No automatic fix provided.

5.15. Security: Editing content

Checks whether or not the PDF's security settings allow users to make modifications to the content.

Possible fixes

No automatic fix provided.

5.16. Security: Editing annotations and authorizations

Checks whether or not the PDF's security settings allow users to edit existing annotations and to create form fields in the document.

Possible fixes

No automatic fix provided.

5.17. Security: Filling in form fields and signing

Checks whether or not the PDF's security settings allow users to complete or modify existing form fields in the PDF.

Possible fixes

No automatic fix provided.

5.18. Security: Document Assembly

Checks whether or not the PDF's security settings allow users to insert, delete and rotate pages and create bookmarks and thumbnails.

Possible fixes

No automatic fix provided.

5.19. Info: Title, Subject, Author, Keyword, Creator

Checks the content of the document properties of the PDF.

The document properties of a PDF include basic information about the PDF, such as the title, the author, the document creator, ... Some of this information is set by the person who created the PDF, some is set by Adobe Acrobat.

You can search for a particular string, for example: Title contains "Enfocus".

Note:

- To search for more than one string, use a comma to separate the strings, for example: "Enfocus, Esko".
- In more recent versions of Adobe Acrobat, "Creator" info is called "Application" info.

Possible fixes

You can automatically change the document property as required. For example, if the Author contains "JS, John Smith, John", you could change this to "John Smith" as required.

5.20. Info: Producer

Searches for the producer of the document in the document properties of the PDF. The producer refers to the application used to generate the PDF, for example Acrobat Distiller XI. You can check:

- Whether or not the producer is defined.
- If it is defined, whether or not it contains a particular string (e.g. "PDFWriter")

The document properties of a PDF include basic information about the PDF, such as the title, the author, the document creator, ... Some of this information is set by the person who created the PDF, some is set by Adobe Acrobat.

Note: To search for more than one string, use a comma to separate the strings, for example: "InDesign, Photoshop".

Possible fixes

If the producer is not defined, you can automatically set this field to "unknown". It is not possible to change the producer in the Document properties field.

5.21. Info: Date

Checks if the modification or creation date is set in the document properties of the PDF.

The document properties of a PDF include basic information about the PDF, such as the title, the author, the document creator, ... Some of this information is set by the person who created the PDF, some is set by Adobe Acrobat.

Possible fixes

If the creation and/or modification date is missing, you can automatically fill out the current date.

6. Checks on Page

At the top of the screen, you must select the page box that defines the page size (regardless of the checks you select from the pane at the right).

6.1. Page box layout

Checks if the page box layout of your document conforms to the layout of your choice.

Page boxes are imaginary rectangles drawn around the various objects in the page and around the page itself. You cannot see these page boxes if you look at a PDF document in Adobe Acrobat without one of the supported PDF editing tools. The page boxes define, for example, how your PDF document will be displayed in Adobe Acrobat and how it will be printed. For more information, refer to *Page boxes* on page 21 and *Page boxes: example* on page 23.

There are two sets of rules describing the page box layout of a document. Documents that are intended for on-screen use have to conform to the *Screen Viewing Layout*. Documents that will be printed need to follow the *Press Layout* rules.

How to proceed

Select the page box layout you want to check. If you want to check a press layout, you must as well define the minimum distance between the page boxes and the size of the crop box.

Possible fixes

PitStop can automatically change the page box layout so that it complies with the layout of your choice:

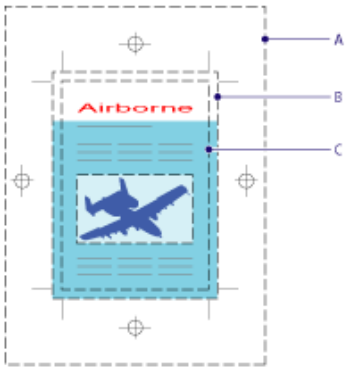
If you choose the **Screen Viewing Layout**, the crop box/media box will be derived from the first page box (out of the list below) that is present on the page. Use the **Up** and **Down** button to move the preferred page box to the top of the list. For example, if bleed box is the first item in the list, the crop box/media box will be derived from the bleed box if found in the PDF; if the bleed box is not found, the second page box in the list will be searched for, and so on.

If you choose the **Press Layout**, the trim box will be derived from the first page box (out of the list below) that is present on the page. Use the **Up** and **Down** button to move the preferred page box to the top of the list. For example, if bleed box is the first item in the list, and art box is the second, the trim box will be derived from the bleed box, if found; if there is no bleed box found, the trim box will be derived from the art box; if there is no art box, the third page box in the list will be searched for, and so on.

6.1.1. Page boxes

Overview

The illustration below shows the various types of page boxes.



A - Media box

B - Bleed box

C - Trim box

Media box

The media box is the largest page box. The media box corresponds to the page size (e.g. A4+, A5+, US Letter etc.) that you selected when you printed your document to a PostScript or PDF file. In other words, the media box determines the physical size of the media on which the PDF document is displayed or printed.

Bleed box

If you use bleed in your document, the PDF document should also have a bleed box. Bleed is the amount of color (or any other artwork) that extends beyond the edge of a page. You can use bleed to make sure that, when the document is printed, the ink will be printed to the edge of the page.

Trim box

The trim box indicates the final size of a document after printing and trimming.

Crop box

The crop box is the "page" size at which your PDF document is displayed in Adobe Acrobat. In normal view, only the contents of the crop box are displayed in Adobe Acrobat.

If the crop box is equal to the trim box, the finished page is what you will see in Adobe Acrobat. If the crop box is equal to the media box, you will see the whole page including registration and printer marks.

Art box

The last type of page box is the art box. It defines an area of the page (e.g. an image) that can be positioned in a page layout application.

The art box must always be smaller than the bleed box. However, the art and trim boxes may have the same dimensions.

6.1.2. Page boxes: example

Suppose you create a cover for a magazine in the following steps:

1. You decide that the size of the cover after printing and trimming will be A5 (148 x 210 mm). This will be the size of the trim box.
2. You are also using a background color which extends to the left, right and bottom edge of the page. To this end, you use 5 mm of bleed on both sides of the page and on the bottom. Consequently, the size of the bleed box will be 158 x 215 mm.
3. You place this artwork on a blank page in a desktop publishing program. The size of the blank page is 180 x 260 mm. This will become the crop box in Adobe Acrobat.
4. Finally, you print this file to a PostScript file (and create a PDF document of it later). When selecting a printer driver, you specify that the page size has to be A4 (210 x 297 mm), because printer and registration marks have to fit on the page. This will be the size of the media box.

6.1.3. Press layout

The press layout may have been set as follows in the Preflight Profile:

- The outer box must be the media box.
- The bleed box must lie inside or can be equal to the media box.
- The trim box must lie inside or can be equal to the trim box.
- The layout should have no crop box or the crop box should be equal to the media box.



Note: It is also possible for the different page boxes to coincide. For example, if the distance between the media box and the bleed box has been defined as 0 mm, they coincide. This is also allowed for press layout. Art boxes are not allowed in the document.

6.1.4. Screen viewing layout

The desired page box layout for documents that are intended to be viewed on-screen only, the requirements are:

- The page is defined solely by the crop box.
- If there is a crop box present, it should be the same size as the media box.
- No other press-specific page boxes should be present.

6.2. Position media box

Checks if the position of the media box is not at position 0,0.

The media box is the largest page box and defines the size of the physical medium on which the page will be printed or displayed. Some applications don't give the lower left 0,0 coordinates, but for example 100,100, which will cause problems when preflighting the file.

Possible fixes

PitStop can automatically move the lower left corner of the media box to the correct position.

6.3. Different page sizes

Checks whether all pages in a PDF have the same size.

If a PDF contains pages of different sizes, this may cause problems during the printing process.

The page size is based on the selected page box (See the option **Page size is defined by the (appropriate page box)** in the top left corner of this screen).

Possible fixes

If the pages have different sizes, you can automatically fix the issue by increasing or decreasing the size of the pages to match the size of the smallest or largest page in the document. Alternatively, you can determine a custom size, e.g. 21 cm by 29.7 cm.

Note that the unit displayed in your Preflight Profile (e.g. cm or pt) is set in the PitStop Pro Preferences (Units & Guides category) and can be changed there if needed.

You can also determine how the contents of the pages in your document will be moved (or scaled) to best fit their new page size, by choosing an option from the **Moving page contents to** list. If you choose the option **Anchor point**, a graphic appears in which you can click the small square and drag it to the desired position.

6.4. Different page orientations

Checks if all the pages in a PDF have the same orientation (portrait, landscape). A document that combines portrait and landscape pages may cause problems in certain workflows.



Note: This check is often used to detect whether Adobe Acrobat Distiller has automatically rotated pages while creating the PDF document.

Possible fixes

If not all pages have the same page orientation, you can enable the fix to change the page layout to either portrait, landscape or the orientation that is used most in the PDF.

6.5. Page size

Checks whether the pages in a document all have a particular size (taking into account a certain deviation, as specified in the Precision field).

If **Ignore page orientation** is selected (=default), the smallest value is considered the width and the largest value is considered the height. If not selected, the first value is considered the width and the last value is the height.

Possible fixes

Enable the option to automatically change the page size to the dimensions of your choice.

Note that the unit displayed in your Preflight Profile (e.g. cm or pt) is set in the PitStop Pro Preferences (Units & Guides category) and can be changed there if needed.

You can also determine how the contents of the pages in your document will be moved (or scaled) to best fit their new page size, by choosing an option from the **Moving page contents to** list. If you choose the option **Anchor point**, a graphic appears in which you can click the small square and drag it to the desired position.

6.6. Page is scaled

Checks whether the page scaling factor is set.

The maximum page size in Adobe Acrobat is 200 x 200 inches (approximately 5 x 5 metres). Adobe Acrobat 7.x (PDF 1.6) and later versions support page scaling factors, which extend the (virtual) page size to 15 000 000 x 15 000 000 inches (381 x 381 km). This means that you can create your original document on a specific scale, for example 1/100, and include a specific scaling factor for that page (100).

Possible fixes

You can apply a page scaling factor or remove it:

- If you **apply the page scaling factor**, it is actually removed and the page is scaled to compensate.
- If you **remove the page scaling factor**, the page scaling factor is not applied and the page is reverted to its original size.

For example, a page of 10 by 10 inches and a page scaling factor 2 will be displayed and printed as a page of 20 by 20 inches.

- If you **apply the page scaling factor**, the actual page size will become 20 by 20 inches.
- If you **remove the page scaling factor**, the page size will be at 10 by 10 inches again.



Note: The page scaling factor will not be applied when the page size (or objects on the edge of the page) would exceed the maximum page size supported by Adobe Acrobat. The Preflight Report lists the message: Failed to apply page scaling factor.

6.7. Empty page

Checks whether the document contains pages without content.

Additionally, you can specify that elements outside of a specific page box should be ignored. For example, if the page only contains registration marks (outside the trim box), it will not be considered empty, unless you select **Check only objects inside trim box**.

Possible fixes

PitStop can automatically remove all empty pages from the document.

6.8. Number of pages

Allows you to check:

- The exact number of pages in the document.
- Whether the number of pages in the document is odd or even.
- Whether the number of pages in the document is a multiple of a number of your choice.

Some workflows require a specific number of pages, e.g. a newspaper advertising flow might require documents to consist of one page only.

Possible fixes

PitStop can automatically add blank pages to your document until it has the required number of pages.

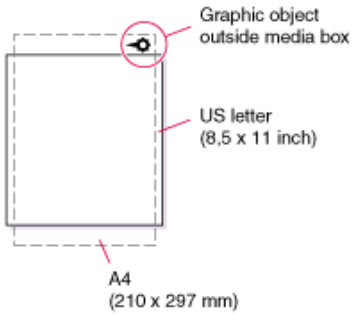
- To add pages to the document until the **total number of pages** equals the value you provide, select **Until total number of** and enter the total number of pages.

- To add pages to the end of the document until the total page count reaches a multiple of the value you provide, select Until multiple of and enter a value. For example, to make the total number of pages even, enter "2".

6.9. Objects outside page box

Allows you to check if the document contains one or more objects (graphics, text, etc.) that lie completely outside the specified page box.

This typically happens if the PDF is modified after the document creation, for example if the size of the media box is changed. In the example below, the media box was changed from A4 to US Letter format, without moving or scaling the page contents.



Possible fixes

PitStop can automatically remove all objects that lie outside the specified page box.

6.10. Page size: fit to columns / fit to rows

Checks whether any of the pages in the PDF document have a:

- Horizontal page size (i.e. page width) that is not a multiple of a specific column width, taking into account the column spacing.
- Vertical page size (i.e. page height) that is not a multiple of a specific row height, taking into account the row spacing.

This allows you to ensure that the page size of your document fits your column and/or row layout.

Possible fixes

Enable the option to automatically scale the page width and/or page height.

Note that the unit displayed in your Preflight Profile (e.g. cm or pt) is set in the PitStop Pro Preferences (Units & Guides category) and can be changed there if needed.

6.11. Safe type zone

Allows you to search the document for any objects (e.g. text or graphics) that overlap with a specific page box, or with a specific page box minus a specific margin. This page box defines the "safe type zone".

You should not place any text or objects in the safe type zone (unless these objects are intended as bleed), because the objects in this area may print partly or not at all. Fore more details, refer to *Safety box and safe type zone* on page 28.



Tip: You can also use this check to make sure that the contents of the pages are not too close to the binding, making it hard to read. To this end you would check for elements inside the trim box, minus a specific margin on the binding side.

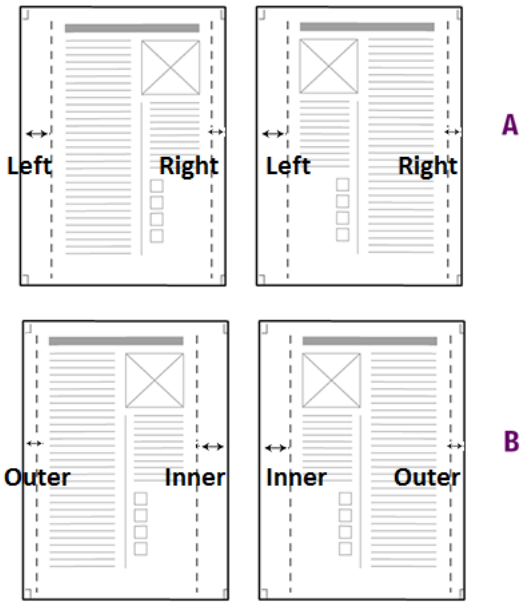
How to proceed

1. Define the safe type zone as one of the page boxes.
2. Optionally define values for the left, right, top and/or bottom margin.

3. To make sure that even and odd pages are mirrored, select **Mirror horizontal margins**. This is recommended if the left and right margin have a different size.

Figure 1: Mirror horizontal margins illustrated

***A** = **Mirror horizontal margins** is not selected. Margins of odd and even pages are the same; the left margin is larger than the right margin.*
***B** = **Mirror horizontal margins** is selected. Odd and even pages are mirrored; the outer margin is smaller than the inner margin.*

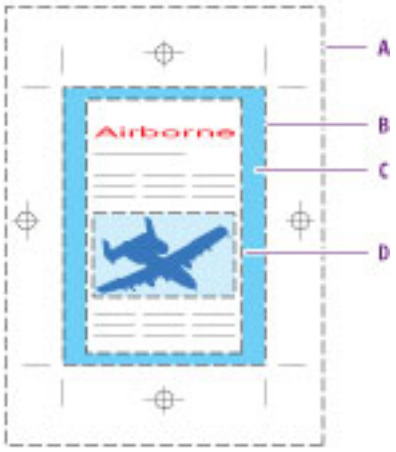


4. To only check for text in the page safe type zone, select the **Check text only** checkbox.

Possible fixes
No automatic fix provided.

6.11.1. Safety box and safe type zone

The safety box is not really a page box in the strict sense of the word: it is not a page box type which is stored in the PDF document. The safety box is a visual area which is a bit smaller than the trim box. It contains all text, or other objects, which must always be visible on the printed and finished document. The area between the safety box and the trim box is called the safe type zone: this is the zone where you must not place any text or objects, unless these objects are intended as bleed.



A - Media box

B - Trim box

C - Safety type zone

D - Safety box

The safety box is intended to compensate for incorrect finishing:

- The pages can be cut slightly off the trim marks and a bit more to the "inside" of the pages. Text or objects would then be cut off by accident.
- The pages can be punched and the punching holes can perforate the text or objects which are too close to the edge of the page.

6.12. Bleed

Allows you to check whether the document contains objects situated close to the page edge without enough bleed.

Bleed is the amount of color (or any other artwork) that extends beyond the edge of the page. For printing, (a small) bleed is used to make sure that the ink will be printed to the edge of the page after trimming, even if the page has been cut slightly off the trim marks. Objects that are too close to the page edge may be cut off when printed.

How to proceed

1. In the first section, specify which part of the trim box should be checked by specifying the distance to the trim box. Select **Mirror horizontal margins** if the margins should be swapped for even and odd pages; in that case you specify outer and innner margin instead of left and right margin.
2. In the second section, specify the desired bleed area (margin to the trim or bleed box). Enable **Mirror horizontal margins** as required.
3. If you want to check subpaths of compound paths separately, select **Treat subpaths of compound paths individually**.

Possible fixes

PitStop can automatically enlarge all rectangular objects close to the page edge on all the pages in your PDF document.

7. Checks on Transparency

7.1. Transparency (with spot color/with overprint)

Allows you to check whether the document contains objects with transparency.

There are three different checks:

- **Transparency**: checks if the PDF contains transparent objects.
- **Transparency with spot color**: only checks if the PDF contains transparent obects that use a spot color.
- **Transparency with overprint**: only checks if the PDF contains transparent obects that are set to overprint.

Transparency can cause some problems if you view the document in Adobe Acrobat 4.0 or earlier: transparent objects can be rendered incorrectly.

A transparent layer can also cause problems when you transpose the PostScript code of your PDF document to the halftone information of your printer (the "ripping").

A typical example is saving graphics with transparent elements as PDF compatible with Acrobat 5.0 in Adobe Illustrator 9.0 or Adobe InDesign 2.0. In Adobe Acrobat 4.0, transparent objects in your PDF document are displayed and printed opaque, but transparency is not removed. If you open the same PDF document in Adobe Acrobat 5.x, the transparent objects will look (and print) fine again.

Possible fixes

PitStop can automatically remove the transparent objects found in the document.

If you searched for transparency with spot colors, you can also set the found objects to overprint; if you searched for transparency with overprint, you can set the found objects to overprint.

7.2. No blending color space

Allows you to check whether or not the PDF has a blending color space.

When Adobe Acrobat interprets transparent objects and attempts to create a preview of the flattened artwork, it needs to do so using a single color space for all the items involved in the transparency group. This color space is called the **blending color space**.

The entire page is also considered a transparency group, and needs to be assigned a blending color space as well (it is used when individual artwork does not have a blending color space). This is the **page blending color space**.

Possible fixes
If no color page is present, you can automatically set the page blending color space to CMYK, Gray or RGB as required.

8. Checks on Color

The following checks allow you to check color-related properties of the PDF.

8.1. Ink coverage

Allows you to check the ink coverage, i.e. the combination of the four components of the CMYK color used in the PDF. You can perform either a basic object or a full page check:

- A **basic object** check allows you to inspect the total amount of ink of an object, *ignoring* overlap, overprint, transparency, masking etc. You can either include or exclude images from this check.

- A **page** check allows you to inspect the full page *taking into account* all objects as well as overprint, transparency, masking, ...

This check helps you to limit the total ink coverage. A high ink coverage is undesirable because:

- Ink pigments are by nature imperfect and the resulting colors are likely to be less sharp. For example, black created through combining 100% cyan, magenta and yellow appears as muddy brown when printed.
- High ink coverage results in oversaturation of the printing paper. Large amounts of ink are applied to the page, which is likely to stretch, warp or tear. In addition, the ink dries more slowly.
- Using unnecessary amounts of ink adds to the printing costs.

Ignore named separations

As of PitStop 2017, you can exclude certain separations from the ink coverage check as required. That is useful if your artwork contains dielines, barcode areas, color strips, etc. that should not be taken into account when calculating the ink coverage.

Proceed as follows:

1. Create a restricting Action List that excludes the separation(s) you want to ignore (e.g. the separation used for the dielines). Note that a number of default restricting Action Lists are shipped with PitStop; you may want to re-use one of those.

   The restricting Action List may contain several conditions/select Actions, as in the example below.
2. Enable the ink coverage check and make sure to limit this check to the restricting Action List from point 1.

Example of a restricting Action List:

```
Select spot color  <!- name of the separation, e.g. gold ->
NOT
Select odd pages
AND
```



Note: A restricted ink coverage check works on separations, not on objects. It also on works on separations in a DeviceN colorspace (multichannel images).

How to configure this check

1. Select the appropriate option: basic objects or page check.
2. In case of a basic object check, select the **Include images** checkbox as required.
3. If very small areas with a higher ink coverage may be ignored, enter a value in the **Ignore areas smaller than** box. For example, if you enter '1 cm', areas smaller than 1cm2 exceeding the maximum ink coverage will not be reported.
4. Determine the page box that should be checked (full page check) or in which the objects should be checked (basic object check).

Possible fixes

No automatic fix provided

8.2. Color: RGB

Allows you to check if a document contains RGB colors.

RGB colors are ideal for on-screen viewing but usually undesirable in a print production workflow. They have to be converted according to the appropriate color model.

Possible fixes

Automatically convert all RGB colors to CMYK.



Note: If you wish to reliably convert colors in your PDF documents, it is essential to use **color management**. Refer to *Color management* on page 32.

8.2.1. Color management



Note: If you wish to reliably convert colors in your PDF documents, it is essential to use **color management**.

You can enable color management in PitStop Pro:

- By selecting **Enable color management** in the **Color Management** category of your Preflight Profile and specifying the appropriate ICC color profiles to use whenever conversions are made during preflighting and PDF editing.

- By enabling color management in the PitStop Pro preferences:

  1. Open the Enfocus PitStop Pro Preferences dialog:

     - On Windows, choose **Edit** > **Preferences** > **Enfocus PitStop Pro Preferences...**.

     - On Mac OS, choose **Acrobat** > **Preferences** > **Enfocus PitStop Pro Preferences...**.

  2. Select the **Color Management** category.
  3. Select the appropriate Preset. Note that you can double-click the Presets, to edit or view the content. You can also create your own Preset as required. Refer to the PitStop Pro Reference Guide on the Enfocus website.
  4. Click **Apply**.

8.3. Color: Calibrated RGB or gray

Allows you to check if the document contains calibrated gray or calibrated RGB.

The reproduction of a color or a grayscale slightly differs from an input device (e.g., a scanner or a digital camera) to an output device (e.g., a computer screen). That is why the colors on screen can be different from the colors produced when you print the PDF on an output device.

To prevent this, **calibrated colors** contain information on how each device (e.g., a color screen) compensates its standard settings in order to faithfully reproduce colors.

For example, the calibrated color mentions that screen X has to add 5% of red to obtain the intended color. In this case, the input and output devices of the workflow as well as the display screen of the document are calibrated.

Calibrated colors are usualy unwanted, unless you work in a totally calibrated workflow.

Possible fixes

Automatically convert all RGB colors to CMYK.



Note: If you wish to reliably convert colors in your PDF documents, it is essential to use **color management**. Refer to *Color management* on page 32.

8.4. Color: Impure gray

Allows you to trace if the document contains RGB-based gray or impure CMYK gray colors.

Shades of gray can be reproduced on-screen by combining an identical percentage of red, green, and blue. However, the print equivalent, produced by mixing identical amounts of cyan, magenta, and yellow inks, may result in a muddy brown color due to impurities in the inks used.

This undesired effect can be avoided by using the gray color space or by only using the black component for CMYK colors. This way, shades of gray are produced by adding more or less black ink, and without using any other inks.

Possible fixes

Automatically replace instances of impure gray with real gray.



Note: If you wish to reliably convert colors in your PDF documents, it is essential to use **color management**. Refer to *Color management* on page 32.

8.5. Color: Impure black

Allows you to check if the document contains RGB-based black.

Black can be reproduced on-screen by assigning a very low value to the red, green, and blue channels. The equivalent CMYK black may not be accurate and uses unnecessary CMY colored

inks to produce a black color. “Real” black, reproduced in print only by black ink, is more desirable.

Possible fixes

Automatically replace instances of impure gray with real black.

Note: If you wish to reliably convert colors in your PDF documents, it is essential to use **color management**. Refer to *Color management* on page 32.

8.6. Color: Lab

This check enables you to identify all the occurrences of Lab colors.

The **Lab color space** (CIE) is a device-independent color space. It is used as a reference point by the color management systems. If Lab colors are used as a reference, the color management system can compare the color gamuts from the devices. The Lab color space is broad enough to contain all the colors viewable to the human eye.

Note: For more information on the color gamuts and the color spaces, see the Adobe Acrobat Help (in the section Producing Consistent Color > About color models), or consult one of the many other industry-wide resources available.

Possible fixes

Automatically replace lab colors to their CMYK equivalents.

Note: If you wish to reliably convert colors in your PDF documents, it is essential to use **color management**. Refer to *Color management* on page 32.

8.7. Color: Indexed

Allows you to check whether the document contains indexed colors.

The **indexed color** space uses no more than 256 colors, and is as such particularly suited for use in Web applications. Images are typically converted to indexed color mode in order to decrease their file sizes. When an image is converted to indexed color, a color lookup table is created, in which the colors that were used in the image are stored and indexed. Using an indexed color table lets you reduce the file size of an image while maintaining the visual quality that you need.

Possible fixes
No automatic fix provided

8.8. Number of separations

Allows you to check the number of separations in a document.

You can exclude certain colors as required, for example process colors (all of them or just a subset), spot color 'All', ...

In offset printing, one plate is used for each of the CMYK colors (cyan, magenta, yellow, black). As a result, a document's colors need to be **separated** to prepare it for offset printing. Each of the plates is inked with one color, and printed in register with the others, so that together the four layers of color combine to produce the original artwork. Additional separations (beyond the CMYK plates) can be caused by the presence of spot colors in the document.

The desired number of separations in a document depends on the intended printing method:

- **CMYK:** The number of separations must be equal to 0 (the four CMYK plates and the spot color All are not taken into account). If this is not the case (i.e. a spot color or RGB color separation was detected), an error will be logged in the report, saying there are more colors than cyan, magenta, yellow and black.
- **Spot color:** One or more spot colors will be used. In other terms, there must be more separations than 0 (not counting the CMYK separations and the spot color All).

Possible fixes
No automatic fix provided.

8.9. Spot color

Allows you to check if the document contains spot colors, possibly only within a specific page box (see *Page boxes* on page 21 for more information).

Spot colors are printed with special premixed inks, used instead of, or in addition to, CMYK inks (also known as process colors). Spot color printing requires a separate plate for every spot color, whereas process color printing only uses four plates, one for each of the four basic CMYK colors.

Spot colors are especially well suited for offset printing, but should be used with caution when creating documents for digital output or monitor display.



Note: Spot colors are also more expensive to print.

Possible fixes

You can automatically convert all detected spot colors to CMYK.

8.10. Spot color All

Allows you to check if the document contains spot colors, possibly only within a specific page box (see *Page boxes* on page 21 for more information).

Spot colors are printed with special premixed inks, used instead of, or in addition to, CMYK inks (also known as process colors). Spot color printing requires a separate plate for every spot color, whereas process color printing only uses four plates, one for each of the four basic CMYK colors.

Spot colors are especially well suited for offset printing, but should be used with caution when creating documents for digital output or monitor display.

Note: Spot colors are also more expensive to print.

Possible fixes

You can automatically convert all detected spot colors to CMYK.

8.11. Spot color: bad suffix

Allows you to check if the document contains spot colors that are identical except for their suffix.

The suffix in a spot color name indicates whether, for example, the color is coated or uncoated. Some workflows use only coated colors, others use only uncoated colors, so all spot colors need to use the correct suffix:

- To make sure that the correct spot color is used.
- To make sure that two spot colors that have the same name, but different suffixes, are printed on the same plate instead of making 2 plates.

Color suffixes overview

Suffix	Meaning
CV	Computer video (electronic simulation)
CVC	Computer video - coated
CVU	Computer video - uncoated
CVS	Process coated (old; now C)
CVP	Solid to process (old; now PC)
C	Coated paper
U	Uncoated paper
M	Matte paper
EC	Euro process simulation, coated paper
PC	Process simulation, coated paper
CP	Coated paper, process simulation (e.g. PANTONE 185 CP (used in PANTONE+ COLOR BRIDGE COATED)
UP	Uncoated paper, process simulation (e.g. PANTONE 185 UP (used in PANTONE+ COLOR BRIDGE UNCOATED)
HC	Hexachrome coated

Possible fixes

You can automatically change the offending spot color names to use the correct suffix.

For example, suppose you configure the Preflight Profile to detect all colors with suffix different from C (=Coated). If a spot color with suffix U (=Uncoated) is detected, its suffix will automatically be changed to C.

8.12. Spot color: ambiguous

Allows you to check if the document contains ambiguously defined spot colors.

Two spot colors are considered to be ambiguously defined when they have:

- The same name and different CMYK values, for example when you have integrated a graphic with a spot color from a drawing program in a DTP program, in which you also used this spot color but with different CMYK values.
- Different names and the same CMYK values, for example after combining two PDF documents that both use the company logo's spot color but under different names, such as "company blue" vs. "logo blue".

The danger of these ambiguous definitions lies in the fact that:

- These spot colors will appear as differing colors on screen or when printed with process colors, but they will print as one and the same color when printed with spot color inks (if they have the same name and different CMYK values).
- These spot colors will appear as the same color on screen, but will be separated onto two spot color plates using the same color (if they have different names and the same CMYK values).

Possible fixes
No automatic fix provided.

8.13. Spot color: alternate

Allows you to check if the PDF contains spot colors with an alternate color space definition other than CMYK or Gray.

The **alternate color space** is used as a 'backup' color space when the original spot color is not available on a specific output device, and when converting the spot color into CMYK.

If this alternate color space is defined as anything other than CMYK or plain gray, the output results may not be up to standards.

Possible fixes
You can automatically convert the offending alternate color space to CMYK.

8.14. NChannel

Allows you to detect objects for which the NChannel color space has been used. NChannel is an extension of the DeviceN color space, a multi-component, device-dependent color space. This means that you can use color components, for example multiple spot colors, on top of the traditional ones: RGB or CMYK.

NChannel is supported from PDF 1.6 (Acrobat 7.x) onwards, which implies that colors can print or display incorrectly if the PDF document is opened in earlier versions of Adobe Acrobat. The NChannel information, however, will be maintained if you edit the PDF document in one of these

earlier versions of Adobe Acrobat: the colors will be displayed correctly again if you open and view the PDF document in Acrobat 7.

Possible fixes
You can automatically convert the colors from the NChannel color space back to DeviceN. DeviceN is supported as of PDF 1.3/Acrobat 4.

8.15. ICC based

Allows you to detect all occurrences of ICC based colors.

Every input and output device reproduces color and grayscales in a slightly different way. As a result, the colors you see in a PDF file on your screen may not match the colors produced when you print the PDF to an output device.

Several options are available to avoid this problem of device dependency, one of which is using **ICC-based colors**.

These colors are defined relative to the reference CIE Lab color space. This type of colors is device-independent and sometimes also called "device neutral".

Possible fixes

Automatically replace lab colors to their CMYK equivalents.

Note: If you wish to reliably convert colors in your PDF documents, it is essential to use **color management**. Refer to *Color management* on page 32.

8.16. ICC: wrong profile text/line art or wrong profile images

Allows you to check if the document contains text, line art or images without a ICC profile tag or without the appropriate ICC profile tag.

Note: The appropriate ICC profile is determined by the settings in the category Color Management of the Preflight Profile. If this category is not enabled in the Preflight Profile, and the preflight was performed by Enfocus PitStop Server, the settings in the **Hot Folder** are applied. Otherwise, your Enfocus PitStop Pro or Enfocus PitStop Server **Preferences** are used.

For more information, refer to *About ICC profiles* on page 39.

Possible fixes

Automatically tag the detected objects with the appropriate ICC profile.

8.16.1. About ICC profiles

Every input and output device reproduces color and grayscales in a slightly different way. As a result, the colors you see in a PDF file on your screen may not match the colors produced when you print the PDF to an output device.

ICC color profiles are used to avoid this. An ICC color profile is a mathematical description of the color space used by a specific device. In other words, the color profile describes how the colors produced by the device relate to the reference CIE LAB color space (a device-independent color space).

As such, they allow you to set up a workflow in which all devices use color management to compensate for their individual color reproduction characteristics, based on the information in the ICC profiles.

8.17. ICC: default color spaces

This check allows you to verify whether (unwanted) default color spaces are used in the PDF document.

Objects in a PDF document, i.e. text, line art or images, can be tagged with an ICC profile. This is called using ICC profiles "at object level", which is quite common. However, ICC profiles can also be defined at a "higher level", such as pages. For example, a page in a PDF document can contain RGB images and it can have an RGB ICC profile assigned "at page level". In this case, the RIP will apply the ICC profile to all RGB objects on that page. This mechanism is referred to as "default color spaces".

If you do not have a color-managed workflow, ICC profiles are unwanted because they may cause inconsistent color reproduction.

Possible fix

Enable the **Remove default color spaces**.

8.18. Pattern or shading

Allows you to check if the document contains patterns and shadings.

Patterns and smooth shading are features that were introduced in PDF 1.3 and are supported by Adobe Acrobat 4.x or later.

Certain output devices may have problems correctly interpreting patterns and/or shadings.

Because they represent complex mathematical functions, shadings and patterns can cause problems during color conversions (e.g. converting an RGB object that contains a shading to the CMYK color space will not work in PitStop Pro 6.x).

Note: Shadings made out of line-art, as well as images that appear shaded but do not use the shading object defined in the PDF format specifications, will not be detected.

Possible fixes

No automatic fix provided

8.19. Wrong color tints

Allows you to check the document for occurrences of colors or tints of colors other than those defined in its "Color Remap" settings.

In some workflows, the number of colors that can be used may have been limited to a very specific set of defined CMYK or spot colors (or tints of those colors).

Possible fix

You can automatically "snap" the detected colors to the target colors, meaning that they will be remapped to the nearest allowed color.

For example, if you are working on a two-color job that can contain only a specific tint of magenta and black, you can remap all colors that contain magenta to the specific tint you require.

Note: This may result in drastic visual changes to the document.

8.20. Wrong spot color

Allows you to check if the document contains a particular (unwanted) spot color.

Note: When typing the name of a spot color, take care to use the exact case, punctuation and suffix.

Possible fix

You can remap the unwanted spot color in one of the following ways:

- You can convert it to its CMYK equivalent (if available).
- You can specify CMYK values to remap the spot color to the CMYK color of your choice.
- You can specify CMYK values to remap the spot color to the CMYK color of your choice and save it as a new spot color.

8.21. Not suited for viewing

Allows you to check whether any colors other than gray or RGB were used in the PDF document. These types of colors are best suited for on-screen viewing.

Possible fix

You can automatically convert the detected colors to gray and RGB.

8.22. Not suited for calibrated display

Allows you to check if the document contains colors other than calibrated gray or RGB.

Calibrated colors contain information about the exact way each device (i.e. a specific color monitor) compensates its standard settings in order to reproduce the colors correctly (for example, the calibrated color states that monitor X needs to add 5% surplus red color to achieve the desired color).

Calibrated colors are only useful when applied in a fully calibrated workflow. In this scenario, all the input and output devices used in the workflow, as well as the monitors on which the document is displayed, are calibrated.

Possible fix

You can automatically convert all detected colors to calibrated gray and calibrated RGB.

8.23. ICC: unwanted profile text/lineart or image

Allows you to check if the document contains text, line art or images with an ICC profile tag. In some workflows, this is undesirable.

For more information, refer to *About ICC profiles* on page 39.

Possible fixes

Automatically remove the detected ICC profile.

9. Checks on Rendering

9.1. Custom transfer curve

Allows you to check if the document contains (custom) transfer curves. You can differentiate between transfer curves for text or line art and images as required.

Transfer curves are used for creative use and artistic effect and to correct for the characteristics of a specific, maybe poorly calibrated, output device.

For example, a file that is intended for output on a particular imagesetter may contain transfer functions that compensate for the dot gain inherent with that printer. Dot gain is the phenomenon that occurs when a dot — the smallest printed unit — is transferred to film, or printed on paper. The size of the dot may increase or decrease (dot loss) slightly as a result of either of these processes.

In a specific workflow, you may want to remove transfer curves prior to printing. In another scenario you may need to apply a transfer curve to all objects in the document to compensate for the dot gain of your printer.

Possible fixes

You can either remove or apply the detected transfer curves.

9.2. Custom halftone

Allows you to check if the document contains custom halftone functions. You can search for all custom halftones, or only for the custom halftones used for text or line art, or for images.

A **custom halftone function** is used to compensate for the dot gain or dot loss that occurs when an image is transferred to film. Also, halftone functions (also known as "halftone transfer curves") are used when transferring the document to film in order to make up for the dot gain or loss associated with a specific printing device.

Dot gain is the phenomenon that occurs when a dot — the smallest printed unit — is transferred to film, or printed on paper. The size of the dot may increase or decrease (**dot loss**) slightly as a result of either of these processes. Halftones are mostly used for screening frequency and angles. They can cause a problem because they are device-specific.

Remember that everything pertaining to halftones is, by definition, device-dependent.

In general, when a PDF document provides its own halftone specifications, it **sacrifices portability**.

Associated with every output device is a default halftone definition that is appropriate for most purposes. Only relatively sophisticated documents need to define their own halftones to achieve special effects.

Note: You should note that halftone curves, when defined, overrule general transfer curves in your document. This is why they are generally undesirable: they may lead to unpredictable printed output.

Possible fixes

You can automatically remove the detected custom halftones.

9.3. Custom UCR or Custom BG

Allows you to check if the document contains custom undercolor removal definitions (UCR) or black generation curves (BG). You can search for all instances of UCR or BG, or restrict the check to either text or line art, or images.

Undercolor removal (UCR) is the process of removing large percentages of cyan (C), magenta (M), and yellow (Y) ink prior to printing in order to achieve a clearer black color in print, and to save on color inks.

Black generation (BG) is the process of adding black ink to CMY-generated black and gray, in order to achieve a clear black color and to save valuable color ink.

Possible fixes

You can remove the detected instances of UCR or BG.

9.4. Rendering intent

Allows you to check if the document contains a rendering intent.

A **rendering intent** is a translation method used to convert colors between different devices. Each output device has a different color range that it can reproduce. In order to conserve the appearance of an image across devices, the colors that cannot be reproduced by a specific output device (i.e. your color printer) need to be remapped to the nearest matching color that does lie within the output device's color range.

This remapping is performed according to a specific method called a rendering intent. In addition, rendering intents can also be defined to deal with different types of graphics, to achieve the best possible results for a particular type of image, on a particular output device.

In some workflows, you may want to remove all rendering intents to ensure a consistent output. In other workflows, you may want to to change the rendering intent. Refer to *Types of rendering intents* on page 44.

Possible fixes

You can automatically remove the detected rendering intent.

9.5. Wrong intent text/line art or images

Allows you to check if the document contains a particular rendering intent for text, line art and/or images in the PDF document.

A **rendering intent** is a translation method used to convert colors between different devices. Each output device has a different color range that it can reproduce. In order to conserve the appearance of an image across devices, the colors that cannot be reproduced by a specific output device (i.e. your color printer) need to be remapped to the nearest matching color that does lie within the output device's color range.

This remapping is performed according to a specific method called a rendering intent. In addition, rendering intents can also be defined to deal with different types of graphics, to achieve the best possible results for a particular type of image, on a particular output device.

In some workflows, you may want to to change the rendering intent. Refer to *Types of rendering intents* on page 44.

Possible fixes

You can automatically change the detected rendering intent to another type as required.

For example, to make changes to all the images that use a rendering intent other than relative colorimetric, enable the **Wrong intent: images check**, and choose **is not** and **relative colometric**.

9.5.1. Types of rendering intents

The following types of rendering intents can be defined in a PDF document:

- **Default:** the intent is specified in the **output device** rather than in the PDF document. For many output devices, the default intent is Relative Colorimetric.
- **Perceptual:** maintains the **relative color values** among the original pixels as they are mapped to the destination gamut. This method preserves the visual relationship between colors, although the color values themselves may change.
- **Saturation:** maintains the **relative saturation values** of the original pixels. This method is most suitable for business graphics, where the exact relationship between colors is not as important as having bright saturated colors.
- **Relative Colorimetric:** remaps the white point of the source space to the white point of the destination space.
- **Absolute Colorimetric:** disables the matching of white and black points when converting colors. This method is not generally recommended, unless you must preserve signature colors, such as those used in trademarks or logos.



Note: In all cases, intents may be ignored or overridden by color management operations that occur subsequently to the creation of the PDF file.

For more information about rendering intents, see the Adobe Acrobat Help.

9.6. Halftone phase

Allows you to check if the document contains (custom) transfer curves. You can differentiate between transfer curves for text or line art and images as required.

Transfer curves are used for creative use and artistic effect and to correct for the characteristics of a specific, maybe poorly calibrated, output device.

For example, a file that is intended for output on a particular imagesetter may contain transfer functions that compensate for the dot gain inherent with that printer. Dot gain is the phenomenon that occurs when a dot — the smallest printed unit — is transferred to film, or printed on paper. The size of the dot may increase or decrease (dot loss) slightly as a result of either of these processes.

In a specific workflow, you may want to remove transfer curves prior to printing. In another scenario you may need to apply a transfer curve to all objects in the document to compensate for the dot gain of your printer.

Possible fixes

You can either remove or apply the detected transfer curves.

10. Checks on Font

10.1. TrueType font

Allows you to check if the document contains TrueType fonts.

TrueType fonts are widely used and are integrated in almost all desktop office software applications for the Windows and Mac operating systems. However, some professional prepress service providers are reluctant to support TrueType fonts, because they need to be converted to PostScript outlines in order to print well on PostScript devices, which may affect the quality of the resulting font.

You can restrict the check to:

- 1-byte fonts (**Ignore composite fonts**), and/or
- Fonts that have **not** been embedded as OpenType (**Ignore fonts embedded as OpenType**) (as only embedded TrueType fonts are supported in PDF)

Possible fixes

No automatic fix provided.

10.2. Type 1 font

Allows you to check if the PDF contains Adobe Type 1 fonts.

Adobe Type 1 fonts were originally developed by Adobe Systems for use in **PostScript** printers. Adobe Type 1 fonts are outline fonts. They use lines and cubic Bézier curves to define letter shapes or "glyphs". A "glyph" is the shape in a font that is used to represent a character code on screen or paper.

Being outline fonts, Type 1 fonts are scalable to almost any size. They remain sharp and smooth on any platform and in print, and their legibility remains good, even when printed at small point sizes on low-resolution laser printers.



Note: Adobe Type 1 fonts are commonly used in professional publishing environments and are supported by most high-end output devices, because most of these devices use PostScript as their page description language.

You can restrict the check to:

- 1-byte fonts (**Ignore composite fonts**), and/or
- Fonts that have **not** been embedded as OpenType (**Ignore fonts embedded as OpenType**)

Possible fixes

No automatic fix provided.

10.3. Type 3 font

Allows you to check if the document contains Adobe Type 3 fonts.

The **Adobe Type 3 fonts** are mostly ornamental fonts with complex shapes and fills. They sometimes cause printing problems.

Note: Most RIPs that are in use today can interpret Type 3 fonts correctly. However, on some older RIPS, the use of Type 3 fonts may cause problems.

Possible fixes

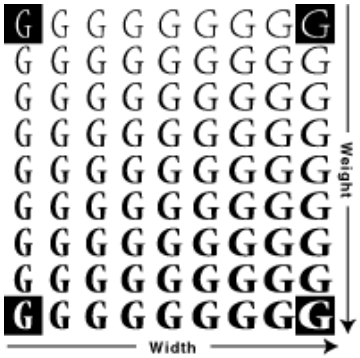
No automatic fix provided

10.4. Multiple Master font

Allows you to check if the document contains Multiple Master fonts.

Multiple Master fonts are an extension of the Type 1 font format. Their particularity is that you can use e.g. Adobe Type Manager to create variants of a standard font (i.e. the "Master" font).

These variants can be created by modifying the font along different **design axes** (e.g. weight, width,...), between the fixed extremes or "Masters" at the end of each design axis.



Typically, Multiple Master fonts have two design axes, which require four masters. These masters can be considered the cornerstones of the matrix.

Note: You can recognize a Multiple Master font by the double "M" in its name, e.g. "TektoMM_308_wt_564_wd".

Possible fixes

No automatic fix provided

10.5. City font

Allows you to check if the document contains City fonts.

City fonts are derived from bitmap fonts. Examples of City fonts are Geneva or Chicago. On the Mac OS, they are sometimes used as substitution fonts when a specific font is not found on the system.

Note: It is generally not recommended to use this kind of fonts because they might not be up to quality standards.

Possible fixes

No automatic fix provided.

10.6. Composite font

Allows you to check if the document for the use of composite fonts, and these may be embedded as TrueType (TT) or as Type 1 (T1) font.

Composite fonts (also called "double-byte" fonts) enable you to display special characters of foreign languages, e.g. Asian languages. They are also called double-byte fonts because every character is determined by 2 bytes (16 bits). Double-byte characters may not always be supported in a later stage of the PDF workflow.

You can restrict the check to:

- 1-byte fonts (**Ignore composite fonts**), and/or
- Fonts that have **not** been embedded as OpenType (**Ignore fonts embedded as OpenType**) (as only embedded TrueType fonts are supported in PDF)

Possible fixes

No automatic fix provided.

10.7. Font from Vendor

Allows you to check whether all the fonts used in the document were procured from the same vendor. This allows you to trace fonts that you are not licensed to use.

Possible fixes

No automatic fix provided.

10.8. Font Name

Allows you to check if the document contains a particular font.

Tip: When entering the font name, make sure to use the correct hyphenation, capitalization and spelling!

Possible fixes

Automatically replace the detected font with another one.

Note:

- Remember that changing the font in a PDF document may result in severe visual changes, as the text may no longer fit into the intended layout.
- You can only replace the font with fonts that are available on your system.

10.9. Not embedded

Allows you to check the embedding of the fonts in the document. Fonts can be:

- Embedded
- Embedded as a subset
- Only embedded when they cannot be emulated.

Embedding fonts in a PDF document means that every character of this font is copied and stored in the PDF document. This is useful if you create PDF documents to be displayed on different systems and to be printed on different devices: these are often system that do not contain exactly the same fonts. Also, if a font has been embedded, you can still edit the text in the PDF file that uses the font in question, even though the font has not been installed on your computer.

Note: Starting in Adobe Acrobat 6.0 and PitStop Pro 6.0 and later, you can only edit text using a font that is installed on your system, regardless of its embedding.

Embedding a font as a **subset** means that only those characters of the font that are actually used in the text are embedded.

Some fonts can be **emulated** by Adobe Acrobat for on-screen viewing. This means that if the font is unavailable on your system Adobe Acrobat can re-create the font visually, even though it has not been embedded. If you are certain the document only needs to be viewed on-screen, and will not be printed, fonts that can be emulated do not need to be embedded.

Note: Embedding one entire standard font increases PDF file size by approximately 30k to 40k for Type 1 fonts, and more for TrueType fonts.

How to proceed?
Select the appropriate option:

- **Ignore 14 standard PDF fonts**: the 14 fonts that are automatically installed with Adobe Acrobat are not taken into account by the Preflight Profile.
- **Ignore fonts that can be emulated**: all fonts that can be emulated by Adobe Acrobat for on-screen viewing are not taken into account by the Preflight Profile.
- **Ignore fonts outside (page box)**: fonts used only for text that lies outside the page box of your choice (i.e. that will not be visible in print anyway) are ignored by the Preflight Profile.

Possible fixes

You can embed the detected fonts, either completely or as a subset.

10.10. Embedded OpenType

Allows you to check whether or not the embedded fonts in the document are OpenType fonts.

OpenType is a font file format which has been jointly developed by Adobe Systems Inc. and Microsoft Corporation. It is an extension of the TrueType format: OpenType fonts can contain TrueType but also Adobe Type 1 font data. This means that you can have an OpenType font based on:

- An Adobe Type 1 font. The file name of such a font has the suffix .otf
- A TrueType font. This font still has the .ttf file name suffix

In PDF files, an OpenType font can only appear as an embedded font. So if you are using a Type 1-based OpenType font, you can embed it as Type 1 or as OpenType. Similarly, TrueType-based OpenType fonts can be embedded as TrueType or as OpenType.

OpenType font embedding is a new PDF 1.6 feature, which implies that it might not be supported by the rest of the workflow for the PDF document. For example, earlier versions of Adobe Acrobat may not be able to display the text in OpenType fonts correctly or printing errors can occur.

For more information about OpenType, see:

- *www.adobe.com* and search for OpenType
- *www.opentype.org*

Possible fixes

You can immediately unembed the detected embedded fonts that are OpenType.

10.11. Embedded completely/subset

Allows you to check if the fonts in the document were embedded completely or as a subset.

Embedding fonts in a PDF document means that every character of this font is copied and stored in the PDF document. This is useful if you create PDF documents to be displayed on different systems and to be printed on different devices: these are often systems that do not contain exactly the same fonts.

Also, if a font has been **completely embedded**, you can still edit the text in the PDF file that uses the font in question, even though the font has not been installed on your computer.

Note: Starting in Adobe Acrobat 6.0 and PitStop Pro 6.0 and later, you can only edit text using a font that is installed on your system, regardless of its embedding.

Embedding a font as a **subset** means that only those characters of the font that are actually used in the text are embedded. This reduces the file size by not including superfluous font information. Moreover, you may not want to embed composite fonts completely, because they may contain several thousands of characters and the majority of them will not be used anyway.

Note: Embedding one complete standard font increases PDF file size by approximately 30k to 40k for Type 1 fonts, and more for TrueType or composite fonts.

Possible fixes

You can immediately change the way the fonts are embedded:

- If **subset** fonts are detected, you can have PitStop embed the font **completely**.
- If the embedded font is **complete**, PitStop can **subset** the font as required.

10.12. Embedded completely for Composite

Allows you to check if the composite fonts in the document are completely embedded.

Composite fonts (also called "double-byte" fonts) enable you to display special characters of foreign languages, e.g. Asian languages. They are also called double-byte fonts because every character is determined by 2 bytes (16 bits). Double-byte characters may not always be supported in a later stage of the PDF workflow.

Embedding fonts in a PDF document means that every character of this font is copied and stored in the PDF document. This is useful if you create PDF documents to be displayed on different systems and to be printed on different devices: these are often systems that do not contain exactly the same fonts.

Also, if a font has been **completely embedded**, you can still edit the text in the PDF file that uses the font in question, even though the font has not been installed on your computer.

Note: Starting in Adobe Acrobat 6.0 and PitStop Pro 6.0 and later, you can only edit text using a font that is installed on your system, regardless of its embedding.

Embedding a font as a **subset** means that only those characters of the font that are actually used in the text are embedded. This reduces the file size by not including superfluous font information. Moreover, you may not want to embed composite fonts completely, because they may contain several thousands of characters and the majority of them will not be used anyway.

Note: Embedding one complete standard font increases PDF file size by approximately 30k to 40k for Type 1 fonts, and more for TrueType or composite fonts.

Possible fixes

No automatic fix provided.

10.13. Embedded Acrobat emulatable font

Allows you to check the document for fonts that are embedded but can be emulated for viewing by Adobe Acrobat.

Embedding fonts in a PDF document means that every character of this font is copied and stored in the PDF document. This is useful if you create PDF documents to be displayed on different systems and to be printed on different devices: these are often systems that do not contain exactly the same fonts. Also, if a font has been embedded, you can still edit the text in the PDF file that uses the font in question, even though the font has not been installed on your computer.



Note: Starting in Adobe Acrobat 6.0 and PitStop Pro 6.0 and later, you can only edit text using a font that is installed on your system, regardless of its embedding.

Some fonts can be **emulated** by Adobe Acrobat for on-screen viewing. This means that if the font is unavailable on your system Adobe Acrobat can re-create the font visually, even though it has not been embedded.

If you are certain the document only needs to be viewed on-screen, and will not be printed, fonts that can be emulated do not need to be embedded.



Note: Embedding one entire standard font increases PDF file size by approximately 30k to 40k for Type 1 fonts, and more for TrueType fonts.

Possible fixes

You can unembed these fonts. This will decrease the PDF file size.

10.14. Font Style: Outline, Bold or Italic

Allows you to check if the document contains text using an artificial style.

Some fonts consist of specific **font families** for each style. The font Futura, for example, has the font families Futura (for "regular" Roman style), Futura-Bold, Futura-Oblique etc. This implies that, if you want to put text in Futura and in bold, for example, you will have to select the font family "Futura-Bold".

Certain design programs or word processors allow you to adapt the style of these fonts artificially. You can select text and to put it in italics or in bold by selecting the respective style within this font family. Sometimes, you can even do this by means of shortcuts, e.g. Control+b for bold or Control+i for italics. Text that has been modified in this manner uses a so-called **artificial** bold or italic style.

This method may seem very handy but it is recommended to avoid it, because these artificial styles can cause problems when printing: e.g. artificial bold is created when printing two characters on top of each other, one being one point size bigger than the other.

Possible fixes

No automatic fix provided

10.15. Corrupt font

Allows you to check if the document contains any missing glyphs or metrics. If the font is not complete, you'll get a notification.

If you don't want to check subsetted fonts, select the **Ignore glyphs that were removed by subsetting** checkbox.

Possible fixes

No automatic fix provided.

11. Checks on Text

11.1. Text size

Allows you to check if the document contains text:

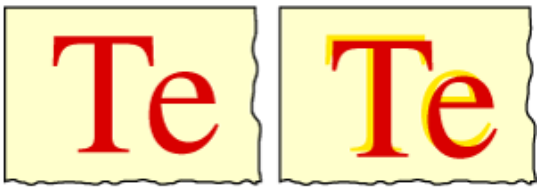
- That is smaller than a particular value (Z) (the minimum size limit defined in the Preflight Profile or the executed Action), and
- Which occurs on more than a particular number (Y) of separations (plates).

Extremely small text may not reproduce correctly on some output devices, and may cause legibility problems.

This problem can be caused by the following:

- An illustration containing text of a small point size (e.g.: 10 pt) was inserted in a DTP program and then scaled down (e.g.: 70%).
- A font which is too small may have been used in the DTP program itself.

If small text occurs on several **color separations** (plates), the readability can become limited. The slightest mistake in the alignment of the printing plates causes printing problems as shown in the illustration.



The plates are correctly aligned on the left. On the right, a slight anomaly is visible. The text is thus less readable. When using small text, even the smallest anomalies — sometimes unavoidable when aligning the plates — will become visible, making the text illegible.

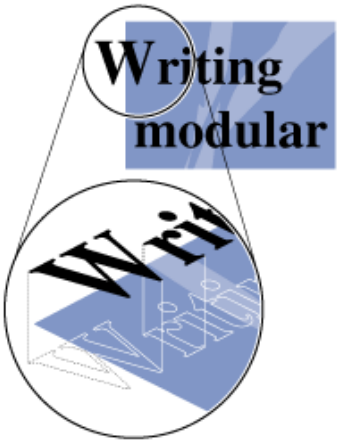
Possible fixes

No automatic fix provided.

11.2. Black text

Allows you to check if the document contains black text that is not set to overprint.

Text —especially fine text or text set at a small point size— on colored backgrounds is extremely difficult to print in register. The slightest misregistration can become noticeable as small gaps can appear between the text and the underlying colored elements.



To avoid this problem, black text is set to print on top of any colored backgrounds. This technique is known as **overprinting**, and it preserves the legibility of the text. Overprinting black text compensates for misregistration.

Note: You can specify overprinting only for 100% black text because printing text of any color other than solid black over any other colored background might cause the overlapping inks to blend, which could produce undesirable colors.

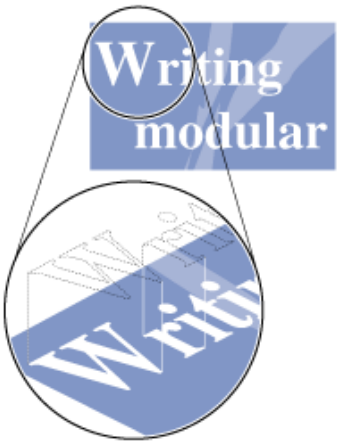
Possible fixes

Automatically set all 100% black text to overprint.

11.3. White text

Allows you to check the document for white text that is not set to knock out the underlying separations.

If your document contains white text, you have to make sure that the colors behind the text are not printed. If these underlying colors were to be printed, even the slightest misregistration of the color plates might result in deformed white text characters.



This is called **knockout printing**: the white text should cut out ("knockout") the colors on any underlying separations.

Possible fixes

Automatically set all 100% white text to knock out the underlying colors.

11.4. Invisible text

Allows you to check the document for the presence of invisible text. Invisible text is text that has no fill or stroke color associated with it.

Possible fixes

Automatically remove all invisible text from the document.

12. Checks on Images

12.1. Compression: Color/grayscale or 1-bit

Allows you to check the compression mechanism used for either color and grayscale or black and white images.

Depending on the type of images you are dealing with, different compression methods are recommended. Using the appropriate compression methods can significantly reduce the file size of the PDF document. For an overview, refer to *Compression mechanisms explained* on page 57.

Possible fixes

You can automatically change a particular image compression to a particular format:

- Color or grayscale images can be changed to ZIP, JPEG or JPEG2000 (for the last two options, you should also specify the desired quality level).
- 1-bit images can be changed to ZIP or CCITT.

For an overview, refer to *Compression mechanisms explained* on page 57.

12.1.1. Compression mechanisms explained

The following compression mechanisms can be used in a PDF document:

Mechanism	Description
JPEG	The JPEG compression method is best suited for grayscale or color bitmap images. A typical example of an image for which JPEG compression is advised is a continuous-tone photograph. This type of image contains more information, more details, than can be reproduced on screen or in print. Therefore, it makes sense to remove the information that cannot be displayed anyway. This can result in a loss of image quality, as the compression method removes information: it is called a lossy reduction method. However, file sizes are greatly reduced by JPEG compression.
ZIP	The ZIP compression method is best suited for vector graphics (line art), and images that contain large areas of a single color, or repeating patterns. Typical examples of this kind of images include screen shots and simple graphics. ZIP compression is lossless, which means that no information is removed from the image during compression.

Mechanism	Description
LZW	The LZW compression discovers and exploits many patterns in images or text (by using a differencing technique, for example). In general, high compression rates can be achieved with this compression algorithm.
RunLength	The RunLength compression method is best suited for images that contain large areas of solid white or black. It is a lossless compression method, which means that no information is removed from the images during compression.
JBIG	The JBIG compression method is best suited for black-and-white images, but it can also be used for coding grayscale and color images with limited numbers of bits per pixel. It is a lossless compression method, which means that no information is removed from the images during compression.
CCITT	The CCITT compression method is best suited for black-and-white images made by paint programs, as well as for images scanned with an image depth of 1 bit. CCITT is a lossless compression method, which means that no information is removed from the images during compression.
JPEG2000	The JPEG2000 compression method is suitable for any kind of image and gives somewhat better size reduction than other methods. The quality range can vary from strong lossy to lossless compression. In addition, JPEG2000 provides new features such as transparency, color components with different number of bits per sample, and the possibility to decode versions of the image that differ in sampling resolution and other factors.

Note: JPEG2000 compression is only available in and supported by PDF 1.5 (Acrobat 6) and above.

12.2. JPEG compression ratio

Allows you to check if the images in the document were compressed:

- With a lossy compression mechanism, and
- To such an extent that image quality may have deteriorated significantly.

Lossy compression mechanisms remove information from the image during compression. The **compression ratio** indicates how much the image was compressed, and in the case of lossy compression, it is also an indication of how much information was removed from the image.

The following compression mechanisms are or can be lossy: JPEG and JPEG2000.

Possible fixes

No automatic fix provided

12.3. 16 bits per channel

Allows you to check if the document contains images that use 16 bits per channel.

Most image formats in use today use 8 bits per channel. The number of bits per channel determines the accuracy of color representation: a pixel whose color is defined by 8 bits can take on 256 different colors. As a result, a 24-bit image, using 8 bits for each of the R, G, and B channels can display 16,777,216 colors ("true color").

For purposes including scientific imaging tasks and intensive color operations, images may need to be able to show even more color. These images can use 16 bits per channel.

Most software in use today cannot deal properly with 16 or more bits per channel.

Possible fixes

No automatic fix provided

12.4. Alternate images

Allows you to check if the document contains alternate images.

Alternate images are used to store both a viewing-resolution and a printing-resolution version of an image in a single PDF document. Usually, the main image has the label "default for printing", but it is also possible for one of the alternates to carry this label. In this scenario, Acrobat uses the main image for on-screen display, but prints the alternate.

Not all software is capable of handling alternate images. Such software always prints the main image, regardless of the labelling of the alternate images. In that case, you may want to remove the alternate images.

Possible fixes

PitStop can remove all alternate images. Choose one of the following options:

- **Default for printing**: Removes the alternate images, preserving the ones that are marked "default for printing". This option is best if you know that the alternate images have been correctly marked for printing.

- **Highest resolution**: Removes the alternate images, preserving only the ones that have the highest resolution, regardless of the printing setting. This option is recommended for print production.

- **Lowest resolution**: Removes the alternate images, preserving only the ones that have the lowest resolution, regardless of the printing setting. This option is recommended for on-screen viewing.

12.5. OPI

Allows you to check the document for the use of OPI information.

Open Prepress Interface (OPI) allows you to use only low-resolution images in your documents during the design process. Using OPI, these low-resolution images are automatically replaced with high-resolution images when the separations are printed for the documents. If you use OPI to work with files containing only small, low-resolution images in your page lay-out applications (e.g. Adobe InDesign), you can reduce the processing time when you are working with the files.

If PitStop detects OPI information in your document, the document:

- May contain the high-resolution images, in which case the OPI links are no longer useful, and were probably included accidentally.
- May have been created with low-resolution images, in which case the high-resolution images were either accidentally omitted, or the document was created in an OPI workflow, which is not allowed by your Preflight Profile or Action List.

Possible fixes

You can remove all OPI information from the document.

12.6. OPI is missing

Allows you to check if the document contains images that cannot be found in the location specified in the OPI pointer.

Open Prepress Interface (OPI) allows you to use only low-resolution images in your documents during the design process. Using OPI, these low-resolution images are automatically replaced with high-resolution images when the separations are printed for the documents. If you use OPI to work with files containing only small, low-resolution images in your page lay-out applications (e.g. Adobe InDesign), you can reduce the processing time when you are working with the files.

Possible fixes

No automatic fix provided.

12.7. OPI is incompatible

Allows you to check if the OPI version of your document complies with the OPI standard used in your workflow.

Open Prepress Interface (OPI) allows you to use only low-resolution images in your documents during the design process. Using OPI, these low-resolution images are automatically replaced with high-resolution images when the separations are printed for the documents. If you use OPI to work with files containing only small, low-resolution images in your page lay-out applications (e.g. Adobe InDesign), you can reduce the processing time when you are working with the files.

If the OPI version of your document is incompatible with the chosen OPI version (1.3, 2.0 or both), an error or warning will be given.

Possible fixes
No automatic fix provided

12.8. Image is rotated

Allows you to check if the document contains images that have been rotated at an angle that is not a multiple of 90° (optionally allowing a slight deviation).

This check attempts to trace "accidentally" rotated images, supposing that intentionally rotated images will be either flipped horizontally or vertically, or rotated by 90°.

You can also allow other angles that fall outside of a specific deviation from the 90° norm. This allows for rotated images, while still checking for accidentally rotated images (that were "nudged" only a few degrees).

For example, if you allow deviations of 7° or more, any images that have been rotated at angles between 84° and 96° will be detected, while you won't receive a report if any images show a rotation at an angle deviating more than 7° from a multiple of 90° (e.g. 126°).

Possible fixes

No automatic fix provided

12.9. Image is flipped

Allows you to check if your document contains images that have been flipped horizontally.

Flipping an image horizontally creates a mirrored version of the original image. While this may be intentional, it can also be the result of an accidental operation in the design application.

Possible fixes

No automatic fix provided

12.10. Image is sheared

Allows you to check your document for sheared images.

Shearing, also called skewing, is an operation that slants objects along an axis of your choice. For example, you can skew a rectangle to create a parallelogram.

While this may be a desired effect, skewing distorts the image and may be unwanted.

Possible fixes

No automatic fix provided

12.11. Image is scaled

Allows you to check the document for images that have been scaled non-proportionally (optionally allowing a slight deviation).

Proportional scaling reduces the size of the image by an equal percentage along both the X- and the Y-axis. If an image is scaled non-proportionally, the proportions between height and length of the image are changed, resulting in distortions in the image.

You may allow scaling if the distortion is smaller than a specific value. Very small distortions to the image may not be visually detectable.

Possible fixes

No automatic fix provided

12.12. Resolution

Allows you to check the resolution of the images in the document against a speficic threshold.

Images with a low resolution may print badly. The optimal resolution depends on the output device, i.e. for on-screen viewing a low resolution will suffice, but for professional printing, you need a high resolution.

Images with a very high resolution result in drastically increased **file sizes**.

For more information, refer to *Image resolution* on page 62.

Note that you can restrict this check to:

- Either all pages or only single or non-single image pages
- 1-bit images (black and white images) or color or grayscale images
- Images below/above/equal to a particular threshold

Optionally, you can ignore very small images (of a specific size) and/or soft-mask images (as they may have a smaller resolution without affecting the print quality).

Possible fixes

You can downsample the detected images to the preferred resolution, using the resampling method of your choice. For more information, refer to *Resampling (downsampling) explained* on page 63.

12.12.1. Image resolution

The **resolution** of images in a PDF document is expressed in **dpi**, "dots per inch", and determines the amount of information they contain.

The term dpi commonly refers both to:

- The number of **pixels per inch** in the digital **image**, which determines its quality. Less pixels per inch (a low dpi value) result in larger pixels, and therefore a poorer image.

- The number of physical **dots a printer can place per inch**, which determines the printer's quality.

For example, when printing an image with a resolution of 300 dpi on a high-quality printer that has a resolution of 1200 dpi:

- The image contains 300 pixels per inch in both the horizontal and vertical dimensions
- The printer can place up 1200 dots per inch both horizontally and vertically
- As a result, each pixel in the image is reproduced on paper with 4 (horizontal) x 4 (vertical) dots = 16 dots.

12.12.2. Resampling (downsampling) explained

If you want to change the resolution of an image without changing its physical size in the document, you need to "resample" it.

Reducing the resolution without resampling will increase the physical size of the image, because the number of pixels per inch becomes smaller, but the total number of pixels remains the same; i.e. less pixels per inch with the same number of pixels results in more inches.

Downsampling reduces the resolution of the image without increasing the physical size of the image, by "throwing away" pixels and determining the color of the remaining pixels based on the combined color of the pixels that were discarded.

The following downsampling methods are available:

- **Average downsampling** computes the average pixel color of the pixels in the sample area, and replaces the entire area with this average.
- **Resampling** replaces the entire area with the pixel color of the pixel at the center of the sample area.
- **Bicubic downsampling** the value of the new dots is calculated on the basis of a weighted average of the pixels in the sample area. This method offers the best results with smooth tonal gradations, but takes the longest to compute.
- **Bilinear resampling** uses weighted interpolation between 4 pixels in the original image.
- **Bicubic B-spline** is a modified bicubic interpolation with more sharpening effects and is recommended for upsampling. Bicubic downsampling usually yields better results than the simple averaging method of downsampling.

13. Checks on Layers

13.1. Layers

Allows you to check whether the PDF contains layers.

Layered content usually comes from applications such as InDesign, AutoCAD or Visio. When converted to PDF, the layers are retained and can be viewed and navigated in Adobe Acrobat. However, if you print a PDF file that contains layers, only the content that is visible on-screen is printed. This may or may not be desired.

Possible fixes

No automatic fix provided.

13.2. Print state

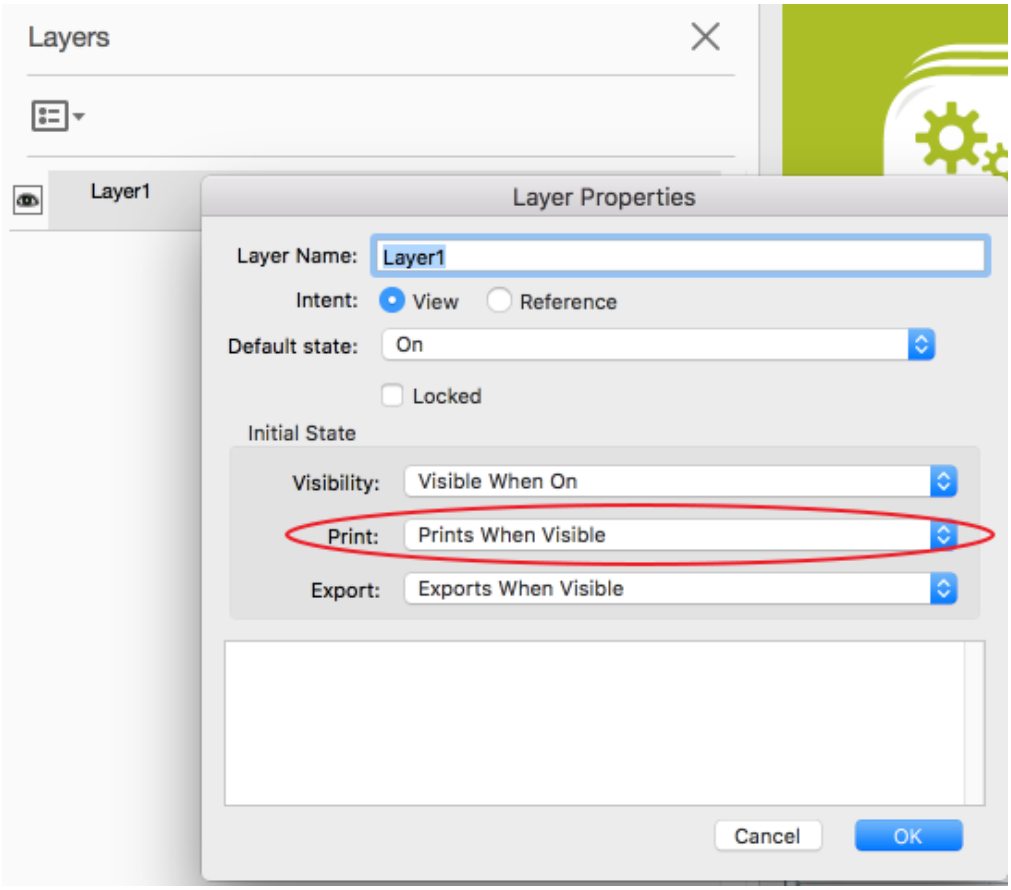
Allows you to check the print state of the layers in a document.

Layered content usually comes from applications such as InDesign, AutoCAD or Visio. When converted to PDF, the layers are retained and can be viewed and navigated in Adobe Acrobat. The print state (or the print property) of the layers determines whether or not the content on these layers is printed.

Print state options are:

- Always prints
- Never prints
- Prints when visible

Below is shown where you can find the Print state property of a layer in Acrobat.



Use case: Use this check to avoid that objects on a hidden layer are printed unwantedly.

Possible fixes

Automatically change the print state to the value of your choice (e.g. Prints when visible).

14. Checks on Annotations

14.1. Text type

Allows you to check if the PDF contains some basic annotation types.

Annotations are comments added to a PDF document after PDF creation. They can cause problems because they may appear in the printed output, even though they are not intended to do so.

There are many annotation types. This check allows to detect:

- **Text Notes**, i.e. annotations containing text, such as sticky notes or stamp annotations.
- **Markup**, i.e. graphic annotations, such as free text, lines, strike out, ...
- **Hyperlinks**

You can restrict the check to a specific area of the page (i.e. inside or outside a particular page box) or you can check the whole page.



Note: For more information on annotations, see the Adobe Acrobat Online Help, in the section "Using Commenting Tools".

Possible fixes

You can automatically remove all annotations of the selected type, or (if you restricted the check to a specific area), move them to another area.

14.2. Other type

Allows you to check if the PDF contains one or more particular annotation types.

Annotations are comments added to a PDF document after PDF creation. They can cause problems because they may appear in the printed output, even though they are not intended to do so.

There are many annotation types. This check allows to detect specific types, such as:

- **Movie, sound and 3D**
- **Trapnet** annotations (refer to *Trapnet annotation (PDF/X)* on page 10)
- **Printer marks**
- **File Attachment**
- **Screen**
- **Watermark**

- **Custom**



Note: For more information on annotations, see the Adobe Acrobat Online Help, in the section “Using Commenting Tools”.

Possible fixes

You can automatically remove all annotations of the selected type.

14.3. Print setting

Allows you to check the print settings of the annotations in the PDF.

Annotations are comments added to a PDF document after PDF creation and can be set to "print" (if they have to be displayed on the printed output) or to "non-printing" (if they should not be included when printing the document).

Including annotations that are set to print is not recommended in a print environment.

Possible fixes

You can automatically change the print settings of the offending annotations (e.g. if set to "print", change them to "non-printing" and vice versa) or remove the offending annotations (i.e. remove all "print" or "non-printing" annotations, depending on your selection).

14.4. External hyperlink

Allows you to check if the document contains external hyperlinks.

An **external hyperlink** is a hyperlink that points to another PDF document, or to a location on the Internet. External hyperlinks may be broken if you exchange PDF documents.

Possible fixes

You can automatically remove all external hyperlinks.

15. Checks on Other Objects

15.1. JavaScript

Allows you to check if the document contains JavaScript commands.

JavaScript scripts can be embedded in a PDF document to perform specific actions, such as manipulating form fields (e.g. calculating the value of field B based on the user input in field A).

However, in a print production environment, these scripts serve no purpose and may result in increased file sizes.

Possible fixes

Automatically remove all JavaScript code from the document.

15.2. Actions

Allows you to check whether the document contains actions.

Certain special effects can be added to PDF documents, in the form of actions that are executed when a bookmark, link or form field is clicked, or when a specific page is viewed.

Typical examples of this kind of actions:

- Jumping to a specific page
- Playing a sound or movie clip
- Executing a Javascript function.

Actions serve no purpose in a print production environment.

Possible fixes

Automatically remove actions from the document.

15.3. Form fields

Allows you to check if the document contains form fields. Form fields are interactive fields (like radio buttons, check boxes, text boxes) created in Adobe Acrobat using the Form tool; they are used in electronic forms.

Possible fixes
Form fields may be undesirable for example because the output device or the PDF renderer does not support them.

You can fix this issue in two ways:

- Remove all form fields from the document.
- Flatten the form fields: convert them to normal objects (text, images and shapes). This only removes the interactivity; the fields still look the same, but the form values can no longer be selected, edited, ...



Note: This new fix has been introduced in PitStop 2017.

15.4. Thumbnails

Allows you to check whether thumbnails were saved in the document.

Thumbnails can be a useful tool for navigation, but a document with thumbnails has a larger file size than a document without thumbnails.



Note: Adobe Acrobat 9.0 generates thumbnails on the fly when the thumbnails palette is opened, even if no thumbnails were saved with the PDF file, but prior versions of Acrobat cannot do this.

Possible fixes

Automatically remove thumbnails from the document.

15.5. Bookmarks

Allows you to check if the document contains bookmarks.

Bookmarks are a very useful tool for navigation, allowing you to browse the document from its table of contents in the Bookmarks palette.

However, for print production, bookmarks are not required and only result in larger file sizes.

Possible fixes

Automatically remove all bookmarks from the document.

15.6. Article Threads

Allows you to check if the document contains article threads.

Many types of publications are made up of several columns, with text flowing across columns and sometimes across pages. This works fine in a print publication such as a newspaper, but may cause confusion when the document is viewed on-line.

The special **article threads** feature in Adobe Acrobat allows you to guide readers along the text flow by defining a series of linked rectangles (articles) that follow the flow of the text across the columns and pages.

Article threads serve no purpose in a print production environment and may increase file sizes.

Possible fixes

Automatically remove all article threads from the document.

15.7. Unused destinations

Allows you to check if the document contains unused destinations.

A destination is a link to another PDF document. Using destinations allows you to create a linked collection of documents. **Unused destinations** contain no specific link to another file, and are not desirable.

Possible fixes

Automatically remove all unused destinations from the document.

15.8. Marked content

Allows you to check if the document contains marked content.

Marked content occurs when a specific part of the PDF document has been tagged as being of interest to a particular application or PDF plug-in.

For example, a graphics application might use marked content to identify a group of related graphic objects. A word processor might create marked content to maintain the connection between a footnote marker in the body of a document and the corresponding footnote text at the bottom of the page.

This kind of marked content serves no purpose in a print production environment and may increase file sizes.

Possible fixes

Automatically remove all marked content from the document.

16. Checks on Line Art

16.1. Line weight

Allows you to check the document for line art that uses a line weight below a specific point limit. Optionally, you can take into account the number of separations on which the line appears.

This check is recommended, because, depending on the resolution of the output device on which the document is printed, very thin lines may disappear in the output document.

Besides, if lines with a very small weight are printed on several separations (plates), even the slightest misregistration will show up in the printed result.

Possible fixes

You can automatically change the line weight to the minimum allowed line weight.

16.2. Invisible Line Art

PitStop checked the document for the presence of invisible line art. Invisible means that the object has no fill or stroke color associated with it.

Possible fixes

Automatically remove all invisible line art from the document.

16.3. Nodes

Allows you to check the document for paths (clipping paths or line art) that contain more than the specified number of nodes or anchor points.

The number of anchor points allowed in a single path depends on the maximum number of "nodes" that your output device can handle. **Clipping paths** are used to simulate transparency in a bitmap image or any other object. The clipping path defines a portion of the object, and causes everything outside the defined area to be hidden from view.

Possible fixes

No automatic fix provided.

16.4. Flatness

Allows you to check the flatness setting of your document.

Flatness is a PostScript parameter (ranging from 0 to 100) that determines how curves in your document are rendered.

A high flatness setting reduces the rendering quality of the curves, and may result in a choppy image in which the individual straight lines that make up the actual curves become visible. Very **low flatness settings result in high-quality curves**, but your documents become more difficult to print as well.

Note: Very low flatness settings may result in a "limitcheck error" on specific output devices.

Flatness defaults to 1 in a normal document.

Possible fixes

Automatically set the flatness to the maximum or minimum desired value.

16.5. White line art

Allows you to check the document for white line art that is not set to knock out the underlying separations.

If your document contains white line art, you have to make sure that the colors behind the object are not printed. If these underlying colors were to be printed, even the slightest misregistration of the color plates might result in deformed line art.

This is called **knockout printing**: the white object should cut out ("knockout") the colors on any underlying separations.

Possible fixes

Automatically set all 100% white line art to knock out the underlying colors.