

The following list describes the most effective order to perform image enhancements and processes. It is not necessary—and in most situations, not desirable—to perform every enhancement listed here; the list suggests the preferred order for those you do perform. For instance, if you want to *despeckle*, *crop*, and *deskew* your image, you would use this reference to see that you should first *deskew*, then *crop*, and *despeckle* last.

Sometimes a different order might work better for your documents. Experiment with different combinations to see what works best.

- 1. Resize:** This enhancement will always reduce your image quality, so it should be used very sparingly. If you need to change the image size, it is better to do so by scanning at a lower or higher resolution.
- 2. Remove Pages:** Removing unnecessary or blank pages before performing any other enhancement or process ensures that the scanning program will not waste time processing pages that will eventually be thrown away. Remember that deleting pages is permanent, so be sure to copy any information you need from cover sheets before deleting them.
- 3. Rotate and Deskew:** Rotate will turn an image upright by specified 90 degree increments, and Deskew automatically straightens crooked images. Both improve the accuracy of OCR, which expects characters to be right side up.
- 4. Crop and Border Removal:** Cropping unnecessary regions can save processing time when you apply other enhancements. Because they reduce the overall size of the image, they also save disk space when the document is stored in Laserfiche. The exception is the Color Smoothing enhancement. Color Smoothing requires a sufficiently large region of blank background to serve as a “reference” region. If cropping operations will not leave such a sample region, perform Color Smoothing before you crop.
- 5. Color Smoothing:** This enhancement averages and evens out the background color of the image. Color Smoothing can only be applied to color images and improves the results of Dynamic Thresholding, so it should be performed first.
- 6. Dynamic Thresholding (Color Removal):** Dynamic Thresholding converts color or grayscale images to black and white. This can greatly improve the performance of OCR processing.
- 7. Invert:** If your image has white text on a black background, use the Invert function to change it to black text on a white background. This enhancement will work on color or grayscale images, but it will probably have the best results on black and white.
- 8. Border Padding:** This enhancement adds extra space around the edges of the image. This allows more room for stamps or other annotations added later. The extra space will always be white, so if you use it on a dark image and then invert the colors, you will end up with a dark border on a light image. To keep the border color consistent with the rest of the background, use Border Padding after Invert.
- 9. Line Removal:** This enhancement can remove lines that run through text and interfere with OCR. It will work on color as well as black and white images, but will be more efficient on black and white.
- 10. Despeckle:** Despeckle only works on black and white images, and it expects images that have black text on a white background. Therefore, it is best to run it after Dynamic Thresholding and Invert.
- 11. Smooth:** Use this enhancement to even out the shapes of your text. Like Despeckle, this enhancement expects black text on a white background and works on black and white images. Running Smooth after Despeckle will slightly improve processing speed, since Despeckle will already have removed some of the extraneous marks around the text.
- 12. OCR:** OCR last. Most image enhancements are specifically intended to make text more readable both for users and for the OCR engine, so you should always make OCR your last step.

The order in which these enhancements are applied can have a significant effect on the end results, as well as on the time it takes to process scanned images. *Basic Mode* in Scanning will automatically run the processes in the most efficient order, but you have more control in *Standard Mode* and *Quick Fields*. The following list describes the most effective order to perform image enhancements and processes, though it is not necessary or desirable to perform every enhancement listed here.

- 1. Resize:** This enhancement will always reduce your image quality, so it should be used very sparingly. If you need to change the image size, it is better to do so by scanning at a different resolution.
- 2. Remove Pages:** Removing unnecessary or blank pages before performing any other enhancement or process ensures that the scanning program will not waste time processing pages that will eventually be thrown away.
- 3. Rotate and Deskew:** Rotate will turn an image upright by specified 90-degree increments, and Deskew automatically straightens crooked images. Both improve the accuracy of OCR, which expects characters to be right-side-up.
- 4. Crop and Border Removal:** Cropping unnecessary regions can save processing time when you apply other enhancements. Because they reduce the overall size of the image, they also save disk space when the document is stored in Laserfiche. The exception is the Color Smoothing enhancement. Color Smoothing requires a sufficiently large region of blank background to serve as a “reference” region. If cropping operations will not leave such a sample region, perform Color Smoothing before you crop.
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