

With the release of Lightroom CC 2015.6, the Lens Corrections panel has been changed and a new Transform panel has been added. This article explains their use.

Lens Correction Panel (Ctrl+6):

Lightroom tries to address one of the following three lens corrections in the Lens Corrections and Transform panel:

1. **Vignetting:** This appears as a progressive darkening toward the edges of the image.
2. **Distortion:** This appears as otherwise straight lines bending inwards or outwards.
 - Pincushion Distortion: Appears when otherwise straight lines curve inward. Typically caused by telephoto lenses, or at the telephoto end of a zoom lens.
 - Barrel Distortion: Appears when otherwise straight lines curve outward. Typically caused by wide angle lenses, or at the wide end of a zoom lens.
 - Perspective Distortion: Appears when otherwise parallel lines converge. Caused by the camera not facing these parallel lines perpendicularly; with trees and architecture, this usually means that the camera isn't pointed at the horizon.
 - With landscapes, distortion of the horizon and trees are usually most detectable. Placing the horizon along the center of a photo can help minimize the appearance of all three types of distortion.
3. **Chromatic Aberration.** Chromatic aberration (CA) appears as unsightly color fringes near high contrast edges. Unlike the other two lens imperfections, chromatic aberrations are typically only visible when viewing the image on-screen at full size, or in large prints. Colors are often cyan/magenta, along with potentially a blue/yellow component.

- **Profile tab:**

- **Profile Correction:**

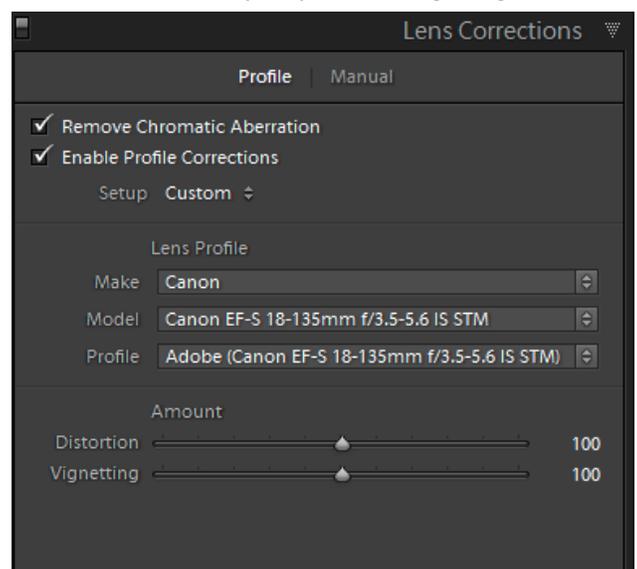
Check **Enable Profile Corrections**. If the metadata matches Lightroom's camera data base, the camera information will automatically show and correct distortion and vignetting automatically. If the auto adjustment is insufficient to adjust your image, use the Distortion slider to adjust your leaning images. Lens Vignetting is used quite often to darken the edges of the photo by moving the slider to the left. If the image is cropped, the effect is applied to the original image, not the cropped version.

If the Make, Model, and Profile are all set to **'None'** choose your camera's **Make** (from the Make pop-up menu, i.e., Canon) and most often the other two fields will suddenly be filled in properly.

If Lightroom doesn't actually select the exact profile for your lens, then click on the "Model" pop-up menu which will list the lens profiles it thinks are closest. Select each profile listed to find which one of the profiles looks best for correcting your image and use that one for your Profile Correction.

NOTE: If you have a newer mirrorless camera, most likely the camera has applied a profile and you would not check the **Enable Profile Corrections** box.

- **Chromatic Aberration Correction:**



In order to automatically remove chromatic aberrations, you need to check “**Remove Chromatic Aberration**” checkbox, or manually correction chromatic aberration under the “Manual” tab

- **Manual tab:**

- **Distortion section:**

- **Amount:** Drag to the right to correct barrel distortion and straighten lines that bend away from the center. Drag to the left to correct pincushion distortion and straighten lines that bend toward the center.
- **Constrain crop:** Constrains the crop to the image area so that gray border pixels are not included in the final photo.

- **Defringe section:**

- When you check **Remove Chromatic Aberration** (Profile tab), Lightroom will automatically reduce Chromatic Aberration (this will normally all you need to do). Sometimes the automatic setting will make a big difference but not entirely remove the chromatic aberration. Then it will be necessary to remove the purple/green fringe lines by manually defringing areas using the eyedropper tool or manually moving the Defringe sliders.
- **Eyedropper tool:** To remove global purple and green fringes with the eyedropper tool, click on the eyedropper tool in the Manual tab.

Press the spacebar to pan and zoom into the fringe area. Setting your default zoom to 2:1 or 4:1 helps you view the fringe colors.

Click on a purple and green fringe color.

The Defringe sliders (Amount & Hue) will automatically adjust for that color. If you click a color outside of the purple or green hue ranges, you’ll see an error message (**Cannot set the purple or green fringe color. Please sample a representative fringe color again**).

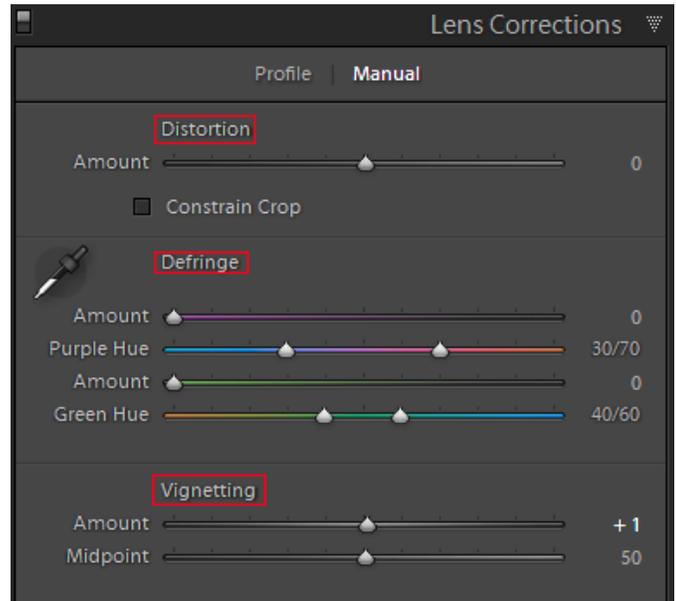
A **Pick a fringe color** dialog box will appear next to the eyedropper and will change to purple or green color when you hover over a chromatic aberration area.

Press **Esc key** to dismiss the eyedropper sampling.

- **Defringe sliders:**

If you hold down the **Alt** key and the click on one of the Amount sliders, the document window will show you the areas in the image affected by fringing. White is not affected and you will see any areas affected by purple or green fringing.

- **Purple Hue Amount:** Increase the top **Amount slider** until the purple is gone (just go far enough until you see the purple disappear). To adjust Amount it is best to depress the **Alt key** and see the changes. At a 0 value you will see the defringe areas and slowly move the slider to the right to reduce the fringing.
- **Green Hue Amount:** If you see a Green fringe, drag the next Amount slider down to the right until it’s gone.
- **Hue sliders** If you increase the amount of either and the color isn’t affected, then you can drag the Purple Hue or Green Hue slider left (or right) until you see the fringe disappear. The hue slider has two knobs, which determine the endpoints of the hue range. Click-and-drag the central bar (the part



of the slider between the two knobs) to move both endpoints at the same time. Double-click the central bar to reset both endpoints to the default. If you hold down the Alt key and the appropriate Hue slider, you will be able to view the range of hues being fixed. Black areas are already being targeted and any remaining purple or green color indicates residual color fringing.

If you lose color when defringing, you can use the Adjustment Tool to go in and paint over the areas with a defringe value of -100.

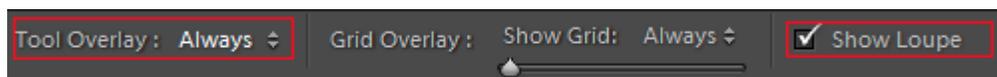
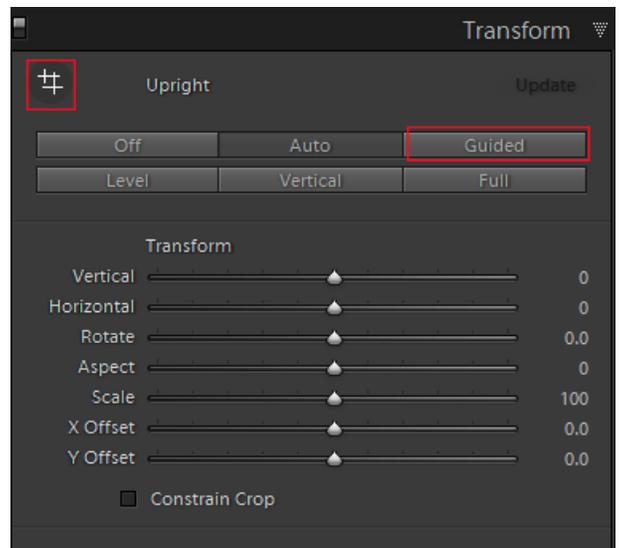
▪ **Vignetting section:**

- Amount Move the Amount slider to the right (positive values) to lighten the corners of the photo. Move the slider to the left (negative values) to darken the corners of the photo.
- Midpoint Drag the Midpoint slider to the left (lower value) to apply the Amount adjustment to a larger area away from the corners. Drag the slider to the right (higher value) to restrict the adjustment to an area closer to the corners.

Transform Panel (Ctrl+7):

- **Correcting Perspective buttons:** At the top of this tab you will see buttons labeled **Off**, **Auto**, **Guided**, **Level**, **Vertical**, and **Full**. These buttons (except Guided) are used to apply quick horizontal or vertical leveling and perspective correction. By default, all images will be set to “Off”, but you can manually trigger this behavior and apply it to an image by clicking on any of these buttons. The four Upright modes correct and manage distortion and perspective errors. The best setting varies from one photo to another; therefore, experiment with the four settings before deciding on the best possible Upright mode for your photo. Surprisingly, perspective correction actually works very well on images with defined lines, like buildings. Sometimes when a perspective correction is made you will end up with white triangular gaps. You can fix this by 1) Crop those areas away with the Crop Overlay tool, 2) drag the Scale slider to the right to scale the photo up in size, or 3) do a Content-Aware Fill in Photoshop. When you have white triangular areas, then check Constrain Crop box to auto-crop away those areas. Explanation of the modes follows:

- **Auto:** Balanced level, aspect ratio, and perspective corrections. Auto seems to work the best and doesn't overcorrect.
- **Guided:** This feature can straighten images, fix horizons, and reduce or eliminate the keystone effect in buildings. Upright works well when there are prominent vertical and horizontal lines. Not all images contain prominent lines, limiting the effectiveness of Upright. To use this feature do the following:
 - Enable **Lens Profile Corrections** first. Upright works better with Lens Profile Corrections.
 - Click on the “**Guided**” button or on the cross-hatch icon (top left of panel). Shortcut key is **Shift+T**.
 - With your cursor, draw 2-4 guides on the image. When you move your cursor onto the image a crosshair along with a magnifying loupe will appear. You need to draw two sets of lines either vertically and horizontally. The program works best when the set of lines are far apart. Lightroom will transform the image once you draw at least 2 guides. A maximum of four lines can be drawn.
 - When you click on Upright, the tool bar will change so you can select a **Tool Overlay** option (**Always**, **Auto**, **Never**) allowing you to always see the lines or only when you hover your cursor over the image. Also make sure the **Show Loupe** box is checked to see the magnifying loupe when placing lines.

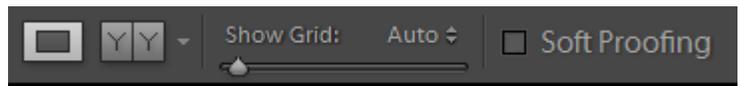


- Fine tune the results (if needed) with the manual transform sliders, including the new X and Y transform sliders. They can be used for repositioning/moving the image within the canvas after applying strong perspective corrections to choose which part of the (warped, non-rectangular) image to show within the rectangular canvas
- To delete a line, hover over any part of the line and depress the **Delete** key. To move a line, move your cursor over one of the end control point boxes (cursor will turn into a hand tool) and drag to a new position.
- After a transformation, you may have white areas around your photo. Either crop them off (Constrain Crop or go into the Crop tool) or use the Scale slider to enlarge what remains. The X and Y Offset sliders can be used to fine-tune what portion of your photo remains. You can also hold down **Ctrl +Alt** and drag in your photo to move it on the canvas.
- To accept your changes, click the cross-hatch icon or the '**Done**' button or the right side of the Tool panel. Note if you click on the Off button, it will undue all transformations when the Upright tool is active.
- **IMPORTANT:** If you plan to use this tool, make sure when taking your photo you have plenty of space around the edges because this tool will crop important edge features.

- **Transform section:**

- **Vertical** corrects perspective caused by tilting the camera up or down. Makes vertical lines appear parallel. Use this correction if buildings are tipping back or forward.
- **Horizontal** corrects perspective caused by angling the camera left or right. Makes horizontal lines parallel.
- **Rotate** corrects for camera tilt. Uses the center of the original, uncropped photo as the axis of rotation.
- **Aspect** corrects for images that look squashed/squatty or thing and stretched upward.
- **Scale** adjusts the image scale up or down. Helps to remove empty white triangular areas caused by perspective corrections and distortions. Displays areas of the image that extend beyond the crop boundary.
- **X Offset:** Moves the image left or right.
- **Y Offset:** Moves the image up or down.
- **Constrain crop** Constrains the crop to the image area so that gray border pixels are not included in the final photo.
- **Grid lines:** Grid lines are place over your image when you place your cursor over one of the seven **Transform sliders**. You can also select grid lines behavior by:

Along the grey tool bar at the bottom of the Preview area you will see a triangular down arrow on the very right side. Click it and select Grid Overlay. The grid overlay control will appear on the left side of the tool bar.



Change the Show Grid from **Never** to **Auto** or **Always**. You change the grid spacing by sliding the slider.