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Reduce camera shake blurring

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Photoshop features an intelligent mechanism to automatically reduce image blurring caused by camera motion. If necessary, you can adjust advanced settings to further sharpen the image. The **Shake Reduction** filter in the **Filter > Sharpen** menu can reduce blurring resulting from several types of camera motion; including linear motion, arc-shaped motion, rotational motion, and zigzag motion.



Original image (left); image after camera-shake reduction (right)

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Applies to: **Photoshop, Photoshop CC**

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Video | Using the camera shake reduction filter

Reduce camera shake



Have you taken a shot that is a little blurry due to camera movement? Rafael Concepcion shows how you can sharpen that image.

Rafael Concepcion

<http://www.aboutrc.com>

Images suitable for camera shake reduction

The camera shake reduction feature works best with decently lit still camera images having low noise. The following types of still images are particularly suitable for shake reduction:

- Indoor or outdoor images captured using a lens with a long focal length
- Indoor images of a static scene taken with a slow shutter speed and no flash

In addition, shake reduction can help sharpen blurred text in images affected by camera motion.

Use automatic camera shake reduction

1. Open the image.
2. Select **Filter > Sharpen > Shake Reduction**. Photoshop automatically analyzes the region of the image best suited for shake reduction, determines the nature of the blur, and extrapolates the appropriate corrections to the entire image. The corrected image is displayed for your review in the **Shake Reduction** dialog.

Note:

The **Detail** loupe in the lower-right pane lets you closely examine the region in focus. If necessary, zoom in or zoom out on an image element. As you drag the Hand tool over the **Detail** loupe to examine an image region, release the mouse button to see a quick preview of the shake reduction changes for that region.

Note:

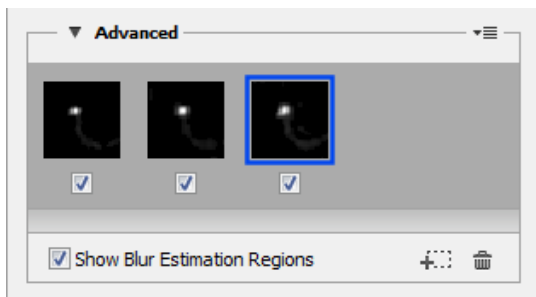
If no corrections seem to be applied to the image in the **Shake Reduction** dialog, ensure that the **Preview** option in the right pane is enabled.

Use multiple blur traces for camera shake reduction

A blur trace represents the shape and extent of the blur that affects a selected region of the image. Different regions of the image may have differently shaped blurs. Automatic

camera shake reduction takes into account the blur trace for just the default region of the image that Photoshop has determined as most suitable for blur estimation. To further fine-tune the image, you can have Photoshop compute and consider blur traces for multiple regions.

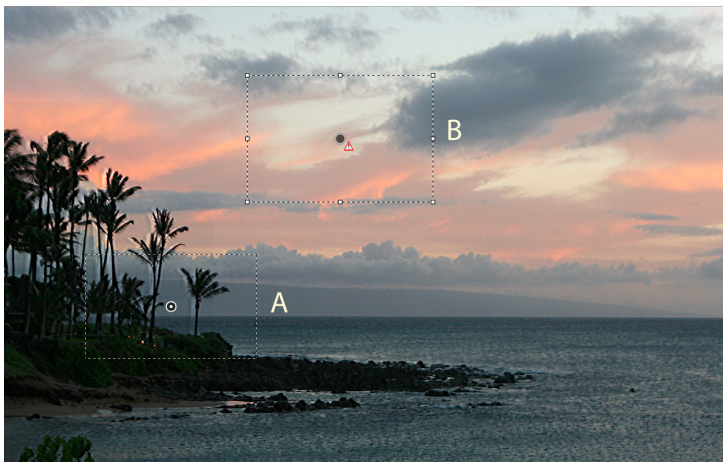
Available blur traces are listed in the **Advanced** panel of the **Shake Reduction** dialog. You can click a blur trace to zoom in on it.



Multiple blur traces listed in the Advanced panel

Create and modify blur traces

Photoshop provides several ways to create and modify blur traces. For best results, create blur traces in regions of the image that have edge contrast. For example, the region labeled **A** in the illustration below is better suited for blur estimation than the region labeled **B**.




Due to texture contrasts, A is more suitable for blur estimation than B


Resize/reposition the boundaries of the current region in focus

You can simply resize the boundaries of the region in focus to update the associated blur trace. To shift focus to a different region, drag the center pin of the region currently in focus.


Have Photoshop suggest a new region for blur estimation

1. Click the **Add Suggested Blur Trace** icon () in the **Advanced** panel in the right-pane. Photoshop highlights a new region of the image suitable for blur estimation and creates its blur trace.
2. Add more blur traces if necessary.

Note:

Click the trash can icon () to delete one or more selected blur traces.

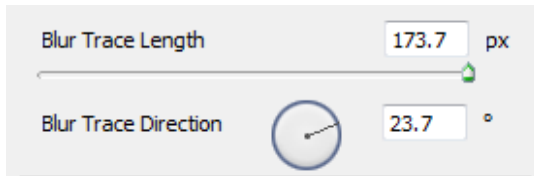
Manually select a new image region

1. Click the **Blur Estimation Tool** icon () in the upper-left corner of the **Shake Reduction** dialog.
2. Draw a selection rectangle anywhere on the image. Photoshop automatically creates a blur trace for the region you selected.
3. Add more blur traces if necessary.

Create a blur trace using the Blur Direction Tool

1. Select the **Blur Direction Tool** () from the left panel.

2. Draw a straight line representing the blur direction on the image.
3. If necessary, adjust the **Blur Trace Length** and **Blur Trace Direction**.



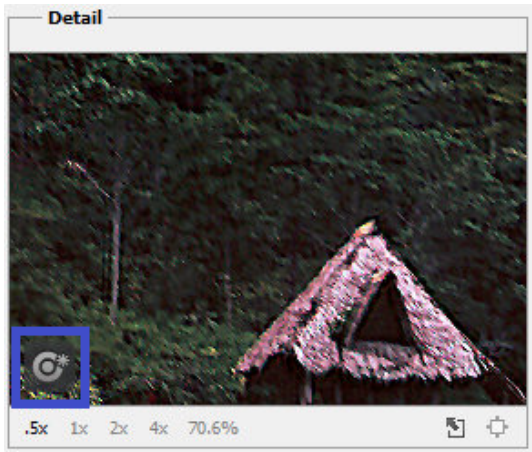
Blur Trace Length and Blur Trace Direction

Modify a blur trace using the Detail loupe

1. Using the **Detail** loupe, focus on a new image region suitable for camera shake reduction.
2. Click the **Enhance At Loupe Location** icon (📍) to move focus in the left-pane to the region highlighted in the **Detail** loupe. The blur trace for the region displayed earlier in the **Detail** loupe is automatically updated.

Note:

The keyboard shortcut Q lets you dock/undock the Detail loupe.



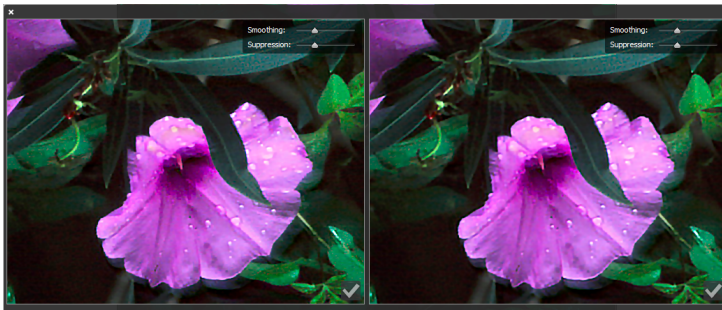
Modify a blur trace using the Detail loupe

Preview and apply multiple blur traces

Once you've added the required blur traces, you can select one or more blur traces in the **Advanced** panel to apply them to the image.

Preview and compare the results of two blur traces

- With the Ctrl key (Windows) or the Command key (Mac) held down, select the blur traces in the **Advanced** panel. Photoshop displays the multiple preview pane for the selected blur traces.



Results for two blur traces displayed side-by-side

Note:

While previewing the results for two blur traces side-by-side, you can quickly adjust **Smoothing** and Artifact **Suppression** and check how your changes affect the image. See [Smoothing](#) and [Artifact Suppression](#).

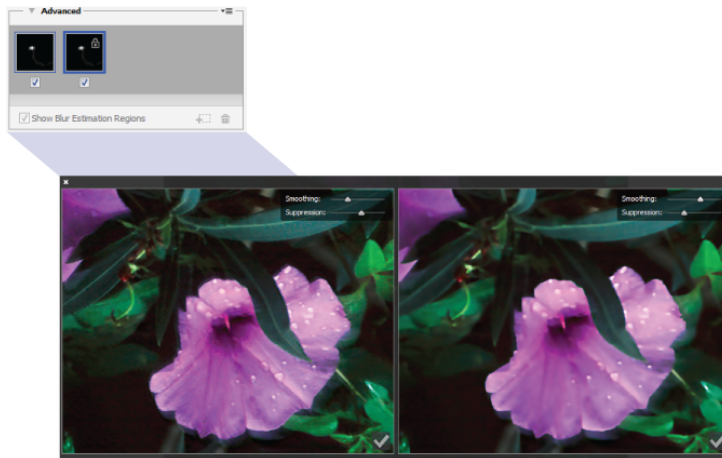
Duplicate a blur trace

- Drag a blur trace onto the **Add Suggested Blur Trace** icon (+).

Photoshop creates a copy of the blur trace and locks the duplicate copy.

Note:

Creating duplicate copies of blur traces is helpful when you want to quickly adjust **Smoothing** and Artifact **Suppression**, and preview how your changes affect the image. See [Smoothing](#) and [Artifact Suppression](#).



Working with duplicate blur traces

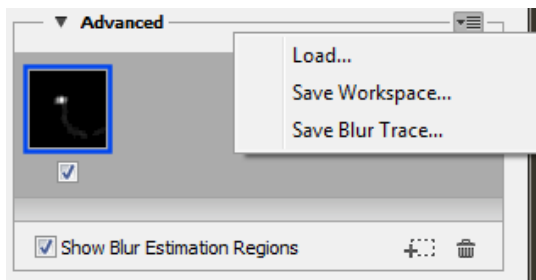
Reuse blur traces

Once you've created blur traces; you can save them, so that

they can be applied to different images.

1. Select one or more blur traces.
2. Select **Save Blur Trace** from the **Advanced** panel flyout menu. You can save blur traces in two formats—KML and PNG.

When you want to reuse the saved blur traces for a different image, you can use the **Load** option in the **Advanced** panel flyout menu.



Saving and loading blur traces

Advanced blur trace settings

Advanced blur trace settings help you further fine-tune camera shake reduction.

Blur Trace Bounds

The **Blur Trace Bounds** setting represents the bound size of the blur trace. You can adjust this value if necessary.

Source Noise

Photoshop automatically estimates the amount of noise in the image. If necessary, select a different value (**Auto/Low/Medium/High**).

Smoothing

Smoothing reduces high-frequency sharpening noise. You can move the slider to a value different from the default 30%. A low Smoothing setting is recommended.

Artifact Suppression

Sometimes, in the course of sharpening the image, you may observe some noticeable noise artifacts. Follow these steps to suppress these artifacts:

1. Select **Artifact Suppression**.

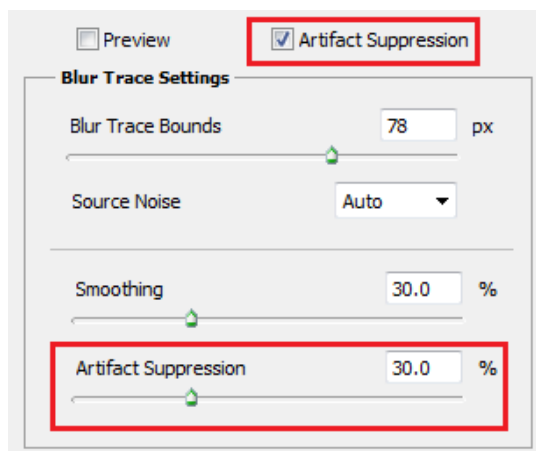
Note:

When **Artifact Suppression** is not turned on, Photoshop generates coarse previews. Coarse previews are sharper, but they also have more noise artifacts.

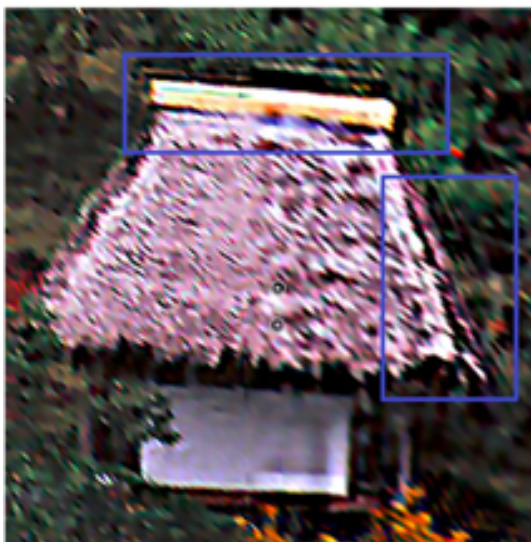
2. Adjust the Artifact Suppression slider to a higher value. 100% artifact suppression yields the original image, while 0% artifact suppression does not suppress any noise artifacts.

Note:


Artifact suppression works best to suppress medium-frequency noise.



Artifact suppression



Noise artifacts

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