



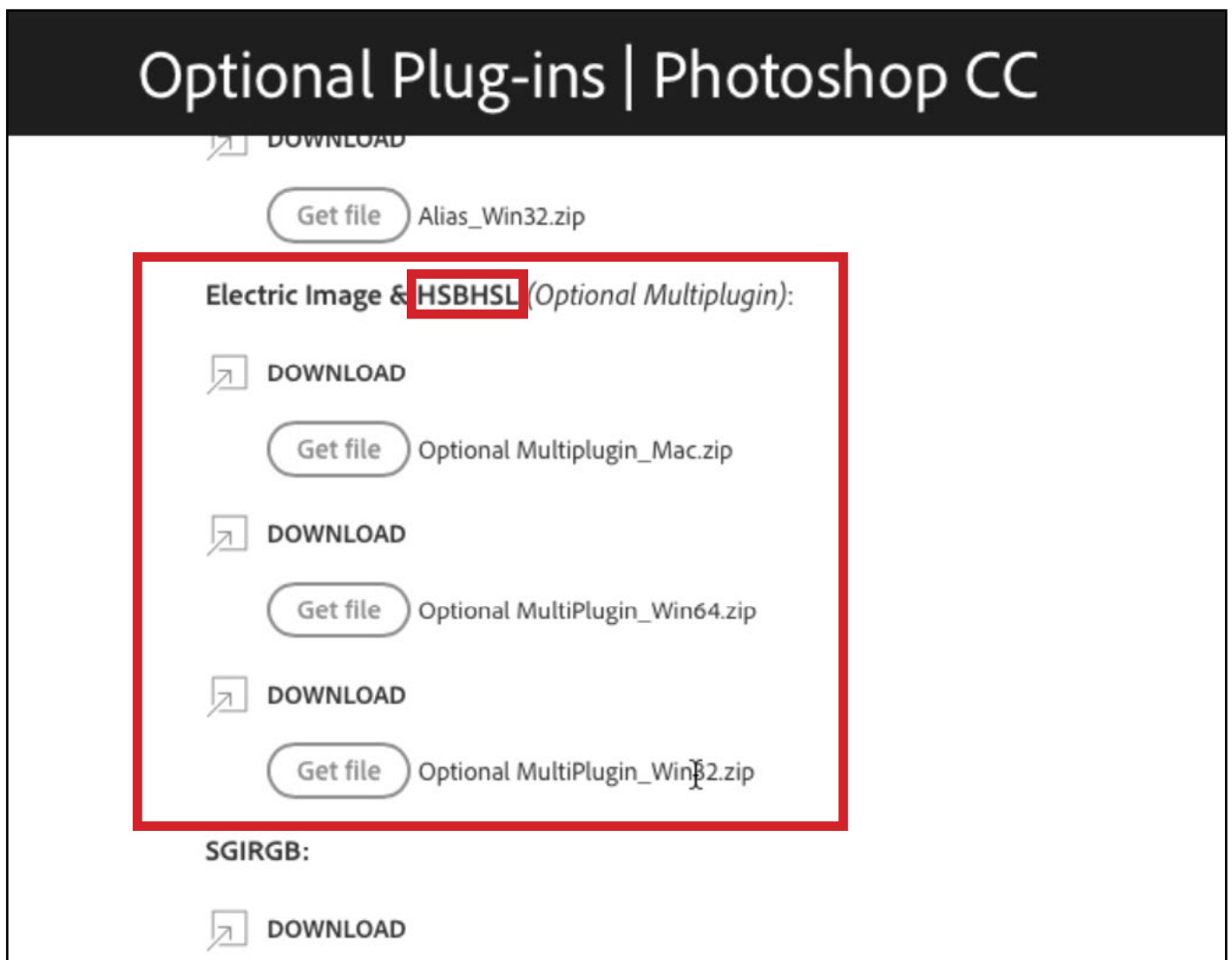
**The HSB/HSL Filter**

# The HSB/HSL Filter

In this lesson, we're going to talk about a feature that Adobe removed from Photoshop over 20 years ago, and that's HSB/HSL mode. Adobe replaced these modes with an optional filter that allows us to get that functionality back.

This will allow us to create selections and make adjustments to the hue or saturation of an image in ways that we couldn't otherwise do. You will first need to download the free HSB/HSL plug-in from Adobe, and you can find it here:

<https://helpx.adobe.com/photoshop/kb/optional-file-format-plugins.html>



On the website listed above, look for the plug-in that contains “HSB HSL.”

## The concept

The HSB/HSL filter will allow us to adjust the hue or saturation of an image in a special way. One thing we can do is take all of the less-saturated areas and remove the color completely, leaving only the highly saturated areas still in color.



**We can use the HSB/HSL Filter to achieve the above result. Here, we took all of the less saturated parts of the image and made them completely black and white.**

When we open an image in Photoshop, it will be in RGB mode, meaning that the image is made out of red, green and blue light. We can view these individually in the Channels panel where each channel will be displayed as a black and white image representing the amount of red, green or blue light. We can take the information available in the Channels panel and apply the HSB/HSL filter to it. With the filter, we can determine what information we're starting with and what information we want to end up with. Because we just opened the image, we know that we'll be starting with RGB set as the input mode. We can choose whether we want to end up with HSB or HSL.

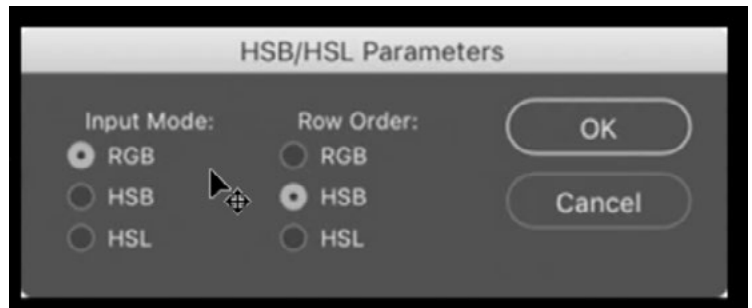


**When we open a photo in Photoshop, it will be in RGB mode, meaning that it is made out of red, green and blue light. These three can be viewed individually in the Channels panel.**

**HSB stands for Hue, Saturation and Brightness.**

**HSL stands for Hue, Saturation and Luminosity.**

If we choose HSB, it's going to take the channels that used to represent Red, Green and Blue and it's going to change them so that they instead represent Hue, Saturation and Brightness. The Hue channel will try to show us what colors are in the image and it will do this by displaying shades of gray. Each shade represents a different hue.



**When we run the HSB/HSL filter, we can determine what we're starting with (RGB) and what we want to end up with (HSB or HSL).**

The Saturation channel will show us how saturated the various areas in the image are. Anything that's black represents an area that has no color. Anything that's white represents an area that's as colorful as it could get. The shades of gray are all areas in between. The Brightness channel is showing how bright the different areas of the image are. An area that is black is completely dark and an area that's white is very bright.



**When we switch the channels from RGB to HSB, the image will stay in RGB mode but the information stored in the three channels will be the Hue, the Saturation and the Lightness.**

**Brightness vs. Luminosity** As we mentioned above, we have the choice between HSB and HSL. Brightness and Luminosity might sound like the same thing (and they are very similar), but there is actually a difference, and you'll notice that the term Brightness is used in some areas of Photoshop and Luminosity is used in others.

Brightness is how the computer describes the colors and Luminosity is how we see the colors with our eyes. For example, with Brightness, it might recognize a bright yellow hue as having maximum brightness, because it's as bright as the hue can possibly get. To our eyes, however, the same yellow hue will look darker than white, and so the Luminosity setting will not be at its maximum setting.

The HSB/HSL filter is going to change what information is shown in the different channels, but it is going to leave the image in the same mode that it was in before, which was RGB. As a result, the image is going to look really strange because the information that's in the Channels panel is not representing what Photoshop thinks it does. What Photoshop expects to be in the Red channel is the part of



**Brightness is how the computer sees color. Here, it renders that yellow as being just as bright as white. Luminosity is how the eye sees color, where the yellow hue will appear slightly darker than white.**



**After running the HSB/HSL filter, the image is going to look strange because different information is being stored in the different channels.**

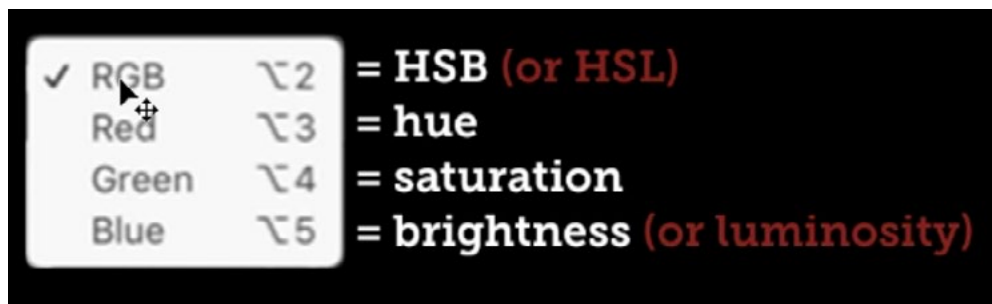
the image made of red light, but what's actually there is the Hue information. The Saturation information will be stored in the Green channel and the Brightness information will be stored in the Blue channel.

We're not going to pay attention to what the image looks like at this point. We're instead going to use the Channels panel to view the individual channels and either make selections based on them or adjust them. In the video example, we clicked on the Green channel, which contains the saturation information in the image. We want to take any of the more mellow colors in the image and make them completely black and white, leaving only the really vibrant areas (like the truck)



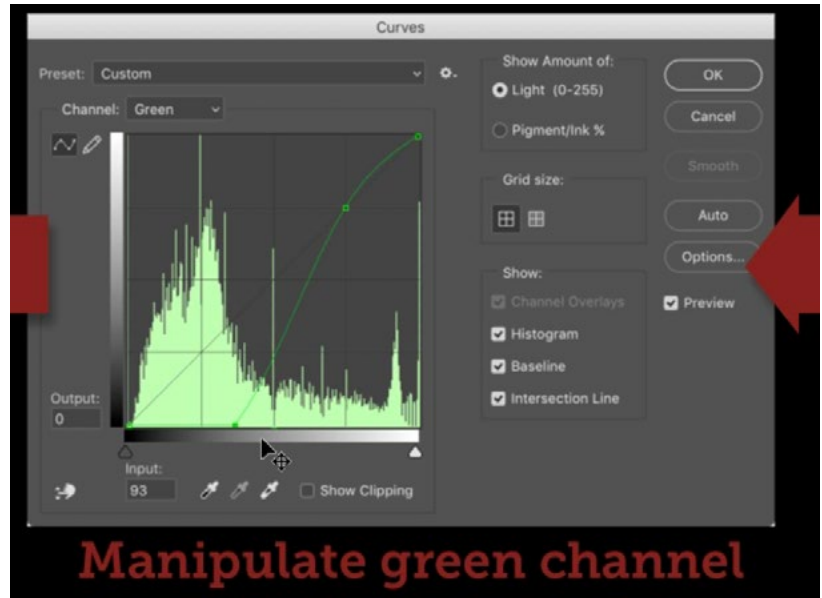
After running the HSB filter, the Saturation information is being stored in the Green channel, and here we are viewing that channel in the Channels panel. The most colorful areas are white and the least colorful areas are black.

still in color). To do this, we can make an adjustment to this channel using Curves. When working with Curves, we'll be using the Channel menu, which includes the options to work on RGB, Red, Green or Blue. Because we used the HSB/HSL filter, these menu items will actually represent, HSB, Hue, Saturation and Brightness (even though they will still read out Red, Green and Blue.)



The options in the Channel menu within the Curves dialog will read as Red, Green and Blue, but they will actually mean Hue, Saturation and Brightness.

In the Curves dialog, we'll set the Channel menu to Green, which in this case, represents the saturation in the image. The areas that appear dark in this channel represent the areas with less saturated colors. The areas that appear bright represent the areas with more saturated colors. We'll add a point to the curve and drag it all the way down, positioning it on the bottom of the chart and to the right of all the bars representing the mellow colors. In a regular Curves example, this would force all of those areas to black. In this example, it will force all of those less saturated colors to become completely colorless. In the video example, we can see that the only bright areas left are the truck and the sky, which were the areas that originally had a lot of color.



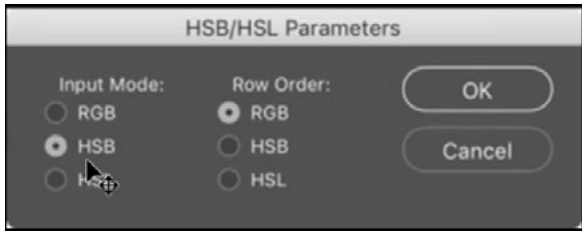
**Here, the Green channel (which holds the saturation information) is being manipulated to make all of the less-saturated colors completely black and white.**



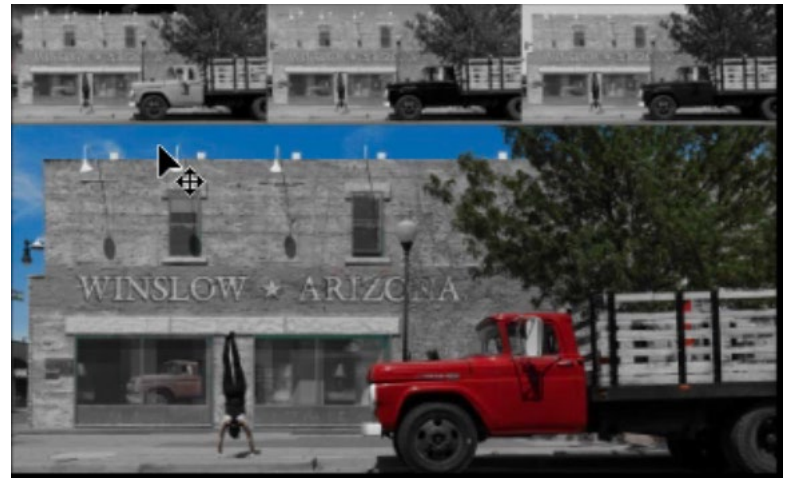
**This is a view of the Green channel after we made the Curves adjustment. All of the bright areas are the parts that have a lot of color.**

Looking back at the image as a whole (all three channels at once), it still looks really wacky and we need to make it look normal. We'll use the HSB/HSL filter again, changing the mode from HSB back to RGB. Note that the filter needs to be viewing the full color image, so make sure that the top option in the Channels panel

(RGB) is selected before running the filter. This will make the image look normal again, and we can see what we accomplished. In the result, the truck and the sky are the only parts of the image in full color. The rest of the image has gone black and white. This is because we were able to make adjustments to the image purely based on saturation (desaturating the more mellow colors).



**The HSB/HSL filter is being run again, this time converting from HSB back to RGB. In the result, you can see that the vibrant areas are the ones that originally contained a lot of color.**

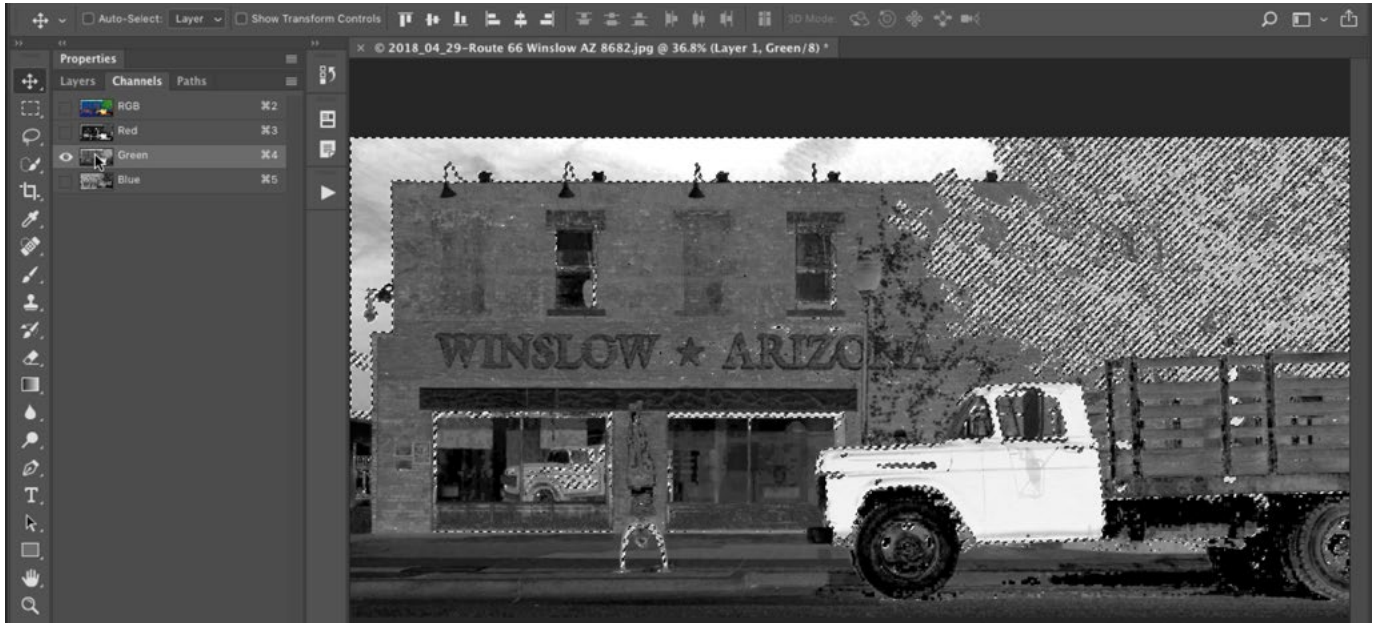


## Make a selection based on saturation

We can use the HSB/HSL filter to help us make certain kinds of selections and then use those selections to make adjustments to the image. In the example image, we're going to make a selection based on saturation. We'll start by duplicating the image layer and then applying the filter to the duplicate. We'll go to the Filter menu and choose Other > HSB/HSL. We'll make sure the Input option is set to RGB and we'll set the Row Order option to HSB before clicking OK.

Next, we want to load the Green channel (the channel containing the Saturation information) as a selection. When we load the channel as a selection, we'll get a special selection where the most colorful areas of the image are mainly selected. As it gets into the areas that are less colorful, they will be less and less selected. If an area has no color whatsoever, it will not be selected whatsoever. To load a channel as a selection, we'll hold down the Command key (Ctrl on Win) and click on the thumbnail for the Green channel. Now that we have the selection, we can go back to the Layers panel and drag the top layer to the trash. We only needed it

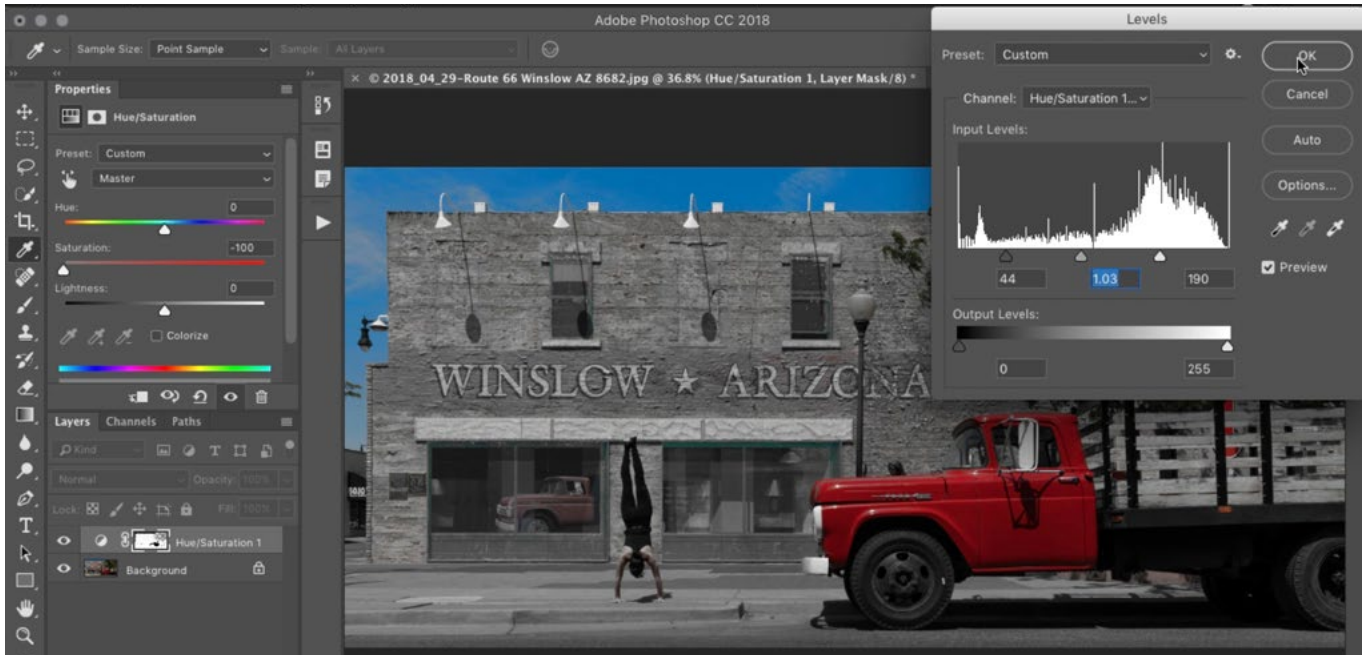




Here, we held down the Command Key (Ctrl on Win) and clicked on the thumbnail for the Green channel to load that channel as a selection.

to create the selection based on saturation. We now have the original image and a selection where the most colorful areas are most selected and the less colorful areas are least selected. If we were to make an adjustment with this selection active, the adjustment would mainly affect the colorful areas. In the video example, we actually want the opposite so we'll go to the Select menu and choose Inverse. This will give us the opposite selection, where the least colorful areas are most selected. With this selection active, we'll click on the Adjustment Layer icon at the bottom of the Layers panel and choose Hue/Saturation from the pop-up menu. Because we have an active selection, the selection will automatically be applied to the layer mask that's attached to the adjustment layer. This means that when we move the sliders in the Hue/Saturation Properties panel, the less saturated parts of the image are the only areas where the adjustment will be visible. We'll move the Saturation slider all the way to the left, desaturating the mellow colors we have targeted.

Because we're isolating certain areas using a layer mask, we can make changes to that layer mask, changing what parts of the image the adjustment is affecting. With the layer mask selected in the Layers panel, we'll go to the image menu



**A Levels adjustment is being used to adjust the layer mask that's attached to the Hue/Saturation adjustment layer.**

and choose Adjustments > Levels. When we work with the settings in the Levels dialog, it will be affecting the Layer mask, not the image. (Note that we need to choose the Levels adjustment from the Image menu and not the Adjustment Layer menu because an adjustment layer can not change the contents of a mask.) In the Levels chart, the blacks represent the areas that are not going to be affected. If we drag the black slider to the right, we'll force more and more areas of the mask to black so that they can not be affected by the adjustment. As we drag the black slider to the right, we can see more of the truck become more colorful. We can also move the white slider to the left, forcing more and more areas of the mask to white. It's the white areas that are receiving the full adjustment, so this will cause more areas of the image to be completely desaturated. Finally, we'll use the center slider to control the transition between what's black and what's white. After fine-tuning the Levels adjustment, we'll click OK.

Now, we can further adjust the layer mask if need be. In the video example image, I didn't like that the adjustment affected Karen's skin. To correct for this, we'll activate the Brush Tool and use a semi-soft brush to paint with black over her skin, making it more colorful again.



The Brush Tool is being used to adjust the layer mask. Here, we're painting with black in order to hide the adjustment in the skin areas.