

## Tutorial: Using a Chroma Key

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In the last tutorial, we used a luminance key to knock out dark areas of a layer. However, not all footage is suited to luminance keying. With chroma keying, we can knock out a specific color to reveal underlying layers.

A chroma key is usually used to knock out a background to superimpose an element over other footage. That's what we're going to do here to create footage of gunshots hitting a door. (The results of this footage can be edited onto the end of our previous tutorial to create a finished shot of a hand firing bullets that hit a door.)

For this tutorial, you'll need an editing or compositing package that supports chroma keying.

### STEP 1: SET UP YOUR PROJECT

Create a project and load the following media from the Chroma Key Tutorial folder found with the Chapter 17 materials on the [www.digitalfilmmakinghandbook.com](http://www.digitalfilmmakinghandbook.com) website: door.still.psd, bullethole.still.psd, bullethole.mov. Place door.still.psd in your timeline. If your editing program does not support Photoshop files, you can try the TIFF version of the documents. (Note that, in the interest of saving space on the website, we have chosen to use a still of the door, rather than a movie. In practice, it's a better idea to use a video of the door, even though there's no movement in the image. A movie will show changes in noise and grain, while a still will have a slightly different quality that will be recognizable to your viewers.)

### STEP 2: ADD A BULLET HOLE

Add the bullet hole still to a layer or track above the door's layer. (This bullet hole is a still from the same ArtBeats Gun Stock collection that provided the muzzle flashes.) The door will be completely obscured by the blue surrounding the bullet hole.

### STEP 3: ADD A CHROMA KEY

Add a chroma key to the bullet hole still. Next, you need to specify the color you want to "key out" or eliminate. Many chroma key functions provide an Eyedropper tool that you can use to sample the key color directly from the image in your program monitor. Other programs require you to specify the color numerically or with a slider.

Don't be surprised if you don't see any changes after selecting the color. Most blue screens have a degree of variation in them, so selecting one single color isn't going to eliminate an entire field of slightly varying hue. Fortunately, most chroma keys also have some type of tolerance control that lets you specify a degree of variation from your chosen color. Adjust the tolerance control until your background is removed.

Your chroma key function also probably provides controls for thinning and blurring (or feathering) the edges of the keyed areas. Adjust these to eliminate any remaining blue fringes around the bullet holes and to soften the edges to blend them better into the door (see Figure 17.19).



**Figure 17.19**

By feathering the edge of our chroma key, we can blend the bullet hole into the underlying video.

#### **STEP 4: POSITION AND SCALE THE BULLET HOLE**

At its normal size, this bullet hole is rather large. (After all, it was plainly a small-caliber finger.) Scale down the bullet hole to something more appropriate and then position the hole somewhere on the door. In After Effects, we can scale the bullet hole layer by dragging one of its corners to resize. We can then reposition by dragging the image to another location. Other programs might require the use of a dialog box or special motion command.

#### **STEP 5: TINT THE HOLE**

At this point, the bullet hole plainly looks like it's floating over the door layer. But why? What's not quite right? As we've discussed throughout this book, video is composed of luminance and chrominance information (lightness and color). It's good to think in those terms when trying to match two pieces of video, either when editing shots into each other or compositing them on top of each other. Is there a chrominance difference between the bullet hole and the door? Unfortunately, because the door footage was underlit, it has a very slight greenish hue to it. This is in fairly sharp contrast to the strong reddish tones of the splinters in the bullet hole layer. Using the color grading tools in your package, apply a slight green tint to the bullet hole.

Next, look at the luminance of the hole. It's a little bright compared to the duller tones of the door. Again, using the color grading tools at your disposal, adjust the luminance to darken the bullet hole a little bit. Because the bullet hole

has few highlights, and because its blacks are very black, you can probably concentrate your luminance adjustments to the midtones. See Color Plate 38 for before and after examples of this color grading.

### **STEP 6: STILL NOT QUITE RIGHT**

It still looks like a decal, doesn't it? Consider the overall image quality of the two layers. Is there any difference? The bullet hole looks sharper and more detailed than the door. This makes sense, since the bullet hole was shot using 35mm film and digitized at high-resolution. Apply a slight blur to the bullet hole layer (see Figure 17.20).

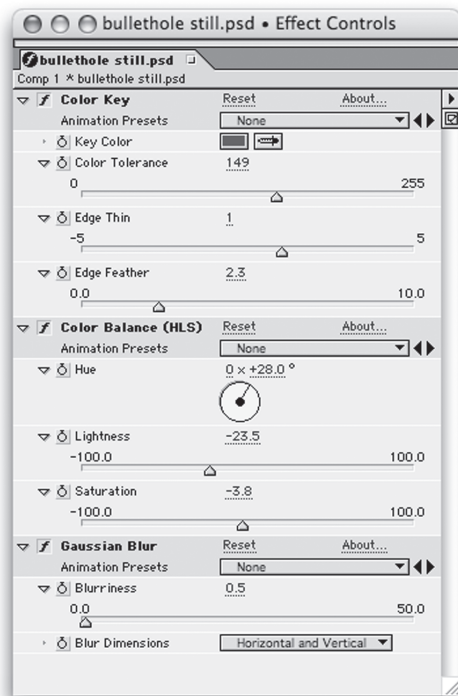
### **STEP 7: ADD THE REST**

When you're satisfied with your first bullet hole, make two more copies of it and stack them on separate layers. Drag each copy to a different location on the door. You should also apply different scale amounts and a little rotation to each bullet hole to hide the fact that they're really all the same image. Separate them by a few frames or seconds in the timeline to correspond with the timing of the bullet hits. There were four shots fired from our "handgun." For the last one, let's see it actually impact the door.

### **STEP 8: ADD THE LAST HIT**

Bullethole.mov ([www.thedigitalfilmmakinghandbook.com/chapter17](http://www.thedigitalfilmmakinghandbook.com/chapter17)) actually shows a whole bullet hit. Drag it into yet another layer and apply the same chroma key, color balance, and blur filters that you applied to the still images. Position, scale, and rotate the layer appropriately.

That's it! Now, you can render out a final shot and edit it into your footage of the handgun firing. If you cut to the door shot right before the impact of the last bullet, you'll have a somewhat dynamic little scene.



**Figure 17.20**

Our final composite looks good, but as you can see, it takes a good number of filters to get it there.