

## Tutorial: Adding Camera Shake

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In Chapter 4, “Choosing a Camera,” we told you to buy a camera with good optical image stabilization. Then we nagged you to use a tripod during your shoot. Now we’re going to risk sounding hypocritical and show you how to *add* a shaky camera effect to your footage. Why on earth would we want to do this?

Next time you see a big action/adventure movie, pay attention to how much the camera shakes when something explodes or when cars crash into each other. Adding a camera shake can greatly increase the sense of impact in a special effect or stunt shot.

Earlier in this chapter, we created a video of a finger firing a gunshot. We’re going to return to this clip now and add a tiny bit of camera shake to make the image more compelling. We’ll do this by animating the position of the clip to make it jitter up and down.

We recommend using Adobe After Effects for these types of effects, as its motion features are much easier to use, as well as more powerful, than many editing programs. A demo version of After Effects is available for download at the Adobe website. Although After Effects is the ideal tool, you can use any editor or effects package that allows you to change and animate the position of a layer (see Figure 17.25).

### STEP 1: CREATE A PROJECT

In After Effects, create a project, and import the hand-gun.mov file from the Camera Shake Tutorial folder located on the Chapter 17 page on the companion website. Create a new composition with the same size and duration as the movie. Place the movie in the composition.

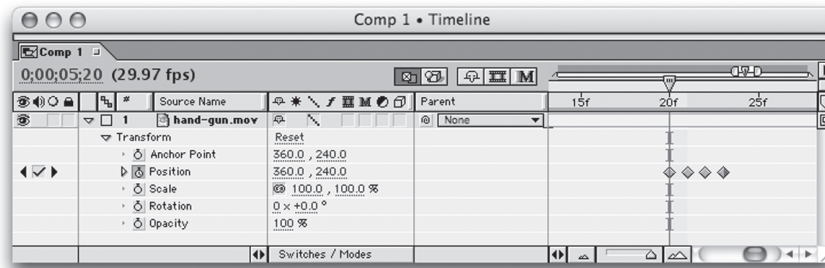
### STEP 2: ENABLE ANIMATION OF MOTION

In many programs, you must specify that you want to animate a particular property before you can set any keyframes for that property. This ensures that you don’t accidentally set keyframes for things that you don’t want to animate. In the After Effects Time Layout window, open the arrow next to the hand-gun.mov file. Now, open the Transform arrow. Next to each property is a small Stopwatch icon. Click the Stopwatch icon next to the Position property to tell After Effects that you will be setting keyframes for the position of this layer.

### STEP 3: SET THE FIRST KEYFRAME

In the Time Layout window, scrub forward until you find the frame where the first muzzle flash occurs. When we clicked the Stopwatch icon in Step 2, After Effects automatically set a position keyframe at frame one. The current time marker is now at the first frame of muzzle flash. If we reposition the frame here, After Effects will automatically interpolate between the first frame and the current frame, creating a very slow movement of the image between those two frames. That’s not what we want. We want a sharp jolt from the first position to a new position.

Back up one frame and set a new keyframe by clicking in the check box at the extreme left of the Time Layout window, in the same row as the Position property. This will set a keyframe at our current position—one frame before the muzzle flash—and serve to “lock down” the position of the image until we want it to move.



**Figure 17.25**

By setting keyframes for the “hand-gun” layer’s position, you can make it jitter up and down, resulting in the appearance of a shaky camera.

#### **STEP 4: SET THE NEXT KEYFRAME**

Now, move forward one frame. You should be back on the first frame of the first muzzle flash. Click on the image in the Comp window. You should see a bounding box and handles appear over the image. Press the Up arrow key three times to move the image up three pixels. Now click the Left arrow key twice to move the image two pixels to the left. Notice that After Effects automatically sets a keyframe for you—be sure to thank it.

#### **STEP 5: BRING THE IMAGE BACK DOWN**

Think about how you might shake a camera when you are startled. The initial movement will be sharp and extreme. Going back to your original position will be slower. We don’t want a huge shake in this case because the gunfire is not a huge event. However, we still want a slower return to our original position.

Move forward one frame. Press the Down arrow twice and the Right arrow once. This will move your image most of the way back to its original position.

Now, move forward one more frame. Press the Down arrow once and the Right arrow once. This will return your image to its original location.

## STEP 6: NOW DO THE REST OF THE FLASHES

Use the same technique to shake the camera during the rest of the flashes. The flashes have different intensities, so not all of the shakes need to be the same. In addition, move the frame in different directions and in different amounts so that each flash doesn't look identical. You might also find that you want to put a second, smaller movement immediately after your first one. This will create a "bounce" as the camera returns to its original position.

When you're done, render your movie and look at it. You might find that some shakes are too quick and need to be slowed down. You can click on a particular keyframe and reposition your image to adjust the degree of shake, and slide the keyframes around to adjust the timing of your camera shakes.

You'll probably also notice that when we moved the frame, we exposed the empty black space that's lying beneath it. If your final destination is video, this is not a problem, as we only moved the frame a few pixels. These black areas are at the far extreme of the action-safe area, so any monitor will crop out these areas.

If you're distributing this movie on the Web or DVD, then you'll have a couple of options:

**Place another copy of the original footage beneath the shaking copy.** When the top copy moves, it will reveal the lower copy. Although the pixels aren't necessarily accurate, they're close enough that no one will notice.

**Shrink your image size or enlarge your footage.** Instead of the previous option, you can always just crop your frame to eliminate the black areas. If you're going to the Web, you're probably going to be reducing the size of your image anyway (usually to something like 320 [x] 240 or smaller). Therefore, even if you crop your image now, you'll have plenty of pixels left to do a good resizing later. The other option is to enlarge your footage. For the small screen, you can probably get away with enlarging it 90-95% without noticeably degrading the image. For the big screen, enlarging more than a tiny amount is not recommended. For the Web, you can get away with enlarging it by 80% or more, depending on your material.