

Adobe After Effects 7.0 Motion Graphics and Special Effects

The animated text examples in the previous module gave you an idea of how you can move not only text, but any object through 2D or 3D space in Adobe® After Effects® 7.0. You can apply that motion to any object and you can give that object keyframeable parameters that change its characteristics over time.

What makes this different than similar keyframeable motion effects in Adobe Premiere® Pro 2.0 is the minute level of control you have over the motion (including speed, curves, and the use of 3D space) and the number of special parameters.

I'll introduce that motion graphics concept with some simple paint and touch-up examples, show you a few special effects, then go over a high-level motion control effect.

Module Overview

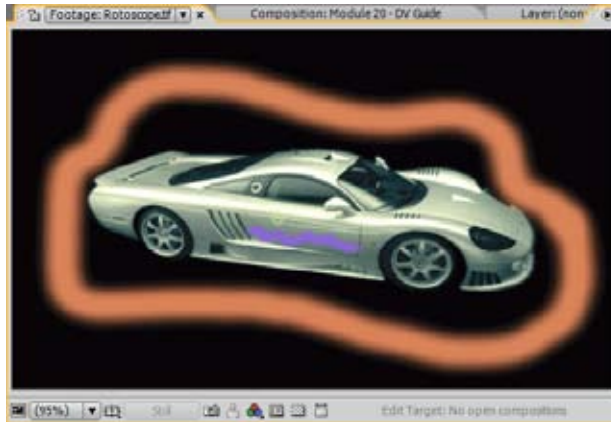
Topics covered in this module:

- Introducing Adobe After Effects 7.0 painting and touch-up tools
- Using the Paint tools
- Animating brush strokes
- Using the Clone Stamp tool for touch-ups
- Working with effects
- Putting effects in motion with Motion Tracker

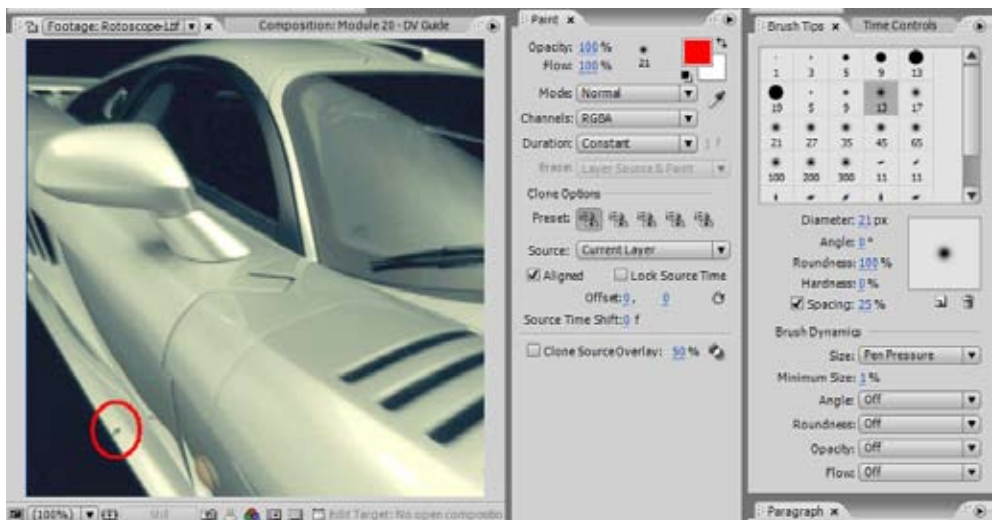
Introducing Adobe After Effects 7.0 Painting and Touch-up Tools

Adobe After Effects 7.0 includes a set of Adobe Photoshop®-style paint and touch-up tools. You can use them simply to create some wild, animated art and, as shown in the next figure, to apply rotoscope-style

animation to video. The huge advantage when using Adobe After Effects 7.0 instead of Photoshop to do rotoscoping is the ability to animate it over time instead of tediously applying it on a frame-by-frame basis.



The Paint and Brush Tip tools, along with the Photoshop-style Clone tool, enable you to repair problem areas in a video. The next figure shows the paint tools and brushes. It's a simple matter to use the eyedropper tool to select a color right next to that black smudge in the car door and then select a soft-tipped brush to fix that smudge. Or use the Clone tool to do the same thing.



By using keyframes, you can apply touch-ups to multiple frames to track any movement in the video clip. That work can be mighty tedious—to fix this two-second clip required applying touch-up work to several dozen frames.

Adobe After Effects 7.0 has a solution. Its new Motion Tracker can automate this touch-up process as well as perform some much more dramatic effects. I cover it later in this module.

Working with the Paint tools is slightly different than working with the Text tools. When you create text, you automatically create a new layer in the Timeline and you work directly in the Comp panel.

With Paint, you need to open a specific layer in a separate panel and apply the paint to it. Making that adaptation requires only a couple extra mouse-clicks. To see how your work effects the rest of the comp, you can drag its layer tab out of the Comp panel and view the Comp and the layer side-by-side. This is yet another reason why editors who work with Adobe After Effects 7.0 and Adobe Premiere Pro 2.0 like to use dual monitor systems.

Task: Using the Paint Tools

What makes Paint in Adobe After Effects 7.0 so much more powerful than in Photoshop, for instance, is that every paint characteristic is keyframeable. You can animate brush strokes, colors, and brush dynamics—diameter, angle, hardness, roundness, and so on. Here's a basic overview:

- 1** Open a new Comp by selecting **Composition > New Composition** and selecting a TV preset.

- 2** Give your Comp a solid background, just as you did with the text exercises.

Do that by selecting **Layer > New > Solid**. Select **Make Comp Size** to match your TV preset, and either accept the default black color or give it a new color by using its color picker.

- 3** Double-click on the solid layer in the Comp panel or Timeline to access it in its own Layer panel (as I mentioned earlier, painting happens in the Layer panel as opposed to directly on the Comp).

- 4** Open the Paint and Brush Tips panels by selecting **Window > Workspace > Paint**.

You might want to drag the panels to new location, as I did in the previous figure.

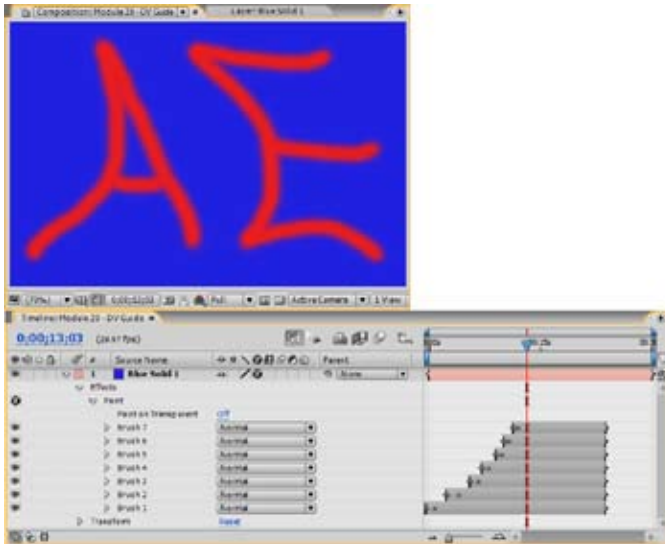
- 5 Select a Brush tip and note that you can change its diameter, put it at an angle, change its roundness (turn it into an oval), alter its hardness (more or less diffusion around its perimeter), and switch on and update spacing. Select a color and paint some strokes on the Solid layer panel.
- 6 Take a look at the Timeline and your Solid Color layer in that Timeline.

Note that Adobe After Effects 7.0 has added an Effect parameter to that layer.

- 7 Twirl down the Effect disclosure triangle to access its Paint parameter and then open Paint.

Each brush stroke has its own layer in this Comp. This is an amazing level of control. As shown in the next figure, you can slide each brush stroke into the Timeline a bit to have each one pop on-screen or animate individually.

Note: Spacing is the distance between the brush tip marks in a stroke. The value is a percentage of the brush diameter. When this option is deselected, the speed of the cursor determines the spacing.



Adobe After Effects 7.0 gives each brush stroke its own layer. I stair-stepped them to have each stroke appear on screen in the order I drew them.

As if putting each brush stroke into its own layer is not detail enough, note that each Stroke has its own disclosure triangle.

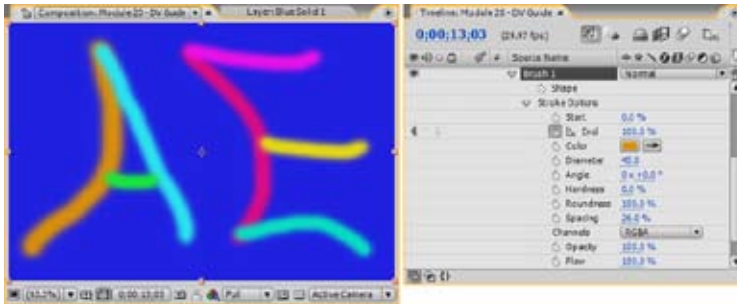
Brush Dynamics.

You can use Brush Dynamics if you have a pressure-sensitive digitizing tablet such as one from Wacom. These are standard tools-of-the-trade for graphic artists who use those tablets to draw just as if they were drawing on a sketch pad. Adobe After Effects' Paint tool reacts to changes in stylus pressure and angle by changing the appearance of the paint effect as the artist draws. It's a very powerful feature that's worth checking out.

8 Twirl down a Brush's disclosure triangle in the Timeline, and open its Stroke Options parameter.

Here you can alter each stroke's characteristics using the same parameters available in the Brush Tips and Paint panels. As shown in the following figure, I changed each stroke's color.

Note: Color and other Stroke Options are all keyframeable. That is, you can change a stroke's tip size, color, hardness, and so on, at any point in the Timeline.



Task: Animating Brush Strokes

Now we'll go beyond simply popping each stroke on screen. We'll animate them in such a way to make them come on screen just as you painted them in the first place.

- 1** Select Brush 1.
- 2** Expand its Stroke Options subgroup.
- 3** Move the CTI to the first frame (press the Home shortcut key).
- 4** Switch on Keyframes for the End parameter and set End to 0%.
- 5** Move the CTI in a couple seconds, and set End to 100%.
- 6** Drag the CTI or RAM preview and watch as that stroke animates just as you drew it.

You can do the same for the rest of the Brushes.

You can paint directly on a video. Simply drag a video clip to your Timeline. Double click its layer to open it in its own Layer panel and draw directly on that clip. Once again you can access each Brush Stroke in the Timeline, and you can use the Transform parameters to have your paint job follow the motion of the object you colored in the clip.

Note: This brief task is an example of rotoscoping. Unlike rotoscoping in Photoshop, in this case, you don't have to apply the rotoscoping on a frame-by-frame basis. Here you simply change the Transform parameters to have it follow the action and alter the Stroke Options to animate things like brush tip size and paint color. This is yet another example of how Adobe After Effects 7.0 can speed up production and enhance your DV project.

Task: Using the Clone Tool for Touch-ups

This next task demonstrates how to touch up a video clip on a frame-by-frame basis. It can be tedious and time-consuming work, depending on how many frames need changing and how much motion there is within the video clip.

The Adobe After Effects Clone Stamp tool works just as it does in Photoshop. Basically, you select a portion of the video clip to serve as the patch, then apply that group of pixels to the area that needs fixing. As with Paint, you do it directly on the layer of the asset that you're fixing rather than applying it within the Comp panel. You might need to do it on a frame-by-frame basis, but, as you'll learn later in this module, you can use the Motion Tracker to automate that process. Here's how to do it:

1 Either open a new Comp or switch off the display of the layers in your current Comp. Add a video snippet to it that might need some repair work. In my example shown in the next figure, I want to get rid of that little plane.



2 In the Tools panel, select the Clone Stamp tool (highlighted in the next figure). That opens the Paint panel, which displays a couple options specific to cloning. In this case, set Duration to Constant, Aligned to On, and Lock Source Time unchecked (off).



3 From the Brush Tips panel, select a brush to suit your circumstances.

In my case, I selected a brush that matched the size and angle of the little plane I wanted to remove.

Video Cloning Advantage

In Photoshop, when repairing still images, you typically select a region from which you want to sample some pixels by trying to find something in the image that works well to fix the place you want to repair. Not necessarily an exact science.

Repairing video with the Adobe After Effects Clone Stamp tool has at least one advantage. You can replace something (the plane in my case) with whatever was there before the plane arrived (in this case, blue sky). I think you'll see what I'm talking about when you move on to Step 4.

4 How you make your repairs will depend on your video. Here's what I did.

- Placed my Clone Stamp tool over the plane
- Pressed Home to move the video to its first frame without moving the Clone Stamp tool
- Sampled that spot in the sky (Alt-Click for Windows and Option-click for a Mac).
- Moved the CTI in the Timeline so the plane was back in position.
- Clicked the Clone Stamp tool there.

5 In the Timeline, I twirled down the newly added Paint Effect, then Clone 1, and finally its Stroke Options. I set a keyframe for the Clone Position.

6 I pressed End to go to the edit-out point of the video, rolled my cursor over the plane, and noted its position in the Info panel. I typed in those X/Y figures in the Clone Position settings to set that ending position for what amounts to a moving Clone.

7 Then I twirled down Transform and set the exact same keyframes for its position Parameter. Thereby removing the plane from my video.

I was able to automatically move the clone to follow the plane's flight path because it was a linear motion. Other clones don't follow such a predictable path. In that case, you can create multiple clones for every changing frame.

Task: Working with Effects

Adobe After Effects 7.0 has about 200 effects that enable you to correct and enhance your footage. And that's only for starters. The Adobe After Effects third-party plug-in business is huge. Scores of effects are available from many developers. Here are a few that come with Adobe After Effects:

- **Lens Blur**—Simulates a narrower depth of field by blurring some objects in an image while leaving others in focus.
- **Fractal**—Renders one of two types of fractal images that add a colorful texture to your clips.
- **Turbulent Displace**—Uses fractal noise to create distortions.
- **Warp**—Transforms layers into geometric shapes, arcs, waves, and fish-eye lens views.
- **Liquify**—Ten brush-based tools that enable you to distort footage.
- **Vegas**—Generates running lights and other path-based pulse animations around an object.

Trying Out Some Cool Effects

Working with effects in Adobe After Effects is a lot like working with effects in Adobe Premiere Pro. Each effect typically has a set of parameters unique to that effect. As you apply effects to a layer, they show up in the Effect Controls panel, and you can adjust

parameters globally or with keyframes there. You also can make the same adjustments in the Timeline.

- 1 Open a new project and a new composition.
- 2 Double-click in the Project panel, select a video clip, still or graphic, and click Open.
- 3 Drag that clip to the Timeline and select it to display it in the Composition panel.
- 4 In the Effects & Presets panel, twirl down the Distort bin disclosure triangle, and drag Warp to the Composition panel.



- 5 Try out the various presets in the Effect Controls panel such as Wave, Flag, and Arc. Move the other sliders as well as grab the bounding box corners in the Composition panel to change the size and orientation of your original clip.
- 6 Press Ctrl+Z to Undo Warp and drag Liquify (Distort folder) to the Composition panel.

This may be a first for you: icons in the Effect Controls panel. Liquify lets you manually distort portions of an image. To see how that distortion works, you can turn on the effect's Mesh view which shifts and distorts as you drag one of Liquify's 10 tools around the screen.



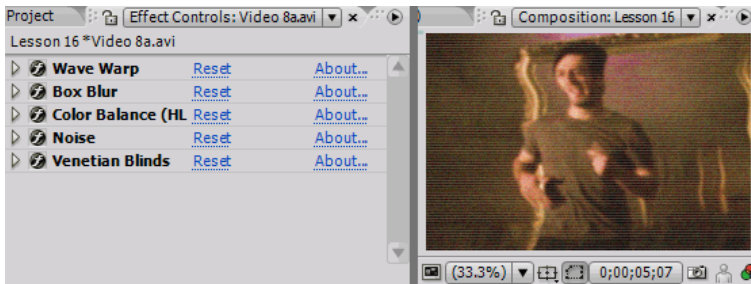
7 Replace Liquify with Colorize-Gold Clip (Animation Presets > Image-Creative folder).

Note that it's actually the Solid Composite effect with a preset built-in. Open its two drop-down lists and select a different preset or blending mode.



8 Replace Colorize with Bad TV2-Old (Blur & Sharpen > Box Blur).

This is a preset within an effect that combines five (!) effects: Wave Warp, Box Blur, Color Balance (HLS), Noise, and Venetian Blinds.



Task: Putting Effects in Motion with Motion Tracker

The Adobe After Effects Motion Tracker (available with the Professional version only) enables you to accurately, quickly, and painlessly follow motion and then connect effects to those moving objects. You can track any number of moving objects and then link effects directly to those objects.

As I mentioned earlier in this module, you can track something you want to touch up, then apply that touch-up effect to the track (actually a collection of keyframes) and save a lot of time.

You can highlight a skier by having a transparent color matte match his every move. Follow a golf swing, leaving an arc that shows the swing's characteristics. Or, in this example, add a lens flare to the DJ's hand movements.

In Module 14, you used a manual tracking method to obscure someone's identity. Now, with a few simple mouse clicks, the Motion Tracker does that for you in record time.

Trying Out the Motion Tracker

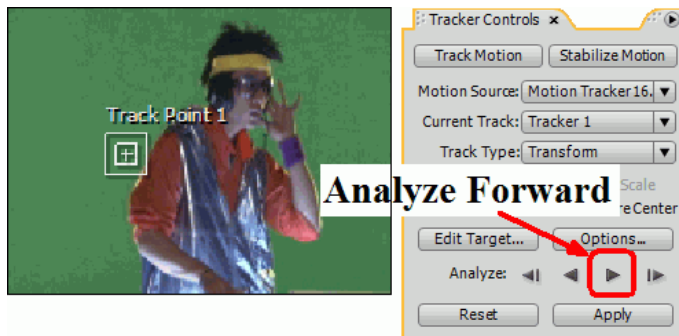
To complete this task, your students will need a simple video clip with some action. For my example, I used a DJ and will follow the action of his forearm over the turntable and apply a lens flare to that.

- 1 Import the video.
- 2 Drag it to the Timeline.

When you track motion, you can apply an effect, text, or some other object in the composition to it. In this case, you'll add a Lens Flare.

- 3 Drag the Lens Flare effect (Generate folder) to the Composition panel screen.
- 4 Click on the Motion Tracker video in the Timeline to select it, then select Animation > Track Motion from the Main Menu.

That opens the Tracker Controls dialog box shown in the next figure.



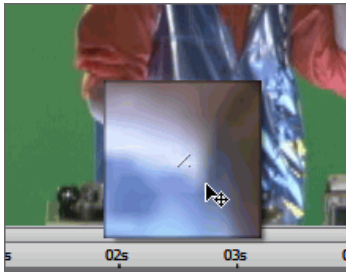
- 5 Check the Tracker Control settings to make sure the Motion Source is your video clip, that the Current Track is Tracker 1, Track Type is Transform, and Position is checked.
- 6 Click Edit Target, note that Lens Flare/Flare Center is selected and Click OK.

There will be additional possibilities if you have more than one object or effect to choose from.

7 Drag the Track Point 1 double-square/crosshair and center the crosshair on the bright highlight on the object you want to follow.

In my example, I chose the DJ's forearm because the highlight on it is easier for Motion Tracker to follow than a dark, non-descript area).

Note: To drag the double-square/crosshair, click somewhere inside the outer box. If you click on its edge, that will expand the box, increasing the area on the screen the program has to examine to track the moving target. As you drag it, the box automatically switches to a 400% zoom to help you find the exact pixel to track.



8 Check that the CTI is at the beginning of the video, then click the Analyze Forward button (highlighted in a previous figure) in the Tracker Controls panel.

The video will play and the Track Point 1 box will follow the wrist. If the Motion Tracker loses its place, click Reset, move the Track Point location and try again.

9 Click Apply, note the default Apply Dimensions setting of X and Y, and click OK.

That adds dozens of keyframes to the Lens Flare Center's line in the Timeline.

10 Play the Timeline and watch the Lens Flare follow the object on screen.



Review

▶ Review questions

- 1** You want to write a name in cursive and have it animate on screen just as you wrote it. What's the basic means to do that?
- 2** How is the Clone Stamp tool in Adobe After Effects fundamentally different than the Clone tool in Photoshop?
- 3** What's the basic process used to apply an effect to an object moving through a video?

▶ Review answers

- 1** Use the Paint tool and simply draw on screen with the mouse or a tablet tool. If you need to dot an 'i' or cross a 't', that will add an extra brush stroke layer in your timeline, but you can add those for emphasis at the end of your animation. Then in the Timeline, under each Brush Stroke, Stroke Options, turn on keyframes for the End parameter, set the initial frame to 0% and the last frame to 100%. That will animate the cursive portion of your writing. You can pop on the dotted 'i's or crossed 't's either during that animation or to add a little whimsy at the end.
- 2** In Photoshop, you select pixels from one place in an image and apply them elsewhere. So, sometimes you don't get an exact match. In Adobe After Effects, since you usually work with videos or graphic animations, you can grab pixels from the exact location you are going to fix, but do that before or after the object to which you're applying the Clone Tool appears in that location. In that way, you tend to get cleaner clones.
- 3** Add whatever it is you want to attach to that moving object (an effect, a graphic, text, touch-up artwork) to its layer in the Comp timeline. Use Motion Tracking on the video and assign its output to the object you're going to animate. Then use the Motion Tracker analysis tools to add a series of position keyframes to that element in your Timeline.

Exercises and Activities

- 1** Practice, practice, practice. Use the Paint tools to create some art or cursive writing, and use keyframes to animate it or have it follow action.
- 2** Check out Adobe After Effects 7.0 effects and use keyframes to apply their parameters at different points. You can turn some static graphics into some wild animations this way.