

Lighting a house on fire using After Effects

This is a fairly simple effect that you can implement in a lot of different ways. In this guide you will be working with basic compositing, and making fire and smoke elements blend nicely into the original shot/footage.

For this guide we will be using a picture as our original plate, where we will then add fire and smoke to it. Then we will make it look more realistic with some final touches to color grading and adding a fake camera movement.

You start out by finding a suitable raw plate that you want to work with. This can be the one I have provided, or one that you find on Google or shoot yourself.

One of the main criteria, is that the house already looks burnt, otherwise you will have to do a lot of photoshop editing, to make it look the way you want, and to sell the effect.

The picture I found (on Google) seemed suitable for lighting on fire “again”. The editing done to this picture is: darkened the windows, removed overhanging powerlines and adjusted the color levels:



Now the fun part starts. Making it all come together:

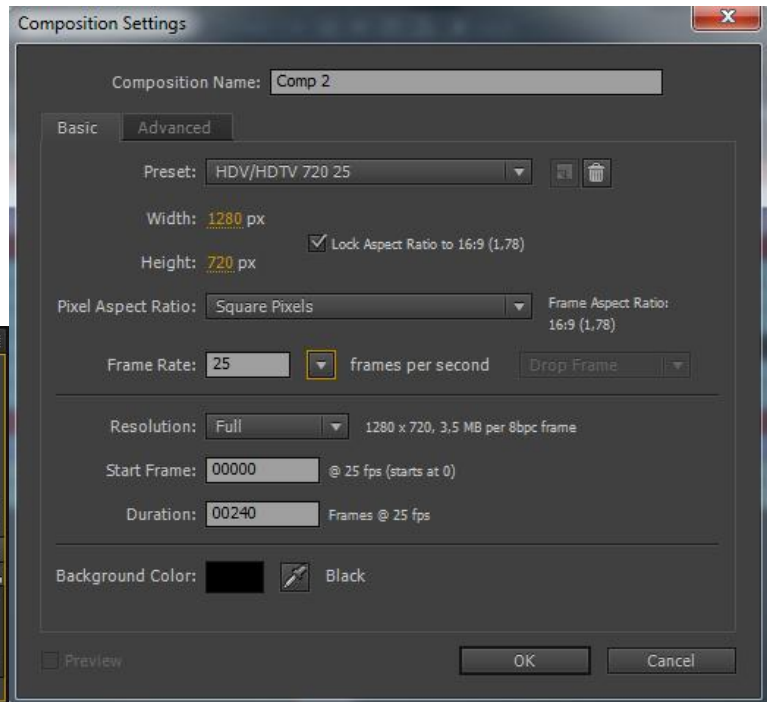
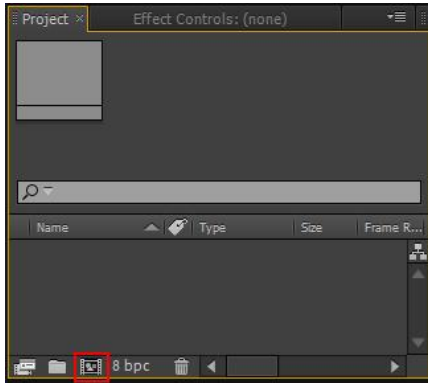


Setting up the composition

In After Effects click the new composition button:

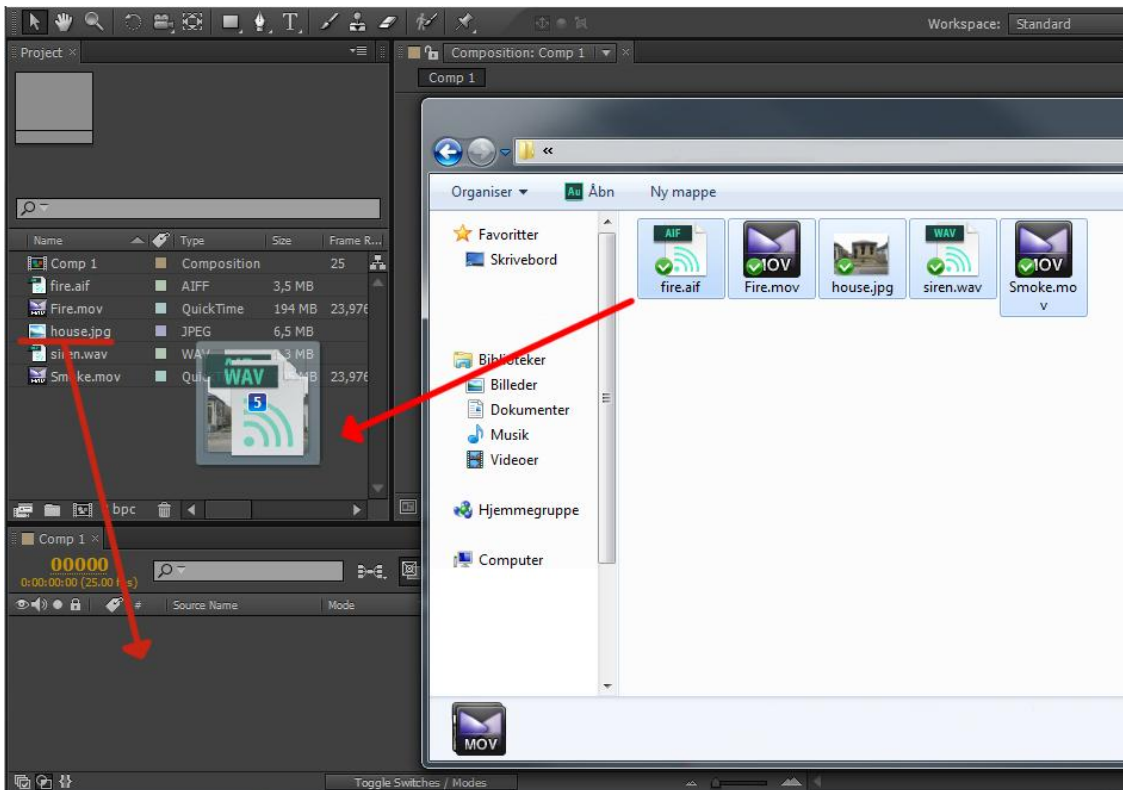
The match the settings in this dialogue:

We have now created the “canvas” we will be working in, which is



1028x720px (HD) and has 240 frames which runs at 25 fps.

The next thing you will need to do is to import the raw plate of the house, the assets (the fire and smoke elements) and the sounds, and then drag the image “house.jpg” into the new composition:



Then set the settings of the image to these values:



Adding fire

There is no fire without.... Well Fire. I have provided two video elements for use in this guide.

Here we will of course use the “fire.mov” element:

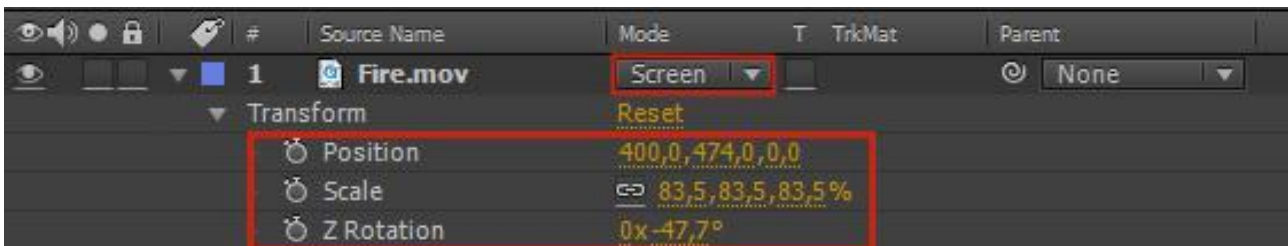


This element is actually a large bonfire, where the wind is blowing the fire slightly to the right. There is also one other “problem” with this footage. There is a ground in the shot (where the fire is emitting from).

This is not what we want, as the fire in our case should come out from a window.

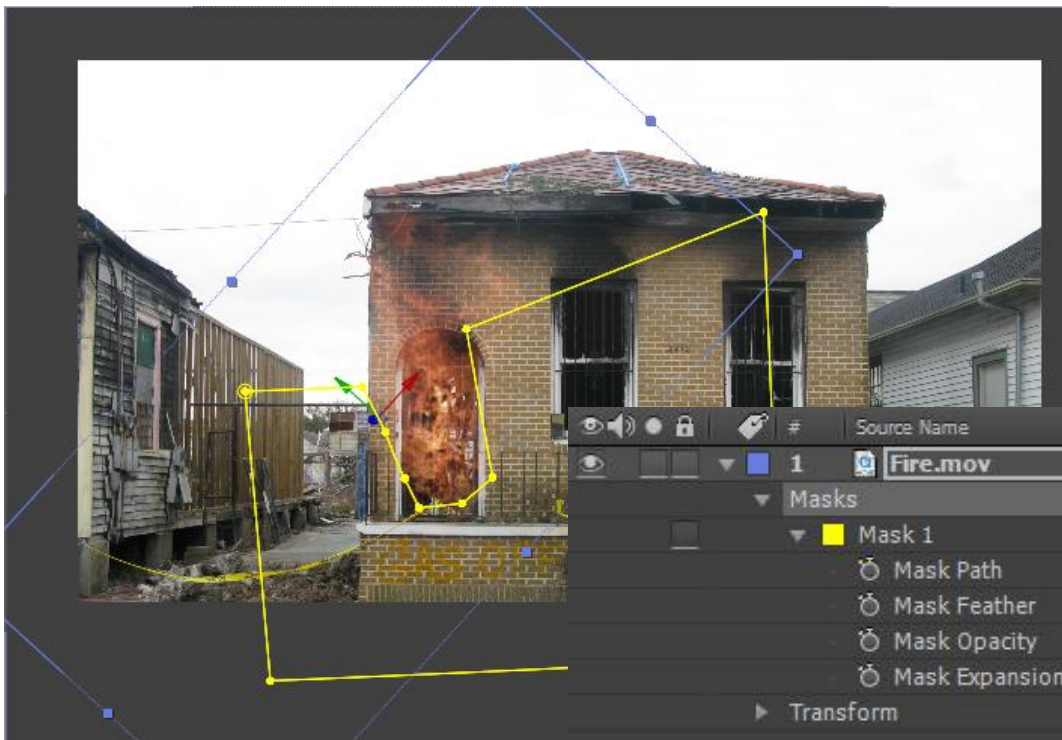
So to compensate for these factors, we will need to rotate, scale and cut into the form of the fire.

Drag and drop the “fire.mov” element into the composition (above the “house.jpg” layer), and set its settings like so (make sure you set the blend mode to screen (will make the black background transparent)):

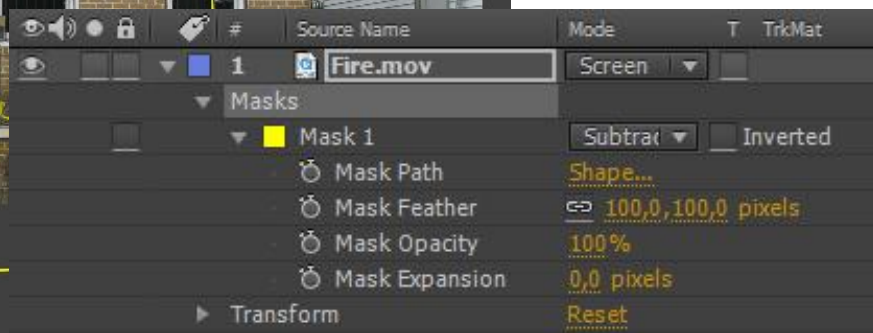


This will rotate, scale and position the fire above the door in the house image, looking like the fire is streaming out and up. The fire is however still too large for the door opening.

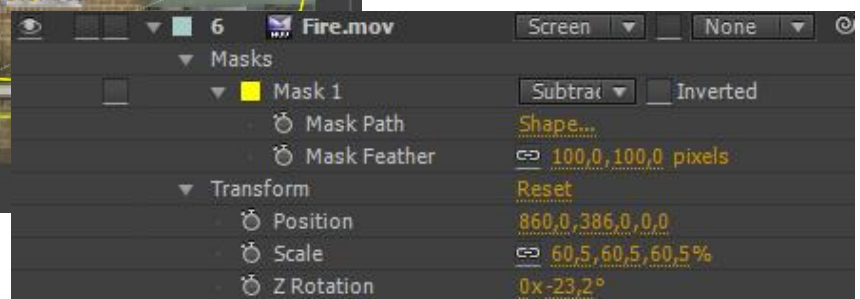
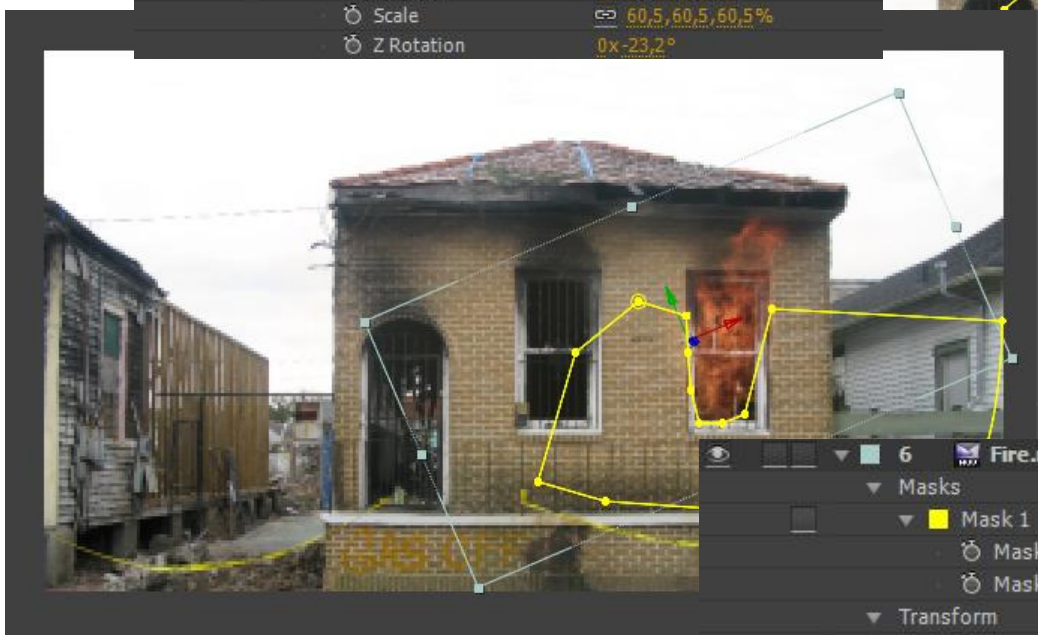
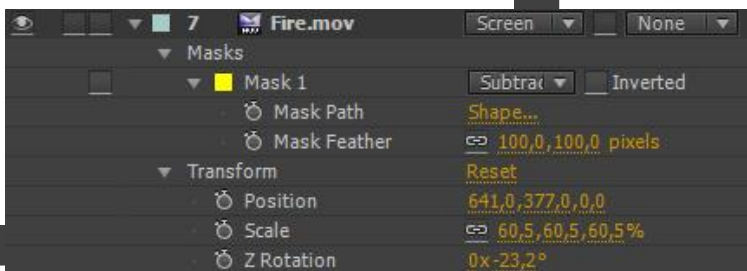
To make it fit the door better, we will need to make a mask to exclude the areas we don't want to display. Select the pen tool, and draw a mask like so:



Then set the settings for the mask like this:



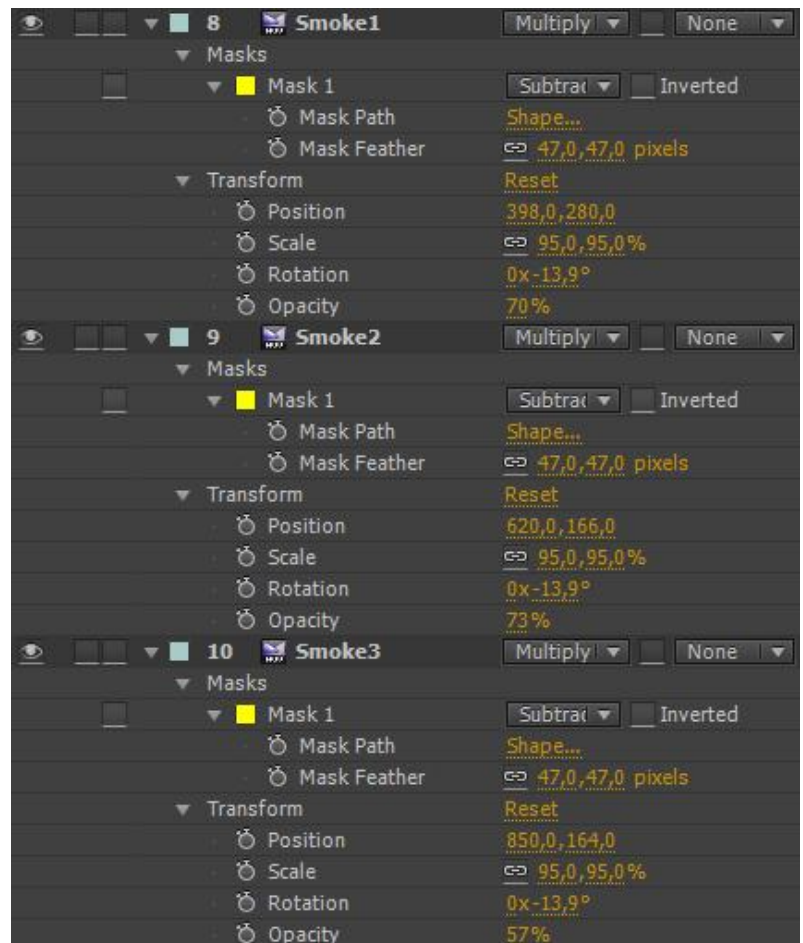
This actually finalizes the first fire element. Now we need to do the exact same things to the two other fire elements for the two windows. I will give you the settings and setups, and you can then implement that in your composition.



Adding Smoke

To further sell the effect, a house fire produces a lot of smoke. So naturally we will also need a lot of smoke coming out from the windows along with the fire.

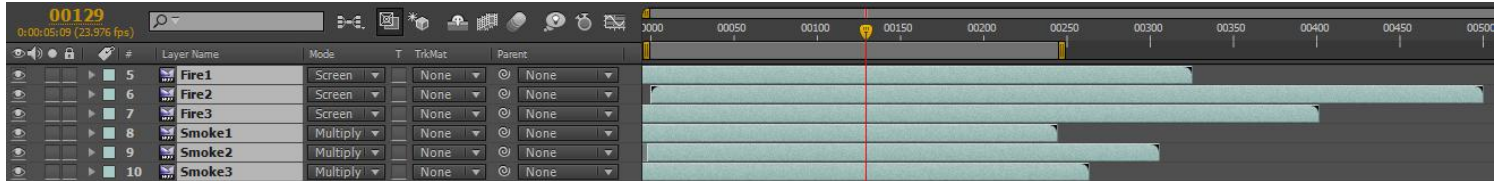
Inserting the “Smoke.mov” elements is more or less a repeat of what we did with the fire elements. You will have to insert three elements, position, rotate, scale, set a blending mode and set the opacity for them. Here after you will set a mask for the smoke, to restrict where it is coming from. I won’t go through the procedure step by step, but I will provide you with the settings and mask shapes:



Timing the fire and smoke

The fire and smoke elements are currently playing at the same time, which means that the timing and look is completely synchronous. This would take a lot away from the realism and just look weird.

The quick and easy fix for this, is just to offset the playback of the layers:



The fire elements (the three top ones) are offset with about 50 frames (One starting a frame 0 (zero), one at frame -50 and one at frame -100). The smoke clip is not as lengthy as the fire clip, (which means that we can't use it for as long a time as the fire clip). Another thing about the smoke clip is that it starts as a plume of smoke, and first becomes usable at about frame 150.

What we want to do is to take one of the smoke layers (Smoke1), and have it end at frame 240 (the end of our comp). Then take smoke2 and have it being offset by about +50 (ends at 300) and then have smoke3 offset by only about half of that (about 25 – ends at 265)

The reason why we offset them in this way (ending at 240 then 300 and then 265) is that smoke1 and 3 are further distance apart in the scene than 1 and 2 or 2 and 3, and your audience hopefully won't pick up on the only slight variation in timing.

Now our house has fire and smoke coming out the windows and the door.

Try to run a RAM Preview and see the effect.



Looks okay right?

But we aren't done yet.

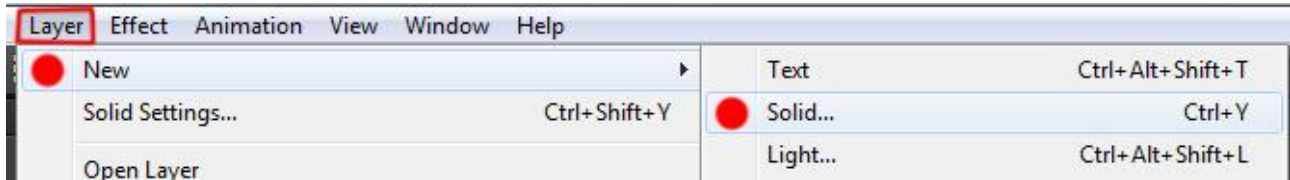
There are still a lot of small things we can add to the composition to make it look even more realistic.

Adding orange light/glow

The fire and smoke looks okay, but normally fire creates light. This would mean that the building would be illuminated from the fire.

To create this effect, we will be creating a solid color layer, and using this as a “glow” light.

Go to “Layer” → “New” → “Solid”.



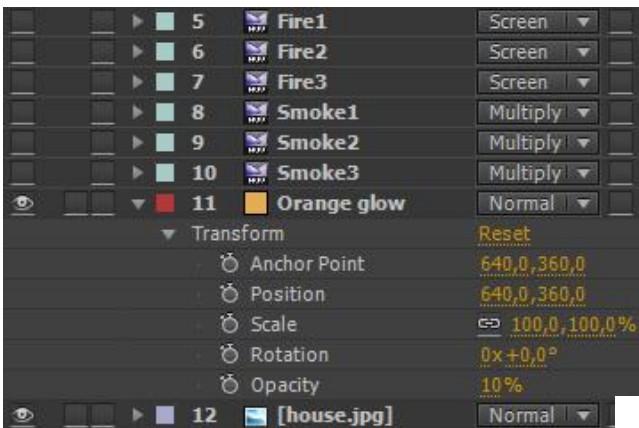
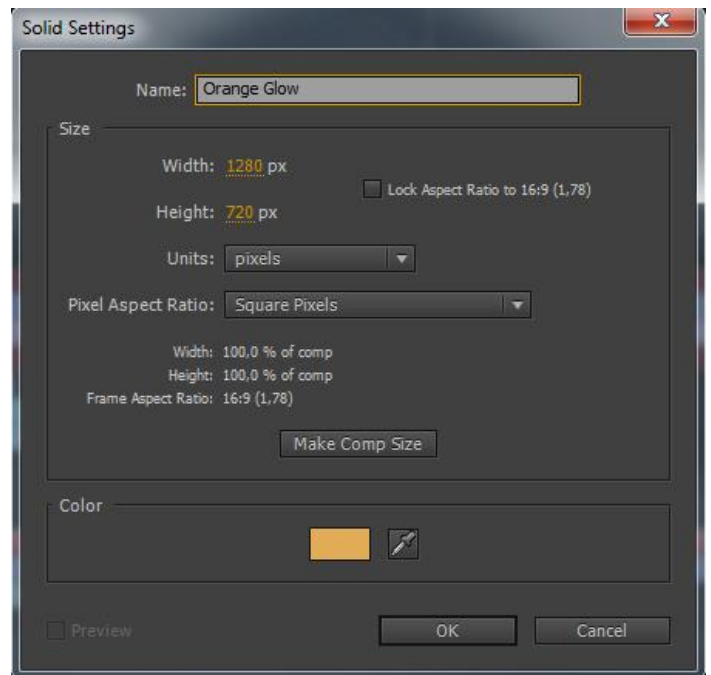
In the settings choose a color that you find suitable for a fire glow. I chose the color #E3AD57.

Now we need to define the area that we want the glow to appear on. We will do this with a mask.

First we want to be able to see what we are doing.

Make sure the solid is put between the house image layer, and the smoke and fire layers.

Then we set the opacity of the solid to 10% and turn off the visibility for the six smoke and fire layers:



The next step is to use the pen tool, to draw an outline that will have the color/glow show on the bricks of the house:

Flames aren't emitting a constant glow. It's more a flickering light that organically “pulsates”.

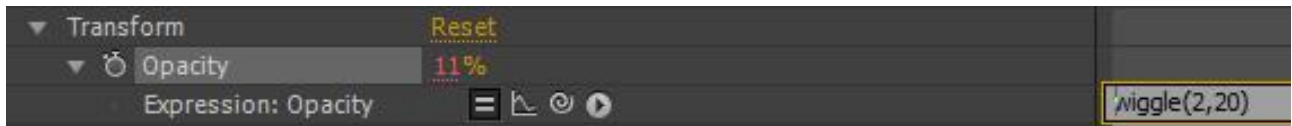
To achieve this we can use a very simple wiggle expression.

We will control the flickering with the opacity. Hold down “Alt” on your keyboard,



and click the stopwatch next to the opacity. This will enable the expression options.

Now write **wiggle(2,20)** this will make the opacity value wiggle to a random setting of 0 to 20, 2 times each second (**SYNTAX:** wiggle(SamplesPrSecond,Value/Pixels)).



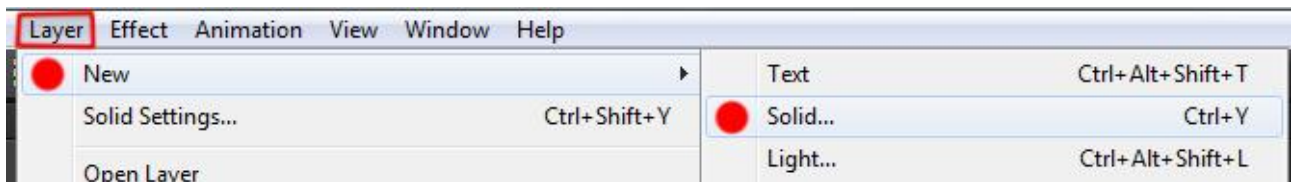
Now the glow will flicker randomly. Try to turn back on the visibility of the smoke and fire layers, and do a RAM Preview.

Focusing the attention (vignette)

Right now our shot is fairly bright, and the focus of the scene can be lead away by the surroundings (other houses and the alley). To circumvent this, we can add a vignette to the composition, to focus the attention more on the burning house in the middle.

We will add this vignette by using a black solid.

Go to “Layer” → “New” → “Solid”.

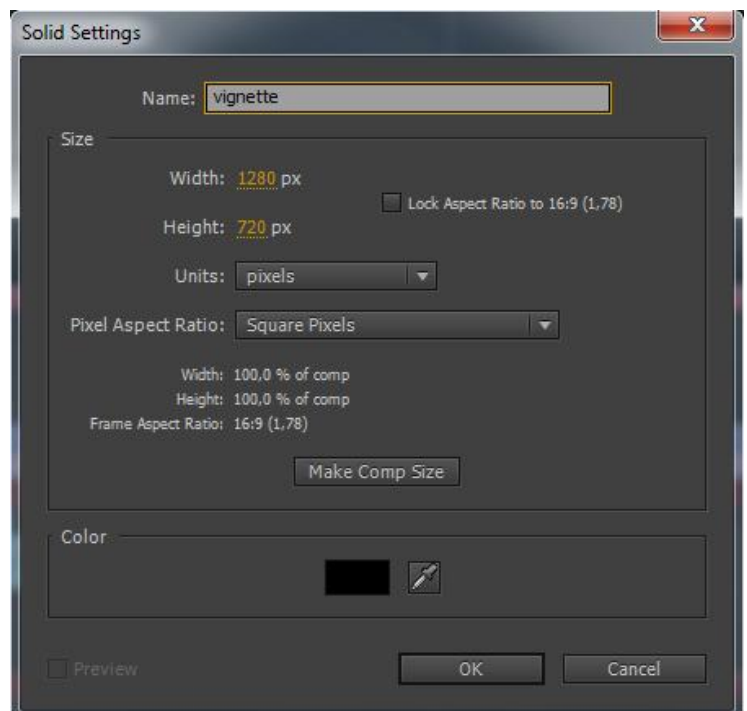


Then set the settings like so:

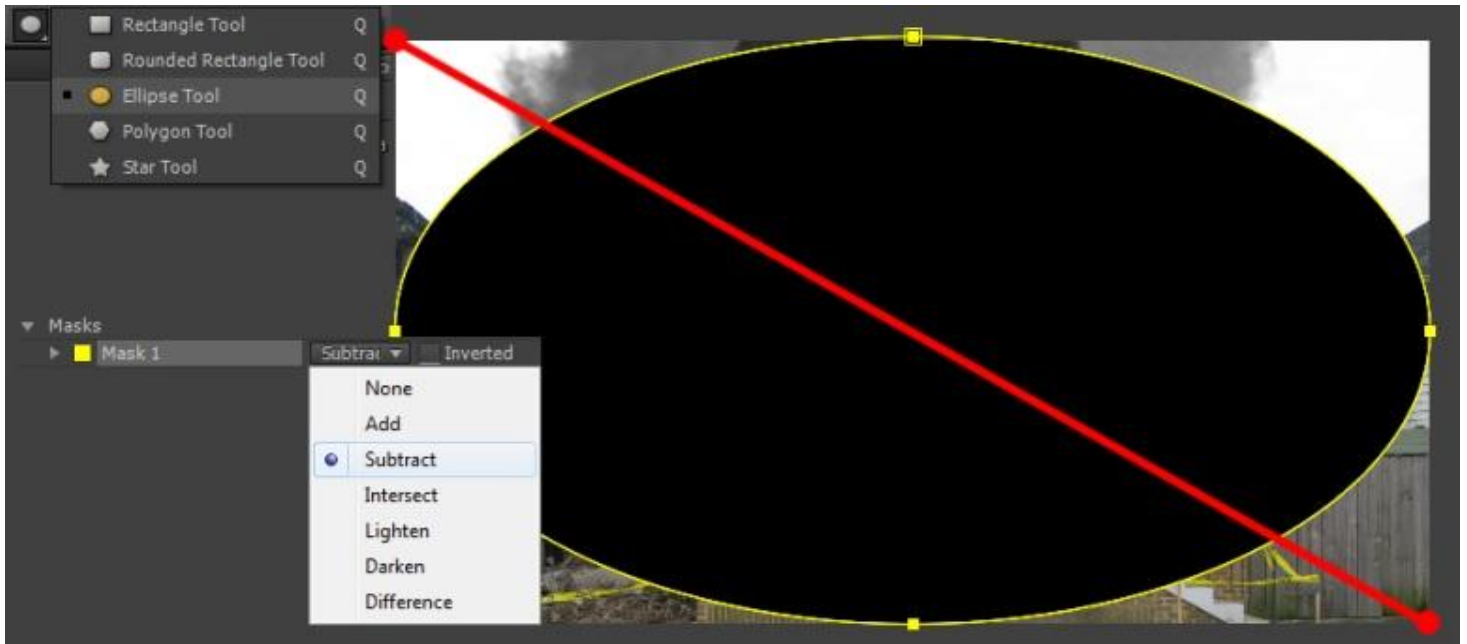
Make sure the layer is at the very top of everything.

The next step is to cut out an elliptical shape/hole in the black solid.

Choose the Ellipse Tool from the toolbar, make sure the black solid layer is selected, and drag an ellipse from the top left corner down to the bottom right corner.



Then go into the mask settings and make sure the mask is set to Subtract:



All you need to do now is to feather the hell out of the mask. Set the “Mask Feather” to 400 pixels:



Color grading

To make our shot go from this:

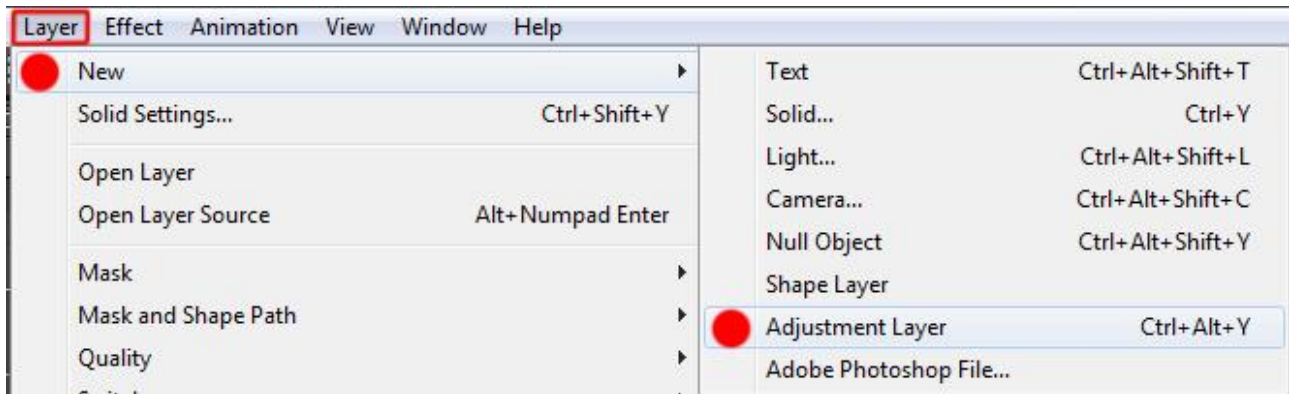


To this:



We will have to color grade the composition.

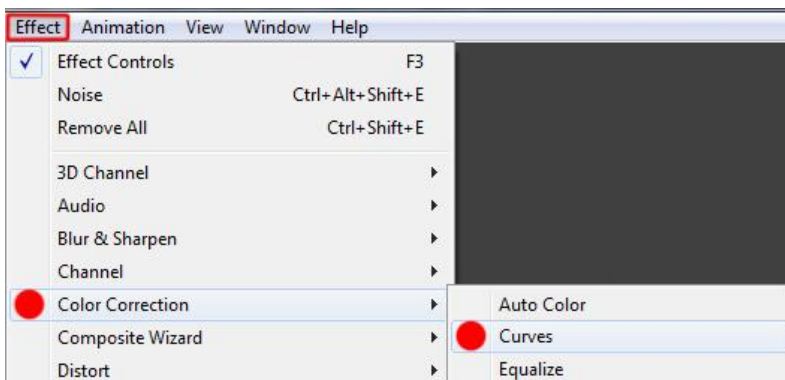
To do this, we add an adjustment layer, by selecting “Layer” → “New” → “Adjustment layer”



Position this layer between the fire and smoke elements and the vignette (we don't want to color grade the vignette)



On this layer you then add the “Effect” called “Curves”.



With this effect added, we will now tweak the contrast, and the color balance in the composition

There are no fixed values/settings for this procedure. It is mostly up to you, and your aesthetic eye.

I personally like a bluish style better, but you can just try to experiment with the

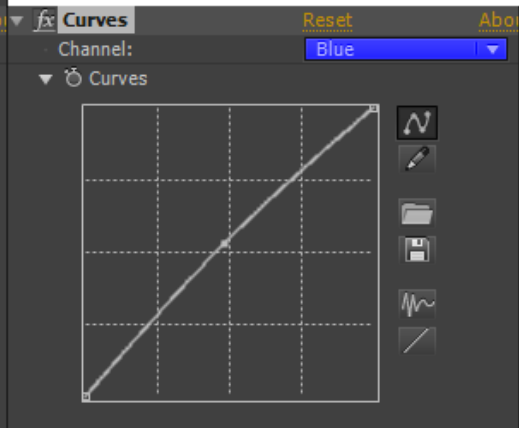
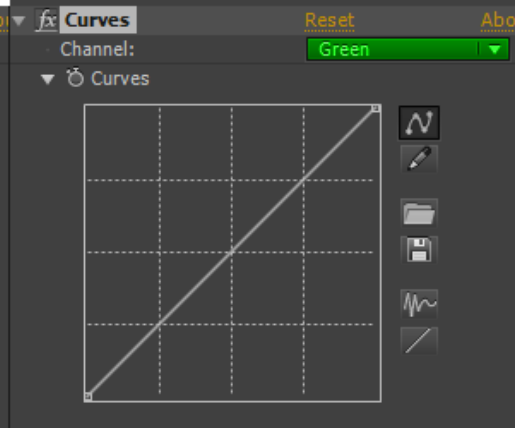
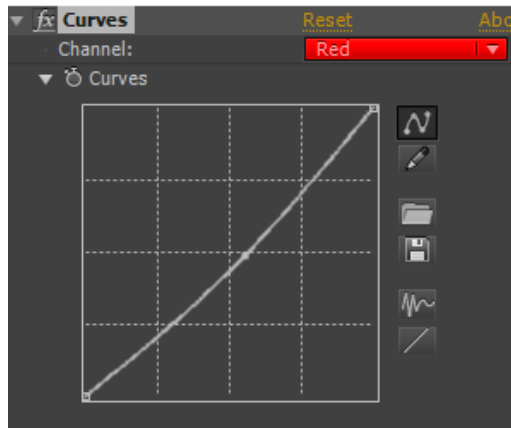
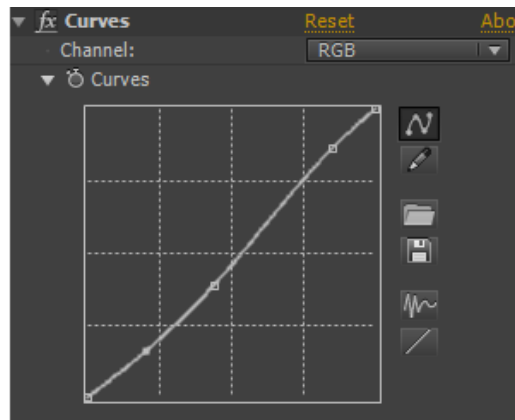
settings.

You start out by adjusting the master(RGB) to a slight S curve.

This will amp up the contrast, and darken the composition a bit.

Then you go into the various channels (Red, Green and Blue) here you can then pull out colors, or add in colors.

If you want the same result as I have, you will have to pull out some red (bending the curve downwards) and add in some blue (push the curve upwards):



Adding a fake camera movement

NOTE: Make sure the background is bigger than the composition, because otherwise it will move outside of the composition boundaries.

To pull this off, we need two new layers.

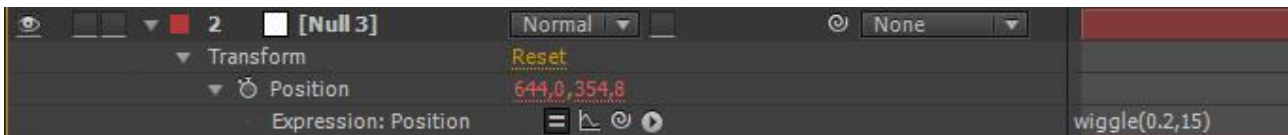
- A null object
- A camera

Create these two layers/elements by clicking the “Layer” → “New” menu, and choose “Null Object”, and Camera. (Leave the camera settings at their default settings).

Now we need to add a very simple expression to the position of the null object.

Click the small arrow next to the layer, until you see the position value (alternatively hit “P” on your keyboard).

Now hold down “Alt” on your keyboard, and click the stopwatch next to “Position”:



When you have done that, you are able to write your expression into the timeline. Write “wiggle(0.2,15)”.

This will now wiggle or shake the values of the position of the null object 15 pixels 0,2 times every second.

To understand the wiggle expression look at this “illustration”: wiggle(SamplesPrSecond,Pixels).

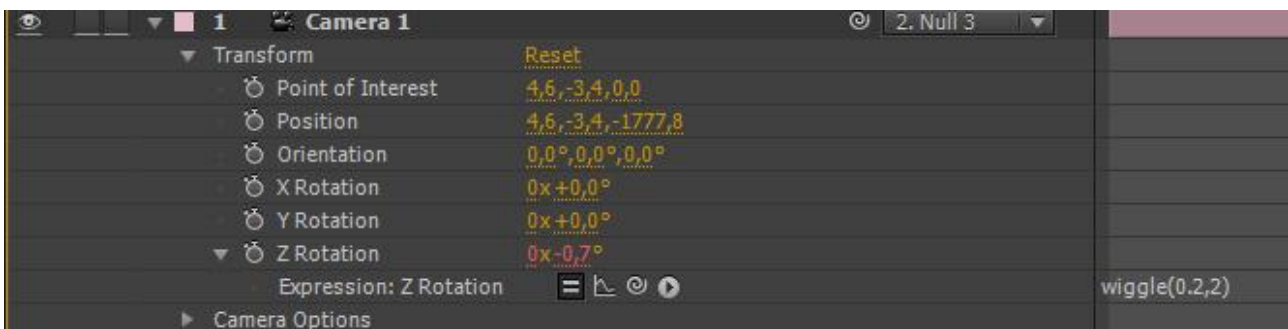
The null object will control our camera movement over the X and Y axis.

The reason for this is that the camera inherently is a 3D object, which would mean that if we would apply the wiggle to the cameras position, it would also move in Z space and ruin the effect.

A camera doesn’t just move up and down, left and right when handheld, but also has some rotation to it.

In this case the rotation would be along the Z axis.

Select the small arrow next to the camera until you see the “Z Rotation”, or click “R” on your keyboard.



Now just like before hold down “Alt” on your keyboard, and click the stopwatch next to “Z Rotation”.

Now you are able to write your expression.

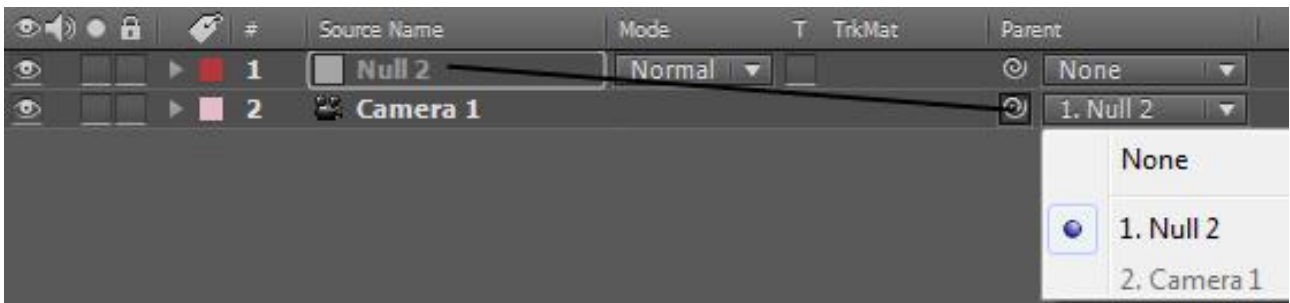
This time we want the movement to be really subtle (otherwise it will look like our cameraman is drunk).

Type in the value “wiggle(0.2,2)”.

But wait nothing happens! – This is because we need to setup the layers as “**3D layers**”, so that the camera has an effect over them.

First of all we need to parent the cameras X and Y motion to the null (which has the motion applied).

This is done by, either selecting the null from the cameras “parent” drop down, or dragging the “pick whip” to the null:

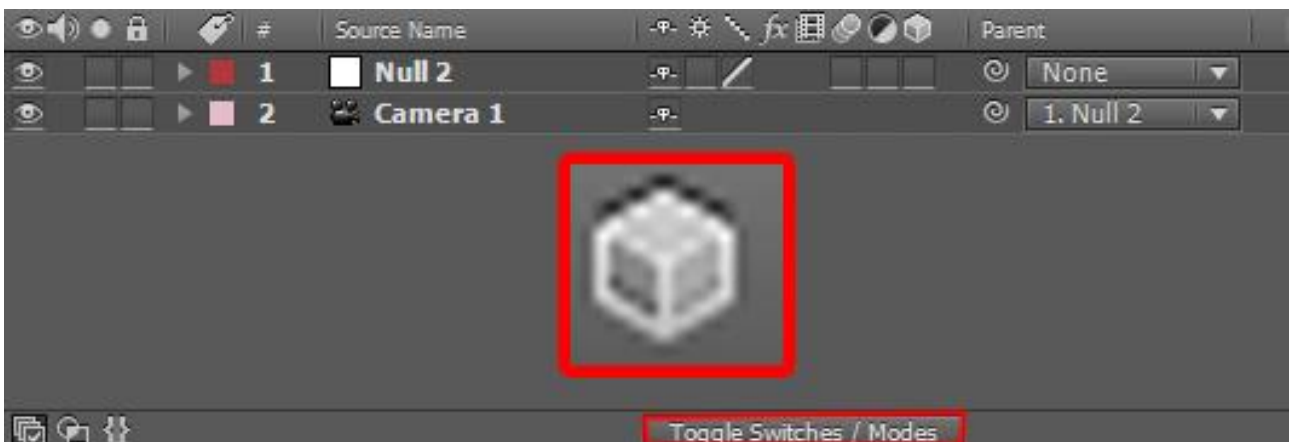


Now all our motion is in place, and we just need to make our layers 3D.

This is done by clicking the 3D icon the layers that have to be 3D are: the fire and smoke layers, the house layer and the fire glow layer

The null should **NOT** be 3D. We also want our vignette and grading to stay 2D as they just act as overlay layers.

(If you can't see the “toggle 3D” button, click the “toggle Switches/Modes” button at the bottom):



Now try to RAM Preview your composition (0 on numeric keypad), and see the result.

Adding some sound effects

Finally we are done with the visual part of this exercise.

Now we can add some sound effects (fire.aif and siren.wav).

Drag and drop the files to your composition (have them start at frame 0 (Zero)).

You can now render out your composition.