

## GUIDE TO BASIC MOTION TRACKING IN AFTER EFFECTS

Motion tracking is used in many different ways. It can be used for sticking an object into place on some footage, so it seems like it is part of the footage. It can also be used to stabilize shaky video footage. There are a lot more examples of how to use motion tracking, but we will be concentrating about the basics.

What we will do in this guide, is to motion track some footage, and stick a PNG still image to it.

We have some footage from the videocopilot.net homepage, which we will be using in this guide. The footage has some playing cards placed on the street, which makes those points easy to track:

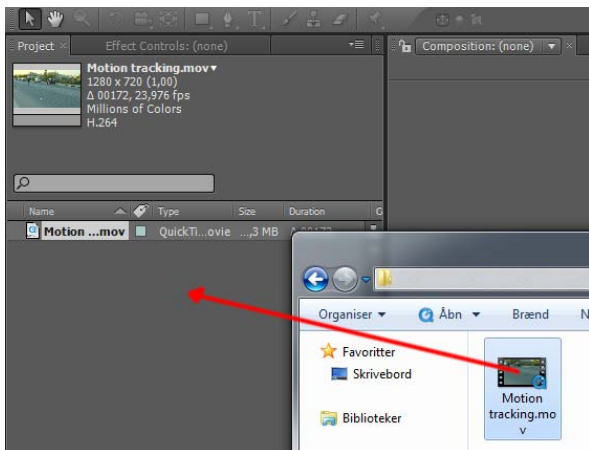


When we are done with this first part of the guide, we should have succeeded in placing an image over the track point, and made it follow the point around:



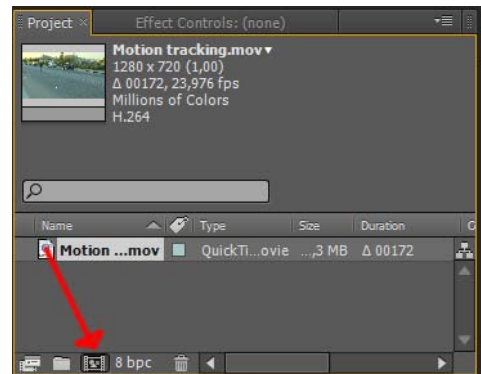
## TRACKING POINTS IN THE SCENE

The first thing you have to do is off course to import your footage, and make a new composition.



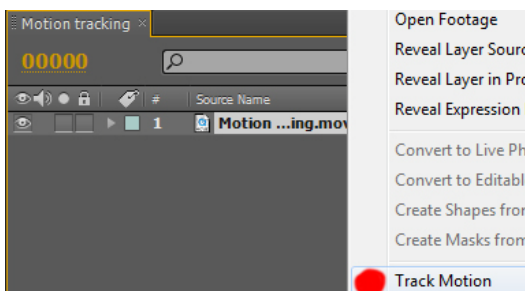
Click and drag from a folder into the project field in After Effects:

Then click and drag the imported footage, onto the “Create New Composition” button:

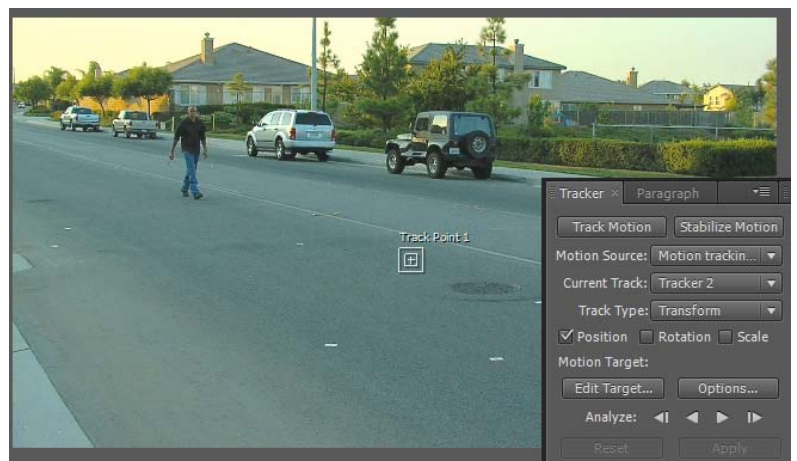


Now we need to track the motion in the footage.

With the time scrubber at frame 0 right click the motion tracking footage in the timeline, and click “Track motion”:

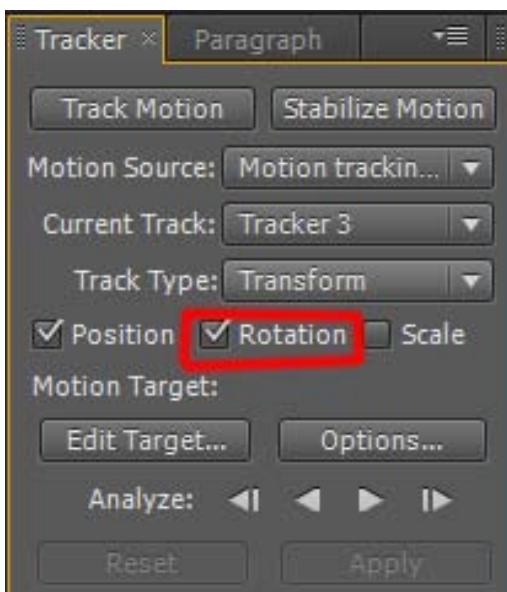


You should now get a tracking point in the scene, and the “Tracker” controls should appear in the bottom right corner of After Effects:

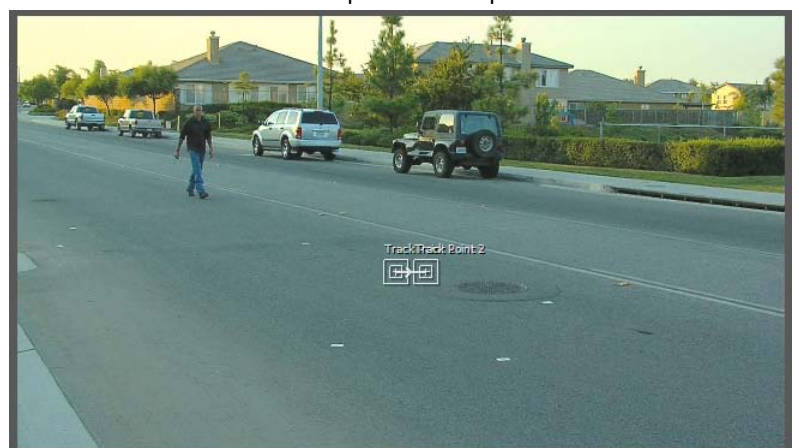


Because the camera is moving to an angle of the points, we also need to track the rotation.

Click the “Rotation” box in the “Tracker” field.

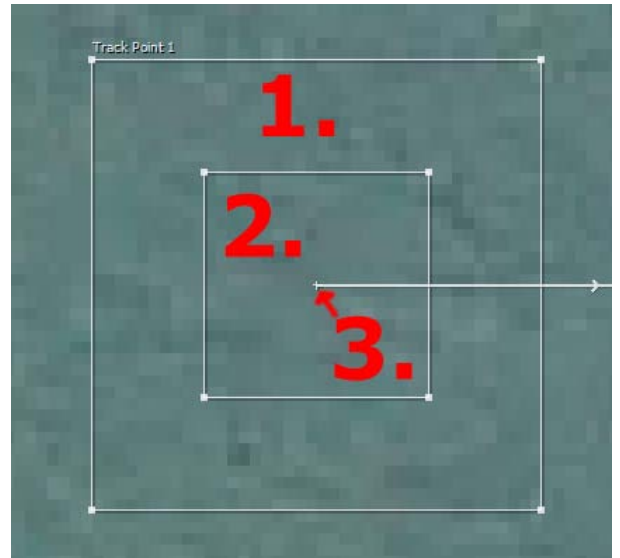


Now there should be two track points in the preview field:



The track points are made up of 3 pieces.

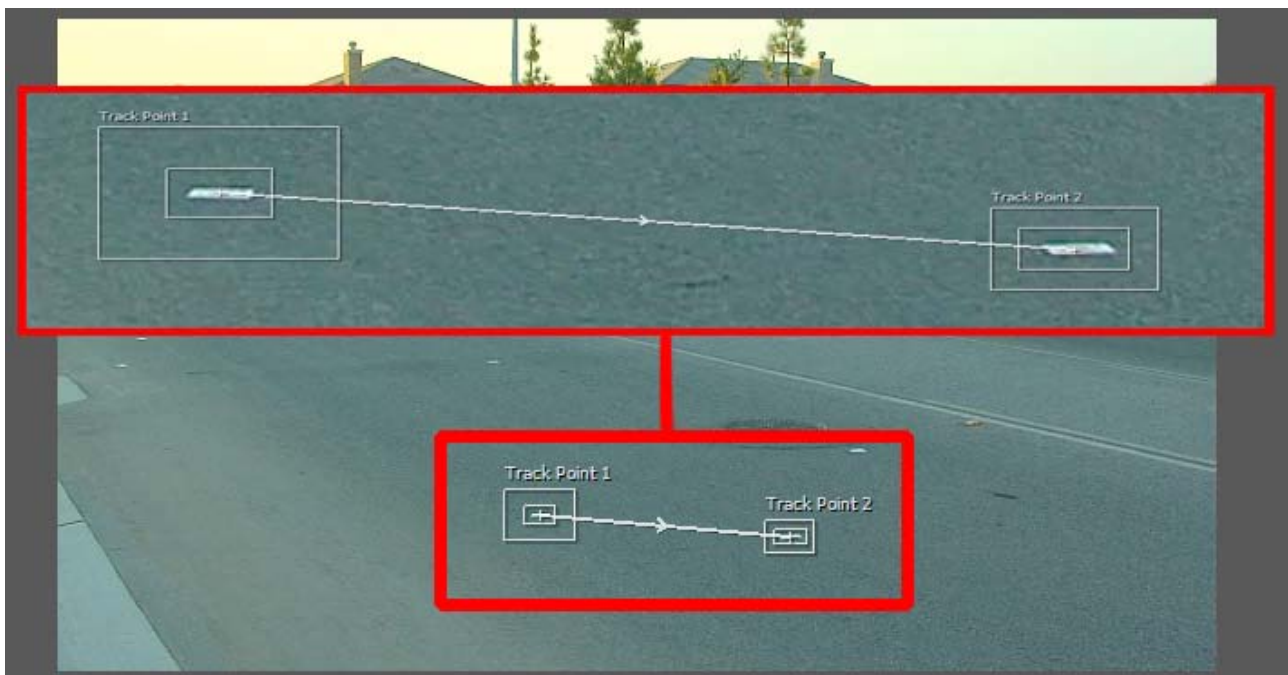
1. The search area. Depending on how shaky the footage is, this area needs to be bigger or smaller. This area searches for the pixels of the tracking area (2.) outside the tracking area.
2. The tracking area. This area encompasses the pixels you want to track. There is no fixed point that is tracked, only the pixels inside the tracking area, and After Effects tries to keep them all at the same point inside the area.
3. The rotation tracking point. This point should always be inside the tracking area. The position can be changed, but only if you want to track the rotation contrary to the tracking area.



You now need to position and scale the tracking points to the places you want to track.

The “Track point 1” is where your tracking data will be applied, and the “Track point 2” is from where the rotation is measured. In our footage, we have the playing cards on the street we want to track.

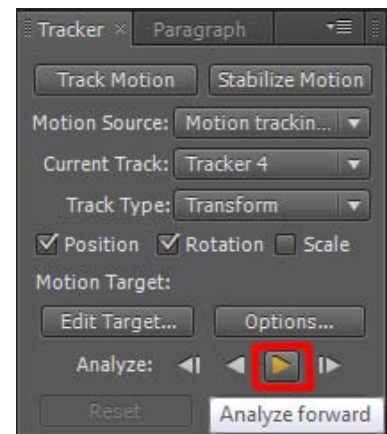
I placed my point like this:



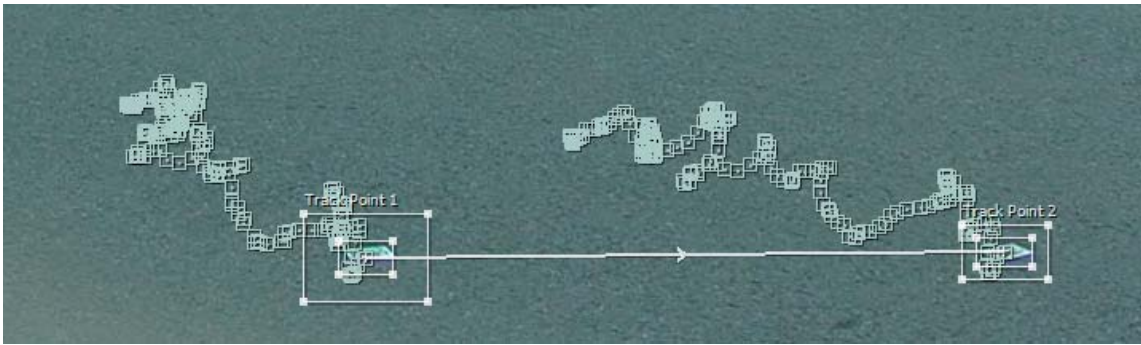
Now we just need to get after effects to analyze our footage. Click the “Analyze forward” button in the “Tracker” field:

Note: if the track points start freaking out, and starts to jump around, click the stop button, and then you have to tweak the position and scale of the track points.

This is done by scrubbing the timeline back to where the tracking still was fine, and reposition the point, and then click analyze forward, to overwrite the faulty tracking data.

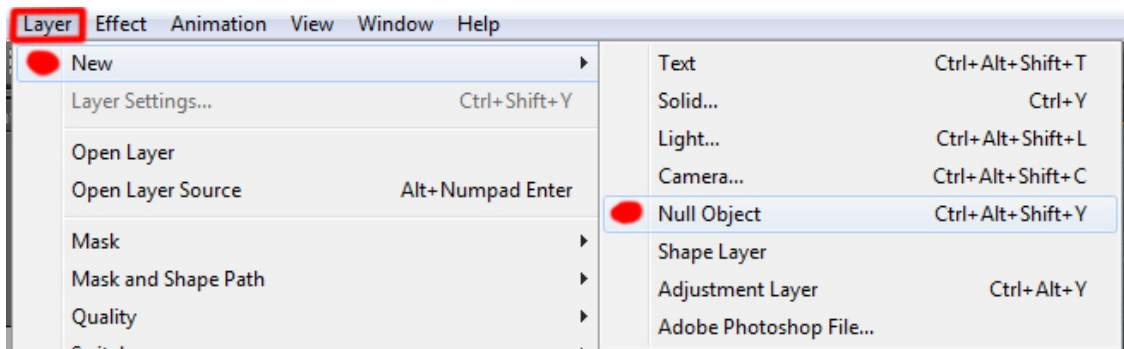


When it is done, the track should look like this:

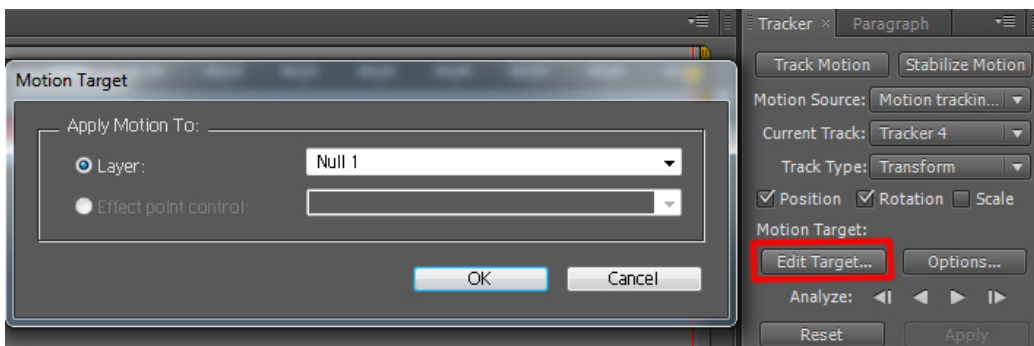


Now we need somewhere to apply the information to. For this you normally use a "Null object".

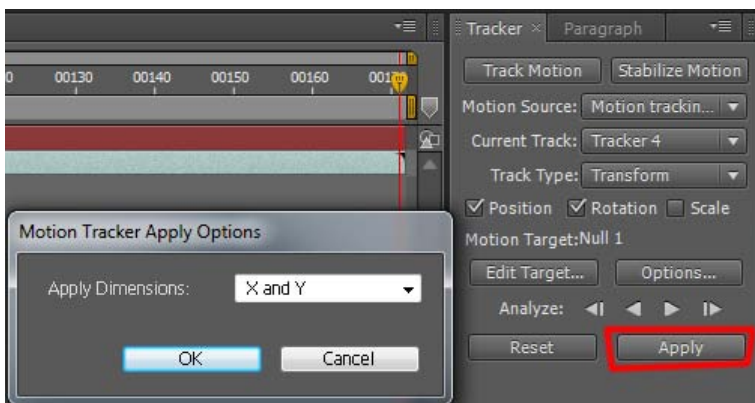
Click "Layer" → "New" → "Null Object", or press Ctrl +Alt+ Shift + Y:



Now in the "Tracker" field click the "Edit Target..." button, choose the "Null 1" and click "OK".



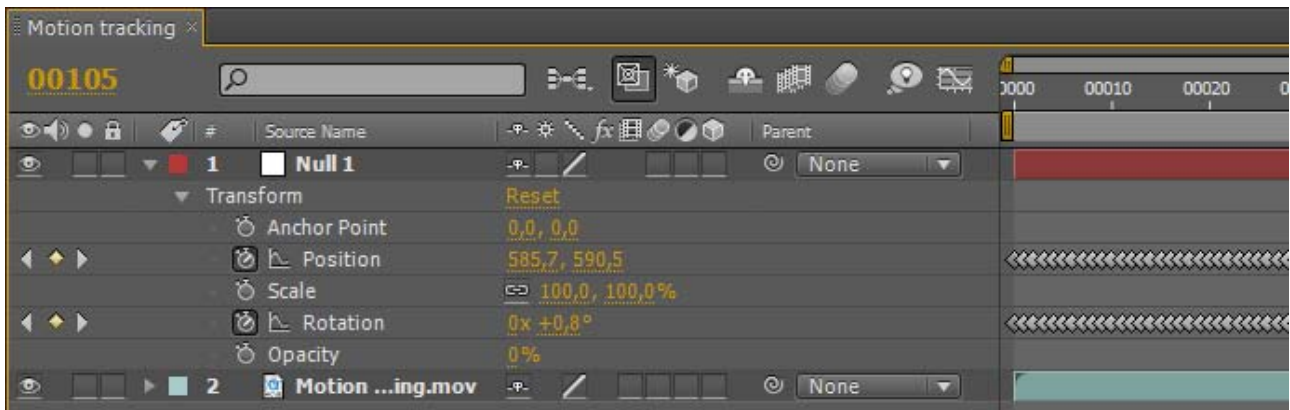
Now we have selected the null object, and only need to apply the tracking to the object. Click the "Apply" Button in the "Tracker" field, and choose X and Y and click "OK".



Now the tracking data has been applied to the null object, and you can try scrubbing through the footage, and see it moving along with the playing card:

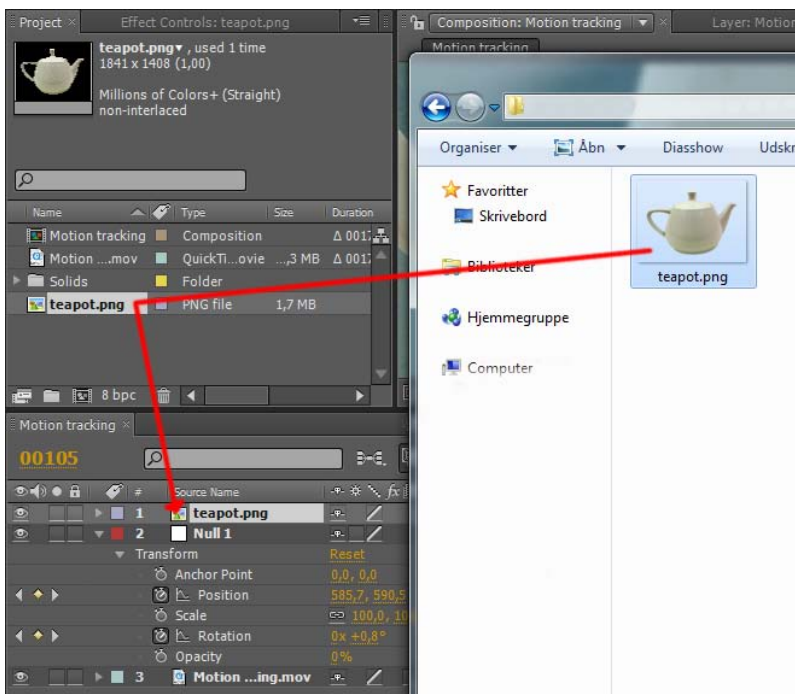


If you take a look at the values of the null object in the timeline, you can see that it has got a lot of information applied to it in its position and rotation data.



Now we can insert a still image, or live action footage to the scene, and get it to stay in place at the tracking point.

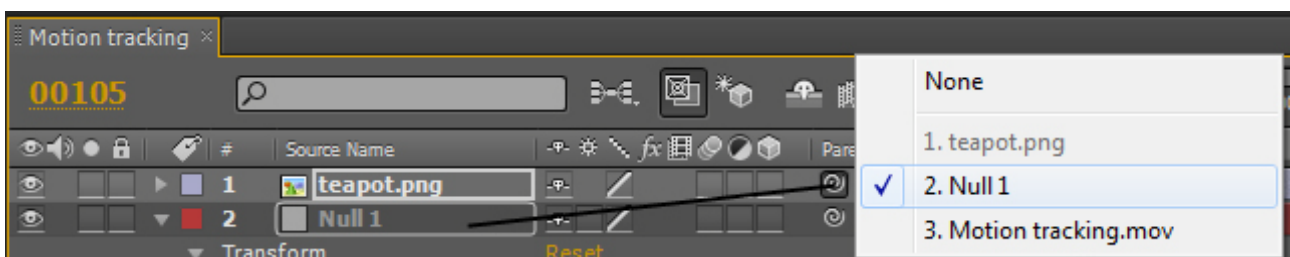
Import the image you would like to use, and drag it onto the top of the timeline:



We need to scale the image into place, and position its anchor point over the tracking point, to get the best effect:



Now to finalize this motion tracking we need to parent the teapot image to the null object. This is done by clicking and dragging the "pick whip" from the image layer onto the null layer, or selecting null 1 in the parent dropdown:

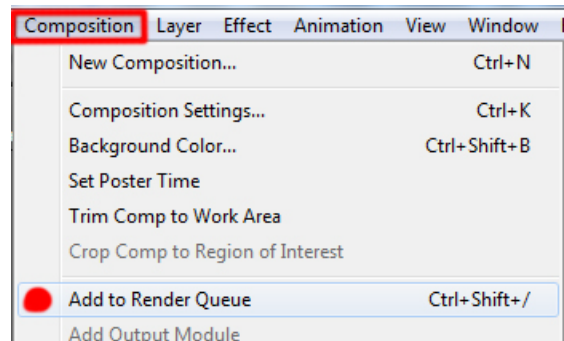


## RENDERING

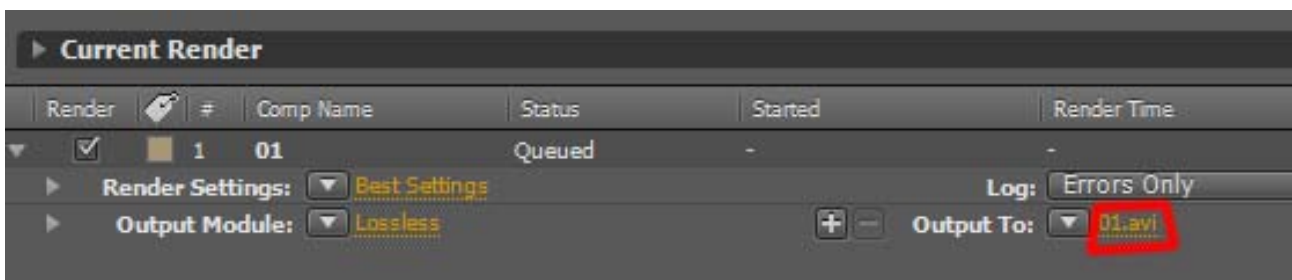
Some people render their AE results via an export. This is considered bad practice. The right way to render your results is to use the render queue.

Choose “Composition” → “Add to Render Queue”

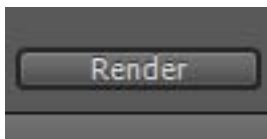
As a default the settings are set to a lossless AVI format, which is okay for this composition.



Click the “output to:” filename, (01.avi) and choose your output directory:



Then Click “Render”:



Now you are done.

I hope this basic guide has given you some insight into the basics of tracking motion in After Effects.

Of course this is a very basic way of doing it, and you could probably create some really astounding compositions. For example setting video footage into the tracked footage etc.