

## Colouring Animation in Photoshop and Flipbook

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### Drawing:

Alright, first step to this is obviously having the work to scan. Colouring can be a lengthy process, and it can be even more annoying if the lines don't work from the very beginning. It is very important (if you want to save time) to have your lines meet and that you have reasonably clean paper with nice dark lines. Don't be afraid to clean up with a 2B, and to use a kneadable eraser to pick up smudges. It will also be a bit less confusing for you if you can scan everything at once, and if you can have your field guide for the scene to scan too as doing this separately will mean having to worry about cropping and lining elements up manually.

### Scanning:

Flipbook is really easy to colour animation in, but it is not as easy to do colour studies or line preparation work with. I recommend scanning and preparing line art in Photoshop, and then importing the lines to Flipbook for colouring.

When scanning, you'll need to make sure that you use a peg bar. It does no good to scan and color your work only to find out that your images move all over the screen later. The school glued peg bars to the scanners for us to use, but some bastards stole them. Therefore, not only will it be annoying to tape down your own peg bar, but know that if you're using a thick bar, it may cause some problems with lines close the bottom of the page.

In Photoshop, use File->Import->Scan Express A3 USB to bring in your work. Before scanning, check and see that the glass is clean... clean it, if not because it's annoying to have to clean Conté smudges off 100 images. Second, make sure that the scanner is in professional mode. The scanners have a nasty habit of deciding where *they* want to scan in home mode. Third, unless you're using a technique with colored cells (which I'm not covering here) you won't need to scan in color, so make sure you scan in grayscale (not line art) to help speed up the process.

Finally, you want to make sure that your finished scan will be big enough, and that your tape does not cover parts of your drawing. This should not be a problem unless you're drawing in a really small field size, or a really big field size, but you might want to do a test scan to ensure that your finished product will be *at least* 1280x720 if you intend on your film being Widescreen High Definition (HD), or 720 x 405 for your average widescreen film. If you want to have particularly good quality with the finished scene, it's an idea to have it twice as big as your desired size as it will look better to shrink it when it's all done (however also be larger file size in the meantime). When you're sure that all is fine, close all open Photoshop files, slap your first sheet of animation to scan down on your peg bar, and then put another one or two blank sheets of animation paper down on top of that. The scans tend to be better contrast when you do this as it helps

keep the light from bouncing off the black surface. This black surface does a great job of graying out your images and making them hard to work with. Ingenious design. If you have multiple elements to scan at once, i.e.: BG, characters, effects... you may wish to do each group separately for convenience of keeping everything nicely organized in folders, but it isn't that hard to reorganize, and rename files later.

Just be sure to scan the pages in order!

### Batch Processes:

There's a nifty little secret under File->Automate->Batch a secret which you are about to learn... if you don't know it already... this secret... is... that... you can do one thing to multiple files at once! Right now for example, you should have a whole pile of drawings scanned just sitting there ready to do stuff too. You're probably thinking "I want to save this before the computer crashes on me!" That is a smart thing to think. Why take the time to save each individual file one by one when you can get Photoshop to do it for you? Are you aware of actions? We're going to create an action that does essentially – nothing- so that we can make sure that we don't accidentally do –something- when batch saving. Locate the actions menu, and then let's record a new action. We can call it "Null" or some other awesome computer term, and then click record. Now quickly, press (ctrl a) and then even more quickly press (ctrl d)... by the way speed doesn't really matter unless you want to impress first years.

Stop recording the action. We've created an action that selects everything, and then deselects everything. This is a nice way to make sure that the action does nothing else. Now we're going to use that File->Automate->Batch to run this action and then save everything. You'll want to make sure that the name of the action you just created appears under "Action" in the batch menu. You'll also want the source to be "Opened Files" and the destination to be "Folder". Now you need to click on the "choose" button under destination to select the folder that you want to save these scans in. I'm an organization freak and like to keep things like "scans" and "clean" and "color" in separate folders so that if I mess up I have older versions and don't have to re-scan. Re-scanning sucks. I also like to keep elements such as "Character 1" and "Character 2" in separate folders so that I don't accidentally overwrite animation and again have to re-scan. You may choose to not be organized, in which case expect me to laugh at you if you have to re-scan stuff because of it.

Now that you have your folders created / selected... you can choose the naming scheme for the files. I like to give nice obvious names like say manually typing "Char1" in the first section, then typing "scan" in the second section, then telling it to use a 3 digit serial number in the third section followed by "extension" in the fourth section. With that all set-up, it is now ok to press "OK" and watch as Photoshop rapidly selects, and deselects and saves all of your images. Seeing as these were previously not saved files, you'll probably have to hold down the Enter button on your keyboard this time through to confirm that you want to save each image as a psd file.

Now that you've saved them once, let's save them a second time for good measure. Open the batch menu again, and this time, tell the source to be this folder that you just saved everything in. Now tell the destination to be a folder designated for clean drawings. And you can change the file naming scheme so that instead of it naming things Char1 scan 001.psd it names it Char1 clean 001.psd we now have a backup and can rest assured that we won't need to rescan unless we do something really stupid.

At this point you may want to open your sequence in After Effects to make sure that there is no jitter in your animation. The scanners act up sometimes, and if your drawings \*are\* jittering, you'll need to copy and paste them into a single Photoshop file, and manually nudge the drawings into place. This can be a big pain. Basically, make sure that One layer matches the next by putting it on a difference layer, and nudging until you have a common point (such as the peg bar) matched up as perfectly as you can for every single drawing. I don't know of another way of fixing this. After they've all been aligned, you'll need to (ctrl a) and then edit->crop, then go through the tedious process of saving each layer as its own psd file.

### Cleaning Line Art

Now these steps aren't necessary in their entirety for coloring in Flipbook, but it allows for easy color planning in Photoshop. For simplicity of the handout I will only explain one way of cleaning up the lines, as the method works for coloring in Photoshop and Flipbook and will only slow down the clean up stage by a minute.

Open up ONE of the images that you want to start cleaning. Be sure to check that it is an average drawing, much like all the others, not particularly more or less clean, or you could cause yourself some grief. We're now going to set up an action that will rotate your drawing so you're looking at it properly, adjust it so you have nice black lines and white paper, convert the image to RGB, and then close and save. I'll help walk you through it.

With that one image open, create a new action, and give it a cool name like "Allegro". This is another action in which we do not need to give it a function key, so just click ok. The action is now recording, so if you make a mistake, be sure that you stop recording and delete the mistake from the action as you do not want a mistake to be performed on hundreds of images. We've got back up images at this stage so it's not \*that\* big of a deal, but it wastes time. Since the action is recording, the first step is to rotate your canvas to make sure you're looking at it properly. We approximate this by going to Image -> Rotate Canvas -> 90degrees clockwise (or counter-clockwise). The reason I say approximate, is because chances are you didn't scan everything perfectly, and we'll later need to use the field guide you scanned to use another action to make sure that everything is rotated and cropped exactly the way you need it.

This next step should be simple enough to adjust if you have scanned in grayscale... if you didn't, you'll need to include Image->Mode->Grayscale in the action before you proceed. With your image rotated, now press (ctrl L) to bring up the levels adjustments.

We'll use this to adjust your black and white values. In the past, I've had problems using the eye dropper tool in actions, so I recommend using the slider just under that funky graph to control your levels. By sliding the left most one to the right, you will be increasing the amount of black in the image, and by sliding the right most one to the left, you will increase the amount of white in the image. You can adjust the values with the middle slider as well. Basically you want to make the image almost entirely black and white, but have as little pixilation as possible. If you start to have really damaged looking lines, you know that you need to back off on one of the controls. When you have the lines looking the way you want, we can press OK to confirm the levels. It is now ok to select Image->Mode->RGB to make your image colorable.

Now stop recording the action. Close that image without saving, and open all of the files you want to run this action on. The best way (in my opinion) of doing this is to click File->Open in Photoshop. Select the last file in the sequence, and then shift select the first file in the sequence (this is important to ensure it opens in the proper order. Use a batch process to run this action, and then save and close the images.

In case everything isn't as great as it needs to be, it is good to continue cleaning the lines; however this part needs to be done manually. You need to look out for two problems now. You might have stray "noise" on your page from smudges, or shadows from the peg bar. We need to get rid of these, and a pretty simple way of doing this is with the Dodge and Burn tools (o). You can use Dodge, set to "Highlights" to help get rid of any visible smudges. This should get rid of a good portion of the light grays while not really affecting the dark blacks that your lines should consist of. Now, depending on how much of that we needed to do, we may need to re-clean some of the lines using the Burn tool set to "Shadows". This will help to darken up the lines, while leaving the white, white. At this stage hopefully everything looks nice and smooth with a really good contrast of black and white, with little to no pixilation in the lines. It is important to now carefully scan over the images to make sure that the lines still all connect and didn't get broken apart in your digital cleanup. This shouldn't be a problem if you did good cleanup and made sure that everything worked before scanning, however you may have lost some lines as we tend to put less pressure on our pencils when drawing lines that meet, and sometimes there is some variation from drawing to drawing which the actions aren't going to pickup on.

If you have any such lines that have gaps in them, I would suggest using the brush tool to fill it in if you have small gaps of only a few pixels, and would suggest trying to copy and paste lines if you have larger areas that have gone missing. Copying and pasting lines will help make it so that no one can tell that you had to fill in missing lines as it will look drawn.

When you have everything working in your drawings, be sure to save, and back-up the files in a new folder.

### Final Adjustments before Coloring

One thing to beware of is the rotation of your images. If you want to stay true to your vision, you're going to want to use your field guide to make fine rotational adjustments, as well as cropping the scene to your final proportions.

We'll want to set up another action to make sure that this works consistently on all images. Open up your field guide in Photoshop and record a new action called "fix" and press OK. Now you'll need to eyeball the rotation to make sure your guide is rotated the way you need it. You can rotate the image by pressing (ctrl a) and (ctrl t) to select all and allow transformations. Zoom out if necessary (ctrl -) so that you can see the corners of your images, as you will need to position the mouse outside the image to get the rotation curser on your mouse. Simply left click the mouse when you have this icon, and adjust your image until the lines of your field guide are parallel with the edges of the image display. When you have it located where you want it, press enter to confirm the rotation.

Now we'll use the Rectangular Marquee (selection) Tool (press m) to select our field and crop the image. Adjust the tool so that it has a fixed ratio of 16x9(or 4x3 depending on what ratio your film is) and then simply click on one corner of the guide, and drag to the other corner. With your selection made, go to Image->Crop and then stop recording your action.

Seeing as you have previously backed up all your cleaned-up images, it is now ok to close this field guide (without saving!) and use a batch process to run this new action on your images. With this action, you are now on the verge of bringing them into Flipbook.

The last step before bringing the images into Flipbook is image format. You need a Targa file of a certain size to make this work nice. You'll want to shrink your images to 150%, 200% or 250% of the finished product. For example, HD widescreen is 1280x720... so you can scale your Photoshop file down to 1920x1080 which would be 150% of 1280x720). If your image is not at least 150% of your finished product, make it the size of your finished product as you should never scale an image *up*. It might be nice to use a batch process first (that first one we created to select and deselect) and save your backed up images as something like [Char1 color ###.ext]. Now, re-open these files, and simply record a new action called "Targa". (Alt Ctrl I) will bring up the Image Size window. Resize your image as described above. Now, go to File->Save as and change the file type to Targa. Click save, and select the 24bit option. Close the image. Stop recording your action. Now, batch "Targa" on your remaining opened files. You should now see that in your folder you have a sequence of files like [Char1 color ### copy.tga].

### Opening Flipbook

If you happen to have an unregistered version here at Sheridan, the code is "educational".

Open Flipbook Pro Complete, and Create a New Scene. You need to set a Custom height and width for whatever your film requires (1280x720), with as many layers as you will need for your animation. Keep in mind that you can composite in AfterEffects, so it may be less confusing if you make different Flipbook files for each element in your scene. I encourage the use of AfterEffects as it's a powerful program for compositing. If your animation is not the size of your Flipbook file, you need to turn on OverScan to whatever percentage your image is (150%... 200%... etc). Note that images in flipbook will generally look like crap when you OverScan, but the exported product will look fine.

Think back to all the fun we had in first year when we'd have about 100 drawings scanned in the Flour Sack and then Flipbook would crash. Yeah... that problem still happens now and then... so if you want to stay sane, it's a good idea to save often. Especially since it seems that Flipbook sometimes decide it doesn't like to let you undo. It's still faster than colouring animation in Photoshop though.

Yes, there are keyboard shortcuts for Flipbook... b for brush, k for bucket, t for tracing, e for eraser, i for the eye dropper, z for the magnifying glass (hold ctrl to zoom out), hold spacebar to pan over the image, and some other useful ones that I'll talk about when needed.

### Preparing to Colour

Select File->Import->Stills to bring your animation into Flipbook, and once again click on the last image, and then shift click the first image to make sure it comes in, in the right order. Now feel free to adjust your animation so that the frames are where they need to be, and smile to yourself gleefully as you watch the cleaned up animation. When you're done with that, select the palette icon to go into Color[sic] Mode. You should see that you've now got the paint bucket and a couple of other tools to color with. It's going to be a bit easier for us to color though if we take the time to change the white background to a checkerboard so that we can more easily see what we have, and have not colored. You can do this by clicking Options->Settings.

Turn on Checkerboard BG, and turn Image Quality to Broadcast. Now go to the levels in the XSheet window (by default your first set of images probably came in on level 1) and right click on the layer (the 1) to bring up the Layer Properties. You'll want to turn the Palette to Custom. Here we can import and export palettes, so if you want to take the time to organize palettes with the colours you'll need, it will be an easy way to keep consistent colours from scene to scene. If this is your first scene and you haven't yet made a palette, that's fine, we still need to turn on Custom here, we just won't import a palette. Click OK. It's probably a good idea to save your file now (ctrl s).

One thing you should know is that white and black are different for TV then for computer. If you want something to be pure white, its value Hue Saturation and Luminance (HSL) values are 160,0,235 and pure black is 160,0,16.

To customize colours in the palette, you simply need to right click on a colour. The best idea is to have already figured out your colours in say, Photoshop and have finalized model sheets before you attempt to colour in Flipbook. This way, you can have nice consistent colours. The HSL will always try and base itself on the Red Green Blue (RGB) value in Flipbook, so it seems that the *\*exact\** shade that you've found in Photoshop won't be typable, but it's close enough that no one will know the difference. Basically just click on a colour in the Color Picker in Photoshop, and then type the RGB values into the palette in Flipbook.

You can save a coloured image (that you coloured in Flipbook) as a Model in Flipbook... which is convenient for using the eyedropper tool to select colours rather than the palette. If you think you want to do that feel free to read the help file in Flipbook, as personally, I find clicking the palette just as fast as clicking a character.

### Colouring

To colour your animation, simply select the colour you want from the palette, select the Paint Bucket, and left click on the area you want it to fill. You can hold down the button and drag to fill areas where there are a lot of small details that you don't want to constantly be clicking to fill. This is how you may have to deal with a lot of frames, but if you have a relatively stationary thing in your scene, you can colour from frame to frame by pressing 9 instead of left clicking. If it stops on a frame, it may be because the volume that it's trying to fill has changed significantly... in other words, your lines either don't meet, or your object moved away. The hole in your lines can be *very* small to make it stop colouring... so you'll need to fix the problem. Don't worry, at this stage, you likely do not need to bother to reclean up in Photoshop. You can select the brush tool to manually fill in a piece near the hole, and then click again with the bucket tool to finish filling in that area.

To help fill in small areas where you missed with the bucket, you can also press the auto-complete button (F2), but if it doesn't turn out the way you want, you can't really undo the frame especially wall... so... save before doing this. When you need to colour frame by frame, you can quickly go from frame to frame with the up and down arrow keys on the keyboard. Good Flipbook.

Know that you can sometimes undo (ctrl z) things that you've done, but for some reason Flipbook doesn't *always* like to undo, so when you have things going the way you want, don't hesitate to press that ctrl z.

By default the lines will be the very first colour in your palette, so it's an idea to have that as whatever colour you will require the most of in your lines. The trace tool can be used to colour the rest of your lines, so simply select that tool, your desired colour, and then left click and drag the pen over your lines.

If you click a line, with the trace tool, and then shift click it, you can colour all connected lines the same colour...and apparently, if you click, and then ctrl click, you should be able to fill in the areas in between your two clicks... however this feature seems buggy,

so don't be surprised if you can't get it to work very easily. You'll need to colour lines frame by frame if you have multiple colours happening, however that default colour will indeed stick from frame to frame.