Digital Illustration with Adobe Photoshop

To Digital Artists Everywhere

Contents

My first illustration for the February tutorials

Monday, February 08, 2010

Every endeavor has to start somewhere. I chose to begin this blog with an image I did a few years ago. I felt it was quite successful and nailed all the points I was trying to hit. The purpose was to show the construction of an open cell sheet piling application. I work from photos as much as I can, but construction jobsite photos are usually not the nicest things to look at, so often my job is to make what is intrinsically dirty, muddy, and completely chaotic look cool and dramatic. It seemed to work this time.

I attended the NAPP's 2007 PhotoshopWorld in Boston and submitted this image for the Illustration category of their Guru awards. To my surprise, it was chosen as the winner that year. Even though a few years have gone by since I painted the image, it is still one of my favorites. The illustration was entirely hand-painted in Photoshop using many layers. The original size was 12.25"x9.25" at 300 ppi. Most of what you see was painted with a Wacom stylus and tablet with a limited assortment of brushes. In order to get the shape of the piling 'cells,' I started with an overhead CAD schematic provided by the client, brought it into Photoshop as a vector shape, then used Photoshop's great transform tools to skew it into the correct perspective. This was done for the top and bottom, which then served as a guide for the connecting pieces.

Click here to see a Flash animation that shows the developmental process.

Click here to see it as my featured project at the Directory of Illustration.

Posted by Dan Johnson at 12:58AM (-08:00)

Using vector art in Photoshop tutorial

Monday, February 08, 2010
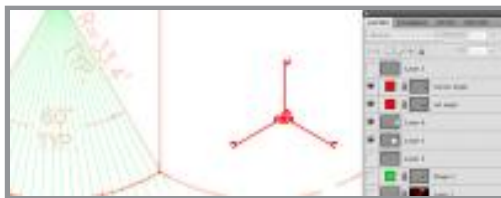
As promised, here is a little tutorial on one technique I used for the Open Cell illustration: working with vector objects. The schematics were provided by the client as DWG files. The first thing to do is open them up in Illustrator. Often, CAD files like these will have labels, text, and other diagrams you don't need. If you need to, close any open paths and outline strokes if you want them. Select the shapes you do need with the Selection tool (that's the black arrow) and just do a Copy from the Edit menu. Go into Photoshop and Paste.

You will get the Paste options dialog, asking if you want to paste as a Smart Object, Pixels, Path, or Shape Layer. Choose Shape Layer as it will give you a filled vector object on its own layer. This is the most editable way to bring Illustrator art in.
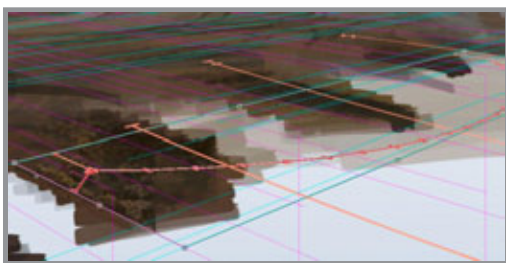
In this screenshot you will see several vector shape layers (also called Fill Layers) brought in this way. Only the paths from Illustrator will be pasted into Photoshop. You will lose all fills, strokes, or effects. The fill color of the new Shape Layer will be your current foreground color in Photoshop and you will only have one fill color per layer, even though it can have many separate paths. Remember that unlike Illustrator, Photoshop does not like open paths. You can easily change the color of the Shape layer by double-clicking on its color swatch, which opens up the color picker. What you really have here is a layer filled with that one color and the vector shapes are acting like masks. From here, you can edit the paths just as you would in Illustrator. You will find the same black arrow (now called the Path Selection tool) that allows you to select and move entire paths. If you need to, you can use the Direct Selection tool (the white arrow) to edit individual points and curves on your path. You can select, copy, paste, delete, and move paths around, all on one Shape Layer.

Create empty layers above your painting and use the Line tool on them to set up vanishing points. This image uses simple 2-point perspective. As you can see, the actual vanishing points are outside the canvas area of the image. Choose bright, fully saturated colors for your perspective lines, as they will stand out from your image. It helps to use different colors and layers for each dimension: height, width, and depth.

Now it's time to transform. Make sure the Shape Layer you want is selected and use the Free Transform tool (Cmd+T or Ctrl+T). Choose Skew if you need to move a point or line in just one direction or Distort if you need to do more. Since this is 2-point perspective and no sides will end up being horizontal or vertical, choose Distort. Move the points of the bounding box so that they match up with the intersections of your perspective lines. Once you have done that, you can choose Scale to move or size the shape into position by grabbing its sides. Right-clicking is a great way to access the menu with all of these transformations. You may be tempted to try the Perspective option, but don't; it's very limited. Also, don't grab and move your shape; you will lose the correct perspective you have set up. Always do it with Scale. When you are done, accept the transformation. What is great about this method is that since you are working with vector shapes, you can scale and distort as much as you want without losing any edge quality and Photoshop's Transform tools are much better and more precise than Illustrator's.

Once you have the top edge in place, it is easy to create the rest of the shape going down on a layer underneath it. You now have a complex shape receding in the distance with correct perspective that would not otherwise be possible in a 2D application. Since it is done with vector shapes, you have the best of both worlds: crisp, smooth edges and all the Photoshop options of blending modes, opacity, layer masks, clipping masks, layer effects, and so on. One more point to remember: if you have the Move tool selected, the transformations will be applied to the entire layer; that means all the paths on it. If you just want to transform individual paths on the Shape Layer, use the Path Selection tool to select the one(s) you want to transform first. Sadly, you can't transform paths on different layers at the same time.

Posted by Dan Johnson at 03:50PM (-08:00)
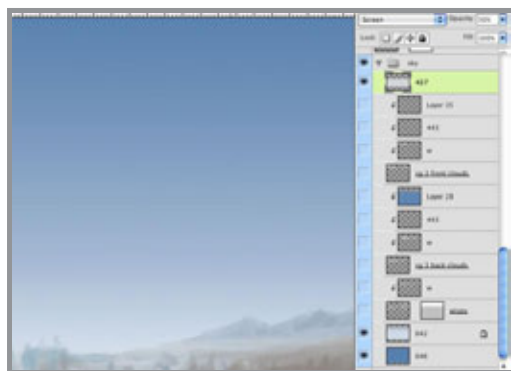
Creating a sky gradient tutorial

Wednesday, February 10, 2010
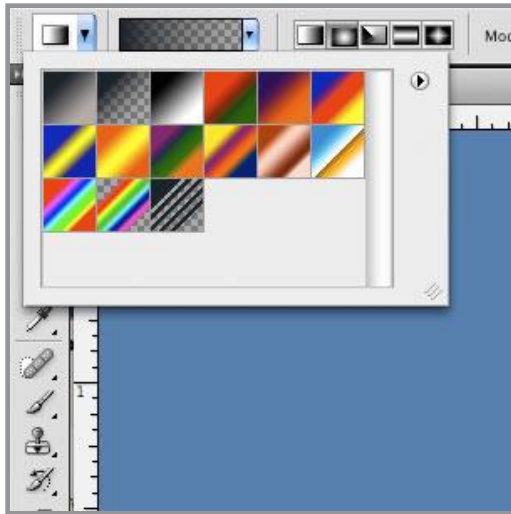
The secret to getting realistic skies is to spend some time looking at sky photos to figure out what is really going on. I get to paint lots of skies with the work I do, so I have come up with a technique that seems to work and is easily repeatable. All skies require gradients, but the best way to do it is to put each color on its own layer. To do this, set your gradient to the foreground to transparent option. It's the gradient swatch just to the right of the top left one (foreground to background). This is the only gradient I use. In a moment, you'll see the control and flexibility this method will give you.

The next thing is to choose the right colors. First, always work in RGB mode, even if your image will end up being printed with the CMYK process. Photoshop works natively in RGB and some features don't work at all in CMYK. Getting consistent color is a tricky thing, going far beyond this simple tutorial. Just choosing colors at random from the Color Picker only adds to problem. What I do is choose colors from a Pantone library as much as I can. Click the Color Libraries button in the Color Picker. From here, you can choose the library you want. I use the Pantone solid coated library because it matches the PMS book I have. If I am working for print, I pick the PMS color based on the corresponding CMYK swatch in my book. This method may seem strange if you aren't working with spot colors, but it is a great way to keep consistent with your color and it gives you a nice range of dark to light to pick from. If your image will be printed, this method should give you less surprises with color.

Now the first thing to do is pick the major color of the sky. For this one, I chose PMS 646 and filled the bottom layer with it. A handy keyboard shortcut to fill with the foreground color is OPT+DEL(Mac) or ALT+Backspace(PC). To fill with the background color, do the same thing, except use CMD instead of OPT(Mac) or CTRL instead of ALT(PC). It's also a good idea to label each layer with the the color you used on it. That makes it easy to come back and make changes or pick the same color for something else. Then create a new layer above the solid color layer and use the gradient tool on it. Hold Shift while you drag up in order to get a perfectly vertical gradient. I chose 642, a lighter color from the same group as 646. Now, if it's not quite right, you have a lot of options. You could move

the gradient on its own layer up or down, change its opacity, or even its blending mode. You could check the Lock transparent pixels option for that layer and fill it with an entirely new color. You can use as many gradient layers like this as you need to get just the right effect. For this sky, I used only three layers. Notice that I changed both the blending mode and opacity of the topmost layer. Skies always get lighter as they approach the horizon because you are looking through more atmosphere. That's why items in the distance look lighter and bluer. I often use a grey gradient on a layer in Screen mode on top of all the other sky gradients to simulate this effect near the horizon.

That's it! With this technique, you can create any sky you want, even sunsets, stormy, smoggy, and so on. A good practice is to get various sky photos and try to duplicate them. Add as many layers as you need. Use Multiply to darken and Screen to lighten. Next time, we'll tackle those clouds.

Posted by Dan Johnson at 12:20AM (-08:00)

Making clouds with filters tutorial

Thursday, February 11, 2010
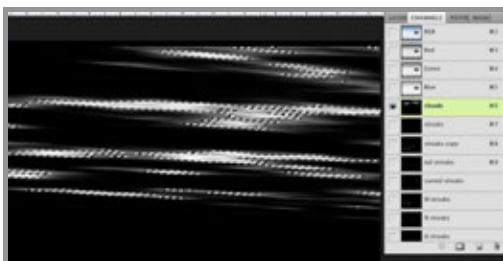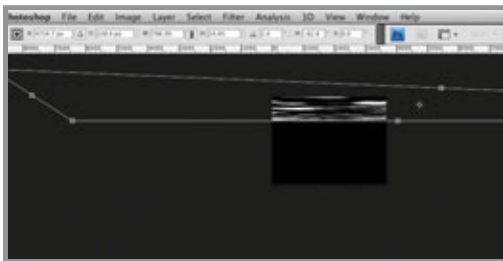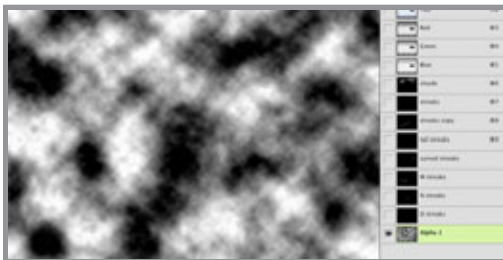
As with skies, the best way to paint good clouds is to start by observing them. Keep a library of source photos. I'm not good enough to paint clouds out of my head, so I always use photos as reference. It also helps to be able to recognize the various cloud types. We'll begin with some thin clouds, maybe Cirrus or Stratus. They are often long and wispy, appearing near the horizon. To get this look, you can try the Clouds filter. It actually can make clouds, but you need to take a few steps that are not so obvious. I owe this technique to Jack Davis, as found in his incredible Photoshop WOW! books.

First, create a new alpha channel in the Channels panel (say that ten times fast). Make sure your foreground/background colors are the default black and white, and apply Filters>Render>Clouds. A little-known trick is to hold down the OPT or ALT key while doing this; it will give you greater densities of your foreground and background colors. This is what you want because you are working in an alpha channel. The blacks will be transparent and the whites will be opaque. In other words, you are building a selection. White will be 100% selected, black will be 0% selected (or deselected), and the greys will be the various strengths in-between, based on their brightness.

With this in mind, apply a Levels adjustment to the alpha channel. Click Image>Adjustments>Levels... Black will be your

sky and white will be your clouds, so adjust it as you see fit. Move the black slider to the right to create more sky by increasing black. Move the white slider to the left to create denser clouds by increasing white. The grey slider adjust the value of midtones. The ratio of cloud to sky is up to you, but generally, you want more sky (black) for these kinds of clouds. The closer the sliders are to each other, the harder the edge of your clouds will be.

Now you will transform the channel to create the right cloud shape. It helps to choose the Full Screen Mode with Menu Bar screen mode because you will be stretching the channel far beyond the edges of the canvas. In Photoshop CS3 and earlier, you could make this change while you were transforming, but in CS4, you can't. You must switch modes before you transform. Thanks for the new feature, Adobe. Free Transform with Scale, Skew, Distort, and maybe even Perspective. What you want is to make it long and skinny. Skew the bottom corners closer together to give the illusion of the clouds' receding overhead. You will have to zoom way out to have enough room to work.

You should end up with something like this. It won't be exact, but that's the great thing about this method: you get random, natural results. You can also paint on the channel with a soft brush if you need more sky (black) or clouds (white). Now you want to load this channel as a selection. CMD+click (Mac) or CTRL+click (PC) the channel thumbnail or just click on the Load Channel as Selection icon. It's the leftmost one at the bottom of the Channels panel.

With the selection loaded, go back to your layers and create a new layer above your sky gradients. Fill it with an appropriate color. I chose a light Cool Grey from the Pantone solid coated library. It has a great selection of greys right in the middle of the colors. You can then move it around or transform it again if needed. I lowered its opacity to 70% and named the layer 'wispy.' I even added a layer mask with a gradient to simulate the density of the air around the clouds near the horizon. The will start to fade away, so a linear gradient on the mask does the trick. This mask also affects all layers clipped to this layer, so it's like having multiple masks!

It looks pretty good, but the clouds could use a little highlight. You could try using the Bevel & Emboss effect with the shadow turned down, but it doesn't always work well for clouds. A better option is to paint the highlights on another layer that uses the clouds layer as a clipping mask. Make a new layer directly above the wispy layer and OPT/ALT+click between the two. This will make the lower layer a clipping mask for all upper layers that are clipped to it. That means that the pixels on the bottom layer will act as a mask for the upper layers. Where the bottom layer is transparent, nothing will be seen on the upper layers, even if they they have opaque pixels there. It's exactly like loading a selection from the bottom layer's opacity and using that to make masks on the upper layers. But this way is much more flexible, plus the clipped layers inherit the opacity, blending mode, and layer effects of the bottom masking layer. On the W layer, I painted white with a soft scatter brush. Using a tablet and stylus like a Wacom is essential for this kind of work. Next we need some big, puffy Cumulus clouds, but that will take hand-painting with custom brushes and that's another tutorial. Stay tuned.

Posted by Dan Johnson at 12:59AM (-08:00)

Making cloud brushes tutorial
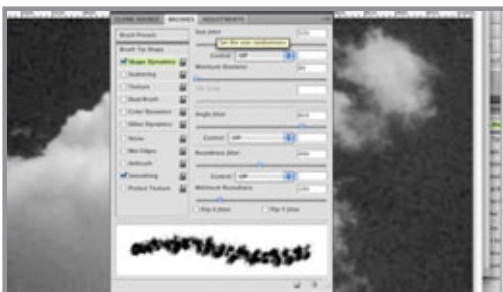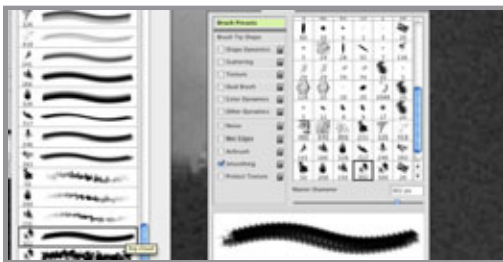
Now we are going to create a custom brush for painting clouds. A great way to do this is to start with a photo. Look for one that has nice edges against a flat blue background. Then look at the channels to find the one that has the most contrast between the cloud and sky. In this case, that is the red channel, but it also has a lot of noise, so the green channel might be a better choice. It has a decent amount of contrast and is much better than the blue.

Duplicate the channel. There are several ways to do this, but I prefer dragging the channel down to the Create new channel icon at the bottom of the panel. This will make an alpha channel. If you have been paying attention to previous tutorials, you'll know that alpha means transparency. In making a new brush, the white will be transparent areas and black will put down 100% of your foreground color. Greys will be varying degrees of opacity based on their value. Since in our new channel the sky is dark and the cloud light, it needs to be inverted. You can choose Image>Adjustments>Invert, or simply press CMD (Mac)/CTRL (PC)+I. Now do a Levels adjustment on the channel. Click the little white eyedropper and click on the open sky. This makes the color you pick and anything lighter pure white. If you want part of the cloud to be 100% opaque, select the black eyedropper and click. You can use the grey eyedropper to adjust the cloud density. When it looks good, use a Lasso tool to make a selection around the part you want to include in the brush. Then select Edit>Define Brush Preset... Name it whatever you like. I named mine big cloud. You now have a new brush, but you need to customize it in order for it to be useful for painting clouds. I like to use the Stroke Thumbnail option on the Brush flyout menu. You access it by that little triangle button at the top right corner. It shows you what a stroke with each brush would look like. Now open the Brushes panel. We need to give this brush some randomization.

Click on the Shape Dynamics controls. Crank the Size and Angle Jitter up. Make sure the Control option is set to Off. Experiment with the other settings if you want, but you do need high jitter values in Size and Angle. Jitter is the amount of randomness in each of

these settings. Now click on the Scattering controls. Check the Both Axes option. Now your brush will scatter along both the X and Y axes. Adjust the Scatter and Count sliders. Watch how the stroke example changes. Higher Scatter gives you clouds that spread out more. A higher Count makes denser clouds by adding more brush instances. Adjust the sliders until you like the stroke preview. Again, make sure the Control options are set to Off. The final thing to do is to click on the Other Dynamics control and set the Opacity Jitter to Pen Pressure. It's odd that one of the most important controls is hidden in this nondescript category, but so it goes. Keep the Flow at 0%. You will need a pressure sensitive tablet to do any real painting.

That's about it! You will need to save this brush in order to keep all of these customized settings. Click the little New icon just under the triangle button in the Brushes flyout to save this new brush as a preset. Try this with different cloud photos and custom settings to build up a library of different cloud brushes. Some can be soft, scattered, and foggy; some can be more distinct with less randomization. Do some test painting to see which ones you like. That's what we will do in the next tutorial

Posted by Dan Johnson at 11:51AM (-08:00)

Painting clouds tutorial

Saturday, February 20, 2010
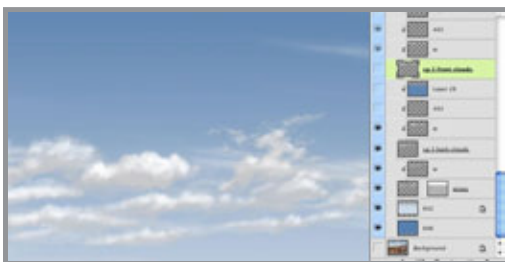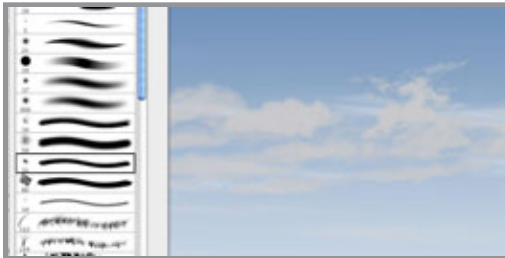
In the previous tutorial, we made a custom cloud brush, but you can also find some great free ones on the Internet. Once you have them saved or loaded, use a stylus and start painting. Try several different ones. Look at cloud photos and try to duplicate the patterns and shapes in nature. Create a new layer to work on. I chose cool grey 3 from the Pantone library for the base color of these clouds. Another good brush for this kind of work is the 11 pixel chalk brush that comes as one of Photoshop's defaults. It's great for soft natural edges like these where you need a bit more control than a scatter brush. You will need to set the Opacity Jitter to Pen Pressure and if you want, add some Scattering as well. The great thing is that you can size custom brushes up and down; it hasn't always been that way with earlier versions of Photoshop. The left and right bracket keys to the right of the P are a very handy way to do this while you are painting.

Create a new layer on top of this base layer. Use the bottom cloud layer as a Clipping Mask (OPT/ALT+click between the layers). Then paint white on the upper layer with various brushes to make the cloud highlights. I usually avoid pure white unless I'm simulating luminosity, but it seems to work well for clouds. You can always adjust the layer's opacity later if necessary. Now you need a shadow layer. I used PMS 443, which
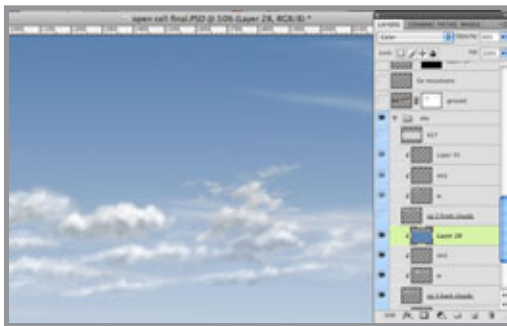
is a very bluish grey. Usually, I use Multiply mode for shadows, but on bright sunny days, distant cloud shadows are fairly light, so Normal mode works just fine. Then create yet another layer and put a gradient of the main sky color (in this case, PMS 646) to transparent. Set this layer's blending mode to Color and the Opacity to 40% to simulate some extra blue tint that comes from looking through more atmosphere at the horizon.

We did the farthest clouds with the Clouds filter in the last tutorial. Now we have the middle clouds and we still need the foreground clouds. Follow the same sequence as the mid clouds and create new base, highlight, and shadow layers for the foreground clouds. Paint on each one using the same colors as you used on the mid clouds. They all should be clipped to the base layer of cool grey 3. Now add one more layer on top of your shadow layer for the foreground clouds. This will be for darker shadows, since the nearer the clouds are, the darker their shadows will be. I used the same shadow color to paint with, but I made this layer Multiply mode at 50% Opacity.

That should do it. Having three sets of clouds for foreground, mid, and background adds to the illusion of depth. Remember that as clouds get farther away, they should get smaller, lighter, and bluer (if the sky is blue). The topmost layer has a light bluish-grey gradient with Screen mode at 50% Opacity. This is to obscure the faraway clouds a bit more and make them look really distant. Also, in urban areas, the air tends to be filled with more particulate matter, so it's denser and more opaque at the horizon. We'll be putting a city back there, so we can't forget about the pollution. But the sky is done!
Posted by Dan Johnson at 03:07PM (-08:00)

Drawing a background city tutorial

Sunday, February 21, 2010
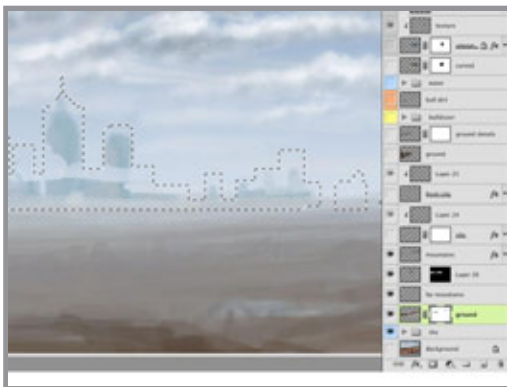
Here is my horizon so far. The ground and mountains are little more than quick scribbles at this point. You can also see some of the remnants of a rough city sketch from earlier in the process. I need to create a more structured, architectural shape for the final city. To do that, I'm going to use a technique I learned from the great matte painter Dylan Cole. He starts with a basic silhouette made quickly with the Rectangular Marquee tool. I've gone one step beyond that by using the Polygonal Lasso to add some angles. Then make a new layer and fill it with a bluish grey with the selection active. If you want to paint the spire white for some reason, go ahead. I did this
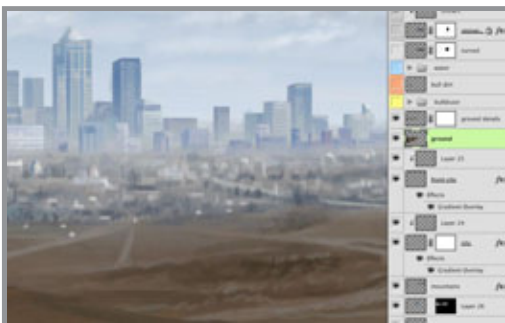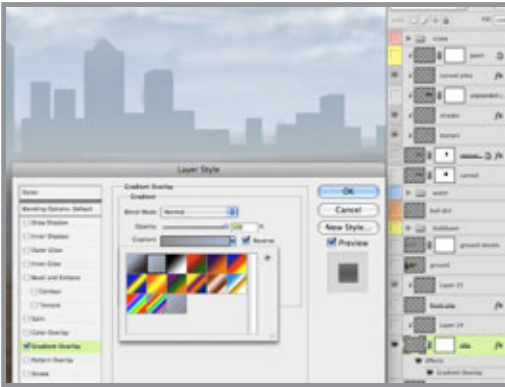
image a few years ago. When I do this kind of thing now, I use a vector Shape layer because it allows greater flexibility and control in editing the shapes and their color. Next, add a layer effect. At the very least, you need a Gradient Overlay. Take a look at distant mountains and cityscapes; they get progressively lighter as they approach the horizon. You can simulate this with a vertical gradient that fades up to transparent. The easiest (not the only) way to use a custom gradient is to pick the color you want as your foreground color before opening the Layer Style options. When you click on your gradient options, it's already there. I almost always exclusively use foreground to transparent gradients. Depending on your lighting situation, you may also want to try an Inner Glow, Inner Shadow, or Bevel and Emboss. Picking the sky color as a Color Overlay effect is an easy way to push it back in perspective.

Make a new layer and clip it to the city layer. This upper layer will hold the building textures and details. If the city is far away in the distance or does not need to look photo-realistic, it's easy enough to hand paint the details with a small, simple brush. Have some fun and be a little loose; all you really need to do here is hint at the architecture. Hold down the Shift key as you paint to get perfectly straight horizontal or vertical lines. I also added some crisp 1-pixel rules with the Line tool set to raster mode. Even though the real colors of these buildings have white, grey, black, tan, brick red, and others, you'll see that all the colors I've painted here are quite blue. This is because of their distance from the viewer. You could also paint them more accurately or use photo textures and use the Color Overlay effect on the clipping mask layer to knock them back as much as you want. How does this work when the layer style is just on the bottom layer and you are painting or texturing on layers above it? The answer is the clipping mask. As one past student of mine put it, all the clipped layers 'inherit' the settings of the clipping mask layer. This includes Opacity, Fill, blending mode, Blend If settings, and Layer Styles. That's why, generally speaking, the clipping mask layer should be Normal blending mode and 100% Opacity and Fill. Notice that the fading gradient of the city silhouette also affects the painted building textures, even though they are on a layer above it.This would

be the same for other interior effects like Inner Shadow, Inner Glow, Inner Bevel, Pattern Overlay, and so on.

 The city looks okay, but I'd like it to have a bit more depth, so I have added another set of building silhouette and texture layers. You'll see that these colors are a little brighter and more saturated to bring them forward just a bit more. You could keep doing this to create additional depth if needed, but for my purposes, these two levels did the trick.

 The last thing to do is to attach the city sitting on the horizon to the dirt in the foreground. This is done by continuing the city elements along the ground. Try some very loose painting here; all you need to do is suggest things like trees, houses, roads, parks, and other suburban buildings. You can also increase the saturation and value of the colors to bring them forward even more. All I have done is hint at what might be here in the outskirts of the city. Your brain fills in the rest and you probably think you are seeing more detail than is actually there, especially when it gets zoomed out. That's it; the city is now built. In the next tutorial, I'll cover texturing closeup items with more detail.

Posted by Dan Johnson at 08:50AM (-08:00)

# Creating streaks with a filter tutorial

Saturday, February 27, 2010
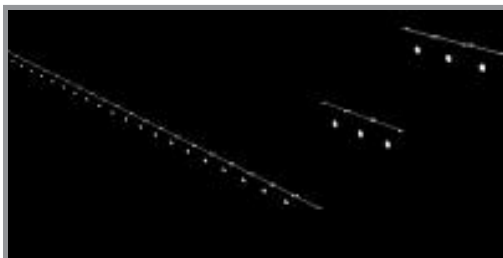
 Now we will begin to create what are called the tail walls of this piling construction. I began with a simple, flat raster shape filled with PMS 446, which is a dark, steely grey. I transformed it into position using Skew and Scale using the techniques I showed in the very first tutorial for this image. When the perspective looks right, it's time to start adding textures for realism.

The wall needs some rusty streaks running down from the top edge and the holes. There is a great way to do this, but it requires a few steps. You'll need a selection of the holes and the top of the wall and an Alpha channel. Select the pixels of the bottom wall layer. A great way to do this is to CMD (Mac)/CTRL (PC)+click the thumbnail image in the Layers panel. Now you have a selection based on the visible pixels on that layer. But we need the empty areas selected. Invert the selection, then use a Lasso tool to to remove all the selection except for the holes. Holding down ALT/OPT will subtract from your current selection. I have the top profile of the wall as a shape on another layer higher up in the Layers panel. To add a selection from its pixels to the holes selection, hold down SHIFT along with CMD/CTRL and click on its layer thumbnail. Now go to the Channels and add a new channel. The background should be black, so fill the selection with white. This will be used to make a new selection, but we need to add the streaks. Wind is a great filter for this. As with many Photoshop filters, it's not so good for what it was designed for, but it's good at other things.
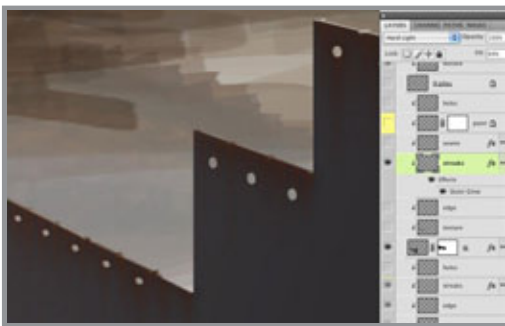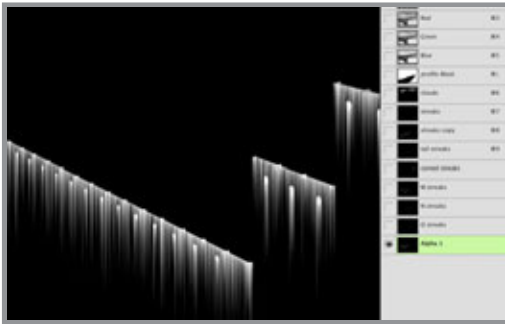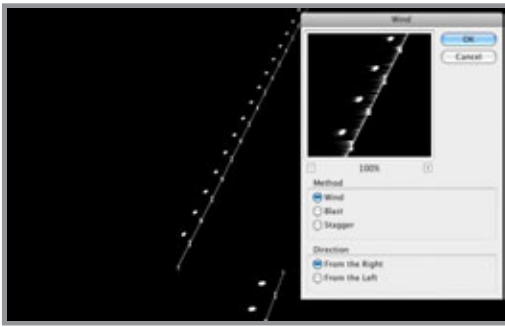
The problem is that in Adobeland, wind apparently only blows left and right, but we need it to blow down. Maybe someday Adobe will figure this out, but until then, you'll have to rotate your canvas to get this to work. Select Image>Image Rotation>90º CW. Now go to Filter>Stylize>Wind… Choose Wind as the Method and From the Right. It's a neat effect, but it's not quite enough yet. The filter will need to be run a few more times. An easy way to do this is to press CMD (Mac)/CTRL(PC)+F to run the most recent filter. Do this a few more times until the streaks are as long as you want, then rotate the canvas 90º CCW. This is a great way to make many kinds of streaks, but it has other uses. From here, you can make them softer, fatter, blobbier, and run all sorts of filters on them, but that will be for another tutorial. For our needs, these will work fine as they are. Load a selection from this channel, make a new layer and and fill it with a rust color.

I suppose you could hand paint something like this, but this filter is great at creating that randomness that is so hard to do manually. Usually Multiply mode is best for streaks like this, but since the wall was already dark, the rusty streaks need to be lighter than the background. After a bit of experimentation, I chose Hard Light as the blending mode. I also gave them an Outer Glow effect with a rusty brown in Multiply mode and added Noise. Remember that glows don't have to be bright. The streaks look good, but they are a bit too prominent. Reducing the layer's Opacity would also take down any layer styles, so lower the Fill instead. This reduces the opacity of the pixels on that layer, but leaves any layer styles intact. The effect is subtle, but sometimes that's exactly what you need. Tune in for the next tutorial to see how the wall gets finished.
Posted by Dan Johnson at 02:39PM (-08:00)

Texturing with painting and layer styles tutorial

Sunday, February 28, 2010

To finish this up, let's start with the Layer Style. This one uses Inner Shadow and Gradient Overlay. I use gradients so often because even if an item is just one color, it will never be consistent. One part will invariably be darker or lighter than another. Put a dark gradient in Multiply mode to darken the bottom right corner of the wall. Since the light source is the sky above, the top of the wall should be a bit lighter than the bottom. also, corners tend to be darker than the rest of a structure because the walls come together and throw more shadow there. Add an Inner Shadow to suggest the thickness of the wall. An important concept to get down here is that shadows don't have to be dark and glows

don't have to be light; it all depends on the color and blending mode you choose. To show the inner width of the wall reflecting the light from above, change the blend mode to Normal and choose PMS 413, a light warm grey. Set the Size to 0 so that it will have a sharp edge and adjust the angle to match the light source. Now it's a width instead of an inner shadow. Remember to uncheck the Use Global Light feature so that other light-based effects won't change with this adjustment.

 Add a new layer above this base layer and clip it so that it uses it as a clipping mask. Notice how many layers will be clipped to the flat, solid color wall layer (labeled 'M'). Paint some loose, scribbly texture with rust and dark grey colors on this layer. The edge layer above it is set to Screen mode at 50% Opacity. Paint some light vertical lines here with a 1-pixel Line tool. It was set to raster, but it could have easily been vector. The layer is set to Screen mode to suggest highlights along these edges.

To show the seams and joins between the separate pieces of piling, use the Line tool to make thin, dark vertical lines. Add a layer effect to suggest the curving edges. I chose Drop Shadow, Outer Glow, and Bevel and Emboss. Remember to change blending modes if needed. It's best to work from photos and refer closely to your source material to match it closely with these effects. For the final touch, I added some spray-painted marks like measurements and a letter at the end, using a soft round brush and bright saturated colors to mimic fluorescent spray paint. It's good that this was on its own layer, because the client didn't want the marks there, even though they were in the photo. I like the bit of color they add, so I turned them back on for my version to show. That does it. Now we have a nice rusty textured wall made of metal sheet piling, just what you always wanted!

Posted by Dan Johnson at 01:50AM (-08:00)

# Advertising excellence award

Monday, March 01, 2010

Last year, I created an illustration and did the ad layout for one of my primary client's major clients (don't ask). I started by building simple geometry in Cinema 4D since the shapes were quite complex. The rendered image was brought into Photoshop for painting and texturing, then I did the final typography and design in Illustrator to create the press-ready PDF that was sent to the magazine.

Recently, I was notified that this ad won an Advertising Excellence Award in a survey conducted by the Baxter Research Center for Progressive Railroading Magazine's September 2009 issue. Not exactly life changing stuff, but it's something. Apparently, it placed third for most read ad, even though it was on page 69 of an 80-page publication. The higher placing ads were no further back than page 32 of the magazine, so where your ad happens to be plays a major part in recognition by readers.
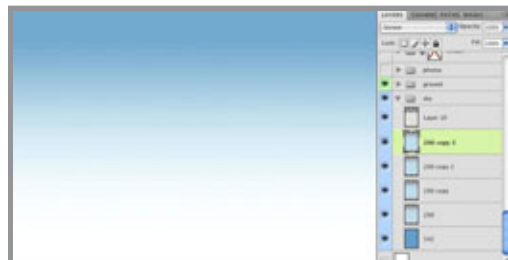
This illustration is not one of my personal favorites, but it has some good stuff in it and I went about things a bit differently, so I should be able to pull some helpful tutorials out of it. The final ad actually has five different images in it: four smaller inset images over the background, but I'll just be concentrating on the main image. Most of the insets were actually done much earlier and then reused for this ad. If I can get away with it, I do this as much as possible if I need to save time. These images are time- and money-consuming to create in the first place, so the cost can be amortized out over several projects if the images can be reused.
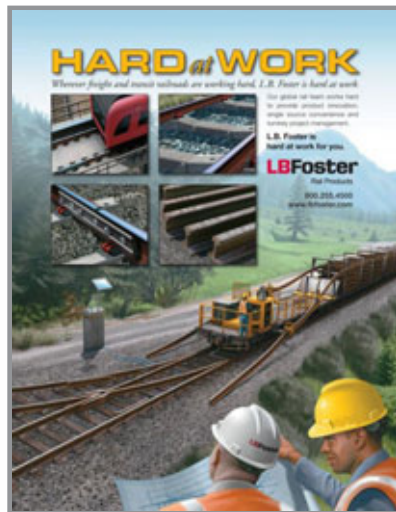
Posted by Dan Johnson at 11:17AM (-08:00)

Painting the background tutorial

Saturday, March 06, 2010

As with most of these images, I start them 9x12 at 300 ppi. It can end up being a large file, but most are used primarily for print and this size gives me a bit of leeway for fullpage magazine ad sizes. I always begin with the sky, as this gives the overall mood for me to build on. The base layer is PMS 542 and I added a gradient of PMS 290 on a layer above it in Screen mode. Since I wanted a very light, almost overexposed look for the sky, I kept duplicating that layer until got the effect I wanted. Notice that the horizon is
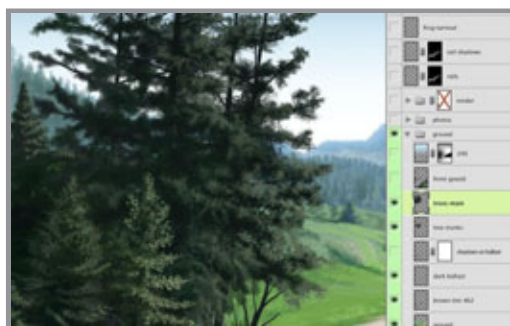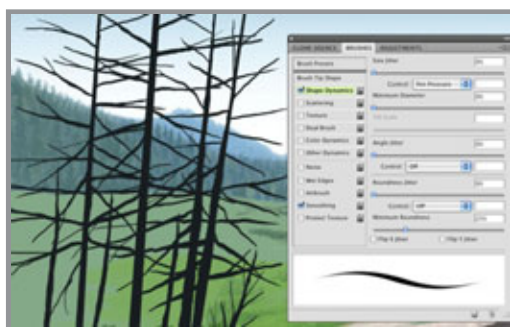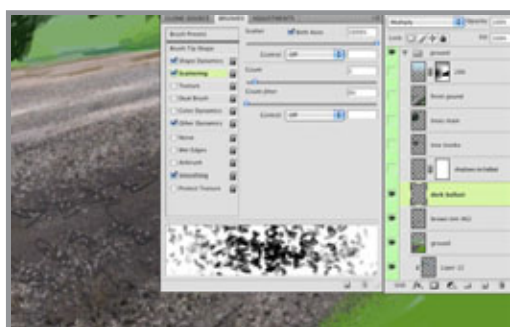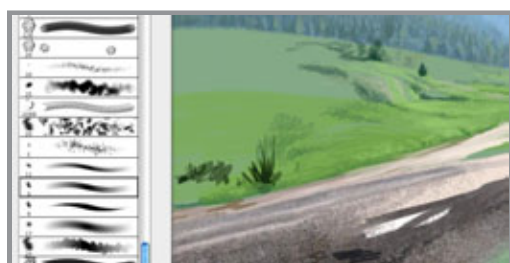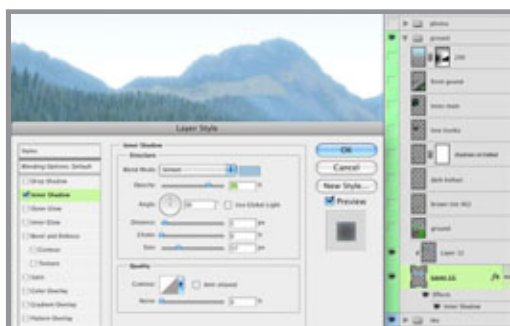
basically blown out to pure white. Then I added a light cool grey gradient on top.

Next come the mountains. Start out on a new layer and paint the silhouette with a periwinkle blue color. Add an Inner Shadow effect to that layer. This is to simulate light wrap from the sky around the edge. Set the Angle to 90 so that the effect is just along the top. To make it more of a glow instead of a shadow, change the Blend Mode to Screen and pick a light blue. Remember that shadows do not have to be dark. Adjust the Size and Opacity to your own tastes. Paint the details like trees, highlights, and shadows on a separate layer that is clipped to the base mountain layer. That way, these details will 'inherit' the effects of the bottom layer. If you like, you could also add Color and Gradient Overlay effects to the bottom layer to push the mountains further back.

At this point, perhaps I should say something about the brush. My favorite brush and one that I use at least 75% of the time is one that comes with Photoshop. It's a 9-pixel thin pencil brush, found in the Natural Brushes 2 set. For me, the regular round brushes are too uniform and unnatural. I like this one because it has a bit of an organic shape that sort of mimics a real brush. Of course, it needs some customizing, so set the Opacity Jitter to Pen Pressure and use your tablet and stylus.

The painting is fairly loose, especially in the more background areas. The foreground areas naturally need more attention and detail. Painting all the rocks under the rails (called ballast) requires a special approach unless you want to paint each one individually. I certainly wouldn't. This is the perfect time to use a scatter brush. I'm still using my favorite brush, but I made another version where I added Size, Angle, and Roundness Jitter to the Shape Dynamics, then cranked the Scatter all the way up to 1000% on both axes. This is a great way to paint rocks, gravel, sand, or other bumpy textures. Just pick various dark and light greys and have at it. Reduce the brush size and paint with less pressure as you get farther away. I added a layer in Color mode and painted on it with PMS 462 brown to tint the rather colorless rocks underneath. Rocks will always have some

interesting colors scattered in them, so look for these opportunities to add color whenever you can. The end result is pretty nice and would be next to impossible without a scatter brush. You may need to do some detailed manual touch-up in the extreme foreground, but that's about it. Finally, I added another layer in Multiply mode and painted some dark scattered rocks.

Not much more can be done here until the tracks are in, so we'll hold off on that for now. But it's time for some trees. On a new layer, paint the trunks using PMS 426. This is a very dark warm grey, almost a brownish-black. The trunks and branches won't need much detail because they will be shadowed and covered up by the leaves and greenery. To paint them, use the good old thin pencil brush, but this time with the Opacity Jitter turned off and the Size Jitter set to Pen Pressure. This is one of the few times I don't use the sensitivity of the tablet to control opacity. In this case, pressing down will give you the thicker trunks, while easing up on the stylus will create the tapering of the branches as they grow out from the tree, all while keeping the opacity constant.

Now it's time to paint the leaves, nettles, or whatever. Scatter brushes work well for this. Try some of Photoshop's Natural Media brushes and customize them by adding some Scatter and Jitter to the Shape Dynamics categories. Don't forget to set the Opacity Jitter to Pen Pressure. You'll see that the trunks and branches mostly get covered up in these kinds of trees, but they still provide the necessary underlying structure. I have found that very dark greens are needed to paint trees. I usually start out too light and have to end up going back in with darker colors. For the final touches, choose a small brush with no Scattering and paint some more definite leaves.

At this point, all that's left is to paint the foreground grass and bushes. Surprisingly, I have found that Photoshop's own grass brushes do a pretty good job of painting near grass, of all things. Just uncheck the Color Dynamics and make sure the Opacity Jitter is set to Pen Pressure. The only problem is that they are extremely large, so you'll just have to size them down. You may notice that I started out with a large brush and quickly scribbled in hints of highlight and shadow on grass and bushes. Then I went back with a smaller brush and painted the details. I used some scatter brushes along the way as well. Some of the foreground and even the midground are left unfinished because I'll be putting in things like the tracks, train, and people, so I'm not worried about finishing everything off here. Remember that in professional situations time is money, so don't spend any extra effort that you don't have to. For the next tutorial, we'll put in the 3D rendered items and start painting them.

Posted by Dan Johnson at 12:41AM (-08:00)

# Painting and texturing the 3D render tutorial

Tuesday, March 09, 2010

The object I had to illustrate for this image was quite complex, so I decided to build a simple 3D model of it to take care of the perspective and major shapes. I used Cinema 4D to build my geometry and give it some simple materials. It was rendered with global illumination and with an alpha channel. You may need to render out several alpha channels, depending on the complexity of your models. It looks pretty good, but it's a bit dark and it doesn't mesh so well with my painted background.

The first thing to do is to load the alpha channel as a layer mask. That's why alpha channels are so important when you do your 3D render. Since the image came out a bit dark, you can add an adjustment layer. I also added a color pass layer on top that brightened it up quite a bit. Do whatever color and value adjustments you need in Photoshop to get the render to match your background. The rendered image will be a base layer that the adjustment and painted layers will use as a clipping mask.

Start painting the wood texture on the ties. I used my favorite pencil thin brush again. The ties already had a wood material applied in Cinema 4D, but it didn't look so great and it was going the wrong way. I did a bit of loose painting to suggest the rough wood grain. This layer was clipped along with others to the render layer, so it was using that mask, but it needs one on its own layer so that the painting doesn't cover up the rails. I rendered out an alpha channel channel of just the rails, then loaded its selection to use as a mask on the ties painting layer. Invert the mask so that the rails are black and the background white. Now the painting doesn't cover up the rails. Since renders can be very time consuming, you can turn off options like textures, lights, ambient occlusion, etc. when rendering alpha channels. This will save some time.
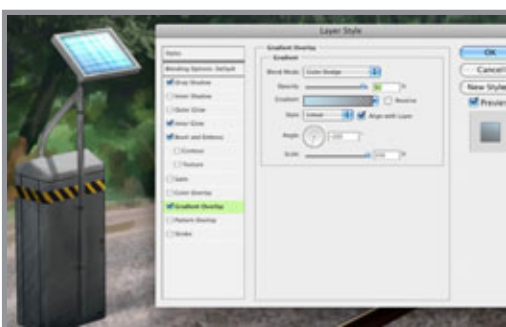
Continue painting other details on additional layers. Multiply mode works well for dark areas. For the solar panel, work on a new layer. Start with a simple shape with lines drawn across it. The final look is achieved with Layer Styles. The bright glare comes from a gradient overlay, using a light blue in Color Dodge blending mode. Using this mode with light colors is a great way to simulate luminosity or strong, specular highlights.

The final details will be painted in on the top layer. Use small brushes for the most part to hint at the details that aren't in the model. You can also try some scatter brushes to suggest dirt or rust. This is how the painting looks on its own layer. You can see that it relies heavily on the 3D model underneath. The train and tracks also need some shadowing to tie them into the background. Right
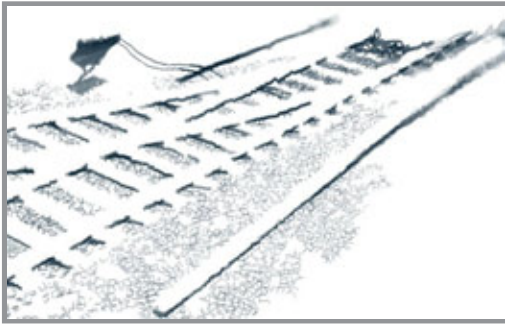
now, they look like they are floating above everything, so they need some shadows. For outdoor sunlit scenes, I like to use PMS 296 to give the shadows a bit of blue. Shadows are rarely pure black; warm lights will cast cool shadows. Since they are outside of the alpha channel, put them down in the ground group above the ballast layers. Use Multiply mode, which will darken the underlying layers, while letting some of their details show through. Remember that shadows are darker and sharper the closer they are to the object casting them and get lighter and softer as the distance increases.

Now you can see how it is all coming together. The crisp, clean lines of the 3D model are softened and made to look less perfect and uniform. There is a bit of looseness which matches the look of the background. As a final step, note that all the layers of the train and ties are inside a layer group. Add a mask to the group and you can paint out the edges of the ties so that it looks like they are sunk into the ballast. Doing this on the group's mask keeps the mask made from the rendered alpha channel pristine. I try to avoid painting on these masks. What is really cool is that layers like the ties painting are being affected by three masks at the same time: the opacity of the bottom layer they are clipped to, their own layer masks, and the mask of the entire group. This allows for a great deal of flexibility.

In the next tutorial, we will continue with the details and finish off the train and rails.

Posted by Dan Johnson at 02:37AM (-08:00)

Painting the final details tutorial

Monday, March 15, 2010

Now it's time to finish this part up. We need to paint on the final details to make it look as realistic as we can. Rails tend to look rough and rusty, except on the top, which is polished smooth and shiny by the continual movement of the wheels over it, so it reflects the color of the sky. Make a new layer to do some quick, loose painting. The mask is the alpha channel of this geometry that was rendered from Cinema 4D. The next layer is for shadows. I painted those with PMS 296 on a layer in Multiply mode and used the same alpha channel for a mask. The next layer is for the pieces at the intersection, called a frog because they supposedly look like a frog (I don't really see it, either). Now the rails are looking done. The last details like the clips that hold them down can be added. As usual, the main shape was created as a solid color on its own layer, then the details were painted on a layer above it, then clipped to the bottom layer.

For the railing, I used the rendered alpha channel and used it as the mask for this layer.
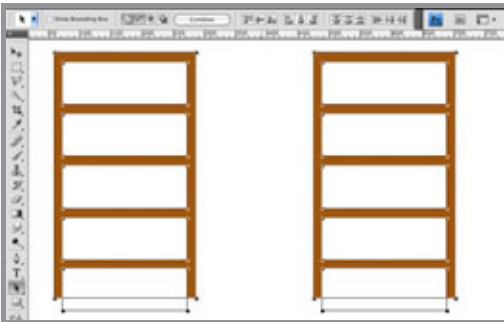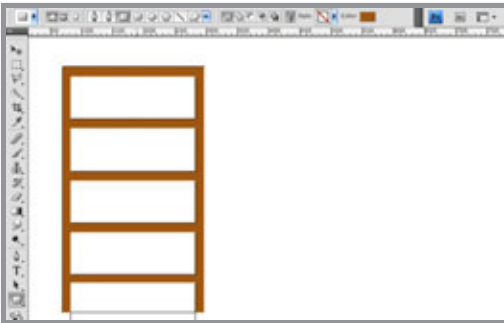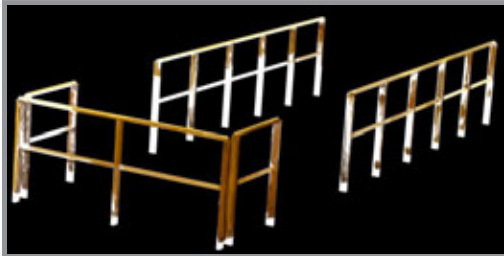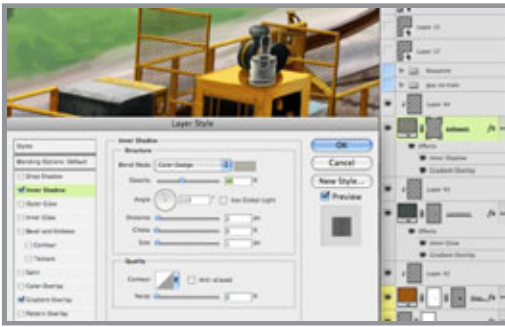
Notice how the painting can be very loose and indistinct and yet with the clean edges of the mask and the 3D render underneath, it looks okay. Depending on the complexity of the model and its overlapping areas, several alpha channels may have to be rendered. But this will be enough and the other details can be added on separate layers.

Whenever possible, try to use vector shape layers to keep clean edges and maximize editability. For the framework around the screens, start with the Rectangle tool. Make sure the Shape Layers option is chosen at the upper left of the Options top bar. After making the rectangle, hold down the ALT/OPT key to subtract from the current shape and put holes in the rectangle, making it look like a frame with crossbars. Use the Path Selection tool (the black arrow) to select all the separate shapes on the one shape layer. Now you can copy and paste these shapes or just ALT/OPT+drag them to make a copy. Notice that with the Path Selection tool active and paths selected, some very helpful options become available. A number of Align and Distribute buttons can be used to make sure the shapes are evenly spaced out. Click the large Combine button to combine all the separate shapes into one path on the shape layer.

Now that the paths are all one and the unfilled areas hanging out below are gone, it is easy to transform the frame. Create some lines on an upper layer to serve as perspective guide lines. Follow the angles of the 3D geometry. Use Distort and Skew to match the edges to the perspective lines. Then add some Bevel & Emboss and Inner Shadow layer styles to give it some dimension. A layer clipped to it is used for some quick scribbles to add hints of dirt and rust. The shape on the screen layer was filled a fence pattern, then scaled down and transformed to match the frame. A Color Overlay adjusted the color and a Stroke thickened it up a bit.

Now, it just needs some final details to finish it off. I didn't bother to build and render these in 3D because they are fairly simple. You can create them in Photoshop as vector objects on a shape layer. With layer styles, add a Gradient Overlay and Inner Shadow. In

this case, the shadow is really going to be a soft highlight. Change the Blend Mode to Color Dodge and pick a light warm grey. Use a reflected gradient with the same light grey in Color Dodge to add the wide highlights on either side. Now there is a soft shadow going up and down the middle. The painting was added on an upper layer using this vector shape layer as a clipping mask. You won't need to paint much on this details layer; just indicate some dark smudges and streaks. I did this exhaust pipe and the canister behind it in the same way. This should do it; the train, rail, and tracks are done. In the next tutorial, I'll cover how to paint some people into the scene.

Posted by Dan Johnson at 05:36PM (-07:00)

Painting people tutorial

Monday, March 22, 2010

Drawing and painting people accurately is one of the greatest challenges in art. This is one area where doing it digitally doesn't offer many shortcuts. But we can apply many of the principles used for other subject matter here as well.

Unless you are an unbelievably talented artist, working from photos is crucial to drawing human figures and faces correctly. Here you can see the photographic source material for the guy on the train, scaled down to about the right size. Work on a new blank layer to paint a flat silhouette of the figure. Don't tell anyone, but you can put your photo in the exact spot you need it, then trace over it. Pick a midtone color that is related to any noticeable areas of large color in the photo. In this case, it's PMS 5405, a good choice as a base for denim. This layer will act as a clipping mask for the layers of detail painting. Add a layer mask to it, load a selection from the railing mask or alpha channel by CMD (Mac)/CTRL (PC)+clicking on its layer or channel thumbnail, and use it to paint black on the silhouette's layer mask where the rail covers up the guy. Since the other layers clipped to this one will use its layer mask, you won't need separate masks for each one.

Create new layers, clip them to the bottom layer with the flat silhouette, and get painting. I'll be using my favorite brush again, the 9-pixel thin pencil brush with the Opacity jitter set
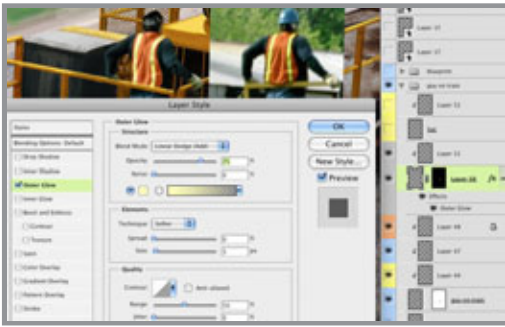
to Tablet. Size the brush up and down as needed by tapping the left and right bracket keys (just to the right of the P). You can pick colors directly from the photo if you want to. Hold down the ALT/OPT key while painting to turn your brush into the eyedropper temporarily. When picking colors from photos, it's a good idea to check your Sample Size. Select the eyedropper from the Tools panel and look at its options. Make sure the Sample Size is set to 3 by 3 average or higher. Because photos contain so many different colors, you may not want to pick a color from just one pixel. This option averages out that pixel with the pixels around it, so what you get is a more accurate representation of the blend of colors in that area. The more color noise in your photo, the higher this setting should be. Break your details up into layers. I used one for the hands and head, one for the pants and shirt, and one for the orange safety vest.

Paint the reflective stripes on a new layer not clipped with the rest because they need to be their own clipping mask. Add an Outer Glow to simulate the light this tape can reflect back. You can use the standard yellow color for the glow, but change the Blend Mode to Linear Dodge to make it really intense. This effect is a bit exaggerated, but it looks cool, and isn't that what it's all about? You may need to load a selection of the opacity of the main silhouette layer and use that as a mask on this layer so that the stripes don't stick out past the edges. Make a new layer and clip it to the stripes layer then add a few quick light and dark swatches to indicate the highlights and shadows on the folds of the tape. Now, the workman needs a hardhat, because you never know when something is going to fall on your head while you are on a train. The same approach was used for the hat. Put it on its own layer not clipped to the rest; that way, you can extend it past the edges of the head. Paint it as a solid color, then add the highlights and shadows on a new layer, using the bottom on as a clipping mask. That should do it. Just to keep things organized, put all these layers into their own group.

Now, it's time for the closeups. Since these are not really portraits, they don't need as much effort put into them. It's not a likeness, so there's no need to worry if it looks like your source photo or not; what's more important is correct anatomy. Start out with a flat base layer. For this guy, it's PMS 7516. All of the skin, face, and hair detail was painted on just one layer using the base layer as a clipping mask. I Did put a subtle dark to transparent gradient in Multiply mode as an effect on this layer to slightly darken the figure toward the back. All the upper layers clipped to this one will 'inherit' this same effect. If this had been a serious portrait, more time and effort would be required and several layers should have been used to allow for minute adjustments. Colors were picked directly from the photo. The shirt and vest were painted on separate layers also clipped to the base layer. Just like on the guy riding the train, paint the hardhat on a new layer not clipped along with the others. It will serve as a new clipping mask for the details above it. This is a yellow hardhat, so I used PMS 116 as the base.

You can try another little Layer Styles trick for the shadow cast by the hardhat. Load the opacity of the base hardhat layer as a selection, make a new layer above the painted face, clip it along with the others to the 7516 base, and fill it with a dark yellow (the color doesn't really matter). Then, add a Drop Shadow effect along the bottom of this shape. Because this layer uses the base as a clipping mask, not only do you not see any of it that sticks out beyond the original silhouette, but you don't see any effects outside of it, either. This is easier than trying to paint in the drop shadow and it is adjustable. The reflective tape stripes were added on a layer above all these ones just like on the train workman. That about does it. The other guy was painted using the same techniques. If the job requires it, logos can be added (and then later removed as the client requests) on separate layers above the hardhats.
Posted by Dan Johnson at 08:24PM (-07:00)

# Creating the blueprint tutorial

Tuesday, March 30, 2010
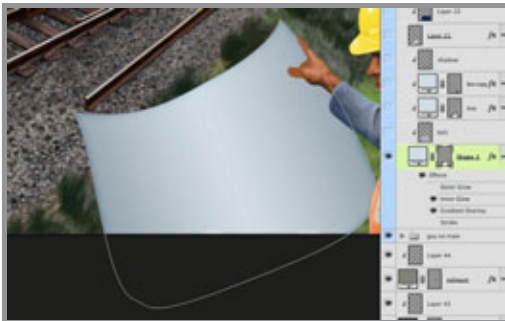
The last step to finishing this image is to have the guys holding a blueprint as requested by the client. The Pen tool is the best way to go about this. Many tutorials would suggest using it to make a path, then load a selection, and fill it on a new layer. However, there is a better way that leaves you with a shape that is much more editable with fewer steps.
Start with the Pen tool, but check the option at the far left of the Options bar to make a shape layer instead of just a path. There are so many benefits to working with a vector shape in Photoshop. As you can see, you can build it so that it extends past the edge of the image. This way, Layer Styles will follow the edge of the shape, rather than the image. PMS 642 was used because it's a good color for blueprints and has a nice range of light to dark. An Inner Glow and Gradient Overlay
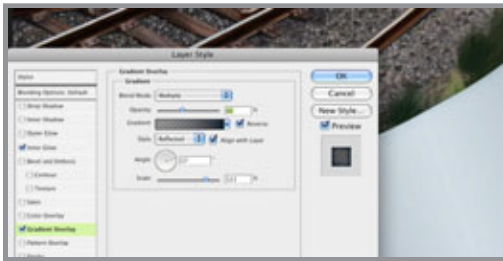
were added, both in Multiply mode using dark blues from the same range as the 642. Noise was added to the glow to give the paper some texture. A reflected gradient was used to darken the sides, giving the blueprint a bit of a curve. To complete the look, add a new layer above the vector shape layer, hold down ALT/OPT and click between the two layers to use the bottom one as a clipping mask. Render the Clouds filter on the new layer with PMS 643 and white as the foreground/background colors. Set the layer's blend mode to Multiply so that the white becomes transparent. Lower the Opacity to 60%.
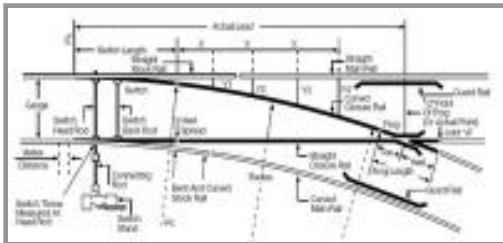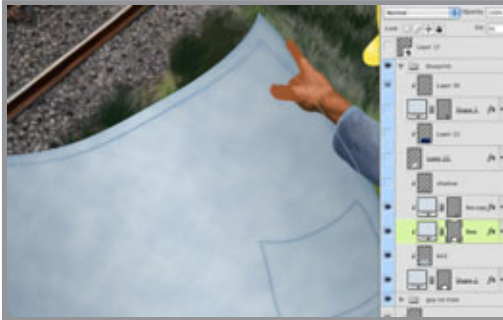
To create the rules on the paper, duplicate the blueprint shape layer and move it above the clouds layer. Transform the layer to make it smaller than the paper. Because the shape layers use vector masks and are resolution independent, you can transform them over and over without any loss of quality. Use Layer styles to give it a stroke of dark blue and Inner and Outer Glows of dark blue in Multiply mode. To make the fill of the shape transparent but keep the effects, lower the Fill (not the Opacity) to 0%.

For the drawing to go on the blueprint, the client provided a black-and-white schematic. That image was dragged into the final illustration. Change its blend mode to Multiply to make the white transparent. To make it look like it's actually on the curving paper, use Transform and then Warp. With this option, you can move the corners independently like Distort, but you also have control handles that allow you to curve or envelope the sides. Move the points and adjust the sides to mimic the curvature of the paper. Don't worry about being too exact, so when it looks good, apply the transformation. To make the schematic blue, add a layer above it and use the schematic layer as a clipping mask. make a selection on this empty layer that covers the schematic, fill it with PMS 654, and set its blend mode to color. The schematic is now blue, but it's a bit too dark, so lower the opacity of the schematic layer to 80%.

For the final touches, shadows were painted with PMS 296 on a layer set to Multiply.

Lower its opacity until it looks good. The edge of the paper curling over was done with the pen tool to make a new shape layer with PMS 642. A little Inner Shadow effect was added to turn the curve. The last step is to add yet another layer in Multiply mode, clip it to the curling paper, and paint just a hint of shadow from the guy's arm. That should do it.

Stay tuned so see what I can come up with for next month's tutorial.

Posted by Dan Johnson at 11:37AM (-07:00)

Illustration for April

Sunday, April 04, 2010

This month, I am showing an image that is a bit different from the previous ones. It still has realistic painting and textures, but the perspective is exaggerated. I worked on this image with another designer who built the geometry in Cinema 4D. To achieve this unusual look, the scene camera's Aperture Width was set to 50 and the Field of View to 69º. The camera was then moved in close so that the models filled the image area and the perspective around the edges was distorted. I did some final editing and positioning of the 3D geometry.

The final render was brought into Photoshop for painting and texturing. Some photos were used to streamline the process. I was able to develop a texturing technique with Smart Objects that was not possible in previous versions of Photoshop. This was very exciting because it allows a greater degree of editability and flexibility with transformed objects that I had been hoping for since I first began using the Transform tool to Skew and Distort. I'll share this technique in this image's first tutorial.

Posted by Dan Johnson at 03:22PM (-07:00)

Transforming Smart Objects with Layer Styles tutorial

Tuesday, April 06, 2010

This is the final render of the 3D scene I had to work with. It's a good start, but it has that sterile, perfect look that is so easy to do in 3D. However, it's great for taking care of composition, shadows, and perspective and is a good foundation to start with in Photoshop. The first thing to do is add perspective lines to assist in transforming textures. This is best done by creating vector Shape layers with the Line tool. Use Full Screen Mode With Menu Bar. This option used to be at the bottom of the Tools panel, but in CS4 it's in the new Application Bar. With this viewing mode, the image window extends out to the edge of the screen and you can zoom out to see a blank area outside of the borders of the image. A similar space in Illustrator is called the canvas, but as far as I know, there is no corresponding term in Photoshop. Here, the canvas is the visible artwork and

anything placed beyond it is not seen. Selections and raster-based tools don't work in this area, but vector-based tools do. Set the Line tool to 1 pixel and make a line from a straight edge in the image out to what is presumably the horizon. You can see that the line extends into this blank are beyond the Photoshop canvas, whereas a raster line would not. Incidentally, you can change this background color by right+clicking on it and then choosing a better color than the default midtone grey. That's what I have done.

Hold down the shift key and you will see a little plus by your cursor. Now you can add a new line to this Shape layer instead of creating a new layer (which is what would happen by default). That is the goal: to put all these lines on one layer. I often use a Shape layer for each axis: X, Y, and Z. If I get too many lines going, then I'll add new layers. Unlike Illustrator, all the vector shapes on a single Shape layer must be the same color. This is because the layer really only holds one color and the vector shapes are acting as masks to show that color.
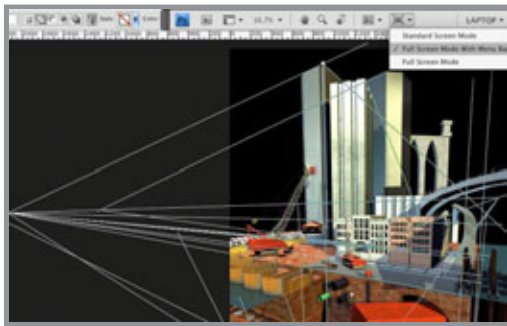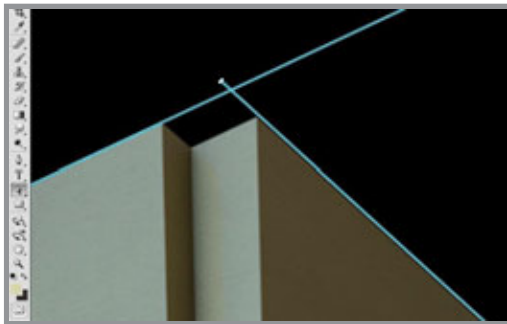
Where two lines converge that are in reality parallel is a vanishing point. Remember perspective class? For most 3D rendered scenes, you will probably have three vanishing points (for width, height, and depth), but depending on how much objects are turned, you could have more. I used to use raster lines, but with vectors, you can grab the ends and move them around; this is amazingly useful, especially if you didn't get it quite right the first time. In order to reposition a line, you must use the Direct Selection tool. That's the white arrow. One odd thing to keep in mind is that since Photoshop doesn't like open paths, these are not stroked rules like you might find in Illustrator. Each line in Photoshop is actually a long, skinny rectangle acting like a mask. Vector shapes here don't have strokes and fills. So to move just one end, you have to make sure you select both points on the end with the Direct Selection tool. Dragging a marquee to select them both is the easiest way. What's great about this technique is that you can zoom out to select what you need, then zoom back in to view a different part of the image and use the arrow keys to move the line end(s). Hold down Shift to move in increments of 10 pixels instead of 1.
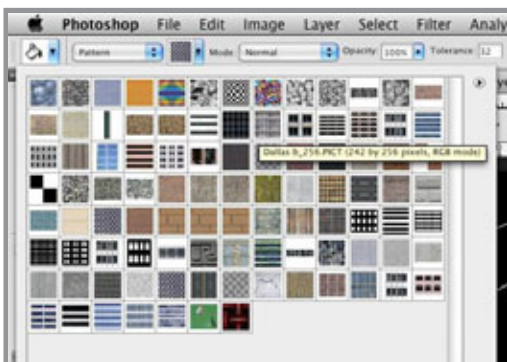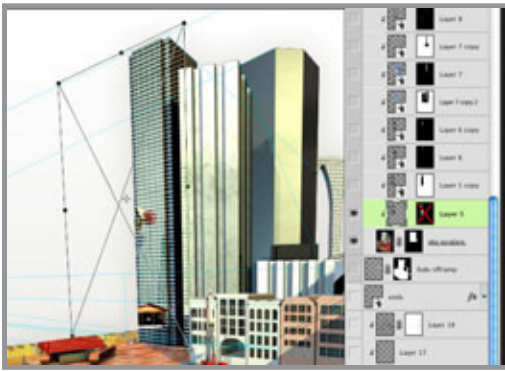
With the vanishing points and perspective lines set up, it's time to start texturing. For this, you'll need to make or load some patterns. Texture map libraries for 3D models are a great resource. For this application, we need seamless building patterns: photos of brick, stone, windows, etc. Put together a library of patterns that are most applicable to the kind of work you do. Keep adding to it when you come across new ones you like. Other useful textures are cracks, concrete, wood planks, dirt, grass, and decorative architectural elements. You can also save your patterns as an external file and take them with you.
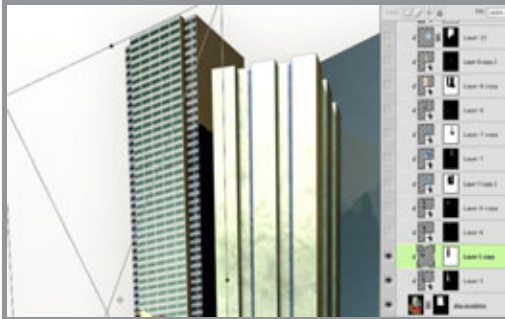
Load an alpha channel from your render and use it as a mask on the render layer. Create a new layer and fill it with any color. Then add a Pattern Overlay with Layer Styles. Choose a window texture that you like. Don't worry about its scale; we can deal with that later. Convert it to a Smart Object by right-clicking on it in the Layers panel and choosing from the drop-down menu. ALT/OPT+click between the two layers to use the render layer as a clipping mask. Now, transform the Smart Object layer with Distort and Skew. This is only possible in CS4. In previous versions, transformations like Warp, Distort, and Perspective would not work on Smart Objects, so this technique did not exist. But now, Smart Objects are finally 'smart' and can be fully transformed. Vector Smart Objects are still limited, though. Oh well, maybe in CS5.
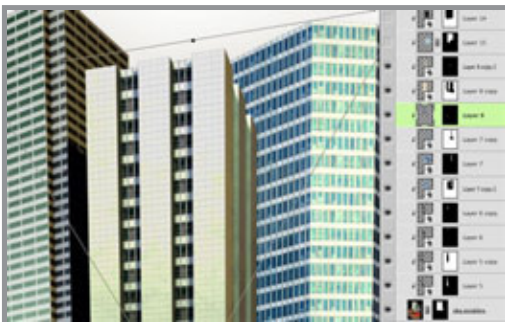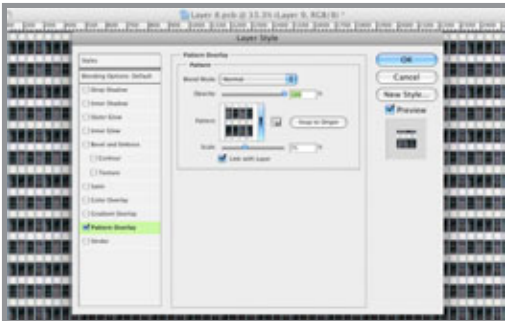
You may be wondering why I didn't use the Vanishing Point filter. Well, if you look carefully, you'll see that it's not really a filter, since it's in a category all by itself. Vanishing Point doesn't recognize Smart Objects or vector shapes, so it is limited. Also, I have found the quality of the images it produces lacking at times. Transforming Smart Objects is non-destructive, so it really is the way to go. Try different Blend modes to see what you like. You want the highlight and shadow of the 3D object to show through; that's the whole idea. For this one, I chose Overlay at 80%. Hard
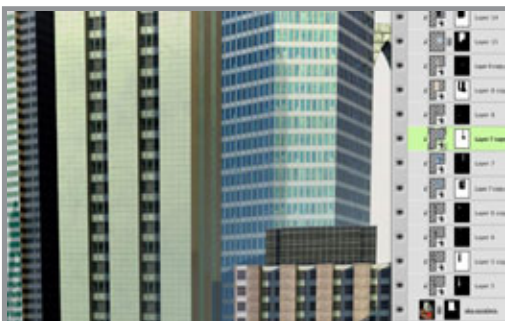
Light, Soft Light, and Multiply may also work.

This first building has a middle piece that sticks out from the front face, so the windows need to look like they're wrapping around it. First, use the Polygonal Lasso tool to make a selection around this part, then add a mask to the layer. Duplicate the layer and invert the mask. You will also need to mask out the dark sides of the building. Be sure to unlink the mask from the layer so that you are only transforming the Smart Object and not the mask as well. The great thing about Smart Objects in CS4 is that when you go back to transform them, all the settings are still there; nothing has been reset. The skewed sides are still in place, so to match the window pattern to the receded front, grab the top and Scale it down a bit. The grab the bottom edge and scale it as well so that you end up with the same height as when you started. Make sure you don't just move it; that will mess up the perspective. If you scale the edges instead, you will keep them perfectly aligned with the perspective of the scene.

If the building texture isn't quite right, you can double-click on its layer and edit the Smart Object, which opens up as a PSB, for some strange reason. That's also Photoshop's large document format for files over 2 Gb in size, so why it should be the file format here as well is a mystery to me. It's apparently not a linked file that resides externally; it just magically pops up when you want to edit it. With the Smart Object open, you can edit the Pattern Overlay to change its Scale or even choose a new texture altogether. When you're done, save the Smart Object and your main file automatically updates. Pretty neat! You can keep making adjustments in this way until the pattern is perfect.

This building has windows only in the recessed areas. Since all the shapes are composes of straight lines, it's easy to make a selection for the mask. With the non-destructive editability of Smart Objects, you can keep fine-tuning all the sides until they match up. These windows worked best in Multiply mode. For the blue building behind it, Hard Light gave the impression of shiny glass and steel. Adjust the Opacity of each layer as needed so that the original balance of highlight and shadow on the render shows through.
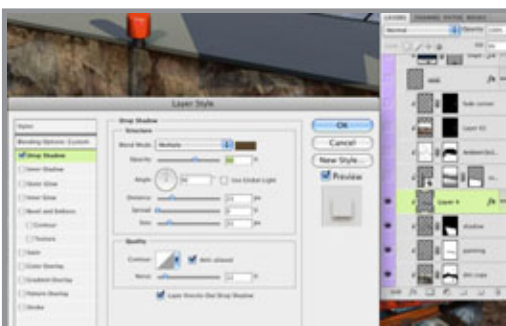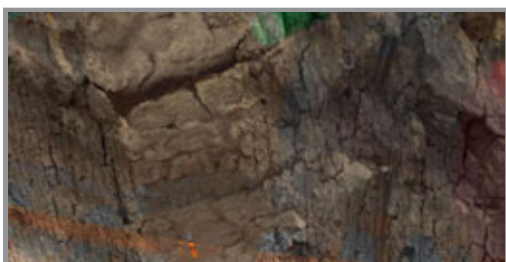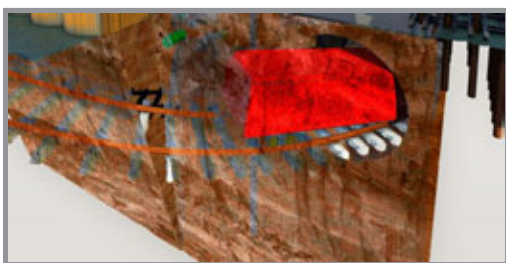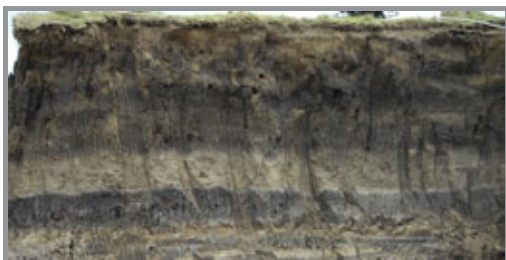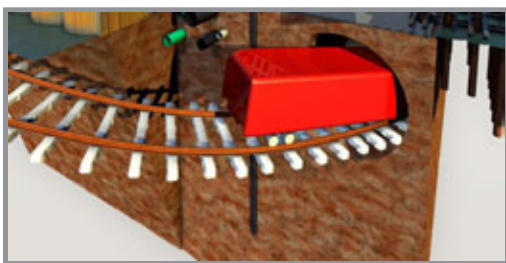
The smaller building in front was done the same way. A brick pattern was used as that's more likely in a building with fewer storeys. Pick textures that you like to give each building some unique character. Notice that all of these layers are clipped to the bottom render layer, so that nothing sticks out beyond the building shapes. What's cool is that with not very many patterns, you can create a wide diversity of buildings, just by varying the scale and Blend mode of the Pattern Overlays, along with the color behind them. And the best part of it all is that with Smart Objects, you can come back and easily make more changes. In a few clicks these could be completely different buildings. This is something I've been waiting for in Photoshop for a long time, so I'm glad Adobe finally implemented it.
Posted by Dan Johnson at 10:45PM (-07:00)

Creating dirt texture tutorial

Thursday, April 15, 2010

A dirt material was applied to the base geometry in Cinema 4D, but the render came out looking flat and smooth. It needs some realistic texture applied in Photoshop to to make it look rough and natural, more like real dirt. In the past, I have painted dirt by hand or tried a combination of filters to get the right look, but that is time consuming and doesn't end

up looking very real. I decided to create the texture from a photo. A couple of years ago, as I was traveling through Guatemala, we were stopped to wait for road construction (that happens a lot there). Near the road was a section of earth that had been cut away, leaving this great cross section of dirt, so I took some photos. This is why it's always a good idea to carry around your camera with you.

Drag the photo over and transform it into position using Distort or Skew. Change the blend mode to Luminosity. Now, only the dark and light values of the photo are affecting the image behind it; the hue remains unchanged. Duplicate the photo layer and experiment with blend modes and opacity. I ended up with Normal at 70%. Photo-based textures tend to look better if you combine several different images with different blend modes and opacities, instead of just using one photo.

Select the angled part on the left and skew it a bit more to follow the plane of the original 3D model. For the little sliver that faces to the side, you can just paint it by hand. Choose a simple brush with the Opacity Jitter set to stylus and hold down ALT/OPT to pick colors from the surrounding areas. Start big and work down to the smaller details. Continue the different bands along this face and pick new colors often to add more color diversity.

To make the roadway look like it's hanging over the dirt a bit and casting a shadow, create a new layer and make a selection along the edges of the roadway with the Polygonal Lasso tool. Fill it with any color and add a Layer Style. Set the Fill to 0% so that the pixels on the this layer will be transparent, but the effects will still be visible. Give it a Drop Shadow and adjust the settings similar to what you see here. Remember to uncheck Use Global Light, so that other effects won't change. The scene was rendered as a multi-pass, so I've got separate layers for the shadow and ambient occlusion calculated by Cinema 4D. These layers were dragged over on top of the photo and paint layers to add greater realism.

One of the products shown in this illustration is a pump for water deep underground. The dirt cutaway needs to have a cavity with water in it. Paint a rough hole using a dark brown picked from the surrounding dirt. Let the cracks and contours of the texture be a guide as

you paint the edge. Give it a dark Outer Glow in Multiply mode and a Bevel and Emboss using settings like these. Color Dodge for the highlight will not affect the darker areas as much as Screen would. The Chisel Hard Technique makes the edge rougher and more angular. Reduce the Fill of this layer to 80%.
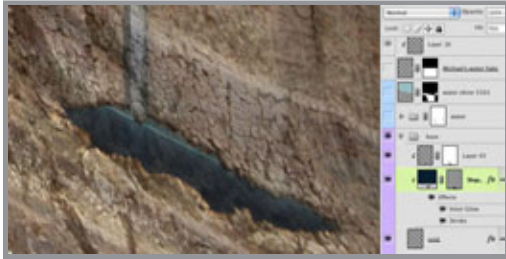
 For the water, create a shape layer using the Pen tool and clip it to the void layer. Use a dark blue as the fill color and add an Inner Glow of light blue in Screen mode. Yes, sometimes, I actually use light glows. A light blue stroke represents the edge of the water cutaway. Reduce the Fill to 70% so that the water becomes somewhat transparent, but the Layer Styles remain unaffected. A light blue shape on top represents the top of the water. Because both these layers use the void layer as a clipping mask, they inherit its Fill setting of 80%.
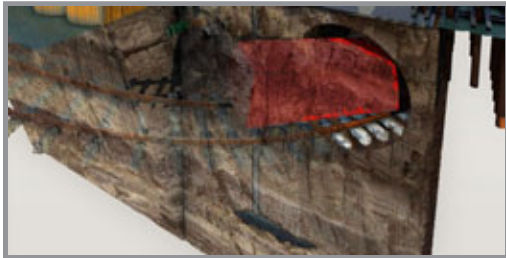
 As a final touch, roughen up the edges by painting on the mask of the bottom render layer. As before, let the cracks and contours be your guide on where to cut away the edge. This will help sell the idea that it's rough, loose dirt. That should about do it. Now we have what looks like a chunk that is cut out and removed from the surrounding ground and it's about as realistic looking as something like this could be.

Posted by Dan Johnson at 03:00AM (-07:00)

# Texturing and painting the bridge tutorial

Thursday, April 22, 2010

The bridge was built as a very simple 3D model and textured in Cinema 4D. It's a good starting point, but it needs some more detail and realism. The first step is to reduce the size of the stone blocks somewhat. The very same texturing technique used for the buildings will work here as well. Create a new layer and fill it with a color. Add a Pattern Overlay effect and choose a brick or stone texture. Convert that layer to a Smart Object and transform it into position using Skew or Distort, then adjust the Opacity and Blend mode as needed. I chose Darken at 70%. Now the larger blocks are obscured and there is more stone detail. And because it's a Smart Object, you can go back in and change the pattern's scale or choose a new one if you want to later.

 Now it's time to start painting. Do this on a new layer with a fairly simple brush and the
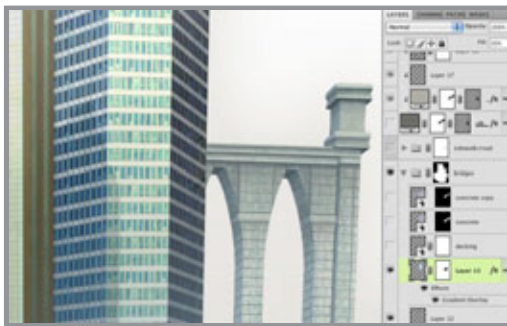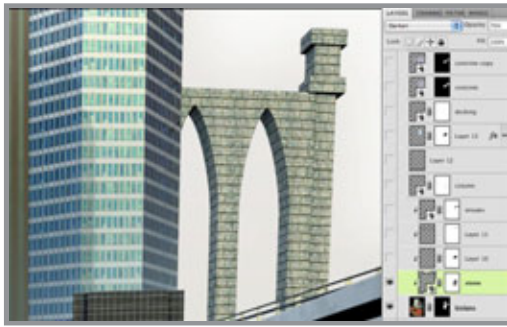
Opacity Jitter set to stylus. Paint in some architectural features to cover up the overall stone texture. Top areas will need cornices and edges often have larger stones. To paint the straight lines, you can use the Line tool with the option set to Fill pixels. That creates new pixels on your current layer, instead of making a new vector Shape layer. You can also click with a brush, then SHIFT+click elsewhere and Photoshop will draw a straight line between the two points. This often works better with a mouse. With a stylus, it's hard to get enough pressure for that second click. Add a new layer and set it to Multiply mode. Choose a warm grey or brown and paint in streaks and stains. These will often be under overhangs and in crevices. Use a photo as a guide for how it should look. In case you can't tell, this bridge was loosely based on the Brooklyn Bridge.

As usual, clip all these layers down to the bottom render layer, which will act as the clipping mask. If you need to add details that stick out past the alpha channel of the original render, do it on a layer that is not clipped along with the rest. Since I lowered the top of the arches, I had to do this to show their undersides. Add a layer of light blue and maybe a Gradient Overlay to give the bridge some atmospheric perspective and push it back into the distance. As a last step, put all the bridge layers into a layer group and add a mask to it, then paint out some of the edges with black on this mask to remove the sharp, straight lines of the original 3D geometry and make it follow the contours of the new painted details. I did this on the group's mask so that I wouldn't mess up the rendered alpha channel used as a mask on the bottom layer.

That's about it. This was a quick one, but I hope it's useful. Tune in for more before the month is over.
Posted by Dan Johnson at 03:34AM (-07:00)

# Texturing the train tutorial

Friday, April 30, 2010

This part of the illustration needed a sleek, modern commuter train. An elongated, rounded cube was built in Cinema 4D, but it needs a lot of Photoshop work to get it there. The train render layer is using its own alpha channel as a mask, but I put all the train layers into their own folder, which is using both a layer mask and a vector mask. Here you can see the vector paths I created for the folder mask which curve the corner a bit more and cut out a bit from the bottom. Some parts of the train hang below the 3D cube,

so work on layers below the render (Layer 52) to add some simple shapes around the wheels with dark greys. Adding a Color Overlay effect in Multiply mode is an easy way to make them look darker.

The end of the train should be created as a new image. This can be quickly and easily done with Shape layers and Layer Styles. PMS 1797 was used as the base color. Use a dark grey to make lines and holes on new Shape layers. Remember to hold down SHIFT to add to your layer, instead of making a new one. The lines have a simple effect of Bevel and Emboss and Outer Glow (dark warm grey set to Multiply, of course). You can use white for the bevel highlight, but change the mode to Linear Dodge to make them more intense and specular, suggesting metal. Use the same effects for similar pieces of the train. Create the rest of the shapes with the Rectangle and Rounded Rectangle tools. Use the Direct Selection tool (white arrow) to pull in corners and create angles. You should end up with something like this. A judicious use of the effects will suggest the details you need. The window uses a black Stroke and subtle Gradient Overlay. The angled piece under the window facing upward uses a white Gradient Overlay to reflect an overhead light source and a little Inner Shadow to show the shadow cast by the vertical piece to its left. The lights have Gradient Overlays with a Reflected Style. What's great is that because it only has vector Shape layers with Layer Styles, this image is completely resolution independent.
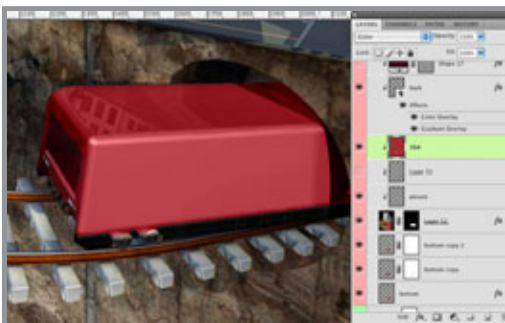
This entire image was brought in as a Smart Object. Transform it into position and add Color and Gradient Overlays to make it work. I used PMS 296 in Multiply mode to put the back in shadow. The color of the rendered cube doesn't quite match the colors of the back texture, so I added a layer of PMS 704 in Color mode to get it to match.

Create the train's side texture using the same techniques as for the end. To give it some more gritty realism, you can add streaks, one of my favorite tricks. Refer back to the 27 February tutorial if you need a review of how to accomplish this using the Wind filter in an
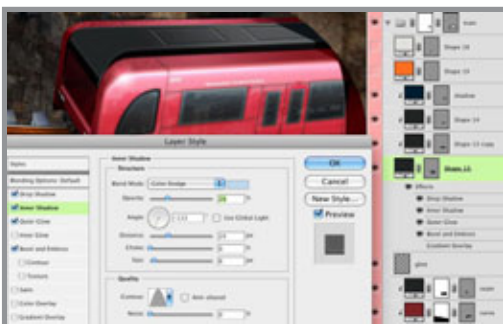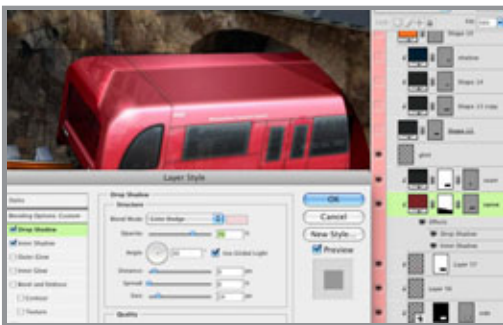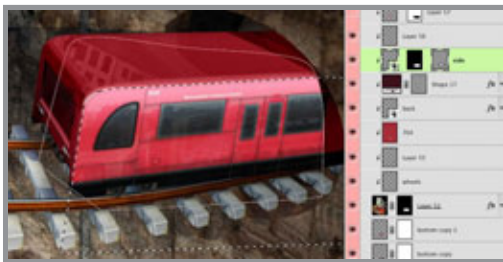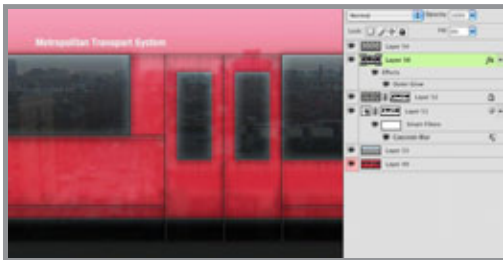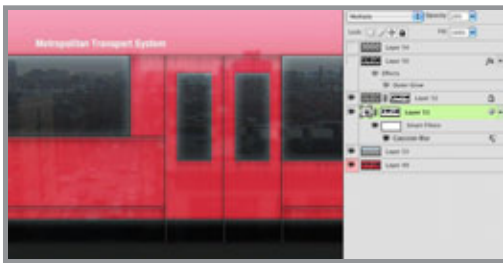
alpha channel. Load a selection and fill a new layer in Multiply mode with a warm dark grey. Adjust the Opacity as needed. For more grime, load a selection from the windows and fill it on a new layer. Set the Fill to 0% so these pixels are transparent and give it a dark Outer Glow in Multiply mode. Add some noise to the glow to roughen it up. To take it even further, paint dark grey around the door seams with a scatter brush on a new layer set to Multiply mode. Adjust all the Opacities to your liking. Yes, the reflection is a photo, one I took in Boston, I think. If you notice, it is nice and sharp on the window glass, but has a Gaussian Blur and lower Opacity over the metal sides. This is to differentiate between the glass, which has a more accurate reflection, and the metal, which will be more diffused. As a final touch, a light blue gradient at the top suggest the sky's reflection as the side curves away at the roof.

Here it is transformed into position, but it needs some masking to make it fit. The tricky part is that it needs both sharp-edged and soft masks. Use the Pen tool to make a vector mask that hides the side texture along the shadow cast by the tunnel. Use the Polygonal Lasso to make a layer mask along the top and end. Then, open up the wonderful Mask panel, new to CS4. Adjust the Feather of the mask to soften its edge and suggest a curving up to the top, rather than a hard corner. The softer the edge, the more gentle the curve. Corners will often catch a glint of highlight along the edge, especially if they are metal. A curved corner will have a wider and softer highlight. To simulate this, add Drop and Inner Shadow effects. Use PMS 698 and Color Dodge. With the same color, opacity, and blend mode for both shadows, a nice, intense, and soft-edged specular highlight follows this edge of the train's roof. The glint layer above it uses a radial white-to-transparent gradient in Color Dodge. You can see how this blend mode really gives the illusion of shiny metal.

Don't give up, we're almost done. The top of the train has this long black piece. Never use pure black or white. In this case, try a very dark grey like PMS 433. To get the highlight along its corner edge, use an Inner Shadow with the settings shown. Choosing a
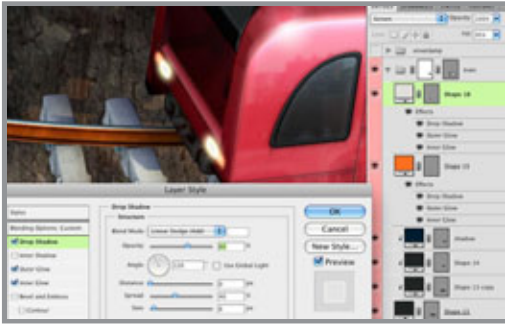
light color and Color Dodge will make it a higlhight, but change the Contour to Cone. Now you have a line away from the edge that is perfect. Adjust the Size and Distance to control the height of this black piece and how curved the corner is.

For the finishing touch, we need some glowing lights. Make them with the Rounded Rectangle tool and use Cool Grey 1 and a vibrant orange. The Inner and Outer Glows actually use the default yellow color in Screen mode. The kicker here is the Drop Shadow. With the Distance set to 0, it acts more like an Outer Glow. Set the color to white and the blend mode to Linear Dodge. What's the difference between Liner and Color Dodge? Color Dodge sometimes keeps a bit more color, but has a hard time showing up against dark backgrounds. In fact, it won't show up at all over black, so in these cases, you may need to try Linear Dodge. The intense, glowing aura of the lights is created by the combining of the Linear Dodge Drop Shadow and The Screen Outer Glow. The same approach was used on the amber lights, except with orange glows. This 'doubling up' of lightening blend modes is a good way to simulate luminous glows.

That's it! There was more here than I initially realized, so I worked hard to cram it all in. The truth is, this could easily end up being 2 or 3 tutorials. But I hope you got something out of it, anyway.
Posted by Dan Johnson at 12:14AM (-07:00)

Stylized, vector-based illustration

Monday, May 03, 2010

For this month, I am showing an image that is a bit different than previous examples. This was done for a local client with a smaller budget. Because of the fact that this illustration had to function more like an icon or logo, I chose to go in a more stylized direction, relying on Layer Styles instead of painting. With one exception, this image is basically resolution independent. Sometimes, it's nice to have a different style that you can market. Some of it was done in Illustrator, but for this month's set of tutorials, we'll see just how far we can go with vector shapes in Photoshop.
Posted by Dan Johnson at 02:30PM (-07:00)

Building the chairs with vector shapes tutorial

Wednesday, May 05, 2010
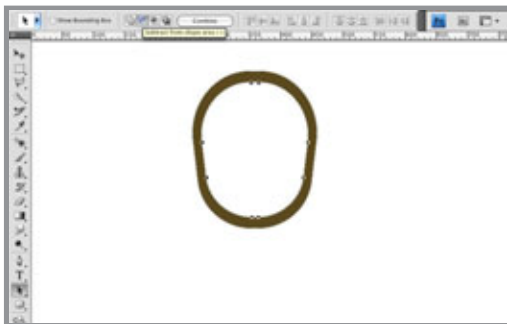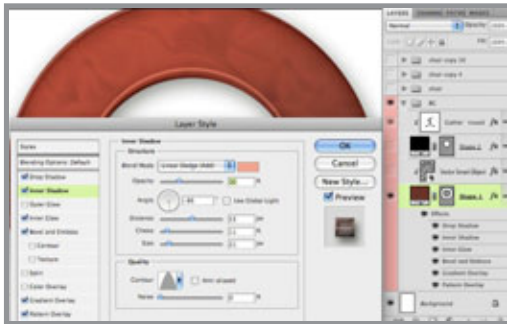
These shapes could be created in Illustrator, but the point of this tutorial is to see how easily you can do it in Photoshop. The first shape is simple; it's just a circle. Use the Ellipse tool to make a Shape layer. I chose PMS 483, which is the top in a great range of reds. This slick, rounded, slightly marbelized look comes all from Layer Styles. All the colors come from this range of 483-489. The Inner Glow uses a dark color in Multiply. The Gradient Overlay is a light color in Color Dodge. The texture is a Pattern Overlay using one of Photoshop's default patterns: Satin with a Scale of 1000% and a Blend mode of Overlay at 7%. This mode drops out midtone grey and keeps the dark and light. The little highlight along the beveled edge can easily be done with Inner Shadow set to Color Dodge and using the Cone Contour as shown.

The text in the black field can be done in Photoshop and transformed with a Warp mode, but for the curved text, Illustrator is a better choice for creating text on a path. Copy the curved text in Illustrator and paste it in Photoshop as a Smart Object. I don't usually recommend doing it this way, but you can double-click it and re-edit it in Illustrator, which will automatically update in Photoshop. This is handy with curved text, which often needs to be adjusted back and forth.

Now, for the chair hoops. Use the Rounded Rectangle tool with a huge radius, like 70 pixels or something. Make a very rounded rectangle in PMS 4485. Transform it with Perspective to taper the bottom end. You can also scale it at this point if you need. Then, select the path of the Shape layer with the Path Selection tool (the black arrow). Copy and paste it. You won't see anything new, but it's there. Transform the path and scale it down. You'll see the copied path inside the original one. When it looks good, accept the transformation and with the inner path still selected, click the Subtract from shape area option. Now the inner shape is cutting out a hole from the outer shape.

Hold down SHIFT and use the Line tool to add a thick line (which really is a tall, thin

rectangle). Select it with the Path Selection tool and use Perspective to taper the top a bit. You can also skew it slightly. Then copy/paste or ALT/OPT + drag it to create some duplicates. When you have one half done, you can select them all, copy/paste, then mirror them horizontally to get the other half. make sure all these paths are on the same Shape layer. Then add some Layer Styles to give it some depth. The Inner Shadow really is a shadow this time and the Gradient Overlay is the default black and white set to Multiply mode. That way, the white goes transparent and you are just left with some darkening to suggest a shadow on the lower part of the chair back. Now, duplicate the layer, then select and delete the inner pieces so that you are left with just the hoop. Clip it to the bottom chair layer. Add an Inner Shadow with a light brown in Linear or Color Dodge, which gives shinier highlights than Screen. Use the Cone Contour and adjust the Distance so that this bright line is just on top of the dark Inner Shadow. Remember that this layer is inheriting the effects from the Clipping Mask layer, but it can have its own as well. This is how you can get more than one instance of the same effect. For the final touch, add a light wood texture to a layer above these two and clip it along with the rest. This one is Soft Light at 100%, but use the settings that work best for you.

 Put all the chair layers into a layer group, then duplicate it. Transform the entire group with Skew, Rotate, and Scale as necessary to make other chairs. You may also need to adjust the Bevel and Emboss or Inner Shadow to give the side chairs more of a highlight or shadow edge. Don't worry about how the bottoms look; that will all get covered up by the table, which we will work on next.

Posted by Dan Johnson at 08:08AM (-07:00)

# Making the table with vector shapes tutorial

Wednesday, May 19, 2010
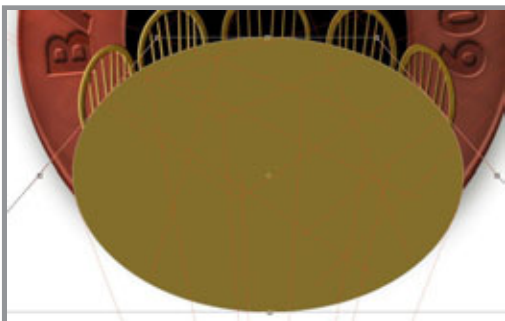
 Now it's time to build the table. This turned out to be kind of fun and it is a cool effect. This table is circular, so start with the Ellipse tool to make a Shape layer with PMS 4495. Hold down SHIFT to make a perfect circle. Then transform the circle with Perspective or Skew to make the far end look like it's receding in the distance. I created some perspective lines on a top layer to help out with this. The best way to
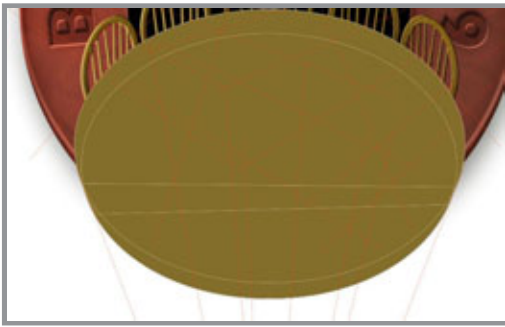
do transformations like this is to use Full Screen Mode With Menu Bar so that you can work on transformation points outside of your image. You used to be able to switch screen modes back and forth while transforming, but with the release of Photoshop CS4, that feature is now gone for some reason. Thanks so much, Adobe.
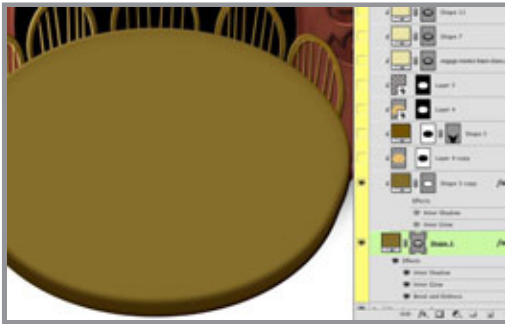
Since the table has some thickness to it, we need to show a bit of the side. Use the Path Selection tool (black arrow), select the tabletop so that you see the vector path, then copy and paste. You won't see anything new, but a new vector shape has been pasted in place above the original on the same Shape layer. Nudge it down with the arrow key and then scale it down a bit. I am using my vertical perspective lines as a guide. You may also need to create a little piece to bridge the gap between the two circles. Make sure the layer is selected with the paths visible, choose the Pen tool, and click the Add to shape area button in the tool options. You need to make sure this new shape stays on this layer and doesn't make a new one.
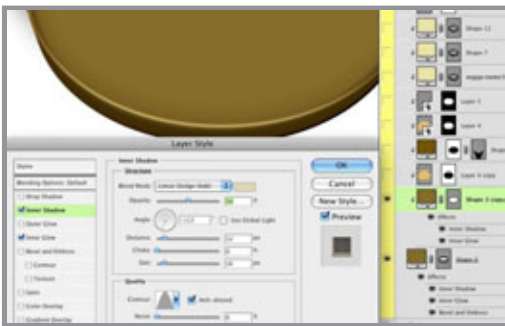
The next step is to copy the tabletop to a new Shape layer. You can just duplicate the layer, select the paths you don't want on the new layer with the Path Selection tool, and delete them. Or you could Select the top circle, copy and paste the path, then choose Layer> New Fill Layer> Solid Color... This will make a new Shape layer using the path you just pasted. Choose the same fill color: 4495. What you want is the tabletop to be in exactly the same position on this new layer. Clip it to the bottom one. On the bottom layer that has the top and side shapes, add a Layer Style. I chose a standard Bevel and Emboss and used Inner Glow in Multiply mode with a dark brown. To show the edge of the table, use an Inner Shadow of 4495 in Multiply mode. Set the Angle to about 90º. Taking the Size up will give you a softer edge, suggesting a more gradual turn at the corner. A crisper edge suggests a sharper, less rounded corner. On the top layer, add an Inner Shadow, but choose a light color and select the Cone Contour to add a glint of highlight

around the edge. I chose Color Dodge to give it that extra kick of specularity. This is a great effect and I never get tired of how cool it looks.
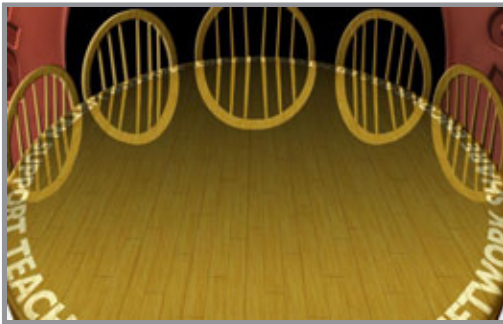
The texture is the one part that has to be raster. I used two different wood photos: one with the grain and one with the plank edges to get just the look I wanted, which was a rustic table. The wood grain layer was set to Soft Light and the planks layer was set to Multiply at 20%. Transform them into position using the same perspective you used for the tabletop shape. You can SHIFT+select both layers to transform them at the same time. The last step is to load a selection from just the tabletop shape and create a layer mask on both texture layers. That way the texture doesn't extend down the side of the table. We'll take care of that in the next step.
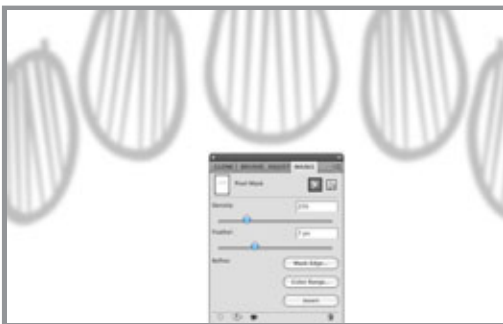
Use a copy of the wood grain texture for the table's edge. Transform it into position using the bottom vanishing point. Don't worry about the plank lines; that would be too hard to match up with the photo texture. Use the Line tool to make another Shape layer with 1px vector lines. Hold down SHIFT to add lines to the same layer and pull them up from the vanishing point to meet the plank lines on the tabletop. For the final step, both of these layers need a mask that is the inverse of the mask on the tabletop layers. CMD(Mac)/CTRL(PC)+click the tabletop layer's mask to load it as a selection. Make sure you have one of the table side's layers selected and click the Add layer mask button. Now you have a mask, but it's the opposite of what you need. Open the Masks panel and click the Invert button. Pretty neat, huh? Do the same for the other side layer and you are done with the table.

For the text, I used Illustrator because of its nice Type on a Path tool. Create a circle in Illustrator and put the type along its path. Then convert the text to outlines, copy, and paste into Photoshop. Choose Shape Layer as your option. You might be tempted to choose Smart Object, but this is a vector Smart Object and you won't be able to use Skew or Perspective, so the Shape layer is the best way to go. Transform it into position just like you did for the tabletop shape and the wood textures. When the angles match up, scale it in a bit by pulling in the edges so that it's not right on the edge of the table.

The perspective is good, but the text looks like it's sort of floating above the table and we want to make it look like it's painted on. Change the Blend mode to Screen. That's better, but we really want the texture and gaps between the planks to show through. Double+click this layer and change the Blend If options of the Layer Style. This little-used option is really useful, but it's not obvious what it does. Blend If basically means "make transparent if." Grab the black slider of the underlying layer and move it to the right until

the grain and gaps show through. What you are doing is making the text layer transparent over the darker areas of layers underneath it. The only problem is that the opacity is either 100% or 0% and we need a bit of fading. For what must be the most hidden feature of Photoshop, hold down ALT/OPT and drag the black slider a bit more. This splits the slider in two. The farther apart these two halves are, the softer the transition between opaque and transparent. How about that?

The last step is the reflection on the table to bring it all together. The more reflective a surface is, the sharper and stronger the reflection will be. For a diffuse surface, the reflection will be fainter and softer. Create a new layer in Multiply mode and add a black to transparent gradient. Add a layer mask, load selections from the chairs, transform the selections, and Flip Vertical. Move them around so that they match up where the chair reflections should be and fill the mask with black with the selection still active. The problem is that the reflection is too sharp and strong. In the past, you would need to fade your fill, then apply a Gaussian Blur to the mask, but these are permanent changes. However, with CS4 you have the Masks panel. Take the Density down to 25% and the Feather to 7px. What is cool is that you can come back and adjust these settings if the blur isn't right or if you need the effect of the mask to be more or less. I've been waiting for this feature for a long time, so it's great to finally see it implemented.
Posted by Dan Johnson at 01:24PM (-07:00)

Creating a bread loaf with vector shapes and Layer Styles tutorial

Monday, May 31, 2010
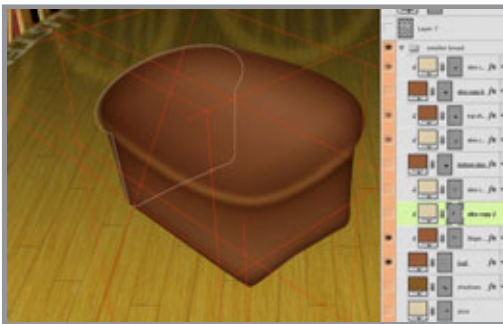
For the last step in this illustration, the table needs a loaf of bread sitting on it. Since the rest of the image was done with vector shapes and Layer Styles, the bread should be done in the same way to create a slightly stylized look and make it fit in with the rest of the image. Start out with the Pen tool to create a flat slice of bread. This can be done in either Illustrator or Photoshop; the result will be the same. To make a symmetrical shape like this, try making one half, then duplicate and mirror the shape. This is the best way to get the two sides to match up. In Photoshop, make a closed path on a new Shape layer. Select it with the Path Selection tool, duplicate it and transform the path, then Flip Horizontal. Move the two shapes together and with both selected, click the Combine button in the Options bar. Your shape should look about like this.

Duplicate this layer and transform the duplicate so that it matches up with your perspective lines. Then ALT/OPT drag with the Path Selection to make a copy of the shape on the same layer. Move it into position along the perspective lines, then use the Pen tool with the Add to shape area button selected to join the two profiles. This creates
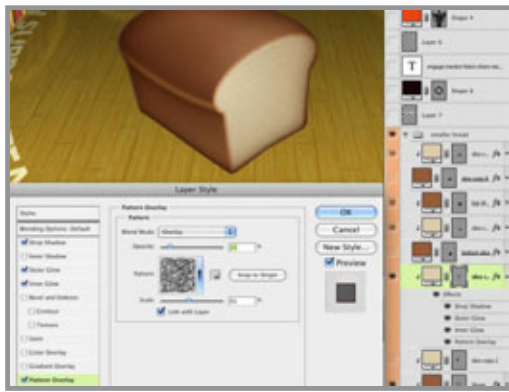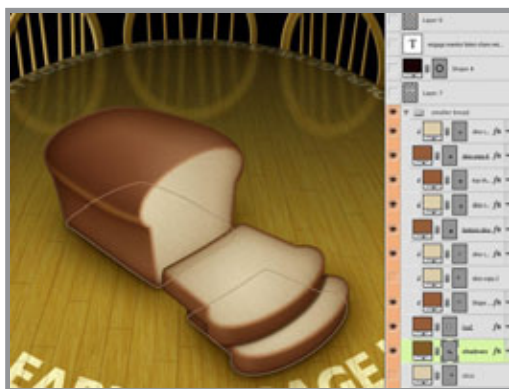
the overall loaf shape. You may want to round the far edge a bit, since it is not sliced. You can combine the shapes on this layer if you want. Double-click the Shape layer's color swatch and set it to PMS 4635. A dark brown Gradient Overlay in Multiply mode darkens the far edge of the loaf. Give it some Bevel and Emboss and a large Inner Glow of 464 in Multiply mode with a Noise of 7%. A dark Inner Shadow darkens the bottom edge of the bread where it's resting on the table. The line curving through the loaf is a new vector Shape layer created with the Pen tool and clipped to the main loaf layer. Give it a Fill of 0% so that only its Layer Styles are visible and Multiply Inner and Outer Glows as usual. A bit of Drop Shadow helps to bring it forward a bit. The highlight is an Inner Shadow. Use PMS 464 set to Screen mode with the Cone Contour. Set the Distance to 17 and the Size to 22 and give it a Noise of 11%. The clipping mask of the bottom layer will hide all exterior effects that are outside the main loaf shape.

Make a new Shape layer with a copy of the transformed slice shape and use PMS 7501 as its color fill. Clip it to the bottom loaf layer. Give it a Drop Shadow of 4655 in Screen mode and high Distance and Size values to create a soft, light edge along the top of the loaf. The Inner Glow is 471 in Multiply mode with a Noise of 14%. Use Precise as the Technique to make it conform to the edge more closely. The high Noise value breaks up the edge and blends it into the lighter interior color. For the Pattern Overlay, use Wrinkles, a default Photoshop pattern, set to Overlay at 15% Opacity so that you just get the darks and lights.

To make the slice, start with a duplicate of the original flat bread slice profile. Transform it into position and use the same Layer Styles as on the parts of the loaf. You will need two layers: one in PMS 4635 for the thickness with the front and back slice shapes with a connecting path in-between, and one in 7501 for the lighter interior bread color. You can right+click on the main loaf and slice layers and select Copy Layer Style from their drop-down menus, then right+click on the new layers and choose Paste Layer Style. Clip the top slice layer to the bottom one.

Duplicate these two layers and offset them a bit for the second slice of bread. The drop shadow of the top slice on the bottom slice is created by making a new Shape layer from the bottom path of the top slice and clipping it to the bottom slice layer (on top of the 7501 layer). Then you can give it a Drop Shadow and it will only show up over the bottom slice and not outside of its path. I hope you could follow all that; it sounded a bit confusing.

Now the bread is almost done. It looks good, but it appears to be floating above the table and we need it to look like it's actually sitting on it. You can't use a Drop Shadow or Outer Glow on the loaf and slice layers, because that would tend to make it look like it's a flat bread image floating in front of a vertical backdrop. So, create a new Shape layer underneath all the bread layers. Use the Pen tool to make a shape that corresponds with the base of the bread that's touching the table. You can select the bottom path from the bottom slice layer with the Path Selection tool, copy, then paste it on this bottom shadow layer. Use a small Drop Shadow in PMS 4485 in Multiply mode and a very large Outer Glow in 4495 and Multiply mode (of course). Now it looks like the bread is really sitting on the table and you are done. If only you could eat it!
Posted by Dan Johnson at 04:38PM (-07:00)

My work at the BYU alumni show

Thursday, July 22, 2010

Last month, I submitted a piece for BYU's 30-year Alumni Illustration show. Since my work now is digital and of subjects that most people would not necessarily want to see hanging in a gallery, my options were a bit limited. But I had a nice print of a concept matte painting I did for a project in the Pixel Corps a couple of years back. It's a view of Jupiter, as seen from Europa, one of its moons. The print was large enough to get framed, so I did that quickly and sent it off.

Earlier this month, I was actually passing through Utah, so I stopped by the campus to see the show. The work was just amazing and I felt humbled to have my work in the same exhibit. Of course, commercial art and illustration are extremely diverse, serving very different needs. My work serves its purpose. You may recognize this painting as one of the images on the site. Since the month is slipping away, I decided to do July's tutorial on this image.
Posted by Dan Johnson at 11:59PM (-07:00)

Creating the background sky and planet tutorial

Friday, July 23, 2010

This started out as a concept painting, but quickly evolved into a photo-realistic background image. Before I started out, I did a quick sketch from scratch in Photoshop to work out composition, lighting, color, mood, and so on. Dylan Cole, a great matte painter working professionally right now, starts out with a painting, even if the final will be done using photos. Here is my painted study for this image.
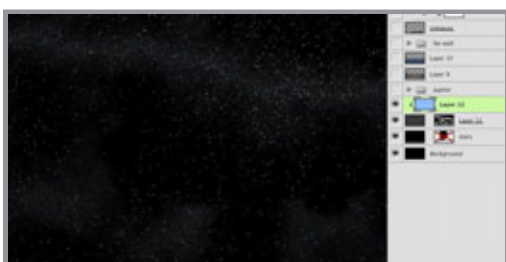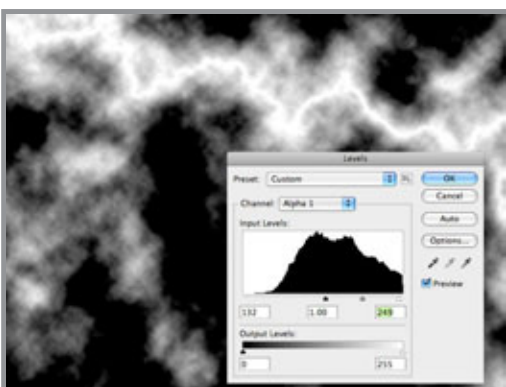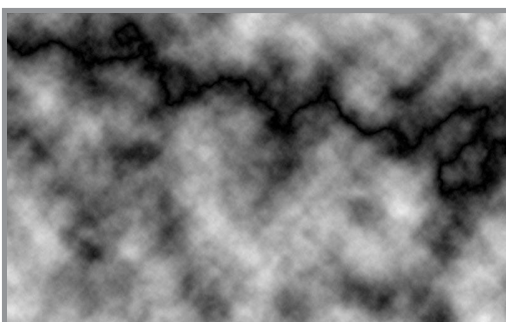
I made some changes in the final, but this gave me a good idea of what I was shooting for. I made a new document at 1920x1080 pixels. This is HD resolution and I would normally work at twice that size if HD was my final goal, but since this was really just concept art, working at a smaller size seemed okay. The first thing I needed was a starry sky for the background. There are some good tutorials out there on how to make a star field using the Add Noise filter on various layers, or you can pull some good images from NASA and similar websites. I did that just to save some time.

These stars looked a bit too bright, so lower the layer's Opacity to 60%. Then to add some denser clusters, create a new layer, fill it with black, and add Gaussian Noise with Monochromatic unchecked. This is to give some color to the stars, but it is a bit too much, so perform a Hue/Saturation adjustment to the layer and lower its Saturation down quite a bit. Normally, I would use an adjustment layer to make non-destructive edits, but this is a situation that requires the direct approach. The end result should look about like this.

Change the layer's Blend mode to Screen and lower the Opacity to 40%. Now the black drops away and the stars on the layer beneath will show through. To add a random, cloudlike pattern, make a layer mask for this layer and add a black-to-white linear gradient at a bit of a horizontal angle. Then run a Difference Clouds filter on the mask. You should see something like this. The wavy black line running through the clouds texture is created by the interaction of this filter with the gradient ramp. Now, invert the mask so that you get a negative of this image. Do a Layers adjustment and pull the black and midtone sliders to the right so that you get more black in the image. The white areas of the mask will reveal the noise texture on this layer and the black will conceal it. Just so you know, this technique is great for bolts of lightning and electricity.

As a final touch, add a new layer and fill it with a light blue, clip it to the noise layer, and change its Blend mode to Color. Lower the Opacity to that it looks good. The idea here is to add a bit of blue tint to the background stars. Adjust all of these layers to get

just the effect you want. Here is what I ended up with.

Now for Jupiter. The best thing to do is find a nice, high-res astronomical photo of the planet. Again, NASA or other image banks are a good source. Scale and rotate the image as needed and remove it from its background with the Elliptical Marquee. This is a nice photo of Jupiter, but it looks a bit flat. To take it to the next level and heighten the drama, use some Layer Styles. The effect we are looking for here is Jupiter as a light source in the night sky, reflecting light from the sun, but we also want to see the shadow's edge along the planet. The Layer Style includes an orange-to-transparent radial Gradient Overlay in Multiply mode to give the planet some roundness, a Color Overlay of rust in Overlay at 40%, an Inner Glow of dark grey in Multiply to curve the edges away a bit, and an Inner Shadow. Use these settings for a realistic shadow. Quite the difference, no?
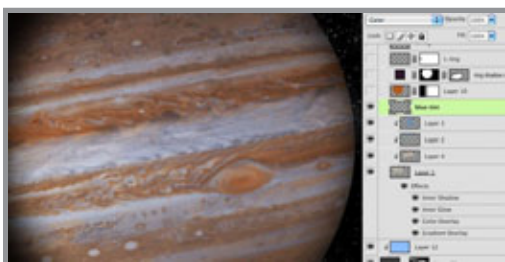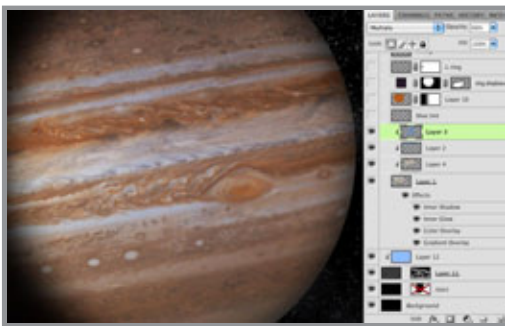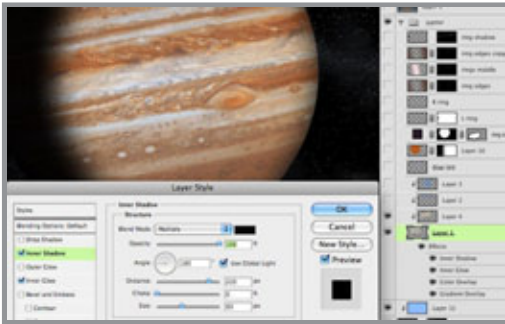
To further darken the edges, create some new layers and clip them to the bottom Jupiter layer. Add some linear gradients using a medium greyish-blue-to-transparent linear gradient from top to bottom and right to left. Use darkening Blend modes on these layers like Color Burn or Multiply and adjust the Opacity as needed. To punch up the white bands across the planet a bit, make a new layer and change its Blend mode to Color. Paint some light blue over the white bands where you would like to bring some white and grey back. Don't clip it along with the other layers or the Color Overlay will override this one as well. Jupiter looks about done at this point, so in the next tutorial, we will finish it off and add the final details.

Posted by Dan Johnson at 01:07AM (-07:00)

Finishing the planet tutorial

Saturday, July 24, 2010

 To finish up Jupiter, we need a softening of the planet's edge on the lit side to suggest the atmosphere. This effect will probably be a bit exaggerated, but it's commonly done on planet paintings and it will look cool. The best way to do this is with Layer Styles. Load a
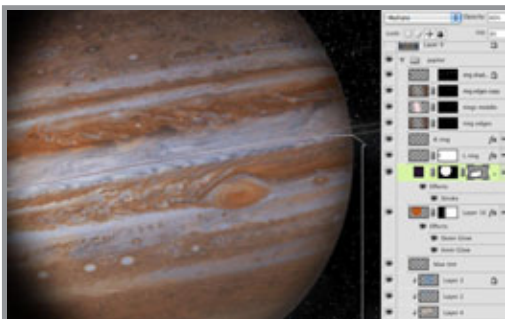
selection from Jupiter, create a new layer, and fill that layer. It doesn't matter what color you use, because the Fill will be set to 0%. Add a small Inner and Outer Glow in Screen mode, using a reddish brown. Now there is a soft glow around the planet's edge. In order to have it fade away along the dark edge of Jupiter, make a mask on this layer and put a linear gradient on it. In order to avoid strange transitions along this gradient edge, be sure to check the Layer Mask Hides Effects option.

Did you know that Jupiter has rings? I don't know if they would be visible from one of its moons, but it seems like a cool element to add. If you can find an astronomical image of some rings that will work, put it in an alpha channel and load a selection from it. You can see my selection here. With the selection active, make a new layer and fill it with a light color picked from the planet. Add a subtle Outer Glow in Screen mode and a Color Overlay if you need to adjust the color. If you want, you can put the left and right rings on separate layers and give the left side of the rings less glow because they are in shadow. Lower the rings' Opacity so that they don't stand out too much. I used 50%.

This looks good, but to make them look rounder and less flat, create some new layers to darken the edges and brighten the middle. Use a reflected gradient with a bright color for the middle of the planet and a linear gradient with a darker color for the edges on a separate layer set to Multiply mode. Adjust the layers' Opacities as necessary. You will need a mask on these layers, so load a selection from the ring layers and use it as a layer mask for these layers. Here you can see the mask I used. The rings are now complete, but something is still missing. They should probably be casting a shadow against Jupiter, given the current lighting setup. This shadow will also help make the planet look more spherical.

Use the Pen tool to create a gentle curve that cuts across the planet. It should follow the rings quite closely around the middle

and curve away toward the edges. Set the Fill to 0% and make a stroke with Layer Styles. Pick a dark color from the image for the stroke color, set the size to 3 pixels, and use the Center position. So that the stroke is only visible across Jupiter, load a selection from the planet layer and use it to create a layer mask on this layer. Check the Layer Mask Hides Effects option. The shadow layer should be set to Multiply mode and the Opacity lowered. I used 60%. Now you too can see Jupiter's rings.

Posted by Dan Johnson at 02:54AM (-07:00)

Creating the horizon tutorial

Sunday, July 25, 2010
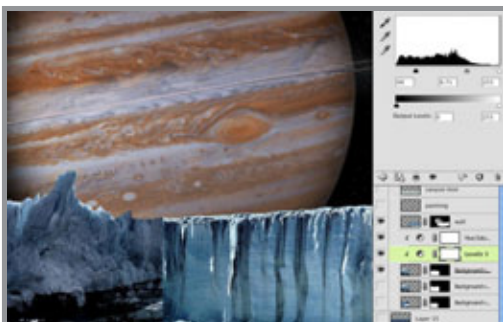
 Since the background is pretty much done, it's time to turn to the foreground, which is supposed to be on the surface of Europa, an icy moon of Jupiter. The far edge of the surface up to the horizon will be an ice wall backlit by Jupiter. Start with photos of ice walls. Antarctica is a good source. Since I didn't have one that was large enough to stretch all the way across, I used two photos.

Once they are sized and placed, their backgrounds need to be removed. If you were about to reach for the Tragic Wand or other manual selection tools, that's strike one. Put it back. The best way to do this is to make a mask procedurally from the channels. Find the channel that has the most contrast between the area you want to keep against the area you want to remove. In this case, it's the blue channel. Duplicate that channel and perform a Levels adjustment. Slide the highlight and shadow sliders in to increase the contrast of these areas. Move the midtone slider as needed. What you want is pure black against pure white, with a bit of midtone to anti-alias the edge, so your sliders should end up quite close to each other. You may need to paint in black and white by hand above and below the dividing line. CMD(Mac) or CTRL(PC)+click the channel's thumbnail to load the white area as a selection. With the selection active, add a mask to this layer.

If your photos don't quite match each other (like mine didn't), add the necessary adjustment layers and clip them to the photo layer. I used Levels and Hue/Saturation adjustment layers on the left ice wall to darken it, grey it down, and warm the hue just a bit. The edge of the photos is still quite obvious, so it's time to do some hand painting. Even working with photo-realistic images, some painting like this is usually necessary. Use a small brush and pick colors directly from your image.
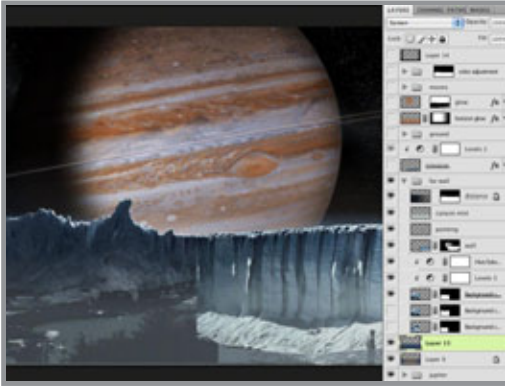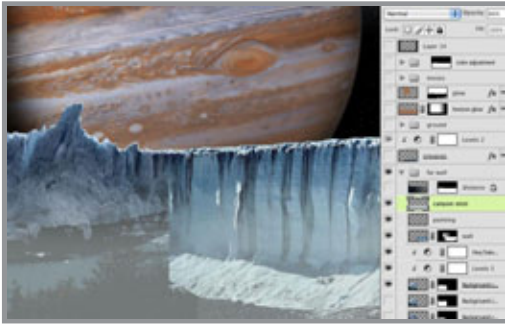
Paint on a new layer the details needed to seamlessly join the images. I also painted out the highlights along the wall's face, since the lighting in this scene should come from behind and to the right. Then, I added a linear gradient on a new layer above all the ice wall layers using a light grey-blue picked from the image to suggest an icy mist floating in the canyon and lowered that layer's Opacity to 60%. It may not be astronomically accurate, but overall mood is my primary objective here.

To further enhance the icy feel of the moon's surface, add some layers behind the ice wall and put linear gradients on them, using dark blue and rust colors. Set their Blend mode to Screen and adjust the Opacity as needed. The moon probably doesn't have an atmosphere for ice crystals to be suspended in, but it looks cool. Just don't show this image to many of your astronomer friends.

Posted by Dan Johnson at 01:41PM (-07:00)

Creating the foreground tutorial

Monday, July 26, 2010

What this image is lacking now is a foreground. The idea is to create an icy expanse to suggest the frozen surface of the moon. I chose this photo of a barren, bleak landscape. It doesn't look too frosty right now, but we will take care of that later. You may notice one big problem: the ground photo isn't large enough to stretch all the way across my new image. Since I really liked this photo, I decided to make a ragged selection with the Polygonal Lasso tool, then copy and paste that area to a new layer. I moved it to the right edge of the image and used the original selection to mask out that same are on the original ground photo and just like that, instant crevasse! It's a bit of a cheat, but it works. Use the same channel techniques shown in the last entry to create a mask to drop out the sky. Finally, put a dark blue-to-transparent Gradient Overlay in Multiply mode to darken the left side of the ground. Now Europa's surface is really coming together.

Obviously, the gap has to be filled, so use another ice wall photo for the side of the

crevasse. Put a dark Gradient Overlay on the left side, similar to the one on the ground, to darken the interior of the crevasse and suggest more light entering in from the right side where it opens up. The final step is to paint in the missing details and extend the ground. In my case, I also have to cover up the hiker from the original photo. To pull things together, paint a bit of a highlight edge along the tops of the rocks that stick up. Remember that the light is coming from behind, so we need a backlit look. Use a small brush to paint in these details. As usual, I used one of my favorites: Photoshop's own Pencil - Thin brush.

To make the near edge of the crevasse stand out a bit more, add a dark linear gradient over it on a new layer in Multiply mode to darken it even more. Put a reflected gradient going horizontally over the far edge of the ground to soften it and blend it up into the ice wall. Keep its layer in Multiply mode, but reduce the Opacity to 50%.

The ground is almost done, but the right edge of the crevasse needs a bit of hand painting to finish off the edge and add any necessary details. Also, the rocks that are sticking up from the ground should probably cast a bit of shadow. Paint the shadows on a new layer in Multiply mode, using a dark color. Try a brush with a softer edge for this. Reduce the Opacity as needed, and the foreground is finished.

Posted by Dan Johnson at 11:23AM (-07:00)

Adding lighting effects and moons tutorial

Friday, July 30, 2010

The image looks pretty good, but a few final touches will pull everything together. Since Jupiter is acting as a light source in the sky, some light wrap around the edges of the background ice will help to suggest its luminosity and make the ice look translucent. Load a selection from the ice wall masks, create a new layer, and fill it.

The color doesn't matter.

Add Inner and Outer Glows to this new layer. For once, keep them in Screen mode. Pick
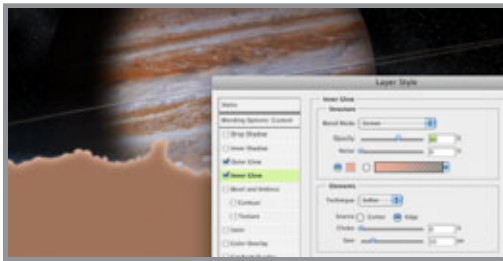
some orangey-pink colors from the background. Now Reduce the Fill of this layer to 0% so that only the glows are visible. The glowing edge and light wrap should be concentrated on the ice in front of Jupiter, so add a mask to this layer and put black linear gradients on the edges to hide the effects there. Make sure the Layer Mask Hides Effects option is checked. Now the glows are only visible in the middle, where the mask fades to white. To further complete the lighting effect, Jupiter itself needs a glow. But an Outer Glow using all the pixels on the planet's layer won't work, because the left side is in shadow. We need to make a selection from just light lit areas.
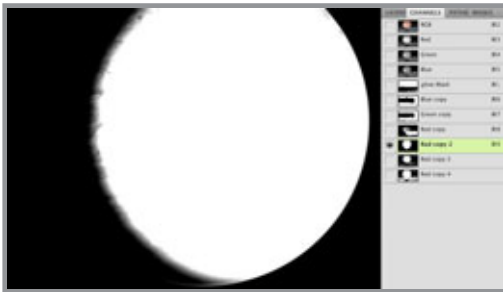
Turn off the ground layers and go to the channels. Duplicate the red channel, since it has the greatest contrast between Jupiter and the sky. Use a Levels adjustment and move the highlight slider to the left to make it mostly white. Move the shadow slider to the right to make sure the sky is entirely black. Load a selection from this channel and feather the edges by going to Select >Modify >Feather. Enter a large number to give the selection a very soft, blurred edge. Create a new layer and fill it with a rust color picked from Jupiter. Change the layer's Blend mode to Color Dodge and lower the Fill to 60%. Give it a large Outer Glow in Screen mode, using an orange picked from Jupiter. Load a selection from the ice wall's mask, add a mask to the new planet glow layer, and fill it with black. This time, leave Layer Mask Hides Effects unchecked so that the glow follows the edges of the jagged ice wall.
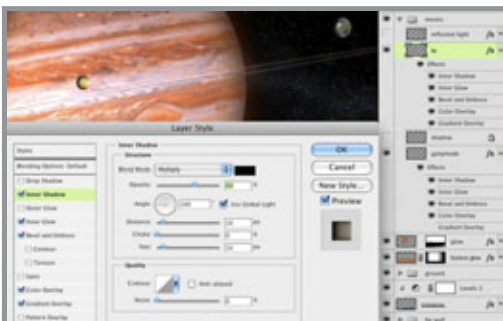
A couple of moons orbiting Jupiter is really what this image needs. Astronomers may disagree with the placement, but they will look cool. I used photos of Io and Ganymede. To tie them into the scene, add some Layer Styles. A little dark Inner Glow in Multiply mode should do the trick. Give them an Inner Shadow using the settings shown. You also may want to add a Bevel and Emboss and Color Overlay. Create a layer in Multiply mode for the shadow that Io casts against Jupiter. For a hint of reflected light on the moons from Jupiter, load selections from the moon layers, create a new layer, and fill it with a color. Again, what color you use doesn't matter. Set the Fill to 0%. Use an
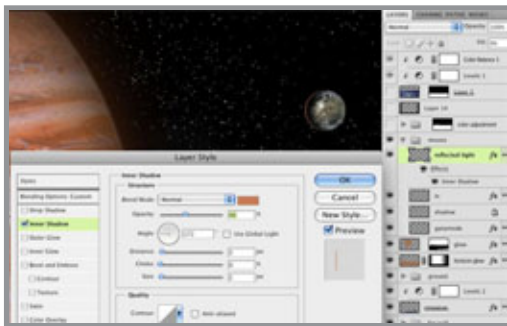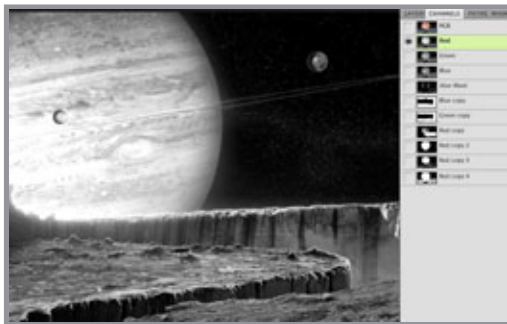
Inner Shadow with these settings to give the moons a rimlight coming from Jupiter. At this point, the image is just about complete.
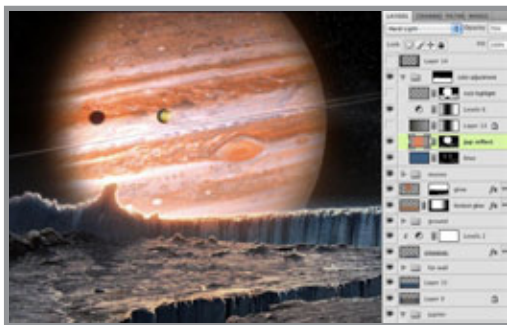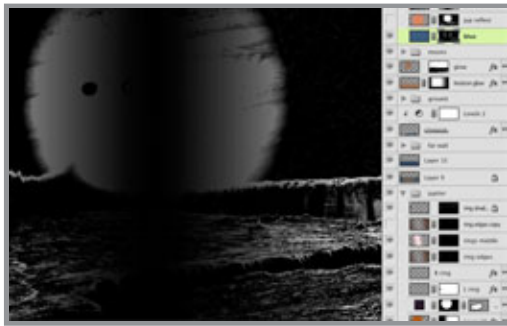
Posted by Dan Johnson at 01:28AM (-07:00)

Final color corrections tutorial

Saturday, July 31, 2010

The last step is to do some color correction to get the lighting just right. My original photo is barren and rocky. Since Europa is covered in ice, we need to make it a bit bluer, especially in the lighter areas. To create a mask for this, duplicate the red channel. Perform a Levels adjustment and pull in the shadow and highlight sliders to increase the contrast. Load this channel as a mask by CTRL(PC)/CMD(Mac)+clicking on its thumbnail. Create a new layer, add a mask, and fill it with dark blue. Experiment with Blend modes and Opacity to find an effect you like. I ended up with Vivid Light at 40% Opacity. Now the ground highlights are tinted blue, but they should be orange in the middle because they are lit by Jupiter's light. Add a vertical reflected gradient of black-to-transparent on the mask to hide the blue tint in this areas. We'll add some color back in with the next step.

Create a new layer and load a selection from the channel (not the layer mask) used in the last step. With the selection active, add a layer mask. Pick a bright orange from Jupiter and create a vertical reflected gradient on this layer in about the same spot as the black gradient on the mask of the underlying layer. Change the Blend mode to Hard Light and reduce the Opacity to 70%. Now, Jupiter is casting its light on the reflective surface of the icy ground.

Add a new layer, put a dark linear gradient on the left side, and change the layer's Blend mode to Multiply. Make a Levels adjustment layer and adjust the midtone slider as shown. Add a vertical black-to-transparent reflected gradient on the adjustment layer's mask, in the middle like on the previous layers with gradients. The idea is to darken the edges to make the middle seem more luminous.
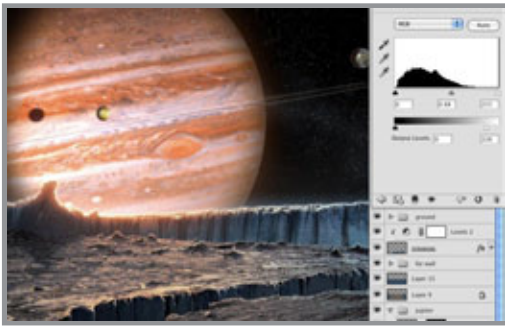
Add a new layer in Screen mode and hand paint in some highlights along the ground as needed. Put all of these color correction layers in a layers group. You can do this by Shift+clicking to highlight the layers, then click CTRL(PC)/ CMD(Mac)+G. Load a selection from the far ice wall layer masks and add a mask to this group. Now all of the layers in the group will affect only the ground layers of the image and not the sky.

As a final step, add one more layer on top of everything else and put some dark linear gradients along the sides and bottom. Change the Blend mode to Multiply and lower the Opacity to 50%. This darkening of the edges mimics the vignette that can appear in photographic images. It's not entirely necessary, but it is a nice look and is similar to techniques used by the famous matte painter Yanick Dusseault, so it must be good.

Posted by Dan Johnson at 01:54AM (-07:00)

My page in the Directory of Illustration

Friday, August 13, 2010

Last year, I decided to advertise in the Directory of Illustration. It's something we all talked about in school. Now that I am concentrating on my freelance work, I figured it might be a good idea. Recently, I finished my first big project for a new client since having a portfolio page on the Directory's website. I don't know if there was any connection, but it is a good sign. The published directory will be out later this year and I will have one page in it. Here it is, combining several industrial illustrations I have done over the last couple of years. You can download a PDF of it by clicking here.

This month's tutorial will be based on the illustration of the oil rigs at the top of my Directory page. I'll take you through all the steps I took to create it.

Posted by Dan Johnson at 02:46AM (-07:00)

Starting the oil rigs illustration

Saturday, August 21, 2010

This is the image we'll take apart for this month's tutorial. As with much of my professional work for print, the original image was created 9x12 inches at a resolution of 300 ppi. The final image was vertical with foreground details and some other images vignetted on top. But this tutorial will just concentrate on the back image; that will be plenty to do.

Fill the background layer with PMS 2905 for the main sky color. Make a new layer above that and add a vertical gradient of 285 to transparent. Change the Blend mode to Multiply and lower the Opacity as desired. I chose 40%. Paint some clouds on a new layer using a simple brush and Cool Grey 2. I used one of my standard favorites. Paint just the lighter part of the clouds. Since they are in the distance, the shadow areas won't be any darker than the sky.
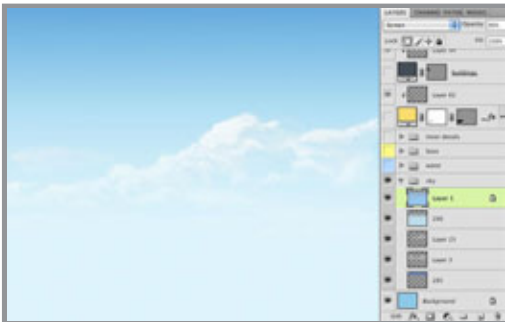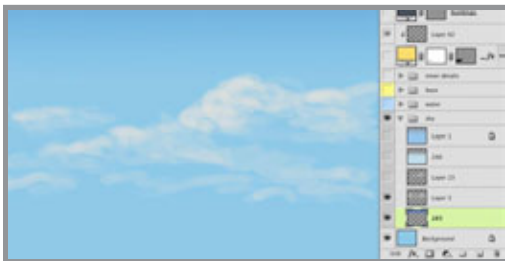
On a new layer, paint the cloud highlights with a smaller brush using white. You are looking to make some sharper edges here. Now, add some gradients above the clouds. This will help them fade away as they approach the horizon. As always, the gradients will be foreground to transparent. The first one uses PMS 290. Lower the layer's Opacity a bit. The next gradient will be 2905 again, but change its layer's Blend mode to Screen. Lower the Opacity if necessary.
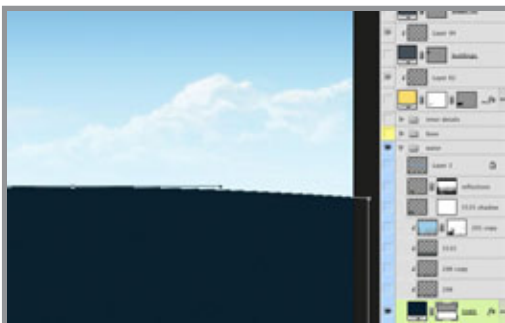
For the ocean, use the Rectangle tool to make a vector Shape layer. with 5395 as the color. This dark greenish-blue will give some shadow areas to the water. To make the horizon a bit more exciting, curve the top of the rectangle by selecting it with the Path Selection tool, then clicking in the middle with the Pen or Add Anchor Point tool. Then click that new point with the Direct Selection tool (that's the white arrow) and move it up a little bit. Now you have a curved horizon.

Add some Layer Styles to give the water some depth. A medium blue Gradient Overlay in Screen mode brightens the water as it approaches the horizon. A soft Inner Shadow with Cool Grey 1 in Screen mode and Outer Glow of 290 in Normal mode will fade the water's edge at the horizon. Adjust Opacities until the edge looks sufficiently distant and
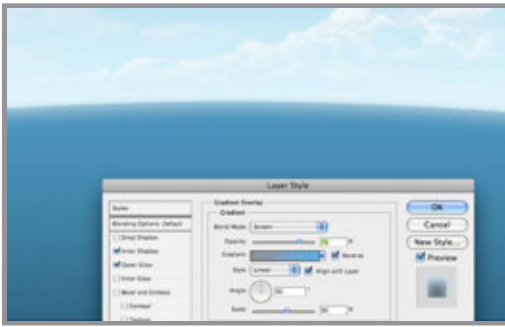
fading away. In the next tutorial, we will cover how to not paint the water texture. Posted by Dan Johnson at 01:18AM (-07:00)

# How to not paint the water tutorial

Sunday, August 22, 2010
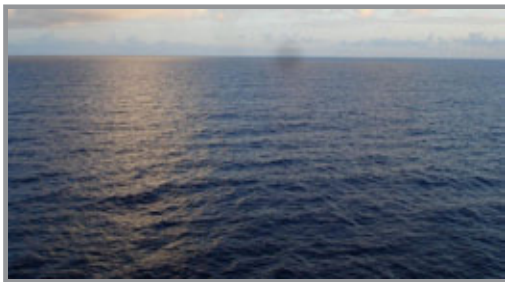
I have painted water by hand before, and I have also used a combination of filters to try and get a water effect. Both have their place, but usually neither one looks realistic enough and both can be time consuming. For this water, we will start with a photo.

 This is the photo of water that I chose. It has a nice expanse of empty ocean. I don't want to just use it as is, but it can help to create some nice photo-based textures. What we need is a selection made from the highlight areas of the water. The best way to make selections from photos is procedurally, with the channels. See which one has the most contrast between the lighter wave tops and the darker areas. In this case, that turned out to be the green channel.
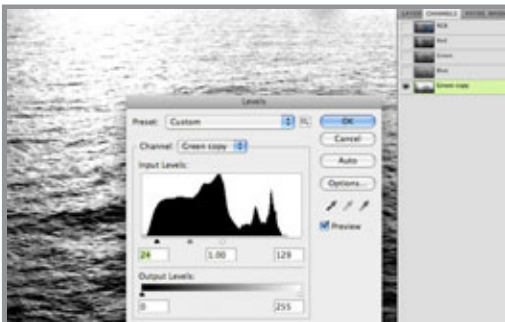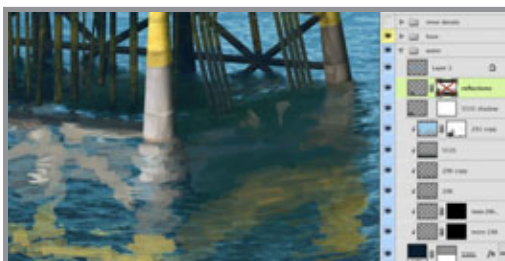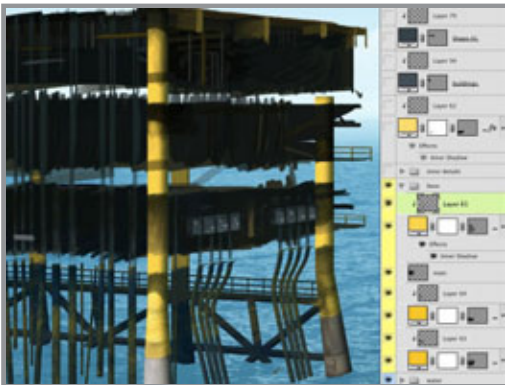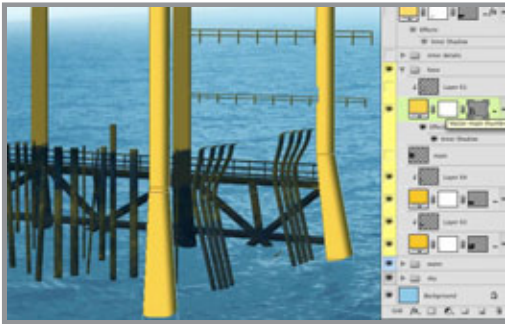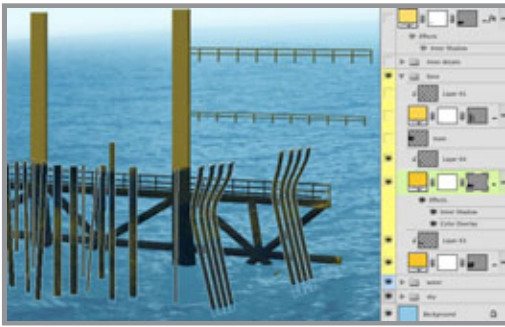
 Duplicate the channel and apply a Levels command. Pull in the highlight and shadow sliders to increase the contrast so that the tops of the waves turn white and the shadow areas turn black. Then, load a selection of the alpha channel by CMD (Mac)/CTRL (PC)+clicking its thumbnail.
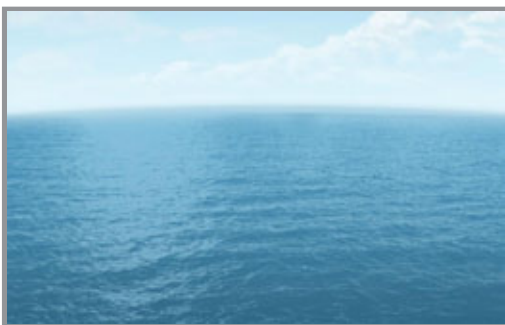
With the selection active, create a new layer on the illustration and fill it with PMS 291. Change the Blend mode to Screen and the Opacity to 50%. Clip it to the 5395 Shape layer. The result looks pretty good, but in this photo, the sun's reflection on the water was blown out and is now a solid color. It needs some shadow areas to make it blend in with the rest of the water surface. This is best handled with a mask. Add a mask to this layer and paint black wave shapes back in with a small brush. Try to mimic the surrounding water texture. Incidentally, the lightest part of the water faces upward to reflect the sky. That's why it's blue. The darker part faces more to the side and can contain more colors like green and brown. That's because you are looking through the water and seeing what's below.

To add some shadows back into the water, look at the photo's channels again and see which one has the most contrast in the darker areas. This time, it was the blue channel. Duplicate it and Invert it so that you have a negative image. Now, perform the same kind of Levels adjustment to get enough contrast and make a selection. Make a new layer under the highlights layer and with the selection active, fill it with 296. Change the layer's Blend mode to Multiply. If it isn't dark enough (mine wasn't) you can always duplicate the layer. Make a new layer in Color mode and add a foreground-to-transparent gradient of PMS 5535. This will add a nice touch of green as the water gets closer. To finish things off, make a new layer above the highlights. Make sure it is not clipped along with the rest and change its Blend mode to Screen. Put a Reflected gradient of medium blue to transparent along the horizon to really fade it into the distance. Lower the Opacity if you like and that's it! You've got a great ocean that's not quite a photo and it didn't take all day to paint.

Posted by Dan Johnson at 05:04PM (-07:00)

Building the base tutorial

Monday, August 23, 2010

For the base of the oil rig or platform sitting in the water, we'll need the Line tool. Make sure it's set to make a Shape layer and start putting in the columns with thick lines. Use PMS 123 as the color. Hold done the Shift key as you make each new line so that they are all on the same layer. Use smaller lines for the railing. The left and right bracket keys are a handy way to make your lines lighter and heavier, respectively. Since these columns are on the far side, add a Color Overlay of 296 in Multiply mode to show that they are in shadow. A bit of an Inner Shadow is nice, too. Add a layer mask and paint out where the columns go into the water. Then, on a new layer clipped to the Shape layer, do some random dark painting to suggest grime, rust, oil, corrosion, and so on. This is the pattern we will follow for most of this rig. On a new layer, build some thinner vertical pipes with the Line tool. Use the same colors and Layer Styles as on the first set. To create the curved pipes, you can draw the line first, then use Transform

>Warp to curve them. You could also click on a line with the Path Selection tool, then use the Pen tool to add anchor points, then use the Direct Selection tool (the white arrow) to move points and adjust the curves. Once you have a curved pipe that you like, select it with the Path Selection tool (the black arrow), copy, and paste it to create duplicates. The idea here is to keep all of them on one Shape layer. To keep things simple, I mentally divided the base into back-, mid-, and foreground components. Each has its own layer. This one is the mid layer.

Now, create the foreground parts of the base structure using the same tools, colors, and techniques. Use the Direct Selection tool to click on corner points and move them out to widen the bases of the columns. Remember that Photoshop doesn't really make lines; even the smallest of these are actually rectangles. This Shape layer won't need the Color Overlay, because it's not in shadow. See how the depth is created here? As you are working, keep in mind where the sun is and where the core and cast shadows will be.

In between the front column and middle pipe layers, make a new layer and paint the interior levels of the platform. This can be done loosely. Just try and suggest pipes, beams, control panels, and so on. An easy way to paint perfectly vertical or horizontal lines with the Brush tool is to hold down Shift as you are painting. Then, make a new layer above the front columns and clip it to that layer, just like on the mid and back layers of the base. Paint shadows, grime, and other details on it, using the vector Shape layer as a Clipping Mask.

This part of the rig is done, so it's time to turn our attention back to the water. Make a new layer in Multiply mode and 70% Opacity above all the other water layers and paint the shadows in with 5535. I used my favorite Pencil -Thin brush, but I used the Brush Tip Shape section of the Brushes panel to rotate it so that it was horizontal instead of vertical.

Paint the reflections of the structure on a new layer. Use a larger brush and pick colors right from the platform base. Paint the reflections very loosely; there's no need for detail here. The reflections will only show up on the lighter areas of the waves, the part that

faces upward to the sky. Where the water surface faces away from the sky or the oil rig, there will be no reflection. These are the darker areas. So, make a mask on the reflections layer, load a selection from your painted shadows or other dark parts of your water, and fill the mask with black to block out the painted reflection from these areas.

The result should look about like this. Notice how you really don't end up seeing much reflection at all. This is because the sea is choppy and much of the water surface faces away from the sky or whatever is sitting in the water. On calmer water without waves, you would see more reflection.

Posted by Dan Johnson at 11:24AM (-07:00)

Adding more detail to the rig tutorial

Wednesday, August 25, 2010
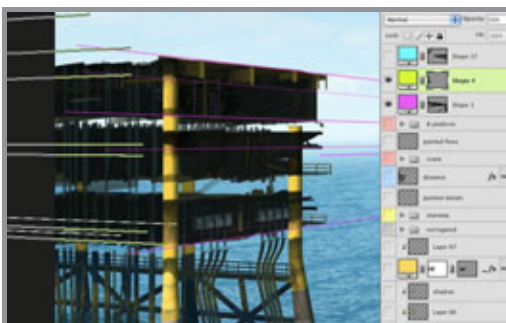
It's time to start thinking about perspective. Actually, perspective needs to be taken into account when starting the illustration. For architectural subjects, having accurate vanishing points is crucial. The Line tool is an obvious choice, but try using it to make a vector Shape layer. That way, you can extend the ends far beyond the canvas size of the image. You can also reposition them once they are down. I like to use a different layer and color for each dimension. Remember that parallel lines converge at the horizon.
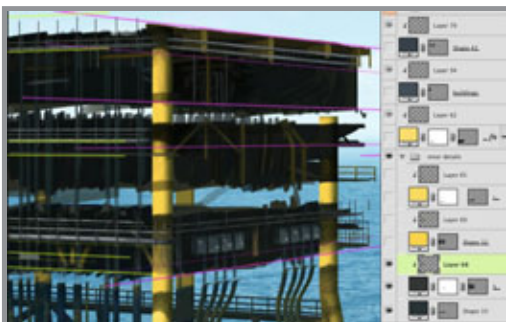
Most of the necessary detail consists of pipes, beams, girders, and so on. As on the other parts of the base, use the Line tool in varying weights to make vector shapes. Use PMS 447 for these ones and then paint on a clipped layer. Follow the vanishing point lines as guides and move them as needed. For railings that have evenly-spaced vertical pieces, create them straight on with the Line tool. Hold down Shift as you make the lines so that they will be perfectly vertical or horizontal. With the Path Selection tool, select all the vertical bars, then use the Distribute horizontal centers button to space them out evenly. Duplicate these shapes by ALT (PC)/OPT (Mac) + dragging them or just Copy and Paste. If you like, click the Combine button to join all the shapes into one compound path. Transform the duplicates using Skew so that they match up with the perspective lines. Not only do the horizontal lines converge, but the vertical ones get smaller and closer
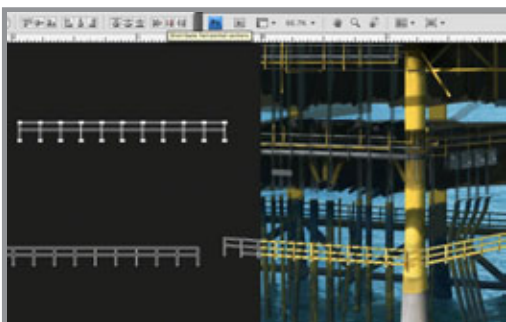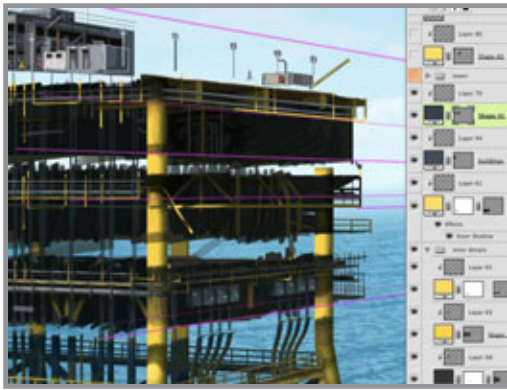
together as they recede into the distance. How cool is that? The only way to efficiently do this is with Shape layers. Aren't they great?

Keep building up the different parts of the platform. So far, the only colors you need for the Shape layers are 123 for the yellow and 447 for the grey. Use the Line, Rectangle, and maybe the Pen tools to make the shapes. For this image, Layer Styles are minimal; most of the detail comes from painting. You can see that the painted details are really loose. Just suggesting the details they represent will be enough. Organize related sections of the oil rig into Layer Groups to keep things tidy. Naming and color coding them helps, too.
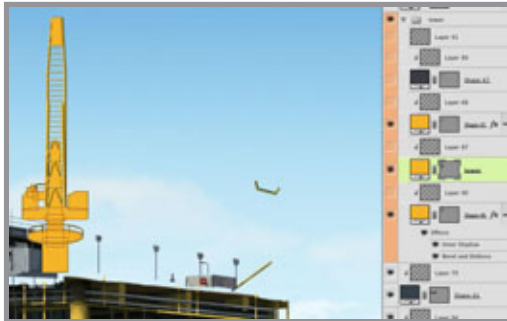
For this corner tower, these same simple Shape tools will do the job, except this one also requires the Ellipse. Just eyeballing it should do okay. When you break it down, there's not much to it. Hold down Shift to add paths to the current Shape layer. Here you can see the three Shape layers that combine to make the basic shapes of the tower. Since its color is a bit more orange than the rest of the rig, use PMS 1235. Each shape layer has a layer with painted details clipped to it. For the final details, you can paint those on a new layer on top of it all. Painting them instead of building them with vector shapes will be okay, because it allows you to work a little more freely. To make these thin lines, use a small, simple brush and a mouse. This is one instance where a stylus isn't the preferred tool. Click with the Brush on a starting point, then Shift + click on the end and you get a perfectly straight line between the two points.
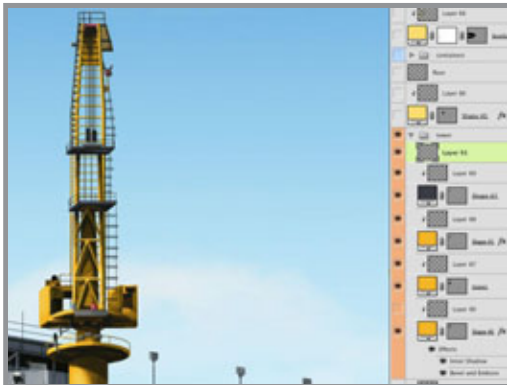
This rig has some cargo containers mounted on the side. These are basically big boxes, so you can make them with the Rectangle tool. Use the vanishing point lines as guides. Create the main shapes as vector Shape layers in white and add a black Gradient Overlay in Multiply mode with very low Opacity. Create the blue and red shapes as separate Shape layers using the same techniques and clip them to the

white base layer. Now to texture them. The containers are made of corrugated metal, so they will need a pattern of light and dark vertical lines. This pattern is in a layer in Luminosity mode and low Opacity and clipped along with the rest of the layers. You could probably also do this with a Pattern Overlay. Create a new layer to paint in some dark details like streaks, dirt, and grime, then create another new layer in Multiply mode for the shadows and paint them with PMS 296. Adjust the Opacity as needed. As you can see, all these layers are using the bottom Shape layer as a clipping mask. Where would I be without this technique?

Posted by Dan Johnson at 11:58PM (-07:00)

Finishing the yellow platform tutorial

Saturday, August 28, 2010

The last major pieces still missing are the different levels of the platform. Build these as Shape layers, just like you have done on the others. Use PMS 123 and the Line, Rectangle, or Pen tool. Be sure to follow your vanishing point guides. You can Copy and Paste the initial railings from previous layers. That's why it's good to keep the untransformed versions of these shapes. If the transformed railing sticks out past where you need it, hold down Shift and create a new rectangle or similar shape on this layer. Then, select it with the Path Selection tool and click the Subtract from shape area (-) button. That selected shape now acts as a vector mask, hiding the paths it intersects. As with earlier steps, create a new layer for painted details and one in Multiply mode for the shadows. It shouldn't take many more layers to finish this section off.
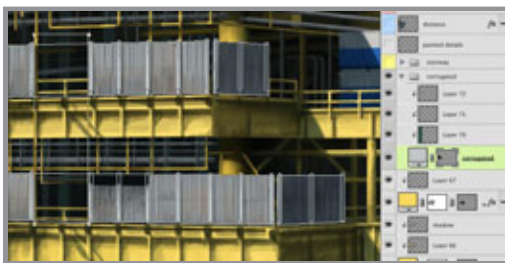
 Next are some walls of corrugated metal. Again, make them as vector Shape layers using PMS 428. Use the Line tool and hold down Shift to make the vertical beams that stick up a bit. Use the Rectangle tool and hold down ALT (PC)/OPT (Mac) to cut out that open area in the middle. Use the same vertical lined texture in Luminosity mode as on the cargo containers and clipped layers for painted details and shadows.

 Build the outer stairway with (you guessed it) the Line tool on a Shape layer. for the little stairs, make a pattern of thin, horizontal white and black lines and fill a new layer with it. Change its Blend mode to Multiply and lower the opacity a bit. Use Transform >Skew to make the pattern match up with your perspective lines. Clip it down to your Shape layer and mask out any areas where you don't want to see the stairs. Add the usual detail and shadow layers.
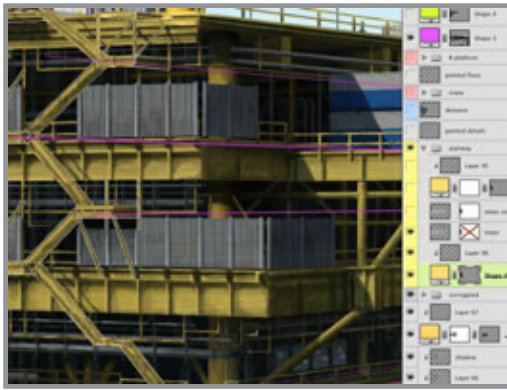
This rig is almost done, but it needs just a few more details and doodads. These can all be painted on one layer above everything else. You can add poles, lamps, pipes, tubing, lifesaving rings (at least, I think that's what they are) on the railing, and so on. That does it! Now, there's the other platform...

Posted by Dan Johnson at 12:00AM (-07:00)


Building the red platform tutorial

Sunday, August 29, 2010
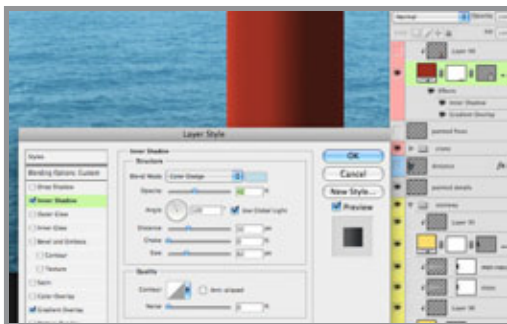
This image also has another kind of platform that is more in the foreground. The same techniques as on the previous one were used for this one, so I won't go into as much detail. I will show you the steps, but it's going to be very similar to how the yellow rig was built. Start with the Rectangle tool to make a Shape layer. Use PMS 484 as the base color. Add a linear Gradient Overlay of 296 to transparent in Multiply mode to add a nice shadow to the column. Use an Inner Shadow of 290 in Color Dodge to give the left edge a bit of highlight. Sometimes I use this method instead of Bevel and Emboss because Inner Shadow gives you a bit more control. Add a layer mask and paint out in black where the column meets the water. Check Layer Mask Hides Effects in the Blending Options section of the Layer Style so that the layer's effects won't follow the new edge created by your mask.
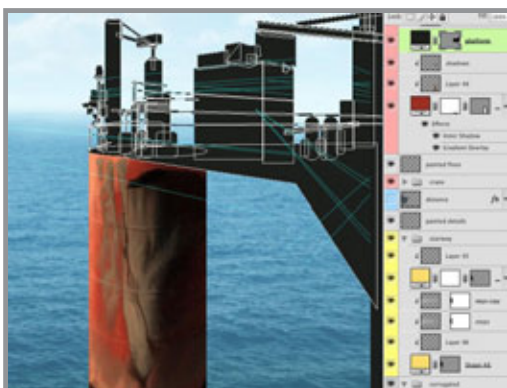
I'll assume that by now, you know you will paint the details on a new layer that uses the
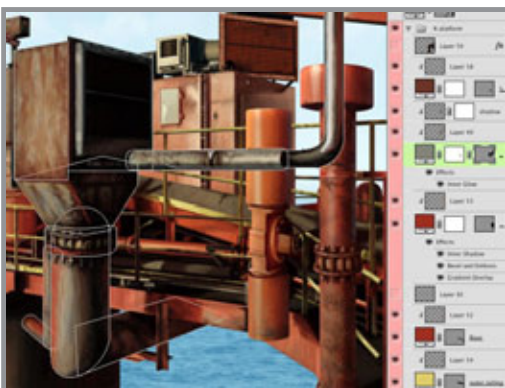
Shape layer as a clipping mask and put the shadows on a layer in Multiply mode that is also clipped. Use a vanishing point on the horizon and draw perspective lines from it with the Line tool. This should be on a Shape layer near the top of your layers stack and will be the guides for this platform. The main shapes were made with the Pen, Rectangle, Rounded Rectangle, and Line tools as vector shapes all on one Shape layer using 419 as the color. I rarely use pure black or white. The ranges of greys in the PMS library are really more versatile. Here's how it looks with some details painted in. I chose colors directly from my photographic source material. All the details were painted on one layer with a shadow layer on top, this time at 100% Opacity for some really dark and drastic shadows. Foreground objects can have more contrast and extreme values than objects farther back.

Use as many layers as you need to add all the detail. Again, start with vector shapes and use them as clipping masks for your painted layers. This rig has a yellow railing, but it's a bit more of a mustard color than the yellow platform, so use PMS 458. Make sure all lines that are parallel to the ocean or ground plane converge at the horizon somewhere. You can see how much the perspective guides help here. If you want to paint a straight line that isn't vertical or horizontal, you can make a selection with the Polygonal Lasso tool, fill it with a color, then keep painting on top of it.

This rig has some interesting vertical pipes mounted on the outside. Use the Rounded Rectangle tool to make the main shapes, then use the Ellipse tool to add in the round areas. The Inner Shadow is 290 in Color Dodge mode, so it's acting as a highlight, just like on the big column. It also has Bevel and Emboss for the shadow on the right edge. You can use this technique if you want the highlight and shadow to have different sizes or edge sharpness. If you do them both with Bevel and Emboss, they will look the same. There is also a 296 Gradient Overlay in Multiply mode to darken the bottom of the pipes.

This collection of tubes, ducts, and whatnot was made in the same way with PMS 416. The Shape layer has an Inner Glow of 411 in Multiply mode to give it a dark, rusty feel.

The pipe with the elbow bend can be made with the Pen tool and carefully adjusting your curves, or by subtracting one rounded rectangle from another. Hopefully, you can see that the painting is quite loose. It was all done with the Chalk 11 pixel and Pencil - Thin brushes, two of my favorites and some of Photoshop's most useful. Their Opacity Jitter is set to Pen Pressure, and the size is adjusted as needed. That's about it; the platform almost looks done. In the next tutorial, we will wrap up the entire image.

Posted by Dan Johnson at 11:08PM (-07:00)

The finishing touches tutorial

Tuesday, August 31, 2010
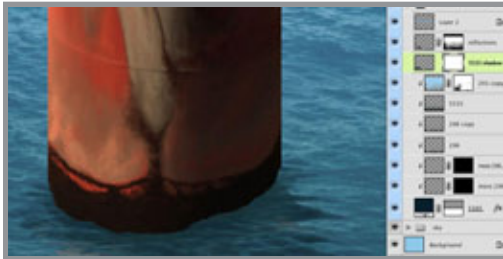
Just a few more steps and this illustration will be complete. The red platform needs some shadow in the water, just like the other one. Go back to the shadows layer in the waters group and paint some more 5535 for this shadow. You can give it some reflections on the reflections layer if you want, but it doesn't need much.
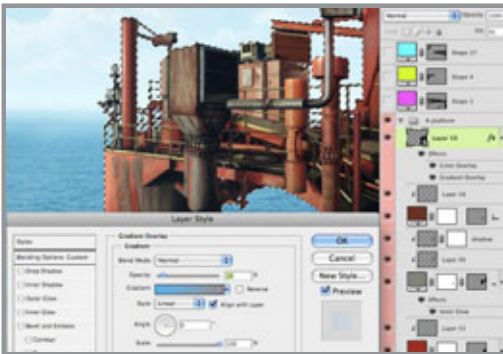
This platform is an intense red, so if you want to make it really sit in the scene, you can adjust the color a bit. Load a selection of the entire platform. You can do this by Shift + CTRL (PC)/CMD (Mac) + clicking on its Shape layers. Make a new layer above everything and fill it with a color. It doesn't matter what the color is, because you will take the Fill down to 0%. Give this layer a Color Overlay of PMS 292 at a very low Opacity. Next, make a Gradient Overlay of 292 to transparent and add a Linear gradient so that the left side gets the color. Adjust the Opacity to your liking. Now the rig is tinted with the overall blue of the scene. The left side, which is farther away, gets a bit more blue as it recedes in the distance. The effect is subtle, but it's there.

Now, let's turn our attention back to the yellow rig. Use the same Layer Styles trick to fade it into the background as well. You can even copy and paste the Layer Style you just made. But since this structure is farther in the distance, double the Opacity of the Color Overlay. Make the Gradient Overlay vertical, so that more of the color goes at the top against the sky. This is an easy way to add atmospheric perspective.

This rig has a lot of yellow and could use a bit of color to give it more interest. Also, in the photo I was using as reference, there was a big red and white boom sticking out at the corner. By now, it should be second nature to build something like this, right? Use the Line tool to make vector Shape layers. Build the ladder with perpendicular lines, then duplicate the paths and Transform them into position. Inner Shadow and Bevel and
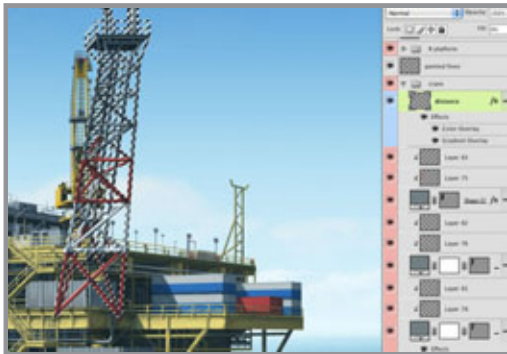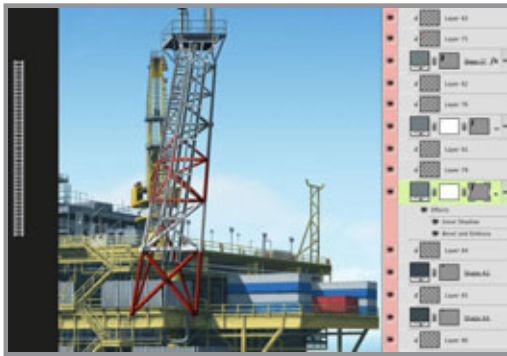
Emboss effects will help to give it roundness. Paint on clipped layers. To tie things together, pick a red from the other platform. Since you added atmospheric perspective to knock the rig into the background a bit, do the same for this tower. Make the Color Overlay's Opacity half of what you used for the yellow rig. I used 10%, so this structure will be 5%. Adjust the Gradient Overlay so that the color is at the bottom of the boom and fades away toward the top. This will help it to come forward and stand out from the background. Do any needed painting touch-ups on a new layer and the image is done.
Posted by Dan Johnson at 09:39PM (-07:00)

Painting a figure tutorial

Monday, September 20, 2010

 For this month's tutorial, we will go in a different direction. If you have looked at my blog or portfolios at all, you will see a lot of architectural and industrial illustration. But as illustrators, we need to be able to tackle anything that comes our way. Here is an image where I had to paint a person. Not only that, but it was a specific likeness, so it's a portrait, if you will. Even worse (here it comes) it was of a woman. Why do I say that? Well, women are harder to paint than men. Generally, they need to look beautiful, feminine, and soft. This requires a different and more subtle approach than what you would do for a man. And please, don't shoot the messenger, but women seem to be a bit more sensitive about how they are depicted; maybe it's just our culture. Anyway, This is the image I painted that was used as part of a series in a magazine ad campaign.

In my next post, I'll start breaking the file down and show you how it was done.
Posted by Dan Johnson at 05:39PM (-07:00)

Creating the background tutorial

Wednesday, September 22, 2010
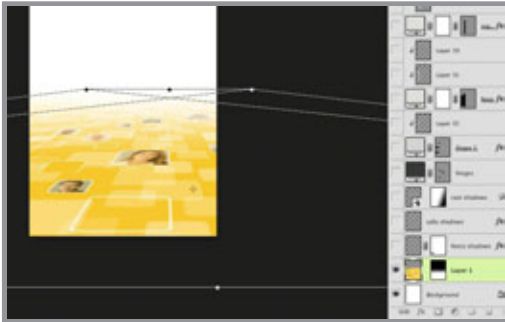
This illustration is one of a series I am currently working on. The people and props will change, but the background will remain constant. It needs a ground plane receding into the distance, so you obviously know that you will start with a straight-on image with right-angle corners. You will use your own, but here is mine. Now for the important step: Once the image is created with all its layers, convert it to a Smart Object. This is so that any transformations or filters you apply will be non-destructive.

Transform the layer with Scale and Perspective. You can see that for this view, the object you need to transform must be much, much wider. Also, remember to Scale it down a bit vertically. Most people forget, but when things turn away so that their parallel lines converge, they are also getting foreshortened and need to be shorter. As a final step, add a simple linear gradient on a layer mask to fade toward the horizon. Even with this extreme transformation, all you have to do is double-click on the Smart Object's layer thumbnail to edit the original version. Just save the PSB and your original image updates. That is so cool.

Now it's time to start painting the figure. To do this well, you will need a good source photo. Why not just use the photo, then? I have been asked that. Well, with a digital illustration, I can work at the size I want, fix any problems (we'll see that later), and the image has greater flexibility for changes in the future or use across multiple media. Plus, illustration is just intrinsically cooler. For a digital painting, you might think that you just make a new layer and start painting away. Well, there's more to it than that. Photoshop allows a great deal of flexibility, so we want to take advantage of that.

Start by giving each basic shape of the figure its own layer. Put the hair on its own layer, the skin on its own layer, and so on. For this painting, each distinct color is on a separate layer. As usual, start with PMS colors. You could make these flat shapes with selection tools or the Pen, but I like painting them out by hand; it gives the edges a more natural feel and we're going for a painterly approach here. No surprise, I used my favorite Photoshop brush (Pencil - Thin pressure) with the Opacity jitter set to Pen Pressure and I adjusted the size as needed while I was painting. You can do what you want.
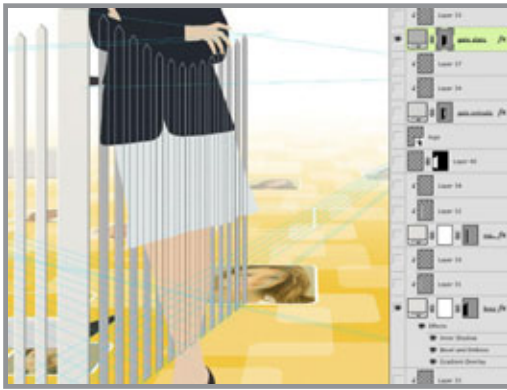
For this concept, she had to be standing at an open gate. You could paint this as well, but it seems like a perfect job for Photoshop's vector tools. Use the Line or Rectangle tool to make a thin, vertical bar on a new Shape layer. It's supposed to be white, but use cool grey 1. White isn't really white, anyway. Select it with the Path Selection tool, then click the top with the Pen tool to give it an extra point. You have to use the Convert Point tool to make it a corner point, because Photoshop still always gives you curved points with this method. Then select the new point with the Direct Selection tool (the white arrow) and move it up a bit. Presto! Now you have a fence section that would be uncomfortable to sit on. Duplicate this shape as many times as you need, select them all, then click the Distribute horizontal centers button to space them out evenly. You can then use the Direct Selection tool to select the top three points and move them up incrementally to create the curve at the top.

After that, the rest of the fence should be easy. Use vector Shape layers and add some layer styles: a bit of Inner Glow in Multiply mode and some Bevel and Emboss and Inner shadow to give them a bit of depth and highlight.

For the open gate, create the vertical pieces using the same techniques as the fence. Use a darker cool grey, since it is turned away from the light. Make some perspective lines that converge at the horizon, then Skew it into position, using your lines as guides. Remember to Scale it down a bit horizontally to account for foreshortening.

It looks good, but quite flat, since it's only the front face of the gate and now we need the sides. You'll have to do this on a new layer and you'll need a lot of perspective lines. The Pen tool is probably the easiest way to make this shape. Use cool grey 2 and build a vector shape that zig-zags at the top and bottom to match your perspective lines. After it's built, you may need to zoom in and do some fine adjustment with the Direct Selection tool. Now that the solid shapes are done, it's time to start painting. We'll cover that in the next tutorials.

Posted by Dan Johnson at 11:49PM (-07:00)

Painting the skin tutorial

Thursday, September 23, 2010

With the basic shapes laid in, it's time to start painting. This woman has red hair and a light, yet ruddy, complexion, so the coloration is a bit tricky. A good choice for the base skin tone is PMS 475. Start painting the details on a new layer that is clipped to the main
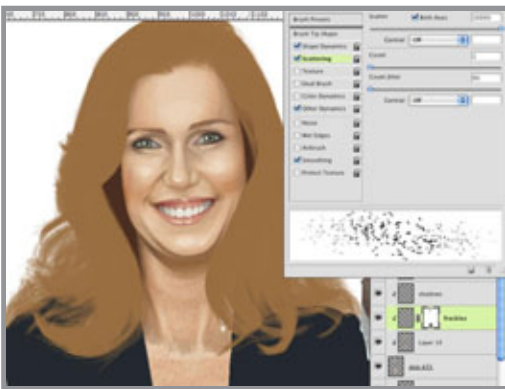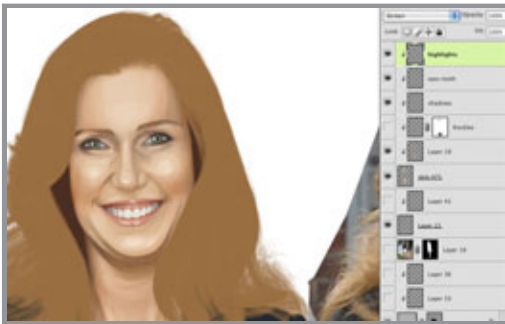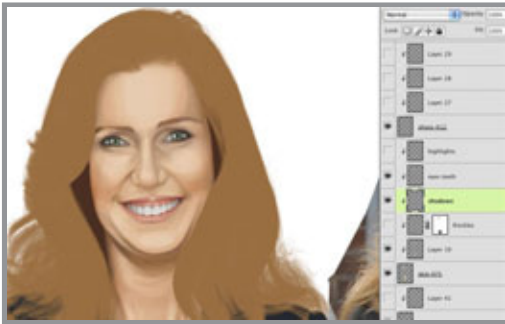
skin layer. Use the same brush and settings as you used on the flat basic shapes. For the facial features, pick colors from the 475-469 ramp. For some variation, you can try some other browns as well. The 483-489 ramp has some nice warm reds that work well for lips and cheeks. Notice how I am following along with my source photo, but I decided to minimize her double chin. I doubt she really wants to see it and I suspect that it's more a product of how she is smiling than anything else. The darker colors are painted on a separate layer and the eyes and mouth are painted on a layer above that. So far, everything has been done in Normal mode with a light touch on the stylus to get lots of transparency to the painting when needed.

To finish things off, let's add some highlights. Since the background is yellow, pick a light value from the same PMS ramp. In this case, it's 123. That may seem a bit strange, but change this layer's Blend mode to Screen and you'll see how light the color gets. It works nicely as a highlight and it brings a subtle hint of the background color into the figure. That will help to tie everything together. This is an area where you can have some fun and punch up the highlights even more than what is in the photo.

One more thing: our subject has freckles. You can choose to include something like this or not, but since I was going for personality and a good likeness, I decided to keep them. We don't want to have to hand-paint every one, but Photoshop's brushes should provide a good shortcut. I used my favorite Pencil - Thin brush, but I made a duplicate of it with a lot of jitter in the Shape Dynamics categories, but the most important here is Scatter. Make the brush size quite small and paint lightly on a new layer with PMS 484. Change the layer's Blend mode to Multiply and lower the Opacity to 40%. You can also add a layer mask and put some black radial gradients on it to fade them out around the center of the face. Now they are concentrated on the edges and the neck. I
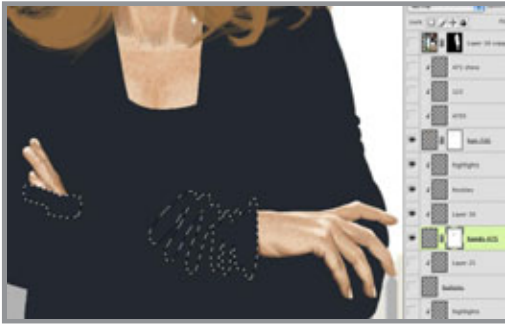
think it's a nice look, and hey, I like freckles.

In case you're wondering if I had forgotten about the legs, well I haven't. The face and legs use the main base 475 layer, so all the leg details are painted on the same layers (except for the eyes and teeth layer, of course). Here is what the painting progress on the legs looks like. As I was working on them, I was a bit worried, but for some reason, the freckles layer seemed to make them look finished.

Last but not least, the hands: one of the trickier parts of human anatomy to draw. The other skin layers are underneath the clothes layers, but the hands' base is painted on a new layer above the jacket. Other than that, they are done in the same way as the rest of the skin, with detail, highlight, and freckles layers clipped to the main 475 base layer. The selection shows how I masked out where the hand are covered up by the jacket. Now that the skin is done, in the next tutorial, we will work on the hair.

Posted by Dan Johnson at 11:33PM (-07:00)

Painting the hair tutorial

Saturday, September 25, 2010

This lady obviously spent a good deal of time (or money) getting her hair done for this shot, so we need to make it look nice. It's red hair, so the color can be a bit tricky, but we can make it work. The best way is to start with a medium value and then paint darks and lights on top of it. This is a good technique for painting in general. In this instance, PMS 730 was a good choice. To add a bit of red, use a range from 4695 to 4755 to paint in the light and dark values. You can use the same brush for all of this, but some areas on the hair might need a bit of a softer edge. Photoshop has a great selection of chalk and pencil brush shapes that should work. The key here is to paint with very light pressure, gradually building up the color. After a bit of painting, you can pick colors right from the image (hold down ALT/OPT to temporarily get the Eye Dropper) instead of going back to the PMS library. For the highlights, use 123 as before and change that layer's Blend mode to Screen.

It's looking good, but something is still missing. In the photo, there are some really intense highlights on the top of her hair that really give it a golden sheen. We need to try and replicate that. Use PMS 471 for some intense, reddish-orange color. Blend modes can help give the look we need, but Screen just doesn't quite cut it here. If you really want some intense highlights or luminosity, a good mode to try is Color Dodge; it's like Screen

on steroids. That's a bit better, but too intense. Try lowering the Opacity and Fill to tone it down. For some reason, Fill works a bit differently from Opacity here. It tends to give some saturated color as it gets more transparent. I ended up with an Opacity of 80% and a Fill of 70%. As a final step, one which I almost forgot as I was working on this illustration, she needs a suggestion of ears and hair right next to the face. Work on a layer behind the skin and paint a hint of an earlobe on the left (her right) side of the face and some darker shadows.

You may have noticed that I didn't quite finish the neck area, but there is a necklace that needs to be painted in. Make a new layer above the skin layers and paint the overall shape in PMS 428. Add some Inner and Outer Glows and a Drop Shadow to make it stand out. They should all be using Multiply mode and the Outer Glow should be quite subtle. Paint the details on a new layer clipped to this base layer. For the little specular highlights, work on a new layer in Color Dodge mode. Paint with a light cool grey to add that little sparkle of light. These are the fun things to paint; we artists love stuff like this. Tune in next time when we turn our attention to the clothes.
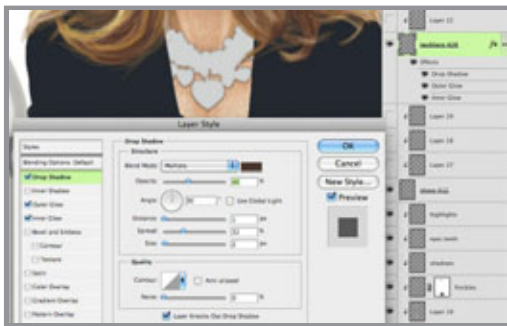
Posted by Dan Johnson at 07:27PM (-07:00)

Painting the clothing tutorial

Sunday, September 26, 2010

Now it's time to move on to finishing the clothes. There is a bit of a challenge here because she is wearing black and white, but this can be overcome if you remember this simple axiom: Black isn't really black and white isn't really white. These are the absolute extremes in value and you should stay away from them in most circumstances. White usually represents the brightest level of illumination and black is the darkest possible shadow, neither of which is really the general value of clothing (or anything else, for that
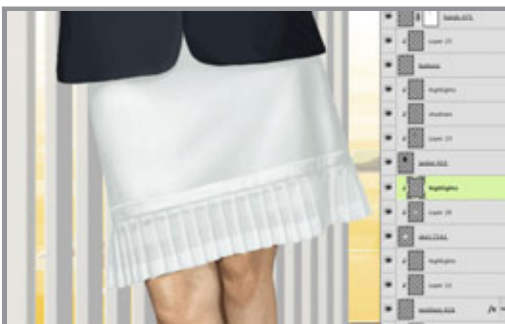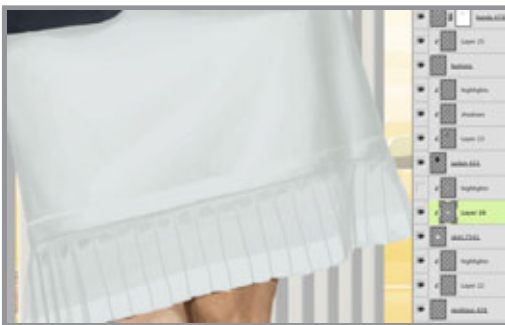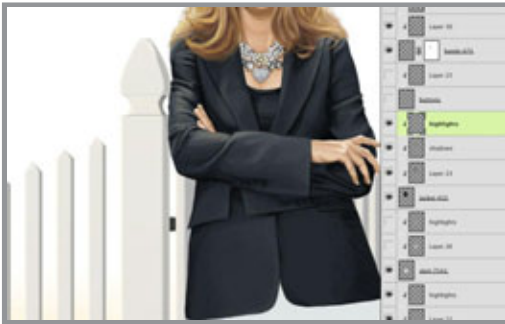
matter).

To show you how this works, paint the flat overall jacket shape with PMS 433. Using Pantone grey colors is really helpful because there are a wide variety of greys from which to choose. In real life, there is rarely anything that is completely greyscale; most greys have some color in them. 433 is the darkest value in its color ramp, but it's not quite black. That's what we are looking for here. Pick colors that are a step or two lighter from this same ramp and paint in the highlights on a separate layer clipped to the 433 layer. Use a light touch and don't paint anything too bright. This is black, after all.

To finish it off, make a new layer for shadows and change its Blend mode to Multiply. Use 433 to paint the shadow areas on this layer. You might be surprised, but it is darker than the 433 on the underlying layer. That's because any color multiplied against itself will get darker (except for white, which can't be multiplied). Some parts on this layer may end up being close to pure black. If the jacket needs a little something more, make a new layer in Screen mode and paint in a few highlights with 123. Just like before, we are bringing in some background color to tie things together. That should do it; because the jacket is so dark, it doesn't need much in the way of painted detail.

Let's not forget the buttons. They are a nice little detail and should be fun to paint. Paint them with 432, one step lighter than the base jacket color. You could use the Ellipse tool to build vector shapes for them, but painting them would be quicker and we are going for a loose, painted look here, not crisp perfection. Paint the details on a new layer, using the bottom one as a clipping mask. All you need to do is just suggest some shapes. You can pick colors directly from the image. Make sure to put in a few points of specular highlights to show the shininess of the buttons, just not too bright.

Finding the base color for the white skirt was trickier because it needed to be a very light cool grey with a hint of blue. I eventually settled on 7541. The shadows where painted on a separate layer with 441, but since it needs even lighter greys than that, you will need to
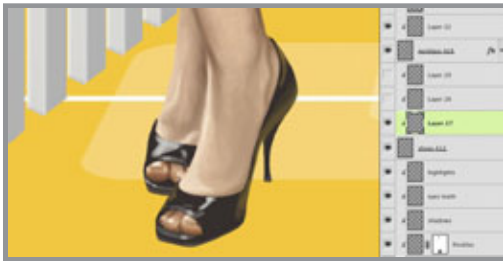
paint very lightly and then start picking colors directly from your image. Notice how the bottom strip was left unpainted to suggest the hem of the skirt. The highlights were painted on a new layer in (you guessed it) Screen mode. Use Cool Grey 3 or 4, painting very lightly. Painting highlights with just a bit of color yields much better results than just using white. Keep the details loose and just try to hint at the pleats and seams. It doesn't need much more.

The shoes need to look smooth, dark, and shiny. Paint the base layer with 412. Even though they are black, their color and texture need to look sufficiently different from those of the jacket. As always, paint the detail on a new layer. Shiny shoes will mainly just need some intense highlights. Because the ground plane is yellow, pick some colors from it and lightly paint into the bottoms to show that they are reflective. The top highlights should be painted with a light cool grey. On a new layer in Screen mode, paint over the highlights with 123 to put some yellow back in. Color Dodge might seem like a good idea here, but that Blend mode won't be visible over black or very dark colors. Finally, paint some shadows on a new layer in Multiply mode. You can use 412 or some other dark color; it will probably end up being black anyway. Now we are done painting the black jacket and the white skirt, but there is probably very little pure black or white in the image, aside from the background. That's the way it should be; reserve those extreme values for the few places that really need it. Posted by Dan Johnson at 12:56PM (-07:00)

Finishing the illustration tutorial

Thursday, September 30, 2010
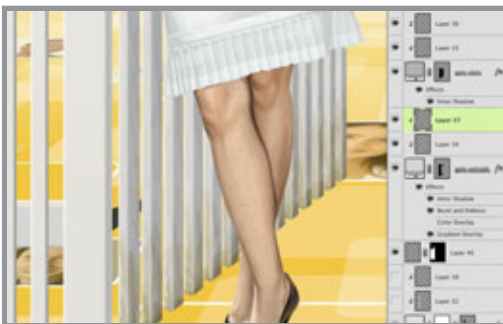
Our last step is to finish up the fence and gate by painting them to match the rest of the image. It shouldn't take long, so let's get to it. Paint on a new layer clipped to the base vector Shape layer. Use darker cool greys. Paint PMS 126 on the top layer in Multiply mode to blend the bottom edge into the background color a bit. All the fence posts will be painted in this way. Very loose, simple strokes will hint at the wood texture and weathering from the elements. The Gradient Overlay is 123 to transparent in Screen mode. This lightens the top of the fence and brings in a bit of the background color. Tying all the elements together is important in order to have an image that works as a coherent whole.

Some cast shadows will attach the main post and the feet to the ground plane. Fore the fence shadows, you can use a different vanishing point than the one you used for the
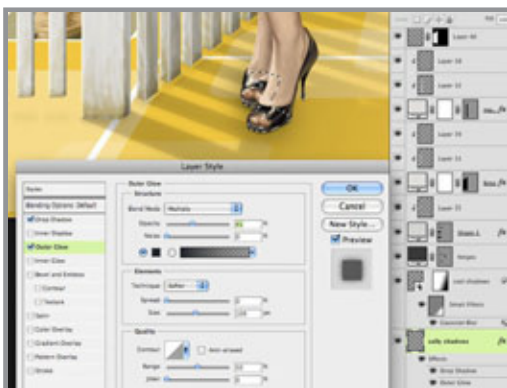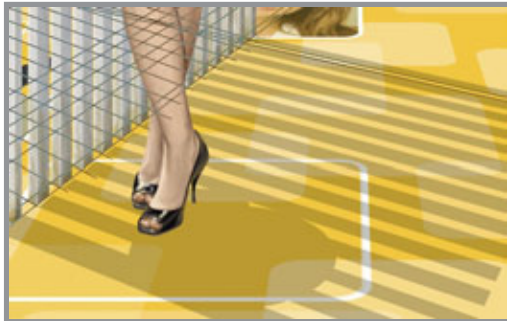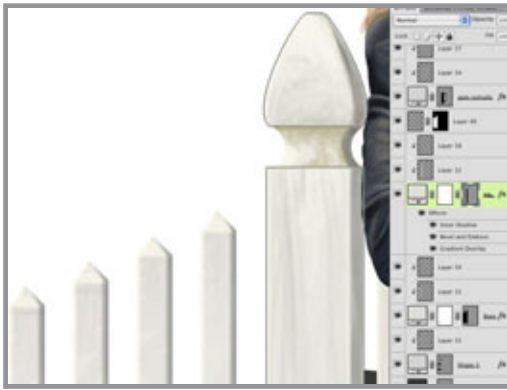
sides of the slats. Use the Polygonal Lasso tool to make the selections and fill them with 418. Use the Elliptical Marquee to make some ovals under the feet. Right+click on the layer and choose Convert to Smart Object. Change the layer's Blend mode to Multiply and lower the Opacity to 40%. Add a layer mask and put a black-to-transparent linear gradient to fade away the edges. Then put a 10-pixel Gaussian Blur on the layer. Since it's a Smart Object, you can add a mask to the filter. Put a gradient on this mask to fade away the effects of the blur at the shadow's origin: the gate. Shadows will get softer, blurrier, and less dense the farther away from the source they get. You can accomplish this with the mask on the layer and the mask on the Smart Filter. Use the Masks panel to lower its Density to 50%. Now the origin of the shadow has a bit of blur. This great feature was introduced in CS4. There is slightly more accurate way to do this, but it takes a lot of steps. Maybe we'll cover it some other time.

 To really connect the shoes to the ground, make a new layer and use the Polygonal Lasso tool to create selections for where the bottoms of the shoes contact the ground. Fill it with a color and use Layer Styles to give it a hint of drop shadow and an Outer glow in Multiply mode. Use 433, the same base color as the shoes to add some scatter shadow. These effects will really help the shoes look like they are making contact with the ground and not just floating in the air. You can also put a hint of soft shadow under the fence slats, but since they are farther away from the ground, it's not that necessary. The illustration is now complete.

Posted by Dan Johnson at 11:45PM (-07:00)

This month's tutorial - texture maps

Friday, October 15, 2010

For this month, we are going in a bit of a different direction. It's not quite illustration, but making texture maps for 3D models is a very important use of Photoshop. Much of the final process happens in the 3D program, of course, so we will concentrate on what you need to do in order to create good images.

I have a new 3D animation up on my site. You can view it here. There's a lot going on here and many of the textures are procedural, or created right in the program itself. But I did need to make some specific maps for signs, machinery, control boxes, and the floor. In the next tutorial, we will see how to make texture maps for the yellow non-skid strip that goes along the floor.

Posted by Dan Johnson at 12:25PM (-07:00)

Making the color map tutorial

Wednesday, October 20, 2010
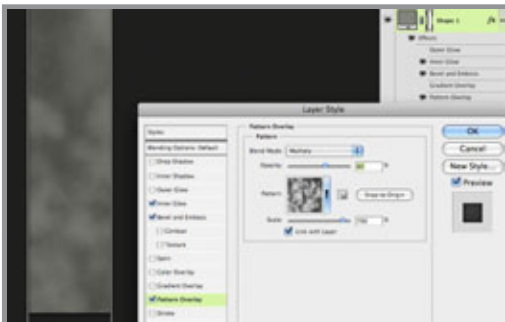
The first part we will work on is the color map. This image will provide the overall color of the 3D object. Texture maps have many different properties in the 3D program; this one will be called color or maybe diffuse, depending on the program you use.

When creating the image in Photoshop, work in pixels, not inches. And don't worry about resolution; all the 3D program will see is pixels. Resolution only matters when you are going to print your image. Another thing to be sure of is that you are working in the sRGB color space, as opposed to Adobe RBG (1998), which is designed more for print. How large should you make your image? That all depends on what size it will be in your final rendered scene or animation. A good rule of thumb is to estimate the final size in pixels, then work at 150% or 200% of that size in Photoshop.
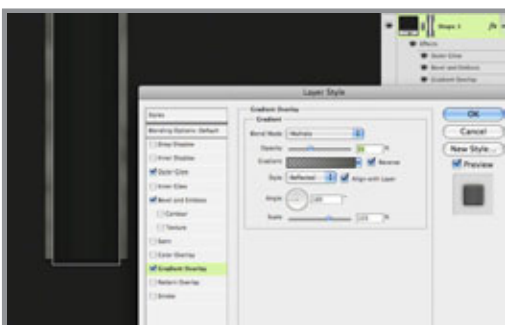
This image is at 200x1000 pixels. That's probably much larger than is necessary, but there is no problem working big and it will make our job in Photoshop easier than if it were a tiny image. To start out, use the Rectangle tool and make a vector Shape layer using PMS 416. Even though the final will get rasterized on the 3D geometry, working with vectors is a great way to work in Photoshop because they are so flexible and editable. You can also easily extend them beyond the canvas so that layer effects don't
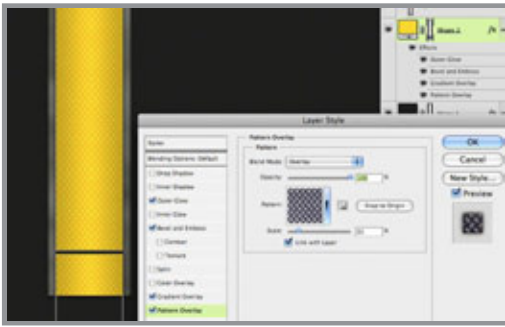
stop at the edge of the image. This shape will be the dull metal strips on the sides. To make things look used and grimy, add some effects like a dark Inner Glow in Multiply mode and maybe Bevel and Emboss. A Pattern Overlay will work here as well, in this case, Photoshop's default Clouds pattern is useful. Take the Scale up and set its Blend mode to Multiply, so we get a nice, dark, splotchy texture.
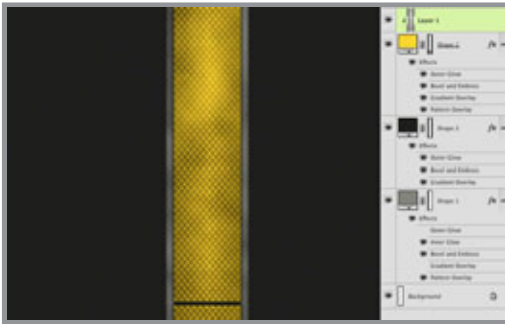
Next, we will create the channel in the middle that the non-skid strip will fit into. Make another vector rectangle on a new Shape layer, this time with PMS 419. As before, extend the top and bottom past the canvas size of the image. This is because this texture needs to tile vertically. Add some dark Outer Glow and a Bevel and Emboss. Give it a Gradient Overlay with the settings shown here. The idea is to darken the edges a bit.

For the yellow part, make a new vector rectangle using PMS 108. Extend it past the canvas on the top, but not the bottom. Select it with the Path Selection tool, then Copy and Paste. Move your second rectangle down so that there is a little gap between the two. Now you have two non-skid panels. They will need the same Outer Glow, Gradient Overlay, and Bevel and Emboss as the other layers. In fact, you could just Copy and Paste the Layer Styles to save time. But this one needs a stamped metal texture or something similar like this. If you don't have a pattern like this, it should be easy enough to find on the web. Scale it down to the right size and set the Blend mode to Overlay. That way, you get the lights and darks of the texture, but the midtone values drop away. Now we are starting to get somewhere.

It looks good, but the problem is that it's a bit too clean. The trick with computer graphics is to make things look scuffed, used, and dirty. To get the look of dirt stuck in the recessed areas, make a new layer, set your foreground/background colors to the default black and white, then apply the Clouds filter. Change the Blend mode to Multiply and lower the Opacity if needed. Then, clip it to the non-skid panel's layer so that the vector rectangle becomes its Clipping Mask. Now the non-skid texture appears on top of the Clouds texture and it looks like there is dirt in the crevasses. It's done! Next time, we will make the bump map.
Posted by Dan Johnson at 07:42PM (-07:00)

Making the bump map tutorial

Saturday, October 23, 2010

Next, we need to make the bump map. This is a greyscale image that gives the 3D program information about the relief or depth of the image surface. Our color texture looks good, but if it were applied to a 3D model, the result would be rather unrealistic. On the real item, the non-skid pattern sticks up from the rest of the yellow panel, the metal
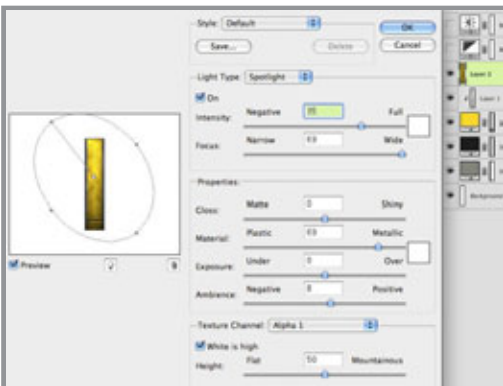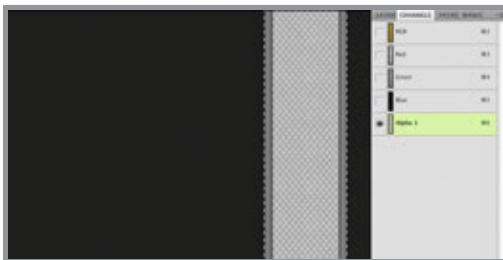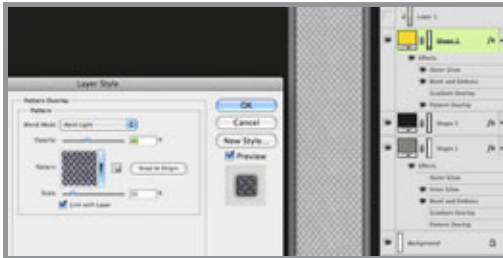
strips are a bit lower, and the seams or gaps would be even lower recesses. All of this detail could be built into the geometry of the model, but that would be time-consuming and the result would be a much more complex model.

This detail can be simulated with a bump map. The grey values will give the 3D renderer this information; light values will be high and dark values will be low. So what we need is basically a greyscale version of our texture that is exactly the same size as the color version. But we also need to remove any unnecessary parts like the dirt or splotches. Turn off the Clouds layer. Disable the Pattern Overlay on the grey strips layer and the Gradient Overlay on the yellow layer. These details make the texture look better, but they are not part of its depth. Now, add an Adjustment layer to remove the color. You could use Black & White or Hue/Saturation and take the Saturation down to 0. This looks pretty good, but the non-skid texture is lacking in contrast. As it is now, these little bumps won't stick up very far. With this pattern, changing its Blend mode to Hard Light, then lowering the Opacity to 40%, it looks about right. If necessary, you could use a Levels or Curves Adjustment layer to push the contrast a bit more, but this will work.

Save this file as a new image and that's it; your bump map is done. But before going to the time and trouble to do a full render from your 3D scene, you can use Photoshop to test it out. To do this, open up your original texture, Select All, Copy Merged, then Paste on a new layer. We need a flattened version of the texture for this technique. Now do the same thing to your bump map image. Go to the channels of your color map image, make a new Alpha channel, and Paste in the merged copy of your bump image.

Go back to the layers and click on the merged copy layer of the color texture. We'll try a nifty trick with Photoshop's lighting effects. Go to Filter >Render >Lighting Effects… Grab the light source and move it up and away from the image to get some more even lighting. Now for the important part: for Texture Channel, choose the new Alpha channel you just made. Make sure that White is high is checked. You may also want to move the Height value down somewhat from its default setting of 50.

Click OK and you see your texture lit with the Alpha channel acting as a bump map. The higher areas are catching more highlights and casting shadows on the lower areas. Your texture is no longer flat; it has some depth. It is becoming three-dimensional. This is

similar to what your 3D program will be doing, but you can get a nice preview here in Photoshop to see if there are any problems. Check in next time as we start working with 3D geometry.
Posted by Dan Johnson at 11:41PM (-07:00)

# Texture-mapping the 3D model tutorial

Tuesday, October 26, 2010
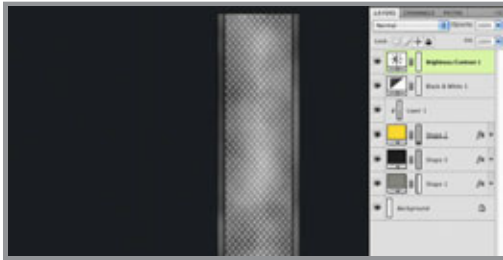
If you want, you can make a specular map as well. Just like the bump map, this is a greyscale image, but this time it controls shininess. The lighter parts will be shiny and the darker areas less so. Start with the color image and add Adjustment layers to remove the color and increase the contrast. Save it as a separate file.
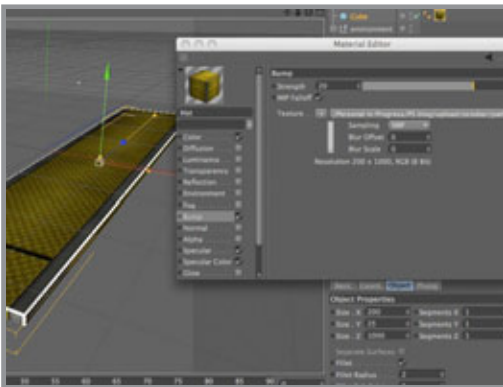
Now it's time to go into a 3D program. I am using Cinema 4D, but you can use Maya, 3D Studio, or just about any other. Make a cube primitive. Since the images are 200x1000 pixels, it will work best to make the X and Z dimensions of the cube that same ratio. Lower the Y value or height so that the shape is a thin slab. It's also a good idea to add just a bit of a fillet to the edges. Nothing in real life has the perfectly sharp corners of a default 3D primitive; there is always some bevel or rounding. Create a new material and load the color, bump, and specular maps into the appropriate channels. For this model, a cubic projection is the best way to apply the texture. I won't go into detail here because each program is different.
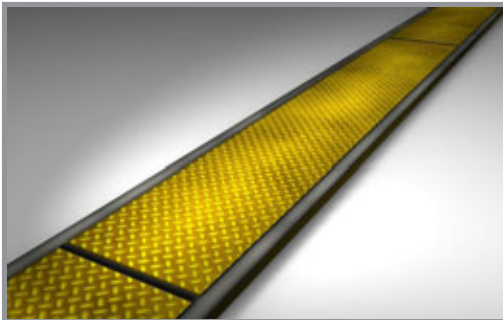
Your main decision here will be to adjust the amount on the bump map. You may need to do some test renders until you get the right look. Add some lights and any other effects you want, like Global Illumination or Ambient Occlusion. I used AO here. For a long strip, scale the cube along the Z axis and make sure the texture is set to tile. Render out your scene and there you have it: a nicely textured 3D model. You see, 3D isn't so hard after all.
Posted by Dan Johnson at 11:21PM (-07:00)

More advanced archtectural textures

This month, we will work on a project that shares some techniques with the previous one. Making building textures is very useful for both implementing into 2D illustrations and texturing 3D models. Here is a detail of a very large illustration I did a while back of Union Square in San Francisco. Even though most of the buildings are in some sort of a foreshortened view in perspective, they need to be created straight-on with parallel lines and right angles. In the next post, we'll begin this tutorial on how to make building textures. Our primary tools will be vector Shape layers and Layer Styles.
Posted by Dan Johnson at 01:07AM (-08:00)

Building with shapes tutorial

To start out, we'll need a photo of the building; this isn't the kind of stuff you can just make up. For this project, we'll use the corner Macy's building. The photo isn't great quality, but it will do. The first thing to do is to Transform the photo so that all the lines are horizontal and vertical, at least as much as is possible. Guides will really help out with this task. In fact, you will probably need lots of them before this image is done. I have been ridiculed by co-workers for the amount of guides I use, but in cases like this, they are really important.

Start by using the Rectangle tool to make a vector Shape layer with Warm Grey 3. You can build it right on top of the photo. Try to work in increments of 10, 20, 50, 100, and so on. It will make things easier later on. Much of the work here is going to be done with Layer Styles. As you can see, I am using a lot here, much like I have done on earlier projects. There is a grey Inner Glow in Multiply mode, a subtle Gradient Overlay in Multiply mode to darken the bottom half of the building, a small Bevel and Emboss, a Pattern Overlay of just thin lines that make a grid, but the surprise here is the Drop Shadow. It's being used to create a bit of the side of the building. If the Size is set to 0, the Blend mode to Normal, and the Opacity to 100%, you get a nice hard edge. Since this
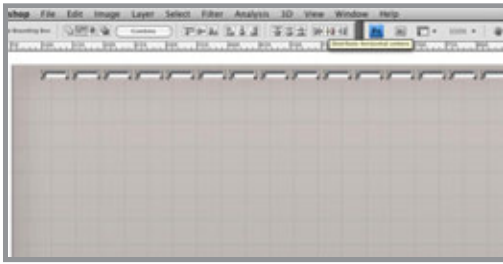
view will be from the bottom and the right, adjust the Angle so you can see the bottom and right edges.
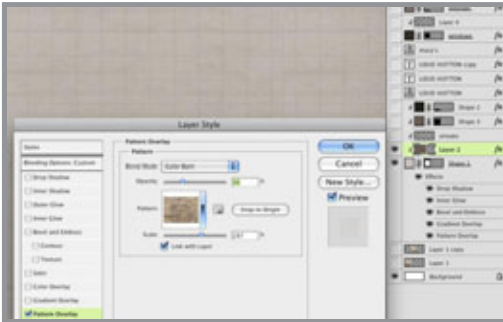
If you are wondering how to make the holes at the top, use the Rectangle tool again, make sure the Shape layer is selected and the path visible, then hold down ALT/OPT. You should see a little minus sign (-) next to your cursor. Make a small rectangle and presto! You have cut a hole out of the building. Use the Path Selection tool (that's the black arrow) to select the rectangle. You can either Copy and Paste it, or you can ALT/OPT + drag it to make a copy. When you have all the holes you need, select them all with the Path Selection tool, then use Photoshop's Align and Distribute buttons to align all these small rectangles to the same baseline and distribute their horizontal centers. What could be easier?
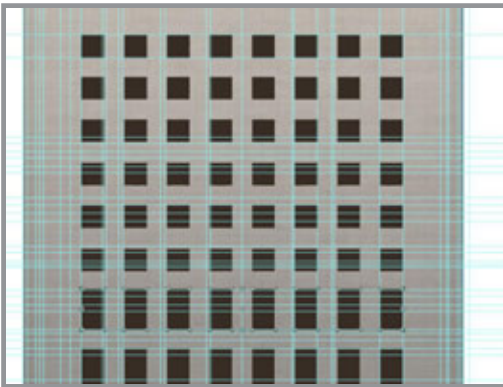
To add a bit more texture to the wall's surface, make a new layer and clip it to the vector Shape layer. Fill it with a color; any color will do. Take the Fill down to 0%, then add some kind of brick Pattern Overlay. I chose one that has randomly-sized bricks. Experiment with Opacity and Blend mode until it looks good. The idea here is just to add a subtle hint of texture.
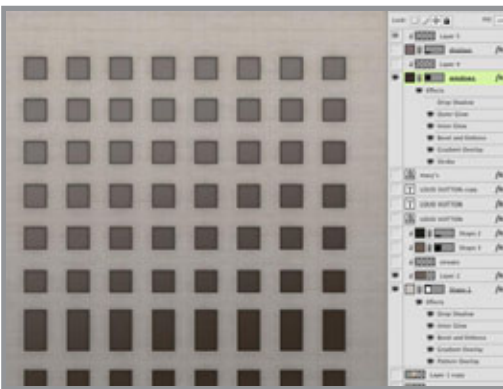
For the windows, use the Rectangle again with PMS Black 4. Hold down Shift to make a square. Make the duplicates and align them in the same way you did the holes at the top. Once you have the top row in, click the Combine button to make them a compound path. Now you can easily select the row of windows as one element. Make the duplicate rows. For architectural images, it's crucial to keep things perfectly centered and aligned. Make sure the margin to the left and right edges of the buildings is the same. Using the guides becomes almost necessary at this point. For the taller windows at the bottom, you can Scale them vertically. Now, it's time for the effects. That will really pull things together. Dark Inner and Outer Glows in Multiply mode should be standard. A small outer Bevel and Emboss helps to inset the windows a bit, but the real surprise is a 2-pixel inner Stroke in Black 4 to suggest a bit of the frame. To top it off, add a cool grey foreground-to-transparent Gradient Overlay from the upper left in Screen mode to show a bit of sky reflection. Make sure this window layer is not clipped to the main building shape layer; it will need to act as a clipping mask later on.

This is a good start, but now we need to work on the details. Tune in next time for that.
Posted by Dan Johnson at 01:25AM (-08:00)

Adding building details and signage tutorial

Friday, November 12, 2010
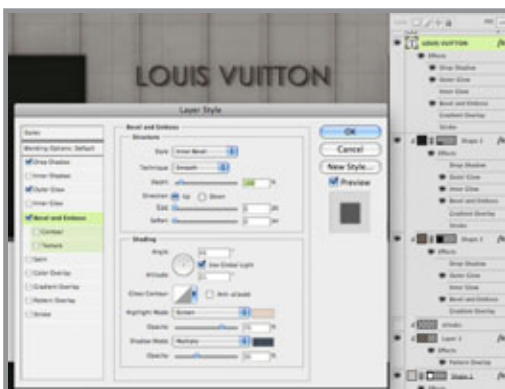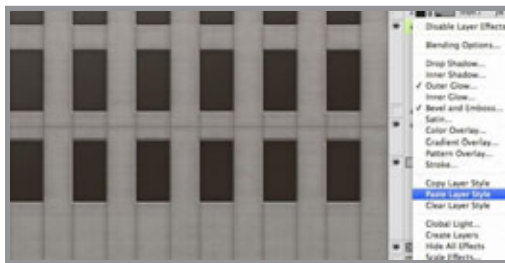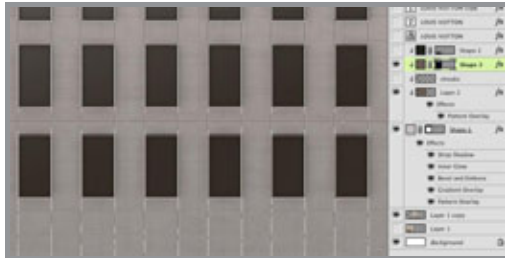
Upon closer inspection of the photo, some lines or seams become visible. To make these, use the Line tool to make a new vector Shape layer. Set the Weight to 1 pixel and use Warm Grey 11. Hold down Shift to add additional lines to the same layer and constrain them vertically or horizontally. For their effects, you can copy them from the windows layer. Right+click on that layer and choose Copy Layer Style, then right+click on this lines layer and choose Paste Layer Style. All we need here are the Outer Glow and Bevel and Emboss, so turn off the other styles. Lower the layer's Fill to 40%, make sure the lines layer is using the main building layer as a clipping mask, and they're done.

For the doors and display windows, use the Rectangle tool to make a new Shape layer. Use PMS 419. Since there are only two sizes of rectangles, make one of each, select them with the Path Selection tool, then duplicate them and slide them over. Line them up with your guides or select them all and click the Distribute horizontal centers button to space them out evenly. Copy, then Paste the Layer Style from the lines to this layer.

To make the signs attached to the building, use the Type tool. I don't know for sure the typeface that Louis Vuitton uses for their logo, but Century Gothic regular looked like a close match. It needs a dark Outer Glow, similar to what is on the lines and windows. It also needs a bit of Drop Shadow. Set the Size to 0 so that it is nice and sharp. A hint of Bevel and Emboss will help out as well, but it needs to be very small. As you can see, you can set the Size to 0 and there is still a bit there. For the illuminated signs, use the same typeface, but this time in bold. Give them a bit of Outer Glow, this time in the default Screen mode. A little Inner Shadow gives them a look that matches the photo.

Century Gothic also seemed to match the Macy's logo. Use PMS 4515. We need to make
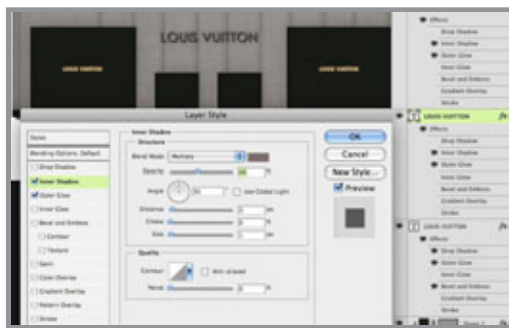
this sign look like it's metallic, shiny, and standing out from the building wall a bit. Layer Styles should do that for us. Use the Drop Shadow settings as shown. Taking the Spread up to 100% will keep the edge sharp, so if you take the Size up a bit, the shadow widens out and attaches better to the shape. Just like the other elements, this sign needs a dark Outer Glow and a little bit of Bevel and Emboss. For the shiny, metallic look, use a Gradient Overlay. Try a light Cool Grey in Color Dodge as shown. It looks pretty good, so I'd say this part is done. What's really cool about what we have done so far is that since it's all done with vector shapes and Layer Styles, this image is pretty much resolution independent. If you use Image Size to scale the image up and make sure the Scale Styles option is checked, everything should be fine.

Posted by Dan Johnson at 11:27AM (-08:00)

Creating filtered streaks tutorial

Tuesday, November 16, 2010
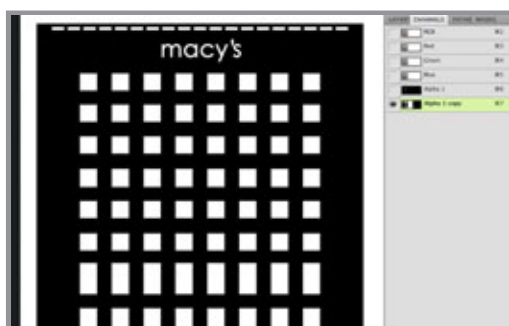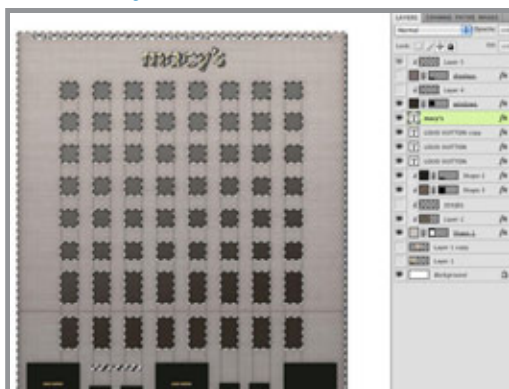
Now it's time for one of my favorite effects. I showed this technique back in the very first tutorial on this blog, but I like it so much, I'll share it again. Even if they are not visible in the photo, most structures that are out in the elements will have some weathering. This is often cause by dirt or rust that collects in recessed areas, combined with rainwater dripping down from those areas. The result is streaks from windowsills, cornices, and other architectural features. You could paint these in by hand, but there is an effective way to do this with a filter. The first thing we need to do is make selections of all the elements we want to use as sources for the streaks. In this case, it's the windows and the signs that are mounted to the buildings wall, as well as the top edge of the building. Hold down CTRL (PC) or CMD (Mac) and click on the main building layer's thumbnail image.
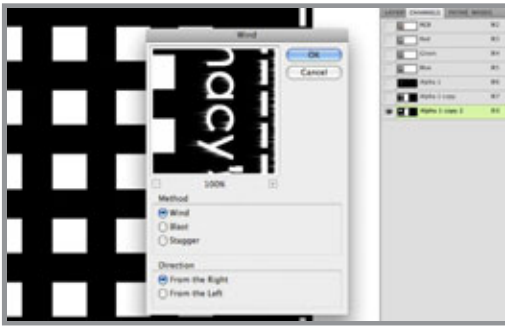
Make sure the holes at the top get included. Next, we need to subtract from this selection. To do this, keep holding down CTRL or CMD, press ALT (PC)/OPT (Mac) as well, and click the other layers' thumbnails. Go to the Channels panel and make a new alpha channel. Invert the selection and fill with white. We are working with the channels because we need to end up with a selection. The white areas will create our selections when we are done. Also, the filter we have to use will only work on existing pixels, not on empty ones.

You may want to duplicate this channel just to be safe. With your alpha channel ready, it's filtering time. This effect requires the Wind filter, but in Adobeland, wind apparently only blows horizontally and we need vertical streaks, so we need to rotate the image 90º clockwise. Now you can go to Filter> Stylize> Wind... For Method, choose Wind and for Direction, choose From the Right. Click OK, but you're not done yet. We have the beginning of streaks, but they need a bit more, so apply the filter again. You can use this handy shortcut: CTRL (PC)/CMD (Mac)+F. Keep doing this until you get the amount you want. When you are done, rotate the image 90º counterclockwise.
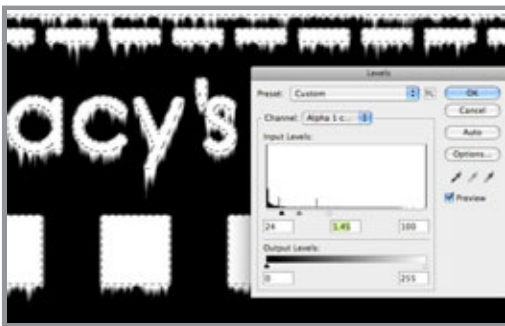
These are streaks, but they are rather thin and harsh. If that's what you want, I won't judge, but you can adjust them further. Load a selection from your original, unWinded(?) channel and invert the selection. This is so that we affect just the streak areas. Add a Gaussian Blur; this needs just a small amount. Now you have smoother, softer streaks. If you need to make them more substantial, do a Levels adjustment. As you bring the white and black sliders in, the edges sharpen up and the streaks get denser. Adjust the midtone slider to to give more or less streaks as you need. As you can see, by adjusting the amount of blur and Levels adjustment, you can create all different sorts of streaks. When you like them, load a selection from this channel.

Go back to the layers and make a new layer above the building texture. It will be clipped to the main building Shape layer. Fill the selection with a warm grey. Change the layer's Blend mode to Multiply and lower the Opacity until you like the look. That's it! This is a great way to add a bit of realism to architectural structures. In the next tutorial, we will finish off the windows with some painting.
Posted by Dan Johnson at 08:41AM (-08:00)

Painting the windows tutorial

Sunday, November 28, 2010
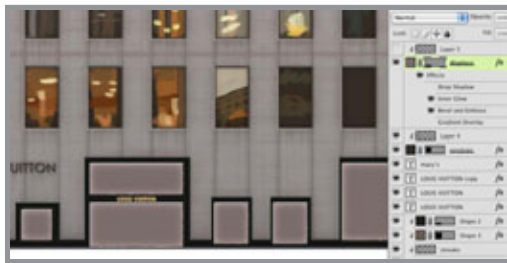
 The last step is to paint in the reflections on the windows. This will probably need to be done with a stylus and tablet. The thing to remember is that you don't need to do much; simply suggesting shapes and colors in an abstract way can get across the idea of reflected sky, buildings, and so on. As you can see, what I have actually painted is very loose and light on details. Even though not much is really there, it works because this layer also uses the windows Shape layer as a clipping mask and 'inherits' its effects.

For the ground level displays, make a new Shape layer with the Rectangle tool and PMS 410. Give this layer a little Bevel and Emboss and an Inner Glow in Color Dodge. Paint the window displays on a separate layer that is clipped to the Shape layer. Do this in a loose and free style like the window reflections. Using warm colors will help to differentiate the interior scenes from the exterior windows. That should do it. These last freehand painted details contrast nicely with the hard, angular details created by Pattern Overlays and vector shapes and give a sense of realism and randomness that the textures require. They also provide a much-needed splash of color that makes the building much more interesting to look at. If at this point you needed bump, reflection, luminosity, or other maps for texturing in a 3D program, these would be easy to make from your layers.

Posted by Dan Johnson at 11:58PM (-08:00)

Holiday illustration tutorial for December

Wednesday, December 15, 2010

I've been really busy with crazy client deadlines and getting ready to grade class finals, but I figured I should get this month's tutorial going. Since it's December, I thought about using one of my corporate holiday (I can't really say Christmas, can I?) cards.

 I have a few from which to choose and I just finished another one a couple of days ago, but I do like this one. It turned out nice and is a good example of a holiday painting and has some very useful techniques. Originally, I created it in 2007 for a large construction and infrastructure company. The subject matter was picked for me, but I was able to put a lot of my own creativity into it. In the next post, we'll start breaking it down and see what I
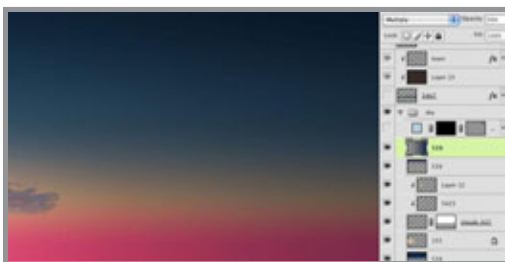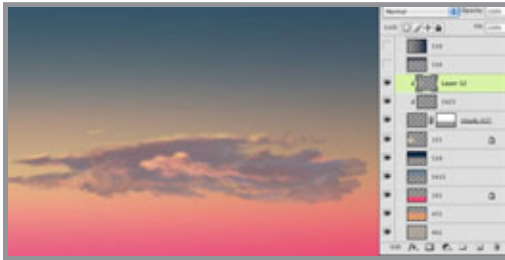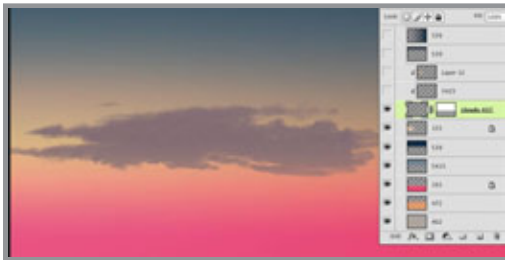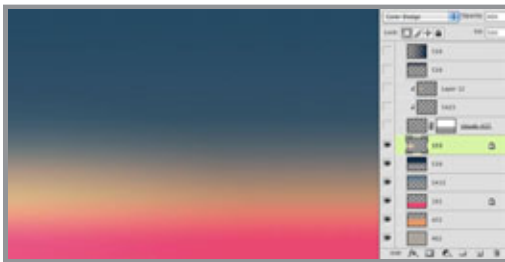
did.

# Painting the sky tutorial

Friday, December 17, 2010

Since this was to be used as a Christmas card, I created the image at 8.25"x5.5" at 300 ppi. Of course, you can use whatever size and resolution you want. The place to start is the sky. If you have been following along with previous tutorials of mine, you know that I create skies with separate gradients. Each one is a foreground-to-transparent Linear gradient on its own layer. The benefit to this is that you can easily change each color, or its Opacity and Blend mode. The PMS color I used is on each layer's label. For the final Radial gradient, use Color Dodge to increase the feeling of luminosity. This is to suggest the sun, which has just set in this region of the sky.

Paint the clouds on a separate layer using a simple brush and PMS 437. Add a black Linear gradient on a layer mask to fade away the bottom of the clouds as they approach the horizon. When I originally created this image, I had to use Fade to lighten the gradient, but now you can use the Masks panel to lower the mask's Density for the same effect. For the cloud details and highlights, paint on new layers that use the main clouds layer as a Clipping Mask. The painting should be a bit loose and free; you just need to suggest these other colors.

This is supposed to be a night scene, so we need some dark areas. On new layers in Multiply mode, add some gradients using 539 to transparent. Adjust the Opacity as needed. This is a great way to get in all the subtle gradients of the sky at dusk that you just can't get by making a custom gradient with many colors. For the star, use the Line
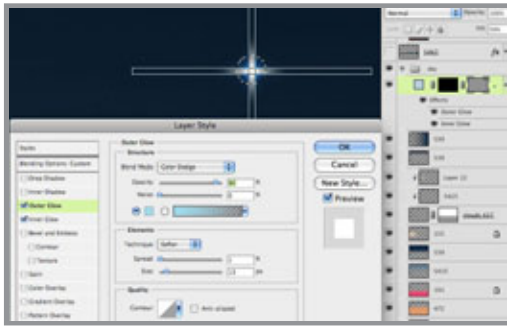
tool to make two intersecting lines on a vector Shape layer. Add a layer mask and use a white-to-black Radial gradient on the mask to fade away the star's edges. Add Inner and Outer glows to complete the effect. The Inner Glow should be set to Center so that the center of the star is the brightest. Make sure Layer Mask Hides Effect is checked. For convenience sake, you can group all these layers into one folder to keep your file organized. In the next tutorial, we will start on painting the ground.

Posted by Dan Johnson at 10:59AM (-08:00)

Painting the ground tutorial

Sunday, December 19, 2010
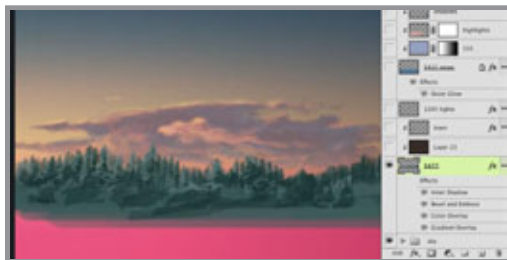
If you know where the horizon is, it's easy to paint in background elements like forests or mountains, because they should pretty much just sit right on it. For the tree-covered hills, start with PMS 5477 as a base. You can choose the lighter and darker swatches in this same strip as needed. Notice how the painting is loose and not very detailed. These colors are way too dark and saturated, but they are good evergreen tree colors. We can take care of this with layer styles. Effects like Color Overlay, Gradient Overlay, and Bevel and Emboss will give the look we need. The idea is to push it back with atmospheric perspective. Photoshop's effects can really help with this. You can also add additional layers in Color mode, clipped to the base layer, to tint it further.
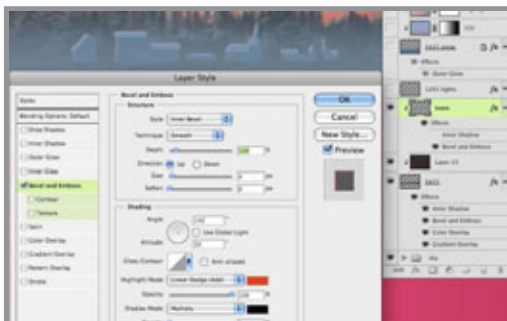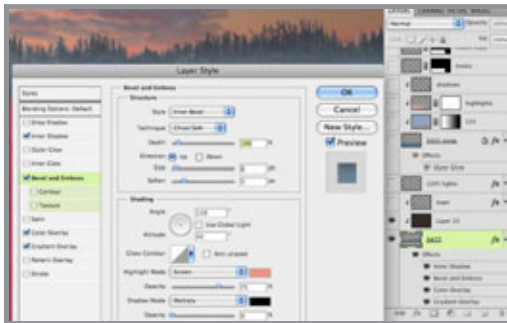
The little village is painted with very simple shapes. Remember that the rooftops should be covered with snow. The Bevel and Emboss' highlight in Linear Dodge adds a nice highlight along the edges to suggest the setting sun. The shadow's Opacity is set to 0% because we don't need it here. Clip this layer along with the others to the tree/hill layer. Paint the windows on a separate layer so you can give them a bit of Outer Glow. Don't include them with the clipping mask layers because we don't want them to be affected by the atmospheric perspective as much as the other layers. The windows' luminosity will cut through the haze more than the buildings or trees. Paint a large field of PMS 5415 on a new layer for the snow. This range of greyish-blue is great to use for snow, especially in shadow. The key here is to remember that snow isn't white.
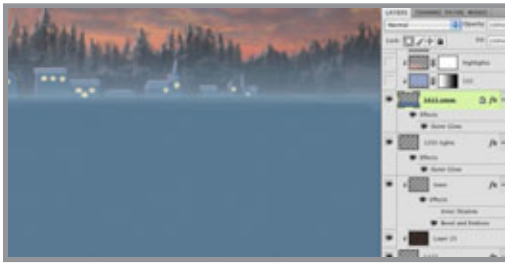
A bit of light blue Outer Glow completes the look of the frosty haze.
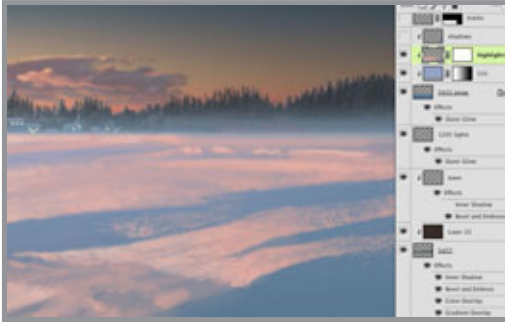
Use the snow layer as a clipping mask for the details painted on other layers. A 535-to-transparent Linear gradient on a new layer will lighten the background. Keep the greatest contrast of dark to light in the foreground area. The highlights from the setting sun are painted on yet another layer, also clipped to the 5415 snow layer. The colors used here are quite pink, but that's okay. Strong colors can work in situations like this. I mostly used my favorite basic brushes here, but some scatter brushes were also used, as you can see.
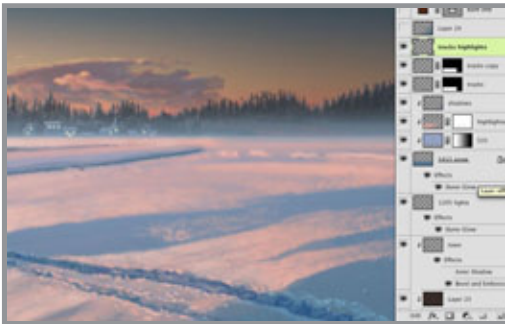
Use PMS 5405 or 5395 to paint the shadow layers. Don't forget to set the layers' Blend mode to Multiply. For the sled tracks, I ended up using Overlay for the main portion, then Multiply for the shadow areas. The highlights are painted on a layer in Normal mode to make them look more dense and substantial. Just pick colors from the highlight areas you have already painted. Now zoom out and see how it all looks. We are trying to get a luminous feel on the left side of the image. Darkening the right side may help to achieve this. If necessary, add a gradient on another layer in Multiply mode and play around with the Opacity until you like it. Something like this should work.
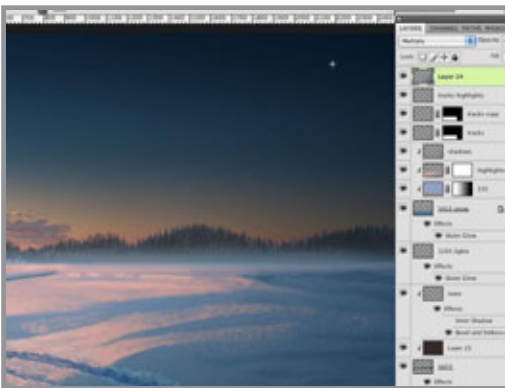
Posted by Dan Johnson at 09:21PM (-08:00)

Starting the barn tutorial

Friday, December 24, 2010

Now, it's time to get started on the barn. Working with vector shapes is a good way to go. You could make this shape in Illustrator, but I like doing it all in Photoshop if possible. Start with the Rectangle tool set to the Shape layers option. Hold down Shift to make a second rectangle right above the first one. Select the top rectangle with the Path Selection tool (that's the black arrow) and then use the Pen tool to add an additional point in the middle of the top side. You will then need to click that new point with the Convert Point tool to turn it into a corner. You can then select it with the Direct Selection tool
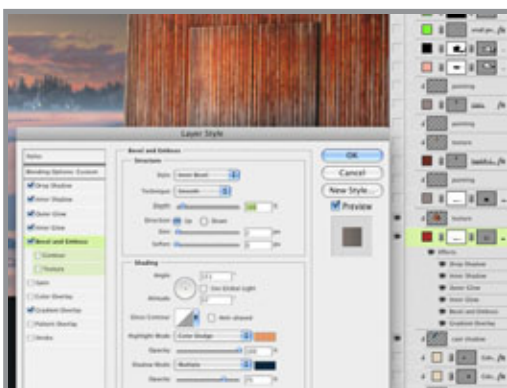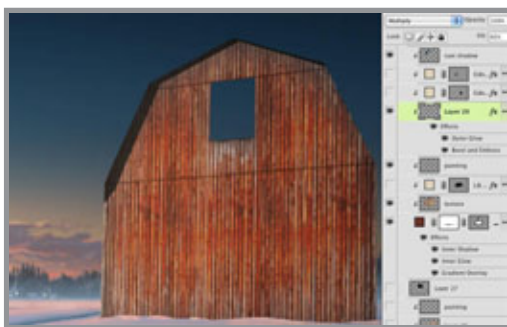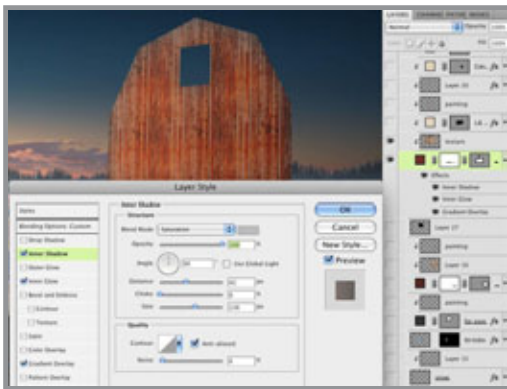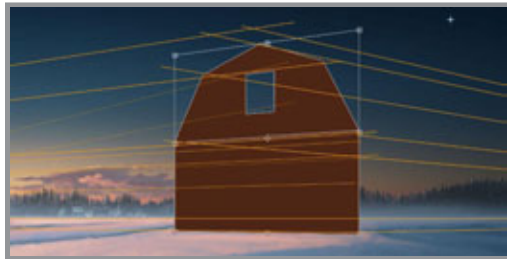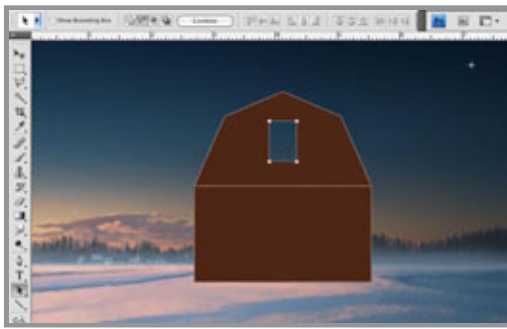
(that's the white arrow) to move it up. Use the same to select the top corner points and move them in to make the peaked roof shape. To make the doorway, just make a new rectangle on the same shape layer, but hold down ALT(PC)/OPT(Mac) to subtract from instead of add to the existing paths. Just so you know, if you were doing this in Illustrator, you would be doing just about the same thing.

If for some reason you are making this shape in Illustrator, Copy it, then Paste it into Photoshop as a Shape layer. To put it into perspective we'll use the Transform tool. But first, it's a good idea to set up your perspective with vanishing points. Use the Line tool to make a new Shape layer and add as many lines as you need. This is a two-point perspective image and the vanishing points should be outside of the image area. Transform and use Skew to match the barn shape to the right view, using your lines as guides. It's always best to build things flat-on first, getting all your dimensions right, then Transform them into place.

Use PMS 483 as the fill for this Shape layer. As usual, put some Layer Styles on this layer to liven it up. If you have been following along with previous tutorials, you know what to do. To save some time, I used a photo of old planks of wood as the barn texture. This layer was clipped to the Shape layer and set to Hard Light Blend mode at 70% Opacity. Transform it with Scale and Skew so that it matches the perspective of the vector shape. For a special trick on this one, I used an Inner Shadow of grey set to Saturation to make the wood look bleached and faded at the upper edges and sides of the barn front and beneath the door. Using photos and effects can save a lot of time over painting in all the details, but it can't do everything. I added a new layer to paint in what I couldn't achieve otherwise. You can also add layers for seams in the planks and a cast shadow for the roof overhang. These all work best in Multiply mode. Adjust their Opacity as needed and make sure all of

these extra layers are using the barn Shape layer as a clipping mask.
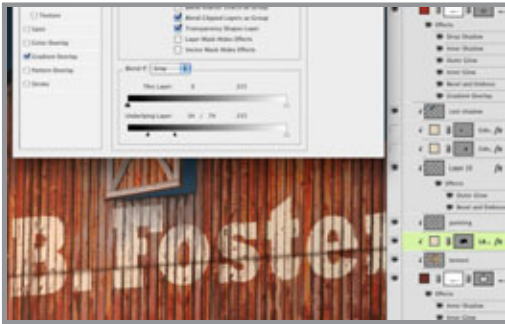
Every barn needs doors, right? Make them with the Rectangle tool on a new Shape layer, but don't clip this one along with the other barn layers. Use the same color and Layer Styles as on the main barn layer, but the doors need a bit more. Add a dark Outer Glow in Multiply mode, a bit of Drop Shadow, and a Bevel and Emboss to show that it sticks out a bit. Copy the wood texture from the barn face and give it the same Blend mode and Opacity. Clip this layer to the doors Shape layer. To make the traditional crossed slats, use the Line tool with PMS 409 to make thick lines on a new Shape layer. Paste the Layer Styles from the barn layer to this layer. Scale these effects down a bit and turn off the Inner Shadow, since you don't need it here. Add a layer mask and paint with black along the bottom to make the slats look like they are behind the snow. Make a new layer to paint some details on and clip it to the main slats Shape layer. Use the same steps to build the small door up in the hayloft, but reverse the Gradient Overlay to brighten the right side of the door. This makes it look like it's sticking out from the building and catching more light.

 As an added bonus, you can put some kind of messaging or image, painted onto the barn front. Since I initially did this as a corporate Christmas card, I used a company logo, but you could use whatever you want. Place the art or type the message and Transform it into position. At this point, we need it to look like it's painted onto old wood, so it should show gaps and bare areas where the paint has peeled away. An easy way to do this is to use the Blend feature. This extremely powerful but perhaps little used feature of Photoshop is the perfect choice here. Double-click the layer to bring up the Blending Options. In addition to the usual Blend mode, Opacity, and so one, there is a section at the bottom labeled Blend If. This is Photoshopspeak and it really means "make transparent if." Instead of using channels to make a static layer mask, you can do basically the same thing by adjusting these sliders. You can make parts of a layer transparent based on either the pixels on its layer or the pixels on layers underneath. In this case, we want to fade away parts of this layer that are over the darkest parts of the underlying layers to suggest shadows and gaps in the wood. To do this, move the Underlying Layer's black slider to the right and you will see parts of this layer drop away. Pretty cool, huh? The only problem is that the transparency is quite harsh; it's either 0% or 100% and looks extremely jaggy. The solution is to use what has to be one of the least document Photoshop features. Hold down ALT(PC)/OPT(Mac) and move the black slider again. You are now splitting the triangle and anti-aliasing the transition from transparent to opaque. The farther apart you slide the two halves, the softer the transition becomes. This is a great way to make painted signs on old wood, stone, brick, or anything with enough contrast. The best part is that you can move the signage around and the transparency updates.
Posted by Dan Johnson at 01:05PM (-08:00)

Completing the barn tutorial
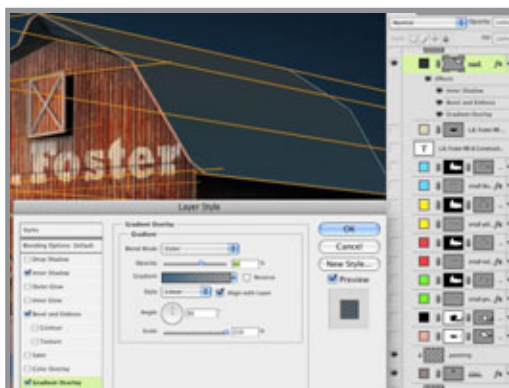
Monday, December 27, 2010
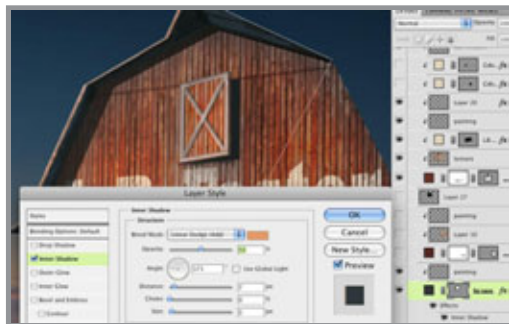
To finish up the barn, let's start with eaves. Make a vector Shape layer with the Pen tool and use PMS 447. Give it a Color Overlay of 5404 in Multiply mode to put it in shadow and an Inner Shadow as shown to create a nice highlight edge. Make a new layer to paint some details on and clip it to the Shape layer.
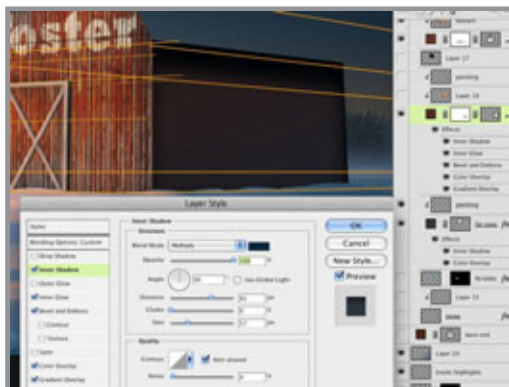
Turn on the perspective lines as guides and use the Pen tool again to make the side of the barn. Use something like PMS 4695 and add the usual Layer Styles. Add an Inner Shadow as Shown to suggest the overhang of the roof. The same Color Overlay as on the eaves will put the whole side in shadow. Add a layer mask and paint out a bit of the bottom to show the snow around it. Just like on the front, put the same wood texture on a new layer, using the Shape layer as a clipping mask. Change its Blend mode to Overlay and the Opacity to 50%. Add another clipped layer and paint some rough stains and streaks on it to complete the look.

With your perspective lines as guides again, use the Pen tool to make a new vector Shape layer with 447 as the color. Copy the Inner Shadow from the far eaves layer to this one to give it the same edge highlight. Add a Bevel and Emboss and maybe a Gradient Overlay in Color mode with a blue from the ramp of PMS colors you are using for the snow to put a nice, snowy feel in there. For the roof texture, I must have been feeling a bit lazy, or perhaps it was because of a tight deadline, but I used a photo of old corrugated metal instead of painting it on. To make it look less like a photo, I used Color Dodge mode to bring out just the highlights and then lowered the Opacity. It ended up looking nice and frosty. Depending on the photo you have, you might need to try other Blend modes. I ended up using other photos of old wall textures in Multiply mode to create a look that was a composite image. This is a good way to go beyond just simple photos and create unique textures. Remember to Transform them into position so that they match the perspective of the scene. You may need to add a final layer of painted details to tie everything together. All of these layers

should be clipped to the vector Shape layer of the roof.

What we really need now is some snow on the roof. Use a simple Brush to paint on a new layer with PMS 5415. To get the look of snow, add a large Bevel and Emboss as shown. Take the Opacity of the Shadow down to 0%, since we don't need it. To complete the look, a bit of Inner Shadow along the bottom in Screen mode will give a nice feel of reflected light. You may wonder why not just use the Shadow of the Bevel and change it to Screen, but we need a much smaller shape here, and the Bevel and Emboss' shadow would be just as large as the Highlight. Inner Shadow gives just the amount of control here that is needed. Use this layer as a clipping mask for some new layers where you paint on the light of the setting sun. Pick colors from the highlight areas of the snow on the ground. Load the snow layer and the roof layer as a selection and use that as a mask for a new layer on top of it all. Put a foreground-to-transparent gradient on it, using a blue from the shadow areas of the snow. Change its Blend mode to Multiply and lower the Opacity as needed. This will make the far edge of the barn recede further into shadow. Don't forget to use the same steps to make some snow under the far eaves layer. Also, paint some black on a new layer behind the open hayloft door so that it looks really dark in there. Now the barn is finished and ready for decorations!

Posted by Dan Johnson at 05:00PM (-08:00)

Making icicles tutorial

Tuesday, December 28, 2010
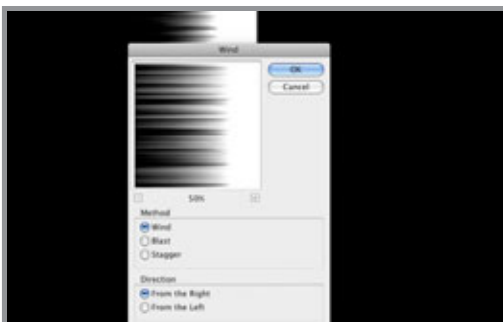
What the barn really needs now are some icicles hanging down from the edges of the roof. There is a great way to make them that uses some of the same steps I have used in previous tutorials for streaks. Refer back to them if you need a review. Start by making a new Alpha channel, make a tall selection with the Rectangular Marquee tool, and fill it with white. Run the Wind filter on it with the options shown. You will have to run it a few times to get long, thin streaks. Transform the channel and rotate it 90° counter-clockwise. Adjust the levels to get a very hard edge with just a bit of anti-aliasing.
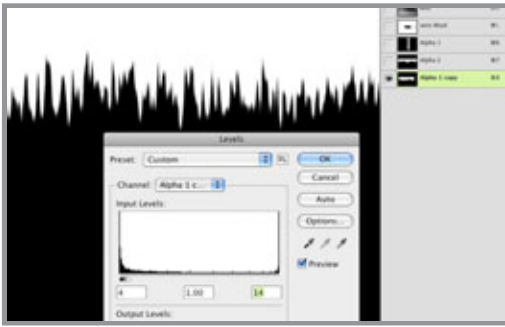
This is about the same way you would make architectural streaks, except we didn't blur them before the Levels. For icicles, we need longer and sharper shapes than we would need for most streaks and stains you would find on exterior surfaces.

Since icicles aren't perfectly smooth, we need to roughen them up a bit. There are several filters that could do the job: Sprayed Strokes, Spatter, Ocean Ripple, and perhaps others. I have chosen Sprayed Strokes with very low settings, as you see here. Do some experimenting to see which ones you like best. You may need to run another Levels adjustment on it when you are through, just to sharpen up the edges.
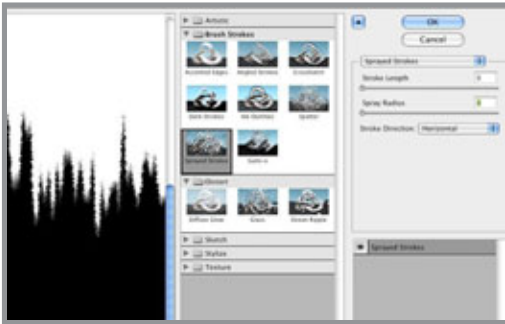
Load this channel as a selection, make a new layer under the rooftop snow layers, and fill it with a light color. Transform it to match the perspective of the scene. Set the layer's Fill to 5% and add some Layer Styles. The look we are trying to achieve here is translucent and very shiny ice. Give it a Bevel and Emboss as shown. To accentuate the edges, check the Contour option and choose the Ring - Double shape. To really punch up the highlight edges, add an Inner Shadow as you see here. The combination of Screen and Linear Dodge in the same place results in some really bright highlights. I wish I could say that I came up with this technique, but I found it by searching the Internet for Photoshop tutorials long ago. I have modified it a bit to suit my needs, but I don't think I could have figured it out all on my own. Whoever did that initially is a Photoshop genius.
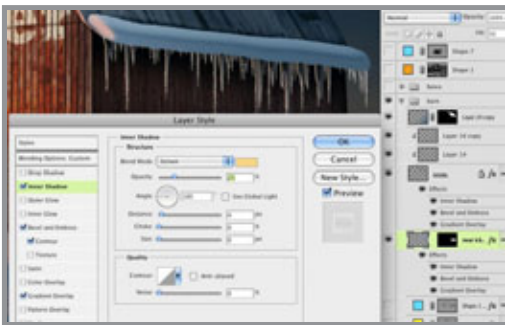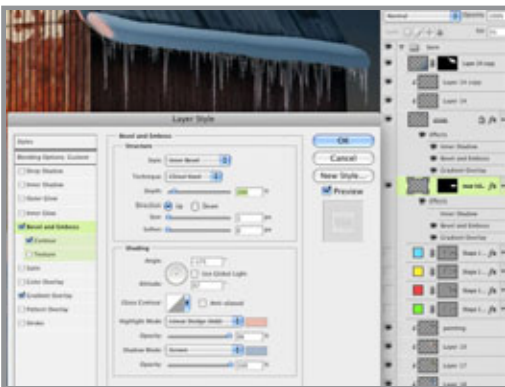
A bit of Gradient Overlay in Linear Dodge will brighten up the icicles just a bit to suggest that they are catching more light the farther away they get from the solid, shadow-casting roof. They look pretty good and it's obvious that they are icicles. Of course, the other side of the barn needs them too, so follow the same steps to add them on a new layer underneath the barn front layers. Since the icicles on this side are not in shadow and more directly affected by the sun, increase the Opacity of
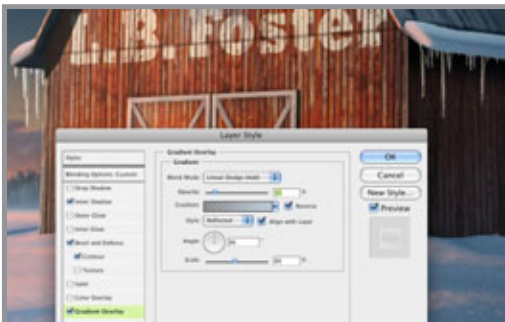
the Inner Shadow to pump up the highlights on that side. Now that nature's winter decorations are complete, it's time to turn our attention to the artificial ones.
Posted by Dan Johnson at 01:04AM (-08:00)

Putting on the Christmas lights tutorial

Wednesday, December 29, 2010

To really make the barn stand out and give it the right holiday look, it needs to have some Christmas lights. Shape layers will really help out here. Start by making the lights' cord with the Pen tool. Remember that Photoshop doesn't like open paths, so you will need to close your shape. Set the Fill to 0% and give the shape a small, black stroke with Layer Styles. You can also give it a little Bevel and Emboss, with the Style set to Stroke Emboss. Make a layer mask to mask out the cord as it cuts in front of the barn. The selected area shown is the masked area. Here's the important part: make sure you check Layer Mask Hides Effects so that the stroke disappears where you mask it off, instead of just updating to follow it. Now you have just a thin wire for the lights to hang on and you can change it if you want by simply editing the path with the Direct Selection tool. Make a new Shape layer with the Pen tool for the vertical cords at each corner.
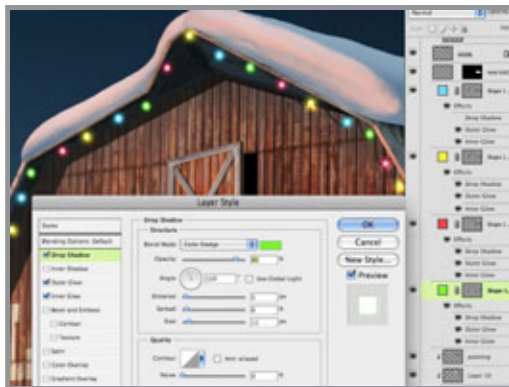
For the light bulbs, use the Circle tool to make a new vector Shape layer. Hold down ALT(PC)/OPT(Mac) and use the Path Selection tool to drag a duplicate of the circle. Keep doing this until you have the number of lights you want. If you want different colored lights, you will need a different Shape layer for each color. The nice thing about doing this with vector shapes is that you can easily reposition them if needed. I started with blue lights. Use bright, fully saturated colors. For a luminous appearance, use an Outer Glow in Linear Dodge mode. give them an Inner Glow as shown. Set the Source to Center and make the color a bright yellow, almost white. This gives the actual bulbs a warm glow. Use the same Inner Glow settings for each color of light, but change the Outer Glow to a color that matches the light. You may also want to give the layer a drop shadow as shown to increase the glow's intensity. The combination of Linear Dodge over Color Dodge will really make them look like they are glowing.
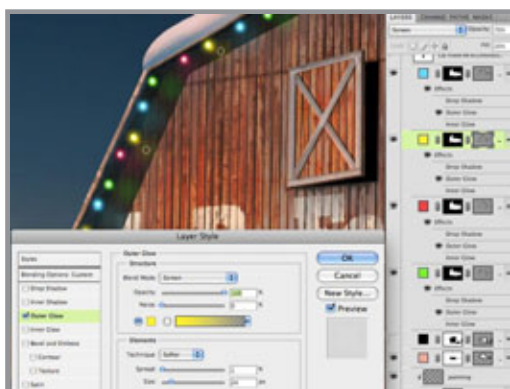
This looks good, but the bulbs would probably be casting a bit of light and reflecting on the barn. This can also be accomplished with Layer Styles. Duplicate the light layers and move them to the right and down a bit. Lower the layers' Opacity to 70% and their Fill to 20%. Turn off all the Layer Styles except the Outer Glow. You will need to adjust the position of some of the glows so that they land in the right spot. Because they are still vector shapes, you can easily move them where you want with the Path Selection tool. You may also need to make a mask for this layer so that none of the reflections are floating out in the sky; that just wouldn't do. Load a selection from the barn's vector Shape layers. The barn is now decorated and ready for the holidays. Posted by Dan Johnson at 08:47PM (-08:00)

Adding foreground elements tutorial
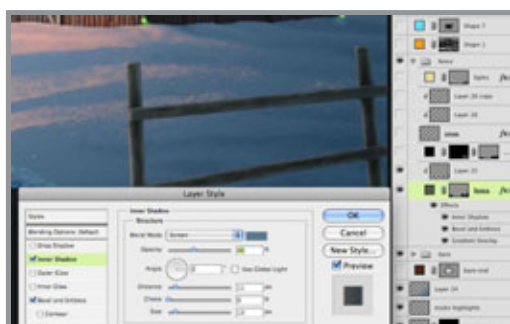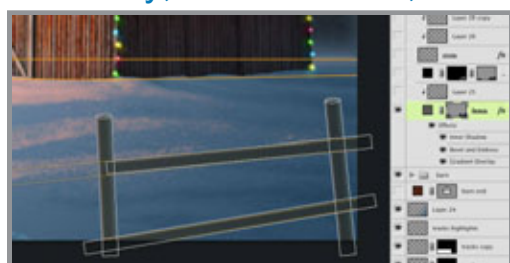
At this point, the image could be considered done, but something in the foreground would tie the scene together and add some depth. A rustic fence would be a nice touch. For this, we need some long, thin vector rectangles. You could use the Rectangle tool, but the Line tool set to a very high Weight might be a better way to go. Make a new Shape layer using PMS 418. Use your perspective lines as guides so that the fence looks correct. To make the vertical posts look round, hold down SHIFT and put some ovals on top with the Ellipse tool. You may need to select them and rotate them slightly. Add Layer Styles similar to what you have been using. The Highlight of the Bevel and Emboss should be in Color Dodge Mode. The Gradient Overlay should be using Multiply and a blue from the background to add more shadow the the right edge. An Inner Shadow with the settings shown will show some rimlight on the right edge, reflected from the snow. Use this layer as a clipping mask for a new layer above it and paint in some details like the rough would grand and the edges of the boards. You can see how using vector shapes here is better than pixel-based shapes because the fence edges can extend past the canvas size. That way the Layer Styles won't stop at the edge

of the image.

Make a cord wrapping around the fence using the same steps that you used for the light cords on the barn. Copy the Layer Style from the barn cords and paste it on this layer. That way you get the effects and the blend options. Load the fence shapes as a selection for the layer mask. Add new layers for snow and paint it on the top areas of the fence using the same colors and technique as on the barn's roof. For the Christmas lights wrapped around the fence, follow the same steps as on the barn's lights. For contrast, I decided to make this lights a different color. The settings are the same as on the other lights, but the color and Outer Glow were changed to a warm yellow. I used the Path Selection tool (the black arrow) to position each vector circle precisely on the cord. When these details are in place, your holiday illustration is complete. Now your next Christmas card is all done.

Posted by Dan Johnson at 09:43AM (-08:00)