

Coloring Line Art

Overview: Scan a pen-and-ink drawing; clean up the line work, increasing contrast and removing extraneous marks; make selections and fill with flat color; airbrush shades and tones; change colors to taste; add highlights.



The Scanned line art.



Adjusting Levels and Duplicating the line art transparent layer, here viewed alone.



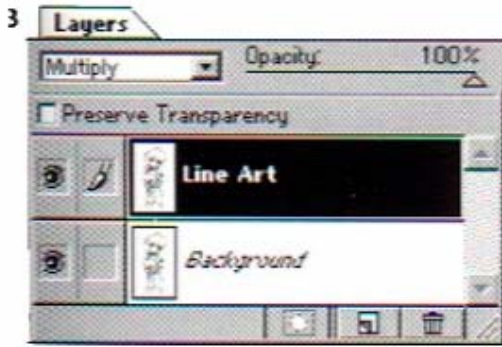
TOMMY YUNE'S JOURNEYGIRL IMAGE is a tongue-in-cheek spin-off of *The Journeyman Project 3*, a CD-ROM game developed by Presto Studios, for which Yune served as creative director. Though the line work for JourneyGirl was inspired by Japanese character design, Yune took a softer, airbrushed approach to color. He started with scanned and fine-tuned line work, built areas of flat color, developed shades and tones, made special modifications to the color, and added highlights. Because of the way he constructed the color work, the line art completely covered its "seams," trapping the color and leaving no gaps.

1 Drawing and scanning. Start by scanning hand-drawn line art in gray scale mode and opening the file in Photoshop. Yune had inked his illustration on LetraMax bright white marker paper, which provided excellent contrast for scanning. He scanned the art at 400 dpi on a flatbed scanner.

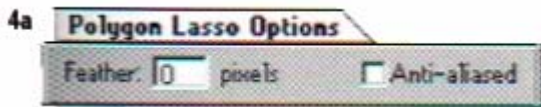
2 Cleaning up the line art. Next you'll use Levels - either by choosing Image > Levels or by opening the Layers palette (Window, Show layers), making an Adjustment layer (Ctrl-Click) the New layer icon in the middle at the bottom of the Layers palette), and choosing Levels for the Type.

Make sure that Preview is turned on in the Levels dialog box so you can fine-tune your tonal adjustments by eye. Start by looking at the Levels histogram to see what kind of adjustment is needed to get clean, smooth lines with good contrast. (Before you make changes, read "Turn Off the Cache!" on page 94.)

The histogram for Yune's JourneyGirl scan showed two humps (for the black ink and white paper) with fewer pixels at the intermediate grays - basically, noise from the scanning process. Yune moved the black point and white point Input Levels sliders inward



3 Loading the Black channel as a selection, creating a new layer, inverting the selection, and filling with black made a transparent layer with black "line art"



4a To select areas for solid color fills, selections were unfeathered and not antialiased.



Selected areas were filled with flat colors, shown here with the line art layer invisible (top) and visible.

until they were just inside the two humps. He also moved the gamma slider (the gray one) to 1.2 to make the line work appear finer by brightening the image. (Be careful not to brighten your scan too much or the finest lines will begin to disappear.)

To clean up extraneous marks, make white the Foreground color (you can press "D" for "Default colors" then "X" for "eXchange Foreground and Background colors") and paint over

FINDING STRAY MARKS

To quickly find black specks on a white background, double-click the magic wand in the toolbox to open its Options palette and set the Tolerance to 0, turn off Anti-aliased, then click on the white background. The flashing selection boundary will appear around the specks, making them easier to see.

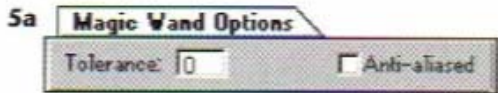
3 Making a line art layer. This step makes a transparent layer with black line art. To create a selection based on the scanned line art, open the Channels palette (Window, Show Channels) and Ctrl-click the Black channel's name to load the channel as a selection. Then invert the selection (Ctrl-Shift-I) to change the selection from the white areas to the black line work. In the Layers palette (Window, Show Layers), click the New Layer icon (next to the trash can icon at the bottom of the palette) to create a new layer. Then fill the selection with black (press "D" for default colors and then Alt-Backspace). In the pop-up list of blending modes in the Layers palette, choose Multiply. At this point, save a copy of the file (Ctrl-Alt-S) in Photoshop format to preserve the black-on-transparent line art.

4 Making a flat color layer. Convert the file from Gray scale to RGB (Image, Mode, RGB Color); don't flatten.

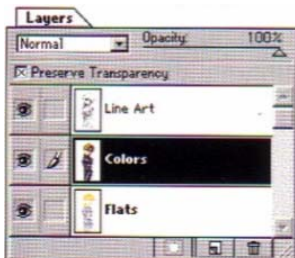
So that you'll have a clear view of your cleaned-up line work on its transparent layer, make the Background layer active, select all

SAVING TIME AND RAM

When you're coloring line art, especially if your artwork is large - poster-size, for example - you can speed up your work by preserving your cleaned-up Grayscale line art in a separate file (Save A Copy) before you add color, and then converting your working file to RGB (Image, Mode, RGB Color) and reducing its size to 50%, or even 25% (Image, Image Size, Resample Image; Bicubic). After you've completed your coloring, enlarge the file back up to a original size (use Image Size again), delete the existing line art layer, and in its place drag-and-drop the high-resolution copy you saved, holding down the Shift key so the imported line work is perfectly aligned with the color layer. Since all the crisp detail is in the reimported high-res line art layer, resizing the already soft color portions of the file doesn't degrade the image.



5a Set up with a tolerance of 0 and no antialiasing, the magic wand tool can be used on the flat color layer to make selections that can then be used to contain airbrushing on a new layer above it.



Shading and toning were done on a copy of the flat color layer using HSB setting in the Color Palette. The line art and shading and toning layers alone constitute the developing artwork. But retaining the flat color layer provides a way to reselect color areas and to start over if a mistake is made in shading or toning one area.



Airbrushing in color mode changes the color but preserves the toning and shading.

(Ctrl -A) and fill with white (Alt-Backspace if white is still the Foreground color). With the Background still active, click the New Layer icon to add a layer between the Background and the line art layer. Working in this new layer, use the line art layer as a guide as you use the lasso and polygon lasso to select areas to fill with flat color. (Holding down the Alt key while you work with either lasso tool lets you switch back and forth between dragging and clicking to draw the selection boundary.) Fill each selection with color as you make it (click the Foreground color square in the toolbox and choose a color or sample from the Color palette, opened by choosing Window, Show Color, then press Alt-Backspace to fill). Don't worry about shading at this point - just flat color fills.

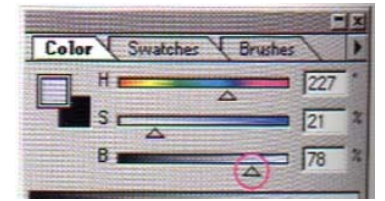
5 Shading and toning the color.

To make a layer for adding shades and tones, duplicate the flat color layer by dragging its name to the New Layer icon at the bottom of the layers palette. Select regions of color with the magic wand tool, with Tolerance set to 0 and Anti-aliased and Sample Merged turned off in the Magic Wand Options palette. Shift-click with the wand to add noncontiguous areas to the selection. Now use the airbrush tool to add shades and tones of color: the active selection boundaries will keep this additional color "inside the lines."

After toning a region, the expanded color range will make it hard to select the whole region with the magic wand tool again if you want to add more airbrushing. But you can make the selection by clicking the name of the "flats" layer to activate it, clicking the magic wand tool to select a color area in this layer, then activating the modulated color layer again and airbrushing. To fine-tune the shading and toning, Yune used the dodge and burn tools.

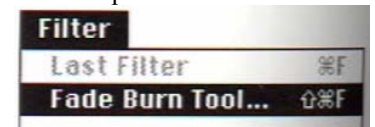
USING THE HSB SLIDERS

The HSB Sliders mode of the Color palette can make it easier to add shades and tones to color-filled areas. Open the Color palette (Window, Show Color), choose HSB Sliders from the palette's pop-out menu, and then choose Color Bars, Current Colors also. Now you can hold down the Alt key with any painting tool chosen and click in the image to sample the color you want to modulate. Then change it to a lighter or darker shade by moving the "B" (for "Brightness") slider, or click in the color bat at the bottom



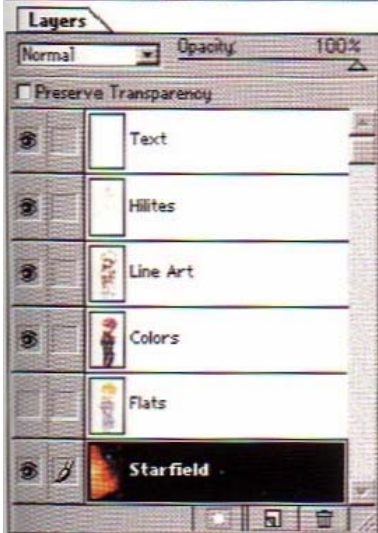
ERASING BRUSH STROKES

With the painting tools and the toning tools (dodge, burn, and sponge), you can choose Filter, Fade if you want to reduce the intensity of your last stroke, or press Ctrl-Z to completely undo it. The ability to fade brush strokes was added in version 4.0.1 of Photoshop.





After the file was converted to CMYK color mode, highlights were added in a top layer in Screen mode.



The finished illustration included a background and a top layer with signature and copyright notice.

6 Completing the coloring. Once the primary tonality of the artwork has been established, you can change the color by selecting color regions again using the magic wand on the flat-color layer, and using the airbrush tool in Color mode (from the list of blending modes in the Airbrush Options palette) to paint over the tonal work Yune used bright, bold colors, fine-tuning the color with Image, Adjust, Color Balance and with the sponge (saturation) tool.

7 Adding highlights. If your artwork is destined for print, now is the time to convert to CMYK (Image, Mode, CMYK Color), so that what you see on-screen as your highlights develop will be a good predictor of what they'll look like in print (see "Blending and Color Modes" at right). Make a new layer at the top of your layers stack and put it in Screen mode. Use any soft-edged painting tool to add highlights to reflective surfaces such as eyes and metal. If you're working in RGB mode, the color you use on this layer will lighten and tint the artwork beneath. In CMYK mode, the artwork will be lightened, but the tint will be less apparent.

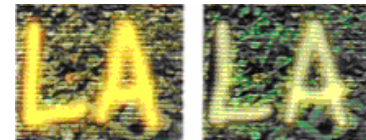
8 Adding the background. Yune activated the Background layer and dragged-and-dropped a star field developed for one of the interactive *Journeyman Project* games. He also created another layer at the top of the stack to add his signature and copyright information.

BLENDING AND COLOR MODES

Photoshop's blending modes work differently in RGB Color mode than in CMYK Color mode. That's why you're warned when you choose from the Image, Mode menu:



You can preserve the existing color interactions in a layered RGB file when you convert it to CMYK - by choosing to flatten it before converting. Or you can preserve the layers and allow the color blending to change. You can't preserve both the layers and the RGB-specific color interactions.



Painting with yellow in Screen mode produces a different result in an RGB file (left) than in a CMYK file.

"TRAPPING" WITH 100% BLACK

If your colored line art is destined for separation and printing, you can ensure that the black line work doesn't knock out of the other color plates as follows: Make a pure black by clicking the Foreground color square and composing a color with C=0, M=0, Y=0, and K=100. With your line work layer active, press Shift-Alt-Backspace to fill the lines with this new black (adding the Shift key to the Alt-Backspace shortcut is like turning on Preserve Transparency for the layer before you fill). Put the layer in Multiply mode. When you flatten the file and then separate it on output, the result will look the same as you would get in a PostScript drawing program or page layout application if you set the black line work to overprint. This makes registration of the color plates more flexible and forgiving.