Is it real, or is it digital?

Recreating history with a camera and computer

By Baron Bustin

O ne of the prime objectives of modeling is to create a piece of history as authentic as possible. I've always wanted to showcase one of my model aircraft in a photomontage which any observer would assume was a vintage photograph shot more than 50 years ago. With the recent advances in digital photography and digital processing, this is becoming possible for many modelers. If this sounds interesting to you, the first thing to remember is that the aircraft in the montage should be an accurate representation of the model – not a product of extensive digital processing.

Camera work. To overlay a picture of a model onto a picture of a background and create a single believable image was much trickier than I had first thought. Lighting, angle, resolution, and perspective have to be close enough matches to trick the viewer's eye into seeing absolute harmony.

Shooting the model against a white background provides a sharp edge so you can easily isolate (electronically cut out) both the aircraft and shadow separately to lay it on the background photo. I estimated the proper angle of perspective from the background photo, and took a series of photos of the aircraft at slightly different vertical angles. Then I test-fitted them until I got a match, **1**. It would be best to measure angles for both background and subject photos, but in this particular case it was impossible.

The camera doesn't lie – or does it? A late-war Bf 109G-10 sits in an open field, right? No, no, my friends, this is a 1/48 scale Fujimi kit skillfully merged and digitally antiqued into a convincing image.

Also, to maintain 1/48 scale, it would be ideal to set a 4' marker on the ground in the background photo, and a corresponding 1" marker on the white background of the plane photo to match them up in the montage – these could be digitally removed later.

It is also important to judge the perspective of the aircraft with regard to distance from the "camera" of the final montage. If the plane is shot from very close up, and is placed at a great distance into the final photo (or vice versa), the plane won't look right. I chose to shoot the model from about 2½' (120 scale feet) and use the zoom to maximize the detail. These two images (field and aircraft) were all that were used to make the montage.

The background is a digital photo I took of the airport field in Perm, Russia, where I work, **2** – I wanted the setting to be as European as possible. Both photos were taken with an Olympus DL-600 digital camera at the highest resolution of 1.4 megapixels.

Putting it together. I used Adobe Photoshop to work with the images. It takes some time to learn, but it is amazingly powerful digital processing software. None of the techniques used here are especially advanced, and anyone using a different photo-processing software (Photo Delux, Corel Paint) should be able to find similar tools/commands in their software.

I first flipped the background horizontally to better align the lighting angle with that of the aircraft's, and then used the *desaturate* command to turn the image to black and white, and altered the shadow, mid, and highlight levels to satisfaction. Opening the aircraft photo, I next isolated the plane, **3**, using the *magic wand, lasso*, and *quick mask* tools, then copied and pasted it into a new layer of the background field photo.

Next, I isolated the aircraft shadow using the *layers* option, **4**, copied it, aligned it to the aircraft, and pasted it into a new layer of the background photo. The shadow must be separate from the plane because this layer was given an opacity of 37 percent to allow the ground to show through.

Using the *eyedropper* tool to match the color of the shadow, and then the *airbrush* tool, it was possible to add to the shadow, giving the illusion of following the contours of the uneven ground. The aircraft and shadow layers were then linked together, and using the *free transform* command, the final location, angle, and size of the aircraft and shadow were selected. The aircraft and shadow were then *desaturated* to black and white, and levels were altered to best match that of the background.

When images are copied and pasted in Photoshop, they are "anti-aliased," meaning that the edges of the copied image are not sudden and hard, but gradual. This helps to blend in the pasted image with the background, but work is still required to improve the image integration. Setting the *eraser* tool to five percent pressure, I gave the edges of the aircraft image a once-over to soften them without completely erasing them. With the *magic wand* tool, each canopy glass panel was isolated, then using the *eraser* tool set at 30 percent pressure, the isolated areas were partially erased to expose the field behind it in the background layer, while still giving the impression of glass in the frame.

One last step is required to complete the integration of the images. The photo of the field is what defines the resolution of the final picture. The photo of the aircraft is, in reality, an image of an object much closer to the camera than the final picture implies. Unfortunately, to bring the two images together into one convincingly, it was necessary to lose resolution in the aircraft image to match that of the field. To do so, I used the *gaussian blur* command, set at 0.4 pixels radius.

Finally, the photo was flattened, meaning the background, aircraft, and shadow layers were brought into one layer. Using the *smudge* tool set to five percent pressure, I gave the edges of the aircraft a go-round for a final smoothing. Don't worry if you smudge some of the background – you can always clean it up with the *rubber stamp* tool.

Using the *rubber stamp* and *small brush* tools, grass was copied to the area around the bottom of the landing gear, and using the *burn* tool set at 11 percent exposure, the area was darkened to strengthen the impression of contact between wheels and ground. At this point, the black and white image was complete, and it was time to add the "old photo" touches to the project.

Completing the illusion of age. First, I added slightly darkened stains around the photo with the *burn* tool set at five percent exposure to slowly control the darkening. With the *dodge* tool, I lightened the upper left hand corner for a faded effect. Next, I added a text layer using Texas Hero font to write in the inscription. This font really has the feeling of the past. I also wanted to give the photo a yellowed and aged look. To do that, I added a new blank layer (on top of the flattened aircraft/field
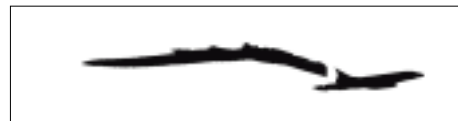

1 A studio portrait of the 1/48 scale Fujimi Bf 109G model was taken with a digital camera.

2 The same digital camera was used to take this photo of an open field in Russia. The image was later flopped.

3 The image of the model was isolated from its background so that it could be dropped into the background.

4 Here is the isolated shadow of the model that has been retouched to show a ragged edge on uneven ground.

layer), and using the *paint bucket* tool, painted the entire layer a mustard yellow with 10 percent opacity, giving a yellowed tint and further softening the photo without obscuring it. A new blank layer was then added on top of the yellow layer, and using the *pencil* tool with various sized *brushes*, I added white scratches here and there to the photo to further enhance the illusion of age.

Once satisfied with the overall photo, I flattened it one last time, copied it to a JPEG format, and printed it out.

Obviously, there are no hard and fast rules or techniques to this, and like modeling itself, it is a matter of taste. I spent most of my time playing with the images until I got what I wanted. It's hard to be objective about my own work; does it really look like a real aircraft in a field, or a model? You be the judge. **FSM**