

The PhotoWorks™ Add-In for SolidWorks® is a tool to provide photorealistic renderings of SolidWorks models. In these photorealistic renderings, materials, textures, lighting, and backdrops can be added to produce near-photographic images of your solid models. This tutorial will contain two rendering exercises: the first involves photorendering of a part model, and the second involves photorendering of an assembly model.

## 1. Photorendering a Part Model

To begin, we will ensure that the PhotoWorks Add-In has been installed.

**Start the SolidWorks program, and from the main menu select *Tools:Add-Ins*. From the dialog box that appears, make sure that the *PhotoWorks* box is checked, as shown in Figure 1. Click OK to close the dialog box.**

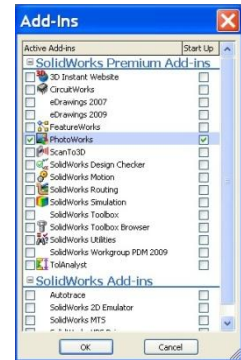


Figure 1

In this first example, we will perform a photorealistic rendering of the flange part created in Chapter 1 of the text.

**Open the flange part file, as shown in Figure 2. From the main menu, select *PhotoWorks:Appearance*, as shown in Figure 3.**

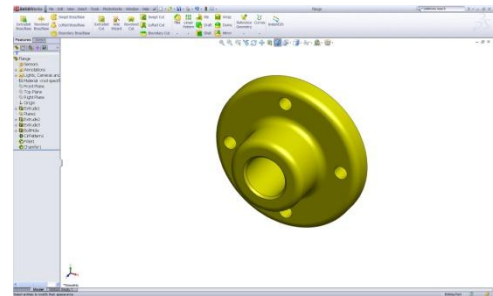


Figure 2

The Appearances Manager will open.

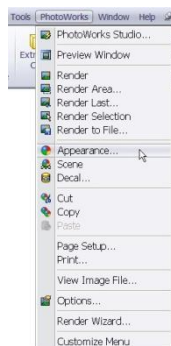


Figure 3

Click on the **Advanced** button in the **Appearances Manager**, as shown in Figure 4.

The Appearances Manager contains number of materials and finishes that we can apply to your flange part. They are grouped in folders, organized by material type.



Figure 4

Click the **Browse...** button, as shown in Figure 5. You can now navigate through the folders that contain the various materials and finishes that can be applied to the part.

Browse to the **metal** folder and **aluminum** subfolder. From the options available, select brushed aluminum, as shown in Figure 6. Click the **Open** button.



Figure 5

The brushed aluminum finish will be previewed on the flange. Note that other tabs (for illumination, texture, etc.) are available in the Appearances Manager. We will not use these in this

simple tutorial, but these can be used to further enhance the photorealistic rendering.

From the main menu, select **Photoworks:Render**, as shown in Figure 7.

The flange, with a brushed aluminum finish, will be photorendered on the default background scene, as shown in Figure 8.

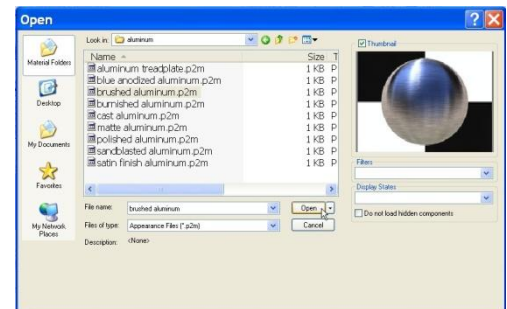


Figure 6

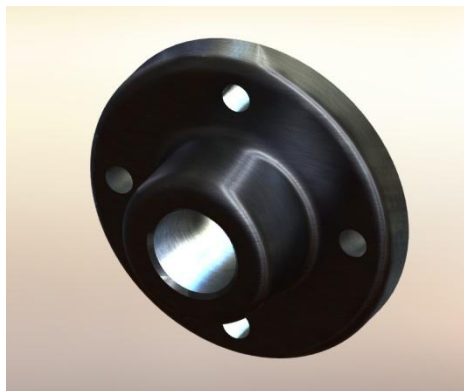


Figure 8



Figure 7

Click the check mark in the Appearances Manager to close it, as shown in Figure 9.



Figure 9

We can also change the default background scene if we wish.

From the main menu, select *Photoworks:Scene*, as shown in Figure 10.

The Scene Editor will initiate.

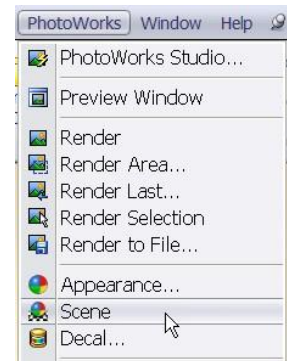


Figure 10

In the Studio Scenes folder, select *Misty Blue Slate*, as shown in Figure 11. Click *Apply*, and then click *Close* to close the Editor. From the main menu, select *Photoworks:Render*.

The brushed aluminum flange, shown on a reflective floor, is now photorendered, as shown in Figure 12.



Figure 11

Save and close the flange file.

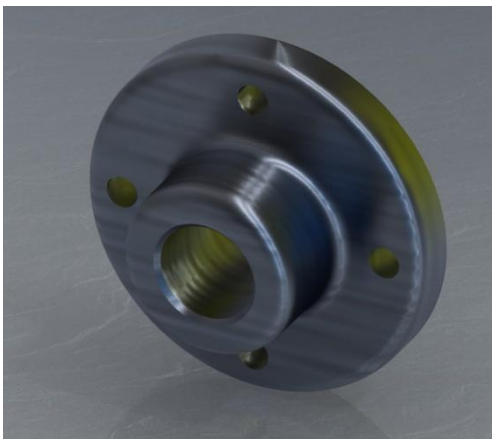


Figure 12

## 2. Photorendering an Assembly Model

In this tutorial, an assembly model will be rendered. The tutorial will describe how individual parts in the assembly can be rendered with different materials.

**Begin by opening up the hatch assembly created in Chapter 6, as shown in Figure 13.**

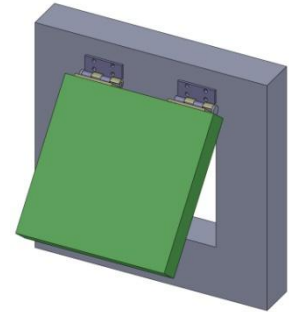


Figure 13

**From the main menu, select *PhotoWorks:Render*.**

The assembly is rendered with all parts using the default material, and the default background “showroom” used. We will now render the individual parts of the assembly with different materials.

**With the FeatureManager shown, click on the + sign next to the door subassembly (if necessary) to expand it and see all of the subentries (it may already be expanded). Locate the hatch component, and click to select it from the FeatureManager, as shown in Figure 14.**

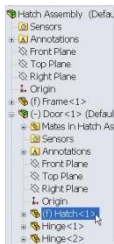


Figure 14

**From the main menu, select *PhotoWorks:Appearance*.**

This will initiate the Appearances Manager.

**Click Browse to locate a new material. In the *organic* folder and *wood* subfolder of the PhotoWorks Items list, click on the *oak* subfolder. Select the “unfinished oak” choice. Click the Open button, and click the check mark to close the Appearances Manager.**

We will now specify the material for the hinges and pins.

**With the FeatureManager displayed, and the control key depressed to allow for multiple selections, select all four instances of the hinge component, as well as both instances of the pin component, as shown in Figure 15.**

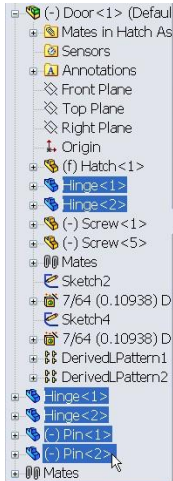


Figure 15

From the main menu, select *PhotoWorks:Appearance* again. Click the **Browse** button to browse for a new material. In the *metal* folder and *brass* subfolder, select the “polished brass” choice. Click the **Open** button, and click the check mark to close the Appearance Item Manager.

To finish the process, select *PhotoWorks:Render* from the main menu.

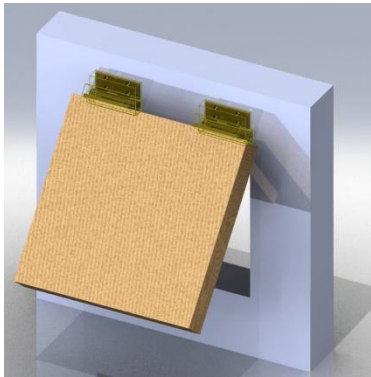


Figure 16

The rendered image is shown in Figure 16.

If the rendered image is too dark, you may need to adjust the lighting.

Click on the **Render Manager** tab, as shown in Figure 17. Expand the **Lighting** entry. Right click on each of the lighting choices, and click to select “On in PhotoWorks” to adjust the lighting, as shown in Figure 18. Rerender



Figure 18

the image to see the effect of the lighting change. You can also add new lights and adjust their properties in the FeatureManager. Close the assembly file, saving the changes if desired.

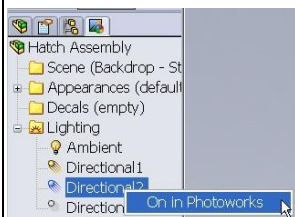


Figure 17

### 3. Adding Decals

PhotoWorks has the additional capability to add realistic-looking decals to photorendered parts. This can enhance the “finished” look of a rendered model. We will add a manufacturer’s decal to the flange model rendered in Part 1 of this tutorial. First, however, we must create the decal. In this tutorial, the decal will be created using the Microsoft Paint program that comes with Microsoft Windows. Note, however, that any graphics program that can output a bitmap image (\*.bmp) can be used.

**Start the Microsoft Paint program (it can generally be found under the *Accessories* listing of the *Programs* menu). Select *Image:Attributes* from the main menu, as shown in Figure 18.**



Figure 19

The Attributes dialog box will appear.

**Set the image size to be 8” wide by 1” high, as shown in Figure 19. Click OK to apply the new image size.**

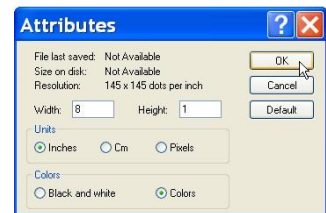


Figure 19

**Create the picture shown in Figure 20. Save the file under the name “flangedecal” in a convenient folder. Close the Paint program.**

This bitmap image will now be applied to the rendered model of the flange.



Figure 20

**Start the SolidWorks program, and open the flange model. Rotate the model into the position shown in Figure 21, and select the surface shown.**

This is the surface where we will apply the decal.

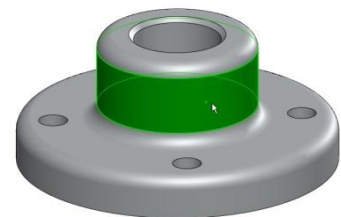


Figure 20

**Select *PhotoWorks:Decal* from the main menu.**

The Decals Manager will initiate.

**Click the Browse button, and navigate to find the “flangedecal” bitmap that you saved, and click Open (Figure 22). Click the Save Decal.. button in the Decals Manager (Figure 23).**

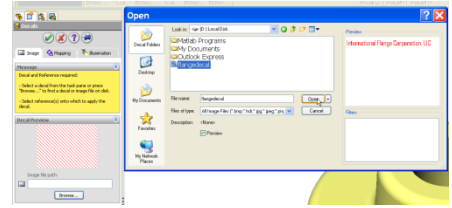


Figure 21

The decal will be previewed on the flange, as shown in Figure 24.

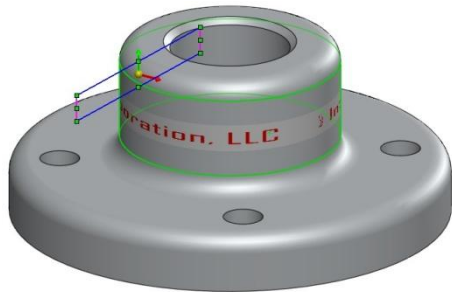


Figure 23

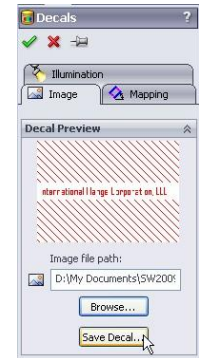


Figure 22

**Render the image by selecting *PhotoWorks: Render* from the main menu.**

The rendered image with the decal is shown in Figure 25. Note how the decal conforms to the curved surface of the flange.

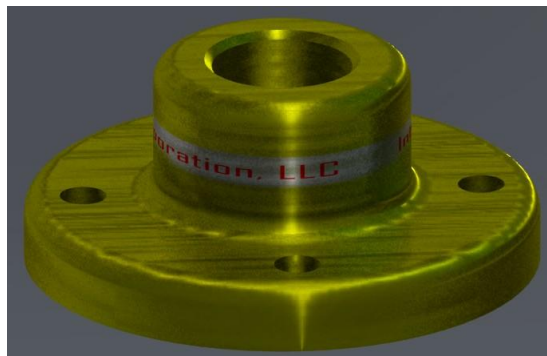


Figure 25