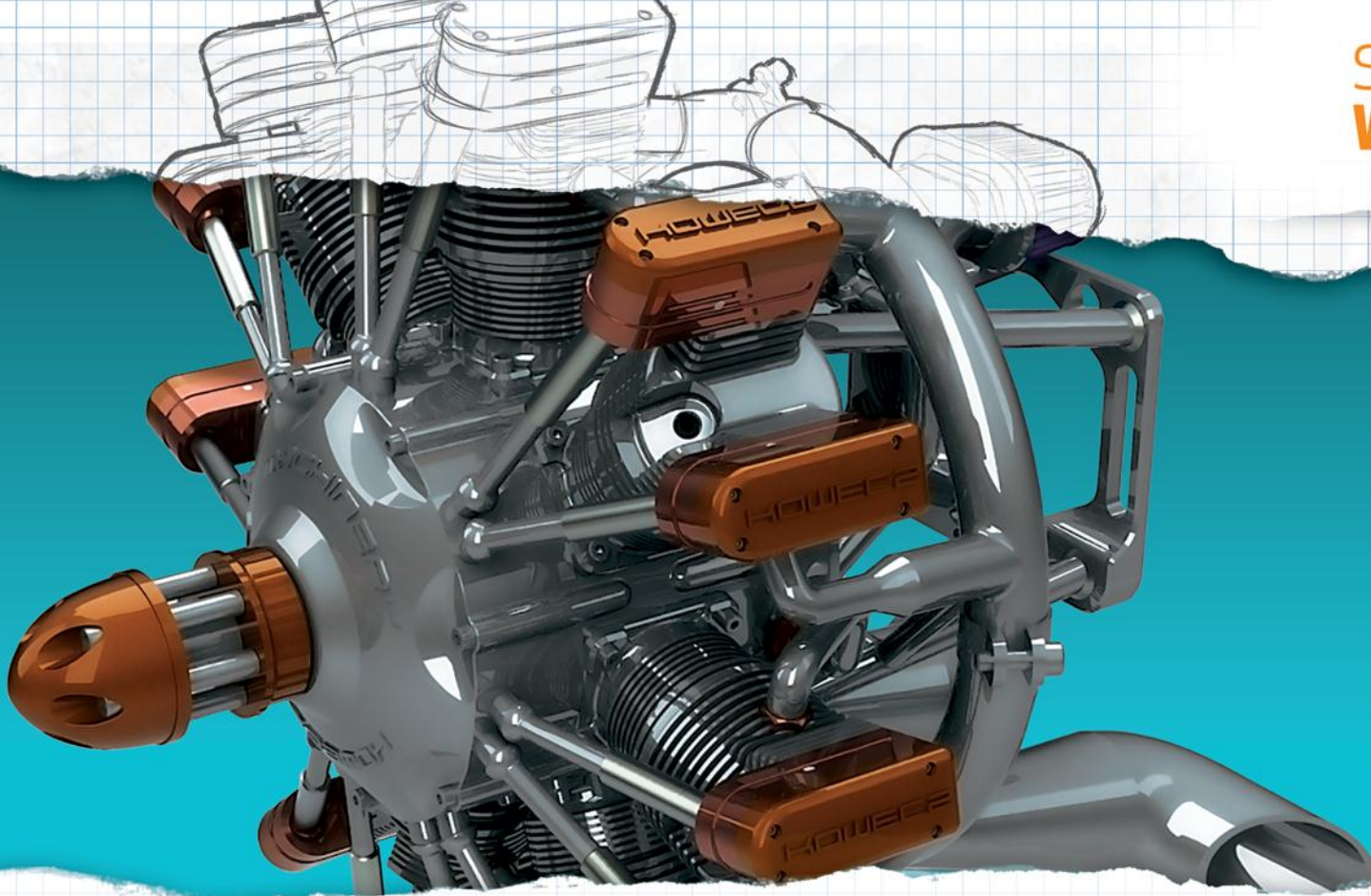


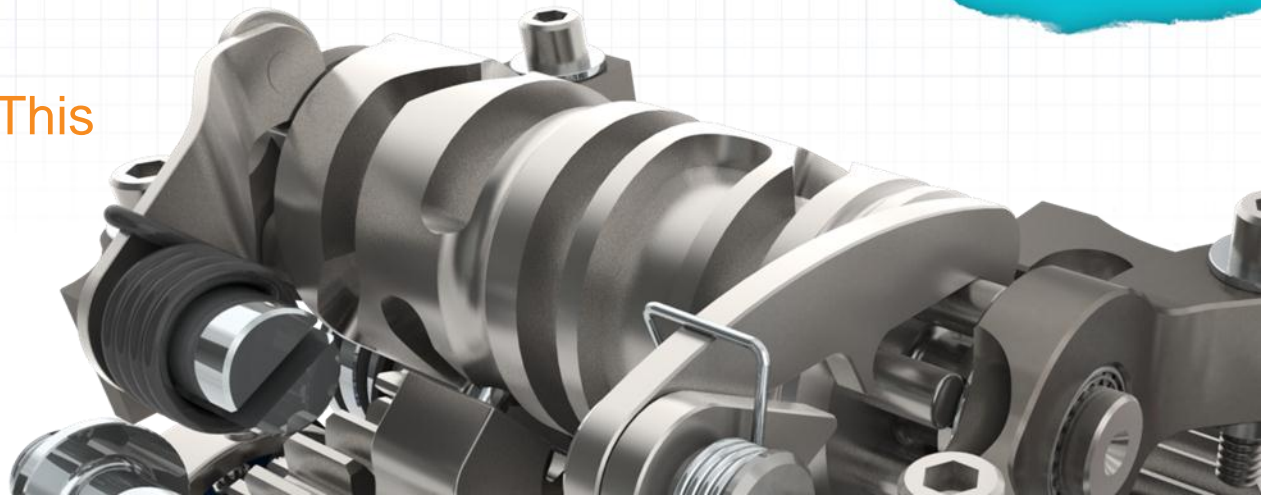
SOLIDWORKS
WORLD 2011



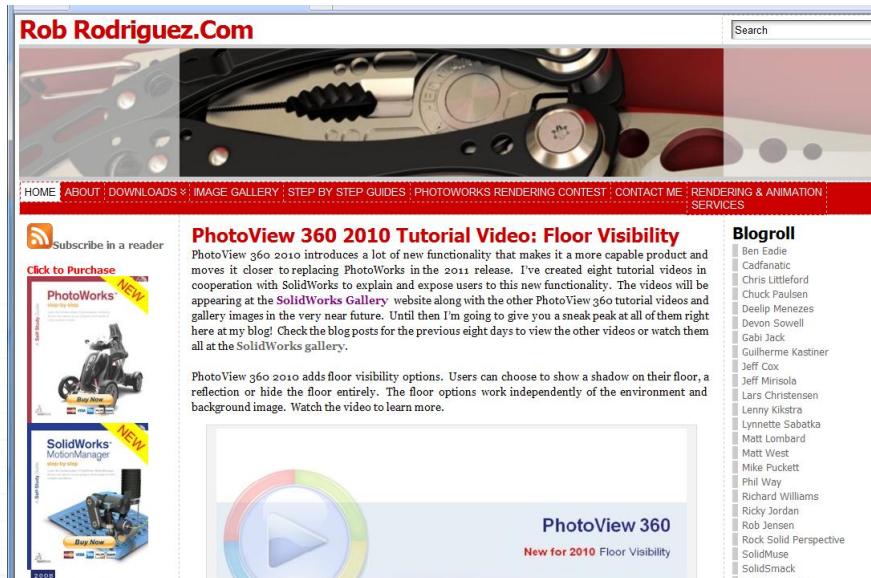
PhotoView 360 2011: This Changes Everything

Rob Rodriguez CSWP
Axis CAD Solutions LLC.

www.axiscadsolutions.com



- Rob Rodriguez CSWP
- Founder: Northern Vermont SolidWorks User Group (NVTSWUG)
- www.robdriguez.com
- Owner: Axis CAD Solutions LLC.



Rob Rodriguez.Com

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PhotoView 360 2010 Tutorial Video: Floor Visibility

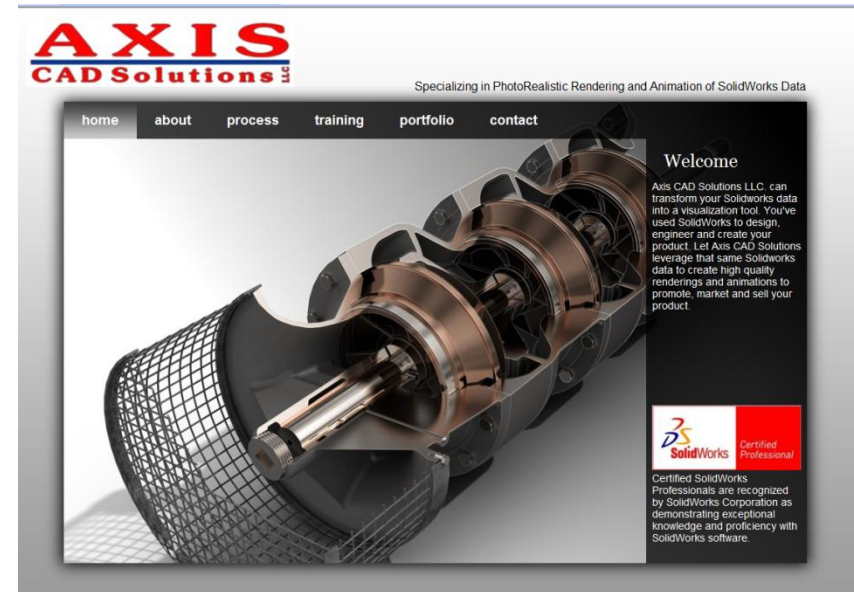
PhotoView 360 2010 introduces a lot of new functionality that makes it a more capable product and moves it closer to replacing PhotoWorks in the 2011 release. I've created eight tutorial videos in cooperation with SolidWorks to explain and expose users to this new functionality. The videos will be appearing at the [SolidWorks Gallery](#) website along with the other PhotoView 360 tutorial videos and gallery images in the very near future. Until then I'm going to give you a sneak peak at all of them right here at my blog! Check the blog posts for the previous eight days to view the other videos or watch them all at the SolidWorks gallery.

PhotoView 360 2010 adds floor visibility options. Users can choose to show a shadow on their floor, a reflection or hide the floor entirely. The floor options work independently of the environment and background image. Watch the video to learn more.

PhotoView 360
New for 2010 Floor Visibility

Blogroll

- Ben Eadie
- Cadfanatic
- Chris Littleford
- Chuck Paulsen
- DeeLip Menezes
- Devon Sowell
- Gabi Jack
- Guilherme Kastner
- Jeff Cox
- Jeff Mirisola
- Lars Christensen
- Lenny Kikstra
- Lynnette Sabatka
- Matt Lornibard
- Matt West
- Mike Puckett
- Phil Way
- Richard Williams
- Ricky Jordan
- Rob Jensen
- Rock Solid Perspective
- SolidMuse
- SolidSmack



AXIS
CAD Solutions LLC

Specializing in PhotoRealistic Rendering and Animation of SolidWorks Data

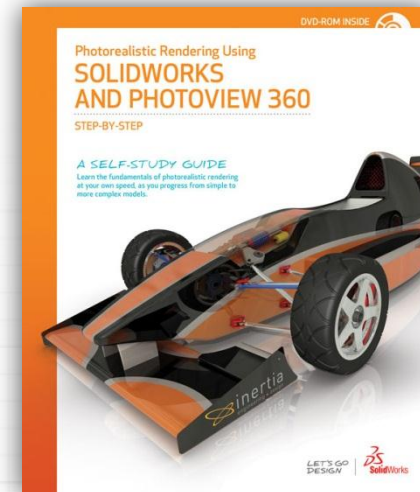
home about process training portfolio contact

Welcome

Axis CAD Solutions LLC can transform your Solidworks data into a visualization tool. You've used SolidWorks to design, engineer and create your product. Let Axis CAD Solutions leverage that same Solidworks data to create high quality renderings and animations to promote, market and sell your product.

3D SolidWorks Certified Professional

Certified SolidWorks Professionals are recognized by SolidWorks Corporation as demonstrating exceptional knowledge and proficiency with SolidWorks software.



Photorealistic Rendering Using
SOLIDWORKS AND PHOTOVIEW 360

STEP-BY-STEP

A SELF-STUDY GUIDE

Learn the fundamentals of photorealistic rendering at your own speed, as you progress from simple to more complex results.

sinertia

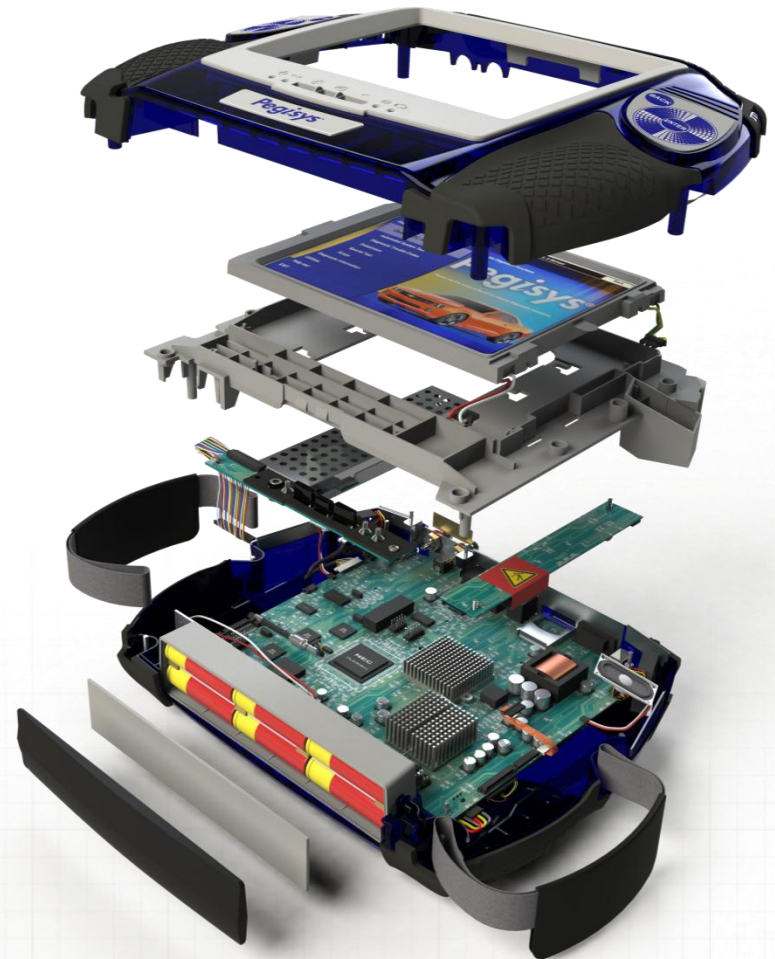
LET'S GO DESIGN | **3D SolidWorks**

**Coming Soon
New Book**

. PhotoWorks / PhotoView 360 Stand Alone Retirement

. PhotoView 360 2011

- User Interface and Workflow
 - SolidWorks vs PhotoView 360 Features
 - Preview Options
 - Full SolidWorks Integration
- Appearances and Decals
 - Now part of SolidWorks Standard Package
- Scenes & Lighting
- Cameras
- Model Updates
- Options
- Animation



SolidWorks 2010 Rendering Solutions

- PhotoWorks: Integrated Inside of SolidWorks
- PhotoView 360: Stand Alone Application

SolidWorks 2011 Rendering Solutions

- ~~PhotoWorks: Integrated Inside of SolidWorks~~ **RETIRED**
- ~~PhotoView 360: Stand Alone Application~~ **RETIRED**
- PhotoView 360: Integrated Inside of SolidWorks



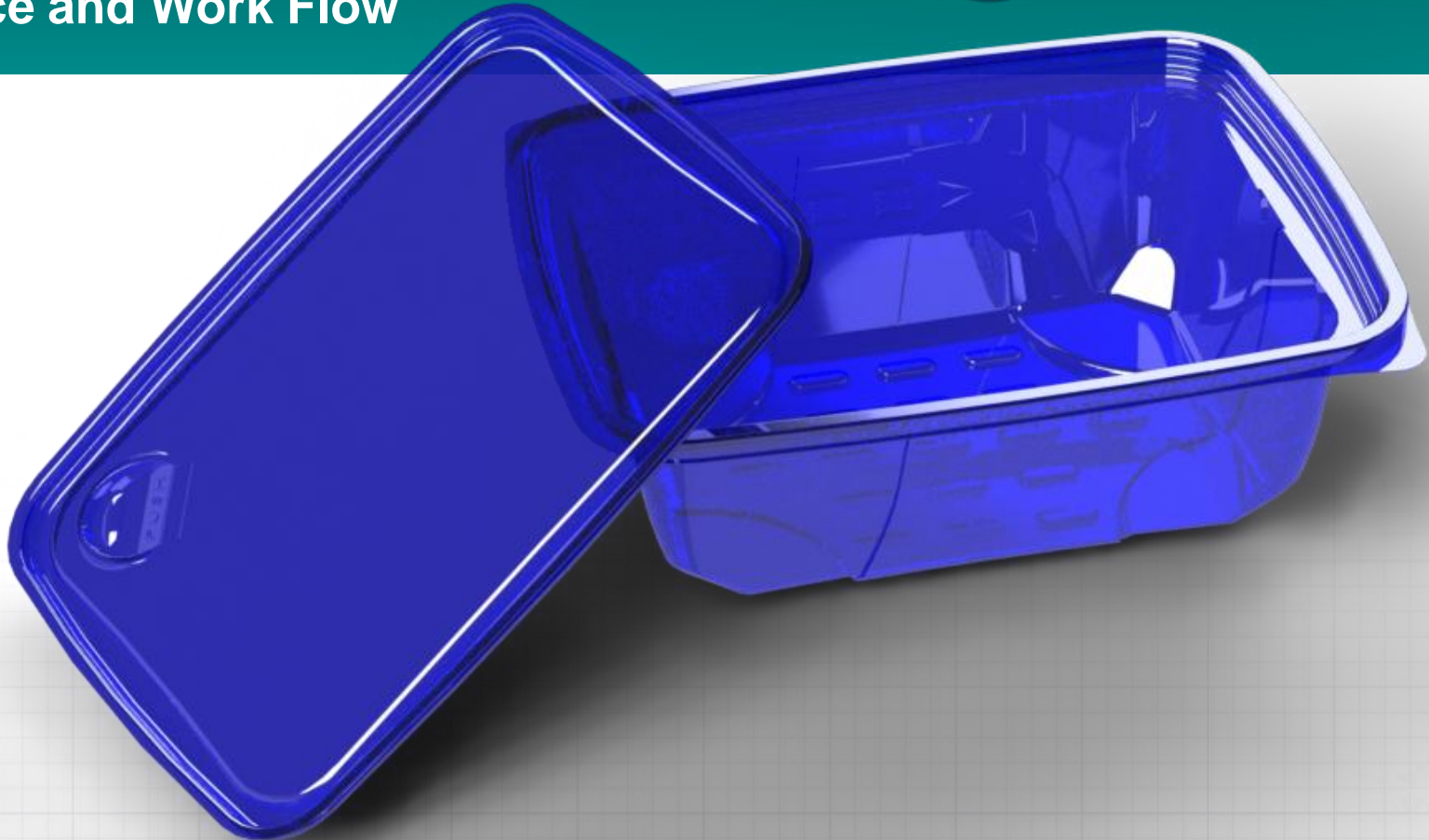
All video links in this presentation are the property of DS SolidWorks

PhotoView 360 2011

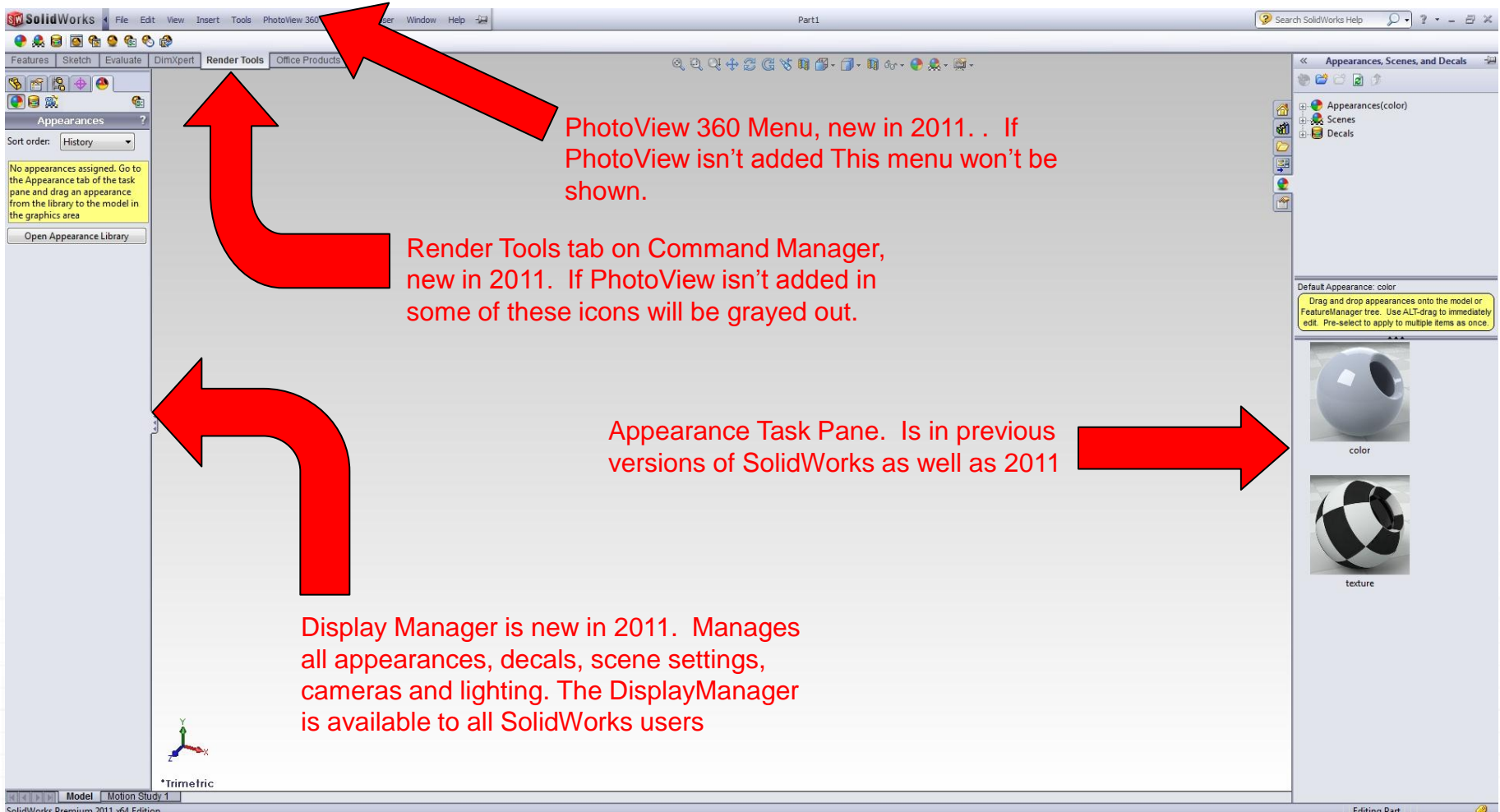
User Interface and Work Flow



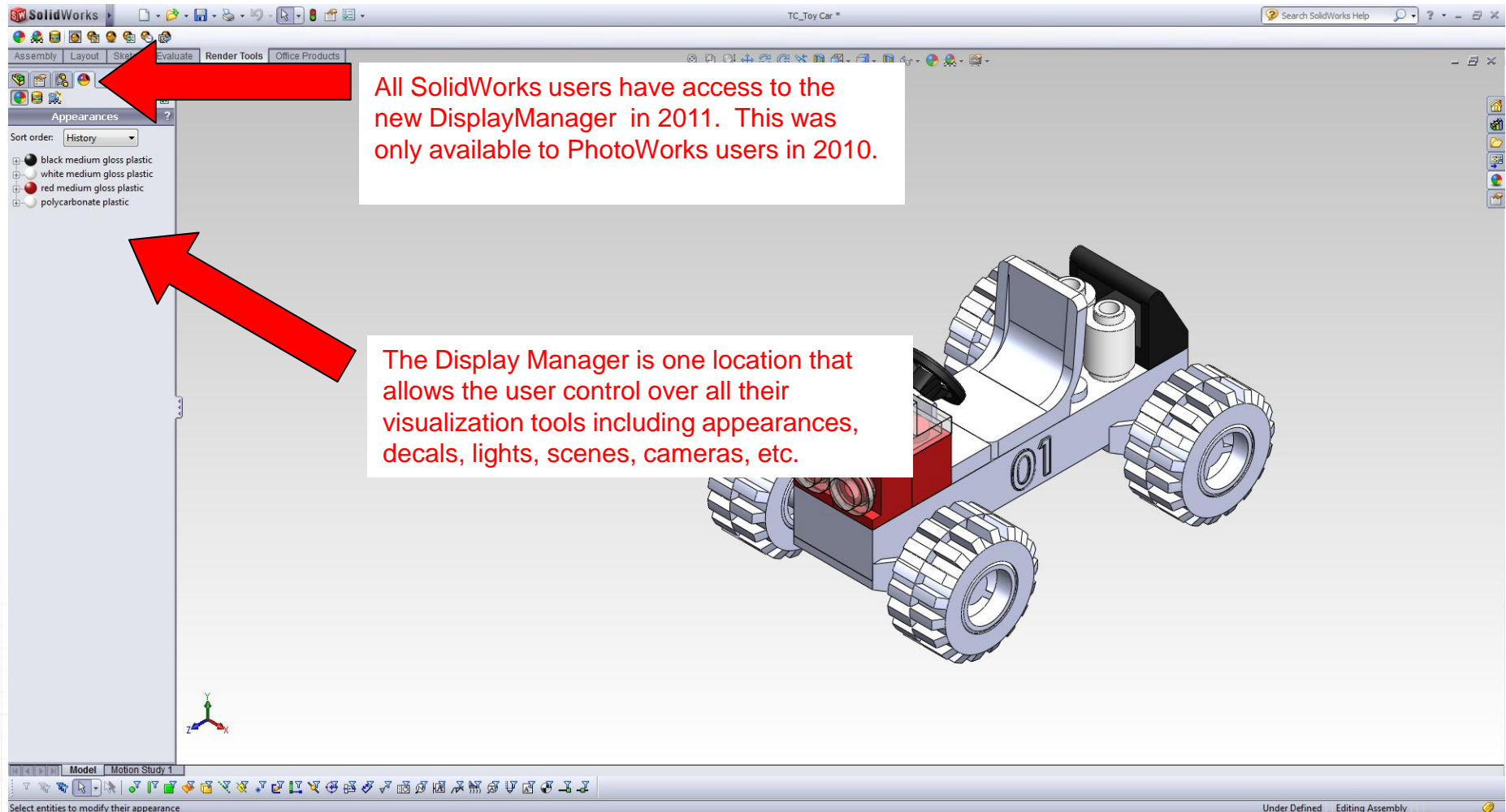
Watch the Video



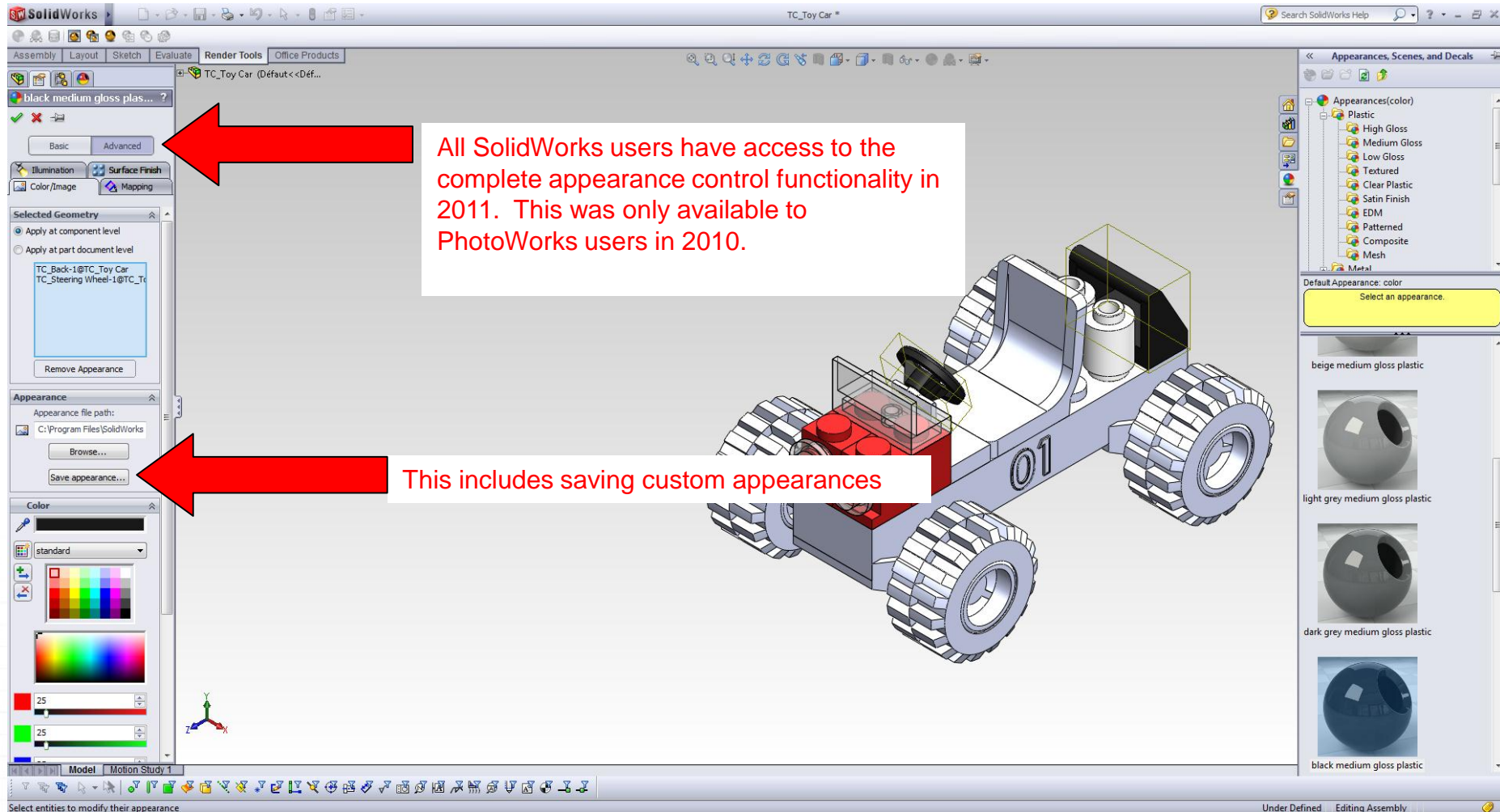
If you don't have the PhotoView 360 menu or some of the Render Tools icons are grayed out go to Tools menu, Add-Ins and check the PhotoView 360 box.



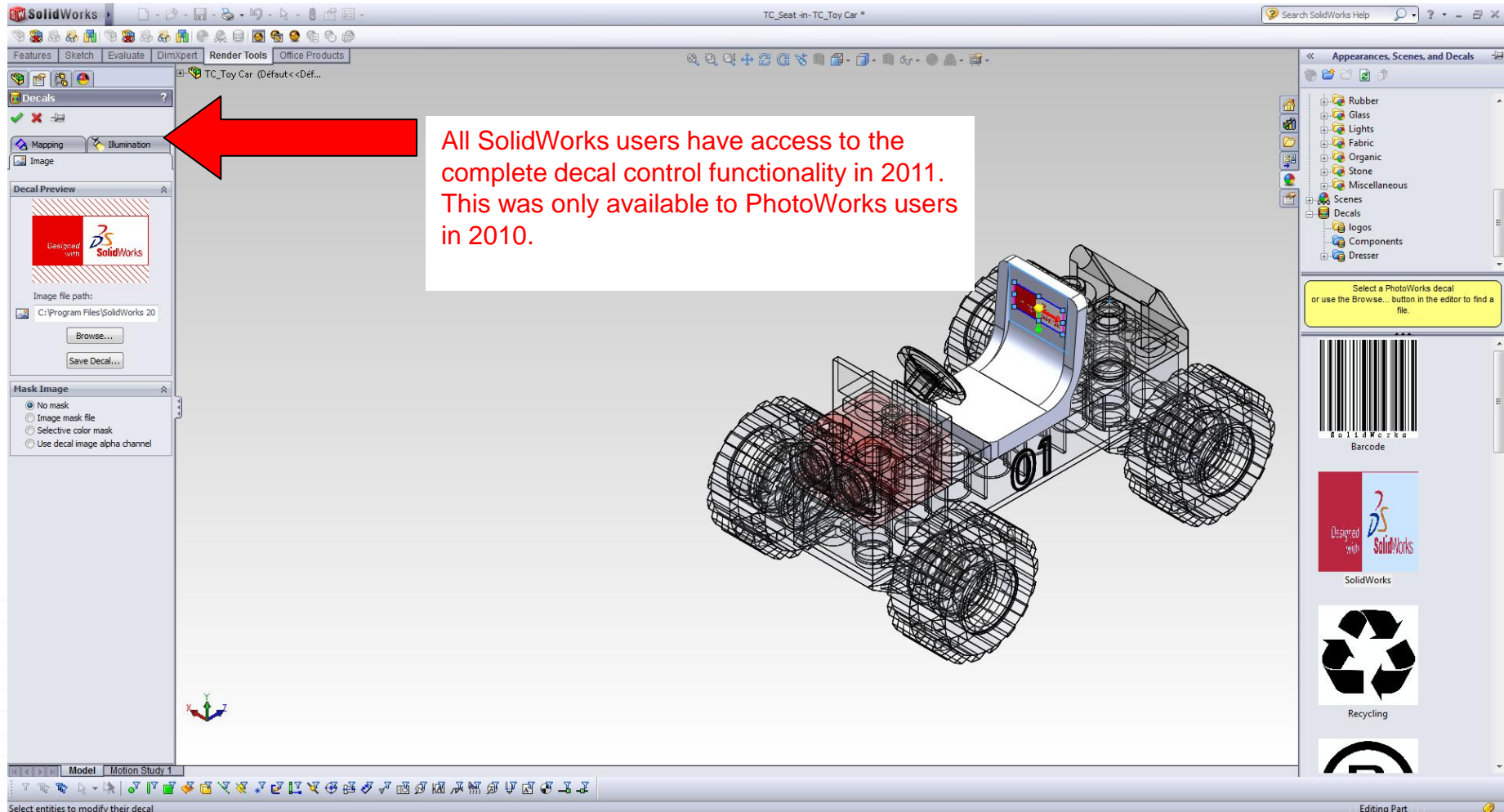
The DisplayManager replaces the PhotoWorks Render Manager and adds more functionality. It's available to all SolidWorks users



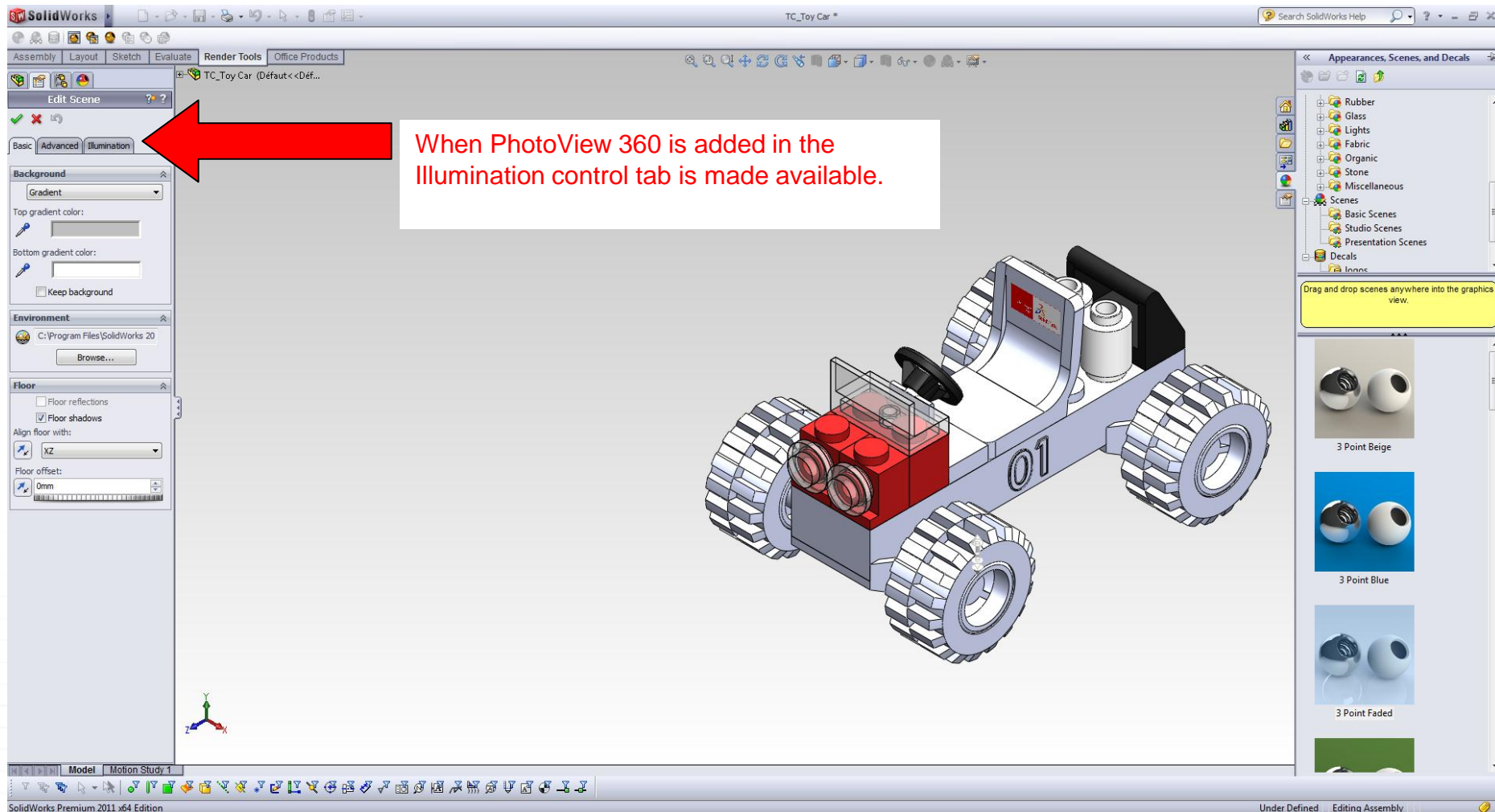
All SolidWorks users have complete control over appearances, you don't need PhotoView 360 added in.



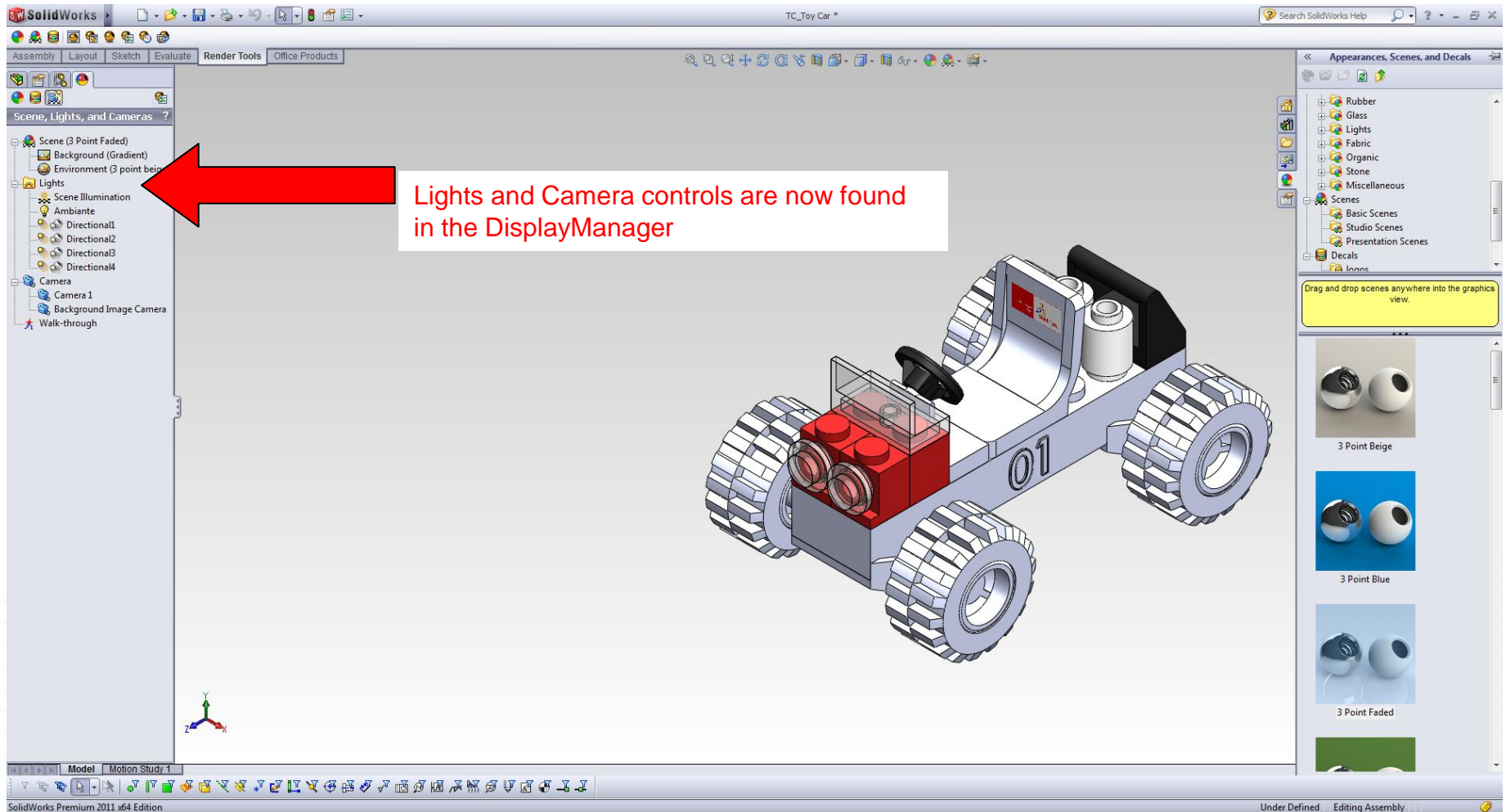
All SolidWorks users have complete control over decals, you don't need PhotoView 360 added in.



All SolidWorks users have 80% control over Scene settings, you don't need PhotoView 360 added in.



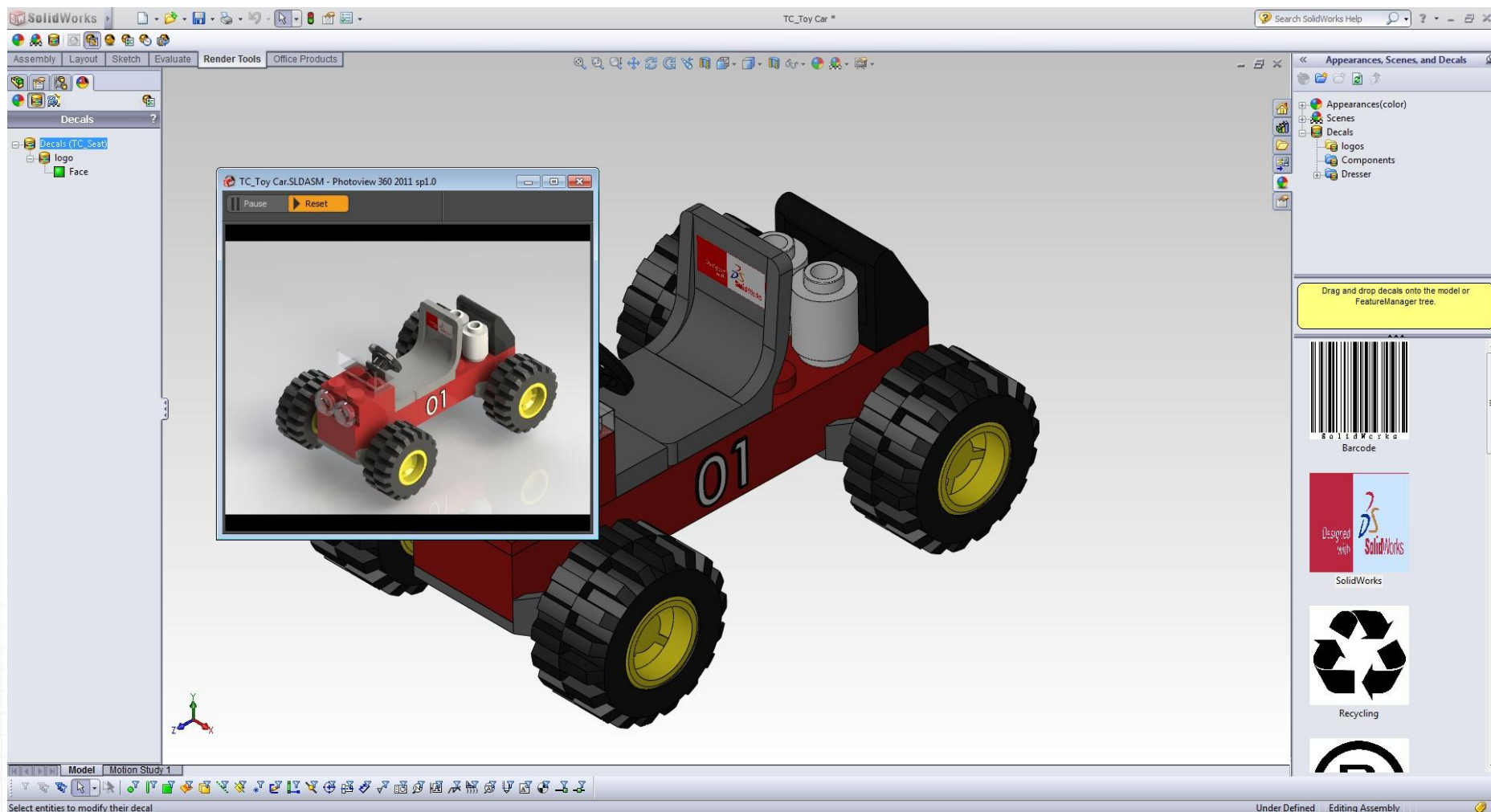
The Lights & Camera folder has been moved from the Feature tree to the DisplayManager in 2011.



Work Flow Options (Render Preview)

SOLIDWORKS
WORLD 2011

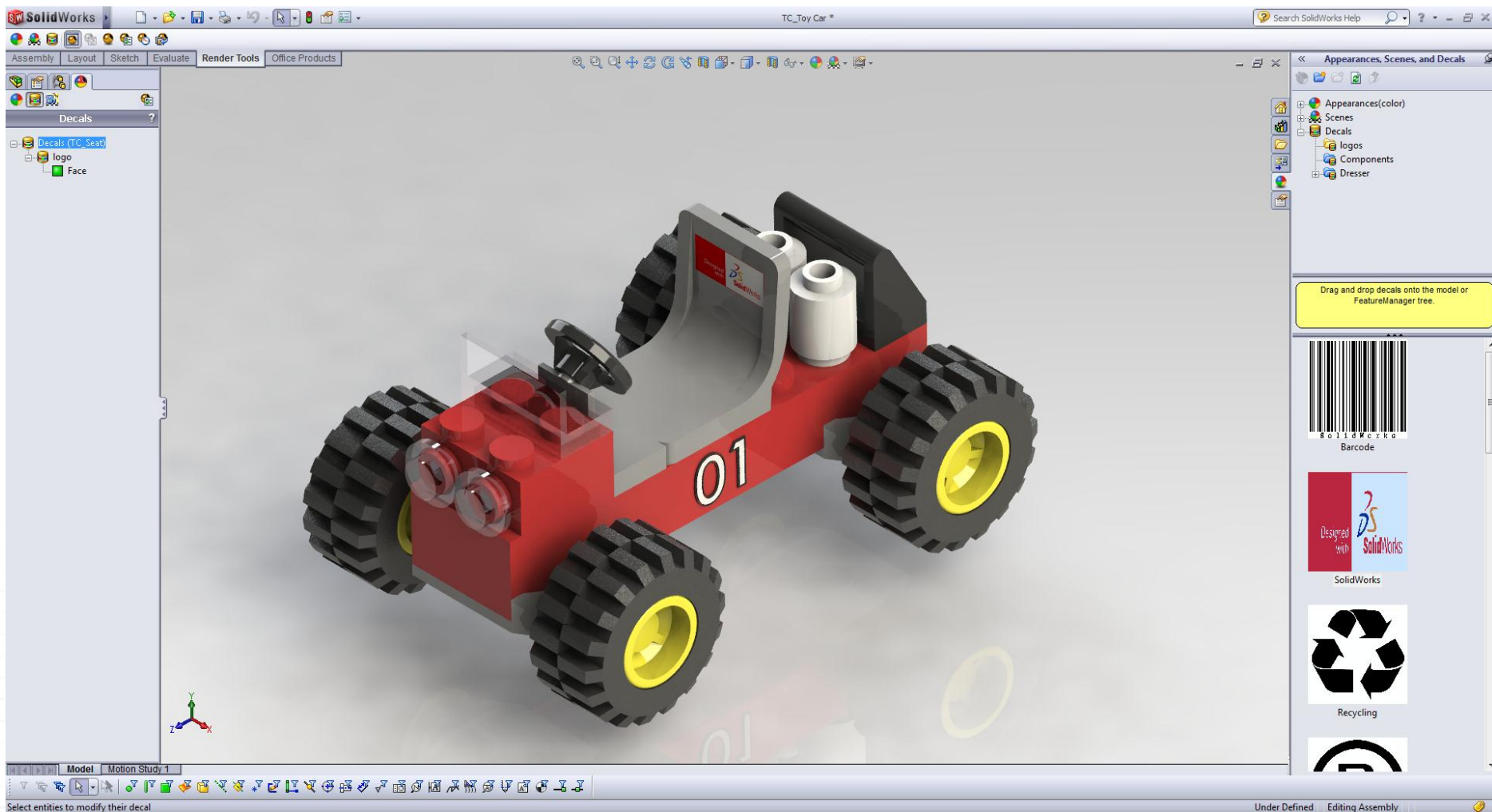
Render Preview Window, works nice with dual monitors. Most like PhotoWorks 2010 work flow



Work Flow Options (Render Preview)

SOLIDWORKS
WORLD 2011

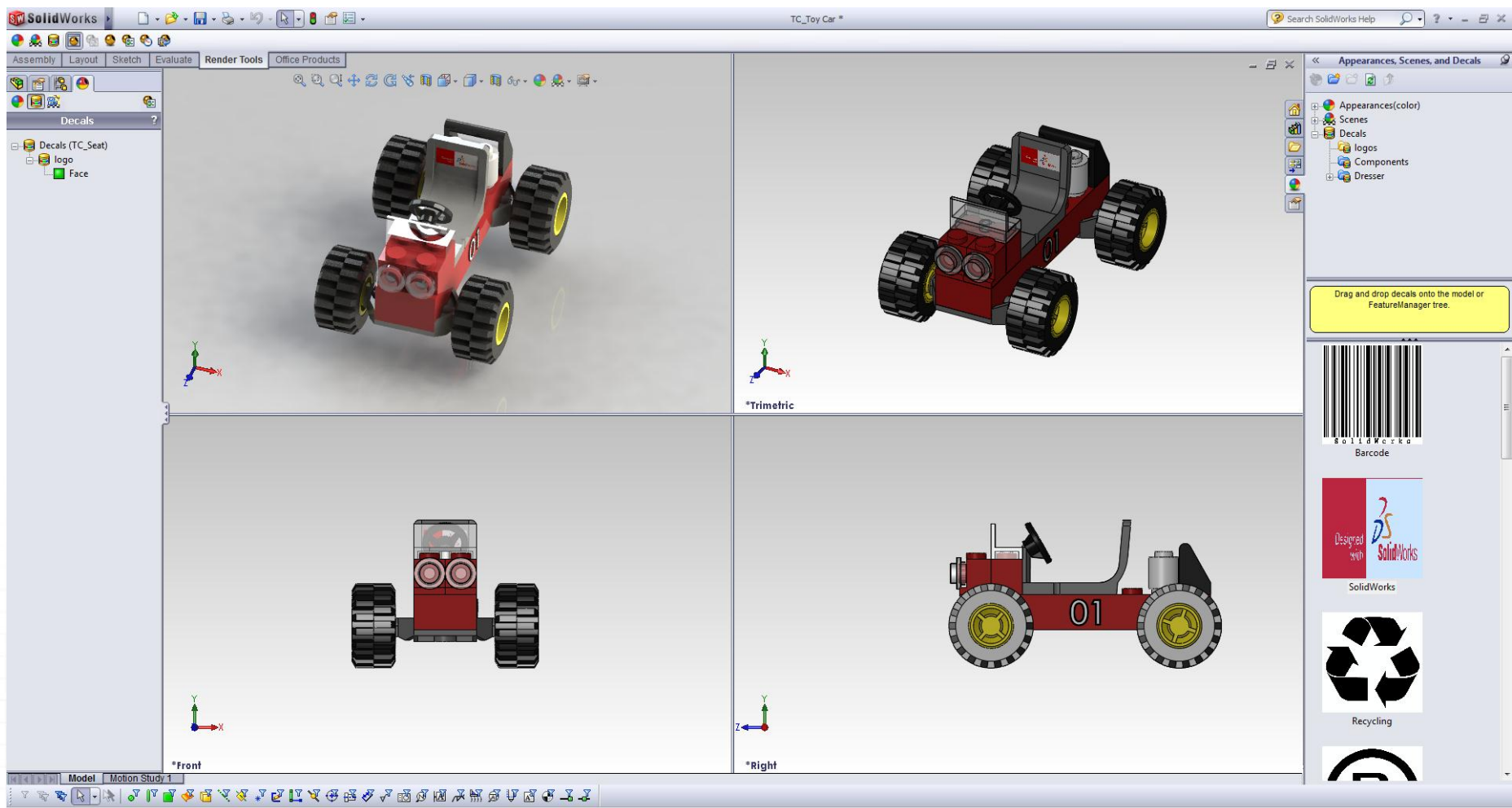
Integrated Preview, works nice with single monitors. Most like PhotoView 360 2010 work flow



Work Flow Options (Render Preview)

SOLIDWORKS
WORLD 2011

Multi viewport allows one viewport to have integrated preview. Works well with single monitors, provides faster workflow, new workflow for PhotoView 360 2011



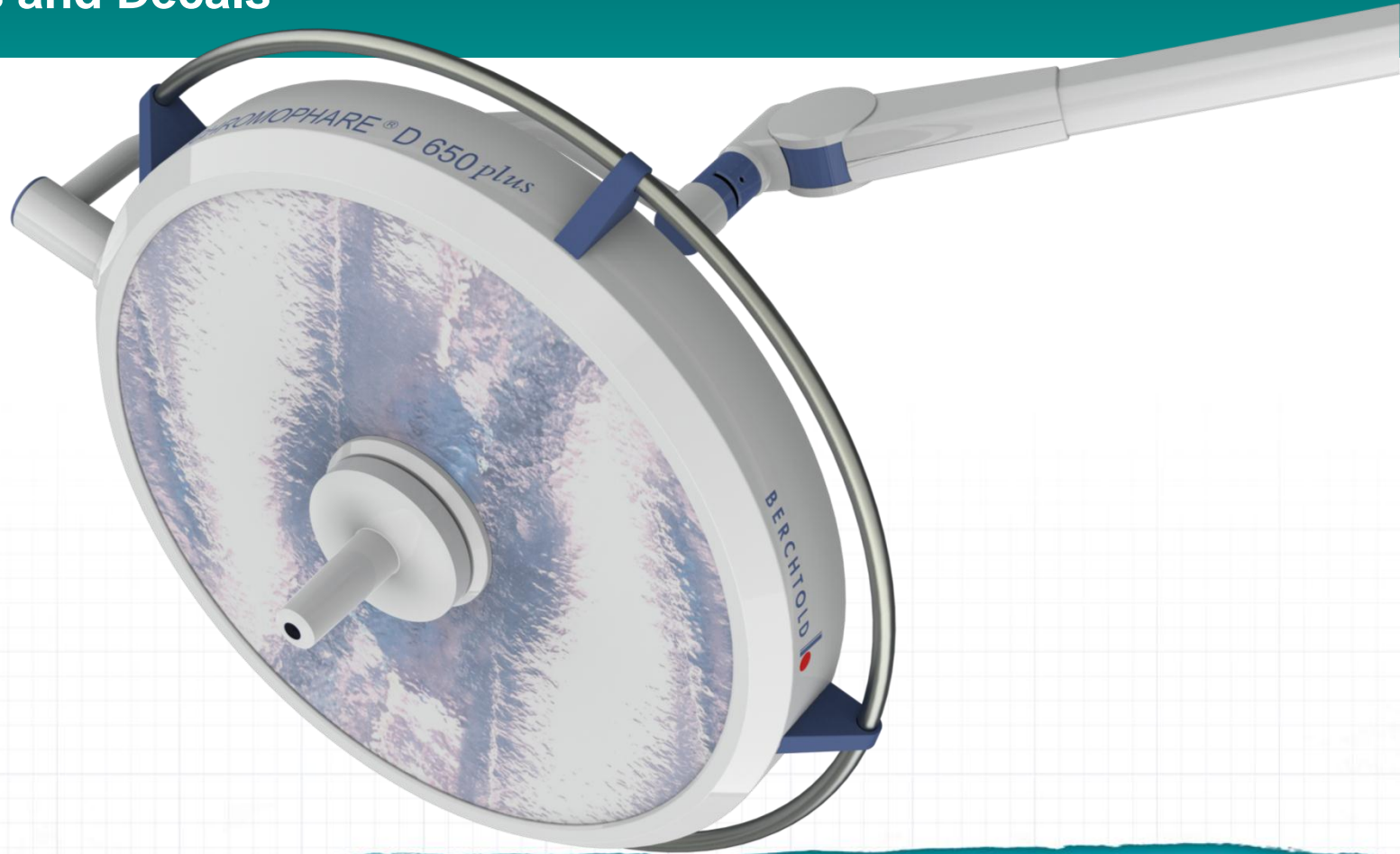
All video links in this presentation are the property of DS SolidWorks

PhotoView 360 2011

Appearances and Decals



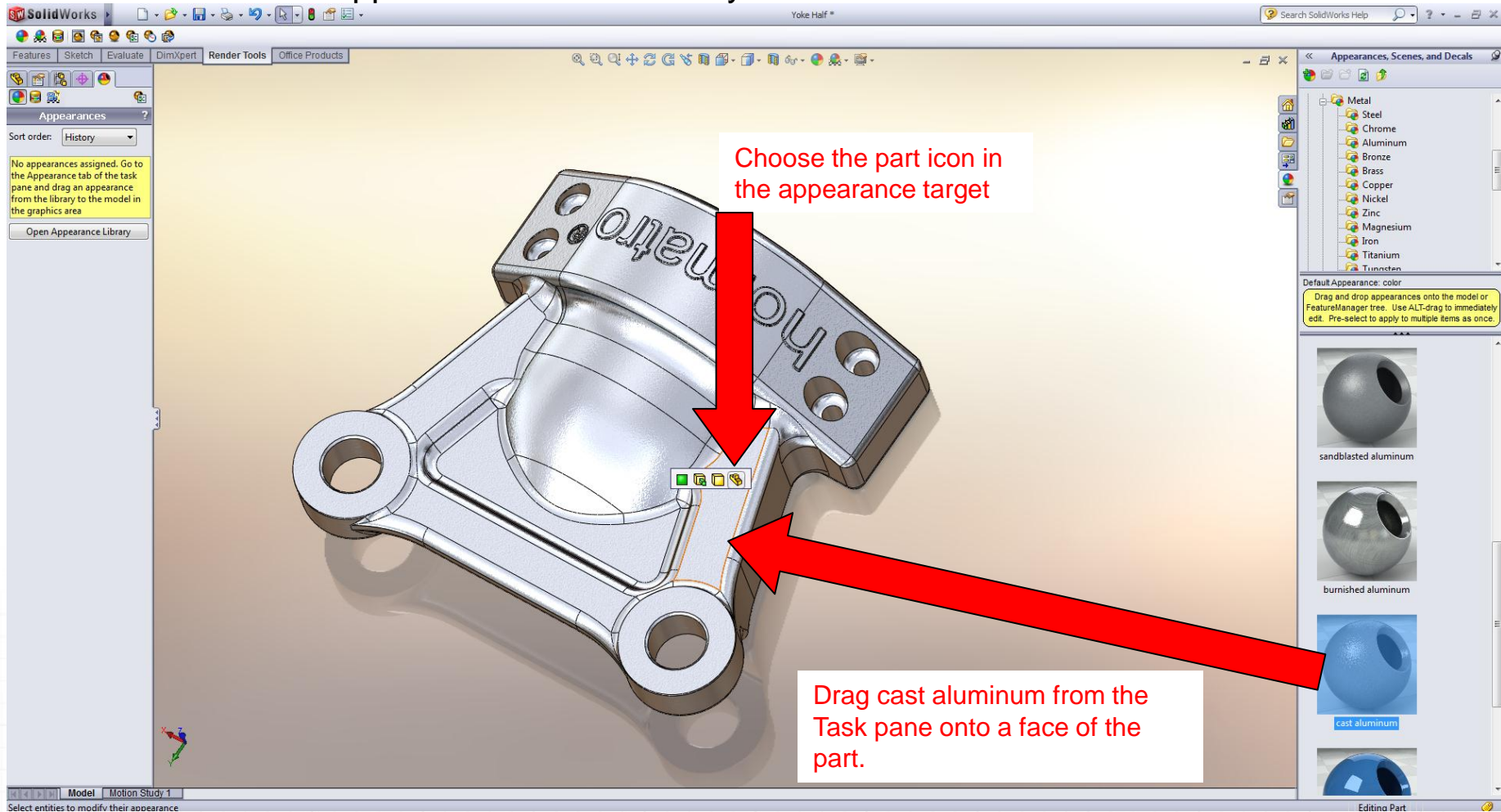
Watch the Video



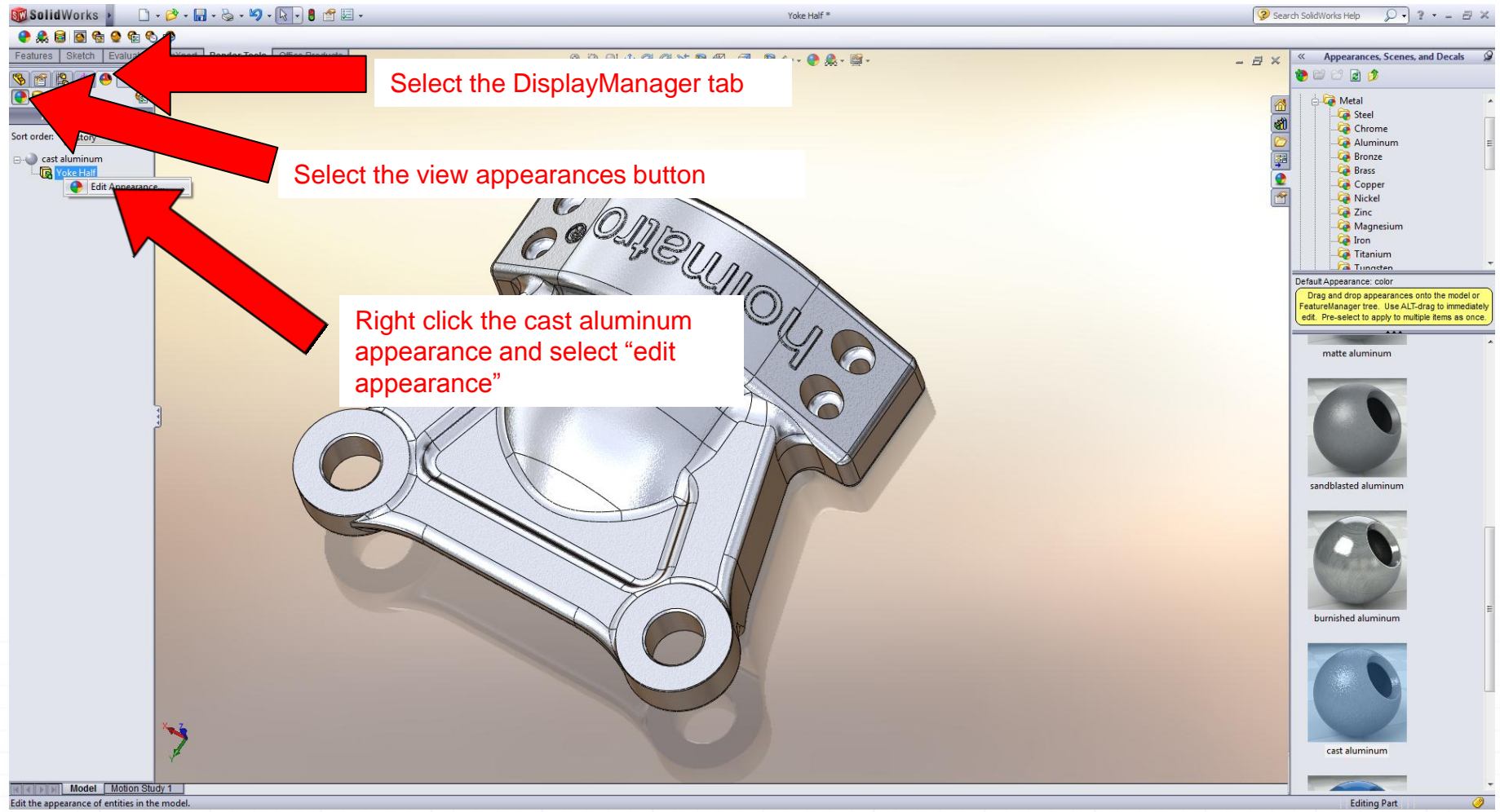
Appearances

SOLIDWORKS
WORLD 2011

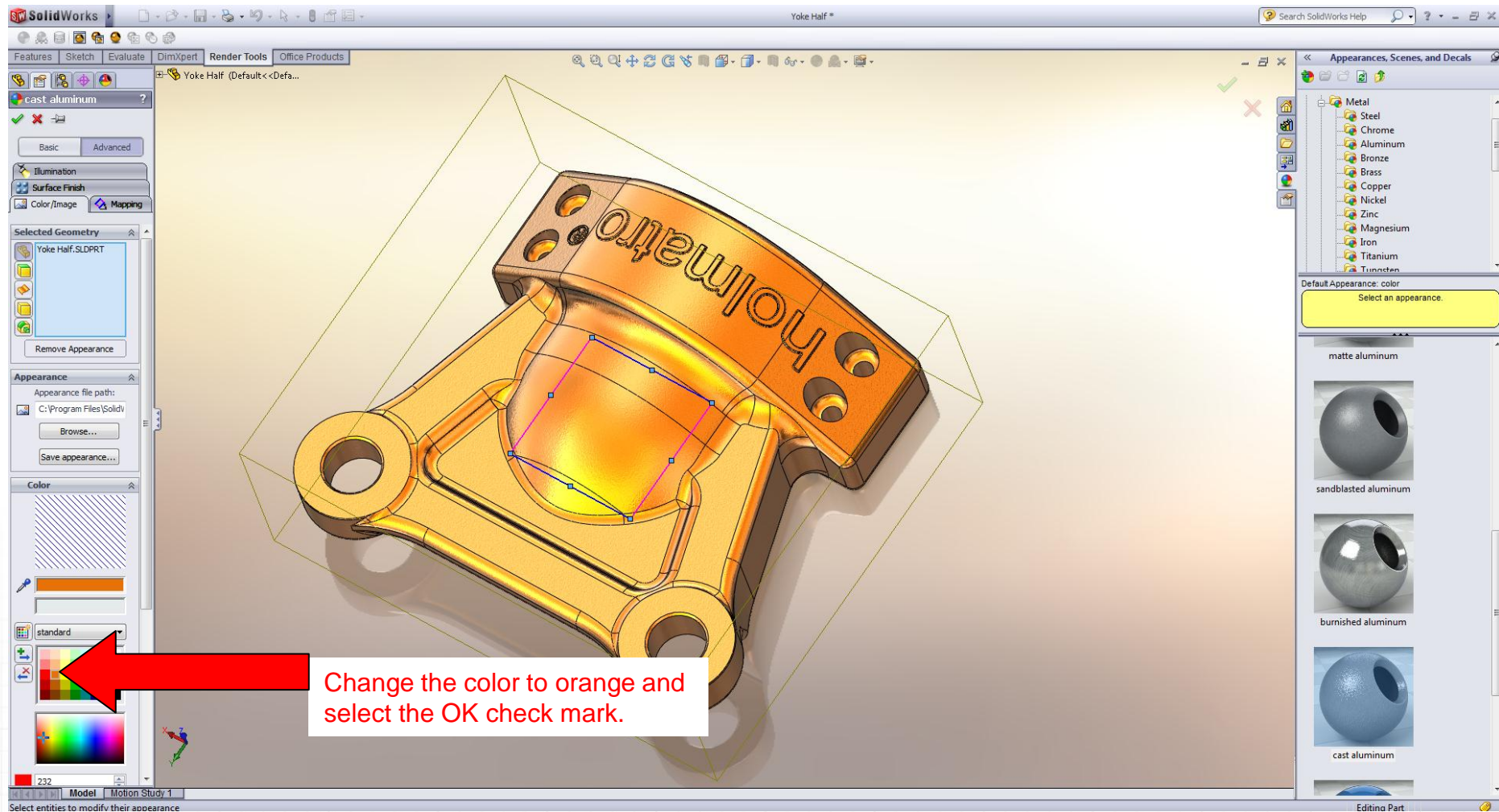
Apply an appearance to the part. In 2011 all SolidWorks users have full control over appearances. In 2010 only PhotoWorks users did.



Edit an appearance



Edit an appearance



Apply appearance to features

Enable the render preview window to see the changes in real time.

Double click black medium gloss plastic in the Task Pane

Preselect the features from the Feature tree.

Yoke Half.SLDPRT - Photoview 360 2011 sp1.0

Appearances, Scenes, and Decals

- Appearances(color)
- Plastic
 - High Gloss
 - Medium Gloss
 - Low Gloss
 - Textured
 - Clear Plastic
 - Satin Finish
 - EDM
 - Patterned
 - Composite
 - Mesh
- Metal

Default Appearance: color

Drag and drop appearances onto the model or FeatureManager tree. Use ALT-drag to immediately edit. Pre-select to apply to multiple items as once.

light grey medium gloss plastic

dark grey medium gloss plastic

black medium gloss plastic

red medium gloss plastic

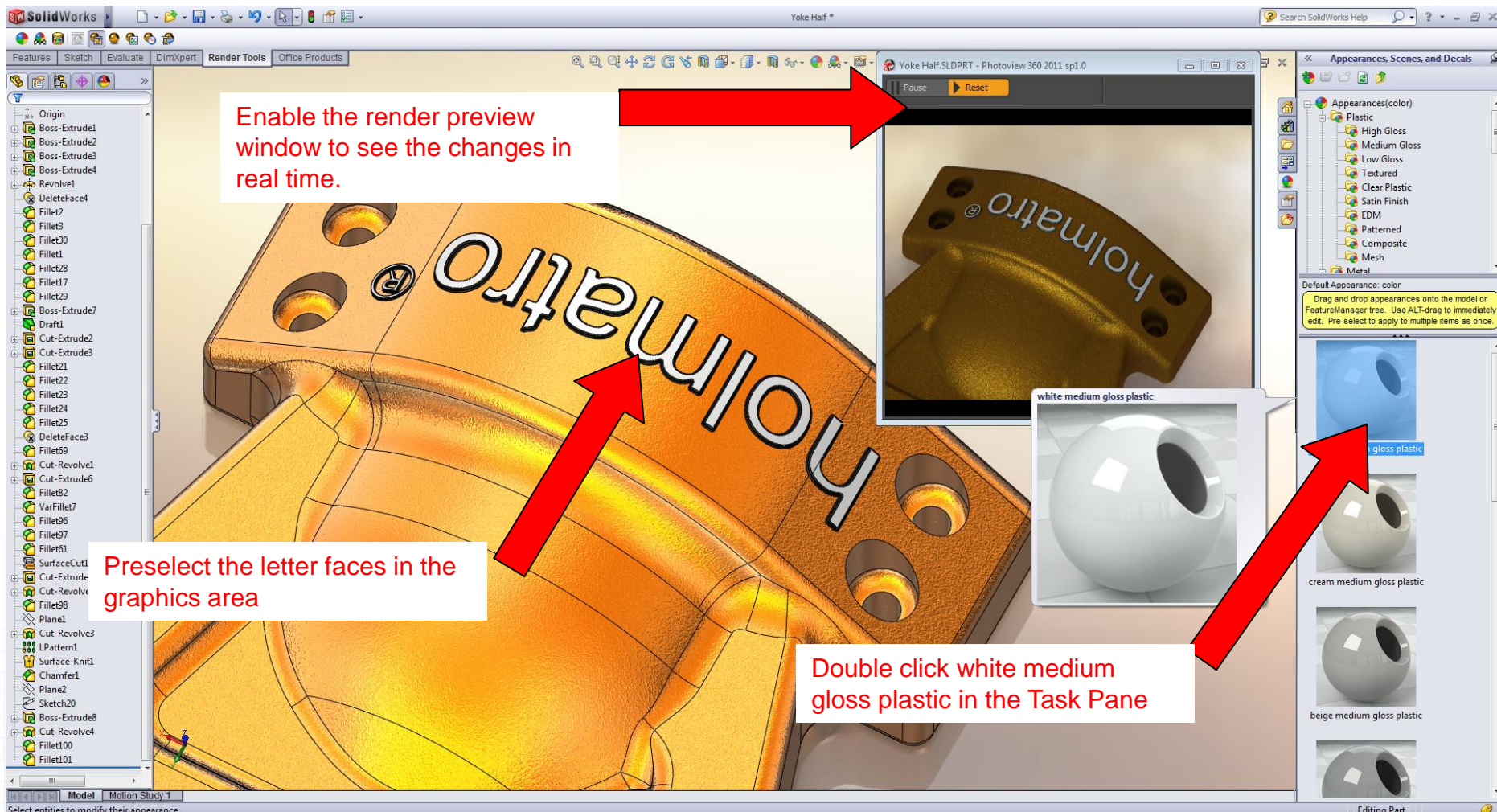
Editing Part

Apply appearance to faces

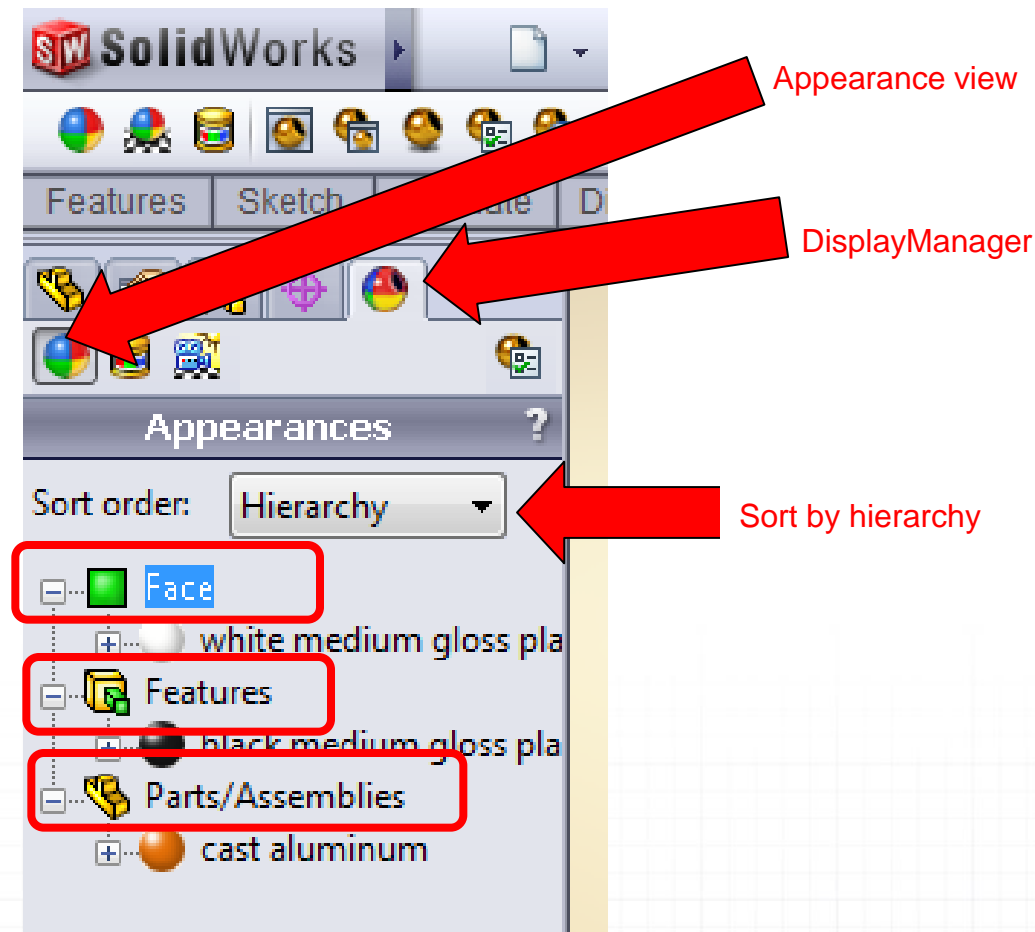
Enable the render preview window to see the changes in real time.

Preselect the letter faces in the graphics area

Double click white medium gloss plastic in the Task Pane



Explore the appearance hierarchy



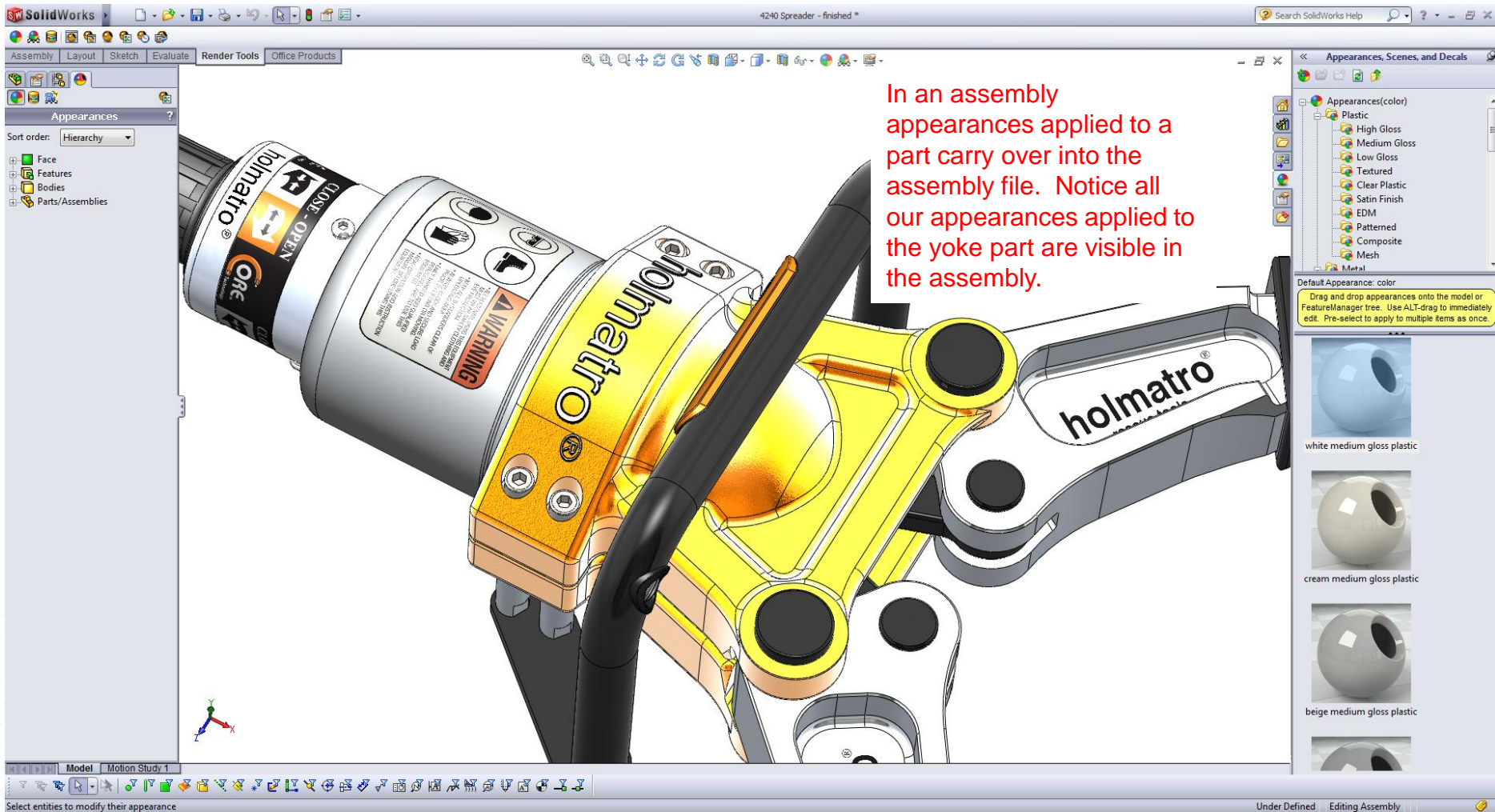
When applying appearances to the model you noticed appearances applied to faces and features overrode the appearance applied to the entire part. The appearance hierarchy sort order lists appearances by their level of importance. Appearances with a higher importance are listed near the top.

Faces being the most important level of appearance are shown at the top of the order and override all levels below them.

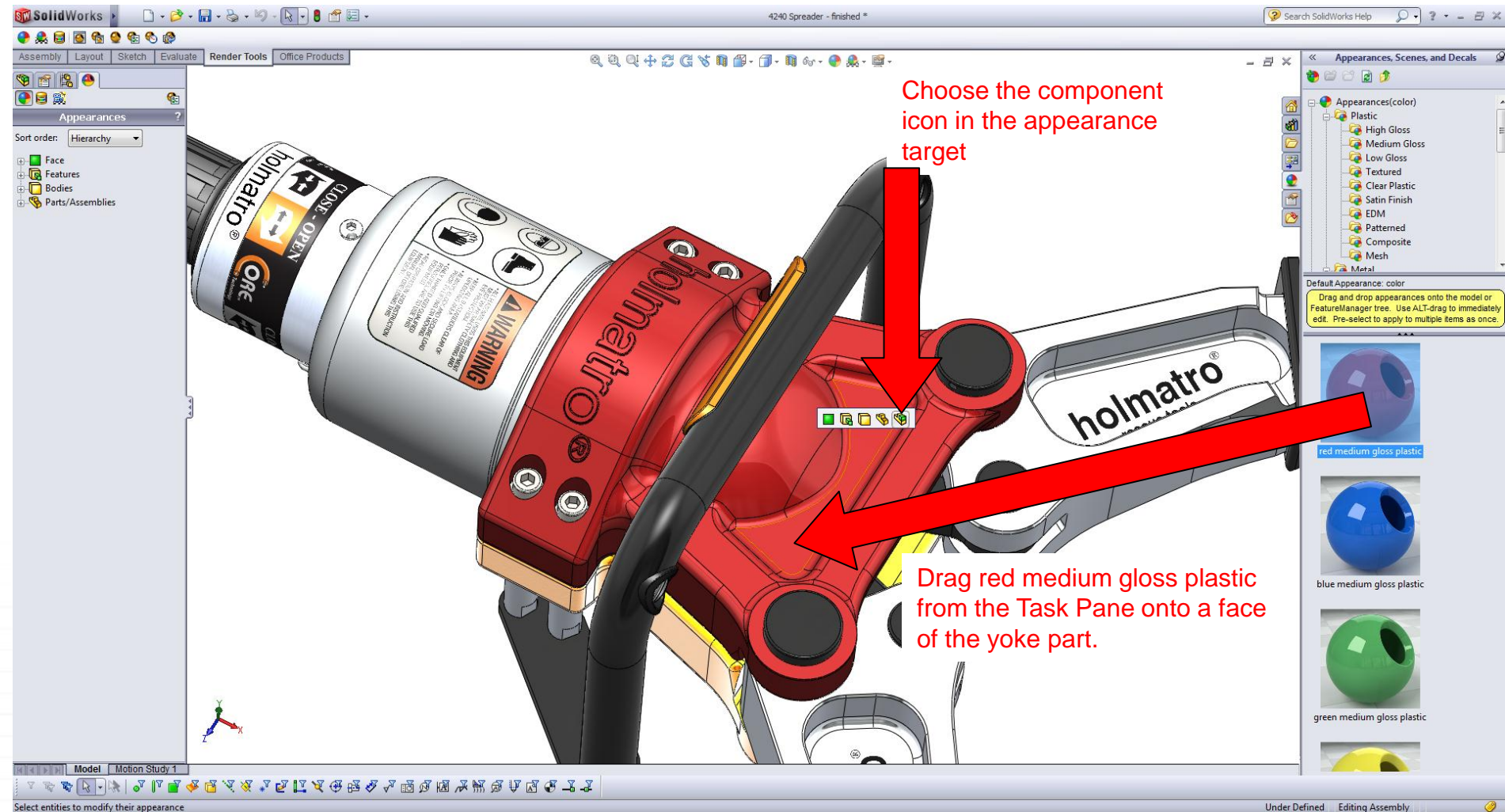
Appearances at the Feature level override the Parts/Assemblies level of appearances but not Face level appearances.

Parts/Assemblies level appearances being at the bottom of the list are overridden by both Feature and Face level appearances.

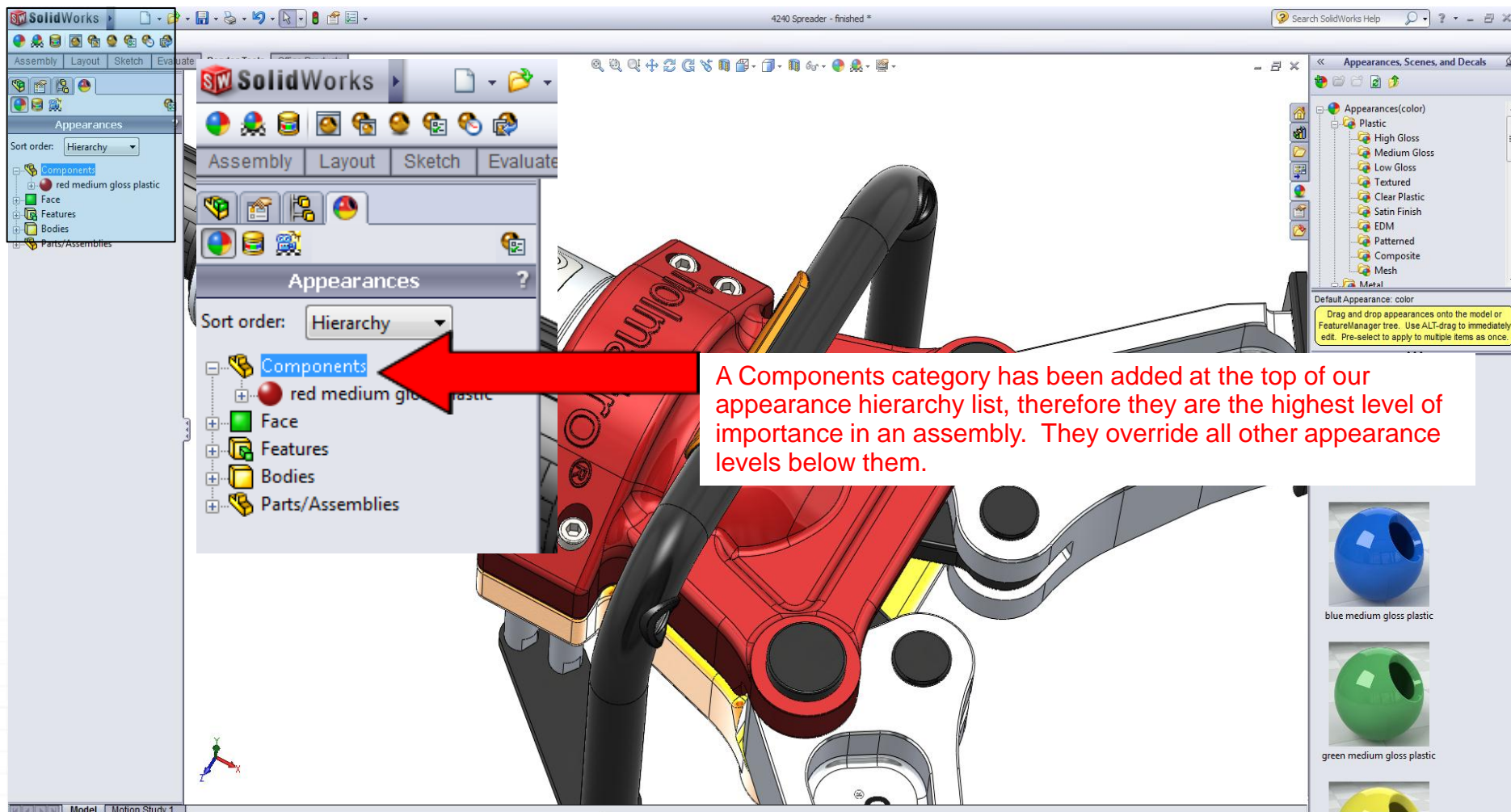
Part file appearances carry into an assembly file



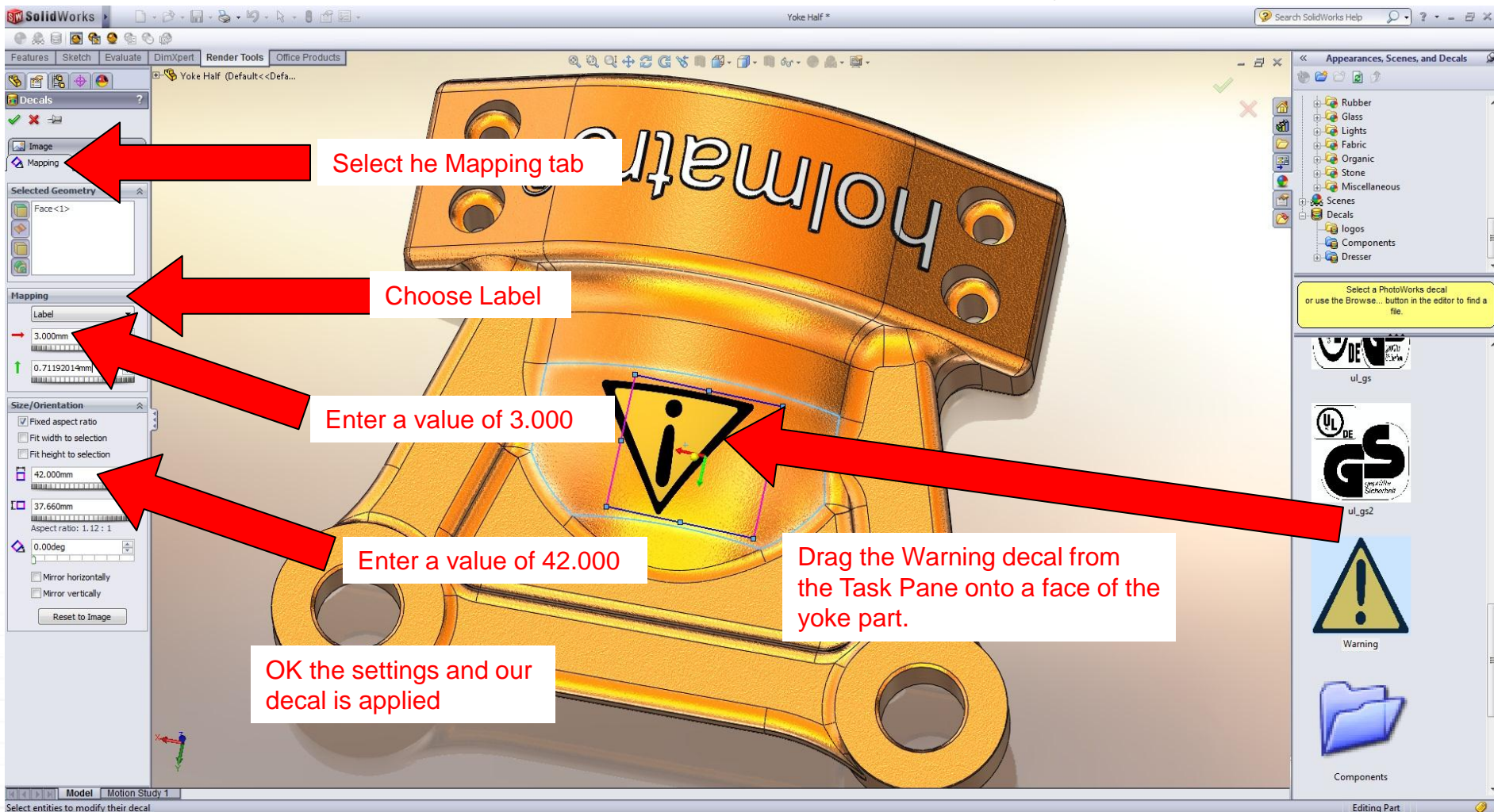
Apply appearance in the assembly to components



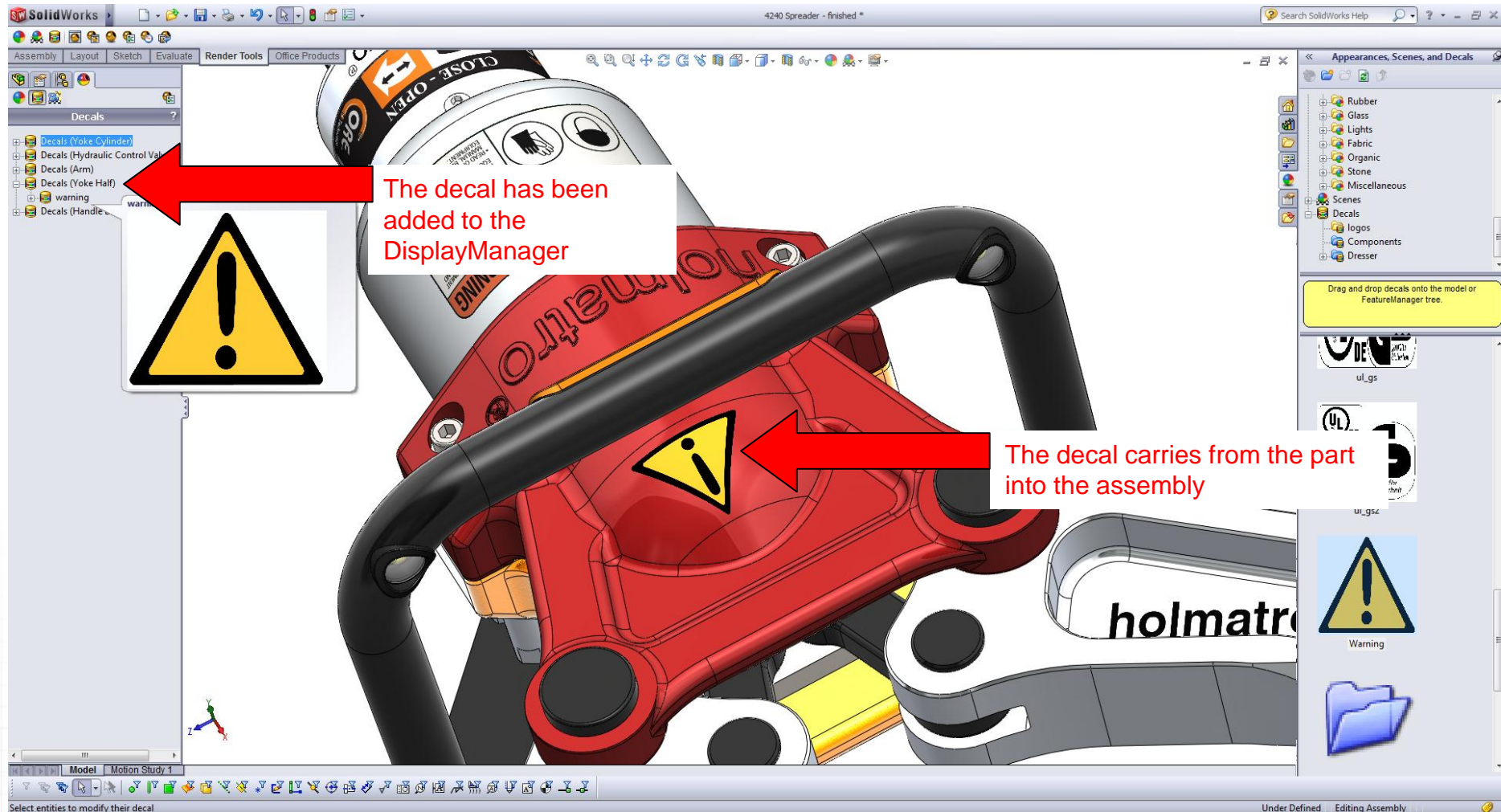
Explore the appearance hierarchy



Decals should be applied to parts in their own window not in the assembly. In 2011 all SolidWorks users have complete control over decals. In 2010 only PhotoWorks users did.



Decals carry into the assembly file





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PhotoView 360 2011

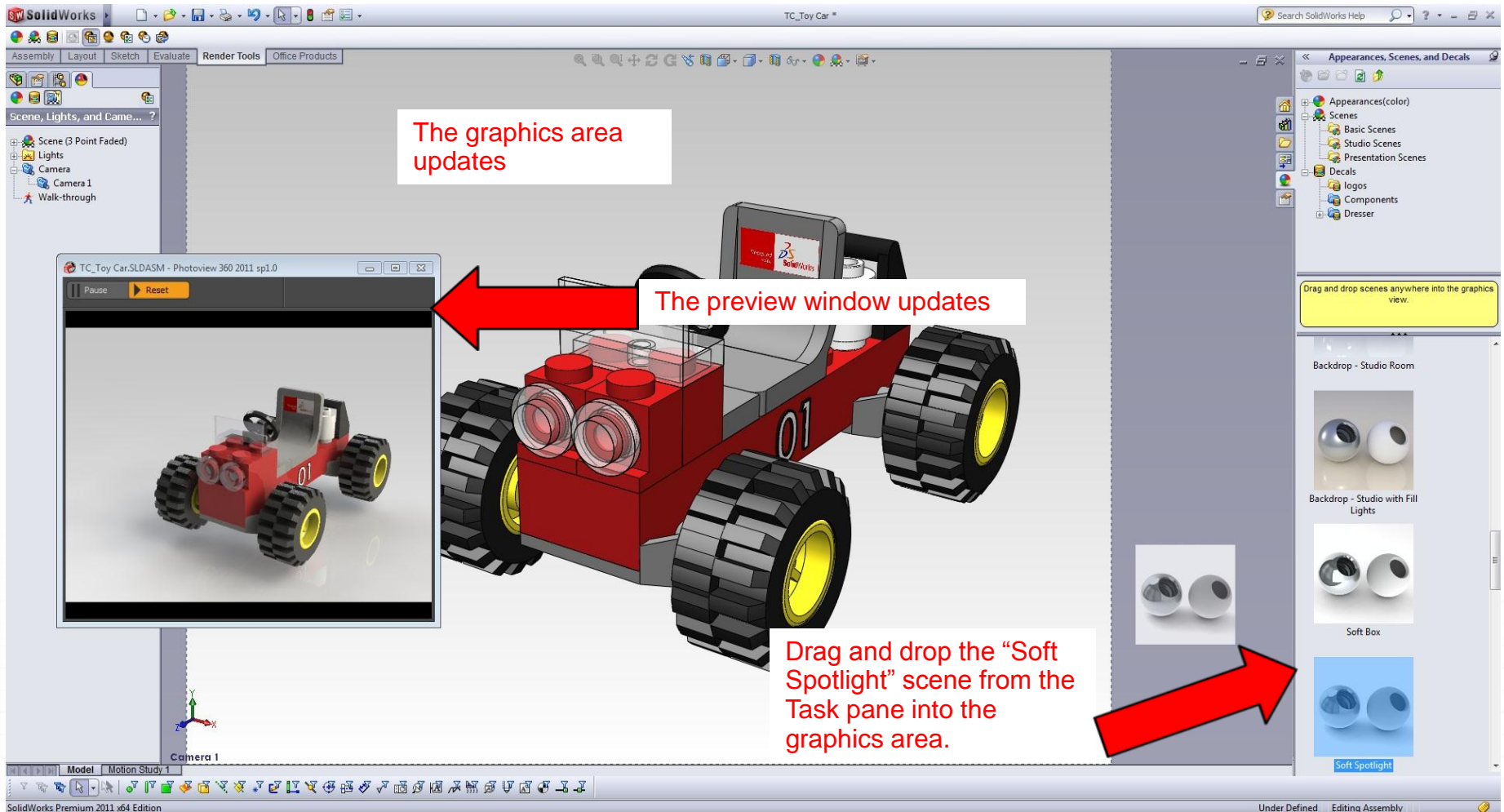
Scenes & Lighting



Apply a Scene

SOLIDWORKS
WORLD 2011

Scenes control, direct lighting, hdr lighting, floor settings, background settings, etc



Apply a Scene

SOLIDWORKS
WORLD 2011

Enable a camera

Activate the DisplayManager tab

Notice both the graphics area and the render preview update with the changes

Expand the camera icon

Right click Camera 1 and choose the Camera View option

TC_Toy Car

Scene, Lights, and Cameras

- Scene (Soft Spotlight)
- Lights
 - Scene Illumination
 - Ambiance
 - Directional1
 - Directional Render
 - Background Image Directional
 - Directional2
- Camera
 - Camera 1
 - Background
 - Walk-through

Appearances, Scenes, and Decals

- Appearances(color)
- Scenes
 - Basic Scenes
 - Studio Scenes
 - Presentation Scenes
- Decals

Drag and drop scenes anywhere into the graphics view.

TC_Toy Car.SLDASM - Photoview 360 2011 sp1.0

Pause Reset

Soft Box

Soft Spotlight

Soft Tent

Model Motion Study 1

Under Defined Editing Assembly

Apply a Scene

SOLIDWORKS
WORLD 2011

Adjust scene settings, click the Edit Scene icon on the Render Tools tab of the Command Manager

On the Basic tab select color in the Background drop down and choose the aqua color in the color picker box

Notice both the graphics area and the render preview update with the changes

In the Floor area set the Floor offset to 4mm and push the Reverse Offset box

TC_Toy Car (Default<name>)

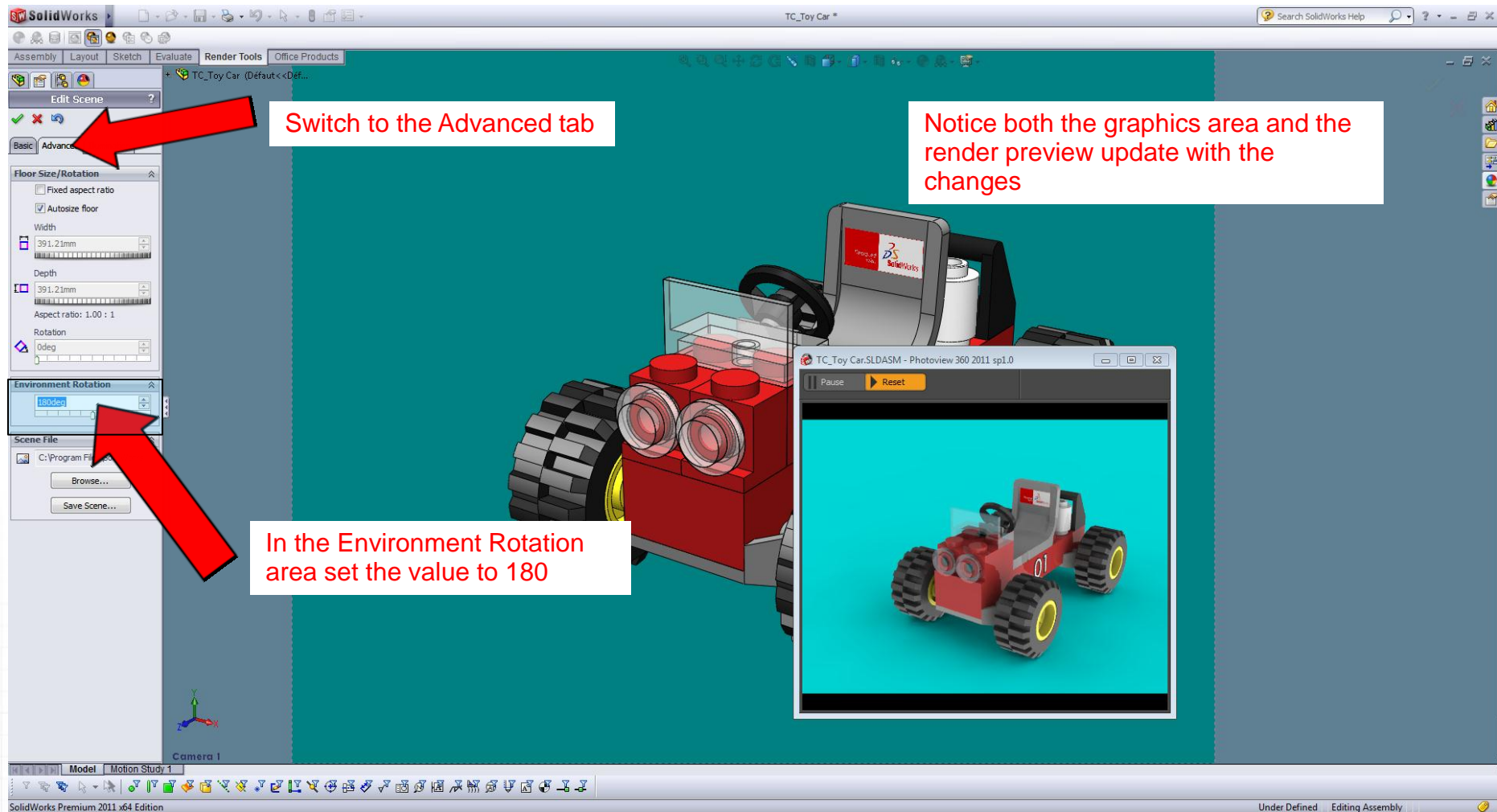
TC_Toy Car.SLDASM - Photoview 360 2011 sp1.0

Under Defined Editina Assembly

Apply a Scene

SOLIDWORKS
WORLD 2011

Adjust scene settings, the basic and advanced tabs are for both SolidWorks and PhotoView 360 users



Apply a Scene

SOLIDWORKS
WORLD 2011

Adjust scene settings, only PhotoView 360 users have access to the Illumination tab

The screenshot shows the SolidWorks interface with the 'PhotoView Illumination' panel open on the left. The panel has three tabs: 'Basic', 'Advanced', and 'Illumination'. The 'Illumination' tab is selected, showing settings for 'Background brightness' (1.000 w/sr²), 'Rendering brightness' (2.000 w/sr²), and 'Scene reflectivity' (1.500 w/sr²). Three red arrows point to these settings with the following annotations:

- Switch to the Illumination tab
- Adjust Background Brightness to 1.000
- Adjust Rendering Brightness to 2.000

A red text box on the right states: 'Notice only the render preview updates with the changes. That's because the Illumination tab only effects raytracing rendering settings'. A smaller window in the bottom right shows a rendered 3D model of a red toy car on a teal background.

SolidWorks Premium 2011 x64 Edition

Under Defined Editing Assembly

Apply a Light

Enable a predefined light, by default direct lights are off in PhotoView 360 2011

The screenshot shows the SolidWorks interface with the 'Render Tools' tab active. The 'Scene, Lights, and Camera' tree on the left is expanded, showing the 'Lights' folder. A red arrow points to the 'Lights' folder, and another red arrow points to the 'Directional Render' light, which is highlighted in yellow. A context menu is open for the 'Directional Render' light, showing options like 'On in SolidWorks', 'On in PhotoView', 'Edit Directional Light...', 'Edit All Lights...', 'Delete', 'Show Lights', 'Add Directional Light', 'Add Spot Light', 'Add Point Light', 'Collapse All', 'Expand All', and 'Customize Menu'. A red arrow points to the 'On in PhotoView' option. The main view shows a 3D model of a red toy car with large black wheels. A smaller window in the bottom right corner shows a preview of the rendered image. The status bar at the bottom indicates 'On in PhotoView' and 'Under Defined Editing Assembly'.

Expand the Lights folder

Right click the "Directional Render" light and choose the "On in PhotoView" option. The icon turns yellow.

Notice the render preview updates with the changes.

Use lights when you want to add a special lighting effect like caustics

Use lights when you want to illuminate a specific area of your model

Use lights when you want to specifically control shadow direction and strength.

Apply a Scene

SOLIDWORKS
WORLD 2011

Enable the Background Image Camera

The screenshot shows the SolidWorks interface with a 3D model of a red toy car. The 'Scene, Lights, and Cameras' tree on the left is expanded, showing 'Background Image Camera' selected. A context menu is open for 'Background Image Camera', with 'Camera View' checked. A render preview window in the bottom right shows the car on a teal background. The right sidebar shows the 'Appearances, Scenes, and Decals' panel with various scene options.

Activate the DisplayManager tab

Expand the camera icon

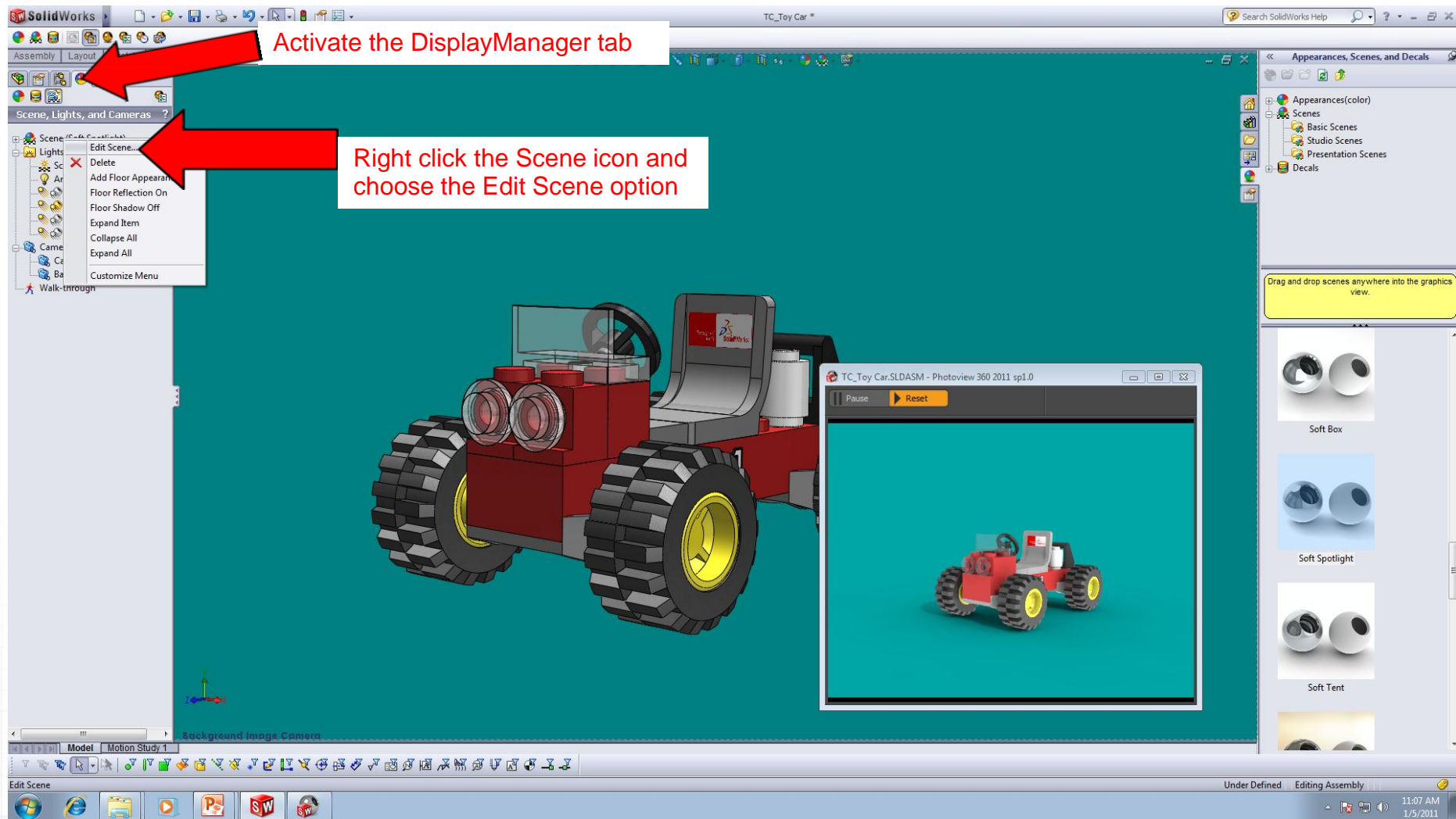
Right click Background image Camera and choose the Camera View option

Notice both the graphics area and the render preview update with the changes

Apply a Scene

SOLIDWORKS
WORLD 2011

Edit the scene and add a background image



Apply a Scene

SOLIDWORKS
WORLD 2011

Set the background image

Activate the basic tab

Choose image from the drop down list

Browse to the "Toy Car Background" image

Background Image Camera

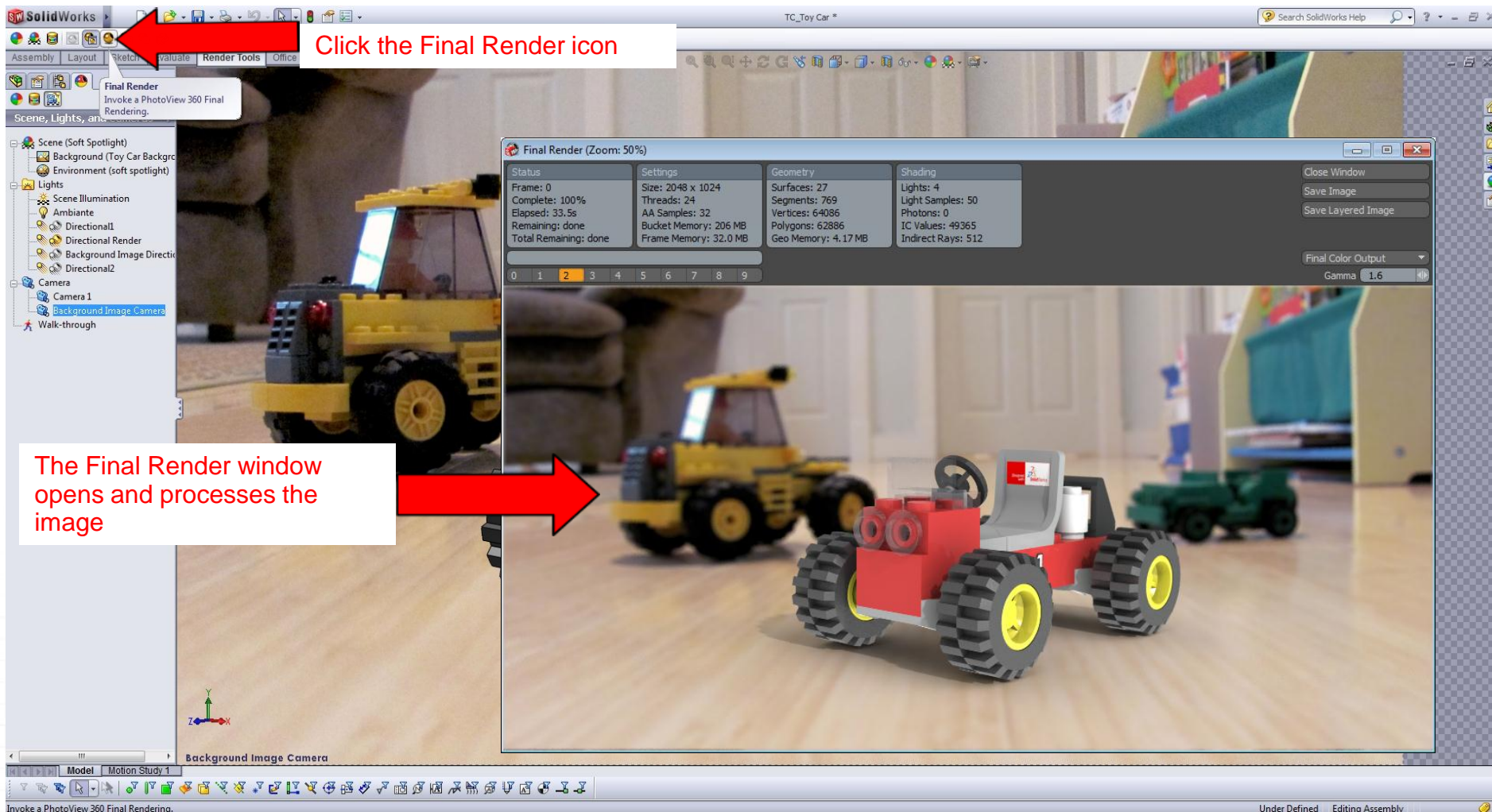
SolidWorks Premium 2011 x64 Edition

Under Defined Editing Assembly

Apply a Scene

SOLIDWORKS
WORLD 2011

Process the final render





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PhotoView 360 2011

Cameras



Create a Camera

All camera controls in 2011 are the same as they were in SolidWorks/PhotoWorks 2010. Because it's integrated PhotoView 360 now uses SolidWorks cameras.

The screenshot shows the SolidWorks 2011 interface with a 3D model of a car. Three red arrows point to specific UI elements with text boxes:

- Arrow 1 points to the **DisplayManager** tab in the top ribbon, with the text: "Select the DisplayManager tab".
- Arrow 2 points to the **Scene, Lights, and Cameras** icon in the DisplayManager tab, with the text: "Select the view Scenes, Lights and Cameras option."
- Arrow 3 points to the **Camera** option in the context menu that appears after right-clicking the icon, with the text: "Right click Camera and in the drop down choose 'Add Camera'".

The context menu also includes options: "Add Camera", "Show Cameras", "Expand Item", "Expand All", and "Customize Menu".

On the right side of the interface, the **Appearances, Scenes, and Decals** panel is visible, showing a tree structure with "Appearances(color)", "Scenes", "Decals", "Logos", "Components", and "Dresser". Below this is a yellow box with the text: "Drag and drop decals onto the model or FeatureManager tree." and a barcode.

At the bottom of the interface, the **Model** and **Motion Study 1** tabs are visible.

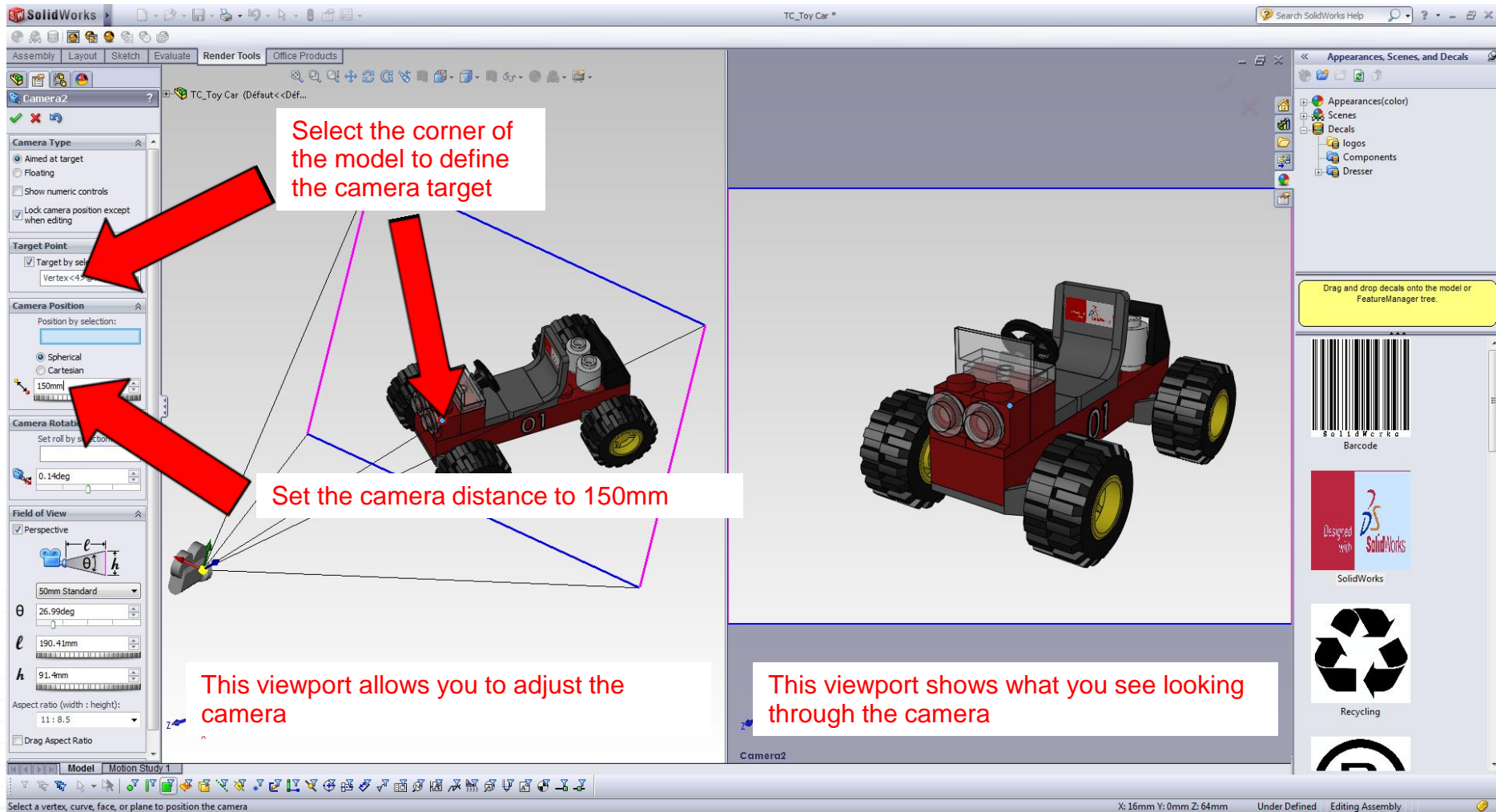
Cameras allow greater control for setting up your view. Perspective, lens sizes, defined targets, defined camera position and rotation are just some of the controls available using cameras.

Cameras can be placed inside geometry allowing the creation of views from the inside of your model out.

Camera have the ability to add special rendering effects like depth of field.

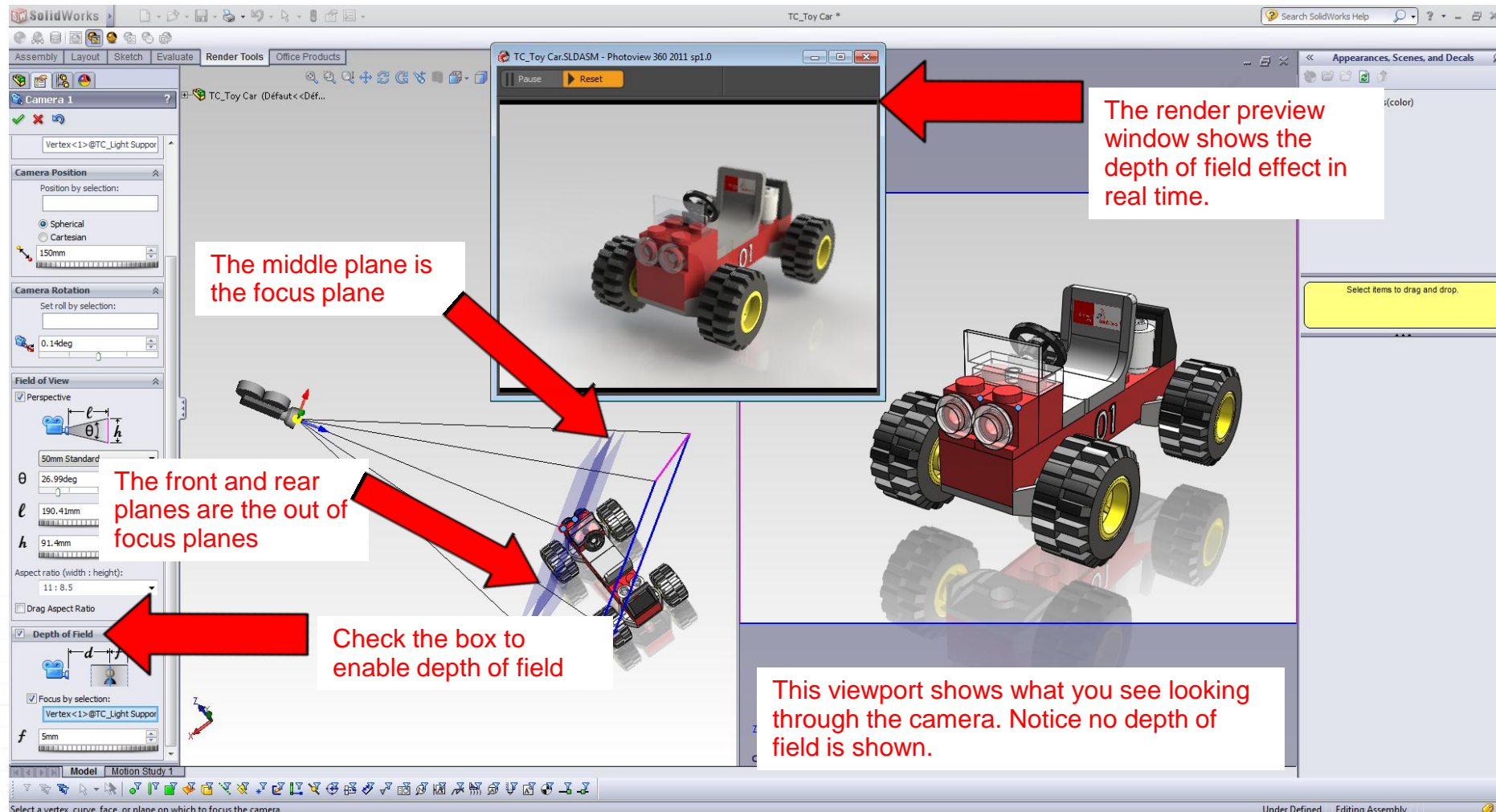
Create a Camera

Adjust the camera settings



Create a Camera

Try depth of field. Check the depth of field box at the bottom of the camera property manager to enable the feature. Note DOF only works in PhotoView 360

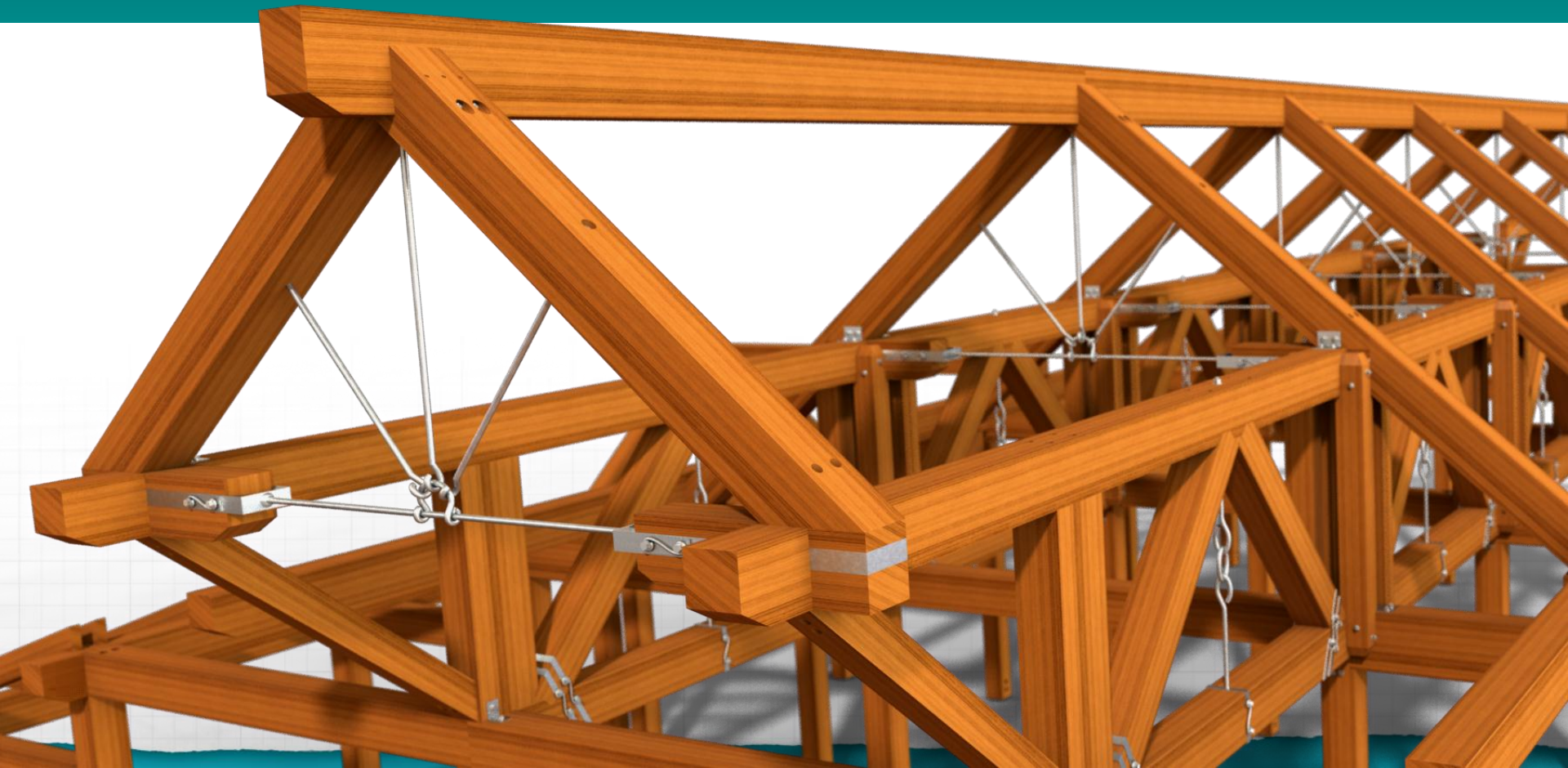


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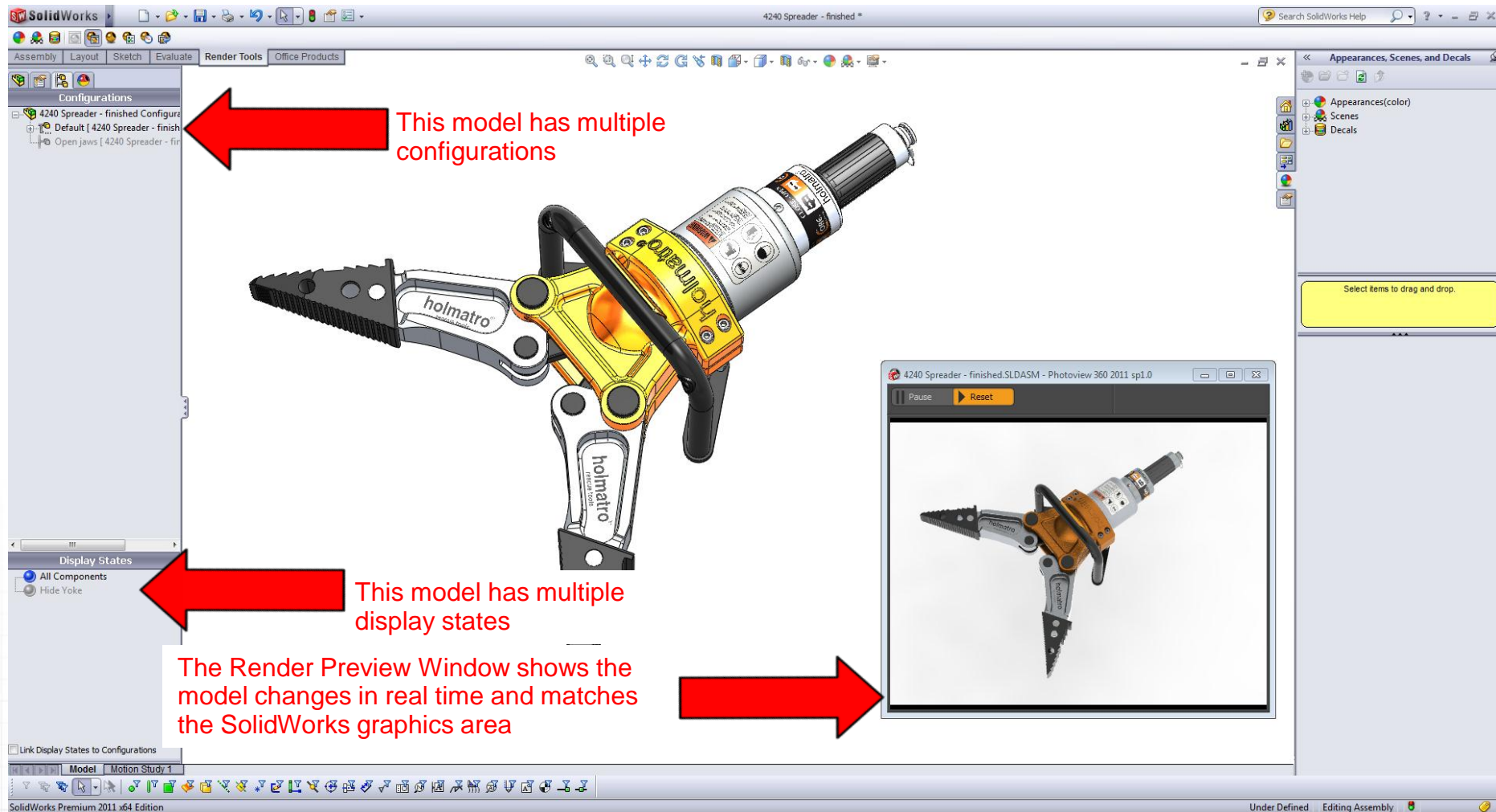
PhotoView 360 2011 Model Updates



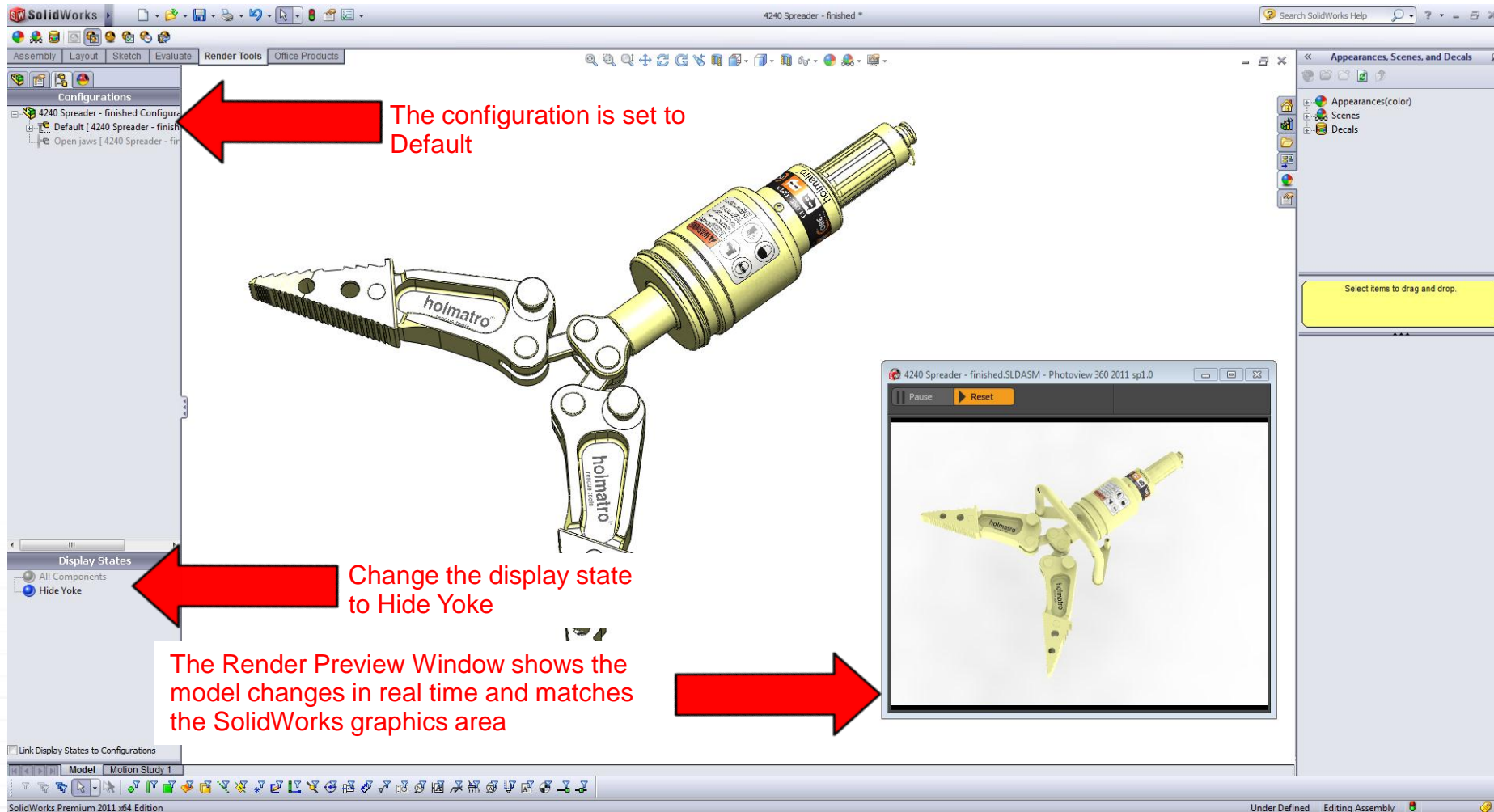
Watch the Video



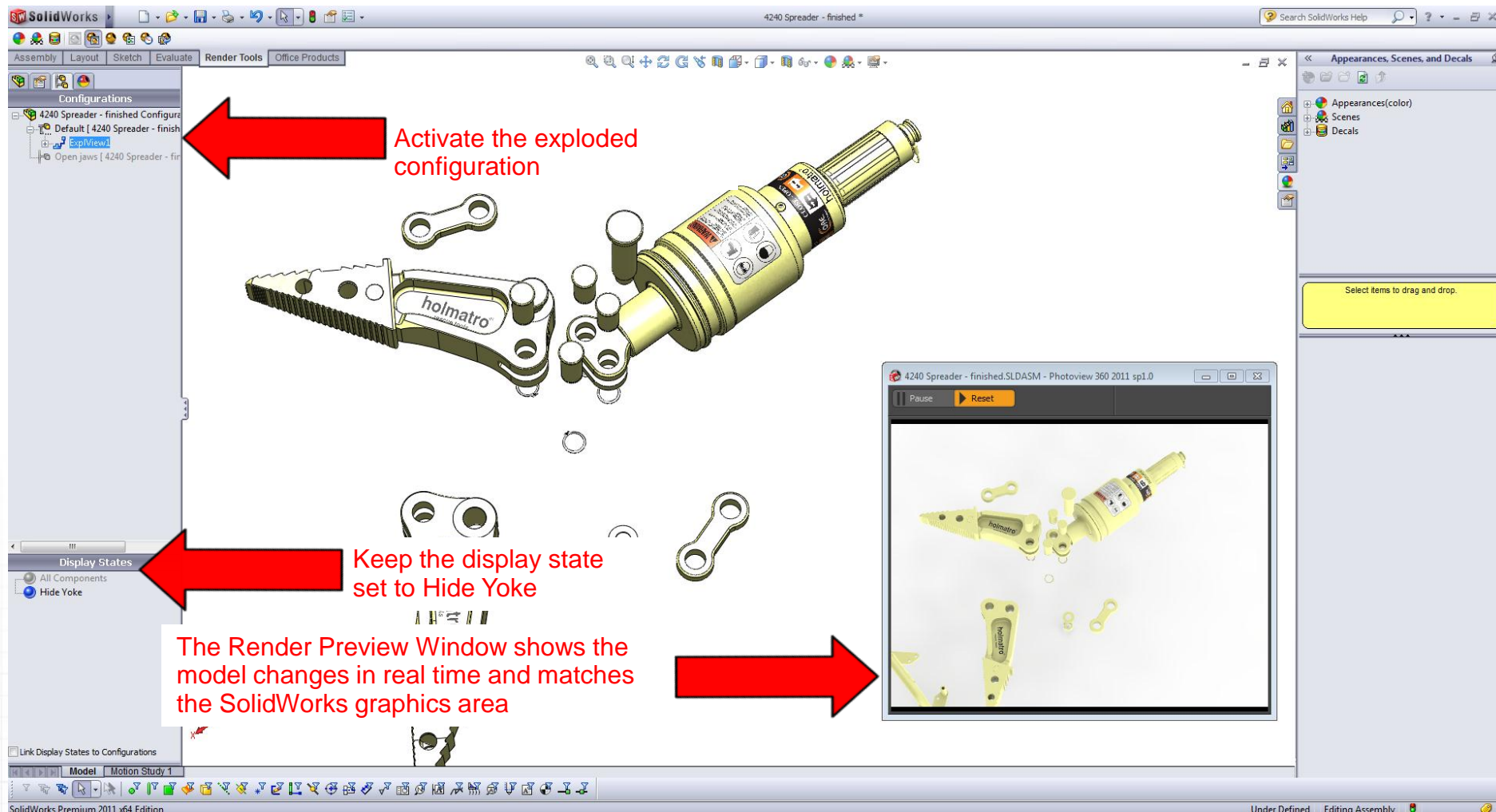
PhotoView 360 2011 supports display states, configurations and geometry changes.
In 2010 only PhotoWorks supported these types of changes.



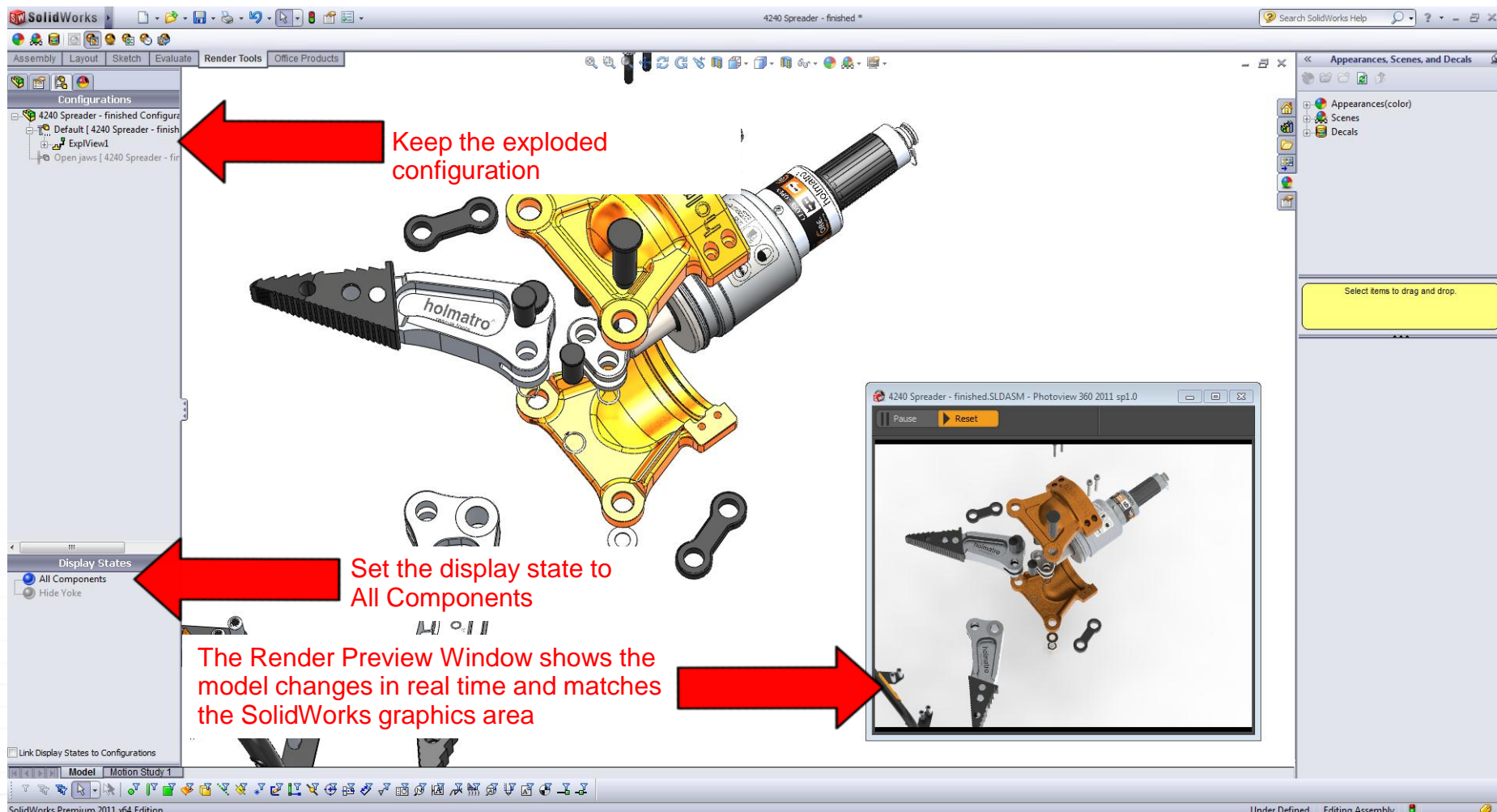
Change the display state. Both the SolidWorks graphics area and the Render Preview update showing the hidden geometry and appearance change.



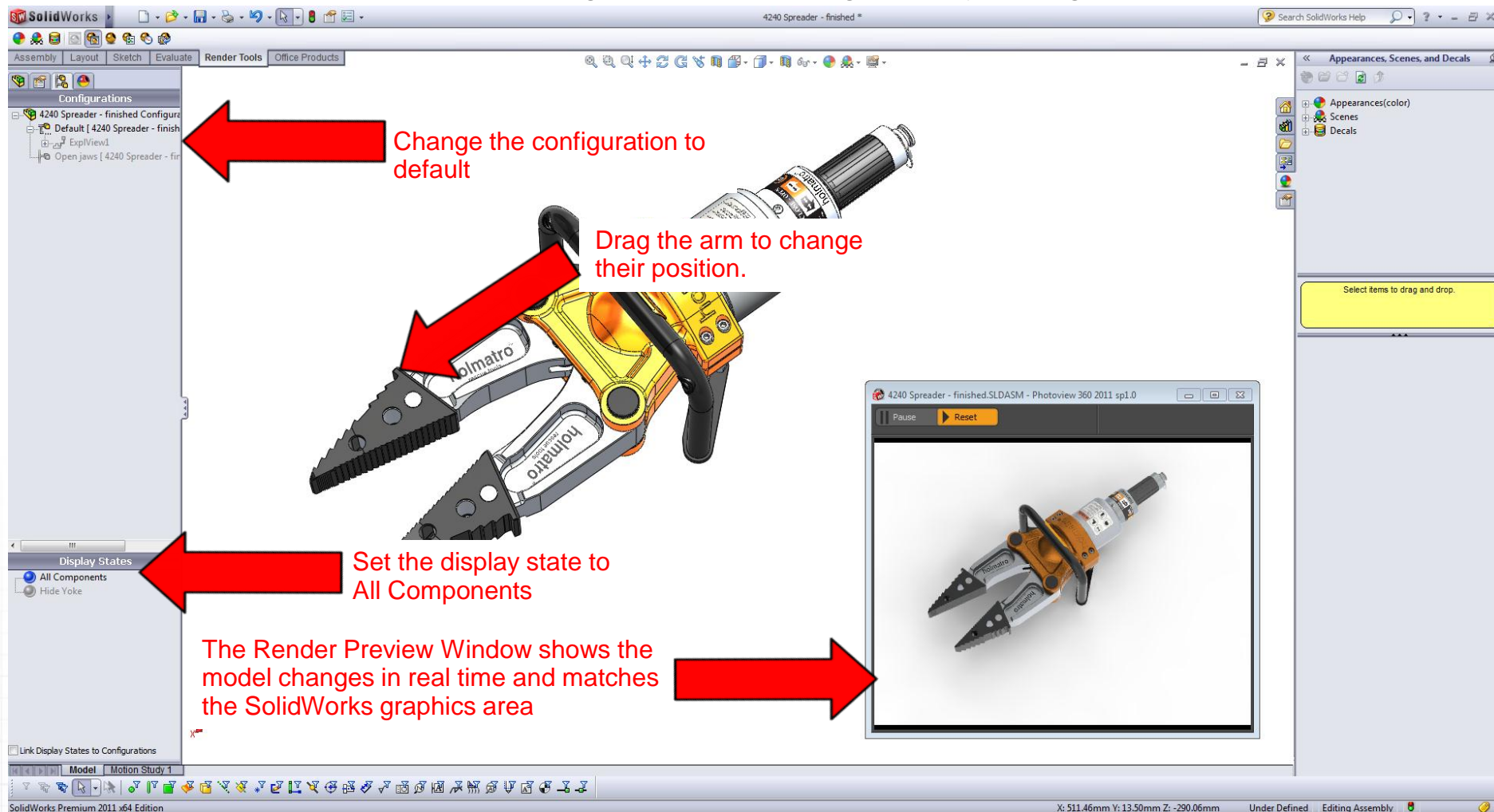
Change the configuration. Both the SolidWorks graphics area and the Render Preview update showing the exploded configuration with the hidden geometry and appearance change of the Hide Yoke display state.



Change the display state. Both the SolidWorks graphics area and the Render Preview update showing the exploded configuration with all the geometry and appearance change of the All Components display state.



Change the configuration to Default. Drag an arm of the spreader to change their position. Both the SolidWorks graphics area and the Render Preview update showing the default configuration with the geometry change



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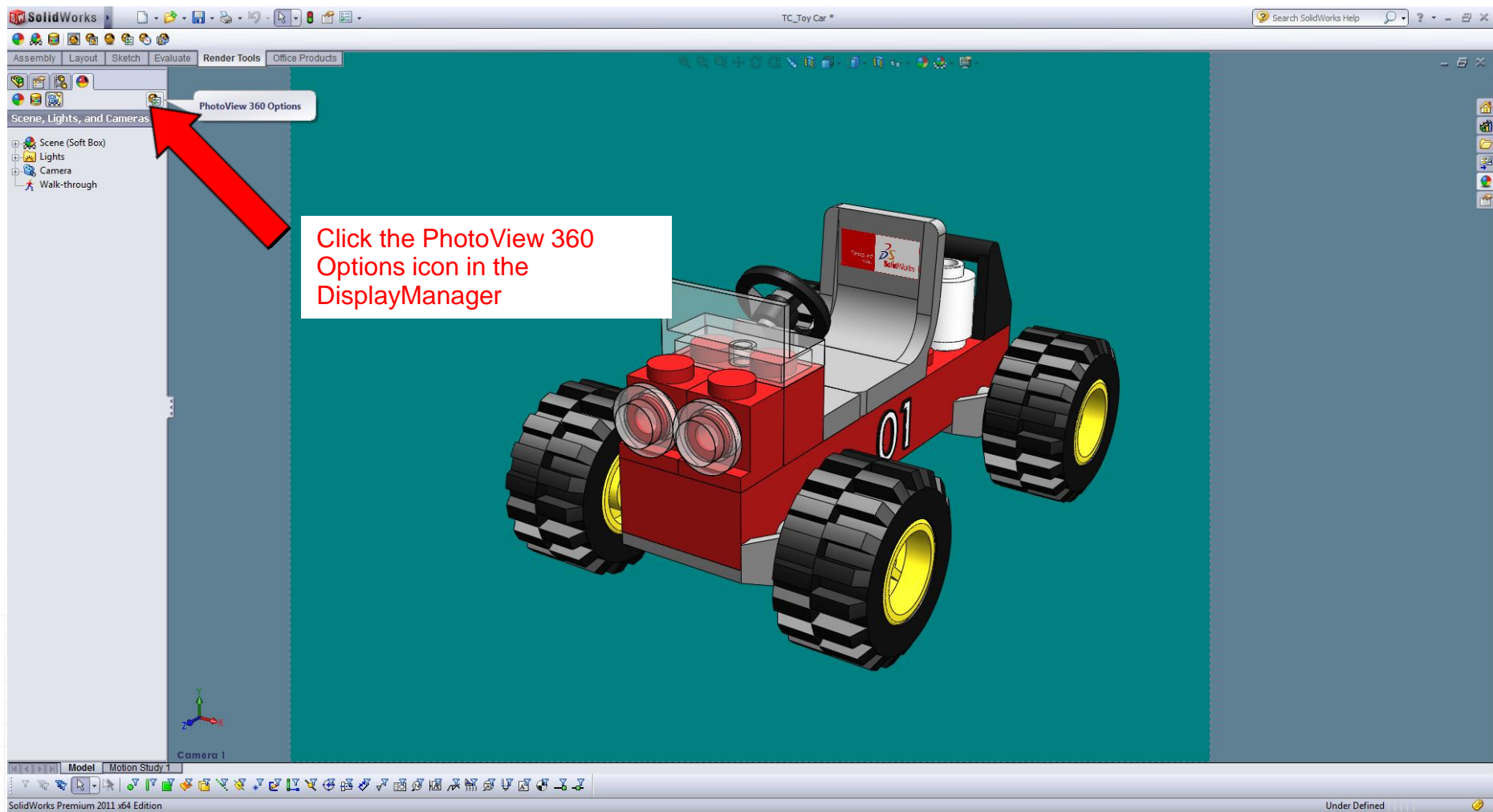
PhotoView 360 2011 Options



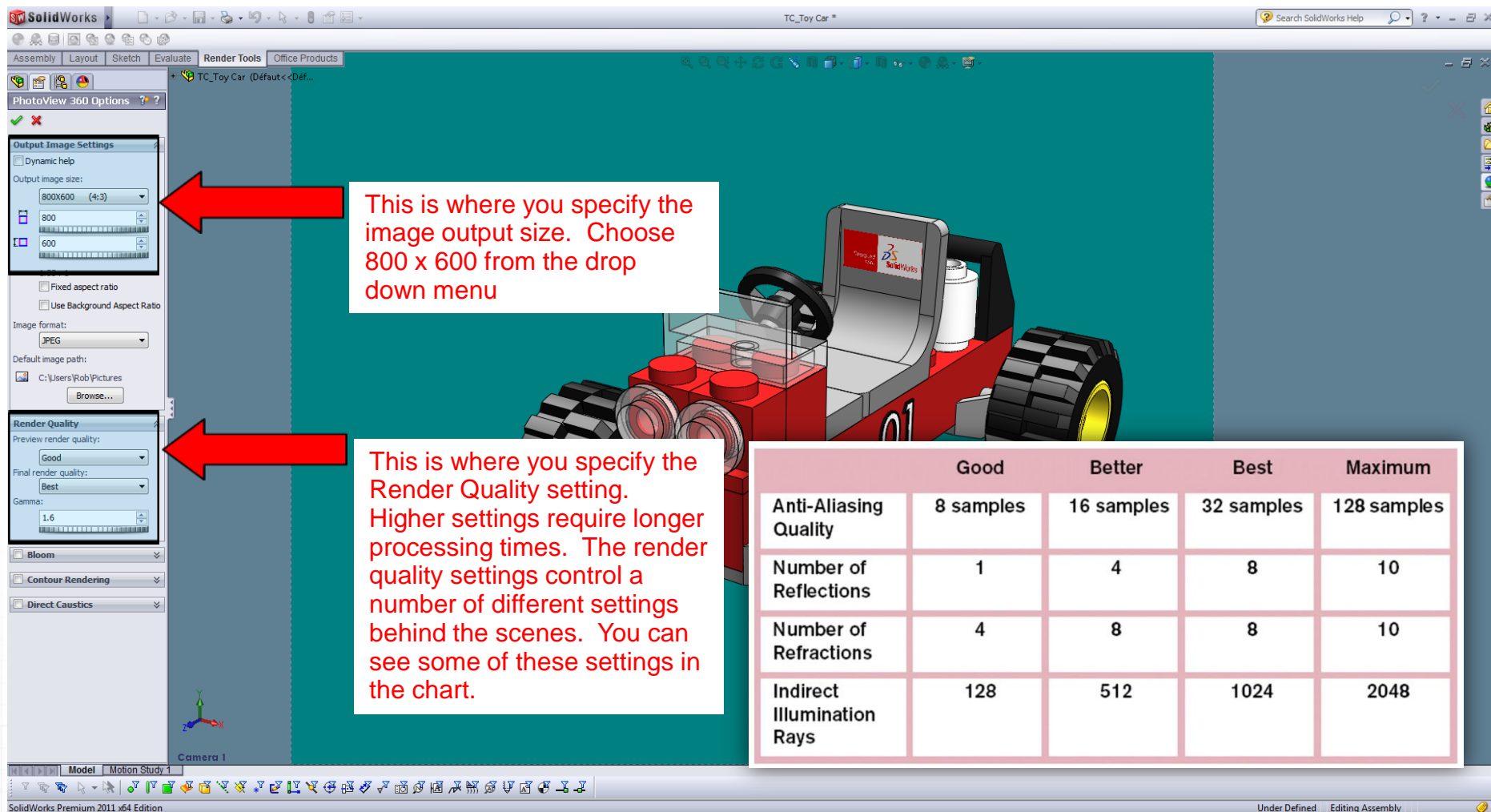
Watch the Video



PhotoView 360 Options



PhotoView 360 Options



This is where you specify the image output size. Choose 800 x 600 from the drop down menu

This is where you specify the Render Quality setting. Higher settings require longer processing times. The render quality settings control a number of different settings behind the scenes. You can see some of these settings in the chart.

	Good	Better	Best	Maximum
Anti-Aliasing Quality	8 samples	16 samples	32 samples	128 samples
Number of Reflections	1	4	8	10
Number of Refractions	4	8	8	10
Indirect Illumination Rays	128	512	1024	2048

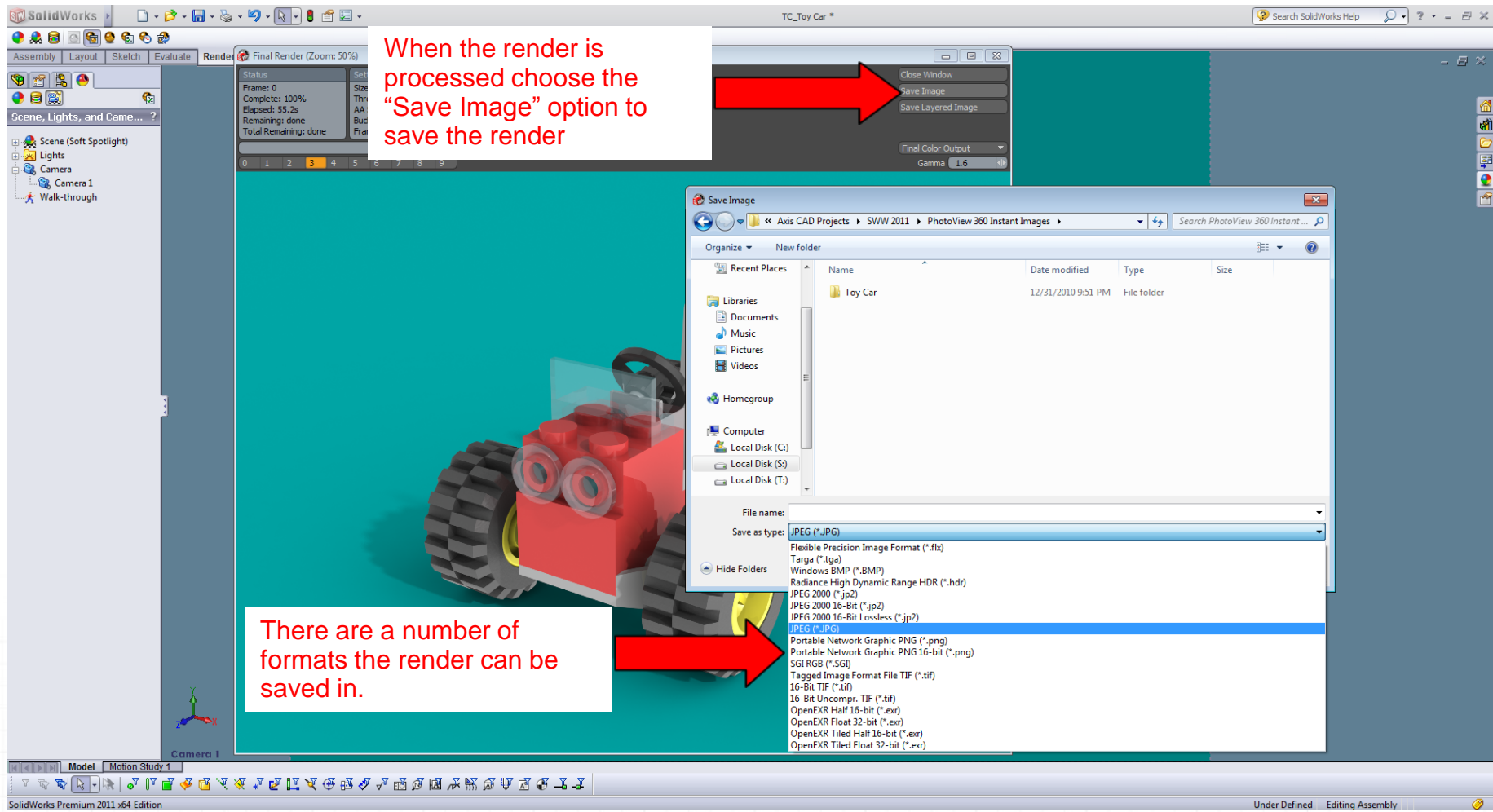
Process a final render

The screenshot displays the SolidWorks software interface during a final render. The top ribbon shows the 'Render' tab selected. A red arrow points to the 'Final Render' icon in the ribbon, with a text box stating: 'Click the Final Render icon to start a final render processing'. The main viewport shows a 3D model of a red and black toy car on a dark green surface against a teal background. A progress bar at the top of the viewport indicates the render is in progress, with the third bar highlighted. A red arrow points to the viewport with a text box stating: 'This is the final render window. While it's working you can still work in SolidWorks.' The left sidebar shows the 'Scene, Lights, and Camera' tree with 'Scene (Soft Spotlight)', 'Lights', 'Camera', and 'Walk-through' options. The bottom status bar shows 'SolidWorks Premium 2011 x64 Edition' and 'Under Defined Editing Assembly'.

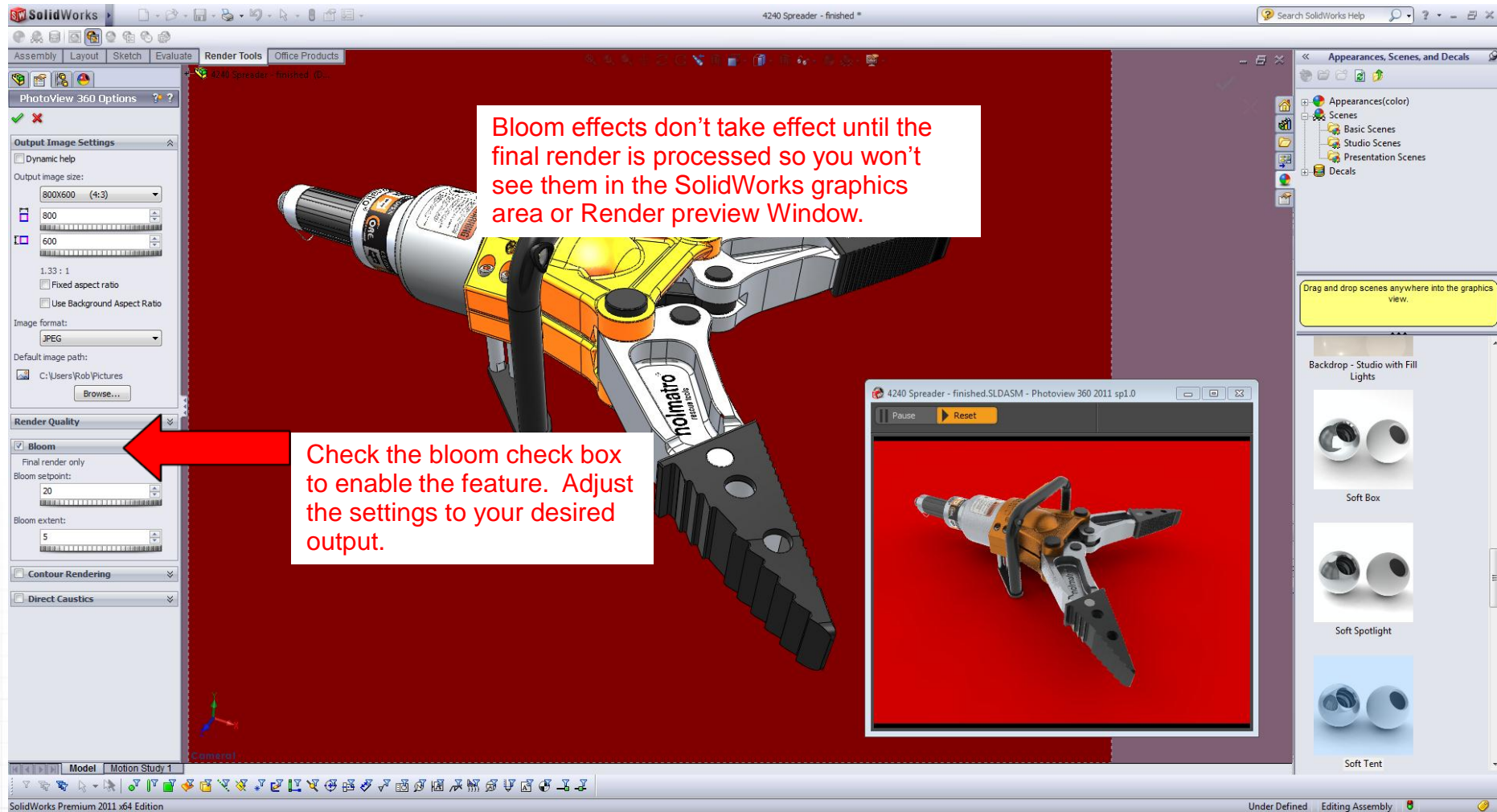
Click the Final Render icon to start a final render processing

This is the final render window. While it's working you can still work in SolidWorks.

Save the processed final render



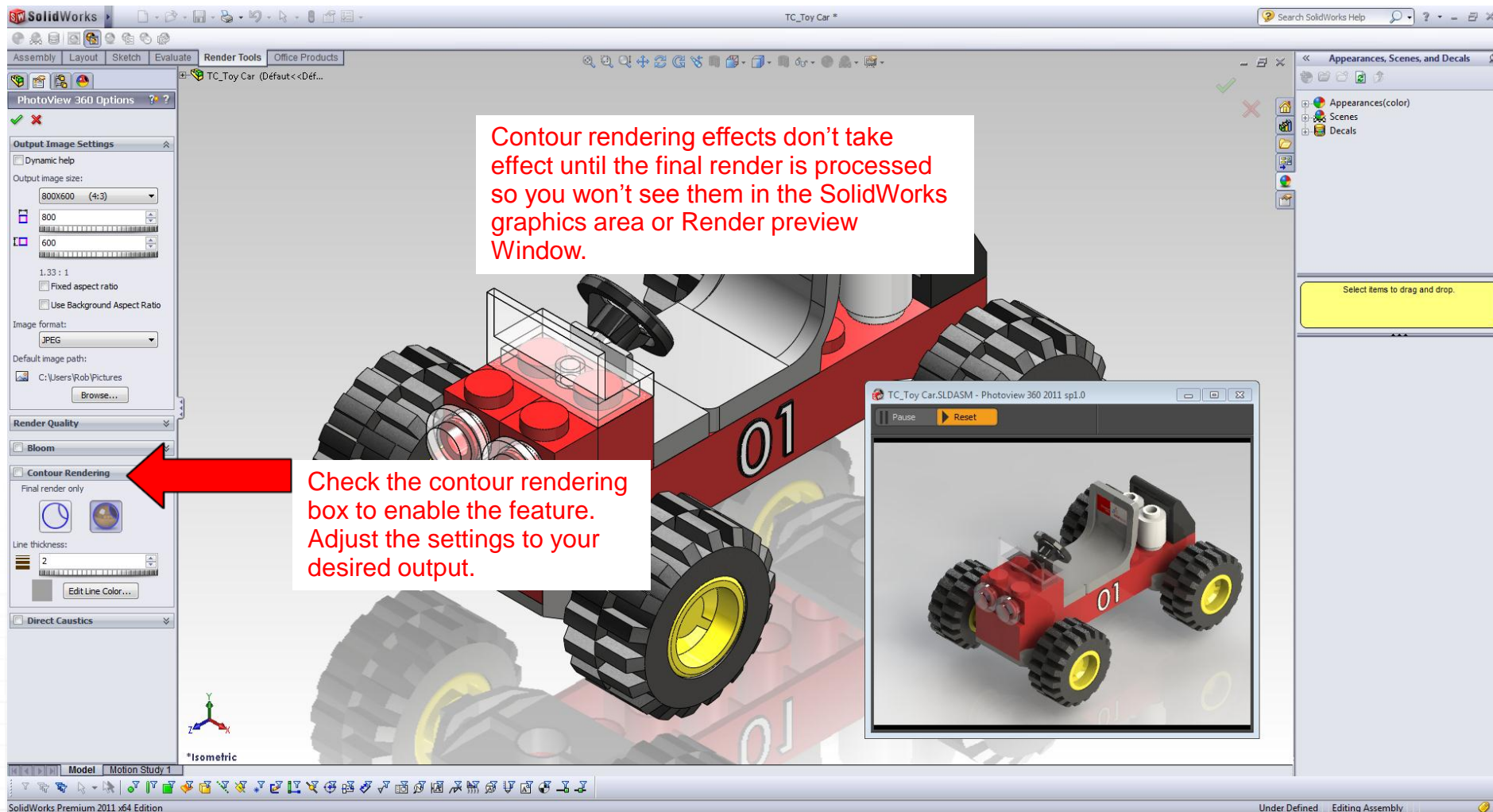
Bloom creates a glowing effect in areas of your image. In 2010 it was available in PhotoView 360 but not PhotoWorks



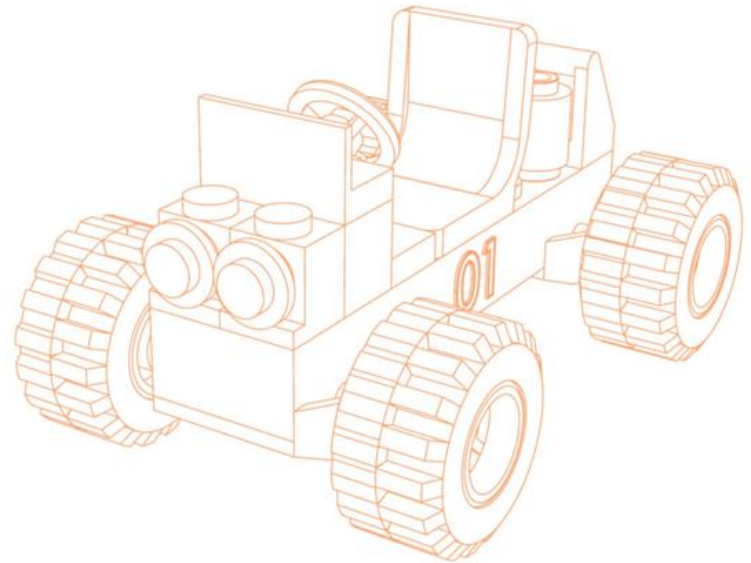
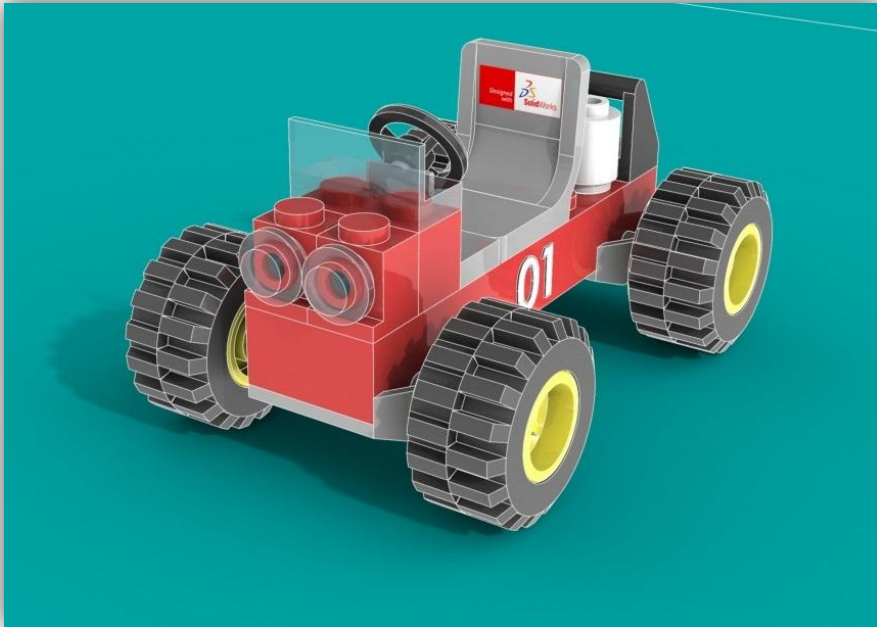
One image has the bloom effect the other does not.



Contour rendering gives you an illustration effect. In 2010 it was available in PhotoWorks but not PhotoView 360



You can choose to have appearances and contours showing or just contours



Direct caustics is a lighting effect typically associated with metals, glass or liquids. In 2010 it was available in PhotoWorks but not PhotoView 360

The screenshot shows the SolidWorks interface with the PhotoView 360 Options dialog box open. The 'Direct Caustics' checkbox is checked under the 'Render Quality' section. A red arrow points to this checkbox. The main window displays a rendered image of two glasses on a table. A smaller window in the bottom right corner shows a final render of the same scene with direct caustics enabled, showing light rays and reflections on the table surface.

Direct caustics effects don't take effect until the final render is processed so you won't see them in the SolidWorks graphics area or Render preview Window.

Note: For the direct caustics effect to work you **must** have at least one direct light enabled.

Check the direct caustics box to enable the feature. Adjust the settings to your desired output.

Caustics assembly.SLDASM - Photoview 360 2011 sp1.0

Under Defined Editing Assembly

Image on the left has no caustics effect, image on the right has caustics effects



All video links in this presentation are the property of DS SolidWorks

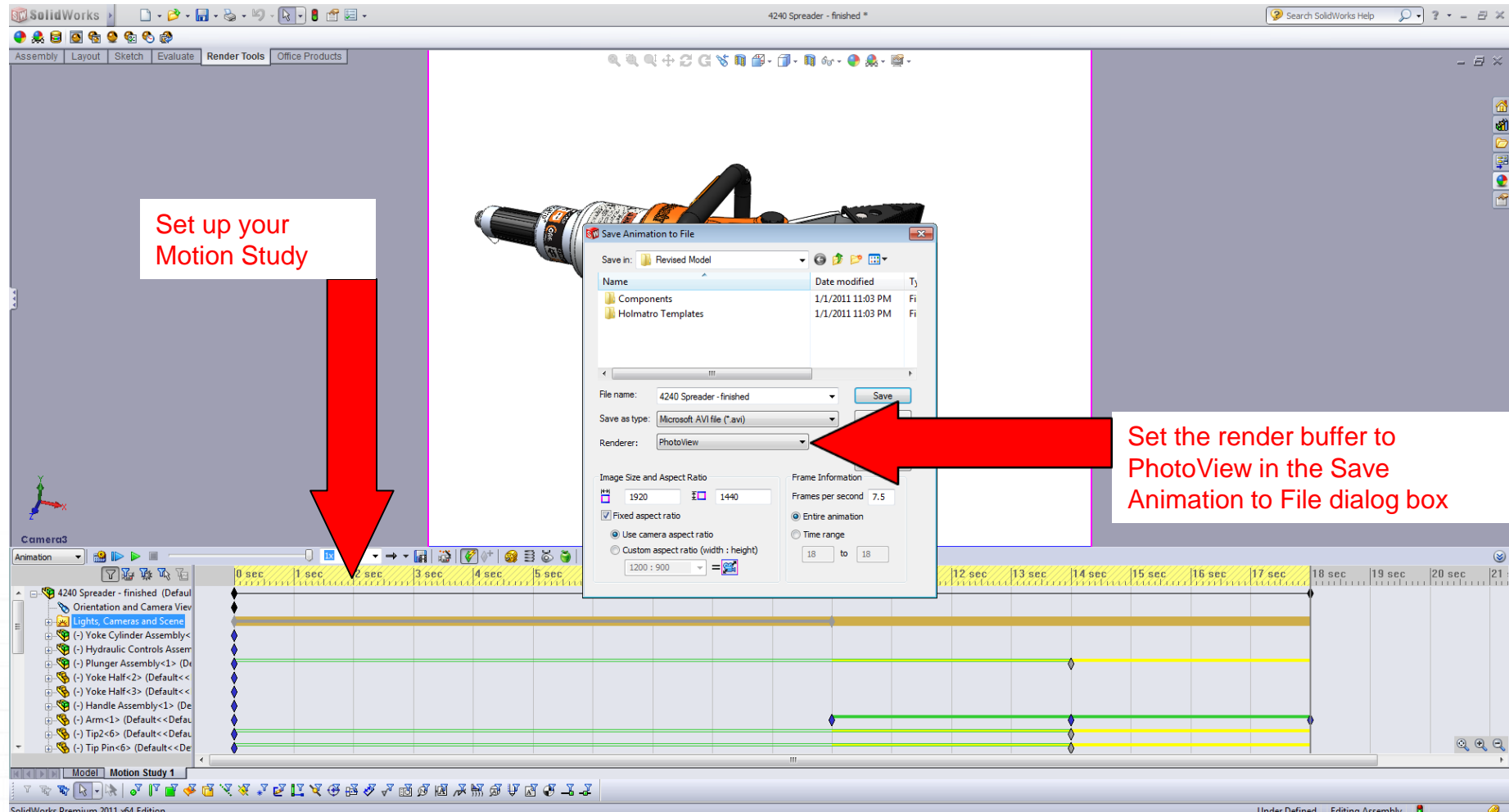
PhotoView 360 2011 Animation



Watch the Video



For 2011 PhotoView 360 has replaced PhotoWorks as the photorealistic rendering buffer for SolidWorks Motion.



This animation was created with SolidWorks Motion and PhotoView 360





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This tutorial reviews creating and using custom camera views.



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This tutorial reviews the use of the depth of field camera setting to control in and out of focus areas of your rendering.



Environments and Brightness
This tutorial reviews using custom environment images including controlling their brightness.



Floor Visibility
This tutorial reviews floor visibility options, visible, shadow and reflective.



Standard Camera Views and Projection
This tutorial reviews setting the standard camera view and camera projection types.



Up Axis
This tutorial reviews how to determine floor placement using the up axis feature.



User Interface
This tutorial provides a brief overview of the PhotoView 360 user interface.



Loading Models
This tutorial takes a look at what it means to load older (pre 2009) models as well as current 2009 models.



Applying Appearances
This tutorial will review how appearances are applied in PhotoView.



Applying Environments
This tutorial will review how environments are used in PhotoView.



Final Renderings
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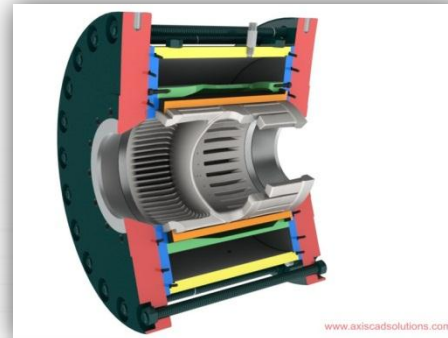
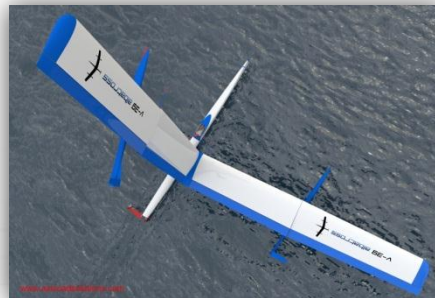
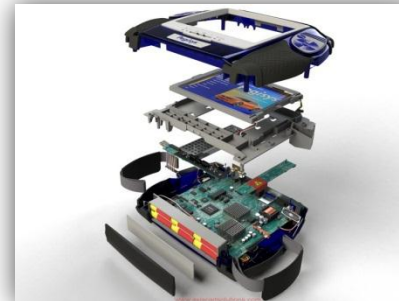


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