ME 24-688 – Week 7

Project 1 – Showcase Basics

1 Introduction to Autodesk® Showcase®

If you are striving for the approval of a design from a client or manager, you can do a better job of communicating your design by creating realistic imagery from your 3D CAD data. Autodesk Showcase enables you to communicate a realistic view of your design and digital prototype without the need to create physical prototypes.

1.1 About Showcase

You use Autodesk® Showcase® to create realistic images and presentations of your 3D design. Prior to learning and using Showcase, you should understand what characteristics your presentations can include.

In the following illustration, the shaver model is displayed within an environment and shows grips for lights and decals.

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1.2 Interface Layout

Interface Layout

1 Environment area where you view and create the visualization design

2 Menus for accessing commands and options

3 View cube and home view option for quickly setting the viewing direction of the model

4 Lists for accessing items like materials, shots, and alternative lineups. Toggle on and off their display as they are needed

5 Organizer dialog box listing the geometry within this scene

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1.3 Geometry Selection

Menu Selection Methods

The selection methods on the Select menu have various benefits for helping you get just the right geometry selected.

Option	Description
Select All	Use to select all visible and hidden design geometry and lights in the scene.
Select All Visible	Use to select only geometry and lights that are not hidden.
Deselect All	Use to clear the selection of geometry and lights.
Deselect Hidden	Use to clear the selection of any hidden geometry and lights.

Graphics Window Selection Methods

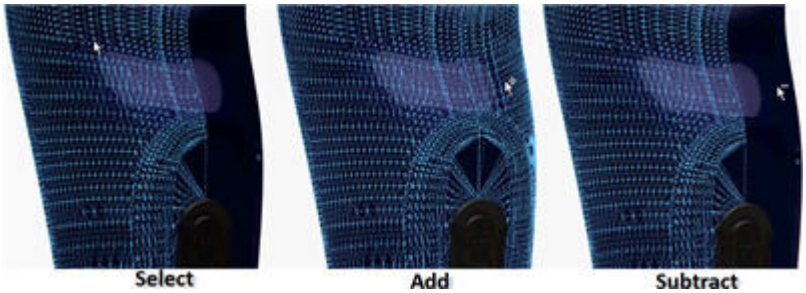
When you select design geometry in the graphics window, you either CLICK, RIGHT-CLICK on it, or use a selection window.

CLICK

When you CLICK on any piece of geometry in the **Graphics Window**, the item will become selected.

Selected geometry is referred to as being part of the active selection set. You clear the current selection set by clicking in an open area of the graphics window.

You add to the current selection set of geometry by pressing **SHIFT** and using one of the selection methods. When you hold the SHIFT down, you will see the cursor change to  .You remove geometry from the current selection set by pressing **CTRL** and using one of the selection methods. When you hold the CTRL down, you will see the cursor change to  .



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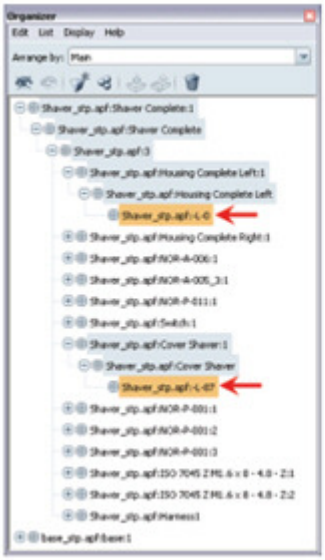
Select in the Organizer

The **Organizer** dialog box lists all design geometry and lights that are in the scene. You can select one or more of the visible and hidden lights or geometry areas from within this dialog box.

You use the **CTRL** or **SHIFT** key to select geometry in the same manner you select files in Windows Explorer. **CTRL** enables you to randomly add or remove objects to the selection set. **SHIFT** selects objects in a range in the list between the first and last selected objects.

The following illustration shows the **Organizer** with objects selected and the scene with that geometry selected.



1.4 Visual Styles

Access

You access Visual Styles using **Appearance** | **Visual Styles Library** or the keyboard **V**.

When you activate Visual Styles, you will get the following interface.

Visual Styles is broken into three major categories:

- Realistic
- Abstract
- Diagnostic

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1.5 About Scenes

Save a scene

Saving the scene
With a new scene, performing **File | Save** and **File | Save As** perform the same function. You will be presented with an explorer window, which allows you to navigate to the folder location that you wish to save the file and provides a field for you to enter the name of the scene.

Save the scene as a compressed Zip file.
When you select **File | Save As**, the **Save As** explorer window will be displayed. In the **Save As Type** area near the bottom of the window, the default is to save the scene file. Holding your LMB down over this allows you to choose **Compressed Archive (zip).**

When you hit save, one file is created that holds the .a3s file along with the companion folder and all accompanying information within that folder.

What's inside a scene

There are two major portions to saving a scene file: The scene file (*.a3s*) and the Companion Folder.

What is the scene file?
The scene file is a simple text file that keeps track of your entire Showcase session. It is NOT advisable to modify this file outside of Showcase.

What is in the companion Folder?
The companion folder contains all file information associated with a scene and can possibly hold thousands of files, depending on the scene you are working with.

Typical information in the companion folder include:

- *APF* files – Hold translated data
- AO* files – Hold Ambient occlusion files
- Interface image files – Holds the image presented in Shots, Alternatives and other areas in the scene interface
- Image and Map files – mapping, texture files used in materials

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1.6 Importing and Adjusting Imported Geometry

Importing geometry into Showcase is very important because you cannot create 3D geometry in Showcase. To create a design you have to import the 3D geometry that is created in another application.

In the illustration below, the imported geometry is composed of model geometry from two different STEP files. The organization and structure of the imported geometry is dependent on the organization of subassemblies and parts in the originating STEP file.

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Working with the Import Status dialog box

After you import process is complete, you can begin to interact with the **Import Status** dialog box. A key modification task within this dialog box is to change the conversion quality of an imported file.

1 Lists the name of the file where the geometry was imported from. RIGHT-CLICK and **click Settings** to access the **Original Model Settings** dialog box and the **Up-Axis** setting.

2 Identifies what settings were used to convert the source file. RIGHT-CLICK the field to select a different conversion quality or click **Settings (5)** and select the quality from the list.

3 Identifies the status of the conversion. If it shows **Needs Update**, click the cell or click **Convert** to convert the source file.

4 Lists the name of the Showcase file that was created after converting the source file and that is used in the scene file.

5 Click to change the conversion setting for the selected source file.

6 Click to remove the selected source file from the scene file.

7 Use to select a new source file or a source file at a different location.

8 Click to import an additional file into the current scene

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Guidelines for Importing Models

Follow these guidelines for importing models into a scene.

- If you are not familiar with the geometry you are importing, select a conversion setting that creates a single LOD and converts using a low quality.
- After validating or reviewing the geometry in a low conversion, change the conversion setting to import using a higher quality.
- When you need to switch between rough and smooth quality settings, import the model with more than one LOD so that you can efficiently switch back and forth as needed.

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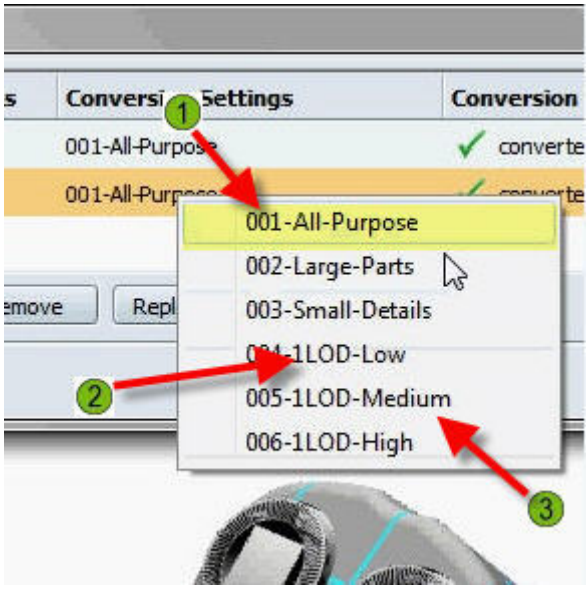
Adjusting Tessellation Settings

When you import model geometry, you select an existing conversion setting from the list. The names of the conversion settings help you identify the settings used to import the model geometry. The following illustration identifies and describes the meaning in the names.



1 Unique number for each conversion setting in the list.

2 Identifies the total number of level of details that are calculated for the geometry when it is imported.

3 Indicates what the required surface quality should be after the import.

3 Indicates if the conversion setting is configured to import large size geometry, smaller size geometry, the tessellation, if it is already tessellated, or whether or not to merge the geometry. If your model geometry is for large size objects, like cars, then you can select a conversion setting that has **Default** in its title. If you are importing small size objects, like hand tools, then you want to select a conversion setting that has **Small-object** in its title.

The surface quality ranges from low to very high. The actual quality of the surfaces is determined by the number of tessellated polygons that make up the surfaces. A low setting converts the model using the least number of polygons. A high LOD setting converts the model geometry using a very high number of polygons. When more polygons are used to define a model area, the sizes of the polygons are smaller and thus create a smoother appearance.

1.7 About Materials

Assign Materials to Geometry

You assign materials to one or more pieces of model geometry by selecting the geometry in the graphics window or **Organizer** and then selecting the material from the Materials list.

The **Materials** list is composed of two list areas, **Materials In This Scene** and **Material Libraries**. When you are assigning a material to selected model geometry, you can select a material from either area.

When you select a material from a material library, that material is added to the **Materials In This Scene** area. Materials in the scene continue to list in the scene even if you assign a different material to the geometry and that material is no longer used by any other geometry. Actively assigned materials display in the list with a check mark over their icon. You can select to delete materials from the scene if you no longer want them listed.

ACCESS

Menu: **Appearance** | **Materials** Keyboard Shortcut: **M**

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1.8 Project: Navigating Showcase

In this portion of the project, you will walk through navigating with Autodesk® Showcase®.

Instructions

1 Open *Shaver-Showcase Essentials.zip*.
2 Using the **View Cube**, change the view orientation.
- Click the three-quarter view

3 Using the **View Cube**, change the view orientation.

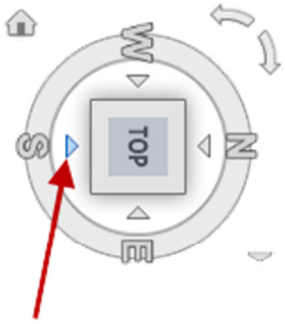
- Click the **Top** view

4 Using the **View Cube**, change the view orientation.

- Rotate clockwise

5 Using the **View Cube**, change the view orientation.

- Click the control to the left of the cube to move to the left view



6 Using the **View Cube**, change the view orientation.

- Click the **Home** View

7 Using the **View Cube**, change the view orientation.

- Click the Top Right Iso view

8 Using the **View Cube**, change the view orientation.

- Click the **Home** View

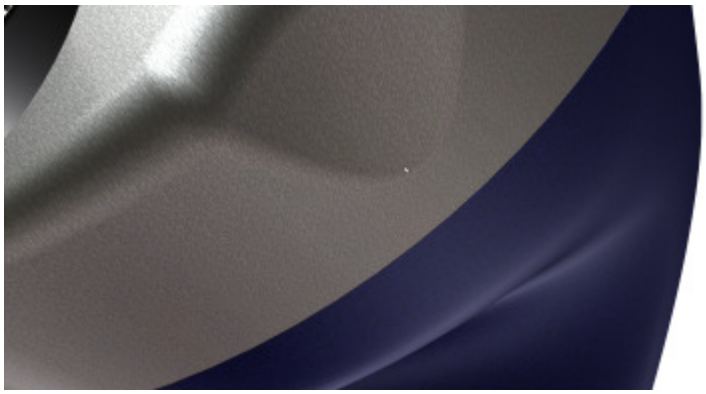
9 Using your mouse sequence of ALT + LMB tumble the scene around.

10 Using your mouse sequence of ALT + MMB or MMB alone pan around the scene.

11 Using your mouse sequence of ALT + RMB or scrolling the Wheel zoom in and out of the scene.

12 Change the Pivot Point to a location similar to the image below. Using your mouse sequence of ALT + LMB click.

13 See the difference between how the model tumbles.
14 Zoom into a specific area using the mouse sequence of CTRL + ALT + LMB.



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1.9 Project: Navigate Showcase

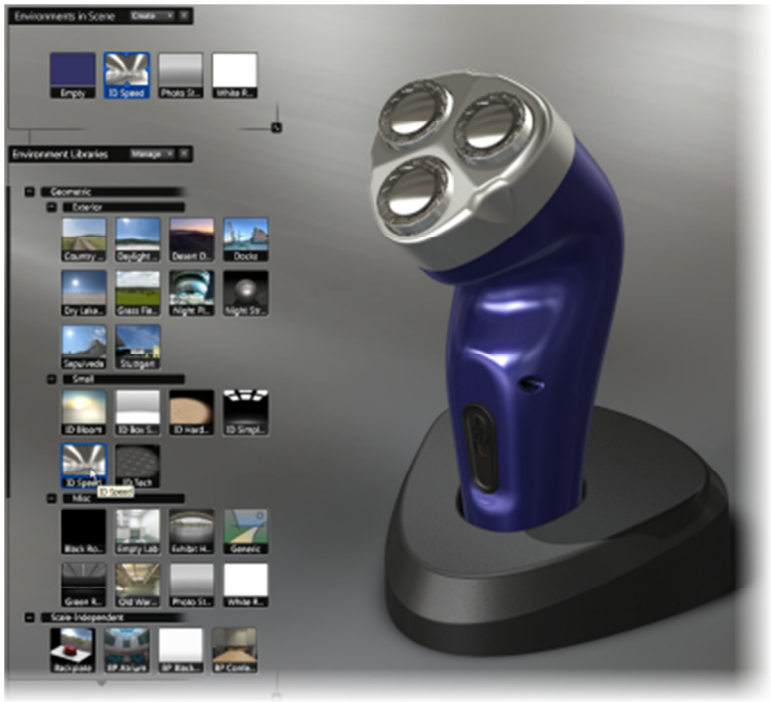
In this portion of the project, you view a completed design, navigate the scene of that design, and navigate the user interface.

Instructions

15 Continue with the *Shaver-Showcase Essentials* scene.

16 Click **Story menu** | **Environments**

17 To set a different environment active, in the Environments list, **Environments In Scene** area, click *ID Speed*.



18 To display the list of alternative lineups, click **Story menu** | **Alternatives**.

19 In the Alternative Lineups list, *Shaver Body* list:

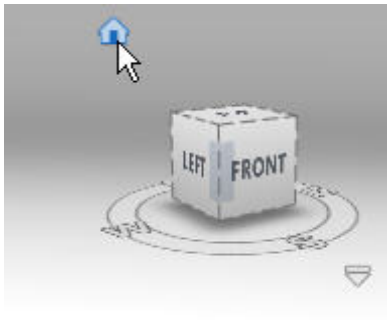
- Click the different alternative images to view the change on the model geometry.
- Click *Red* to set the red color active

20 Run through all the alternatives.

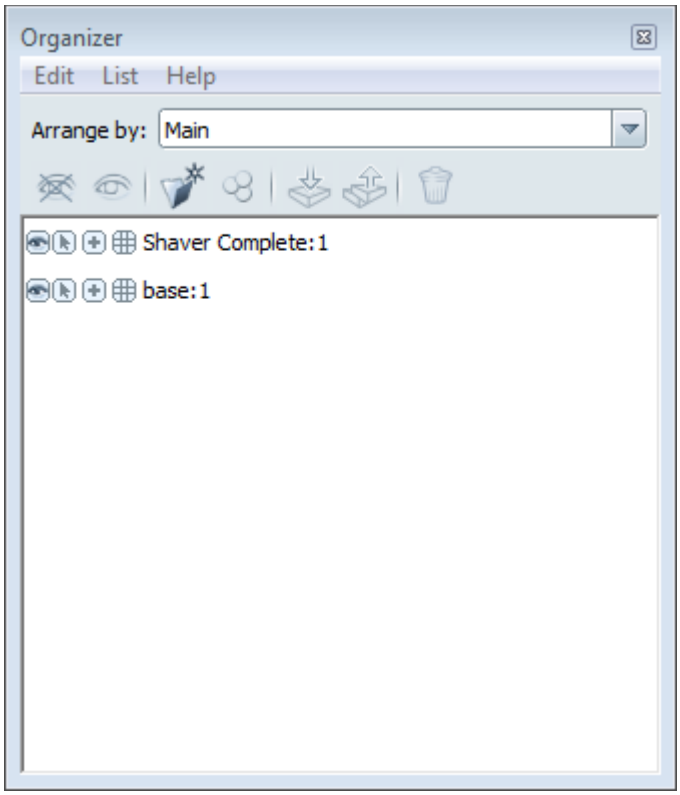
21 To display the list of shots configured in this scene, click **Story menu** | **Camera Shots**.

22 In the Shots list, click each shot to view its animation.

23 To return the view to the home view, on the view cube, click **Home**.

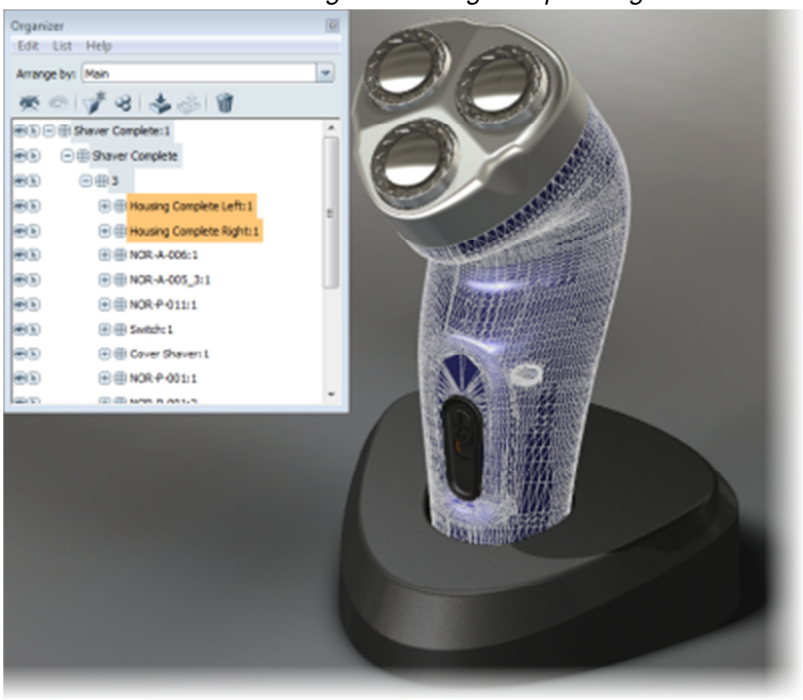


24 Click **Edit menu** | **Organizer**

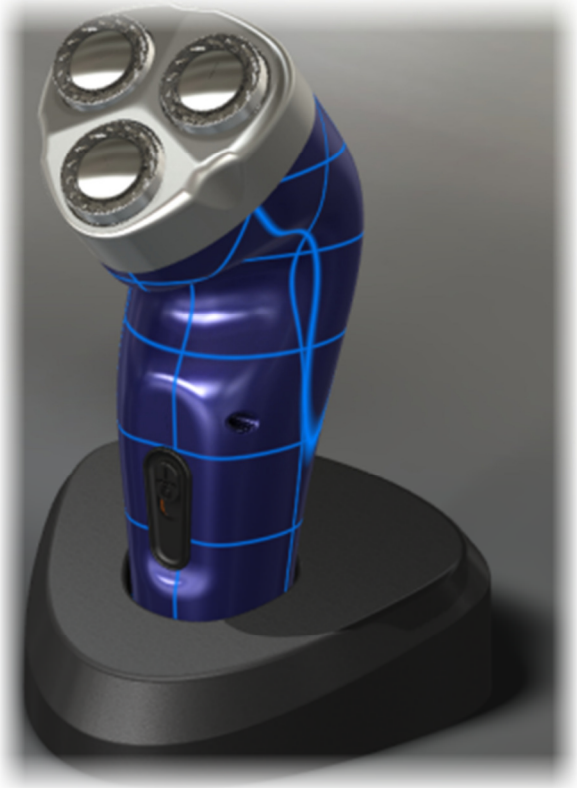


25 In the Organizer

- Expand the list for the *Shaver Complete:1*
- Expand the list for the *Shaver Complete*
- Select *Engine Housing Compete Left:1*
- Press **SHIFT** and select *Engine Housing Compete Right:1*



26 Click **Options menu** | **Selection Display Style** | **Animated Grid**. Review the changes in the display of the selected geometry



27 To clear the selection of geometry, click in an open area of the graphics window.
28 To close the scene without saving
- Click **File menu** | **Close Scene**.
- Click Don't Save

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1.10 Project: Import and Adjust Import Geometry

In this portion of the project, you import geometry using different conversion settings and view the tessellation for those settings.

Completed Project

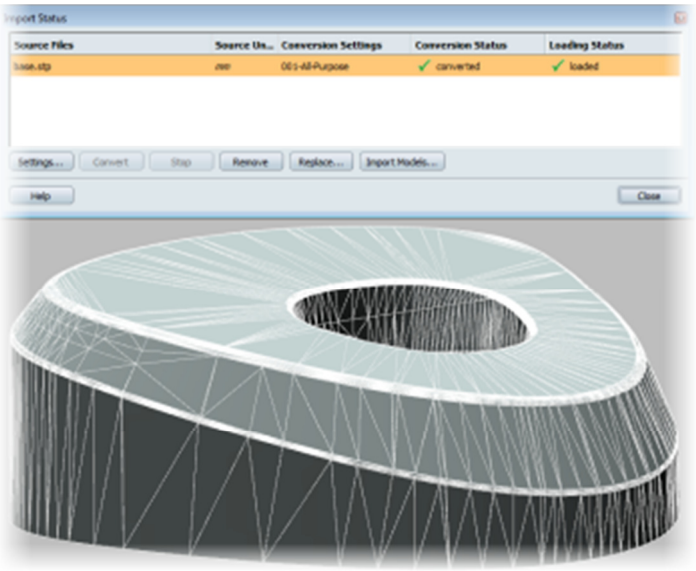
Instructions

29 To begin importing model geometry into the scene:

- Click **File menu** | **Import** | **Import Models**.
- In the **Import Models** dialog box, select *Base.stp*.
- Click **Open**.

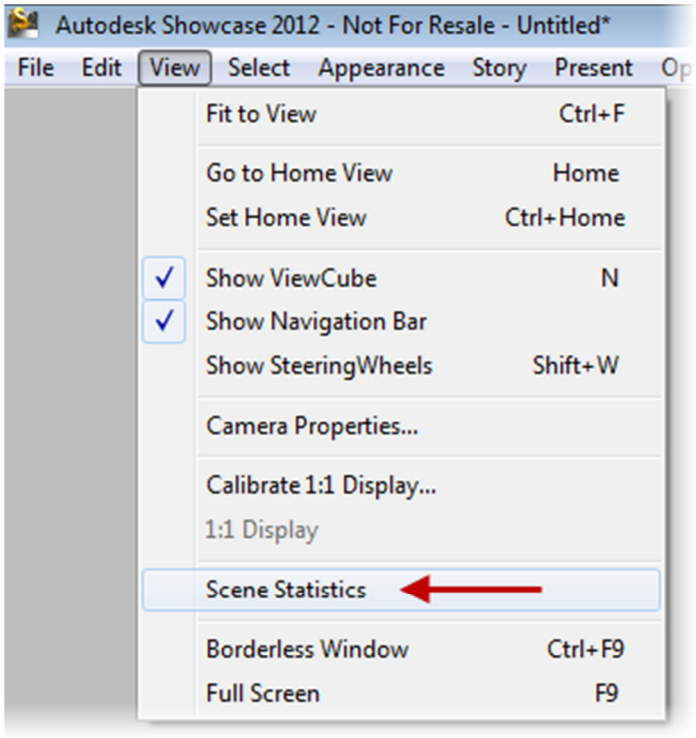
30 In the **Convert Imported Models** dialog box:
- In the **Conversion Settings** list, select *001-All-Purpose*.
- Click **OK**.

31 Click **Options menu** | **Selection Display Style** | **White Wireframe**.



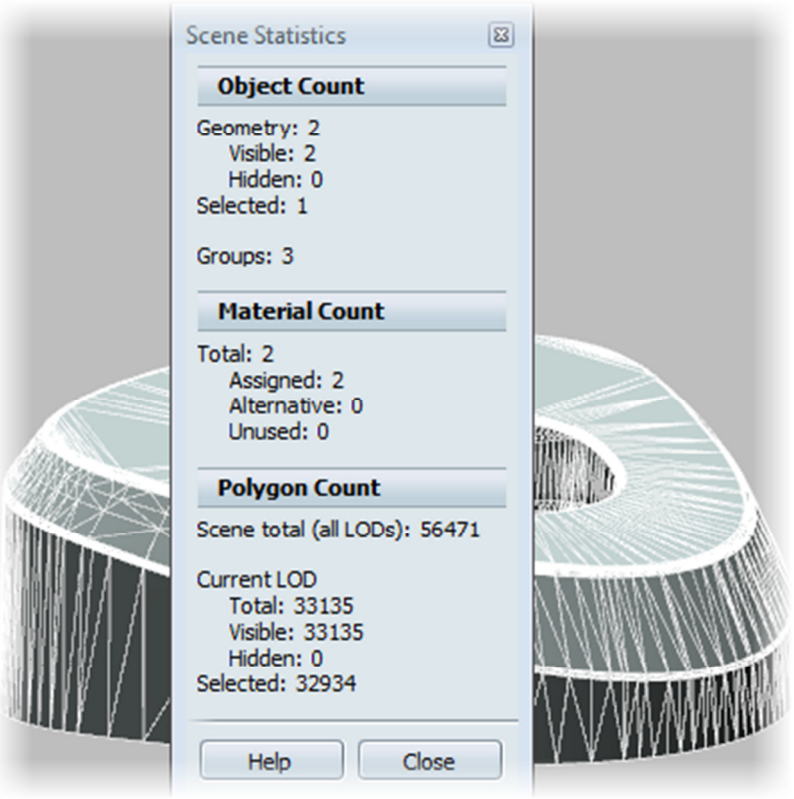
32 Reposition the **Import Status** dialog box so that you can view the imported geometry and the dialog box. Review the tessellation quality of the imported geometry. Notice that the overall shape looks as the part should look, generally the rounded edges look round.

33 Open the **View** | **Scene Statistics** tool



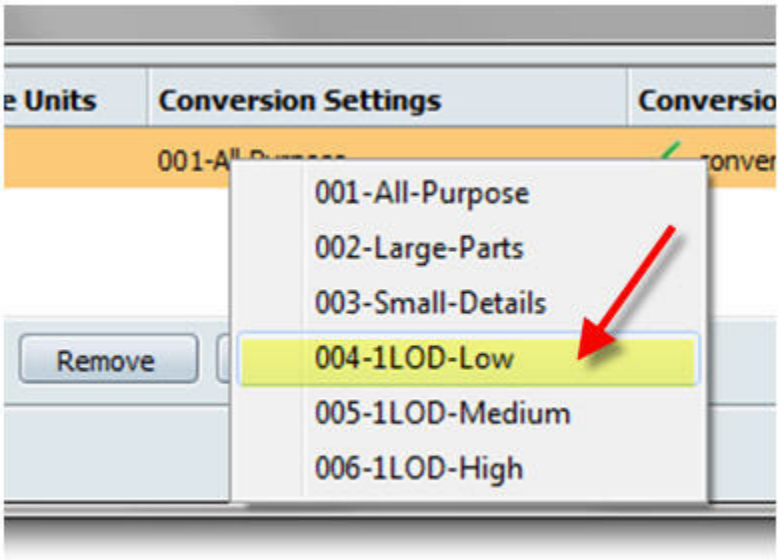
Position so you have visibility to the Import Status window and the model.

Note that it shows the current polygon count within the scene. This way we can see how many triangles are created during conversion.

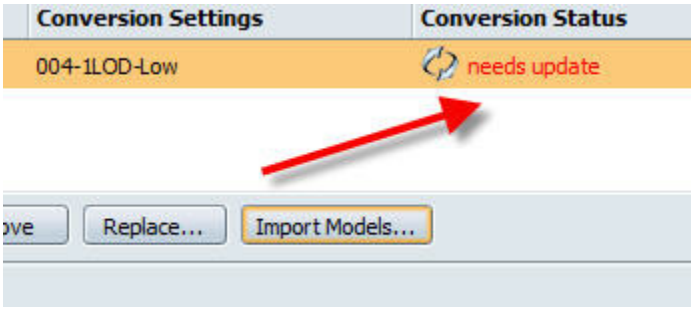


34 Next, we will work with a different tessellation to see the difference.

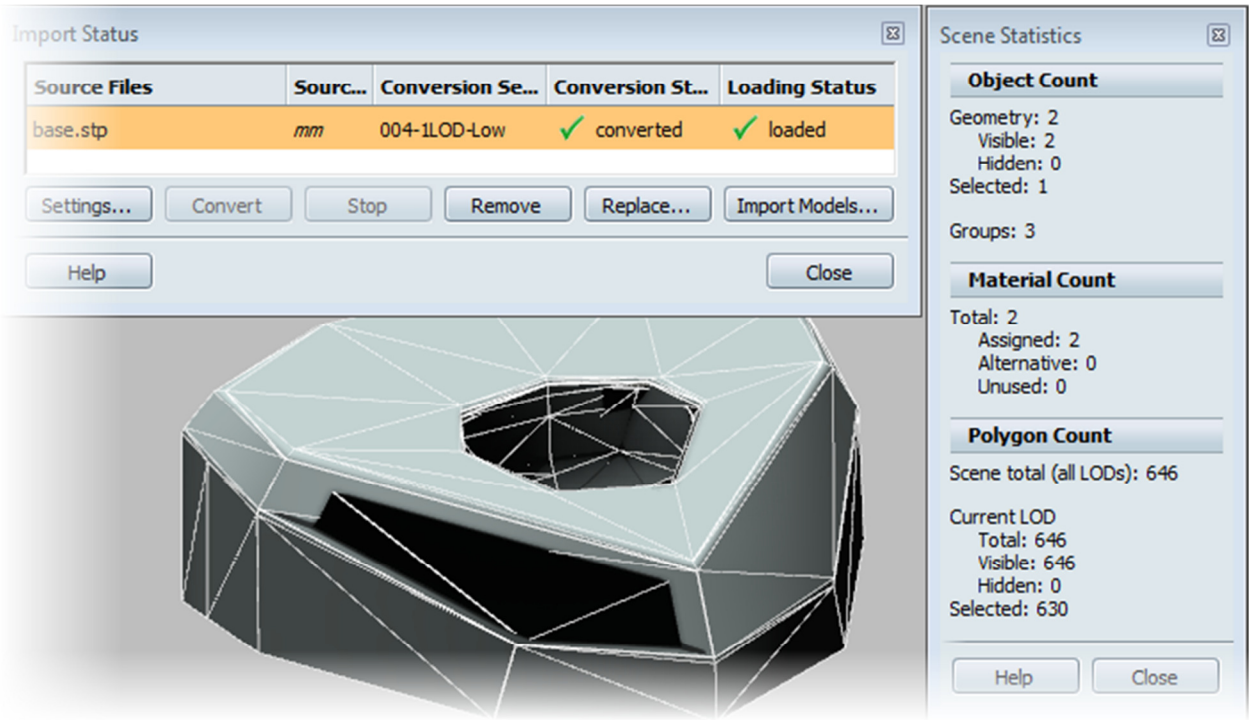
- In the **Import Status** dialog box, **Conversion Settings** column, **RIGHT-CLICK** the conversion setting for *base.stp*. Click *0041LOD-Low*.



- In the **Conversion Status** column, click **Needs Update**.



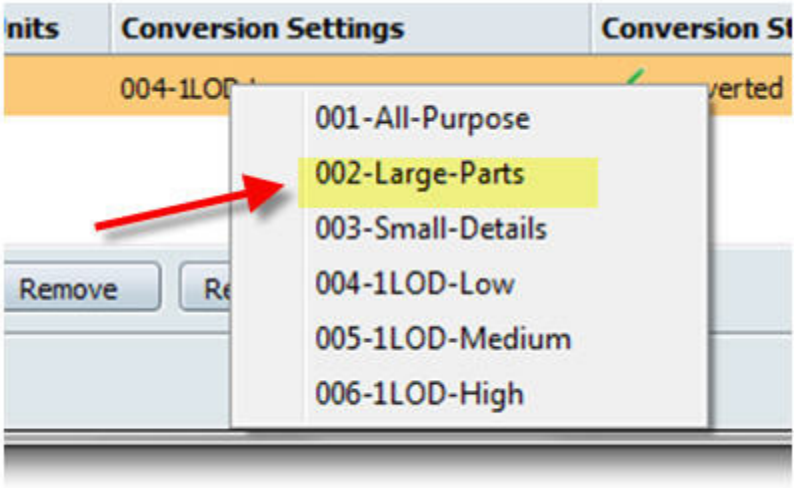
35 In the graphics window, review the new import and tessellation of the model geometry.



Note that the geometry almost appears to take on a new shape. This is a case that if you were reviewing the shaver base, this tessellation would not be good enough.

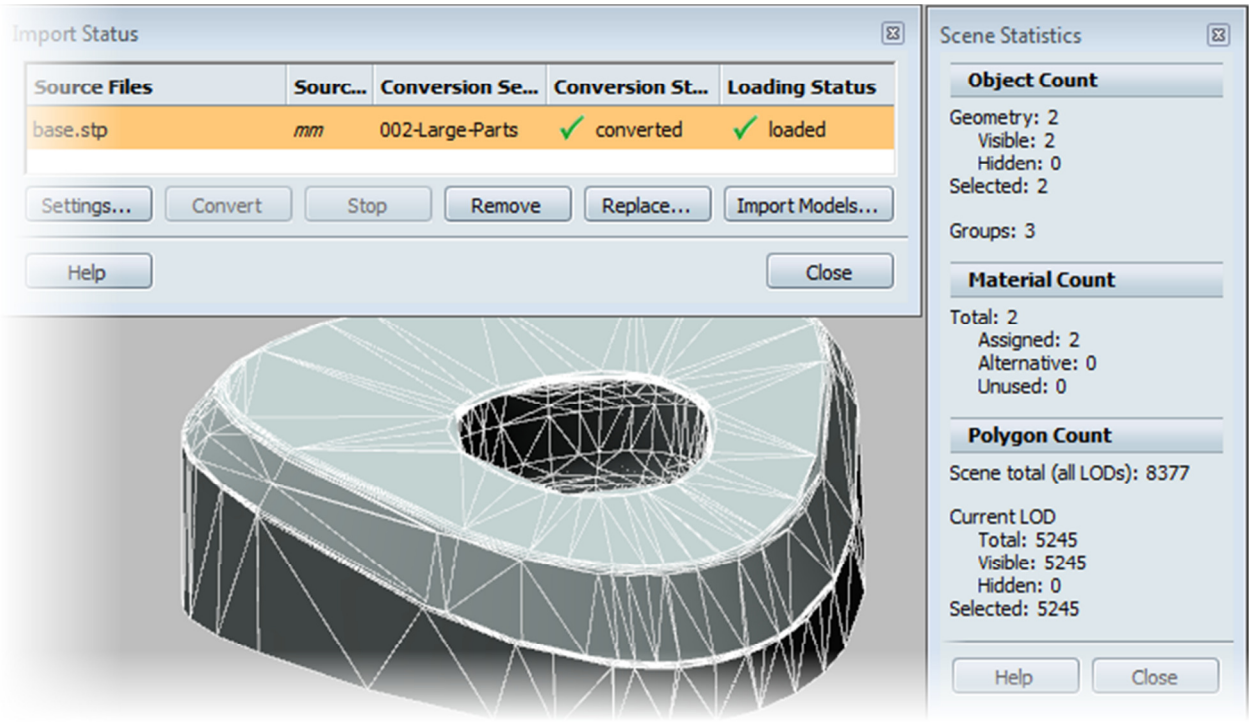
36 Next, we will work with a different tessellation to see the difference.

- In the **Import Status** dialog box, **Conversion Settings** column, **RIGHT-CLICK** the conversion setting for *base.stp*. Click *002-Large-Parts*.



- In the **Conversion Status** column, click **Needs Update**.

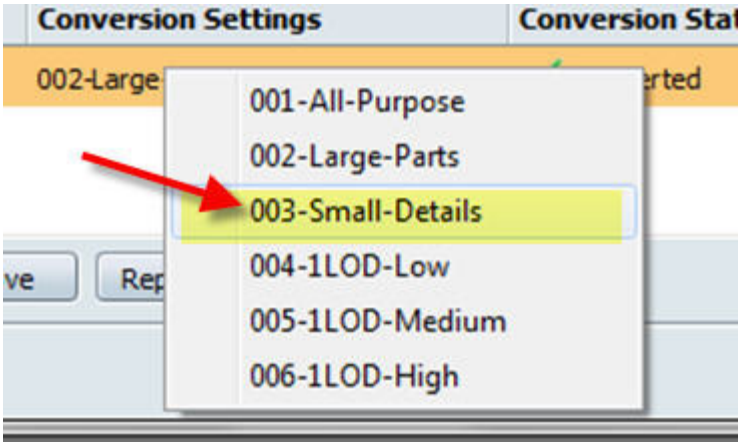
37 In the graphics window, review the new import and tessellation of the model geometry.



Our model is looking closer to what the model would look like. Notice that we have more triangles in our scene compared to the previous step. You may consider using a tessellation level like this if you were trying to keep graphics speed up and you were not attempting to review the style of the shape itself.

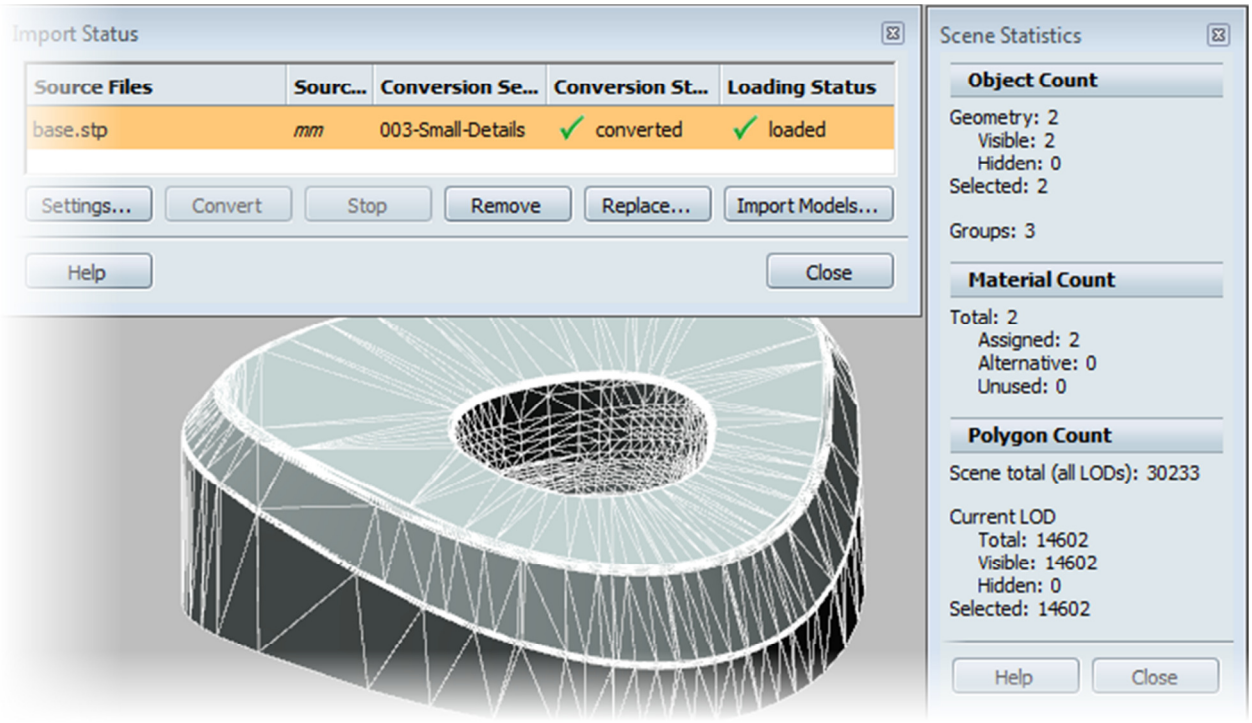
38 Next, we will work with a different tessellation to see the difference.

- In the **Import Status** dialog box, **Conversion Settings** column, **RIGHT-CLICK** the conversion setting for *base.stp*. Click *003-Small-Details*



- In the **Conversion Status** column, click **Needs Update**

39 In the graphics window, review the new import and tessellation of the model geometry.



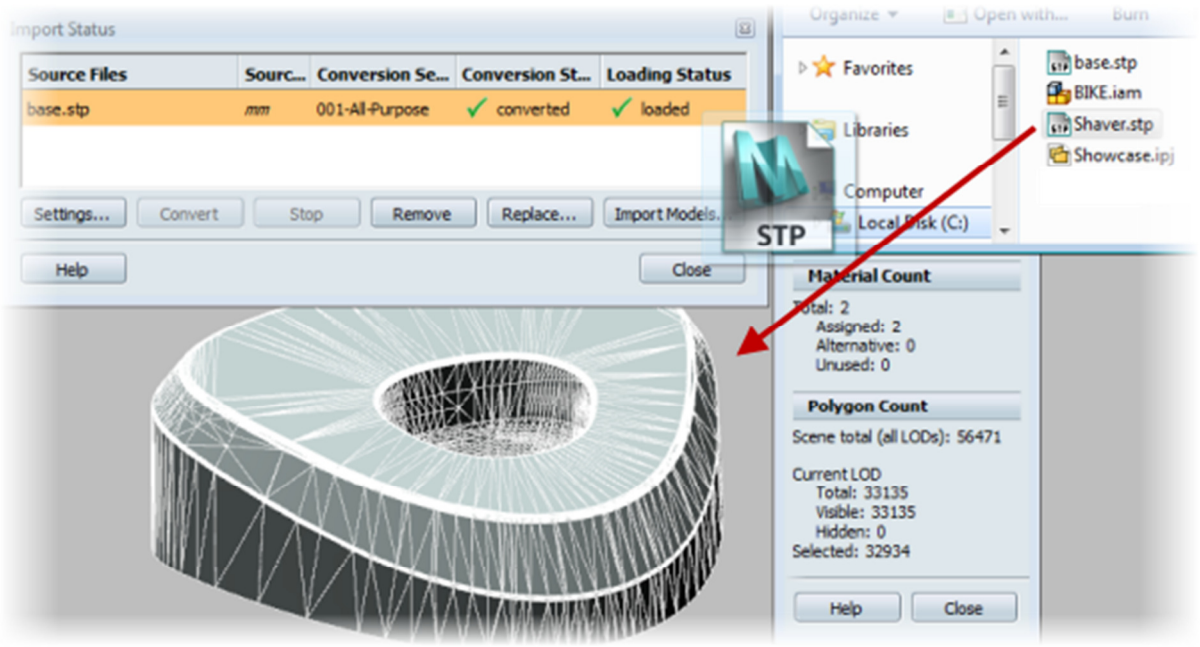
Our model is looking great. The surfaces are well defined and really show the shape well.

The Small Object conversion status works really well for small parts that need a lot of curved surface definition. However, if you look at the number of polygons, you will see that there is now about double the number of polygons that we had in the previous step.

In Showcase, there is always a balance between system performance and triangles.

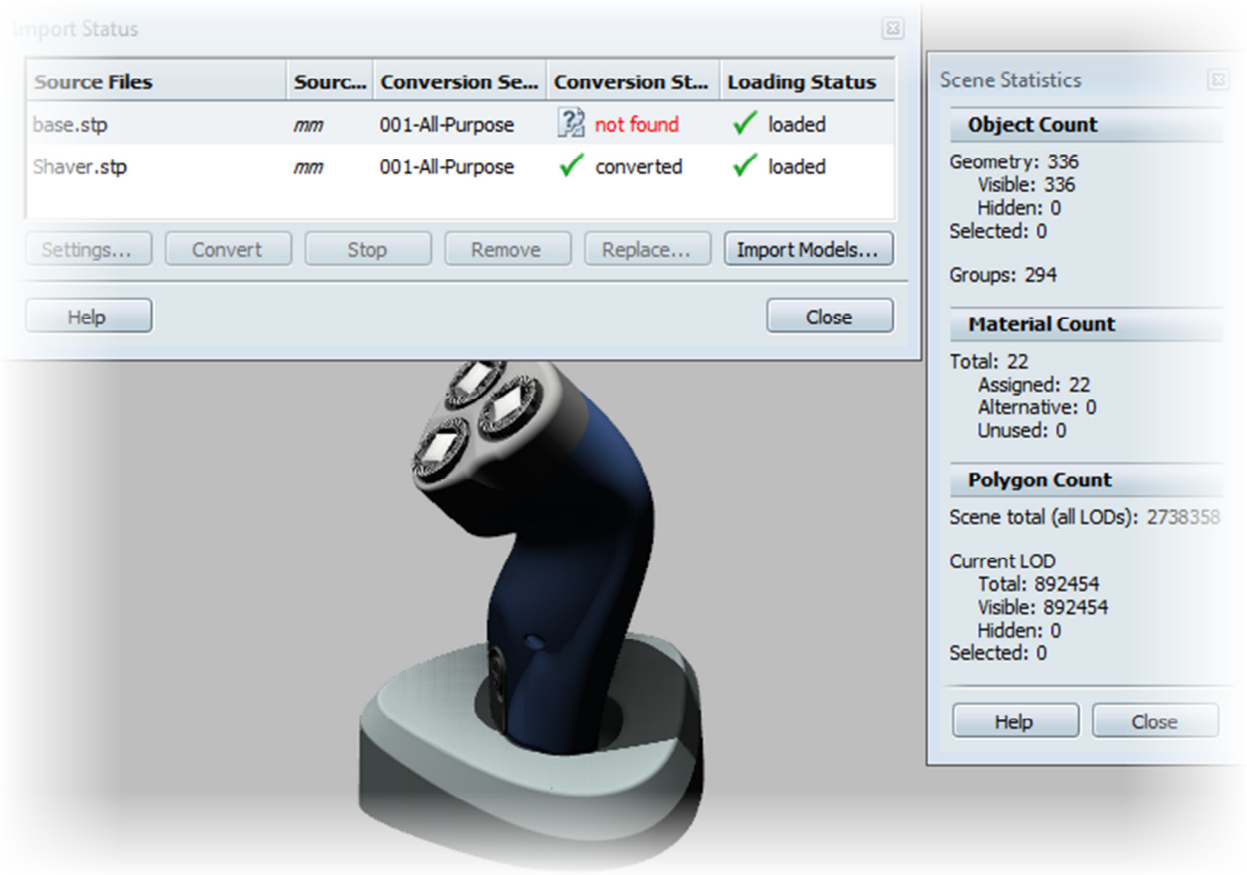
40 We will now add the *Shaver.stp* file into our session. You could use the **Import Model** button in the **Import Status** dialog box, but we will use another approach.

- Open an **Explorer** window and place it next to your Showcase window.
- In the **Explorer** window, go to the folder that has the *Shaver.stp* file
- LMB Drag the *Shaver.stp* file into the background of Showcase.



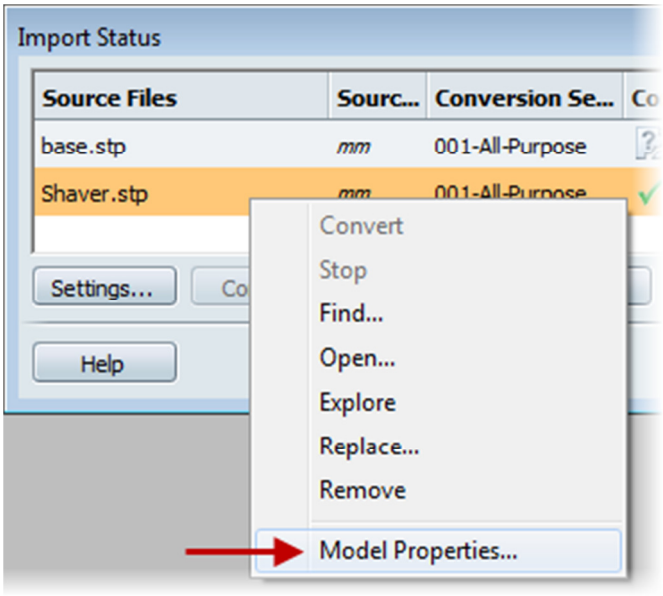
41 In the **Convert Imported Models** dialog box:

- In the **Conversion Settings** list, select *001-All-Purpose*.
- Click **OK**.

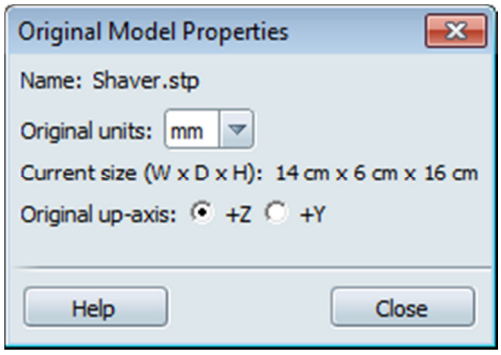


42 Although the shaver is configured correctly within the scene, you will often have files that are not correctly orientated. Therefore, this is just a practice of having to use the object transformation.

- RIGHT CLICK on *Shaver.stp* and select **Model Properties…**

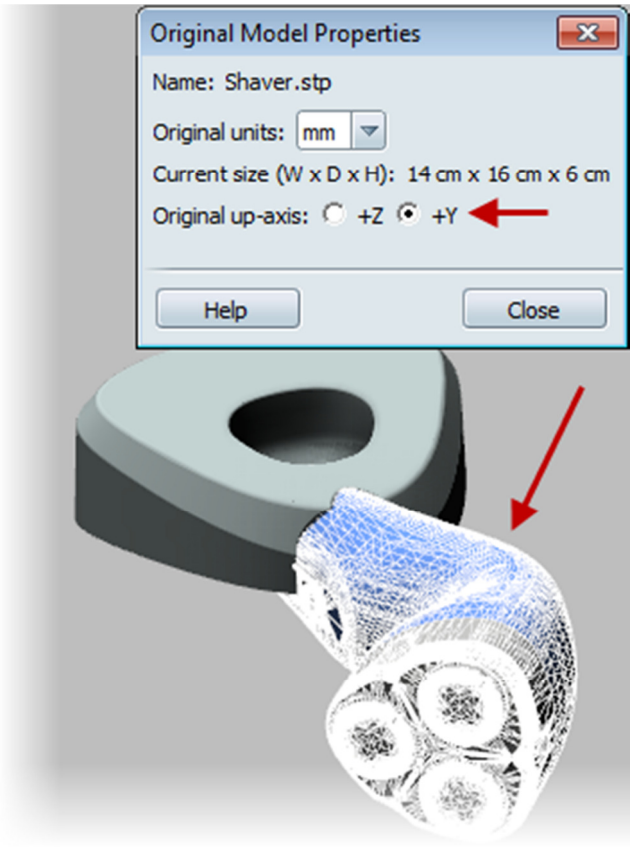


43 The Original Model Settings dialog appears.



44 Notice that the **+Z** button is currently selected.

- Click the **+Y** button



You would use this control if the orientation of the object was incorrect.

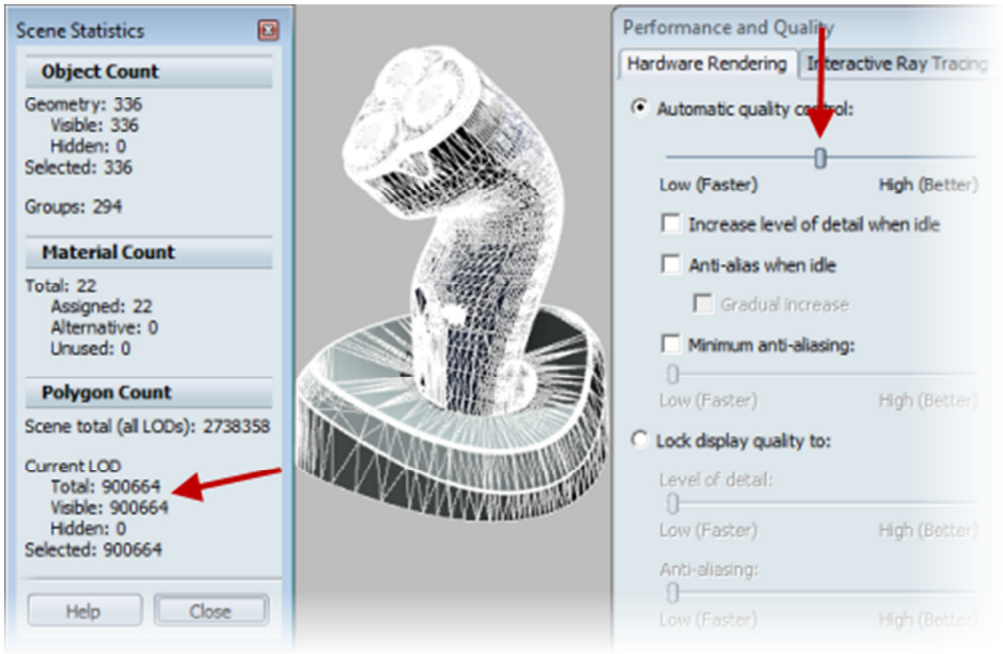
- Click the **+Z** button to move the object back into the correct position
- Close the **Import Status** dialog box.

45 Select all geometry.
Select | **Select All**

46 Most users only work with the **Performance and Quality** settings when they are trying to do something specific in a review session. It is therefore recommended that you return all settings back to the original settings before saving your session.

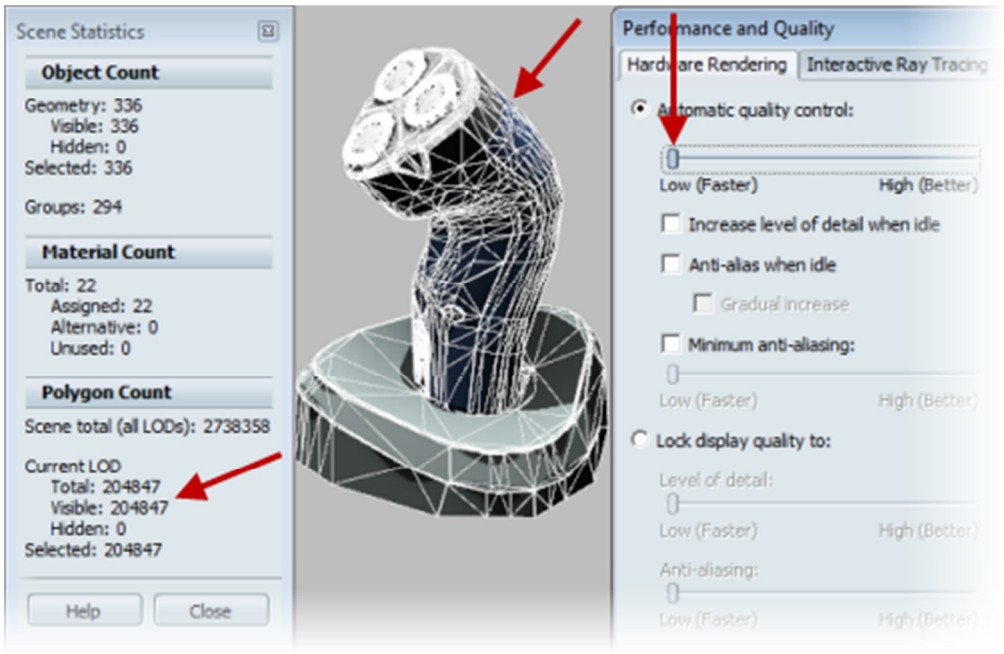
We are going to review the **Performance and Quality** setting to better understand Level of Details (LOD).

- Select **File** | **Preferences** | **Performance and Quality …**

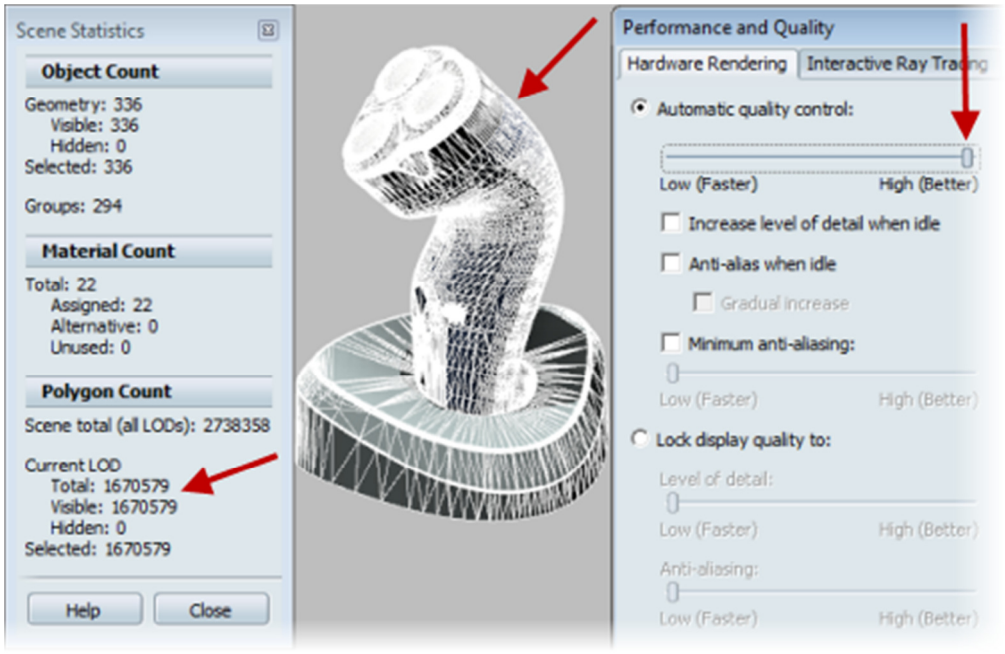


47 Let's move the **Automatic quality control** slider to see all three LOD's in the file.

- Move the slider all the way to the left

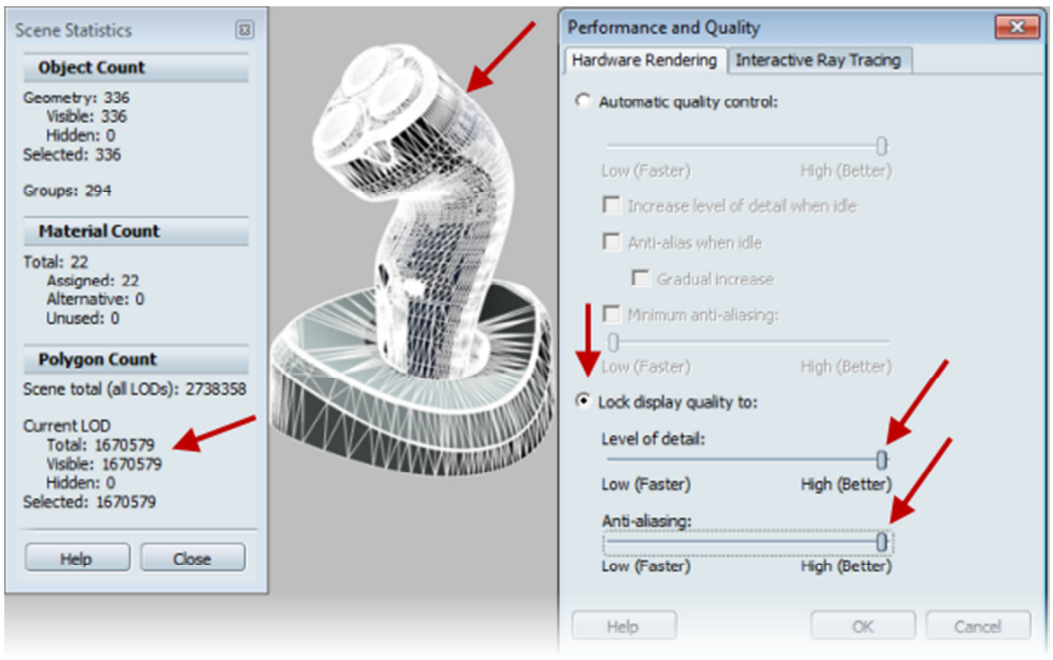


48 Move the slider all the way to the right



49 In the **Performance and Quality** dialog box:

- Click **Lock Display Quality To**.
- Drag the **Level Of Detail** slider back and forth to view the changes in the tessellation of the selected model.
- When the slider is set to **High(Better)**, click **OK**



50 Reset Performance and Quality settings to their original state.
51 Close all open Dialog boxes.
52 Reset the Home view.

- Click **View** menu | **Fit To View**
- Right-Click on the Home button and select Set Current View as Home

53 To set a different environment active, in the Environments list, **Environments Libraries** area, **Geometric**, **Misc**, click *ID Box Sweep*.

54 Click **File** menu | **Save As** to save the scene

- Name the scene **Shaver.a3s**.

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1.11 Project: Transforming Geometry

Depending on the data brought in, it is possible that the data will not show up in the correct position within Autodesk® Showcase®.

In this portion of the project, you will see signs of improperly positioned data, use different techniques for transforming the data to its proper location.

Completed Project

Instructions

55 Continue with the *Shaver* scene.
56 Click **Select** menu | **Select All** to select all the components in the scen.e
57 Click **Edit** menu | **Show Transform Handles** to show the Show Transform Handles.
58 Using the **View Cube**, change the view orientation.
- Click the **Front** View

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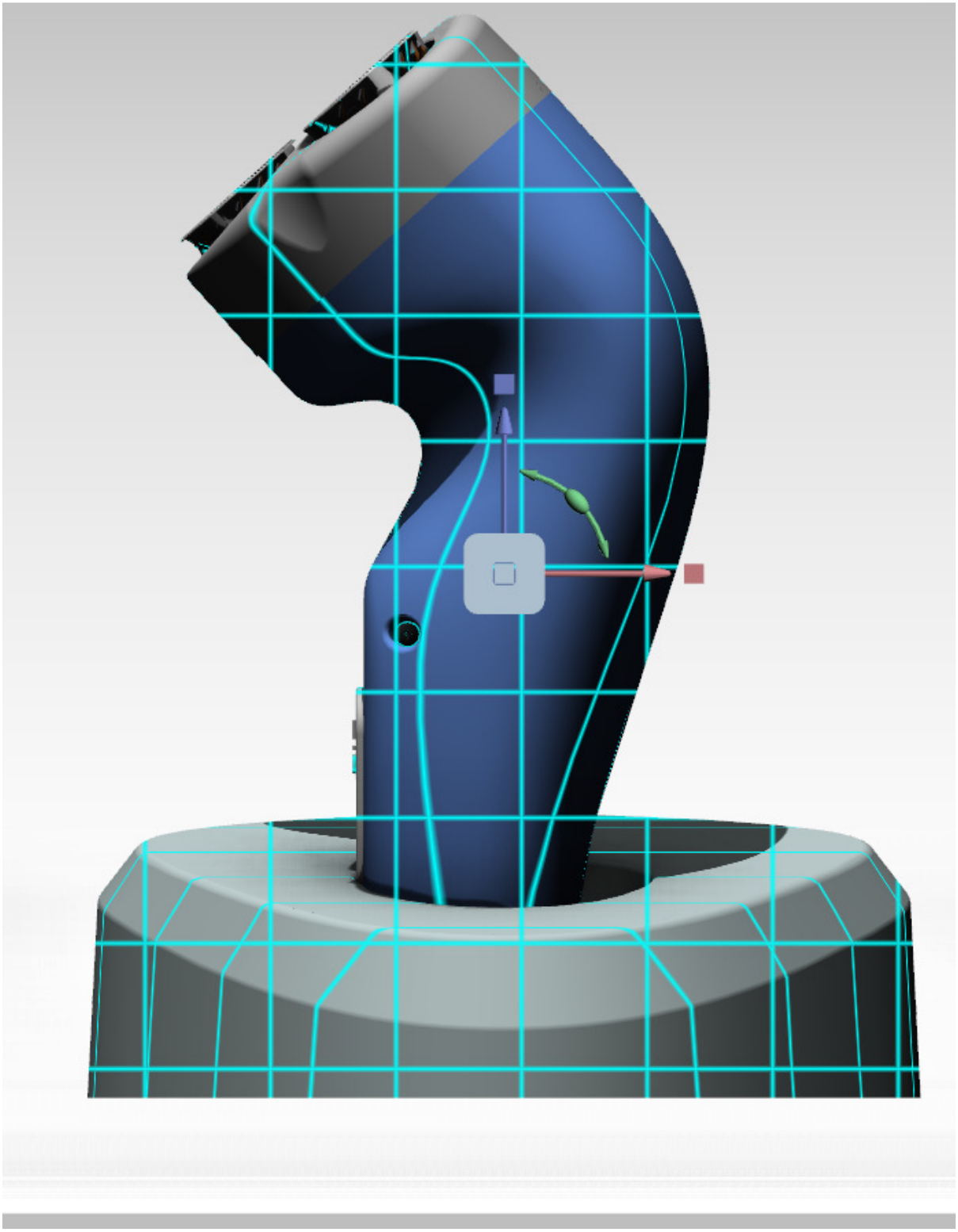
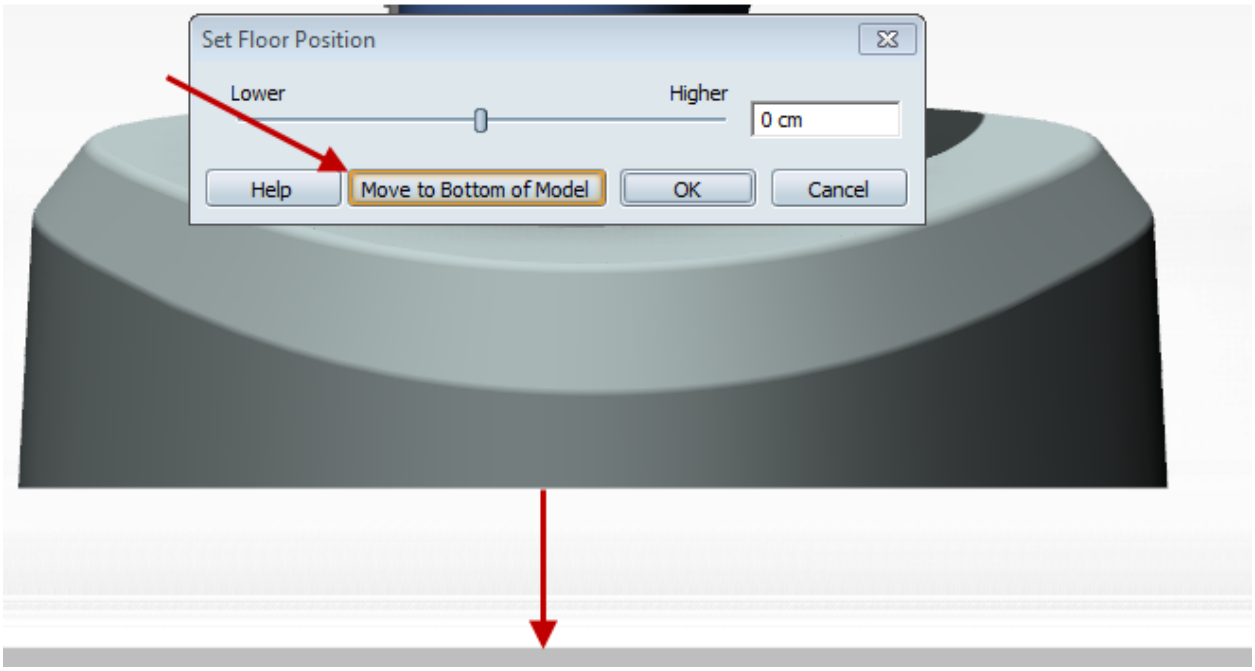
59 Move objects by using the **Blue Transformation Handle**



60 Click **Edit** menu | **Show Transform Handles** to hide the Show Transform Handles

61 Click **Edit** menu | **Set Floor Position.**

62 Click **Move to Bottom Of Model** button.

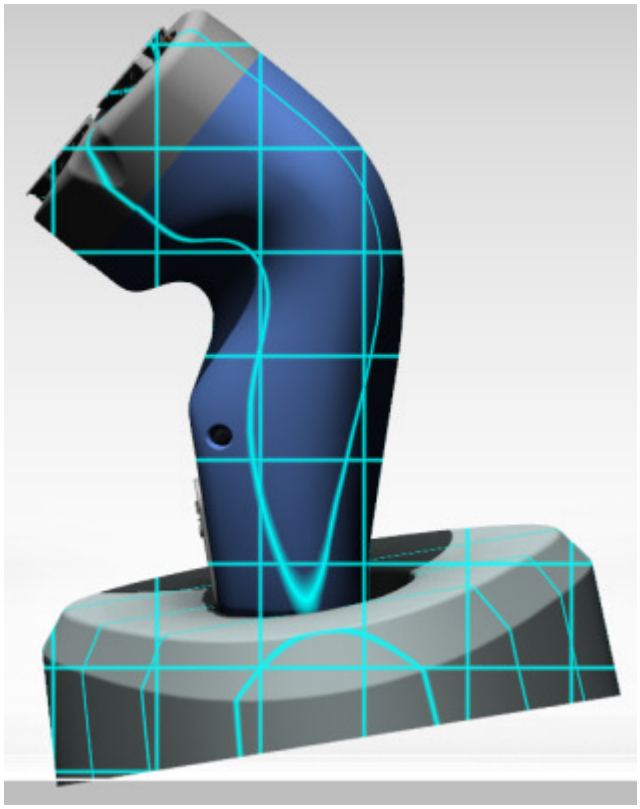


This tool typically works really well for an initial pass at putting your model on the floor of the room. The interface is controlled by integer distance moves though if your floor happens to be 1.5cm below your object, you will be either .5cm below or above the surface

63 Click the **Cancel** button to return the shaver to its original position.

64 Now we will use the **Edit** | **Position on Floor** control to position the object.

- Select all geometry CTRL+A
- Select the **Edit** | **Position on Floor**

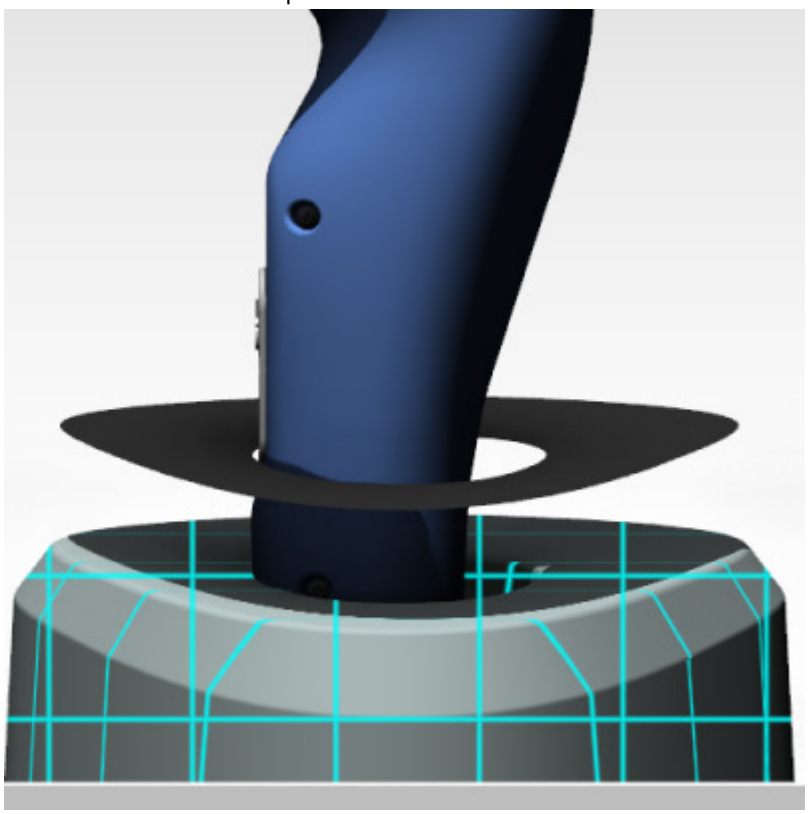


Note that the position of the object is not aligned to the floor correctly. This is because it takes into account all geometry selected

65 Click CTRL+Z to undo move.

66 Next, unselect all and then select only the very bottom portion of the shaver holder and use **Position on Floor.**

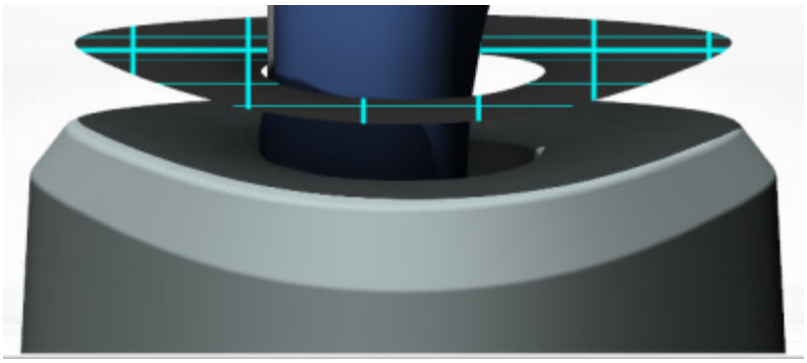
- Select **Select** | **Deselect All** (CTRL+SHIFT+A)
- Click the lowest portion of the base of the shaver base
- Select the **Edit** | **Position on Floor**



The base now sets perfectly on the floor. But this doesn't help the remainder of the shaver unit.

67 While still selected to the base that has been transformed, copy the transform and apply it to all objects in the shaver unit.

- Select the bottom of shaver base if it is not already selected
- Select **Edit** | **Transform** | **Copy Transform**
- Select the top Skin of the base
- Select **Edit** | **Transform** | **Paste Transform**



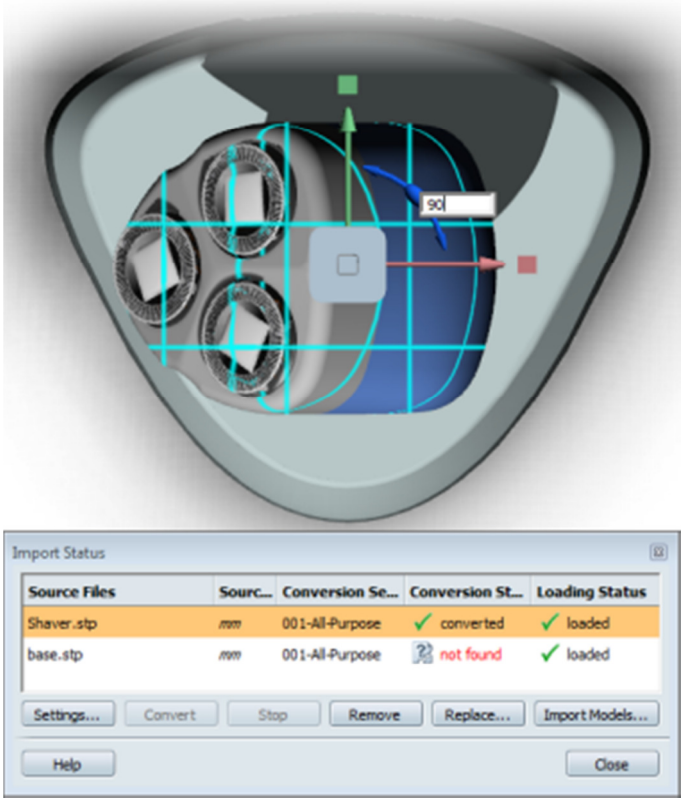
68 As can be seen, the base is now at the correct position on the floor; however the shaver is rotated and not seated in the base.

69 From the Top view, deselect all and then select only the shaver.

- Click the **TOP** view on the view cube
- Click on the background to deselect all selections
- Open the **Import Status** window by pressing the I key
- Click on the *Shaver.stp* line of the **Import Status** window

70 Rotate the shaver exactly 90 degrees using the **Transform handles**.

- Enable the **Transformation Handles**
- Click on the center of the blue arced rotation control and enter 90



71 Close the Import Status dialog box.

72 Click **File** menu | **Save** to save the scene

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Project 1 – Showcase Basics

1.12 Project: Organize and Hide Geometry

In this section of the project, you organize geometry in a different manner within the Organizer and change the visibility of some of the geometry.

Complete Project

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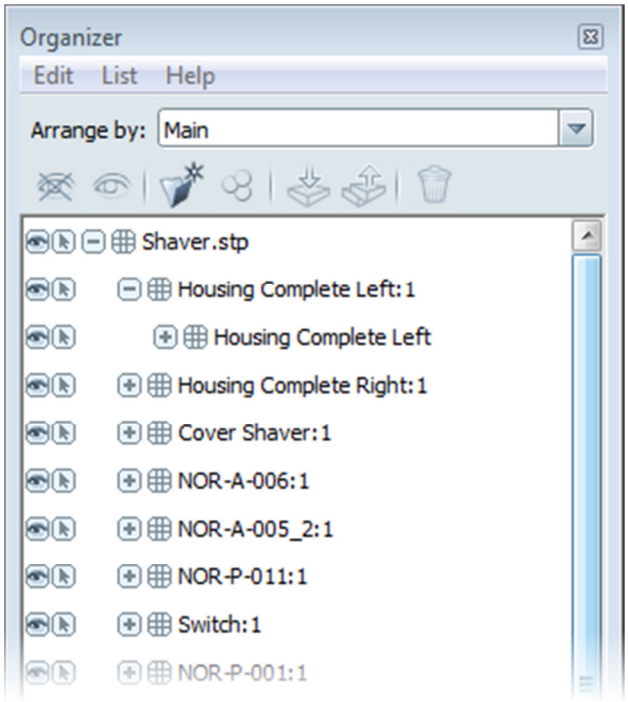
Project 1 – Showcase Basics

Instructions

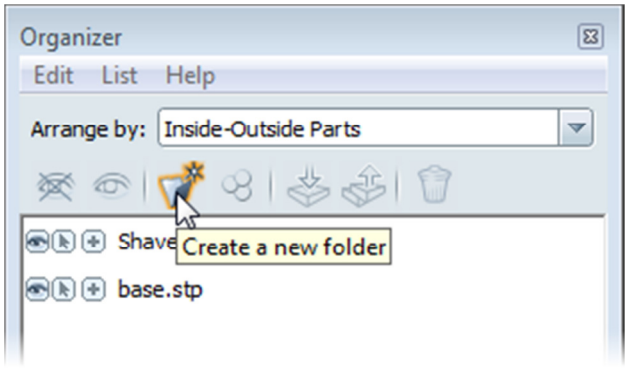
73 Click **Edit menu** | **Organizer**. Review the organization of the information.



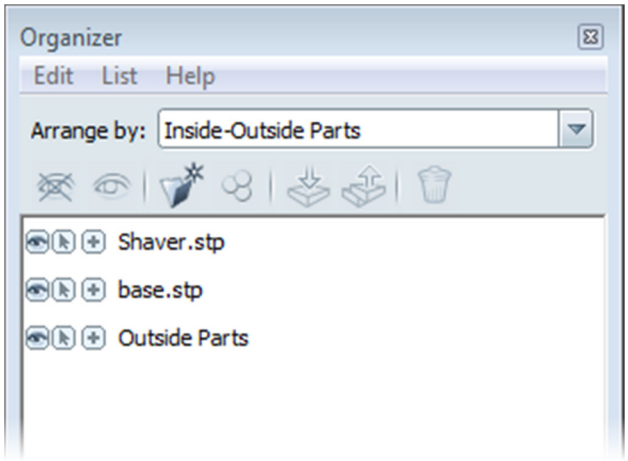
74 To create a new arrangement:

- In the **Arrange By list**, select **Create New Arrangement**.
- In the **Create New Arrangement** dialog box, **Name** field, enter **Inside-Outside Parts**.
- Click **Create**.

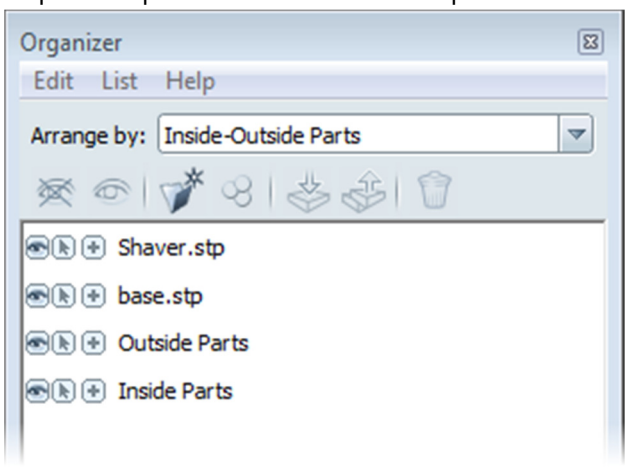
75 In the **Organizer**, on the toolbar, click **Create a New Folder**.



76 In the list, double-click **New Folder**. Enter **Outside Parts** and then press **ENTER**.

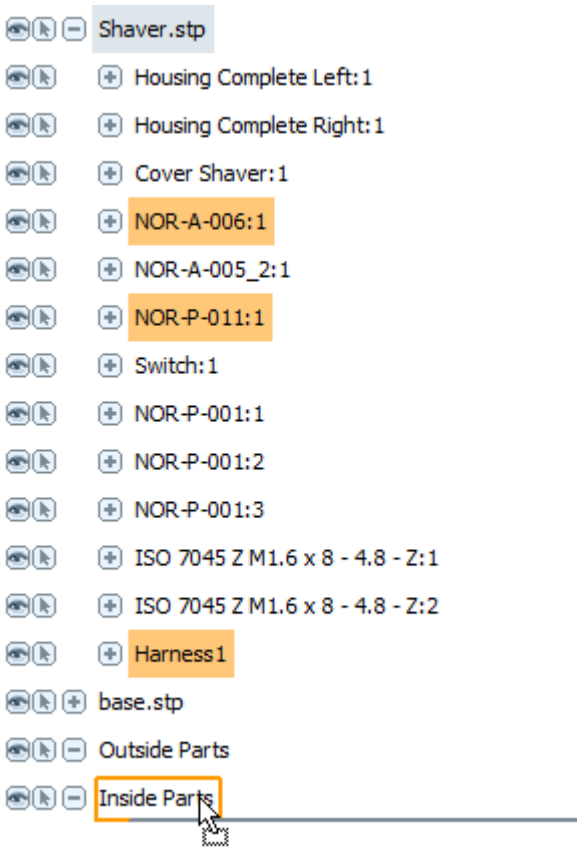


77 Repeat the process of the last two steps to create a new folder titled **Inside Parts**.

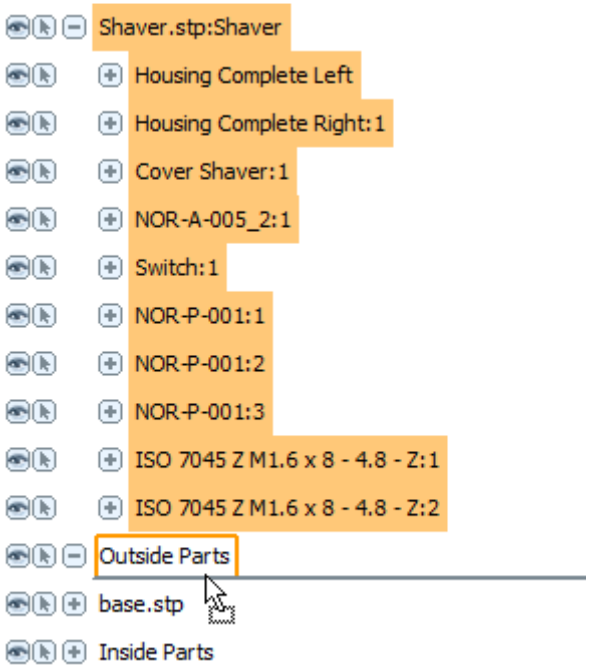


78 To reorganize the inside parts to the *Inside Parts* folder:

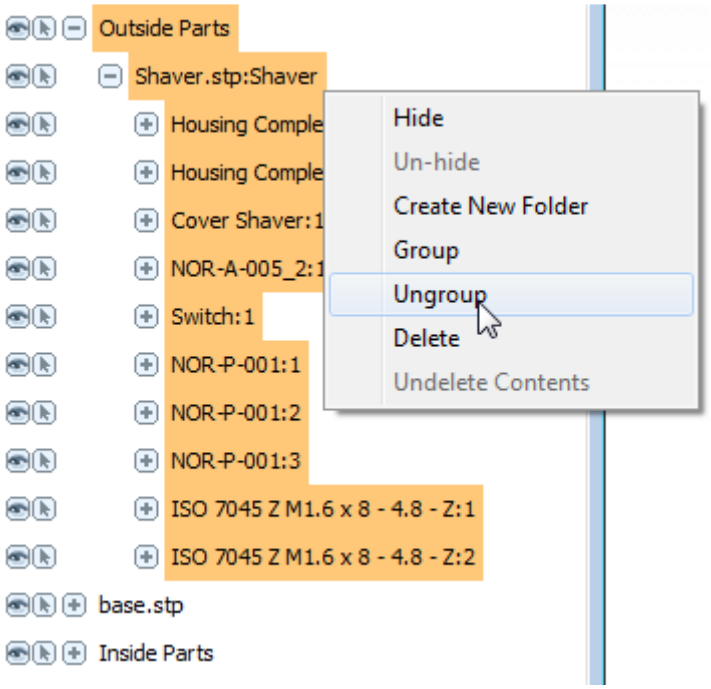
- Expand the **Organizer** list for *Shaver_stp*.
- Press and hold **CTRL** while clicking the identified parts.
- Click and drag the last selected part to the folder *Inside Parts* as shown.



79 In the **Organizer**, select the remaining parts under *Shaver_stp.apf:3* and drag and drop them to the folder *Outside Parts* as shown.



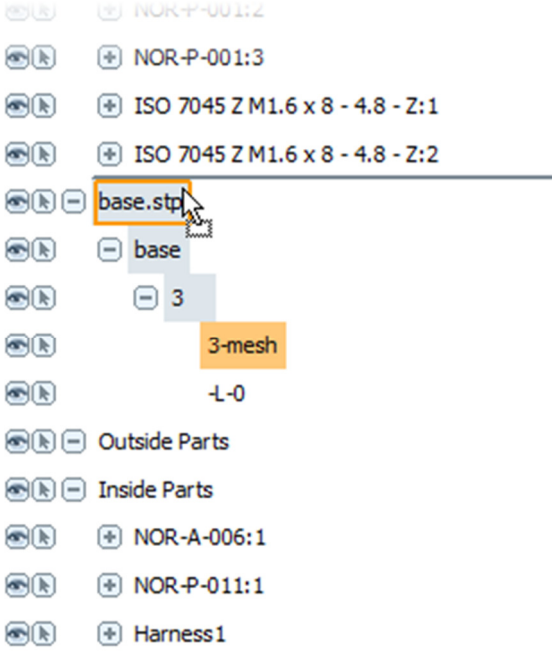
80 Right-Click on *Shaver.Stp:Shaver* and select Ungroup.



NOTE: The *Shaver.Stp:Shaver* folder is removed

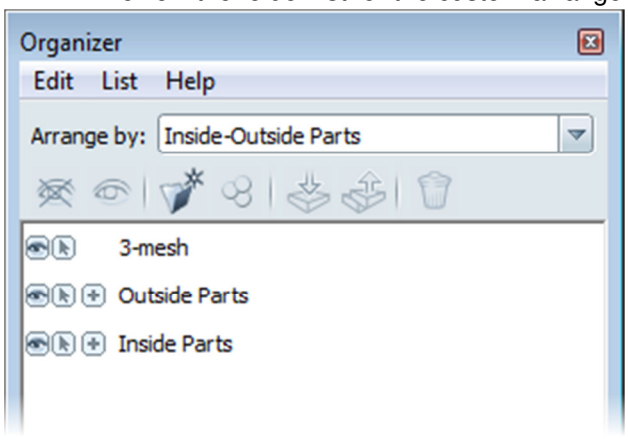
81 To move the base part model to the top level of the list, in the **Organizer**:

- Expand the list for *base_stp*.
- Click and *3-mesh* to the top of the list as shown.



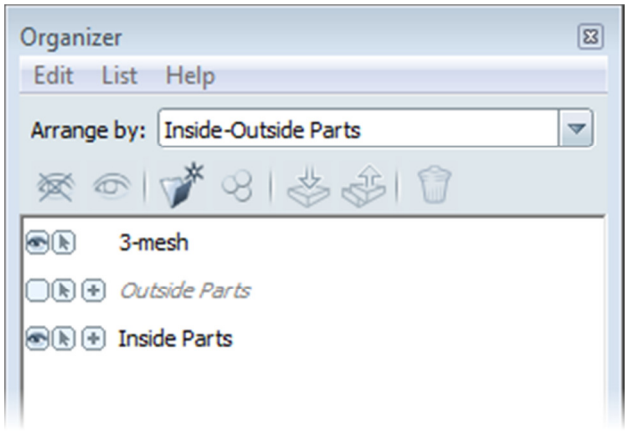
82 To remove the unneeded original folders, in the **Organizer**:

- Press **CTRL** and *select base_stp*
- Right-click *base_stp* Click **Delete**.
- Review the folder list for the custom arrangement.

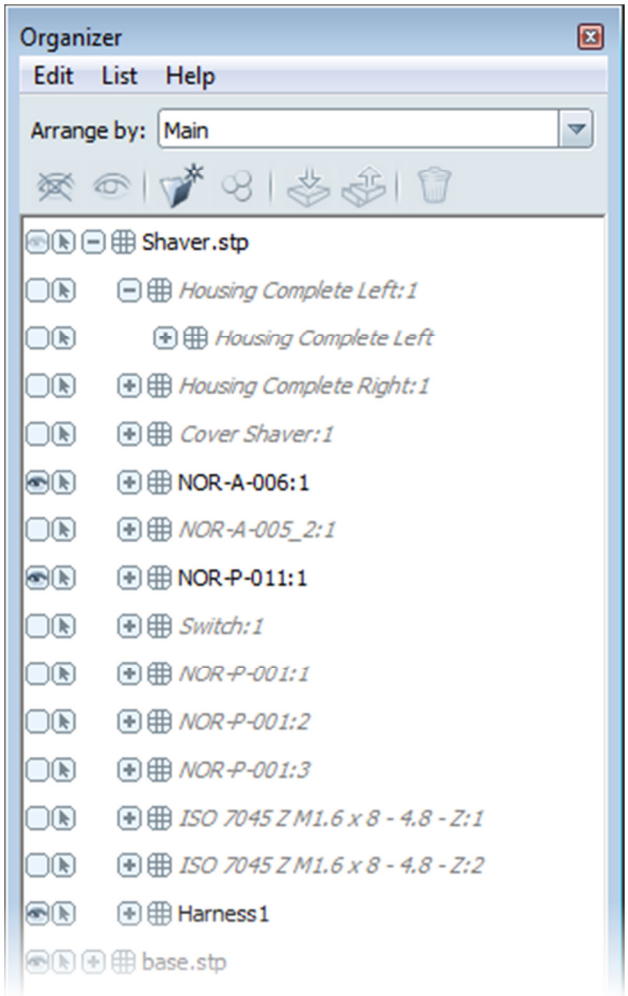


83 To hide the models in the Outside Parts folder, in the **Organizer**, right-click *Outside Parts*.

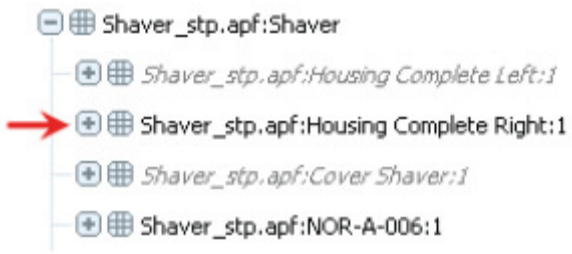
- Click **Hide**.



84 To change the list back to the original Main arrangement, in the **Arrange By** list, select **Main**.



85 To unhide half of the shaver housing, in the list right-click *Shaver_stp.apf:Housing Complete Right:1*. Click **Un-hide**.



86 To unhide all model geometry, click **Select** menu | **Un-Hide All**.

87 Save File.

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Project 1 – Showcase Basics

1.13 Project: Viewing and Flipping Normals

In this portion of the project, we will review and repair a file that the normals are not faced properly.

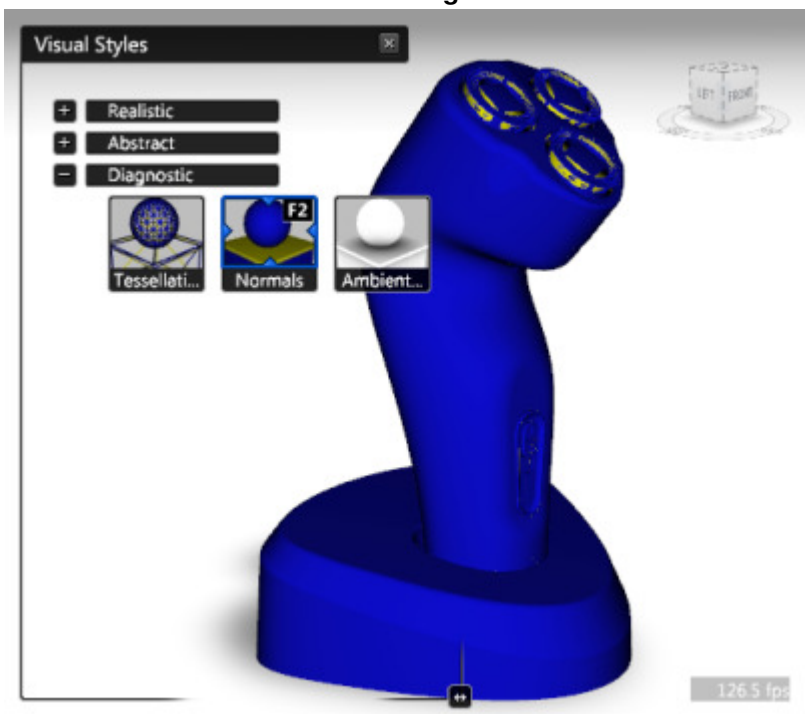
We will first learn to recognize normals direction, Then, we will flip normals followed by flipping individual faces.

Instructions

88 Continue with the *Shaver* scene.

89 Select **Appearance** | **Visual Styles Library**

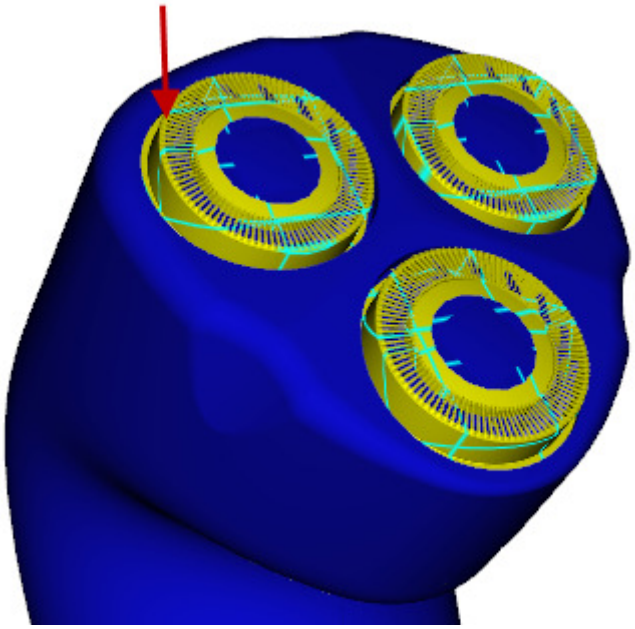
- Select **Normals** from the **Diagnostics** menu



Notice that a majority of the surfaces are blue and a few are yellow. We will need to flip all the yellow surfaces to blue.

90 Select each of the Screen surfaces and flip the normal.

- Select surface on the corner
- F3

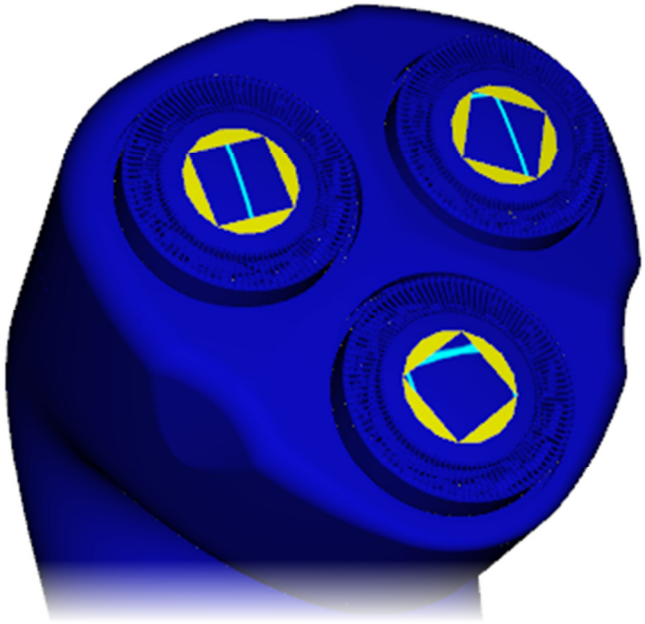


For each surface, notice that the surface flips, but there is still pieces of geometry that did not flip.

Return the two surfaces back to their original state.

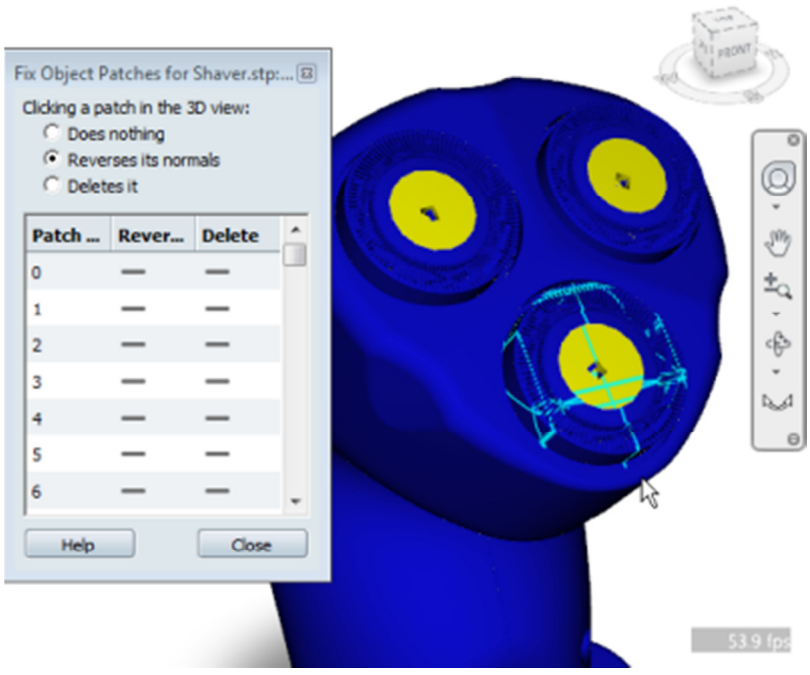
91 Hide the rectangular surface in the center of each screen.

- Use Shift Select
- Select **Select** menu | **Hide**

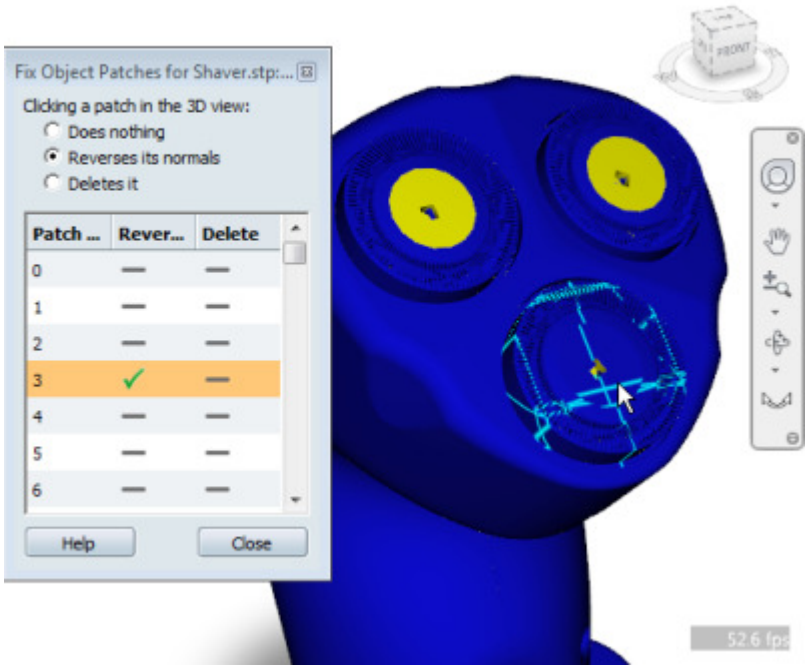


92 Use **Fix Object Patch** | **Reverse Normals** to fix patches faced in wrong direction

- Select **Edit** menu | **Fix Object Patch** | **Reverse Normals…**

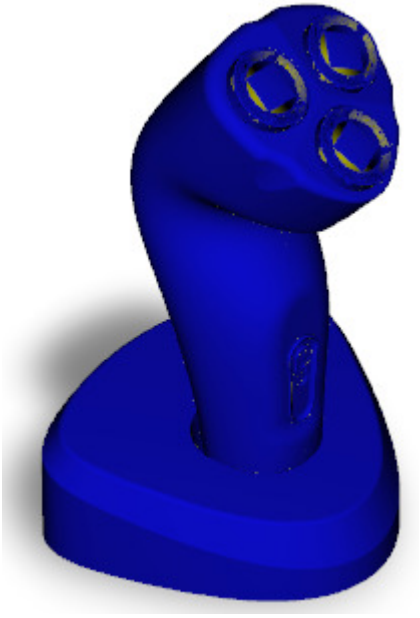


93 Select the surface to change, then pick the surface patch that is yellow.



94 Do the same process for the rest of the screens.

95 Select **Select** menu | **Un-Hide All**



96 Select **Appearance** | **Visual Styles Library**

- Select **Both Shadows** from the **Realistic** menu

97 Close the **Visual Styles Library.**

98 Save File.

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Project 1 – Showcase Basics

1.14 Project: Apply Materials

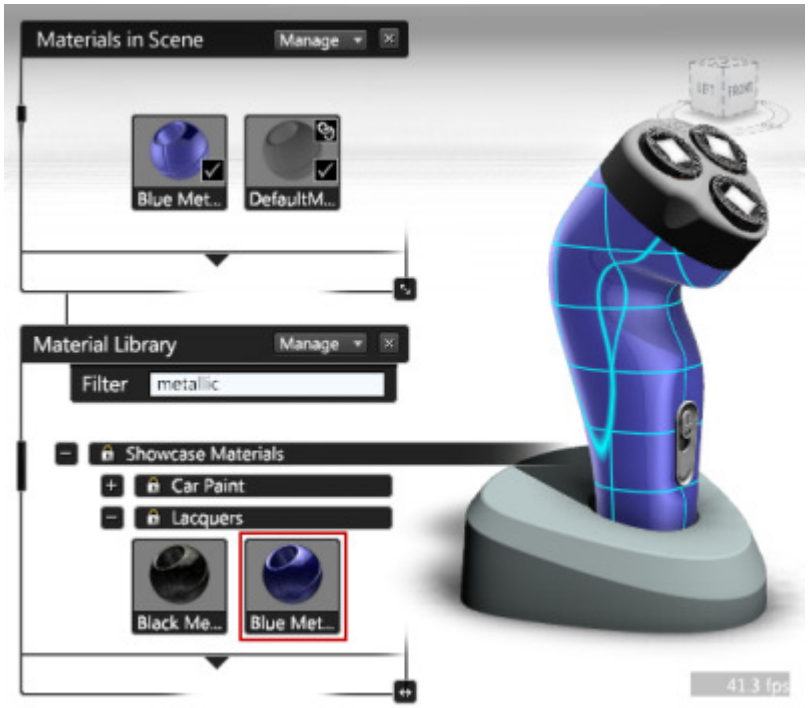
In this portion of the project, you apply materials to objects in the scene.

Instructions

99 Continue with the *Shaver* scene.
100 To display the **Materials** list, press **M.**
101 **Shift Select** both halves of the **Housing**.

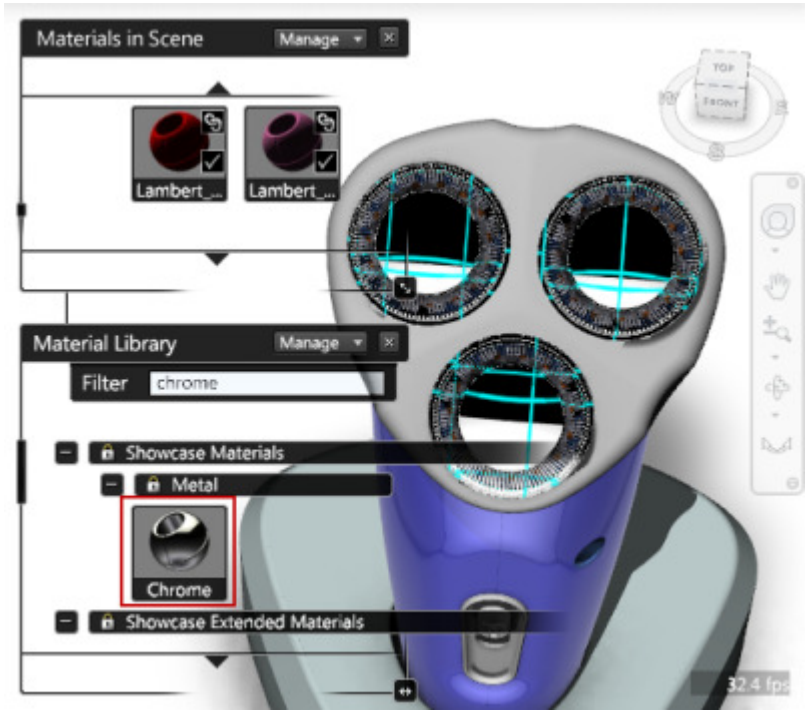
102 Apply *Blue Metallic Lacquer* to both halves of the **Housing.**

- In the **Filter** dialog type **Metallic.**
- Select *Blue Metallic* from the **Lacquers** Menu under **Showcase Materials**

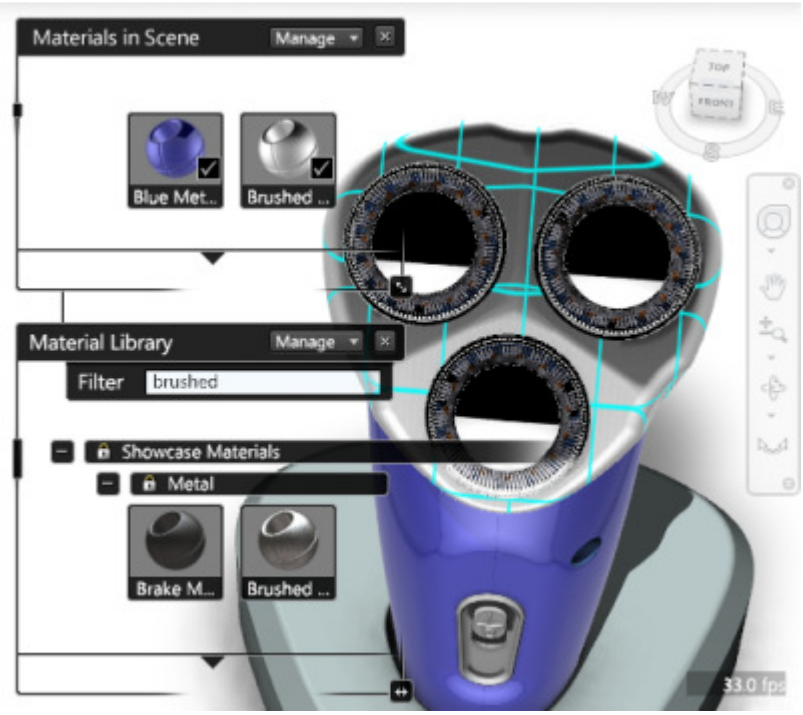


103 Apply Chrome to all the screens.

- In the **Filter** dialog type **Chrome.**
- Select *Chrome* from the **Metal** Menu under **Showcase Materials**



104 Apply Brushed Metal to the cover.



105 Apply **Fine Textured – Black** to the base.

106 Save File.

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Project 1 – Showcase Basics

1.15 Project: Include and Activate Environments

In this portion of the project, you add another path to the Environment Libraries list, add an environment to the scene, activate different environments, and change scene settings for the environments.

Instructions

107 Continue with the *Shaver* scene.

108 Unpack and copy the valley road environment into *~Documents\Autodesk Showcase 2012\Environments*

109 Click **Story menu** | **Environments**

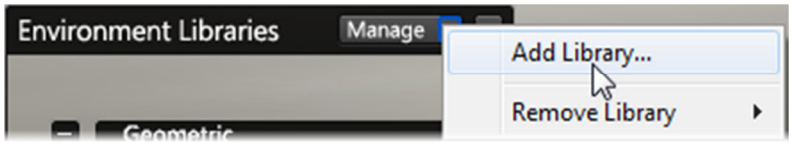
110 To add an environment to this scene, in the **Environment Libraries** area, click *ID Speed*.

- Select *ID Speed* from the **Geometric** Menu under **Small**

ID Speed is automatically activated and shown in the **Environments In Scene** area.

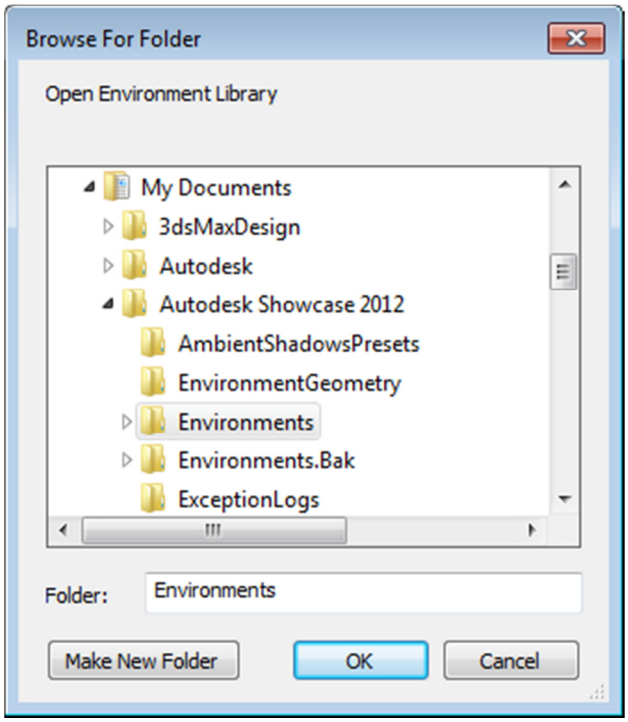
111 To begin adding a new library to a folder of additional environments,

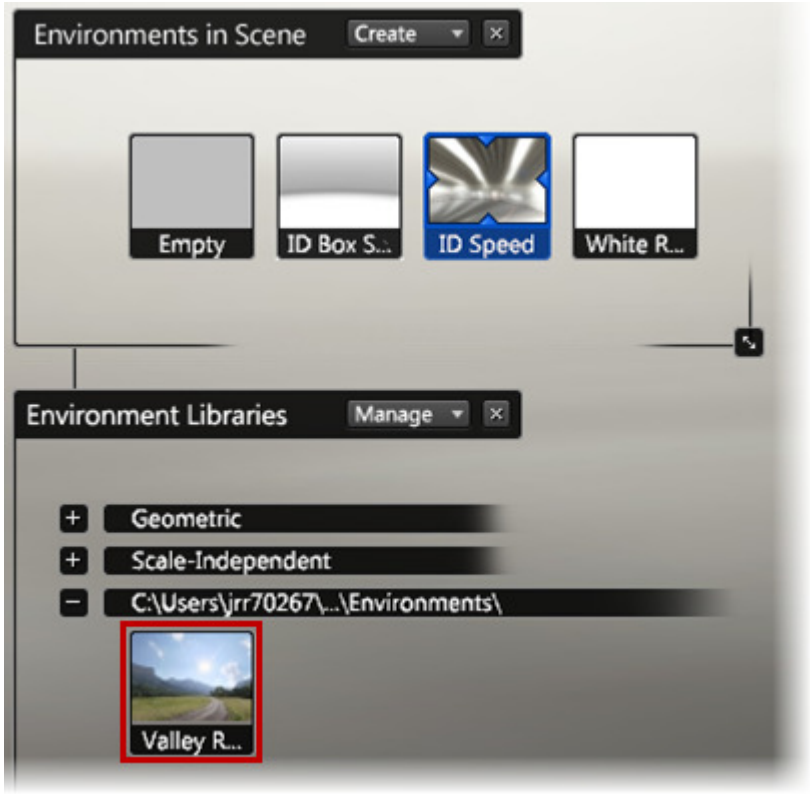
- In **Environment Libraries** area
- Click **Manage** | **Add Library**.



112 In the **Browse For Folder** dialog box:

- Navigate to and select the folder *~Documents\Autodesk Showcase 2012\Environments*
- Click **OK**. The Environment Libraries list now appears as shown.





113 To add an environment from the custom library to the scene, in the **Environment Libraries** area, click *Valley Road*.

114 Orbit around the scene and zoom in and out to view the use of the environment relative to the model.

115 To return to the initial viewing direction, press **HOME**.

116 Add the environment *Green Room* to this scene.

117 To change the scale of the environments in the scene:

- Click **File menu** | **Scene Settings**.
- In the **Scene Settings** dialog box, **Environment Properties** area, drag the slider toward Smaller until the size value is approximately 0.034.
- Click **OK**.

118 Review the display changes of the environment that are relative to the size of the model geometry.

119 In the **Environments In Scene** area, click *ID Box Sweep* to set it active. Review the display differences with this environment compared to how it appeared before the changes.

120 To change the scale of the environments in the scene:

- Click **File menu** | **Scene Settings**.
- In the **Scene Settings** dialog box, **Environment Properties** area, type **1** into the **Size of environments in the scene** box.
- Click **OK**.

121 Save File.

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1.16 Project: Adjust the Environment Light and Shadows

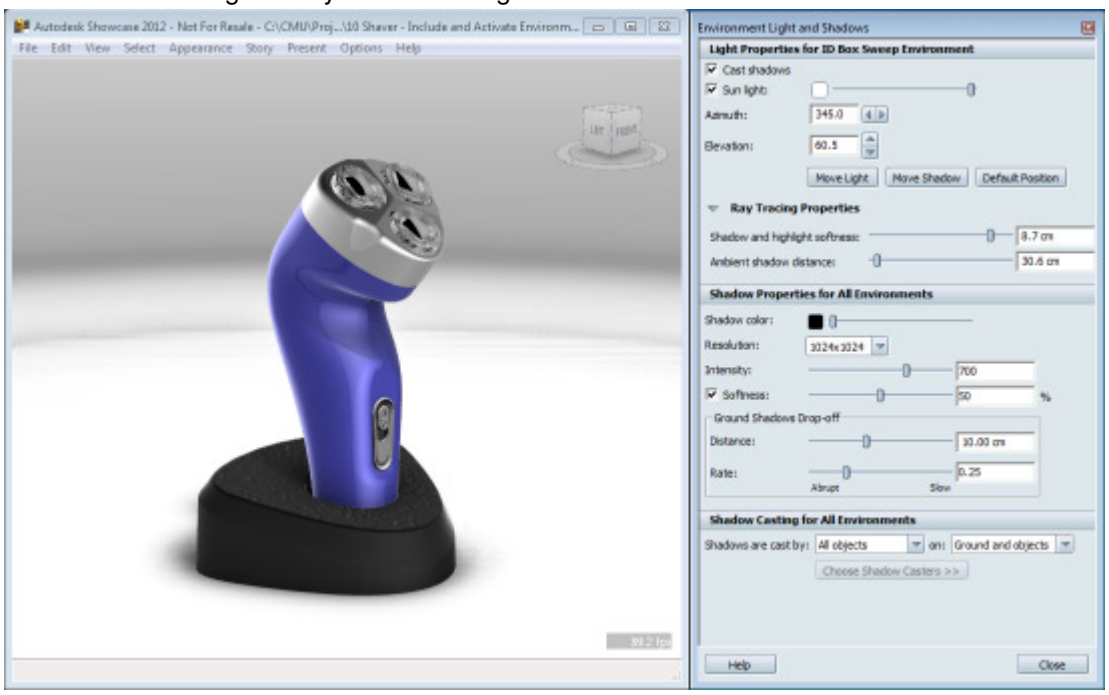
In this portion of the project, you toggle the display of the environment light, add model geometry to display the ground shadow, and set different environments to display variations of the ground shadow.

Instructions

122 Continue with the *Shaver* scene.

123 Click **Appearance menu** | **Environment Light and Shadows**

- Move the **Environment Light** and **Shadows** dialog box so you can simultaneously view the model geometry and the dialog box.



124 To review the impact of this environments light on the model geometry with its default imported materials:

- In the **Environment Light** and **Shadows** dialog box, The **Light Properties for ID Box Sweep Environment** area,
- De-select the **Cast Shadows** check box.
- De-select the **Sun Light** check box.
- The design displays as shown.

- Re-check **Cast Shadows** and **Sun Light.**

125 To reposition the light and shadow:

- In the **Light Properties For This Environment** area, click **Move Shadow**.
- In the graphics window, click and drag until the ground shadow displays as shown.
- In the **Light Properties For This Environment** area, click **Stop**.

126 To increase the darkness of the ground shadow,

- In the **Shadow Properties For All Environments** area, **Intensity** field, enter 800.
- **Softness** field, enter 29
- The ground shadows displays as shown.

e

127 In the **Environments** list, **Environments In Scene** area, click *ID Speed* to activate that environment.

128 Click **Appearance menu** | **Environment Light and Shadows**.

129 To begin adjusting the shadows for this environment:

- In the **Light Properties For This Environment** area, click **Move Shadow**.
- In the graphics window, click and drag until the ground shadow displays as shown.
- Click **Close**.

130 In the **Environments** list, **Environments In This Scene** area, switch back and forth between *ID Speed* and *ID Box Sweep* to review the differences in the shadow for each environment.

131 In the **Environments** list, **Environments In This Scene** area, *ID Box Sweep* to the active environment.

132 Save File.

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1.17 Optional Project: Apply and Edit Ambient Shadows

In this portion of the project, you toggle the display of the environment light, add model geometry to display the ground shadow, and set different environments to display variations of the ground shadow.

Instructions

1 Open *Shaver-AmbientShadows.zip*

2 To review what ambient shadows are applied to the model geometry:

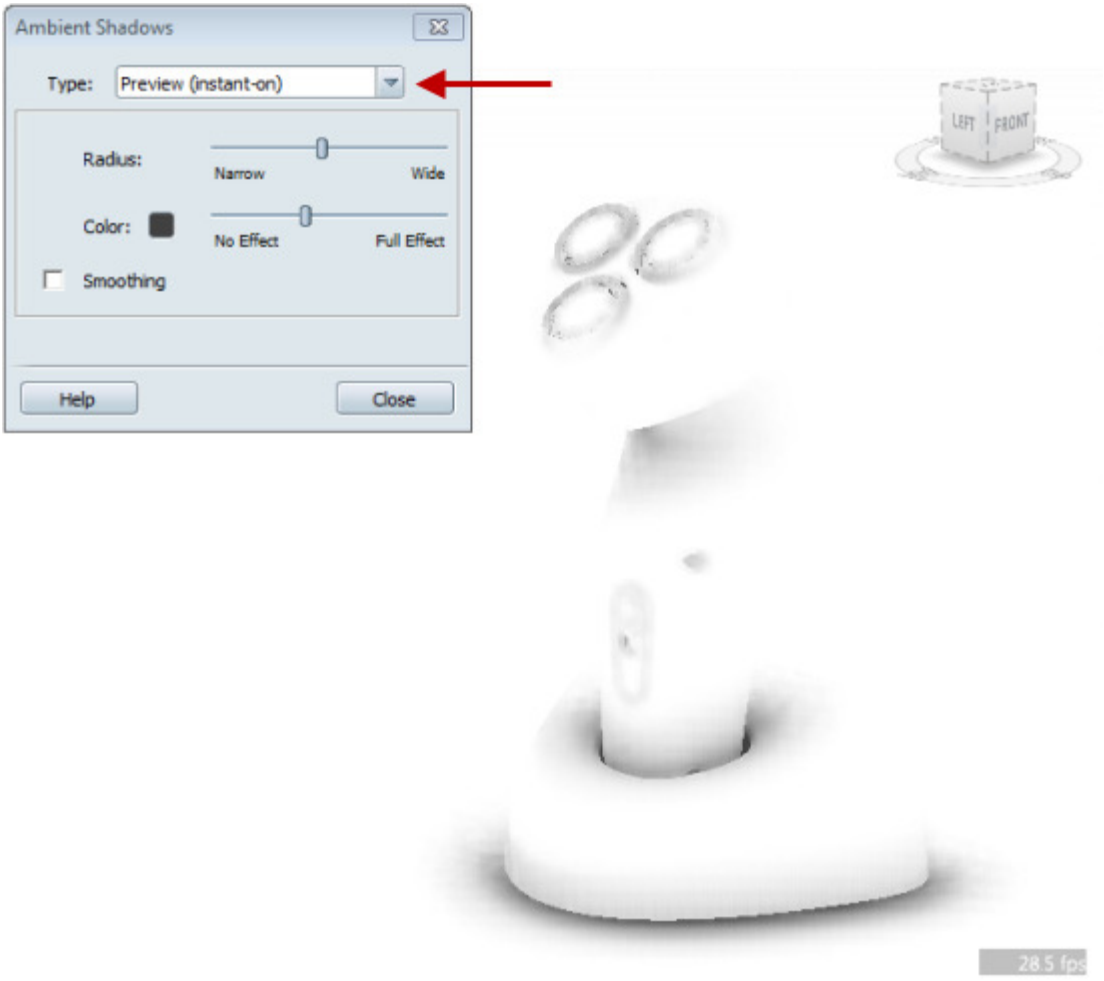
- Open the Visual Styles library **Appearance** | **Visual Styles Library** V
- Expand Diagnostics
- Select Ambient

- Close Visual Styles

3 At the present time, only the two halves of the outer body have ambient shadows applied.

4 Open the **Ambient Shadows** interface **Appearance** | **Ambient shadows**

- Change Type to **Preview (instant-on)**



5 Notice that when you use the instant **Ambient Shadows**, that you get a good representation of shadows without the baking time.

6 Set **Ambient Shadows** dialog back to **Baked (quality and frame rate)**

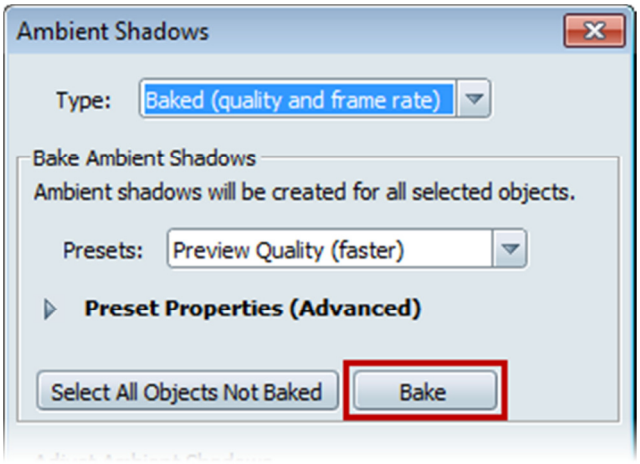
7 In the graphics window, select the switch plate and shaver cover as identified.

TIP: Press **SHIFT** to select the second part.

8 Click **Appearance** | **Ambient Shadows**.

9 In the **Ambient Shadows** dialog box:

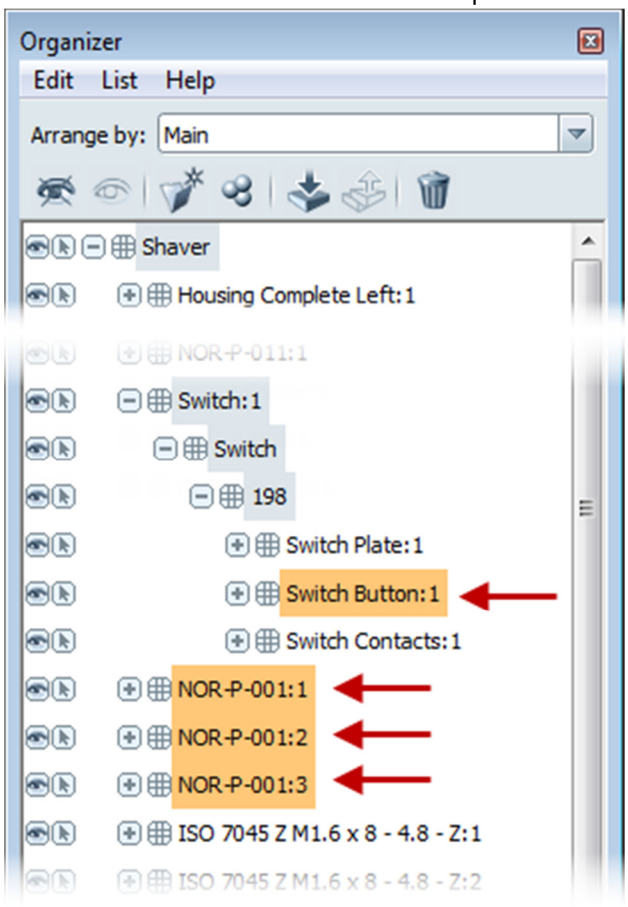
- In the **Shadow Presets** list, select **Medium Quality**.
- Click **Bake**.



10 Press **O** to display the **Organizer.**

11 In the **Organizer**, expand the list and select the Switch Button and the three instances of *NOR-P-001* as identified.

TIP: Press **CTRL** to select the different parts.



12 To apply ambient shadows to the selected objects:

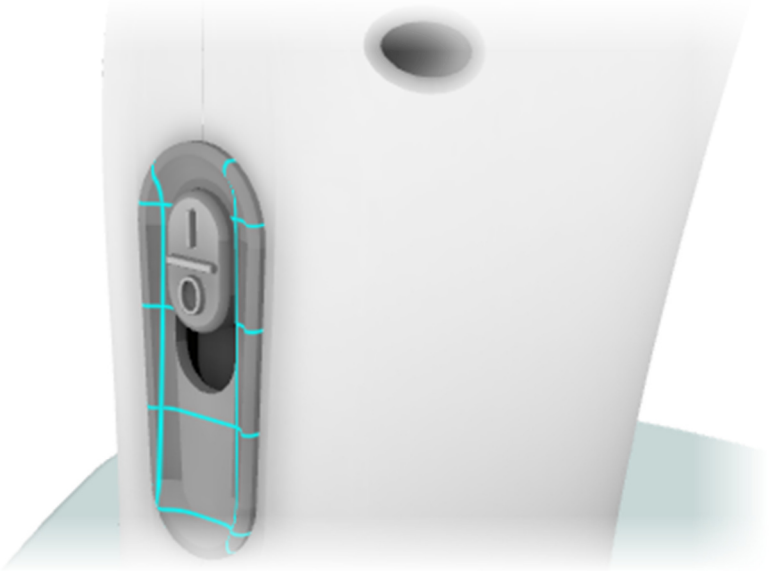
- Click **Appearance menu** | **Ambient Shadows**.
- In the **Shadow Presets** list, select **Preview Quality** (faster).
- Click **Bake**.

13 In the graphics window, click an open area to clear the selection of geometry. The model displays as shown.

14 To begin adjusting the effects of the ambient shadow for the two halves of the shaver housing, press **SHIFT** and in the graphics window select both halves as shown.

15 Click **Appearance menu** | **Ambient Shadow**
16 In the **Adjust Ambient Shadows** area, set the effect to **80%**. Click **Close**.

17 To begin changing the quality of the ambient shadow for the switch plate, select the switch plate as shown.



18 To apply a different ambient shadow quality to the selected objects:

- Click **Appearance menu** | **Ambient Shadows**.
- In the **Shadow Presets** list, select **Medium Quality**.
- Click **Bake**.

19 Click in an open area of the graphics window to clear all selections. The model displays as shown.

20 Close the file without saving changes.