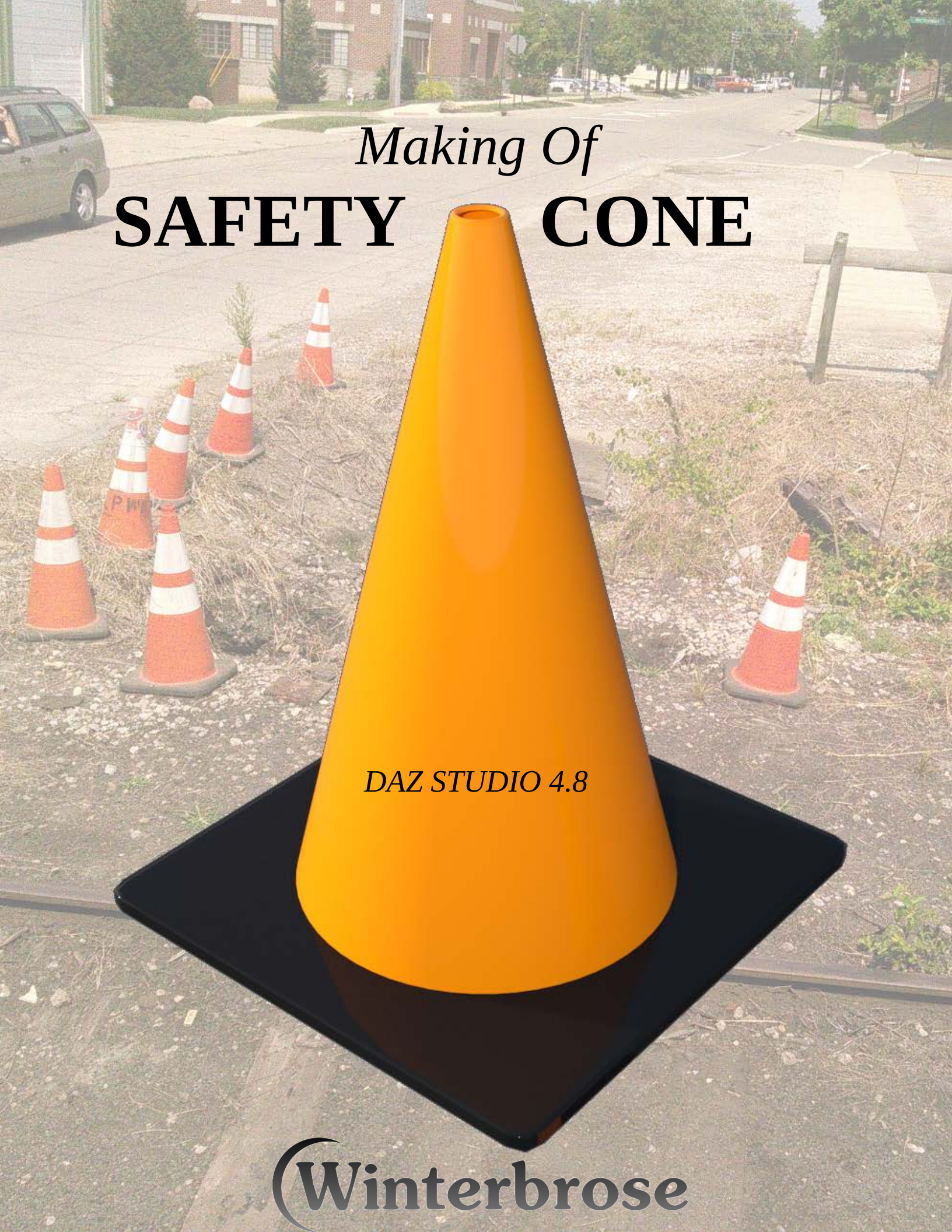

Making Of
SAFETY CONE
DAZ STUDIO 4.8
Winterbrose

Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Making Of Safety Cone
DAZ Studio 4.8

Written exclusively for
Winterbrose Arts & Graphics

End User License Agreement

(EULA)

This tutorial, herein referred to as the "product", is provided as-is with no warranties either expressed or implied. The publisher retains all copyright ownership and reserves all rights to this product. This product is only available directly from the publisher or an authorized distributor. If you obtained a copy from any other source, please visit the publisher's website to notify us and register for your own authorized copy.

* You MAY NOT copy, share or distribute copies of this product in any form without prior written permission from the publisher. You MAY NOT modify, change or create derivative works based upon this product in any form or fashion or by any method. You MAY NOT sell this product or include this product in any package or collection that is for sell. You MAY NOT claim authorship in any form to this product.

* You MAY create, copyright and sell models using the techniques contained within this product.

Copyright Notice

This complete tutorial (including text and graphics) is:
Copyright © 2015, Winterbrose Arts & Graphics.
All Rights Reserved.
http://www.winterbrose.com

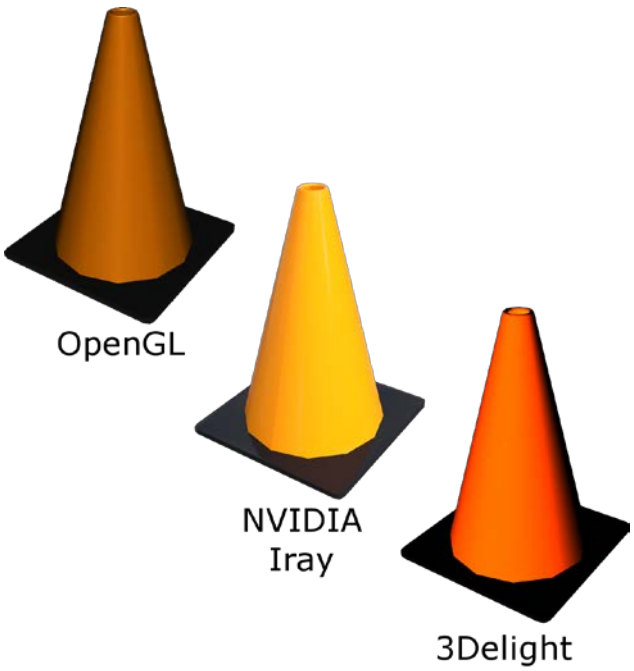
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

TABLE OF CONTENTS

Overview 3
Create the Body 4
Create the Lip 23
Create the Base 29
Add Color 36
Save As Scene 38
Final Adjustments 41
My DAZ 3D Library 43
Export / Import OBJ File 45
Save As Prop 49
Testing 54
Conclusion 55

Overview

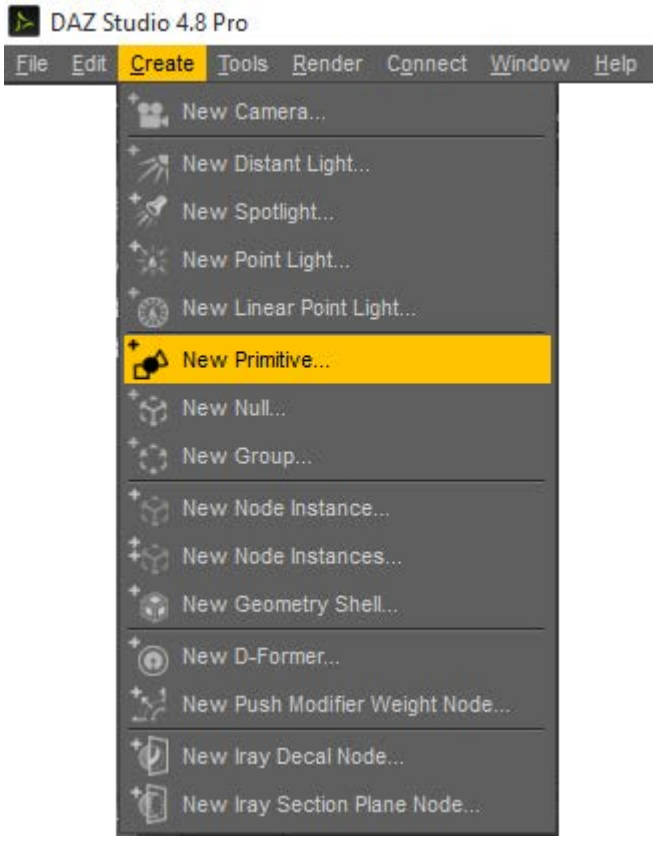
We will be creating a standard safety cone completely within DAZ Studio 4.8 using only three primitive shapes and the tools included with DS. A basic familiarity of controls used in the Scene tab, Viewport and Parameters panel is required. We will demonstrate how to create the complete prop in high-resolution using only DAZ Studio. You can see a low-poly demo version below as rendered directly in DAZ Studio without any post work or touch ups.



Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

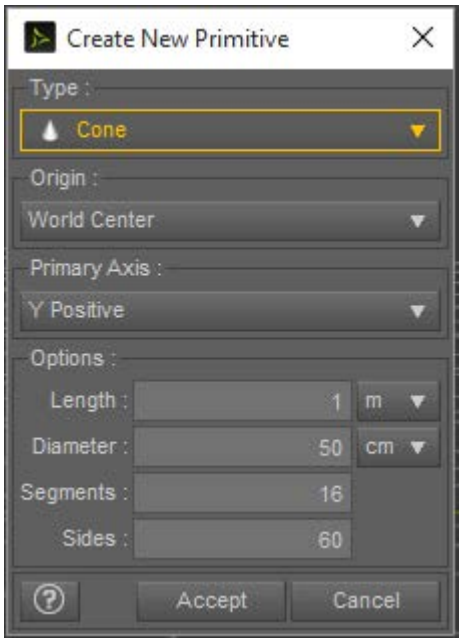
Create the Body

We will begin by creating the basic shape of the prop using the "Cone" primitive. From the main menu, choose Create / New Primitive.

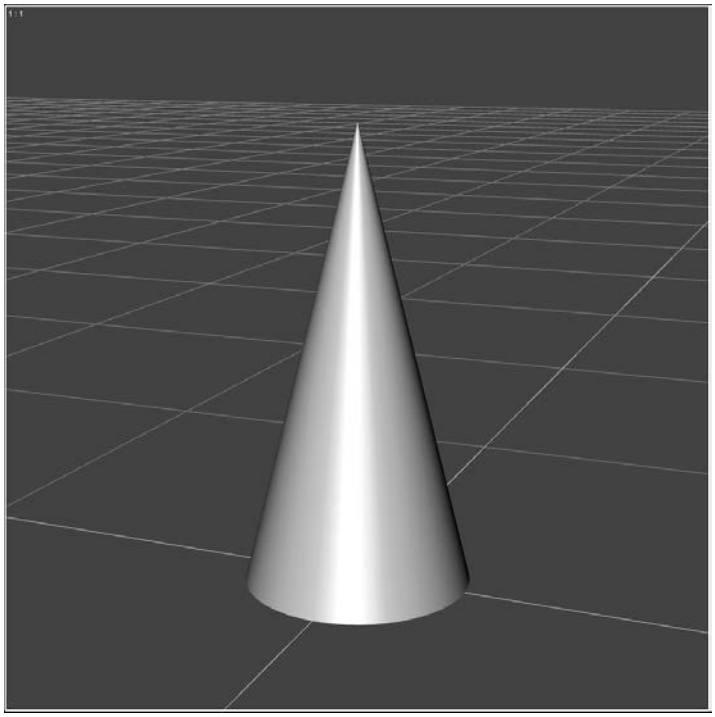


Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

In the popup window, choose "Cone" for the Type and then adjust the Options fields with settings that best suits your design plan. For the best results, we will be using a **High Resolution version** throughout this tutorial.

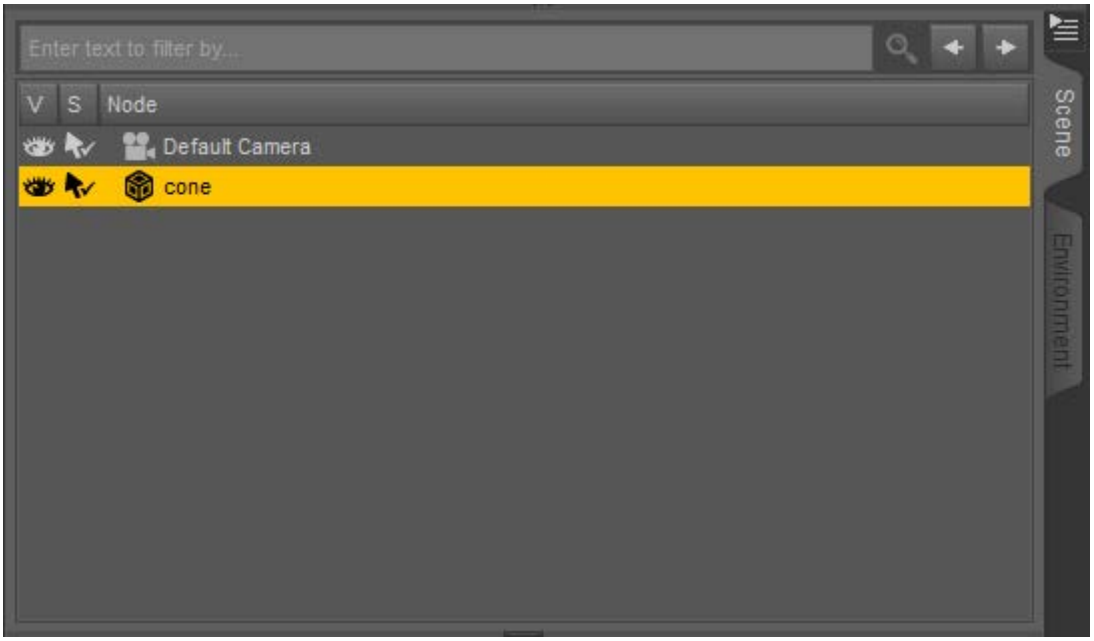


High Resolution



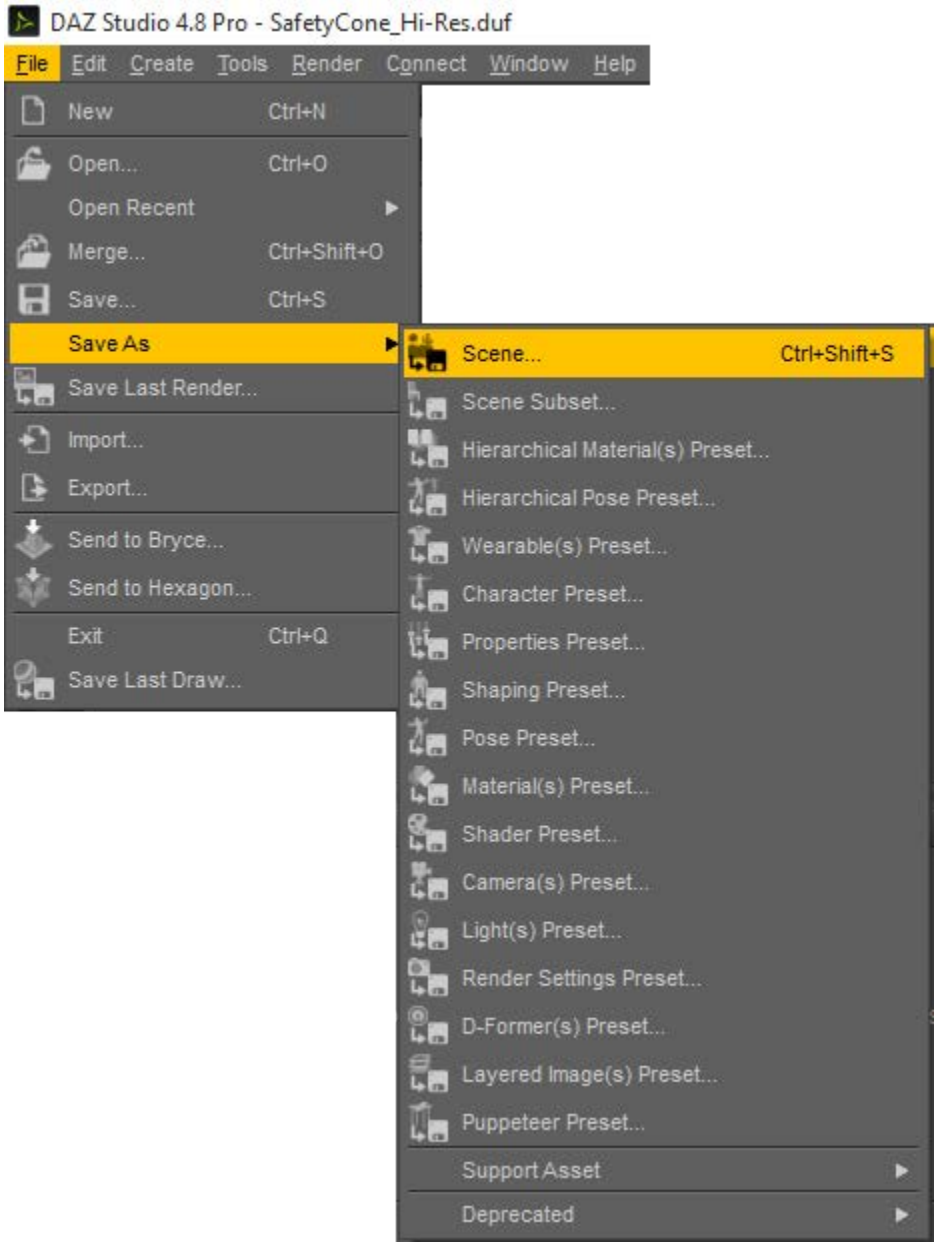
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

The primitive shape will initially be named “cone” in the Scene tab. Click on the text and an edit box will appear in which you can rename it to “Body”.



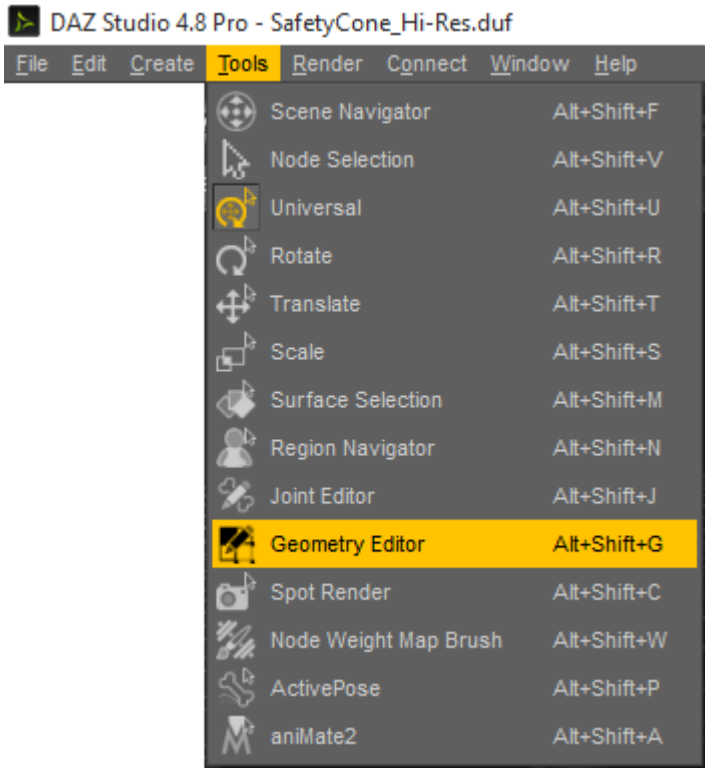
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

This would be a good time to save your scene. From the main menu, choose File / Save As / Scene. You should make it a habit to occasionally to use the File / Save option to save your updated scene as your project progresses. We recommend you use an easily recognizable or descriptive name for your scene like "Safety Cone".



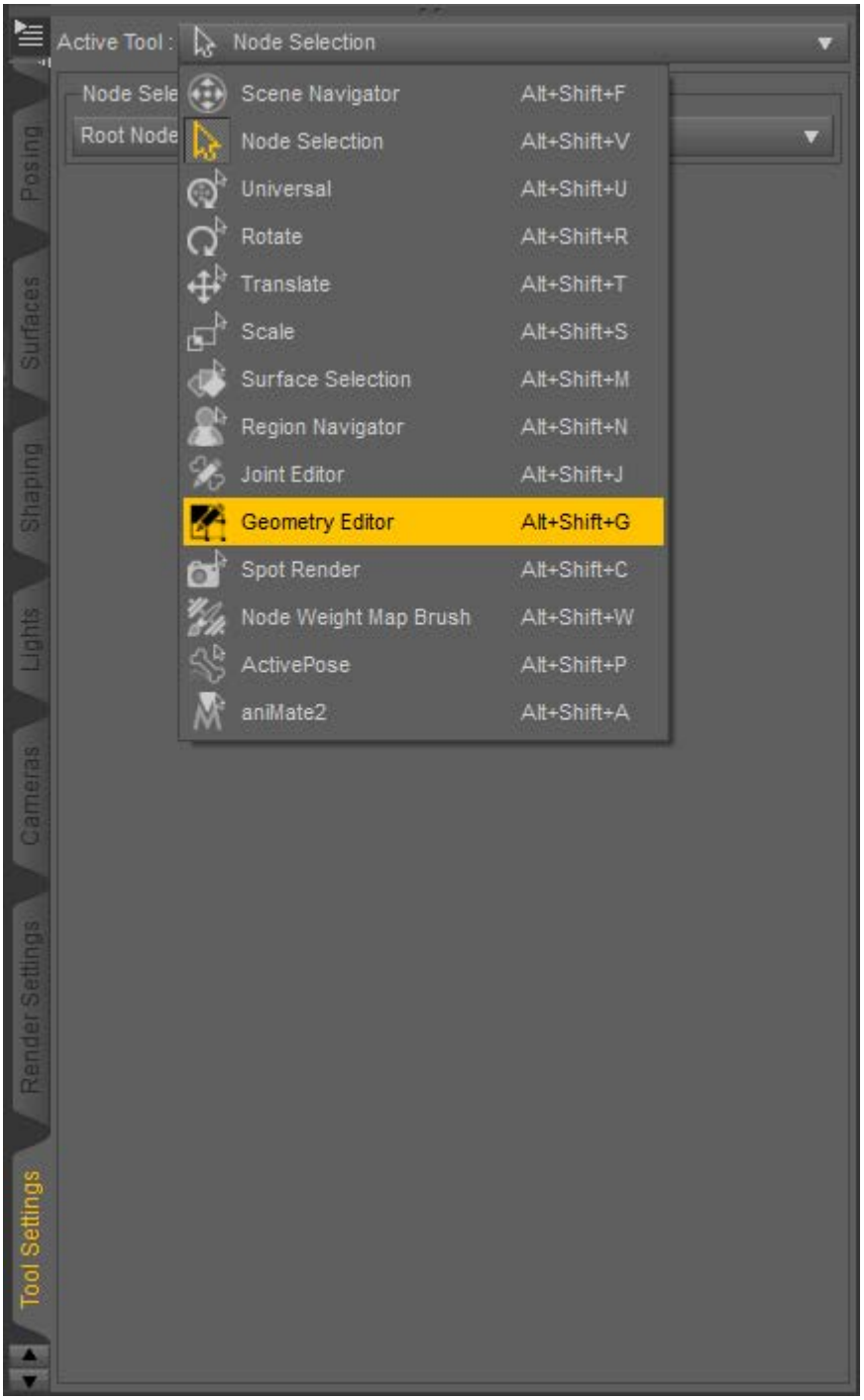
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

You can see in the previous Viewport image that the cone has a pointy "tip" on the very top which we do not want. We will be using some of the geometry editing tools in DS to remove it. You can activate the Geometry Editor tool from the main menu under Tools / Geometry Editor.



Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

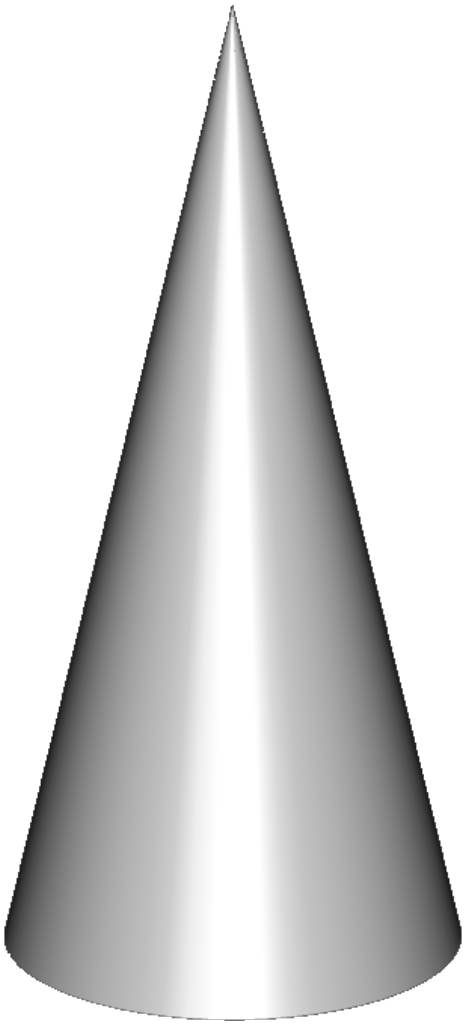
If you already have the Tool Settings tab in one of your work panels, you can select the Geometry Editor as the Active Tool from the drop box.



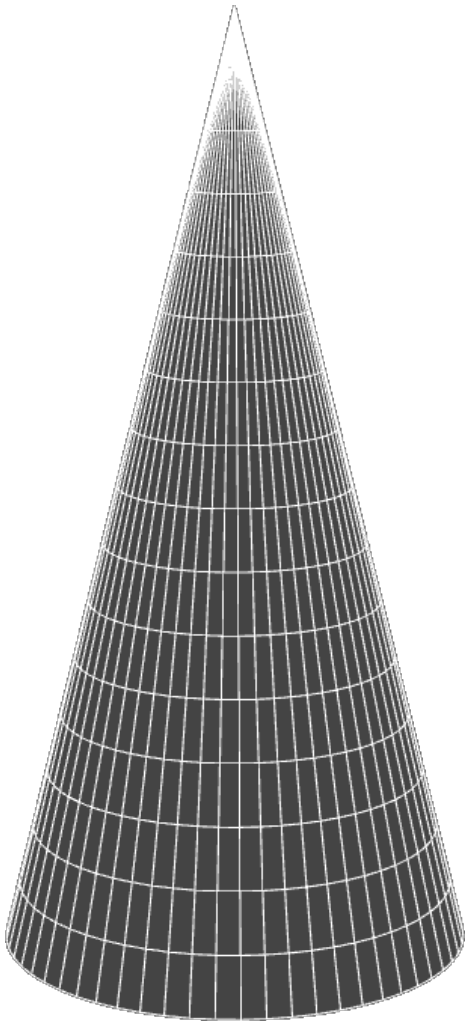
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Before you begin any geometry editing, be sure to select object in the Scene tab.

You can use any Drawstyle that works best for you, but we will be using one of the wireframe modes so we can easily distinguish the polygons in the mesh for our prop as shown below.



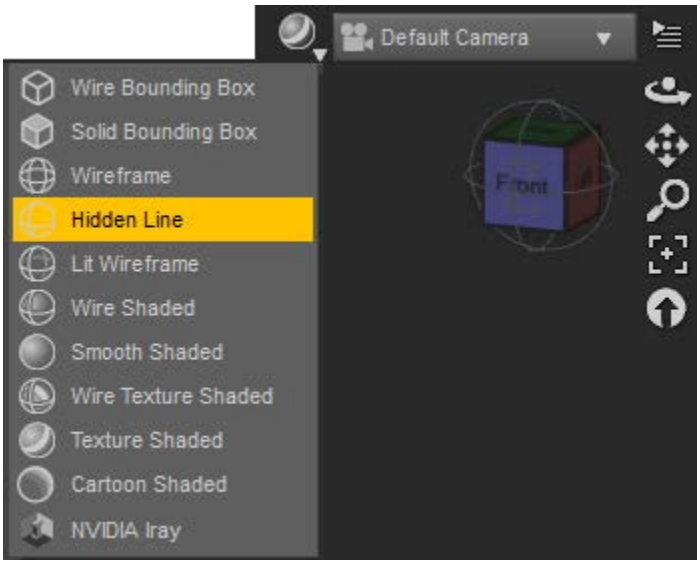
Texture Shaded



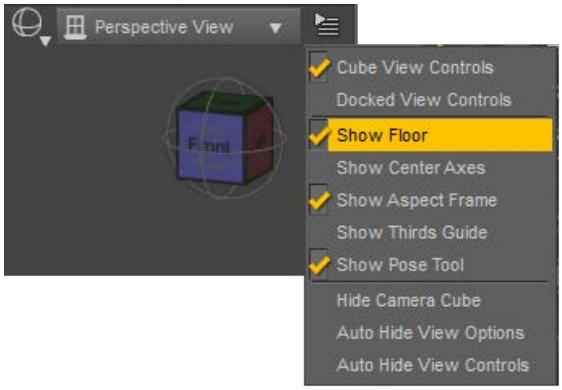
Hidden Line

Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

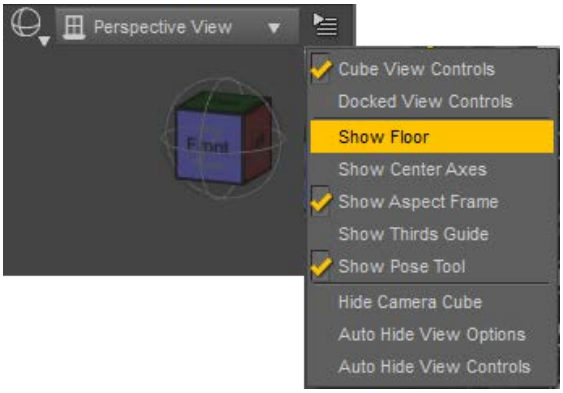
To change your Drawstyle, click the small down arrow next to the Drawstyle Options icon. We have chosen Hidden Line but you can choose any other option that best suits your workflow.



You may also find that it is easier to perform your geometry editing without the floor being displayed in the Viewport. To turn on/off the floor, select click on the Viewport Options icon and click Show Floor as desired.



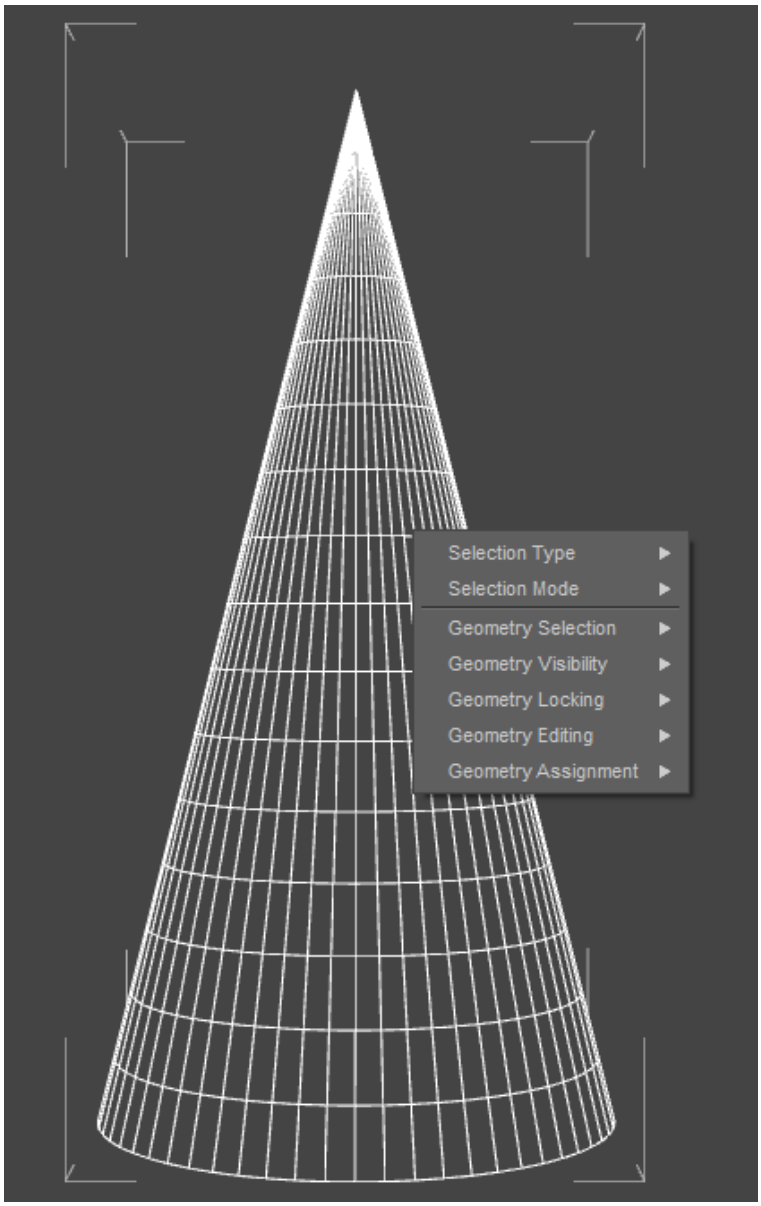
Floor ON



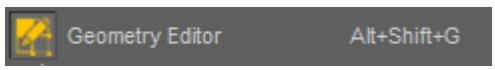
Floor OFF

Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

To access the geometry editing tools, right click on the object in the Viewport.

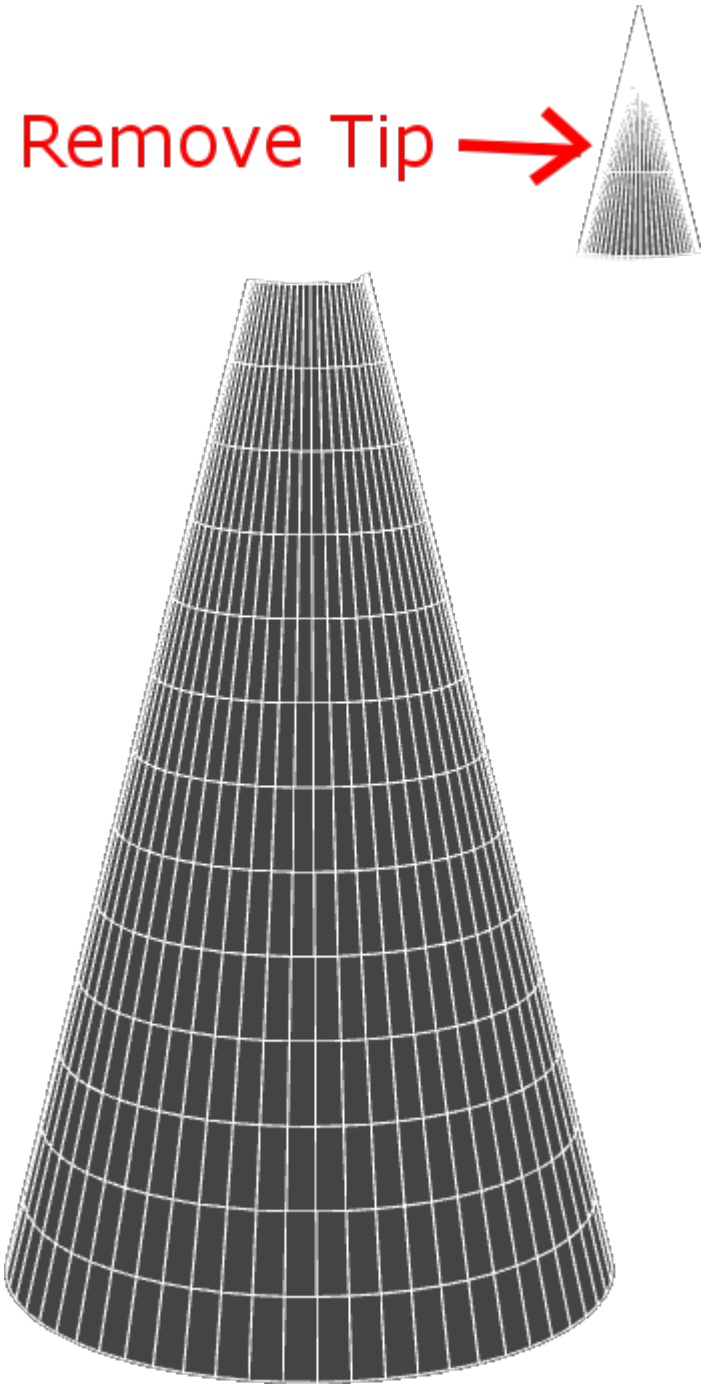


If you do not get a menu similar to the one shown above, go back and make sure you still have the Geometry Editor activated.



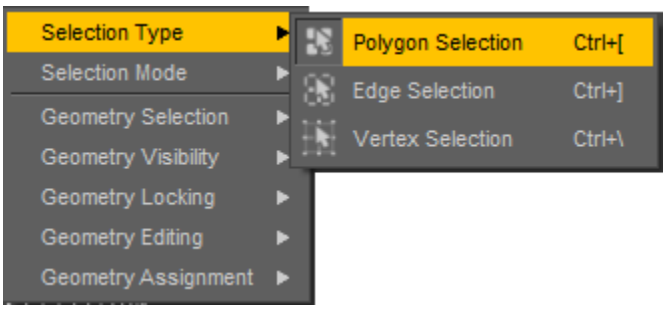
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

We will be removing the top of the cone to eliminate the pointy tip.

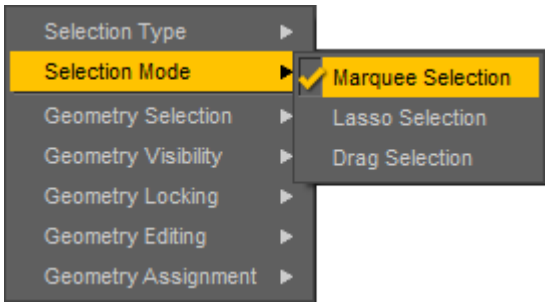


Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

To do this we will be removing the top two rings of polygons (sometimes called faces in other 3D apps). The best way to ensure we only select those polygons is to view our Body from the Front, Left or Right. Once you have the desired view, right-click on the Body and choose **Selection Type** / **Polygon Selection**.

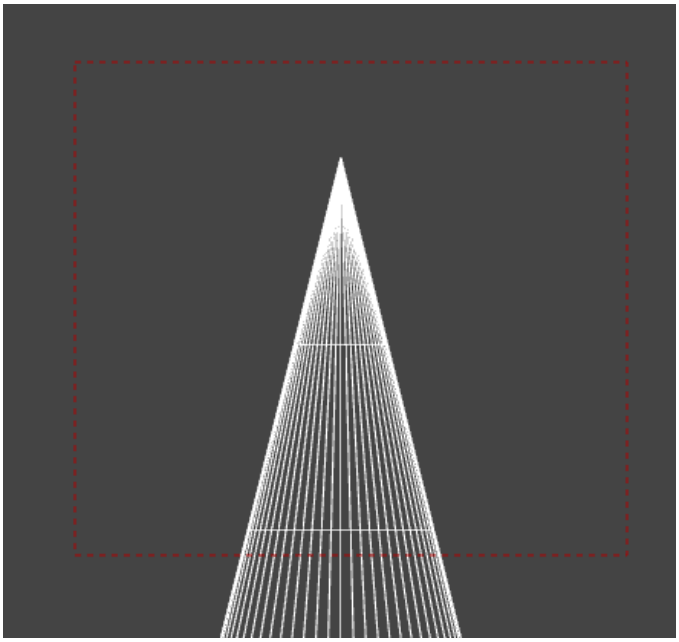


Next you will have to decide on how you will "select" the polygons you wish to remove. Marquee allows you to create a selection "box"; Lasso allows you to enclose the polygons with a "freehand" loop; and Drag allows you to select each polygon individually. We will be demonstrating the Marquee method.

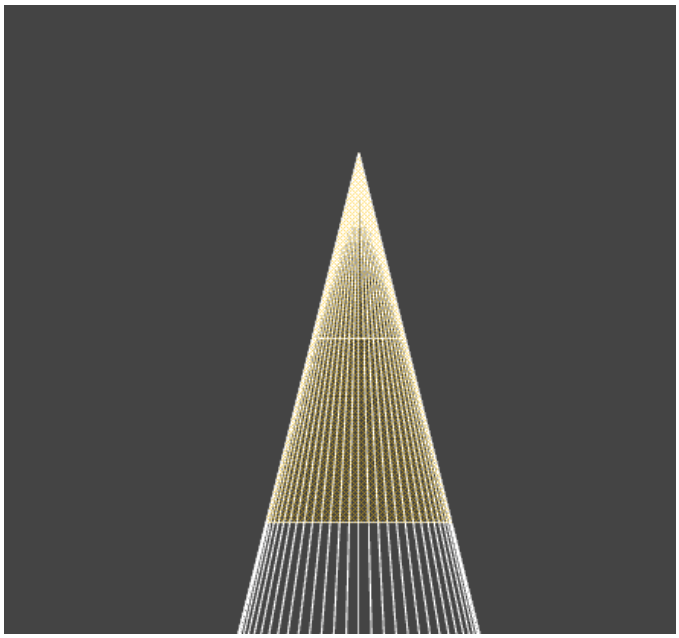


Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Zoom in on the Body to make it easier to get both sections selected. Click-hold your mouse cursor outside the Body just below and to the left of the bottom ring of polygons. Now drag/open the box selection region upwards above the tip and to the right past the right-side of the area we will be selecting for removal and release the mouse button. The selected region will now be highlighted as shown below.



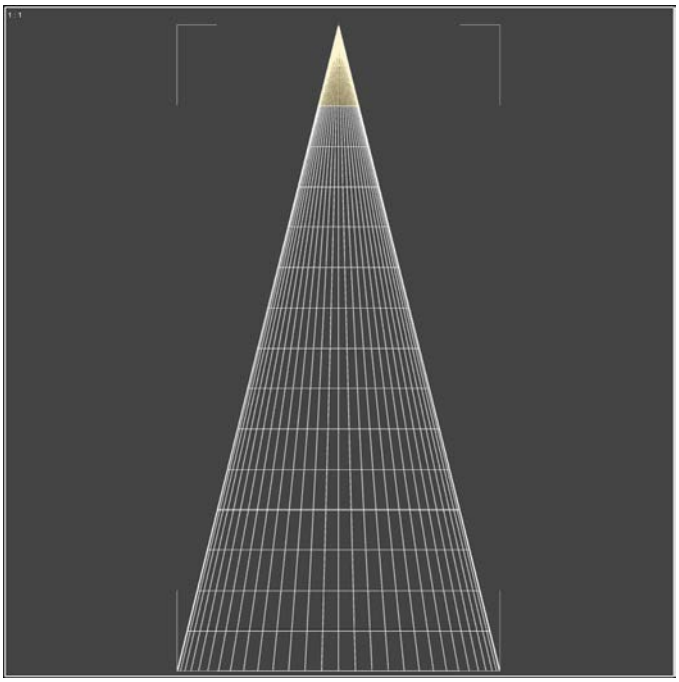
Marquee Selection {red box}



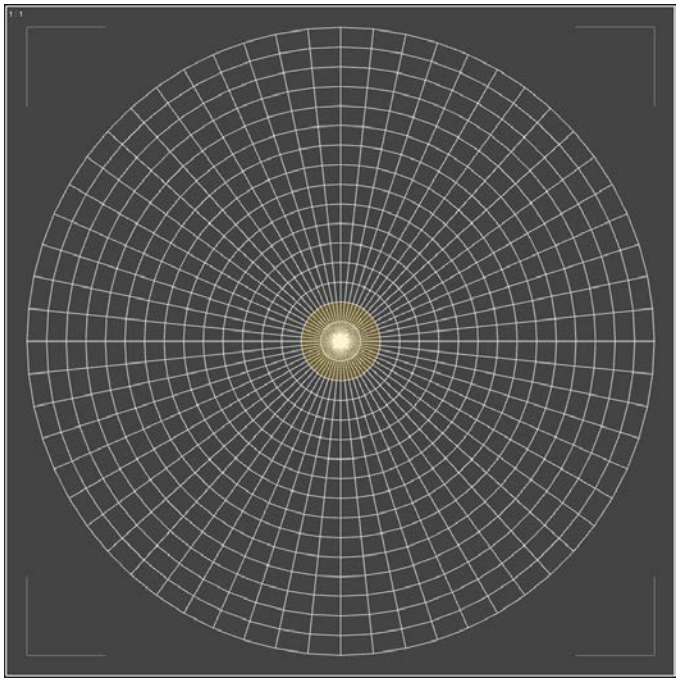
Selected Polygons

Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

You now view the Body from different angles to see what is selected.



Framed LEFT View



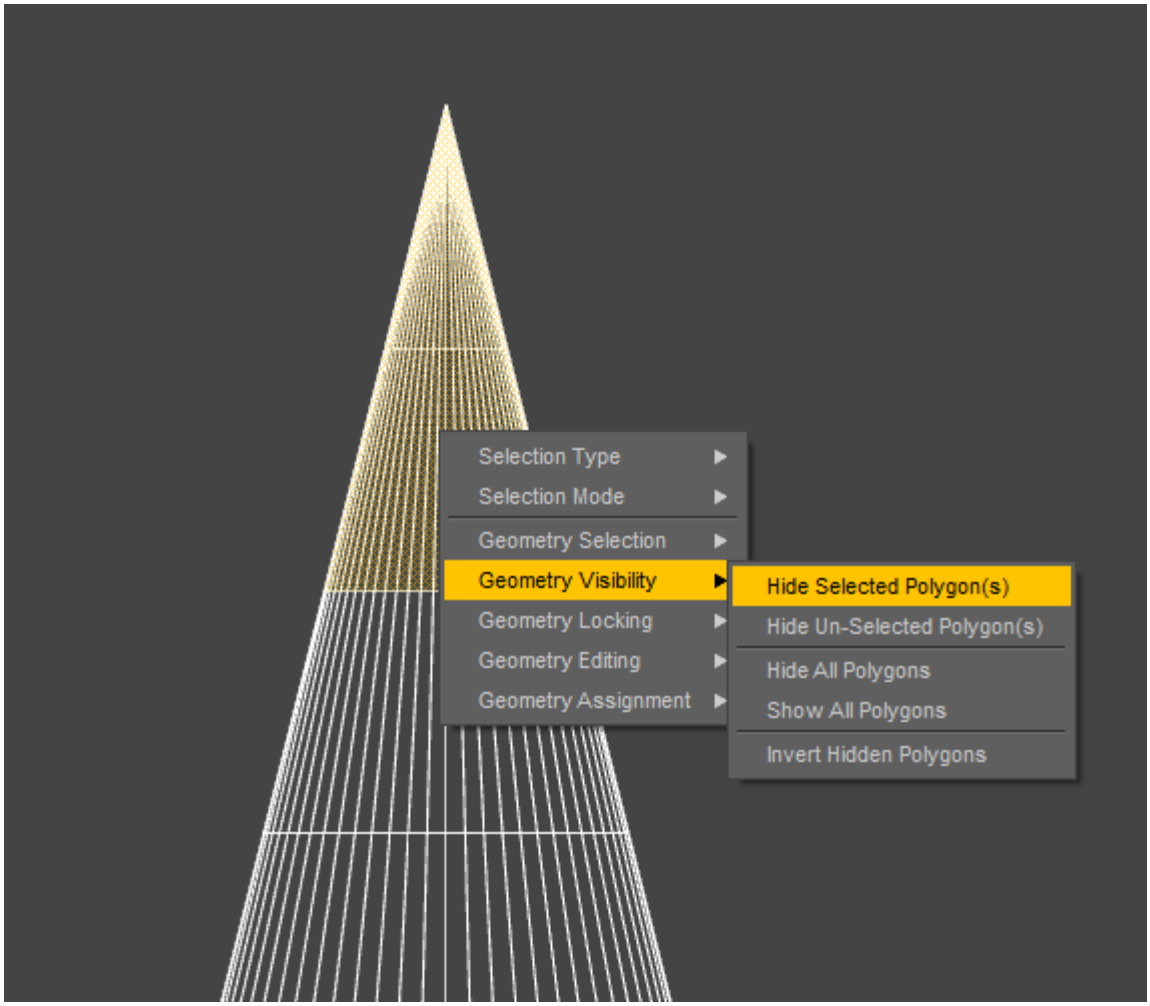
Framed TOP View

Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

To remove the selected geometry will be a 2-step process:

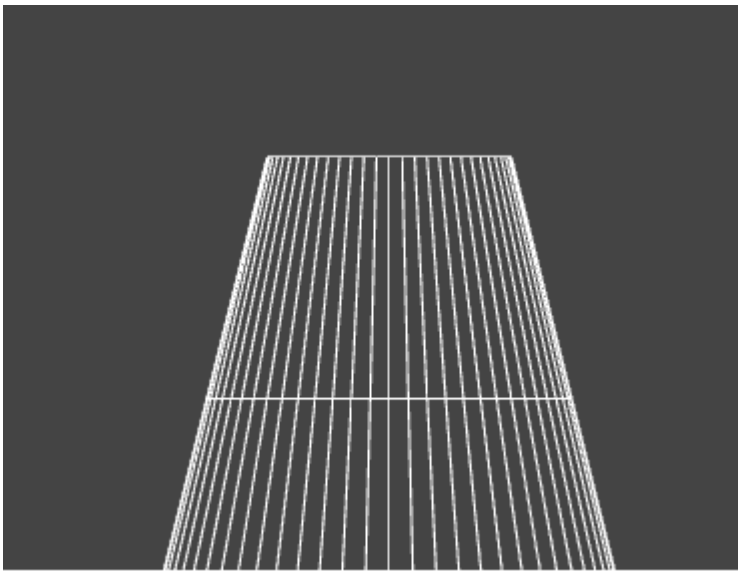
1) Hide selected polygons
2) Delete hidden polygons.

First, right-click on the Body object and from the popup menu you will choose **Geometry Visibility / Hide Selected Polygon(s)**.



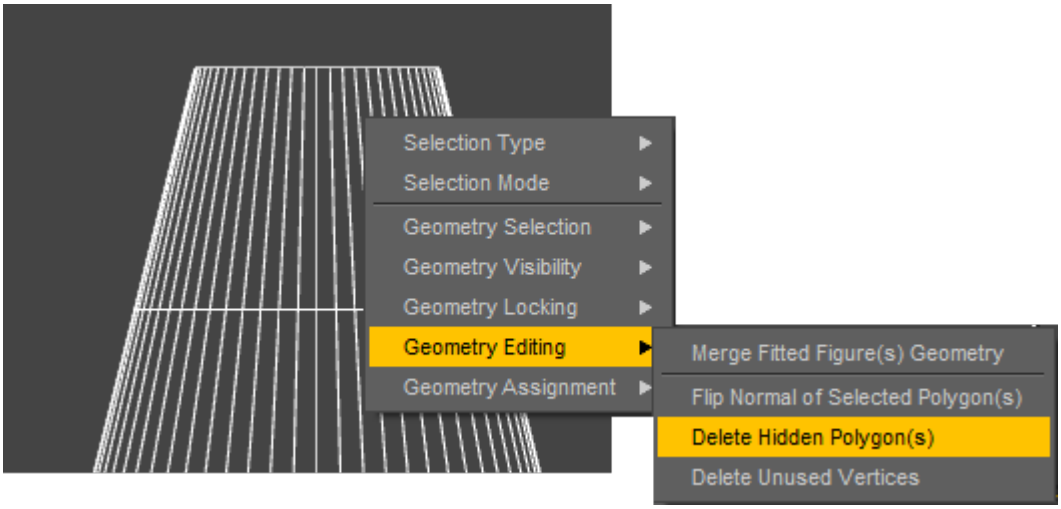
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Don't be fooled by not being able to see them and forget about step 2.



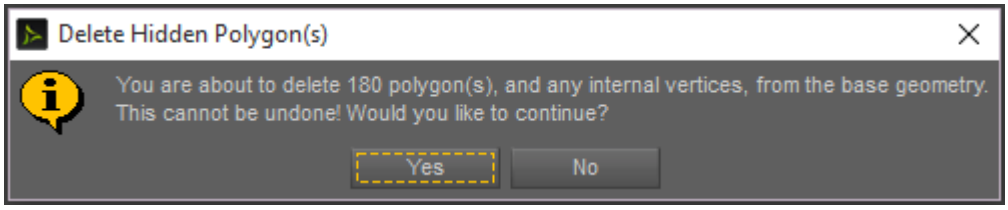
Hidden Polygons

Second, right click on the Base again and now from the popup menu you will choose **Geometry Editing / Delete Hidden Polygon(s)**.

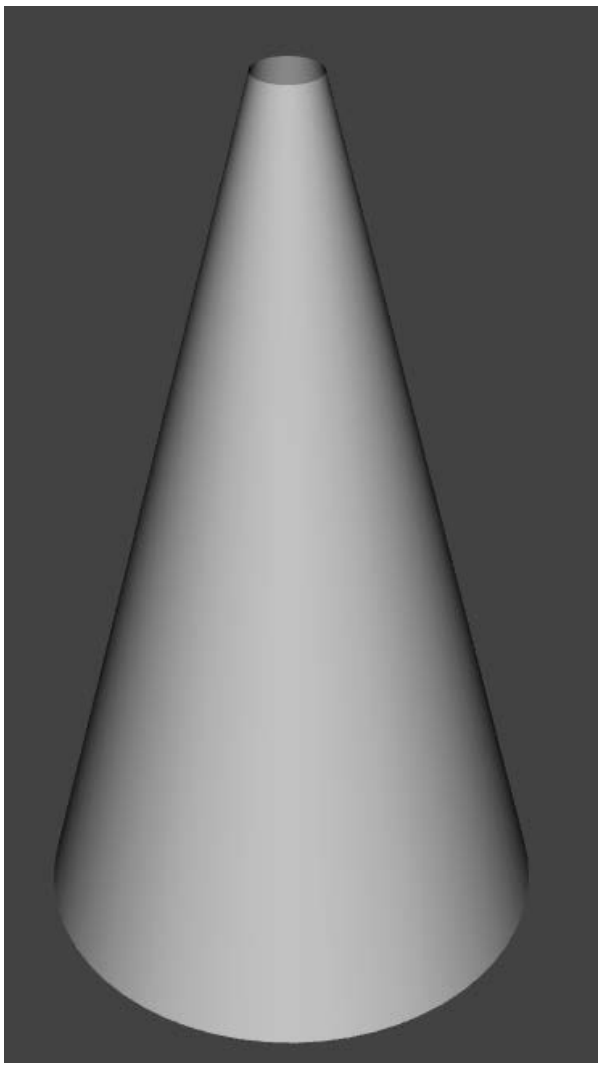


Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

You should receive a popup warning for which you can select **Yes** if you did everything correctly.

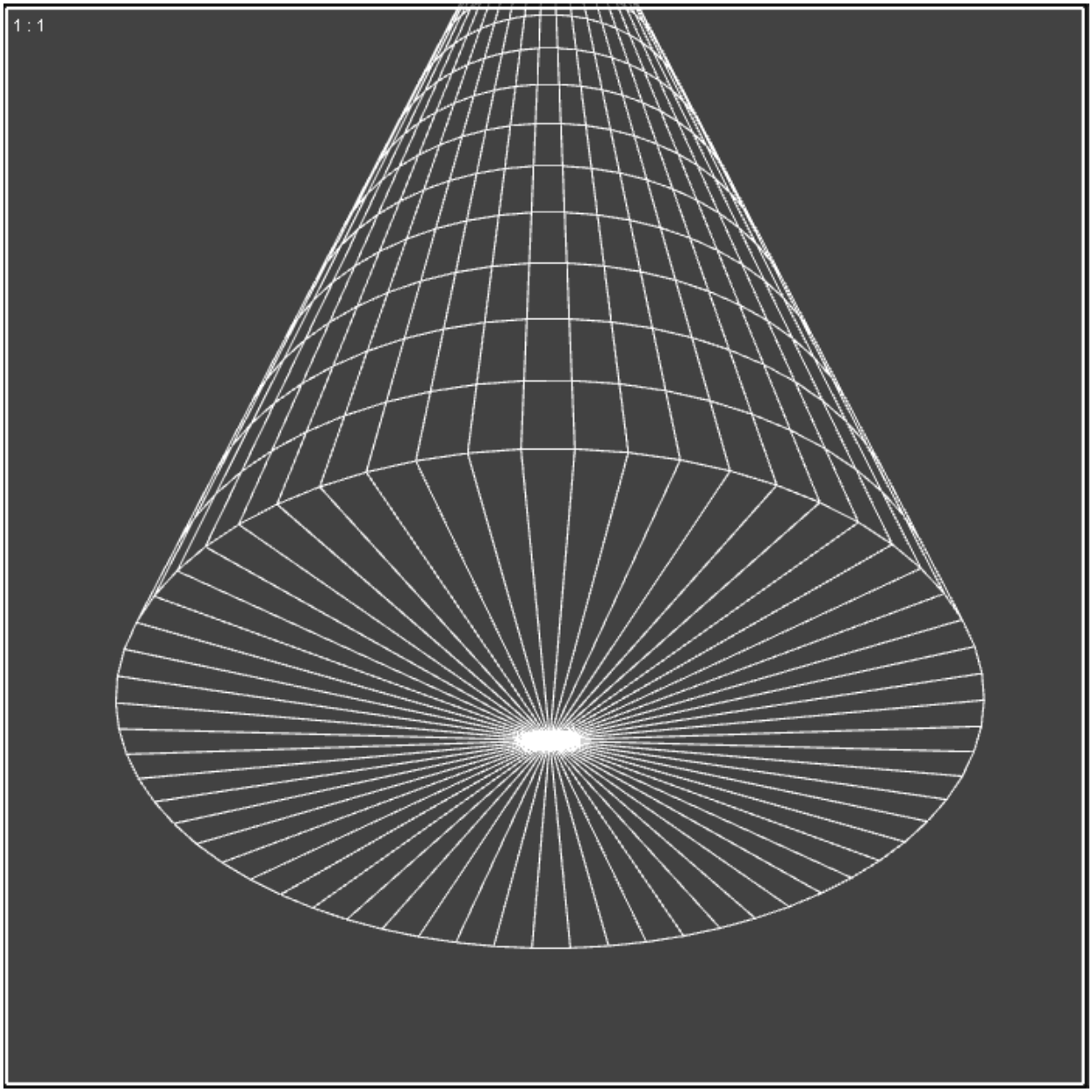


Our prop is beginning to look like a safety cone.



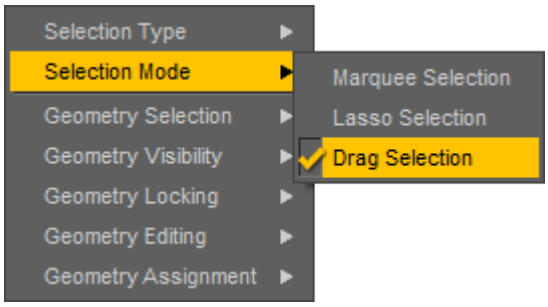
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

One last thing before we move on. We need to remove the bottom of the cone primitive which will not be needed for our final prop.

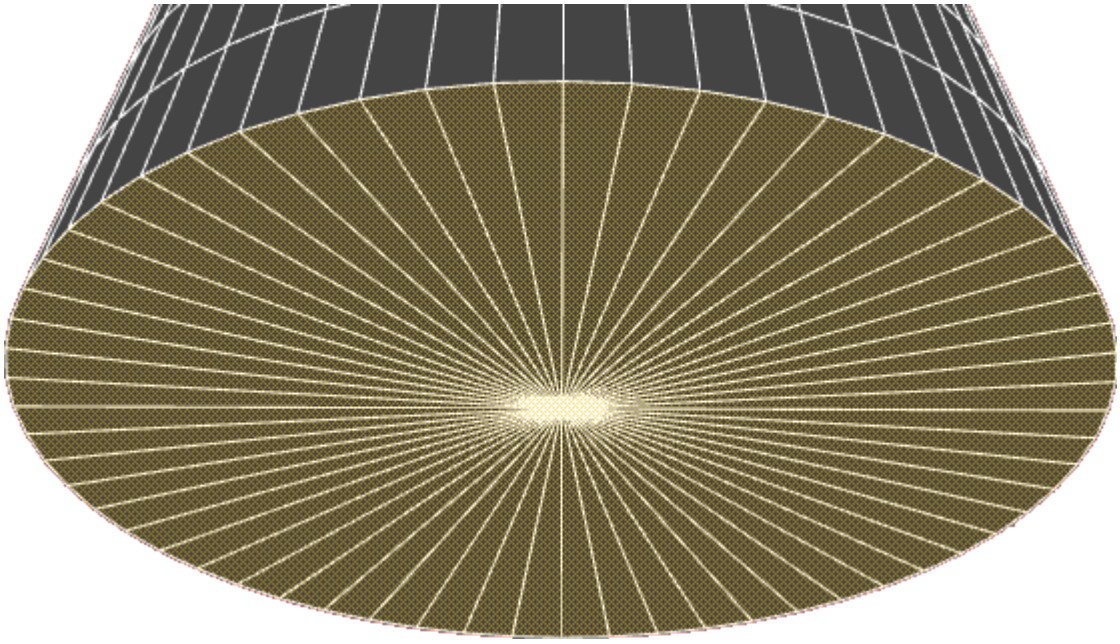


Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Repeat the steps you have learned up to now for removing polygons from the geometry of the Body, except this time we recommend that you use the "Drag Selection" mode to select the polygons.

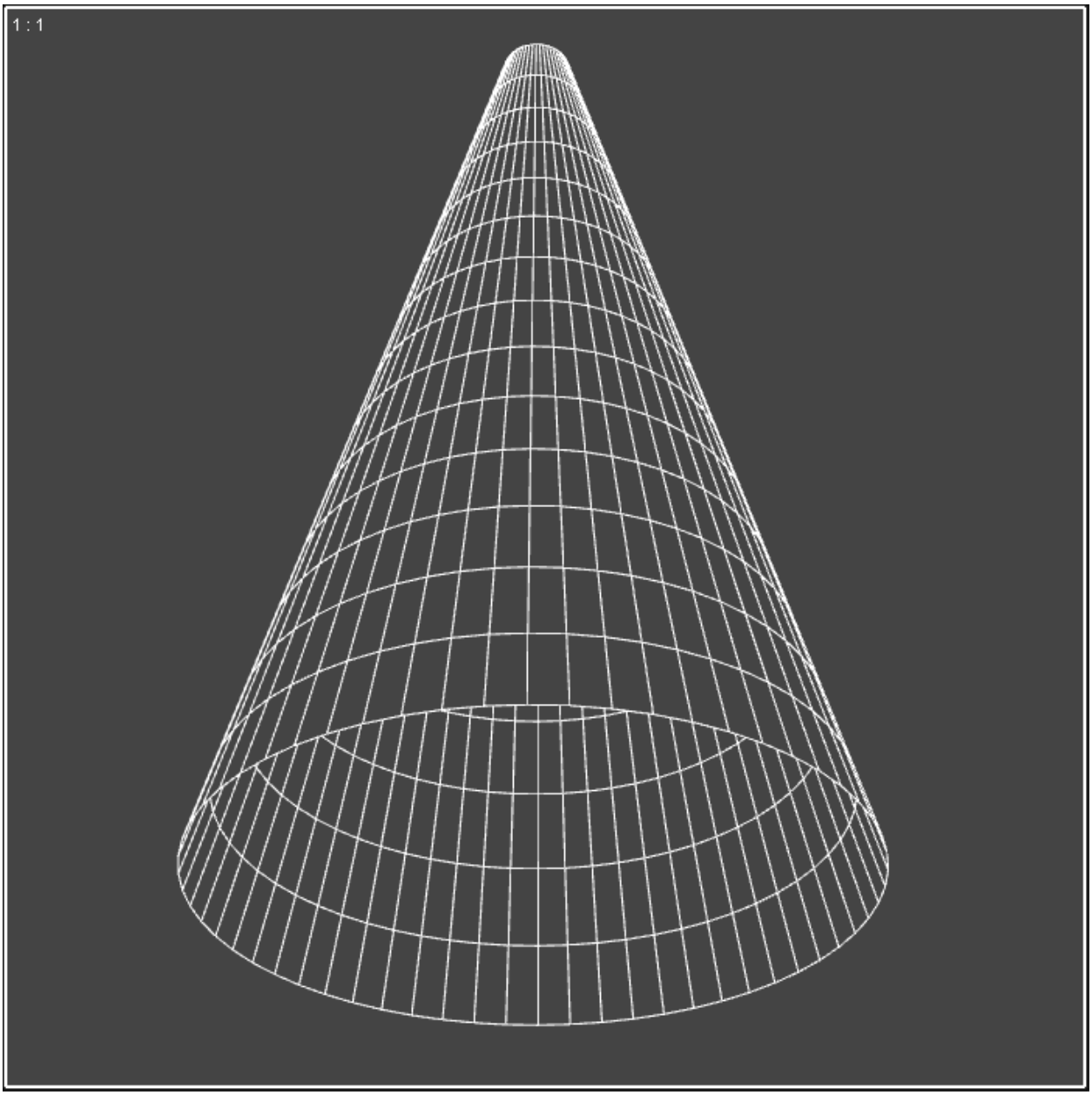


Once you have selected the circle of polygons forming the bottom, remove them.



Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

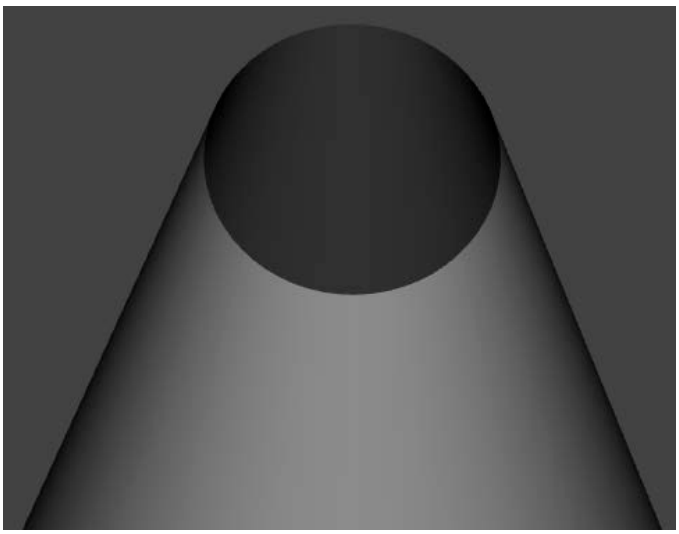
The Body portion of the safety cone is completed. Be sure to save your scene.



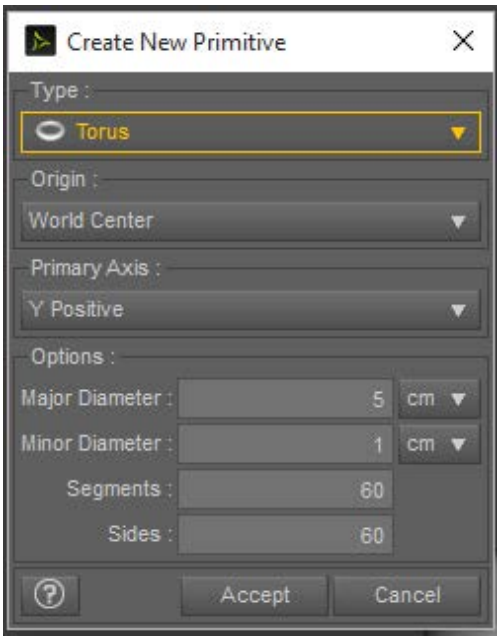
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Create the Lip

Looking closely at the Body we have created, you can see that the top has a sharp edge which really looks unrealistic for the safety cone.



To correct this, we are going to add a primitive Torus shape. Add that now.

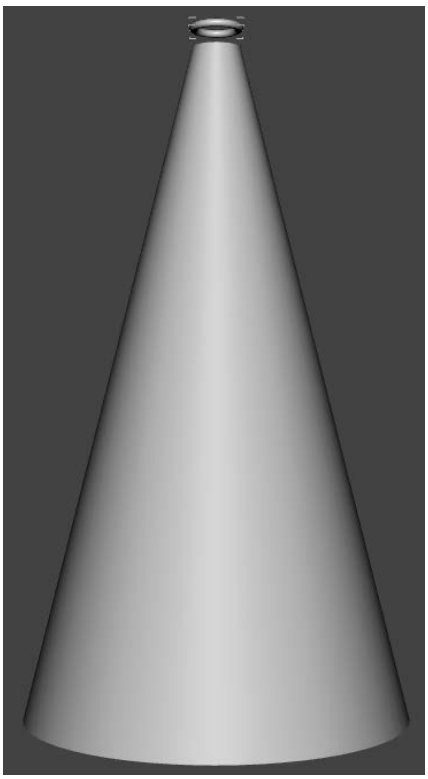


High Resolution

Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

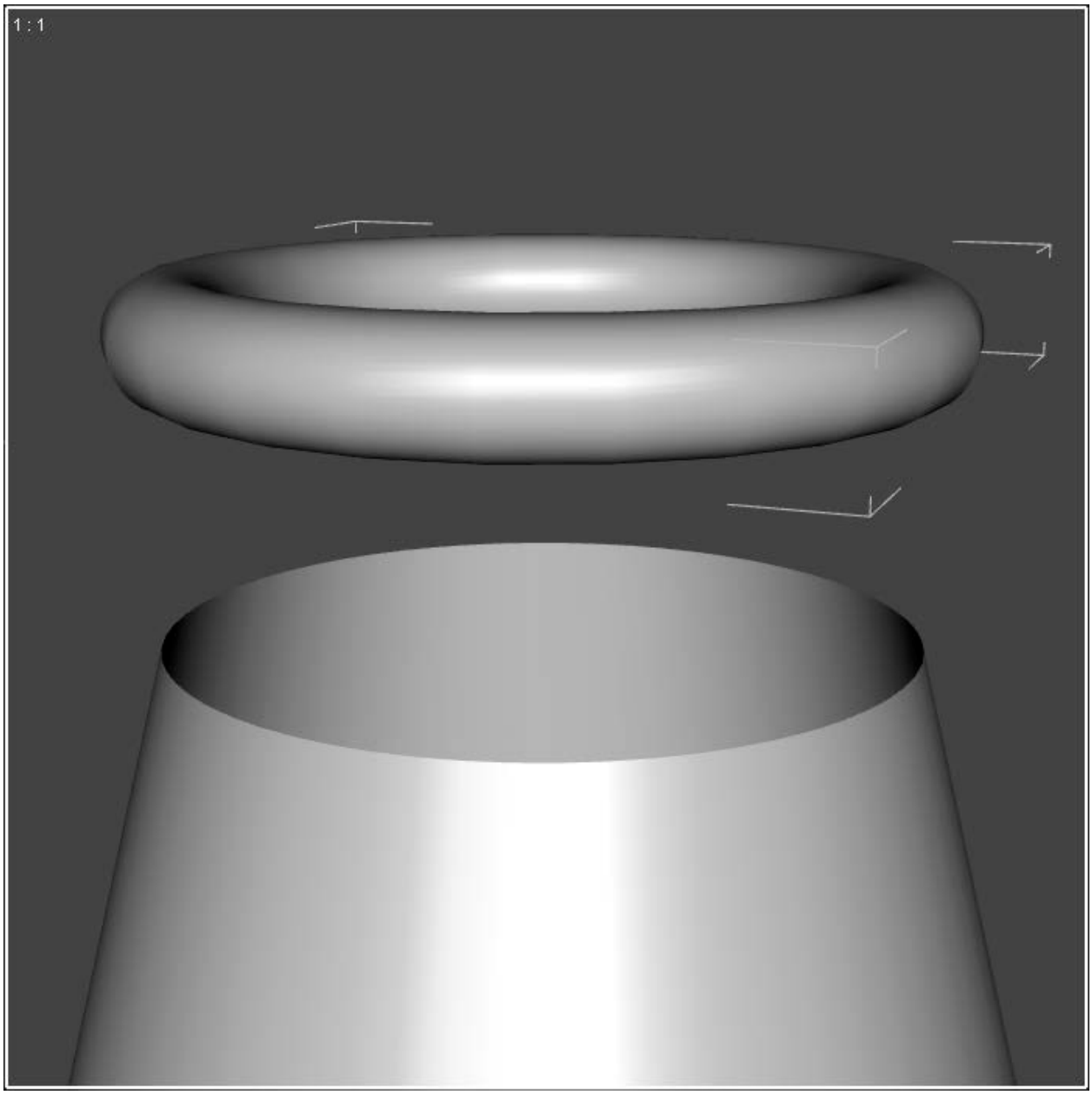
Initially you will not be able to see the Torus in the Viewport because it has been created inside of the Body. Before we move it, go ahead and rename it in the Scene tab to "Lip".

With the Lip still selected, use the Y Translate control under the Transforms section to raise the Lip until it is visible just above the Body.



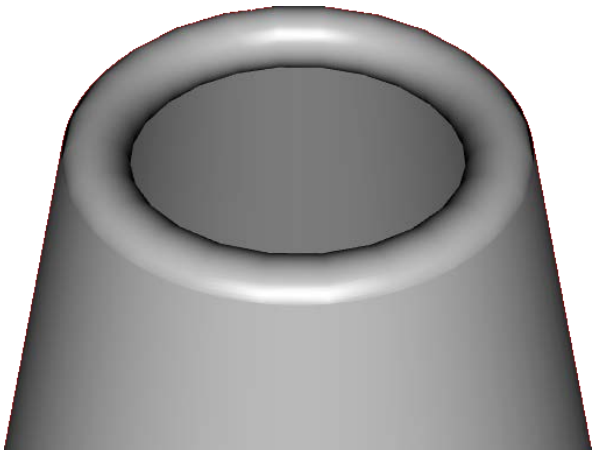
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

This is where we will zoom in on the lip and position/scale it to fit the Body.

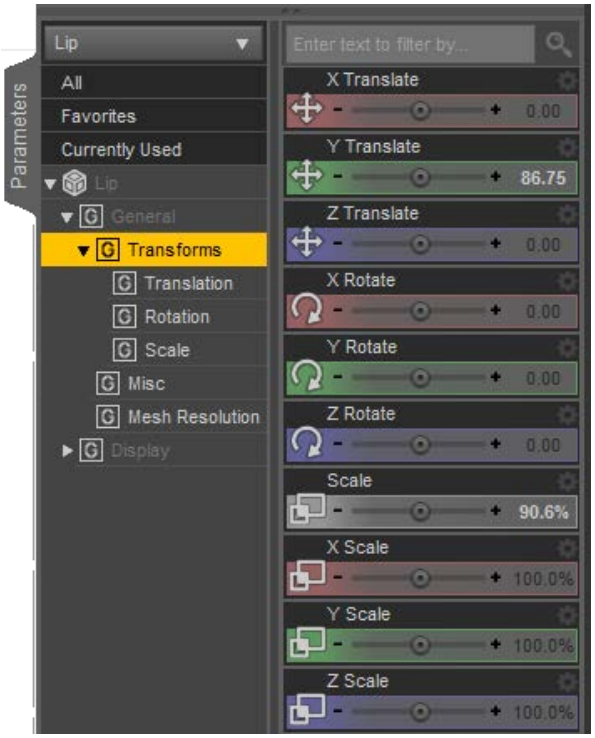


Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Make adjustments to the Scale and Y-translate values of the Lip until it conforms to the top edge of the Body. Start with scaling down the Lip and then move it up/down as needed. Repeat these scale/translate changes until you get the final size and position that work for the Body.

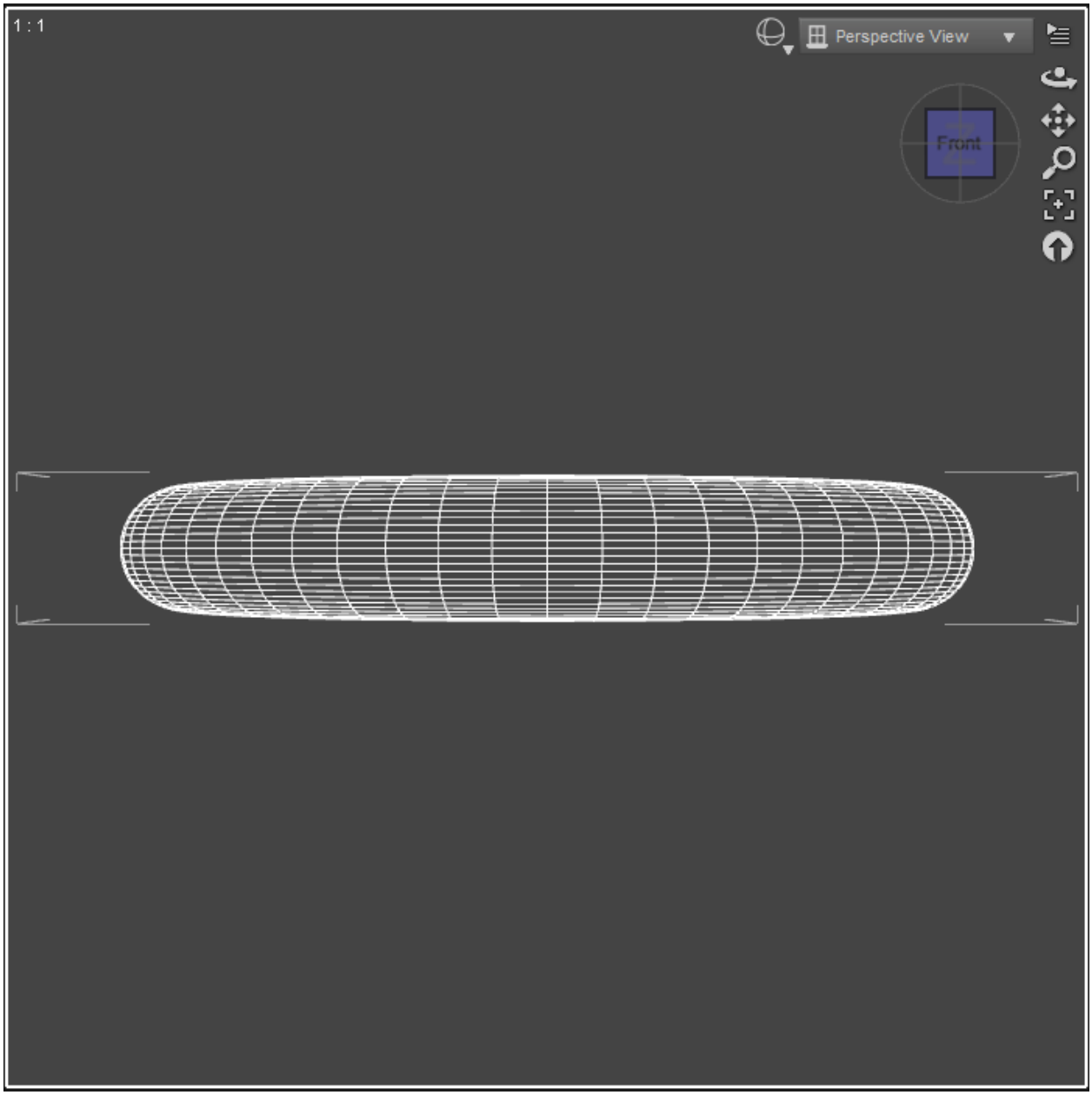


We found that a Scale value of 89.85% and a Y translate value of 86.95950 sized/placed our Lip to look appropriate to the size of the Body we created.



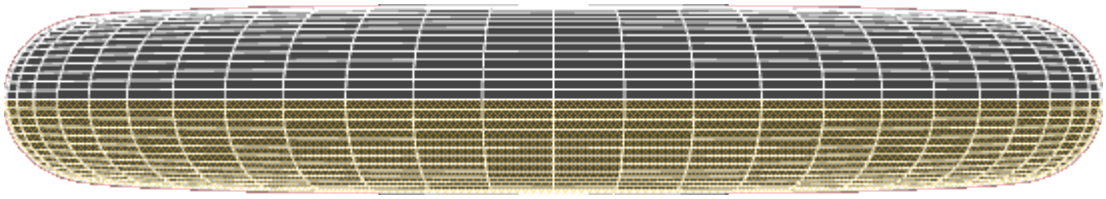
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

We need to remove the bottom half of the Lip as that geometry (polygons) is not required. Hide the Body in the Scene tab so that only the Lip is visible. Be sure to select the Lip in the Scene tab. Go to the Front view and Frame the Lip in the Viewport. Again, we are using the Hidden Line view, but you can use whatever works best for you.

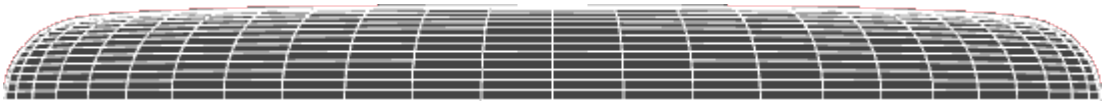


Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

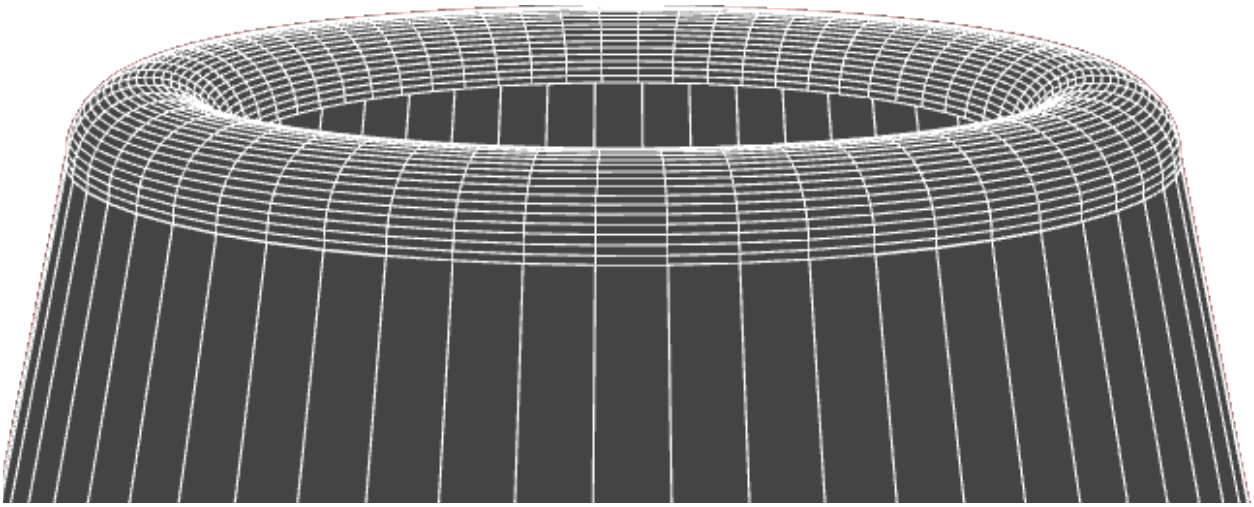
Select or invoke the Geometry Editor (Tool Settings) and use the selection mode of Marquee to box select the bottom half of the Lip.



Hide and Delete these polygons as they are not needed.



We should now be done with the Lip. Be sure to save your scene. Here is what our final Body and Lip look like.

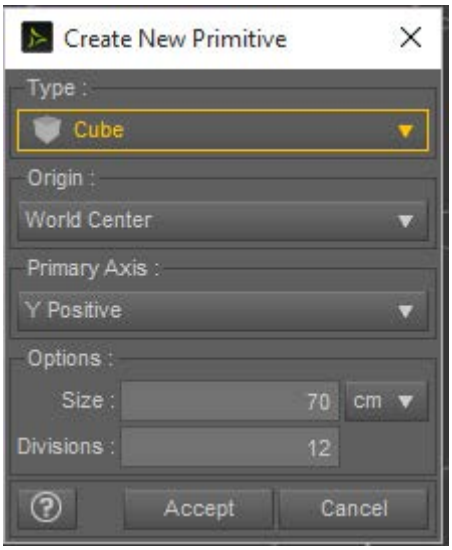


NOTE:
When combining different primitive shapes, much effort is required to get correct scaling and translations for a perfect match.

Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

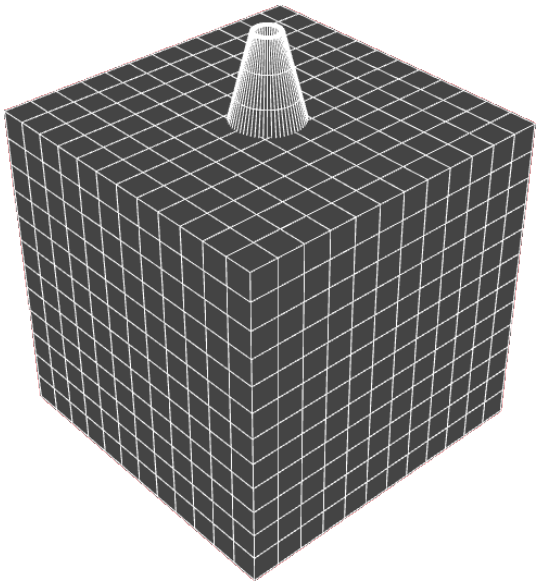
Create the Base

Last but not least, we need to create the Base upon which the safety cone stands.



High Resolution

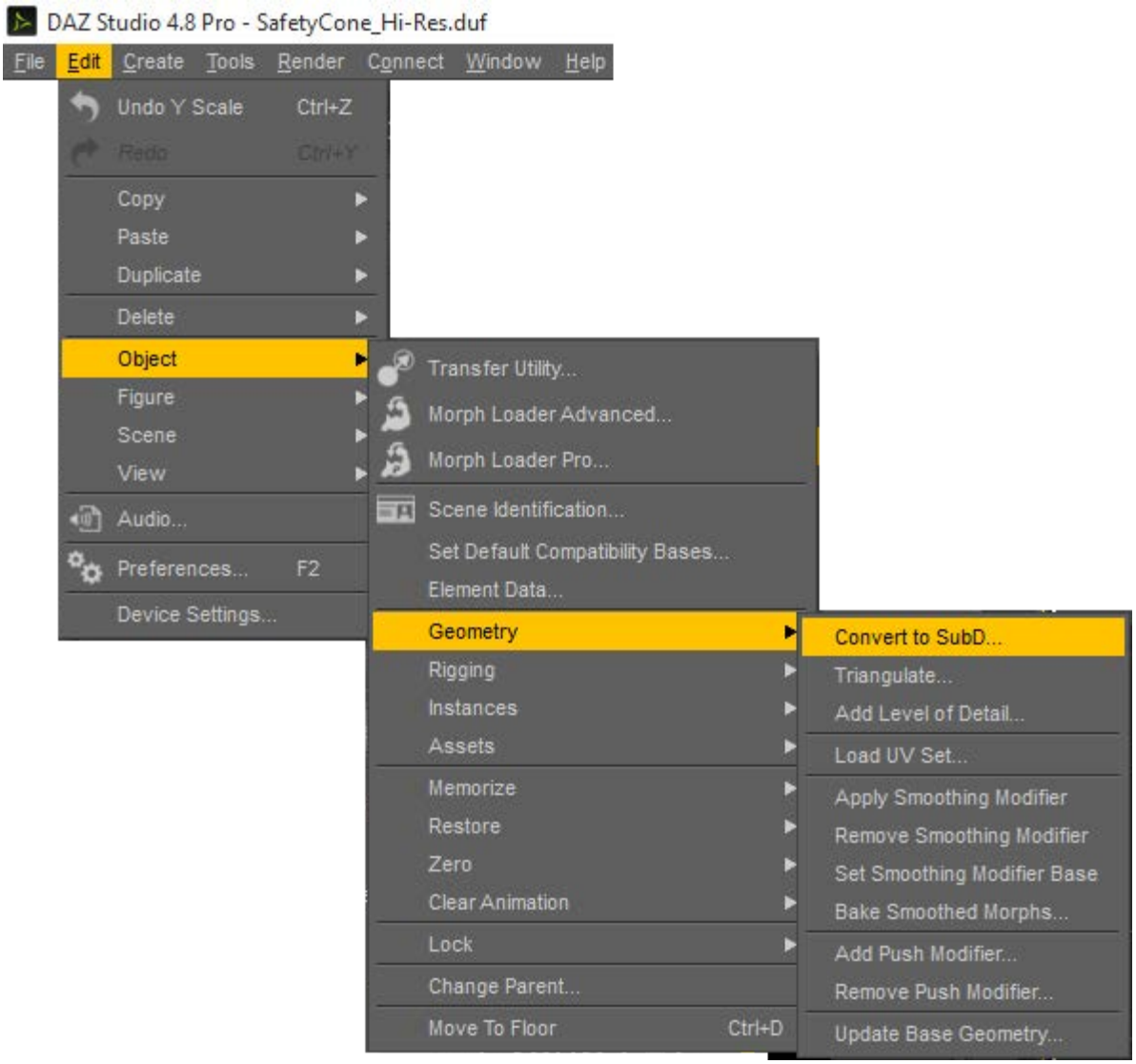
Don't worry about how it looks now; we can fix this.



Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

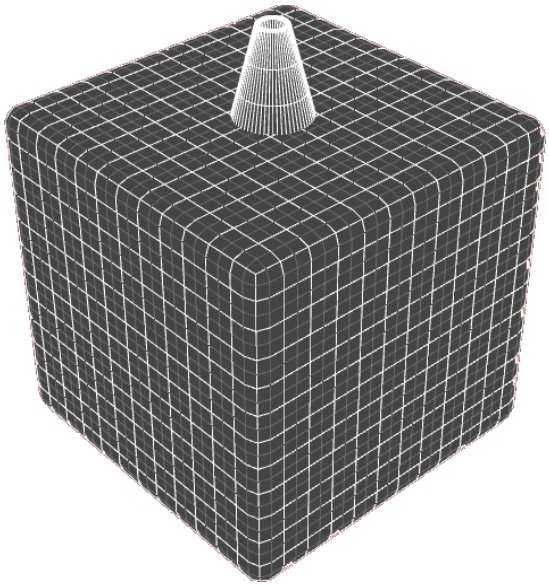
First rename this cube primitive as “Base” in the Scene tab.

Our Base will definitely need to be flattened, but first let’s round off the corners. Be sure the Base is still selected in the Scene tab. On the main menu, choose option **Edit / Object / Geometry / Convert to SubD**.



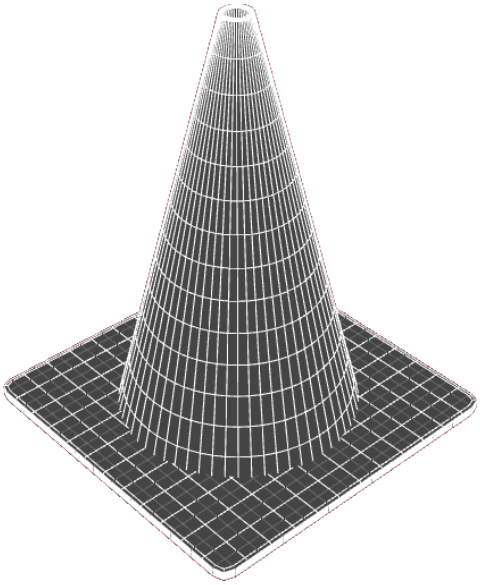
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

The corners look much better now.



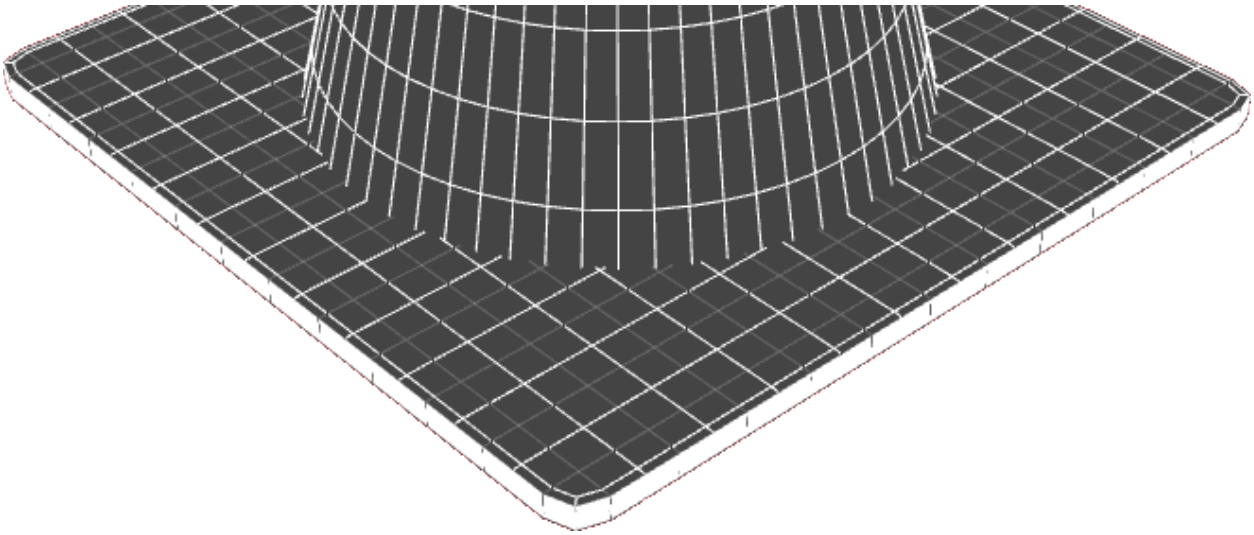
It is still too tall, so let's scale it down using the Y Scale at "3 %".

Now that looks much better.

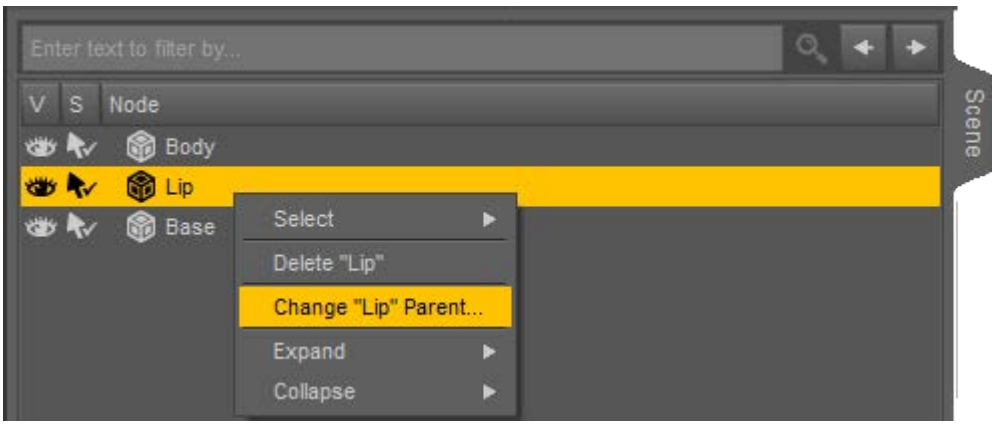


Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

We need one final adjustment before we move on to adding colors to the safety cone. If you looks closely, you can see that the Body is also setting on the floor so it is inside the Base portion.

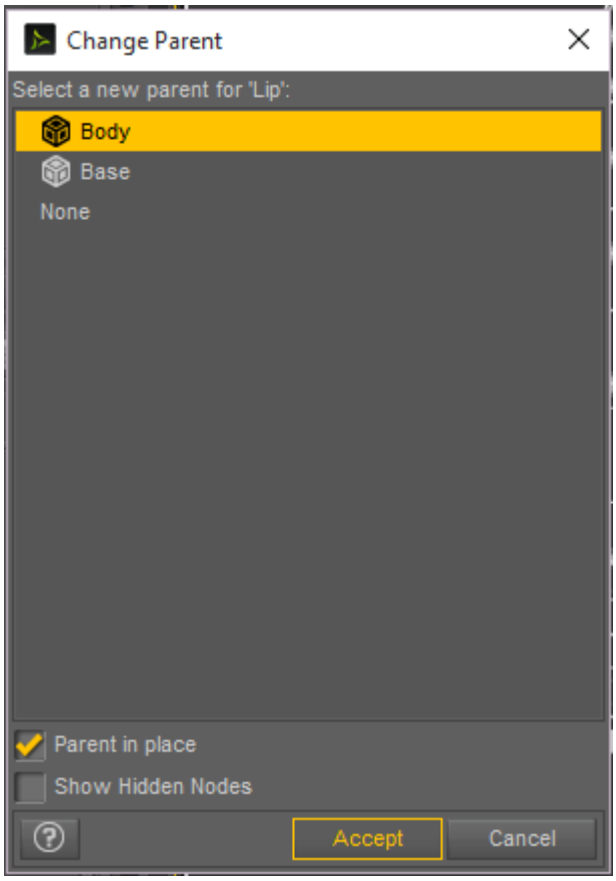


To correct, we will need to raise both the Body and the Lip. First, let's parent the Lip to the Body so it stays in position. Right-click on the Lip in the Scene tab and select **Change "Lip" Parent** from the dropdown menu.



Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Select Body from the popup and click Accept.

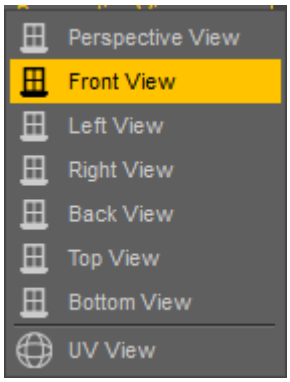


Select the Body in the Scene tab.

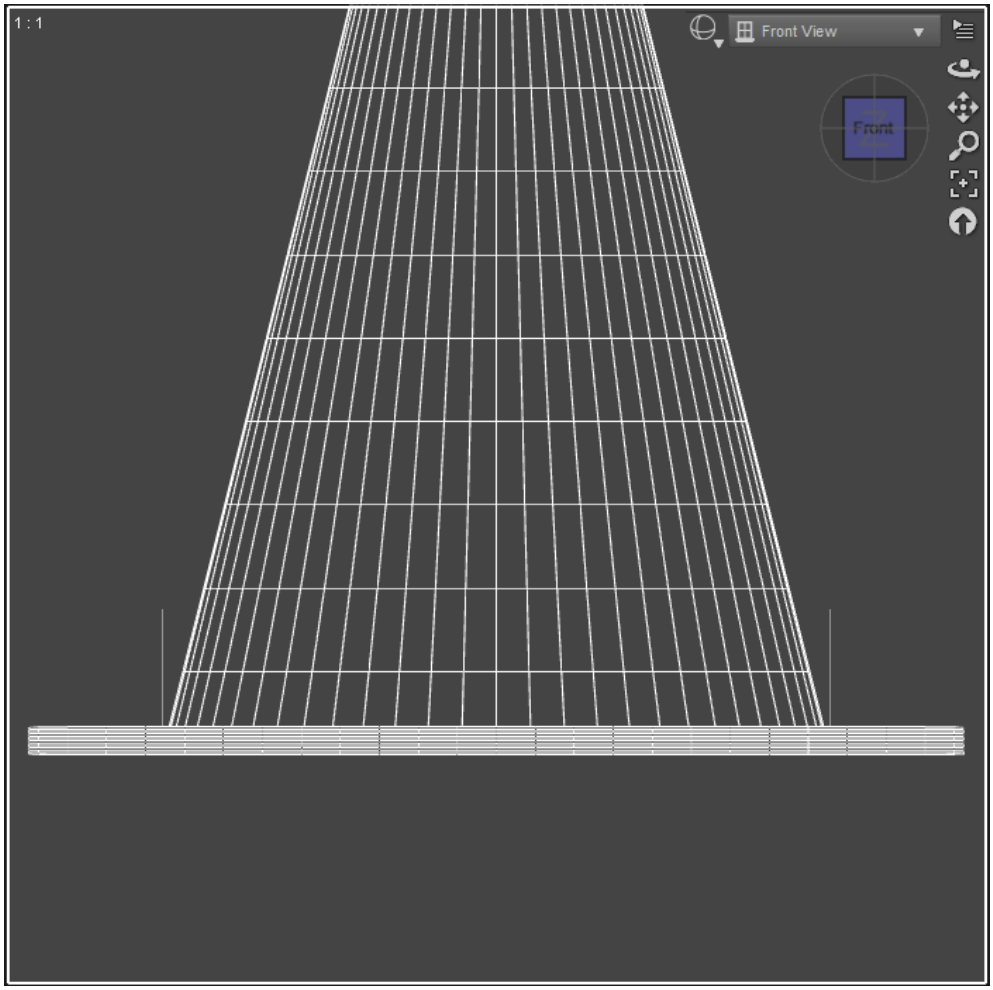
Notice that Lip is slightly indented underneath the Body entry. This indicates that this node is a Child of the one above it.

Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

To get the best view, we suggest using View Selection to Front View.

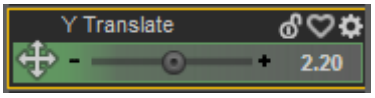


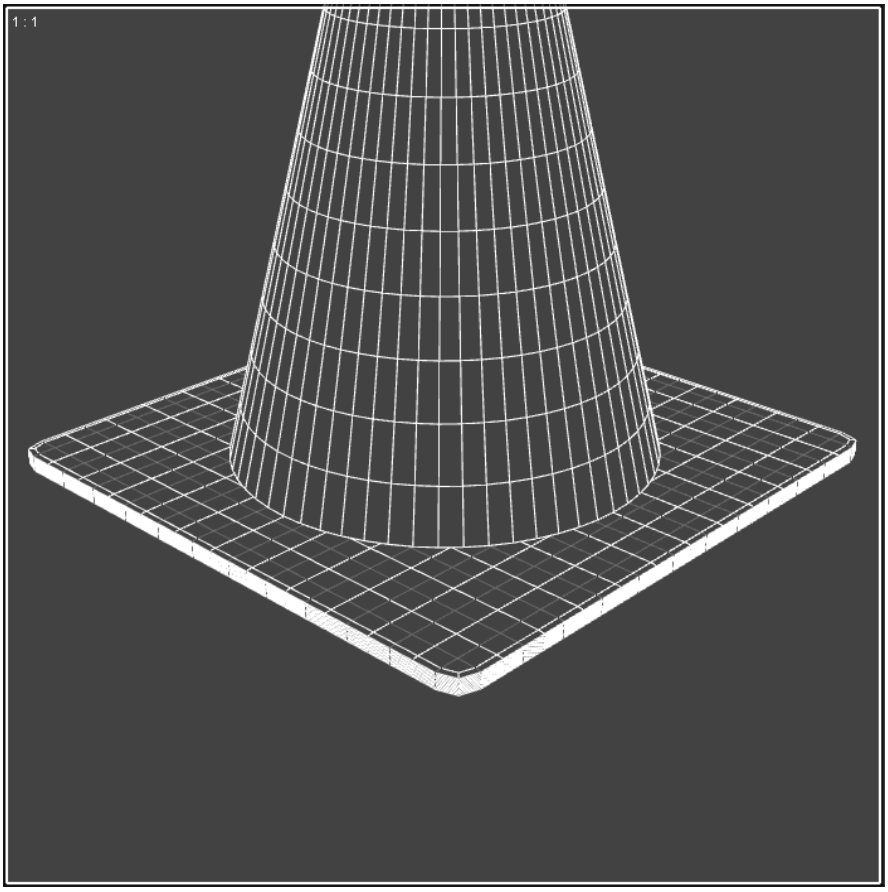
Zoom in on the Base to make these adjustments.



Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Adjust the Y Translation until the Body is resting right on top of the Base. For ours, the value of "2.2" worked great.





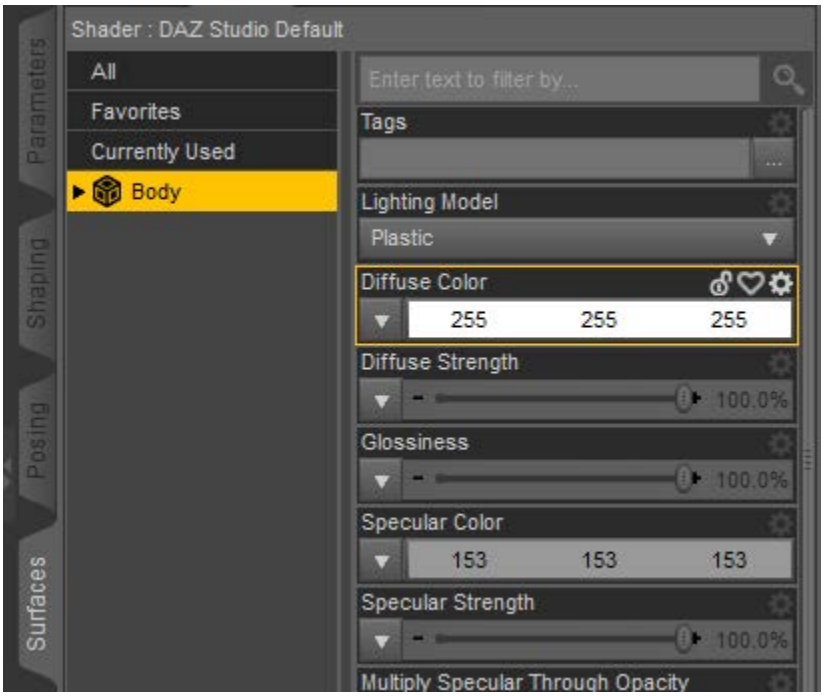
You can right-click on the Lip to unparent it from the Body.

Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Add Color

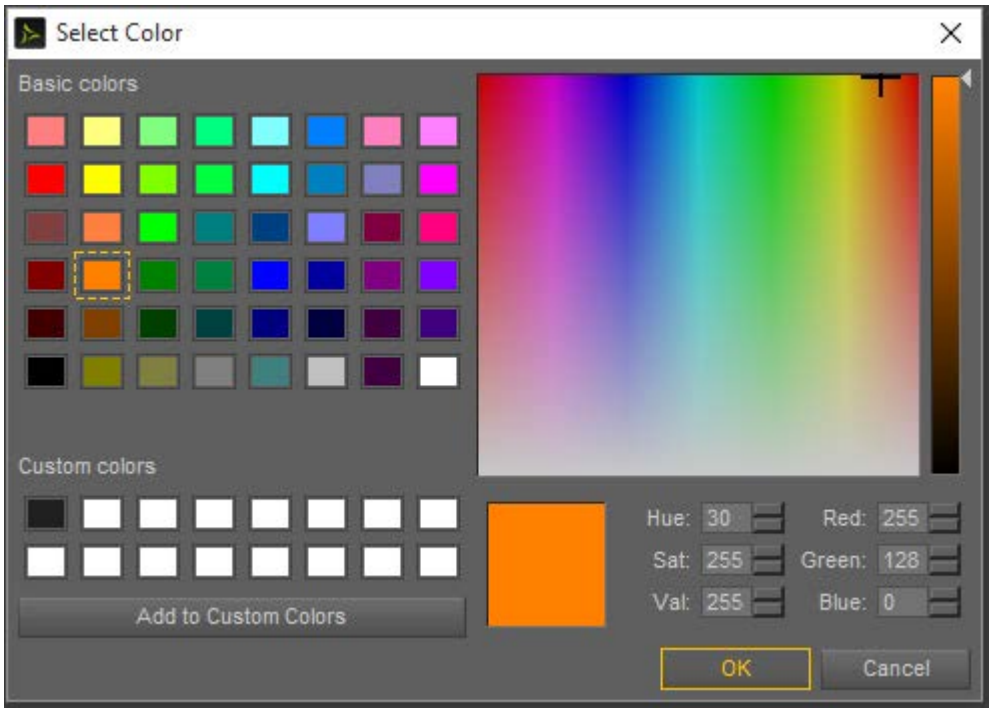
The default color for new primitive shapes in the Diffuse section is usually white (255,255,255). We will need to change this for each of the three shapes. The Body and Lip will have the same color (orange for ours) and the base may or may not be different depending on your application (we used dark gray).

For each shape, first select it in the Scene tab and then in the Surfaces pane, change the Diffuse color by clicking on the color bar in that section (the numbered one).

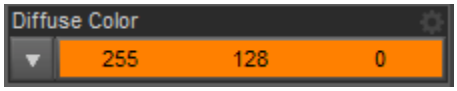


Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

A color dialog should popup in which you can select a new color and click OK.



The new color will appear in the Diffuse section with its RGB values.



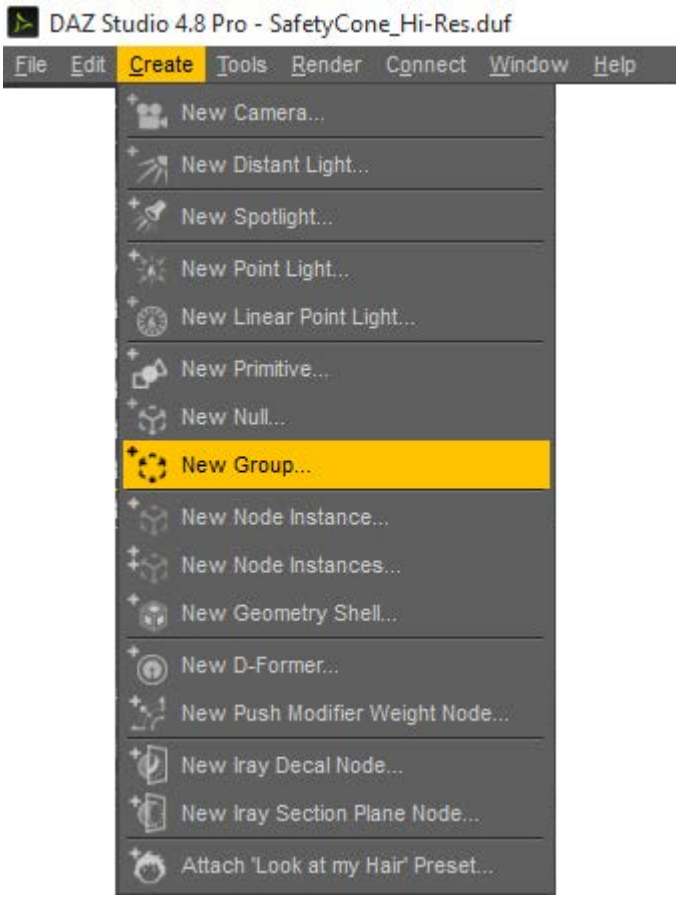
Repeat this step to add color to each of the parts of your Safety Cone. Here is the color setting we used for the Base.

Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Save As Scene

You can save your Safety Cone as a scene file and use it within DAZ Studio. If you want to save the project as a Prop instead, skip this section.

To keep the three shapes together and easily recognizable within a larger scene, we recommend that you group the items together. To do this, first be sure that nothing is selected in the Scene tab. On the main menu, select **Create / New Group**.

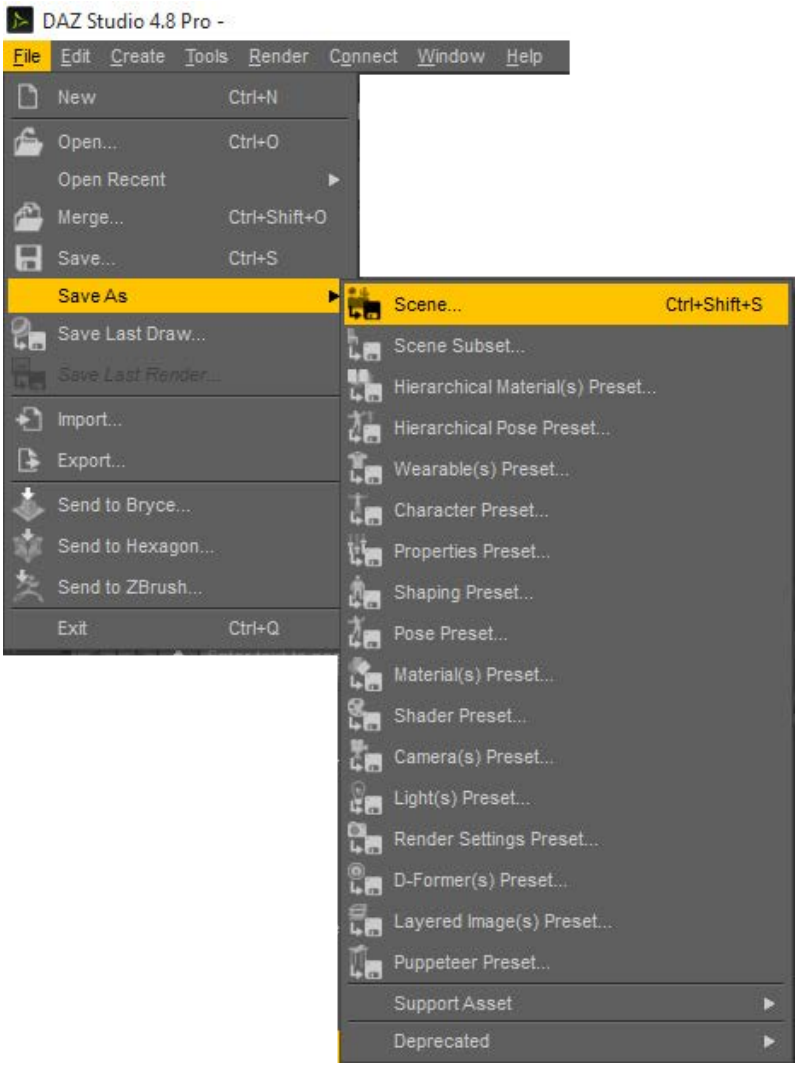


Groups in the Scene tab have their own icon. Change the name of the Group to "**Safety Cone**" or whatever suits your needs.

Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

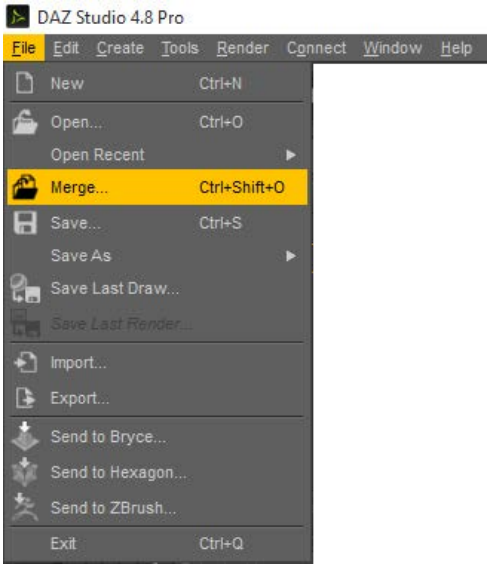
Now parent all three shapes to the group. All three parts will appear slightly indented to the right in the listing in the Scene tab. Other benefits of using a group are that the root node "Safety Cone" controls all properties of the individual parts including visibility (which is not necessarily true with just parenting).

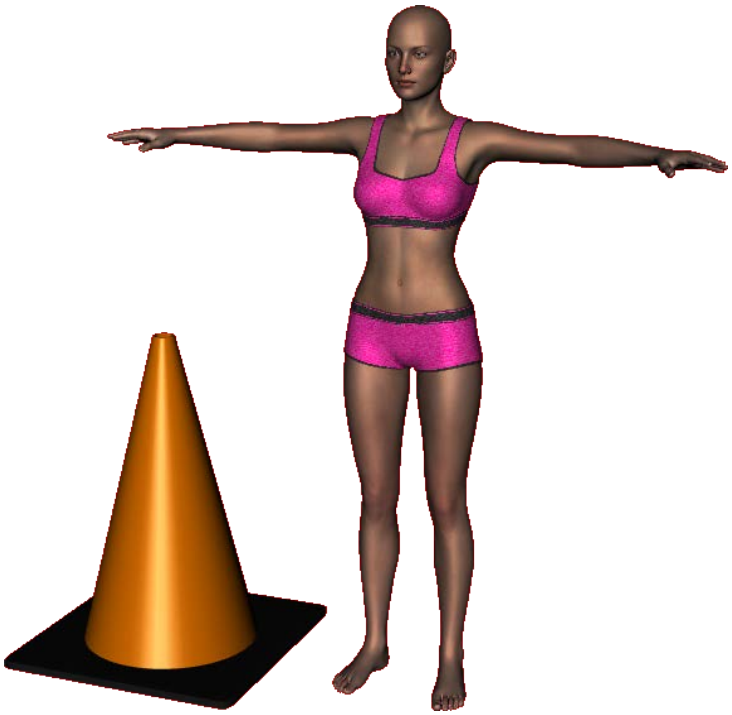
Remove any cameras, lights or other items from the Scene tab. On the main menu select **File / Save As / Scene**.



Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

To use your new Safety Cone, simply merge the saved scene into your current project. From the main menu, select **File / Merge** and browse to the location where you saved the scene and Open it. You may need to scale and position your safety cone within your new scene.





SUCCESS!

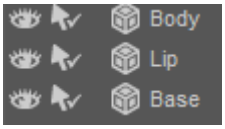
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Final Adjustments

Before you save your new Safety Cone as a prop, you should position it within the 3D space to where you desire it to load/open by default. You may also want to scale it up or down to fit the environment, characters or application which you plan on using it with.

You can translate and scale the three parts individually, but this may require making time-consuming or difficult adjustments to some or all of the parts. We recommend that you parent the three parts into a single Group as described in previous section, perform any desired translations and scaling changes to the group and then un-parent the parts and remove the group from the scene before proceeding to next section.

Grouped



Individual

NOTE:
Any final adjustments are optional as you will still be able to translate and scale your new Safety Cone prop after it is created.

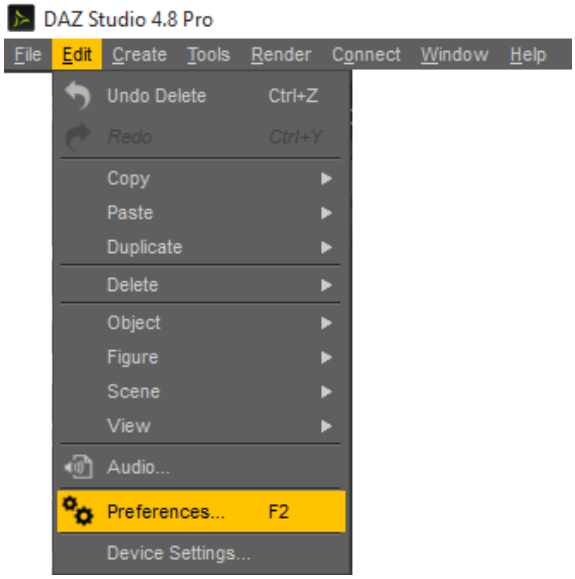
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

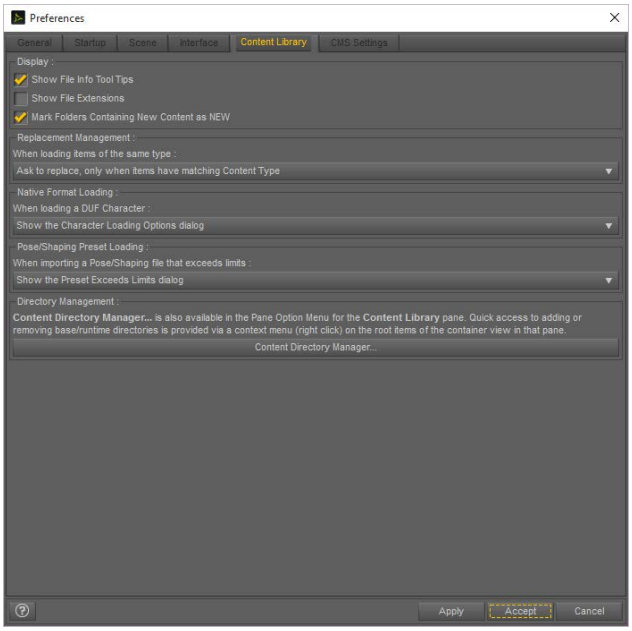
We left our version of the Safety Cone at World Center but scaled it down to 70% to better fit uses with the DAZ Original Figures (Genesis/Genesis2).

Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

My DAZ 3D Library

If you already know how to find you're my DAZ 3D Library folder, you can skip this section. You can find the path to this folder in the Preferences for your installation of DAZ Studio. On the main menu, select **Edit / Preferences** and select the Content Library tab.





Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Click on the long button/bar titled Content Directory Manager.

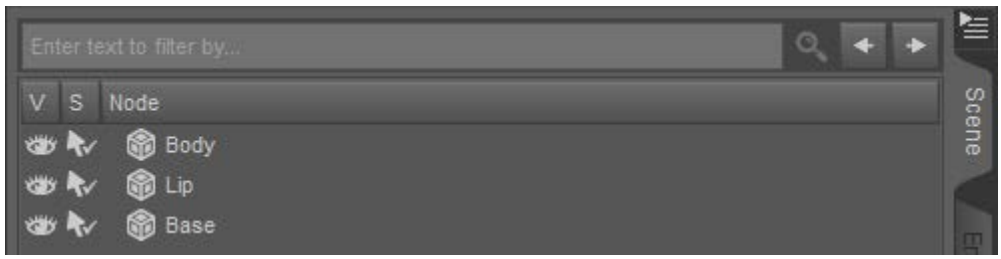
Expand the DAZ Studio Formats section by clicking on the small plus (+) sign.

You will want to save your new prop in the either the Public directory or whichever directory/folder on your system that allows everyone to access the prop.

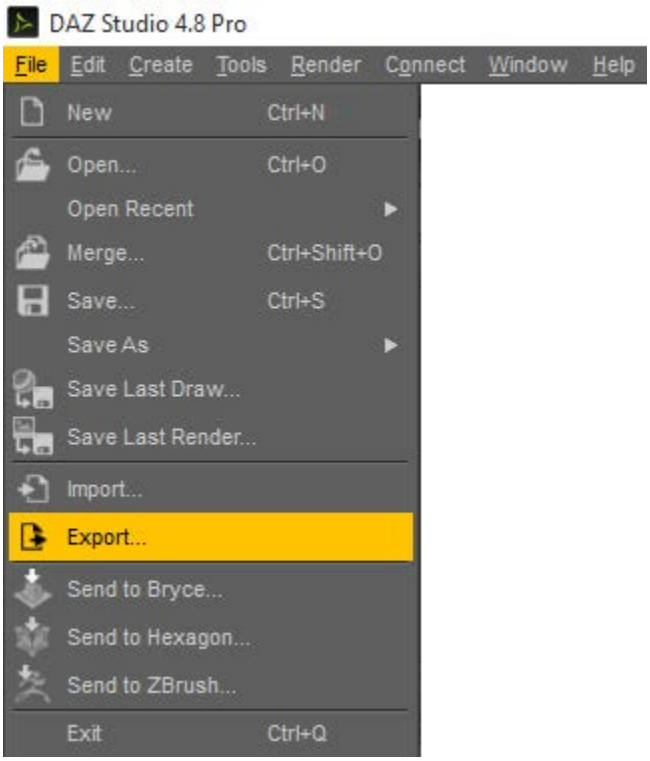
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Export / Import OBJ File

Be sure that nothing else beside the three parts of the safety cone in the Scene (cameras, lights, etc).

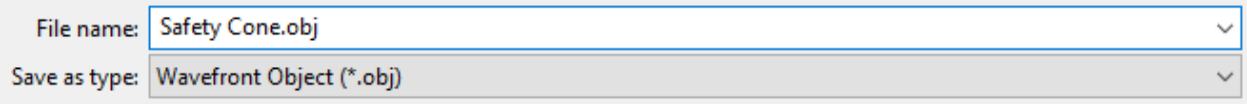


With nothing in the Scene tab selected, from the main menu choose **File / Export**.

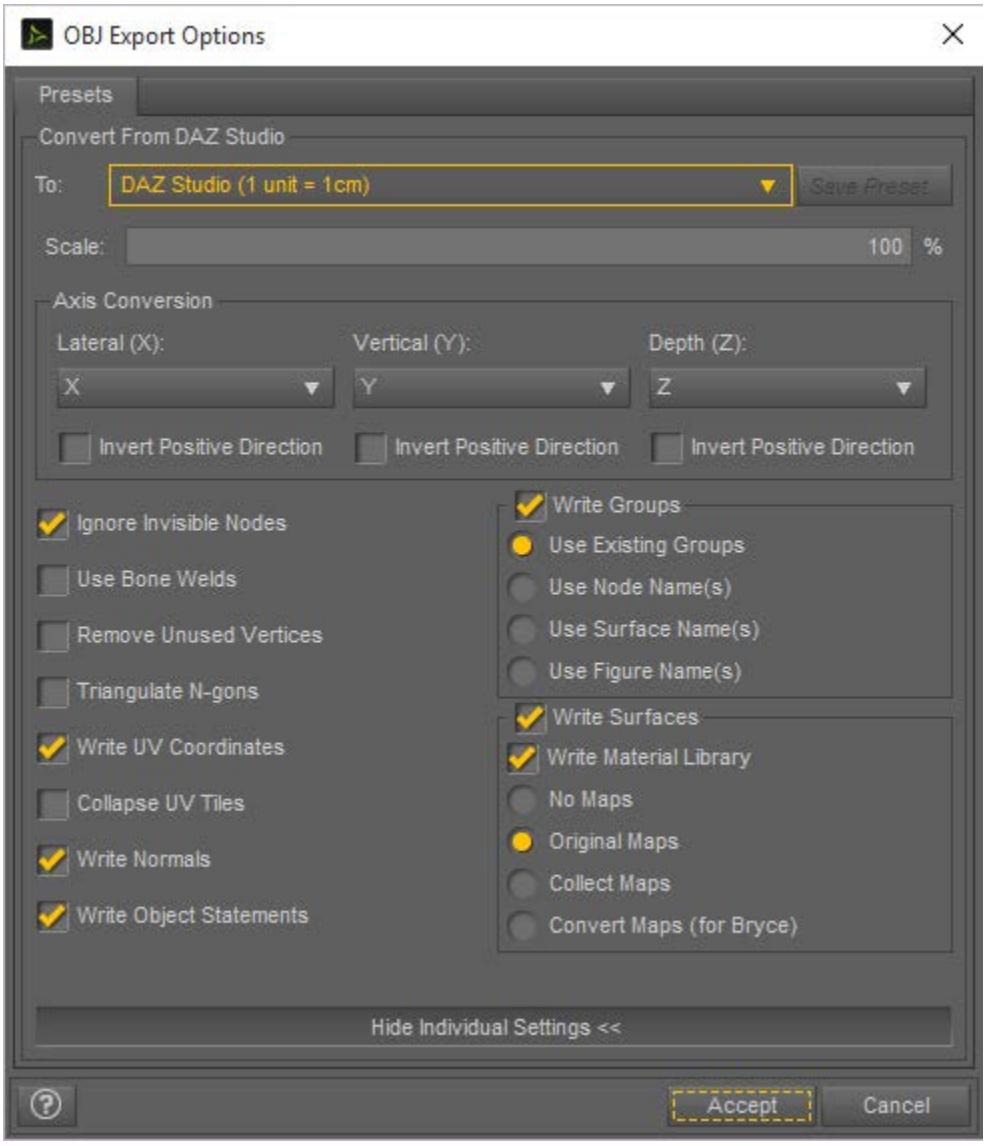


Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Browse to your desired location to save your Standard OBJ/MTL version of the safety cone. We called ours "Safety Cone.obj".

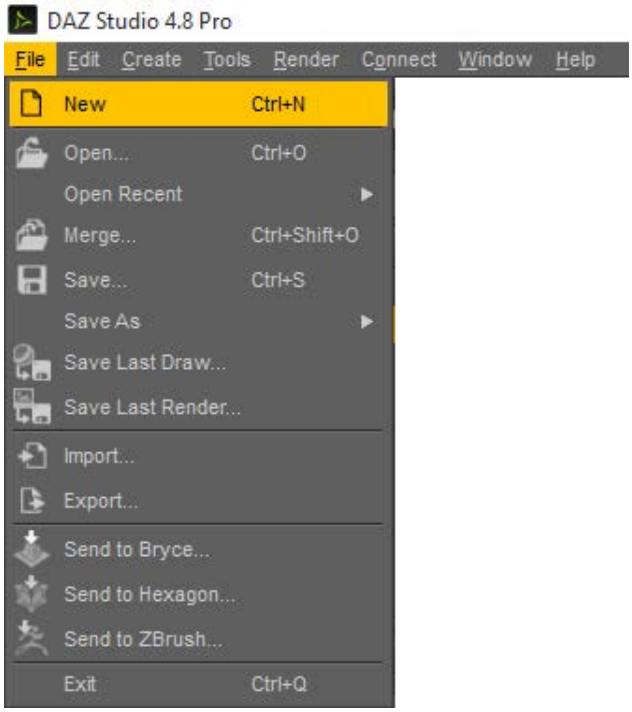


We recommend that you use the DAZ Studio sizing with its default parameters for your exported OBJ model.

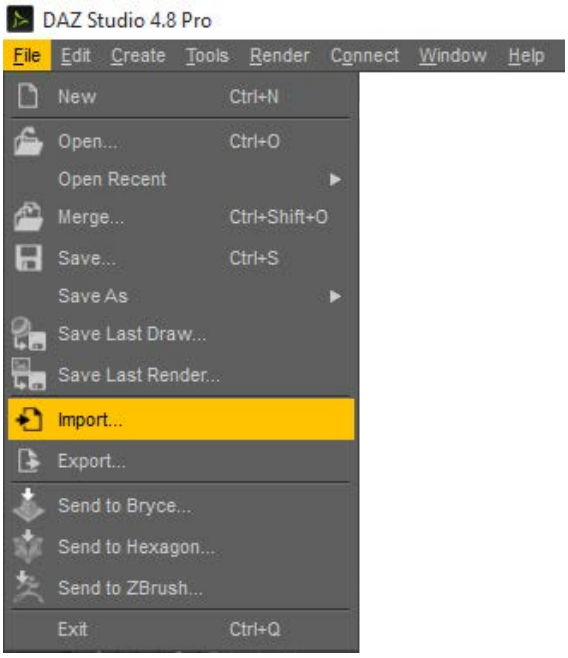


Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Start a new scene.



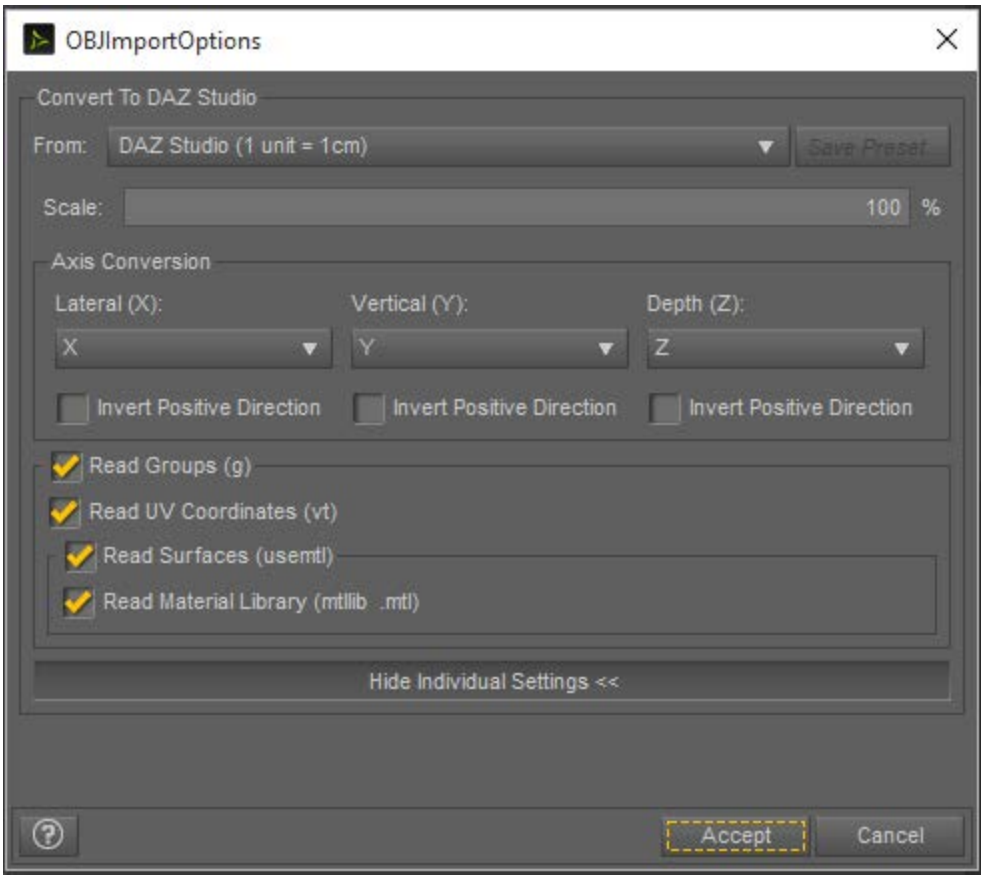
Import your newly saved OBJ model.



Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Browse to the location where you saved your model file. We used the filename "Safety Cone.obj".

Be sure to use the same size used for the Export (DAZ Studio) and defaults.



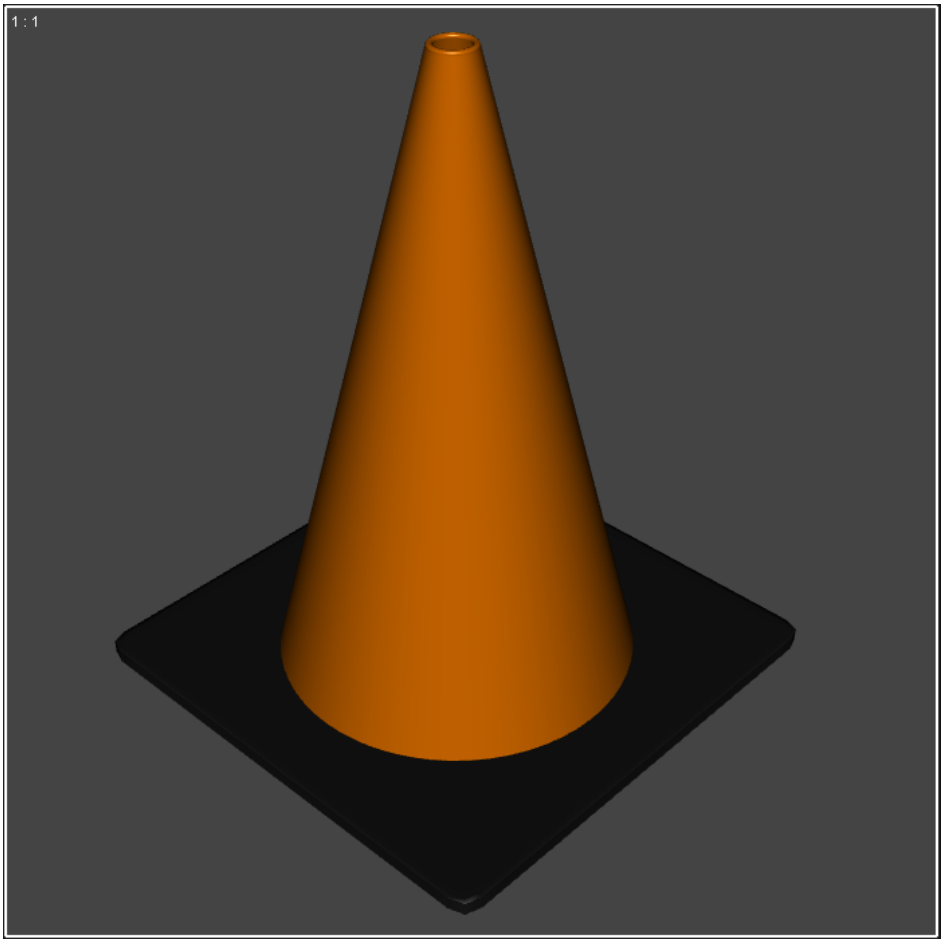
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Save As Prop

Before saving, you will need to decide where you want your new prop to appear in the DAZ Studio Content Library folder structure. We will be saving ours here:

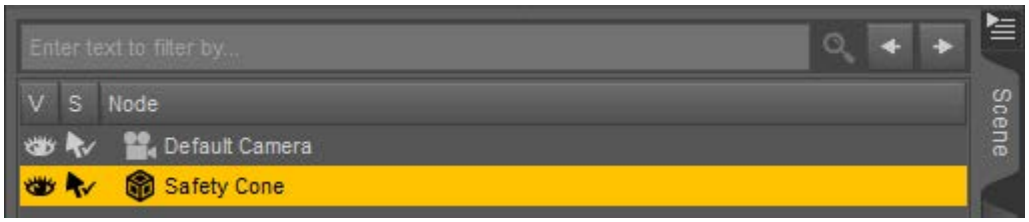
My DAZ 3D Library / Props / Winterbrose / Safety Equipment

The way you see your new prop in the Viewport is how its new thumbnail image will look. Since thumbnails are typically 91x91 in size, you may want to consider a "square" sized Viewport (ratio of 1:1) with Show Aspect Frame enabled. Pan, rotate and zoom until the prop's position in viewport is what you desire.

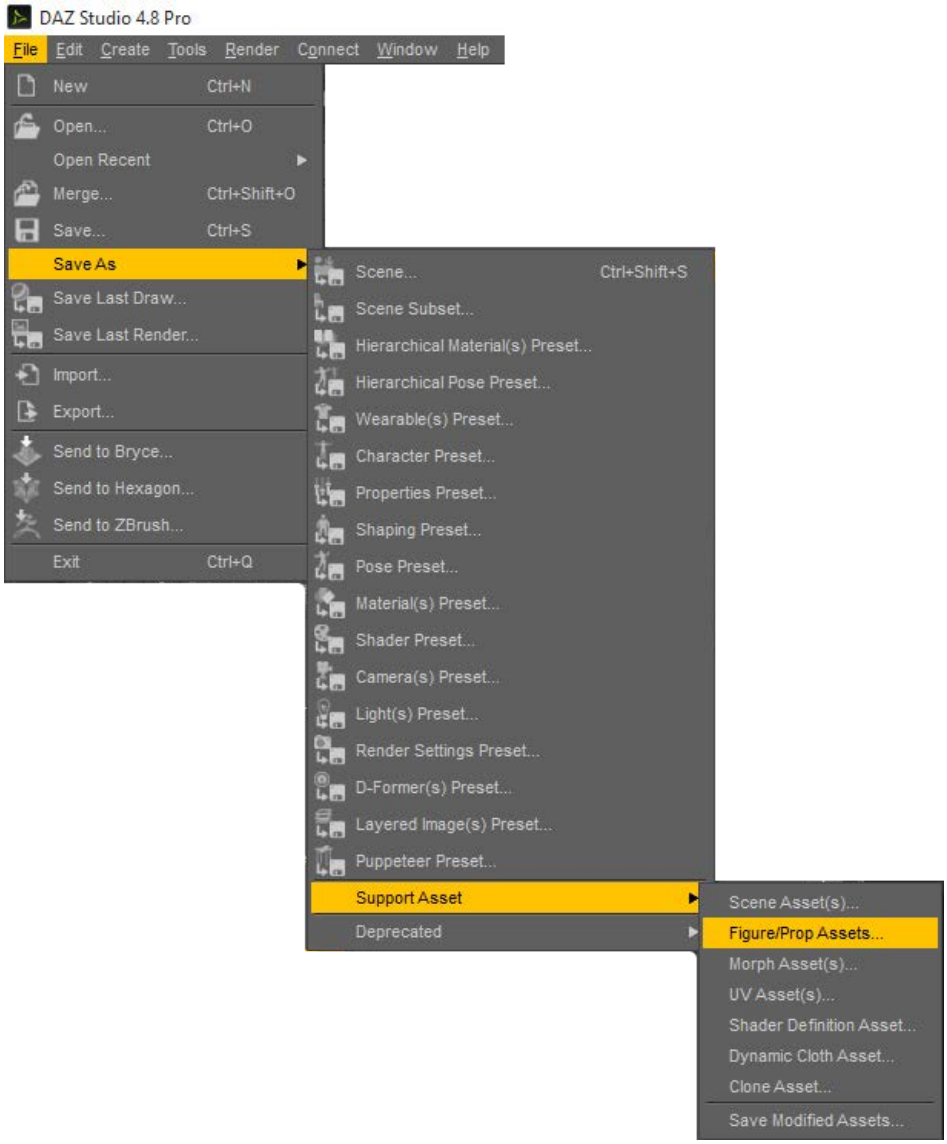


Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Select the imported model in the Scene tab.

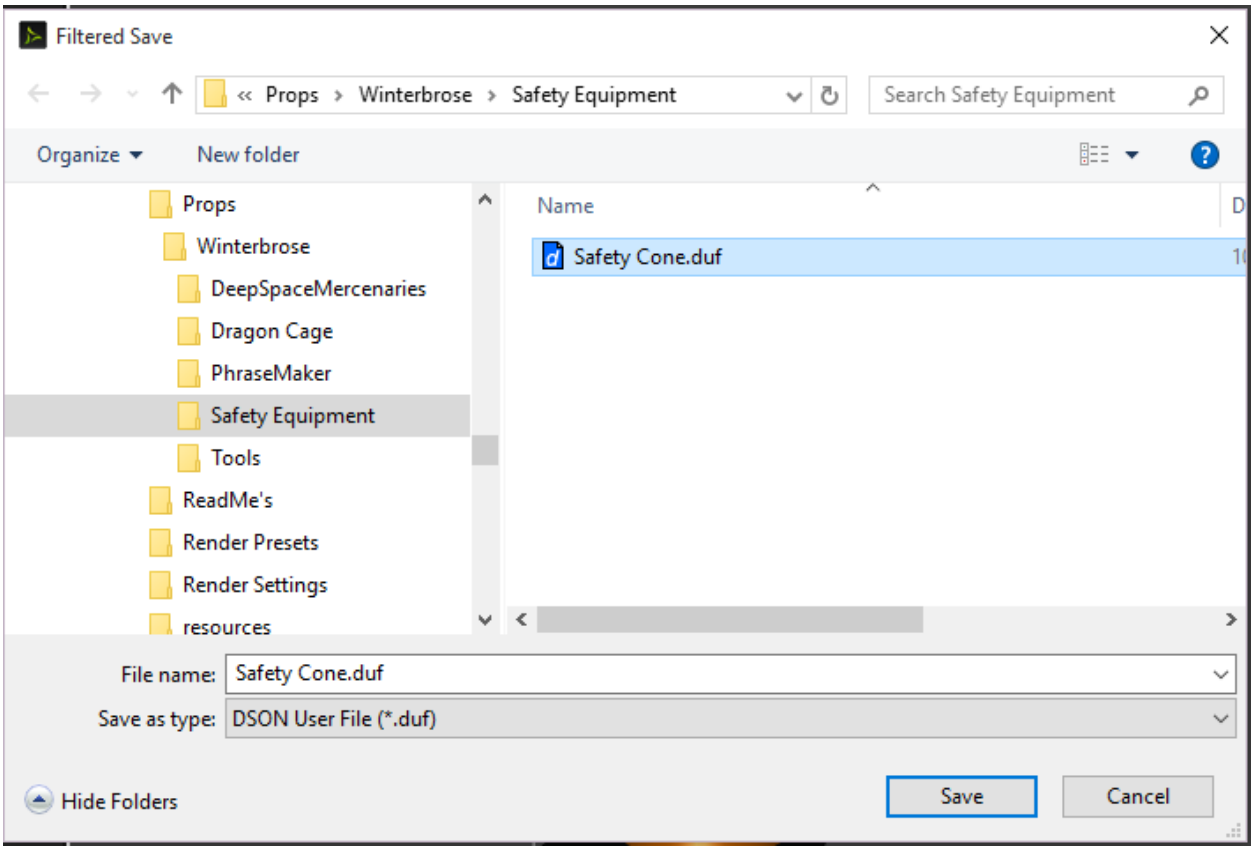


On the main menu, choose **File / Save As / Support Asset / Figure/Prop Assets**.

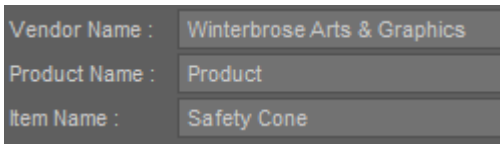


Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Browse to location within My DAZ 3D Library where you wish to save the prop.



Pay close attention to the next screen which uses your default installed settings.

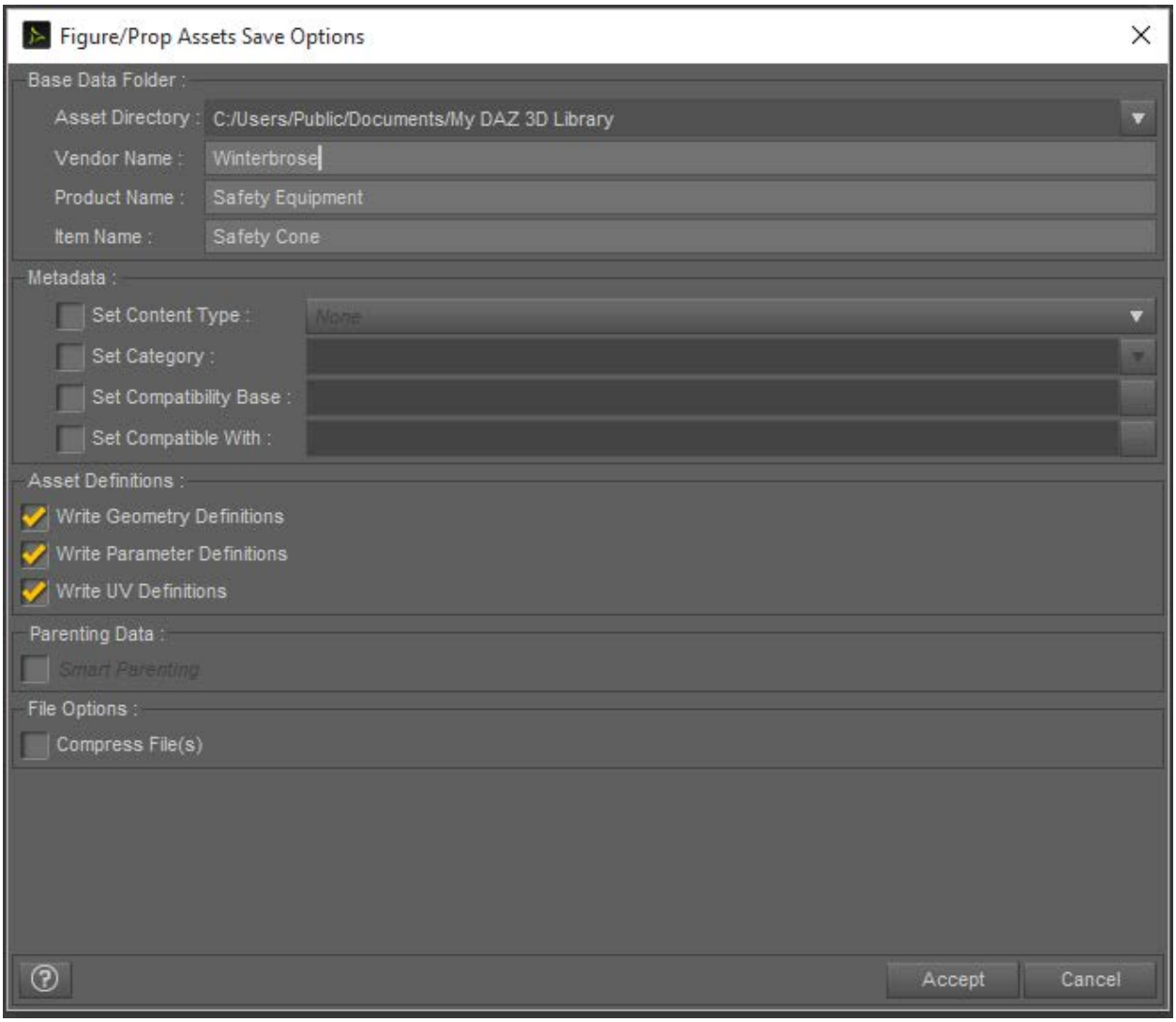


Folders to be created in the "data" directory will be based upon these fields:

Vendor Name: main directory/folder created
|___**Product Name**: sub-directory/folder for product
|___**Item Name**: sub-directory/folder for DS specific prop files

Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

We changed these to match our own desires.



You can see here the complete path to ours within the My DAZ 3D Library:

C:\Users\Public\Documents\My DAZ 3D Library\data\Winterbrose\Safety Equipment\Safety Cone

Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

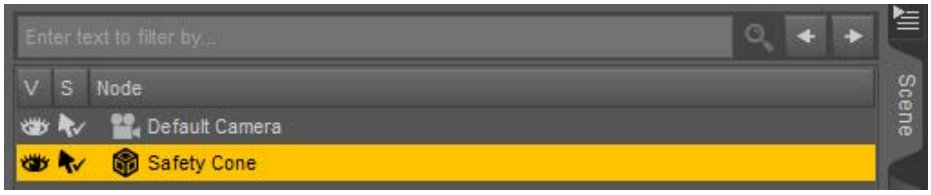
Looks like it all worked, right? Well, we are almost done, but you should test your new prop to ensure it works without a doubt.

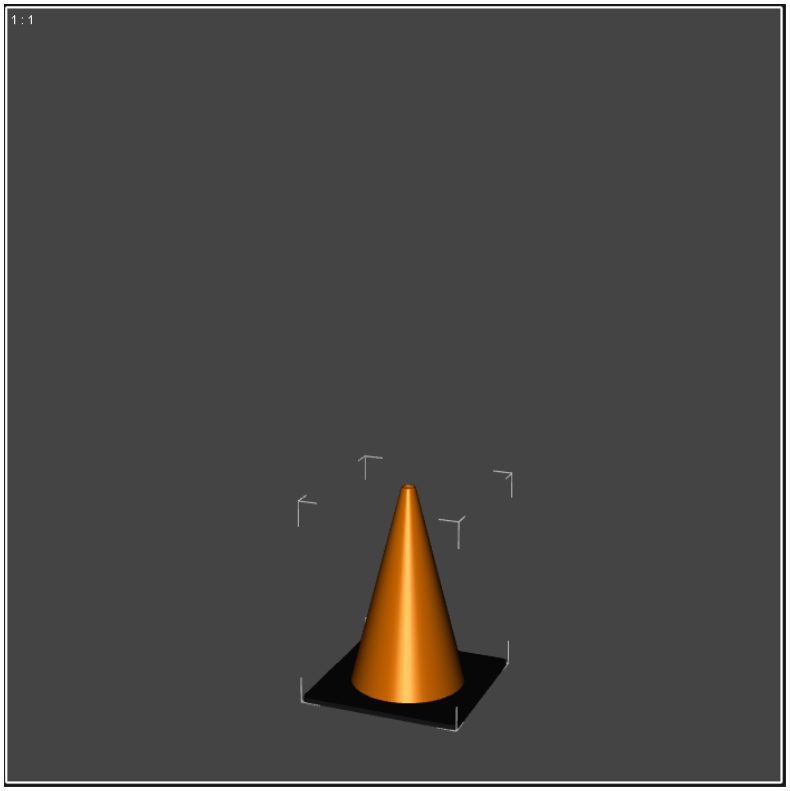
Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Testing

Start a New Scene and double-click your new prop icon to load it.

The prop should now appear in the Scene tab and the Viewport. Move it around and scale it up/down to be sure everything works properly.





SUCCESS!

Copyright © 2015, Winterbrose Arts and Graphics. All Rights Reserved.

Conclusion

We hope that you learned from this tutorial. Your imagination and creativity are the greatest tools you can have when it comes to making 3D props. We would like to close with this last render of the Safety Cone where we changed the Diffuse color settings in the Surfaces tab. Enjoy!