



AUTODESK UNIVERSITY 2014

3ds Max® Design: 3 rendering techniques for Inventor users

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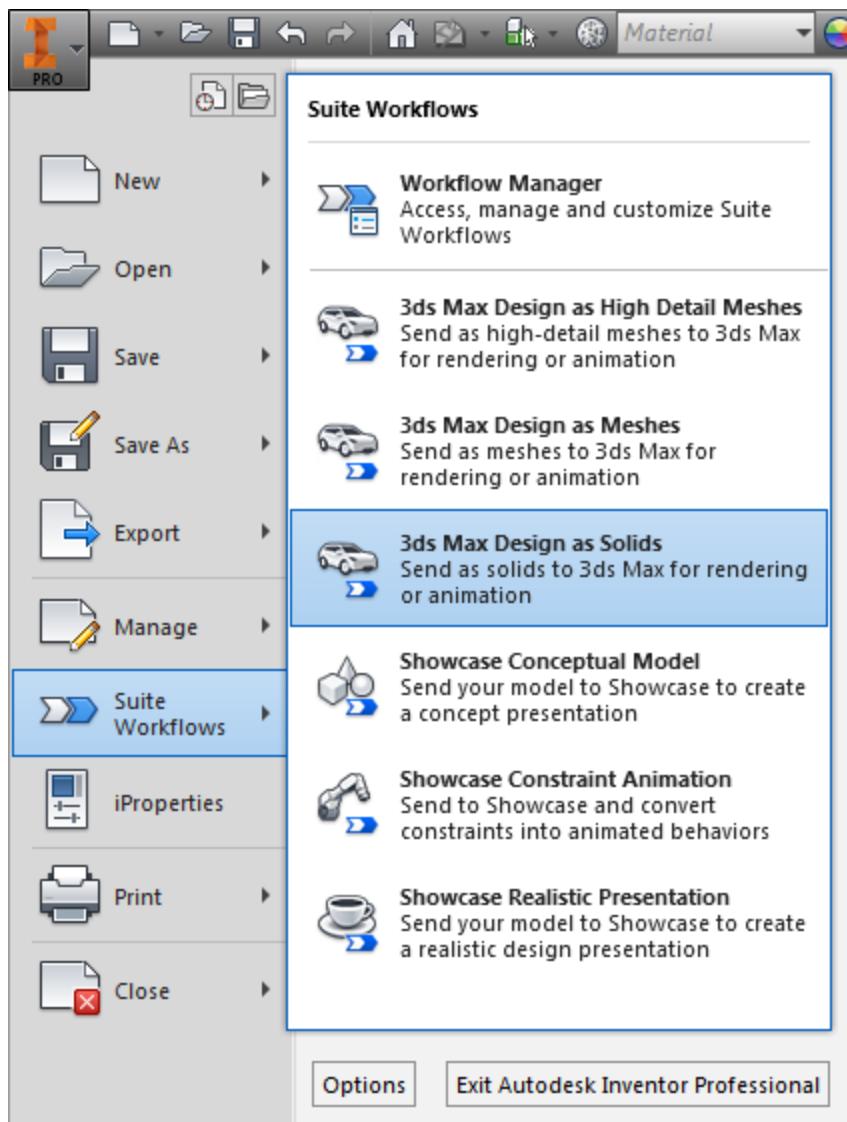
Understanding the different settings of export/import workflow

This document reviews in detail the workflow between Inventor and 3ds Max Design. I have created a sets of comparison showing how each import/export settings is affecting the model once in 3ds Max Design. The intention is to help the user understand which setting is more appropriated for his project.

You can find the matching scene under this folder: **VI5396-LabDataset\scenes\ImportComparison**

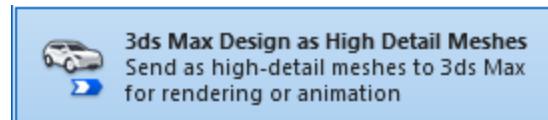
Workflow from Inventor

If you are an Autodesk Product Design Suite user (Premium or Ultimate), you can choose to send your Inventor data directly to 3ds Max Design using the *Suite Workflows* button.

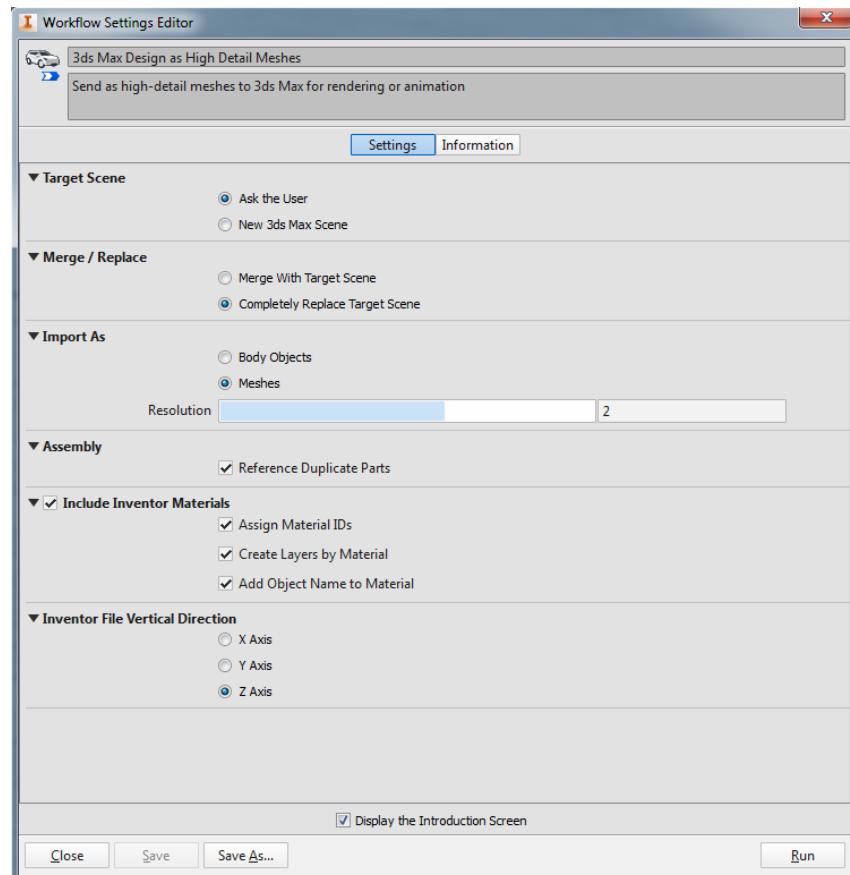


Since you have 3 different options available, let's first understand the difference, then I will share with you my preferences.

Option 1: 3ds Max Design as High Detail Meshes:

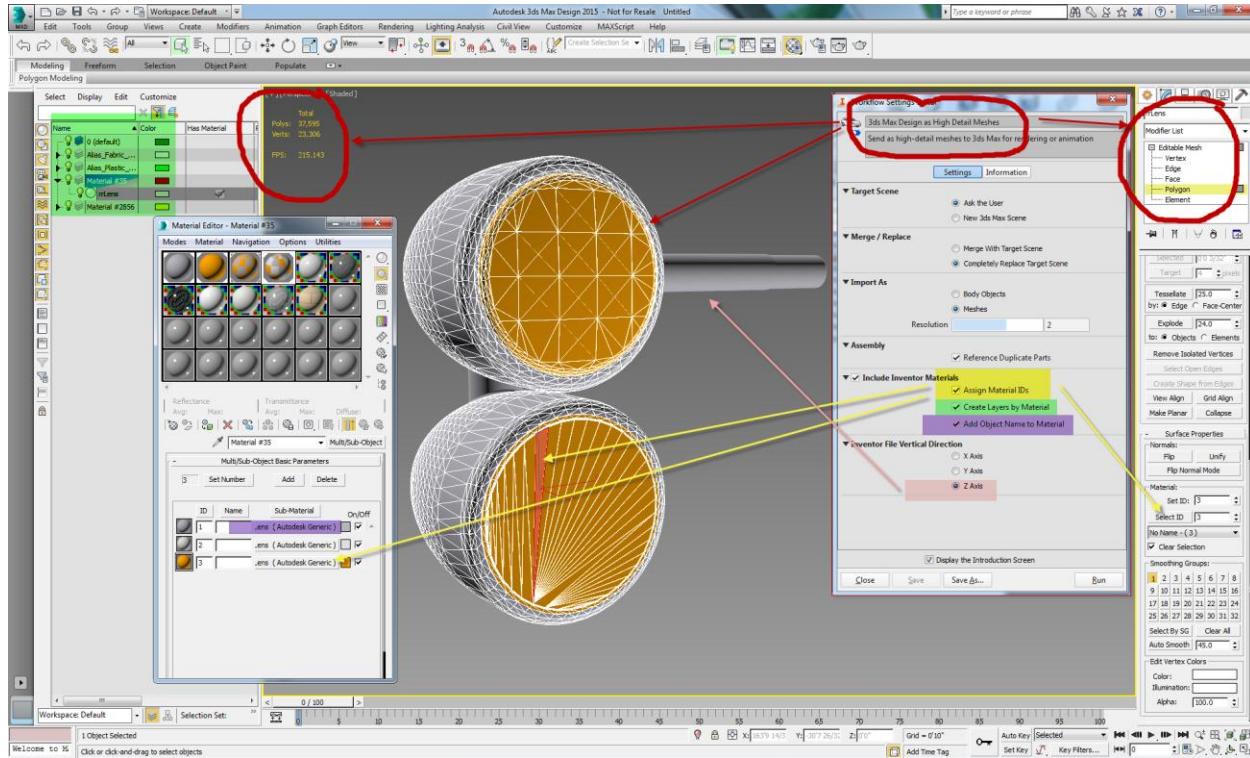


Below are the default settings for this option



The result will be the following:

Understanding the different settings of export/import workflow

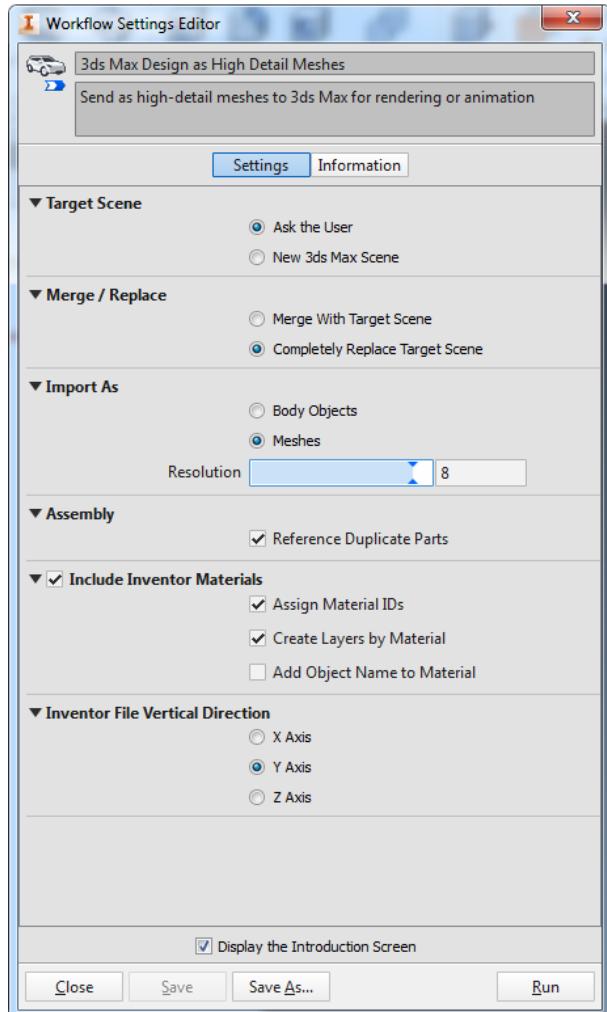


This scene is saved as: **HightResMeshes-default.max**

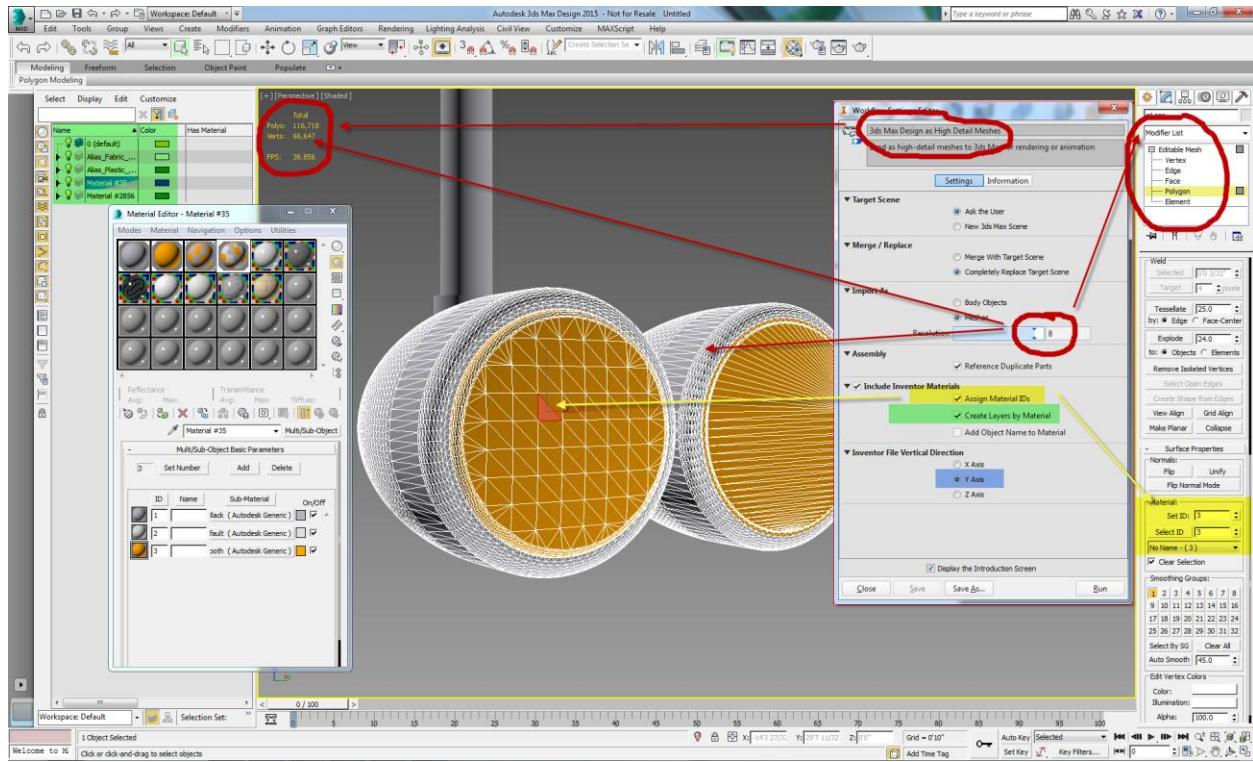
In 3ds Max, you receive:

- a considerably high density Editable Mesh (37, 595 polys)
- The layer organization is driven by materials, therefore, each object that shares the same material have its own layer.
- Each material also has the name of the object it is applied to.
- Each polygon have a Material ID
- The model is imported leaning on its side because the vertical direction was set by default to Z axis which is contrary to the default settings of Inventor being the Y axis.

If you are considering using this export setting, this is what I suggest:

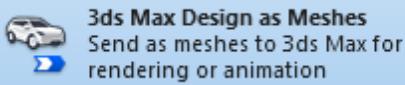


- Increase the mesh resolution
- You need to decide how you want to manage the material export translation – this is based on your personal preferences
- Change the *File Vertical Direction* to Y axis

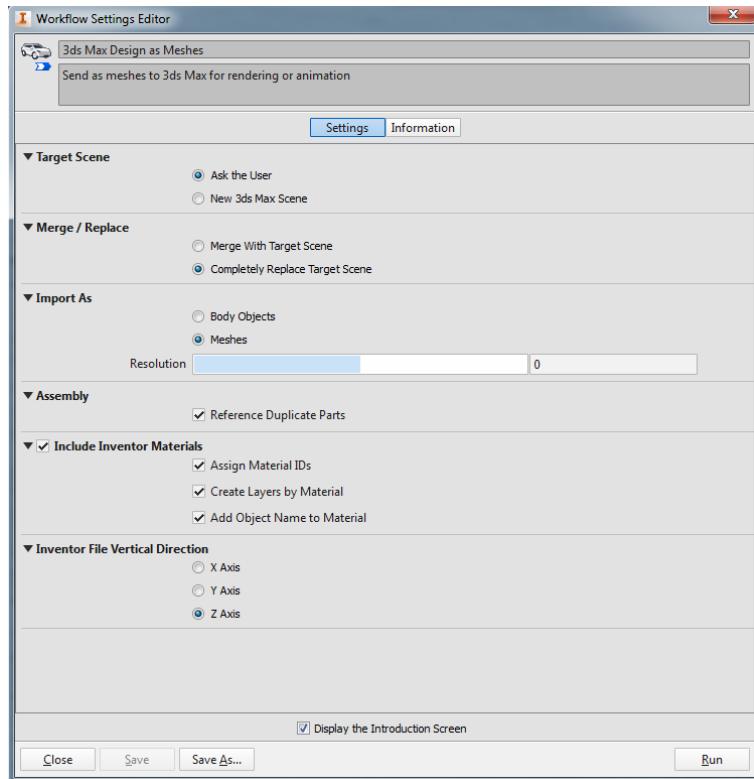


This scene is saves as: **Meshes-PreferedSettings.max**

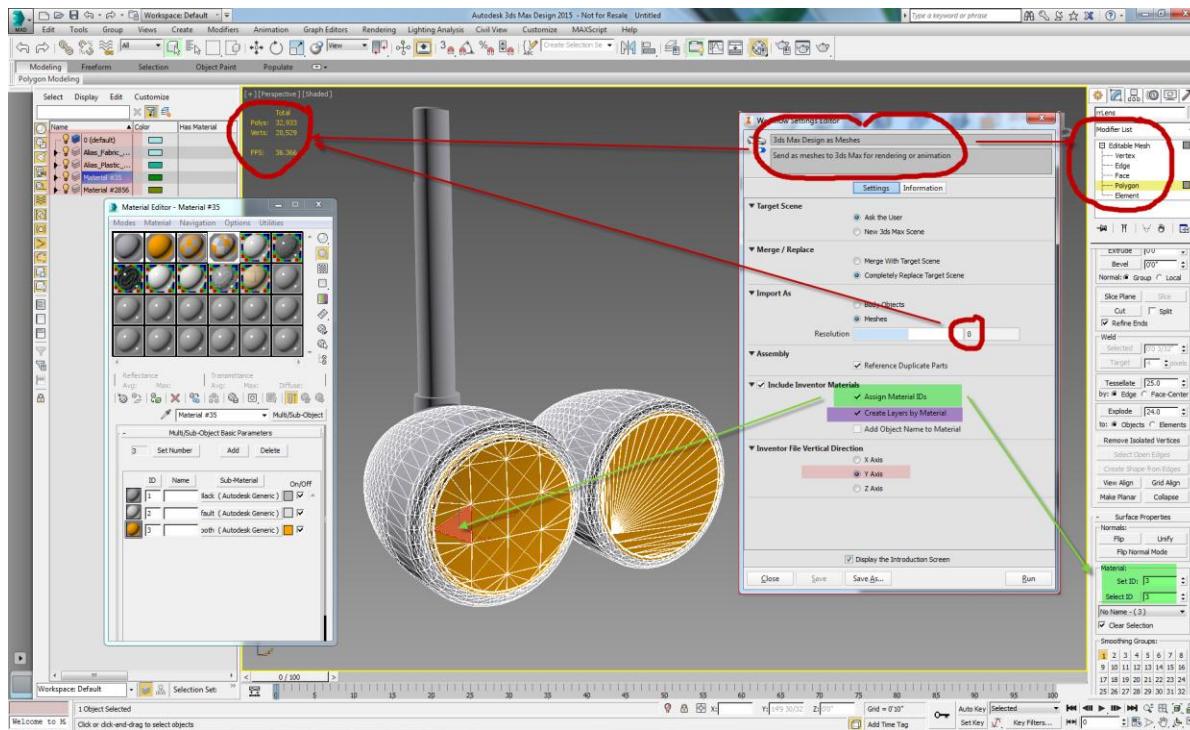
Option 2: 3ds Max Design as Meshes



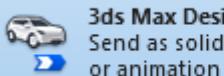
Below are the default settings for this option



This option is really similar the previous option: *3ds Max Design as High Detail Meshes*, the only difference is that the mesh resolution is set to 0 which will give you a low resolution meshes as a result.

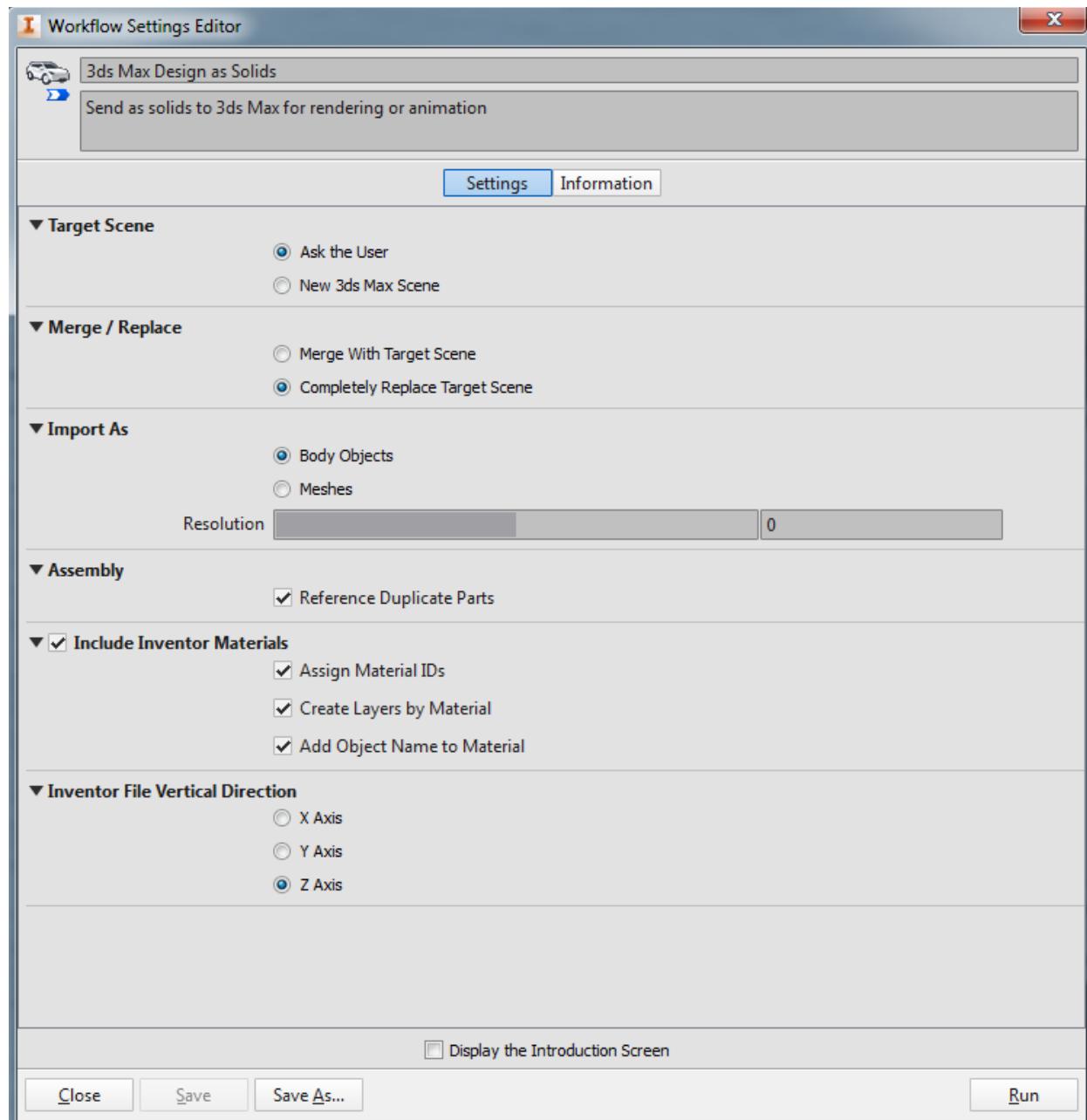


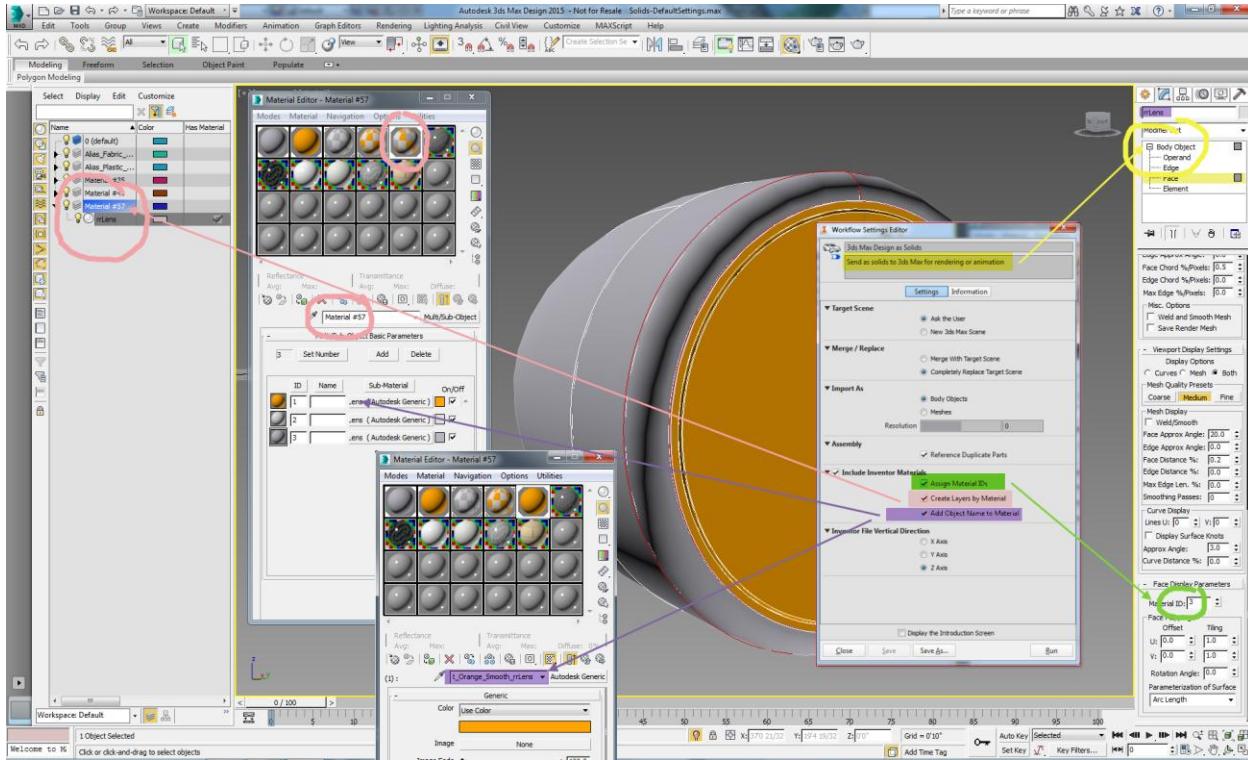
Option 3: 3ds Max Design as Solids: This is my preferred option



3ds Max Design as Solids
Send as solids to 3ds Max for rendering or animation

Below are the default settings for this option



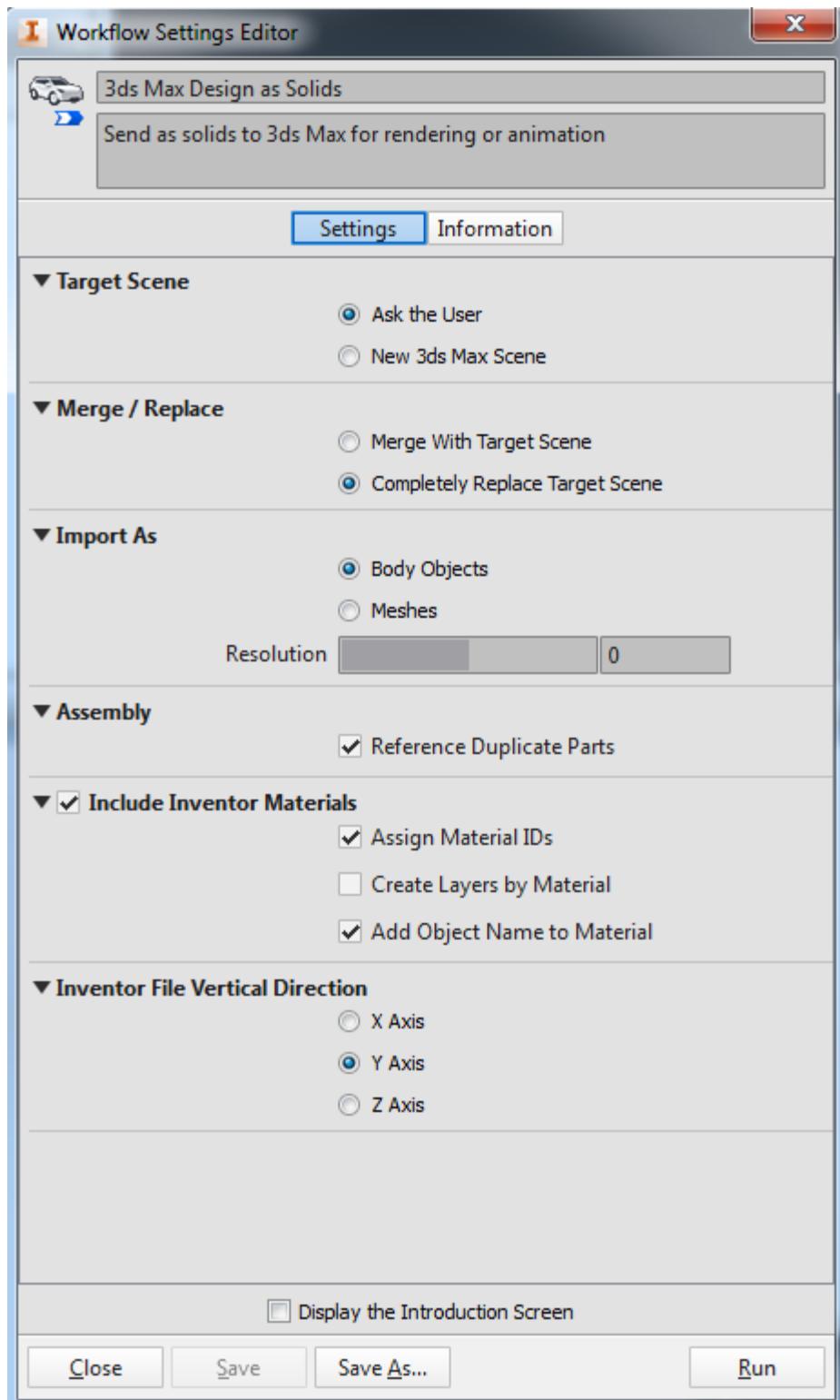


This scene is saved as: **Solids-DefaultSettings.max**

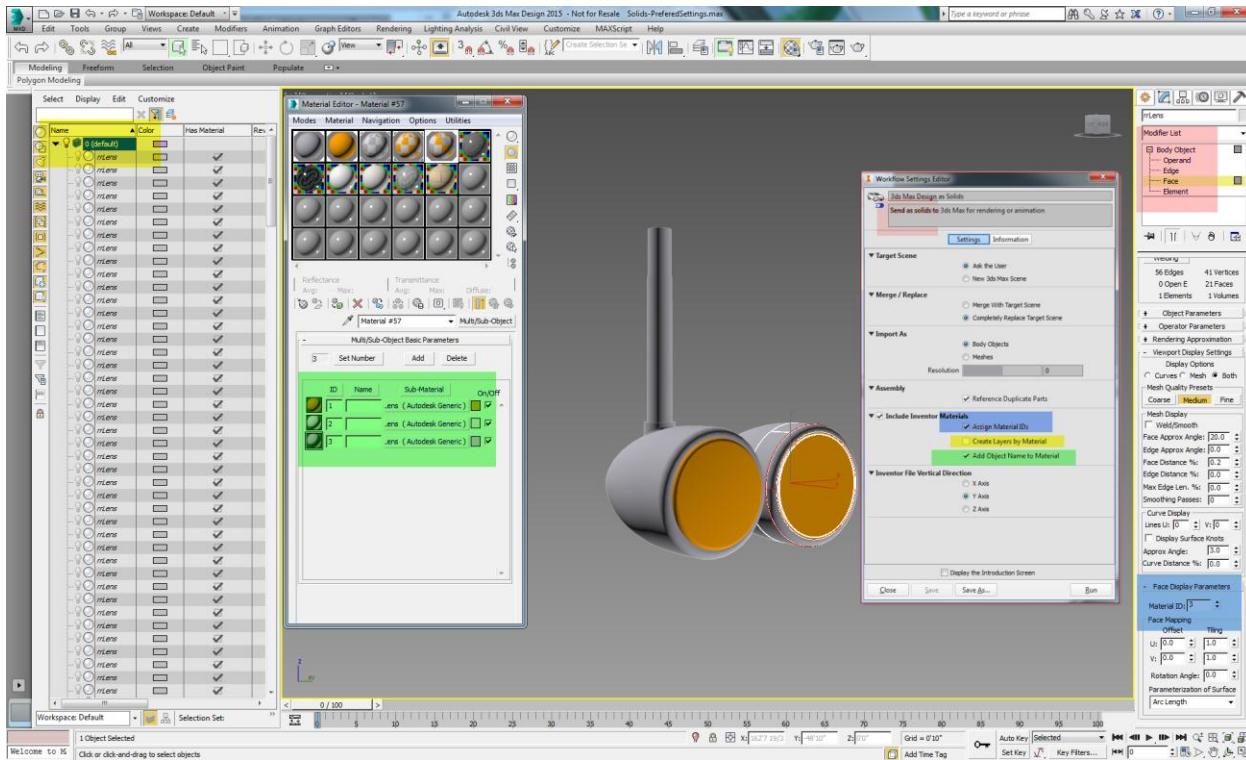
In 3ds Max Design, you receive:

- The model will be translated into a *Body Object* type
- The layer organization is driven by materials, therefore, each object that shares the same material have its own layer.
- Each material also has the name of the object it is applied to.
- Each polygon have a Material ID
- The model is imported leaning on its side because the vertical direction was set by default to Z axis which is contrary to the default settings of Inventor being the Y axis.

These are my preferred settings:



In 3ds Max Design, you receive:



This scene is saved as: **Solids-PreferedSettings.max**

- The model will be translated into a *Body Object* type
- All the objects are sitting on the *Default* layer- I prefer organizing the layer myself once in 3ds Max Design for personal organization preferences.
- Each material also has the name of the object it is applied to – this helps me identify the material at first to later rename and edit the materials in 3ds Max Design.
- Each polygon have a Material ID – this is really useful when it's time to apply new materials
- By choosing the Y axis up, I match the original Inventor file orientation and the model is properly oriented once in 3ds Max Design.

Direct import from 3ds Max Design (.ipt or .iam)

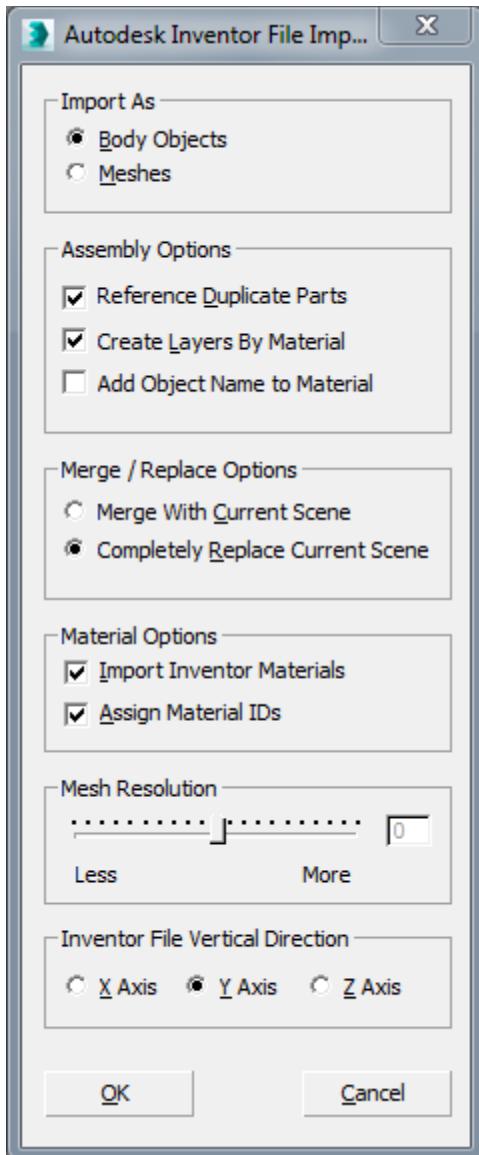
You can choose to import your Inventor model directly in 3ds Max Design.

In this case, you have access to the same setting during the import process:

This is my preferred method and you can watch this video for a more in-depth understanding:

<http://www.youtube.com/watch?v=r0A37M-btYw&list=PLowqs8sl9->

[jv_B1VIOBrWd89aCf6DjbDW&feature=share&index=1](#)



Make sure that you use your preferred settings to avoid having to re-import. The import translation can take quite a while depending on the complexity of your model.

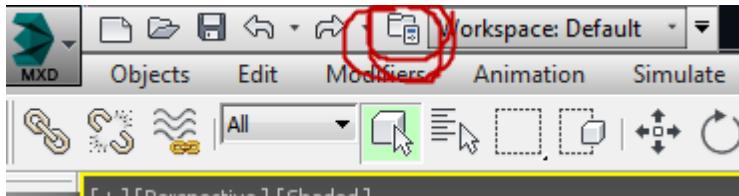
This scene is saved as: **MaxDirectImportSolid-preferredsettings.max**

Important information for 3ds Max Design users

If you are choosing to import the Inventor model directly in 3ds Max Design, it is imperative that you set your scene first. Watch this video for more in depth understanding:

http://www.youtube.com/watch?v=k0vqybdv4Rk&list=PLowqs8sl9-jv_B1VIOBrWd89aCf6DjbDW&feature=share

- Set the project folder. The project folder provides a simple way of keeping all of your files organized for a particular project. Click on the set project folder button from the quick access toolbar:



- Set the units for your project: From the main menu bar, go to Customize>Customization>Units Setup... It is important to align the 3ds Max Design scene to match the original file unit. So if you are working in meters and cm or feet and inches in Inventor, set the project the same way in 3ds Max Design. As an example: From the Units Setup menu, make sure that the Display Unit Scale is set to US Standard. Click on the System Unit Setup button and make sure that the System Unit Scale is set to Inches

