AUTODESK **INVENTOR**

Trial Projects

Photorealistic Visualization

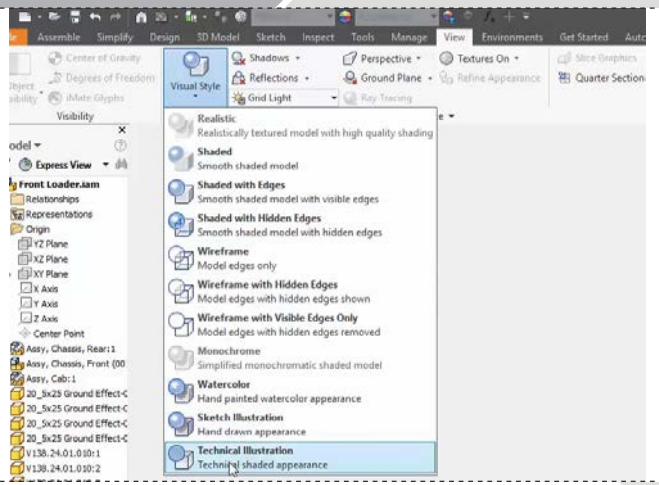
Render a front loader

PART 1: PHOTOREALISTIC VISUALIZATION

1.

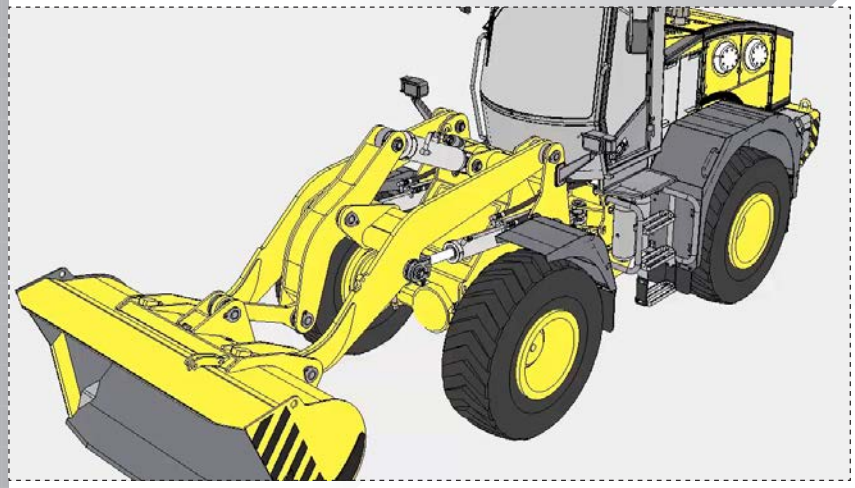
In Inventor, click the ‘Projects’ icon in the ribbon. Navigate to where you saved the project files and select ***Front loader.ipj***. Then open ***Front Loader.iam***.

2.



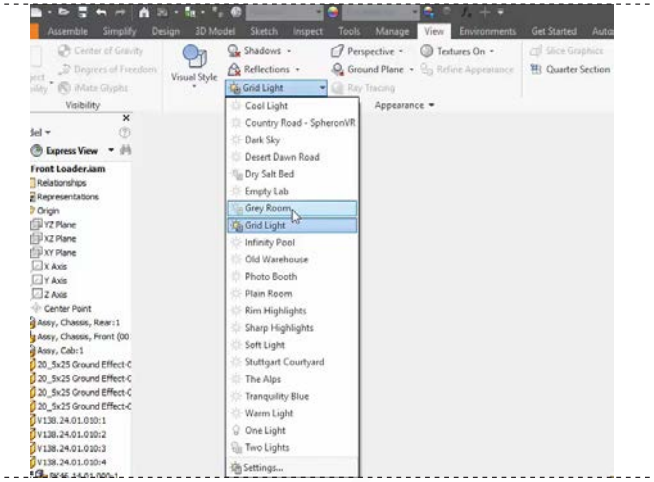
To begin go to the ‘View’ tab in the ‘Appearance’ panel click on ‘Visual Style’. Select ‘Technical Illustration’ from the drop down list.

3.



Your model should look like the technical illustration style as shown in the image above.

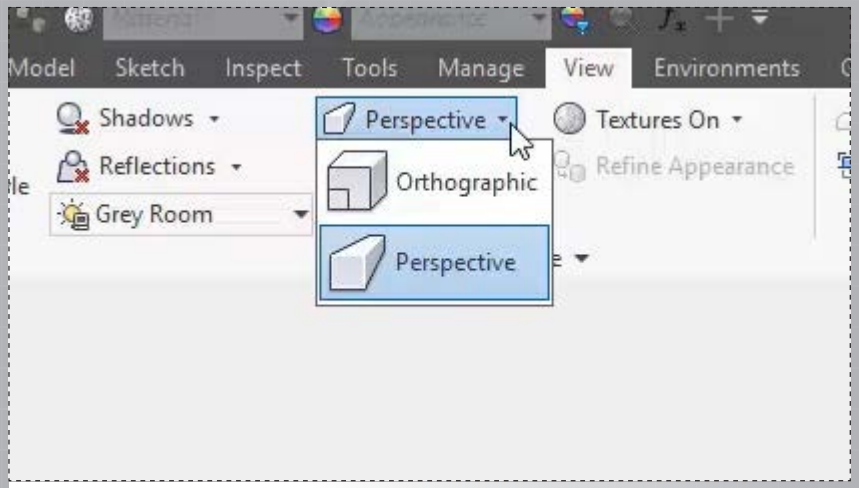
4.



Next select ‘Grid Light’ and in the drop down list click on ‘Grey Room’.

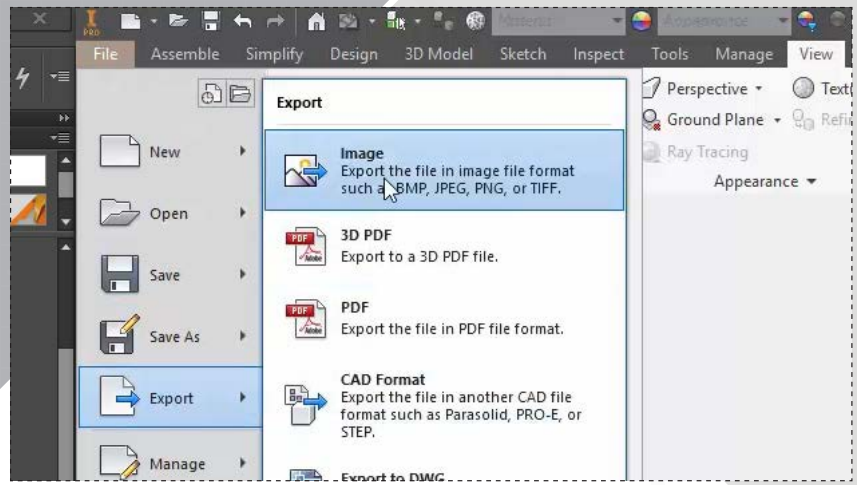
PART 1: PHOTOREALISTIC VISUALIZATION

5.



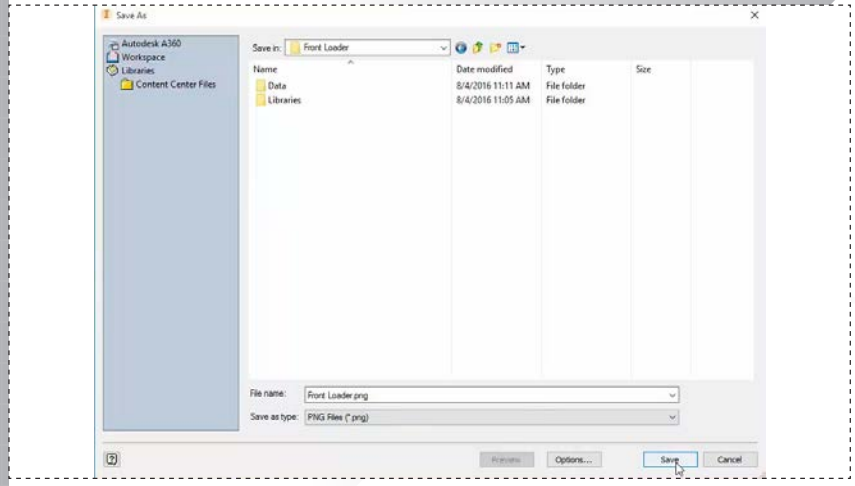
Make sure the 'Perspective' mode is selected located in the 'Appearance' panel.

6.



You will next need to save an image of this view. Go to 'File' then under 'Export' select 'Image'.

7.



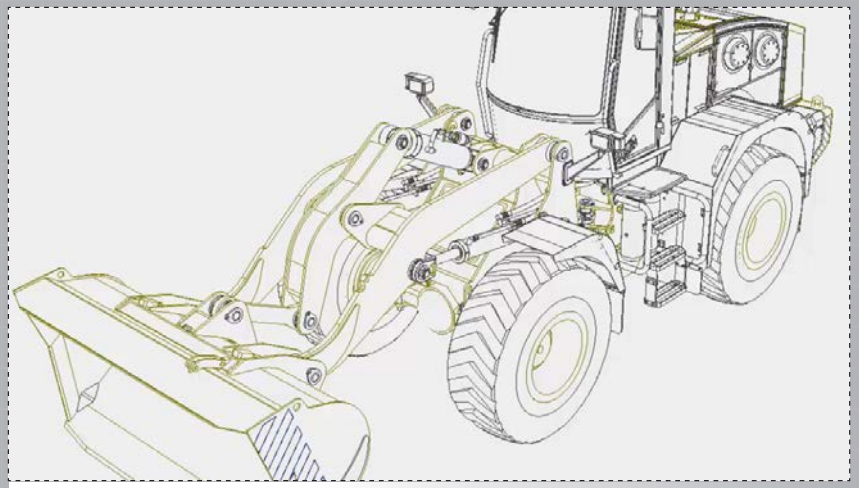
In the 'Save As' dialog box change the 'Save as type' to 'PNG File' format, select a name and then a location. Click 'Save' to save out your image.

8.

Next change your setting and create a black and white artistic view of the model. Go to 'Visual Style' and in the drop down list select 'Wireframe with Visible Edges Only'.

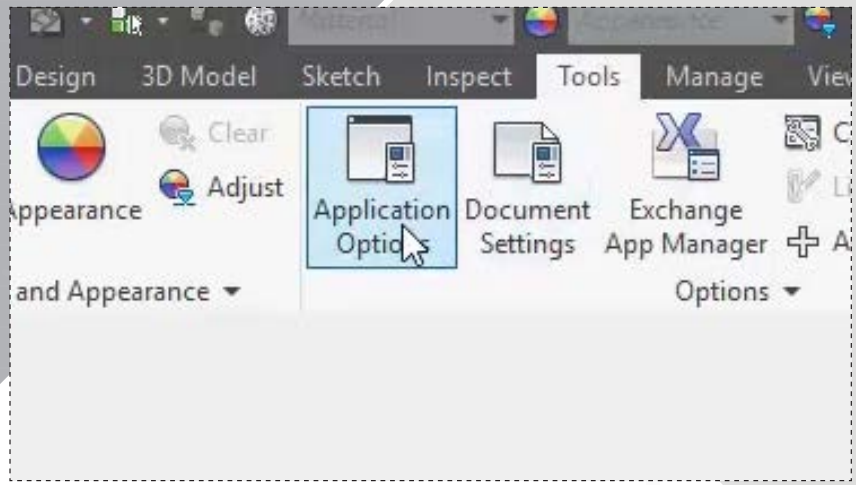
PART 1: PHOTOREALISTIC VISUALIZATION

9.



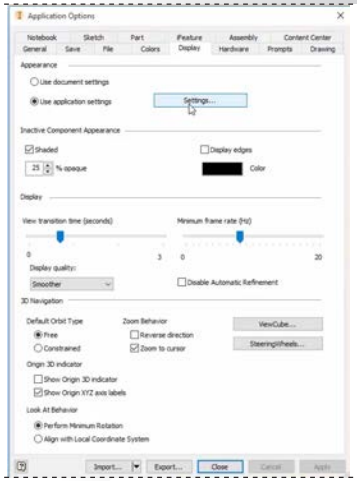
Notice that the edge lines are currently displayed as the color.

10.



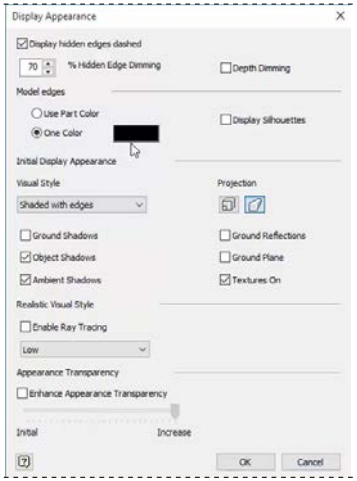
Next go to the 'Tools' tab and select 'Application Option'.

11.



The 'Application Options' dialog box appears select the 'Display' tab and under 'Appearance' click the 'Settings' button.

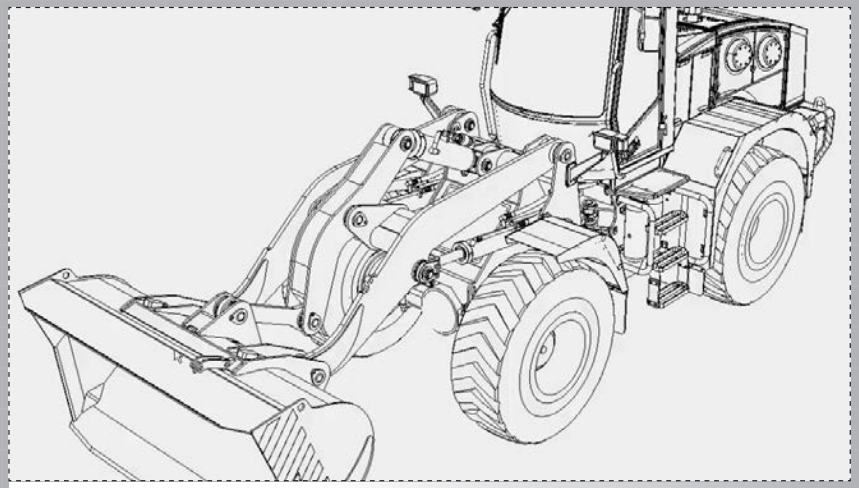
12.



The 'Settings' dialog box appears, under 'Model Edges' select 'One Color' and make sure that the color swatch is set to 'Black', as shown in the image above.

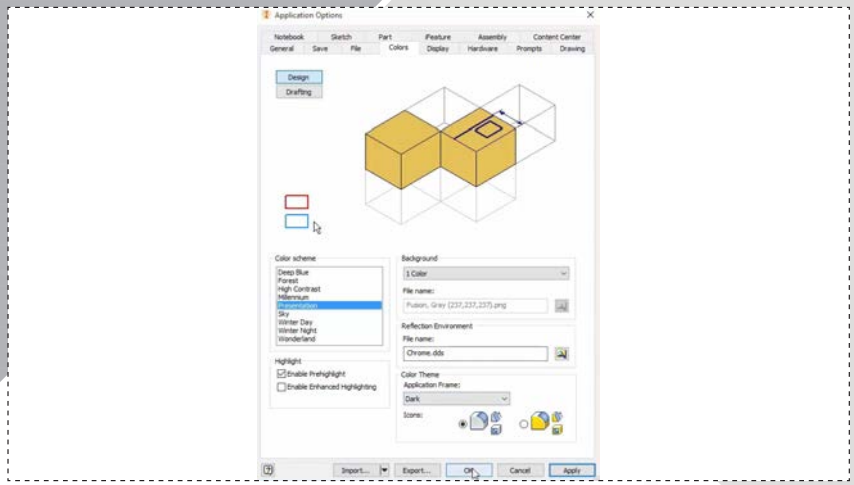
PART 1: PHOTOREALISTIC VISUALIZATION

13.



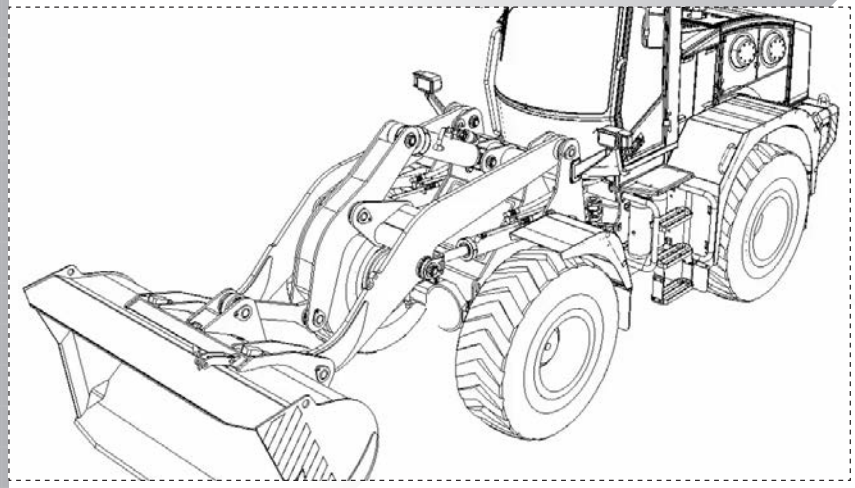
Select ‘OK’ on the ‘Settings’ dialog box and the ‘Application Options’ dialog box. Notice that all the lines are now black.

14.



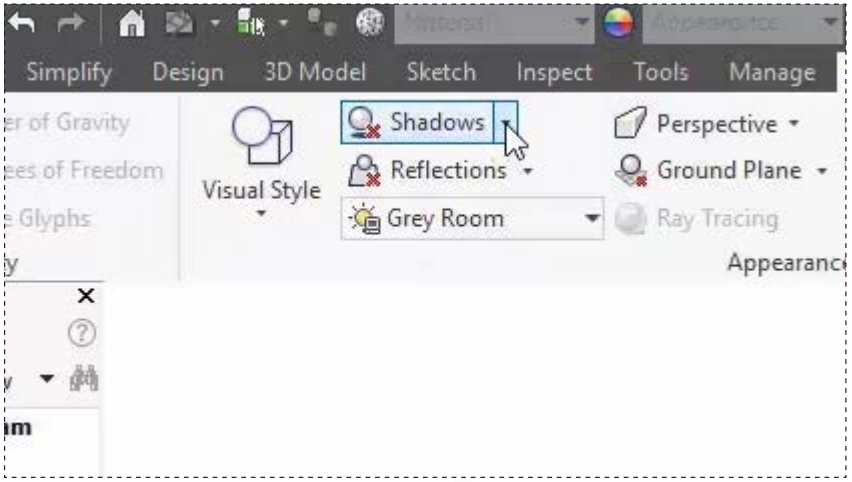
Select the ‘Application Options’ button and select on the ‘Colors’ tab. Make sure that ‘Presentations’ is highlighted and under ‘Background’ select ‘1 Color’. The Presentation 1 Color scheme default is color white.

15.



Select ‘OK’. Notice how white the background color is now.

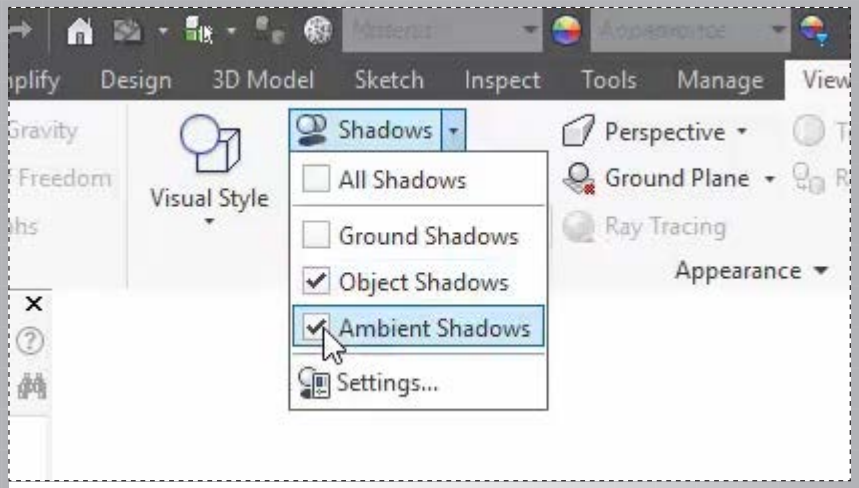
16.



Next you will apply some shadows. Go to the ‘View’ tab and in the ‘Appearance’ panel select on the ‘Shadows’ button.

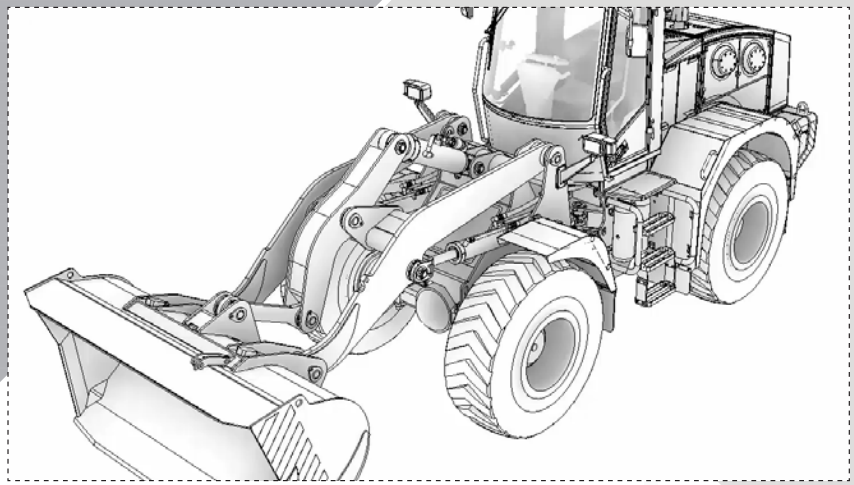
PART 1: PHOTOREALISTIC VISUALIZATION

17.



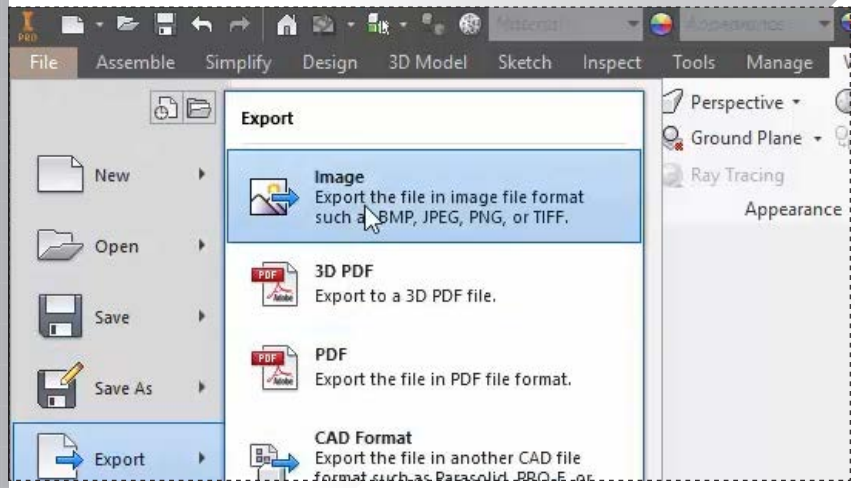
A drop down list appears, click a check in the 'Object Shadows' and 'Ambient Shadows' boxes to turn them on, as shown in the image above.

18.



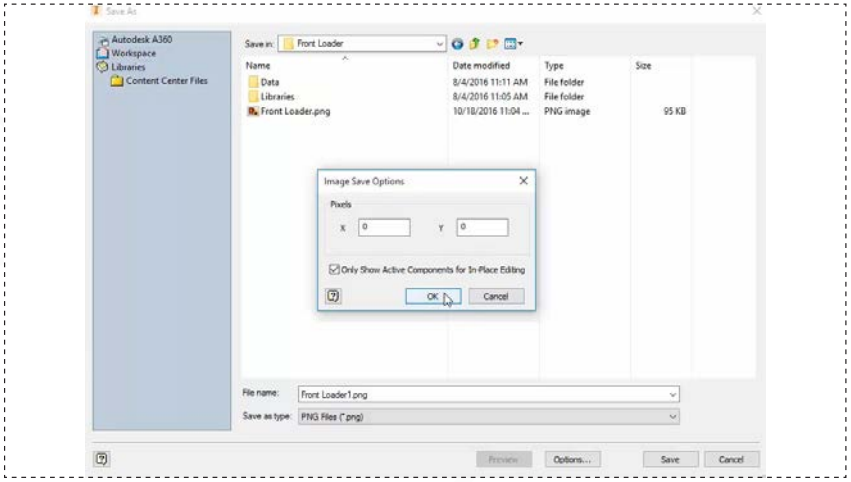
Notice the shadow effect given to the part model.

19.



Next save out an image of this view go back to 'File' then under 'Export' select 'Image'.

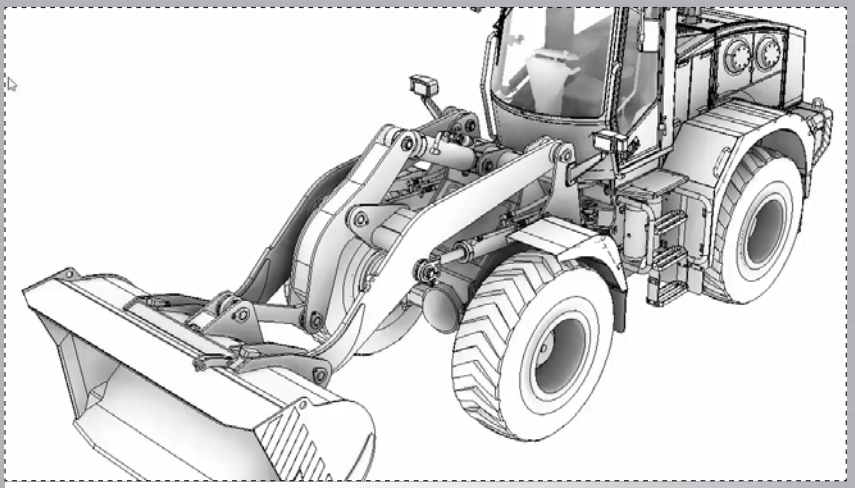
20.



In the 'Save As' dialog box change the 'Save as type' to 'PNG File' format, select a name and then a location. Select the 'Options' button you can set the Pixel X, Y size in the 'Image Save Options' dialog box.

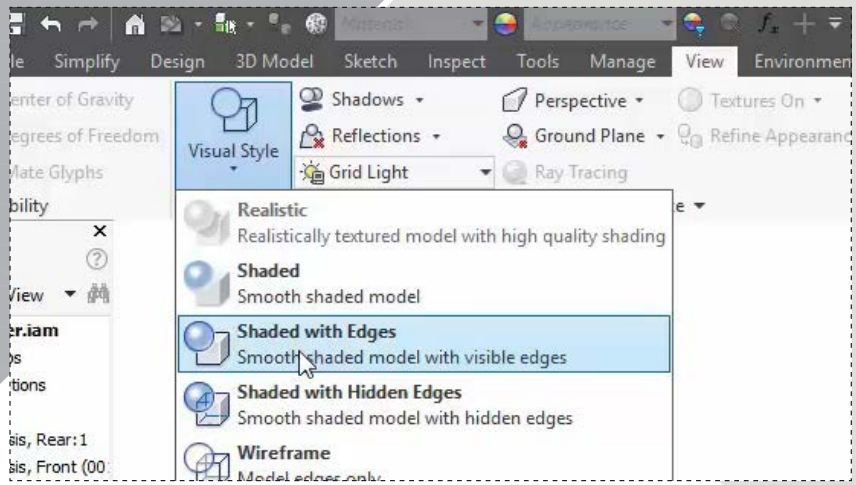
PART 2: PHOTOREALISTIC VISUALIZATION

21.



Open the assembly ***Front Loader.iam***.

22.

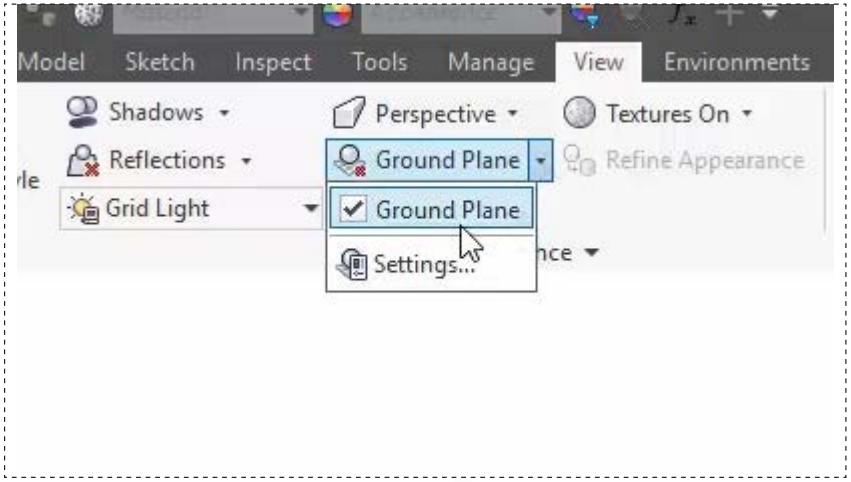


Begin by going to the 'View' tab and under the 'Appearance' panel select 'Visual Style'. In the drop down list select 'Shaded with Edges'.

23.

Notice that colors have now been added to the part model.

24.



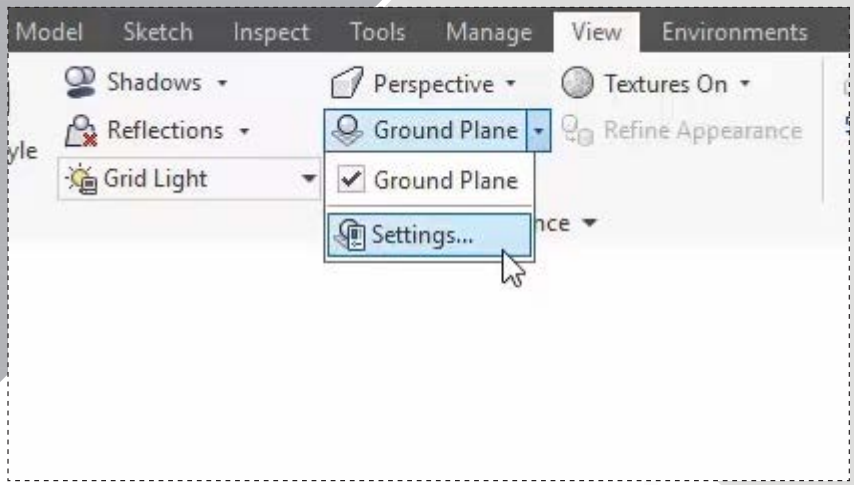
Next turn on the 'Ground Plane' in the 'Appearance' panel by clicking a check in the 'Ground Plane' box.

PART 2: PHOTOREALISTIC VISUALIZATION

25.

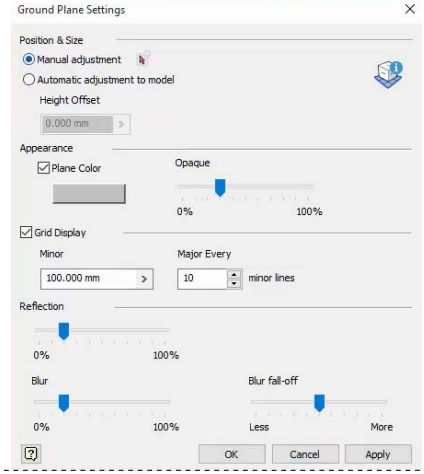
Notice that the ground is set way below the part model.

26.



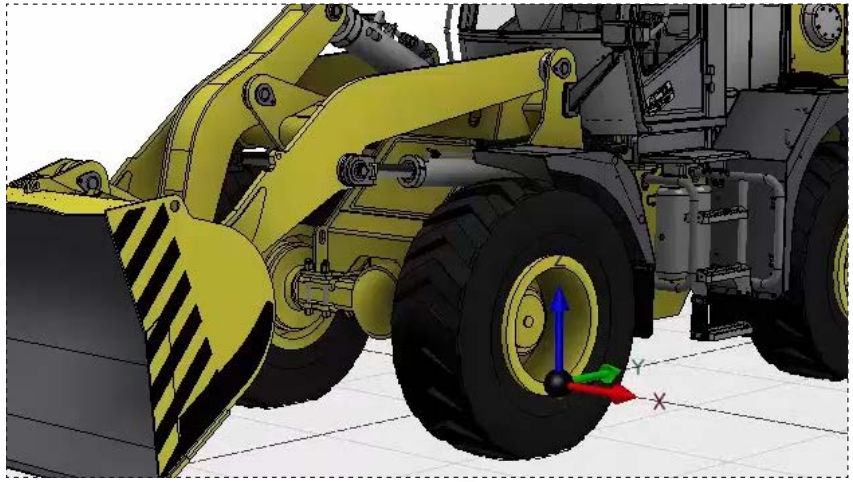
On the 'Ground Plane' drop down menu select 'Settings'.

27.



The 'Settings' dialog box appears, select 'Manual Adjustment' under the 'Position and Size'.

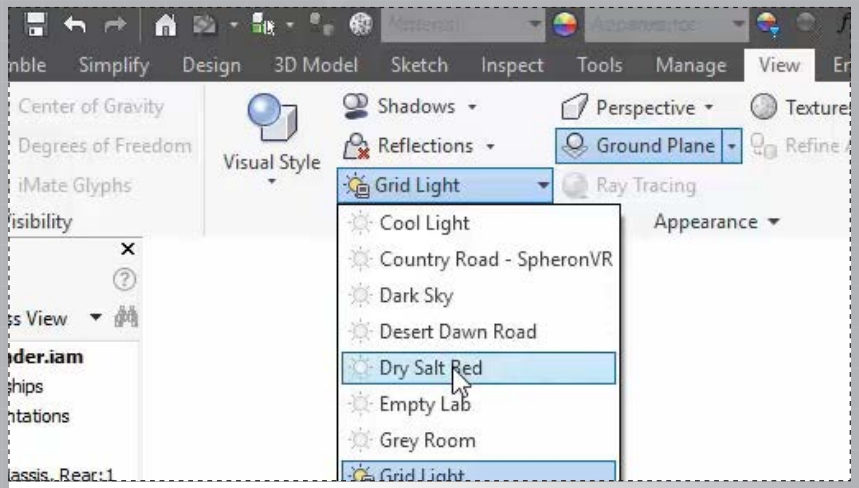
28.



Then using the mouse cursor drag in the Z direction to move the ground plane up to the bottom of the Front Loader's tires. Make sure just the bottom of the tires touch the ground plane.

PART 2: PHOTOREALISTIC VISUALIZATION

29.

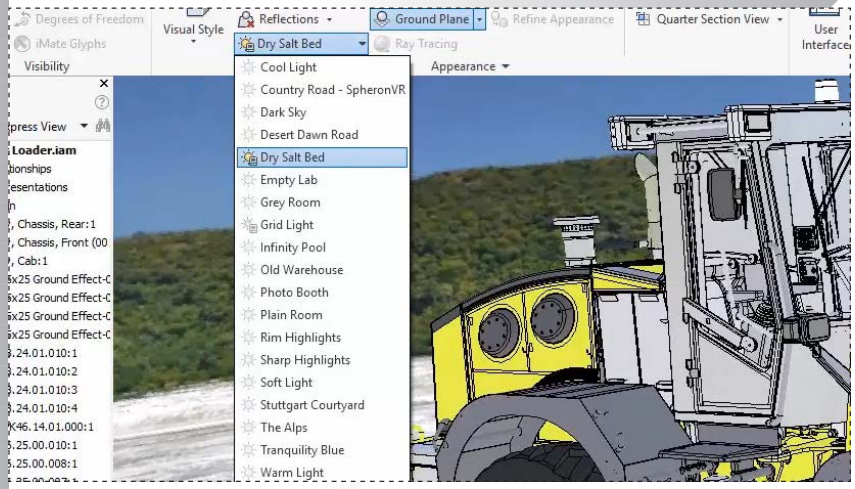


You will next need to set the lighting and environment in which the Front Loader will be placed in. Go to 'Grid Light' in the 'Appearance' panel and in the drop down menu select 'Dry Salt Bed'.

30.

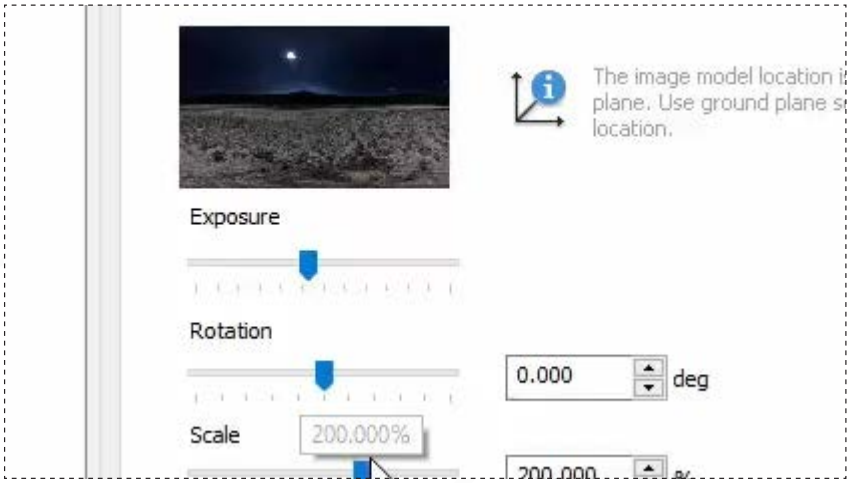
Notice the environment appears and is too small for the part model.

31.



Go back into lighting style and select 'Settings'.

32.



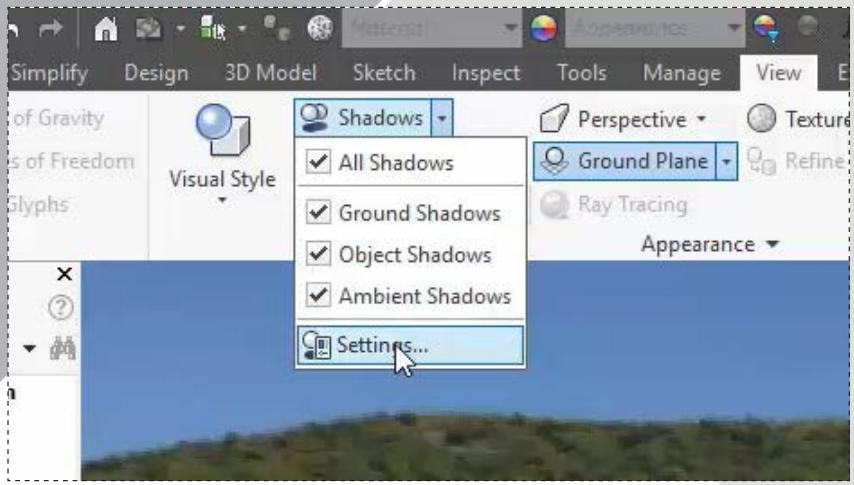
The 'Settings' dialog box appears. Under 'Scale' either move the slider to 200% or type in the value of 200 in the box, as shown in the image above.

PART 2: PHOTOREALISTIC VISUALIZATION

33.

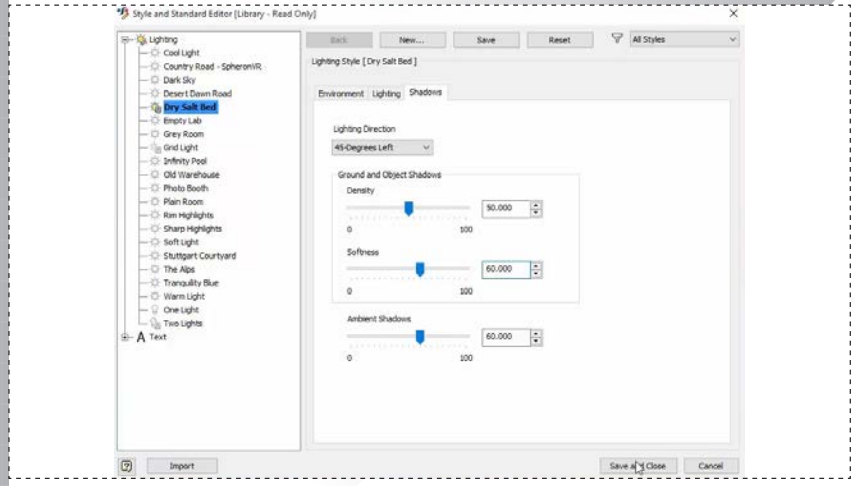
When finished select ‘Save’ and ‘Close’. Notice the difference in size between the environment and the Front Loader.

34.



Next you will need to add more shadows. Go to the ‘Shadows’ in the ‘Appearance’ panel and select ‘Ground Shadows’. Next select ‘Settings’ to make changes to the shadows.

35.



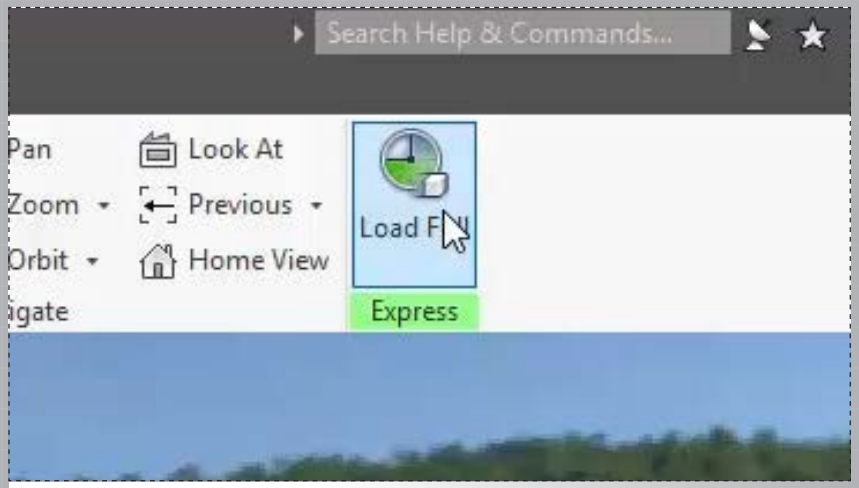
Select the ‘Shadows’ tab. Under ‘Lighting Direction’ select 45-Degrees Left from the drop down list. Then set the ‘Softness’ to 60. Finally set the ‘Ambient Shadows’ to 60. Select ‘Save’ and ‘Close’.

36.

Notice the difference of the image with the shadows.

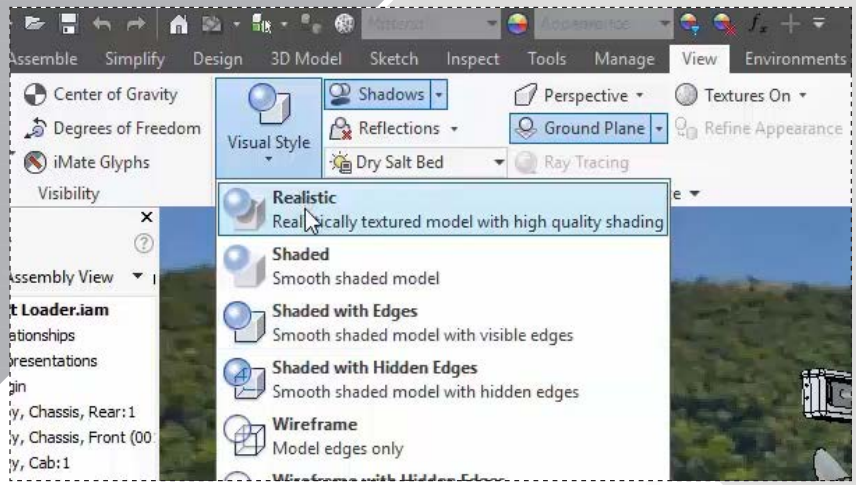
PART 2: PHOTOREALISTIC VISUALIZATION

37.



Next, to create the realistic rendering the entire part model must be loaded, to do so select 'Load Full' in the 'Express' panel. This will allow the 'Realistic' option to be available in the 'Visual Style' drop down list.

38.

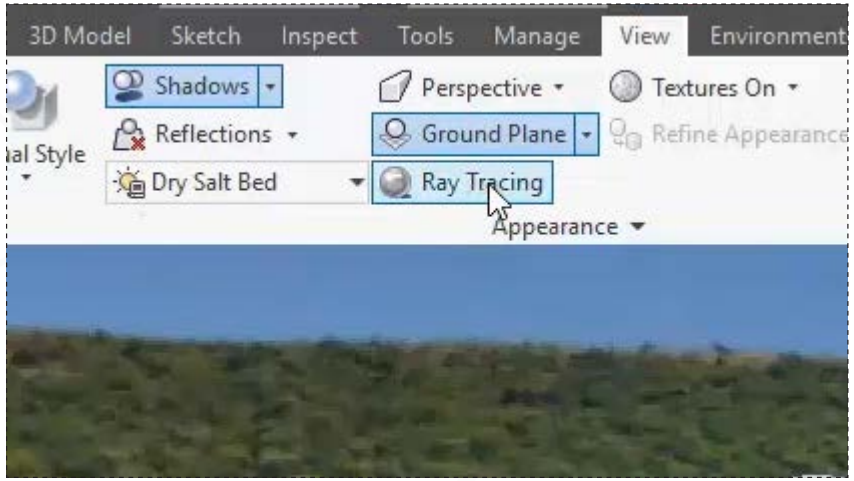


Next select 'Visual Style' in the 'Appearance' panel and in the drop down list select 'Realistic'.

39.

Notice how the image has no line edges.

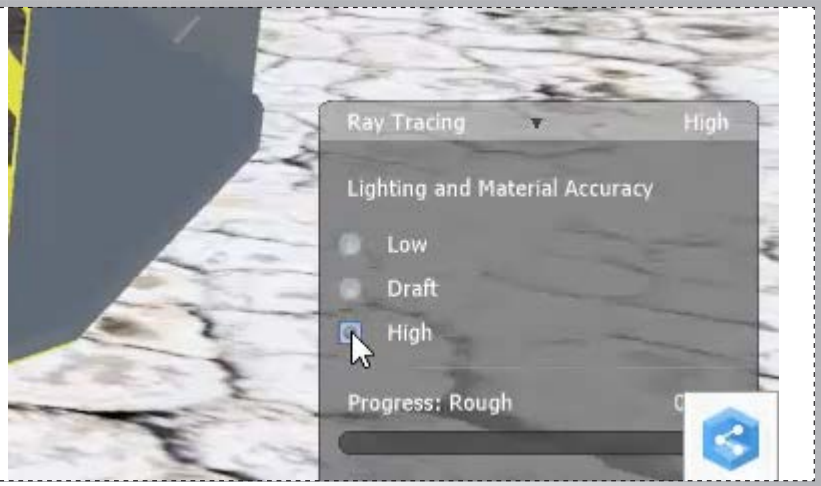
40.



Next you will begin the realistic rendering by selecting 'Ray Tracing' in the 'Appearance' panel.

PART 2: PHOTOREALISTIC VISUALIZATION

41.



A ‘Ray Tracing’ dialog box appears in the lower right hand corner of the screen. Select ‘High’ under ‘Lighting and Material Accuracy’, this selection will take longer to render.

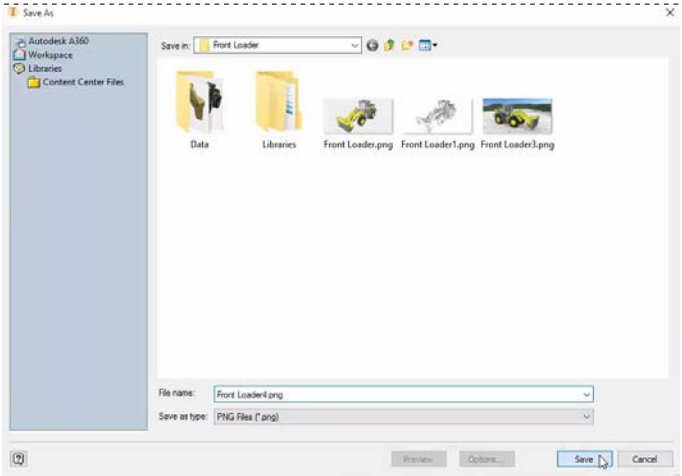
42.

Notice the transition of the ‘Ray Tracing’ tool as the image starts very pixeled and becomes more and more visible as the part model and it’s environment are rendered.

43.

Notice the how realistic the image has become.

44.



In the ‘Save As’ dialog box change the ‘Save’ as type to the format of your choice, select a name and then a location. Click ‘Save’ to save out your image. Save all your work.

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