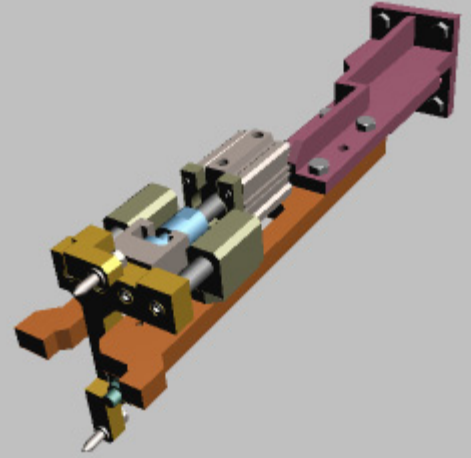# IronCAD

3D PDF Technical Notes for IronCAD V10

IronCAD V10 supports the ability to export 3D PDF and U3D files from the IronCAD Scene. This capability allows users the ability to share and collaborate on their 3D Designs in a lightweight format. 3D PDF's can be used for visualization only or can be used for markup collaboration. Above is an example 3D PDF. Click in the image to enable the 3D capabilities.

Note: You will need Adobe Acrobat Reader 8.1.1 installed in order to view IronCAD exported 3D PDF's.

This document will highlight the key items about 3D PDF's that can help enable you to take advantage of the capabilities in your design process. These highlights are key points to help you enable 3D PDF's. For more information about 3D PDF visit www.adobe.com or review documentation in the Adobe Acrobat 3D product.

Exporting 3D PDF from IronCAD V10:

The simplest way to generate a 3D PDF for visualization is to export it directly from the IronCAD 3D Scene Environment. This export only generates a "Visualization PDF" where users can open the PDF and zoom, pan, rotate, and apply visualization aspects to the model.

1. Open the desired 3D design inside of IronCAD V10.
2. De-select any selections currently made in the scene.
3. Go to the File menu and select Export -> Part.
4. Select the 3D PDF option in the Save As Type drop-down list box.
5. Type the desired file name and select Save.

You can also export U3D which is can be used to insert in to Microsoft Office applications if you have the Adobe Acrobat 3D product. More details are listed later in the document.

Requirements for Opening 3D PDF's

In order to view IronCAD V10 generated 3D PDF's, you will need to have the latest version of the free Adobe Acrobat Reader 8.1.1 which can be downloaded from www.adobe.com.

To view the 3D PDF's, simply open in Adobe Acrobat Reader 8.1.1. The controls listed below will help you navigate the 3D model.
- Left-click and drag to rotate the model.
- Ctrl-Left-click and drag to pan the model.

- Shift-Left-click and drag or mouse wheel scroll to zoom the model.

Various options are available to change the display setting, lights, and colors in the control toolbar shown above the viewable model area.

Note: When you open a 3D PDF in Adobe Acrobat Reader 8.1.1, you may need to enable double-side rendering to view the models properly.
- Right-click in the 3D PDF background
- Select "3D Preferences".
- In the "Rendering Options", select "Enable Double-Sided Rendering".

Advance 3D PDF Settings and Markup Capabilities

In order to enable markup capabilities or various other aspects of 3D PDF's, you may need to consider using Adobe Acrobat 3D which is the full product for editing and creating 3D PDF's. This product will allow you to open 3D PDF's for editing and modification using its Adobe Acrobat 3D Toolkit. If you wish to create a PDF that has markup capability, you will need to this product to enable the markup capabilities.

After installing Adobe Acrobat 3D, you will notice other powerful features in Microsoft Office based applications. Import options to import 3D models are available to create interactive content (similar to this PDF which has the 3D PDF's embedded within the text). Export options are available as well to save the office application content into the PDF format for sharing.
Below are a few Key items to understand in order to help you make the most of your 3D PDF content.

Creating a file for Import into Microsoft Office Applications

In some cases you may want to create documents or PDF's that include a 3D viewable file embedded within your data (similar to this document with the 3D at the top). Using the Adobe Acrobat 3D installed tools for Microsoft Applications (Adobe PDFMaker 8.0), you can insert standard formats such as ACIS and Parasolid as well as U3D files. ACIS and Parasolid inserted 3D models from IronCAD will carry additional information like the 3D Structure information that can be viewed in the PDF Model Tree. U3D only carries the visual representation of the data.
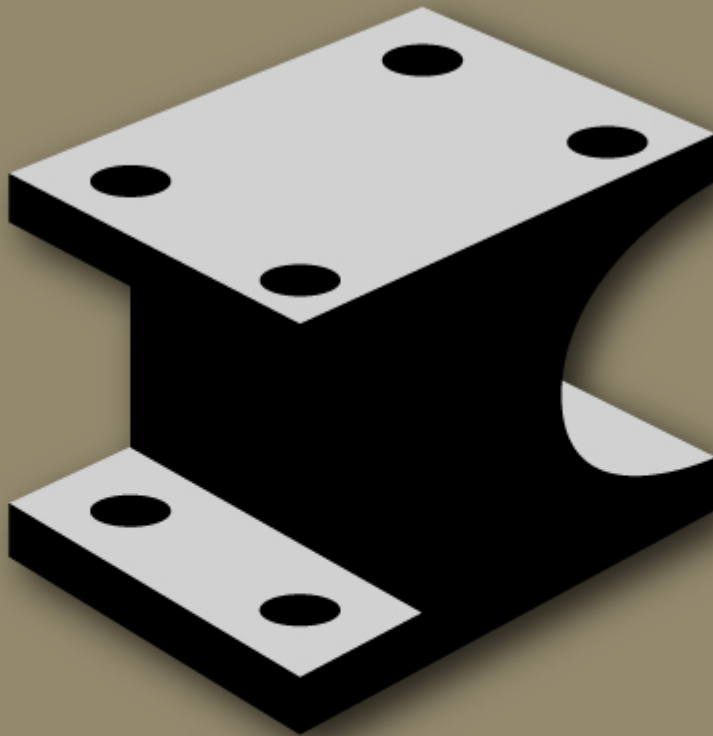
To insert these formats into an Office application:
- Select the "Insert Acrobat 3D Model" command on the PDFMaker 8.0 toolbar or menu.
- Once you insert the model, you are placed in the Design Mode.
- Turn this mode off from the control toolbox once you are finished sizing the view area.
- Once you are out of the Design Mode, you can right-click on the view area to change background settings and other options.

Import 3D PDF in Adobe Acrobat 3D

Adobe Acrobat 3D also support advance Import capabilities where 3D PDF's can be generated directly from 3D solid file formats such as ACIS, Parasolid, IGES, etc. Since IronCAD is dual kernel running both ACIS and Parasolid, you can use this import capability in addition to the Export PDF option. Using the ACIS and Parasolid import option will allow you to retain the 3D Structure information created in IronCAD. This can be viewed by opening the Model Tree in Acrobat 3D or Reader 8.1.1.

1. Create PDF from File
2. Select ACIS or Parasolid options as the File Type.
3. Select Ok.