

Module 9: Creating 2D Working Drawings of the Flat Patterns of Sheet Metal Parts

In this *Module*, we will learn how to create a **Flat Pattern** view of an Inventor sheet metal file in an Inventor drawing (**.idw**) file. The Inventor program's **Help** menu include detailed instructions on how to create 2D working drawings out of 3D models in part (**.ipt**) or assembly (**.iam**) files. We shall not attempt to repeat the skills taught in the Inventor's on-line **Tutorial** lesson; instead, we will just add one more piece of information in this *Module*: how to create a **Flat Pattern** view in an Inventor drawing (**.idw**) file.

Launch Inventor; in the **Open** window, select the **ANSI (in).idw** 2D drawing template under the **English** tab, and click the **OK** button (*Figure 9-1A*); an Inventor drawing file opens; go to the **Help**→**Tutorials** menu (*Figure 9-1B*) to open the **Autodesk Inventor Tutorials** window; click to **Single-Day Productivity** button to open the listed items and click the **Preparing Final Drawings** button (*Figure 9-2A*); The **Drawings** tutorial's window opens (*Figure 9-2B*); click the **Next** button on the lower-right corner of the Tutorial's window, which appears as a white right-pointing triangle in a blue square, to move to the next page, and follow the instructions on each page to complete the **Tutorial** lesson on creating 2D working drawings in inventor.

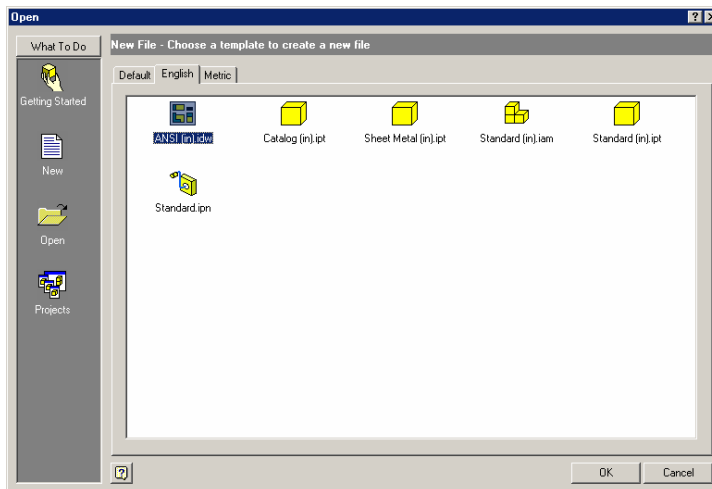


Figure 9-1A: Selecting the ANSI (in).idw 2D drawing template under the English tab.

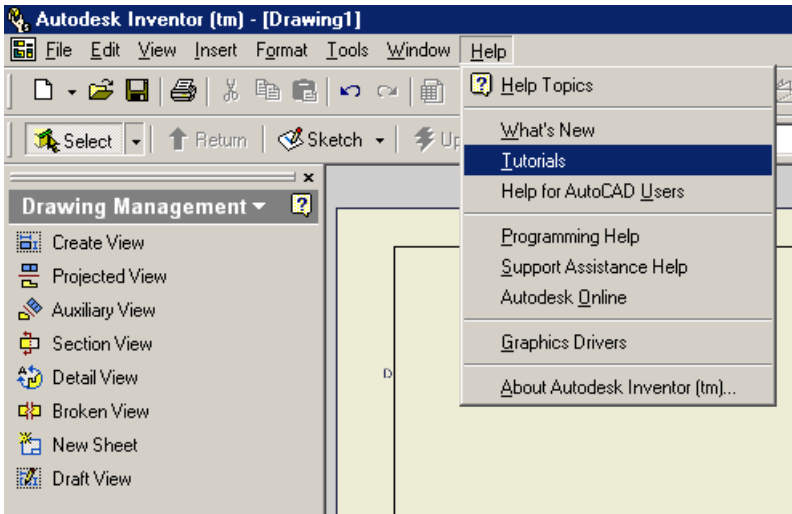


Figure 9-1B: The Help →Tutorials menu.

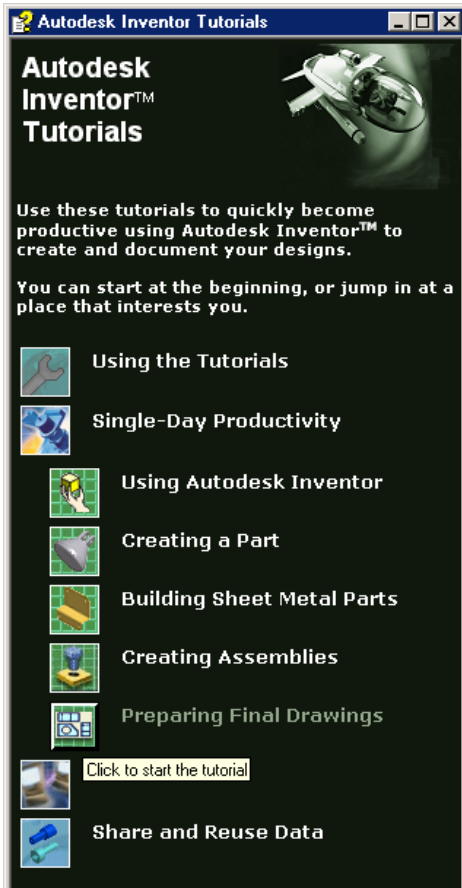


Figure 9-2A: The Autodesk Inventor Tutorials window.

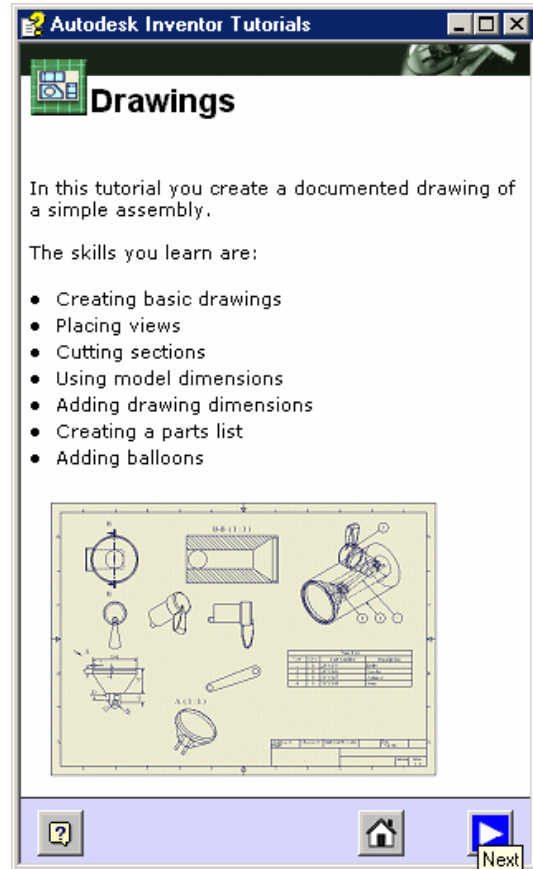


Figure 9-2B: The Drawings tutorial.

After you complete this Inventor on-line **Tutorial**, create a new Inventor drawing (.**idw**) file; select the **Create View** tool from the **Drawing Management** panel; the **Create View** dialog window opens; type a number in the **Scale** text field and choose a **Style** for display by clicking one of the three buttons in the **Style** section; there are three options: **Hidden Line** (with both visible and hidden lines shown), **Hidden Line Removed** (showing visible lines only), and **Shaded** (with Color style rendering). Click the button that features a magnifying glass on top of a folder, on the right of the text field under **File:** item name in the **Component** section (*Figure 9-3A*). Next, in the **Open** window that opens, navigate through the Windows' directory to locate the *Tut 2-Cone.ipt* file inside the *Tut2-Cone and Intersection* folder; select the file and click the **OK** button (*Figure 9-3B*); the **Open** window closes and the name of the selected file and its directory address appears in the **File:** text field, in the **Component** section of the **Create View** dialog window.

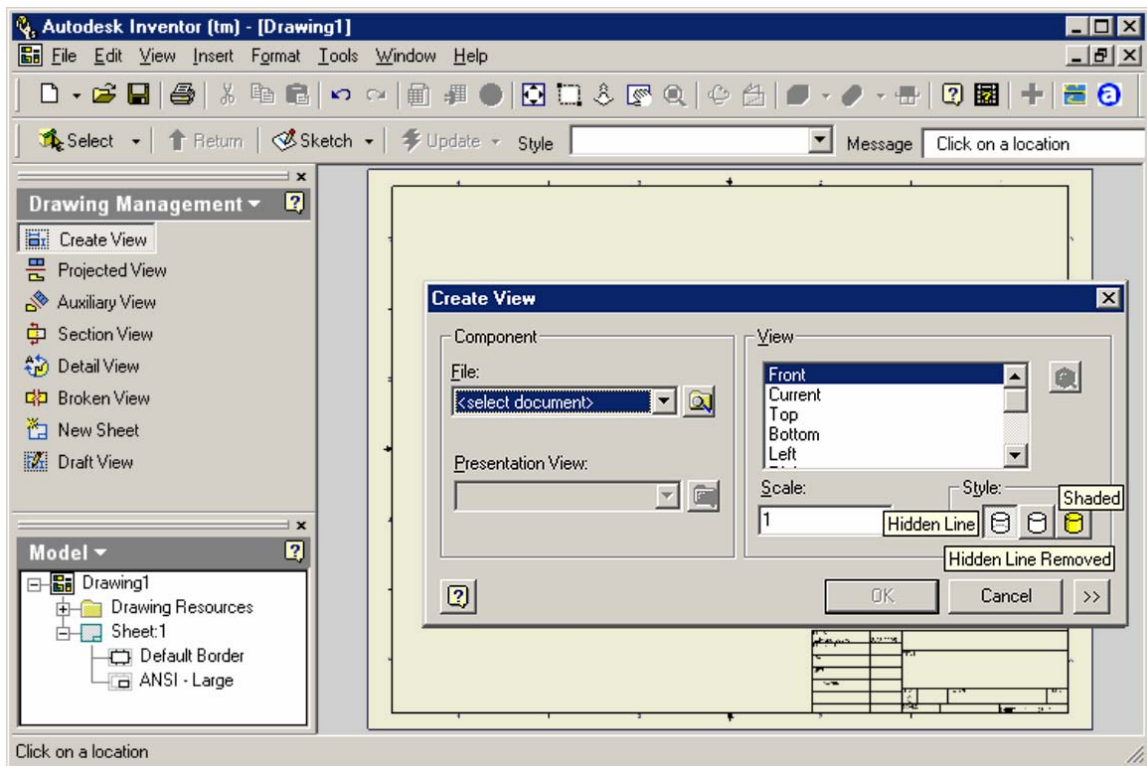


Figure 9-3A: The Create View tool and its dialog window.

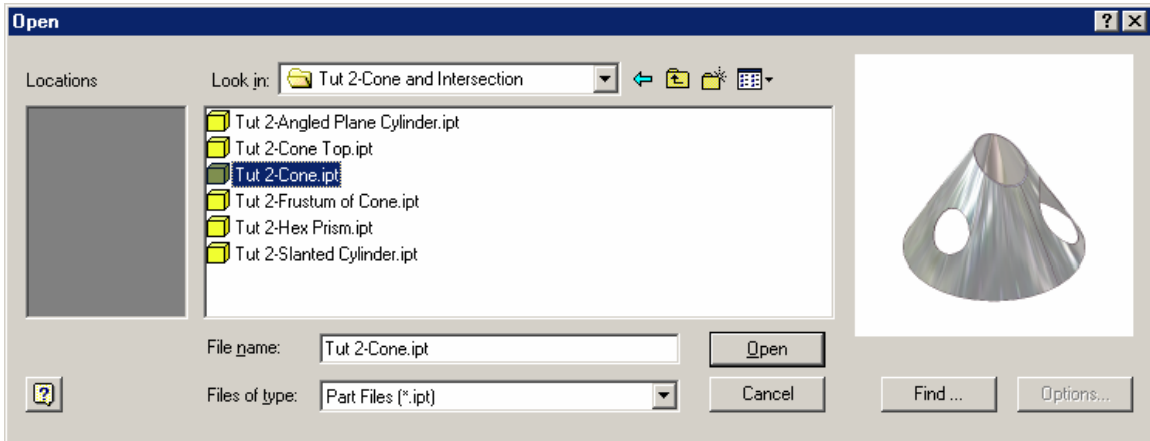


Figure 9-3B: Locating and selecting the file.

Next, in the **Component** section of the **Create View** window, click the downward-pointing black triangle button on the right of the **Presentation View:** item's text field for a pull-down list; and selected the **Flat Pattern** option (Figure 9-3C); the outline of the flat pattern appears on the screen; click any point on the drawing paper area of the screen to create the **Flat Pattern** view; the **Flat pattern** view appears in the drawing (Figure 9-3D). Next, use the skills you have learned from Inventor's on-line **Tutorial** to complete the 2D working drawing with dimensions, text, notes, and other needed elements for a typical 2D working drawing.

Please notice that you must first create a **Flat Pattern** view in the sheet metal part (.ipt) file in order to generate a **Flat Pattern** view in a 2D working drawing (.idw) file; otherwise, the **Flat Pattern** option in the **Create View** window will be grayed out, and only the **Folded Model** option will be available.

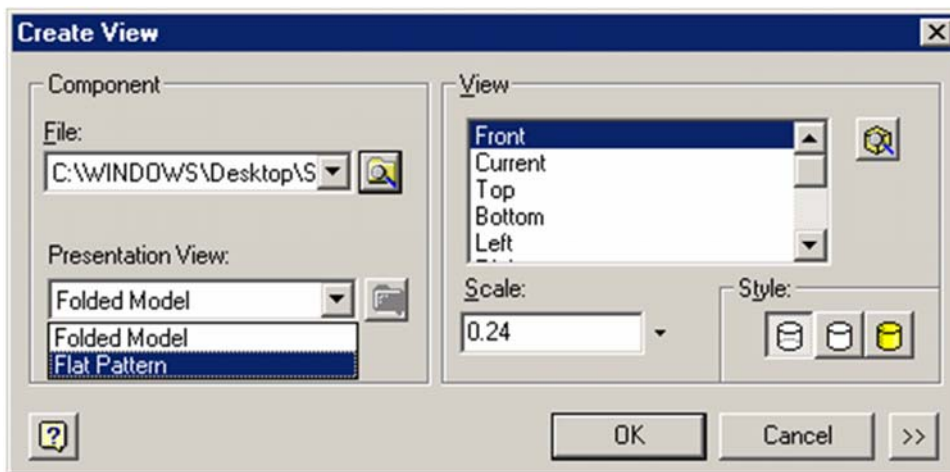


Figure 9-3C: The Flat pattern option.

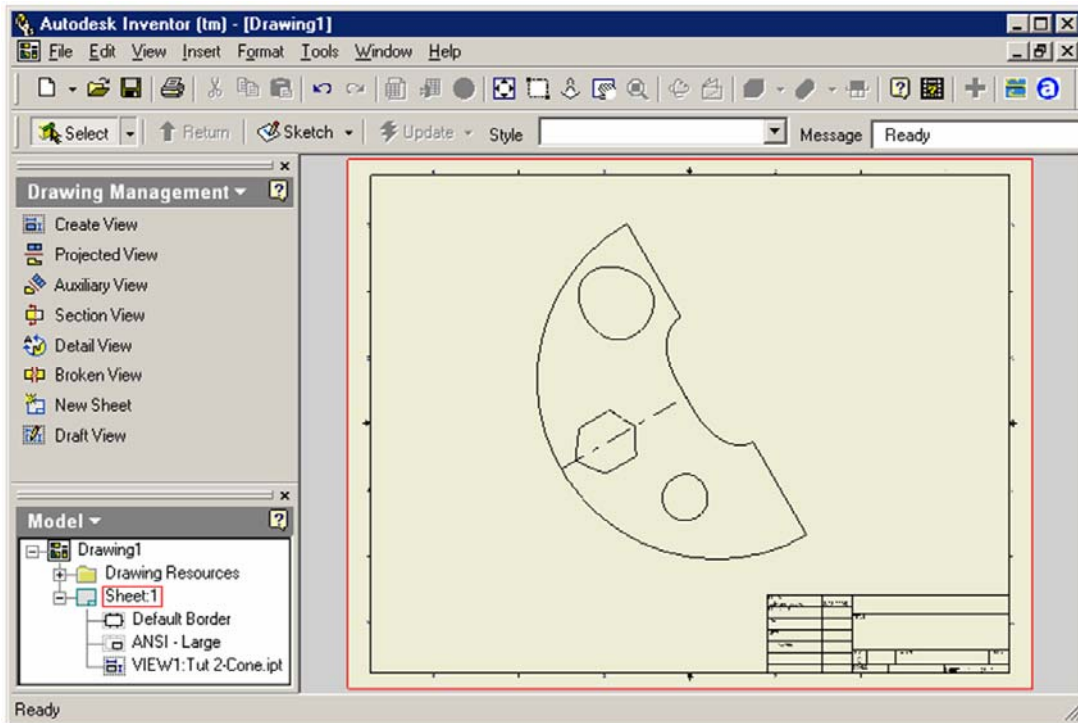


Figure 9-3D: The *Flat Pattern* view.

Congratulations! You have learned in this module how to create a 2D working drawing of the **Flat Pattern** view of a solid model of an Inventor sheet metal design; and have completed all *Modules* of learning descriptive geometry with Autodesk Inventor, including the 2D working drawing part.