

Chapter 4

Placing Notes on the Rectangular Problem

In this chapter, you will learn the following to World Class standards:

- Use the Tools and Panels for Simple 2D Computer Aided Drafting (CAD)
- Use the Pan Command to Change Views in the Drawing
- Change Layers to Place Text on the Drawing
- Use the Text Profile Tool to Add Text to the Drawing
- Use Special Symbols when Adding Text to the Drawing
- Saving the Drawing

Using the Pan Command to Change the View

Use the Pan tool on the toolbar located at the bottom right corner of the Solid Edge program. Moving the view will allow you to have enough room on the screen to place text next to your dimensioned drawing. Select the **Pan** tool. Pick the lower right hand corner of the display, holding the left mouse button and moving the **Pan** symbol (white glove) to the upper left corner of the display. The display should match the image in Figure 4.1.

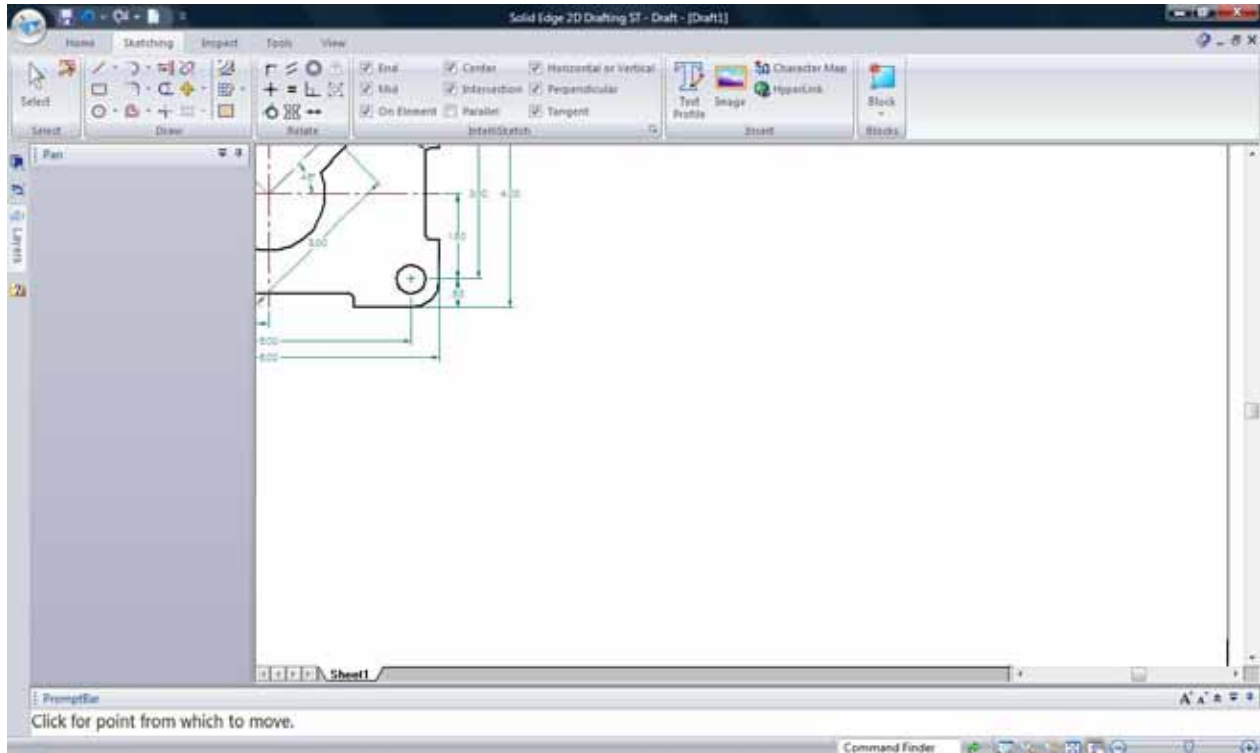


Figure 4.1 – Changing the View of the Drawing Using the Pan Command

Changing Layers to put Text on the Text Layer

Next you need to change the layer to **Text** by going to the Layers Window on the left side of the screen and double clicking on the Text layer. A pencil should now appear in the small box to the left of the layer indicating that it is in use (Figure 4.2).

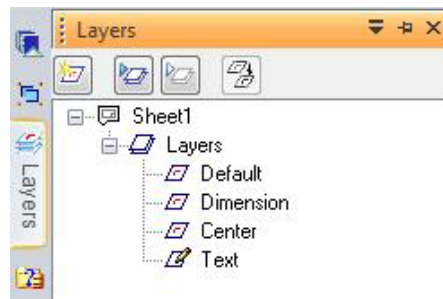


Figure 4.2 – Activating Text Layer

Using the Text Command to Place Text in the Drawing

Most drawings in your career will have text that describes the material, finish, coating and tolerance. Notes on drawings will come from many sources. Architects, Designers and Engineers, all who have the experience to select different material shapes and thicknesses based on physical calculations, will select material. Today, calculations are easier to do because Architectural and Engineering groups have created accurate handbooks and tables to expedite the material selection process. The finish of the material should be as smooth and clean as possible. Whether the part is an injected molded plastic or stamped aluminum, flash material that remains from the manufacturing and processing needs to be removed for safe handling and the coating process. This step of the manufacturing process costs money and is not done automatically, so you need to request finishing on your drawing. The coating process is done either for aesthetic reasons or to keep the part from decaying due to environmental impact, like rust from oxygen on steel. Finally, you need to add tolerance control to the drawing. No component or part is the same even if it is made with the most accurate LASAR tool. Each part will be different and the tolerances on the drawing will control whether the component is able to fit and function in the assembly. You will experience many more types of notes in your drawings, but these are the only ones required for your first problem. The efficiency of this command is directly affected by the speed and accuracy of your typing.

To place text on your drawing, select the **Text** tool on the **Annotation** panel under the **Home** tab. The PromptBar will ask you to position the text where you would like it. Select your first point directly below the vertical 4.00 dimension. Now, clicking with your left mouse button, drag the window to the lower right of the display to create a text box (Figure 4.3). When creating the text box, it is important that you only click the left mouse button once and then keep it held down while you drag to create the box.

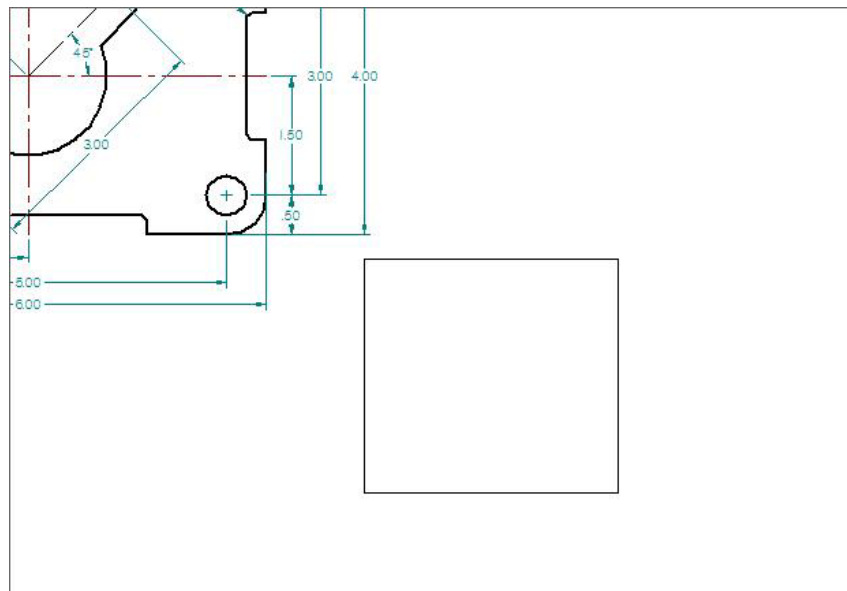


Figure 4.3 – Making the Text Box on the Drawing

To the left of the screen will appear the Text Window. This window will allow you to format the text to the desired font and size. In the **Format** box of the Text Window, you want to set the font to **Arial** (Figure 4.4). In the **Font** box, change the font size to 0.13 (Figure 4.5). Select the text box with your mouse to place the flashing cursor. Now you are ready to type your notes using the **Enter** key when you need to start a new line. The Text tool is very much like a word processing program.

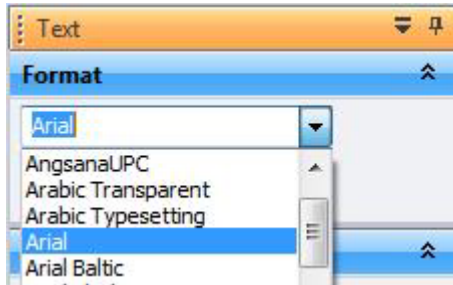


Figure 4.4 – Selecting “Arial” Font

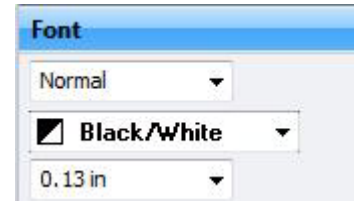


Figure 4.5 – Setting Font Size to 0.125

The notes you need to type are:

Notes:

- 1. Material: 0.125 thick aluminum.**
- 2. Remove all sharp edges and burrs.**
- 3. Clear anodize.**
- 4. Tolerances unless otherwise specified:**
 - 1 decimal: ± 0.06**
 - 2 decimal: ± 0.010**
 - 3 decimal: ± 0.003**
 - Angular: $\pm 0.5^\circ$**

When adding the plus or minus symbol to the 1 decimal note, type the colon and add a space, then select the **Character Map** tool on the **Insert** panel under the **Sketching** tab (Figure 4.6). The Character Map Window will appear on the screen (Figure 4.7). After picking the plus or minus symbol, click on the Select button. Once you have done that, click the Copy button next to the Select button on the Character Map Window. When you want to insert the plus or minus symbol, you need to use the keystroke for the paste command. To do this you must first hold down the control key on your keyboard and then press the letter “v” while stilling holding down the control key. Some extra text will appear in front of the symbol, but it is very easy to select and delete it by highlighting it with your mouse and hitting the delete key on your keyboard. The procedure is the same for the degree sign on the 0.5 tolerance on the Angular measurements. Find the degree sign on the character map, hit select, and then copy. Place the symbol using the keystroke for the paste command (control+“v”) and delete the extra text in front of the symbol.



Figure 4.6 – Character Map Tool



Figure 4.7 – Character Map Window

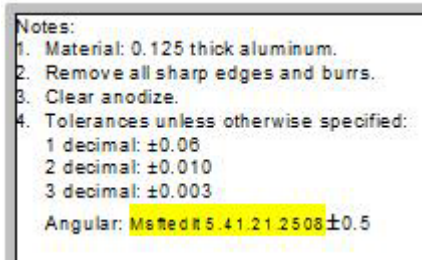


Figure 4.8 – Select Extra Text for Deletion

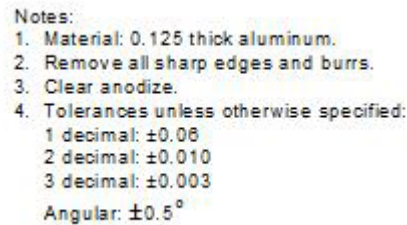


Figure 4.9 – Degree Sign Added

Saving Your Drawing

To save the drawing, select the Save tool from the Quick Access toolbar on the upper left of the screen. The Save As window will appear in the display. You can make your own directory or you can place the drawing in the My Documents folder. Ask your Network Administrator or Supervisor to show you where you should store your finished drawing. You should type the name of the drawing “rectangle” in the File Name text box. The “.dft” suffix is added automatically to the name when you save the drawing.



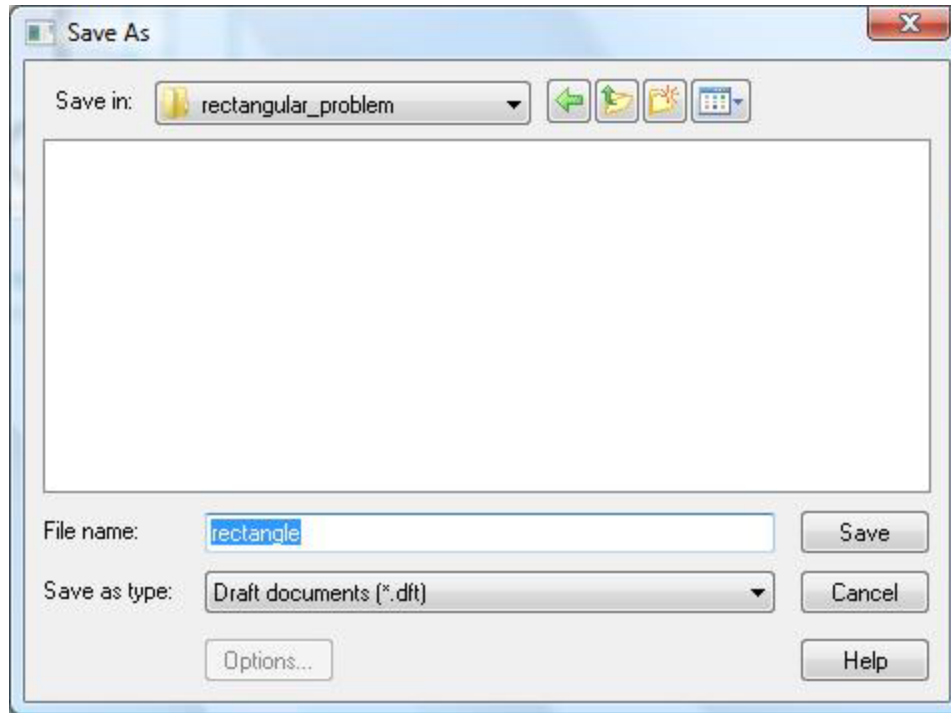


Figure 4.10 – Saving the Drawing as rectangle.dft

*** World Class Challenge 22-09 * - Close the drawing file. Create a new file and draw the entire rectangle problem on proper layers, using dimensions and finally placing the notes on the drawing. Continue this drill four times, each time completing the drawing in less than 15 minutes to maintain your World Class ranking. The world record for the complete drawing is under 5 minutes. See if you can match that effort, but if you are under 15 minutes, you may proceed to the next chapter, the Circular Problem.**

Send your best time and a copy of your drawing for verification to the authors of these problems to have your name, location and time posted. See the web site for instructions.

www.worldclasscad.com