C h a p t e r

4

Placing Notes on the Rectangular Problem

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

1. Using Realtime Pan and Zoom to change views in the drawing
2. Changing layers to place text on the drawing
3. Modifying Text Styles
4. Using the Mtext command to add text to the drawing
5. Saving the drawing

Using Realtime Pan and Zoom and to Change the View

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You can use the Realtime Pan and Zoom tools to reposition the drawing, so you will be able to easily place the notes. Holding SHIFT+CTRL on the keyboard, click and hold the left mouse button and then pull back to zoom out or push forward to zoom in. You can hold down the right mouse button to pan around the drawing. Move the drawing to the top left corner of the screen, as you will be placing notes in the bottom right (Figure 4.1).
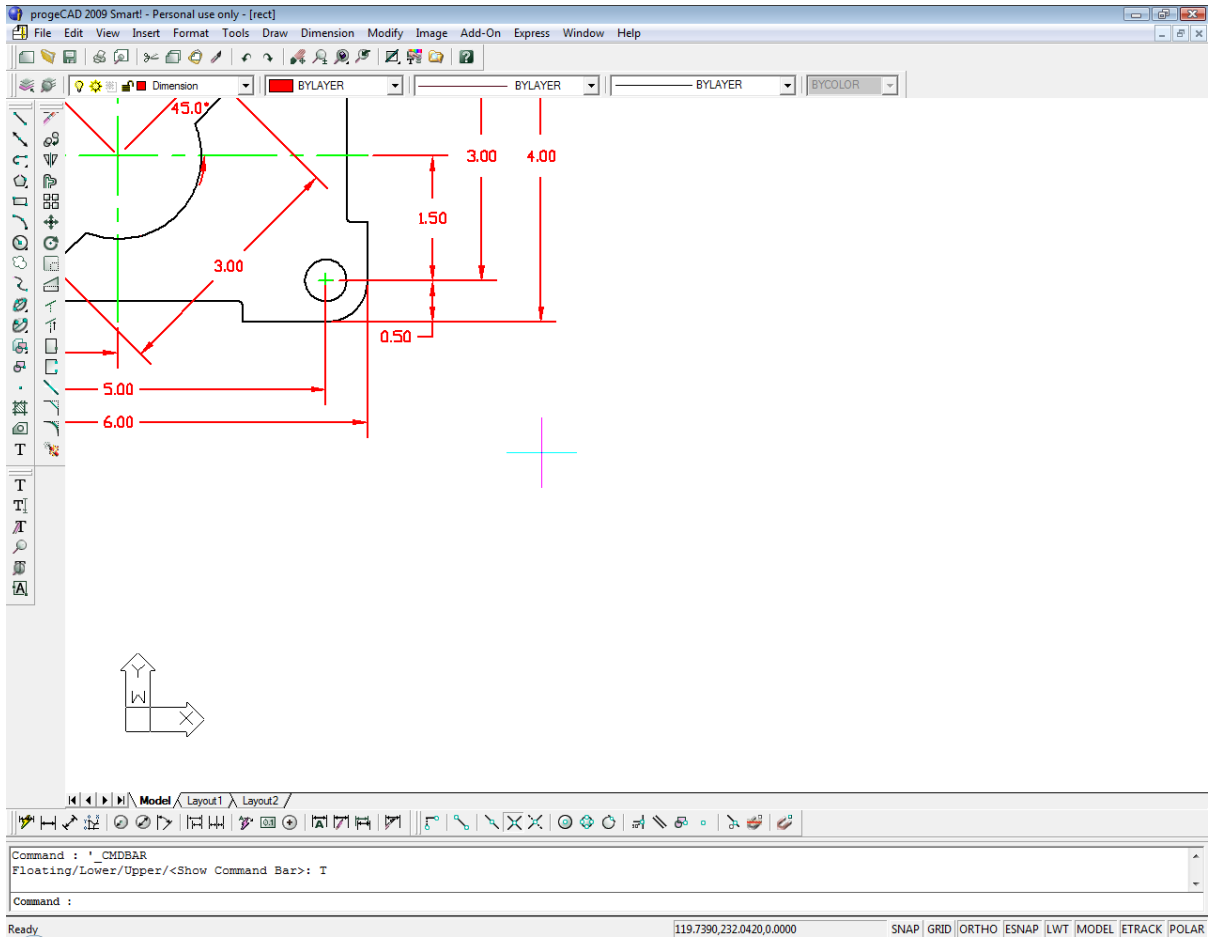

Figure 4.1 – Changing the view in the drawing

Changing Layers to Place Text on the Text Layer

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Next, you need to change the layer to Text by clicking on the dropdown arrow in the Layer Control List Box on the Properties toolbar. Scroll down the list box and highlight the Text Layer (Figure 4.2). Once you left click on the Text Layer, the Text layer will show in the Layer Control window and will become the current layer in the drawing. Now, you are ready to add text to the drawing.
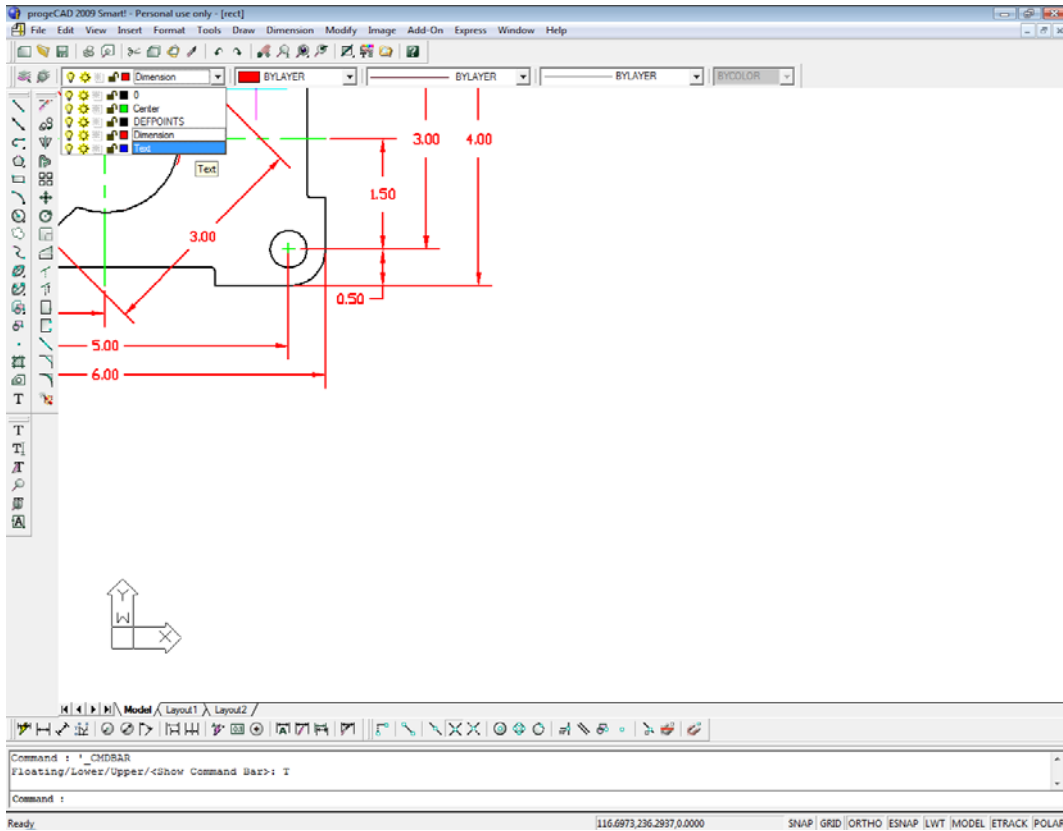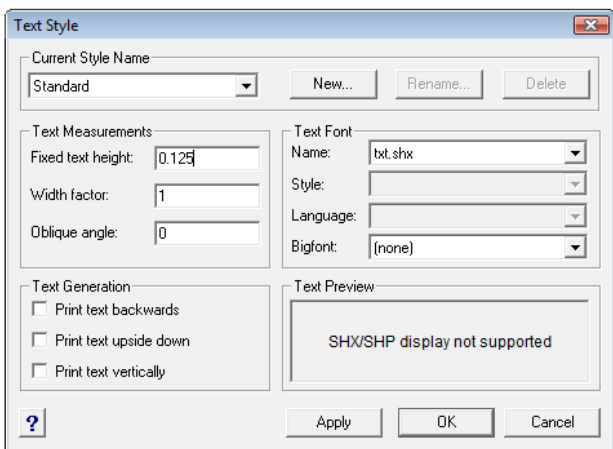
Figure 4.2 – Selecting the Text layer

Modifying Text Styles

Before you can place your notes you need to change one more thing. Select the Explore Text Styles tool from the Text toolbar and the Text Style window will appear.

Change the Standard text Height from 0 to 0.125 (Figure 4.3). Hit OK and you will be prompted to save the changes. Select Yes to set the new text height. Making this small change will eliminate spacing issues later.

Figure 4.3 – Changing the Text Height

Using the Mtext Command to Place Text in the Drawing

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Most drawings in your career will have text that describes the material, finish, coating, and tolerances. 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 manufacturing processing needs to be removed for handling safety and the coating process. This step of manufacturing 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 aluminum or 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 the drawing, select the Multiline Text command on the draw toolbar. The command line will prompt you to select the first corner of the Mtext window. Select your first point below the vertical 4.00 dimension (Figure 4.4). The command line will prompt you to specify the opposite corner. Make the Mtext window as large as you can as shown in Figure 4.4.
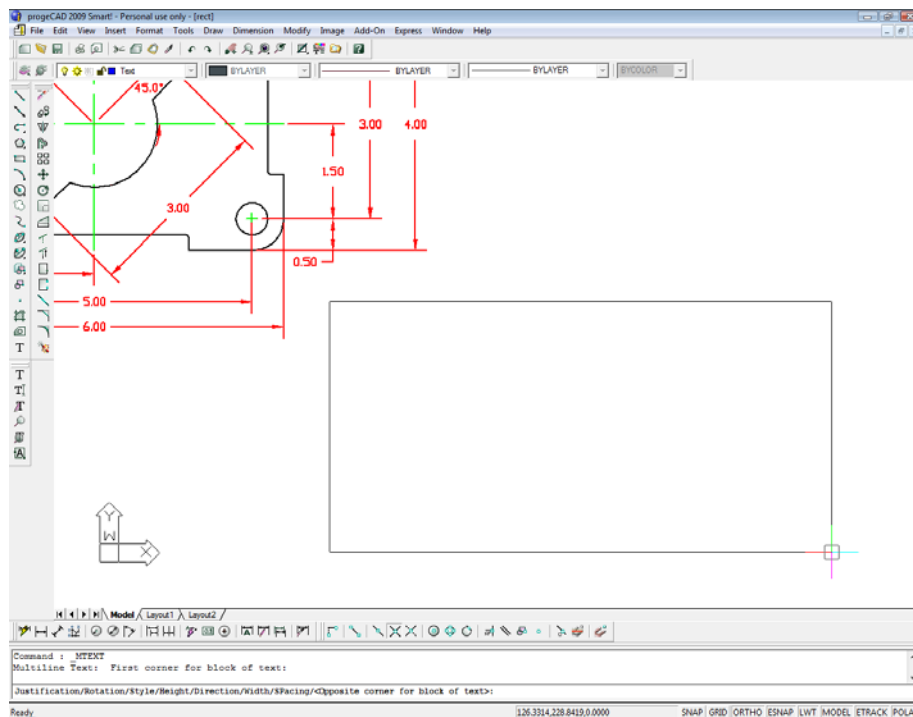

Figure 4.4 – Making the Mtext text window on the drawing

The Multiline Text window will appear (Figure 4.5). Select the text box with your mouse to place the flashing cursor. Now you are ready to type your notes, using ENTER when you need to start a new line. The Multiline Text Editor is very much like a word processing program.
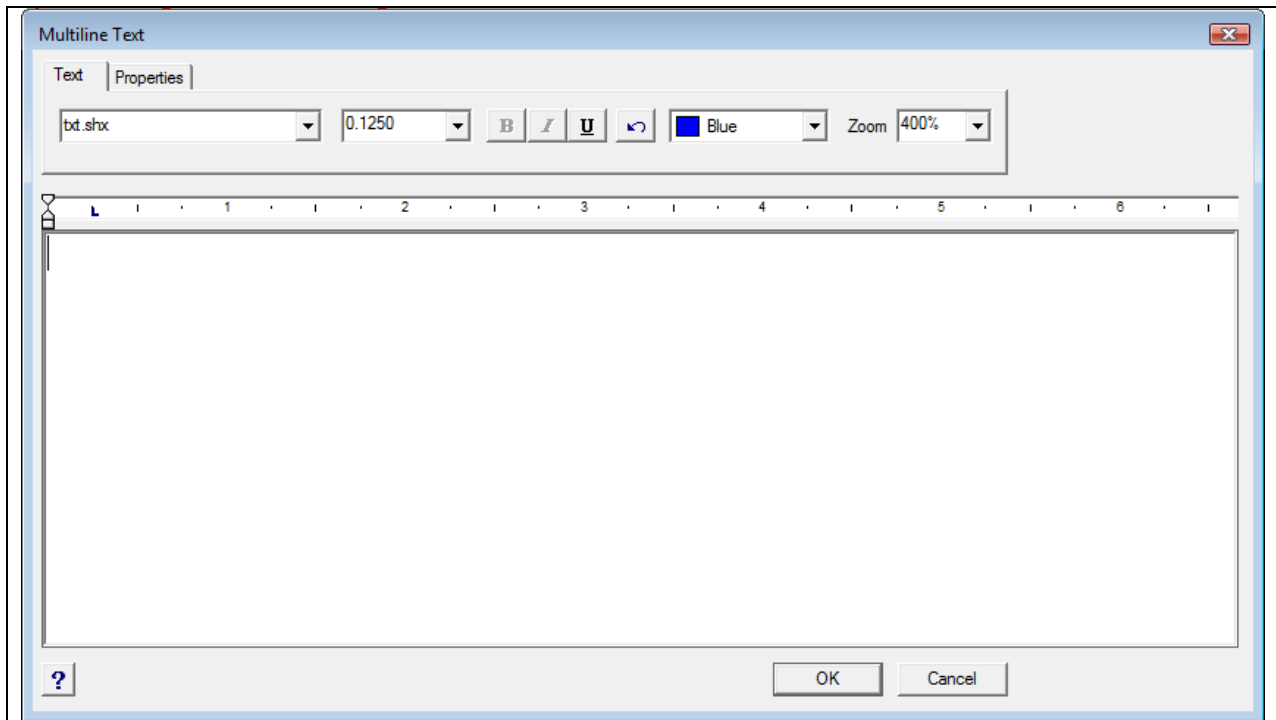
Figure 4.5 – The Multiline Text Editor window

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
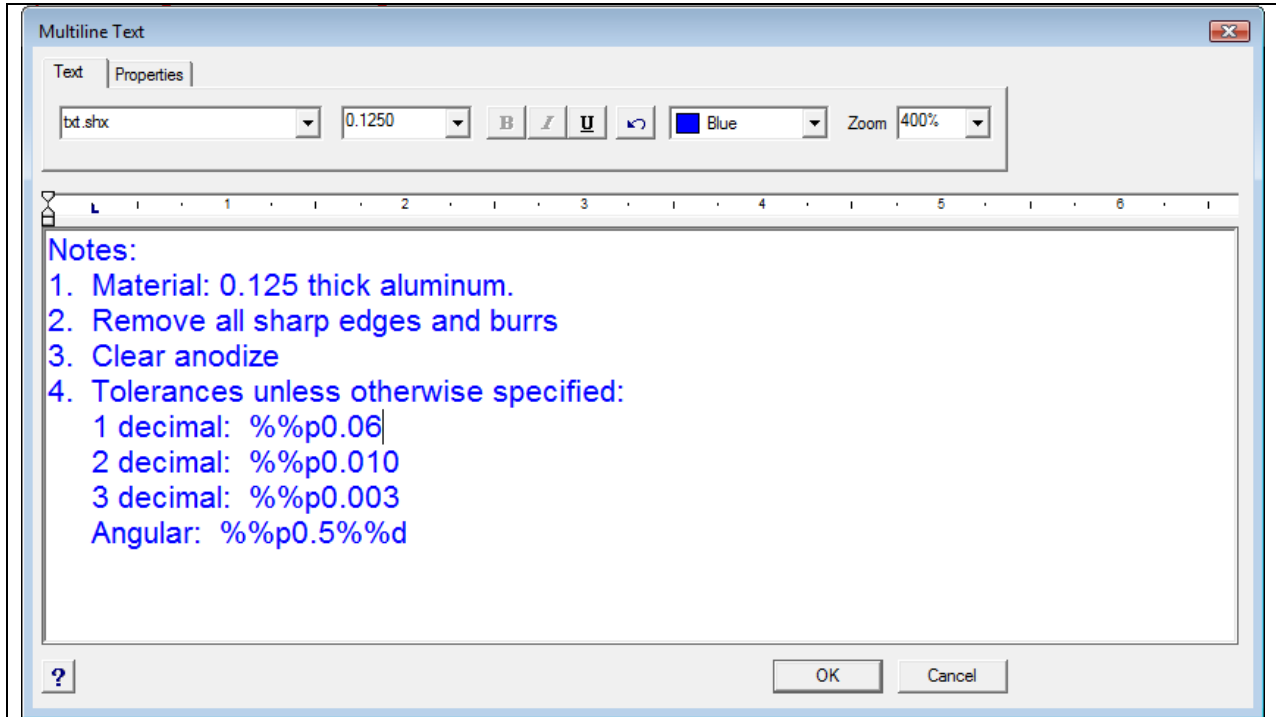   3 decimal: ±0.003
   Angular: ±0.5°

Figure 4.6 – Adding the plus or minus symbol in the Mtext window

When adding the plus and minus symbol to the 1 decimal note, type the colon and add a space, and then type "**%%p**".   This control code is one of many that can be used to enter special characters in text. Now you can type "0.010" (Figure 4.6). When adding the degrees symbol after the Angular tolerance note, type the colon and add a space, and then type "**%%d**".   This is the control code that adds a degree symbol. Because progeCAD 2009 Smart! does not include a spell-checking feature, make sure to double-check your own typing for spelling errors. A simple spelling error in the notes can in some cases halt an entire job.
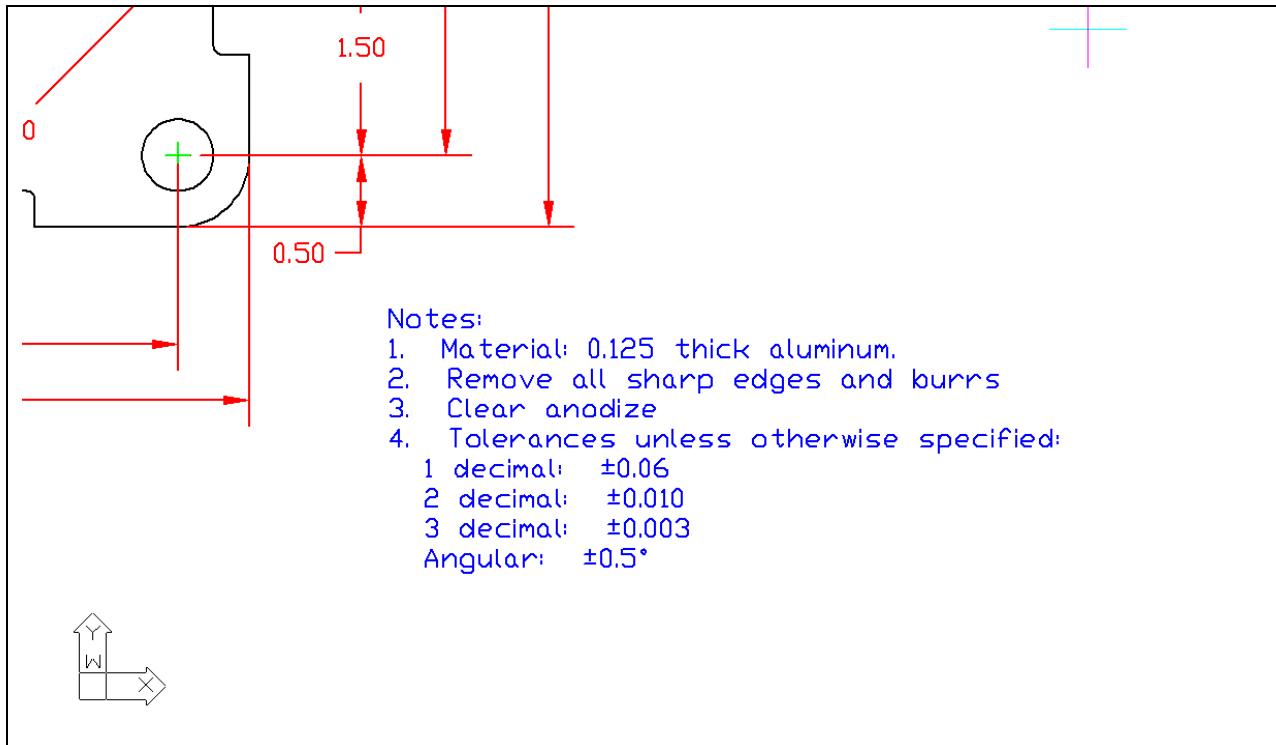
Notes:
1. Material: 0.125 thick aluminum.
2. Remove all sharp edges and burrs
3. Clear anodize
4. Tolerances unless otherwise specified:
   1 decimal: ±0.06
   2 decimal: ±0.010
   3 decimal: ±0.003
   Angular: ±0.5°

Figure 4.7 – The Finished Notes

Saving your Drawing

To save the drawing, select the Save tool on the Standard toolbar. The Save Drawing 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 drawings. You should type the name of the drawing "Rectangular" in the File Name text box (Figure 4.8). The ".dwg" suffix is automatically added to the name when you save the drawing.
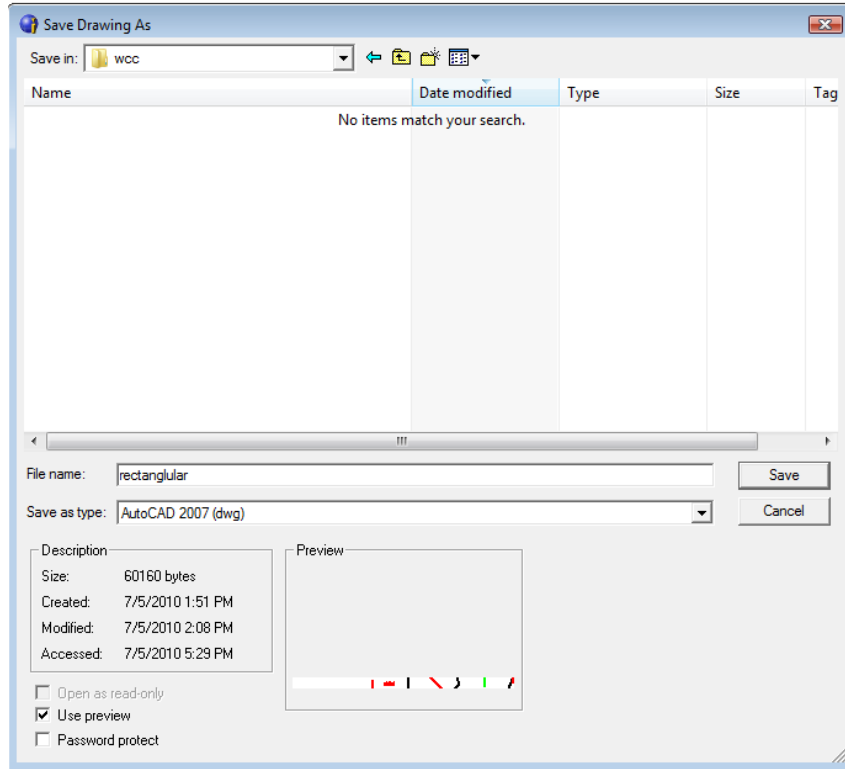
Figure 4.8 – Saving the drawing as rectangle.dwg

* World Class CAD Challenge 100-09 * - Close this drawing file. Create a New file and draw the entire rectangular problem on proper layers, using proper dimensions and finally placing the notes on the drawing. Continue this drill four times, each time completing the drawing under 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**