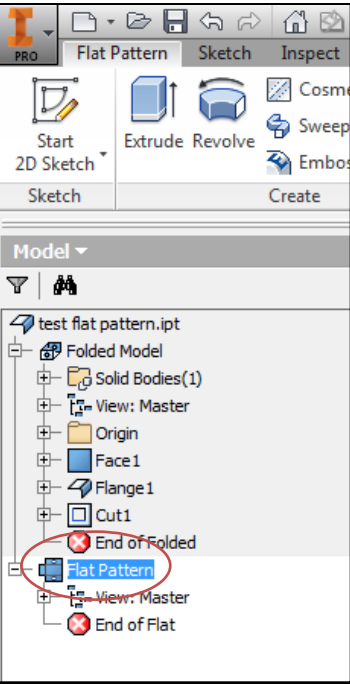# Inventor 2016 Flat Pattern to Laser Configuration

Saving a Flat Pattern from Inventor 2016 suitable for Laser cutting.

Step # 1. Inventor 2016 Flat Pattern.

After creating a "**Flat Pattern**" of your model, right click on the "**Flat Pattern**" item in the Browser. See Figure 1.0

In the menu, select "Save Copy As" . See Figure 2.0

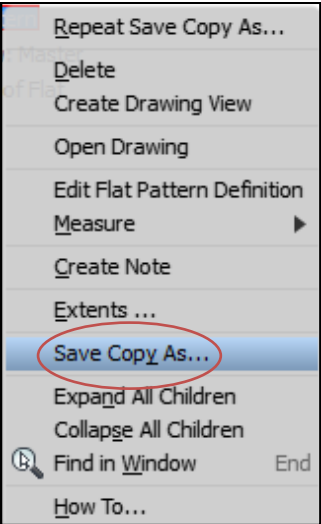A "**File Dialog Box**" will be displayed. See Figure 3.0
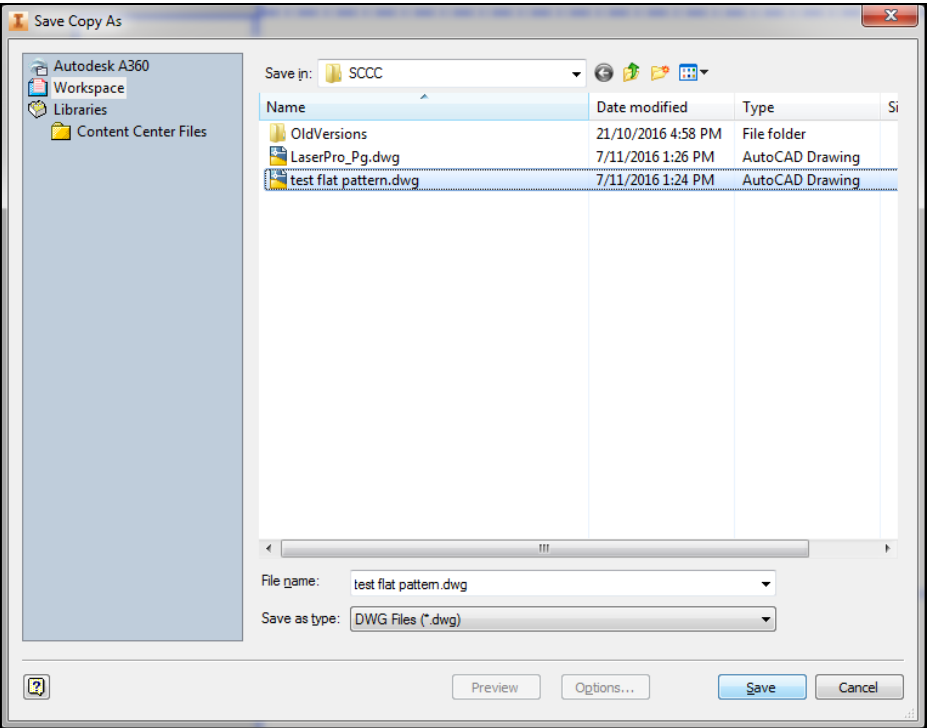
FIG 1.0

FIG 2.0

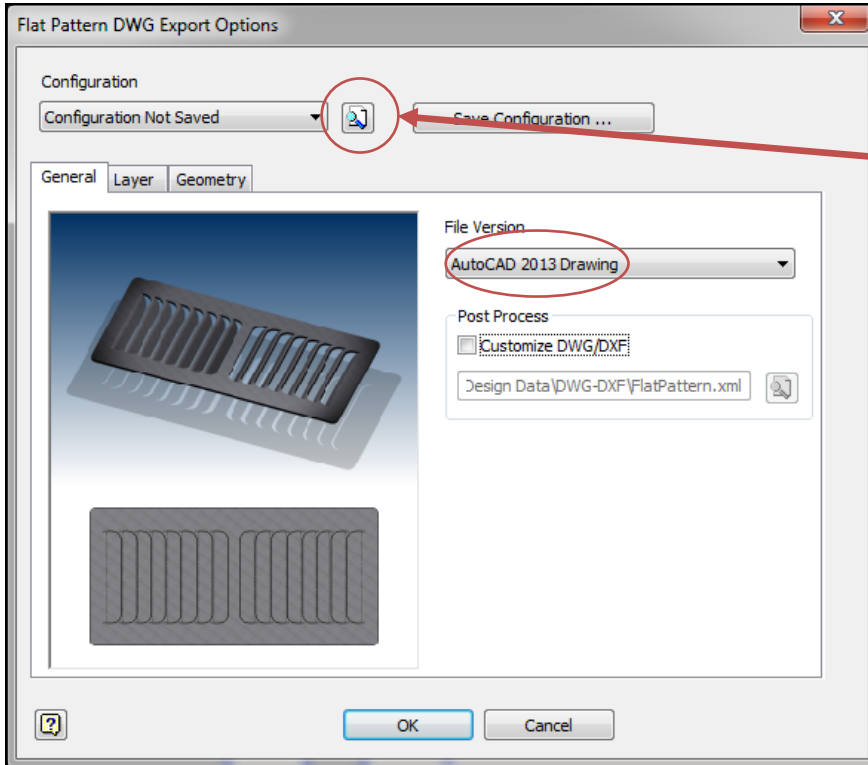Figure 3.0 shows the File Dialog box.

Save your flat pattern DWG to an appropriate location.

FIG 3.0

Step # 2.

After selecting "**Save**" the Flat Pattern Export Dialog box will be displayed.

Change the default configuration for saving a "**Flat Pattern**" See Figure 4.0

Ensure the "**File Version**" is set to "**AutoCAD 2013**"

Select the "**Brower Button**" , when the file browser dialog box is displayed, select

"**SCCC Flat Pattern config.ini**"

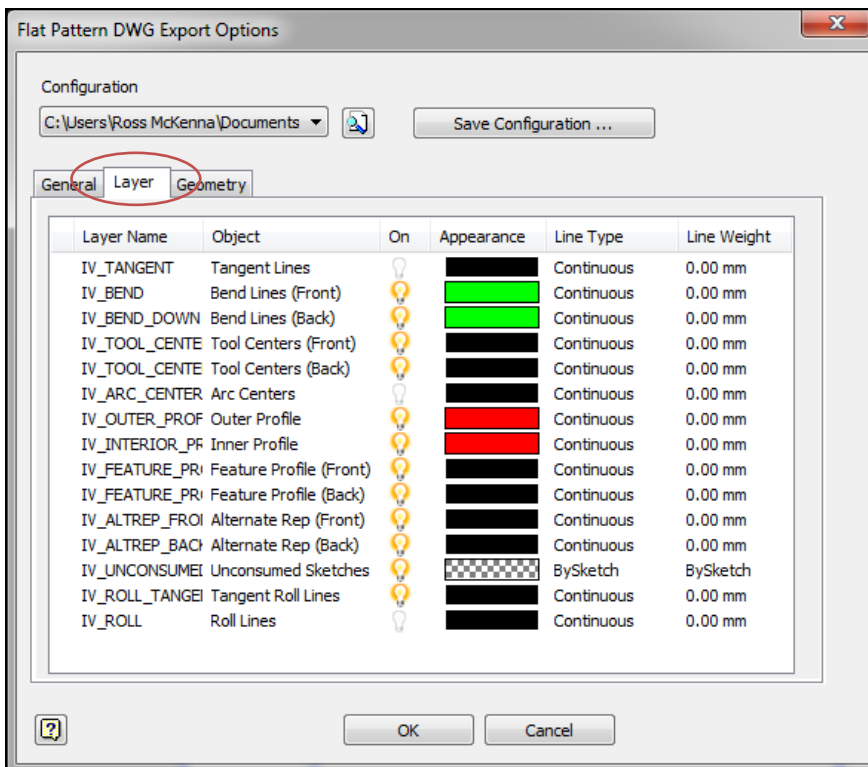This will pre configure layer settings for AutoCAD.

See Figure 4.0

FIG 4.0

Figure 5.0 shows the layer tab with layers

pre-configured for AutoCAD.

FIG 5.0

Step # 3.

Inserting a **"Flat Pattern"** DWG file into the AutoCAD 2016 Laser Pro template file.

Open the File "**LaserPro_Pg**". The LaserPro_Pg,dwg file will form a template for us to insert other drawings into.
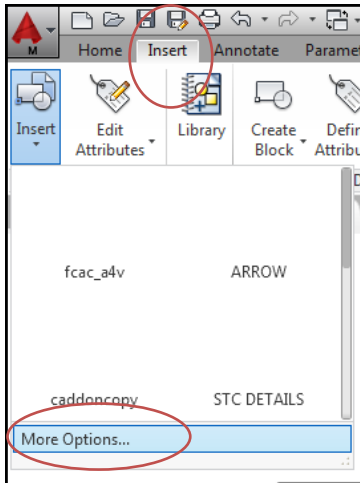
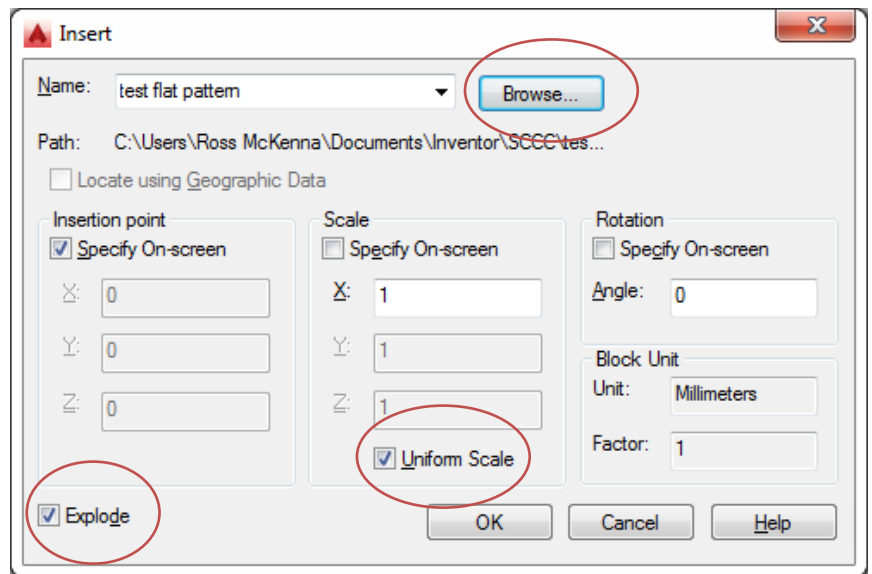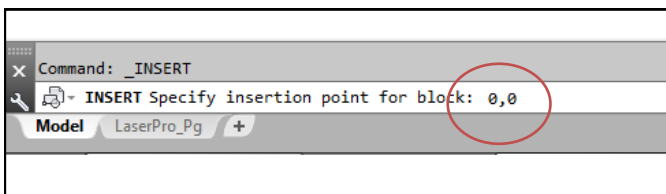From the "**Insert**" menu See Figure 6.0

FIG 6.0

The "**Insert**" dialog box will be displayed. See Figure 7.0

Browse to the location you saved the Flat Pattern DWG file.

Ensure that the settings match those in Figure 7.0

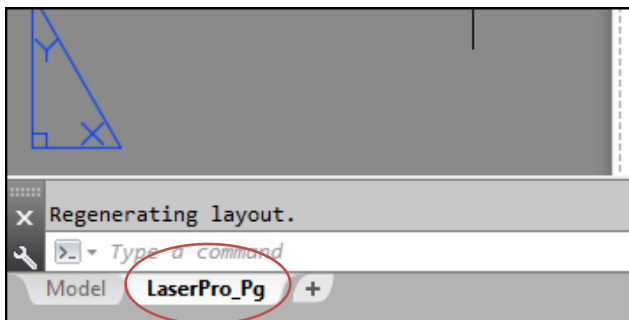OK the dialog box to finish the "**Insert**" command.

FIG 7.0

When prompted by AutoCAD to "**Specify an Insertion Point**"
Type **0,0** and press "**Enter**" See Figure 8.0

FIG 8.0

Step # 4.

Changing to a "**Layout**" and creating a "**Viewport**"

In the lower left corner of the AutoCAD screen select the "**LaserPro_Pg**" layout tab. See Figure 9.0

A blank white sheet will be displayed that has the physical dimensions of the Laser cutter (860 mm x 610 mm)

FIG 9.0

Step # 5. Create a viewport

Above the Ribbon, on the "Tab" menu select "layout"
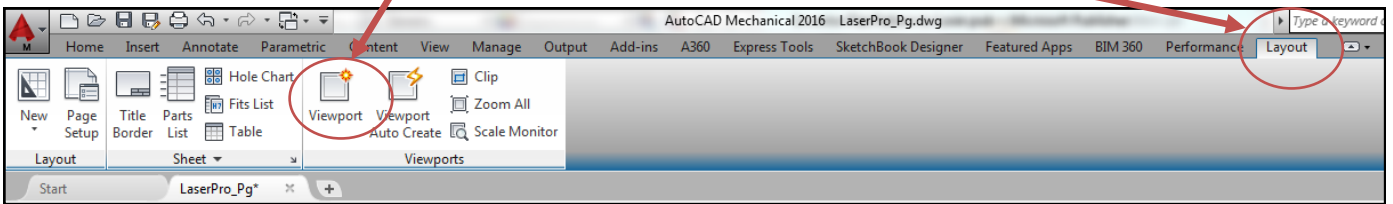
Then from the Ribbon, select "**Viewport**" See Figure 10.0

Place the cursor on the Upper Left corner of the sheet, just inside the dotted outline and left click. Drag a window to the Lower Right corner, just inside the dotted line and left click.

A dialog box as shown in Figure 11.0 will be displayed.

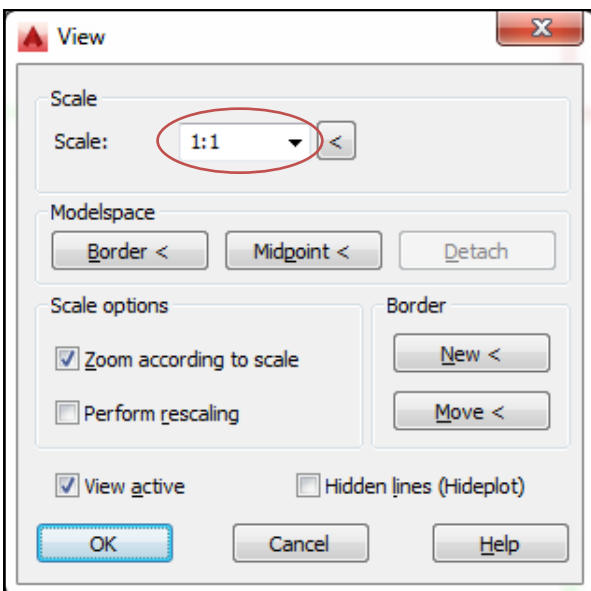Most importantly , ensure that the "**Scale**" is set to "**1:1**"

FIG 11.0

OK the View Dialog box and a 1:1 scale view will be created within the "**Viewport**".

Double Left Click inside the "**Viewport**" to make it "**Active**"

The border of the viewport will turn bold "Red" See Figure 12.0

Depress the mouse wheel to enable "**Panning**" .

Pan the Flat Pattern to an appropriate place on the cutting area and release the wheel. Double left click outside the viewport to disable editing and lock the view.

Note : Special care must be taken not to "**Zoom**" the view, as this will alter the "**Scale**". If the view is accidentally zoomed the scale can be restored by changing the scale value as seen in Figure 13.0
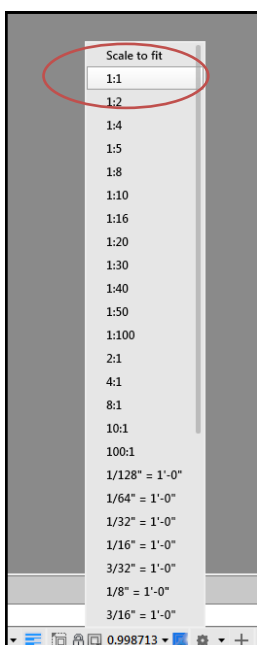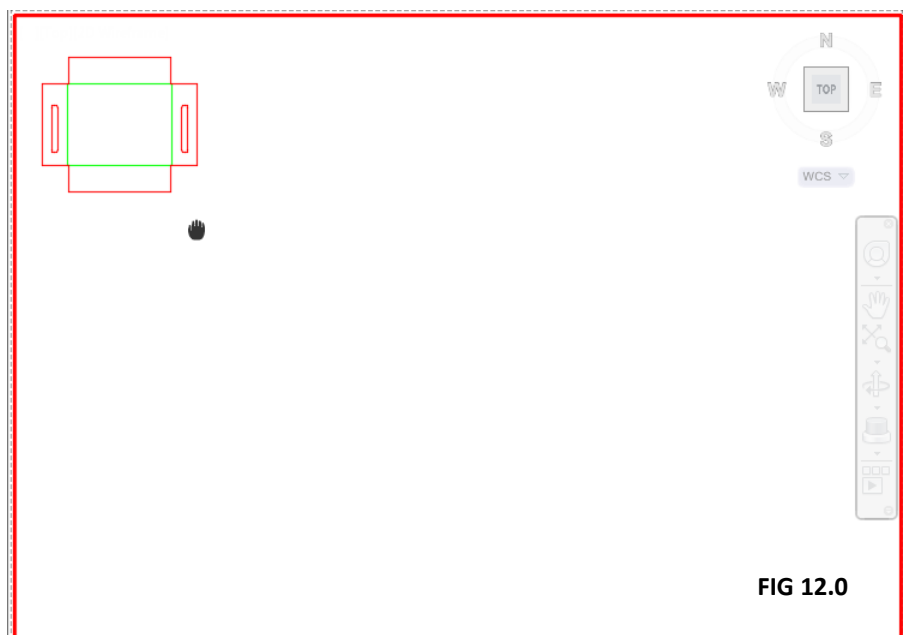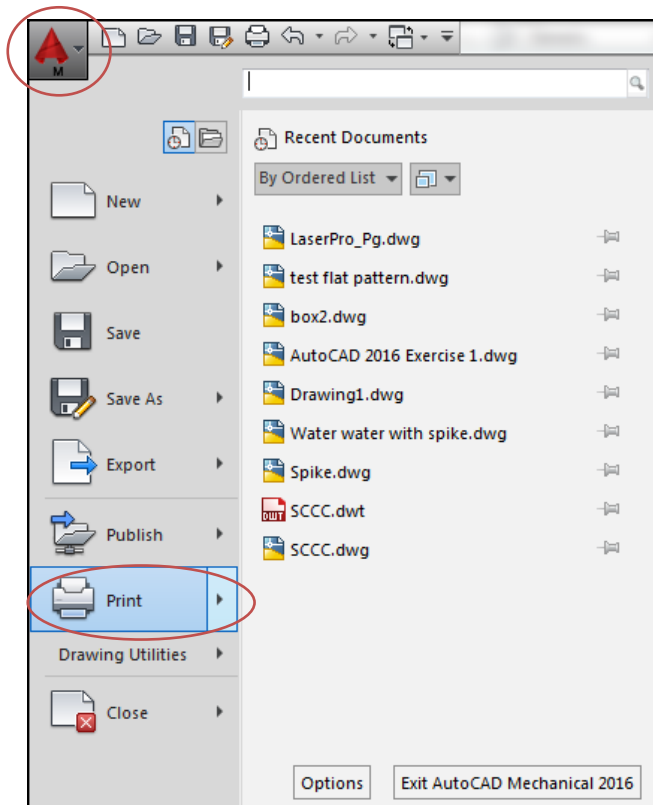
FIG 13.0

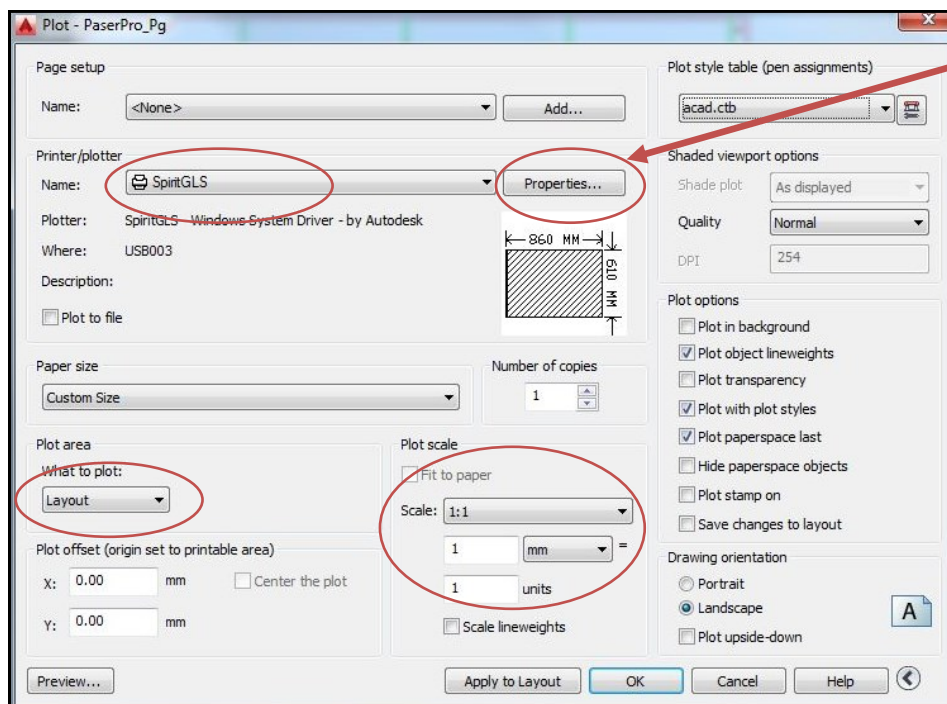**FIG 12.0**

Step # 6. Plot the drawing

From the AutoCAD Application Icon select "**Print**"

See Figure 14.0

After selecting "**Print**" the Plot dialog box shown in Figure 15.0
Will be displayed.
Ensure the highlighted settings are correct.

FIG 14.0

Step # 7. Setting Laser Properties.
Select "Properties" to configure the laser.

FIG 15.0

Step # 8. Configure the Laser

From the "**Plot Configuration Editor**" select the "**Custom Properties**" button.
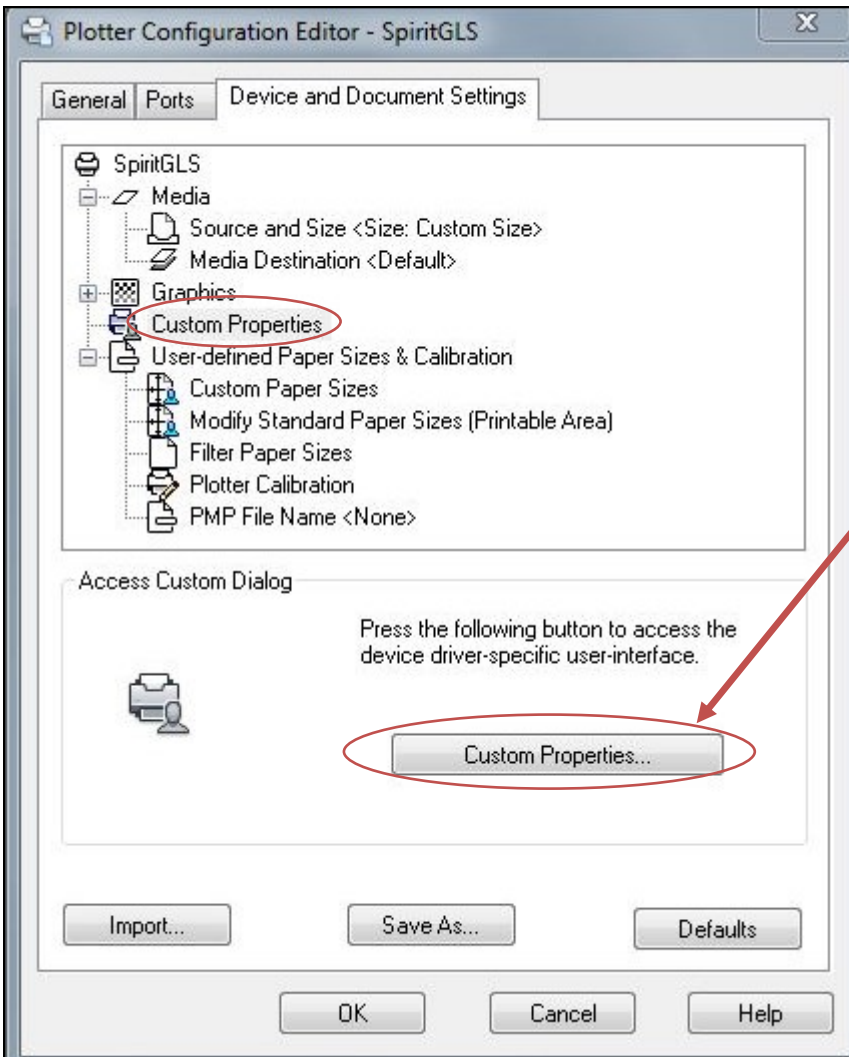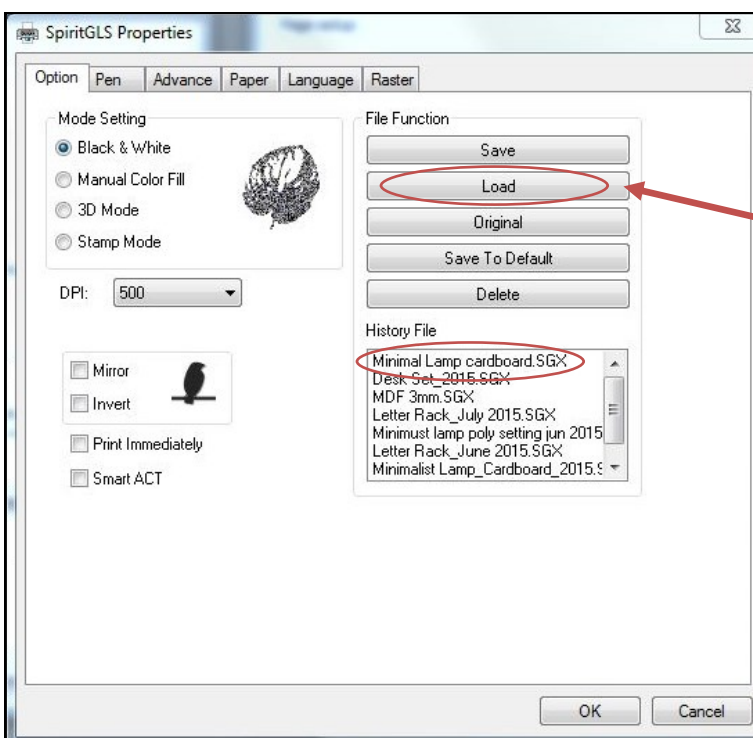 See Figure 16.0

FIG 16.0

Selecting the "**Custom Properties"**
button will display the Laser properties
dialog box shown in Figure 17.0

In the "**History**" text box, select the appropriate
configuration. This will set all necessary vales for
pen colour , laser power and speed etc.

If no suitable item exists in the "**History**" text box
use the "**Load**" button to load a saved
configuration file.

See Figure 18.0 (Over page)

FIG 17.0

If no suitable item exists in the "**History**" text box use the "**Load**" button to load a saved configuration file.

Configuration files have the extension .SGX.

An example file "**Minimal Lamp Cardboard.SGX**" is shown in Figure 18.0 below.
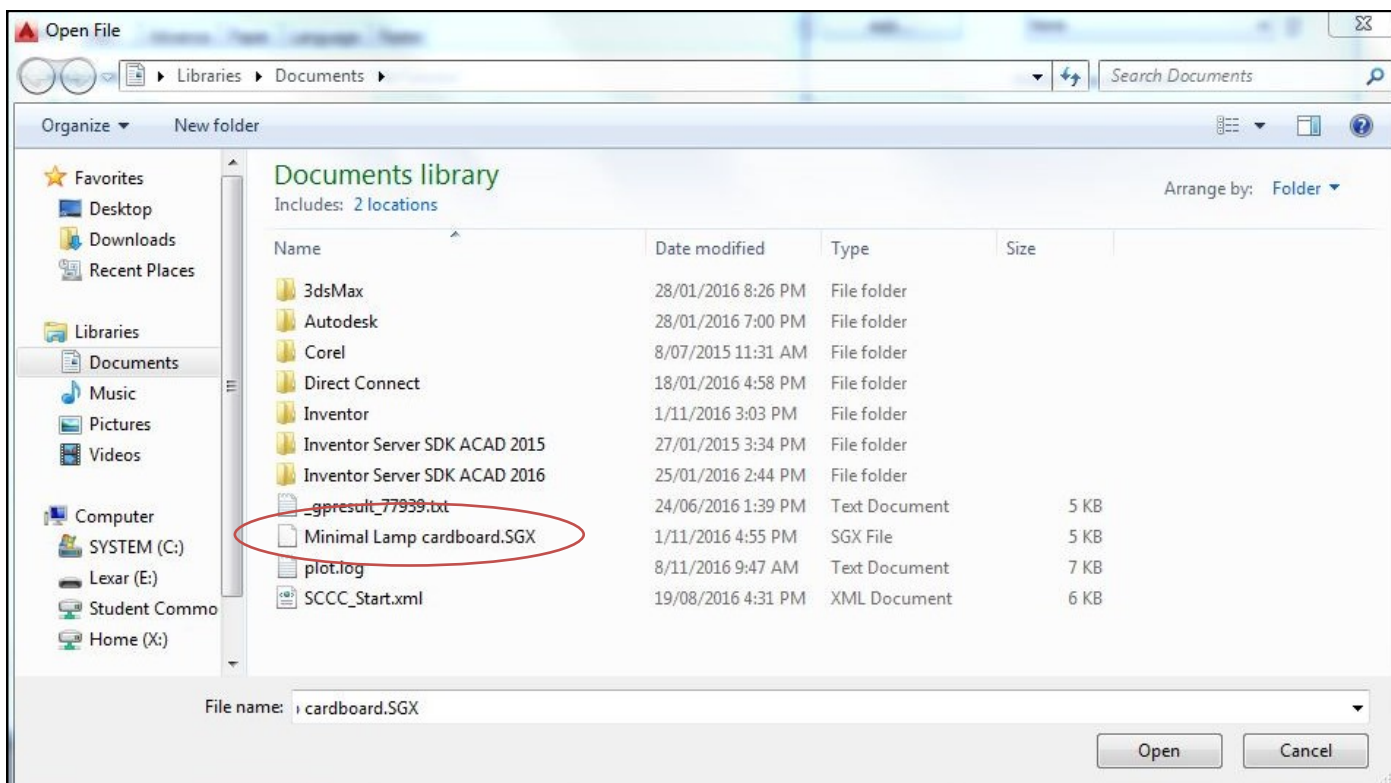

<div align="right">

FIG 18.0

</div>

Once the Laser configuration is set, **OK** all of the dialog boxes until the initial "Print" dialog box is displayed.

Select the OK button, and the print command will be sent to the laser.

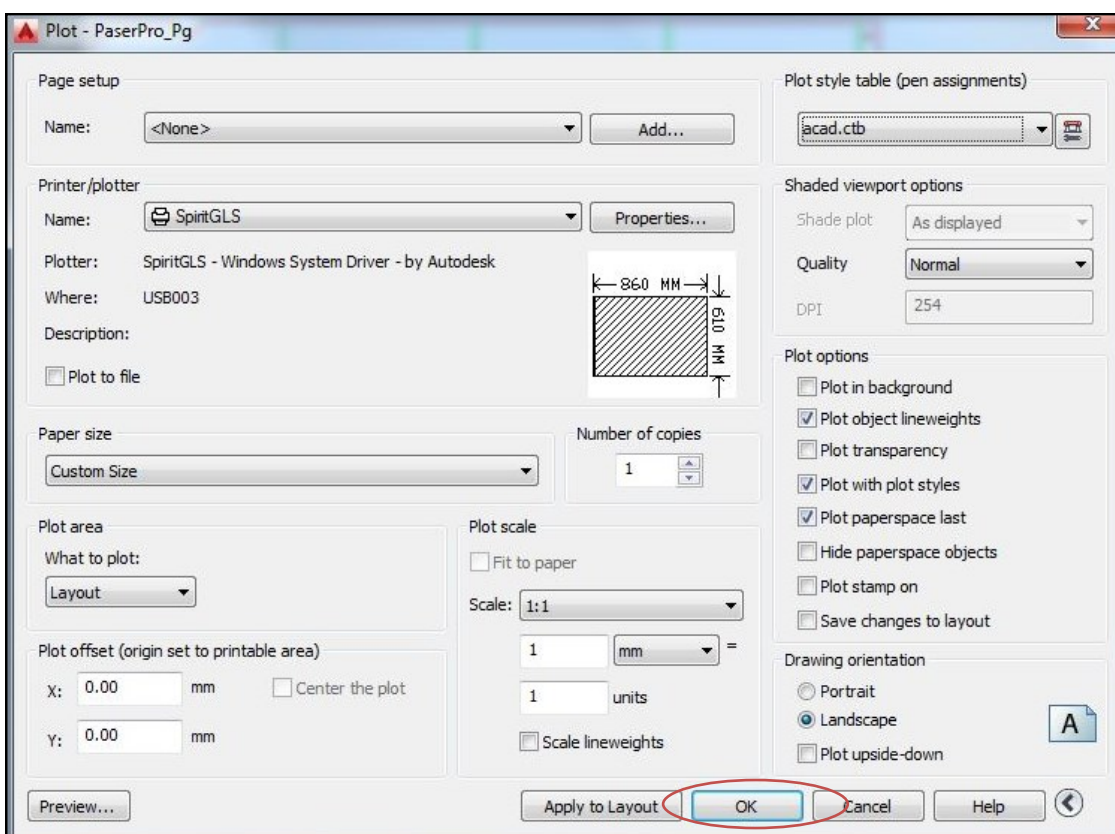Follow normal procedure's at the laser to prepare for cutting.

FIG 19.0