# **Sectioning Technique in Pro/ENGINEER**

### Creating new drawing

Open the part you want to draw. Open *New document*, select *Drawing*. Enter the name of the drawing. *Use Default Template* option is marked.



*New Drawing* window opens. Default model is the one, you have opened initially. To change the model select **Browse**... and find proper file. Select the format of the drawing template.

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Having clicked OK you get the default placement of views. If the views are too small, you may need to change the scale of the views

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Double-click on the front view and open the **Drawing View** window. Select option *Scale* and change the scale to the desired one.



You may want also to reposition some of the views. For this you first have to unlock the view by clicking the *Lock/Unlock* button



Now you can move the views in the drafting area to the desired positions. Red frame indicates old position.



New positions of the views.



## Creating full section view

Let's make a section view from the right side view. Select the view with RMB and then select *Properties* option.



## Drawing View window opens. Select Sections option – Click the 2D cross section

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Turn on the Show/Hide plane button, and select the plane for sectioning on the adjacent view.



If you don't have a plane in the area where you want to place your cutting plane, you should go to the solid model and create the plane there.

The section will be added to the list in the *Section* bookmark of the Drawing View window. Click OK.



The right side view has been converted into the section view.



To add cutting plane line with arrows on the front view, click the right side section view with RMB and select the *Add Arrows* option.



Click the Front View to select the view for arrows placement.



#### To add extra view click Insert – Drawing View – Projection



# Select the area on the drawing to place new view and click in it.



New view appears as a right side view.



This is what we have: Front view, Top view, Right side view and Section view.



We will use the new view later, and now, according to the standards, we have to remove the hidden lines from the section view.



First, for better view let's zoom in the section view.



# 1<sup>st</sup> method to remove hidden lines: click View – Drawing Display – Edge Display.

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Edge Display menu opens. No Hidden – Tan Default – Any View. Click OK.



All lines in the selected area turn highlighted. Click Done.



Hidden lines are not displayed anymore.

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2<sup>nd</sup> method to remove hidden lines: Double-click (LMB) on the view and open the Drawing View window. Select bookmark *View Display* and option **No Hidden**.



#### We can also *change the hatching options*.

Select hatching with RMB and open *Properties* option.



Select **Spacing** – **Hatch** – **Overall** – **Value** and in the line appearing in the bottom enter the value of the spacing.



Hatching spacing has changed – became smaller.



*To change hatching angle* open hatching *Properties* again, then select **Angle – Hatch – Overall – Value** and again insert the value.



Having full section we can *display the detailed section*, showing just an element of the whole view sectioned.

Click Insert – Drawing View – Detailed

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Click on the corner around which you want your detailed section to be placed. With LMB draw a spline through several points around the cross in the corner.



The program will automatically generate the circle instead of the spline. Then select the area to place the sectioned view and click in it. The view will be placed.



Selecting the detailed view and dragging you can relocate it on the drawing.

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Finally, we can modify the parameters of the notes, opening their *Properties* with RMB and modifying the **Text Style** and making it bigger.



You can also move the detail definition note to a more appropriate place.



Similarly to the full view we can create a half-view section, using this setting in Sections option of the view Properties.



The resulting drawing: Full section on the right side view, and half-section on the top view.



#### Important note:

In this case we can remove the hidden lines only by the *1<sup>st</sup> method*: clicking in the main menu View – Drawing Display – Edge Display, then selecting in *Edge Display* menu No Hidden – Tan Default – Any View, and then framing needed area by LMB.



If the  $2^{nd}$  method – No Hidden option – will be used in view Properties-Sections, all hidden lines will disappear from the whole view, not only from the sectioned half.

