

# New Features in Pro-Engineer Wildfire-2

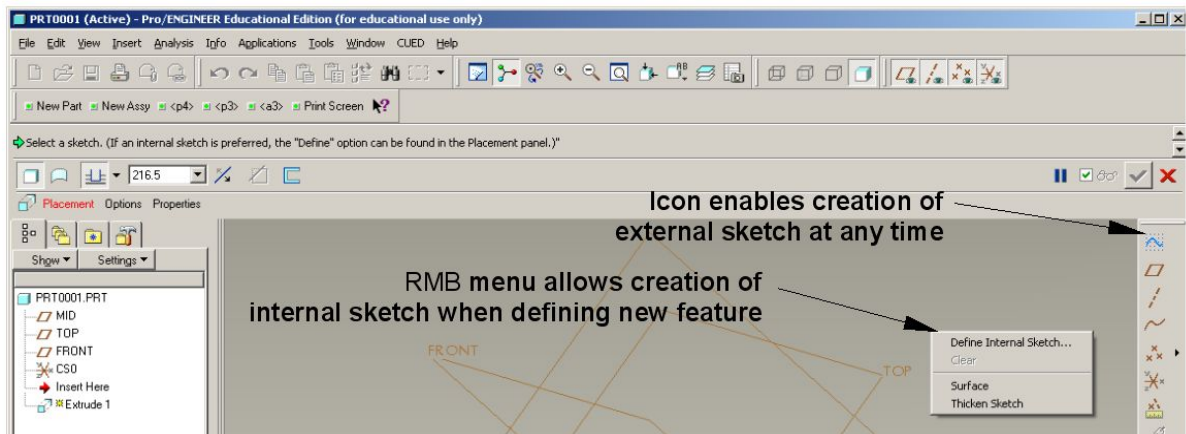
## A Quick guide for those familiar with Pro-E Wildfire

### Philosophy

Pro-E Wildfire-2 offers some major improvements over the first version of Wildfire, including further movement toward icon and dashboard driven features, simpler methods of copying and patterning, more intuitive control of drawing views and better stability, (ie freedom from crashing), although this does not absolve the user from the responsibility to save their work often. The step across to Wildfire-2 will be found to be straightforward for users already familiar with Wildfire, with the main differences described below. Wildfire-2 will also, shortly, be available on a CD with its own Linux operating system, for undergraduates to use at home.

### 1 Sketches

A new icon allow the sketcher to be entered at any time and a sketch drawn which sits as an independent feature in the model tree. When creating a new extrusion or other solid feature, one of these external sketches can be selected as the defining shape. However, one can still use a sketch which is purely internal to the new feature, this option being selected by the RMB menu as shown below.



It is recommended that internal sketches are used as the norm for the following reason. If an internal sketch has an error which makes it unsuitable for the feature being created then a message will appear when exiting the sketcher (typically: “section must be closed for this feature”) and so the user is invited to correct things then and there. When an external sketch is created, Pro-E does not know for what it is to be used and so no fault finding is carried out. If an independent sketch is selected to drive a feature for which it is unsuitable (for example if it is not properly closed when it should be) then the feature will simply not work.

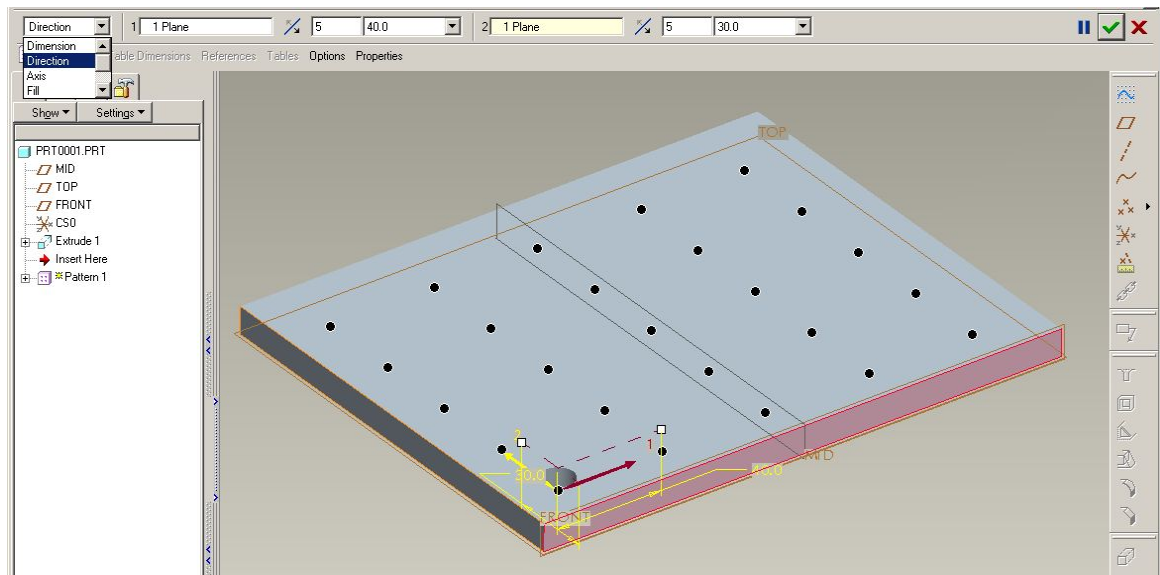
External sketches can be edited by highlighting and using RMB menu (selecting either **Edit** or **Edit Definition**). Internal sketches may be altered by highlighting the feature, selecting **Edit Definition** from the RMB menu and once the dashboard is displayed, selecting **Edit Internal Sketch** from a further RMB menu.

## 2 Sheet Metal

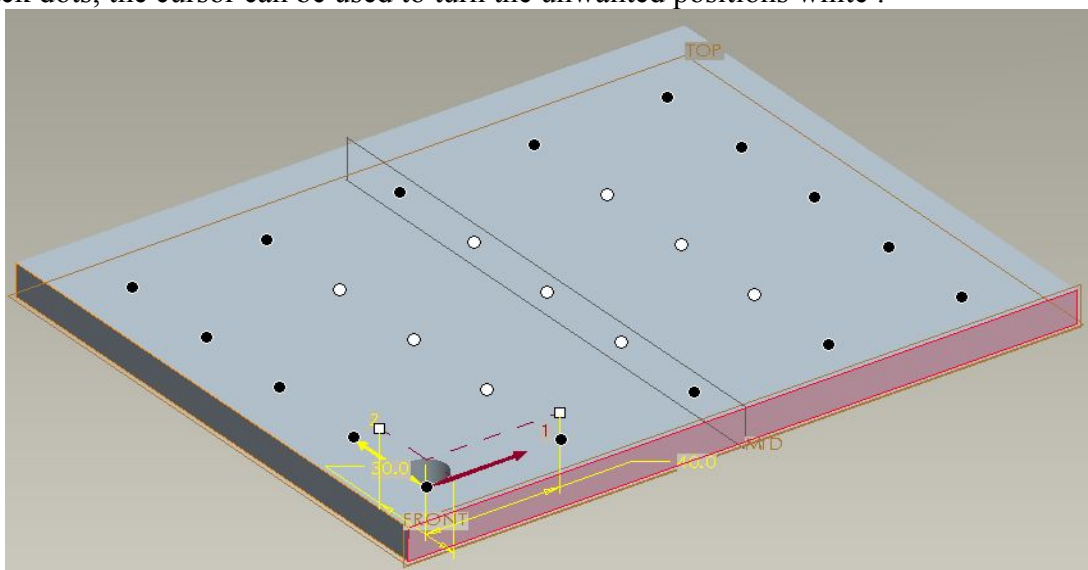
The sheet metal application has been extensively revised to bring dashboard control to the definition of added walls. See the separate notes: “Hints on the use of Pro-Engineer for sheet metal design” for details.

## 3 Patterning Methods

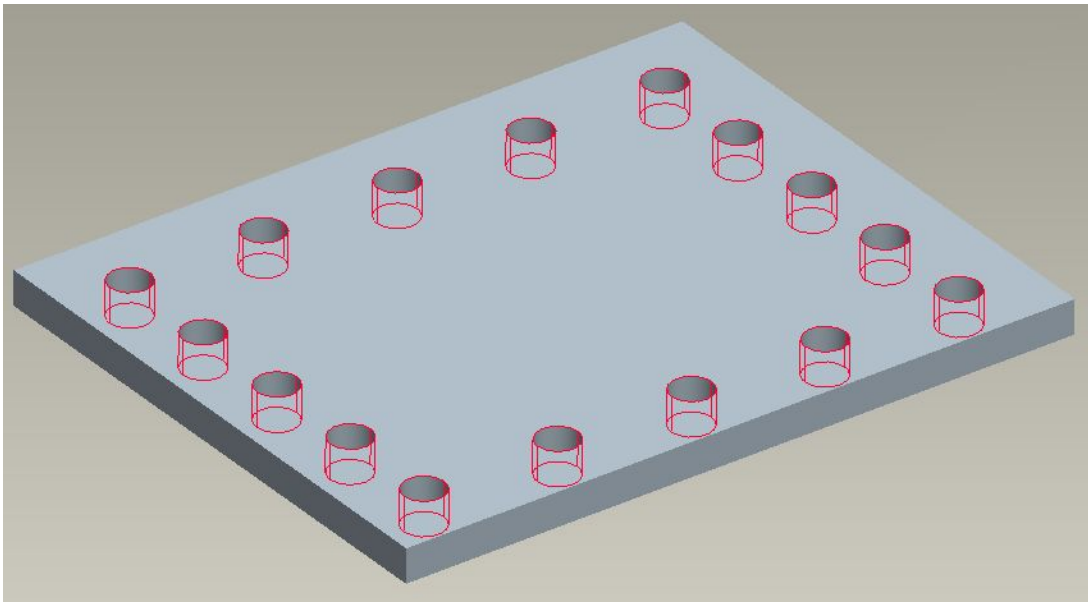
There are now alternative ways of defining patterns which do not depend upon the defining dimensions of the original feature. It used to be necessary to “build in” a dimension suitable for pattern generation when modelling the original feature, which presupposed that it was known in advance that a pattern was to be required. Whilst this **Dimension** driven patterning method is still available there is a pull-down menu with choices of **Direction**, **Axis**, **Fill** etc. on the pattern dashboard. The **Direction** option allows a rectangular pattern to be generated by selecting a reference feature for each of the two directions and filling in the no. of instances and spacings. **NB The reference features chosen need have nothing to do with the definition of the original feature.**



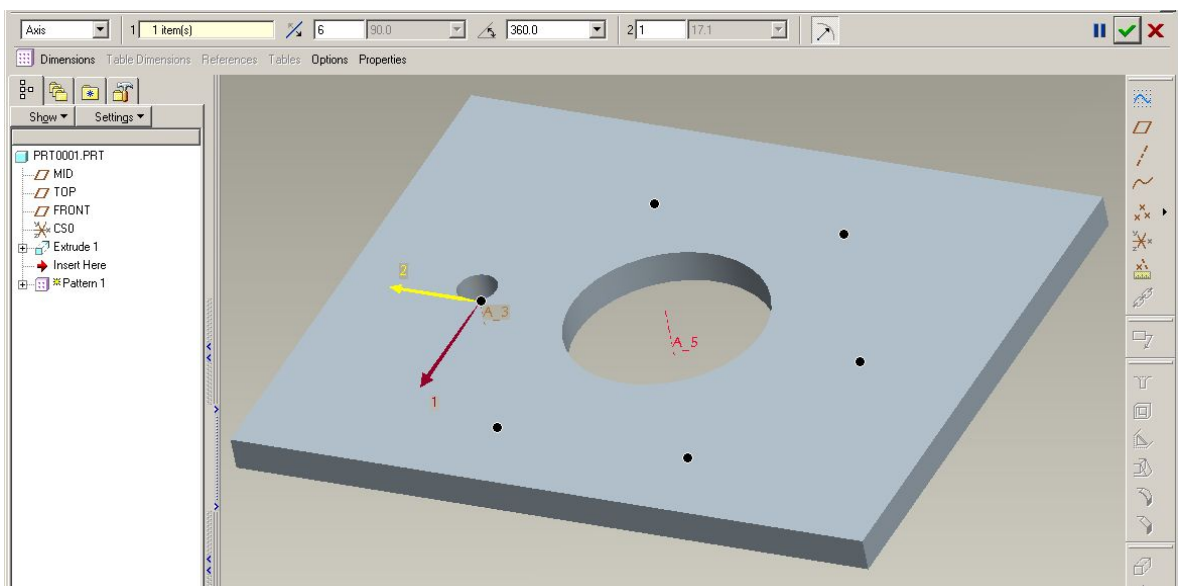
If, in the example shown above, it is desired to exclude some of the positions shown by black dots, the cursor can be used to turn the unwanted positions white :-



Resulting in the hole pattern illustrated below :-



Similarly the **Axis** option allows a pattern to be generated about a central axis (again, unconnected with the original feature's definition) with the number of instances and the angular increment or the angle-to-fill entered on the dashboard. The final button on the right determines whether features are rotated about the central axis as they are copied or kept in their original orientation.

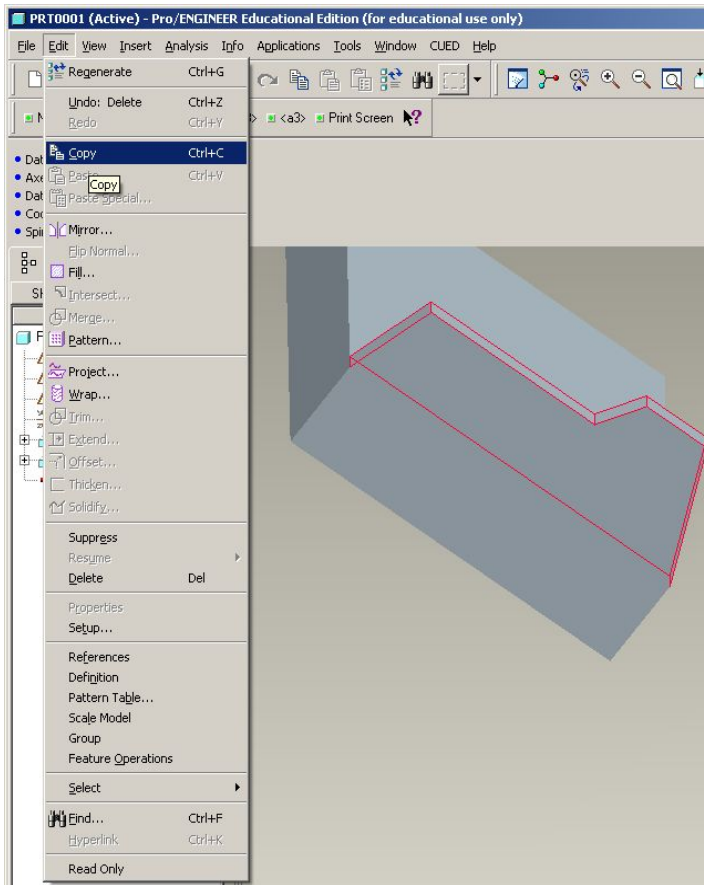


A third option is to fill an area with the feature being patterned, (useful for achieving ventilation or saving weight). A sketched area is filled with repetitions of the original feature on a grid of pitches entered on the dashboard.

Please note that patterns generated by any of these methods cannot be copied or mirrored, whereas a pattern created via the original **Dimension** method can be.

## 4 Copying of Features

The copying of features has been made more intuitive with a “Windows” type copy and paste function. With a feature highlighted, pull down the EDIT menu and select **Copy** as shown below.



Re-opening the EDIT menu reveals the **Paste** command to be available. This must be selected before placement is considered. What happens next is dependant upon the feature being copied, but usually the dashboard appears, allowing the new feature to be placed with respect to new references. The sketch may also be varied, as may any other parameter in the definition.


**Note that once a copy has been made, the original is removed from the “clipboard” so that a further copy requires the feature to be re-selected.**

Note that a copy produced in this way is, by default, independent (ie will not change automatically if the original feature is altered). If a dependant copy is required then the **Paste Special** option must be selected.

Certain classes of feature (eg patterns) may result in the **Paste Special** option being mandatory. This simply involves answering 3 questions before proceeding with the placement of the new feature.

The copy and paste function is also available in assembly models. Highlight the component to be repeated and select **Copy** then **Paste**. A definition dialogue box appears in the top right corner wherein new dimensions and references are added. If this fails to produce the desired placement, then the new component can always be redefined in the normal way, via the constraints table.

### Mirror

Features may also be mirrored in a simplified way. Highlight the feature and then select the **Mirror** icon  either from the EDIT menu or from the bottom right corner of the screen.

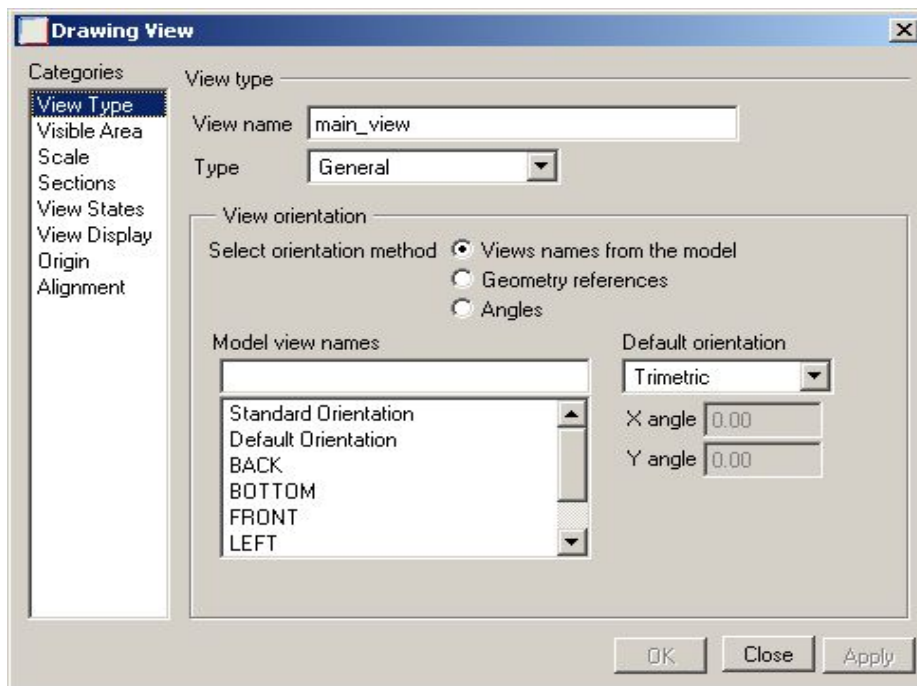
A mini dashboard appears, on which the only item which must be filled in is the mirror plane selection. **Note that under Options one can choose whether the copy is dependent or independent.**

## 5 Drawing View Control

The production of detail drawings has been streamlined by a move away from pull-down menu control of the properties of views.

View insertion can still be carried out by pulling down the INSERT menu, from where the **Drawing View** option has a fly-out with the types of view available. However the quick method is to use the RMB menu obtained with the cursor over the main window:- with no views highlighted the assumption is that a general view is required, whereas with an existing view highlighted it is assumed that a projection from this is desired.

Once the view has been placed it can itself be highlighted and the RMB menu choice of **Properties** brings up the dialogue box shown. This has 8 pages which control almost all parameters pertaining to that view, including whether it is a section, how lines are displayed and the scale (if independent).



## 6 Multiple Undo/Redo

Finally, leaving the best news until last, the (previously limited) Undo function is now available at any time in the part modeller and provides a multiple undo function, right back to the beginning of the session if required. Provided that no other buttons are pressed in-between, the redo function allows those features or modifications to be re-created, one by one.