3DXpert™ for SOLIDWORKS®

Working Environment

Environment – Part

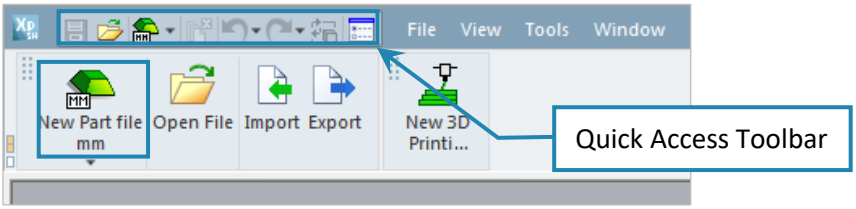
13,0600,1489,1598(SP6)

3D SYSTEMS

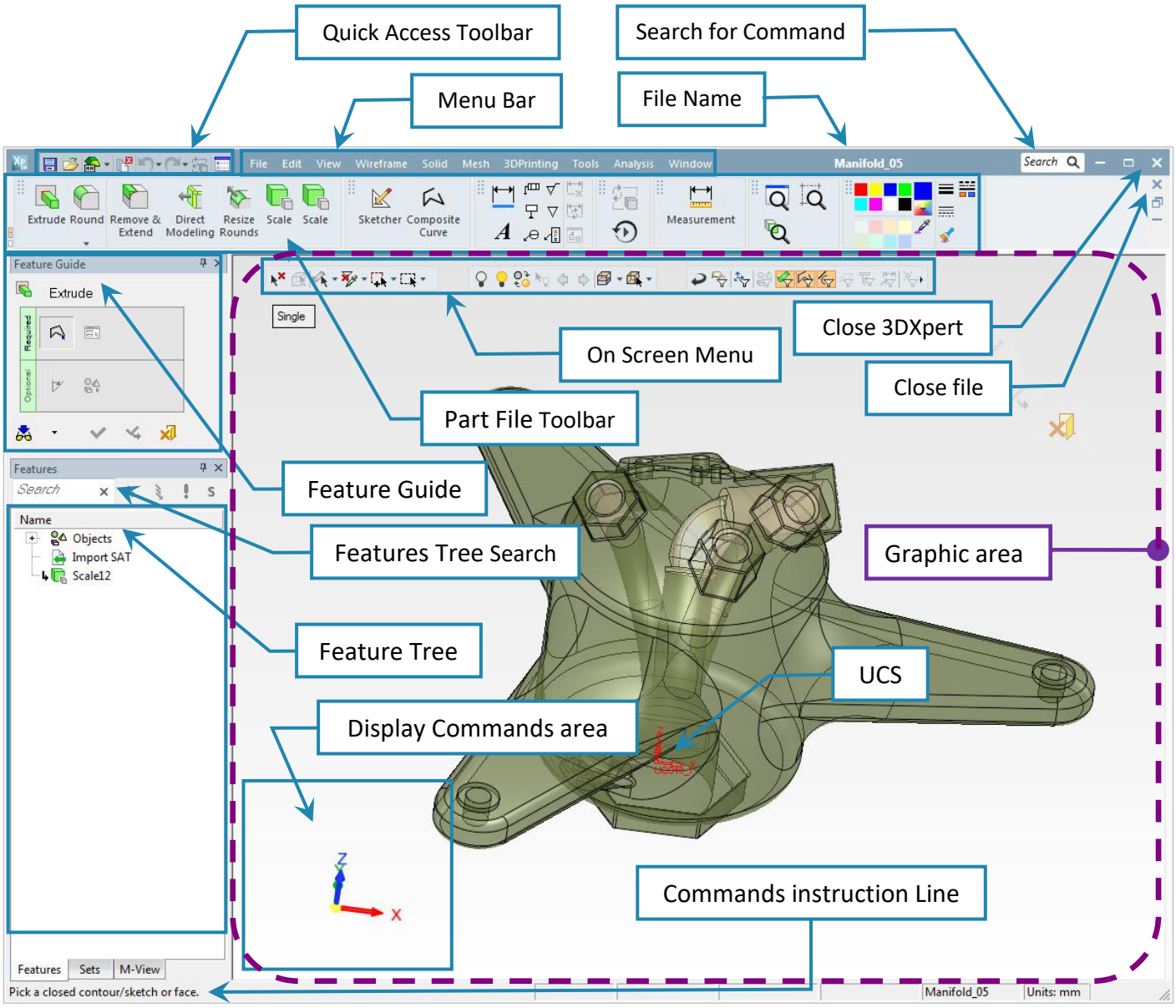
In this document, we will learn the **Environment – Part** file.
The part environment is the basic 3D cad environment for design and managing 3D CAD files. In 3DXpert for SOLIDWORKS it is an option to open a **New Part file** for work or to activate **Part file** in 3D Printing Project.
Part file contain different commands and functions to design and change a 3D model. The graphic area may contain different kinds of entities like objects, faces, wireframe and more.

Open New Part file

Pick the **New Part file** command from the toolbar to open, it is also an option to do it while other files are open from the Quick Access Toolbar



New Part file screen:



Entities in part environment

Object

The object is a 3D body build from faces, usually closed (Solid).
A file can contain more than one object (Multi object).
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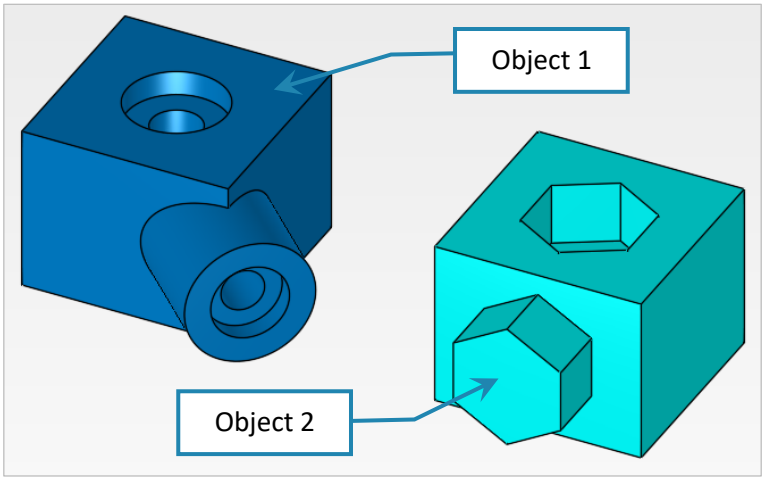
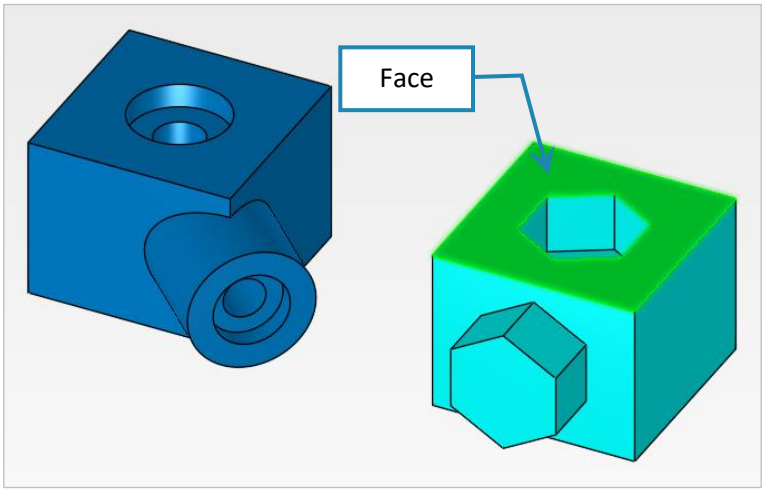


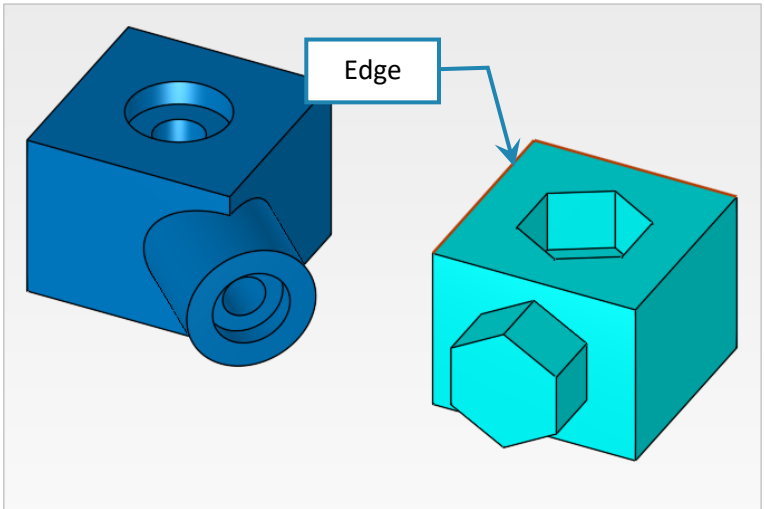
Face

A face is a part of the surface that warp the object. A face can be planar, cone, tours, spare or amorphic.



Edge

Face boundaries called edges.



Wireframe

Wireframe are curve entities, they can be 2D or 3D, close or open.

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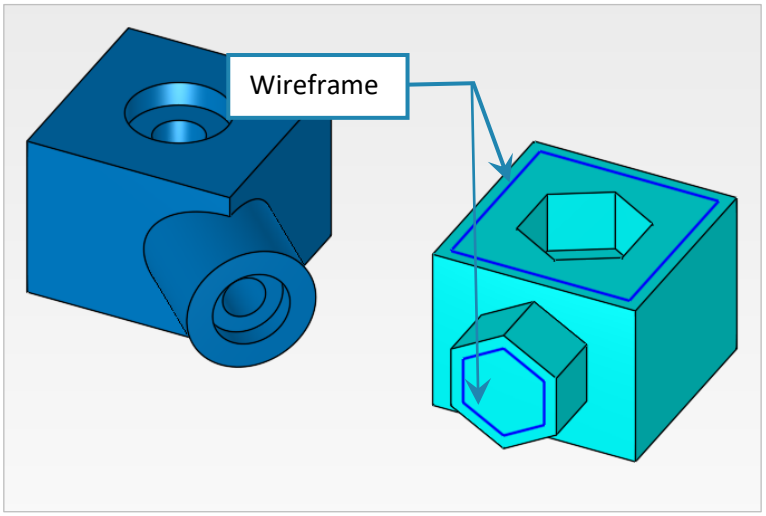
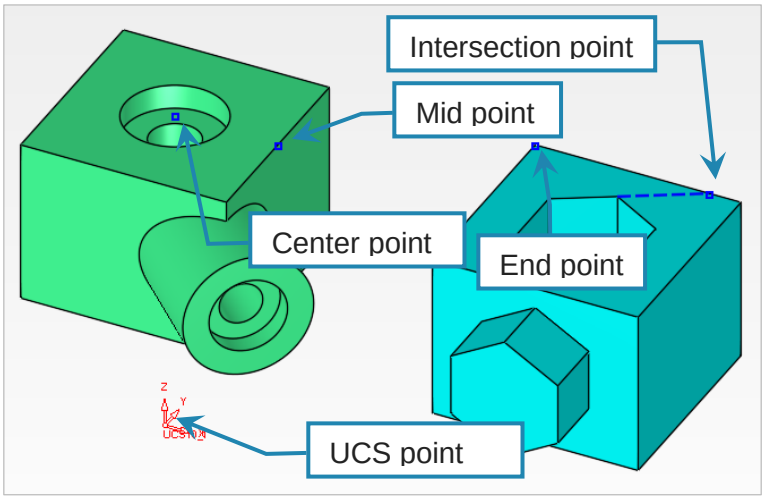


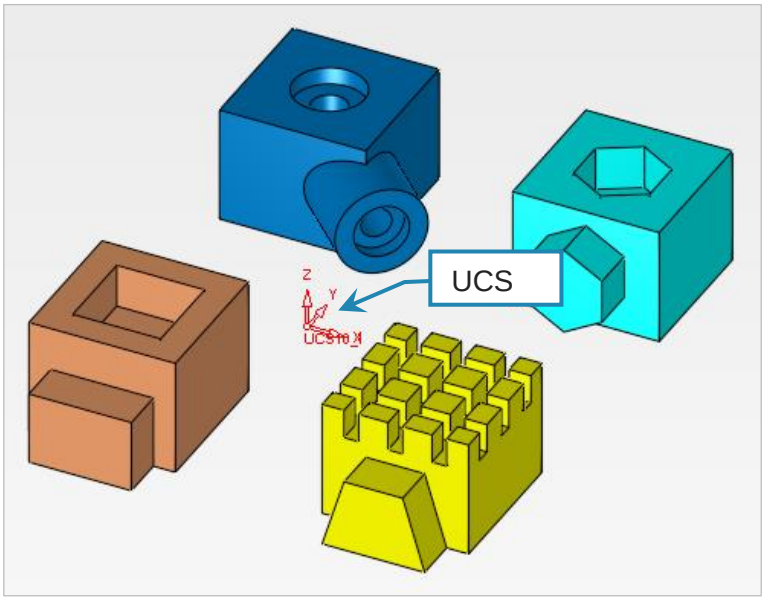
Point

There are a variety of types of points: End point, Mid point, Center point, Intersection point, UCS point and more.



UCS

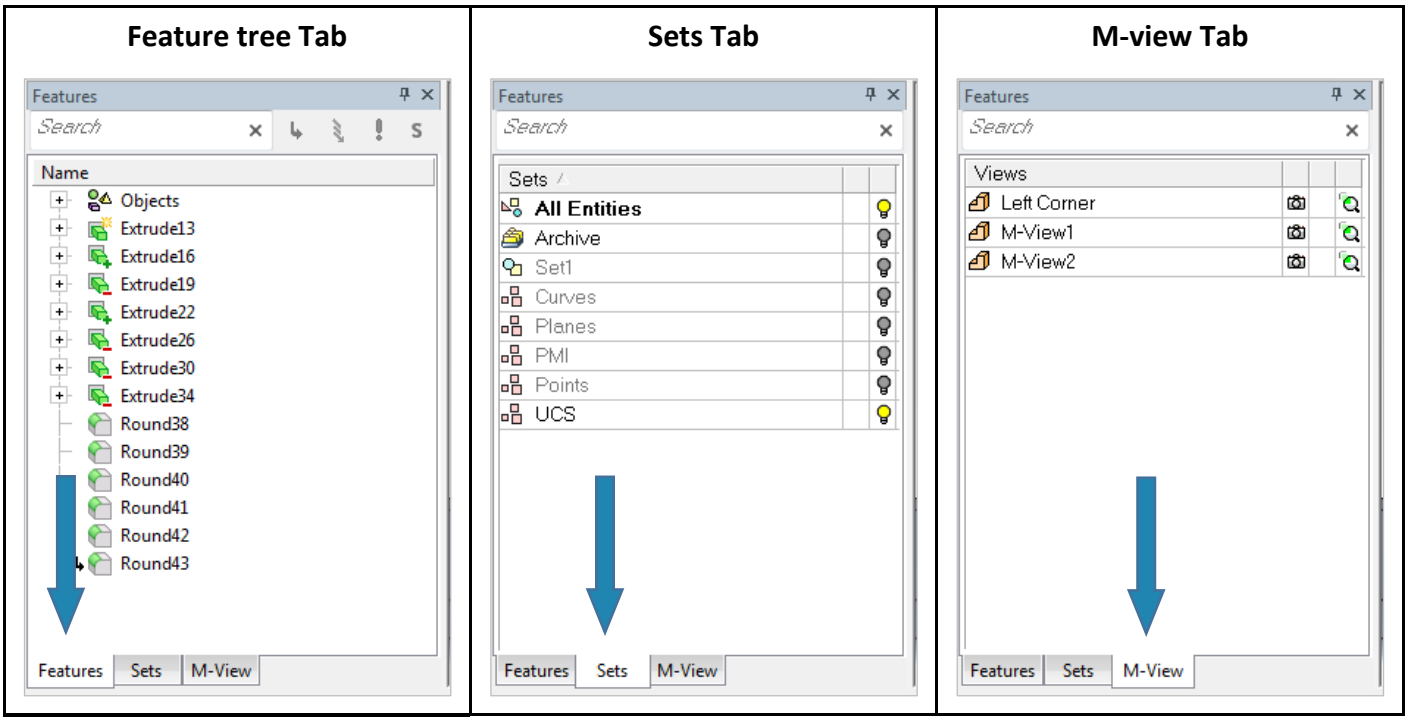
UCS is User Coordinate Systems. UCS10_1 is the "center" of the volume of each part file.



Features Tree

On the bottom of the Features Tree there are 3 tabs:

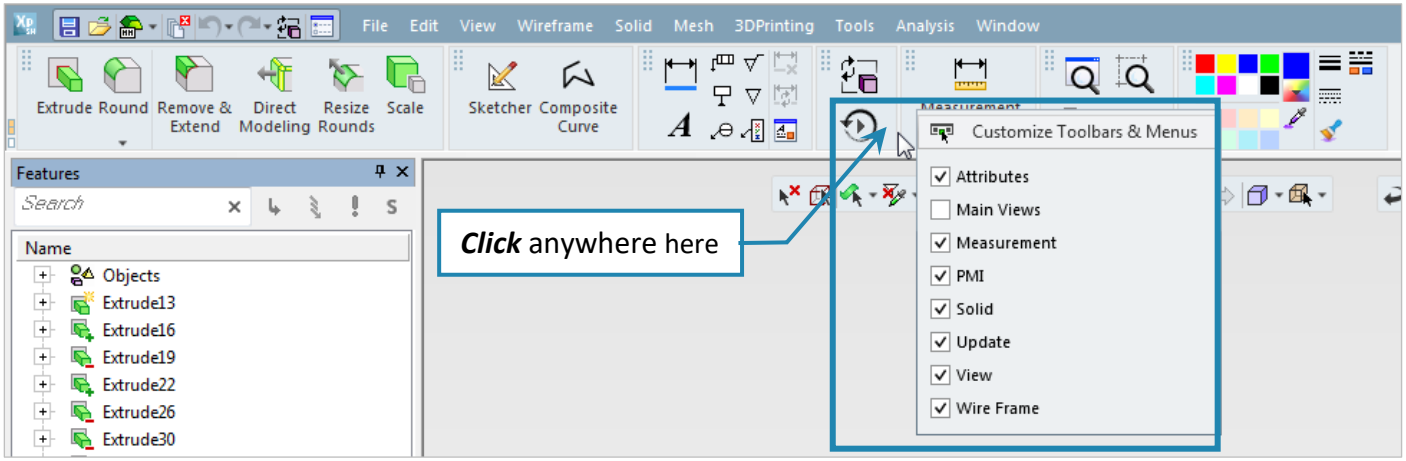
- **Features Tree** – where the used commands are ordered.
- **Sets** – where you can use pre-defined sets or define new ones according to his entity selection.
- **M-View** – where you can define more screen viewpoints in addition to the normal views.



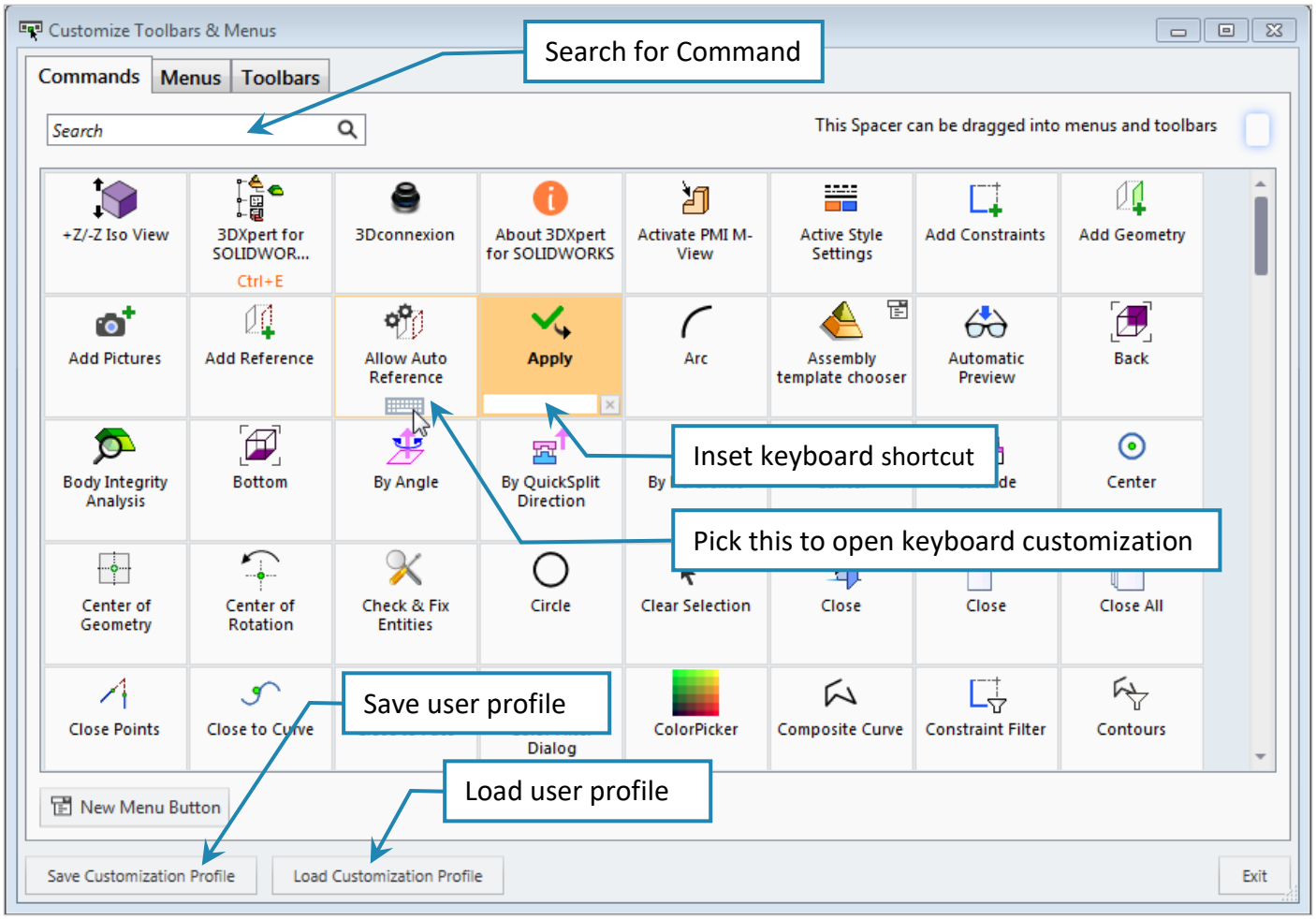
Toolbars and Keyboard customization

You can organize the toolbars and Keyboard customization to his own needs and perforation, choose what icons are displayed, if they are big or small and if they have a text or not.

Click (right mouse button) anywhere on the menus area will open dialog for toolbar customization:



Picking the **Customize Toolbars&Menus** will open the following window:



While this window is open, it is possible to place the mouse over iton any icon in the toolbars and click (right mouse button) to choose large icon (or small) and with text (or not).
At that time, you can drag&drop any icon from the table and to put it where he wants in the toolbar. To remove an icon ***click*** it and "Remove" or drag&drop it anywhere on the icon table.
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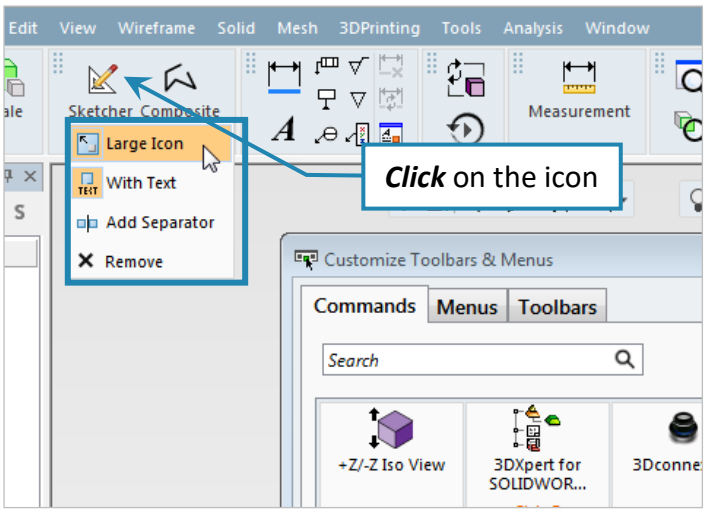
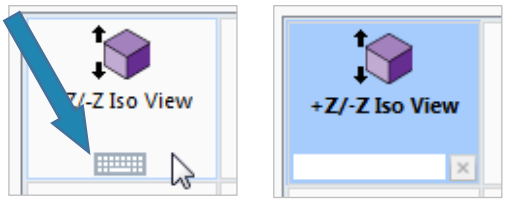


To customize the keyboard for any command needed, press at the bottom of the icon and insert any key or combination wanted.



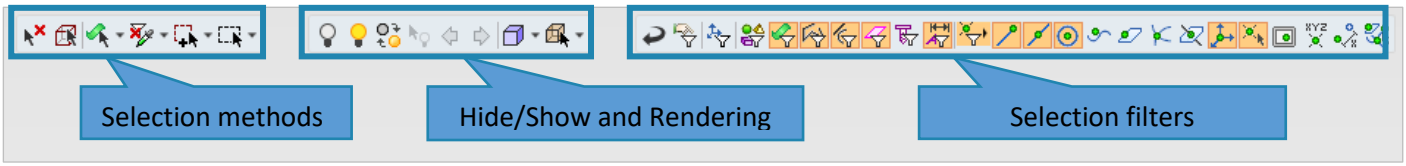
Mouse pointer

While working, the user may notice that the shape of the mouse pointer is changing according to the entity kind highlight or working status.

	Pick an **edge**
	Pick a **face**
	Pick a spline, line, or any other **curve**
	Pick a **composite** curve
	Pick an **endpoint** of a curve or edge
	Pick the **midpoint** of a line, circle, arc, or ellipse
	Pick the **center point** of a circle, arc, or ellipse
	Pick the **point that is closest to a picked edge or curve**
	Pick the **point that is closest to the picked position on a face**
	Pick an **intersection point**
	Pick a **piercing point**
	Pick a Toolpath **point**
	Pick a **UCS**
	Pick a **pre-defined** point
	Pick a **Key In** point
	Pick a **sketch**
	Pick a **plane**
	Pick an open or closed solid **object**

On screen Menu

On screen Menu are the 3 lumps of icons at the top of the graphic area.
The right lump is the **Selection filters,** the central lump is for **Hide** and **Show** and **Rendering** presentation of the model. The left lump is for **Selection methods**.



Selection filters are a basic "tool" which control the way that we select entities. Each command at each state of this command, the **Selection filters** automatically changed by the system. The filters state are predefined to the most common and useable status of that command. From time to time, according the user needs it is possible to change the filters state and to get more functionality from the command.

	Reset	Reset filters to default if needed – Reset will be done on exit command
	Keep Filters	Keeps user changes in filter state until release and reset
	Filter UCS	Open UCS Manger to control the display of multiple UCSs
	Object	Enable/Disable select of Objects
	Face	Enable/Disable select of Faces
	Sketcher & Composite	Enable/Disable select of Sketcher & Composite
	Edges & Curves	Enable/Disable select of Edges & Curves
	Datum	Enable/Disable select of Datum's
	Threads	Enable/Disable select of Threads attribute
	PMI	Enable/Disable select of PMI
	Points menu extension	Open the filter point menu extension
	End point	Enable/Disable select of End point
	Mid point	Enable/Disable select of Mid point
	Center point	Enable/Disable select of Center point
	Close to curve point	Enable/Disable select of Close to curve point
	Close to face point	Enable/Disable select of Close to face point
	Intersection point	Enable/Disable select of Intersection point
	Pierce point	Enable/Disable select of Pierce point
	UCS point	Enable/Disable select of UCS point
	Point	Enable/Disable select of Point
	Key in point	Enable/Disable select of Key in point
	Screen point	Enable/Disable select of point on screen
	Delta from point	Enable/Disable adding Delta to any other selected point
	Multiple points	Enable/Disable select of multiple kinds of points