

# *DesignWave Help*

## **Finding Help**

For contents, an index, and keyword searches, press this button.

```
{button Help Topics,FD() }
```

## **Context-Sensitive Help**

See [Using Context-Sensitive Help](#) for how to get context-sensitive help on commands, messages, and dialog windows.

This file holds glossary terms which are used in popups.

Topics in this file should not contain jumps, but they can contain further popups for related terms.

Only the first instance of a related term should be shown as a popup.

The term being defined should be shown bold for every instance in its text.

Formatting of text in popup windows can produce errors if sentence full stops are followed by two spaces. So they must be followed by a single space in this file. These errors do not occur in main windows.

An [object](#) is said to be **associative** if it updates automatically whenever other objects on which it depends change. For example, dimensions in DesignWave are **associative** because they update automatically when the model is changed.

As you move the mouse pointer over [objects](#) displayed in a window, the objects light up to indicate that they are selectable. This behavior is known as **pre-selection highlighting**.

When selecting [objects](#), if you press the left mouse button down and drag the cursor, a dynamic box appears. When you release the button, all objects entirely inside the box will be selected. This is known as **box-selection**.

**Object** is the generic term for an entity in DesignWave. [Edges](#), [faces](#), [lines](#), and [callouts](#) are all examples of **objects**.

While you are creating or modifying an object by [dragging](#) the cursor, DesignWave gives you real-time or **dynamic feedback** to show what the object will look like if you release the mouse button.

Each tool you run places you in an interaction state that determines the behavior of the mouse and keys. This is known as the interface **mode**. You can be in a selection **mode**, such as selecting [lines](#), selecting [edges](#), selecting [faces](#), or selecting [annotations](#). Other **modes** include creating circles or trimming line segments.



Moving the cursor with the left mouse button held down is also known as **dragging**.

A CAD system is said to be **parametric** if the models you create with it are driven by numeric parameters. You can change the parameters and the CAD system can update the model automatically. DesignWave is a **parametric** since you can edit [feature](#) properties and update the design afterwards.

You create and detail [solid models](#) in DesignWave by creating **features**. Each **feature** adds more shape to the model. The **feature** properties can be edited later to change the model.

Unlike "wire-frame models", which contain only 3D lines, and "surface models", which contain unconnected 3D surfaces, **solid models** contain a complete and unambiguous representation of a rigid physical shape. A **solid model** describes [faces](#) and [edges](#), and knows how they are connected together to define solid volumes.

An **edge** is the boundary between two adjacent [faces](#) in a [solid model](#).

A **face** is an area of the surface of a part whose form is defined by an underlying 3D surface. **Faces** meet at edges to form solids as if they were sewn together like a 3D patchwork.

**Lines** are created in [sketches](#) which belong to [workplanes](#). **Lines** are used for many things, such as to create [profiles](#) for [features](#), to draw section cuts to define section views, and to create drawing frames.

**Annotations** are objects which represent explanatory information and are created in the context of a drawing. Examples of **annotations** include dimensions, [callouts](#), leaders and cross hatching.



A **sketch** is a collection of [lines](#) which has a name. **Sketches** belong to [workplanes](#).

As you create [lines](#), they are added to the **active sketch**. Only one [sketch](#) can be active.

A **workplane** is a plane in 3D space that you can create and name. A **workplane** can contain any number of [sketches](#).

The **active workplane** is the [workplane](#) parent of the [active sketch](#).

A **profile** is a planar cross section that you create as input to many types of [feature](#). A **profile** is defined by a [sketch](#). The [lines](#) in the sketch must form closed loops with no intersections. There can be inner loops, or “holes”, but there must be no further loops within them.

A **mating condition** is a relationship between two components in an assembly. Examples of **mating conditions** are Align Planes, Mate Planes, Center Axes and Orient Axes.

A **callout** is a piece of textual information shown on a drawing. A dimension **callout** shows the value of a dimension. A note **callout** displays a note. A tolerance **callout** shows a feature control frame for a geometric tolerance. By using copy and paste, you can create more than one **callout** for the same piece of information.

A **callout group** is a set of [callouts](#), formatted into rows. Whenever you see a single callout, it actually belongs to a **callout group** consisting of just one callout. You can insert, delete and move callouts within a **callout group**.



A **leader** is the [annotation](#) that consists of a line or series of lines connecting a [callout group](#) to a termination point. The termination point can be attached to a [feature](#) or it can be free standing in the drawing.

A **drawing feature** is something that can be dimensioned to and includes edges and faces in a model view as well as center lines and center points generated in the drawing.

**Center lines** are created as by-products of [annotation](#) objects, such as dimensions, or from objects created by the center line tools. **Center lines** are selectable as [features](#).

**Center points** are created as by-products of [annotation](#) objects, such as dimensions to hole features, or from objects created by the center line tools. **Center points** are selectable as [features](#).

Whenever you are invited to select points in the [active workplane](#), existing points are pre-highlighted as black squares as you move the cursor over them. These are called **attraction points**. Large black squares indicate precise points: end-points, mid-points, intersection points, and centers of circles or arcs. Small black squares indicate a point on the line close to the cursor.

The **work axes** define a local 2D  $(x,y)$  coordinate system for the [active workplane](#). All coordinates that are input and displayed are relative to the **work axes**.

