



IED Software Glossary

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A

Angle Constraint: Establishes a specific angular relationship between two edges or planar faces on two components parts.

Assembly Browser: A window that shows the content of an assembly in a hierarchy. Components are listed in the order in which they are placed in the assembly.

Assembly Constraint: Parameters that remove the degrees of freedom between two selected components, positioning them relative to one another.

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B

Balloons: A circled number identifying each part shown in an assembly drawing. Also called a ball tag or bubble number.

Base Component: The first component placed in an assembly and should be the fundamental part or sub-assembly, such as a frame or base plate, on which the rest of the assembly is built. Also referred to as a Parent Part.

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C

Coil: To create a helix-based feature such as a coil spring, or threads on a cylindrical surface.

Coincident: Constrains two points together or one point to a curve. When this constraint is applied to the center points of two circles, arcs, or ellipses, the result is the same as that of a concentric constraint.

Collinear: Lines or points belonging to the same line or an extension of that line.

Collision Detection: A CAD feature that is used to check for interferences among components in a 3D CAD solid-model assembly.

Concentric: Constrains two arcs, circles, or ellipses to the same center point.

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D

Drive Constraint: Simulates mechanical motion by driving a constraint through a sequence of steps. The component is repositioned sequentially by specified increments and a distance.

Driven Dimension: A dimension that does not constrain the sketch or reflect a current value of the geometry. They are enclosed in parentheses to distinguish them from normal (parametric) dimensions.

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Fixed Constraint: A constraint that locks points and curves in position relative to the sketch coordinate system.

Flush: An assembly constraint that make one surface level or even with another surface on a different part.

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Grounded Component: A component within an assembly whose orientation and position are locked in space without the use of parameters such as assembly constraints.

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Horizontal 2D Constraint: Causes lines, ellipse axes, or pairs of points to lie parallel to the X axis of the sketch coordinate system.

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I

Increment: A drive constraint selection that allows the user to select the total distance of travel, number of steps, or degrees.

Insert: A constraint that selects geometry on two components to constrain together. One or more curves, planes, or points may be specified to define how the components fit together.

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Loft: The creation of a solid or surface by blending two or more shapes that are located on different planes.

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M

Mate: A CAD assembly constraint that positions selected components face to face or adjacent to one another with faces flush. Other types of geometry that work with this constraint are curves, planes, edges, or points.

Mid-Plane Extrusion: Allows a profile to be extruded in both directions an equal amount of the total distance specified.

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Parallel: Occurs when two or more lines have equal distance between them and will never intersect.

Parametric Dimension: Size constraints that change when a change has been made to a

dimension value. A powerful capability of parametric dimensions is the ability to control them. The user can specify dimensions with parameters in a spreadsheet, control dimensions through equations to maintain proportions between geometric elements, or as constant values. When changes are made, the changes get updated wherever that sketch or part occurs in the database.

Path: A sketch that must be on a plane that intersects with the sweep profile plane. The path is sketch geometry that the profile follows during a sweep operation.

Patterning Component: Duplicates one or more components and arranges the resulting occurrences in a circular or rectangular pattern.

Perpendicular Constraint: A constraint that causes selected lines, curves, or ellipse axes to lie at right angles to one another.

Profile: A 2D shape that can be used to generate a 3D solid.

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Range of Motion: The path a component or linkage travels when a drive constraint is applied.

Repetition: A drive constraint option that has Start/End or Start/End Start as selections.

Replace Component: An assembly function that allows the user to place a new component in the same location as the original component, but with all assembly constraints deleted. The origin of the replacement component is coincident with the origin of the replaced component.

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Shell: The removal of material from a part interior, creating a hollow cavity with walls of a specified thickness.

Sweep: To extrude a shape along a curved or otherwise irregular path.

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Tangent: A line, arc or circle that intersects a circle or an arc at one and only one point.

Transitional: A type of assembly constraint that maintains contact between the selected faces of two components as they slide across each other.

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Vertical 2D Constraint: The constraint that causes lines, ellipse axes, or pairs of points to lie parallel to the Y axis of the coordinate system.

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Work Axis: A construction line of infinite length that is parametrically attached to a part.

Work Plane: An infinite construction plane that is parametrically attached to a component feature. Work planes may be placed at any orientation in space, offset from existing part faces, or rotated around an axis or edge on a part face. A work plane can be designated as a sketch plane and can be dimensioned to or constrained to other features. It is useful when no planar face exists to use as a sketch plane.

Work Point: A parametric construction point that can be placed on part geometry, construction geometry, or in 3D space.

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