



Andhra Pradesh State Skill Development Corporation



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AutoCAD(CIVIL)

Parametric Tab



VIEW AND PARAMETRIC TABS

PARAMETRIC TAB

GEOMETRIC CONSTRAINTS

You can specify geometric constraints between 2D objects or points on objects. When you later edit the constrained geometry, the constraints are maintained.



Coincident

Constrains the two points to coincide, or a point to lie anywhere on an Object or (the extension of an object)

Process of using coincident Constraint

- Select Coincident command from Geometric Constraint panel
- Select First Point of an object
- Select Second point of Another object
- Second object will coincide with respect to first one
- Two objects will maintain the Coincident Relationship.

Parallel

Constraints two lines to maintain the same angle.

Process of using parallel constraint

- Select Parallel command from Geometric Constraint panel or GC PARALLEL enter
- Select First object
- Select second object to be parallel to the first object
- Second object will parallel with respect to first Object
- Two objects will maintain the Parallel Relationship

Tangent

Constraints two curves to maintain a point of tangency to each other or their extensions.

Process of using tangent constraint

- Select Tangent command from Geometric Constraint panel or GCTANGENT enter
- Select First object(Line, Curved Objects)
- Select second object(Line, Curved Object) to be Tangent to First object
- Second object will Tangent with respect to first Object
- Two objects will maintain the Tangent Relationship.

Collinear

Causes two or more line segments to lie along the same line.

Process of using collinear constraint

- Select Collinear command from Geometric Constraint panel or GCCOLLINEAR enter
- Select First object (Line)
- Select second object (Line)t to be Collinear to the First object
- Second object will Collinear with respect to first Object



- Two objects will maintain the Collinear Relationship.

Perpendicular

Causes selected lines to lie 90 to one another

Process of using perpendicular constraint

- Select Perpendicular command from Geometric Constraint panel or PERPENDICULAR enter
- Select First object (Line)
- Select second object (Line) to be Perpendicular to the First object
- Second object will Perpendicular with respect to first Object
- Two objects will maintain the Perpendicular Relationship.

Smooth

Constrains a spline to be contiguous and maintain G2 continuity with another spline, line, arc, or polyline

Process of using smooth constraint

- Select Smooth command from Geometric Constraint panel or GCSMOOTH enter
- Select First object (Spline)
- Select second object (Spline) to be Smooth to the First object
- Second object will smooth with respect to first Object
- Two objects will maintain a smooth Relationship.

Concentric

Constraints two arcs, circles, or ellipses to the same center point

Process of using concentric constraint

- Select Concentric command from Geometric Constraint panel or GCConcentric
- Select First object(Curved Object)
- Select second object(Curved Object) to be concentric to the First object
- Second object will Concentric with respect to first Object
- Two objects will maintain the Concentric Relationship.

Horizontal

Causes lines or pairs of points to lie parallel to the X axis of the current coordinate system

Process of using horizontal concentric

- Select horizontal command from Geometric Horizontal panel or GCHorizontal
- Select First object (Line)
- Select second object (Line) to be Horizontal to the First object
- Second object will Horizontal with respect to first Object
- Two objects will maintain the Horizontal Relationship.

Symmetric

Causes selected objects to become symmetrically constrained about a selected line.

Process of using symmetric Constraint

- Select symmetric command from Geometric constraint panel or GCSymmetric
- Select First object
- Select second object to be Symmetric to the First object
- Second object will Symmetric with respect to first Object
- Two objects will maintain the Symmetric Relationship.



fix

Locks points and curves in position.

Process of using fix Constraint

- Select Fix command from Geometric Constraint panel or GCFix
- Select First object
- Select second object to be Fix to the First object
- Second object will fix with respect to first Object
- Two objects will maintain the fixed Relationship.

Vertical

Causes lines or pairs of points to lie parallel to the Y axis of the current coordinate system

Process of using vertical Constraint

- Select Vertical command from Geometric Horizontal panel or GCVertical
- Select First object
- Select second object to beVertical to the First object
- Second object will Vertical with respect to first Object
- Two objects will maintain the Vertical Relationship.

Equal

Resizes selected arcs and circles to the same radius, or selected lines to the same length.

Process of using equal Constraint

- Select Equal command from Geometric Constraint panel or GCEqual enter
- Select First object
- Select second object to be Equal to the First object
- Second object will equal with respect to first Object
- Two objects will maintain the equal Relationship.

Show/Hide

Displays or hides the geometric constraints in the Drawing

Process of using Show/Hide

- Select show/hide command from geometric constraint panel
- Select the objects that you need to show or hide
- The geometric constraint symbols (like Concentric, parallel, tangent, perpendicular, vertical... etc.) which belong to the selected objects will be Shown/Hidden.

Show all

Displays all the geometric constraints in Drawing

Process of using Show all

- Select show all command from geometric constraint panel
- All the geometric constraint Symbols which are presented in the current drawing sheet will be shown.

Hide all

Hides all the geometric constraints in Drawing

Process of using Hide all

- Select hide all command from geometric constraint panel
- All the geometric constraint Symbols which are presented in the current drawing sheet will be hidden.



DIMENSIONAL CONSTRAINTS



Dimensional constraints control the size and proportions of a design

LINEAR DIMENSIONAL CONSTRAINT

Constrains the Horizontal or vertical distance between two points

Process of using Linear

- Select Linear command from dimensional constraint panel or DCLINEAR enter.
- Select first point of an object
- Select second point of an object to be constrained
- Place the dimension line with Desired distance
- The distance between two points will be constrained

ALIGNED

Constrains the aligned distance between two points.

Process of using Aligned

- Select aligned command from dimensional constraint panel or DC ALIGNED enter
- Select first point of an object
- Select second point of an object to be constrained
- Place the dimension line with Desired distance
- The distance between two points will be constrained

RADIUS

Constrains the radius of a circle or an arc.

Process of using Radius

- Select radius command from dimensional constraint panel
- Select an arc or a circle to be constrained
- Place the dimension line with Desired distance
- The radius value will be constrained.

ANGULAR

Constrains the angle between line or polyline segments, the angle swept out by an arc or a polyline arc segment, or the angle between three points on objects.

Process of using Angular

- Select angular command from dimensional constraints Panel
- Select First object (line, Arc)
- Select second object (line, Arc) to be constrained
- Place the dimension line with Desired distance



- The Angle value will be constrained.

DIAMETER

Constrains the diameter of a circle or an arc.

Process of using Diameter

- Select diameter command from dimensional constraints Panel
- Select an arc or a circle to be constrained
- Place the dimension line with Desired distance
- The Diameter value will be constrained.

CONVERT

Converts associative dimensions to dimensional constraints.

Process of using Convert

- Select convert command from dimensional constraints panel
- Select a dimension to be converted into constrain
- The General dimension will be converted into dimensional constraint.

SHOW/HIDE

Displays or Shows the Dimensional Constraints for a selected Objects in the Drawing

Process of using Show/Hide

- Select show/hide command from geometric constraint panel
- Select the objects that you need to show or hide
- The Dimensional Constraints (like Linear, aligned, radius... etc.) which belongs to the selected objects will be Shown/Hidden.

SHOW ALL

Displays all the Dimensional Constraints in the Drawing

Process of using show all

- Select show all command from geometric constraint panel
- All the Dimensional constraints which are presented in the current drawing sheet will be shown .

HIDE ALL

Hides all the Dimensional Constraints in the Drawing

Process of using Hide all

- Select hide all command from Dimensional constraint panel
- All the Dimensional constraints which are presented in the current drawing sheet will be hidden.

MANAGE CONSTRAINTS





DELETE CONSTRAINTS

Removes all geometric and dimensional constraints from a selection set of objects.

Process of using Delete Constraints

- Select Delete Constraints Command from Manage Panel
- Select Objects to delete the geometric and dimensional constraints
- The geometric and dimensional constraints will be deleted.

PARAMETER MANAGER

Opens the Parameters Manager palette that includes all dimensional constraint parameters, reference parameters, and user variables in the current drawing.

Process of using parameter manager

- Select parameter manager tool from manage panel
- In parameter manager palette you can refine the value for the dimensional constraints(That Change in value reflects the object in the Drawing)
- You can Control one Dimensional Constraints with another Constraints with Expression.