

Ordinate Dimensions

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The purpose of this particular tutorial is to discuss the difference between Inventor's **two ordinate dimension commands**.

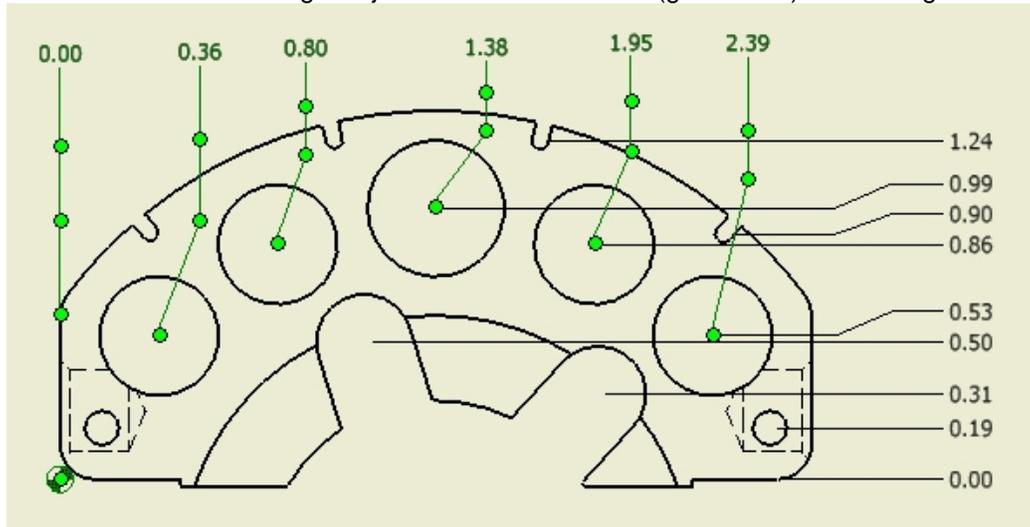
The commands are called **Ordinate Dimensions** and **Ordinate Dimension Set (O)**.

Characteristics of both dimension types

- Update their values if their origin is repositioned.
 - In the first case there is an origin object.
 - In the second case, the first dimension is the datum for the following members of the set.
- Handles for repositioning various pieces of the witness line and text.

Ordinate Dimensions

These dimensions and the origin object are shown selected (green dots) in the image below.

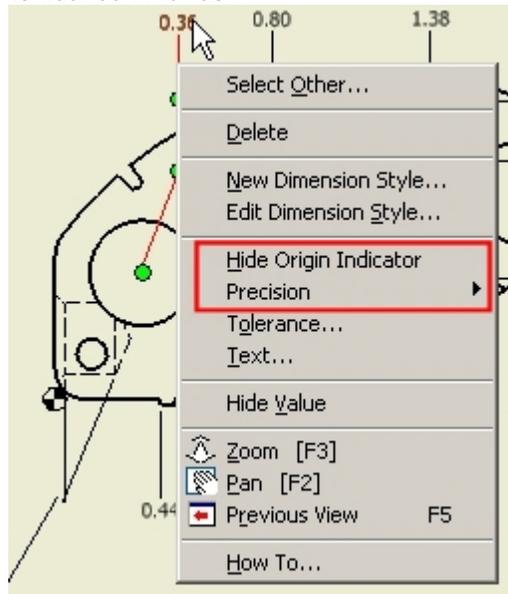


This dimension type came later to the Inventor user interface.

Unique characteristics of this dimension are:

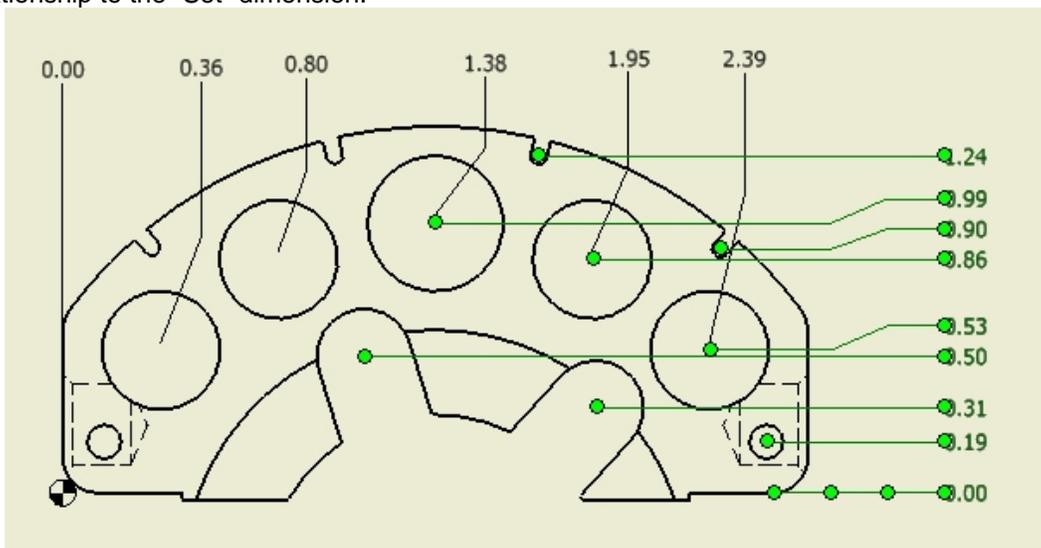
- Translation: This dimension has a more direct 1:1 relationship with the Autocad ordinate dimension and translates easily.

- It allows the creation of ordinate dimensions without a 0,0 dimension. The origin object denoting the datum for the dimension.
- It allows the creation of individual ordinate dimensions.
- Can place the origin at off geometry intersections.
- Can be edited and deleted easily without effecting other ordinate dimensions.
- Does not have “set” or family behavior.
- Will not align handles in some circumstances.
- Easily become misaligned, not easily realigned.
- In some cases, will not properly dimension intersections.
- Has an angled witness line segment that cannot be straightened.
- Aligned for the most part, but has no strong **cleanup** capability.
- Limited unique contextual commands.



Ordinate Dimension Sets

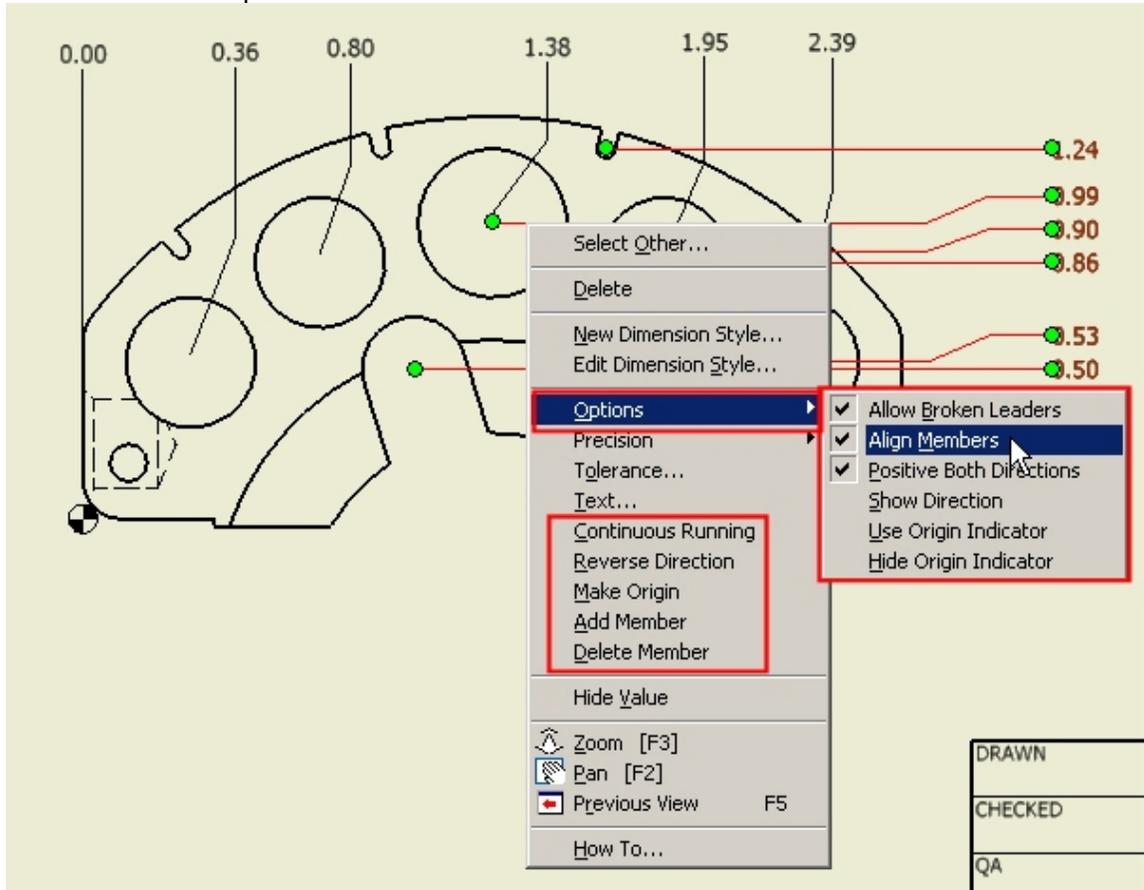
These dimensions are shown selected (green dots) in the image below. The origin object has no relationship to the “Set” dimension.



This dimension is the original Ordinate Dimension for Inventor.

Unique characteristics of this particular dimension are:

- Translation: does not map 1:1 to any Autocad dimension.
- Does have “set” or “family” behaviors that can be enforced for all or none.
- By default it aligns all dimensions in the set at one time. An override is available.
- Uniformly or individually modify the angled segment in the witness line.
- Cannot place the origin at an off geometry intersection.
- Properly dimensions intersections of lines and edges.
- Strong **cleanup** capability.
- Can use the Ordinate Dimension Origin object if desired.
- Several unique contextual commands.



Turning off the **Align Members** option allows the dimension witness lines to be modified individually for each dimension.