# 2D Drawing - Options/Properties/Styles

In this task you will learn how to insert dimensions for a given drawing, understand how to create custom styles and also specialize them for a particular dimension type using Organize Styles feature. You will also learn how to create various Dimension and General formats using Organize Formats.
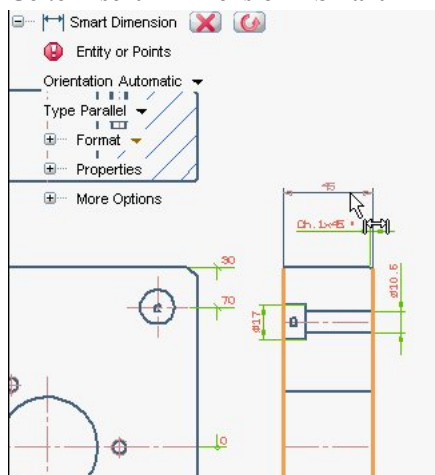
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1. Step 1 - Modifying dimension properties and style

Open the "Start.e2" file from the downloaded folder if it isn't already open. This file will reside in the files folder inside the corresponding task folder whereever it is downloaded.
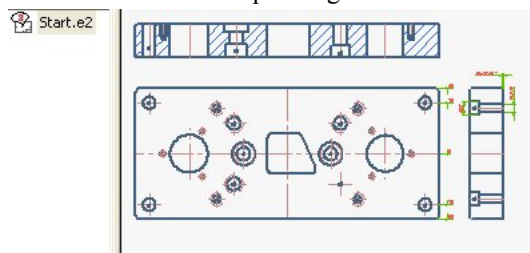

Go to **Insert**↳**Dimension**↳**Smart Dimension** and insert a dimension of 45 as shown below.


Every entity will have a set of Entity Properties. Right click on the dimension you created now and select **Properties** from the context menu.
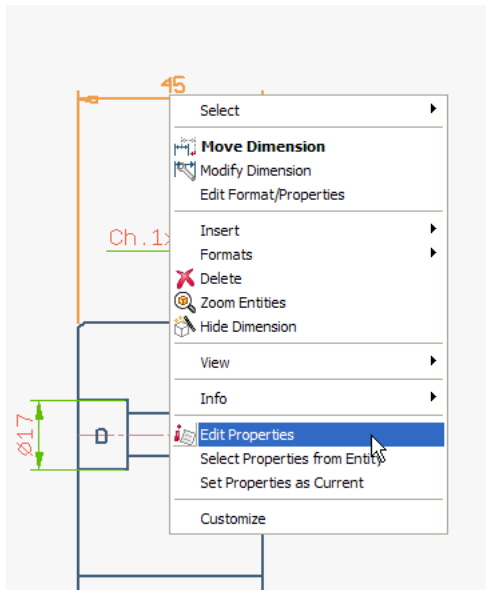
In the tree panel on the left hand side of the Entity Properties window, you will find General, Dimension and Text categories. The General category has properties like Color, Line type, Width, Layer, etc..
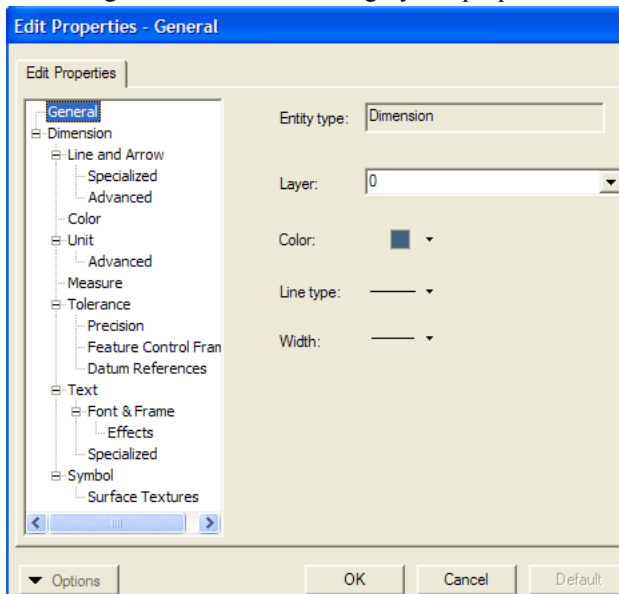

The dimension is a special entity that in addition to entity properties, it also has a style, that helps you to set other properties apart from the general properties, as listed under the Dimension category in the tree panel.
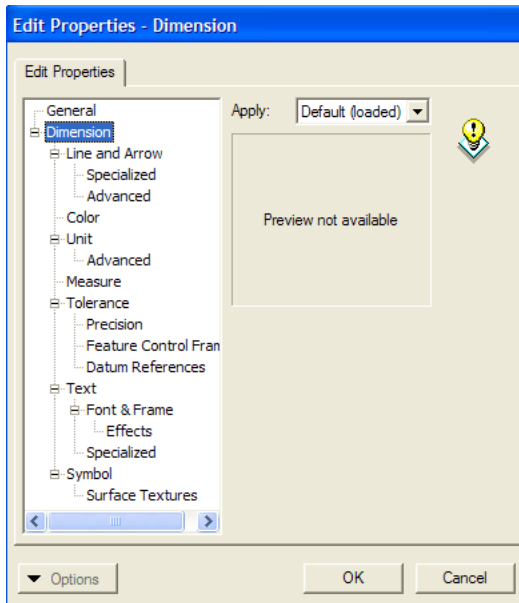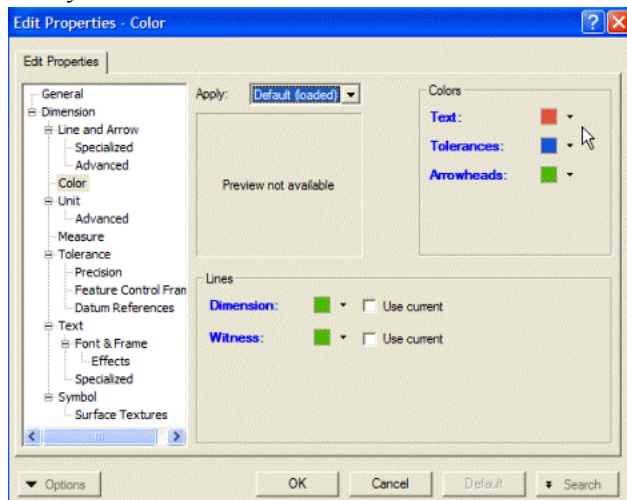
Under Dimension category, go to Color and check the color of the dimension that you created now.
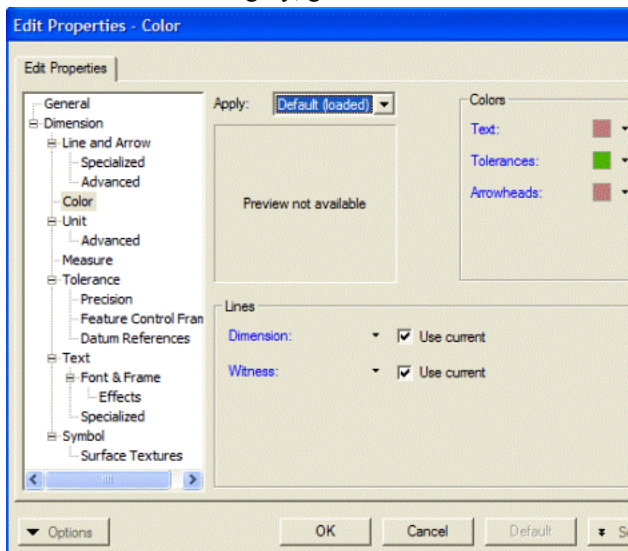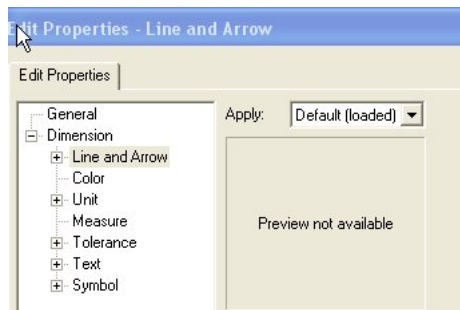

Now check the color of one of the existing linear dimensions, as shown below.
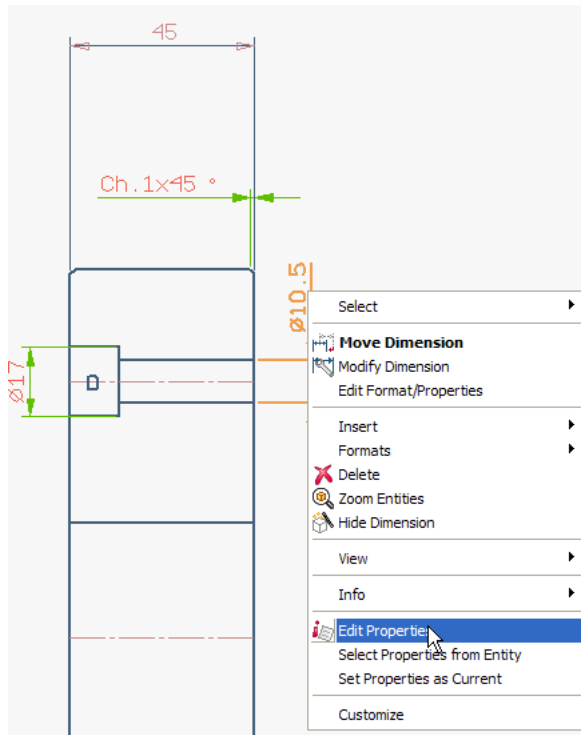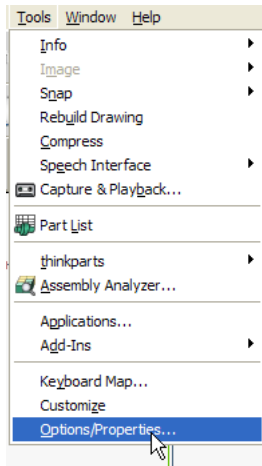
Now you can see that the color used here is different from the current color.

Even the Lines are not selected for this dimension, as you can see in the above image.

Go to **Tools➪Options/Properties**. You can check the current style and the overridden parameters set.

NOTE: Using **Tools**⇨**Options/Properties**, it is possible to make few settings, that will be applied to the entities you create henceforth.
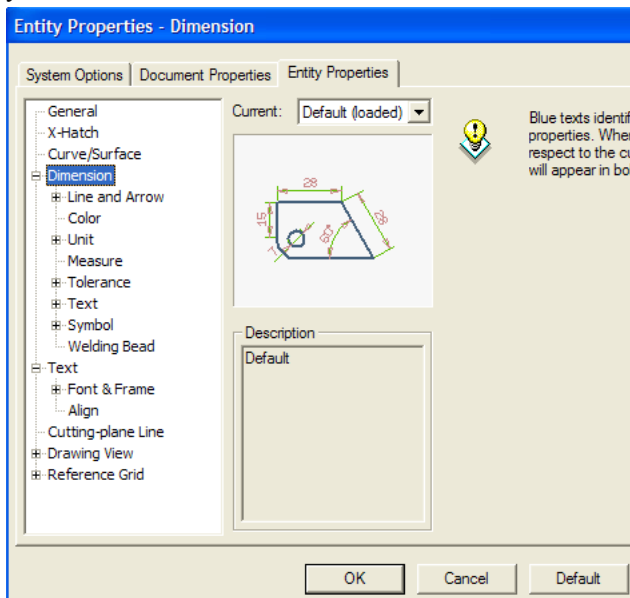
2. Step 2 - Creating custom styles

To set these properties it is advisable to create the custom style. Styles allow you to determine the appearance of many graphic elements used by thinkdesign, such as dimension colors, orientation and position, arrowheads, unit of measure, text height to name a few.
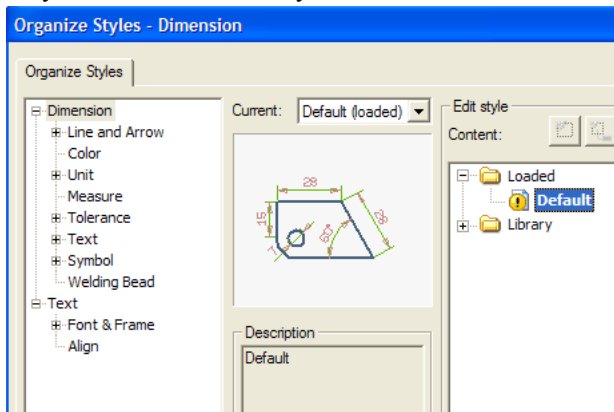
This customization helps you to define a standard that you would like to use in the drawings. Ideally you should create these custom styles once and reuse them for future jobs.
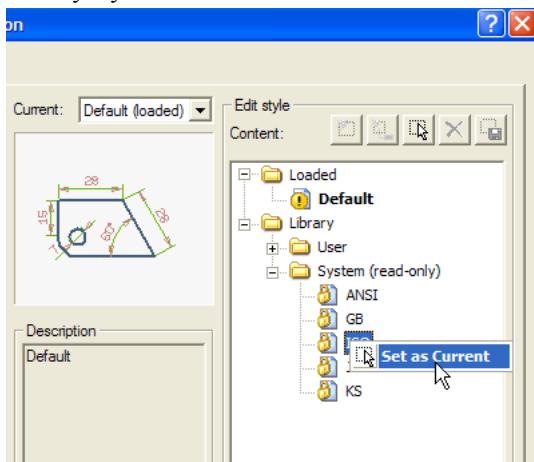
• Start Format > Organize Styles.
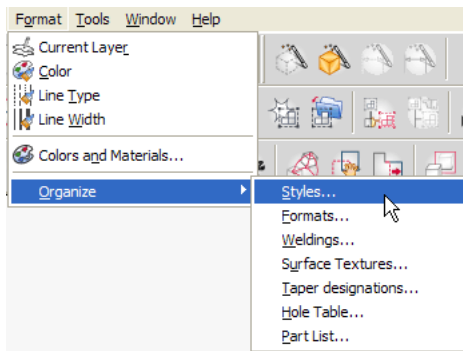
As you can see a Default style will be set as current under the Loaded style list of the Dimension category.
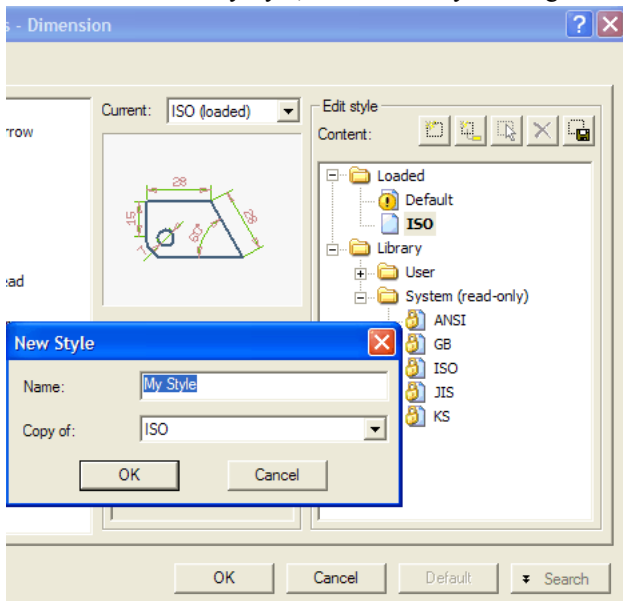

Let's create a custom style, having the basic configuration of an ISO standard. Right click on the ISO style from Library style list and select Set as Current.
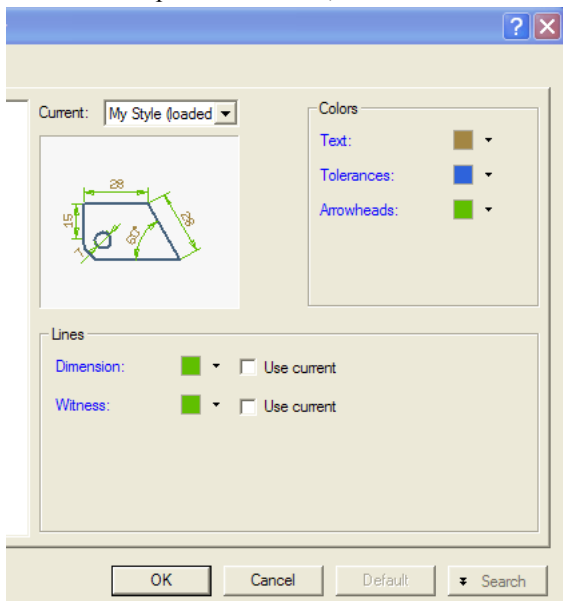

Now, right click on this new style under the Loaded style list and select New to load a new style.
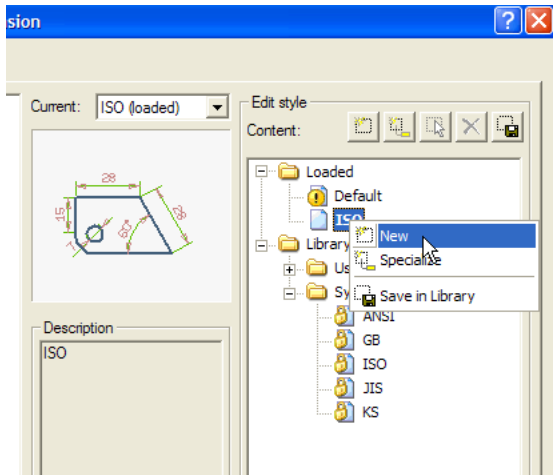
Insert the name as MyStyle, in the New Style dialog box. This style will be set as the current style.

From the tree panel on the left, click on the Color category. Set the options as shown in the image below.

Now click on the Line and Arrow category and select Thin filled arrow as the Symbol option.
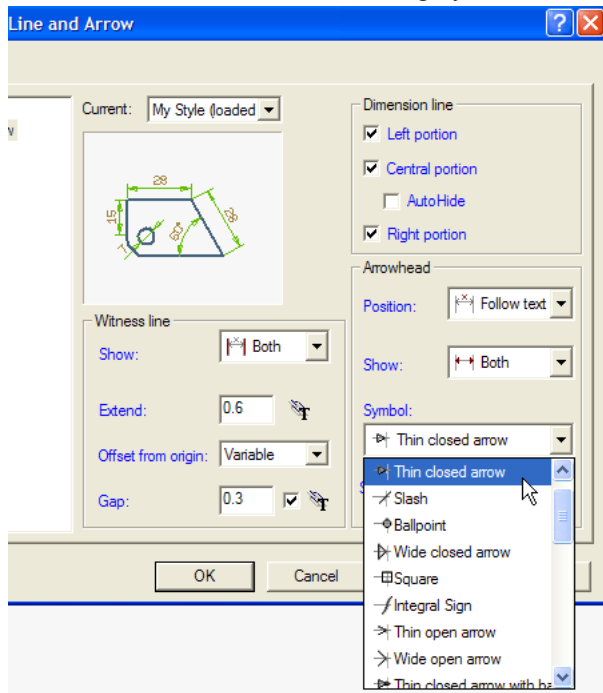

Hit OK.

Now we have created a custom style and set it as the current one. The options we have set now will not be saved in the library copy.

If you want to use these option settings for other drawing, you should do Save Style to library.
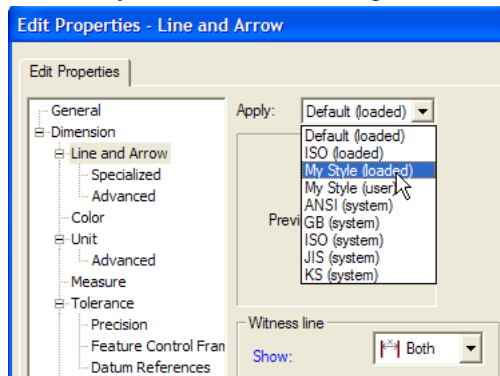
It is possible to apply this new style to existing entities:

- Select Properties from the context menu on dimension 45.

- Choose MyStyle, from the Current style drop-down list, as shown in the image below.

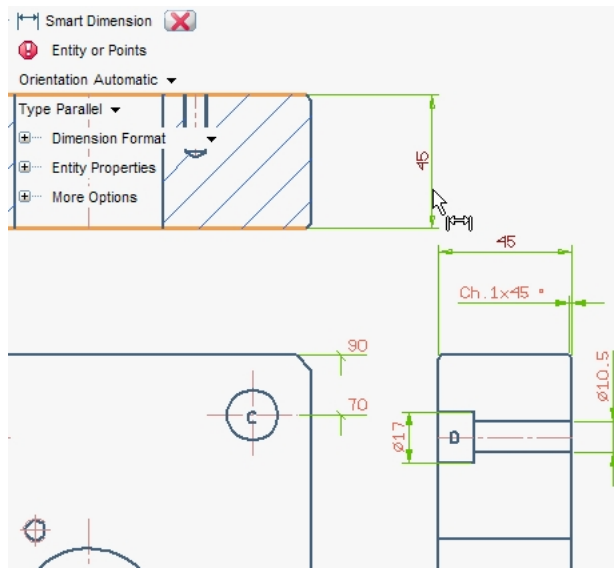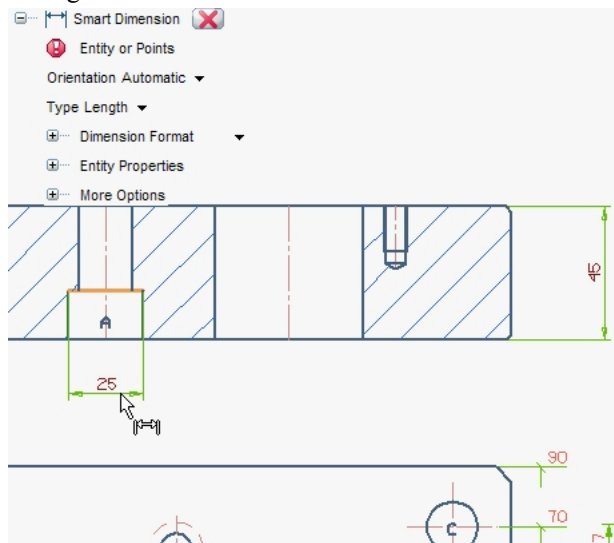- Now hit OK to apply these modifications.
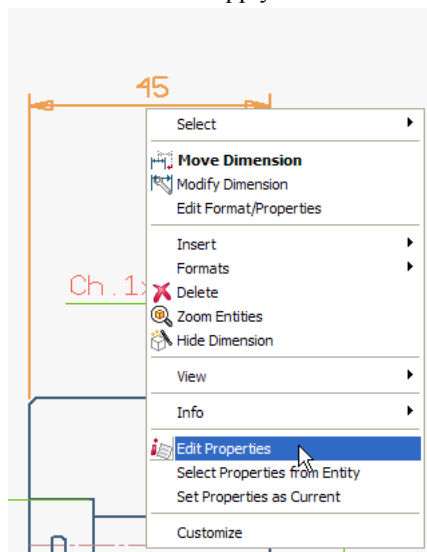
NOTE: If you hit Cancel, all changes are discharged

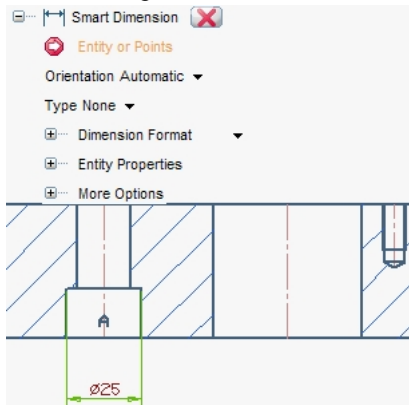Let's insert another dimension 45, as shown below.

Now let's create the dimension for the hole A. It is possible to make changes to the current style even while inserting the dimension.
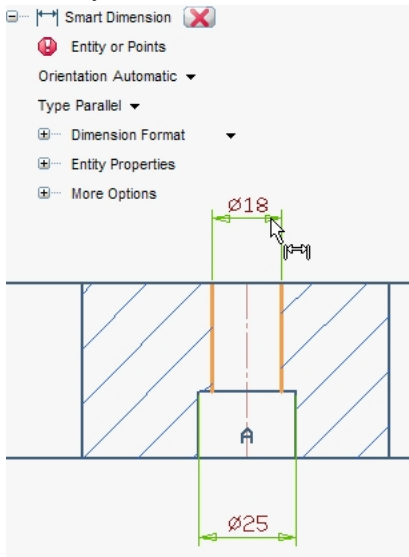

- Click on the Entity Properties option in the selection list.

- Under Symbol choose the Diameter symbol before text in the Linear section of the Symbol category.
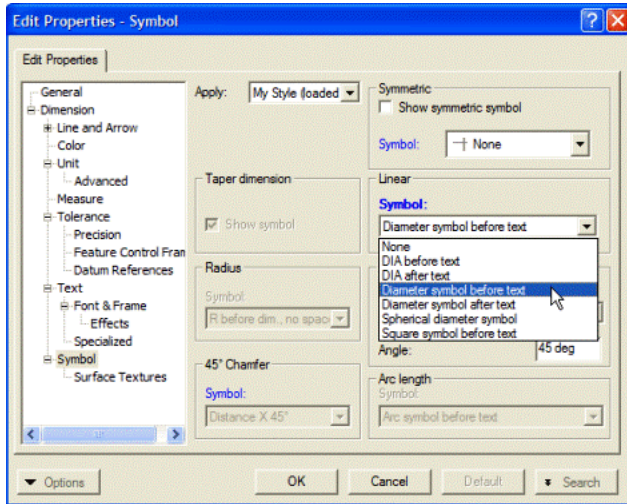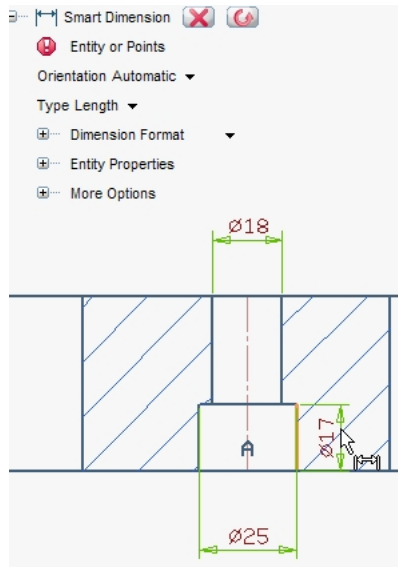
Confirm the position of dimension 25


Similarly insert dia 18 as shown.

Insert another dimension of 17, as shown below. As you can see, the changes will be applied to these dimensions also. These changes will remain until you reset the style.

NOTE: In this case we can say that the current style has an overridden property i.e., Symbol property.
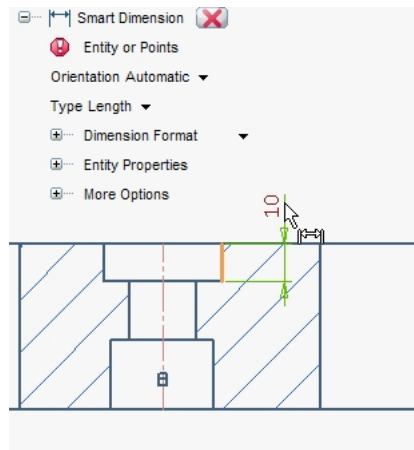
We can check this for dimension 17.

Before choosing the position, click on the Reset button ⟳ to reset the current style and then choose the position for the dimension.
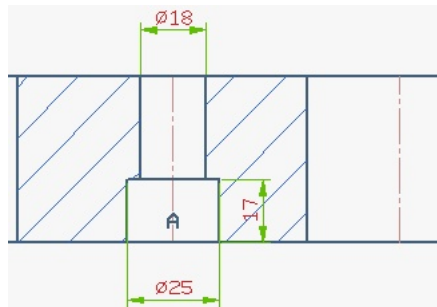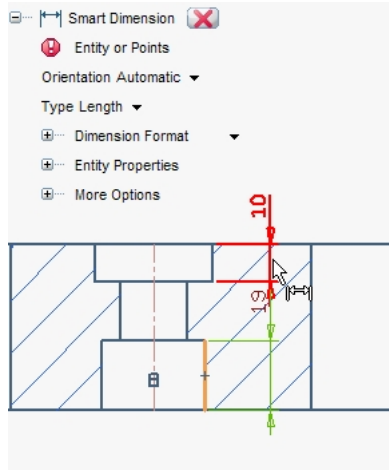

3. Step 3 - Modifying dimesion format

Now let's create the dimensions for the hole B.

- **Insert ⇨ Dimension ⇨ Smart Dimension** .
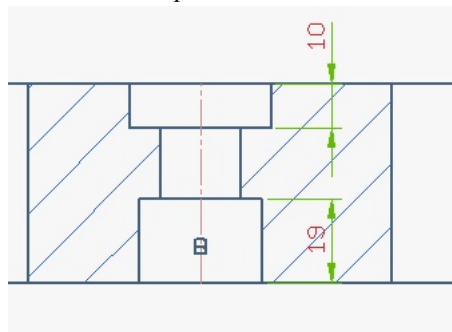
- Insert a linear dimension of 10mm as shown

It is possible to align the dimensions to each other.

- Now let's insert a dimension of 19mm.

- Then click on the dimension 10mm, to align it to 19mm that you created just now.
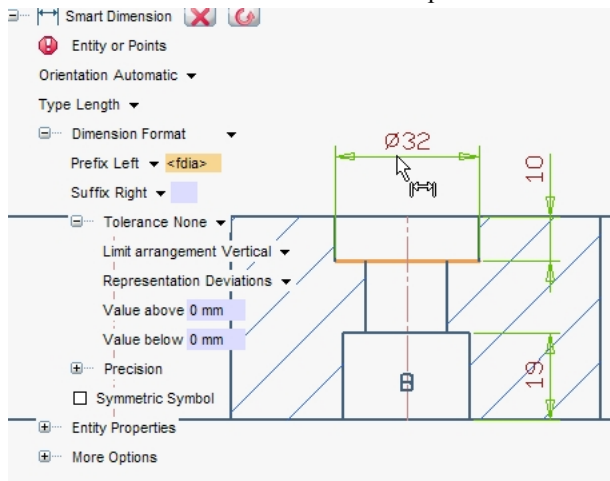

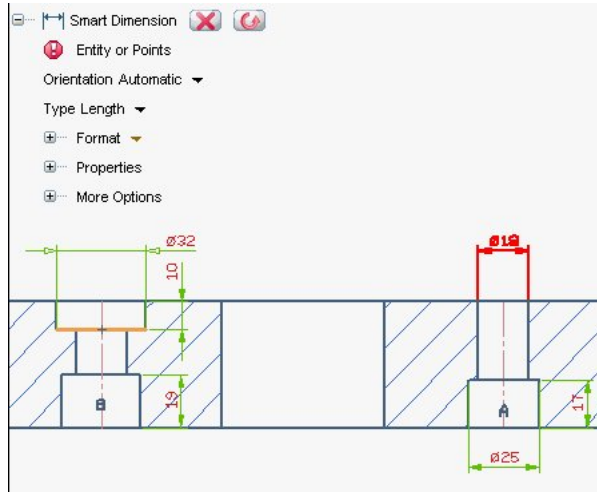- Choose the position for the dimension text.

There is another way to add the diameter symbol, while creating the dimensions. We can use the Dimension Format option under the **Smart Dimension** command.

- Click on the Dimension Format option in the selection list

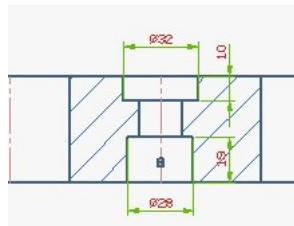- Enter the text <fdia> in the Prefix option and create a dimension of 32 as shown in the image below.

Align this dimension to dimension 18 as explained earlier.

Set the position of this dimension text as Center Fixed, as shown below.

Insert another dimension of dia 28, for the lower part of the hole B as shown below.

Close the command

Another way to reset overridden parameters, when the dimension command is closed is shown below.

• Right click on dimension and select Properties.

• under the Measure option in the Dimension category, you can see the Prefix being set to FDIA.
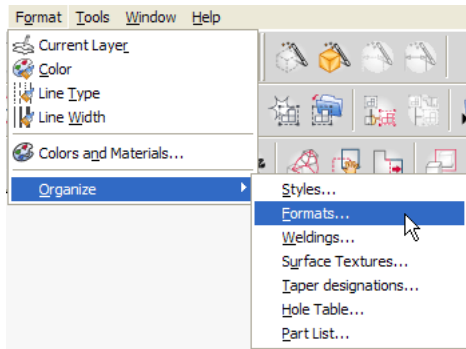
NOTE: Format is a subset of the Current style.

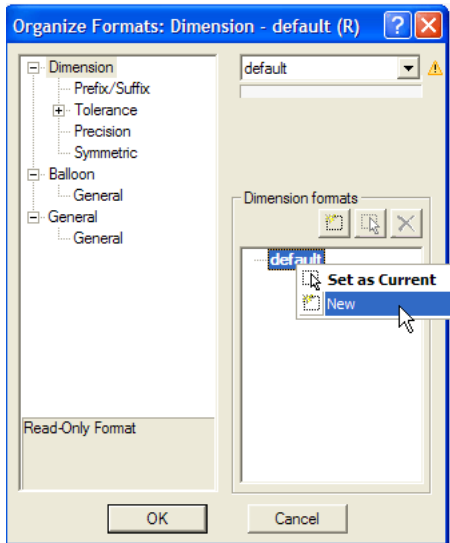In main page you could see the overridden parameter.

4. Step 4 - Creating custom dimension formats

Now we will show you how to create few formats, using Organize Formats, and use them extensively for future assignments.
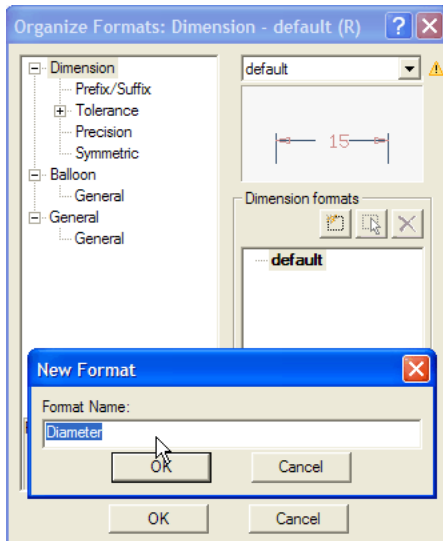
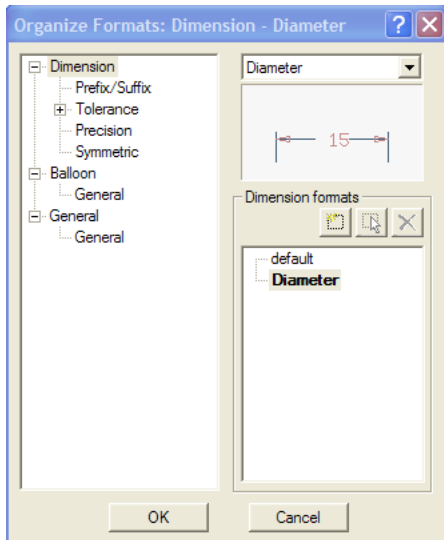• Go to **Format⇨Organize Formats**.

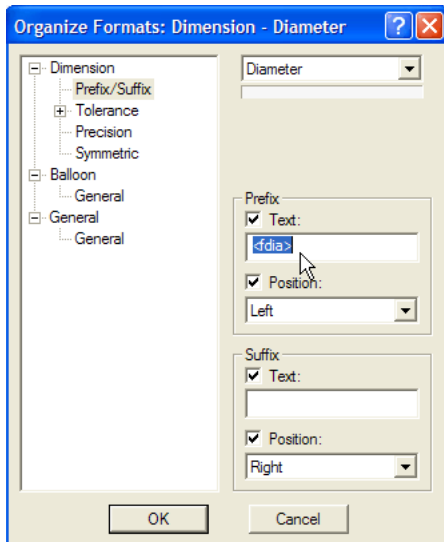Right click on Default format, under the Dimension formats section and select New.

Enter Format name as Diameter. Now this format will be set as current and you can customize it.
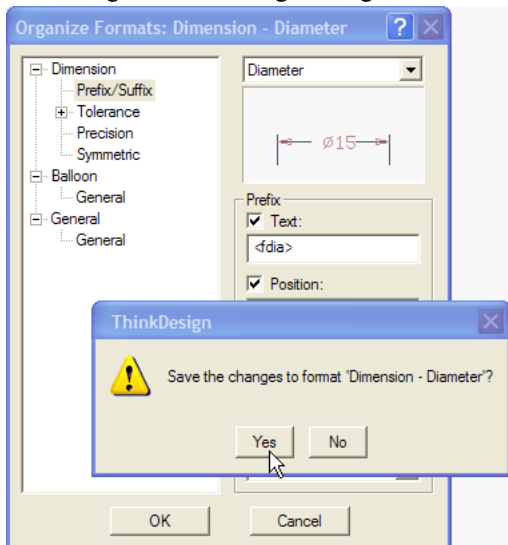
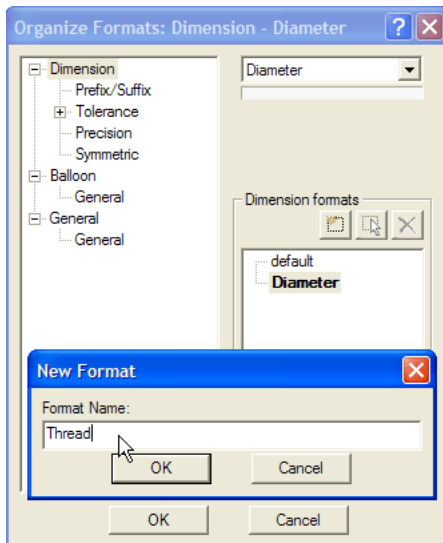Under the Prefix/Suffix category, enter the prefix text as <fdia>, as shown in the image below..

Now click on the Dimension category, in the left-hand tree panel.
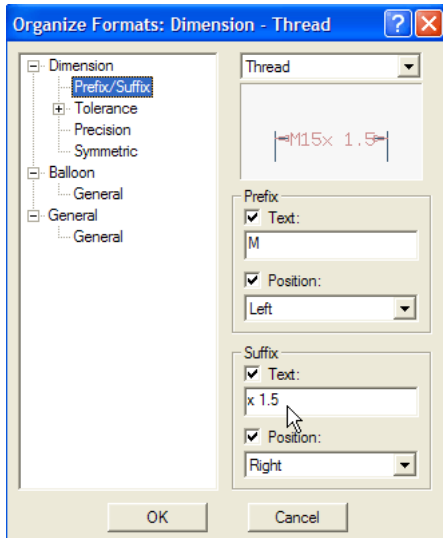
You will get the following message. Click on Yes and you can continue to create the next Format.
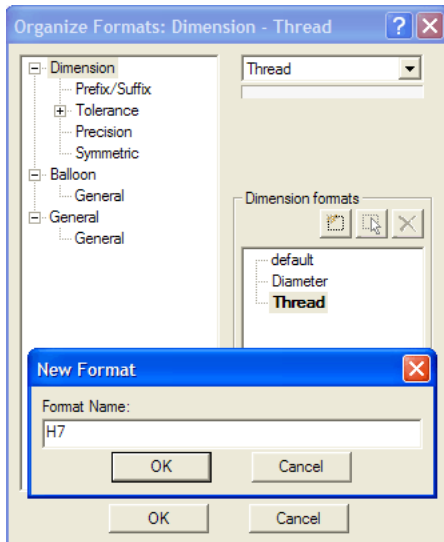
Enter the Format name as Thread

Again, under the Prefix/Suffix category, enter the Prefix as M and Suffix as X1.5, as shown in the image below.

You will again be shown with this message, as soon as you click on the Dimension category. Select Yes. to continue with the new format creation.
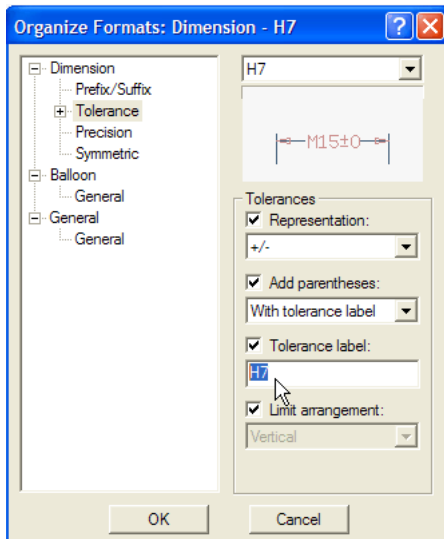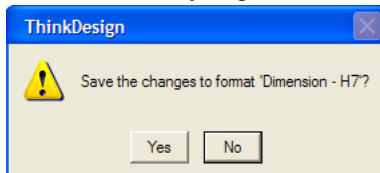
Create one more new format as H7.

Clicking on the Tolerance category, make the entries as shown in the image below.

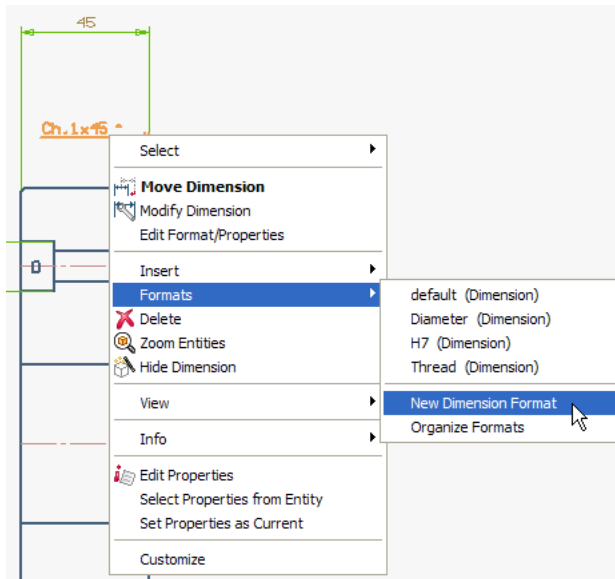Please remember to uncheck all options under the Prefix/Suffix category.

Click OK.

Click Yes, when you get the following message and close the **Organize Formats** dialog box.
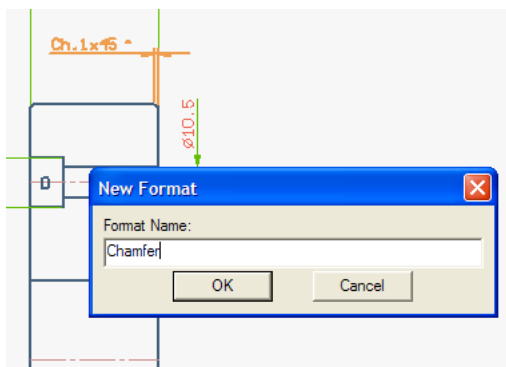

Now let us create a new format for Chamfer.

• Right Click on the Chamfer dimension as shown in the image below.

• Select New Dimension Format from the Attributes toolbar menu.

- A New Format window opens.
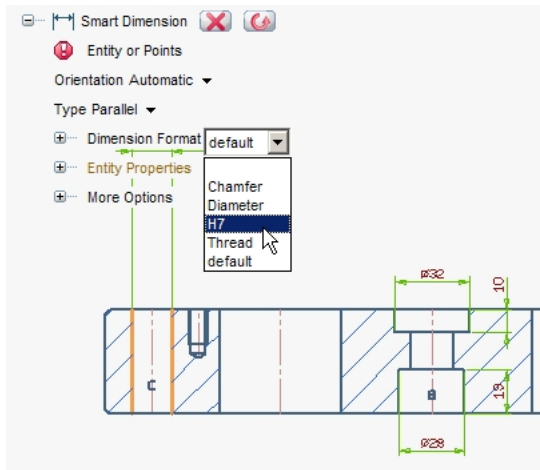
- Name the format as Chamfer.
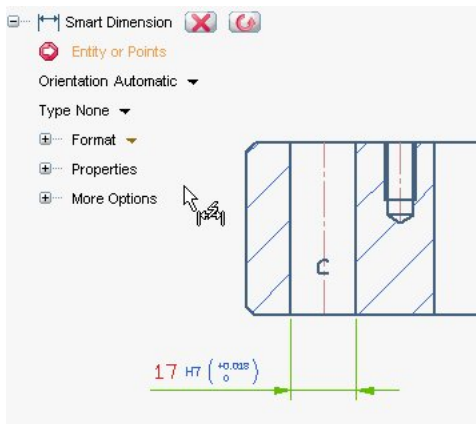
- Hit OK.

5. Step 5 - Creating other formats

Start **Smart Dimension** command.
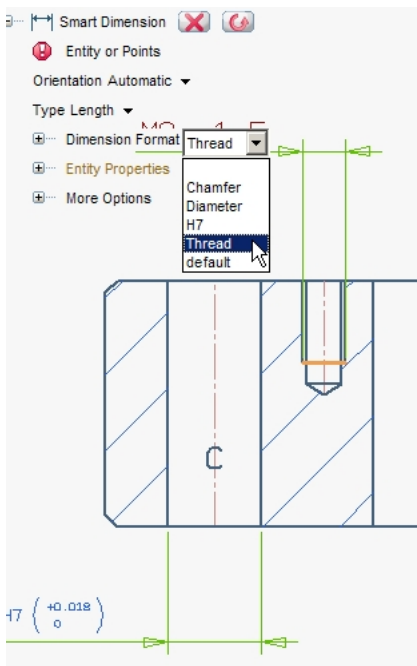
Now select the hole C to insert dimensions.

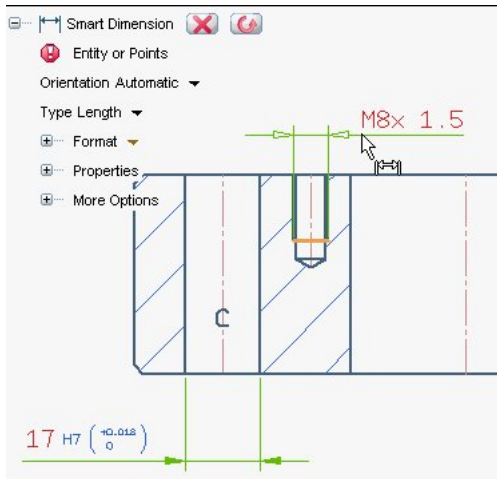Choose the Dimension formatsH7, from the drop-down, as shown in the image below.

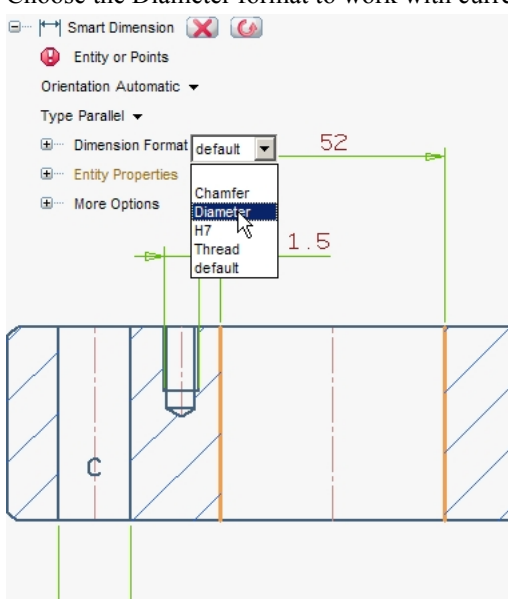Create a dimension of 17mm as shown in the image.

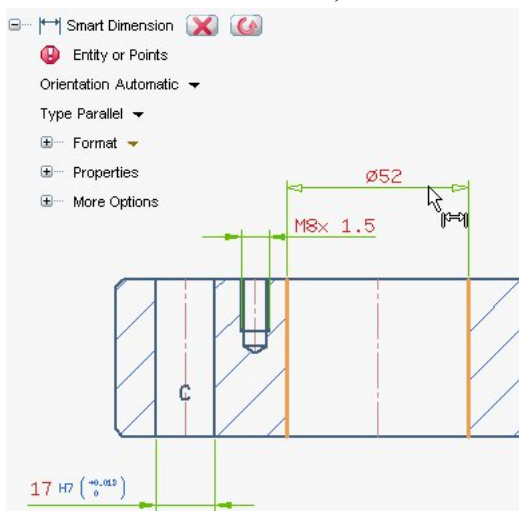

Now choose the Thread format.

Create dimension (M8 X 1.5), as shown below.

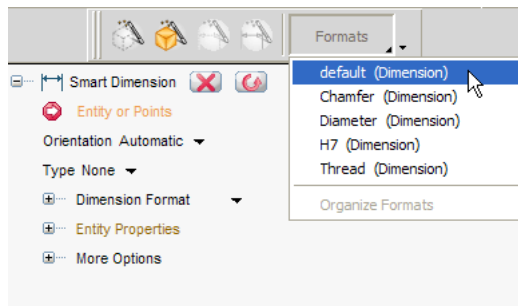Choose the Diameter format to work with current format.

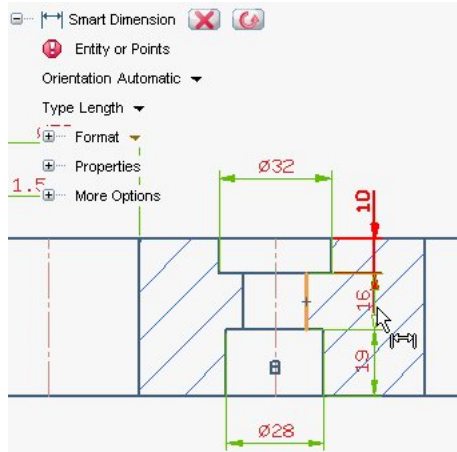Create the dimension of dia 52, as shown in the image.

Another way to reset the format is using the default format.

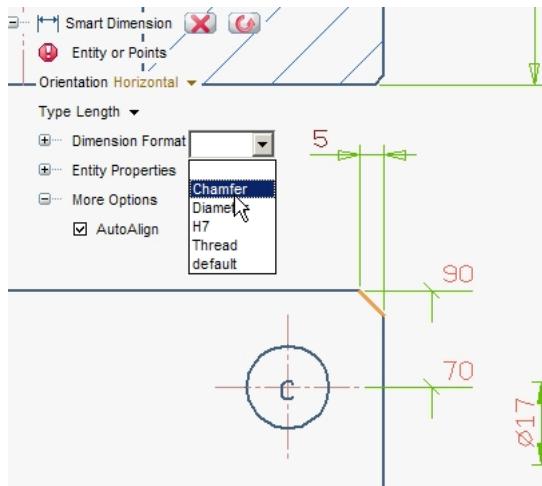Select default as set current as shown in the image below.

With the current format being set to default, Create a dimension of 16mm as shown below.

Select the line, choose Horizontal as the Orientation and apply smart dimension.
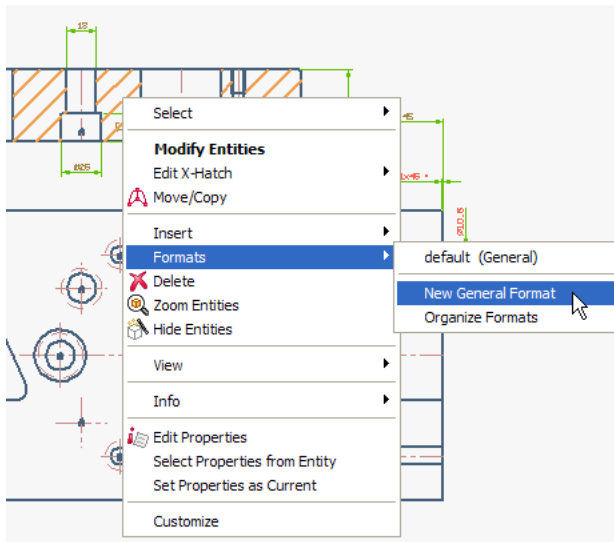
Now set the Chamfer format as the current one.

Similarly, formats are useful to set general properties (like color, line type, layer, etc) also.

It is possible to create a General format taking the properties from an entity in the drawing:
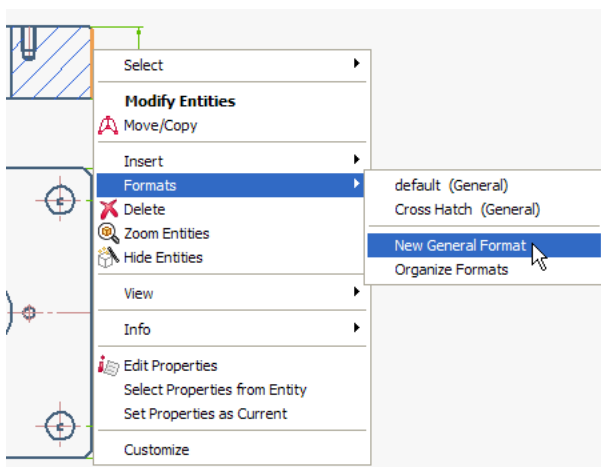
• First select the cross hatch from the drawing as shown.

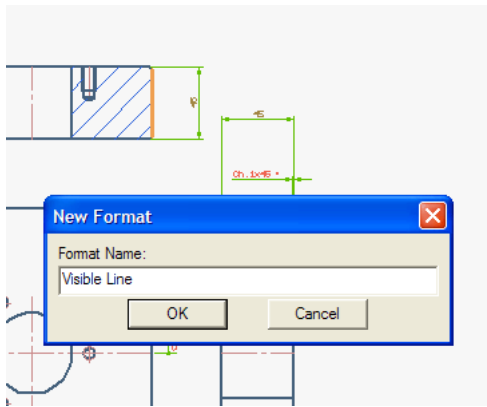• Select the New General Format option from the Formats button as shown below.

Enter the Format name as Cross Hatch
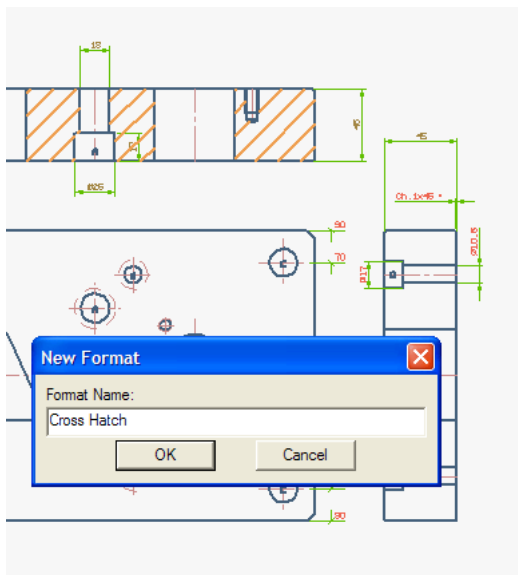
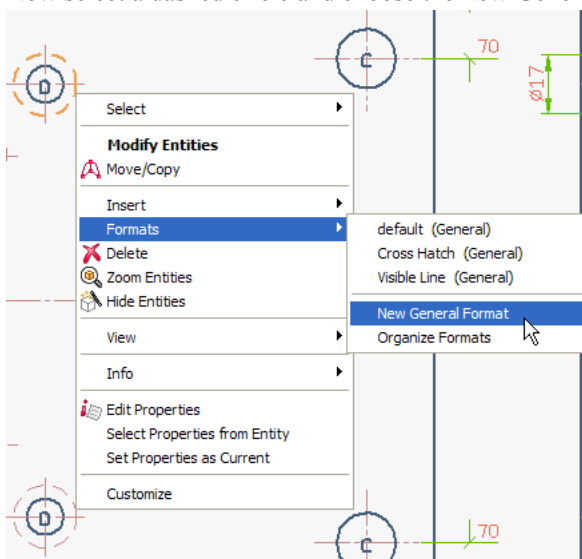Now select a line and choose New General Format.

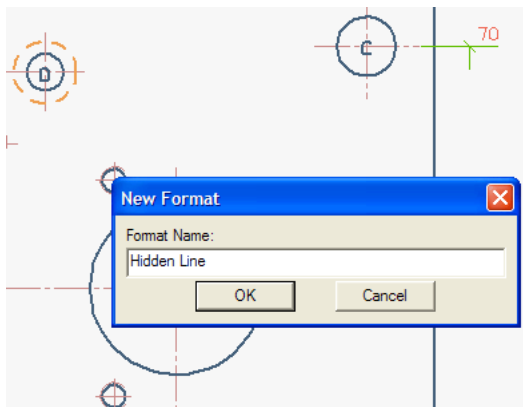Enter the Format name as Visible line.

6. Step 6 - Using custom formats

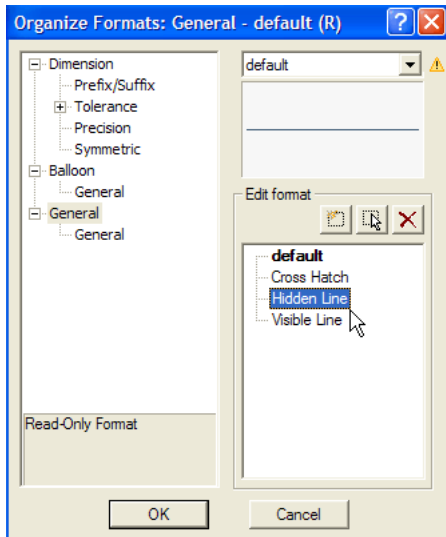Now select a dashed circle and choose the New General format again.
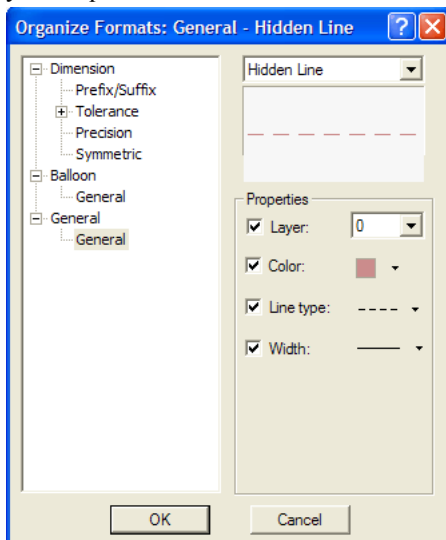

Enter the Format name as Hidden line

It is possible to Edit or change the format created using Organize Formats dialog box.

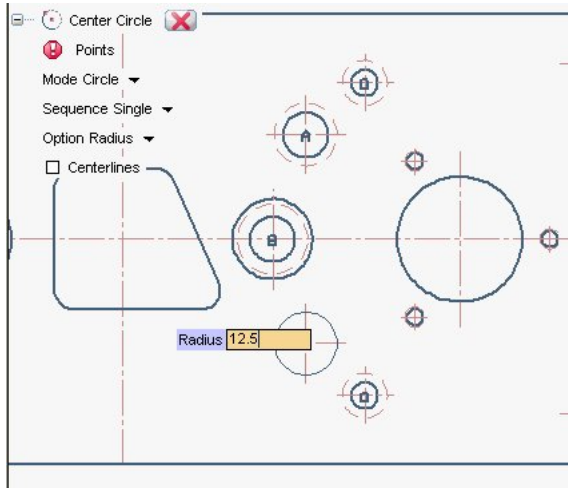• Double click on the format that you wish to change, to Set as Current.

Under the General>General category, you can select the relevant property and change the settings, according to your requirement.
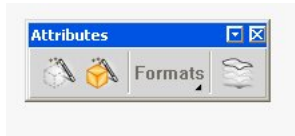

Start the **Center Circle** command.
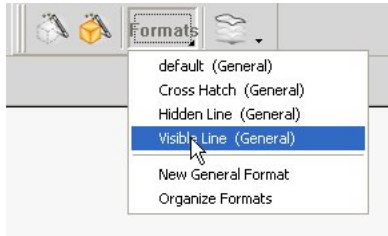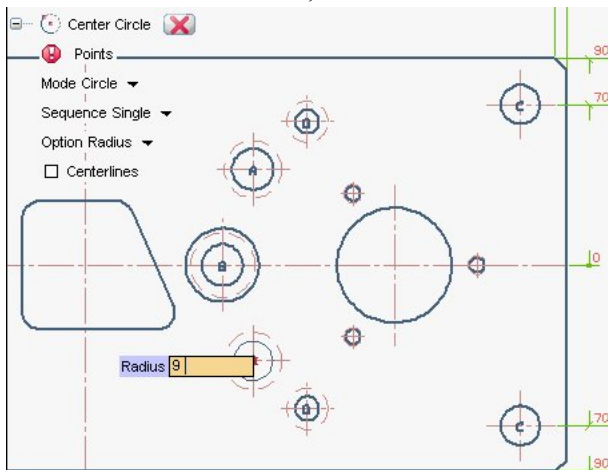
• Enter the Radius12.5

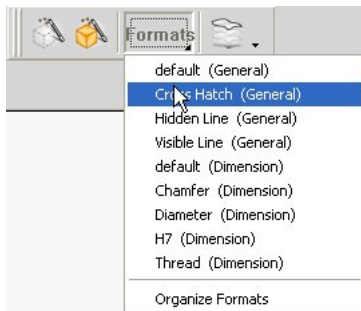Observe the changes in the Attributes toolbar.
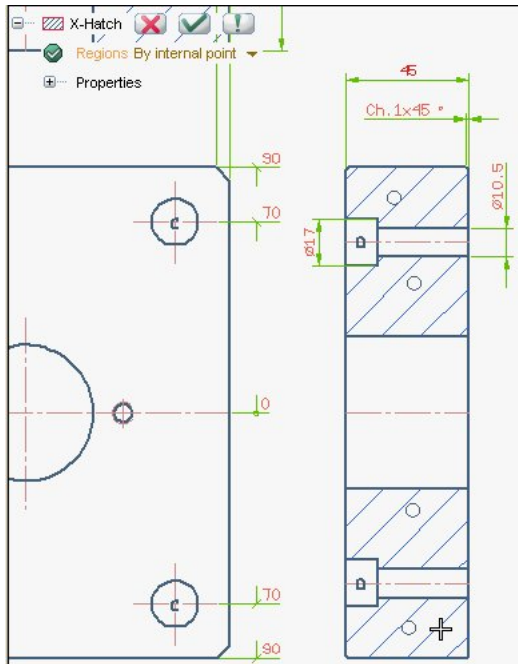
Now change the format to Visible line.

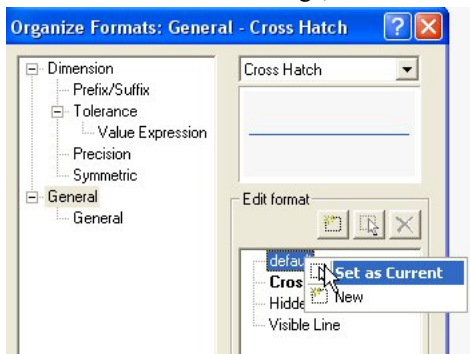Create a circle with Radius9, as shown below.

Now select the format Cross Hatch.

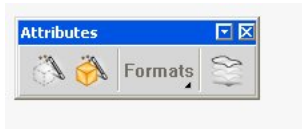Start the **X-Hatch** command and select the area as shown in the drawing below, to apply the Cross Hatch format.

To restore the default settings, select default as the current format.
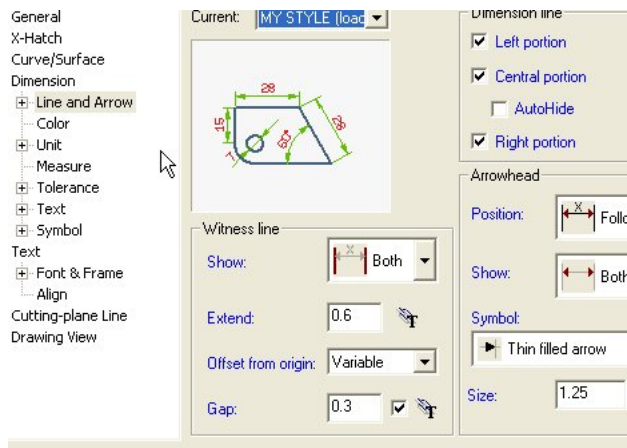

Now the settings appears as shown below.

7. Step 7 - Ordinates dimensions and custom styles
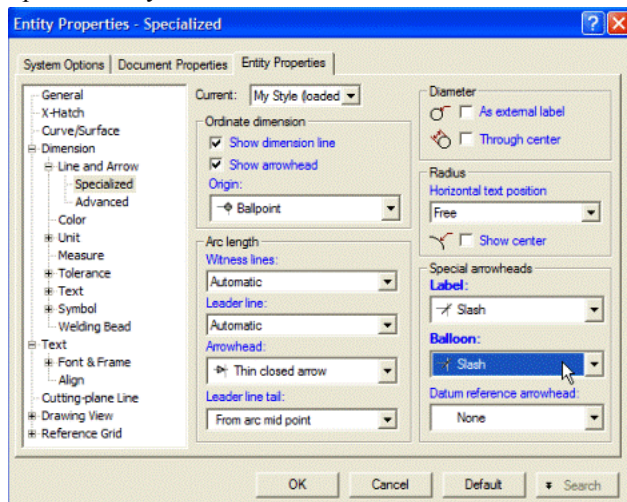
Now we shall complete the drawing with some Ordinate dimensions. Let's change few parameters to denote these dimensions.
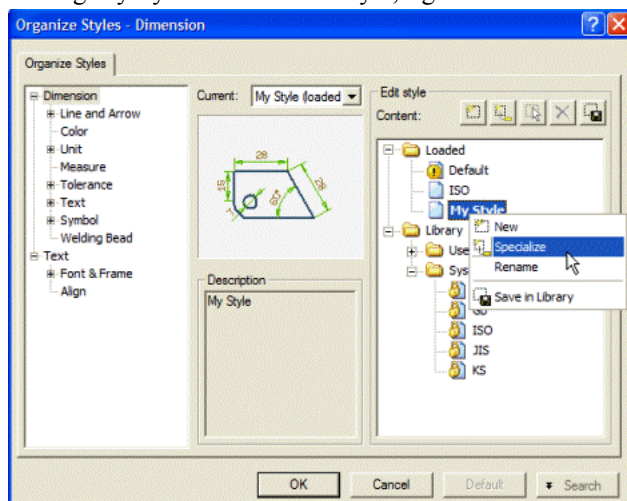
And we want to show origin with a different arrowhead.

We can create another style only for this dimension. To do this, we have a very powerful functionality known as Specialize Style.
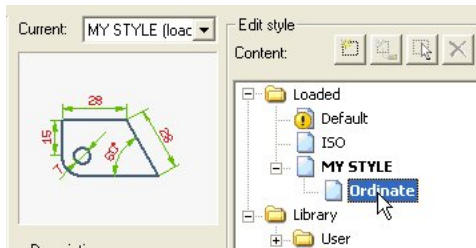

Select **Organize Styles**.

Having MyStyle as the current style, right click and select Specialize.

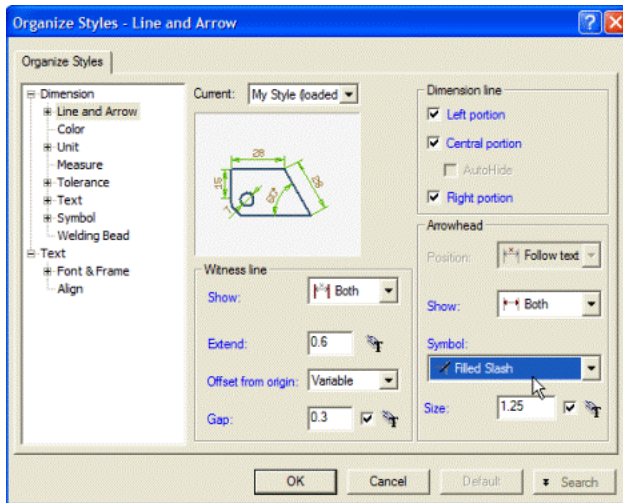Choose Type as Ordinate dimension and hit OK.

Now all the modifications that you do on the Specialized style will be applied only to Ordinate dimensions.

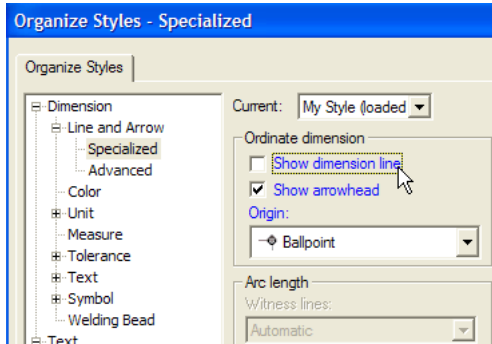Now choose Filled slash option from the Symbol drop-down as Arrowhead under the Line and Arrow category of this style, as shown below.

And set the options under Specialized category as shown below.

Select the origin point to create a Ordinate Dimension.
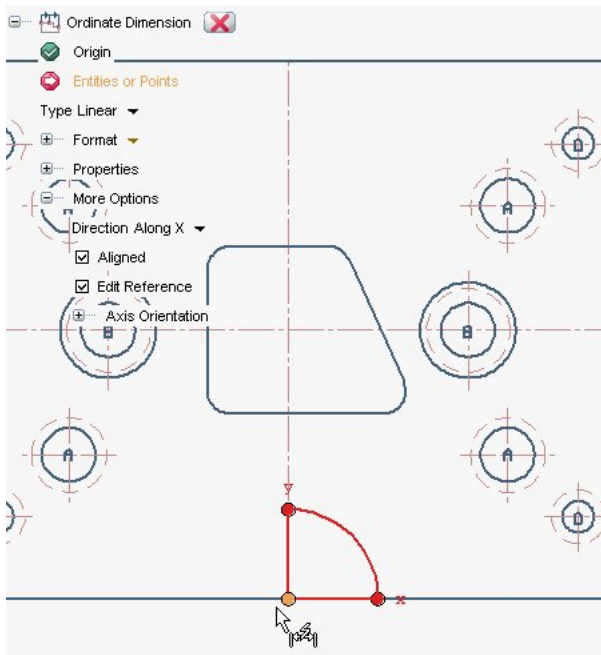
Check Aligned and Edit Reference to get all the ordinate dimension for selected lines or Points.

Now go on selecting center points of all the circles to get the ordinate dimensions aligned to each other, as shown in the image below.

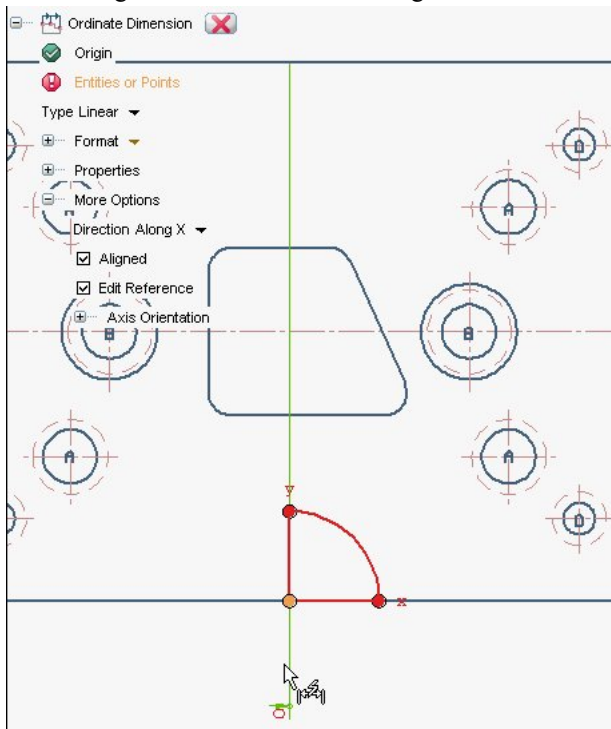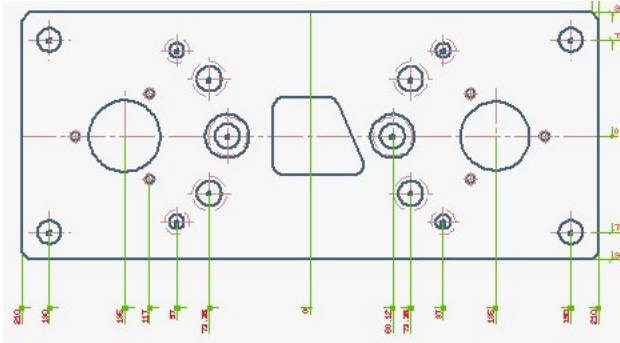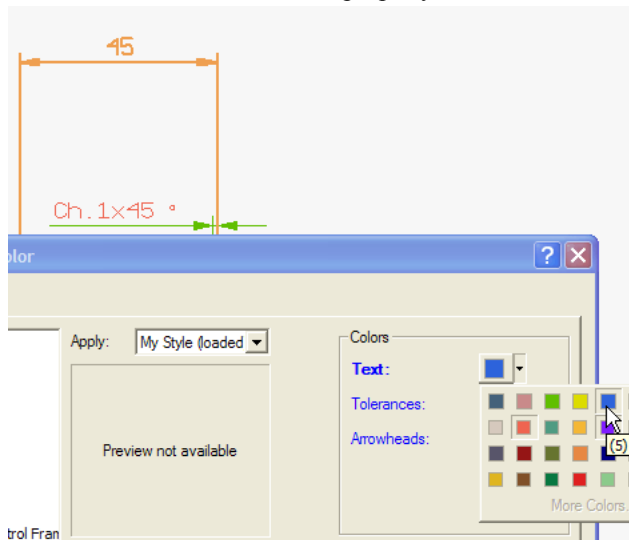Now let us check the overridden properties and their associativity with the current style.

Select dimension 45 and change text color to blue.

Now this color is a Overridden property for dimension 45

But to apply a change globally, go to Organize Styles dialog box and change the Text color under the Color category and click Ok.
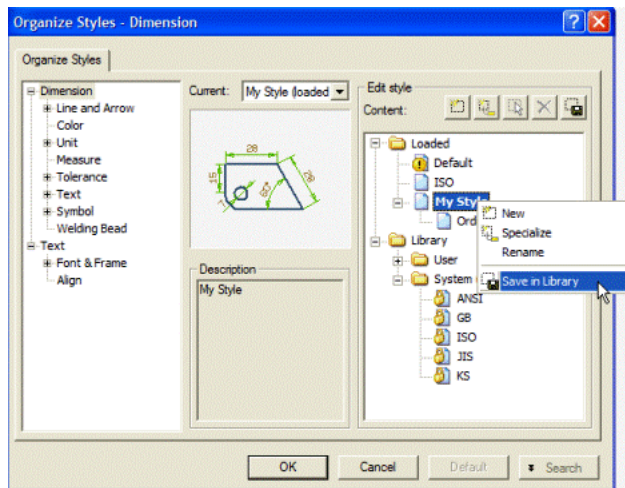

As you can see, the dimension text color is changed to the one that you set in the previous step.
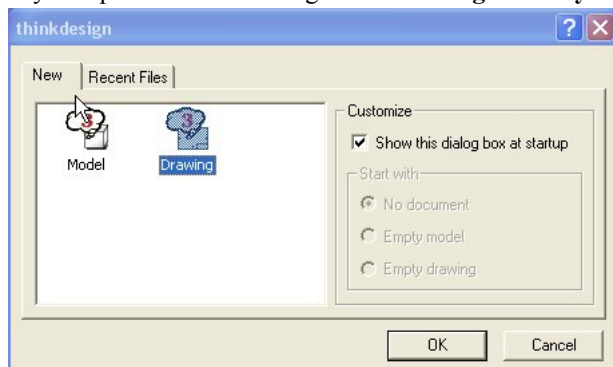
But the color of dimension 45 remain blue

And also the color of the dimensions that belong to different style are not changed

It is also possible apply the new style by selecting all the old entities.

- Select MyStyle from Current style, as shown below.

- Hit Reset to Style in Option tab.

- Hit OK to see the changes.

Now, to use this style in other drawings, right click on the current style and choose Save in Library.

Try to Open another drawing and check **Organize Styles**.

Congratulations! You are done with 2D Options/Properties...