



Corporate Flow



Illustration



Image Editing



Automation



Web



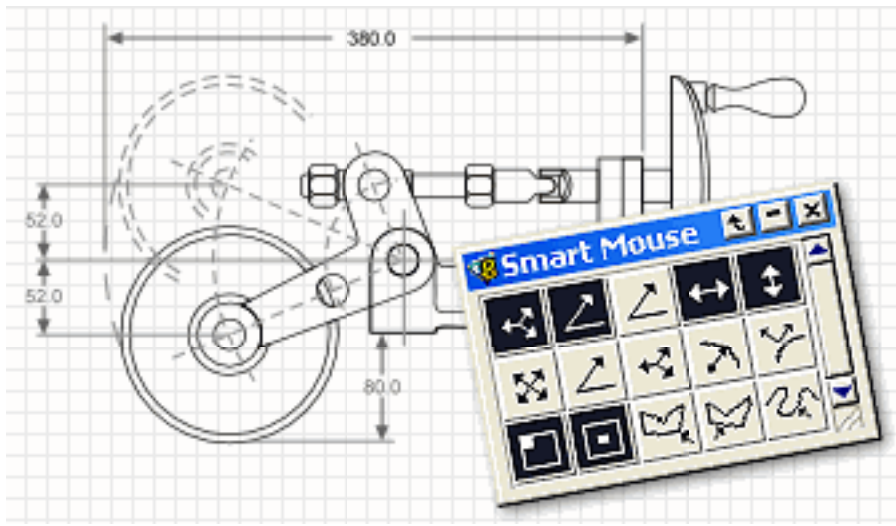
Text Effects

Canvas Tips and Techniques



**Deneba
Creative Department**

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Using Canvas' Smart Mouse

Precise technical illustrations made easy.

There are many uses for Canvas' Smart Mouse, especially in precise technical drawings. Smart Mouse is designed to help you quickly and accurately align objects. It is particularly helpful when using Dimensioning tools, because Smart Mouse can snap the pointer to the corners (and other points) of objects, so your dimension objects are always perfectly aligned.

Canvas has 12 different types of Smart Mouse constraints. The constraints make the pointer (and the objects that you draw or drag) snap to:

- The corners or the center of objects.
- Even divisions, such as the midpoints of object segments.
- Specified lengths or angles.
- Horizontal, vertical, or diagonal movement.
- Tangent or perpendicular alignment with objects.
- The edges of vector objects.

In the following examples we will go over some basic techniques that will familiarize you with the way Smart Mouse works.

Using Relative Constraints

Relative Constraints allow for the precise placement of objects/images and precise drawing by indicating a relationship between the beginning position and current position of your cursor. These constraints are visualized as display pointers when the constraint is met.

The relative constraints are: Horizontal, Vertical, Diagonal, Angle, Multiple Angle, Length, Tangent and Perpendicular. Below is a list of Canvas' Relative Constraints and their functions.

When this constraint is active

Smart Mouse snaps objects and constrains the pointer to:

↔ **Horizontal**

straight horizontal movement, 90° and 270° or 0° and 180°, depending on the current coordinate system.

↕ **Vertical**

straight vertical movement, 0° and 180° or 90° and 270°, depending on the current coordinate system.

↗ **Diagonal**

diagonal movement, all in multiples of 45°.

↘ **Angle**

movement along a specified angle.

Using Canvas' Smart Mouse (Continued)

Multiple Angle

allows movement along multiple specified angles.

Length

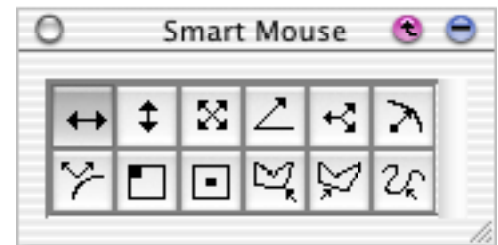
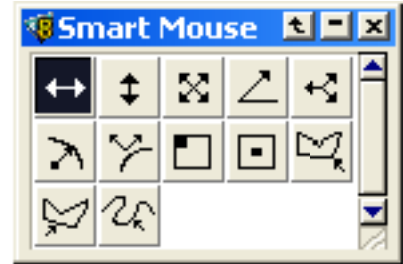
a specified length in points (based on 100% magnification).

Tangent & Perpendicular

a straight line, tangent or perpendicular to vector objects.

The first Relative Constraint we are going to use is going to be the Horizontal constraint. To use it, select Layout > Smart Mouse to open the Smart Mouse palette, which contains icons for all the constraints.

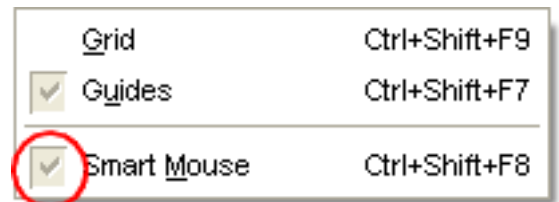
When the palette opens, click on the Horizontal constraint (see example). The selected constraint will appear highlighted like our example on the right.



Next, choose Layout > Snap to > Smart Mouse to turn on the Smart Mouse. A check mark will show that the Smart Mouse is active.

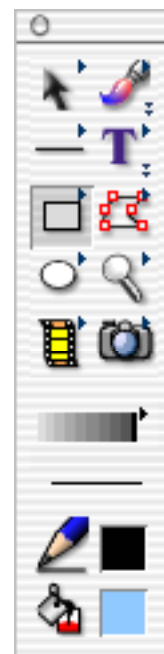


Note: When using Smart Mouse it is advisable to turn off the Snap to Grid setting.



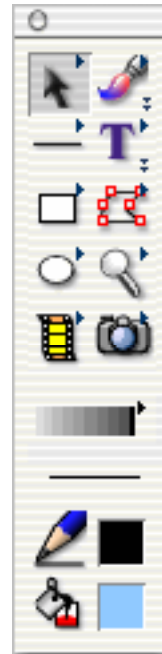
We will start with some basic movements to get you acquainted with the way Smart Mouse functions.

We are first going to select the Rectangle tool and create a small square. It doesn't have to be perfect or any specific color, just make sure you use an Ink Fill color and make it big enough where you could work with it.



Using Canvas' Smart Mouse (Continued)

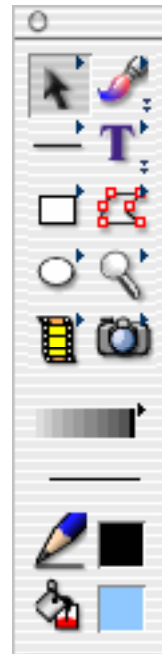
Now, choose the Selection tool. Then click on the center of the square and drag it horizontally to the right. You will notice that as long as you drag the cursor horizontally it will appear as a horizontal double ended arrow (\leftrightarrow).



Notice that dragging the square diagonally causes the cursor to change back to normal. This indicates that you have dragged the object along a plane that is not horizontal (with the Horizontal constraint selected).

Practice moving the object around, note that every time you cross the horizontal plane your cursor will revert to the double arrows (\leftrightarrow).

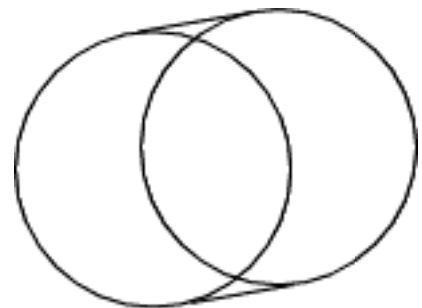
This constraint guarantees perfect horizontal placement when you move an object.



Drawing with Smart Mouse Constraints

In addition to moving objects Relative Constraints also could be used with Canvas' Drawing tools when precision is a must.

This time we are going to create a new constraint to aid in the drawing of a transparent cylinder angled at 80°.



Using Canvas' Smart Mouse (Continued)

To create a new constraint, we first open the Smart Mouse palette and double-click on any constraint to open the Smart Mouse Manager.

When the Smart Mouse Manager opens you will be presented with several options.

The **Current Constraints** area at the top of the Smart Mouse Manager affects the behavior of all Smart Mouse constraints.

Priority: When multiple constraints are active, those at the top of the scrolling list take precedence over those lower in the list. To change the priority of a constraint, drag it to a new position in the list.

Source Lines: If selected, Canvas displays a line to show that the pointer, or an object you are moving is aligned horizontally or vertically with a snap point, such as the corner of an object.

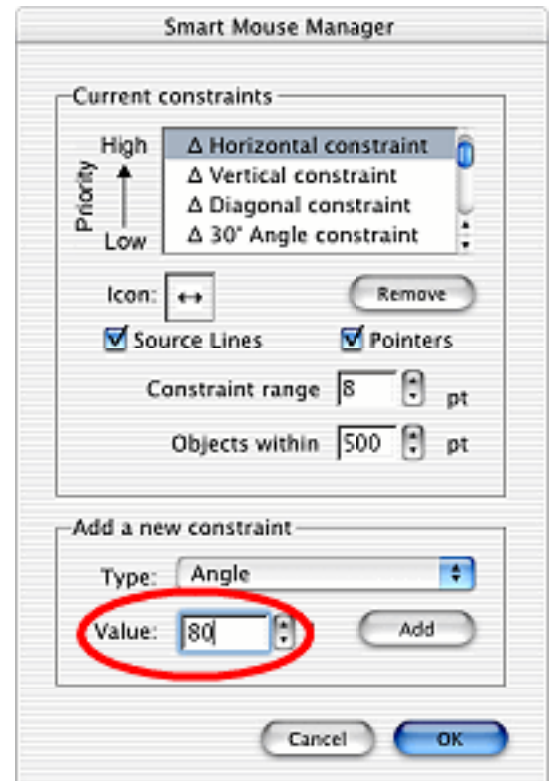
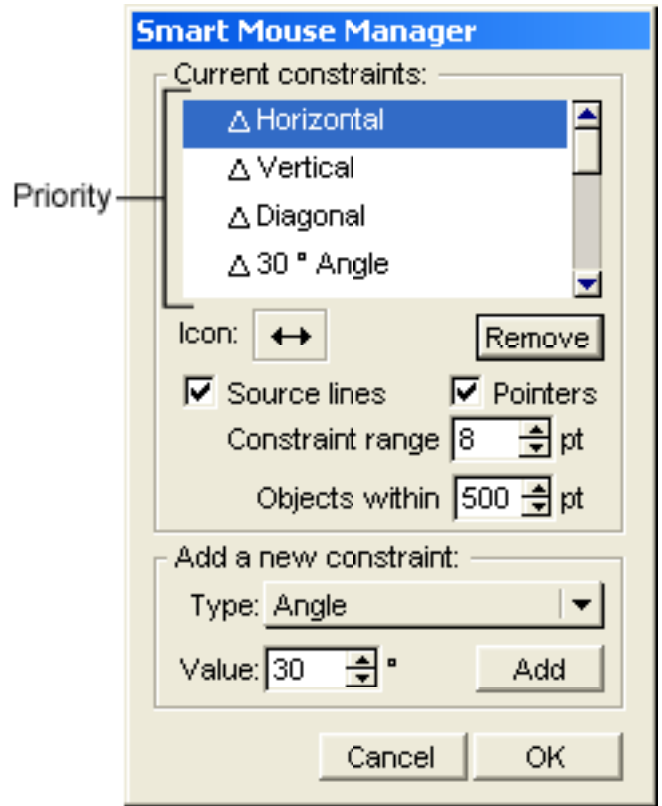
Pointers: If selected, constraint symbols appear as you draw or drag objects to indicate that a constraint is met.

Constraint Range: The Maximum distance, horizontally or vertically from a target point at which the constraint causes the pointer to snap to the target point.

Objects Within: For Absolute Constraints only, specifies how close the pointer must be to an object for the object to trigger the constraint.

Since our project calls for us to create a new 80° Angle constraint, we will choose Type: Angle from the drop-down list in "Add a new constraint" and change the value to 80°.

Select Add to create the new constraint.



Using Canvas' Smart Mouse (Continued)

The new constraint will appear at the top of the priority list.

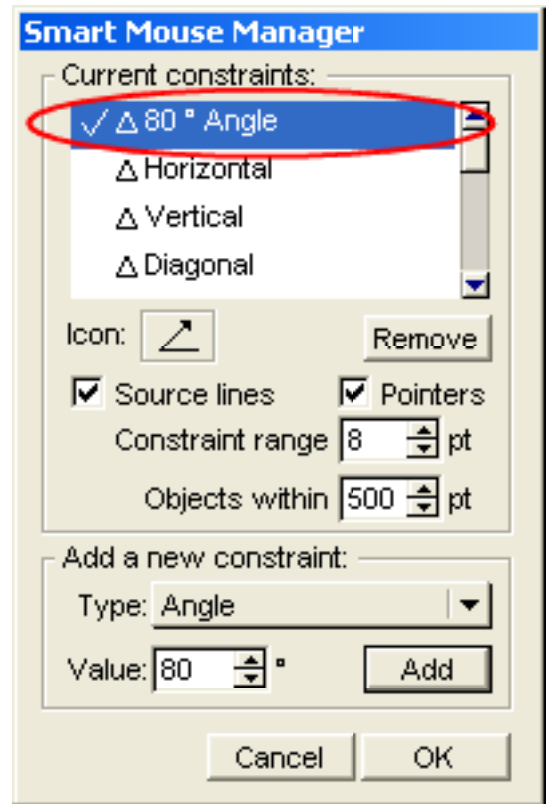
Press OK to accept the changes and close the Smart Mouse Manager.



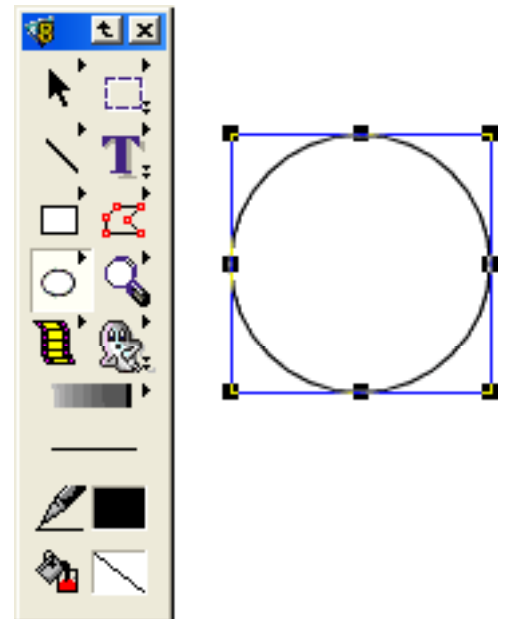
Tip: You can add new Smart Mouse constraints and delete ones you don't need. When you add a constraint, it appears in the Smart Mouse palette; constraints you remove no longer appear.

To add a constraint, choose one in the Type pop-up menu. For a relative constraint, enter the constraint value in the Value box, and then click the Add button.

To delete a constraint, select the constraint in the scrolling list at the top of the dialog box, and then click the Remove button.

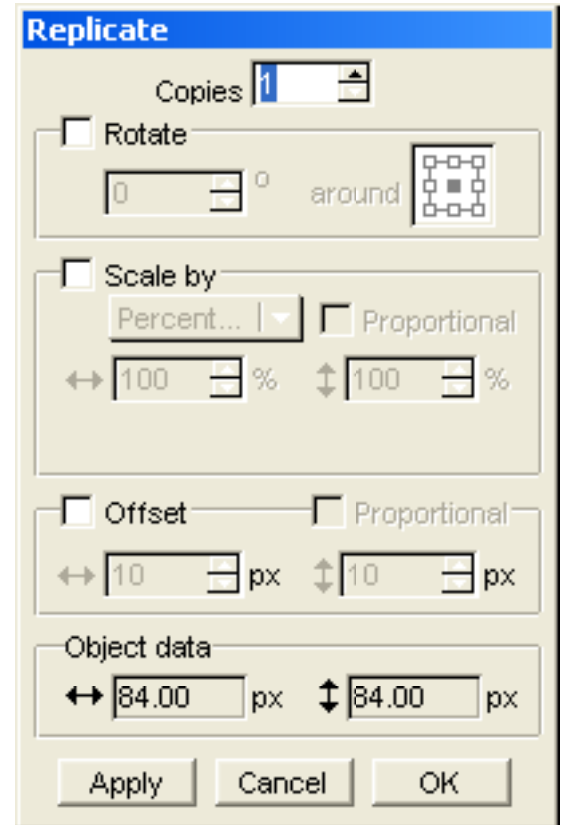



Next, we are going to use the Oval tool to create a circle. To draw perfectly round circles press Shift as you drag your cursor.

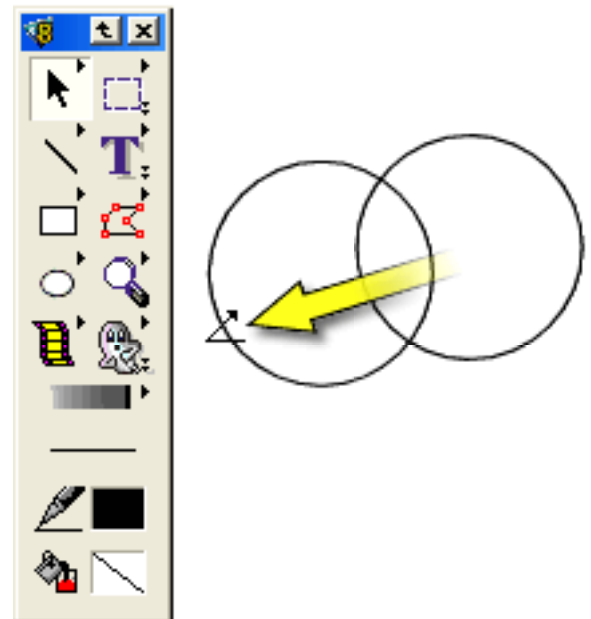


Using Canvas' Smart Mouse (Continued)

With the newly created circle selected, choose Edit > Replicate. When the Replicate dialog box opens, choose one copy (see example) and press OK. This option will place an exact copy of the selected circle directly over the original.

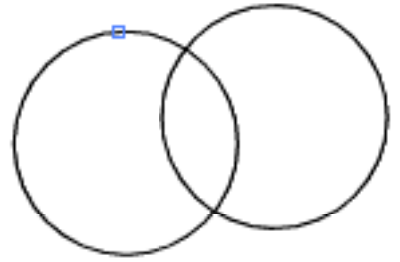


Now, using the Selection tool, click and drag the replicated circle. Notice how it snaps to the 80° angle we create. Also note that as long as you are within that plane your cursor will look like the angle icon ().

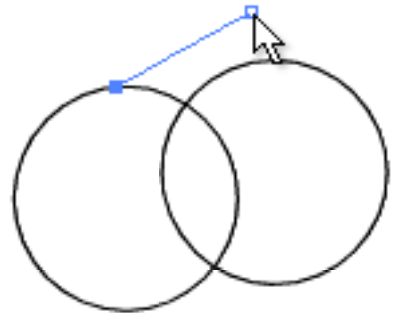


Using Canvas' Smart Mouse (Continued)

Next, select the Polygon tool. With the Polygon tool, click on the top of one of the circles to create a starting point.

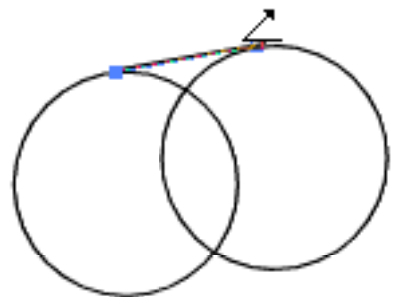


Then, click the second point somewhere over the second object but do not release the cursor.



Instead drag it down until your cursor changes to the angle icon, which indicates that your second point is at exactly 80° of the starting point.

Press Esc to leave curve edit mode and your line is finished.



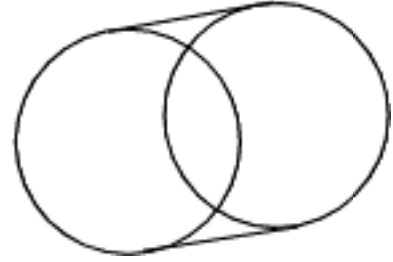
Using Canvas' Smart Mouse (Continued)

Duplicate this step on the bottom of the circle pair to complete the 80° cylinder.

Using Smart Mouse constraints like this could save valuable time when working on technical illustrations where precise or obscure angles are required.

By default, Canvas ships with Horizontal, Vertical, 30° and diagonal (45°) angles predefined in the Smart Mouse palette.

You may also use two constraints simultaneously; e.g., selecting a vertical and horizontal constraint will allow you to move objects or draw in perfect vertical or horizontal planes.



Using Absolute Constraints

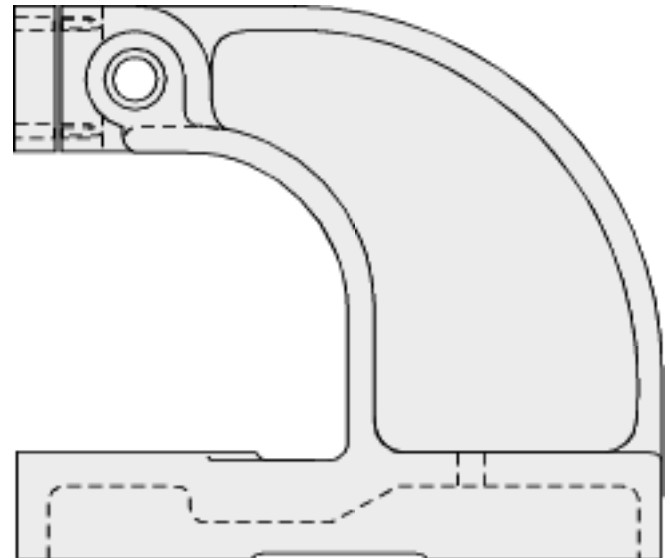
Absolute Constraints are used to indicate the relationship between the pointer and objects. These constraints can display source lines and pointers to show the constraints are met. The Absolute Constraints are: Object Corners, Object Fractions, Object Points, Object Segments, and Object Edges.

One of the most common uses for Absolute Constraints is adding dimensions to mechanical drawings. In the following example, we will do just that.

On the right is an illustration of a manual press. Using the Smart Mouse we will precisely and quickly add measurement dimensions to it, thus saving time and cutting out the guess work.

If you are unfamiliar with dimensioning, please refer to our Using Dimensions in Canvas tutorial.

When using Absolute Constraints, Canvas will display source lines and pointers to show the constraint is met. Below are a list of Canvas' Absolute Constraints and their functions.



When this constraint is active

Smart Mouse snaps objects and constrains the pointer to:

 **Object Corners**

the corners of the bounding boxes of vector objects.

 **Object Fractions**

a specific division of vector objects; e.g., specify 1/2 to snap to the center of an object.

 **Object Points**

any anchor point on the paths of vector objects.

Using Canvas' Smart Mouse (Continued)

Object Segments

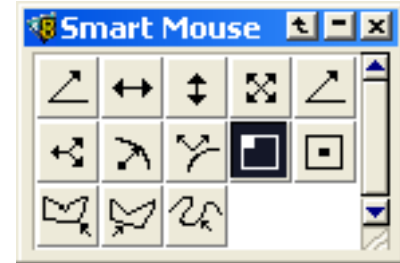
specified divisions of the segments of vector objects; e.g., the pointer snaps to the midpoints of segments if you specify 1/2.

Object Edges


edges of the paths of vector objects (not the bounding boxes), when Object Edges is active, other constraints don't affect the pointer.

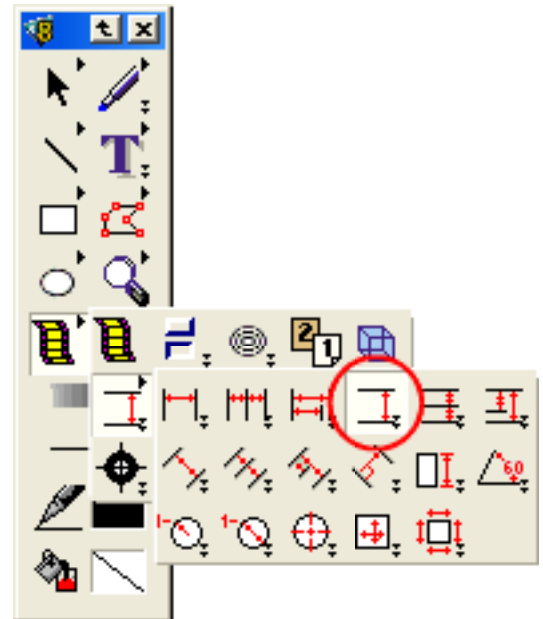
To quickly and accurately add perfect dimensions to this illustration we first choose the appropriate constraint from the Smart Mouse palette.


To add a dimension to the entire press, we will use the Object Corners constraints for its ability to snap to the corner of an object's bounding box.



Next, we are going to select the Vertical Dimensioning tool from the Toolbox. There are 17 Dimensioning tools to choose from.

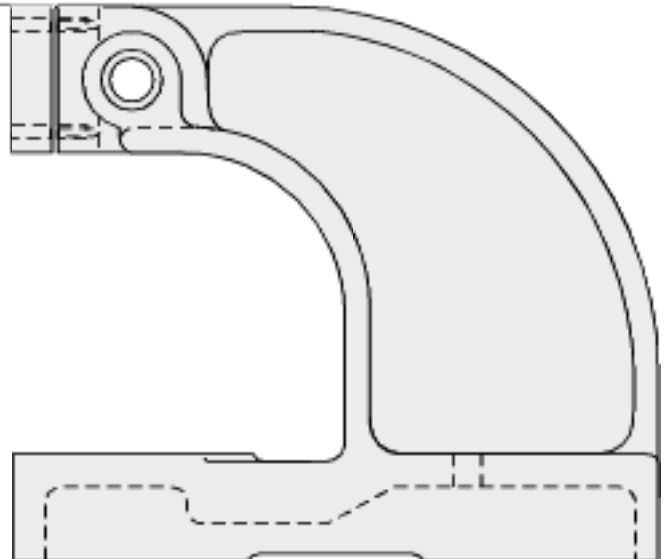
 **Tip:** It is a good idea to drag the palette away from the Toolbox to keep it open while you work.



 **Click 1st Point**

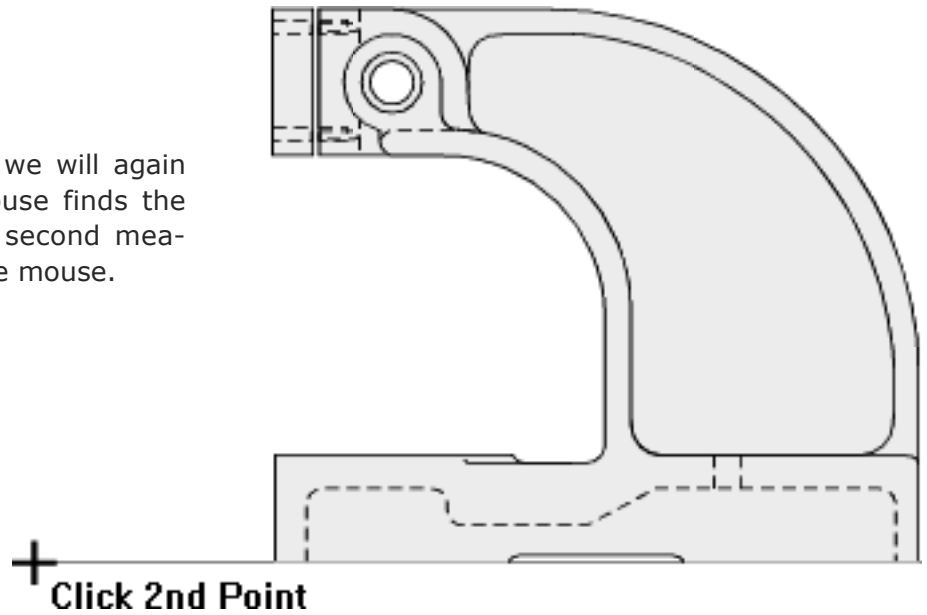
To begin dimensioning, first, drag the cursor vertically across the illustration without pressing the mouse button. As you do so, the Smart Mouse will create source lines to all the bounding box corners it finds. This will appear as a line from the object to your cursor (see our example on the right).

When Smart Mouse has found the corner where you want to add the measurement, simply click the mouse to place the first point.



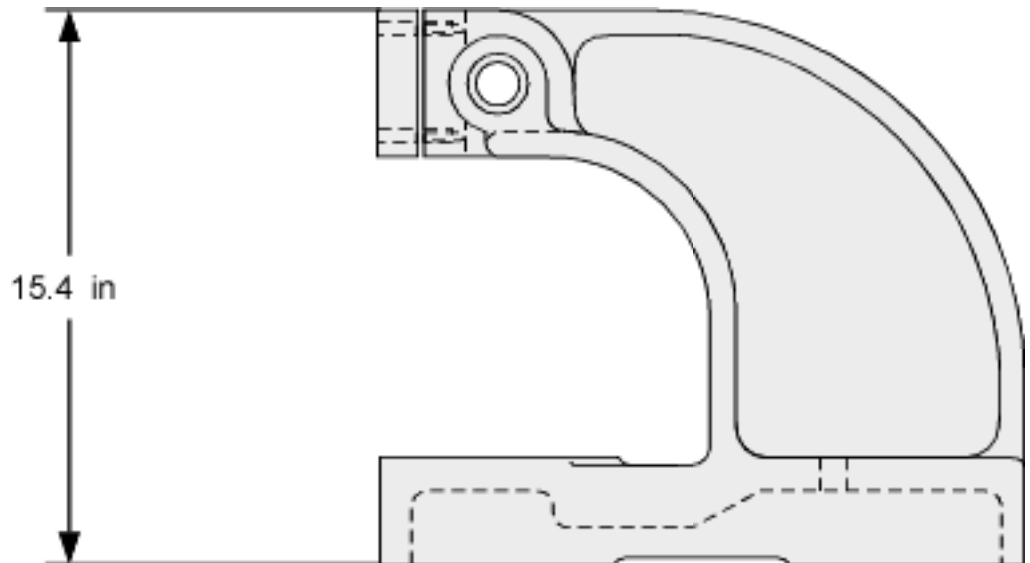
Using Canvas' Smart Mouse (Continued)

To place the second measurement point, we will again drag the cursor vertically until Smart Mouse finds the object's bounding box corner. When the second measurement location has been found, click the mouse.

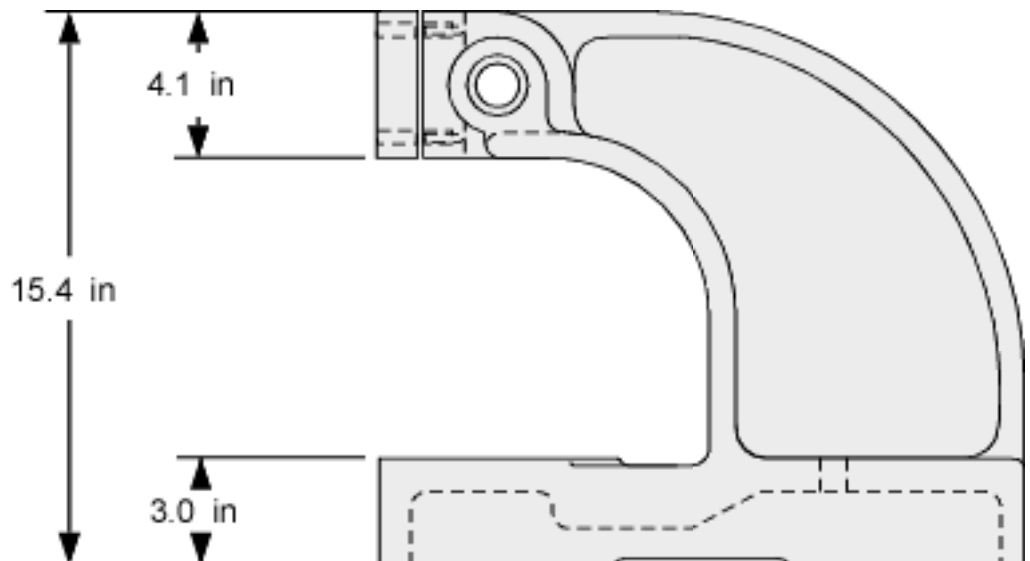


Finally, drag out the cursor to the location where you want the dimension to appear and click the mouse.

Your dimension will appear like the one in our example.



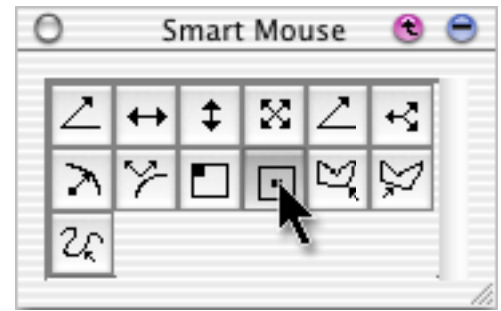
Using these same techniques, you can now quickly add measurements to the rest of your illustration with perfect accuracy.



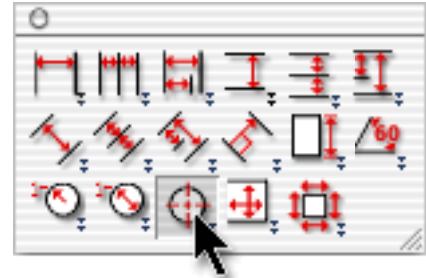
Using Canvas' Smart Mouse (Continued)

Next, we will use the Object Fractions constraint to add a center line to our illustration.

To do this, first choose the Object Fraction constraint from the Smart Mouse palette.

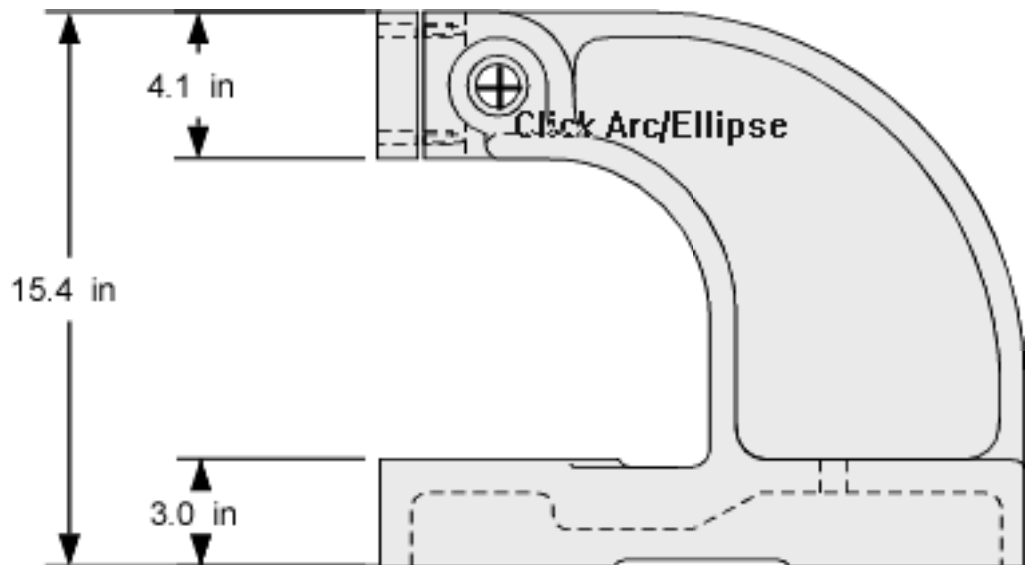


Select the Center Dimensioning tool from the palette.




Then just click inside the area where you want to add the center line. In this particular illustration, we need to add a center line to the handle's shaft opening.

Smart Mouse will center the placement of the dimension even if you are a little off, like we purposely did in our example.



On the right is the press with the completed center line.

 **Tip:** To get a perfectly straight center line, hold down the Shift key and click the cursor on the center line. For an angled center line, move the cursor to change the angle.

And there you have it. Smart Mouse made easy. It is advisable to experiment with the rest of the Smart Mouse constraints and options, but with the techniques learned in this tutorial you could already save on design time while increasing your precision.

