

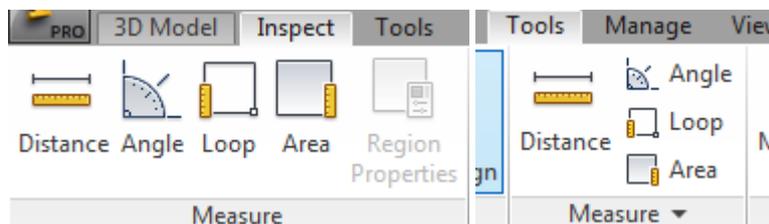
Measurement Tools in Inventor

A summary of the measurement tools within Inventor and showing some of their many uses.

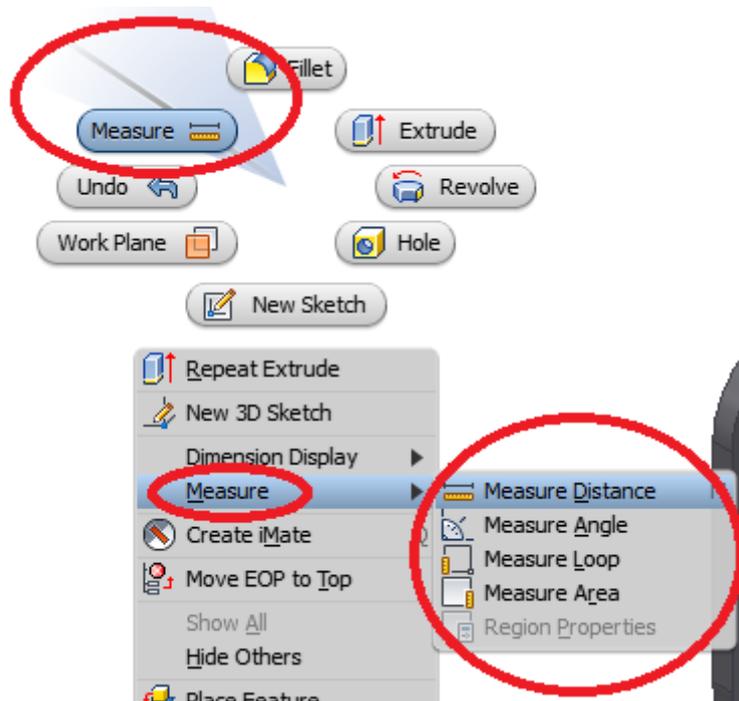
All Inventor Users

The 'Measurement Tools' within Inventor are probably some of the most useful and people often don't realise how much the tools can do. This white paper gives you a brief rundown of the many different measurement types you can achieve.

Find the Measurement Tools on the Inspect Tab > Measure panel and also on the Tools tab > Measure panel.



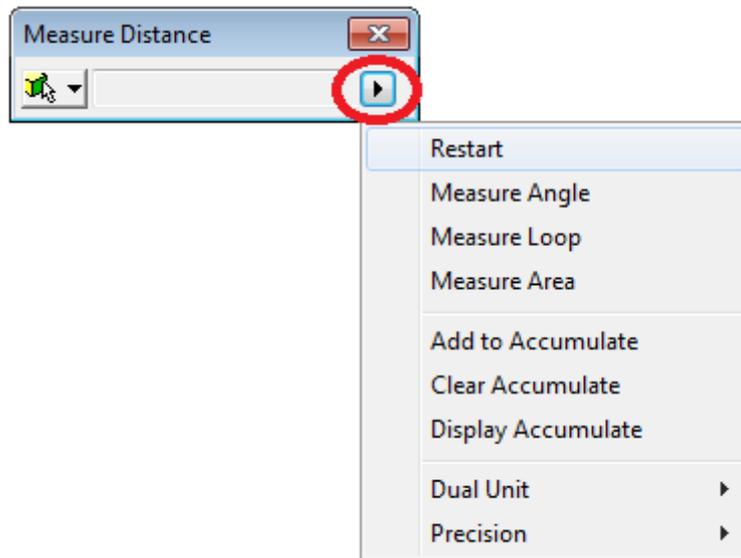
You can also get to them from your right click menu and at the 10-11 o'clock position on your right click marking menu, both in the majority of environments (assemblies, parts, drawing, sheet metal, flat pattern, construction, and 2D or 3D sketch).



The different tools obviously stated by the tool names measure distance, angle, loop, or area. But you can actually measure a lot more with these tools depending on your selections.

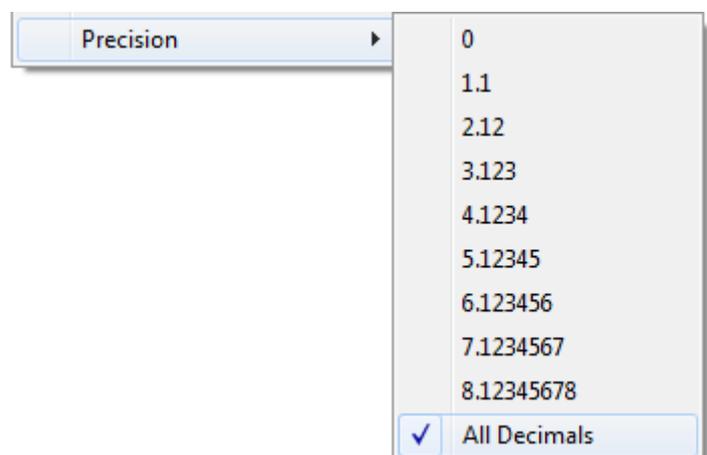
- The length of an edge
- The diameter of a cylindrical face or edge
- The circumferential length or radius of an arc
- The distance between points or other geometry
- The angle between two pieces of geometry
- The distance between components (parts and subassemblies) in an assembly
- The distance between faces
- Construction surfaces and wireframes in the part environment
- The position of a point relative to the origin of the active coordinate system

Depending how you load up the tool you may need to change measurement type i.e. from distance to angle. One tip, you do not need to close the tool down and reopen your desired option. You can switch between measurement types by opening up the menu and choosing your desired type.



In this menu you can also change the 'Precision' of the result displayed. This precision is remembered so be careful if you get it to round up to the nearest whole number as later on you may not realise that this is a rounded result.

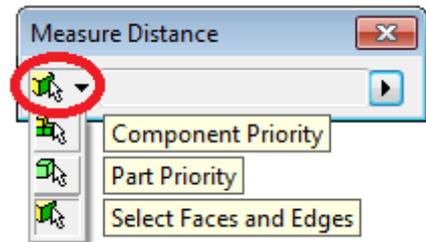
Another useful function available from the menu is the option to display multiple units. The measure tool will default to measure in your documents units so having the option to display both mm and inch for example can be very useful.



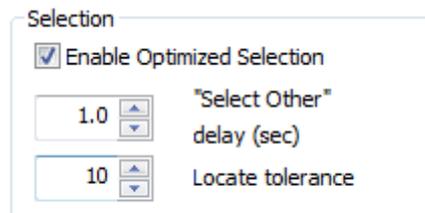
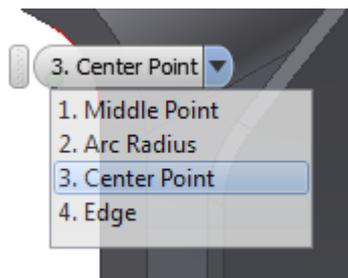
The final few options from the menu are self-explanatory. The 'Restart' option resets the tool and clears any current selections and measurements.

The Accumulation options allow you to take multiple measurements and combine them together, saving you the need to use a calculator or pen and paper. A tip when using this, take a measurement and then use the 'Add to Accumulate' option. I know it sounds obvious but only use the add option once after each measurement.

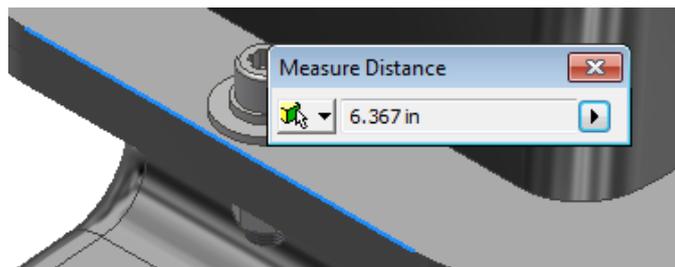
The final option available in the Measurement window only appears when you are in an assembly environment and it allows you to select your selection criteria.



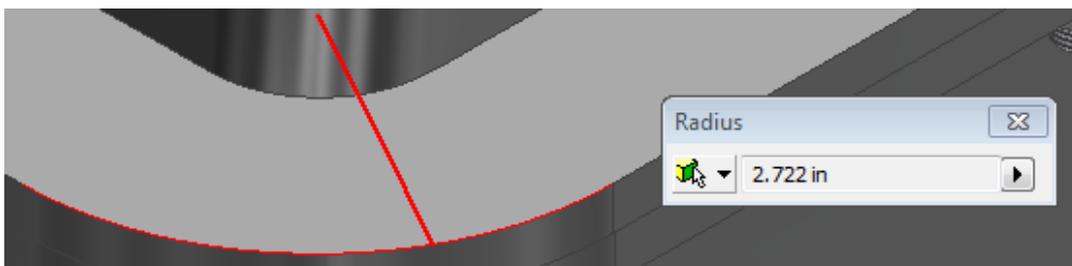
Below you will find example images of the different measurements you can take along with the selection made. One tip when making your selection. If you cannot seem to select the desired edge or centre line hover over the desired feature for a few seconds until the 'Select Other' option appears. This allows you to make sure you select the correct edge or feature. If you don't want to wait too long for the 'Select Other' options to appear you change settings on the 'General' tab in 'Application Options'.



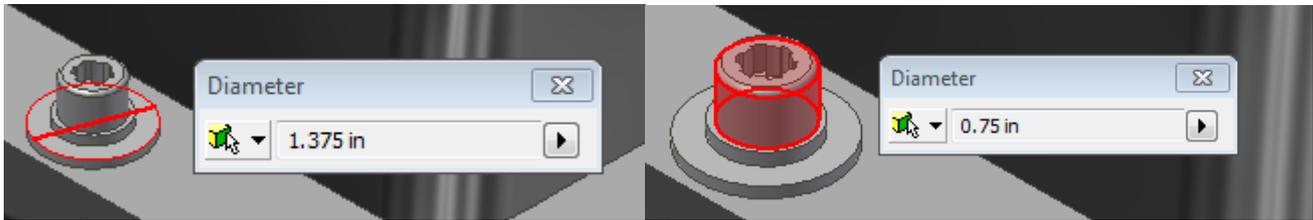
Edge Length – select a single edge.



Radius – select a single arc.

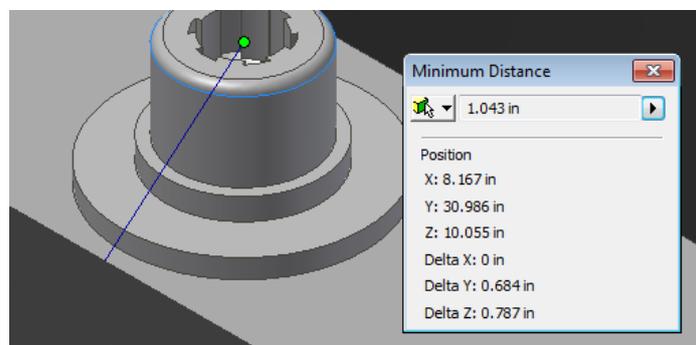


Diameter – select a circular edge or face.

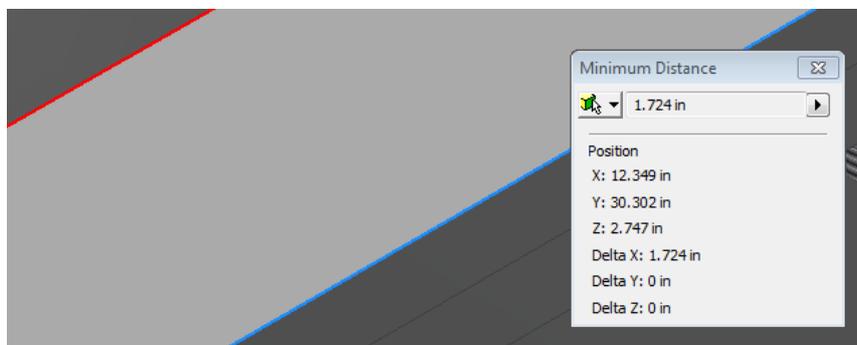


Distance Between 2 Selections – make 2 selections, note you get measurements in X,Y,Z directions.

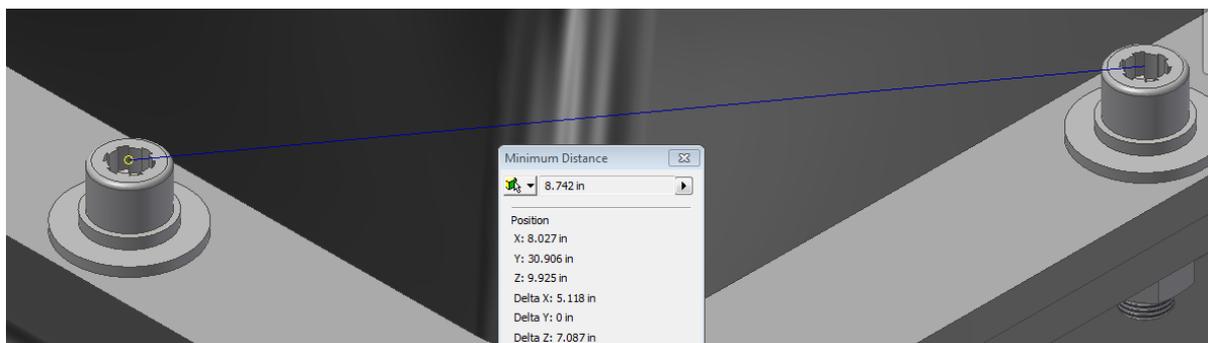
Point to Edge



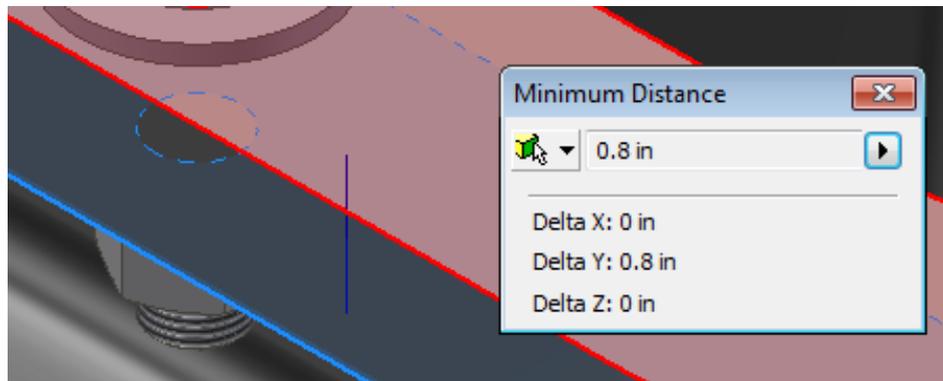
Edge to Edge



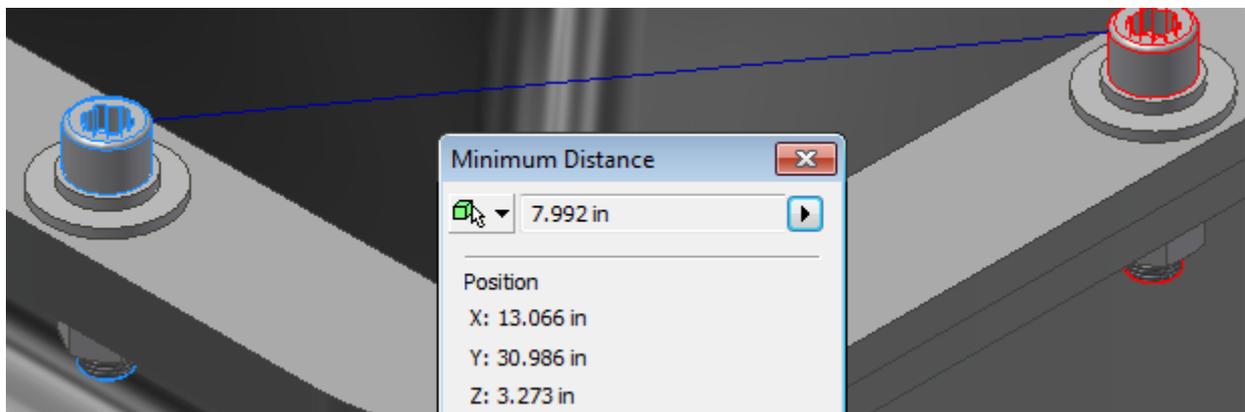
Point to Point



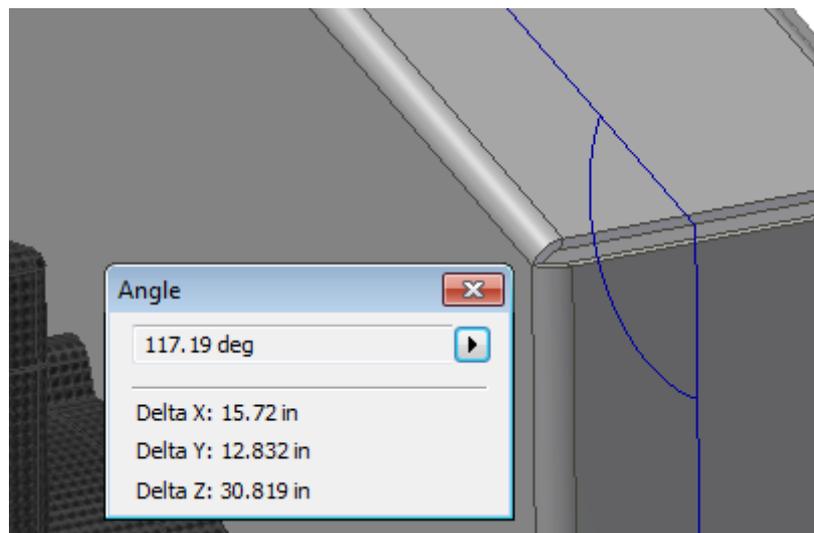
Face to Face



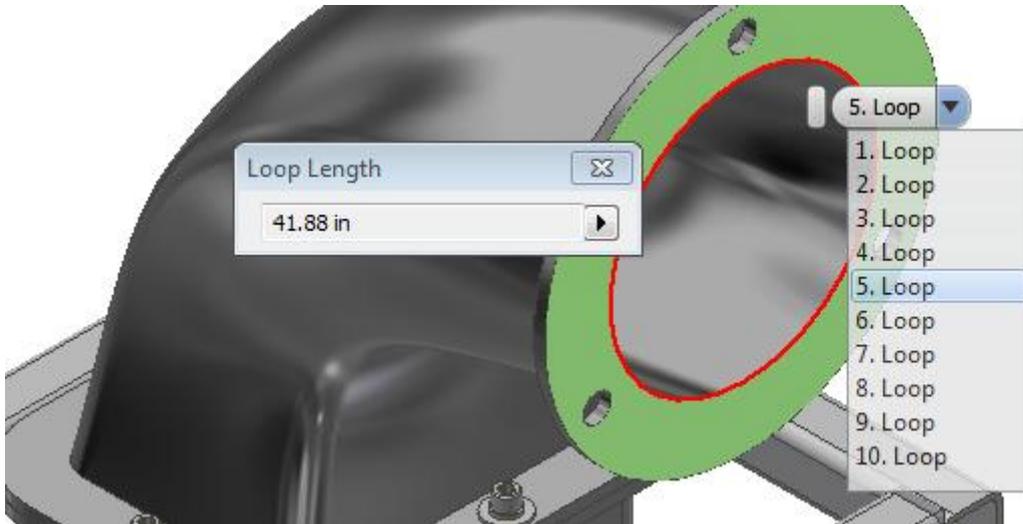
Part to Part



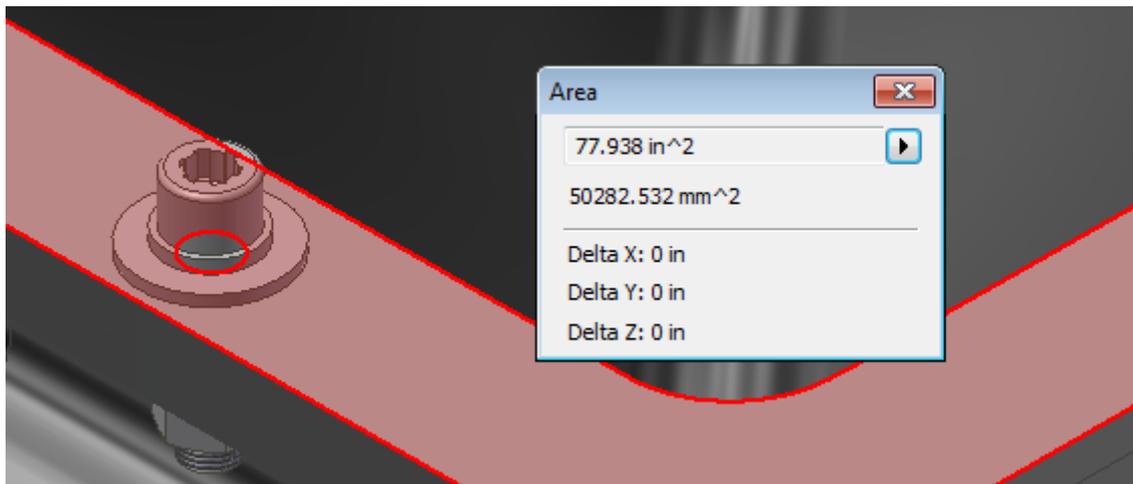
Angles work in a similar way to measuring distances, you need to select two features, these can be straight edges or flat faces.



Loop measurements require you to select a face and it will measure the surrounding loop of edges. If your face has multiple loops make sure you wait for the 'Select Other' options to get the right one.



And finally Area Measurements, simply select a face.



Remember that if you are going to take multiple measurements and add them together then use the acculutae option to simplify the process.

There is also a good explanation of the all measurement tools in your wikihelp.

http://wikihelp.autodesk.com/enu?adskContextId=REDIRECT_IDD_MEASURE_DLG&language=ENU&release=2013&product=Inventor