

2010 X-Y Probing Wizard Manual

Notice!!!!

Probing operations are very intolerant of incorrect settings. It is highly recommended to do some initial testing with “loose” objects that will not damage the probe if unexpected movements occur. It is recommended to test each operation thoroughly before probing actual parts.

Any damage that may be caused by this wizard is the sole responsibility of the user!!

Settings:

Initial Feedrate - This is the standard Probing speed

Slow Feedrate – When set to > 0 , all probe routines will probe at initial feedrate, then back off slightly, and probe again at this slower feedrate, for more accuracy.

Max Distance – Maximum length of probing move. Be sure to set it for a longer distance than needed. (You can probably set it very high, with no ill effects)

Plate Offset – if a wired plate is used to probe an edge, enter the plate thickness here.

Z Clearance – Distance Z axis will lift when probing outside cylinders

Probe Tip Dia. - Enter Diameter of Probe, or tool used for probing. If 0.0 is entered, the diameter of the current tool will be used.

XY Clearance – Distance Probe will pull away after contact (used for edge and corner probing)

Probe X Offset

Probe Y Offset – If probe is mounted away from spindle, specify the offsets here. Allows for a remotely mounted probe.

Edge Length – Distance between probe points when edge probing is selected. **Note: If EdgeLength is less than 0 (negative), then edge travel will be in the – direction (reversed)**

Options:

Auto Zero Coordinates – When selected, automatically sets X and/or Y axis zero to probed edge position. For pocket operations, sets center of pocket to 0,0.

One Time Edge Mode – When selected, Probe Edge will be disabled at the end of the probing routine. Use this option to prevent edge probing from accidentally being left on.

Probe Edge – When selected, two points along an edge will be probed, and return the angle from the edge axis, and the offset distance between the two points. Used with X+, X-, Y+, and Y- only. Ignored when using other operations.

Probe Routines



Probe in X+ direction - M901



Probe in X- direction - M902



Probe in Y+ direction - M903



Probe in Y- direction - M904



Probe Corner in X+ Y+ directions - M905



Probe Corner in X+ Y- directions - M906



Probe Corner in X- Y- directions - M908



Probe Corner in X- Y+ directions - M907



Outside Cylinder Center Finding – M910

When using this routine, the first move is always at the bottom of the part, in the Y+ direction. EdgelenGth is the distance traveled over the part, and should be greater than the diameter of the cylinder. Z Clearance is the vertical travel of the probe from the starting position. **Failure to set EdgeLength and Z Clearance properly will result in a crash!!**



Pocket Center Finding – M909 Find center of cylindrical or rectangular pocket



X axis Pocket Length - M911



Y Axis Pocket Length - M912

Corner Probing:

All corner probing operations are done in clockwise order. This should keep the probe from crashing if the wrong start location is chosen. See the following:

X+Y- Corner – X axis first, followed by Y axis

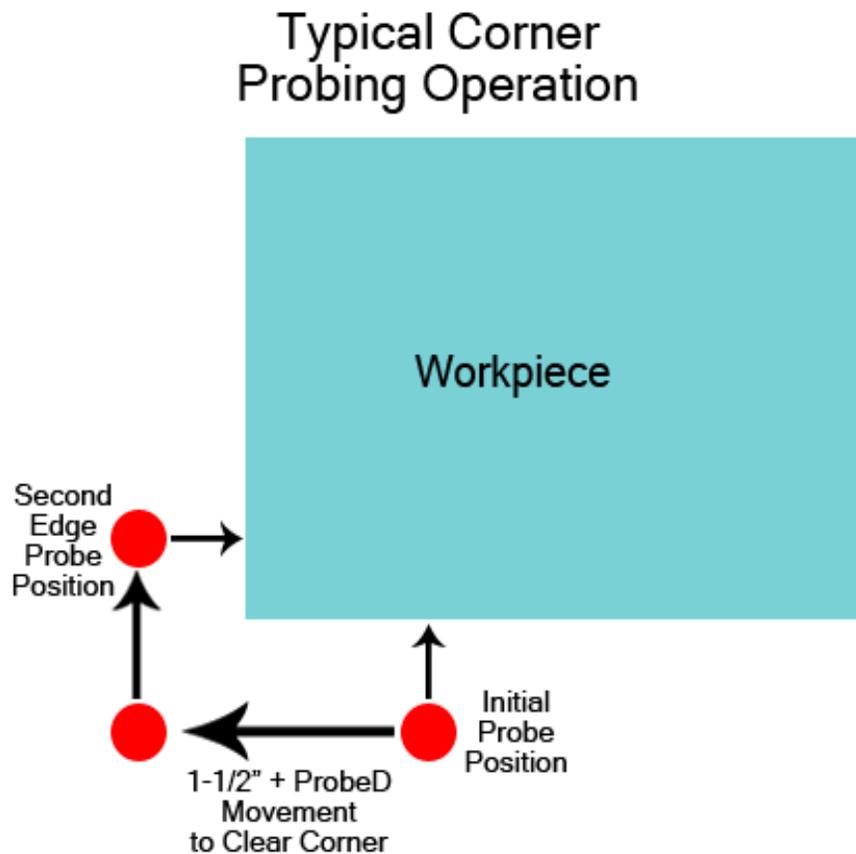
X-Y- Corner – Y axis first, followed by X axis

X-Y+ Corner – X axis first, followed by Y axis

X+Y+ Corner – Y axis First, followed by X axis

Warning!!

Prior to starting a corner probe operation, the probe needs to be within 1-1/2", or 38mm of the corner. After probing the first edge, the tool will move 1-1/2", or 38mm, to the left of the initial probing direction, before moving around the corner to probe the other edge.



Change Log

11/7/11

- Added Negative Edge Probing
- Added One Time Edge Mode
- When Probe Diameter = 0, Probe Diameter = Current Tool Diameter
- Added Outside Cylindrical Probing routine courtesy of Eric Sanders