Function 24 – Manual Set Tool Length

Overview

This function is an alternative to function 25. It is used if the use of function 25 and the F25 sensor is impractical:

- The tool to is too wide or has an odd shape that does not fit on the F25 sensor
- If the F25 sensor is not working this can be used temporarily to keep the machine running.
- Some tools like knife tips and very small tools that are too sensitive might break if using the F25 sensor.
- Oscillating knives need to be on when setting the length so cannot use function 25.
- Knife heads usually use a cutting mat on top of the waste board, therefore adjusting the tool length. Function 24 will properly compensate for this.

Knife heads, especially are often inconvenient to use the function 25 sensor. Oscillating knives in particular do not function well with the function 25 sensor so function 24 should be used instead.

Valid Entry

Function 24 must specify the tool that it applies to so the entry should be FUNC 24.1, 24.2, etc.

Functionality

The operation is very simple. Go to a flat and open area of the table surface and carefully jog the tool downwards until the tip of the tool just touches the table's waste board surface. Press enter and the tool length will be recorded. The Z axis will return to the top position.

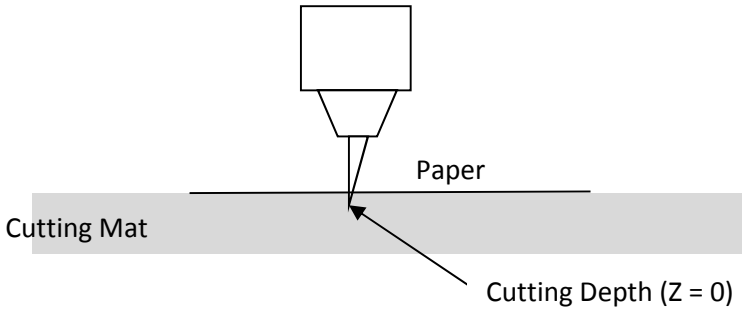
Oscillating Knife

Using this function with the oscillating knife is a bit unique because the knife needs to be on when doing the function. Be careful and use the following procedure for best results:

The function works by the operator jogging the head down such that the tip of the knife is positioned at the desired cut depth. The recommended procedure is:

1. Lay a piece of paper on the cutting surface.
2. Jog the knife head over the piece of paper.
3. Enter function 24.
4. If using an oscillating knife with automatic controls the knife will come on automatically otherwise turn it on manually.
5. Adjust the air pressure to the desired knife frequency.
6. Jog down (-Z) until the knife tip punctures the paper.
7. Press ENTER. The head will return to the Z top.

The knife tool height will stored such that the set height will be Z=0 for the knife tool.



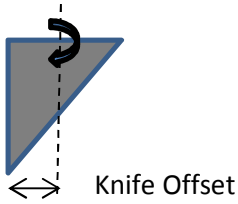
Additional Knife Features

If the device or tool is a tangential or oscillating knife there are some more features available in function 24.

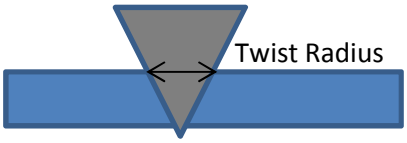
After setting the tool length you will be prompted with, “Set Knife?”. If you select YES then the controller will start the knife set up routine.

The first thing it will do is reset the tangential knife and go to the currently set zero angle. This should be facing directly down the length of the table. That is considered to be zero angle. If it is not properly aligned then you can either use the “CCW” or “1” key to spin it counterclockwise or the “CW” or “3” key to spin it clockwise until it is correctly aligned. Press enter to go to the next step.

“Knife Offset” is the distance the tip of the knife trails the center of the rotation of the tangential knife. Often knife blades trail slightly behind the center of rotation, not directly on it. This is usually true of the box cutter type knife blades. Enter in an offset value.



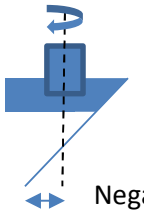
“Twist Radius” is the width of the knife. This is used so the knife does not rotate too tightly and break the blade. It is the width of the blade that would normally be imbedded into the material.



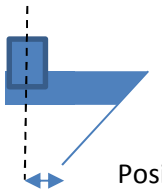
Additional V Cut Features

If the tool is a 45 degree angle knife then there are two more parameters that can be set:

"Side Offset" is similar to knife offset but instead of the distance the knife trails it is the offset to the side of the blade. The view shown is looking along the edge of the blade:



Negative Side Offset



Positive Side Offset

The final selection is setting a "Complete V Cut". If you select yes then the machine will automatically cut both sides of a line be running down one side, then back along the other side to make a full V cut.