

Objective

This document explains how to recover the 'Zero' position (if necessary) and select the start position in the program.

Please read this entire document before proceeding.

This document applies to the following machines:

- Super-B
- XLS
- XLR8
- XLY

You may need to read this if you:

- Need to recover the 'Zero' position.
- Need to start the program at the beginning of a specific segment.



- Need to start the program somewhere within a specific segment.



Outline

- 01** Key Points
- 02** How To Recover The Zero Position
- 03** How To Start The Program At The Beginning Of Specific Segment
- 04** How To Start The Program Somewhere Within A Specific Segment
- 05** Quality Assurance

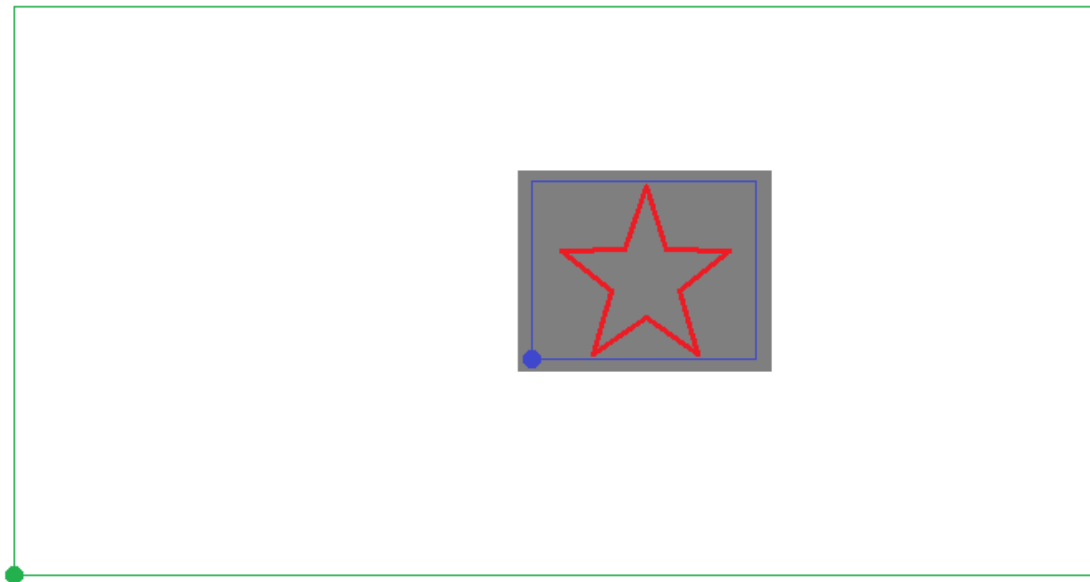
01 Key Points

- The '**Zero**' position is not the same thing as the '**Home**' position.

The Home position (represented by the green dot below) is the origin (X:0,Y:0) of the work envelope (the area that the torch is allowed to go by the software, represented by the green rectangle below).

Zero (represented by the blue dot below) is the origin (X:0,Y:0) of the program (represented by the red star below), and can be anywhere within the work envelope.

Being able to set the Zero position allows the operator to choose where within the work envelope that the program will be executed and should correspond to where there is material (represented by the gray box below) on the table.



- The operator can set the Zero position by jogging the torch to the location they want and clicking on the '**Zero X-Y**' or '**Set part zero**' button. The operator can also Zero axes individually by left-clicking on the Zero buttons next to the X and Y encoder readouts.
- If the material has been moved or the torch has been zeroed to a different location, the operator **MUST** recover Zero before they can restart a program.
- The software retains the last four known Zero locations and any one of them can be selected from a dropdown list by clicking on the down arrow button on the right of the '**Zero X-Y**' or '**Set part zero**' button.

01 Key Points

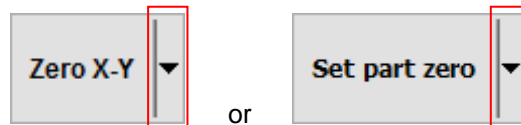
- When the software is started and a program is loaded, the program will load to the last known Zero position – sometimes causing a “Cut Path Extends Beyond Table Limits” warning to appear. Simply Zero the program within the work envelope to correct this.
- Typically the operator will use the crosshair laser locator to Zero the torch on the lower left corner of the material, making it very easy to recover Zero if the material is moved; otherwise if the Zero position is not on the lower left corner of the material, a skilled operator will mark the Zero position on the material using a sharpie marker or soap stone.
- The encoder readouts display the torch position relative to the last known Zero position.
- Before you can start or restart the program, the operator must click the ‘**ALL ON**’ buttons first to enable the drives. If the program stopped because of a crash detection the torch will have to be physically put back into position before the drives will enable.
- The operator can visualize the location of the torch in the preview by pressing the F8 key. A small white crosshair will appear in the preview that indicates where the machine thinks the torch is.

02 How To Recover The Zero Position

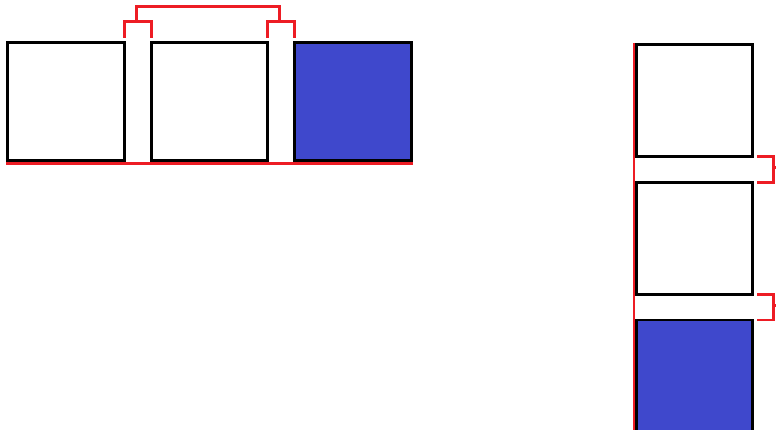
The operator **MUST** recover the Zero position if the material has been moved or the torch has been zeroed to a different location after the program was stopped.

Five common ways to recover the Zero position:

- 01 If the material has been moved and the operator set the Zero position at the lower left corner of the material:** The operator can jog the torch to the lower left corner of the material and left-click the 'Zero X-Y' or 'Set part zero' button again.
- 02 If the material has not been moved but the torch was zeroed in a different location:** The operator can click on the down arrow button on the right of the 'Zero X-Y' or 'Set part zero' button, choose the correct Zero position from the drop down (see below), and then click on the '0,0 Pos' or 'Move to 0,0' button to verify Zero has been recovered. Note the program should also move in the preview window immediately after a Zero position is selected from the drop down list.

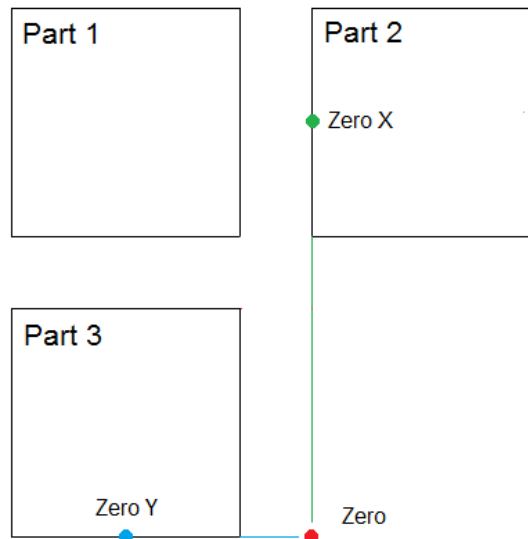


- 03 If the operator needs to continue cutting a single row or column of parts:** The operator would already know or measure the distance between parts, then jog the torch to the extents of the last part cut out, then execute a fixed jog using the known distance between parts, and zero the corresponding axis individually. Then using the other extents of the last part cut out, the operator could then zero the other axis individually.



02 How To Recover The Zero Position

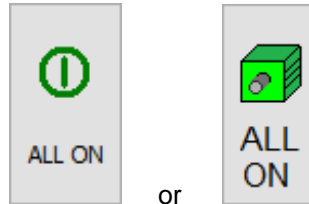
- 04 If the operator needs to continue cutting an array of parts:** The operator can deduce the Zero position using the left extents of the cut-out above or below, and the bottom extents of the current row. This is done by zeroing individual axes using the individual Zero buttons (found next to the X and Y encoder readouts).



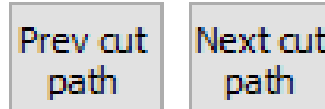
- 05 If the operator did not Zero on the lower left corner of the material and the Zero position is not in the drop down list:** The operator would have to use a CAD program to obtain measurements from a distinct point in the program that has been cut out of the material to X origin and Y origin. Then using these measurements, the operator can make a mark on the material using a sharpie marker to line the crosshair laser up to. Once the crosshair laser is aligned to the marks, the operator can left-click the '**Zero X-Y**' or '**Set part zero**' button.

03 How To Start The Program At The Beginning Of Specific Segment

01 If the drives are disabled left-click the '**ALL ON**' button first.



02 If the operator wants to select a specific segment to start on, they can left-click the '**Prev cut path**' and '**Next cut path**' buttons. The segment that is highlighted in the preview window is the segment that the machine will start from.

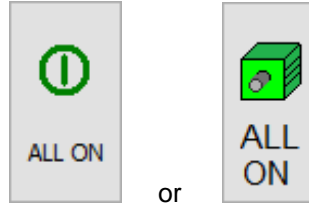


03 Click '**Start Cycle**'



04 How To Start The Program Somewhere Within A Specific Segment

01 If the drives are disabled left-click the 'ALL ON' button first.



02 Use the jog panel to move the torch to the desired start position. Make sure that the torch is 50% on and 50% off of the material (this doesn't have to be exact) in order to prevent making a new pierce point.

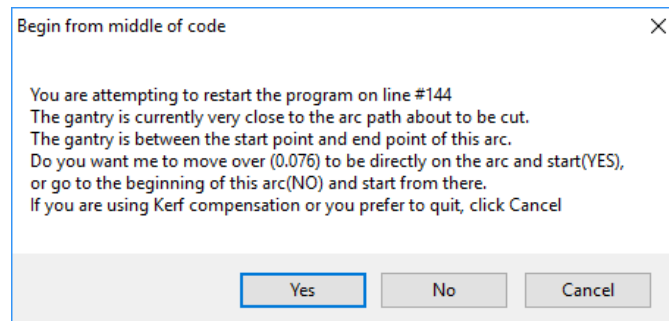
03 Click the 'Reset' button to index the program back to 0. Clicking the 'Reset' button will enable the 'Restart' button. The program has to be indexed back to 0 to ensure that the restart feature to work.



04 Click the 'Restart' button.



05 A dialogue window will appear warning the operator that they are about to start the program from somewhere besides the beginning (your coordinates will be different from the example below). There will also be a crosshair drawn in the preview to show you where the machine thinks you want to start from. If this is correct, click 'Yes'.



05 Quality Assurance

Our mission is to ensure all our products, service, and media meet and exceed the highest standards and best practices for quality and safety. We are committed to successfully collaborating with our customers and building win/win relationships to strengthen our efficiency and maintain continuous improvement.

If you have found an error or missing information in this document, or have suggestions about how this document could be better, please let us know.

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