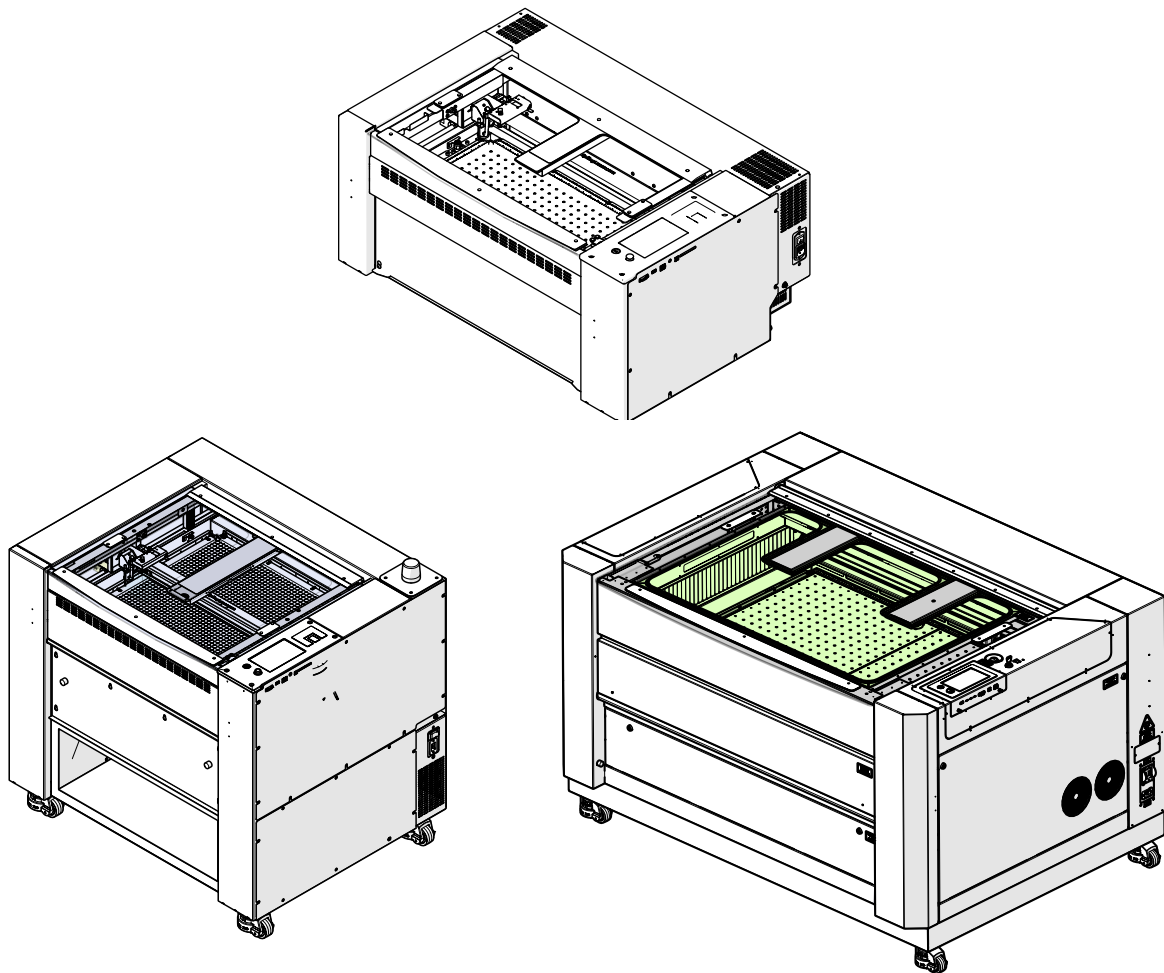


Home and Park Position Calibration

Fusion Maker - Fusion Edge - Fusion Pro 24, 32, 36 & 48



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Tools/ Materials Required

- Ruler, Measuring Tape, or Calipers
- Anodized aluminum, wood sheet, or any markable piece of scrap material

X & Y Home Position Calibration

The X & Y home position calibration ensures that artwork is accurately placed by establishing a zero point from which the engraver works from.

The home position calibration does not need to be completed regularly. The home position calibration should only be completed when any of the following behaviors are observed:

Artwork appears to engrave and or cut in the wrong location

Additionally, a home position calibration may be needed if any of the following components have been replaced:

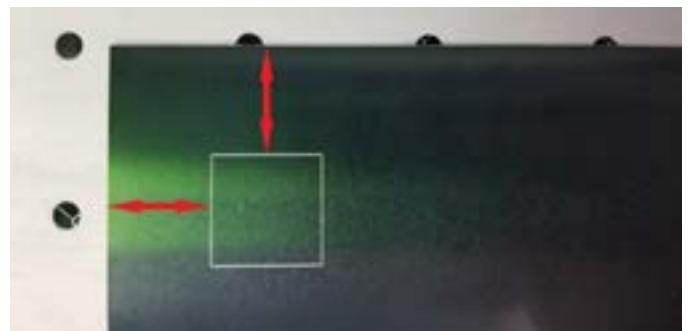
- X and or Y-axis motor
- X and or Y-axis home switch
- Control board (in rare cases)

A ruler, measuring tape, or calipers and a small piece of material (at least 3" x 3" or 75mm x 75mm) is required to complete this procedure. Wood, anodized aluminum, or two-layer engraveable plastic are recommended.

Checking the Home Position

1. Turn on the engraver, and let it complete the startup process.
2. Open your preferred illustrating program and create a small vector box (1" x 1" or 25mm x 25mm) on an artboard that is the same dimensions as the engraver table.
3. Place the box 1" from the left side of the artboard and 1" from the top side of the artboard.

4. Send the job to the Software Suite.
5. Place the material into the upper-left hand corner of the table.
6. Ensure that the 1" x 1" box remains in the upper-left hand corner of the table via the Job Preview pane. Do not alter the position of the box using the Edit tools in the Software Suite.
7. Set the power high enough to produce a visible mark on the material. Cutting through the material is not important for this calibration.
8. Set the speed to 50%.
9. Set the frequency to the appropriate recommended value for the material being used.
10. Send the job to the engraver and start the job.
11. Once the job is complete, remove the material and measure from the side and top of the material to the left and top line of the box:



12. Based on the artwork created in this procedure, the box should measure 1" or 25mm from the left side of the material and 1" or 25mm from the top of the material.

Home Position Calibration

13. If the box does not measure 1" or 25mm from the left and top side of the material, adjustments to the home position must be made.

Adjusting the Home Position

1. On the display, press the gear icon to enter the Settings menu:



2. Press the Home button to enter the Home menu:



3. Once in the Home menu, the X and Y home values will be shown:



When adjusting the home position it is recommended to work with one axis at a time to ensure an accurate home calibration. It is also recommended to note the current X and Y home values before making adjustments.

X-Axis Home Adjustments

The x-axis home value will appear as a negative number and represents the distance from the x-axis home switch located at the right side of the x-axis assembly.

- Decreasing the x-axis home value (more negative) will move the home position to the left.
- Increasing the x-axis home value (more positive) will move the home position to the right.

Y-Axis Home Adjustments

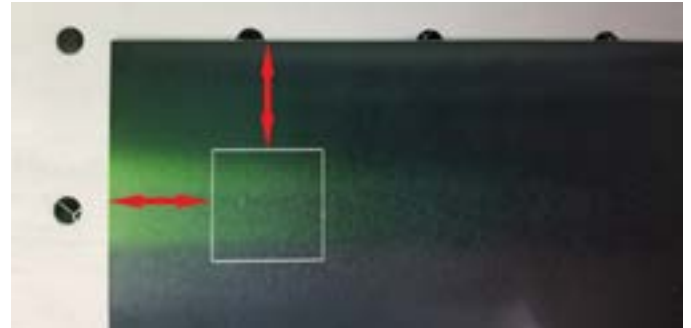
The y-axis home value will appear as a position number and represents the distance from the y-axis home switches located in the rear of the engraver.

- Decreasing the y-axis home value (more negative) will move the home position closer to the rear of the engraver.
 - Increasing the y-axis home value (more positive) will move the home position closer to the front of the engraver.
1. To adjust the home values, click into the desired axis and enter a new value using the pop-up keypad:

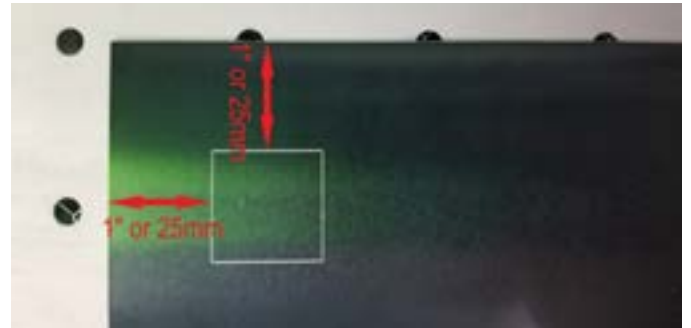


2. After adjusting the home value, press the Disk icon next to the X and Y home values to save the change. Then press Home Axis to allow the machine to move to the new home position.
3. Place the material into the upper-left hand corner of the table.
4. Enter the Job menu and rerun the test job.

5. Once the job is complete, remove the material and measure from the side and top of the material to the left and top line of the box:



6. Repeat this process until the box prints 1" (25mm) from both the left and top of the material:



Rotary Home Position Calibration

The rotary home position calibration ensures that artwork is accurately placed by establishing a zero point from which the engraver works from.

The rotary home position calibration does not need to be completed regularly. Instead, the home position calibration should only be completed when any of the following behaviors are observed:

Artwork appears to engrave and or cut in the wrong location

Additionally, a rotary home position calibration may be needed if any of the following components have been replaced:

- **X and or Y-axis motor**
- **X and or Y-axis home switch**
- **Control board (in rare cases)**
- **Rotary motor**
- **Rotary PCB**
- **Rotary**

This procedure applies to both the rim drive and 3-jaw chuck fixtures.

Checking the Home Position

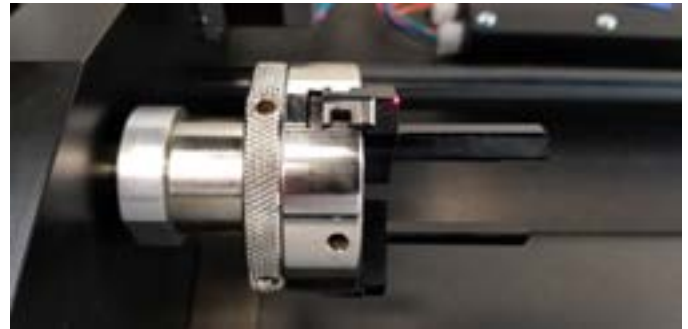
1. Turn on the engraver, and let it complete the startup process.
2. Press the Red Dot Pointer button to activate the red dot.
3. Observe the red dot location on the rotary fixture.

The ideal home position for both the rim drive and 3-jaw chuck fixtures are shown below:

Rim Drive Home Position



3-Jaw Chuck Home Position



If the red dot pointer is not at the ideal home position adjustments to the rotary home position must be made.

Adjusting the Home Position

1. On the display, press the gear icon to enter the Settings menu:



Home Position Calibration

2. Press the Home button to enter the Home menu:



3. Once in the Home menu, the X and Y rotary home values will be shown for the particular fixture that is installed. For this procedure, the rim drive home values are shown:



When adjusting the home position it is recommended to work with one axis at a time to ensure an accurate home calibration. It is also recommended to note the current X and Y home values before making adjustments.

X-Axis Home Adjustments

The x-axis home value will appear as a negative number and represents the distance from the x-axis home switch located at the right side of the x-axis assembly.

- Decreasing the x-axis home value (more negative) will move the home position to the left.
- Increasing the x-axis home value (more positive) will move the home position to the right.

Y-Axis Home Adjustments

The y-axis home value will appear as a positive number and represents the distance from the y-axis home switches located in the rear of the engraver.

- Decreasing the y-axis home value (closer to zero) will move the home position closer to the rear of the engraver.
- Increasing the y-axis home value (greater than zero) will move the home position closer to the front of the engraver.

Home Position Calibration

1. To adjust the home values, click into the desired axis and enter a new value using the pop-up keypad:



2. After adjusting the home value, press the Disk icon next to the X and Y home values to save the change. Then press Home Axis to allow the machine to move to the new home position.
3. Repeat this process until the red dot appears in the locations shown prior.

Park Positions

The park position within the engraver can be changed to allow for greater access for placing material on the table or into a rotary fixture.

The park position is the location where the carriage assembly sits while the machine is at idle and is separate from any of the home positions in the engraver.

Changing the park position will have no affect on engraving and or cutting location.

This procedure applies to the park position for the flat table, rim drive and 3-jaw chuck fixtures.

1. On the display, press the gear icon to enter the Settings menu:



2. Press the Gear and Wrench icon in the lower left hand corner to enter the expanded settings menu:



Home Position Calibration

- Expand the System Settings tab and swipe down through the settings to the desired park position setting:

Flat Table Park Position

(For use when no rotary is installed)



Rotary Park Position

(For use when rotary or 3-jaw is installed)



Park Position Adjustments

Unlike the XY home values which represent the distance from the XY home switches, the park position home values represent the distance from the XY home position.

X-Axis Park Adjustments

The x-axis park position value is the first number in the sequence.

The x-axis park position value will appear as a positive number and represents the distance from the x-axis home value.

- Decreasing the x-axis home value (closer to zero) will move the park position to the left.
- Increasing the x-axis home value (greater than zero) will move the park position to the right.

Y-Axis Home Adjustments

The y-axis park position value is the second number in the sequence.

The y-axis park position value will appear as a positive number and represents the distance from the y-axis home value.

- Decreasing the y-axis park value (closer to zero) will move the park position closer to the rear of the engraver.
- Increasing the y-axis home value (greater than zero) will move the park position closer to the front of the engraver.

Home Position Calibration

1. To adjust the park position values, click into the desired axis and enter a new value using the pop-up keypad:



2. After adjusting the park value, press OK to save the change. Then press Park Axis to allow the machine to move to the new park position.
3. Repeat this process until the desired park position is reached.