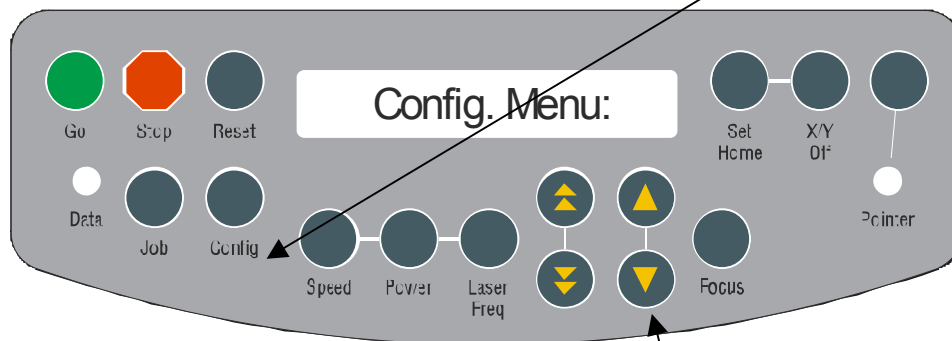


Section 11: Engraving Machine Calibration & Maintenance

In This Section

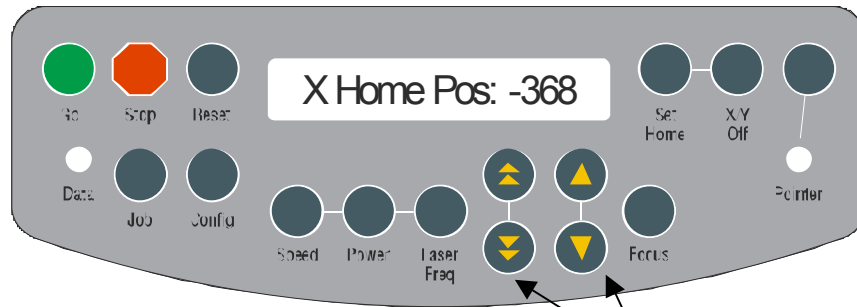
- Calibration Settings
 - Cleaning - Important!
 - Laser Source
-

There are a number of factory settings that normally only need to be set once at the factory to calibrate the system. All of the calibration settings are accessed from the Config key on the front control panel.



To scroll through the Config. Menu use the single triangle cursor keys.

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Use cursor keys to increment or decrement position values.

Once you have scrolled to the menu item you want to adjust, change the numerical setting by using either set of cursor keys. The single cursor keys will increment or decrement a single unit each time it is depressed. The double triangle cursor keys will increment or decrement at a much higher rate of speed.

The numerical range of adjustment is also shown in the table below. Each single digit change is equal to .001 inch (0.025 mm) (except the Laser Match value, which is in pixels). For example, changing the X-Home position from a value of -350 to -395 would move the X-Home position 0.045 inches (1.1 mm) to the right.

<u>Calibration Setting</u>	<u>Range</u>
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X - Home Position **Range: -600 to 0**

Increasing this value will move X-Home to the left.

Y - Home Position **Range: -600 to +200**

Increasing this value will move Y-Home up.

X - Rotary Home Position **Range: -3000 to +600**

Increasing this value will move the X-Rotary home to the left.

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Y - Rotary Home Position

Range: -1200 to +1200

Increasing this value will move the Y-Rotary Home up.

Laser Match

Range: -20 to +20

Establishes the left to right alignment of alternating raster lines.

System Units

Range: Inches or mm

Establishes the unit of measure (either inches or mm) for the system.

Changing calibration settings:

- Access the setting you want to change.
- Increase or decrease the numerical value using the *Up* or *Down* cursor keys. To speed the process of changing a number, apply constant pressure to the double triangle keys.
- Press the **Go** button when you have changed the setting you want. The setting is now saved.
- If you want to just see what the setting is, but do not want to change it, press the **Stop** button after you have viewed the calibration setting.

Cleaning - Important!

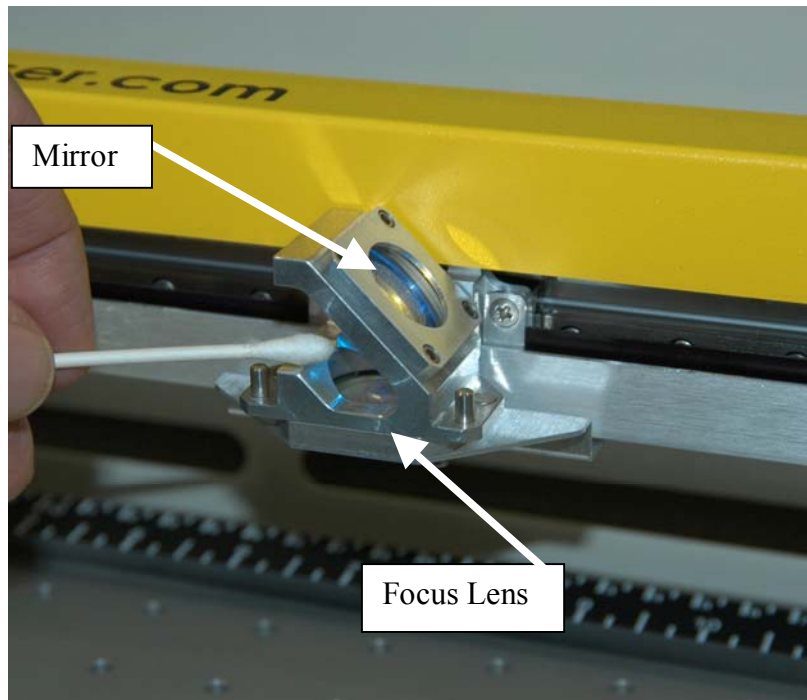
The single most important thing that you can do to keep your laser working as if it were new is to keep it clean! Five minutes once a day will keep the residue and debris from building up and causing problems. There is almost no maintenance required for your laser if you KEEP IT CLEAN☺!

Cleaning the Optics

About once a week, or if you notice the optics are dirty, you will need to clean the optics (mirrors and lenses) of your laser. If dust, debris, fine powder, or other contaminants are allowed to accumulate too heavily, they will reduce the available laser power and may cause damage to the optics.

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The two optical components most likely to require cleaning are the focus lens and the mirror directly above it. The lens and mirror are a single assembly, and can be removed from the machine for cleaning, but it is generally not recommended.



To clean the focus lens and the mirror that is directly above it, use a cotton swab that has been moistened with the Optics Cleaning Fluid that is supplied as part of your accessory kit. **Gently** swab the optics to remove dust and debris.

Clean both sides of the mirror and both the top and bottom of the Focus Lens.

To clean the optics use a high-quality cotton swab moistened with the optics cleaner supplied in the accessory kit. Please read the label on the bottle carefully. Rubbing alcohol should be used only to remove fingerprints. If you run out of the cleaner supplied by Epilog, acetone can be used as a temporary measure, but should not be used for regular cleaning as it contains impurities which can contaminate the optics. If you run out of optics cleaner, pure ethyl (grain) alcohol such "Golden Grain" and "Everclear" are highly recommended because of their pure nature and because they are readily available at most liquor stores.

Wet the swab thoroughly with the solvent, and then blot it against a piece of cotton so that it is no longer soaking-wet. Then daub the optic gently, rotating the swab after each daub to expose clean cotton to the surface, until the optic is free of visible contamination. At that point, prepare a fresh swab and clean the surface with a gentle zigzag motion across it. Avoid any hard "scrubbing" of the surface, especially while there are visible particles on it, and try not to use repetitive circular motions. When you are done, be careful to remove any cotton threads that may have snagged on the mountings. Allow the optics to dry before you operate your engraver.

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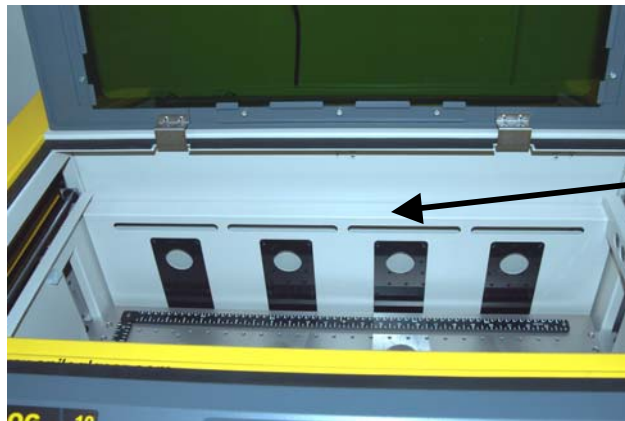
In addition to the focus lens and the mirror directly above it, there is a mirror located on the left side of the machine that is mounted to the X-beam.

This mirror is very well protected and should not need regular cleaning. It can be accessed with a cotton swab if it does need cleaning. The photo at right shows where this mirror is located in relation to the X-beam and carriage.



Cleaning the Exhaust

Make sure the exhaust blower you are using receives proper maintenance. Periodically clean the exhaust blower and duct system to remove built-up debris. If you detect odor while engraving, or if there is smoke in the cabinet, inspect the exhaust system. Check for loose or broken pipe/hose connections or obstructions. The photos below show where to clean the duct work of your machine. You should also occasionally check your exhaust blower and the duct work that is connected to it.



Clean the plenum vents from the inside of the machine. It is best to use a flexible plastic or wire brush that can access the inside of the vent.

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Periodically remove the duct from the back of the machine and clean the exhaust port.

Periodically inspect and clean your exhaust fan and the duct work connected to it.

Cleaning the Viewing Window

Special care should be taken when cleaning the green viewing window. Use only a soft cloth and a mild glass cleaner to clean the window. Do not use paper towels or other coarse materials to clean the window. The window is susceptible to scratching if not properly cleaned. Damage to the window from cleaning is not covered under the warranty.



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Laser Source

The laser source used in your system has a maximum service life, but there is very little maintenance that is required. At some point in the life of the laser you will need to replace it for electrical repair or mechanical repair. Replacing the laser source is common practice and Epilog has made the process of changing the laser source extremely easy for users to perform with a minimum amount of effort. The laser source can be refurbished and is available on an exchange basis by contacting Epilog technical support.