



CNC Edge Finder Models EF101, EF102, & EF104

Thank you for purchasing the CNC Edge finder. This has been a valuable tool for me over the years, and I hope you find it useful too.

Important downloads available here:

<http://vancura.biz/files/Documents/HiddenScript.m1s> (AES Script file)
<http://Vancura.biz/files/Documents/HiddenScriptMetric.m1s> (Metric Script file)
<http://Vancura.biz/files/Documents/1024A.set> (main screen with indicator)
http://Vancura.biz/files/Documents/CNC/EdgeFinder_setup%20LG.pdf (setup info)

To use the edge finder:

1. The difference between the EF102 & EF104 is the EF102 has a 5.5mm x 2.1mm jack and plug and the EF104 has a GX12-2 jack and plug. The EF101 has no attachments, and you will be expected to supply the cord, test alligator clip, and if needed, connector.
2. The plug should plug directly into your controller PROBE input. The alligator clip is used to clip onto the work tool or sensor probe. The sensor probe, when touched to the aluminum edge finder, must trigger your edge detector software in order to work properly.

Note: If you are also installing either the 5,5mm or the GX12-2 female jack, you will need to drill a ½ inch or 13mm hole in the back of the controller chassis, install the jack, and connect the wires to the appropriate input. With MACH3, any available input that MACH3 can detect on the **Diagnostics** screen can be used. Normally Input 10 is for the **E-STOP**. Inputs 11, 12, 13, & 15 are usually available for limit switches and a probe. It does not matter which one is used for the input probe. If your machine uses more than one input for limit switches, you can **safely** free up a port by moving all the limit switches to one input.

3. The supplied replacement screen (**1024A.set**) software provides a light to let you know that the circuit is operating properly. The test light should work before and during the finding operation. Copy the **1024A.set** screen set into the MACH3 root directory. Go to **View/Load screens** and select **1024a.set**. Note: Your original screen set is **1024.set** and it will not be lost should you want to go back to it.
4. Install the edge finding script to perform the actual process. Copy and paste the script into the button file at OPERATOR/Edit Button Script/Auto Tool Zero. If you are using metric measurements, you will need to modify the script as indicated in the script file. Save and exit.
5. **IT IS IMPORTANT TO PREVENT THE TOOL MOTOR FROM RUNNING WHILE PERFORMING THIS PROCESS.** Please make sure the tool motor will not turn ON during the edge finding process, serious damage and harm may result. **Always disconnect the probe clip from the tool promptly after performing a center finding routine.**
6. Manually center the probe over the hole and visually center it before lowering the tool about 0.100" (2.5mm) into the hole. Be careful not to touch the probe to the surface of the work piece. Verify that the wires are connected and test the probe for a light.
7. With one hand on the **E-STOP**, click on the **Auto tool zero** button and then select an operation number using the keyboard. Entering a **ZERO** will abort the process. Enter **1** to find the center of the hole in the edge finder. Enter **6** to find the top of the edge finder. Touch **ENTER** on the keyboard to start the process.
8. I have found that I can use the cutting tool as a probe and get satisfactory results.
9. To achieve reliable results, you will need to hold the edge finder in place with your finger(s) while performing the process. Hold it a gently as possible to minimize introducing error. This puts you very close to moving parts, always be very careful and keep one hand on the E-STOP. The tool should move no faster than 5"/min (125mm/min).

Remember: CNCs are dangerous! Use Safety glasses and hearing protection.

Always count your fingers before and after working with a CNC machine, and make sure the count matches.

If you have any questions or concerns, please feel free to contact me. I am an electrical engineer, a CNC user, and willing to help.

Thanks,
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