Artsoft Helpdesk

What knowledge is required to build or retrofit a machine?

Imported User 6 - 2019-04-29 - в FAQ's

It should be noted that any attempt to build or retrofit a machine in a DIY manner is just that – you Do It Yourself and by no means is it plug-n-play. The instant the decision has been made to Do It Yourself, the builder becomes the designer. Other people may be able to give guidance along the way, but no one knows more about a design than the designer, and only that person can answer some of the questions that will pop up along the way. Troubleshooting skills are often required. As with any learning curve, the steepness declines with knowledge. Anyone possessing the following skill sets, or willing to acquire them through their own research, should not have much trouble with the process:

- Electrical: It is not necessary to be an electrical technician, but being familiar with, and comfortable using a digital voltmeter is required. Intermediate electrical and wiring skills are required.
- Mechanical: Have an understanding of basic mechanical principals. Gearing, force, torque, load, and assembly (how things fit together) are the primary elements that will be needed. Some machines may require knowledge of pneumatics, hydraulics, etc. Anything above this is a plus.
- Computing: Basic computer skills, such as how to install software and copy files, are required. Knowledge of how the machine is wired and what physical components are used is mandatory for configuration, as is reading any manuals for the software.

Once the decision to build or retrofit a machine is made, it is recommended to read Chapter 4 of the "Mach3Mill Install and Config Guide". It covers some of the typical hardware used in a Mach3/parallel port machine and includes a nice illustration of how everything connects together. At minimum, the setup requires a 32-bit version of Windows, a parallel port interface (serial will not work nor will a USB adapter), a standard breakout board, and drives that can take step/dir commands. Please be aware that it is technically impossible to use the parallel port driver with 64-bit versions of Windows, so the use of an external motion device is required.