

An Quick Look at the Glowforge Plus

A glimpse at one woodworker's dive into the CNC Laser world, and how she integrates it into her shop.

By Char Miller-King



For many years, woodworkers marveled at personalization of handcrafted goods available from large companies. In the past decade, the consumer laser has exploded on the scene, allowing access to this technology at an affordable cost.

Consumer lasers are perfect for wood projects. A few of the prominent brands available are *Epilog*, *Orion*, and *Glowforge*. The laser is the perfect machine to compliment the hobbyist's arsenal. So, I bought the *Glowforge Plus*, a mid-tier machine that I initially decided on while making wood veneer business cards for my maker friends.

Laser cutters are measured by watts: the amount of power they can provide to cut through material. The higher the wattage, the less shadowing (burned area around the cut) you get. The *Glowforge Plus* is a 40 watt laser, which will

cut through most $\frac{1}{4}$ " wood in one pass.

Like most lasers, the *Glowforge* is compatible with design software such as *Autodesk 360*, *Adobe Illustrator*, and *CorelDRAW*. The files from the design software are transferred into an interface software for the specific machine. I prefer *Inkscape*, an alternative (free) open-source design software that works well with lasers and has a short learning curve. Save your designs as svgs and easily transfer them via Bluetooth, hardwire, or WiFi. It is my go-to since jpg and png files can be easily imported for engraving as it takes photos and traces them, converting it to a bitmap file so they may be engraved.

The Specs

So what makes the *Glowforge* different than other lasers? Well, for starters, the *Glowforge* began as a *Kickstarter* cam-

paign in 2015, focusing on ease of use (more on that in a minute). It raised nearly \$30 million in 30 days, has now been on the market for five years, and offers three models. The Basic machine is a Class 1 laser with 40W of power, the Plus provides faster engraver times, while the Pro contains all the previous features, a 45 watt laser tube, and a pass through slot. This slot allows the user to work with materials that are longer than the 12" x 19" bed.

As I mentioned before, the *Glowforge* is all about user experience and ease of use. Unlike a lot of lower-end lasers, the *Glowforge* has auto focus, a camera that provides a view of the cutting area, and interior LED lights that make it easy to see what's going on. And, when used with Proofgrade material (pre-finished, high quality material from *Glowforge*), the laser reads the barcode on the material and automatically sets itself up. Another great feature is the "Trace" function that allows the *Glowforge* to scan an image (hand-drawn or otherwise) and store it to engrave on an object. Long story short: you don't need to be a computer programmer to run a *Glowforge*.

What Can You Cut & Make?

The beauty of lasers is that if you can design it, the chances are you can create it. They will engrave or cut a ton of materials ranging from wood to acrylic. Lasers will even etch metal when coated with a ceramic coating. While industrial lasers get enormous (think full sheets of plywood), the *Glowforge* fits a more manageable 12" x 19", with a maximum thickness of a half inch. One of my favorite materials is Proofgrade walnut. The deep richness and clean grain line pattern always make beau-



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1 The Glowforge is a sleek and streamline laser and it's just as comfortable sitting on a desk in an office as it is on the workbench in the shop.



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2 Jewelry box made with the laser.

3 A jig for making splined joints.



3

tiful pieces. I recently made the dual drawer jewelry box (Photo 2 above) using this material and the *Glowforge*. The exterior of the box is made of four interlocking panels that sit nicely into a through mortise and tenon base.

In The Shop

So, you might ask yourself how the *Glowforge* (or any laser for that matter) can be integrated into your shop. As a woodworker, a laser can support your hobby (or profession) in many ways. There are countless jigs that can be quickly and easily created. For example, I made a spline jig (shown in Photo 3) for my palm routers and a circle jig for my plunge router. I recently broke the dust collection port on my old miter saw. Guess what it is going to get cut on the laser next?

Small projects such as these can be joined without hardware. The use of finger joints and tabs help to create strong bonds and joints. I use CA glue to stick my joints together, as it gives a little better grip on the laser-cut edges (plus, it dries quicker than wood glue).

And let's face it, one of the best parts about being a woodworker (or maker) is making gifts for others. Adding a laser to your tool arsenal allows you to customize any project. Engraving a name on a cutting board or creating a personalized wine box really makes it special. These effects can be done within the interface and under a half an hour. One example is the charcuterie board shown to the right.

Many laser users have developed new businesses based on the capabilities of machines like the *Glowforge*. With the versatility to engrave on almost anything, the best selling items are those that are created specifically for someone. Such items include business card holders, men's valets, and tumblers.

Considerations

In order to get the most from them, home lasers require care and maintenance. Amongst those is using compatible materials. I mentioned before that a variety of materials are compatible with a laser. But, there's some that you shouldn't cut such as most stained and painted wood and epoxy resins, as

they can produce noxious gases that the air filter can't clean.

In addition, it's best to keep your laser in an air conditioned space. Because of the complex electronics involved, moisture isn't good for lasers and extreme temperatures can be harmful to the laser components.

Whether you choose to purchase a laser for hobby use, or as a new profit stream, the possibilities are endless. The *Glowforge* is a great, user-friendly tool that allows you to experiment and build in a whole new way. **PW**

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What to learn more about Char Miller-King? Check out her interview and other woodworkers at www.popularwoodworking.com/woodworking-in-america.

